



Full wwPDB X-ray Structure Validation Report

Feb 28, 2014 – 01:20 AM GMT

PDB ID : 2QAM
Title : Crystal structure of the bacterial ribosome from Escherichia coli in complex with neomycin. This file contains the 50S subunit of the first 70S ribosome, with neomycin bound. The entire crystal structure contains two 70S ribosomes and is described in remark 400.
Authors : Borovinskaya, M.A.; Pai, R.D.; Zhang, W.; Schuwirth, B.-S.; Holton, J.M.; Hirokawa, G.; Kaji, H.; Kaji, A.; Cate, J.H.D.
Deposited on : 2007-06-15
Resolution : 3.21 Å(reported)

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

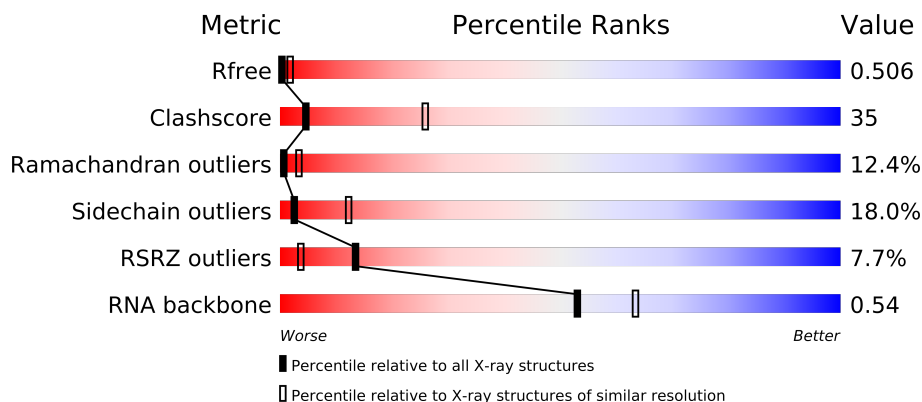
The following versions of software and data (see [references](#)) were used in the production of this report:

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

1 Overall quality at a glance

The reported resolution of this entry is 3.21 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	66092	1205 (3.30-3.14)
Clashscore	79885	1072 (3.28-3.16)
Ramachandran outliers	78287	1052 (3.28-3.16)
Sidechain outliers	78261	1051 (3.28-3.16)
RSRZ outliers	66119	1206 (3.30-3.14)
RNA backbone	1838	1004 (3.74-2.70)

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

Mol	Chain	Length	Quality of chain
1	A	120	
2	B	2904	
3	I	141	
4	C	272	
5	D	209	
6	K	123	
7	P	114	
8	E	201	
9	Y	58	
10	0	56	
11	4	38	
12	1	54	

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Mol	Chain	Length	Quality of chain
13	3	64	
14	V	94	
15	2	46	
16	L	144	
17	M	136	
18	X	63	
19	H	149	
20	J	142	
21	N	127	
22	O	117	
23	Q	117	
24	S	110	
25	U	103	
26	F	178	
27	G	176	
28	R	103	
29	T	100	
30	Z	78	
31	W	84	

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

Mol	Type	Chain	Res	Geometry	Electron density
32	NMY	B	2905	-	X
33	MG	B	3021	-	X
33	MG	B	3175	-	X
33	MG	B	3181	-	X
33	MG	B	3188	-	X
33	MG	B	3194	-	X
33	MG	B	3270	-	X
33	MG	B	3496	-	X
33	MG	B	3550	-	X
33	MG	B	3590	-	X

2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 90298 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 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	117	Total	C	N	O	P	0	0	0
			2507	1116	459	815	117			

- Molecule 2 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	2841	Total	C	N	O	P	0	0	0
			60995	27210	11229	19715	2841			

- Molecule 3 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	141	Total	C	N	O	S	0	0	0
			1032	651	179	196	6			

- Molecule 4 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	C	271	Total	C	N	O	S	0	0	0
			2082	1288	423	364	7			

- Molecule 5 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	D	209	Total	C	N	O	S	0	0	0
			1565	979	288	294	4			

- Molecule 6 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	K	121	Total	C	N	O	S	0	0	0
			930	582	179	164	5			

- Molecule 7 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	P	114	Total	C	N	O	S	0	0	0
			917	574	179	163	1			

- Molecule 8 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	E	201	Total	C	N	O	S	0	0	0
			1552	974	283	290	5			

- Molecule 9 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	Y	58	Total	C	N	O	S	0	0	0
			449	281	87	79	2			

- Molecule 10 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	0	56	Total	C	N	O	S	0	0	0
			444	269	94	80	1			

- Molecule 11 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	4	38	Total	C	N	O	S	0	0	0
			302	185	65	48	4			

- Molecule 12 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
12	1	50	Total	C	N	O	0	0	0
			409	263	75	71			

- Molecule 13 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	3	64	Total	C	N	O	S	0	0	0
			504	323	105	74	2			

- Molecule 14 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	V	94	Total	C	N	O	S	0	0	0
			753	479	137	134	3			

- Molecule 15 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	2	46	Total	C	N	O	S	0	0	0
			377	228	90	57	2			

- Molecule 16 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	L	143	Total	C	N	O	S	0	0	0
			1045	649	206	189	1			

- Molecule 17 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	M	136	Total	C	N	O	S	0	0	0
			1074	686	205	177	6			

- Molecule 18 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	X	63	Total	C	N	O	S	0	0	0
			509	313	99	95	2			

- Molecule 19 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	H	149	Total	C	N	O	S	0	0	0
			1111	699	197	214	1			

- Molecule 20 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	J	142	Total	C	N	O	S	0	0	0
			1129	714	212	199	4			

- Molecule 21 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	N	120	Total	C	N	O	S	0	0	0
			960	593	196	166	5			

- Molecule 22 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	O	116	Total	C	N	O		0	0	0
			892	552	178	162				

- Molecule 23 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	Q	117	Total	C	N	O		0	0	0
			947	604	192	151				

- Molecule 24 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	110	Total	C	N	O	S	0	0	0
			857	532	166	156	3			

- Molecule 25 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	U	102	Total	C	N	O		0	0	0
			779	492	146	141				

- Molecule 26 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	F	178	Total	C	N	O	S	0	0	0
			1420	905	251	258	6			

- Molecule 27 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	G	176	Total	C	N	O	S	0	0	0
			1323	832	243	246	2			

- Molecule 28 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	R	103	Total	C	N	O	S	0	0	0
			816	516	153	145	2			

- Molecule 29 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	T	93	Total	C	N	O	S	0	0	0
			738	466	139	131	2			

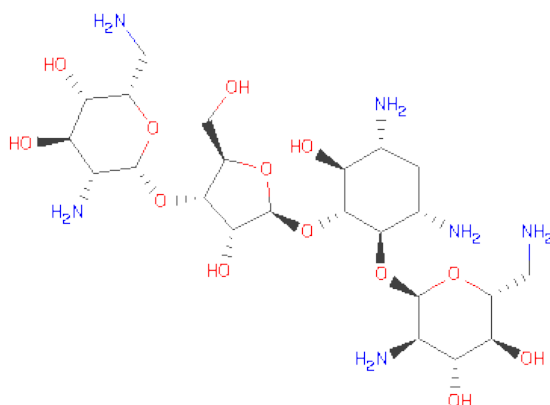
- Molecule 30 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Z	77	Total	C	N	O	S	0	0	0
			625	388	129	106	2			

- Molecule 31 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	W	79	Total	C	N	O	S	0	0	0
			596	367	120	108	1			

- Molecule 32 is NEOMYCIN (three-letter code: NMY) (formula: $\text{C}_{23}\text{H}_{46}\text{N}_6\text{O}_{13}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
32	B	1	Total	C	N	O	0	0
			42	23	6	13		

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	B	110	Total 110	Mg 110	0	0

- Molecule 34 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	4	1	Total 1	Zn 1	0	0

- Molecule 35 is water.

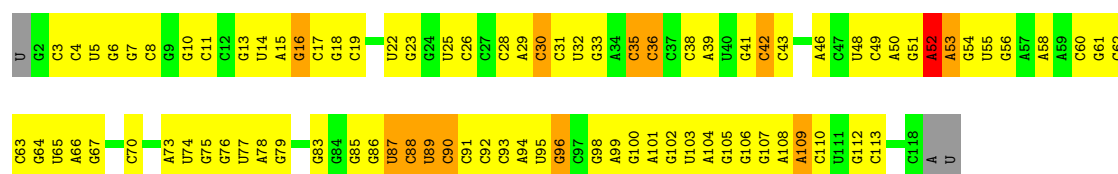
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	B	498	Total 498	O 498	0	0
35	C	5	Total 5	O 5	0	0
35	L	1	Total 1	O 1	0	0
35	N	1	Total 1	O 1	0	0
35	R	1	Total 1	O 1	0	0

3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

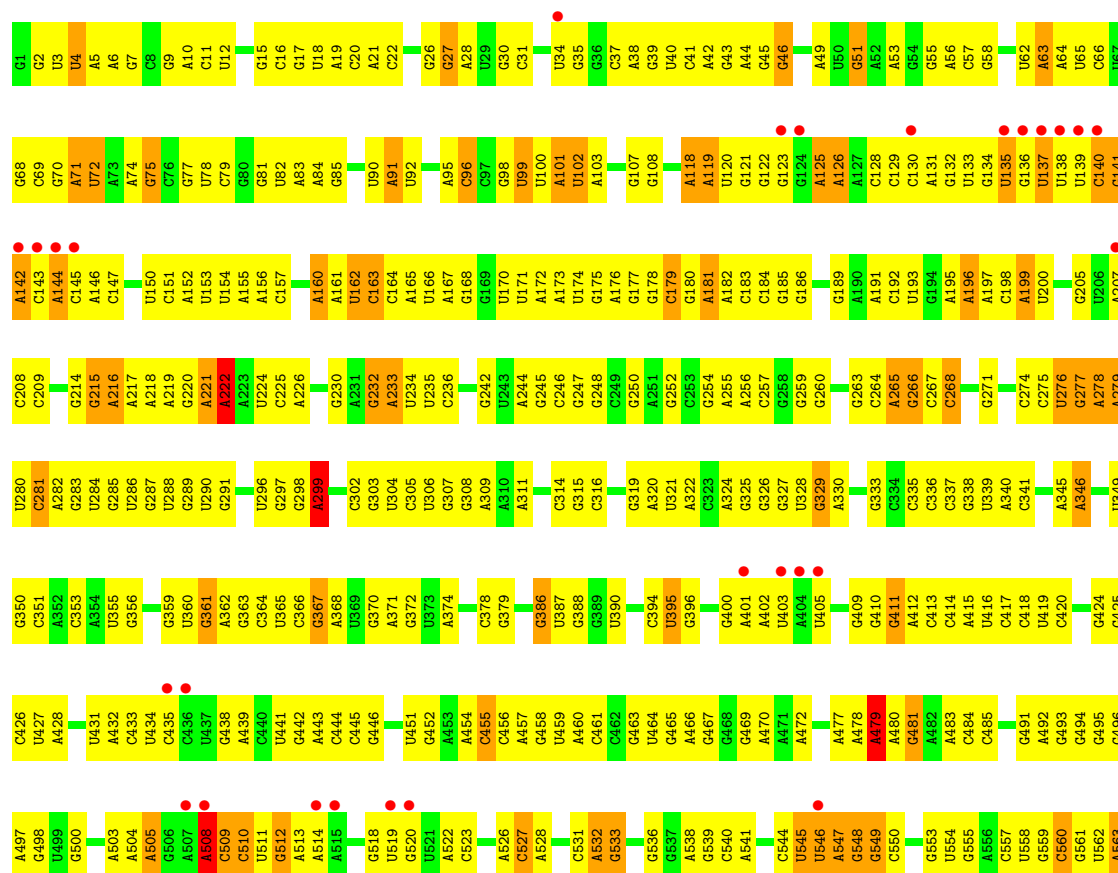
• Molecule 1: 5S rRNA

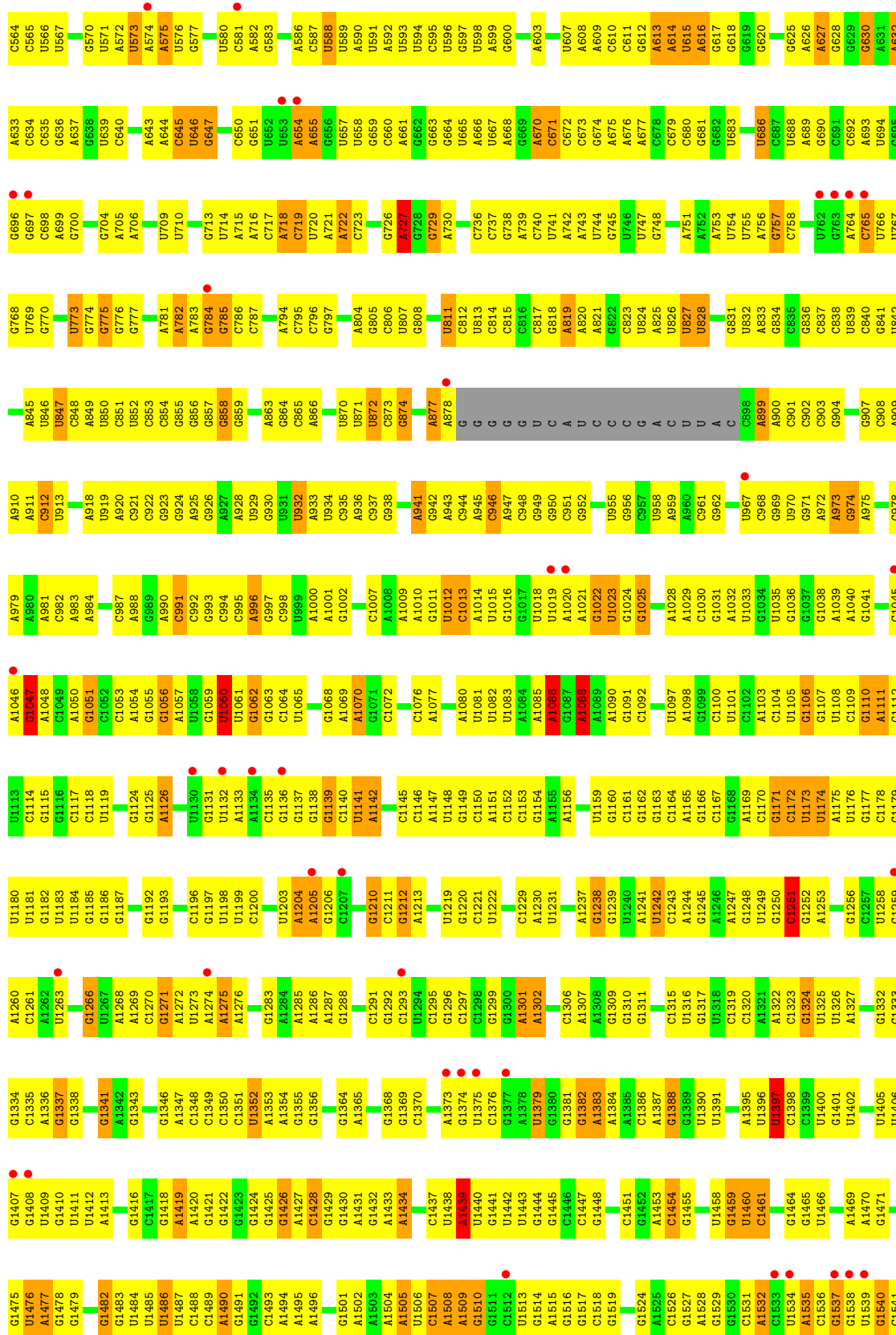
Chain A:

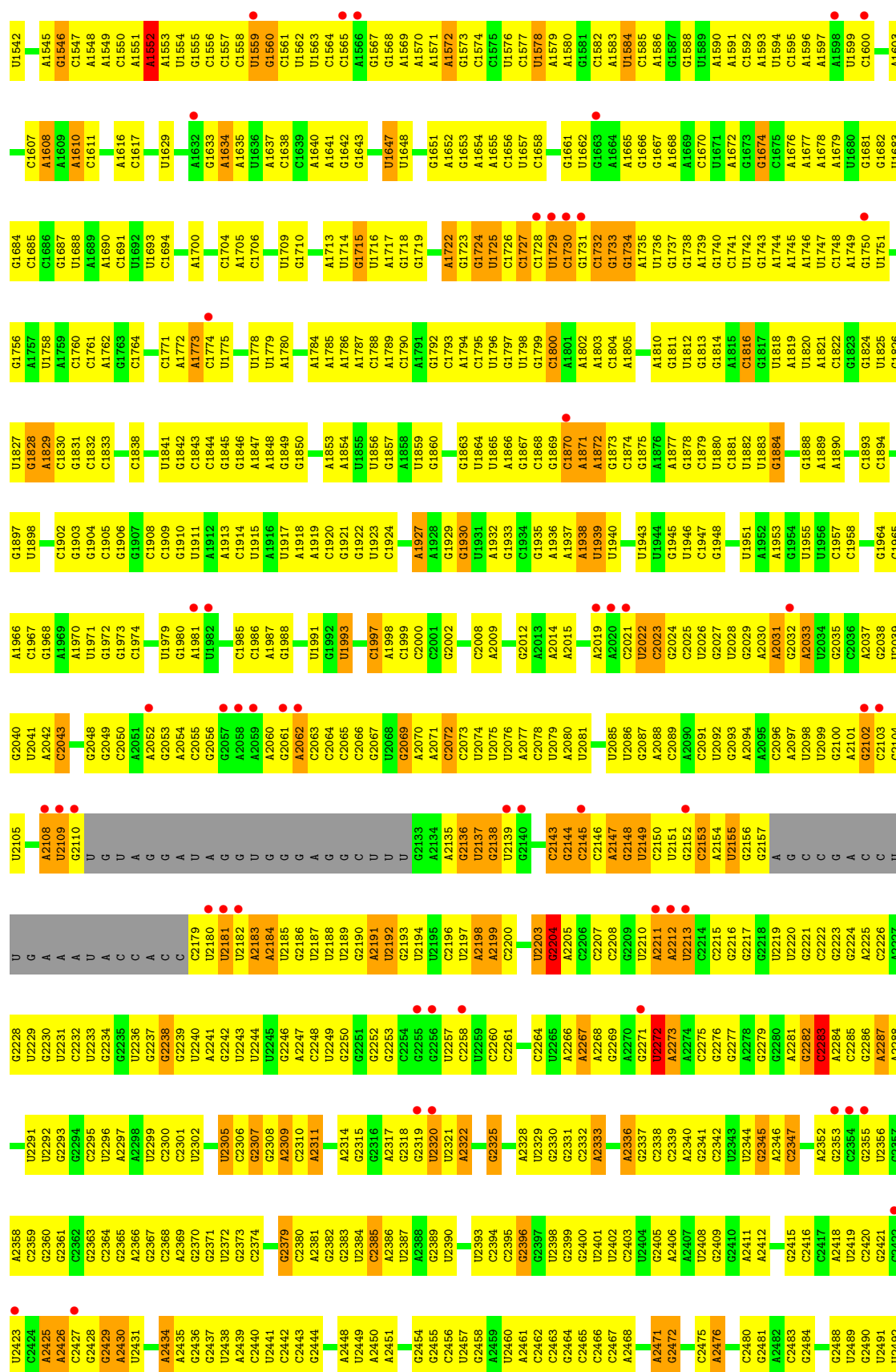


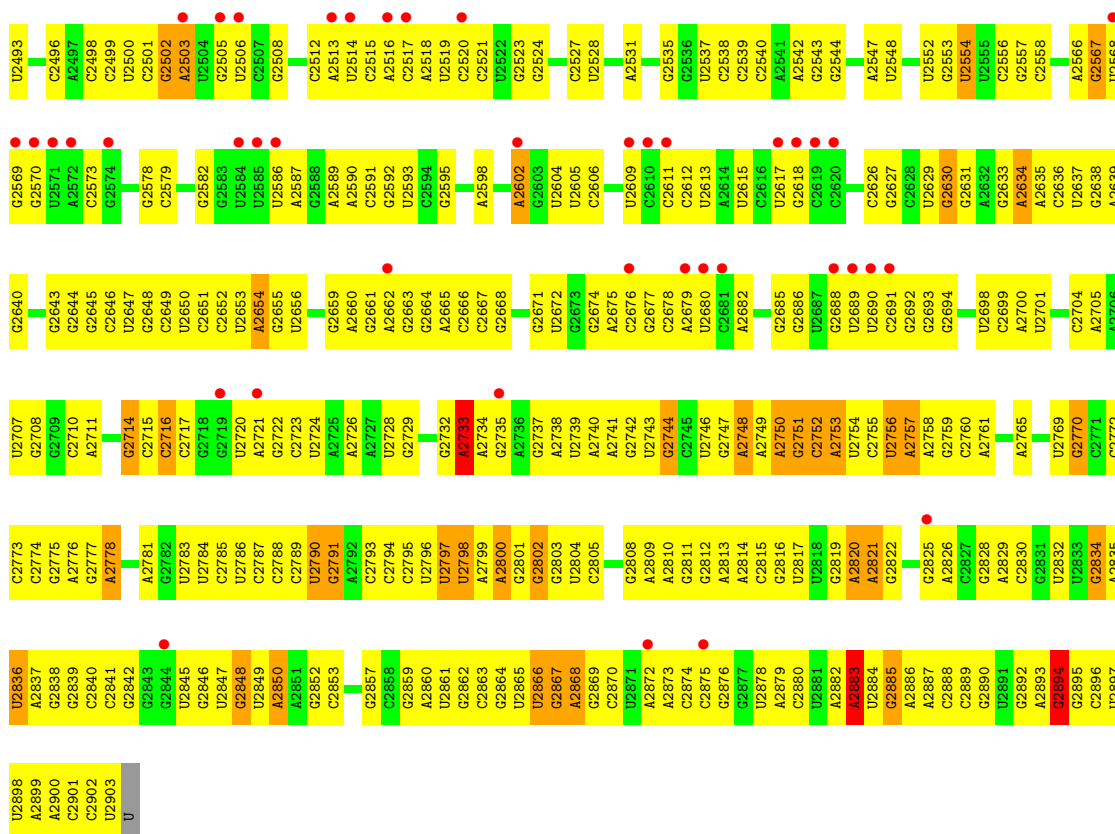
• Molecule 2: 23S rRNA

Chain B:



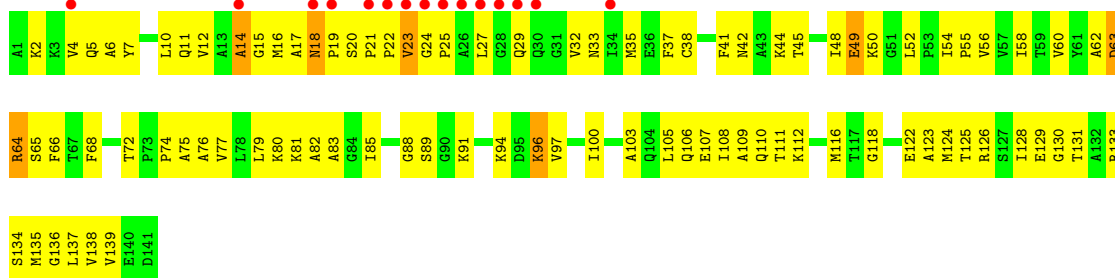






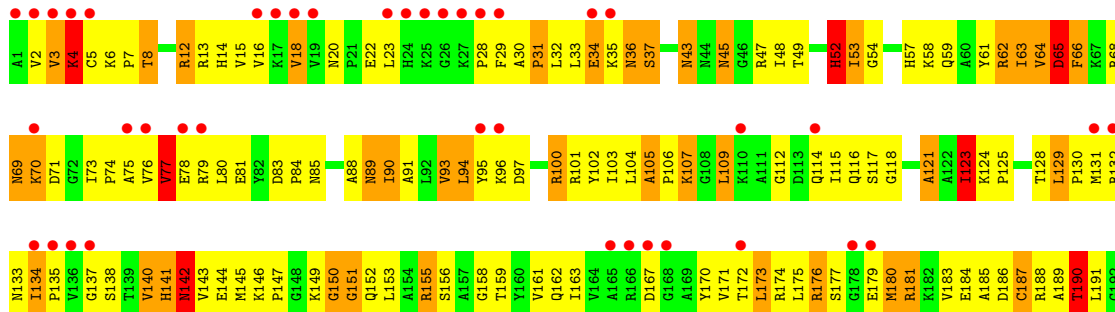
- Molecule 3: 50S ribosomal protein L11

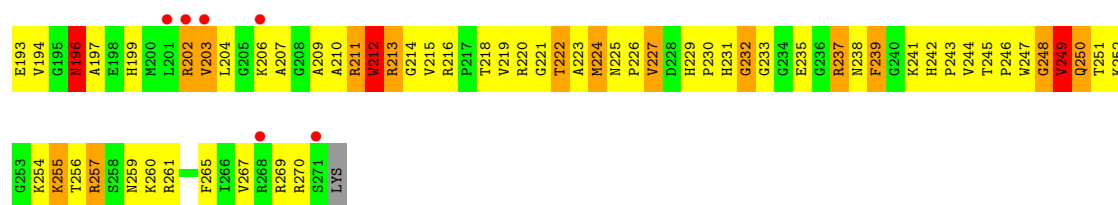
Chain I:



- Molecule 4: 50S ribosomal protein L2

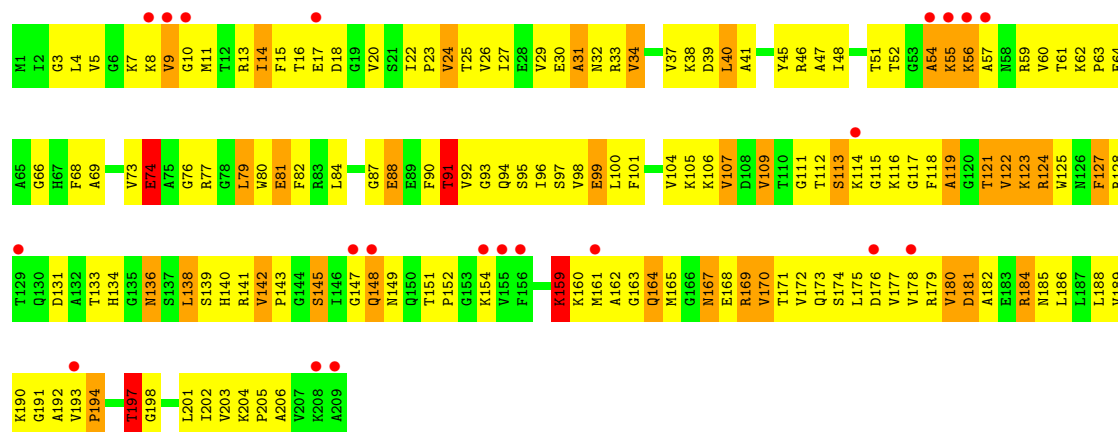
Chain C:





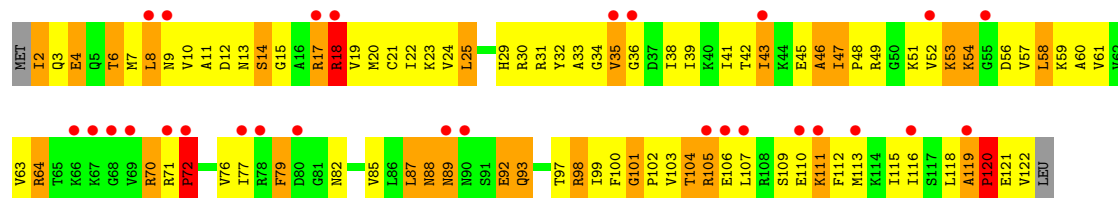
• Molecule 5: 50S ribosomal protein L3

Chain D:



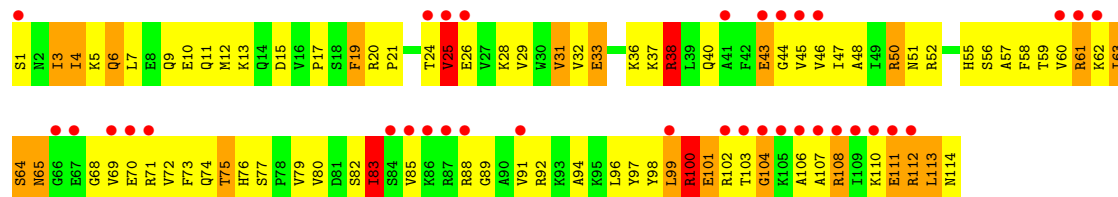
• Molecule 6: 50S ribosomal protein L14

Chain K:



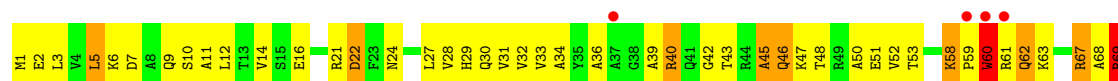
• Molecule 7: 50S ribosomal protein L19

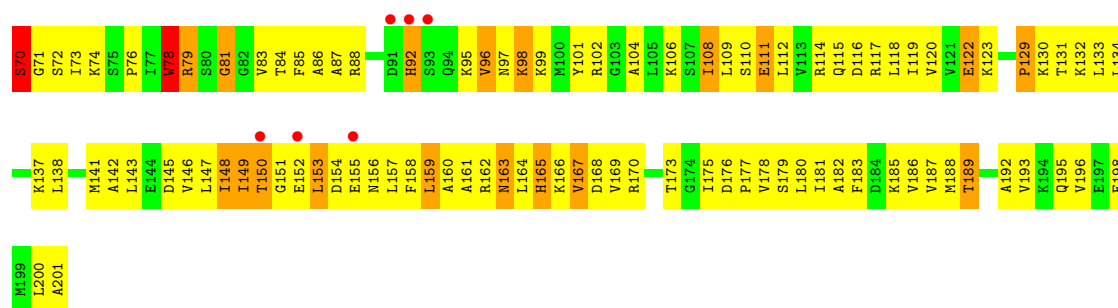
Chain P:



• Molecule 8: 50S ribosomal protein L4

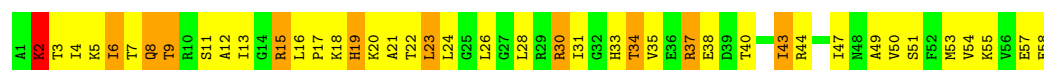
Chain E:





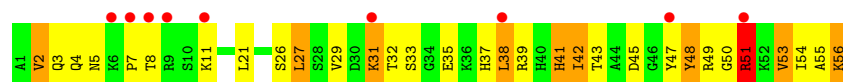
- Molecule 9: 50S ribosomal protein L30

Chain Y:



- Molecule 10: 50S ribosomal protein L32

Chain 0:



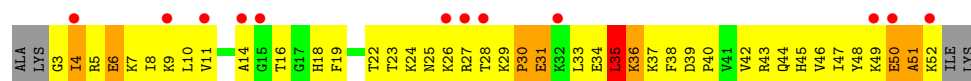
- Molecule 11: 50S ribosomal protein L36

Chain 4:



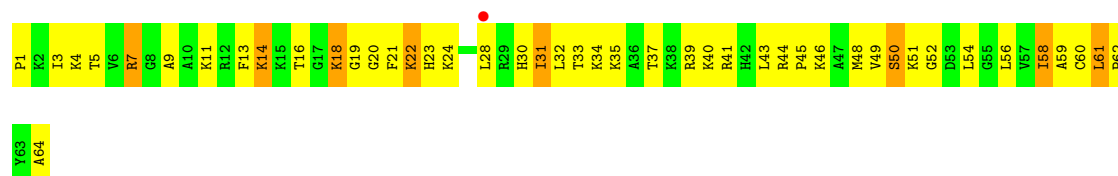
- Molecule 12: 50S ribosomal protein L33

Chain 1:



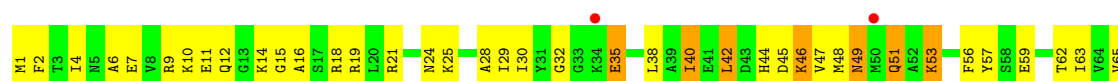
- Molecule 13: 50S ribosomal protein L35

Chain 3:



- Molecule 14: 50S ribosomal protein L25

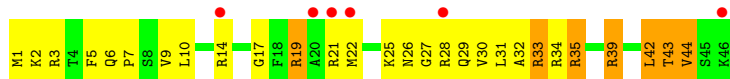
Chain V:





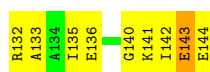
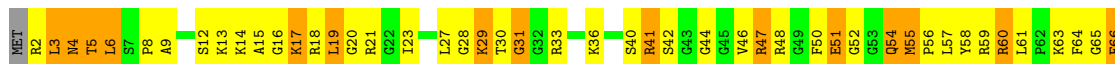
- Molecule 15: 50S ribosomal protein L34

Chain 2:



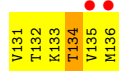
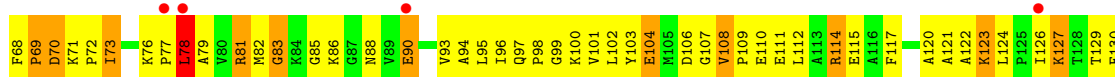
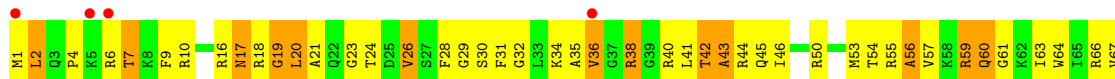
- Molecule 16: 50S ribosomal protein L15

Chain L:



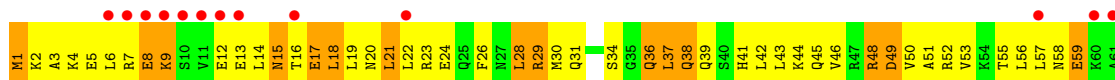
- Molecule 17: 50S ribosomal protein L16

Chain M:



- Molecule 18: 50S ribosomal protein L29

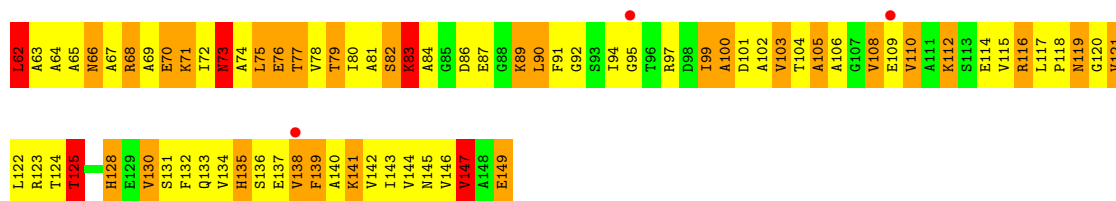
Chain X:



- Molecule 19: 50S ribosomal protein L9

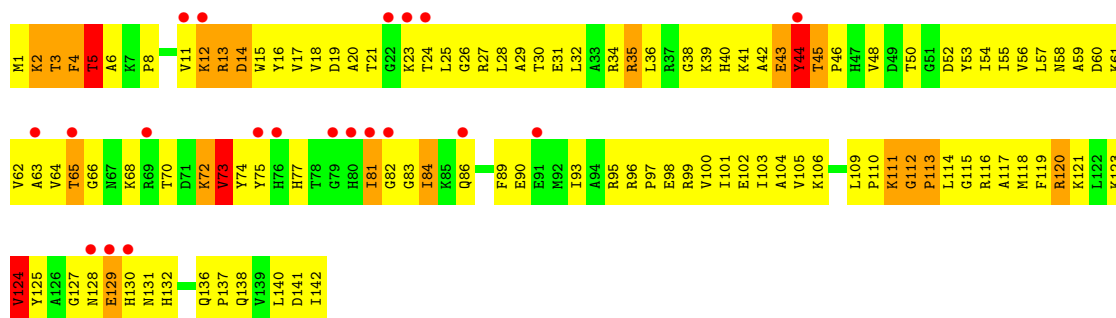
Chain H:





• Molecule 20: 50S ribosomal protein L13

Chain J:



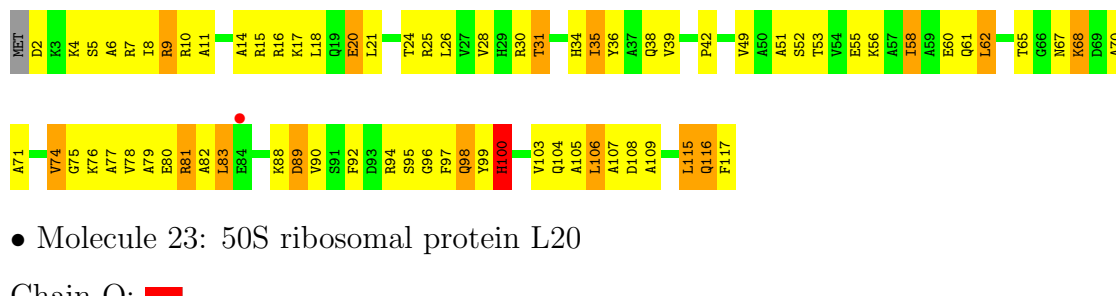
• Molecule 21: 50S ribosomal protein L17

Chain N:



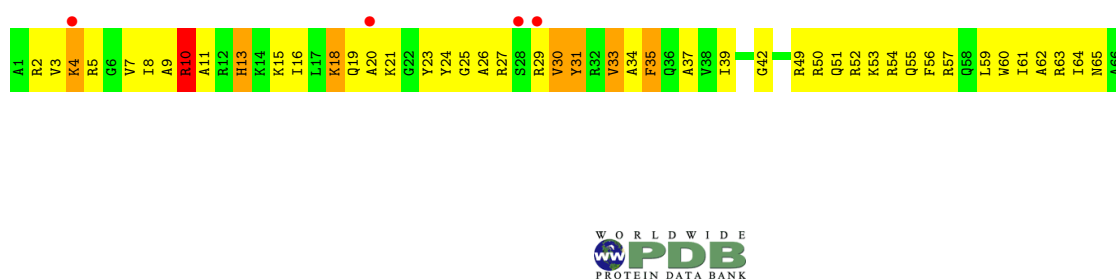
• Molecule 22: 50S ribosomal protein L18

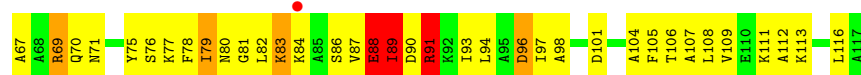
Chain O:



• Molecule 23: 50S ribosomal protein L20

Chain Q:





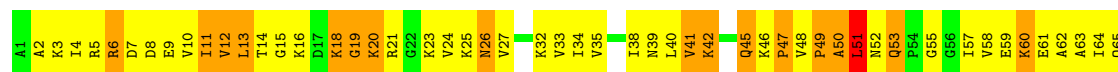
• Molecule 24: 50S ribosomal protein L22

Chain S:



• Molecule 25: 50S ribosomal protein L24

Chain U:



• Molecule 26: 50S ribosomal protein L5

Chain F:



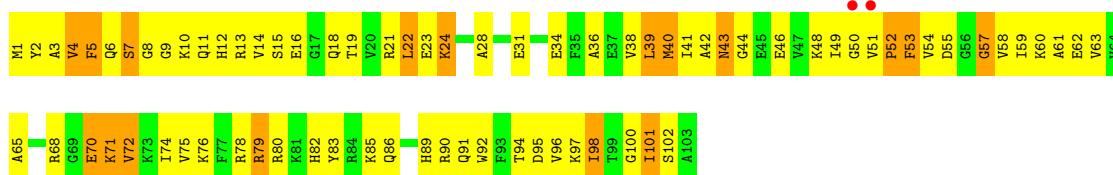
• Molecule 27: 50S ribosomal protein L6

Chain G:



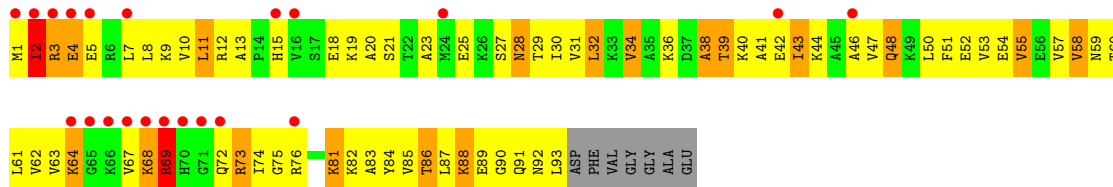
• Molecule 28: 50S ribosomal protein L21

Chain R:



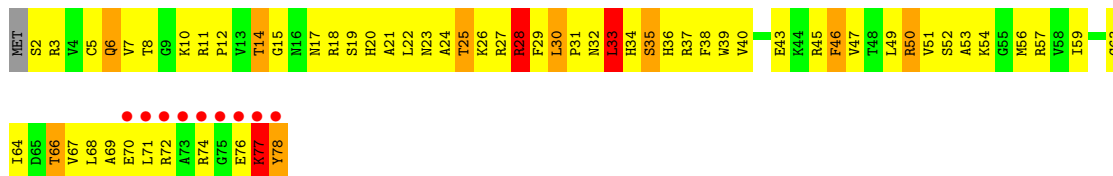
- Molecule 29: 50S ribosomal protein L23

Chain T:



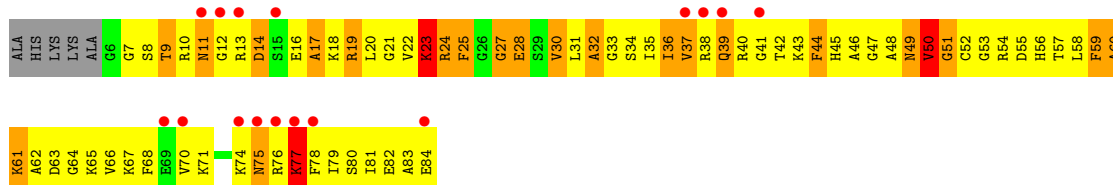
- Molecule 30: 50S ribosomal protein L28

Chain Z:



- Molecule 31: 50S ribosomal protein L27

Chain W:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	208.85Å 379.20Å 739.28Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 3.21 138.41 – 3.22	Depositor EDS
% Data completeness (in resolution range)	(Not available) (70.00-3.21) 66.6 (138.41-3.22)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.54 (at 3.19Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.274 , 0.309 0.497 , 0.506	Depositor DCC
R_{free} test set	23931 reflections (3.82%)	DCC
Wilson B-factor (Å ²)	93.7	Xtriage
Anisotropy	0.398	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.21 , 25.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Outliers	0 of 626512 reflections	Xtriage
F_o, F_c correlation	0.59	EDS
Total number of atoms	90298	wwPDB-VP
Average B, all atoms (Å ²)	75.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.24	0/2803	0.75	1/4371 (0.0%)
2	B	0.28	8/68314 (0.0%)	0.77	42/106569 (0.0%)
3	I	0.24	0/1046	0.47	0/1410
4	C	0.22	0/2121	0.48	0/2852
5	D	0.24	0/1586	0.49	0/2134
6	K	0.24	0/939	0.56	0/1258
7	P	0.24	0/929	0.51	0/1242
8	E	0.24	0/1571	0.51	0/2113
9	Y	0.23	0/453	0.50	0/605
10	O	0.22	0/450	0.56	0/599
11	4	0.23	0/303	0.48	0/397
12	1	0.27	0/416	0.49	0/554
13	3	0.24	0/513	0.48	0/676
14	V	0.25	0/766	0.42	0/1025
15	2	0.26	0/380	0.47	0/498
16	L	0.23	0/1054	0.48	0/1403
17	M	0.25	0/1093	0.49	0/1460
18	X	0.24	0/510	0.53	0/677
19	H	0.25	0/1122	0.48	0/1515
20	J	0.23	0/1152	0.48	0/1551
21	N	0.24	0/973	0.52	0/1301
22	O	0.23	0/902	0.49	0/1209
23	Q	0.26	0/960	0.50	0/1278
24	S	0.22	0/864	0.52	0/1156
25	U	0.25	0/787	0.47	0/1051
26	F	0.26	0/1444	0.52	0/1937
27	G	0.23	0/1343	0.47	0/1816
28	R	0.25	0/829	0.49	0/1107
29	T	0.23	0/744	0.57	0/994
30	Z	0.25	0/635	0.52	0/848
31	W	0.28	0/603	0.53	0/797
All	All	0.27	8/97605 (0.0%)	0.71	43/146403 (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
2	B	0	43

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1086	A	C5-C6	-16.18	1.26	1.41
2	B	1088	A	C6-N1	-10.58	1.28	1.35
2	B	1060	U	C2-N3	7.75	1.43	1.37
2	B	1086	A	N3-C4	-6.97	1.30	1.34
2	B	1086	A	N7-C5	-6.47	1.35	1.39
2	B	2267	A	C5-C6	-6.45	1.35	1.41
2	B	2325	G	P-OP2	5.78	1.58	1.49
2	B	2267	A	C4'-C3'	-5.05	1.47	1.52

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	2204	G	O5'-P-OP2	-28.20	76.86	110.70
2	B	2791	G	O5'-P-OP1	-27.64	77.53	110.70
2	B	2791	G	O5'-P-OP2	18.64	133.06	110.70
2	B	2204	G	O5'-P-OP1	17.75	132.00	110.70
2	B	2790	U	OP1-P-O3'	14.84	137.84	105.20
2	B	2203	U	OP2-P-O3'	14.09	136.19	105.20
2	B	1552	A	N9-C1'-C2'	-9.40	101.66	112.00
2	B	1397	U	C5'-C4'-C3'	-8.46	102.46	116.00
2	B	1088	A	N1-C6-N6	-8.22	113.67	118.60
2	B	1439	A	N9-C1'-C2'	-7.58	103.66	112.00
2	B	690	G	C5'-C4'-C3'	-7.31	104.30	116.00
2	B	1060	U	C5-C4-O4	-7.30	121.52	125.90
2	B	1086	A	C4-C5-C6	7.03	120.51	117.00
2	B	2733	A	N9-C1'-C2'	-6.95	104.36	112.00
2	B	2283	C	O5'-P-OP2	-6.94	99.46	105.70
2	B	773	U	C5'-C4'-C3'	-6.70	105.28	116.00
2	B	745	G	C5'-C4'-C3'	-6.53	105.55	116.00
2	B	2894	G	N9-C1'-C2'	-6.36	105.00	112.00
2	B	1088	A	C5-C6-N6	6.36	128.78	123.70
2	B	2790	U	O3'-P-O5'	-6.26	92.11	104.00
2	B	560	C	C5'-C4'-C3'	-6.18	106.11	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	508	A	C4'-C3'-O3'	-6.13	96.53	109.40
2	B	1086	A	C6-C5-N7	-6.13	128.01	132.30
2	B	2267	A	C5-C6-N6	-6.06	118.85	123.70
2	B	2894	G	C5'-C4'-C3'	-5.83	106.67	116.00
2	B	2199	A	C5'-C4'-C3'	-5.81	106.70	116.00
1	A	52	A	C5'-C4'-C3'	5.77	125.23	116.00
2	B	1086	A	C2-N3-C4	-5.65	107.77	110.60
2	B	1251	C	C5'-C4'-C3'	-5.60	107.04	116.00
2	B	1060	U	N1-C2-O2	-5.58	118.89	122.80
2	B	1126	A	C5'-C4'-C3'	-5.57	107.08	116.00
2	B	2267	A	C4-N9-C1'	5.57	136.32	126.30
2	B	2716	C	C5'-C4'-C3'	5.45	124.72	116.00
2	B	479	A	C4'-C3'-O3'	-5.43	98.00	109.40
2	B	1382	G	C5'-C4'-C3'	5.42	124.66	116.00
2	B	268	C	C5'-C4'-C3'	-5.38	107.40	116.00
2	B	1060	U	N3-C2-O2	5.34	125.94	122.20
2	B	2272	U	C5-C4-O4	-5.33	122.70	125.90
2	B	2203	U	O3'-P-O5'	-5.24	94.05	104.00
2	B	944	C	C5'-C4'-C3'	-5.20	107.68	116.00
2	B	2191	A	C5'-C4'-C3'	-5.17	107.73	116.00
2	B	1126	A	O5'-P-OP2	-5.11	101.11	105.70
2	B	2267	A	C8-N9-C1'	-5.10	118.52	127.70

There are no chirality outliers.

All (43) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	1047	G	Sidechain
2	B	1060	U	Sidechain
2	B	1086	A	Sidechain
2	B	1088	A	Sidechain
2	B	1111	A	Sidechain
2	B	1426	G	Sidechain
2	B	1439	A	Sidechain
2	B	1546	G	Sidechain
2	B	1572	A	Sidechain
2	B	1722	A	Sidechain
2	B	1734	G	Sidechain
2	B	1814	G	Sidechain
2	B	1828	G	Sidechain
2	B	2062	A	Sidechain
2	B	2108	A	Sidechain

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Mol	Chain	Res	Type	Group
2	B	221	A	Sidechain
2	B	222	A	Sidechain
2	B	2272	U	Sidechain
2	B	2279	G	Sidechain
2	B	232	G	Sidechain
2	B	2454	G	Sidechain
2	B	2471	A	Sidechain
2	B	2503	A	Sidechain
2	B	2508	G	Sidechain
2	B	2587	A	Sidechain
2	B	2638	G	Sidechain
2	B	2733	A	Sidechain
2	B	2770	G	Sidechain
2	B	2834	G	Sidechain
2	B	2848	G	Sidechain
2	B	2857	G	Sidechain
2	B	2868	A	Sidechain
2	B	2883	A	Sidechain
2	B	299	A	Sidechain
2	B	361	G	Sidechain
2	B	370	G	Sidechain
2	B	500	G	Sidechain
2	B	51	G	Sidechain
2	B	562	U	Sidechain
2	B	630	G	Sidechain
2	B	727	A	Sidechain
2	B	729	G	Sidechain
2	B	757	G	Sidechain

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	2507	0	1270	96	0
2	B	60995	0	30678	2141	0
3	I	1032	0	1088	111	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C	2082	0	2157	256	0
5	D	1565	0	1616	204	0
6	K	930	0	1000	117	0
7	P	917	0	965	116	0
8	E	1552	0	1619	185	0
9	Y	449	0	491	52	0
10	0	444	0	461	45	0
11	4	302	0	340	30	0
12	1	409	0	440	51	0
13	3	504	0	574	56	0
14	V	753	0	780	80	0
15	2	377	0	418	44	0
16	L	1045	0	1117	142	0
17	M	1074	0	1157	115	0
18	X	509	0	543	62	0
19	H	1111	0	1148	196	0
20	J	1129	0	1162	146	0
21	N	960	0	1000	116	0
22	O	892	0	923	79	0
23	Q	947	0	1022	142	0
24	S	857	0	922	103	0
25	U	779	0	834	125	0
26	F	1420	0	1460	229	0
27	G	1323	0	1374	187	0
28	R	816	0	839	97	0
29	T	738	0	807	129	0
30	Z	625	0	652	82	0
31	W	596	0	610	136	0
32	B	42	0	46	0	0
33	B	110	0	0	0	0
34	4	1	0	0	0	0
35	B	498	0	0	8	0
35	C	5	0	0	0	0
35	L	1	0	0	0	0
35	N	1	0	0	0	0
35	R	1	0	0	0	0
All	All	90298	0	59513	5215	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 35.

All (5215) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:31:VAL:HB	19:H:32:PRO:HD2	1.29	1.10
25:U:85:ARG:HD3	25:U:86:PHE:H	1.17	1.09
2:B:855:G:H21	31:W:23:LYS:HG2	0.99	1.07
2:B:126:A:H5'	15:2:19:ARG:HG3	1.40	1.03
5:D:10:GLY:HA3	5:D:26:VAL:H	1.20	1.03
31:W:17:ALA:HA	31:W:35:ILE:HG23	1.39	1.02
5:D:24:VAL:HG21	5:D:188:LEU:HB3	1.42	1.02
5:D:106:LYS:HB3	5:D:206:ALA:H	1.20	1.01
23:Q:30:VAL:HG13	23:Q:31:TYR:H	1.18	1.00
27:G:89:VAL:HB	27:G:159:LYS:HA	1.41	0.99
6:K:70:ARG:HB3	6:K:76:VAL:HG22	1.45	0.99
28:R:60:LYS:H	28:R:100:GLY:HA3	1.23	0.99
31:W:51:GLY:HA3	31:W:59:PHE:HB2	1.42	0.99
29:T:5:GLU:HA	29:T:8:LEU:HB2	1.45	0.98
2:B:855:G:N2	31:W:23:LYS:HG2	1.78	0.98
2:B:1458:U:H5''	2:B:1459:G:H5'	1.45	0.98
21:N:2:ARG:HA	21:N:5:LYS:HD3	1.41	0.98
7:P:63:ILE:HA	7:P:68:GLY:HA2	1.42	0.97
27:G:43:LYS:HB2	27:G:50:THR:HB	1.43	0.97
12:1:33:LEU:H	12:1:51:ALA:HB3	1.30	0.97
4:C:77:VAL:HG23	4:C:112:GLY:H	1.25	0.96
19:H:84:ALA:HA	19:H:90:LEU:HA	1.46	0.96
17:M:59:ARG:HH11	17:M:60:GLN:HB3	1.29	0.96
2:B:2502:G:H5'	2:B:2503:A:H5''	1.45	0.95
8:E:145:ASP:HA	8:E:166:LYS:HB3	1.46	0.95
12:1:34:GLU:HB3	12:1:49:LYS:HD3	1.50	0.94
31:W:9:THR:HG23	31:W:10:ARG:HD3	1.46	0.94
27:G:34:ARG:HH11	27:G:34:ARG:H	1.16	0.94
5:D:5:VAL:H	5:D:32:ASN:HD21	1.12	0.94
18:X:28:LEU:HD13	18:X:37:LEU:HD11	1.49	0.94
30:Z:5:CYS:HB3	30:Z:10:LYS:H	1.30	0.93
19:H:100:ALA:HB3	19:H:112:LYS:HA	1.49	0.93
28:R:7:SER:HB2	28:R:22:LEU:HB3	1.47	0.93
2:B:125:A:H5'	15:2:19:ARG:HD2	1.50	0.93
2:B:1420:A:H2'	2:B:2211:A:H62	1.32	0.93
2:B:460:A:H4'	29:T:72:GLN:HB2	1.51	0.93
16:L:123:ARG:HA	16:L:143:GLU:HB3	1.51	0.93
21:N:102:PHE:H	21:N:109:PRO:HA	1.34	0.93
2:B:850:U:H5''	9:Y:18:LYS:HD3	1.50	0.93
21:N:101:GLY:HA2	21:N:110:MET:N	1.84	0.92
16:L:81:ASP:HA	16:L:84:LYS:HE2	1.51	0.92
30:Z:54:LYS:HA	30:Z:57:ARG:HD3	1.51	0.92
4:C:4:LYS:HD2	4:C:5:CYS:H	1.34	0.92

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:105:ALA:HB1	4:C:109:LEU:HD12	1.48	0.92
20:J:17:VAL:HG23	20:J:137:PRO:HB2	1.51	0.92
29:T:57:VAL:HG22	29:T:58:VAL:H	1.34	0.92
16:L:79:LEU:HB2	16:L:113:ALA:H	1.31	0.92
4:C:130:PRO:HG2	4:C:133:ASN:HD22	1.35	0.91
2:B:670:A:H4'	2:B:671:C:H5'	1.53	0.91
23:Q:97:ILE:HD11	23:Q:108:LEU:HD11	1.53	0.91
26:F:45:ASP:HB3	26:F:48:LEU:HD22	1.52	0.90
22:O:49:VAL:HG21	22:O:82:ALA:HB2	1.52	0.90
4:C:183:VAL:HG13	4:C:185:ALA:H	1.36	0.90
19:H:116:ARG:HB2	19:H:133:GLN:HB2	1.51	0.90
2:B:1060:U:N3	2:B:1088:A:N7	2.20	0.89
2:B:2305:U:H5''	26:F:130:GLY:HA3	1.53	0.89
6:K:47:ILE:HG12	6:K:48:PRO:HD2	1.53	0.89
18:X:31:GLN:HG2	18:X:37:LEU:HB2	1.54	0.89
26:F:43:ILE:HG23	26:F:44:ALA:H	1.34	0.89
2:B:2356:U:H5''	31:W:16:GLU:HG3	1.51	0.89
18:X:3:ALA:HA	18:X:6:LEU:HD23	1.54	0.89
31:W:58:LEU:HD12	31:W:79:ILE:HD12	1.55	0.89
7:P:4:ILE:HG22	7:P:5:LYS:H	1.36	0.89
19:H:80:ILE:HB	19:H:144:VAL:HG13	1.53	0.88
6:K:35:VAL:HG23	6:K:36:GLY:H	1.37	0.88
2:B:2108:A:H2'	2:B:2109:U:H4'	1.55	0.88
2:B:1203:U:H1'	16:L:4:ASN:HD21	1.39	0.88
24:S:76:VAL:HG12	24:S:103:ILE:HA	1.54	0.88
2:B:27:G:H22	2:B:512:G:H2'	1.37	0.88
4:C:16:VAL:HB	4:C:203:VAL:HB	1.55	0.87
30:Z:7:VAL:HG13	30:Z:8:THR:HG23	1.57	0.87
5:D:29:VAL:HB	5:D:98:VAL:HG22	1.56	0.87
19:H:80:ILE:HD12	19:H:144:VAL:HG22	1.55	0.87
16:L:143:GLU:HG2	16:L:144:GLU:H	1.39	0.87
27:G:68:ARG:HH12	27:G:72:ASN:HD22	1.21	0.87
31:W:66:VAL:HA	31:W:81:ILE:HG22	1.57	0.87
27:G:24:THR:HG22	27:G:34:ARG:HB3	1.57	0.87
16:L:79:LEU:HG	16:L:112:LEU:HA	1.56	0.87
6:K:25:LEU:HD13	6:K:38:ILE:HG22	1.57	0.87
30:Z:40:VAL:HG21	30:Z:43:GLU:HB3	1.54	0.87
3:I:27:LEU:H	3:I:27:LEU:HD23	1.39	0.87
12:1:26:LYS:HD3	12:1:52:LYS:HB3	1.56	0.86
12:1:49:LYS:HG3	12:1:50:GLU:H	1.37	0.86
4:C:128:THR:HA	4:C:190:THR:HA	1.55	0.86
21:N:37:THR:HG22	21:N:39:PRO:HD2	1.54	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2267:A:H3'	2:B:2267:A:H8	1.37	0.86
30:Z:71:LEU:HD13	30:Z:76:GLU:HB3	1.56	0.86
4:C:129:LEU:HD23	4:C:130:PRO:HD2	1.55	0.86
4:C:64:VAL:O	4:C:65:ASP:HB3	1.75	0.86
25:U:95:PHE:HE1	25:U:102:ILE:HB	1.39	0.86
25:U:58:VAL:HG12	25:U:59:GLU:H	1.41	0.86
30:Z:6:GLN:HE21	30:Z:50:ARG:H	1.20	0.86
17:M:34:LYS:HB3	17:M:129:THR:HG22	1.58	0.86
29:T:11:LEU:HD22	29:T:11:LEU:H	1.40	0.86
19:H:7:ASP:HA	19:H:15:LEU:HD22	1.57	0.85
14:V:62:THR:HA	14:V:71:LYS:HA	1.58	0.85
4:C:144:GLU:HA	4:C:151:GLY:HA2	1.55	0.85
13:3:31:ILE:HD11	13:3:34:LYS:HD3	1.57	0.85
4:C:226:PRO:HG3	4:C:233:GLY:H	1.40	0.85
2:B:1287:A:OP1	21:N:104:ALA:HB3	1.75	0.85
2:B:79:C:O2'	2:B:346:A:H1'	1.76	0.85
2:B:558:U:OP1	20:J:113:PRO:HG2	1.76	0.85
30:Z:64:ILE:HD12	30:Z:64:ILE:H	1.41	0.85
31:W:39:GLN:HE21	31:W:42:THR:HB	1.42	0.84
27:G:15:ASP:HB2	27:G:26:LYS:H	1.41	0.84
8:E:108:ILE:HD11	8:E:181:ILE:HB	1.59	0.84
16:L:6:LEU:H	16:L:6:LEU:HD23	1.38	0.84
21:N:72:ASP:HB3	21:N:75:ILE:HG12	1.56	0.84
6:K:19:VAL:HG12	6:K:43:ILE:HA	1.59	0.84
27:G:17:LYS:HB3	27:G:24:THR:H	1.41	0.84
2:B:2769:U:H2'	2:B:2770:G:H8	1.41	0.84
4:C:144:GLU:HG3	4:C:151:GLY:H	1.43	0.84
14:V:4:ILE:HB	14:V:63:ILE:HA	1.59	0.84
5:D:113:SER:HB2	5:D:168:GLU:H	1.41	0.84
11:4:7:VAL:HG13	11:4:8:LYS:H	1.42	0.84
25:U:84:PHE:O	25:U:85:ARG:HB2	1.78	0.84
30:Z:14:THR:HA	30:Z:28:ARG:HA	1.57	0.84
20:J:81:ILE:HG23	20:J:82:GLY:H	1.42	0.83
18:X:39:GLN:HB3	18:X:42:LEU:HD13	1.58	0.83
2:B:1244:A:H5''	16:L:8:PRO:HD3	1.60	0.83
26:F:87:LYS:HG3	26:F:88:VAL:H	1.43	0.83
2:B:2306:C:H3'	2:B:2307:G:C5'	2.08	0.83
2:B:100:U:H2'	2:B:100:U:O2	1.76	0.83
2:B:1024:G:H3'	2:B:1025:G:H5''	1.60	0.83
6:K:71:ARG:HG3	6:K:105:ARG:NH2	1.93	0.83
2:B:2267:A:H3'	2:B:2267:A:C8	2.13	0.83
31:W:37:VAL:HG12	31:W:38:ARG:H	1.41	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:137:PHE:HB2	26:F:138:PRO:HD2	1.60	0.83
16:L:30:THR:O	16:L:33:ARG:HG2	1.79	0.83
2:B:1060:U:C2	2:B:1088:A:N7	2.47	0.83
26:F:163:GLU:HA	26:F:166:ARG:HH11	1.44	0.82
23:Q:91:ARG:CZ	28:R:11:GLN:H	1.91	0.82
2:B:2322:A:N6	2:B:2333:A:H62	1.75	0.82
19:H:81:ALA:HA	19:H:146:VAL:HA	1.61	0.82
19:H:103:VAL:HG23	19:H:110:VAL:HG21	1.61	0.82
20:J:25:LEU:HD22	20:J:26:GLY:H	1.43	0.82
2:B:161:A:H3'	2:B:162:U:H5''	1.61	0.82
2:B:2749:A:H3'	2:B:2750:A:H5''	1.61	0.82
15:2:31:LEU:HD23	15:2:42:LEU:HD12	1.62	0.82
2:B:858:G:N3	2:B:2268:A:H2'	1.94	0.82
4:C:80:LEU:HD11	4:C:109:LEU:HG	1.59	0.82
2:B:1141:U:H4'	2:B:1142:A:O4'	1.79	0.82
17:M:38:ARG:HH11	17:M:38:ARG:HB3	1.43	0.82
2:B:141:G:H1	29:T:2:ILE:HD12	1.42	0.82
8:E:143:LEU:HB3	8:E:146:VAL:HG21	1.60	0.82
29:T:29:THR:HA	29:T:86:THR:HA	1.62	0.82
19:H:131:SER:HA	19:H:141:LYS:HA	1.60	0.82
2:B:1082:U:C4	2:B:1086:A:C2	2.68	0.82
26:F:11:VAL:HG12	26:F:12:VAL:H	1.45	0.81
21:N:101:GLY:HA2	21:N:110:MET:H	1.44	0.81
2:B:287:G:H2'	2:B:288:U:C6	2.15	0.81
27:G:17:LYS:HZ2	27:G:18:ILE:H	1.29	0.81
23:Q:30:VAL:HG13	23:Q:31:TYR:N	1.95	0.81
29:T:11:LEU:HD21	29:T:46:ALA:HB1	1.60	0.81
19:H:90:LEU:HD21	19:H:146:VAL:HG11	1.63	0.81
4:C:144:GLU:HG3	4:C:151:GLY:N	1.96	0.81
4:C:4:LYS:HD2	4:C:5:CYS:N	1.94	0.81
3:I:55:PRO:HD3	3:I:74:PRO:HD3	1.62	0.81
2:B:141:G:N1	29:T:2:ILE:HD12	1.95	0.81
4:C:76:VAL:HG12	4:C:114:GLN:HG2	1.61	0.81
30:Z:31:PRO:HB2	30:Z:33:LEU:HD11	1.62	0.81
2:B:9:G:H21	2:B:10:A:H62	1.27	0.81
2:B:135:U:H2'	2:B:136:G:C8	2.17	0.80
2:B:1076:C:H4'	3:I:94:LYS:HE3	1.61	0.80
24:S:4:ILE:HG22	24:S:106:VAL:HG13	1.62	0.80
5:D:105:LYS:HD2	5:D:177:VAL:HG22	1.62	0.80
8:E:188:MET:HE2	8:E:193:VAL:HG22	1.60	0.80
17:M:19:GLY:HA2	17:M:97:GLN:HB2	1.61	0.80
2:B:1381:G:H2'	2:B:1382:G:H5'	1.63	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:62:U:H3'	2:B:63:A:C8	2.17	0.80
31:W:18:LYS:HA	31:W:36:ILE:HG12	1.64	0.80
2:B:775:G:H4'	2:B:776:G:H5'	1.64	0.80
14:V:9:ARG:NH2	14:V:12:GLN:HA	1.97	0.80
5:D:148:GLN:HG3	5:D:152:PRO:HG2	1.64	0.80
26:F:42:ALA:HA	26:F:48:LEU:HD21	1.61	0.80
2:B:2311:A:H1'	26:F:84:ILE:HD13	1.63	0.80
9:Y:8:GLN:HG2	9:Y:31:ILE:HA	1.62	0.80
1:A:43:C:O2'	26:F:91:ARG:HD2	1.81	0.80
8:E:46:GLN:HG3	8:E:87:ALA:HB3	1.64	0.80
25:U:46:LYS:HG2	25:U:47:PRO:HD2	1.62	0.80
7:P:110:LYS:HD2	7:P:110:LYS:H	1.48	0.79
2:B:2148:G:H3'	2:B:2149:U:O4'	1.83	0.79
2:B:1324:G:H1'	2:B:1616:A:N6	1.96	0.79
22:O:53:THR:HB	22:O:65:THR:HG22	1.65	0.79
28:R:8:GLY:HA3	28:R:23:GLU:HB2	1.65	0.79
3:I:106:GLN:O	3:I:110:GLN:HG3	1.83	0.79
5:D:91:THR:HG23	5:D:92:VAL:H	1.48	0.79
17:M:121:ALA:HA	17:M:124:LEU:HD12	1.63	0.79
3:I:129:GLU:HB3	3:I:133:ARG:HH12	1.46	0.79
4:C:196:ASN:HD22	4:C:199:HIS:HB2	1.48	0.79
20:J:1:MET:HG2	20:J:2:LYS:HG2	1.62	0.79
29:T:39:THR:HG22	29:T:42:GLU:HG2	1.63	0.79
14:V:42:LEU:HD12	14:V:47:VAL:HG21	1.64	0.79
31:W:77:LYS:NZ	31:W:77:LYS:H	1.81	0.79
19:H:27:ARG:HE	30:Z:64:ILE:HD11	1.48	0.79
25:U:85:ARG:HD3	25:U:86:PHE:N	1.97	0.79
2:B:1019:U:H2'	2:B:1020:A:C8	2.18	0.78
2:B:280:U:H2'	2:B:281:C:C6	2.18	0.78
25:U:39:ASN:HB3	25:U:62:ALA:HB3	1.65	0.78
2:B:2073:C:H5''	4:C:227:VAL:HG12	1.64	0.78
5:D:107:VAL:HG13	5:D:203:VAL:HG23	1.64	0.78
12:1:46:VAL:HG22	12:1:47:ILE:H	1.48	0.78
2:B:1176:U:H3'	2:B:1177:G:H8	1.46	0.78
26:F:36:ASN:HA	26:F:87:LYS:HA	1.63	0.78
27:G:166:GLU:HG2	27:G:168:VAL:HG23	1.64	0.78
3:I:21:PRO:HB2	3:I:22:PRO:HD3	1.63	0.78
19:H:40:THR:H	19:H:43:ASN:HD21	1.26	0.78
2:B:742:A:H2'	2:B:743:A:C8	2.18	0.78
19:H:94:ILE:HB	19:H:121:VAL:HB	1.65	0.78
2:B:2743:U:H2'	2:B:2744:G:O4'	1.83	0.78
19:H:82:SER:H	19:H:146:VAL:HG13	1.47	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:142:A:H2'	2:B:143:C:C6	2.18	0.78
19:H:31:VAL:HB	19:H:32:PRO:CD	2.11	0.78
27:G:106:LEU:HD12	27:G:151:ARG:HD3	1.65	0.78
19:H:130:VAL:HG21	19:H:144:VAL:HG23	1.66	0.78
2:B:972:A:H3'	2:B:973:A:H5''	1.63	0.78
19:H:68:ARG:HH11	19:H:134:VAL:HG21	1.48	0.78
13:3:49:VAL:HG21	13:3:54:LEU:HD13	1.64	0.78
17:M:82:MET:HE3	17:M:83:GLY:H	1.49	0.77
30:Z:33:LEU:HG	30:Z:52:SER:HB3	1.66	0.77
27:G:26:LYS:HB2	27:G:32:LEU:HG	1.65	0.77
2:B:2264:C:H41	31:W:11:ASN:HD21	1.32	0.77
2:B:645:C:H4'	2:B:646:U:OP2	1.84	0.77
6:K:71:ARG:HG3	6:K:105:ARG:HH21	1.48	0.77
2:B:1171:G:C4	2:B:1172:C:H1'	2.20	0.77
2:B:704:G:H2'	2:B:726:G:H22	1.48	0.77
7:P:20:ARG:HG3	7:P:21:PRO:HD2	1.64	0.77
2:B:1046:A:H3'	2:B:1047:G:H5''	1.65	0.77
5:D:106:LYS:HB3	5:D:206:ALA:N	1.99	0.77
14:V:72:VAL:HG12	14:V:94:ALA:H	1.49	0.77
19:H:40:THR:H	19:H:43:ASN:ND2	1.82	0.77
21:N:34:ILE:HB	21:N:113:ILE:HG22	1.67	0.77
2:B:62:U:H3'	2:B:63:A:H8	1.48	0.77
3:I:27:LEU:HD12	3:I:32:VAL:HG11	1.65	0.77
4:C:14:HIS:O	4:C:203:VAL:HG11	1.84	0.77
2:B:27:G:N2	2:B:512:G:H2'	2.00	0.77
17:M:19:GLY:N	17:M:38:ARG:HH22	1.83	0.77
27:G:16:VAL:HG13	27:G:49:LEU:HD11	1.67	0.77
15:2:19:ARG:HG2	15:2:19:ARG:HH21	1.49	0.76
30:Z:45:ARG:HE	30:Z:47:VAL:HG12	1.50	0.76
2:B:668:A:H2'	2:B:670:A:H62	1.48	0.76
6:K:105:ARG:HD3	6:K:105:ARG:H	1.50	0.76
2:B:275:C:H2'	2:B:276:U:O4'	1.86	0.76
2:B:2769:U:H2'	2:B:2770:G:C8	2.20	0.76
2:B:922:C:H1'	31:W:22:VAL:HG21	1.67	0.76
19:H:134:VAL:HG13	19:H:135:HIS:H	1.49	0.76
11:4:7:VAL:HG23	11:4:35:GLN:HB2	1.68	0.76
26:F:102:LEU:HD22	26:F:103:ILE:H	1.50	0.76
2:B:2886:A:H62	10:0:39:ARG:NE	1.84	0.76
22:O:62:LEU:HD11	22:O:70:ALA:HA	1.65	0.76
26:F:72:SER:HB2	26:F:80:GLN:HA	1.67	0.76
4:C:143:VAL:HB	4:C:153:LEU:HB2	1.67	0.76
6:K:54:LYS:HD2	6:K:54:LYS:H	1.50	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:T:53:VAL:HG11	29:T:87:LEU:HD13	1.68	0.76
16:L:103:ILE:H	16:L:103:ILE:HD12	1.49	0.76
2:B:2269:G:H4'	31:W:19:ARG:NH1	2.01	0.76
26:F:64:PRO:HA	26:F:88:VAL:HG22	1.67	0.76
26:F:107:VAL:HG11	26:F:175:PRO:HG3	1.68	0.76
26:F:8:LYS:HA	26:F:12:VAL:HG21	1.67	0.76
29:T:67:VAL:HB	29:T:76:ARG:HG2	1.66	0.76
2:B:28:A:H61	2:B:512:G:H1'	1.51	0.76
14:V:16:ALA:HA	14:V:19:ARG:HE	1.51	0.76
9:Y:12:ALA:HA	9:Y:15:ARG:HD3	1.65	0.76
2:B:923:G:H1'	31:W:23:LYS:HZ2	1.49	0.75
7:P:61:ARG:HH21	7:P:61:ARG:HB3	1.51	0.75
16:L:89:VAL:HG23	16:L:123:ARG:HG3	1.68	0.75
20:J:72:LYS:HB2	20:J:89:PHE:HB2	1.68	0.75
10:O:42:ILE:HD11	21:N:98:LEU:HD12	1.66	0.75
14:V:30:ILE:HD12	14:V:38:LEU:HD23	1.67	0.75
19:H:142:VAL:HG12	19:H:143:ILE:H	1.48	0.75
2:B:1060:U:C5	3:I:131:THR:HG22	2.21	0.75
2:B:90:U:H3'	2:B:91:A:H5''	1.67	0.75
16:L:47:ARG:HH21	16:L:47:ARG:HB3	1.50	0.75
2:B:45:G:H5'	2:B:46:G:H5'	1.69	0.75
2:B:856:G:H1'	31:W:23:LYS:HB3	1.68	0.75
27:G:167:VAL:HG23	27:G:168:VAL:H	1.50	0.75
22:O:51:ALA:HB3	22:O:78:VAL:HG22	1.68	0.75
21:N:38:LEU:HB3	21:N:39:PRO:HD3	1.66	0.75
5:D:151:THR:HB	5:D:152:PRO:HD3	1.69	0.75
2:B:955:U:OP1	17:M:86:LYS:HE3	1.87	0.75
26:F:128:SER:HB3	26:F:154:THR:HG23	1.69	0.75
2:B:547:A:H3'	2:B:548:G:C8	2.21	0.75
14:V:80:HIS:HD2	14:V:82:TYR:H	1.34	0.75
8:E:176:ASP:HB3	8:E:179:SER:HB2	1.67	0.75
16:L:116:VAL:HG13	16:L:117:THR:H	1.52	0.75
5:D:104:VAL:HA	5:D:106:LYS:HZ1	1.51	0.75
23:Q:93:ILE:HG23	23:Q:94:LEU:HD22	1.67	0.75
2:B:1021:A:H61	2:B:1142:A:N6	1.84	0.75
24:S:66:ILE:HD13	24:S:66:ILE:H	1.51	0.75
2:B:2787:C:H1'	5:D:63:PRO:HG3	1.69	0.75
2:B:845:A:H2'	2:B:846:U:H5''	1.67	0.75
12:1:8:ILE:HD11	12:1:52:LYS:HB2	1.69	0.74
27:G:15:ASP:HB3	27:G:25:ILE:HA	1.69	0.74
5:D:114:LYS:HE3	5:D:116:LYS:NZ	2.01	0.74
2:B:1019:U:H2'	2:B:1020:A:H8	1.51	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2472:G:H2'	2:B:2475:C:H42	1.51	0.74
28:R:14:VAL:HG21	28:R:98:ILE:HG12	1.66	0.74
14:V:14:LYS:HE3	14:V:18:ARG:HH22	1.52	0.74
2:B:345:A:H1'	2:B:346:A:H2	1.50	0.74
19:H:44:ILE:HA	19:H:51:ARG:HH22	1.51	0.74
5:D:62:LYS:H	5:D:62:LYS:HD2	1.53	0.74
20:J:23:LYS:HE3	20:J:142:ILE:HG23	1.70	0.74
2:B:2185:U:H2'	2:B:2186:G:C8	2.23	0.74
2:B:855:G:H21	31:W:23:LYS:CG	1.91	0.74
5:D:105:LYS:HE3	5:D:176:ASP:HB3	1.68	0.74
19:H:108:VAL:HG12	19:H:109:GLU:H	1.53	0.74
6:K:97:THR:C	6:K:98:ARG:HE	1.91	0.74
14:V:44:HIS:HE1	14:V:86:LEU:H	1.33	0.74
12:1:7:LYS:HA	12:1:23:THR:HG22	1.70	0.74
6:K:112:PHE:O	6:K:115:ILE:HG22	1.87	0.74
2:B:125:A:H3'	2:B:126:A:H5''	1.69	0.74
27:G:26:LYS:HG2	27:G:27:GLY:N	2.02	0.74
25:U:26:ASN:HD21	25:U:34:ILE:HD12	1.52	0.74
2:B:254:G:H22	13:3:7:ARG:HH21	1.35	0.74
24:S:84:ARG:HB3	24:S:96:ILE:HG23	1.70	0.74
4:C:149:LYS:HD3	4:C:152:GLN:HE22	1.50	0.74
2:B:2267:A:C3'	2:B:2267:A:C8	2.71	0.74
18:X:29:ARG:NH1	29:T:12:ARG:HE	1.85	0.74
8:E:58:LYS:HE2	8:E:60:TRP:HD1	1.52	0.74
23:Q:24:TYR:O	23:Q:27:ARG:HB2	1.88	0.74
29:T:48:GLN:HE21	29:T:48:GLN:HA	1.52	0.74
2:B:1082:U:N3	2:B:1086:A:C2	2.56	0.74
31:W:77:LYS:HZ2	31:W:77:LYS:H	1.35	0.74
2:B:1107:G:H2'	2:B:1108:U:C6	2.23	0.74
25:U:35:VAL:HB	25:U:38:ILE:HG21	1.69	0.74
8:E:155:GLU:HA	8:E:158:PHE:HB3	1.68	0.73
2:B:1592:C:H2'	2:B:1593:A:H8	1.53	0.73
2:B:1437:C:H2'	2:B:1438:U:C6	2.23	0.73
6:K:99:ILE:HG12	6:K:115:ILE:HG13	1.68	0.73
3:I:122:GLU:O	3:I:126:ARG:HG3	1.88	0.73
2:B:743:A:O2'	2:B:744:U:H5'	1.88	0.73
2:B:2867:G:H2'	2:B:2867:G:N3	2.04	0.73
2:B:2108:A:H2'	2:B:2109:U:C4'	2.17	0.73
26:F:109:ARG:HB3	26:F:135:ILE:HD12	1.69	0.73
3:I:20:SER:HB3	3:I:21:PRO:HD3	1.69	0.73
26:F:61:GLY:HA3	26:F:94:ARG:HD2	1.71	0.73
30:Z:5:CYS:HB2	30:Z:10:LYS:HB3	1.69	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:4:24:ARG:HG2	11:4:36:ARG:HG3	1.71	0.73
2:B:717:C:H3'	2:B:718:A:H5''	1.69	0.73
2:B:1485:U:H2'	2:B:1486:U:C6	2.23	0.73
2:B:2039:U:H2'	2:B:2040:G:H8	1.53	0.73
2:B:1486:U:H2'	2:B:1487:U:C6	2.23	0.73
31:W:23:LYS:HZ3	31:W:24:ARG:HG3	1.53	0.73
2:B:320:A:H2'	8:E:131:THR:OG1	1.89	0.73
16:L:124:GLY:N	16:L:143:GLU:HG3	2.03	0.73
31:W:39:GLN:HG2	31:W:40:ARG:N	2.04	0.73
5:D:5:VAL:H	5:D:32:ASN:ND2	1.87	0.73
21:N:33:ILE:HG22	21:N:114:GLU:HB2	1.69	0.73
22:O:67:ASN:H	22:O:70:ALA:HB3	1.54	0.73
2:B:1812:U:H2'	2:B:1813:G:H8	1.53	0.73
2:B:2322:A:N6	2:B:2333:A:N6	2.37	0.73
26:F:62:GLN:HG3	26:F:91:ARG:HH11	1.53	0.72
24:S:52:GLU:HA	24:S:55:ILE:HG22	1.71	0.72
26:F:64:PRO:HA	26:F:88:VAL:CG2	2.18	0.72
3:I:33:ASN:HD21	3:I:64:ARG:HH11	1.38	0.72
29:T:54:GLU:HG3	29:T:90:GLY:H	1.52	0.72
22:O:39:VAL:HB	22:O:49:VAL:HG22	1.71	0.72
24:S:5:ALA:HB3	24:S:54:ALA:HB2	1.71	0.72
2:B:704:G:H1'	2:B:727:A:H61	1.54	0.72
2:B:704:G:H1'	2:B:727:A:N6	2.04	0.72
2:B:2615:U:H1'	10:0:3:GLN:HB3	1.71	0.72
2:B:1785:A:H2'	2:B:1787:A:N7	2.04	0.72
2:B:1469:A:H2'	2:B:1470:A:C8	2.24	0.72
2:B:1387:A:H5'	2:B:1469:A:H1'	1.70	0.72
10:0:27:LEU:H	10:0:27:LEU:HD12	1.54	0.72
26:F:149:ARG:HH11	26:F:149:ARG:HA	1.52	0.72
23:Q:77:LYS:HE2	23:Q:116:LEU:HD23	1.71	0.72
23:Q:63:ARG:HH22	23:Q:96:ASP:HA	1.54	0.72
2:B:287:G:H2'	2:B:288:U:H6	1.55	0.72
1:A:32:U:H4'	1:A:52:A:H62	1.55	0.72
2:B:742:A:H2'	2:B:743:A:H8	1.54	0.72
10:0:38:LEU:HB3	10:0:41:HIS:NE2	2.05	0.72
16:L:51:GLU:HG3	16:L:56:PRO:HA	1.69	0.72
2:B:458:G:N2	2:B:469:G:H2'	2.04	0.72
24:S:24:ILE:HD11	24:S:36:LEU:HD11	1.72	0.72
2:B:90:U:H3'	2:B:91:A:C5'	2.19	0.72
19:H:31:VAL:CB	19:H:32:PRO:HD2	2.14	0.72
31:W:51:GLY:HA3	31:W:59:PHE:CB	2.19	0.72
23:Q:26:ALA:O	23:Q:30:VAL:HG12	1.89	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:137:U:H2'	2:B:138:U:C6	2.23	0.72
9:Y:16:LEU:HD22	9:Y:16:LEU:H	1.55	0.72
20:J:117:ALA:HA	20:J:120:ARG:HD2	1.71	0.72
17:M:67:VAL:HG11	17:M:102:LEU:HD13	1.71	0.72
3:I:77:VAL:HA	3:I:80:LYS:HE2	1.72	0.72
2:B:28:A:N6	2:B:512:G:H1'	2.05	0.72
11:4:3:VAL:HG23	11:4:4:ARG:H	1.55	0.72
31:W:49:ASN:HB2	31:W:61:LYS:H	1.55	0.72
23:Q:109:VAL:HG12	23:Q:113:LYS:HE3	1.72	0.72
19:H:68:ARG:HD3	19:H:134:VAL:HG11	1.71	0.72
26:F:102:LEU:HD22	26:F:103:ILE:N	2.03	0.72
2:B:2788:C:H2'	2:B:2789:C:C6	2.25	0.72
2:B:1655:A:H5'	5:D:118:PHE:HB2	1.72	0.72
2:B:713:G:H21	2:B:718:A:H2	1.36	0.72
19:H:116:ARG:HB2	19:H:116:ARG:HH11	1.55	0.71
5:D:186:LEU:HD21	7:P:3:ILE:HD11	1.70	0.71
2:B:674:G:H5''	8:E:71:GLY:N	2.05	0.71
6:K:76:VAL:H	7:P:72:VAL:HG23	1.54	0.71
24:S:24:ILE:HG22	24:S:71:VAL:HG11	1.71	0.71
2:B:1387:A:H2'	2:B:1388:G:H8	1.55	0.71
2:B:2859:G:H2'	2:B:2860:A:C8	2.25	0.71
8:E:29:HIS:NE2	16:L:8:PRO:HG3	2.05	0.71
2:B:181:A:H2'	2:B:182:A:C8	2.25	0.71
2:B:307:G:N2	2:B:309:A:H3'	2.05	0.71
2:B:1412:U:H2'	2:B:1413:A:C8	2.25	0.71
2:B:321:U:OP2	8:E:130:LYS:HA	1.90	0.71
2:B:1176:U:H3'	2:B:1177:G:C8	2.25	0.71
5:D:114:LYS:HB2	5:D:116:LYS:HE3	1.73	0.71
12:1:7:LYS:HD3	13:3:33:THR:HG21	1.73	0.71
18:X:17:GLU:HB3	18:X:53:VAL:HG11	1.70	0.71
21:N:83:LEU:HA	21:N:86:ARG:HB2	1.71	0.71
19:H:57:LYS:HG3	19:H:58:LEU:N	2.05	0.71
22:O:15:ARG:HH21	22:O:95:SER:HB3	1.56	0.71
20:J:45:THR:H	20:J:46:PRO:HD3	1.55	0.71
27:G:9:VAL:HA	27:G:48:THR:HG22	1.70	0.71
27:G:79:THR:HG22	27:G:80:GLU:HG2	1.73	0.71
12:1:33:LEU:N	12:1:51:ALA:HB3	2.06	0.71
2:B:1866:A:H2'	2:B:1867:G:O4'	1.91	0.71
21:N:87:PHE:HE1	21:N:116:VAL:HG12	1.55	0.71
30:Z:6:GLN:NE2	30:Z:50:ARG:H	1.89	0.71
23:Q:57:ARG:NH1	23:Q:61:ILE:HD11	2.05	0.71
21:N:85:PRO:HA	21:N:88:ALA:HB2	1.72	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:G:84:LYS:HG2	27:G:85:LYS:H	1.54	0.71
16:L:23:ILE:H	16:L:23:ILE:HD12	1.55	0.71
24:S:82:MET:HB2	24:S:98:LYS:HB2	1.73	0.71
2:B:355:U:H2'	2:B:356:G:H8	1.55	0.71
2:B:2498:C:O2'	2:B:2499:C:H5'	1.90	0.71
19:H:116:ARG:HB3	19:H:131:SER:HB2	1.73	0.70
2:B:1060:U:C4	2:B:1088:A:N6	2.59	0.70
2:B:1381:G:C2'	2:B:1382:G:H5'	2.21	0.70
2:B:544:C:H2'	2:B:545:U:C2	2.24	0.70
10:0:41:HIS:HB3	21:N:99:LYS:HB2	1.71	0.70
2:B:1486:U:H2'	2:B:1487:U:H6	1.56	0.70
19:H:83:LYS:HB3	19:H:91:PHE:HB2	1.72	0.70
24:S:83:LYS:HD3	24:S:97:LEU:HD11	1.73	0.70
7:P:91:VAL:HG11	7:P:96:LEU:HD11	1.72	0.70
2:B:1798:U:H5''	4:C:257:ARG:HB2	1.73	0.70
20:J:99:ARG:O	20:J:103:ILE:HG13	1.91	0.70
2:B:616:A:H3'	2:B:617:G:H8	1.54	0.70
17:M:19:GLY:HA2	17:M:98:PRO:HD2	1.72	0.70
2:B:845:A:C2	2:B:847:U:H1'	2.27	0.70
13:3:61:LEU:HB2	13:3:64:ALA:HB2	1.74	0.70
2:B:172:A:H2'	2:B:173:A:C8	2.26	0.70
2:B:1283:G:H22	2:B:1286:A:H5'	1.56	0.70
18:X:37:LEU:HD23	18:X:39:GLN:H	1.56	0.70
21:N:97:ILE:HD12	21:N:98:LEU:N	2.06	0.70
2:B:2444:G:OP2	8:E:63:LYS:HD2	1.92	0.70
2:B:71:A:H4'	2:B:72:U:H5'	1.72	0.70
7:P:58:PHE:HB2	7:P:73:PHE:HB2	1.74	0.70
1:A:109:A:H2'	1:A:110:C:C6	2.27	0.70
10:0:8:THR:HG23	10:0:11:LYS:H	1.56	0.70
2:B:919:U:H2'	2:B:920:A:C8	2.25	0.70
5:D:106:LYS:CB	5:D:206:ALA:H	2.00	0.70
4:C:90:ILE:HD12	4:C:102:TYR:HB3	1.72	0.70
4:C:103:ILE:HG22	4:C:105:ALA:H	1.56	0.70
26:F:30:VAL:HG21	26:F:96:TRP:HE1	1.57	0.70
3:I:105:LEU:HD11	3:I:139:VAL:HG11	1.73	0.70
27:G:30:GLY:HA3	27:G:78:VAL:HA	1.73	0.70
30:Z:40:VAL:HG22	30:Z:45:ARG:O	1.91	0.70
21:N:29:VAL:HG13	21:N:83:LEU:HD21	1.72	0.70
2:B:2271:G:H2'	2:B:2272:U:C6	2.26	0.70
26:F:2:LYS:HD2	26:F:100:GLU:HG2	1.72	0.70
26:F:31:GLU:O	26:F:32:LYS:HD3	1.90	0.70
22:O:5:SER:HA	22:O:8:ILE:HD12	1.74	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:33:LEU:HA	30:Z:52:SER:HA	1.74	0.70
24:S:47:VAL:HG12	24:S:103:ILE:HG21	1.73	0.70
28:R:24:LYS:HA	28:R:94:THR:HG23	1.72	0.70
2:B:773:U:H5'	2:B:774:G:OP2	1.92	0.70
2:B:547:A:H2	2:B:549:G:H1	1.40	0.70
2:B:2461:A:H2'	2:B:2462:C:C6	2.27	0.70
2:B:2591:C:H2'	2:B:2592:G:C8	2.27	0.70
2:B:1812:U:H1'	4:C:43:ASN:HD21	1.56	0.70
19:H:68:ARG:NH1	19:H:134:VAL:HG21	2.06	0.69
20:J:58:ASN:HA	20:J:127:GLY:HA2	1.74	0.69
4:C:196:ASN:ND2	4:C:199:HIS:HB2	2.06	0.69
26:F:147:ARG:HD2	26:F:148:VAL:HG22	1.74	0.69
16:L:29:LYS:HG3	16:L:30:THR:HG23	1.73	0.69
2:B:1081:U:H5'	3:I:126:ARG:HD2	1.74	0.69
8:E:147:LEU:HB3	8:E:186:VAL:HG23	1.74	0.69
24:S:69:LEU:HG	24:S:107:VAL:HG22	1.74	0.69
2:B:2181:U:H2'	2:B:2182:U:H6	1.57	0.69
27:G:98:LYS:HB2	27:G:101:VAL:HG23	1.74	0.69
29:T:11:LEU:HA	29:T:34:VAL:HG12	1.74	0.69
27:G:9:VAL:HG12	27:G:11:PRO:HD3	1.74	0.69
2:B:222:A:N6	2:B:232:G:H1'	2.07	0.69
31:W:46:ALA:HB2	31:W:78:PHE:HD1	1.57	0.69
2:B:2849:U:H4'	2:B:2850:A:H5'	1.72	0.69
22:O:67:ASN:HB3	22:O:70:ALA:HB2	1.74	0.69
2:B:570:G:H2'	2:B:2030:A:N7	2.07	0.69
31:W:49:ASN:HB3	31:W:81:ILE:HG12	1.74	0.69
21:N:24:MET:HG2	21:N:44:LEU:HD22	1.73	0.69
2:B:773:U:H4'	4:C:45:ASN:O	1.93	0.69
25:U:81:ARG:HH21	25:U:81:ARG:N	1.90	0.69
4:C:66:PHE:HB2	4:C:150:GLY:O	1.92	0.69
2:B:2635:A:H5'	5:D:79:LEU:HD23	1.75	0.69
2:B:666:A:H4'	16:L:48:ARG:HD2	1.72	0.69
2:B:2305:U:H4'	26:F:132:ARG:HD3	1.73	0.69
2:B:721:A:H2'	2:B:722:A:C8	2.28	0.69
2:B:1469:A:H2'	2:B:1470:A:H8	1.56	0.69
2:B:1412:U:H2'	2:B:1413:A:H8	1.56	0.69
2:B:1802:A:H2'	2:B:1803:A:C8	2.28	0.69
28:R:72:VAL:HG23	28:R:89:HIS:HB3	1.72	0.69
1:A:104:A:H2'	1:A:105:G:O4'	1.93	0.69
20:J:29:ALA:HA	20:J:32:LEU:HD12	1.73	0.69
5:D:98:VAL:HG12	5:D:180:VAL:HG12	1.72	0.69
8:E:58:LYS:NZ	8:E:58:LYS:H	1.89	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:57:ALA:HA	7:P:73:PHE:O	1.93	0.69
19:H:84:ALA:HA	19:H:90:LEU:CA	2.22	0.69
26:F:126:ASN:HD22	26:F:156:THR:HA	1.58	0.69
2:B:1558:C:H4'	2:B:1559:U:H5'	1.75	0.69
2:B:2773:C:H5''	5:D:169:ARG:HB2	1.73	0.69
31:W:39:GLN:HG3	31:W:42:THR:HB	1.74	0.68
27:G:71:LEU:HA	27:G:74:MET:SD	2.33	0.68
7:P:50:ARG:HB3	7:P:57:ALA:N	2.07	0.68
2:B:479:A:N3	2:B:481:G:H5''	2.09	0.68
2:B:455:C:N3	2:B:472:A:H2'	2.08	0.68
2:B:163:C:H2'	2:B:164:C:O4'	1.92	0.68
3:I:25:PRO:O	3:I:29:GLN:HG2	1.93	0.68
2:B:2039:U:H2'	2:B:2040:G:C8	2.28	0.68
2:B:1993:U:H4'	5:D:133:THR:CG2	2.23	0.68
24:S:24:ILE:HG12	24:S:36:LEU:HD21	1.75	0.68
24:S:3:THR:HB	24:S:62:ASP:HB2	1.74	0.68
2:B:2150:C:H2'	2:B:2151:U:C6	2.29	0.68
2:B:192:C:H2'	2:B:193:U:H5'	1.75	0.68
7:P:31:VAL:HG12	7:P:38:ARG:O	1.94	0.68
23:Q:94:LEU:HD12	28:R:13:ARG:HB2	1.76	0.68
19:H:75:LEU:HD23	19:H:76:GLU:H	1.57	0.68
6:K:15:GLY:HA3	6:K:52:VAL:HG23	1.75	0.68
27:G:8:VAL:HG11	27:G:49:LEU:HB2	1.76	0.68
8:E:109:LEU:HD13	8:E:180:LEU:HD13	1.76	0.68
5:D:114:LYS:HE3	5:D:116:LYS:HZ2	1.56	0.68
2:B:2602:A:H2'	2:B:2602:A:N3	2.06	0.68
19:H:47:PHE:HA	19:H:50:ARG:HH21	1.58	0.68
2:B:1060:U:O2	2:B:1088:A:N7	2.27	0.68
24:S:29:VAL:HA	24:S:32:ALA:HB3	1.74	0.68
7:P:50:ARG:HB3	7:P:57:ALA:H	1.59	0.68
2:B:664:G:H2'	2:B:665:U:H6	1.58	0.68
28:R:61:ALA:HB2	28:R:98:ILE:HA	1.75	0.68
2:B:3:U:O2'	2:B:4:U:H6	1.77	0.68
17:M:35:ALA:CB	17:M:100:LYS:H	2.06	0.68
26:F:32:LYS:HA	26:F:95:MET:HG3	1.76	0.68
2:B:718:A:H2'	2:B:719:C:H5'	1.75	0.68
2:B:1301:A:O2'	2:B:1302:A:H2'	1.93	0.68
2:B:877:A:H3'	2:B:899:A:H61	1.58	0.68
2:B:1508:A:H5'	2:B:1509:A:C6	2.28	0.68
31:W:65:LYS:HG3	31:W:84:GLU:HB3	1.76	0.68
31:W:37:VAL:HG12	31:W:38:ARG:N	2.08	0.68
19:H:84:ALA:HB2	19:H:147:VAL:O	1.94	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1060:U:H5	3:I:131:THR:HG22	1.57	0.68
2:B:1178:C:H2'	2:B:1179:G:C8	2.28	0.68
17:M:59:ARG:HE	17:M:60:GLN:H	1.41	0.68
16:L:123:ARG:HB3	16:L:123:ARG:HH11	1.59	0.68
24:S:24:ILE:HG23	24:S:32:ALA:HB1	1.75	0.68
5:D:46:ARG:NH2	5:D:87:GLY:H	1.92	0.68
18:X:20:ASN:O	18:X:24:GLU:HB3	1.92	0.68
22:O:11:ALA:HB2	22:O:96:GLY:N	2.08	0.68
2:B:2099:U:H2'	2:B:2100:G:H8	1.58	0.68
23:Q:57:ARG:HH12	23:Q:61:ILE:HD11	1.60	0.68
4:C:129:LEU:HB3	4:C:134:ILE:HG22	1.75	0.68
19:H:114:GLU:HB3	19:H:134:VAL:HA	1.75	0.68
2:B:675:A:H5'	8:E:60:TRP:HE1	1.58	0.68
2:B:1283:G:N2	2:B:1285:A:H3'	2.09	0.68
4:C:202:ARG:NH1	4:C:213:ARG:HE	1.91	0.68
22:O:89:ASP:HA	22:O:116:GLN:O	1.94	0.68
19:H:67:ALA:O	19:H:71:LYS:HB2	1.94	0.68
31:W:43:LYS:HB3	31:W:58:LEU:HD11	1.76	0.67
2:B:1338:G:H4'	29:T:18:GLU:HG3	1.76	0.67
16:L:95:LEU:HA	16:L:98:ALA:HB3	1.76	0.67
19:H:69:ALA:HB2	19:H:139:PHE:O	1.93	0.67
8:E:58:LYS:C	8:E:60:TRP:H	1.97	0.67
2:B:2804:U:H2'	2:B:2805:C:C6	2.30	0.67
2:B:2734:A:H2'	2:B:2735:G:H5'	1.76	0.67
2:B:1012:U:O4	20:J:30:THR:HG21	1.94	0.67
9:Y:6:ILE:O	9:Y:34:THR:HA	1.94	0.67
2:B:594:U:H2'	2:B:595:C:C6	2.30	0.67
2:B:328:U:H4'	25:U:65:GLN:NE2	2.08	0.67
30:Z:10:LYS:O	30:Z:31:PRO:HG2	1.94	0.67
31:W:30:VAL:HA	31:W:60:ALA:O	1.94	0.67
2:B:1172:C:H3'	2:B:1173:U:C6	2.29	0.67
2:B:1045:C:H5''	2:B:1047:G:O4'	1.93	0.67
5:D:109:VAL:HG11	5:D:193:VAL:HB	1.76	0.67
2:B:784:G:C6	4:C:227:VAL:HG11	2.29	0.67
2:B:1594:U:H2'	2:B:1595:C:C6	2.29	0.67
2:B:2086:U:H2'	2:B:2087:G:C8	2.30	0.67
8:E:117:ARG:HA	8:E:185:LYS:HE3	1.75	0.67
20:J:82:GLY:O	20:J:84:ILE:HG22	1.94	0.67
4:C:250:GLN:CD	4:C:250:GLN:H	1.97	0.67
31:W:49:ASN:HB2	31:W:60:ALA:HA	1.76	0.67
5:D:30:GLU:HG3	5:D:52:THR:HG22	1.77	0.67
2:B:2267:A:H61	2:B:2272:U:H3	1.43	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:60:TRP:O	8:E:61:ARG:HB2	1.94	0.67
2:B:2328:A:H2'	2:B:2329:U:C6	2.30	0.67
1:A:107:G:O2'	1:A:108:A:H5'	1.95	0.67
30:Z:6:GLN:HE22	30:Z:77:LYS:NZ	1.92	0.67
2:B:2267:A:O5'	2:B:2267:A:H8	1.77	0.67
5:D:14:ILE:HA	7:P:11:GLN:HE22	1.59	0.67
8:E:130:LYS:HB2	8:E:133:LEU:HG	1.76	0.67
2:B:996:A:C4'	23:Q:91:ARG:HH11	2.08	0.67
2:B:27:G:H1'	2:B:513:A:N6	2.09	0.67
1:A:28:C:H5	1:A:56:G:H1	1.42	0.67
18:X:14:LEU:HD13	18:X:57:LEU:HD21	1.75	0.67
2:B:2151:U:H2'	2:B:2152:G:H8	1.58	0.67
3:I:10:LEU:HD13	3:I:12:VAL:HG13	1.76	0.67
4:C:216:ARG:HH11	4:C:216:ARG:HG3	1.60	0.67
4:C:158:GLY:N	4:C:194:VAL:HG13	2.10	0.67
2:B:2751:G:H2'	2:B:2751:G:N3	2.10	0.67
21:N:45:ARG:HG3	21:N:95:THR:HG21	1.76	0.67
25:U:85:ARG:HH11	25:U:86:PHE:N	1.93	0.67
2:B:1429:G:H2'	2:B:1430:G:H8	1.60	0.67
8:E:58:LYS:HZ2	8:E:58:LYS:H	1.42	0.67
2:B:2078:C:H2'	2:B:2079:U:C6	2.30	0.67
18:X:12:GLU:HA	18:X:15:ASN:HD21	1.58	0.67
23:Q:91:ARG:NH1	28:R:10:LYS:HB3	2.10	0.66
29:T:32:LEU:H	29:T:83:ALA:HB3	1.59	0.66
2:B:191:A:H2'	2:B:192:C:C6	2.30	0.66
24:S:73:LYS:HE3	24:S:74:ILE:H	1.59	0.66
25:U:12:VAL:HG22	25:U:69:VAL:HG12	1.77	0.66
25:U:14:THR:HG21	25:U:64:ILE:HD13	1.76	0.66
2:B:1568:G:H4'	4:C:58:LYS:HB3	1.77	0.66
2:B:587:C:O2'	16:L:19:LEU:HD13	1.93	0.66
31:W:67:LYS:O	31:W:68:PHE:HB2	1.93	0.66
7:P:4:ILE:HG22	7:P:5:LYS:N	2.10	0.66
31:W:50:VAL:HG23	31:W:61:LYS:HE3	1.76	0.66
8:E:192:ALA:HA	8:E:195:GLN:HE21	1.61	0.66
24:S:48:LYS:O	24:S:52:GLU:HG2	1.94	0.66
24:S:55:ILE:HD12	24:S:69:LEU:HD23	1.76	0.66
2:B:2728:U:H2'	2:B:2729:G:C8	2.31	0.66
22:O:35:ILE:HG22	22:O:53:THR:HG23	1.77	0.66
31:W:23:LYS:HD2	31:W:24:ARG:H	1.61	0.66
2:B:79:C:HO2'	2:B:346:A:H1'	1.59	0.66
6:K:8:LEU:H	6:K:8:LEU:HD12	1.61	0.66
2:B:1081:U:H4'	3:I:123:ALA:HB1	1.77	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:549:G:H2'	20:J:2:LYS:HE3	1.77	0.66
2:B:1484:U:H2'	2:B:1485:U:C6	2.31	0.66
2:B:2882:A:OP1	21:N:96:ARG:HD2	1.94	0.66
2:B:873:C:H4'	17:M:64:TRP:HE1	1.60	0.66
20:J:99:ARG:HA	20:J:102:GLU:HB2	1.78	0.66
29:T:32:LEU:N	29:T:83:ALA:HB3	2.09	0.66
2:B:171:U:H2'	2:B:172:A:C8	2.30	0.66
2:B:1464:G:H2'	2:B:1465:G:H8	1.60	0.66
31:W:81:ILE:HG13	31:W:81:ILE:O	1.95	0.66
24:S:27:LYS:O	24:S:32:ALA:HB2	1.96	0.66
4:C:156:SER:O	4:C:194:VAL:HG11	1.96	0.66
9:Y:43:ILE:O	9:Y:47:ILE:HG12	1.94	0.66
29:T:82:LYS:HD2	29:T:84:TYR:HE1	1.59	0.66
2:B:78:U:H2'	2:B:79:C:C6	2.30	0.66
8:E:48:THR:N	8:E:51:GLU:HG3	2.11	0.66
2:B:1551:A:H3'	2:B:1552:A:H5''	1.78	0.66
2:B:982:C:O2	2:B:982:C:H5'	1.96	0.66
6:K:104:THR:HB	6:K:106:GLU:OE1	1.96	0.66
14:V:80:HIS:CD2	14:V:83:LYS:HB2	2.30	0.66
2:B:1406:U:H2'	2:B:1407:G:C8	2.31	0.66
2:B:2591:C:H2'	2:B:2592:G:H8	1.61	0.66
2:B:1149:G:H2'	2:B:1150:C:C6	2.31	0.66
23:Q:65:ASN:HB2	23:Q:75:TYR:HB2	1.78	0.66
2:B:709:U:H2'	2:B:710:U:C6	2.31	0.66
7:P:47:ILE:HD13	7:P:61:ARG:HG2	1.78	0.66
27:G:17:LYS:HZ2	27:G:18:ILE:N	1.94	0.66
2:B:1138:G:H2'	2:B:1139:G:O4'	1.96	0.66
26:F:116:LEU:HB3	26:F:176:PHE:HA	1.78	0.66
26:F:62:GLN:HG3	26:F:91:ARG:NH1	2.11	0.66
31:W:35:ILE:HG12	31:W:35:ILE:O	1.96	0.65
16:L:90:VAL:HB	16:L:122:VAL:HG12	1.78	0.65
5:D:148:GLN:CG	5:D:152:PRO:HG2	2.26	0.65
21:N:34:ILE:O	21:N:112:TYR:HA	1.96	0.65
18:X:49:ASP:O	18:X:53:VAL:HG23	1.97	0.65
23:Q:65:ASN:O	23:Q:69:ARG:HB2	1.95	0.65
2:B:751:A:H5'	24:S:90:LYS:HA	1.78	0.65
3:I:7:TYR:HB2	3:I:58:ILE:O	1.95	0.65
23:Q:30:VAL:O	23:Q:31:TYR:HB2	1.96	0.65
27:G:26:LYS:HA	27:G:32:LEU:HA	1.78	0.65
18:X:39:GLN:O	18:X:42:LEU:HB2	1.96	0.65
20:J:3:THR:HB	20:J:44:TYR:CE1	2.31	0.65
23:Q:71:ASN:HD22	23:Q:109:VAL:HG11	1.61	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1021:A:H62	2:B:1141:U:H3	1.43	0.65
5:D:116:LYS:HB3	5:D:118:PHE:CE2	2.31	0.65
2:B:1386:C:H2'	2:B:1387:A:C8	2.31	0.65
17:M:42:THR:O	17:M:44:ARG:N	2.28	0.65
27:G:122:ALA:HA	27:G:132:LEU:HA	1.77	0.65
2:B:654:A:H2'	2:B:655:A:H5''	1.76	0.65
31:W:23:LYS:NZ	31:W:24:ARG:HG3	2.09	0.65
15:2:21:ARG:HG2	15:2:31:LEU:HG	1.78	0.65
2:B:664:G:H2'	2:B:665:U:C6	2.30	0.65
2:B:2795:C:H2'	2:B:2796:U:O4'	1.96	0.65
2:B:1166:G:H2'	2:B:1167:C:C6	2.31	0.65
19:H:27:ARG:HG2	19:H:27:ARG:HH21	1.62	0.65
2:B:2322:A:C6	2:B:2333:A:N6	2.65	0.65
2:B:1820:U:OP1	4:C:176:ARG:HD2	1.97	0.65
2:B:675:A:H4'	8:E:60:TRP:CZ2	2.31	0.65
25:U:24:VAL:HG22	25:U:35:VAL:HG22	1.78	0.65
22:O:15:ARG:HH21	22:O:95:SER:CB	2.09	0.65
4:C:156:SER:HB3	4:C:159:THR:HG21	1.78	0.65
28:R:68:ARG:NH1	28:R:90:ARG:HD3	2.11	0.65
26:F:119:LYS:HA	26:F:121:PHE:CE1	2.30	0.65
15:2:10:LEU:HD21	15:2:14:ARG:NH1	2.10	0.65
16:L:56:PRO:HD2	16:L:59:ARG:HG3	1.78	0.65
5:D:8:LYS:HD3	5:D:197:THR:H	1.61	0.65
2:B:18:U:H2'	2:B:19:A:C8	2.31	0.65
31:W:24:ARG:HA	31:W:66:VAL:H	1.62	0.65
2:B:1309:G:OP1	15:2:9:VAL:HG12	1.97	0.65
16:L:125:LEU:H	16:L:143:GLU:HG3	1.60	0.65
26:F:40:GLY:O	26:F:41:GLU:C	2.35	0.65
2:B:162:U:H4'	2:B:163:C:OP1	1.96	0.65
2:B:2866:U:H4'	2:B:2867:G:H4'	1.77	0.65
29:T:69:ARG:HB3	29:T:74:ILE:HA	1.79	0.65
2:B:962:G:H21	2:B:2250:G:H22	1.44	0.65
2:B:224:U:O4	2:B:420:C:H5'	1.97	0.65
2:B:2291:U:H2'	2:B:2292:U:C6	2.31	0.65
15:2:19:ARG:HG2	15:2:19:ARG:NH2	2.08	0.65
23:Q:63:ARG:HH22	23:Q:96:ASP:CA	2.09	0.65
4:C:137:GLY:H	4:C:163:ILE:HB	1.62	0.65
19:H:8:LYS:O	19:H:13:GLY:HA3	1.96	0.65
2:B:1406:U:H2'	2:B:1407:G:H8	1.61	0.65
2:B:590:A:H2'	2:B:591:U:C6	2.32	0.65
5:D:69:ALA:HA	5:D:73:VAL:HB	1.77	0.65
17:M:96:ILE:HD11	17:M:126:ILE:HG12	1.79	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:53:A:H1'	2:B:179:C:O2'	1.97	0.65
2:B:1722:A:H2'	2:B:1723:G:H8	1.60	0.65
6:K:41:ILE:HG13	6:K:42:THR:H	1.61	0.65
29:T:73:ARG:HH21	29:T:73:ARG:HB3	1.62	0.65
3:I:89:SER:HA	3:I:97:VAL:HG21	1.79	0.65
2:B:431:U:O2'	2:B:432:A:H5'	1.96	0.65
14:V:42:LEU:HD23	14:V:42:LEU:H	1.62	0.65
2:B:1993:U:H4'	5:D:133:THR:HG22	1.79	0.65
2:B:2728:U:H2'	2:B:2729:G:H8	1.61	0.65
21:N:58:ASP:O	21:N:59:SER:HB3	1.96	0.65
2:B:547:A:H3'	2:B:548:G:H8	1.62	0.65
2:B:1038:G:H2'	2:B:1039:A:H8	1.61	0.65
19:H:2:GLN:O	19:H:3:VAL:HG22	1.97	0.65
26:F:107:VAL:O	26:F:110:ILE:HG22	1.97	0.64
2:B:134:G:H2'	2:B:135:U:C6	2.33	0.64
2:B:545:U:C6	2:B:547:A:H5'	2.31	0.64
2:B:2884:U:O2	10:O:49:ARG:HG2	1.97	0.64
2:B:2229:U:H2'	2:B:2230:G:C8	2.32	0.64
25:U:48:VAL:C	25:U:53:GLN:HG3	2.18	0.64
19:H:27:ARG:H	19:H:31:VAL:CG2	2.11	0.64
2:B:1076:C:H4'	3:I:94:LYS:CE	2.27	0.64
2:B:1441:G:H2'	2:B:1442:U:C6	2.31	0.64
2:B:581:C:H2'	2:B:582:A:C8	2.33	0.64
19:H:79:THR:HG22	19:H:145:ASN:HB2	1.79	0.64
2:B:1726:C:H2'	2:B:1727:C:C6	2.33	0.64
28:R:60:LYS:N	28:R:100:GLY:HA3	2.06	0.64
20:J:18:VAL:HG12	20:J:54:ILE:HD11	1.78	0.64
19:H:132:PHE:HB3	19:H:140:ALA:HB3	1.79	0.64
2:B:2267:A:O5'	2:B:2267:A:C8	2.51	0.64
2:B:345:A:H1'	2:B:346:A:C2	2.32	0.64
2:B:139:U:H5	29:T:1:MET:HB3	1.63	0.64
25:U:80:ASP:HB3	25:U:96:LYS:N	2.13	0.64
16:L:93:ASN:O	16:L:95:LEU:HD12	1.96	0.64
2:B:18:U:H2'	2:B:19:A:H8	1.61	0.64
28:R:28:ALA:O	28:R:63:VAL:HG21	1.97	0.64
21:N:106:ASP:C	21:N:108:ALA:H	2.01	0.64
19:H:31:VAL:O	19:H:32:PRO:C	2.34	0.64
5:D:51:THR:HG21	5:D:76:GLY:HA3	1.80	0.64
4:C:173:LEU:HD22	4:C:173:LEU:H	1.61	0.64
26:F:110:ILE:HA	26:F:111:ARG:CZ	2.27	0.64
25:U:35:VAL:HB	25:U:38:ILE:CG2	2.26	0.64
28:R:31:GLU:H	28:R:63:VAL:HG22	1.61	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:321:U:H5''	8:E:131:THR:HG23	1.79	0.64
2:B:2147:A:H5'	2:B:2148:G:H4'	1.79	0.64
17:M:26:VAL:HA	17:M:66:ARG:HH21	1.62	0.64
22:O:76:LYS:O	22:O:80:GLU:HG2	1.97	0.64
28:R:49:ILE:HD13	28:R:53:PHE:N	2.13	0.64
2:B:2102:G:H2'	2:B:2102:G:N3	2.12	0.64
2:B:125:A:H3'	2:B:126:A:C5'	2.28	0.64
2:B:1024:G:C3'	2:B:1025:G:H5''	2.26	0.64
26:F:107:VAL:HA	26:F:111:ARG:HH12	1.63	0.64
2:B:2749:A:C3'	2:B:2750:A:H5''	2.28	0.64
27:G:24:THR:HA	27:G:34:ARG:HA	1.80	0.64
6:K:38:ILE:HD13	6:K:61:VAL:HG12	1.79	0.64
11:4:7:VAL:HG13	11:4:8:LYS:N	2.13	0.64
29:T:2:ILE:HB	29:T:3:ARG:HD3	1.79	0.64
2:B:315:G:H2'	2:B:316:C:C6	2.33	0.64
2:B:2810:A:H2'	2:B:2811:G:O4'	1.96	0.64
7:P:88:ARG:HB2	7:P:112:ARG:NH1	2.13	0.64
4:C:140:VAL:HG12	4:C:141:HIS:H	1.61	0.64
5:D:9:VAL:HA	5:D:197:THR:HG23	1.80	0.64
2:B:1727:C:H2'	2:B:1728:C:H6	1.63	0.64
2:B:155:A:H2'	2:B:156:A:C8	2.32	0.64
16:L:132:ARG:O	16:L:136:GLU:HG3	1.98	0.64
2:B:2331:G:H21	2:B:2336:A:H8	1.44	0.64
20:J:43:GLU:O	20:J:45:THR:N	2.31	0.64
4:C:13:ARG:HG3	4:C:14:HIS:ND1	2.13	0.64
26:F:135:ILE:HD11	26:F:137:PHE:HB3	1.78	0.64
2:B:2645:G:H3'	2:B:2646:C:H5'	1.79	0.64
26:F:141:ASP:HB2	26:F:144:LYS:HB2	1.79	0.64
2:B:1203:U:H3'	2:B:1204:A:H5''	1.80	0.64
2:B:355:U:H2'	2:B:356:G:C8	2.31	0.64
2:B:479:A:O2'	2:B:481:G:H5'	1.98	0.64
2:B:492:A:H2'	2:B:493:G:O4'	1.97	0.64
25:U:72:PHE:HA	25:U:78:LYS:O	1.98	0.64
30:Z:66:THR:O	30:Z:69:ALA:HB3	1.98	0.64
28:R:36:ALA:HA	28:R:58:VAL:HA	1.80	0.63
8:E:134:LEU:HD21	8:E:161:ALA:HB2	1.80	0.63
26:F:101:ARG:NH1	26:F:138:PRO:HB2	2.12	0.63
17:M:19:GLY:N	17:M:38:ARG:NH2	2.46	0.63
2:B:365:U:H2'	2:B:366:C:C6	2.33	0.63
2:B:741:U:H2'	2:B:742:A:C8	2.33	0.63
27:G:8:VAL:HG11	27:G:49:LEU:CB	2.28	0.63
2:B:2884:U:O4	10:O:39:ARG:HD3	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:O:58:ILE:HG22	22:O:62:LEU:HD23	1.81	0.63
2:B:2471:A:HO2'	2:B:2472:G:H8	1.45	0.63
2:B:675:A:H4'	8:E:60:TRP:HZ2	1.61	0.63
2:B:1354:A:H2'	2:B:1355:G:O4'	1.98	0.63
23:Q:91:ARG:HH21	23:Q:94:LEU:HD21	1.63	0.63
19:H:41:LYS:HE3	19:H:41:LYS:N	2.14	0.63
19:H:83:LYS:CB	19:H:91:PHE:HB2	2.29	0.63
17:M:2:LEU:O	17:M:69:PRO:HG3	1.97	0.63
29:T:36:LYS:HD3	29:T:36:LYS:O	1.97	0.63
26:F:42:ALA:HB1	26:F:46:LYS:HZ3	1.63	0.63
26:F:105:ILE:O	26:F:109:ARG:HB2	1.98	0.63
2:B:1439:A:C6	2:B:1552:A:N7	2.66	0.63
23:Q:56:PHE:O	23:Q:59:LEU:HB3	1.98	0.63
4:C:128:THR:HA	4:C:190:THR:CA	2.27	0.63
29:T:38:ALA:O	29:T:39:THR:HB	1.99	0.63
6:K:102:PRO:HA	6:K:120:PRO:HB3	1.81	0.63
26:F:168:LEU:HD13	26:F:169:LEU:H	1.63	0.63
3:I:129:GLU:HB3	3:I:133:ARG:NH1	2.12	0.63
2:B:2471:A:O2'	2:B:2472:G:H8	1.81	0.63
18:X:56:LEU:C	18:X:58:ASN:H	2.02	0.63
2:B:222:A:N1	2:B:233:A:H5''	2.13	0.63
2:B:794:A:H2'	2:B:795:C:C6	2.33	0.63
2:B:620:G:N3	2:B:620:G:H5'	2.13	0.63
5:D:16:THR:HB	5:D:18:ASP:OD1	1.98	0.63
31:W:37:VAL:HG13	31:W:55:ASP:O	1.99	0.63
20:J:3:THR:HB	20:J:44:TYR:HE1	1.63	0.63
28:R:38:VAL:HG22	28:R:40:MET:H	1.64	0.63
3:I:11:GLN:HA	3:I:55:PRO:HA	1.79	0.63
2:B:2444:G:P	8:E:63:LYS:HD2	2.38	0.63
25:U:24:VAL:HA	25:U:35:VAL:HA	1.81	0.63
2:B:1579:A:H2'	2:B:1580:A:C8	2.33	0.63
2:B:176:A:O2'	2:B:177:G:H5'	1.98	0.63
17:M:114:ARG:HB2	17:M:114:ARG:HH21	1.63	0.63
30:Z:5:CYS:CB	30:Z:10:LYS:H	2.08	0.63
12:1:26:LYS:HD2	12:1:30:PRO:HA	1.80	0.63
8:E:149:ILE:HG23	8:E:188:MET:HA	1.81	0.63
2:B:1060:U:O4	2:B:1088:A:N6	2.31	0.63
3:I:20:SER:O	3:I:25:PRO:HD2	1.99	0.63
2:B:2181:U:H2'	2:B:2182:U:C6	2.33	0.63
2:B:948:C:H2'	2:B:949:G:H8	1.64	0.63
2:B:2155:U:H2'	2:B:2156:G:O4'	1.99	0.63
27:G:145:ALA:HA	27:G:148:ARG:HG3	1.80	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2346:A:H3'	2:B:2347:C:H5''	1.80	0.63
2:B:557:C:H2'	2:B:558:U:C6	2.33	0.63
20:J:84:ILE:HG23	20:J:84:ILE:O	1.98	0.63
8:E:47:LYS:HB3	8:E:51:GLU:HB2	1.79	0.63
2:B:1812:U:H2'	2:B:1813:G:C8	2.34	0.63
2:B:2720:U:H5''	7:P:52:ARG:NH2	2.13	0.63
2:B:2135:A:H3'	2:B:2136:G:H8	1.63	0.63
30:Z:30:LEU:N	30:Z:30:LEU:HD23	2.13	0.63
20:J:72:LYS:HB2	20:J:89:PHE:H	1.64	0.63
26:F:40:GLY:HA2	26:F:84:ILE:HG23	1.80	0.63
2:B:142:A:O2'	2:B:143:C:H5'	1.99	0.63
2:B:1442:U:H2'	2:B:1443:U:C6	2.34	0.63
5:D:25:THR:HG21	5:D:193:VAL:HG22	1.81	0.63
2:B:580:U:H2'	2:B:581:C:C6	2.33	0.63
2:B:2425:A:H5'	2:B:2427:C:O4'	1.99	0.63
27:G:173:ALA:HB3	27:G:175:LYS:NZ	2.14	0.63
2:B:974:G:OP2	28:R:78:ARG:HD3	1.99	0.63
25:U:86:PHE:CD2	25:U:92:VAL:HG21	2.33	0.63
23:Q:27:ARG:HA	23:Q:33:VAL:HG23	1.81	0.63
4:C:116:GLN:HG2	4:C:117:SER:H	1.64	0.63
29:T:28:ASN:HA	29:T:91:GLN:HE22	1.64	0.63
23:Q:97:ILE:HG13	23:Q:105:PHE:HB2	1.81	0.63
2:B:279:A:N6	2:B:361:G:H1'	2.13	0.63
27:G:84:LYS:HB2	27:G:132:LEU:H	1.64	0.63
2:B:2229:U:H2'	2:B:2230:G:H8	1.64	0.63
2:B:1205:A:H4'	2:B:1206:G:OP2	1.99	0.63
2:B:2064:C:H2'	2:B:2065:C:C6	2.34	0.63
2:B:1015:U:H2'	2:B:1016:G:C8	2.34	0.63
5:D:51:THR:CG2	5:D:76:GLY:HA3	2.29	0.62
16:L:78:ARG:HB3	16:L:113:ALA:HB2	1.80	0.62
2:B:1203:U:H3'	2:B:1204:A:C5'	2.28	0.62
24:S:29:VAL:HG11	24:S:55:ILE:HD13	1.81	0.62
17:M:35:ALA:HB3	17:M:99:GLY:H	1.63	0.62
1:A:98:G:H1	14:V:14:LYS:HB2	1.63	0.62
2:B:1107:G:H2'	2:B:1108:U:H6	1.61	0.62
19:H:57:LYS:O	19:H:61:VAL:HG12	1.99	0.62
21:N:96:ARG:HE	21:N:116:VAL:HG23	1.63	0.62
2:B:947:A:H2'	2:B:948:C:C6	2.34	0.62
15:2:30:VAL:HA	15:2:33:ARG:NH2	2.13	0.62
2:B:2071:A:H2'	2:B:2072:C:C6	2.33	0.62
2:B:2801:G:H2'	2:B:2802:G:C8	2.34	0.62
9:Y:2:LYS:HD3	9:Y:2:LYS:H	1.63	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:15:GLN:HA	24:S:18:ARG:HG2	1.81	0.62
2:B:26:G:H1'	2:B:514:A:N6	2.14	0.62
2:B:1018:U:O2'	2:B:1019:U:H5'	1.98	0.62
2:B:918:A:H2'	2:B:919:U:H5'	1.81	0.62
2:B:1440:U:H2'	2:B:1441:G:H8	1.64	0.62
19:H:49:ALA:HB3	19:H:50:ARG:NH1	2.14	0.62
15:2:3:ARG:HA	15:2:3:ARG:NE	2.14	0.62
2:B:753:A:H2'	2:B:754:U:C6	2.33	0.62
16:L:18:ARG:C	16:L:19:LEU:HD12	2.20	0.62
19:H:135:HIS:HB3	19:H:138:VAL:HG23	1.82	0.62
25:U:26:ASN:HD22	25:U:26:ASN:N	1.96	0.62
27:G:88:LEU:O	27:G:88:LEU:HD12	1.98	0.62
2:B:118:A:H5'	2:B:119:A:H8	1.64	0.62
6:K:89:ASN:HD22	6:K:89:ASN:C	2.03	0.62
29:T:44:LYS:O	29:T:48:GLN:HG2	1.99	0.62
2:B:1046:A:C3'	2:B:1047:G:H5''	2.30	0.62
4:C:244:VAL:HB	4:C:249:VAL:H	1.65	0.62
7:P:89:GLY:HA2	7:P:112:ARG:N	2.14	0.62
2:B:1857:G:N2	2:B:1884:G:H2'	2.14	0.62
6:K:87:LEU:HB2	6:K:93:GLN:O	1.99	0.62
2:B:2834:G:H1'	2:B:2883:A:N6	2.15	0.62
28:R:71:LYS:HG3	28:R:72:VAL:N	2.14	0.62
21:N:59:SER:O	21:N:63:ARG:HB2	1.99	0.62
2:B:2366:A:H2'	2:B:2367:G:O4'	1.99	0.62
2:B:2737:G:H2'	2:B:2738:A:C8	2.35	0.62
2:B:770:G:H5''	15:2:10:LEU:HD12	1.82	0.62
19:H:112:LYS:C	19:H:112:LYS:HE3	2.20	0.62
19:H:90:LEU:HD11	19:H:146:VAL:HG12	1.82	0.62
6:K:64:ARG:HD2	6:K:102:PRO:O	1.99	0.62
25:U:34:ILE:HG12	25:U:63:ALA:HB2	1.81	0.62
2:B:2074:U:H2'	2:B:2075:U:C6	2.34	0.62
2:B:594:U:H2'	2:B:595:C:H6	1.63	0.62
26:F:125:GLY:O	26:F:157:THR:HG23	1.99	0.62
2:B:1935:G:H1'	2:B:1964:G:N2	2.15	0.62
2:B:2183:A:H2'	2:B:2184:A:C8	2.34	0.62
19:H:90:LEU:HB3	19:H:123:ARG:HD3	1.80	0.62
13:3:22:LYS:HA	13:3:48:MET:HA	1.81	0.62
2:B:2189:U:H2'	2:B:2190:G:H8	1.62	0.62
2:B:419:U:H2'	2:B:420:C:C6	2.35	0.62
2:B:2814:A:H2'	2:B:2815:C:C6	2.35	0.62
27:G:148:ARG:HB2	27:G:152:ARG:NH2	2.13	0.62
2:B:1131:G:N2	2:B:2024:G:H21	1.97	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2400:G:O2'	2:B:2401:U:H5'	2.00	0.62
31:W:64:GLY:HA2	31:W:84:GLU:H	1.64	0.62
4:C:77:VAL:HG23	4:C:112:GLY:N	2.07	0.62
23:Q:104:ALA:HA	28:R:46:GLU:CD	2.19	0.62
26:F:42:ALA:HB1	26:F:46:LYS:NZ	2.15	0.62
20:J:25:LEU:HD13	20:J:26:GLY:N	2.14	0.62
2:B:136:G:H2'	2:B:137:U:C6	2.34	0.62
2:B:1590:A:H2'	2:B:1591:A:H8	1.65	0.62
2:B:1590:A:H2'	2:B:1591:A:C8	2.35	0.62
18:X:20:ASN:HA	18:X:24:GLU:OE1	2.00	0.62
2:B:580:U:H2'	2:B:581:C:H6	1.65	0.62
5:D:174:SER:O	5:D:175:LEU:HB2	1.98	0.62
2:B:968:C:H2'	2:B:969:G:H8	1.65	0.62
23:Q:10:ARG:HA	23:Q:13:HIS:HB2	1.82	0.62
2:B:1447:C:H2'	2:B:1448:G:H8	1.63	0.62
2:B:2352:A:H2'	2:B:2353:G:O4'	2.00	0.62
23:Q:107:ALA:HB1	28:R:48:LYS:HE3	1.81	0.62
6:K:41:ILE:HG13	6:K:42:THR:N	2.14	0.62
2:B:254:G:N2	13:3:7:ARG:HH21	1.96	0.62
18:X:29:ARG:NH1	29:T:12:ARG:NE	2.48	0.62
2:B:1593:A:H2'	2:B:1594:U:C6	2.35	0.62
2:B:981:A:H2'	2:B:982:C:H5''	1.80	0.62
25:U:78:LYS:HD3	25:U:79:ALA:H	1.64	0.62
3:I:85:ILE:HD13	3:I:137:LEU:HD21	1.80	0.62
2:B:2636:C:H2'	2:B:2637:U:C6	2.35	0.62
2:B:2636:C:H4'	5:D:81:GLU:OE2	2.00	0.62
2:B:289:G:H2'	2:B:290:U:O4'	1.99	0.62
28:R:6:GLN:HE22	28:R:10:LYS:N	1.96	0.62
27:G:104:LEU:HB2	27:G:112:VAL:HB	1.82	0.62
18:X:48:ARG:O	18:X:51:ALA:HB3	2.00	0.62
4:C:202:ARG:HH12	4:C:213:ARG:HE	1.45	0.62
2:B:1373:A:H2'	2:B:1374:G:O4'	1.99	0.62
19:H:99:ILE:HD12	19:H:130:VAL:HG11	1.82	0.61
2:B:2147:A:H5'	2:B:2148:G:C4'	2.30	0.61
2:B:1045:C:H4'	2:B:1046:A:H5''	1.81	0.61
14:V:44:HIS:NE2	14:V:85:LYS:HB2	2.15	0.61
8:E:58:LYS:HE2	8:E:60:TRP:CD1	2.32	0.61
21:N:87:PHE:CE1	21:N:116:VAL:HG12	2.34	0.61
2:B:172:A:H2'	2:B:173:A:H8	1.64	0.61
2:B:589:U:H2'	2:B:590:A:C8	2.35	0.61
28:R:49:ILE:HD13	28:R:53:PHE:H	1.63	0.61
2:B:1869:G:H2'	2:B:1870:C:H5'	1.82	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2674:G:H4'	6:K:30:ARG:HG3	1.82	0.61
17:M:35:ALA:HB2	17:M:100:LYS:HB2	1.81	0.61
17:M:21:ALA:HB2	17:M:100:LYS:HG2	1.81	0.61
2:B:1553:A:O2'	2:B:1554:U:H2'	2.00	0.61
2:B:1947:C:H2'	2:B:1948:G:H8	1.65	0.61
19:H:32:PRO:HG3	30:Z:39:TRP:HB3	1.82	0.61
8:E:33:VAL:O	8:E:36:ALA:HB3	2.00	0.61
2:B:145:C:H2'	2:B:146:A:H8	1.65	0.61
2:B:1082:U:N3	2:B:1086:A:C6	2.69	0.61
8:E:48:THR:H	8:E:51:GLU:HG3	1.66	0.61
2:B:75:G:H4'	18:X:48:ARG:HH22	1.63	0.61
2:B:222:A:H61	2:B:232:G:H1'	1.66	0.61
2:B:5:A:H2'	2:B:6:A:C8	2.35	0.61
2:B:1038:G:H2'	2:B:1039:A:C8	2.35	0.61
15:2:3:ARG:HA	15:2:3:ARG:CZ	2.29	0.61
2:B:30:G:OP1	23:Q:4:LYS:HG2	2.00	0.61
2:B:452:G:OP1	8:E:53:THR:HG23	1.99	0.61
2:B:857:G:C2'	2:B:858:G:H5'	2.31	0.61
2:B:2267:A:C3'	2:B:2267:A:H8	2.07	0.61
6:K:71:ARG:HD2	6:K:106:GLU:OE2	2.01	0.61
2:B:62:U:H2'	2:B:62:U:O2	1.99	0.61
25:U:46:LYS:HZ1	25:U:47:PRO:HG2	1.65	0.61
22:O:74:VAL:O	22:O:78:VAL:HG23	2.00	0.61
2:B:1440:U:H2'	2:B:1441:G:C8	2.34	0.61
2:B:458:G:H22	2:B:469:G:H2'	1.65	0.61
7:P:91:VAL:HG21	7:P:96:LEU:HD21	1.83	0.61
12:1:3:GLY:O	12:1:4:ILE:HG12	2.00	0.61
28:R:34:GLU:HG2	28:R:60:LYS:HG2	1.81	0.61
29:T:5:GLU:HA	29:T:8:LEU:CB	2.28	0.61
28:R:4:VAL:HG23	28:R:39:LEU:H	1.65	0.61
26:F:66:ILE:HD11	26:F:83:PRO:HB3	1.83	0.61
2:B:63:A:OP2	2:B:63:A:H2'	2.01	0.61
10:0:53:VAL:HG21	21:N:98:LEU:HD11	1.82	0.61
2:B:1405:U:H2'	2:B:1406:U:C6	2.36	0.61
18:X:8:GLU:O	18:X:12:GLU:HB2	2.00	0.61
2:B:2155:U:H2'	2:B:2156:G:C8	2.35	0.61
2:B:2284:A:OP2	12:1:5:ARG:HG3	2.00	0.61
27:G:87:GLN:HE21	27:G:164:ALA:HA	1.65	0.61
27:G:37:ASN:HD22	27:G:40:VAL:HB	1.66	0.61
12:1:29:LYS:N	12:1:30:PRO:HD3	2.15	0.61
2:B:2885:G:N2	10:0:31:LYS:HG3	2.15	0.61
8:E:58:LYS:C	8:E:60:TRP:N	2.52	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1552:A:H2'	2:B:1553:A:H5'	1.81	0.61
17:M:64:TRP:HB2	17:M:104:GLU:HB2	1.82	0.61
2:B:1104:C:H2'	2:B:1105:U:C6	2.35	0.61
2:B:1849:G:H2'	2:B:1850:G:H8	1.64	0.61
13:3:37:THR:HA	13:3:40:LYS:HE2	1.82	0.61
4:C:73:ILE:HG21	4:C:97:ASP:HB2	1.82	0.61
31:W:24:ARG:HD2	31:W:65:LYS:HG2	1.83	0.61
26:F:41:GLU:O	26:F:43:ILE:HG22	2.00	0.61
19:H:116:ARG:NH1	19:H:139:PHE:HB2	2.16	0.61
2:B:2143:C:H2'	2:B:2144:G:C8	2.36	0.61
3:I:18:ASN:N	3:I:19:PRO:HD2	2.15	0.61
13:3:22:LYS:HD2	13:3:46:LYS:HB2	1.83	0.61
2:B:921:C:H2'	2:B:922:C:H6	1.66	0.61
7:P:13:LYS:HD3	7:P:76:HIS:HA	1.81	0.61
2:B:1796:U:H2'	2:B:1797:G:H8	1.65	0.61
22:O:24:THR:HG22	22:O:42:PRO:HD3	1.82	0.61
5:D:27:ILE:HG23	5:D:201:LEU:HD12	1.82	0.61
2:B:2355:G:H4'	31:W:20:LEU:CD1	2.31	0.61
2:B:2898:U:H2'	2:B:2899:A:C8	2.36	0.61
2:B:139:U:H3'	2:B:140:C:C5'	2.31	0.61
1:A:32:U:H4'	1:A:52:A:N6	2.15	0.61
2:B:2187:U:H2'	2:B:2188:U:C6	2.36	0.61
5:D:68:PHE:HB3	5:D:73:VAL:HG23	1.83	0.61
4:C:74:PRO:HG2	4:C:96:LYS:CG	2.31	0.61
2:B:38:A:O2'	8:E:43:THR:HA	2.01	0.61
25:U:3:LYS:HD3	25:U:82:VAL:HB	1.83	0.61
19:H:97:ARG:O	19:H:101:ASP:HB2	2.01	0.61
16:L:17:LYS:HD2	16:L:19:LEU:HD11	1.83	0.61
2:B:1080:A:O2'	3:I:126:ARG:HB2	2.01	0.61
5:D:133:THR:HG23	5:D:134:HIS:N	2.16	0.61
2:B:1506:U:H2'	2:B:1507:C:C6	2.36	0.61
29:T:92:ASN:HB2	29:T:93:LEU:HD22	1.82	0.61
2:B:729:G:C5	4:C:206:LYS:HB2	2.35	0.61
30:Z:7:VAL:HG21	30:Z:59:ILE:HD11	1.82	0.61
21:N:102:PHE:N	21:N:109:PRO:HA	2.11	0.61
20:J:77:HIS:CD2	20:J:84:ILE:H	2.19	0.61
26:F:24:VAL:O	26:F:27:VAL:HG22	2.01	0.61
14:V:24:ASN:O	14:V:44:HIS:HB2	2.00	0.61
14:V:80:HIS:CD2	14:V:82:TYR:H	2.16	0.61
27:G:120:ILE:HD11	27:G:132:LEU:HB2	1.83	0.61
2:B:2720:U:H5''	7:P:52:ARG:HH21	1.66	0.61
5:D:79:LEU:HD22	5:D:79:LEU:N	2.16	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1105:U:H2'	2:B:1106:G:C8	2.36	0.61
2:B:1032:A:H1'	11:4:23:ILE:HD13	1.82	0.61
2:B:1914:C:H2'	2:B:1915:U:O4'	2.01	0.61
23:Q:63:ARG:NH2	23:Q:96:ASP:HA	2.15	0.60
2:B:2885:G:H2'	2:B:2886:A:O4'	2.00	0.60
26:F:37:MET:SD	26:F:52:ALA:HB1	2.40	0.60
2:B:2635:A:H4'	5:D:79:LEU:HB2	1.83	0.60
14:V:70:ILE:HD13	14:V:70:ILE:N	2.16	0.60
27:G:154:GLU:HB3	27:G:158:GLY:H	1.66	0.60
2:B:782:A:N7	4:C:219:VAL:HG21	2.15	0.60
5:D:97:SER:HB3	5:D:99:GLU:HG3	1.83	0.60
2:B:626:A:H2'	16:L:78:ARG:NH1	2.16	0.60
2:B:1178:C:H2'	2:B:1179:G:H8	1.65	0.60
27:G:154:GLU:H	27:G:158:GLY:HA2	1.66	0.60
8:E:59:PRO:HB2	8:E:67:ARG:HH22	1.65	0.60
2:B:1709:U:H2'	2:B:1710:G:C8	2.36	0.60
2:B:2358:A:H61	16:L:54:GLN:HE22	1.49	0.60
5:D:10:GLY:HA3	5:D:26:VAL:N	2.03	0.60
29:T:60:THR:HB	29:T:81:LYS:HD2	1.81	0.60
21:N:29:VAL:HG12	21:N:78:LYS:HG2	1.84	0.60
17:M:35:ALA:HB2	17:M:100:LYS:H	1.65	0.60
27:G:104:LEU:HB3	27:G:106:LEU:HD21	1.83	0.60
8:E:176:ASP:O	8:E:180:LEU:HG	2.01	0.60
2:B:1485:U:H2'	2:B:1486:U:H6	1.66	0.60
2:B:233:A:H61	2:B:428:A:H61	1.48	0.60
23:Q:4:LYS:NZ	23:Q:7:VAL:HG22	2.16	0.60
2:B:2091:C:H1'	30:Z:34:HIS:CD2	2.36	0.60
2:B:1826:G:H2'	2:B:1827:U:H6	1.66	0.60
12:1:33:LEU:HB3	12:1:51:ALA:CB	2.31	0.60
8:E:189:THR:O	8:E:193:VAL:HG23	2.01	0.60
4:C:117:SER:HB3	4:C:128:THR:HB	1.82	0.60
3:I:91:LYS:HB2	3:I:94:LYS:HD2	1.82	0.60
25:U:46:LYS:NZ	25:U:47:PRO:HG2	2.15	0.60
17:M:40:ARG:HB2	17:M:93:VAL:CG2	2.31	0.60
2:B:155:A:H2'	2:B:156:A:H8	1.65	0.60
26:F:141:ASP:O	26:F:145:VAL:HG13	2.01	0.60
2:B:1169:A:H2'	2:B:1170:C:C6	2.36	0.60
15:2:10:LEU:O	15:2:14:ARG:HG2	2.02	0.60
8:E:196:VAL:O	8:E:200:LEU:HD23	2.01	0.60
2:B:2516:A:O2'	2:B:2517:C:H5'	2.02	0.60
2:B:2723:C:H5''	21:N:1:MET:HE2	1.82	0.60
27:G:152:ARG:HH22	27:G:162:ARG:HA	1.65	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:85:ARG:HH11	25:U:86:PHE:H	1.50	0.60
2:B:849:A:H2'	2:B:850:U:C6	2.35	0.60
26:F:39:VAL:HG21	26:F:49:LEU:HA	1.84	0.60
19:H:133:GLN:HA	19:H:139:PHE:CB	2.31	0.60
19:H:68:ARG:HD3	19:H:134:VAL:CG1	2.32	0.60
19:H:134:VAL:HG22	19:H:135:HIS:N	2.16	0.60
6:K:119:ALA:HB3	6:K:120:PRO:HD3	1.82	0.60
5:D:113:SER:HB3	5:D:167:ASN:N	2.17	0.60
17:M:82:MET:HE3	17:M:83:GLY:N	2.17	0.60
14:V:93:ARG:HH11	14:V:93:ARG:HG3	1.67	0.60
2:B:1722:A:H2'	2:B:1723:G:C8	2.37	0.60
2:B:2880:C:C1'	21:N:91:ALA:HB3	2.31	0.60
23:Q:101:ASP:HB2	28:R:2:TYR:OH	2.02	0.60
29:T:39:THR:CG2	29:T:42:GLU:H	2.15	0.60
5:D:34:VAL:CG1	5:D:94:GLN:H	2.15	0.60
2:B:1437:C:H2'	2:B:1438:U:H6	1.63	0.60
18:X:17:GLU:HB3	18:X:53:VAL:CG1	2.31	0.60
2:B:2063:C:O2	2:B:2450:A:N1	2.34	0.60
2:B:129:C:H2'	2:B:130:C:H6	1.67	0.60
8:E:5:LEU:CD1	8:E:10:SER:HB2	2.32	0.60
2:B:1268:A:H2'	2:B:1269:A:O4'	2.02	0.60
26:F:71:LYS:O	26:F:73:VAL:HG23	2.02	0.60
2:B:2502:G:H5'	2:B:2503:A:C5'	2.25	0.60
23:Q:104:ALA:HA	28:R:46:GLU:OE1	2.01	0.60
26:F:39:VAL:HG11	26:F:49:LEU:HD23	1.83	0.60
19:H:5:LEU:HD13	19:H:13:GLY:HA2	1.83	0.60
2:B:2675:A:N1	2:B:2732:G:O6	2.35	0.60
5:D:20:VAL:HG22	6:K:72:PRO:HB3	1.82	0.60
2:B:2868:A:H2'	2:B:2869:G:C8	2.37	0.60
2:B:693:A:H2'	2:B:694:U:C6	2.37	0.60
2:B:2671:G:H2'	2:B:2672:U:C6	2.36	0.60
31:W:23:LYS:HD2	31:W:24:ARG:N	2.15	0.60
2:B:1727:C:H2'	2:B:1728:C:C6	2.37	0.60
2:B:2092:U:H4'	2:B:2093:G:O5'	2.02	0.60
5:D:136:ASN:HD21	5:D:139:SER:C	2.05	0.60
16:L:123:ARG:HA	16:L:143:GLU:CB	2.29	0.60
20:J:93:ILE:O	20:J:97:PRO:HG3	2.02	0.60
26:F:31:GLU:HB3	26:F:156:THR:O	2.02	0.60
26:F:91:ARG:HD3	26:F:91:ARG:N	2.17	0.60
31:W:77:LYS:O	31:W:78:PHE:HB2	2.01	0.60
7:P:52:ARG:HG2	7:P:52:ARG:HH11	1.65	0.60
17:M:43:ALA:O	17:M:46:ILE:HG12	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1847:A:H4'	2:B:1848:A:C8	2.37	0.60
2:B:1419:A:H2'	2:B:1421:G:N7	2.17	0.60
25:U:60:LYS:HE2	25:U:60:LYS:HA	1.83	0.60
18:X:7:ARG:HB2	18:X:7:ARG:HH11	1.66	0.59
16:L:6:LEU:H	16:L:6:LEU:CD2	2.13	0.59
20:J:58:ASN:HA	20:J:127:GLY:CA	2.31	0.59
14:V:9:ARG:HH22	14:V:12:GLN:HA	1.67	0.59
2:B:83:A:N1	2:B:101:A:H5'	2.17	0.59
29:T:31:VAL:HA	29:T:84:TYR:H	1.66	0.59
2:B:2809:A:H2'	2:B:2810:A:C8	2.37	0.59
2:B:2070:A:H2'	2:B:2071:A:C8	2.37	0.59
2:B:2531:A:H5''	27:G:156:TYR:CZ	2.37	0.59
2:B:1229:C:H2'	2:B:1230:A:H8	1.67	0.59
19:H:31:VAL:CB	19:H:32:PRO:CD	2.78	0.59
30:Z:77:LYS:HD2	30:Z:78:TYR:H	1.66	0.59
25:U:86:PHE:HE1	25:U:88:ASP:HB3	1.67	0.59
29:T:54:GLU:CB	29:T:88:LYS:HB2	2.32	0.59
29:T:57:VAL:HG22	29:T:58:VAL:N	2.14	0.59
14:V:44:HIS:CE1	14:V:85:LYS:HB2	2.38	0.59
4:C:211:ARG:C	4:C:213:ARG:H	2.05	0.59
2:B:2329:U:H2'	2:B:2330:G:C8	2.37	0.59
3:I:5:GLN:HG2	3:I:6:ALA:N	2.17	0.59
2:B:864:G:O2'	2:B:865:C:H5'	2.02	0.59
2:B:131:A:H2'	2:B:132:G:H8	1.67	0.59
8:E:158:PHE:HA	8:E:169:VAL:HG21	1.83	0.59
2:B:2895:G:H2'	2:B:2896:C:C6	2.38	0.59
2:B:2264:C:N4	31:W:11:ASN:HD21	1.99	0.59
2:B:3:U:HO2'	2:B:4:U:H6	1.48	0.59
2:B:1930:G:N2	2:B:1968:G:H2'	2.17	0.59
3:I:27:LEU:H	3:I:27:LEU:CD2	2.14	0.59
1:A:52:A:OP1	1:A:52:A:H4'	2.03	0.59
2:B:2443:C:O2'	2:B:2444:G:H5'	2.02	0.59
2:B:129:C:H2'	2:B:130:C:C6	2.38	0.59
8:E:21:ARG:HG3	8:E:22:ASP:N	2.17	0.59
20:J:11:VAL:HG11	20:J:13:ARG:HE	1.68	0.59
19:H:27:ARG:H	19:H:31:VAL:HG21	1.67	0.59
27:G:166:GLU:CG	27:G:168:VAL:HG23	2.33	0.59
17:M:66:ARG:CZ	17:M:101:VAL:HG11	2.32	0.59
8:E:5:LEU:HD12	8:E:10:SER:HB2	1.84	0.59
20:J:40:HIS:CE1	20:J:41:LYS:HG3	2.38	0.59
2:B:2557:G:H2'	2:B:2558:C:C6	2.38	0.59
2:B:1097:U:H2'	2:B:1098:A:H5'	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:R:4:VAL:O	28:R:38:VAL:HA	2.02	0.59
29:T:61:LEU:HG	29:T:82:LYS:HB2	1.83	0.59
26:F:103:ILE:HD11	26:F:174:PHE:HA	1.84	0.59
5:D:148:GLN:HG3	5:D:152:PRO:CG	2.32	0.59
13:3:22:LYS:HB2	13:3:48:MET:SD	2.43	0.59
2:B:871:U:H2'	2:B:872:U:C6	2.38	0.59
2:B:1104:C:H2'	2:B:1105:U:H6	1.66	0.59
2:B:782:A:N3	4:C:224:MET:HB3	2.18	0.59
2:B:1001:A:H2'	2:B:1002:G:O4'	2.02	0.59
7:P:97:TYR:O	7:P:100:ARG:HB2	2.03	0.59
2:B:1245:G:OP1	16:L:13:LYS:HE3	2.03	0.59
2:B:145:C:H2'	2:B:146:A:C8	2.38	0.59
2:B:1082:U:C2	2:B:1086:A:C6	2.91	0.59
2:B:63:A:OP2	2:B:63:A:H8	1.84	0.59
2:B:784:G:H21	4:C:225:ASN:HD22	1.51	0.59
29:T:12:ARG:HB3	29:T:12:ARG:NH1	2.17	0.59
25:U:81:ARG:HH21	25:U:81:ARG:H	1.51	0.59
25:U:32:LYS:HA	25:U:65:GLN:HA	1.83	0.59
25:U:13:LEU:H	25:U:13:LEU:HD12	1.68	0.59
3:I:89:SER:HB2	3:I:136:GLY:HA3	1.84	0.59
2:B:947:A:H2'	2:B:948:C:H6	1.68	0.59
2:B:1709:U:H2'	2:B:1710:G:H8	1.67	0.59
13:3:44:ARG:N	13:3:45:PRO:HD2	2.16	0.59
24:S:31:GLN:O	24:S:35:ILE:HG12	2.02	0.59
28:R:76:LYS:HB2	28:R:85:LYS:HB2	1.83	0.59
2:B:2760:C:O2'	2:B:2761:A:H5'	2.03	0.59
27:G:15:ASP:CB	27:G:26:LYS:H	2.14	0.59
20:J:112:GLY:H	20:J:113:PRO:HD2	1.68	0.59
4:C:76:VAL:CG1	4:C:114:GLN:HG2	2.31	0.59
2:B:675:A:H4'	8:E:62:GLN:HE22	1.67	0.59
16:L:110:VAL:HG23	16:L:126:ARG:O	2.02	0.59
25:U:53:GLN:HG2	25:U:53:GLN:O	2.03	0.59
2:B:2066:C:O2'	2:B:2067:G:H5'	2.03	0.59
27:G:87:GLN:HG2	27:G:164:ALA:HA	1.83	0.59
2:B:1210:G:H5'	2:B:1212:G:O4'	2.02	0.59
2:B:414:C:H2'	2:B:415:A:C8	2.37	0.59
2:B:527:C:H5'	35:B:3829:HOH:O	2.02	0.59
2:B:2758:A:H2'	2:B:2759:G:H5'	1.84	0.59
4:C:4:LYS:HD3	4:C:16:VAL:HG22	1.85	0.59
2:B:1060:U:OP2	3:I:74:PRO:HA	2.03	0.59
6:K:118:LEU:O	6:K:120:PRO:HD2	2.02	0.59
21:N:33:ILE:HD12	21:N:33:ILE:O	2.03	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:28:C:OP1	22:O:31:THR:HG21	2.03	0.59
7:P:83:ILE:O	7:P:83:ILE:HD13	2.03	0.59
16:L:136:GLU:HA	16:L:140:GLY:H	1.68	0.59
2:B:2241:A:H2'	2:B:2242:G:C8	2.37	0.59
2:B:2458:G:H1'	2:B:2460:U:O4	2.02	0.59
31:W:49:ASN:O	31:W:50:VAL:HG13	2.03	0.58
20:J:45:THR:N	20:J:46:PRO:HD3	2.18	0.58
26:F:102:LEU:HA	26:F:106:ALA:CB	2.33	0.58
2:B:2143:C:H2'	2:B:2144:G:H8	1.68	0.58
2:B:1119:U:OP1	14:V:83:LYS:HE3	2.03	0.58
2:B:2443:C:H2'	2:B:2444:G:H8	1.68	0.58
18:X:14:LEU:O	18:X:18:LEU:HB2	2.03	0.58
2:B:753:A:H2'	2:B:754:U:H6	1.68	0.58
2:B:322:A:H3'	8:E:163:ASN:HD21	1.68	0.58
8:E:98:LYS:HZ1	8:E:99:LYS:HE3	1.68	0.58
29:T:8:LEU:HD22	29:T:46:ALA:HA	1.86	0.58
8:E:195:GLN:O	8:E:198:GLU:HG2	2.03	0.58
16:L:143:GLU:HG2	16:L:144:GLU:N	2.16	0.58
15:2:21:ARG:CD	15:2:43:THR:HG21	2.33	0.58
19:H:44:ILE:HA	19:H:51:ARG:NH2	2.18	0.58
2:B:1549:A:H2'	2:B:1550:C:C6	2.38	0.58
2:B:181:A:H2'	2:B:182:A:H8	1.66	0.58
2:B:1283:G:N2	2:B:1286:A:H5'	2.17	0.58
23:Q:9:ALA:C	23:Q:11:ALA:H	2.06	0.58
5:D:15:PHE:HD1	5:D:15:PHE:H	1.51	0.58
2:B:441:U:H2'	2:B:442:G:C8	2.38	0.58
2:B:1733:G:H2'	2:B:1734:G:C8	2.38	0.58
2:B:1657:U:O2'	2:B:1658:C:H5'	2.04	0.58
7:P:26:GLU:HA	7:P:43:GLU:HA	1.84	0.58
5:D:14:ILE:HD13	5:D:178:VAL:HG11	1.84	0.58
20:J:124:VAL:O	20:J:125:TYR:HB2	2.02	0.58
16:L:79:LEU:CG	16:L:112:LEU:HA	2.32	0.58
2:B:559:G:OP1	20:J:111:LYS:HD3	2.03	0.58
8:E:48:THR:HG23	8:E:88:ARG:HH11	1.68	0.58
2:B:2143:C:H2'	2:B:2144:G:O4'	2.03	0.58
2:B:2146:C:H1'	2:B:2147:A:H4'	1.84	0.58
2:B:2496:C:OP1	17:M:82:MET:HB2	2.04	0.58
25:U:10:VAL:O	25:U:21:ARG:HA	2.03	0.58
27:G:148:ARG:HD3	27:G:152:ARG:CZ	2.32	0.58
2:B:2547:A:H2'	2:B:2548:U:C6	2.38	0.58
2:B:2033:A:H3'	35:B:3952:HOH:O	2.03	0.58
5:D:10:GLY:CA	5:D:26:VAL:H	2.06	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:105:LYS:H	5:D:106:LYS:NZ	2.01	0.58
8:E:161:ALA:HA	8:E:164:LEU:HB2	1.85	0.58
16:L:143:GLU:CG	16:L:144:GLU:H	2.11	0.58
29:T:59:ASN:O	29:T:84:TYR:HB2	2.03	0.58
6:K:60:ALA:HA	6:K:87:LEU:HD23	1.84	0.58
2:B:2820:A:OP1	21:N:4:ARG:HA	2.02	0.58
1:A:106:G:H2'	1:A:107:G:C8	2.39	0.58
2:B:581:C:H2'	2:B:582:A:H8	1.68	0.58
2:B:948:C:H2'	2:B:949:G:C8	2.38	0.58
2:B:264:C:O2'	2:B:265:A:H5''	2.02	0.58
30:Z:7:VAL:HG13	30:Z:8:THR:CG2	2.33	0.58
31:W:39:GLN:NE2	31:W:42:THR:HB	2.15	0.58
18:X:34:SER:HB2	18:X:36:GLN:OE1	2.04	0.58
19:H:132:PHE:HB2	19:H:142:VAL:HG23	1.85	0.58
2:B:1464:G:H2'	2:B:1465:G:C8	2.38	0.58
2:B:1826:G:H2'	2:B:1827:U:C6	2.38	0.58
2:B:165:A:H2'	2:B:166:U:H6	1.69	0.58
2:B:2653:U:O2'	27:G:109:SER:HB2	2.03	0.58
2:B:445:C:O2'	2:B:446:G:H5'	2.03	0.58
5:D:11:MET:HE1	5:D:192:ALA:H	1.69	0.58
24:S:17:VAL:C	24:S:19:LEU:H	2.07	0.58
2:B:1047:G:HO2'	2:B:1048:A:P	2.26	0.58
2:B:1444:G:H2'	2:B:1445:G:H8	1.69	0.58
2:B:979:A:H2'	2:B:982:C:N4	2.18	0.58
2:B:946:C:H2'	2:B:947:A:H8	1.69	0.58
8:E:98:LYS:NZ	8:E:99:LYS:HE3	2.18	0.58
3:I:109:ALA:HB1	3:I:124:MET:HG3	1.85	0.58
2:B:98:G:H2'	2:B:99:U:H5''	1.85	0.58
25:U:86:PHE:HD1	25:U:88:ASP:H	1.48	0.58
1:A:32:U:C4'	1:A:52:A:H62	2.15	0.58
5:D:34:VAL:HB	5:D:48:ILE:HD11	1.86	0.58
17:M:40:ARG:HD3	17:M:93:VAL:HG21	1.86	0.58
2:B:2814:A:H2'	2:B:2815:C:H6	1.67	0.58
27:G:148:ARG:HA	27:G:161:VAL:HB	1.85	0.58
16:L:131:ALA:C	16:L:133:ALA:H	2.06	0.58
27:G:34:ARG:HD3	27:G:34:ARG:N	2.19	0.58
4:C:141:HIS:CG	4:C:142:ASN:H	2.22	0.58
2:B:2896:C:H2'	2:B:2897:U:C6	2.39	0.58
20:J:25:LEU:HD22	20:J:26:GLY:N	2.18	0.58
2:B:1082:U:O4	2:B:1086:A:C2	2.57	0.58
4:C:242:HIS:O	4:C:244:VAL:HG13	2.03	0.58
23:Q:81:GLY:HA3	23:Q:112:ALA:HB1	1.85	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:105:LEU:HD11	3:I:139:VAL:CG1	2.33	0.58
16:L:95:LEU:HB3	16:L:100:ILE:HG23	1.85	0.58
17:M:26:VAL:HG23	17:M:104:GLU:OE2	2.04	0.58
2:B:417:C:H2'	2:B:418:C:C6	2.37	0.58
2:B:2646:C:H2'	2:B:2647:U:O4'	2.03	0.58
2:B:2033:A:O2'	2:B:2035:G:OP2	2.19	0.58
2:B:1771:C:H2'	2:B:1772:A:H8	1.69	0.58
2:B:1794:A:H2'	2:B:1795:C:C6	2.38	0.58
2:B:1061:U:H4'	2:B:1070:A:O3'	2.04	0.58
25:U:3:LYS:HB3	25:U:82:VAL:HG21	1.85	0.58
8:E:154:ASP:OD1	8:E:156:ASN:HB3	2.03	0.58
2:B:9:G:N2	2:B:10:A:H62	2.00	0.58
5:D:182:ALA:O	5:D:184:ARG:HG2	2.04	0.58
2:B:646:U:H3'	2:B:647:G:H8	1.68	0.58
9:Y:16:LEU:O	9:Y:19:HIS:HB2	2.02	0.58
2:B:2845:U:O2'	2:B:2846:G:H5'	2.03	0.58
18:X:1:MET:O	18:X:5:GLU:HG2	2.04	0.58
20:J:38:GLY:HA3	20:J:50:THR:O	2.03	0.58
2:B:2893:A:H5''	2:B:2894:G:H5'	1.86	0.58
6:K:14:SER:HB2	6:K:51:LYS:H	1.68	0.58
2:B:833:A:H2'	2:B:834:G:C8	2.38	0.58
4:C:177:SER:O	4:C:270:ARG:HG3	2.04	0.58
23:Q:94:LEU:HD21	28:R:11:GLN:HB2	1.86	0.58
16:L:92:LEU:H	16:L:92:LEU:HD23	1.68	0.58
5:D:170:VAL:O	5:D:170:VAL:HG23	2.04	0.58
17:M:71:LYS:HD3	17:M:95:LEU:HD13	1.86	0.58
2:B:1735:A:H2'	2:B:1736:U:C6	2.39	0.58
2:B:322:A:H5'	2:B:340:A:H1'	1.84	0.58
26:F:177:ARG:CZ	26:F:177:ARG:HA	2.34	0.58
27:G:89:VAL:HG12	27:G:90:GLY:H	1.69	0.57
8:E:106:LYS:HE3	8:E:200:LEU:HD12	1.85	0.57
2:B:1021:A:H61	2:B:1142:A:H61	1.50	0.57
26:F:90:LEU:C	26:F:91:ARG:HD3	2.25	0.57
2:B:704:G:C2'	2:B:726:G:H22	2.15	0.57
2:B:921:C:H2'	2:B:922:C:C6	2.39	0.57
2:B:720:U:H2'	2:B:721:A:C8	2.39	0.57
27:G:84:LYS:HG3	27:G:131:VAL:HB	1.85	0.57
2:B:2190:G:O2'	2:B:2191:A:H5'	2.04	0.57
2:B:870:U:O2'	2:B:871:U:H5'	2.03	0.57
2:B:1316:U:O2'	2:B:1317:G:H5'	2.03	0.57
2:B:1810:A:H2'	2:B:1811:G:O4'	2.03	0.57
2:B:564:C:O2'	2:B:565:C:H5'	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:204:LYS:HB2	5:D:205:PRO:HD2	1.85	0.57
24:S:18:ARG:HB3	24:S:76:VAL:CG2	2.34	0.57
26:F:137:PHE:O	26:F:139:GLU:N	2.37	0.57
1:A:94:A:H2'	1:A:95:U:O4'	2.03	0.57
2:B:1550:C:H2'	2:B:1551:A:H8	1.69	0.57
18:X:17:GLU:OE1	18:X:21:LEU:HD11	2.04	0.57
19:H:47:PHE:HA	19:H:50:ARG:NH2	2.19	0.57
2:B:2652:C:H2'	2:B:2653:U:O4'	2.03	0.57
14:V:49:ASN:N	14:V:49:ASN:HD22	2.01	0.57
2:B:992:C:H4'	28:R:74:ILE:HD13	1.86	0.57
2:B:1477:A:H2'	2:B:1478:G:O4'	2.04	0.57
4:C:173:LEU:H	4:C:173:LEU:CD2	2.16	0.57
2:B:1022:G:N2	2:B:1142:A:N1	2.51	0.57
6:K:79:PHE:CD2	7:P:69:VAL:HG12	2.39	0.57
26:F:33:ILE:HD13	26:F:95:MET:HG2	1.86	0.57
16:L:116:VAL:HG13	16:L:117:THR:N	2.17	0.57
2:B:591:U:H1'	13:3:1:PRO:N	2.19	0.57
2:B:2285:C:OP2	12:1:5:ARG:HD3	2.03	0.57
4:C:69:ASN:O	4:C:70:LYS:C	2.42	0.57
24:S:88:ARG:HH21	24:S:88:ARG:HG3	1.70	0.57
30:Z:59:ILE:HG22	30:Z:64:ILE:HG13	1.85	0.57
2:B:2898:U:H2'	2:B:2899:A:H8	1.69	0.57
4:C:130:PRO:HA	4:C:188:ARG:HA	1.86	0.57
26:F:43:ILE:HB	26:F:82:TYR:OH	2.04	0.57
30:Z:40:VAL:CG2	30:Z:43:GLU:HB3	2.31	0.57
17:M:35:ALA:HB3	17:M:99:GLY:N	2.20	0.57
2:B:2146:C:H1'	2:B:2147:A:C4'	2.33	0.57
2:B:705:A:N6	2:B:726:G:H1'	2.19	0.57
18:X:15:ASN:ND2	18:X:15:ASN:H	2.02	0.57
26:F:120:SER:O	26:F:127:TYR:HA	2.04	0.57
2:B:1582:C:H3'	2:B:1583:A:N3	2.20	0.57
2:B:1513:U:O2'	2:B:1514:G:H5'	2.04	0.57
16:L:90:VAL:HB	16:L:122:VAL:HA	1.86	0.57
6:K:115:ILE:HG23	6:K:116:ILE:N	2.20	0.57
6:K:64:ARG:HH12	6:K:101:GLY:HA3	1.69	0.57
6:K:43:ILE:HG22	6:K:54:LYS:HA	1.86	0.57
2:B:1080:A:H2'	2:B:1081:U:H6	1.70	0.57
2:B:1432:G:O2'	2:B:1433:A:H5'	2.04	0.57
26:F:149:ARG:HA	26:F:149:ARG:NH1	2.20	0.57
19:H:3:VAL:HG12	19:H:38:PRO:HA	1.86	0.57
20:J:40:HIS:HE1	20:J:41:LYS:HE3	1.69	0.57
2:B:1771:C:H2'	2:B:1772:A:C8	2.39	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2411:A:H2'	2:B:2412:A:C8	2.38	0.57
26:F:15:LEU:HD22	26:F:167:ALA:HB1	1.86	0.57
8:E:31:VAL:HG21	8:E:104:ALA:HB2	1.87	0.57
4:C:75:ALA:HB1	4:C:93:VAL:HG22	1.85	0.57
9:Y:35:VAL:HG21	9:Y:37:ARG:HH22	1.70	0.57
2:B:609:A:H2'	2:B:610:C:O4'	2.04	0.57
30:Z:38:PHE:HE2	30:Z:51:VAL:HG21	1.69	0.57
17:M:61:GLY:HA2	17:M:107:GLY:HA3	1.85	0.57
2:B:1192:G:O2'	2:B:1193:G:H5'	2.05	0.57
23:Q:91:ARG:HH12	28:R:10:LYS:HB3	1.68	0.57
26:F:78:ILE:H	26:F:79:ARG:HH11	1.51	0.57
1:A:54:G:O2'	1:A:55:U:H5'	2.05	0.57
22:O:30:ARG:HD2	22:O:31:THR:N	2.19	0.57
16:L:47:ARG:HH21	16:L:47:ARG:CB	2.16	0.57
2:B:2679:A:O2'	2:B:2680:U:H5'	2.04	0.57
8:E:60:TRP:CE3	8:E:60:TRP:HA	2.40	0.57
2:B:171:U:H2'	2:B:172:A:H8	1.68	0.57
2:B:2078:C:H2'	2:B:2079:U:H6	1.68	0.57
30:Z:70:GLU:O	30:Z:72:ARG:N	2.35	0.57
2:B:131:A:H2'	2:B:132:G:C8	2.39	0.57
2:B:988:A:P	9:Y:11:SER:HB3	2.44	0.57
2:B:2776:A:H4'	2:B:2777:G:C5'	2.35	0.57
30:Z:30:LEU:H	30:Z:30:LEU:HD23	1.70	0.57
31:W:35:ILE:O	31:W:37:VAL:N	2.38	0.57
2:B:850:U:H2'	2:B:851:C:C6	2.40	0.57
20:J:110:PRO:HB2	20:J:111:LYS:HE2	1.86	0.57
29:T:1:MET:C	29:T:2:ILE:HD13	2.25	0.57
2:B:1081:U:C5'	3:I:126:ARG:HD2	2.34	0.57
2:B:2783:U:H2'	2:B:2784:U:C6	2.40	0.57
8:E:62:GLN:HG2	8:E:63:LYS:HG3	1.85	0.57
2:B:2181:U:OP2	2:B:2181:U:H3'	2.04	0.57
2:B:871:U:H2'	2:B:872:U:H6	1.67	0.57
15:2:29:GLN:O	15:2:33:ARG:HB2	2.05	0.57
2:B:1932:A:H2'	2:B:1933:G:O4'	2.05	0.57
2:B:1400:U:H2'	2:B:1401:G:C8	2.39	0.57
2:B:1716:U:H2'	2:B:1717:A:C8	2.40	0.57
31:W:59:PHE:O	31:W:60:ALA:CB	2.53	0.57
5:D:178:VAL:HB	5:D:188:LEU:HB2	1.86	0.57
29:T:11:LEU:HD22	29:T:11:LEU:N	2.16	0.57
29:T:48:GLN:HA	29:T:48:GLN:NE2	2.18	0.57
29:T:29:THR:CA	29:T:86:THR:HA	2.32	0.57
2:B:972:A:C3'	2:B:973:A:H5''	2.33	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:0:38:LEU:HD13	10:0:41:HIS:NE2	2.20	0.57
2:B:1592:C:H2'	2:B:1593:A:C8	2.36	0.57
2:B:1439:A:H1'	2:B:1553:A:N6	2.20	0.57
2:B:1441:G:H2'	2:B:1442:U:H6	1.70	0.57
2:B:1779:U:H5	2:B:1784:A:N7	2.03	0.57
1:A:83:G:OP1	9:Y:16:LEU:HD21	2.05	0.57
2:B:1205:A:N1	8:E:165:HIS:HB2	2.20	0.57
2:B:2636:C:H2'	2:B:2637:U:H6	1.69	0.57
2:B:49:A:H5''	2:B:51:G:O4'	2.05	0.57
19:H:31:VAL:O	19:H:33:GLN:N	2.38	0.57
2:B:784:G:O2'	2:B:785:G:H5''	2.05	0.57
5:D:124:ARG:HA	5:D:165:MET:HE3	1.87	0.57
2:B:1778:U:H2'	2:B:1784:A:H62	1.69	0.57
7:P:52:ARG:HB2	7:P:55:HIS:O	2.05	0.57
2:B:233:A:N6	2:B:428:A:H61	2.02	0.57
21:N:92:GLY:HA2	21:N:94:TYR:CZ	2.40	0.57
9:Y:40:THR:O	9:Y:43:ILE:HG23	2.05	0.57
2:B:1868:C:H2'	2:B:1869:G:O4'	2.05	0.57
2:B:1000:A:H2'	2:B:1001:A:C8	2.40	0.57
24:S:31:GLN:C	24:S:33:LEU:H	2.07	0.57
2:B:1786:A:H1'	2:B:1938:A:N6	2.20	0.57
2:B:2008:C:H2'	2:B:2009:A:H8	1.70	0.57
2:B:2318:G:C6	2:B:2319:G:N1	2.73	0.57
20:J:3:THR:HG21	23:Q:60:TRP:HE1	1.70	0.57
23:Q:60:TRP:O	23:Q:64:ILE:HG12	2.05	0.57
20:J:72:LYS:CB	20:J:89:PHE:HB2	2.35	0.57
29:T:32:LEU:O	29:T:83:ALA:HB2	2.04	0.57
6:K:113:MET:HE2	6:K:116:ILE:HD11	1.87	0.57
15:2:21:ARG:HH21	15:2:43:THR:HG21	1.70	0.57
25:U:47:PRO:HD3	25:U:55:GLY:HA3	1.87	0.57
2:B:962:G:N2	2:B:2250:G:H1	2.03	0.57
28:R:31:GLU:H	28:R:63:VAL:CG2	2.18	0.57
6:K:59:LYS:HD2	6:K:89:ASN:ND2	2.20	0.57
2:B:528:A:C2	2:B:2042:A:H2'	2.40	0.57
22:O:56:LYS:HG2	22:O:60:GLU:CD	2.26	0.57
2:B:2539:C:O2'	2:B:2540:C:H5'	2.05	0.57
2:B:523:C:H4'	2:B:540:C:O2	2.05	0.57
2:B:2753:A:O2'	2:B:2754:U:H5'	2.05	0.57
2:B:1564:C:O2'	2:B:1565:C:H5'	2.04	0.57
5:D:10:GLY:O	5:D:11:MET:HB2	2.03	0.56
26:F:43:ILE:HG23	26:F:44:ALA:N	2.13	0.56
6:K:60:ALA:HA	6:K:87:LEU:CD2	2.35	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:63:VAL:HG12	6:K:64:ARG:HD3	1.87	0.56
21:N:38:LEU:O	21:N:42:LYS:HG3	2.05	0.56
2:B:1558:C:H4'	2:B:1559:U:C5'	2.34	0.56
2:B:1442:U:H2'	2:B:1443:U:H6	1.69	0.56
2:B:1548:A:H2'	2:B:1549:A:C8	2.40	0.56
2:B:2860:A:O5'	2:B:2860:A:H8	1.88	0.56
25:U:81:ARG:H	25:U:81:ARG:NH2	2.02	0.56
2:B:328:U:H4'	25:U:65:GLN:HE22	1.69	0.56
2:B:17:G:H2'	2:B:18:U:C6	2.39	0.56
23:Q:10:ARG:NH1	23:Q:10:ARG:HB2	2.20	0.56
4:C:78:GLU:OE1	4:C:94:LEU:HD22	2.05	0.56
2:B:2776:A:H4'	2:B:2777:G:H5''	1.86	0.56
2:B:69:C:O2'	2:B:70:G:H5'	2.04	0.56
4:C:229:HIS:ND1	4:C:230:PRO:HD2	2.20	0.56
20:J:45:THR:OG1	20:J:48:VAL:HB	2.04	0.56
19:H:116:ARG:HH11	19:H:133:GLN:HB2	1.69	0.56
2:B:557:C:H2'	2:B:558:U:H6	1.70	0.56
26:F:102:LEU:HD13	26:F:103:ILE:HB	1.86	0.56
26:F:4:HIS:O	26:F:7:TYR:HB3	2.05	0.56
14:V:72:VAL:HB	14:V:92:VAL:O	2.05	0.56
27:G:10:VAL:HG23	27:G:48:THR:HA	1.87	0.56
29:T:18:GLU:C	29:T:20:ALA:H	2.09	0.56
2:B:967:U:H2'	2:B:968:C:C6	2.40	0.56
31:W:28:GLU:HB2	31:W:31:LEU:HD21	1.87	0.56
2:B:1322:A:OP1	24:S:11:ARG:HD2	2.05	0.56
28:R:16:GLU:HG2	28:R:101:ILE:HG13	1.86	0.56
10:O:33:SER:C	10:O:35:GLU:H	2.07	0.56
1:A:60:C:H2'	1:A:61:G:H8	1.69	0.56
31:W:39:GLN:CG	31:W:42:THR:HB	2.35	0.56
19:H:117:LEU:HD11	19:H:130:VAL:CG1	2.35	0.56
4:C:107:LYS:O	4:C:109:LEU:HD22	2.05	0.56
26:F:47:LYS:HA	26:F:50:ASP:OD1	2.05	0.56
6:K:10:VAL:HG12	6:K:12:ASP:H	1.70	0.56
20:J:114:LEU:O	20:J:118:MET:HE2	2.06	0.56
26:F:137:PHE:HB2	26:F:138:PRO:CD	2.35	0.56
14:V:30:ILE:HB	14:V:38:LEU:HB3	1.86	0.56
2:B:45:G:H5'	2:B:46:G:OP1	2.05	0.56
2:B:1125:G:H4'	11:4:37:GLN:NE2	2.20	0.56
2:B:1387:A:H2'	2:B:1388:G:C8	2.39	0.56
2:B:580:U:O2'	2:B:581:C:H5'	2.06	0.56
2:B:2065:C:H2'	2:B:2066:C:H6	1.69	0.56
5:D:136:ASN:HD21	5:D:140:HIS:N	2.03	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1794:A:H2'	2:B:1795:C:H6	1.71	0.56
22:O:56:LYS:O	22:O:60:GLU:HG2	2.04	0.56
22:O:100:HIS:C	22:O:104:GLN:HB2	2.26	0.56
1:A:13:G:H2'	1:A:14:U:H5'	1.87	0.56
2:B:2199:A:H5'	2:B:2200:C:OP2	2.05	0.56
1:A:41:G:H21	2:B:2340:A:H5'	1.71	0.56
1:A:48:U:H2'	1:A:49:C:C6	2.41	0.56
2:B:2301:C:H2'	2:B:2302:U:H6	1.70	0.56
2:B:560:C:H2'	2:B:561:G:O4'	2.05	0.56
7:P:24:THR:O	7:P:25:VAL:HG22	2.05	0.56
2:B:2500:U:H5'	2:B:2501:C:OP2	2.05	0.56
2:B:141:G:C6	29:T:2:ILE:HD12	2.40	0.56
8:E:48:THR:HG22	8:E:86:ALA:HB3	1.86	0.56
2:B:546:U:H5'	2:B:548:G:O6	2.06	0.56
2:B:784:G:N1	4:C:227:VAL:HG11	2.20	0.56
2:B:1429:G:O2'	2:B:1430:G:H5'	2.04	0.56
2:B:2869:G:H2'	2:B:2870:C:C6	2.40	0.56
2:B:794:A:H2'	2:B:795:C:H6	1.71	0.56
2:B:1856:U:H2'	2:B:1857:G:H5'	1.86	0.56
2:B:2240:U:O2'	2:B:2241:A:H5'	2.05	0.56
2:B:2297:A:N6	2:B:2319:G:H1'	2.21	0.56
2:B:197:A:N6	2:B:2430:A:H2'	2.21	0.56
2:B:1311:G:H21	2:B:1603:A:H62	1.53	0.56
2:B:1346:G:O2'	2:B:1347:A:H5'	2.05	0.56
31:W:23:LYS:O	31:W:66:VAL:HB	2.05	0.56
8:E:134:LEU:O	8:E:138:LEU:HG	2.06	0.56
23:Q:91:ARG:HG2	23:Q:93:ILE:HG22	1.87	0.56
19:H:140:ALA:C	19:H:141:LYS:HD3	2.26	0.56
21:N:72:ASP:O	21:N:76:VAL:HG13	2.05	0.56
26:F:135:ILE:CD1	26:F:137:PHE:HB3	2.36	0.56
2:B:1410:G:H2'	2:B:1411:U:C6	2.41	0.56
27:G:123:GLU:O	27:G:125:PRO:HD3	2.05	0.56
4:C:158:GLY:H	4:C:194:VAL:HG13	1.70	0.56
26:F:141:ASP:CB	26:F:144:LYS:HB2	2.34	0.56
3:I:96:LYS:N	3:I:96:LYS:HD2	2.21	0.56
23:Q:34:ALA:O	23:Q:37:ALA:HB3	2.05	0.56
2:B:2836:U:H2'	2:B:2837:A:C8	2.40	0.56
2:B:856:G:C1'	31:W:23:LYS:HB3	2.36	0.56
31:W:24:ARG:HD3	31:W:65:LYS:HE3	1.88	0.56
20:J:17:VAL:HG23	20:J:137:PRO:CB	2.31	0.56
16:L:19:LEU:O	16:L:21:ARG:HG2	2.04	0.56
26:F:78:ILE:N	26:F:78:ILE:HD12	2.21	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:76:ALA:O	3:I:80:LYS:HG3	2.06	0.56
2:B:139:U:C5	29:T:1:MET:HB3	2.41	0.56
2:B:2741:A:H2'	2:B:2742:G:O4'	2.05	0.56
2:B:2395:C:H2'	2:B:2396:G:O4'	2.06	0.56
24:S:95:ARG:HG3	24:S:97:LEU:HD13	1.87	0.56
16:L:110:VAL:HB	16:L:127:VAL:HG23	1.87	0.56
2:B:1599:U:H2'	2:B:1600:C:C6	2.41	0.56
24:S:70:LYS:HD3	24:S:110:ARG:O	2.05	0.56
2:B:1651:G:OP1	21:N:40:LYS:HG3	2.05	0.56
26:F:35:LEU:HD23	26:F:153:ILE:HG12	1.87	0.56
3:I:10:LEU:HD12	3:I:10:LEU:O	2.05	0.56
27:G:152:ARG:HG3	27:G:153:PRO:HD2	1.86	0.56
2:B:30:G:H2'	2:B:31:C:C6	2.41	0.56
4:C:74:PRO:HG2	4:C:96:LYS:HG3	1.86	0.56
2:B:278:A:N3	2:B:278:A:H2'	2.19	0.56
3:I:14:ALA:HB1	3:I:50:LYS:HA	1.87	0.56
2:B:2246:G:H2'	2:B:2247:A:C8	2.41	0.56
2:B:2257:U:O2'	2:B:2258:C:H5'	2.06	0.56
30:Z:64:ILE:HD12	30:Z:64:ILE:N	2.18	0.56
31:W:49:ASN:HB3	31:W:81:ILE:CG1	2.36	0.56
2:B:1458:U:H4'	2:B:1459:G:O4'	2.06	0.56
20:J:6:ALA:HB3	20:J:45:THR:HG21	1.86	0.56
2:B:1351:C:O2'	2:B:1571:A:H1'	2.06	0.56
26:F:34:THR:OG1	26:F:154:THR:HB	2.06	0.56
2:B:5:A:H2'	2:B:6:A:H8	1.70	0.56
20:J:13:ARG:O	20:J:52:ASP:HA	2.05	0.56
2:B:1061:U:O4'	2:B:1070:A:H1'	2.06	0.56
2:B:522:A:H2'	2:B:523:C:C6	2.39	0.56
14:V:1:MET:HG2	14:V:59:GLU:HG3	1.88	0.56
2:B:796:C:H2'	2:B:797:G:H8	1.70	0.56
2:B:200:U:H5''	30:Z:22:LEU:O	2.05	0.56
2:B:184:C:H2'	2:B:185:G:H8	1.70	0.56
8:E:115:GLN:O	8:E:117:ARG:HG3	2.05	0.56
23:Q:63:ARG:HH12	23:Q:96:ASP:HB2	1.70	0.56
20:J:103:ILE:HD12	20:J:104:ALA:N	2.20	0.56
2:B:2110:G:N2	2:B:2180:U:H3	2.03	0.56
2:B:27:G:H1'	2:B:513:A:H61	1.69	0.56
26:F:62:GLN:NE2	26:F:90:LEU:HD13	2.21	0.56
12:1:35:LEU:O	12:1:36:LYS:HB2	2.06	0.56
2:B:1173:U:H2'	2:B:1174:U:H4'	1.88	0.56
19:H:41:LYS:HA	19:H:44:ILE:HG13	1.88	0.56
2:B:233:A:H61	2:B:428:A:N6	2.03	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:35:SER:HA	30:Z:49:LEU:O	2.05	0.56
24:S:13:SER:OG	24:S:16:LYS:HB2	2.06	0.56
2:B:1275:A:H2'	2:B:1276:A:O4'	2.06	0.56
2:B:2386:A:H2'	2:B:2387:U:C6	2.41	0.56
12:1:33:LEU:HB3	12:1:51:ALA:HB3	1.87	0.56
8:E:149:ILE:HG23	8:E:188:MET:CA	2.36	0.56
2:B:459:U:O2'	2:B:460:A:H5'	2.06	0.56
2:B:670:A:H5''	16:L:42:SER:HB2	1.87	0.56
19:H:103:VAL:HG12	19:H:142:VAL:HG11	1.87	0.56
31:W:77:LYS:HZ2	31:W:77:LYS:N	2.03	0.56
19:H:40:THR:N	19:H:43:ASN:HD21	2.02	0.56
2:B:91:A:H1'	2:B:92:U:C6	2.41	0.56
2:B:720:U:H2'	2:B:721:A:H8	1.70	0.56
22:O:4:LYS:O	22:O:8:ILE:HG13	2.06	0.56
2:B:1447:C:H2'	2:B:1448:G:C8	2.41	0.56
2:B:2893:A:H4'	2:B:2894:G:O5'	2.06	0.56
2:B:2605:U:H2'	2:B:2606:C:C6	2.41	0.56
2:B:1535:A:H5''	2:B:1536:C:C5	2.40	0.56
31:W:24:ARG:CD	31:W:65:LYS:HG2	2.36	0.55
29:T:50:LEU:HD22	29:T:50:LEU:N	2.21	0.55
19:H:133:GLN:HA	19:H:139:PHE:HB3	1.88	0.55
5:D:186:LEU:HD11	7:P:3:ILE:HG13	1.86	0.55
26:F:110:ILE:HA	26:F:111:ARG:NH1	2.21	0.55
5:D:148:GLN:HB2	5:D:152:PRO:HG2	1.88	0.55
26:F:62:GLN:NE2	26:F:90:LEU:HA	2.21	0.55
8:E:69:ARG:O	8:E:70:SER:HB3	2.04	0.55
2:B:721:A:H2'	2:B:722:A:H8	1.70	0.55
2:B:182:A:H2'	2:B:183:C:C6	2.41	0.55
5:D:25:THR:HG21	5:D:193:VAL:CG2	2.37	0.55
5:D:175:LEU:HD21	5:D:191:GLY:O	2.06	0.55
2:B:1210:G:OP1	2:B:1212:G:H5'	2.06	0.55
2:B:1139:G:O2'	2:B:1140:C:H5'	2.06	0.55
2:B:2207:C:H2'	2:B:2208:C:C6	2.41	0.55
5:D:37:VAL:HG23	5:D:91:THR:HA	1.88	0.55
2:B:1716:U:H2'	2:B:1717:A:H8	1.71	0.55
2:B:1535:A:H5''	2:B:1536:C:H5	1.70	0.55
14:V:46:LYS:N	14:V:46:LYS:HD2	2.22	0.55
31:W:41:GLY:HA2	31:W:44:PHE:CD2	2.41	0.55
2:B:1872:A:H2'	2:B:1873:G:O4'	2.07	0.55
4:C:79:ARG:HD2	4:C:81:GLU:HG3	1.88	0.55
2:B:150:U:H2'	2:B:151:C:C6	2.41	0.55
27:G:54:ARG:HB3	27:G:57:TYR:CD1	2.40	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1744:A:H2'	2:B:1745:A:C8	2.41	0.55
25:U:86:PHE:HD1	25:U:88:ASP:N	2.05	0.55
4:C:64:VAL:HG22	4:C:90:ILE:HD11	1.87	0.55
23:Q:104:ALA:O	23:Q:105:PHE:HB3	2.07	0.55
3:I:77:VAL:HA	3:I:80:LYS:CE	2.36	0.55
19:H:44:ILE:O	19:H:48:GLU:HB3	2.07	0.55
2:B:705:A:O2'	4:C:6:LYS:HG3	2.06	0.55
2:B:877:A:H2	2:B:900:A:N7	2.04	0.55
2:B:1338:G:H4'	29:T:18:GLU:CG	2.35	0.55
2:B:1723:G:H2'	2:B:1724:G:O4'	2.06	0.55
28:R:2:TYR:HB2	28:R:42:ALA:HB2	1.88	0.55
2:B:1400:U:H2'	2:B:1401:G:H8	1.71	0.55
22:O:105:ALA:C	22:O:107:ALA:H	2.10	0.55
2:B:2339:C:H2'	2:B:2340:A:C8	2.41	0.55
15:2:39:ARG:HH11	15:2:39:ARG:HG3	1.71	0.55
2:B:402:A:H2'	2:B:403:U:O4'	2.06	0.55
2:B:1874:C:H2'	2:B:1875:G:O4'	2.05	0.55
19:H:130:VAL:HG21	19:H:144:VAL:CG2	2.33	0.55
31:W:9:THR:HG22	31:W:10:ARG:HH11	1.71	0.55
23:Q:94:LEU:CD2	28:R:11:GLN:HB2	2.36	0.55
2:B:2109:U:H3'	2:B:2110:G:C8	2.42	0.55
21:N:55:ALA:HA	21:N:80:PHE:CE1	2.41	0.55
2:B:162:U:O2'	2:B:163:C:H5'	2.06	0.55
26:F:32:LYS:H	26:F:95:MET:HE1	1.72	0.55
4:C:6:LYS:O	4:C:8:THR:HG22	2.07	0.55
13:3:7:ARG:O	13:3:11:LYS:HG3	2.05	0.55
23:Q:80:ASN:O	23:Q:83:LYS:HB3	2.07	0.55
2:B:2484:G:OP1	17:M:44:ARG:HD3	2.07	0.55
2:B:1229:C:H2'	2:B:1230:A:C8	2.42	0.55
8:E:34:ALA:HB2	8:E:96:VAL:HG21	1.89	0.55
30:Z:49:LEU:HB2	30:Z:51:VAL:HG23	1.88	0.55
2:B:2243:U:H2'	2:B:2244:U:C6	2.42	0.55
17:M:108:VAL:HG22	17:M:109:PRO:HD2	1.88	0.55
5:D:14:ILE:HG22	5:D:22:ILE:O	2.06	0.55
26:F:76:PHE:HD2	26:F:78:ILE:HD13	1.72	0.55
6:K:105:ARG:H	6:K:105:ARG:CD	2.16	0.55
2:B:740:C:O2'	2:B:741:U:H5'	2.06	0.55
2:B:1813:G:N3	4:C:49:THR:HG21	2.22	0.55
23:Q:83:LYS:NZ	23:Q:87:VAL:HA	2.21	0.55
16:L:95:LEU:HB3	16:L:100:ILE:CG2	2.37	0.55
17:M:66:ARG:NE	17:M:101:VAL:HG11	2.22	0.55
17:M:30:SER:HA	17:M:133:LYS:HB2	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:89:SER:HA	3:I:97:VAL:CG2	2.36	0.55
2:B:1827:U:O2'	2:B:1828:G:H5'	2.06	0.55
2:B:441:U:H2'	2:B:442:G:H8	1.72	0.55
2:B:1583:A:H5''	2:B:1584:U:OP1	2.06	0.55
17:M:90:GLU:OE1	17:M:90:GLU:HA	2.06	0.55
31:W:21:GLY:CA	31:W:33:GLY:HA2	2.37	0.55
2:B:15:G:O2'	2:B:16:C:H5'	2.06	0.55
4:C:20:ASN:OD1	4:C:22:GLU:HG2	2.07	0.55
6:K:7:MET:HE2	6:K:18:ARG:NH1	2.21	0.55
19:H:95:GLY:O	19:H:99:ILE:HG12	2.07	0.55
24:S:18:ARG:HB3	24:S:76:VAL:HG22	1.89	0.55
20:J:128:ASN:C	20:J:129:GLU:HG3	2.27	0.55
2:B:1470:A:H3'	2:B:1471:G:H8	1.72	0.55
13:3:5:THR:HG22	13:3:62:PRO:HD2	1.89	0.55
3:I:100:ILE:O	3:I:139:VAL:HA	2.06	0.55
16:L:100:ILE:HG12	16:L:100:ILE:O	2.07	0.55
2:B:582:A:H2'	2:B:583:G:C8	2.42	0.55
2:B:1230:A:H2'	2:B:1231:U:C6	2.41	0.55
2:B:215:G:H4'	2:B:216:A:H4'	1.88	0.55
2:B:1788:C:O2'	2:B:1789:A:H5'	2.06	0.55
18:X:46:VAL:O	18:X:50:VAL:HG23	2.07	0.55
2:B:1838:C:N4	2:B:1898:U:H2'	2.22	0.55
2:B:2196:C:O2'	2:B:2197:U:H5'	2.06	0.55
12:1:29:LYS:HA	12:1:31:GLU:OE1	2.07	0.55
12:1:34:GLU:HA	12:1:48:TYR:O	2.06	0.55
4:C:80:LEU:HD23	4:C:91:ALA:HB2	1.88	0.55
20:J:55:ILE:O	20:J:55:ILE:HG13	2.04	0.55
21:N:37:THR:HB	21:N:40:LYS:HB2	1.89	0.55
14:V:62:THR:HB	14:V:71:LYS:HG2	1.89	0.55
4:C:226:PRO:HA	4:C:232:GLY:HA3	1.87	0.55
20:J:30:THR:HG23	20:J:31:GLU:N	2.22	0.55
26:F:128:SER:HB3	26:F:154:THR:HA	1.88	0.55
14:V:78:GLN:HB2	14:V:88:HIS:O	2.07	0.55
2:B:1550:C:H2'	2:B:1551:A:C8	2.41	0.55
25:U:81:ARG:HB2	25:U:96:LYS:CG	2.37	0.55
2:B:1508:A:H5'	2:B:1509:A:N6	2.22	0.55
25:U:11:ILE:O	25:U:12:VAL:HB	2.07	0.55
23:Q:78:PHE:CZ	23:Q:82:LEU:HD11	2.41	0.55
2:B:2758:A:H1'	27:G:63:GLN:HE22	1.72	0.55
2:B:679:C:O2'	2:B:680:C:H5'	2.07	0.55
22:O:79:ALA:O	22:O:83:LEU:HB2	2.07	0.55
2:B:1425:G:H2'	2:B:1426:G:C8	2.42	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:O:97:PHE:HB3	22:O:103:VAL:HG21	1.88	0.55
2:B:2841:C:H2'	2:B:2842:G:C8	2.40	0.55
25:U:82:VAL:HG13	25:U:93:ARG:HB3	1.88	0.55
8:E:138:LEU:HB3	8:E:143:LEU:O	2.07	0.55
4:C:89:ASN:O	4:C:105:ALA:HB3	2.07	0.55
29:T:38:ALA:HB3	29:T:81:LYS:HE2	1.89	0.55
7:P:3:ILE:HG23	7:P:4:ILE:N	2.21	0.55
21:N:52:ILE:O	21:N:55:ALA:HB3	2.07	0.55
14:V:4:ILE:HD12	14:V:63:ILE:HG13	1.87	0.55
2:B:743:A:C2'	2:B:744:U:H5'	2.37	0.55
2:B:2286:G:H4'	2:B:2287:A:O4'	2.07	0.55
2:B:2008:C:H2'	2:B:2009:A:C8	2.41	0.55
2:B:324:A:H2'	2:B:325:G:O4'	2.07	0.55
2:B:1816:C:H3'	4:C:61:TYR:HE2	1.72	0.55
2:B:660:C:H2'	2:B:661:A:H8	1.71	0.55
2:B:634:C:H2'	2:B:635:C:C6	2.42	0.55
25:U:27:VAL:HG23	25:U:33:VAL:HG12	1.88	0.55
2:B:836:G:H2'	2:B:837:C:C6	2.42	0.55
31:W:37:VAL:CG1	31:W:38:ARG:HH11	2.19	0.55
31:W:35:ILE:HG13	31:W:57:THR:OG1	2.05	0.55
8:E:189:THR:HG23	8:E:192:ALA:H	1.71	0.55
20:J:96:ARG:O	20:J:99:ARG:HG3	2.07	0.55
3:I:11:GLN:HG3	3:I:11:GLN:O	2.07	0.55
11:4:27:CYS:SG	11:4:29:ALA:HB3	2.47	0.55
26:F:110:ILE:CG2	26:F:113:PHE:HB3	2.37	0.55
2:B:644:A:O2'	2:B:645:C:H5'	2.07	0.55
2:B:2867:G:N7	7:P:20:ARG:NH1	2.54	0.55
2:B:2038:G:H2'	2:B:2039:U:C6	2.42	0.55
5:D:9:VAL:HG22	5:D:9:VAL:O	2.07	0.55
2:B:154:U:H2'	2:B:155:A:C8	2.42	0.55
25:U:78:LYS:HE3	25:U:79:ALA:N	2.22	0.55
3:I:112:LYS:O	3:I:116:MET:HG3	2.06	0.55
4:C:124:LYS:HG3	4:C:125:PRO:HD2	1.88	0.55
2:B:571:U:H3'	28:R:80:ARG:NH1	2.22	0.55
2:B:1919:A:H2'	2:B:1920:C:H5'	1.89	0.55
16:L:55:MET:HA	16:L:55:MET:HE3	1.89	0.55
2:B:589:U:H2'	2:B:590:A:H8	1.72	0.55
2:B:37:C:O2'	2:B:38:A:H5'	2.07	0.55
2:B:2758:A:C2'	2:B:2759:G:H5'	2.37	0.55
30:Z:38:PHE:CE2	30:Z:51:VAL:HG21	2.42	0.55
1:A:13:G:C2'	1:A:14:U:H5'	2.37	0.55
19:H:73:ASN:HD22	19:H:74:ALA:N	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2314:A:H2'	2:B:2315:G:C8	2.41	0.55
2:B:2369:A:H2'	2:B:2370:G:H8	1.72	0.55
19:H:1:MET:HB3	19:H:21:VAL:O	2.07	0.55
2:B:718:A:H3'	2:B:719:C:H6	1.71	0.54
2:B:1796:U:H2'	2:B:1797:G:C8	2.42	0.54
2:B:264:C:C2'	2:B:265:A:H5''	2.36	0.54
5:D:7:LYS:HE2	5:D:198:GLY:HA2	1.89	0.54
6:K:3:GLN:HG2	6:K:4:GLU:N	2.22	0.54
2:B:699:A:H4'	2:B:1634:A:N7	2.21	0.54
2:B:2662:A:H2'	2:B:2663:G:O4'	2.07	0.54
2:B:1198:U:H2'	2:B:1199:U:C6	2.42	0.54
25:U:86:PHE:HB3	25:U:90:LYS:O	2.07	0.54
31:W:48:ALA:HB3	31:W:81:ILE:O	2.06	0.54
2:B:1460:U:H4'	2:B:1461:C:O5'	2.08	0.54
19:H:82:SER:N	19:H:146:VAL:HG13	2.18	0.54
8:E:145:ASP:OD1	8:E:183:PHE:HA	2.07	0.54
8:E:192:ALA:HA	8:E:195:GLN:NE2	2.22	0.54
29:T:39:THR:HG22	29:T:42:GLU:CG	2.33	0.54
9:Y:23:LEU:HD13	9:Y:28:LEU:HB2	1.89	0.54
26:F:126:ASN:HB3	26:F:156:THR:HA	1.89	0.54
2:B:2720:U:H2'	2:B:2721:A:C8	2.42	0.54
16:L:77:ILE:HG12	16:L:95:LEU:HD22	1.89	0.54
18:X:5:GLU:O	18:X:8:GLU:HG2	2.07	0.54
2:B:1656:C:H2'	2:B:1657:U:H6	1.72	0.54
22:O:94:ARG:HD2	22:O:97:PHE:O	2.06	0.54
2:B:2840:C:H2'	2:B:2841:C:C6	2.43	0.54
2:B:615:U:O4	8:E:39:ALA:HB2	2.07	0.54
14:V:89:ILE:HD12	14:V:89:ILE:O	2.07	0.54
16:L:65:GLY:O	16:L:66:PHE:HB3	2.06	0.54
2:B:1732:C:H2'	2:B:1732:C:OP1	2.06	0.54
4:C:162:GLN:NE2	4:C:174:ARG:HH21	2.05	0.54
27:G:25:ILE:O	27:G:32:LEU:HA	2.07	0.54
4:C:68:ARG:HB2	4:C:128:THR:HG21	1.90	0.54
2:B:1007:C:O3'	20:J:110:PRO:HB3	2.07	0.54
20:J:21:THR:O	20:J:62:VAL:HA	2.08	0.54
23:Q:87:VAL:HG12	23:Q:89:ILE:HD13	1.89	0.54
7:P:31:VAL:O	7:P:32:VAL:HB	2.06	0.54
21:N:49:GLU:OE2	21:N:95:THR:HG22	2.07	0.54
2:B:1166:G:H2'	2:B:1167:C:H6	1.70	0.54
2:B:2815:C:H2'	2:B:2816:G:H8	1.72	0.54
2:B:2355:G:H4'	31:W:20:LEU:HD13	1.89	0.54
20:J:12:LYS:HZ2	20:J:12:LYS:HB3	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2019:A:H2	2:B:2035:G:H22	1.54	0.54
2:B:796:C:H2'	2:B:797:G:C8	2.42	0.54
2:B:634:C:H2'	2:B:635:C:H6	1.72	0.54
2:B:2512:C:H2'	2:B:2513:A:O4'	2.07	0.54
2:B:2216:G:H2'	2:B:2217:G:C8	2.43	0.54
30:Z:5:CYS:SG	30:Z:8:THR:HG23	2.48	0.54
27:G:24:THR:C	27:G:25:ILE:HD12	2.28	0.54
17:M:36:VAL:HB	17:M:127:LYS:O	2.08	0.54
3:I:17:ALA:O	3:I:18:ASN:HB3	2.07	0.54
13:3:14:LYS:O	13:3:21:PHE:O	2.25	0.54
2:B:2867:G:C2'	2:B:2867:G:N3	2.70	0.54
10:0:38:LEU:HB3	10:0:41:HIS:CD2	2.43	0.54
7:P:91:VAL:O	7:P:92:ARG:HB3	2.08	0.54
19:H:47:PHE:CA	19:H:50:ARG:HH21	2.20	0.54
2:B:37:C:H4'	2:B:451:U:OP1	2.08	0.54
26:F:19:PHE:CE2	26:F:164:GLU:HG2	2.43	0.54
7:P:102:ARG:HD2	7:P:106:ALA:O	2.08	0.54
2:B:1666:G:O2'	2:B:1667:G:H5'	2.06	0.54
27:G:30:GLY:HA3	27:G:78:VAL:HG12	1.89	0.54
27:G:108:PHE:HD1	27:G:108:PHE:H	1.53	0.54
2:B:45:G:C5'	2:B:46:G:H5'	2.36	0.54
2:B:1654:A:H2'	2:B:1655:A:H8	1.73	0.54
3:I:58:ILE:HD12	3:I:58:ILE:N	2.22	0.54
2:B:417:C:H2'	2:B:418:C:H6	1.73	0.54
23:Q:10:ARG:CZ	23:Q:10:ARG:HB2	2.37	0.54
2:B:1870:C:H5''	2:B:1871:A:C6	2.42	0.54
2:B:2216:G:H2'	2:B:2217:G:H8	1.72	0.54
2:B:2436:G:O2'	2:B:2437:G:H5'	2.07	0.54
8:E:6:LYS:HB2	8:E:120:VAL:O	2.07	0.54
1:A:42:C:C5	26:F:65:LEU:HD22	2.43	0.54
26:F:65:LEU:HD23	26:F:87:LYS:HD2	1.89	0.54
24:S:96:ILE:HG23	24:S:96:ILE:O	2.07	0.54
2:B:1784:A:H4'	2:B:1785:A:O5'	2.07	0.54
2:B:2150:C:H2'	2:B:2151:U:H6	1.71	0.54
9:Y:2:LYS:HE3	9:Y:58:GLU:HB3	1.89	0.54
8:E:102:ARG:HG3	8:E:102:ARG:HH21	1.72	0.54
8:E:98:LYS:HG2	8:E:99:LYS:N	2.21	0.54
4:C:93:VAL:HG21	4:C:115:ILE:HD11	1.88	0.54
1:A:89:U:O2	2:B:958:U:H2'	2.08	0.54
2:B:1859:U:H2'	2:B:1860:G:C8	2.42	0.54
2:B:2875:C:H2'	2:B:2876:G:H8	1.73	0.54
2:B:1889:A:H2'	2:B:1890:A:C8	2.42	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2543:G:H8	2:B:2543:G:H5'	1.71	0.54
2:B:2639:A:H2'	2:B:2640:G:O4'	2.07	0.54
2:B:2756:U:H1'	2:B:2757:A:H5''	1.87	0.54
2:B:538:A:N6	2:B:555:G:O2'	2.41	0.54
12:1:49:LYS:HG3	12:1:50:GLU:N	2.17	0.54
27:G:17:LYS:HZ2	27:G:17:LYS:HA	1.73	0.54
2:B:848:C:H2'	2:B:849:A:C8	2.43	0.54
7:P:4:ILE:O	7:P:6:GLN:N	2.36	0.54
2:B:2272:U:H5''	2:B:2273:A:OP1	2.07	0.54
2:B:559:G:P	20:J:111:LYS:HD3	2.48	0.54
20:J:30:THR:HG23	20:J:31:GLU:H	1.71	0.54
2:B:705:A:N6	2:B:726:G:O2'	2.40	0.54
2:B:2467:C:H1'	17:M:122:ALA:HB1	1.90	0.54
18:X:56:LEU:O	18:X:57:LEU:HB3	2.08	0.54
25:U:80:ASP:O	25:U:96:LYS:HG2	2.08	0.54
2:B:3:U:O5'	2:B:3:U:H6	1.90	0.54
2:B:416:U:H2'	2:B:417:C:C6	2.43	0.54
24:S:43:ALA:HA	24:S:46:LEU:HD12	1.89	0.54
2:B:2080:A:OP1	30:Z:20:HIS:HB3	2.08	0.54
21:N:9:GLN:O	21:N:11:ASN:N	2.41	0.54
13:3:18:LYS:HD2	13:3:19:GLY:N	2.23	0.54
2:B:786:C:O2'	2:B:787:C:H5'	2.08	0.54
2:B:1501:G:O2'	2:B:1502:A:H5'	2.08	0.54
1:A:10:G:H2'	1:A:11:C:O4'	2.08	0.54
27:G:174:LYS:HZ3	27:G:176:LYS:HG2	1.72	0.54
6:K:70:ARG:HB3	6:K:70:ARG:HH11	1.73	0.54
28:R:58:VAL:O	28:R:58:VAL:HG13	2.08	0.54
2:B:160:A:H2'	2:B:161:A:C8	2.43	0.54
8:E:58:LYS:HZ3	8:E:58:LYS:HB2	1.72	0.54
2:B:2100:G:C6	2:B:2190:G:C6	2.96	0.54
2:B:156:A:H2'	2:B:157:C:H6	1.73	0.54
2:B:1015:U:H2'	2:B:1016:G:H8	1.73	0.54
9:Y:2:LYS:CD	9:Y:2:LYS:H	2.18	0.54
2:B:1013:C:H2'	2:B:1014:A:H8	1.73	0.54
5:D:33:ARG:CZ	5:D:74:GLU:HB3	2.38	0.54
2:B:1164:C:H2'	2:B:1165:A:H8	1.73	0.54
8:E:148:ILE:HD13	8:E:187:VAL:CG2	2.37	0.54
2:B:925:A:O2'	2:B:926:G:H5'	2.08	0.54
19:H:27:ARG:NE	30:Z:64:ILE:HD11	2.21	0.54
2:B:923:G:H1'	31:W:23:LYS:NZ	2.22	0.54
19:H:94:ILE:HG23	19:H:99:ILE:HD11	1.90	0.54
28:R:6:GLN:HE21	28:R:7:SER:N	2.06	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:460:A:H2'	2:B:461:C:O4'	2.07	0.54
20:J:16:TYR:O	20:J:55:ILE:HG12	2.08	0.54
19:H:5:LEU:O	19:H:6:LEU:HD12	2.08	0.54
26:F:168:LEU:HD13	26:F:169:LEU:N	2.22	0.54
2:B:2680:U:OP2	5:D:114:LYS:HB3	2.08	0.54
26:F:147:ARG:CZ	26:F:147:ARG:HB3	2.37	0.54
2:B:19:A:H2'	2:B:20:C:C6	2.43	0.54
2:B:2230:G:H2'	2:B:2231:U:C6	2.42	0.54
27:G:148:ARG:HD3	27:G:152:ARG:NE	2.23	0.54
2:B:639:U:H2'	2:B:640:C:C6	2.43	0.54
2:B:942:G:O2'	2:B:943:A:H5'	2.07	0.54
26:F:134:GLN:NE2	26:F:136:ILE:HD13	2.23	0.54
2:B:1877:A:H2'	2:B:1878:G:C8	2.42	0.54
2:B:1274:A:N3	2:B:1297:C:H1'	2.23	0.54
30:Z:6:GLN:HE22	30:Z:77:LYS:CE	2.20	0.54
31:W:37:VAL:HG11	31:W:38:ARG:HH11	1.71	0.54
8:E:130:LYS:C	8:E:132:LYS:H	2.12	0.54
29:T:41:ALA:C	29:T:43:ILE:H	2.10	0.54
29:T:43:ILE:O	29:T:47:VAL:HG23	2.06	0.54
2:B:2861:U:H2'	2:B:2862:G:H8	1.73	0.54
2:B:2277:G:H5'	17:M:86:LYS:HB3	1.90	0.54
5:D:62:LYS:HB2	5:D:63:PRO:HD3	1.90	0.54
14:V:14:LYS:HE3	14:V:18:ARG:NH2	2.21	0.54
2:B:2443:C:H2'	2:B:2444:G:C8	2.43	0.54
2:B:1029:A:H2'	2:B:1030:C:O4'	2.08	0.54
2:B:1482:G:N2	2:B:1508:A:H1'	2.23	0.54
2:B:1508:A:H2'	2:B:1509:A:C2	2.43	0.54
27:G:154:GLU:OE2	27:G:156:TYR:HB2	2.07	0.54
2:B:636:G:H3'	16:L:128:THR:HG21	1.89	0.54
2:B:841:G:O2'	2:B:842:U:H5'	2.07	0.54
6:K:99:ILE:N	6:K:118:LEU:HD22	2.23	0.53
2:B:1571:A:H2'	2:B:1572:A:C8	2.43	0.53
13:3:54:LEU:O	13:3:58:ILE:HG13	2.07	0.53
19:H:62:LEU:HD13	19:H:66:ASN:HD21	1.73	0.53
19:H:49:ALA:HB3	19:H:50:ARG:CZ	2.38	0.53
2:B:2292:U:H2'	2:B:2293:G:H8	1.74	0.53
17:M:71:LYS:HE3	17:M:73:ILE:HD11	1.90	0.53
17:M:71:LYS:HG2	17:M:73:ILE:HD11	1.90	0.53
2:B:968:C:H2'	2:B:969:G:C8	2.43	0.53
2:B:1535:A:H3'	2:B:1536:C:H6	1.74	0.53
6:K:53:LYS:HD3	6:K:56:ASP:OD2	2.09	0.53
2:B:2633:G:H2'	2:B:2634:A:O4'	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1607:C:H4'	2:B:1608:A:O5'	2.08	0.53
31:W:39:GLN:HG3	31:W:42:THR:CB	2.38	0.53
8:E:188:MET:HG2	8:E:193:VAL:HG22	1.90	0.53
29:T:50:LEU:C	29:T:52:GLU:H	2.11	0.53
24:S:71:VAL:HA	24:S:107:VAL:HA	1.91	0.53
15:2:21:ARG:HD2	15:2:43:THR:HG21	1.90	0.53
2:B:2886:A:H62	10:0:39:ARG:CD	2.21	0.53
2:B:1654:A:O2'	5:D:118:PHE:HB2	2.07	0.53
24:S:86:MET:HG3	24:S:96:ILE:HD12	1.90	0.53
26:F:37:MET:HE3	26:F:56:LEU:HD23	1.89	0.53
2:B:592:A:N3	13:3:3:ILE:HD11	2.23	0.53
2:B:528:A:C2	2:B:2043:C:H4'	2.42	0.53
2:B:1197:G:H2'	2:B:1198:U:H6	1.73	0.53
22:O:9:ARG:HG3	22:O:10:ARG:N	2.23	0.53
3:I:52:LEU:HD21	3:I:81:LYS:HZ2	1.73	0.53
3:I:81:LYS:HG3	3:I:82:ALA:N	2.23	0.53
2:B:937:C:H2'	2:B:938:G:H8	1.73	0.53
2:B:2700:A:H2'	2:B:2701:U:C6	2.43	0.53
20:J:44:TYR:O	20:J:45:THR:HB	2.09	0.53
28:R:7:SER:HB2	28:R:22:LEU:CB	2.30	0.53
24:S:26:GLY:H	24:S:71:VAL:HG13	1.73	0.53
25:U:73:ASN:C	25:U:75:ALA:H	2.11	0.53
26:F:113:PHE:CZ	26:F:175:PRO:HB2	2.43	0.53
20:J:24:THR:HA	20:J:63:ALA:HB3	1.89	0.53
5:D:151:THR:CB	5:D:152:PRO:HD3	2.38	0.53
9:Y:26:LEU:HB2	9:Y:28:LEU:HG	1.90	0.53
7:P:91:VAL:CG2	7:P:96:LEU:HD21	2.38	0.53
4:C:94:LEU:HB2	4:C:100:ARG:CD	2.37	0.53
2:B:987:C:H2'	2:B:988:A:O4'	2.08	0.53
2:B:2756:U:C1'	2:B:2757:A:H5''	2.39	0.53
8:E:11:ALA:O	8:E:12:LEU:HD22	2.09	0.53
19:H:120:GLY:O	19:H:122:LEU:HD12	2.08	0.53
1:A:16:G:O2'	1:A:17:C:H5'	2.08	0.53
3:I:49:GLU:CG	3:I:54:ILE:HD11	2.39	0.53
2:B:909:A:H2'	2:B:912:C:H5	1.73	0.53
31:W:49:ASN:CB	31:W:60:ALA:HA	2.38	0.53
23:Q:30:VAL:CG1	23:Q:33:VAL:HG22	2.39	0.53
12:1:28:THR:O	12:1:29:LYS:HD2	2.08	0.53
31:W:9:THR:CG2	31:W:10:ARG:HH11	2.22	0.53
20:J:123:LYS:HG2	20:J:132:HIS:NE2	2.23	0.53
23:Q:105:PHE:O	23:Q:109:VAL:HG23	2.08	0.53
19:H:142:VAL:HG12	19:H:143:ILE:N	2.20	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:24:THR:HG23	17:M:34:LYS:HE3	1.90	0.53
17:M:34:LYS:HE2	17:M:99:GLY:HA2	1.89	0.53
5:D:168:GLU:O	5:D:170:VAL:HG22	2.09	0.53
2:B:592:A:H2'	2:B:593:U:C6	2.43	0.53
24:S:22:ASP:HA	24:S:25:ARG:NH1	2.23	0.53
21:N:106:ASP:OD1	21:N:108:ALA:HB3	2.08	0.53
11:4:23:ILE:HB	11:4:38:GLY:HA3	1.89	0.53
2:B:2405:G:H1'	2:B:2412:A:H61	1.73	0.53
4:C:94:LEU:HB2	4:C:100:ARG:HD3	1.89	0.53
31:W:21:GLY:HA3	31:W:33:GLY:HA2	1.91	0.53
2:B:2197:U:O2'	2:B:2198:A:H2'	2.08	0.53
2:B:1013:C:H2'	2:B:1014:A:C8	2.43	0.53
2:B:95:A:H4'	18:X:38:GLN:O	2.09	0.53
2:B:757:G:H2'	2:B:758:C:H5'	1.91	0.53
31:W:37:VAL:C	31:W:39:GLN:H	2.11	0.53
12:1:28:THR:C	12:1:30:PRO:HD3	2.29	0.53
2:B:2897:U:H2'	2:B:2898:U:C6	2.44	0.53
16:L:4:ASN:N	16:L:4:ASN:HD22	2.04	0.53
15:2:21:ARG:HH21	15:2:43:THR:CG2	2.21	0.53
25:U:62:ALA:O	25:U:63:ALA:HB3	2.09	0.53
3:I:18:ASN:N	3:I:19:PRO:CD	2.71	0.53
2:B:2868:A:H2'	2:B:2869:G:H8	1.73	0.53
2:B:2722:G:H4'	21:N:4:ARG:HB2	1.89	0.53
2:B:2834:G:H1'	2:B:2883:A:H61	1.74	0.53
19:H:83:LYS:NZ	19:H:83:LYS:HB3	2.24	0.53
9:Y:30:ARG:H	9:Y:30:ARG:HD3	1.74	0.53
2:B:950:G:H2'	2:B:951:C:C6	2.44	0.53
18:X:41:HIS:O	18:X:44:LYS:HB3	2.09	0.53
2:B:633:A:O5'	2:B:633:A:H8	1.91	0.53
2:B:1341:G:H2'	2:B:1397:U:O2'	2.07	0.53
2:B:1395:A:H4'	2:B:1397:U:C5	2.44	0.53
14:V:10:LYS:HG2	14:V:11:GLU:HG3	1.91	0.53
8:E:200:LEU:O	8:E:201:ALA:HB3	2.07	0.53
31:W:7:GLY:C	31:W:10:ARG:HH12	2.12	0.53
6:K:35:VAL:HG23	6:K:36:GLY:N	2.16	0.53
26:F:101:ARG:CZ	26:F:138:PRO:HB2	2.38	0.53
26:F:7:TYR:OH	26:F:29:ARG:HG3	2.08	0.53
13:3:21:PHE:CE1	13:3:58:ILE:HG12	2.43	0.53
1:A:95:U:H2'	1:A:96:G:C8	2.44	0.53
2:B:582:A:H2'	2:B:583:G:H8	1.74	0.53
2:B:1097:U:C2'	2:B:1098:A:H5'	2.37	0.53
3:I:75:ALA:HB2	3:I:112:LYS:HE2	1.89	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1009:A:P	20:J:39:LYS:HZ2	2.32	0.53
2:B:2360:G:H4'	16:L:61:LEU:HD11	1.91	0.53
2:B:2054:A:H2'	10:O:4:GLN:OE1	2.09	0.53
30:Z:31:PRO:HB2	30:Z:33:LEU:CD1	2.33	0.53
2:B:337:C:OP1	25:U:3:LYS:HG3	2.08	0.53
20:J:136:GLN:N	20:J:137:PRO:HD3	2.24	0.53
19:H:44:ILE:HG22	19:H:51:ARG:HH22	1.72	0.53
2:B:1405:U:H2'	2:B:1406:U:H6	1.74	0.53
5:D:13:ARG:HH12	7:P:74:GLN:NE2	2.06	0.53
2:B:2772:C:H2'	2:B:2773:C:H6	1.74	0.53
2:B:2339:C:H2'	2:B:2340:A:H8	1.72	0.53
2:B:1877:A:H2'	2:B:1878:G:H8	1.74	0.53
2:B:2700:A:H2'	2:B:2701:U:H6	1.72	0.53
2:B:1495:A:H2'	2:B:1496:A:C8	2.43	0.53
2:B:1156:A:H5''	35:B:3901:HOH:O	2.09	0.53
8:E:137:LYS:HE2	8:E:141:MET:SD	2.49	0.53
27:G:34:ARG:HH11	27:G:34:ARG:N	1.97	0.53
28:R:10:LYS:N	28:R:10:LYS:HD2	2.23	0.53
28:R:5:PHE:O	28:R:11:GLN:HA	2.07	0.53
19:H:9:VAL:HB	19:H:12:LEU:O	2.09	0.53
20:J:26:GLY:O	20:J:30:THR:HG22	2.09	0.53
2:B:646:U:H3'	2:B:647:G:C8	2.44	0.53
2:B:1444:G:H2'	2:B:1445:G:C8	2.43	0.53
2:B:1551:A:C3'	2:B:1552:A:H5''	2.39	0.53
27:G:116:LEU:HD23	27:G:121:THR:HA	1.91	0.53
2:B:21:A:H2'	2:B:22:C:C6	2.44	0.53
25:U:21:ARG:HD3	25:U:72:PHE:CD2	2.43	0.53
21:N:15:SER:O	21:N:18:GLN:HB2	2.09	0.53
25:U:23:LYS:HD2	25:U:23:LYS:N	2.23	0.53
12:1:40:PRO:O	12:1:43:ARG:HG2	2.09	0.53
2:B:1306:C:H2'	2:B:1307:A:H8	1.74	0.53
2:B:410:G:H5''	2:B:411:G:H5'	1.91	0.53
2:B:1661:G:O2'	2:B:1662:U:H5'	2.09	0.53
2:B:1541:C:H2'	2:B:1542:U:C6	2.43	0.53
2:B:40:U:H2'	2:B:41:C:C6	2.44	0.53
12:1:10:LEU:O	12:1:19:PHE:HB2	2.08	0.53
26:F:78:ILE:HA	26:F:82:TYR:CD2	2.44	0.53
16:L:3:LEU:O	16:L:5:THR:HG23	2.09	0.53
21:N:31:HIS:O	21:N:33:ILE:HG13	2.09	0.53
19:H:7:ASP:CG	19:H:8:LYS:H	2.09	0.53
20:J:127:GLY:O	20:J:128:ASN:HB2	2.08	0.53
29:T:2:ILE:HG12	29:T:3:ARG:H	1.73	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:3:7:ARG:HG3	13:3:7:ARG:HH11	1.74	0.53
2:B:673:C:H5''	8:E:76:PRO:HD2	1.90	0.53
27:G:123:GLU:HG2	27:G:124:CYS:N	2.23	0.53
2:B:2772:C:H2'	2:B:2773:C:C6	2.43	0.53
21:N:45:ARG:O	21:N:49:GLU:HG3	2.09	0.53
2:B:156:A:H2'	2:B:157:C:C6	2.43	0.53
15:2:33:ARG:HH21	15:2:33:ARG:HB2	1.74	0.53
2:B:2405:G:H1'	2:B:2412:A:N6	2.24	0.53
1:A:48:U:H2'	1:A:49:C:H6	1.74	0.53
2:B:2841:C:H2'	2:B:2842:G:H8	1.73	0.53
2:B:1633:G:O2'	2:B:1634:A:H5''	2.09	0.53
27:G:133:LYS:HD3	27:G:133:LYS:N	2.23	0.53
2:B:2643:G:H2'	2:B:2644:G:O4'	2.08	0.53
2:B:2852:G:H2'	2:B:2853:C:C6	2.44	0.53
12:1:26:LYS:HB2	12:1:52:LYS:NZ	2.24	0.53
2:B:2261:C:N4	31:W:10:ARG:HB3	2.24	0.53
19:H:115:VAL:O	19:H:133:GLN:HB3	2.09	0.53
2:B:1060:U:O2	2:B:1088:A:C8	2.62	0.53
31:W:43:LYS:HD2	31:W:79:ILE:HD11	1.90	0.53
2:B:144:A:H2'	2:B:145:C:C6	2.43	0.53
13:3:21:PHE:HE1	13:3:58:ILE:HG12	1.73	0.53
10:0:48:TYR:CG	10:0:49:ARG:N	2.77	0.53
2:B:2185:U:H2'	2:B:2186:G:H8	1.70	0.53
2:B:1443:U:H2'	2:B:1444:G:C8	2.43	0.53
2:B:2037:A:H2'	2:B:2038:G:C8	2.44	0.53
2:B:2183:A:H2'	2:B:2184:A:N7	2.23	0.53
2:B:825:A:O2'	16:L:54:GLN:HB3	2.09	0.53
2:B:937:C:H2'	2:B:938:G:C8	2.44	0.53
4:C:180:MET:HB3	4:C:267:VAL:HB	1.90	0.53
26:F:50:ASP:O	26:F:53:ALA:HB3	2.09	0.52
26:F:79:ARG:HE	26:F:79:ARG:N	2.07	0.52
2:B:1244:A:H5''	16:L:8:PRO:CD	2.36	0.52
8:E:28:VAL:O	8:E:32:VAL:HG13	2.09	0.52
2:B:2472:G:O6	2:B:2476:A:H4'	2.09	0.52
2:B:2286:G:H5'	2:B:2286:G:C8	2.44	0.52
2:B:2152:G:N3	2:B:2152:G:H2'	2.24	0.52
25:U:21:ARG:HD3	25:U:72:PHE:CG	2.44	0.52
20:J:35:ARG:HA	20:J:40:HIS:CD2	2.44	0.52
17:M:108:VAL:HG13	17:M:112:LEU:HB3	1.89	0.52
6:K:58:LEU:HD23	6:K:58:LEU:N	2.24	0.52
2:B:247:G:H4'	2:B:386:G:C5	2.44	0.52
3:I:23:VAL:HG23	3:I:24:GLY:N	2.24	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:17:ARG:HB2	6:K:45:GLU:HB3	1.90	0.52
4:C:170:TYR:HE2	4:C:184:GLU:HG2	1.73	0.52
20:J:96:ARG:NE	20:J:99:ARG:HD2	2.25	0.52
14:V:40:ILE:N	14:V:40:ILE:HD13	2.23	0.52
16:L:93:ASN:O	16:L:95:LEU:N	2.40	0.52
5:D:8:LYS:CD	5:D:197:THR:H	2.23	0.52
17:M:68:PHE:CG	17:M:69:PRO:HD2	2.44	0.52
2:B:1723:G:H3'	2:B:1724:G:H8	1.74	0.52
2:B:2800:A:H2'	2:B:2801:G:O4'	2.10	0.52
2:B:1582:C:H2'	2:B:1583:A:O4'	2.08	0.52
2:B:96:C:H4'	18:X:41:HIS:CE1	2.43	0.52
2:B:64:A:H2'	2:B:65:U:C6	2.44	0.52
2:B:1332:G:H2'	2:B:1332:G:N3	2.25	0.52
2:B:2626:C:O2'	2:B:2627:G:H5'	2.09	0.52
2:B:903:C:H2'	2:B:904:G:C8	2.43	0.52
31:W:49:ASN:HB2	31:W:61:LYS:N	2.22	0.52
2:B:2598:A:H5''	4:C:233:GLY:CA	2.38	0.52
2:B:141:G:C6	29:T:2:ILE:HG21	2.44	0.52
1:A:43:C:H1'	26:F:91:ARG:NH2	2.23	0.52
26:F:34:THR:HA	26:F:89:THR:HA	1.90	0.52
1:A:32:U:H1'	1:A:52:A:N7	2.25	0.52
2:B:2186:G:H2'	2:B:2187:U:O4'	2.08	0.52
2:B:1805:A:H5''	4:C:247:TRP:CE2	2.45	0.52
7:P:56:SER:O	7:P:74:GLN:HA	2.10	0.52
4:C:221:GLY:C	4:C:223:ALA:H	2.13	0.52
2:B:1816:C:H3'	4:C:61:TYR:CE2	2.45	0.52
3:I:23:VAL:HG23	3:I:24:GLY:H	1.73	0.52
17:M:63:ILE:N	17:M:63:ILE:HD12	2.24	0.52
27:G:95:ALA:HB2	27:G:130:ILE:HD11	1.90	0.52
7:P:77:SER:OG	7:P:79:VAL:HG22	2.09	0.52
8:E:1:MET:HB3	8:E:14:VAL:O	2.10	0.52
16:L:9:ALA:HB3	16:L:12:SER:OG	2.09	0.52
2:B:996:A:H4'	23:Q:91:ARG:HH11	1.74	0.52
10:O:21:LEU:HD12	24:S:19:LEU:O	2.09	0.52
2:B:26:G:H1'	2:B:514:A:H61	1.73	0.52
2:B:1140:C:H2'	2:B:1141:U:H5'	1.92	0.52
2:B:1381:G:H1'	2:B:1571:A:N1	2.25	0.52
2:B:363:G:H2'	2:B:364:C:C6	2.43	0.52
2:B:2849:U:H4'	2:B:2850:A:C5'	2.39	0.52
16:L:85:VAL:HG22	16:L:94:THR:CG2	2.38	0.52
15:2:33:ARG:HH21	15:2:33:ARG:CB	2.22	0.52
2:B:1827:U:C2'	2:B:1828:G:H5'	2.39	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:60:C:H2'	1:A:61:G:C8	2.45	0.52
1:A:49:C:H2'	1:A:50:A:C8	2.44	0.52
2:B:1164:C:H2'	2:B:1165:A:C8	2.45	0.52
13:3:39:ARG:O	13:3:43:LEU:HG	2.10	0.52
1:A:30:C:H2'	1:A:31:C:H5'	1.91	0.52
2:B:2666:C:O4'	2:B:2666:C:O2	2.25	0.52
2:B:1742:U:H2'	2:B:1743:G:C8	2.45	0.52
2:B:1292:G:H2'	2:B:1293:C:C6	2.44	0.52
16:L:115:GLU:OE1	16:L:115:GLU:N	2.42	0.52
16:L:79:LEU:HB2	16:L:113:ALA:N	2.13	0.52
26:F:3:LEU:HB2	26:F:100:GLU:OE1	2.10	0.52
29:T:1:MET:HB2	29:T:2:ILE:HD13	1.91	0.52
5:D:149:ASN:O	5:D:152:PRO:HD2	2.08	0.52
2:B:1560:G:H2'	2:B:1561:C:H6	1.72	0.52
11:4:2:LYS:HG2	11:4:4:ARG:HG3	1.92	0.52
2:B:1656:C:H2'	2:B:1657:U:C6	2.44	0.52
2:B:608:A:H2'	2:B:609:A:C8	2.44	0.52
2:B:2838:G:H2'	2:B:2839:G:H8	1.74	0.52
1:A:86:G:H2'	1:A:87:U:O4'	2.10	0.52
2:B:503:A:H5''	2:B:505:A:OP1	2.10	0.52
2:B:1159:U:O2'	2:B:1160:G:H5'	2.08	0.52
2:B:2210:U:N3	2:B:2212:A:N7	2.57	0.52
30:Z:76:GLU:HG3	30:Z:77:LYS:H	1.75	0.52
4:C:179:GLU:HG3	4:C:269:ARG:HA	1.92	0.52
20:J:17:VAL:HG22	20:J:55:ILE:HD11	1.90	0.52
29:T:87:LEU:HB2	29:T:91:GLN:HG2	1.91	0.52
23:Q:105:PHE:HA	23:Q:108:LEU:HG	1.91	0.52
24:S:48:LYS:HE2	24:S:52:GLU:OE1	2.10	0.52
6:K:99:ILE:HD13	6:K:118:LEU:HD13	1.92	0.52
26:F:107:VAL:N	26:F:108:PRO:CD	2.71	0.52
2:B:1349:C:H2'	2:B:1350:C:H6	1.74	0.52
14:V:42:LEU:N	14:V:42:LEU:HD23	2.24	0.52
8:E:173:THR:C	8:E:175:ILE:H	2.13	0.52
29:T:68:LYS:O	29:T:69:ARG:CB	2.58	0.52
29:T:68:LYS:O	29:T:69:ARG:HB3	2.10	0.52
7:P:88:ARG:HB2	7:P:112:ARG:CZ	2.40	0.52
2:B:1849:G:H2'	2:B:1850:G:C8	2.44	0.52
20:J:13:ARG:O	20:J:14:ASP:HB2	2.09	0.52
26:F:19:PHE:CZ	26:F:164:GLU:HA	2.44	0.52
2:B:151:C:H2'	2:B:152:A:H8	1.74	0.52
17:M:55:ARG:HH21	17:M:55:ARG:HA	1.74	0.52
22:O:28:VAL:HG11	22:O:92:PHE:CZ	2.45	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:76:G:O2'	1:A:77:U:H5'	2.10	0.52
23:Q:111:LYS:HZ2	28:R:48:LYS:HD2	1.73	0.52
20:J:81:ILE:HG23	20:J:82:GLY:N	2.19	0.52
15:2:42:LEU:O	15:2:43:THR:HG23	2.10	0.52
27:G:16:VAL:HG11	27:G:44:HIS:CE1	2.45	0.52
27:G:9:VAL:H	27:G:48:THR:HB	1.74	0.52
2:B:1654:A:H2'	2:B:1655:A:C8	2.44	0.52
5:D:118:PHE:HE2	21:N:1:MET:SD	2.32	0.52
2:B:1993:U:H4'	5:D:133:THR:HG21	1.90	0.52
2:B:1728:C:O2'	2:B:1729:U:H5'	2.09	0.52
27:G:39:ALA:C	27:G:54:ARG:HB2	2.30	0.52
2:B:1923:U:H2'	2:B:1924:C:C6	2.45	0.52
2:B:1957:C:H2'	2:B:1958:C:C6	2.44	0.52
2:B:1682:G:H2'	2:B:1683:U:C6	2.44	0.52
2:B:2455:G:H2'	2:B:2456:C:C6	2.44	0.52
2:B:2025:C:H5'	5:D:154:LYS:NZ	2.25	0.52
2:B:1831:G:H2'	2:B:1832:C:C6	2.43	0.52
19:H:121:VAL:HG21	19:H:128:HIS:NE2	2.25	0.52
4:C:143:VAL:HG12	4:C:144:GLU:N	2.25	0.52
2:B:2895:G:H2'	2:B:2896:C:H6	1.74	0.52
29:T:54:GLU:HB3	29:T:88:LYS:HB2	1.92	0.52
24:S:58:ALA:CB	24:S:69:LEU:HD21	2.40	0.52
25:U:40:LEU:HB3	25:U:59:GLU:HG2	1.91	0.52
10:0:53:VAL:HG12	21:N:118:ARG:NH1	2.25	0.52
2:B:1386:C:H2'	2:B:1387:A:H8	1.72	0.52
2:B:1149:G:H2'	2:B:1150:C:H6	1.75	0.52
2:B:729:G:H2'	2:B:1775:U:H1'	1.91	0.52
2:B:165:A:H2'	2:B:166:U:C6	2.44	0.52
2:B:2341:G:H2'	2:B:2342:C:C6	2.45	0.52
2:B:2341:G:H2'	2:B:2342:C:H6	1.75	0.52
2:B:1747:U:H2'	2:B:1748:C:C6	2.45	0.52
2:B:2512:C:OP2	5:D:128:ARG:HD2	2.09	0.52
2:B:1749:A:H2'	2:B:1750:G:H8	1.75	0.52
1:A:38:C:H2'	1:A:39:A:O4'	2.10	0.52
5:D:32:ASN:HA	5:D:51:THR:O	2.09	0.52
23:Q:86:SER:HB3	28:R:52:PRO:HD3	1.92	0.52
20:J:55:ILE:HB	20:J:123:LYS:HB2	1.92	0.52
6:K:47:ILE:CG1	6:K:48:PRO:HD2	2.34	0.52
14:V:4:ILE:N	14:V:62:THR:O	2.43	0.52
5:D:113:SER:HB2	5:D:168:GLU:N	2.17	0.52
26:F:169:LEU:HA	26:F:172:PHE:HD2	1.75	0.52
2:B:364:C:H2'	2:B:365:U:C6	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:134:THR:HG22	17:M:136:MET:H	1.75	0.52
2:B:2037:A:H2'	2:B:2038:G:H8	1.73	0.52
2:B:329:G:H1	25:U:16:LYS:HG3	1.74	0.52
19:H:62:LEU:HD12	19:H:62:LEU:N	2.24	0.52
2:B:616:A:H4'	8:E:101:TYR:CE2	2.44	0.52
2:B:2720:U:H2'	2:B:2721:A:H8	1.74	0.52
2:B:1169:A:H2'	2:B:1170:C:H6	1.72	0.52
2:B:2651:C:O2'	2:B:2652:C:H5'	2.10	0.52
2:B:2892:G:H5''	2:B:2894:G:N2	2.25	0.52
31:W:28:GLU:H	31:W:31:LEU:HG	1.75	0.52
2:B:1747:U:H2'	2:B:1748:C:H6	1.75	0.52
2:B:1422:G:H1'	2:B:1495:A:H61	1.75	0.52
15:2:10:LEU:HD11	15:2:14:ARG:CZ	2.40	0.52
12:1:8:ILE:HG23	12:1:51:ALA:HA	1.92	0.52
8:E:166:LYS:O	8:E:167:VAL:HB	2.10	0.52
20:J:4:PHE:CG	20:J:5:THR:N	2.78	0.52
23:Q:94:LEU:C	23:Q:96:ASP:H	2.13	0.52
26:F:78:ILE:HG23	26:F:82:TYR:HB3	1.92	0.52
26:F:79:ARG:NE	26:F:82:TYR:HD2	2.07	0.52
19:H:75:LEU:HD21	19:H:105:ALA:HA	1.93	0.52
26:F:138:PRO:HA	26:F:142:TYR:CE2	2.45	0.52
20:J:56:VAL:HG12	20:J:57:LEU:N	2.25	0.52
2:B:1172:C:H2'	2:B:1172:C:O2	2.10	0.52
10:0:42:ILE:HG12	21:N:99:LYS:O	2.09	0.52
2:B:182:A:H2'	2:B:183:C:H6	1.74	0.52
27:G:96:ALA:HB3	27:G:103:ASN:HB3	1.92	0.52
2:B:2021:C:OP1	10:0:8:THR:HG21	2.10	0.52
28:R:54:VAL:HG22	28:R:55:ASP:OD2	2.10	0.52
2:B:322:A:C3'	8:E:163:ASN:HD21	2.23	0.52
2:B:2301:C:H2'	2:B:2302:U:C6	2.44	0.52
2:B:699:A:H2'	2:B:700:G:O4'	2.09	0.52
2:B:1676:A:H2'	2:B:1677:A:O4'	2.10	0.52
2:B:2825:G:H5''	2:B:2825:G:N3	2.25	0.52
2:B:2353:G:N3	31:W:30:VAL:HG13	2.26	0.51
31:W:9:THR:OG1	31:W:10:ARG:N	2.42	0.51
4:C:142:ASN:CG	4:C:142:ASN:O	2.48	0.51
7:P:3:ILE:HG23	7:P:4:ILE:HG13	1.92	0.51
19:H:40:THR:N	19:H:43:ASN:ND2	2.55	0.51
2:B:2849:U:N3	2:B:2867:G:C8	2.76	0.51
22:O:51:ALA:O	22:O:74:VAL:HG13	2.10	0.51
2:B:1805:A:N3	4:C:49:THR:CG2	2.74	0.51
2:B:616:A:H3'	2:B:617:G:C8	2.42	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:26:VAL:HG13	17:M:133:LYS:HA	1.92	0.51
5:D:69:ALA:CA	5:D:73:VAL:HB	2.40	0.51
2:B:2136:G:H3'	2:B:2137:U:H5	1.76	0.51
2:B:1847:A:H4'	2:B:1848:A:H8	1.75	0.51
2:B:132:G:O2'	2:B:133:U:H5'	2.10	0.51
2:B:322:A:C2'	8:E:163:ASN:HD21	2.23	0.51
2:B:1295:C:H2'	2:B:1296:G:C8	2.45	0.51
2:B:817:C:O2'	2:B:839:U:H5''	2.10	0.51
2:B:1220:G:H2'	2:B:1221:C:H6	1.74	0.51
2:B:1319:C:O2'	2:B:1320:C:H5'	2.09	0.51
2:B:1050:A:H2'	2:B:1051:G:H8	1.75	0.51
5:D:77:ARG:HB2	5:D:80:TRP:HH2	1.75	0.51
2:B:2052:A:OP1	5:D:145:SER:HA	2.09	0.51
28:R:62:GLU:O	28:R:96:VAL:HA	2.10	0.51
25:U:85:ARG:NE	25:U:85:ARG:HA	2.26	0.51
15:2:10:LEU:HD21	15:2:14:ARG:HH11	1.72	0.51
19:H:82:SER:HB3	19:H:92:GLY:O	2.09	0.51
2:B:1241:A:H2'	2:B:1242:U:H5'	1.92	0.51
16:L:3:LEU:O	16:L:5:THR:N	2.43	0.51
2:B:139:U:H5''	2:B:140:C:O4'	2.10	0.51
27:G:84:LYS:HB3	27:G:132:LEU:O	2.11	0.51
2:B:478:A:H5''	2:B:479:A:OP2	2.10	0.51
18:X:20:ASN:N	18:X:20:ASN:HD22	2.08	0.51
4:C:159:THR:O	4:C:194:VAL:HG12	2.11	0.51
9:Y:2:LYS:HG2	9:Y:3:THR:H	1.75	0.51
23:Q:35:PHE:HE1	23:Q:39:ILE:HD11	1.75	0.51
2:B:1220:G:H2'	2:B:1221:C:C6	2.45	0.51
2:B:2213:U:C2'	2:B:2213:U:O2	2.57	0.51
2:B:934:U:H2'	2:B:935:C:C6	2.45	0.51
5:D:111:GLY:H	5:D:194:PRO:HG2	1.75	0.51
2:B:438:G:H2'	2:B:439:A:C8	2.45	0.51
5:D:14:ILE:HG23	5:D:14:ILE:O	2.10	0.51
8:E:182:ALA:O	8:E:183:PHE:HB2	2.10	0.51
20:J:44:TYR:C	20:J:44:TYR:CD2	2.84	0.51
20:J:18:VAL:CG1	20:J:54:ILE:HD11	2.39	0.51
29:T:50:LEU:H	29:T:50:LEU:HD22	1.74	0.51
6:K:64:ARG:O	6:K:82:ASN:HA	2.10	0.51
2:B:274:C:H2'	2:B:275:C:O4'	2.11	0.51
2:B:919:U:H2'	2:B:920:A:H8	1.70	0.51
28:R:61:ALA:CB	28:R:98:ILE:HA	2.41	0.51
5:D:13:ARG:HH12	7:P:74:GLN:CD	2.14	0.51
2:B:1509:A:H4'	2:B:1510:G:H8	1.74	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:77:THR:HG22	19:H:79:THR:HG23	1.93	0.51
7:P:77:SER:O	7:P:80:VAL:HG12	2.10	0.51
2:B:767:U:O2'	2:B:768:G:H5'	2.10	0.51
2:B:84:A:P	25:U:5:ARG:HE	2.33	0.51
2:B:1083:U:H2'	2:B:1085:A:OP2	2.10	0.51
23:Q:59:LEU:O	23:Q:62:ALA:HB3	2.11	0.51
4:C:104:LEU:O	4:C:105:ALA:HB3	2.10	0.51
4:C:116:GLN:HG2	4:C:117:SER:N	2.25	0.51
23:Q:105:PHE:HA	23:Q:108:LEU:CD1	2.40	0.51
24:S:24:ILE:CG1	24:S:36:LEU:HD21	2.39	0.51
2:B:143:C:H6	2:B:143:C:O5'	1.94	0.51
1:A:55:U:H2'	1:A:56:G:H8	1.76	0.51
19:H:40:THR:O	19:H:42:LYS:N	2.39	0.51
2:B:305:C:H2'	2:B:306:U:C6	2.46	0.51
2:B:173:A:H2'	2:B:174:U:C6	2.45	0.51
2:B:2747:G:H2'	2:B:2748:A:C8	2.45	0.51
2:B:438:G:H2'	2:B:439:A:H8	1.74	0.51
2:B:1117:C:H2'	2:B:1118:C:H6	1.76	0.51
2:B:443:A:C8	8:E:40:ARG:HD3	2.45	0.51
2:B:1704:C:O2'	2:B:1705:A:H5'	2.09	0.51
4:C:222:THR:HA	4:C:231:HIS:O	2.10	0.51
2:B:2649:C:H2'	2:B:2650:U:H6	1.73	0.51
30:Z:64:ILE:CD1	30:Z:64:ILE:H	2.17	0.51
16:L:125:LEU:H	16:L:143:GLU:CG	2.24	0.51
16:L:141:LYS:NZ	16:L:143:GLU:HA	2.25	0.51
4:C:146:LYS:HB2	4:C:149:LYS:HB2	1.92	0.51
20:J:96:ARG:N	20:J:97:PRO:HD3	2.25	0.51
19:H:68:ARG:O	19:H:72:ILE:HG22	2.11	0.51
24:S:27:LYS:H	24:S:27:LYS:HD2	1.75	0.51
21:N:82:GLU:C	21:N:84:GLY:H	2.14	0.51
2:B:1287:A:N7	21:N:105:GLY:HA3	2.25	0.51
11:4:11:CYS:SG	11:4:13:ASN:HB2	2.50	0.51
27:G:88:LEU:HD13	27:G:93:TYR:HB3	1.92	0.51
4:C:6:LYS:C	4:C:8:THR:H	2.13	0.51
14:V:75:GLN:HG2	14:V:92:VAL:HB	1.92	0.51
8:E:109:LEU:O	8:E:112:LEU:HB2	2.10	0.51
24:S:66:ILE:HD13	24:S:66:ILE:N	2.20	0.51
2:B:674:G:O2'	8:E:60:TRP:HH2	1.94	0.51
26:F:37:MET:HE1	26:F:149:ARG:HD2	1.92	0.51
2:B:2589:A:H2'	2:B:2590:A:H8	1.75	0.51
16:L:93:ASN:ND2	16:L:94:THR:H	2.08	0.51
2:B:709:U:H2'	2:B:710:U:H6	1.72	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:418:C:H2'	2:B:419:U:C6	2.46	0.51
2:B:2241:A:H2'	2:B:2242:G:H8	1.76	0.51
2:B:827:U:H5'	2:B:828:U:O5'	2.11	0.51
16:L:46:VAL:HB	16:L:50:PHE:HD1	1.76	0.51
21:N:13:ASN:C	21:N:15:SER:H	2.14	0.51
14:V:76:ASP:CG	14:V:77:VAL:H	2.13	0.51
27:G:140:ILE:HD12	27:G:141:GLY:N	2.26	0.51
23:Q:18:LYS:C	23:Q:20:ALA:H	2.12	0.51
5:D:14:ILE:HG23	5:D:22:ILE:HB	1.91	0.51
5:D:104:VAL:HG13	5:D:106:LYS:HE2	1.92	0.51
23:Q:91:ARG:NE	28:R:11:GLN:H	2.09	0.51
21:N:77:ALA:O	21:N:81:ASN:HB2	2.11	0.51
15:2:43:THR:O	15:2:44:VAL:C	2.49	0.51
2:B:871:U:H4'	17:M:68:PHE:CE2	2.46	0.51
2:B:1418:G:H1'	2:B:1580:A:H61	1.75	0.51
4:C:71:ASP:OD2	4:C:118:GLY:HA2	2.11	0.51
26:F:71:LYS:HE2	26:F:73:VAL:HB	1.92	0.51
2:B:1582:C:H3'	2:B:1583:A:C2	2.45	0.51
4:C:93:VAL:HG13	4:C:94:LEU:N	2.26	0.51
2:B:1347:A:H2'	2:B:1348:C:O4'	2.11	0.51
2:B:1789:A:OP1	4:C:220:ARG:HD3	2.11	0.51
14:V:77:VAL:HA	14:V:89:ILE:HG22	1.91	0.51
2:B:2698:U:H2'	2:B:2699:C:C6	2.45	0.51
2:B:2704:C:H2'	2:B:2705:A:O4'	2.11	0.51
2:B:2707:U:H2'	2:B:2708:G:C8	2.46	0.51
5:D:61:THR:O	5:D:64:GLU:HB2	2.11	0.51
2:B:2344:U:H4'	2:B:2345:G:OP1	2.10	0.51
2:B:575:A:O2'	2:B:576:U:H5'	2.11	0.51
2:B:394:C:H2'	2:B:395:U:O4'	2.10	0.51
30:Z:5:CYS:O	30:Z:6:GLN:HB3	2.10	0.51
31:W:17:ALA:O	31:W:18:LYS:HD2	2.11	0.51
5:D:51:THR:HG22	5:D:52:THR:N	2.26	0.51
8:E:195:GLN:HA	8:E:198:GLU:CD	2.31	0.51
18:X:31:GLN:HB3	18:X:37:LEU:HD12	1.93	0.51
23:Q:111:LYS:NZ	28:R:50:GLY:HA2	2.26	0.51
4:C:185:ALA:C	4:C:187:CYS:H	2.14	0.51
17:M:21:ALA:CB	17:M:100:LYS:HG2	2.40	0.51
2:B:62:U:C2'	2:B:63:A:H5'	2.40	0.51
26:F:126:ASN:HD22	26:F:156:THR:CA	2.22	0.51
2:B:279:A:H2'	2:B:280:U:H5'	1.92	0.51
14:V:44:HIS:CE1	14:V:86:LEU:H	2.20	0.51
21:N:49:GLU:HA	21:N:94:TYR:HD2	1.75	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:78:LYS:CD	25:U:79:ALA:H	2.24	0.51
2:B:1353:A:H2'	2:B:1354:A:C8	2.45	0.51
2:B:1947:C:H2'	2:B:1948:G:C8	2.46	0.51
12:1:3:GLY:C	12:1:5:ARG:H	2.14	0.51
2:B:693:A:H2'	2:B:694:U:H6	1.75	0.51
2:B:912:C:H2'	2:B:913:U:C6	2.45	0.51
25:U:23:LYS:HD2	25:U:23:LYS:H	1.76	0.51
2:B:526:A:N6	2:B:2626:C:H4'	2.25	0.51
2:B:2648:G:H2'	2:B:2649:C:C6	2.45	0.51
31:W:32:ALA:C	31:W:34:SER:H	2.14	0.51
2:B:1054:A:H2'	2:B:1055:G:C8	2.46	0.51
6:K:109:SER:HB2	6:K:111:LYS:HE2	1.92	0.51
19:H:90:LEU:HD13	19:H:124:THR:O	2.11	0.51
16:L:82:LEU:HD23	16:L:90:VAL:HG21	1.92	0.51
4:C:106:PRO:O	4:C:109:LEU:HD13	2.10	0.51
20:J:102:GLU:HG3	20:J:124:VAL:HG11	1.93	0.51
29:T:10:VAL:HG21	29:T:42:GLU:HG3	1.93	0.51
3:I:79:LEU:HD11	3:I:131:THR:OG1	2.10	0.51
21:N:83:LEU:HA	21:N:86:ARG:HG3	1.91	0.51
20:J:25:LEU:HB2	20:J:62:VAL:CG2	2.40	0.51
5:D:92:VAL:O	5:D:94:GLN:N	2.44	0.51
3:I:17:ALA:O	3:I:18:ASN:CB	2.59	0.51
19:H:4:ILE:HD12	19:H:37:VAL:HG13	1.92	0.51
5:D:109:VAL:HG11	5:D:193:VAL:CB	2.39	0.51
21:N:49:GLU:HB2	21:N:50:PRO:HD3	1.93	0.51
17:M:40:ARG:HB2	17:M:93:VAL:HG21	1.92	0.51
2:B:2875:C:H2'	2:B:2876:G:C8	2.46	0.51
14:V:53:LYS:NZ	14:V:53:LYS:HA	2.25	0.51
5:D:159:LYS:O	5:D:161:MET:HG2	2.11	0.51
5:D:107:VAL:HA	5:D:204:LYS:O	2.11	0.51
29:T:11:LEU:HD11	29:T:46:ALA:HB3	1.93	0.51
4:C:102:TYR:O	4:C:103:ILE:HG13	2.11	0.51
4:C:90:ILE:HD13	4:C:103:ILE:O	2.11	0.51
4:C:109:LEU:H	4:C:109:LEU:CD2	2.24	0.51
17:M:35:ALA:HB3	17:M:100:LYS:H	1.74	0.51
6:K:79:PHE:HZ	6:K:104:THR:HG23	1.76	0.51
26:F:21:TYR:HD2	26:F:27:VAL:HG12	1.76	0.51
2:B:279:A:H2'	2:B:280:U:C5'	2.41	0.51
27:G:104:LEU:O	27:G:111:PRO:HA	2.11	0.51
2:B:1407:G:H2'	2:B:1408:G:H8	1.74	0.51
2:B:1804:C:OP1	4:C:256:THR:HB	2.11	0.51
2:B:1736:U:H2'	2:B:1737:G:O4'	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:89:GLY:HA2	7:P:111:GLU:HA	1.93	0.51
2:B:2450:A:O2'	2:B:2451:A:H5'	2.11	0.51
3:I:124:MET:O	3:I:128:ILE:HG12	2.11	0.51
4:C:75:ALA:HB2	4:C:95:TYR:HA	1.93	0.51
2:B:152:A:H2'	2:B:153:U:C6	2.45	0.51
2:B:1957:C:H2'	2:B:1958:C:H6	1.76	0.51
2:B:2611:C:O2'	2:B:2612:C:H5'	2.10	0.51
11:4:15:LYS:O	11:4:16:ILE:HB	2.10	0.51
2:B:1939:U:H6	2:B:1939:U:H5'	1.75	0.51
2:B:338:G:N2	2:B:339:U:H1'	2.25	0.51
12:1:26:LYS:HB2	12:1:52:LYS:HZ2	1.76	0.51
19:H:80:ILE:HD11	19:H:102:ALA:HB3	1.91	0.51
2:B:78:U:H2'	2:B:79:C:H6	1.76	0.51
5:D:113:SER:HB3	5:D:167:ASN:H	1.76	0.51
2:B:1244:A:O2'	2:B:1245:G:H5'	2.10	0.51
26:F:102:LEU:HA	26:F:106:ALA:HB3	1.92	0.51
2:B:161:A:C3'	2:B:162:U:H5''	2.38	0.51
5:D:34:VAL:HG12	5:D:94:GLN:H	1.75	0.51
19:H:44:ILE:C	19:H:46:PHE:H	2.13	0.51
2:B:674:G:O2'	8:E:60:TRP:CH2	2.63	0.51
2:B:1484:U:H2'	2:B:1485:U:H6	1.76	0.51
16:L:55:MET:HE2	16:L:56:PRO:HD2	1.93	0.51
2:B:329:G:H1	25:U:16:LYS:NZ	2.09	0.51
2:B:2329:U:H2'	2:B:2330:G:H8	1.75	0.51
2:B:962:G:H21	2:B:2250:G:N2	2.08	0.51
2:B:2292:U:H2'	2:B:2293:G:C8	2.46	0.51
1:A:50:A:OP1	22:O:68:LYS:HB2	2.11	0.51
1:A:11:C:H5''	31:W:71:LYS:HE3	1.93	0.51
27:G:176:LYS:O	27:G:176:LYS:HE2	2.10	0.51
1:A:91:C:H2'	1:A:92:C:H6	1.76	0.51
14:V:51:GLN:HA	14:V:56:PHE:CG	2.46	0.51
4:C:32:LEU:O	4:C:33:LEU:HD23	2.11	0.51
2:B:2710:C:H2'	2:B:2711:A:H8	1.75	0.51
2:B:1902:C:H4'	4:C:241:LYS:O	2.11	0.51
17:M:6:ARG:O	17:M:7:THR:HG23	2.10	0.51
28:R:39:LEU:O	28:R:40:MET:HB2	2.12	0.50
23:Q:111:LYS:HZ3	28:R:50:GLY:HA2	1.76	0.50
2:B:588:U:H1'	8:E:85:PHE:CG	2.46	0.50
6:K:11:ALA:HB3	6:K:85:VAL:CG2	2.41	0.50
2:B:558:U:O2'	2:B:559:G:H5'	2.11	0.50
26:F:101:ARG:HA	26:F:105:ILE:HD12	1.93	0.50
13:3:49:VAL:CG2	13:3:54:LEU:HD13	2.38	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:V:29:ILE:HG13	14:V:88:HIS:HE1	1.75	0.50
2:B:2393:U:O2'	2:B:2394:C:H5'	2.11	0.50
7:P:26:GLU:O	7:P:28:LYS:HE2	2.10	0.50
2:B:988:A:C8	9:Y:13:ILE:HD12	2.46	0.50
5:D:7:LYS:CE	5:D:198:GLY:HA2	2.41	0.50
2:B:1422:G:C1'	2:B:1495:A:H61	2.24	0.50
2:B:1774:C:H2'	2:B:1774:C:O2	2.11	0.50
2:B:234:U:H2'	2:B:235:U:H6	1.76	0.50
2:B:1640:A:O2'	2:B:1641:A:H5'	2.11	0.50
17:M:59:ARG:NH1	17:M:60:GLN:HB3	2.13	0.50
6:K:19:VAL:HB	6:K:41:ILE:CG1	2.41	0.50
26:F:108:PRO:O	26:F:110:ILE:HG23	2.11	0.50
9:Y:8:GLN:CG	9:Y:31:ILE:HA	2.37	0.50
26:F:32:LYS:HE2	26:F:34:THR:HG22	1.93	0.50
2:B:2886:A:H3'	2:B:2887:A:H8	1.75	0.50
2:B:2722:G:H2'	2:B:2723:C:C6	2.46	0.50
19:H:83:LYS:HZ2	19:H:83:LYS:HB3	1.75	0.50
18:X:12:GLU:CA	18:X:15:ASN:HD21	2.23	0.50
2:B:2801:G:H2'	2:B:2802:G:H8	1.73	0.50
28:R:1:MET:HA	28:R:42:ALA:HB3	1.92	0.50
2:B:1790:C:O2'	4:C:207:ALA:HB2	2.09	0.50
2:B:1117:C:H2'	2:B:1118:C:C6	2.46	0.50
2:B:997:G:O2'	2:B:998:C:H5'	2.11	0.50
1:A:35:C:O2	1:A:35:C:H3'	2.11	0.50
2:B:2281:A:O2'	2:B:2282:G:H5'	2.11	0.50
28:R:3:ALA:O	28:R:4:VAL:HG13	2.12	0.50
29:T:57:VAL:HG13	29:T:58:VAL:N	2.27	0.50
21:N:70:THR:HB	21:N:75:ILE:HD11	1.94	0.50
14:V:4:ILE:HG22	14:V:63:ILE:HG23	1.94	0.50
26:F:64:PRO:HA	26:F:88:VAL:HG21	1.94	0.50
27:G:93:TYR:C	27:G:94:ARG:HG3	2.32	0.50
23:Q:77:LYS:HA	23:Q:80:ASN:HB3	1.93	0.50
2:B:1729:U:H2'	2:B:1730:C:C4'	2.41	0.50
2:B:2449:U:H4'	2:B:2450:A:OP1	2.11	0.50
2:B:815:C:OP2	28:R:85:LYS:HE2	2.12	0.50
8:E:34:ALA:CB	8:E:96:VAL:HG21	2.41	0.50
2:B:612:G:H2'	2:B:614:A:H5''	1.93	0.50
2:B:1199:U:H2'	2:B:1200:C:C6	2.46	0.50
2:B:958:U:H3	17:M:16:ARG:HB3	1.77	0.50
2:B:598:U:H2'	2:B:599:A:H8	1.76	0.50
2:B:1824:G:O2'	2:B:1825:U:H5'	2.11	0.50
20:J:72:LYS:CG	20:J:89:PHE:HB2	2.41	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:186:LEU:HD21	7:P:7:LEU:HD22	1.93	0.50
6:K:71:ARG:HA	6:K:71:ARG:HE	1.76	0.50
3:I:125:THR:O	3:I:129:GLU:HG3	2.11	0.50
7:P:112:ARG:O	7:P:113:LEU:HB3	2.11	0.50
20:J:11:VAL:HG13	20:J:50:THR:HG22	1.92	0.50
2:B:2537:U:H2'	2:B:2538:C:H6	1.76	0.50
2:B:854:C:O2'	2:B:855:G:H5'	2.12	0.50
2:B:1799:G:OP2	4:C:269:ARG:NH2	2.45	0.50
4:C:90:ILE:CD1	4:C:102:TYR:HB3	2.41	0.50
20:J:98:GLU:HG3	20:J:124:VAL:HB	1.93	0.50
20:J:124:VAL:HG23	20:J:125:TYR:H	1.77	0.50
6:K:87:LEU:HD12	6:K:92:GLU:HA	1.93	0.50
21:N:24:MET:HE1	21:N:40:LYS:O	2.10	0.50
21:N:72:ASP:C	21:N:74:GLU:H	2.15	0.50
22:O:58:ILE:O	22:O:62:LEU:HB2	2.11	0.50
5:D:121:THR:C	5:D:123:LYS:H	2.15	0.50
28:R:15:SER:H	28:R:18:GLN:CD	2.14	0.50
2:B:719:C:O2'	2:B:720:U:H5'	2.11	0.50
2:B:2393:U:H4'	16:L:59:ARG:O	2.11	0.50
2:B:2795:C:H2'	2:B:2796:U:C1'	2.41	0.50
29:T:69:ARG:HG2	29:T:73:ARG:O	2.12	0.50
26:F:71:LYS:HG2	26:F:73:VAL:H	1.76	0.50
25:U:41:VAL:HG22	25:U:60:LYS:O	2.11	0.50
27:G:142:GLN:HG3	27:G:146:ASP:OD2	2.12	0.50
2:B:2523:G:O2'	2:B:2524:G:H5'	2.10	0.50
7:P:107:ALA:O	7:P:108:ARG:C	2.50	0.50
1:A:22:U:H2'	1:A:23:G:C8	2.46	0.50
2:B:1528:A:H2'	2:B:1529:G:O4'	2.11	0.50
2:B:2365:G:O2'	31:W:59:PHE:HE1	1.95	0.50
31:W:59:PHE:O	31:W:60:ALA:HB3	2.11	0.50
27:G:17:LYS:HA	27:G:17:LYS:NZ	2.25	0.50
27:G:17:LYS:NZ	27:G:18:ILE:H	2.04	0.50
20:J:125:TYR:HH	20:J:132:HIS:CE1	2.30	0.50
2:B:1599:U:H2'	2:B:1600:C:H6	1.77	0.50
29:T:39:THR:O	29:T:40:LYS:HB2	2.10	0.50
2:B:513:A:H8	2:B:513:A:O5'	1.94	0.50
2:B:2615:U:C2	10:O:3:GLN:HA	2.46	0.50
2:B:1853:A:N1	2:B:2087:G:H1'	2.26	0.50
24:S:22:ASP:HA	24:S:25:ARG:HH11	1.76	0.50
2:B:1401:G:H2'	2:B:1402:U:C6	2.46	0.50
2:B:2840:C:H2'	2:B:2841:C:H6	1.75	0.50
29:T:7:LEU:O	29:T:7:LEU:HD13	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1100:C:H2'	2:B:1101:U:H6	1.76	0.50
25:U:19:GLY:O	25:U:20:LYS:HD3	2.11	0.50
2:B:1545:A:H2'	2:B:1546:G:O4'	2.11	0.50
31:W:37:VAL:CG1	31:W:38:ARG:H	2.18	0.50
2:B:1458:U:C5'	2:B:1459:G:H5'	2.30	0.50
13:3:14:LYS:HD2	13:3:14:LYS:O	2.11	0.50
8:E:109:LEU:HD12	8:E:112:LEU:HD12	1.92	0.50
20:J:116:ARG:O	20:J:120:ARG:HG2	2.11	0.50
1:A:109:A:H2'	1:A:110:C:H6	1.71	0.50
2:B:813:U:H2'	2:B:814:C:C6	2.47	0.50
8:E:98:LYS:O	8:E:102:ARG:HG2	2.10	0.50
30:Z:21:ALA:HB3	30:Z:23:ASN:HD21	1.77	0.50
2:B:1534:U:H2'	2:B:1536:C:C5	2.47	0.50
1:A:90:C:OP1	17:M:16:ARG:HB2	2.12	0.50
2:B:41:C:O2'	2:B:42:A:H5'	2.11	0.50
2:B:2654:A:N1	2:B:2665:A:H5''	2.26	0.50
2:B:1640:A:H2'	2:B:1641:A:C8	2.47	0.50
20:J:101:ILE:O	20:J:105:VAL:HG22	2.11	0.50
4:C:210:ALA:O	4:C:215:VAL:HB	2.12	0.50
23:Q:26:ALA:HB1	23:Q:30:VAL:CG1	2.42	0.50
19:H:99:ILE:C	19:H:101:ASP:H	2.16	0.50
28:R:3:ALA:O	28:R:13:ARG:HA	2.12	0.50
29:T:10:VAL:HG11	29:T:43:ILE:HG13	1.93	0.50
29:T:13:ALA:O	29:T:32:LEU:HB2	2.12	0.50
29:T:54:GLU:HG3	29:T:90:GLY:N	2.25	0.50
29:T:81:LYS:HG3	29:T:82:LYS:N	2.26	0.50
16:L:42:SER:C	16:L:44:GLY:H	2.14	0.50
3:I:122:GLU:CD	3:I:122:GLU:H	2.15	0.50
3:I:29:GLN:HA	3:I:29:GLN:HE21	1.76	0.50
14:V:80:HIS:HA	14:V:87:GLN:OE1	2.11	0.50
2:B:2466:C:OP1	11:4:4:ARG:HB3	2.12	0.50
5:D:8:LYS:HB2	5:D:201:LEU:HD11	1.94	0.50
2:B:197:A:H62	2:B:2430:A:H2'	1.75	0.50
26:F:134:GLN:C	26:F:136:ILE:H	2.15	0.50
17:M:131:VAL:HG12	17:M:132:THR:H	1.76	0.50
2:B:303:G:H2'	2:B:304:U:C6	2.47	0.50
20:J:73:VAL:HG23	20:J:74:TYR:H	1.76	0.50
29:T:21:SER:O	29:T:25:GLU:HB2	2.11	0.50
2:B:1056:G:H4'	2:B:1086:A:H8	1.77	0.50
27:G:106:LEU:O	27:G:108:PHE:N	2.44	0.50
13:3:49:VAL:O	13:3:51:LYS:N	2.44	0.50
5:D:116:LYS:HB3	5:D:118:PHE:CZ	2.47	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1778:U:H2'	2:B:1784:A:N6	2.27	0.50
22:O:15:ARG:NH2	22:O:95:SER:HB3	2.23	0.50
23:Q:65:ASN:CB	23:Q:75:TYR:HB2	2.41	0.50
4:C:75:ALA:CB	4:C:93:VAL:HG22	2.42	0.50
22:O:28:VAL:HG21	22:O:106:LEU:HD21	1.93	0.50
2:B:1674:G:N2	2:B:1677:A:N1	2.60	0.50
2:B:2052:A:O4'	5:D:147:GLY:HA3	2.12	0.50
4:C:12:ARG:HA	4:C:15:VAL:HG23	1.94	0.50
19:H:124:THR:O	19:H:125:THR:CB	2.59	0.49
20:J:42:ALA:O	20:J:44:TYR:N	2.45	0.49
29:T:82:LYS:HD2	29:T:84:TYR:CE1	2.43	0.49
2:B:2734:A:C2'	2:B:2735:G:H5'	2.39	0.49
26:F:135:ILE:HG13	26:F:137:PHE:H	1.77	0.49
17:M:18:ARG:C	17:M:38:ARG:HH22	2.15	0.49
2:B:784:G:H5''	4:C:225:ASN:OD1	2.13	0.49
2:B:477:A:H2'	2:B:478:A:C8	2.47	0.49
2:B:1355:G:O2'	2:B:1356:G:H5'	2.12	0.49
23:Q:4:LYS:HZ3	23:Q:7:VAL:HG22	1.76	0.49
4:C:74:PRO:HG2	4:C:96:LYS:HG2	1.93	0.49
2:B:2893:A:H4'	2:B:2894:G:C5'	2.42	0.49
2:B:2076:U:O2	2:B:2076:U:O4'	2.30	0.49
2:B:1213:A:C6	2:B:1237:A:H1'	2.47	0.49
30:Z:71:LEU:O	30:Z:74:ARG:HG2	2.12	0.49
2:B:2352:A:C6	31:W:30:VAL:HG11	2.47	0.49
5:D:101:PHE:HE2	5:D:205:PRO:HD3	1.78	0.49
23:Q:23:TYR:HB3	23:Q:27:ARG:HB3	1.94	0.49
19:H:144:VAL:HG12	19:H:146:VAL:HG23	1.94	0.49
4:C:107:LYS:HD3	4:C:193:GLU:HB2	1.92	0.49
26:F:87:LYS:HG3	26:F:88:VAL:N	2.20	0.49
2:B:1175:A:C5	2:B:1176:U:H1'	2.47	0.49
27:G:93:TYR:O	27:G:94:ARG:HG3	2.11	0.49
2:B:1560:G:H2'	2:B:1561:C:C6	2.46	0.49
2:B:1487:U:H2'	2:B:1488:C:C6	2.47	0.49
27:G:84:LYS:HG3	27:G:131:VAL:CA	2.42	0.49
25:U:81:ARG:HB2	25:U:96:LYS:HG2	1.93	0.49
2:B:946:C:H2'	2:B:947:A:C8	2.48	0.49
19:H:73:ASN:HD22	19:H:73:ASN:N	2.10	0.49
6:K:2:ILE:HA	6:K:33:ALA:H	1.77	0.49
2:B:1714:U:H3'	2:B:1715:G:C5'	2.42	0.49
2:B:855:G:N3	31:W:23:LYS:HE3	2.27	0.49
2:B:2260:C:H2'	2:B:2261:C:H6	1.77	0.49
18:X:39:GLN:HB2	18:X:42:LEU:HD22	1.93	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:151:GLY:C	4:C:152:GLN:HG3	2.31	0.49
29:T:15:HIS:HB3	29:T:31:VAL:HG23	1.94	0.49
24:S:36:LEU:HD22	24:S:36:LEU:N	2.27	0.49
21:N:114:GLU:HG2	21:N:115:LEU:N	2.27	0.49
21:N:25:ALA:O	21:N:29:VAL:HG23	2.11	0.49
21:N:83:LEU:HA	21:N:86:ARG:CB	2.42	0.49
26:F:106:ALA:HA	26:F:135:ILE:CD1	2.41	0.49
26:F:168:LEU:O	26:F:169:LEU:HB2	2.13	0.49
26:F:1:ALA:O	26:F:4:HIS:HB3	2.13	0.49
7:P:110:LYS:HD2	7:P:110:LYS:N	2.23	0.49
2:B:545:U:C5	2:B:547:A:H5'	2.47	0.49
19:H:4:ILE:HD12	19:H:37:VAL:O	2.11	0.49
19:H:4:ILE:HG12	19:H:44:ILE:HG23	1.93	0.49
2:B:1434:A:H62	2:B:1558:C:H42	1.58	0.49
5:D:124:ARG:O	5:D:124:ARG:HG3	2.11	0.49
28:R:14:VAL:HG22	28:R:15:SER:N	2.27	0.49
8:E:70:SER:HB2	8:E:78:TRP:CZ2	2.48	0.49
27:G:85:LYS:HA	27:G:131:VAL:HG12	1.94	0.49
25:U:21:ARG:HG3	25:U:21:ARG:HH11	1.76	0.49
17:M:31:PHE:HB3	17:M:130:PHE:CZ	2.48	0.49
2:B:528:A:N1	2:B:2042:A:H2'	2.28	0.49
22:O:75:GLY:HA3	22:O:106:LEU:HA	1.94	0.49
2:B:1219:U:H2'	2:B:1220:G:H8	1.77	0.49
4:C:53:ILE:O	4:C:53:ILE:HG23	2.11	0.49
5:D:40:LEU:HD12	5:D:41:ALA:N	2.28	0.49
2:B:696:G:O2'	2:B:697:G:H5'	2.12	0.49
2:B:2691:C:H2'	2:B:2692:G:H8	1.78	0.49
2:B:2269:G:H4'	31:W:19:ARG:HH12	1.78	0.49
31:W:39:GLN:HG3	31:W:42:THR:H	1.77	0.49
7:P:47:ILE:HG13	7:P:48:ALA:H	1.77	0.49
27:G:17:LYS:HB3	27:G:24:THR:N	2.17	0.49
20:J:44:TYR:CD2	23:Q:59:LEU:HD11	2.47	0.49
30:Z:53:ALA:O	30:Z:54:LYS:HB3	2.12	0.49
4:C:117:SER:CB	4:C:128:THR:HB	2.43	0.49
26:F:42:ALA:O	26:F:43:ILE:C	2.51	0.49
25:U:73:ASN:HD22	25:U:74:ALA:N	2.10	0.49
26:F:2:LYS:HE3	26:F:97:GLU:HA	1.94	0.49
2:B:1570:A:H2'	2:B:1571:A:C8	2.47	0.49
26:F:35:LEU:CD2	26:F:153:ILE:HG12	2.42	0.49
2:B:362:A:H3'	2:B:363:G:H8	1.76	0.49
2:B:705:A:H61	2:B:726:G:H1'	1.78	0.49
4:C:243:PRO:O	4:C:250:GLN:HA	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2498:C:H3'	35:B:4002:HOH:O	2.12	0.49
2:B:1482:G:H2'	2:B:1483:G:H8	1.77	0.49
17:M:126:ILE:N	17:M:126:ILE:HD12	2.27	0.49
16:L:129:LYS:HA	16:L:132:ARG:HG2	1.93	0.49
13:3:41:ARG:HG3	13:3:44:ARG:HH22	1.76	0.49
13:3:41:ARG:HG3	13:3:44:ARG:NH2	2.26	0.49
2:B:814:C:H2'	2:B:815:C:H6	1.77	0.49
2:B:414:C:H2'	2:B:415:A:H8	1.78	0.49
2:B:540:C:H2'	2:B:541:A:H8	1.76	0.49
22:O:28:VAL:HG13	22:O:28:VAL:O	2.13	0.49
2:B:1683:U:H2'	2:B:1684:G:C8	2.47	0.49
2:B:2081:U:OP1	30:Z:19:SER:HB3	2.13	0.49
2:B:1161:C:H2'	2:B:1162:G:H8	1.77	0.49
20:J:34:ARG:HH11	20:J:34:ARG:HG3	1.76	0.49
2:B:337:C:H2'	2:B:338:G:O4'	2.12	0.49
2:B:857:G:O2'	2:B:858:G:H5'	2.12	0.49
23:Q:26:ALA:HB1	23:Q:30:VAL:HG11	1.94	0.49
26:F:84:ILE:HG22	26:F:84:ILE:O	2.12	0.49
22:O:26:LEU:HD13	22:O:39:VAL:HG23	1.94	0.49
7:P:6:GLN:HA	7:P:9:GLN:CD	2.33	0.49
2:B:2732:G:H5'	2:B:2733:A:O4'	2.13	0.49
2:B:1023:U:H2'	2:B:1024:G:H5'	1.93	0.49
27:G:10:VAL:O	27:G:10:VAL:HG12	2.12	0.49
7:P:74:GLN:O	7:P:76:HIS:N	2.45	0.49
2:B:3:U:O2'	2:B:4:U:C6	2.63	0.49
2:B:873:C:H2'	2:B:874:G:C8	2.47	0.49
2:B:2155:U:H2'	2:B:2156:G:H8	1.76	0.49
2:B:118:A:N3	2:B:178:G:H1'	2.27	0.49
27:G:154:GLU:C	27:G:156:TYR:H	2.15	0.49
4:C:93:VAL:HG12	4:C:101:ARG:O	2.13	0.49
2:B:2247:A:O2'	2:B:2248:C:H5'	2.11	0.49
2:B:2757:A:N3	2:B:2757:A:H2'	2.28	0.49
19:H:122:LEU:H	19:H:122:LEU:HD12	1.77	0.49
2:B:1683:U:H2'	2:B:1684:G:H8	1.78	0.49
4:C:12:ARG:O	4:C:12:ARG:HD3	2.13	0.49
19:H:149:GLU:HG3	19:H:149:GLU:O	2.11	0.49
23:Q:79:ILE:O	23:Q:79:ILE:HD13	2.11	0.49
2:B:1258:U:H2'	2:B:1259:G:H8	1.78	0.49
2:B:820:A:H2'	2:B:821:A:O4'	2.12	0.49
2:B:996:A:H4'	23:Q:91:ARG:HG2	1.94	0.49
8:E:181:ILE:HG12	16:L:2:ARG:N	2.27	0.49
6:K:71:ARG:HB3	6:K:72:PRO:HD2	1.95	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:F:174:PHE:HB3	26:F:176:PHE:CD1	2.48	0.49
22:O:51:ALA:HB3	22:O:78:VAL:CG2	2.38	0.49
3:I:62:ALA:C	3:I:64:ARG:H	2.15	0.49
2:B:454:A:H4'	2:B:455:C:OP2	2.12	0.49
7:P:88:ARG:HB3	7:P:88:ARG:NH2	2.27	0.49
2:B:2065:C:H2'	2:B:2066:C:C6	2.46	0.49
7:P:26:GLU:HG3	7:P:43:GLU:HB2	1.95	0.49
26:F:115:GLY:HA3	26:F:177:ARG:HD2	1.94	0.49
2:B:540:C:O2'	2:B:541:A:H5'	2.12	0.49
2:B:1665:A:O2'	2:B:1666:G:H5'	2.13	0.49
2:B:975:A:H1'	2:B:990:A:C2	2.47	0.49
2:B:2213:U:H2'	2:B:2213:U:O2	2.13	0.49
2:B:2282:G:H4'	2:B:2389:G:O2'	2.12	0.49
2:B:1258:U:H2'	2:B:1259:G:C8	2.47	0.49
2:B:81:G:H2'	2:B:82:U:O4'	2.13	0.49
13:3:50:SER:C	13:3:52:GLY:H	2.16	0.49
28:R:34:GLU:CD	28:R:60:LYS:HE2	2.33	0.49
8:E:150:THR:HG21	8:E:153:LEU:HA	1.94	0.49
23:Q:86:SER:HB2	28:R:50:GLY:O	2.12	0.49
2:B:588:U:H1'	8:E:85:PHE:CD1	2.47	0.49
19:H:114:GLU:HB3	19:H:134:VAL:CA	2.43	0.49
19:H:141:LYS:N	19:H:141:LYS:HD3	2.26	0.49
3:I:74:PRO:O	3:I:77:VAL:HG22	2.12	0.49
21:N:39:PRO:C	21:N:41:ALA:H	2.16	0.49
2:B:2732:G:H3'	2:B:2733:A:H5'	1.95	0.49
2:B:1080:A:O2'	2:B:1081:U:H5'	2.12	0.49
14:V:40:ILE:HD13	14:V:40:ILE:H	1.78	0.49
8:E:58:LYS:HD3	8:E:58:LYS:N	2.27	0.49
2:B:1439:A:N7	2:B:1440:U:N1	2.61	0.49
4:C:245:THR:O	4:C:247:TRP:N	2.45	0.49
2:B:1779:U:C5	2:B:1784:A:N7	2.79	0.49
25:U:14:THR:O	25:U:18:LYS:HA	2.12	0.49
17:M:4:PRO:HG2	17:M:70:ASP:HA	1.93	0.49
2:B:1729:U:H2'	2:B:1730:C:O4'	2.13	0.49
1:A:49:C:H2'	1:A:50:A:H8	1.77	0.49
2:B:1198:U:H2'	2:B:1199:U:H6	1.78	0.49
1:A:88:C:HO2'	1:A:89:U:H6	1.61	0.49
2:B:2359:C:H2'	2:B:2360:G:C8	2.48	0.49
2:B:39:G:H2'	2:B:40:U:C6	2.48	0.49
2:B:2537:U:H2'	2:B:2538:C:C6	2.47	0.49
6:K:2:ILE:HD12	6:K:2:ILE:N	2.27	0.49
2:B:1310:G:H21	2:B:1610:A:H8	1.61	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2828:G:O2'	2:B:2829:A:H5'	2.11	0.49
2:B:57:C:H2'	2:B:58:G:O4'	2.12	0.49
8:E:160:ALA:O	8:E:161:ALA:HB3	2.13	0.49
23:Q:91:ARG:NH2	28:R:11:GLN:H	2.11	0.49
4:C:183:VAL:HG22	4:C:187:CYS:SG	2.53	0.49
16:L:19:LEU:HD23	16:L:31:GLY:O	2.12	0.49
2:B:2108:A:C2'	2:B:2109:U:H4'	2.35	0.49
24:S:54:ALA:HA	24:S:57:ASN:HB2	1.95	0.49
2:B:2598:A:OP1	4:C:233:GLY:HA3	2.13	0.49
26:F:65:LEU:H	26:F:88:VAL:HG22	1.76	0.49
26:F:27:VAL:O	26:F:27:VAL:HG23	2.13	0.49
9:Y:7:THR:HG22	9:Y:9:THR:H	1.78	0.49
2:B:643:A:H2'	2:B:644:A:O4'	2.12	0.49
14:V:80:HIS:CG	14:V:83:LYS:HB2	2.47	0.49
2:B:2187:U:H2'	2:B:2188:U:H6	1.77	0.49
25:U:11:ILE:HD13	25:U:11:ILE:O	2.12	0.49
5:D:8:LYS:HB2	5:D:201:LEU:HD21	1.95	0.49
2:B:1454:C:H5'	21:N:63:ARG:NE	2.27	0.49
21:N:106:ASP:C	21:N:108:ALA:N	2.66	0.49
2:B:2136:G:H2'	2:B:2136:G:N3	2.28	0.49
2:B:2065:C:O2'	2:B:2066:C:H5'	2.12	0.49
26:F:161:SER:OG	26:F:164:GLU:HG3	2.12	0.49
2:B:660:C:H2'	2:B:661:A:C8	2.46	0.49
2:B:1341:G:N2	2:B:1398:C:H4'	2.28	0.49
1:A:30:C:O2	1:A:30:C:H2'	2.13	0.49
2:B:1830:C:H2'	2:B:1831:G:H8	1.76	0.49
2:B:2693:G:O2'	2:B:2694:G:H5'	2.13	0.49
2:B:1773:A:N7	2:B:1829:A:H1'	2.28	0.49
4:C:54:GLY:O	4:C:214:GLY:HA2	2.12	0.49
2:B:1539:U:H2'	2:B:1540:G:C8	2.48	0.49
30:Z:74:ARG:HD2	30:Z:76:GLU:OE2	2.12	0.49
2:B:851:C:H2'	2:B:852:U:H6	1.78	0.49
4:C:83:ASP:HB2	4:C:90:ILE:HB	1.95	0.49
19:H:133:GLN:HA	19:H:139:PHE:HB2	1.95	0.49
2:B:1242:U:H2'	2:B:1243:C:C6	2.48	0.49
2:B:1203:U:C4'	16:L:3:LEU:HD12	2.43	0.49
6:K:54:LYS:N	6:K:54:LYS:HD2	2.23	0.49
26:F:11:VAL:HG21	26:F:172:PHE:CE1	2.48	0.49
2:B:741:U:H2'	2:B:742:A:H8	1.78	0.49
2:B:2821:A:OP2	5:D:115:GLY:HA3	2.12	0.49
5:D:124:ARG:HA	5:D:165:MET:CE	2.43	0.49
2:B:1028:A:N6	2:B:1125:G:H2'	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1465:G:H2'	2:B:1466:U:C6	2.47	0.49
7:P:112:ARG:HB2	7:P:112:ARG:HH11	1.77	0.49
3:I:135:MET:HG3	3:I:137:LEU:HG	1.95	0.49
3:I:85:ILE:CD1	3:I:137:LEU:HD21	2.43	0.49
2:B:150:U:H2'	2:B:151:C:H6	1.77	0.49
7:P:103:THR:HG22	7:P:104:GLY:H	1.78	0.49
31:W:65:LYS:HG3	31:W:84:GLU:CB	2.41	0.49
5:D:106:LYS:N	5:D:106:LYS:HD3	2.28	0.49
5:D:51:THR:HG22	5:D:52:THR:H	1.77	0.49
4:C:140:VAL:HG12	4:C:141:HIS:N	2.27	0.49
18:X:7:ARG:HB2	18:X:7:ARG:NH1	2.27	0.49
2:B:1287:A:H3'	2:B:1288:G:N2	2.28	0.49
2:B:141:G:H3'	2:B:142:A:O4'	2.13	0.49
2:B:2678:C:H2'	2:B:2679:A:C8	2.48	0.49
2:B:1386:C:H1'	2:B:1470:A:H1'	1.94	0.49
17:M:40:ARG:HB2	17:M:93:VAL:HG22	1.93	0.49
2:B:315:G:H2'	2:B:316:C:H6	1.76	0.49
27:G:145:ALA:HA	27:G:148:ARG:CG	2.42	0.49
2:B:2557:G:H2'	2:B:2558:C:H6	1.78	0.49
2:B:322:A:H5'	2:B:340:A:C1'	2.43	0.49
2:B:1275:A:N3	2:B:1275:A:H2'	2.28	0.49
2:B:951:C:O2'	2:B:952:G:H5'	2.13	0.49
6:K:107:LEU:C	6:K:109:SER:H	2.16	0.49
2:B:2692:G:O2'	2:B:2693:G:H5'	2.13	0.49
2:B:2233:U:H2'	2:B:2234:G:C8	2.48	0.49
1:A:102:G:O2'	1:A:103:U:H5'	2.13	0.49
23:Q:24:TYR:CG	23:Q:25:GLY:N	2.80	0.48
7:P:62:LYS:O	7:P:63:ILE:HB	2.13	0.48
18:X:28:LEU:HB3	18:X:43:LEU:HD21	1.95	0.48
28:R:4:VAL:HA	28:R:12:HIS:O	2.13	0.48
4:C:91:ALA:CB	4:C:105:ALA:HB2	2.43	0.48
1:A:32:U:H2'	1:A:33:G:C8	2.48	0.48
22:O:30:ARG:HG3	22:O:30:ARG:HH11	1.77	0.48
25:U:39:ASN:CB	25:U:62:ALA:HB3	2.41	0.48
2:B:2862:G:H2'	2:B:2863:C:C6	2.48	0.48
2:B:2864:G:H2'	2:B:2865:U:C6	2.48	0.48
2:B:419:U:H2'	2:B:420:C:H6	1.76	0.48
2:B:2579:C:O2'	5:D:136:ASN:HA	2.13	0.48
2:B:833:A:H1'	16:L:52:GLY:N	2.28	0.48
2:B:1295:C:H2'	2:B:1296:G:H8	1.78	0.48
2:B:510:C:H2'	2:B:511:U:O4'	2.12	0.48
2:B:1390:U:O2'	2:B:1391:U:H5'	2.12	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:378:C:O2'	2:B:379:G:H5'	2.13	0.48
30:Z:6:GLN:HE22	30:Z:77:LYS:HZ1	1.57	0.48
29:T:4:GLU:CD	29:T:5:GLU:H	2.16	0.48
12:1:8:ILE:HD12	12:1:51:ALA:HA	1.96	0.48
20:J:4:PHE:HB3	20:J:44:TYR:CD1	2.49	0.48
20:J:100:VAL:O	20:J:104:ALA:HB2	2.14	0.48
19:H:116:ARG:CZ	19:H:131:SER:HB3	2.43	0.48
24:S:26:GLY:HA2	24:S:71:VAL:O	2.13	0.48
2:B:2306:C:H3'	2:B:2307:G:H5''	1.93	0.48
20:J:19:ASP:OD2	20:J:58:ASN:HB2	2.13	0.48
2:B:547:A:H5''	2:B:548:G:N7	2.27	0.48
2:B:2869:G:H2'	2:B:2870:C:H6	1.77	0.48
28:R:15:SER:OG	28:R:18:GLN:HG2	2.13	0.48
2:B:2394:C:H5''	16:L:63:LYS:HD3	1.95	0.48
2:B:947:A:HO2'	2:B:984:A:H2	1.62	0.48
2:B:2800:A:H2'	2:B:2801:G:C8	2.48	0.48
2:B:610:C:O2'	2:B:611:C:H5'	2.13	0.48
2:B:2297:A:H61	2:B:2319:G:H1'	1.78	0.48
2:B:2836:U:H2'	2:B:2837:A:H8	1.77	0.48
26:F:134:GLN:H	26:F:150:GLY:H	1.61	0.48
2:B:2553:G:H2'	2:B:2554:U:O4'	2.13	0.48
2:B:657:U:H2'	2:B:658:U:C6	2.48	0.48
2:B:858:G:H21	2:B:2268:A:H3'	1.78	0.48
31:W:49:ASN:HB2	31:W:60:ALA:CA	2.43	0.48
19:H:97:ARG:HA	19:H:112:LYS:CB	2.43	0.48
23:Q:109:VAL:O	23:Q:113:LYS:HG3	2.13	0.48
22:O:49:VAL:CG2	22:O:82:ALA:HB2	2.34	0.48
19:H:114:GLU:HB2	19:H:132:PHE:CE1	2.48	0.48
25:U:58:VAL:HG12	25:U:59:GLU:N	2.20	0.48
4:C:226:PRO:CG	4:C:233:GLY:H	2.19	0.48
7:P:96:LEU:HB3	7:P:99:LEU:HB2	1.95	0.48
2:B:418:C:H2'	2:B:419:U:H6	1.78	0.48
3:I:52:LEU:HD12	3:I:52:LEU:N	2.28	0.48
2:B:2025:C:H5'	5:D:154:LYS:HZ1	1.77	0.48
2:B:1902:C:H2'	2:B:1903:G:O4'	2.13	0.48
2:B:598:U:H2'	2:B:599:A:C8	2.49	0.48
24:S:6:LYS:HB3	24:S:104:THR:HA	1.95	0.48
2:B:2489:U:O2'	2:B:2490:G:H5'	2.13	0.48
2:B:195:A:H61	2:B:198:C:H3'	1.78	0.48
2:B:532:A:H4'	2:B:533:G:C8	2.49	0.48
19:H:65:ALA:O	19:H:68:ARG:HD2	2.13	0.48
27:G:53:PRO:HG3	27:G:61:TRP:CD2	2.49	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:61:VAL:HG11	6:K:112:PHE:CE2	2.49	0.48
20:J:59:ALA:C	20:J:61:LYS:H	2.17	0.48
1:A:53:A:O2'	1:A:54:G:H5'	2.14	0.48
2:B:2667:C:H1'	27:G:108:PHE:CD2	2.48	0.48
10:O:43:THR:OG1	10:O:47:TYR:HB2	2.13	0.48
2:B:1549:A:H2'	2:B:1550:C:H6	1.79	0.48
2:B:1028:A:H2'	2:B:1029:A:C8	2.48	0.48
2:B:1487:U:H2'	2:B:1488:C:H6	1.78	0.48
2:B:2466:C:O2'	2:B:2467:C:H5'	2.13	0.48
2:B:2425:A:H5''	2:B:2426:A:H3'	1.95	0.48
5:D:175:LEU:HD23	5:D:190:LYS:HB3	1.94	0.48
2:B:2636:C:O2'	2:B:2637:U:H5'	2.13	0.48
4:C:71:ASP:O	4:C:73:ILE:HG12	2.13	0.48
8:E:102:ARG:NH2	8:E:102:ARG:HG3	2.28	0.48
2:B:1920:C:H2'	2:B:1921:G:H8	1.78	0.48
2:B:840:C:H2'	2:B:841:G:H8	1.79	0.48
3:I:52:LEU:HD21	3:I:81:LYS:NZ	2.29	0.48
2:B:1749:A:H2'	2:B:1750:G:C8	2.48	0.48
2:B:932:U:O2	2:B:932:U:O4'	2.32	0.48
14:V:51:GLN:HB2	14:V:57:TYR:OH	2.13	0.48
8:E:27:LEU:O	8:E:30:GLN:HB3	2.14	0.48
28:R:57:GLY:HA2	28:R:102:SER:O	2.13	0.48
2:B:929:U:O2'	2:B:930:G:H5'	2.14	0.48
5:D:106:LYS:O	5:D:107:VAL:HB	2.13	0.48
7:P:47:ILE:HG13	7:P:48:ALA:N	2.29	0.48
7:P:47:ILE:HD11	7:P:59:THR:HG22	1.95	0.48
8:E:150:THR:OG1	8:E:151:GLY:N	2.46	0.48
29:T:27:SER:O	29:T:28:ASN:HB3	2.12	0.48
18:X:23:ARG:HA	18:X:26:PHE:HB3	1.95	0.48
24:S:1:MET:SD	24:S:62:ASP:HB3	2.54	0.48
2:B:79:C:HO2'	2:B:346:A:C1'	2.26	0.48
20:J:25:LEU:HB2	20:J:62:VAL:HG21	1.94	0.48
2:B:2821:A:H2'	2:B:2822:G:O4'	2.14	0.48
2:B:2151:U:H2'	2:B:2152:G:C8	2.43	0.48
2:B:2191:A:H2'	2:B:2192:U:C6	2.48	0.48
2:B:1725:U:O2'	2:B:1726:C:H5'	2.14	0.48
2:B:753:A:O2'	2:B:754:U:H5'	2.13	0.48
6:K:88:ASN:C	6:K:88:ASN:ND2	2.67	0.48
2:B:2199:A:H3'	2:B:2200:C:H6	1.79	0.48
3:I:2:LYS:NZ	3:I:2:LYS:HB3	2.28	0.48
2:B:1114:C:H2'	2:B:1115:G:C8	2.49	0.48
2:B:1364:G:H5''	30:Z:3:ARG:CZ	2.43	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2492:U:O2'	2:B:2493:U:H5'	2.13	0.48
5:D:98:VAL:C	5:D:100:LEU:H	2.17	0.48
23:Q:91:ARG:HE	23:Q:94:LEU:HD23	1.79	0.48
16:L:125:LEU:HB2	16:L:143:GLU:OE2	2.13	0.48
2:B:1818:U:HO2'	2:B:1819:A:P	2.35	0.48
2:B:2899:A:H2'	2:B:2900:A:C8	2.49	0.48
4:C:226:PRO:HG3	4:C:233:GLY:N	2.19	0.48
26:F:2:LYS:CD	26:F:100:GLU:HG2	2.41	0.48
26:F:104:THR:C	26:F:108:PRO:HG2	2.34	0.48
3:I:21:PRO:CB	3:I:22:PRO:HD3	2.40	0.48
35:B:3967:HOH:O	8:E:63:LYS:HE2	2.13	0.48
2:B:979:A:H2'	2:B:982:C:H42	1.78	0.48
27:G:84:LYS:CB	27:G:132:LEU:H	2.25	0.48
2:B:1285:A:H2'	2:B:1286:A:H5''	1.94	0.48
2:B:335:C:H5''	25:U:81:ARG:NH1	2.29	0.48
2:B:4:U:H2'	2:B:5:A:C8	2.48	0.48
2:B:1505:A:H2'	2:B:1506:U:C6	2.49	0.48
17:M:114:ARG:HA	17:M:130:PHE:CE1	2.49	0.48
2:B:1230:A:H2'	2:B:1231:U:H6	1.76	0.48
2:B:1196:C:H2'	2:B:1197:G:C8	2.49	0.48
8:E:148:ILE:HD13	8:E:187:VAL:HG21	1.95	0.48
2:B:576:U:H2'	2:B:577:G:C8	2.48	0.48
2:B:1647:U:P	2:B:1647:U:H3'	2.53	0.48
4:C:2:VAL:HG23	4:C:3:VAL:N	2.28	0.48
2:B:1326:U:H2'	2:B:1327:A:H8	1.78	0.48
12:I:14:ALA:HB3	12:I:16:THR:HG22	1.95	0.48
5:D:14:ILE:CG2	5:D:22:ILE:HB	2.44	0.48
27:G:28:LYS:O	27:G:29:ASN:HB3	2.14	0.48
26:F:39:VAL:HG12	26:F:84:ILE:C	2.33	0.48
2:B:1060:U:C4	3:I:131:THR:HG22	2.47	0.48
10:O:21:LEU:HB3	24:S:23:LEU:HD21	1.96	0.48
6:K:98:ARG:N	6:K:98:ARG:HE	2.12	0.48
9:Y:7:THR:HA	9:Y:34:THR:HA	1.96	0.48
2:B:1429:G:H2'	2:B:1430:G:C8	2.44	0.48
2:B:1150:C:H2'	2:B:1151:A:H8	1.79	0.48
2:B:2880:C:O4'	21:N:91:ALA:HB3	2.14	0.48
2:B:132:G:H2'	2:B:133:U:C6	2.49	0.48
3:I:116:MET:SD	3:I:124:MET:HB2	2.53	0.48
17:M:108:VAL:HG11	17:M:112:LEU:HD12	1.94	0.48
2:B:1197:G:H2'	2:B:1198:U:C6	2.48	0.48
2:B:1163:G:O2'	2:B:1164:C:H5'	2.14	0.48
4:C:34:GLU:O	4:C:34:GLU:HG3	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:125:THR:HG23	19:H:146:VAL:O	2.13	0.48
4:C:152:GLN:HA	4:C:155:ARG:HD3	1.94	0.48
16:L:80:SER:H	16:L:113:ALA:HB3	1.79	0.48
19:H:105:ALA:HB3	19:H:108:VAL:HG21	1.96	0.48
19:H:68:ARG:HB3	19:H:134:VAL:HG11	1.96	0.48
11:4:9:LYS:N	11:4:9:LYS:HD3	2.29	0.48
31:W:75:ASN:O	31:W:76:ARG:HB2	2.13	0.48
27:G:44:HIS:ND1	27:G:49:LEU:HD12	2.29	0.48
5:D:118:PHE:O	5:D:119:ALA:HB3	2.14	0.48
2:B:1591:A:H2'	2:B:1592:C:C6	2.49	0.48
2:B:1443:U:H2'	2:B:1444:G:H8	1.79	0.48
19:H:59:ALA:HA	19:H:62:LEU:CD2	2.44	0.48
2:B:192:C:C2'	2:B:193:U:H5'	2.44	0.48
4:C:18:VAL:HG11	4:C:202:ARG:HD2	1.95	0.48
17:M:2:LEU:CD2	17:M:46:ILE:HD11	2.44	0.48
25:U:50:ALA:H	25:U:53:GLN:CD	2.17	0.48
2:B:467:G:OP1	15:2:33:ARG:HG2	2.14	0.48
2:B:1913:A:H4'	2:B:1914:C:H5''	1.95	0.48
2:B:184:C:H2'	2:B:185:G:C8	2.47	0.48
1:A:30:C:H1'	1:A:58:A:N1	2.28	0.48
27:G:19:ASN:HB2	27:G:22:VAL:HB	1.95	0.48
31:W:30:VAL:O	31:W:30:VAL:HG22	2.14	0.48
21:N:2:ARG:O	21:N:2:ARG:HG2	2.14	0.48
19:H:117:LEU:HD11	19:H:130:VAL:HG13	1.95	0.48
20:J:45:THR:HG23	20:J:45:THR:O	2.14	0.48
20:J:44:TYR:CD2	23:Q:59:LEU:HD21	2.49	0.48
4:C:131:MET:HA	4:C:134:ILE:HG12	1.96	0.48
2:B:663:G:OP1	16:L:17:LYS:HG2	2.14	0.48
25:U:73:ASN:HD22	25:U:73:ASN:N	2.11	0.48
2:B:2207:C:H2'	2:B:2208:C:H6	1.77	0.48
2:B:674:G:HO2'	8:E:60:TRP:HH2	1.55	0.48
2:B:306:U:H2'	2:B:307:G:O4'	2.14	0.48
27:G:173:ALA:HB3	27:G:175:LYS:HZ1	1.79	0.48
2:B:1491:G:H5'	4:C:97:ASP:OD1	2.13	0.48
2:B:2246:G:H2'	2:B:2247:A:H8	1.77	0.48
24:S:13:SER:OG	24:S:14:ALA:N	2.47	0.48
22:O:106:LEU:CA	22:O:109:ALA:HB3	2.44	0.48
1:A:91:C:H2'	1:A:92:C:C6	2.48	0.48
27:G:115:GLN:H	27:G:115:GLN:CD	2.17	0.48
27:G:155:PRO:C	27:G:170:THR:HB	2.34	0.48
2:B:1180:U:O2'	2:B:1181:U:H5'	2.13	0.48
7:P:3:ILE:HD13	7:P:3:ILE:C	2.34	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:4:ILE:CG2	7:P:5:LYS:H	2.18	0.48
26:F:100:GLU:C	26:F:102:LEU:N	2.68	0.48
5:D:90:PHE:CD2	5:D:94:GLN:HG3	2.48	0.48
1:A:6:G:H2'	1:A:7:G:H8	1.77	0.48
2:B:2592:G:H2'	2:B:2593:U:O4'	2.13	0.48
18:X:15:ASN:O	18:X:19:LEU:HD13	2.13	0.48
17:M:101:VAL:HG13	17:M:101:VAL:O	2.13	0.48
2:B:873:C:H4'	17:M:64:TRP:NE1	2.28	0.48
17:M:1:MET:O	17:M:2:LEU:HB2	2.14	0.48
2:B:2228:G:H2'	2:B:2229:U:C6	2.48	0.48
2:B:1856:U:C2'	2:B:1857:G:H5'	2.44	0.48
8:E:21:ARG:HG3	8:E:22:ASP:O	2.14	0.48
7:P:25:VAL:HA	7:P:85:VAL:HA	1.96	0.48
2:B:554:U:H2'	2:B:555:G:O4'	2.14	0.48
2:B:2567:G:H2'	2:B:2568:U:C6	2.49	0.48
2:B:1532:A:N3	2:B:1532:A:H2'	2.29	0.48
25:U:85:ARG:NH1	25:U:86:PHE:N	2.60	0.47
31:W:23:LYS:C	31:W:66:VAL:HB	2.34	0.47
23:Q:30:VAL:CG1	23:Q:31:TYR:H	2.00	0.47
18:X:28:LEU:HB3	18:X:43:LEU:CD2	2.44	0.47
26:F:46:LYS:HA	26:F:46:LYS:HZ3	1.79	0.47
26:F:78:ILE:HG23	26:F:82:TYR:CG	2.49	0.47
21:N:37:THR:OG1	21:N:40:LYS:HE2	2.14	0.47
2:B:1025:G:OP1	2:B:1025:G:H8	1.97	0.47
2:B:727:A:OP1	2:B:1431:A:O2'	2.31	0.47
2:B:2865:U:H5''	2:B:2866:U:OP2	2.14	0.47
2:B:2882:A:H2'	2:B:2883:A:H5''	1.96	0.47
2:B:170:U:H2'	2:B:171:U:C6	2.49	0.47
16:L:95:LEU:O	16:L:100:ILE:HG22	2.14	0.47
2:B:873:C:H2'	2:B:874:G:H8	1.79	0.47
2:B:591:U:H1'	13:3:1:PRO:H3	1.78	0.47
2:B:1374:G:H2'	2:B:1375:U:C6	2.49	0.47
2:B:1847:A:H1'	2:B:1848:A:N7	2.29	0.47
2:B:2093:G:O2'	2:B:2094:A:H5'	2.13	0.47
2:B:528:A:H2	2:B:2043:C:H4'	1.78	0.47
2:B:2755:C:O2'	2:B:2756:U:H2'	2.14	0.47
2:B:1296:G:O2'	2:B:1297:C:H5'	2.14	0.47
2:B:758:C:O2	2:B:1981:A:H2	1.97	0.47
6:K:109:SER:C	6:K:111:LYS:H	2.17	0.47
2:B:1841:U:H2'	2:B:1842:G:H8	1.78	0.47
2:B:1573:G:H2'	2:B:1574:C:H5'	1.95	0.47
2:B:2104:C:H2'	2:B:2105:U:H6	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:56:ALA:O	24:S:59:GLU:HB2	2.13	0.47
10:0:55:ALA:C	10:0:56:LYS:HG3	2.33	0.47
19:H:32:PRO:O	19:H:33:GLN:HB2	2.14	0.47
30:Z:6:GLN:NE2	30:Z:77:LYS:NZ	2.62	0.47
31:W:24:ARG:HD3	31:W:65:LYS:CE	2.44	0.47
31:W:50:VAL:HG23	31:W:61:LYS:CE	2.44	0.47
8:E:147:LEU:HD12	8:E:149:ILE:HG22	1.96	0.47
23:Q:60:TRP:CH2	23:Q:93:ILE:HB	2.50	0.47
4:C:153:LEU:HD13	4:C:175:LEU:HD21	1.96	0.47
4:C:181:ARG:HD3	4:C:265:PHE:O	2.14	0.47
3:I:56:VAL:CG2	3:I:68:PHE:HB2	2.44	0.47
26:F:34:THR:HG22	26:F:89:THR:HG22	1.95	0.47
1:A:32:U:H2'	1:A:33:G:H8	1.78	0.47
14:V:35:GLU:HG3	14:V:93:ARG:NH1	2.29	0.47
18:X:55:THR:O	18:X:58:ASN:HB3	2.14	0.47
22:O:24:THR:OG1	22:O:90:VAL:HG12	2.14	0.47
9:Y:43:ILE:HG13	9:Y:44:ARG:N	2.28	0.47
2:B:2794:C:H2'	2:B:2795:C:C6	2.49	0.47
17:M:69:PRO:HA	17:M:94:ALA:HB2	1.95	0.47
2:B:969:G:OP1	9:Y:17:PRO:HG3	2.14	0.47
2:B:692:C:H2'	2:B:693:A:H8	1.79	0.47
2:B:2747:G:O6	2:B:2755:C:H5''	2.13	0.47
2:B:208:C:H2'	2:B:209:C:C6	2.50	0.47
6:K:22:ILE:O	6:K:23:LYS:HB2	2.14	0.47
2:B:2022:U:O2'	2:B:2617:U:H5'	2.14	0.47
2:B:1910:G:O2'	2:B:1911:U:H5'	2.13	0.47
2:B:1263:U:O2'	10:0:7:PRO:HD2	2.15	0.47
25:U:51:LEU:O	25:U:52:ASN:HB2	2.14	0.47
15:2:9:VAL:HG13	15:2:10:LEU:N	2.29	0.47
5:D:4:LEU:HD23	5:D:101:PHE:CE1	2.48	0.47
7:P:61:ARG:CB	7:P:61:ARG:HH21	2.25	0.47
2:B:459:U:C2'	2:B:460:A:H5'	2.44	0.47
4:C:4:LYS:HE3	4:C:13:ARG:O	2.13	0.47
4:C:175:LEU:HD11	4:C:181:ARG:HG3	1.96	0.47
4:C:66:PHE:CD1	4:C:66:PHE:N	2.82	0.47
19:H:68:ARG:CD	19:H:134:VAL:HG11	2.40	0.47
13:3:30:HIS:O	13:3:31:ILE:C	2.52	0.47
2:B:558:U:H5'	20:J:114:LEU:HD22	1.96	0.47
2:B:2884:U:H2'	2:B:2885:G:C8	2.49	0.47
29:T:76:ARG:HB3	29:T:76:ARG:CZ	2.44	0.47
14:V:21:ARG:HE	14:V:87:GLN:HB3	1.79	0.47
26:F:148:VAL:O	26:F:149:ARG:HG2	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:255:LYS:C	4:C:256:THR:HG23	2.34	0.47
2:B:2751:G:H5'	27:G:2:ARG:CD	2.44	0.47
25:U:14:THR:HG21	25:U:64:ILE:CD1	2.43	0.47
2:B:2815:C:H2'	2:B:2816:G:C8	2.49	0.47
2:B:154:U:H2'	2:B:155:A:H8	1.78	0.47
7:P:19:PHE:CE2	7:P:25:VAL:HG11	2.50	0.47
21:N:13:ASN:OD1	21:N:15:SER:HB3	2.14	0.47
2:B:1714:U:H3'	2:B:1715:G:H5'	1.96	0.47
2:B:207:A:H2'	2:B:208:C:O4'	2.15	0.47
20:J:64:VAL:O	20:J:68:LYS:HD2	2.15	0.47
2:B:536:G:P	23:Q:52:ARG:HH21	2.37	0.47
13:3:56:LEU:O	13:3:59:ALA:HB3	2.14	0.47
2:B:2595:G:H1	4:C:238:ASN:ND2	2.11	0.47
4:C:170:TYR:CD2	4:C:184:GLU:HA	2.49	0.47
4:C:89:ASN:HD22	4:C:89:ASN:HA	1.52	0.47
31:W:43:LYS:HB3	31:W:58:LEU:CD1	2.44	0.47
2:B:2675:A:H4'	6:K:29:HIS:HB2	1.96	0.47
2:B:2514:U:H2'	2:B:2515:C:C6	2.50	0.47
26:F:107:VAL:HA	26:F:111:ARG:NH1	2.30	0.47
1:A:55:U:H2'	1:A:56:G:C8	2.49	0.47
12:1:36:LYS:HG3	12:1:47:ILE:HG13	1.95	0.47
18:X:29:ARG:HH12	29:T:12:ARG:HG2	1.79	0.47
25:U:35:VAL:O	25:U:38:ILE:HG22	2.15	0.47
2:B:335:C:O2'	2:B:336:C:H5'	2.14	0.47
25:U:66:VAL:C	25:U:68:ASN:H	2.17	0.47
2:B:1723:G:C2'	2:B:1724:G:H5'	2.44	0.47
25:U:48:VAL:HG13	25:U:48:VAL:O	2.15	0.47
2:B:553:G:H2'	2:B:554:U:O4'	2.13	0.47
1:A:101:A:H2'	1:A:102:G:O4'	2.14	0.47
2:B:2193:G:H2'	2:B:2194:U:H6	1.79	0.47
2:B:1260:A:H2'	2:B:1261:C:C6	2.48	0.47
29:T:64:LYS:H	29:T:64:LYS:HD2	1.79	0.47
19:H:29:PHE:C	19:H:31:VAL:H	2.18	0.47
31:W:36:ILE:HB	31:W:39:GLN:NE2	2.29	0.47
23:Q:59:LEU:HD13	23:Q:59:LEU:C	2.35	0.47
23:Q:60:TRP:CZ2	23:Q:93:ILE:HB	2.50	0.47
20:J:123:LYS:HG2	20:J:132:HIS:CD2	2.49	0.47
8:E:108:ILE:O	8:E:108:ILE:HD13	2.15	0.47
2:B:167:A:H2'	2:B:168:G:O4'	2.15	0.47
8:E:46:GLN:HG3	8:E:87:ALA:CB	2.40	0.47
2:B:2743:U:H3'	2:B:2744:G:H5'	1.97	0.47
2:B:2787:C:O2'	2:B:2788:C:H5'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:68:ALA:O	8:E:69:ARG:C	2.52	0.47
2:B:1488:C:O2'	2:B:1489:C:H5'	2.14	0.47
10:0:2:VAL:HG12	10:0:3:GLN:H	1.79	0.47
5:D:68:PHE:HB3	5:D:73:VAL:HA	1.96	0.47
2:B:118:A:OP2	2:B:119:A:H2'	2.14	0.47
2:B:680:C:H2'	2:B:681:G:C8	2.48	0.47
2:B:2295:C:O2'	2:B:2296:U:H5'	2.14	0.47
2:B:950:G:H2'	2:B:951:C:H6	1.79	0.47
2:B:2847:U:H5''	7:P:94:ALA:CB	2.44	0.47
2:B:1841:U:H2'	2:B:1842:G:C8	2.49	0.47
2:B:1842:G:H2'	2:B:1843:C:C6	2.49	0.47
2:B:196:A:H2'	2:B:196:A:N3	2.29	0.47
2:B:1936:A:H2	2:B:1943:U:C5	2.32	0.47
5:D:101:PHE:HA	5:D:104:VAL:HG21	1.96	0.47
7:P:61:ARG:HD3	7:P:70:GLU:OE1	2.15	0.47
8:E:119:ILE:HD11	8:E:185:LYS:HE2	1.95	0.47
26:F:49:LEU:HD11	26:F:66:ILE:HD12	1.95	0.47
2:B:2311:A:O2'	26:F:84:ILE:HG21	2.15	0.47
21:N:81:ASN:O	21:N:85:PRO:HD2	2.14	0.47
11:4:9:LYS:HE2	11:4:10:LEU:N	2.29	0.47
2:B:138:U:O2'	29:T:1:MET:HA	2.15	0.47
17:M:123:LYS:O	17:M:124:LEU:HG	2.14	0.47
14:V:83:LYS:O	14:V:85:LYS:N	2.47	0.47
8:E:60:TRP:HE3	8:E:60:TRP:HA	1.80	0.47
2:B:1030:C:O2'	2:B:1031:G:H5'	2.15	0.47
2:B:773:U:O2'	4:C:47:ARG:HD3	2.14	0.47
2:B:299:A:N6	2:B:322:A:H1'	2.30	0.47
31:W:21:GLY:N	31:W:33:GLY:HA2	2.29	0.47
2:B:2663:G:H2'	2:B:2664:G:O4'	2.14	0.47
2:B:41:C:H2'	2:B:42:A:O4'	2.14	0.47
1:A:85:G:H2'	1:A:86:G:H8	1.80	0.47
2:B:1335:C:H2'	2:B:1336:A:H8	1.80	0.47
21:N:19:ALA:C	21:N:21:PHE:H	2.18	0.47
31:W:64:GLY:HA3	31:W:83:ALA:HA	1.96	0.47
2:B:923:G:N3	31:W:23:LYS:HE3	2.30	0.47
2:B:2385:C:H3'	35:B:3980:HOH:O	2.15	0.47
5:D:31:ALA:O	5:D:52:THR:HG23	2.15	0.47
23:Q:30:VAL:CG1	23:Q:31:TYR:N	2.67	0.47
29:T:5:GLU:HA	29:T:8:LEU:HD12	1.96	0.47
19:H:90:LEU:HD11	19:H:146:VAL:CG1	2.43	0.47
31:W:8:SER:O	31:W:9:THR:HB	2.14	0.47
23:Q:96:ASP:C	23:Q:98:ALA:H	2.17	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:460:A:C4'	29:T:72:GLN:HB2	2.35	0.47
29:T:25:GLU:HG2	29:T:29:THR:O	2.15	0.47
29:T:29:THR:CG2	29:T:86:THR:HG22	2.44	0.47
26:F:43:ILE:HB	26:F:82:TYR:CZ	2.50	0.47
19:H:116:ARG:HD3	19:H:133:GLN:HB2	1.97	0.47
5:D:181:ASP:CG	5:D:184:ARG:HD2	2.35	0.47
2:B:2179:C:H2'	2:B:2180:U:C6	2.50	0.47
10:O:21:LEU:HD13	24:S:23:LEU:HD11	1.96	0.47
6:K:63:VAL:HG21	6:K:85:VAL:HG23	1.97	0.47
21:N:80:PHE:O	21:N:85:PRO:HD3	2.14	0.47
19:H:4:ILE:HD12	19:H:4:ILE:H	1.79	0.47
17:M:135:VAL:O	17:M:136:MET:HG3	2.15	0.47
2:B:2784:U:H2'	2:B:2785:C:H6	1.80	0.47
2:B:847:U:O4'	2:B:847:U:O2	2.30	0.47
25:U:35:VAL:HB	25:U:38:ILE:CB	2.45	0.47
2:B:1439:A:N7	2:B:1440:U:C2	2.82	0.47
2:B:1595:C:O2'	2:B:1596:A:H5'	2.14	0.47
2:B:1812:U:H1'	4:C:43:ASN:ND2	2.26	0.47
19:H:53:GLU:HA	19:H:57:LYS:HG2	1.97	0.47
27:G:97:VAL:HA	27:G:102:ILE:HA	1.97	0.47
7:P:50:ARG:CB	7:P:57:ALA:H	2.27	0.47
2:B:2099:U:H2'	2:B:2100:G:C8	2.45	0.47
16:L:77:ILE:HD11	16:L:95:LEU:HD13	1.96	0.47
29:T:69:ARG:HG2	29:T:73:ARG:C	2.35	0.47
17:M:69:PRO:HG2	17:M:70:ASP:H	1.79	0.47
2:B:1418:G:H1'	2:B:1580:A:N6	2.30	0.47
6:K:88:ASN:ND2	6:K:89:ASN:N	2.63	0.47
2:B:1771:C:O2'	2:B:1772:A:H5'	2.14	0.47
2:B:2247:A:H2'	2:B:2248:C:C6	2.50	0.47
2:B:401:A:H2'	2:B:402:A:C8	2.50	0.47
2:B:2838:G:H2'	2:B:2839:G:C8	2.49	0.47
9:Y:30:ARG:N	9:Y:30:ARG:HD3	2.28	0.47
2:B:2053:G:O2'	2:B:2054:A:H5'	2.15	0.47
2:B:198:C:H2'	2:B:199:A:H5''	1.97	0.47
16:L:14:LYS:O	16:L:16:GLY:N	2.48	0.47
5:D:55:LYS:HB2	5:D:60:VAL:HG13	1.95	0.47
24:S:72:THR:CG2	24:S:108:SER:HB3	2.44	0.47
2:B:242:G:C8	13:3:4:LYS:HG2	2.50	0.47
2:B:321:U:OP2	8:E:130:LYS:HD3	2.15	0.47
4:C:153:LEU:HD13	4:C:175:LEU:CD2	2.45	0.47
20:J:55:ILE:CG2	20:J:123:LYS:HB2	2.45	0.47
6:K:34:GLY:O	6:K:36:GLY:N	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:27:G:HO2'	2:B:28:A:H8	1.57	0.47
17:M:24:THR:HG23	17:M:34:LYS:CE	2.44	0.47
15:2:21:ARG:HD3	15:2:43:THR:HG21	1.96	0.47
14:V:38:LEU:HG	14:V:40:ILE:HG23	1.96	0.47
7:P:50:ARG:HD3	7:P:75:THR:OG1	2.14	0.47
26:F:119:LYS:C	26:F:121:PHE:H	2.17	0.47
2:B:263:G:H2'	2:B:264:C:O4'	2.15	0.47
2:B:151:C:H2'	2:B:152:A:C8	2.50	0.47
2:B:680:C:H2'	2:B:681:G:H8	1.78	0.47
2:B:553:G:O2'	2:B:554:U:H5'	2.15	0.47
2:B:1824:G:H1'	4:C:251:THR:CG2	2.44	0.47
1:A:64:G:H2'	1:A:65:U:C6	2.50	0.47
30:Z:59:ILE:HD13	30:Z:67:VAL:HG21	1.97	0.47
23:Q:109:VAL:CG1	23:Q:113:LYS:HE3	2.43	0.47
3:I:79:LEU:HD23	3:I:108:ILE:CD1	2.45	0.47
6:K:47:ILE:HG23	6:K:48:PRO:CD	2.45	0.47
2:B:1141:U:H4'	2:B:1142:A:C1'	2.44	0.47
1:A:43:C:H4'	26:F:91:ARG:NE	2.29	0.47
8:E:87:ALA:O	8:E:88:ARG:HD3	2.14	0.47
27:G:91:VAL:O	27:G:93:TYR:N	2.42	0.47
8:E:60:TRP:C	8:E:62:GLN:H	2.18	0.47
2:B:593:U:H2'	2:B:594:U:C6	2.50	0.47
5:D:109:VAL:CG1	5:D:193:VAL:HB	2.45	0.47
2:B:969:G:H2'	2:B:970:U:C6	2.50	0.47
2:B:863:A:H2'	2:B:864:G:C8	2.50	0.47
10:0:29:VAL:HA	10:0:35:GLU:O	2.15	0.47
2:B:1536:C:H1'	2:B:1537:G:N2	2.30	0.47
2:B:1292:G:O2'	2:B:1293:C:H5'	2.15	0.47
2:B:426:C:O2'	2:B:427:U:H5'	2.15	0.47
17:M:131:VAL:HG12	17:M:132:THR:N	2.30	0.47
2:B:1183:U:H2'	2:B:1184:U:C6	2.49	0.47
2:B:2428:G:H5''	2:B:2429:G:OP1	2.15	0.47
2:B:1063:G:H1'	3:I:134:SER:O	2.15	0.47
2:B:755:U:H2'	2:B:756:A:C8	2.49	0.47
26:F:68:LYS:N	26:F:68:LYS:HD2	2.29	0.47
2:B:1821:A:H2'	2:B:1822:C:C6	2.50	0.47
28:R:91:GLN:HG3	28:R:92:TRP:N	2.30	0.47
4:C:80:LEU:HD21	4:C:109:LEU:HG	1.97	0.47
22:O:26:LEU:HD13	22:O:39:VAL:CG2	2.45	0.47
2:B:146:A:H2'	2:B:147:C:C6	2.50	0.47
14:V:72:VAL:HG11	14:V:93:ARG:HA	1.97	0.47
9:Y:15:ARG:HG2	9:Y:53:MET:SD	2.55	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:74:U:H2'	1:A:75:G:O4'	2.15	0.47
5:D:114:LYS:HG3	5:D:115:GLY:H	1.80	0.47
27:G:84:LYS:HB2	27:G:132:LEU:HG	1.97	0.47
2:B:781:A:OP1	4:C:216:ARG:NH2	2.47	0.47
25:U:13:LEU:HD12	25:U:68:ASN:O	2.14	0.47
2:B:2797:U:H3'	2:B:2798:U:C5	2.50	0.47
2:B:2291:U:O2'	2:B:2374:C:H1'	2.15	0.47
2:B:2812:G:H2'	2:B:2813:A:C8	2.50	0.47
2:B:2093:G:O5'	19:H:24:GLY:HA3	2.15	0.47
20:J:11:VAL:HG21	20:J:13:ARG:HH11	1.79	0.47
2:B:527:C:O2	2:B:527:C:O4'	2.33	0.47
2:B:265:A:O2'	2:B:266:G:H4'	2.15	0.47
9:Y:37:ARG:CG	9:Y:38:GLU:H	2.27	0.47
2:B:2578:G:C5	5:D:145:SER:HB2	2.50	0.47
2:B:1184:U:O2'	2:B:1185:G:H5'	2.15	0.47
2:B:2835:A:N6	2:B:2878:U:H2'	2.30	0.47
14:V:81:PRO:HG2	17:M:20:LEU:HD12	1.97	0.47
21:N:23:ASN:O	21:N:27:SER:HB2	2.15	0.47
25:U:71:ILE:HD11	25:U:82:VAL:HG22	1.97	0.46
29:T:11:LEU:CD2	29:T:46:ALA:HB1	2.38	0.46
19:H:82:SER:HB2	19:H:146:VAL:HG13	1.97	0.46
28:R:40:MET:O	28:R:41:ILE:HD13	2.14	0.46
26:F:66:ILE:HA	26:F:85:GLY:O	2.14	0.46
18:X:3:ALA:O	18:X:6:LEU:HB2	2.15	0.46
31:W:68:PHE:CE1	31:W:79:ILE:HD11	2.51	0.46
2:B:1203:U:H4'	16:L:3:LEU:HD12	1.96	0.46
24:S:15:GLN:HA	24:S:18:ARG:CG	2.45	0.46
6:K:11:ALA:O	6:K:100:PHE:N	2.44	0.46
12:1:46:VAL:HG22	12:1:47:ILE:N	2.23	0.46
2:B:2471:A:O2'	2:B:2472:G:O5'	2.33	0.46
18:X:56:LEU:C	18:X:58:ASN:N	2.68	0.46
13:3:60:CYS:C	13:3:62:PRO:HD3	2.35	0.46
5:D:46:ARG:HH22	5:D:87:GLY:H	1.62	0.46
16:L:95:LEU:HB2	16:L:101:ILE:CG1	2.45	0.46
2:B:2250:G:H8	2:B:2250:G:O5'	1.97	0.46
2:B:2070:A:C2	2:B:2442:C:C2	3.04	0.46
4:C:209:ALA:HA	4:C:212:TRP:NE1	2.30	0.46
20:J:13:ARG:HB3	20:J:53:TYR:CD2	2.50	0.46
2:B:2758:A:C1'	27:G:63:GLN:HE22	2.28	0.46
5:D:171:THR:OG1	5:D:172:VAL:N	2.47	0.46
2:B:686:U:O2'	15:2:5:PHE:HA	2.15	0.46
23:Q:51:GLN:O	23:Q:55:GLN:HG3	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1266:G:N2	2:B:2012:G:H2'	2.30	0.46
2:B:2480:C:O2'	2:B:2481:G:H5'	2.14	0.46
12:1:24:LYS:HG2	12:1:25:ASN:N	2.30	0.46
30:Z:32:ASN:O	30:Z:33:LEU:O	2.33	0.46
7:P:62:LYS:HE3	7:P:64:SER:OG	2.14	0.46
19:H:99:ILE:HG22	19:H:100:ALA:N	2.30	0.46
27:G:26:LYS:HA	27:G:32:LEU:H	1.80	0.46
23:Q:91:ARG:NH2	28:R:11:GLN:O	2.48	0.46
28:R:6:GLN:HE21	28:R:6:GLN:C	2.18	0.46
29:T:43:ILE:HG21	29:T:58:VAL:HG21	1.96	0.46
16:L:113:ALA:HB3	16:L:115:GLU:OE1	2.15	0.46
21:N:38:LEU:CB	21:N:39:PRO:HD3	2.40	0.46
5:D:168:GLU:O	5:D:170:VAL:HG13	2.15	0.46
26:F:162:ASP:O	26:F:166:ARG:HD2	2.15	0.46
20:J:59:ALA:O	20:J:62:VAL:HG12	2.15	0.46
29:T:1:MET:CG	29:T:2:ILE:H	2.28	0.46
8:E:47:LYS:HA	8:E:51:GLU:OE2	2.15	0.46
10:O:53:VAL:HG21	21:N:98:LEU:CD1	2.45	0.46
22:O:67:ASN:N	22:O:70:ALA:HB3	2.27	0.46
2:B:2722:G:H2'	2:B:2723:C:H6	1.81	0.46
13:3:7:ARG:HG3	13:3:7:ARG:NH1	2.30	0.46
2:B:673:C:C2'	2:B:674:G:H5'	2.45	0.46
2:B:2465:C:O2'	2:B:2466:C:H5'	2.16	0.46
2:B:1383:A:H2	2:B:1405:U:O2	1.98	0.46
2:B:454:A:H3'	2:B:455:C:H5'	1.96	0.46
19:H:47:PHE:C	19:H:50:ARG:HH21	2.18	0.46
2:B:2078:C:O2'	2:B:2079:U:H5'	2.15	0.46
2:B:2101:A:H2'	2:B:2102:G:C8	2.50	0.46
2:B:947:A:O2'	2:B:984:A:H2	1.98	0.46
2:B:99:U:H5'	2:B:99:U:O2	2.15	0.46
16:L:50:PHE:O	16:L:52:GLY:N	2.49	0.46
26:F:177:ARG:NH2	26:F:178:LYS:H	2.13	0.46
26:F:19:PHE:HE1	26:F:167:ALA:HB2	1.81	0.46
2:B:2753:A:H2'	2:B:2754:U:C6	2.50	0.46
2:B:2817:U:O2'	2:B:2837:A:H1'	2.15	0.46
2:B:635:C:O2'	2:B:639:U:H5''	2.15	0.46
2:B:2389:G:H5''	2:B:2390:U:H5'	1.97	0.46
2:B:945:A:OP2	2:B:945:A:H4'	2.15	0.46
20:J:8:PRO:HG3	20:J:48:VAL:HG13	1.97	0.46
2:B:2896:C:H2'	2:B:2897:U:H6	1.77	0.46
6:K:47:ILE:HG23	6:K:49:ARG:H	1.80	0.46
2:B:2598:A:H5''	4:C:233:GLY:HA2	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:105:ARG:HD3	6:K:105:ARG:N	2.24	0.46
17:M:38:ARG:CB	17:M:38:ARG:HH11	2.20	0.46
9:Y:8:GLN:HB3	9:Y:31:ILE:O	2.15	0.46
5:D:90:PHE:HD2	5:D:94:GLN:HG3	1.80	0.46
2:B:548:G:O5'	2:B:548:G:H8	1.98	0.46
14:V:32:GLY:O	14:V:93:ARG:HG3	2.15	0.46
21:N:3:HIS:O	21:N:4:ARG:HB2	2.14	0.46
2:B:309:A:N3	2:B:329:G:O2'	2.47	0.46
25:U:48:VAL:HG22	25:U:48:VAL:O	2.15	0.46
24:S:46:LEU:O	24:S:50:VAL:HG23	2.15	0.46
2:B:68:G:H2'	2:B:69:C:H6	1.80	0.46
2:B:1577:C:H2'	2:B:1578:U:O4'	2.15	0.46
2:B:1683:U:O2'	2:B:1684:G:H5'	2.16	0.46
2:B:1219:U:H2'	2:B:1220:G:C8	2.49	0.46
2:B:599:A:O2'	2:B:600:G:H5'	2.14	0.46
5:D:39:ASP:OD2	5:D:41:ALA:HB3	2.15	0.46
20:J:65:THR:HG23	20:J:66:GLY:N	2.31	0.46
15:2:25:LYS:C	15:2:27:GLY:H	2.19	0.46
6:K:121:GLU:O	6:K:122:VAL:C	2.54	0.46
8:E:52:VAL:HG11	8:E:81:GLY:HA3	1.97	0.46
2:B:2685:G:O2'	2:B:2686:G:H5'	2.16	0.46
27:G:26:LYS:HA	27:G:32:LEU:CA	2.45	0.46
4:C:91:ALA:HB2	4:C:105:ALA:HB2	1.96	0.46
4:C:130:PRO:CG	4:C:133:ASN:HD22	2.18	0.46
19:H:108:VAL:HG12	19:H:109:GLU:N	2.28	0.46
24:S:52:GLU:HA	24:S:55:ILE:CG2	2.42	0.46
2:B:2147:A:H5'	2:B:2148:G:O4'	2.15	0.46
27:G:167:VAL:HG23	27:G:168:VAL:N	2.26	0.46
2:B:1433:A:H2'	2:B:1434:A:O4'	2.15	0.46
27:G:10:VAL:HG12	27:G:14:VAL:HG21	1.97	0.46
2:B:919:U:H6	2:B:919:U:O5'	1.98	0.46
8:E:58:LYS:HB2	8:E:60:TRP:HB2	1.98	0.46
2:B:1439:A:C5	2:B:1552:A:N6	2.83	0.46
27:G:96:ALA:O	27:G:97:VAL:HB	2.16	0.46
13:3:61:LEU:CB	13:3:64:ALA:HB2	2.44	0.46
5:D:46:ARG:HH12	5:D:88:GLU:HG3	1.81	0.46
16:L:85:VAL:HG22	16:L:94:THR:HG22	1.97	0.46
16:L:95:LEU:HB2	16:L:101:ILE:HG13	1.98	0.46
3:I:5:GLN:HG2	3:I:6:ALA:H	1.78	0.46
21:N:12:ARG:HG2	21:N:16:HIS:HB2	1.97	0.46
2:B:1221:C:O2'	2:B:1222:U:H5'	2.15	0.46
2:B:2746:U:H4'	27:G:137:LYS:HG3	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1678:A:H2'	2:B:1679:A:O4'	2.16	0.46
5:D:38:LYS:HD3	5:D:45:TYR:OH	2.14	0.46
2:B:1985:C:O2'	2:B:1986:C:H5'	2.14	0.46
1:A:112:G:O2'	1:A:113:C:H5'	2.15	0.46
17:M:78:LEU:HD12	17:M:79:ALA:H	1.80	0.46
2:B:2332:C:H4'	2:B:2336:A:C6	2.51	0.46
5:D:3:GLY:C	5:D:4:LEU:HD22	2.36	0.46
2:B:533:G:H5'	23:Q:23:TYR:CD2	2.50	0.46
8:E:188:MET:HG2	8:E:193:VAL:CG2	2.45	0.46
4:C:155:ARG:HH11	4:C:155:ARG:CB	2.29	0.46
7:P:1:SER:N	7:P:4:ILE:HB	2.31	0.46
16:L:4:ASN:N	16:L:4:ASN:ND2	2.61	0.46
2:B:100:U:O2	2:B:100:U:C2'	2.52	0.46
5:D:48:ILE:HG23	5:D:82:PHE:HB2	1.97	0.46
2:B:973:A:OP1	2:B:973:A:H8	1.98	0.46
7:P:20:ARG:O	7:P:46:VAL:HG21	2.15	0.46
27:G:7:PRO:O	27:G:8:VAL:HB	2.16	0.46
5:D:118:PHE:CD1	5:D:119:ALA:N	2.84	0.46
2:B:2286:G:O6	12:1:22:THR:HG21	2.16	0.46
2:B:674:G:H2'	2:B:804:A:H61	1.80	0.46
2:B:1439:A:N7	2:B:1440:U:C6	2.83	0.46
19:H:62:LEU:HD13	19:H:66:ASN:ND2	2.29	0.46
2:B:877:A:C2	2:B:900:A:N7	2.84	0.46
29:T:18:GLU:O	29:T:20:ALA:N	2.42	0.46
2:B:2803:G:O2'	2:B:2804:U:H5'	2.16	0.46
2:B:19:A:H2'	2:B:20:C:H6	1.79	0.46
29:T:69:ARG:HA	29:T:69:ARG:NH1	2.30	0.46
19:H:79:THR:HG22	19:H:145:ASN:CB	2.44	0.46
28:R:49:ILE:HG21	28:R:53:PHE:C	2.36	0.46
28:R:78:ARG:HH21	28:R:78:ARG:HG3	1.79	0.46
2:B:1105:U:H2'	2:B:1106:G:H8	1.76	0.46
2:B:2430:A:H5'	2:B:2431:U:OP2	2.15	0.46
30:Z:20:HIS:O	30:Z:21:ALA:HB3	2.15	0.46
5:D:33:ARG:NE	5:D:74:GLU:HB3	2.30	0.46
2:B:246:C:H2'	2:B:247:G:H5'	1.97	0.46
2:B:2649:C:H2'	2:B:2650:U:C6	2.51	0.46
2:B:1053:C:H2'	2:B:1054:A:H8	1.80	0.46
4:C:239:PHE:HD1	4:C:241:LYS:H	1.64	0.46
2:B:1181:U:O2'	2:B:1182:G:H5'	2.16	0.46
2:B:1010:A:N3	2:B:1153:C:H1'	2.30	0.46
2:B:1343:G:O4'	2:B:1597:A:H2'	2.16	0.46
2:B:126:A:C5'	15:2:19:ARG:HG3	2.27	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:K:76:VAL:HG12	6:K:77:ILE:N	2.31	0.46
8:E:153:LEU:HG	8:E:154:ASP:H	1.79	0.46
23:Q:91:ARG:HE	23:Q:94:LEU:CD2	2.28	0.46
16:L:89:VAL:HA	16:L:121:THR:O	2.16	0.46
4:C:141:HIS:HB3	4:C:190:THR:OG1	2.16	0.46
29:T:47:VAL:HG12	29:T:47:VAL:O	2.16	0.46
7:P:4:ILE:HA	7:P:7:LEU:HB3	1.98	0.46
24:S:26:GLY:N	24:S:71:VAL:HG13	2.30	0.46
6:K:79:PHE:HD2	7:P:69:VAL:HG12	1.80	0.46
2:B:920:A:H2'	2:B:921:C:C6	2.50	0.46
2:B:1438:U:H2'	2:B:1439:A:O4'	2.15	0.46
23:Q:83:LYS:HZ1	23:Q:87:VAL:HA	1.81	0.46
7:P:50:ARG:HD3	7:P:56:SER:HB3	1.97	0.46
2:B:2030:A:H4'	2:B:2031:A:H5'	1.98	0.46
19:H:49:ALA:HB3	19:H:50:ARG:NH2	2.31	0.46
2:B:2231:U:O2'	2:B:2232:C:H5'	2.16	0.46
2:B:677:A:O2'	2:B:2071:A:H5'	2.15	0.46
14:V:70:ILE:HD13	14:V:70:ILE:H	1.81	0.46
8:E:59:PRO:HB2	8:E:67:ARG:NH2	2.29	0.46
2:B:322:A:C2	2:B:340:A:C6	3.04	0.46
2:B:68:G:H2'	2:B:69:C:C6	2.50	0.46
2:B:826:U:H5''	2:B:2428:G:O3'	2.14	0.46
2:B:2153:C:O2	2:B:2153:C:H2'	2.16	0.46
8:E:73:ILE:O	8:E:73:ILE:HG12	2.16	0.46
3:I:63:ASP:C	3:I:65:SER:H	2.18	0.46
8:E:111:GLU:HG2	8:E:114:ARG:HH21	1.81	0.46
31:W:47:GLY:HA3	31:W:80:SER:CB	2.45	0.46
2:B:359:G:O2'	2:B:360:U:H5'	2.14	0.46
2:B:2774:C:H2'	2:B:2775:G:O4'	2.15	0.46
20:J:89:PHE:CE1	20:J:93:ILE:HD13	2.49	0.46
2:B:496:G:H4'	24:S:61:ASN:ND2	2.30	0.46
27:G:1:SER:HA	27:G:61:TRP:CZ3	2.50	0.46
21:N:75:ILE:O	21:N:79:LEU:HD12	2.16	0.46
20:J:24:THR:O	20:J:25:LEU:HB3	2.16	0.46
15:2:31:LEU:CD2	15:2:42:LEU:HD12	2.40	0.46
26:F:7:TYR:HA	26:F:11:VAL:CG2	2.46	0.46
5:D:148:GLN:CB	5:D:152:PRO:HG2	2.44	0.46
26:F:62:GLN:HE22	26:F:90:LEU:HA	1.81	0.46
2:B:549:G:H2'	20:J:2:LYS:CE	2.45	0.46
18:X:51:ALA:O	18:X:55:THR:N	2.48	0.46
13:3:60:CYS:C	13:3:61:LEU:HD23	2.35	0.46
3:I:138:VAL:HG12	3:I:139:VAL:N	2.30	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:P:32:VAL:HG12	7:P:33:GLU:O	2.16	0.46
2:B:1508:A:H5'	2:B:1509:A:N1	2.30	0.46
16:L:91:ASP:HB2	16:L:94:THR:OG1	2.16	0.46
2:B:328:U:H4'	25:U:65:GLN:CD	2.35	0.46
2:B:2085:U:O2'	2:B:2086:U:H5'	2.15	0.46
24:S:73:LYS:HE3	24:S:74:ILE:N	2.29	0.46
24:S:73:LYS:CE	24:S:74:ILE:H	2.28	0.46
2:B:2579:C:O5'	2:B:2579:C:H6	1.98	0.46
25:U:41:VAL:O	25:U:42:LYS:HB2	2.15	0.46
24:S:43:ALA:O	24:S:46:LEU:HB2	2.16	0.46
22:O:104:GLN:O	22:O:107:ALA:HB3	2.15	0.46
2:B:15:G:H2'	2:B:16:C:H6	1.80	0.46
2:B:1577:C:H2'	2:B:1578:U:C6	2.51	0.46
12:1:18:HIS:NE2	12:1:40:PRO:HD2	2.30	0.46
2:B:901:C:H2'	2:B:902:C:C6	2.51	0.46
2:B:1911:U:O4	2:B:1918:A:H2'	2.16	0.46
2:B:1260:A:H2'	2:B:1261:C:H6	1.81	0.46
13:3:9:ALA:HA	16:L:58:TYR:HB2	1.97	0.46
20:J:75:TYR:CD1	20:J:86:GLN:HB3	2.51	0.46
5:D:4:LEU:HD12	5:D:32:ASN:HB2	1.96	0.46
19:H:82:SER:O	19:H:90:LEU:HG	2.14	0.46
27:G:33:THR:HA	27:G:34:ARG:NH1	2.30	0.46
16:L:40:SER:O	16:L:44:GLY:HA3	2.15	0.46
3:I:27:LEU:HB2	3:I:32:VAL:HG21	1.97	0.46
25:U:95:PHE:CE1	25:U:102:ILE:HB	2.31	0.46
6:K:43:ILE:CD1	6:K:52:VAL:HB	2.45	0.46
11:4:11:CYS:SG	11:4:33:HIS:CE1	3.08	0.46
2:B:1082:U:C2	2:B:1086:A:N1	2.84	0.46
8:E:175:ILE:HD11	8:E:180:LEU:HD11	1.97	0.46
2:B:329:G:H22	25:U:16:LYS:NZ	2.13	0.46
2:B:1411:U:H2'	2:B:1412:U:C6	2.51	0.46
27:G:84:LYS:HG2	27:G:85:LYS:N	2.28	0.46
2:B:1464:G:O2'	2:B:1465:G:H5'	2.16	0.46
5:D:69:ALA:N	5:D:73:VAL:HB	2.31	0.46
17:M:126:ILE:H	17:M:126:ILE:HD12	1.81	0.46
6:K:88:ASN:HD22	6:K:89:ASN:N	2.13	0.46
4:C:209:ALA:HA	4:C:212:TRP:CE2	2.51	0.46
16:L:131:ALA:C	16:L:133:ALA:N	2.68	0.46
9:Y:35:VAL:HG11	9:Y:37:ARG:HH12	1.81	0.46
2:B:1745:A:H2'	2:B:1746:A:O4'	2.15	0.46
3:I:44:LYS:O	3:I:48:ILE:HG13	2.15	0.46
8:E:40:ARG:NH2	8:E:92:HIS:NE2	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1641:A:H2'	2:B:1642:G:O4'	2.16	0.46
2:B:2520:C:O2'	2:B:2521:C:H5'	2.16	0.46
5:D:38:LYS:HD3	5:D:45:TYR:CZ	2.51	0.46
2:B:2438:U:O3'	2:B:2439:A:H3'	2.16	0.46
2:B:1040:A:H2'	2:B:1041:G:H8	1.80	0.46
2:B:2716:C:O2'	2:B:2717:C:H5'	2.16	0.46
2:B:1249:U:O4'	23:Q:3:VAL:HG21	2.15	0.46
2:B:572:A:H5''	2:B:573:U:OP2	2.15	0.46
2:B:259:G:O2'	2:B:260:G:H5'	2.16	0.46
2:B:1799:G:H4'	2:B:1800:C:O5'	2.16	0.46
6:K:98:ARG:C	6:K:99:ILE:HD12	2.36	0.46
6:K:19:VAL:C	6:K:41:ILE:HD11	2.36	0.46
20:J:58:ASN:C	20:J:60:ASP:H	2.20	0.46
26:F:7:TYR:O	26:F:11:VAL:HB	2.16	0.46
26:F:91:ARG:O	26:F:92:GLY:C	2.55	0.46
27:G:84:LYS:CG	27:G:85:LYS:H	2.19	0.46
16:L:101:ILE:HG22	16:L:102:GLY:N	2.31	0.46
2:B:444:C:O2'	2:B:445:C:H5'	2.16	0.46
26:F:177:ARG:CZ	26:F:178:LYS:H	2.29	0.46
1:A:14:U:H4'	1:A:70:C:O2	2.16	0.46
2:B:508:A:HO2'	2:B:509:C:P	2.38	0.46
27:G:86:LEU:HD23	27:G:163:TYR:HA	1.98	0.46
2:B:1152:C:H4'	23:Q:76:SER:HA	1.97	0.46
2:B:2676:C:H2'	2:B:2677:G:H8	1.81	0.46
25:U:85:ARG:O	25:U:92:VAL:HB	2.16	0.46
29:T:5:GLU:CA	29:T:8:LEU:HB2	2.31	0.46
23:Q:91:ARG:NH2	28:R:11:GLN:N	2.64	0.46
26:F:41:GLU:O	26:F:43:ILE:N	2.49	0.46
26:F:78:ILE:HG13	26:F:82:TYR:CZ	2.50	0.46
13:3:31:ILE:HD11	13:3:34:LYS:CD	2.37	0.46
2:B:1081:U:O2'	3:I:118:GLY:HA2	2.16	0.46
3:I:33:ASN:HD21	3:I:64:ARG:NH1	2.09	0.46
2:B:4:U:H2'	2:B:5:A:H8	1.81	0.46
2:B:2098:U:O2'	2:B:2099:U:H5'	2.15	0.46
22:O:88:LYS:HE2	22:O:116:GLN:CD	2.36	0.46
19:H:67:ALA:CA	19:H:70:GLU:HG2	2.46	0.46
24:S:73:LYS:HD2	24:S:73:LYS:HA	1.68	0.46
2:B:1728:C:H2'	2:B:1730:C:O2	2.16	0.46
28:R:78:ARG:HB3	28:R:83:TYR:HB3	1.97	0.46
22:O:7:ARG:HA	22:O:10:ARG:CZ	2.46	0.46
23:Q:18:LYS:C	23:Q:20:ALA:N	2.69	0.46
2:B:1153:C:H2'	2:B:1154:G:O4'	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2415:G:H2'	2:B:2416:C:H6	1.81	0.46
1:A:78:A:H2'	1:A:79:G:O4'	2.16	0.46
2:B:1987:A:H2'	2:B:1988:G:H8	1.81	0.46
30:Z:15:GLY:O	30:Z:26:LYS:HA	2.16	0.46
2:B:858:G:H4'	31:W:19:ARG:HH22	1.81	0.45
29:T:4:GLU:OE2	29:T:5:GLU:HG2	2.15	0.45
2:B:2897:U:H2'	2:B:2898:U:H6	1.80	0.45
30:Z:40:VAL:CG2	30:Z:45:ARG:H	2.30	0.45
17:M:36:VAL:HG21	17:M:129:THR:HB	1.98	0.45
26:F:104:THR:CA	26:F:108:PRO:HG2	2.46	0.45
2:B:141:G:H5''	2:B:142:A:O4'	2.15	0.45
2:B:143:C:H3'	2:B:144:A:C8	2.51	0.45
27:G:94:ARG:HE	27:G:94:ARG:C	2.20	0.45
2:B:2186:G:H2'	2:B:2187:U:C6	2.50	0.45
1:A:7:G:H1'	22:O:38:GLN:HE22	1.80	0.45
2:B:2834:G:O6	2:B:2879:A:H2'	2.15	0.45
2:B:170:U:H2'	2:B:171:U:H6	1.81	0.45
2:B:2804:U:H2'	2:B:2805:C:H6	1.77	0.45
2:B:299:A:N6	2:B:322:A:O2'	2.48	0.45
4:C:61:TYR:HA	4:C:85:ASN:HD21	1.80	0.45
6:K:53:LYS:HD3	6:K:53:LYS:H	1.81	0.45
2:B:1824:G:O2'	4:C:251:THR:HG21	2.16	0.45
5:D:55:LYS:C	5:D:57:ALA:H	2.19	0.45
2:B:217:A:H2'	2:B:218:A:O4'	2.15	0.45
2:B:1979:U:O2'	2:B:1980:G:H5'	2.16	0.45
2:B:2276:G:OP2	17:M:85:GLY:N	2.43	0.45
2:B:823:C:O2'	2:B:824:U:H5'	2.16	0.45
2:B:857:G:H2'	2:B:858:G:H5'	1.98	0.45
2:B:533:G:H5'	23:Q:23:TYR:CE2	2.51	0.45
23:Q:30:VAL:O	23:Q:31:TYR:CB	2.62	0.45
22:O:49:VAL:HG11	22:O:82:ALA:HB2	1.98	0.45
26:F:87:LYS:CG	26:F:88:VAL:H	2.21	0.45
17:M:97:GLN:HB2	17:M:98:PRO:HD2	1.98	0.45
10:O:50:GLY:C	10:O:51:ARG:HG2	2.37	0.45
10:O:27:LEU:H	10:O:27:LEU:CD1	2.23	0.45
2:B:182:A:H1'	2:B:434:U:H5'	1.98	0.45
2:B:2688:G:H1'	2:B:2721:A:N6	2.32	0.45
26:F:121:PHE:HB3	26:F:127:TYR:CE2	2.52	0.45
2:B:2230:G:H2'	2:B:2231:U:H6	1.80	0.45
28:R:21:ARG:HB3	28:R:95:ASP:OD1	2.16	0.45
2:B:2645:G:H3'	2:B:2646:C:C5'	2.44	0.45
15:2:26:ASN:O	15:2:30:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:37:C:O2'	8:E:45:ALA:HA	2.16	0.45
2:B:2839:G:H2'	2:B:2840:C:H6	1.81	0.45
16:L:65:GLY:O	16:L:66:PHE:CB	2.64	0.45
4:C:29:PHE:CE2	4:C:31:PRO:HG2	2.51	0.45
2:B:208:C:H2'	2:B:209:C:H6	1.81	0.45
2:B:1882:U:O2'	2:B:1883:U:H5'	2.15	0.45
22:O:18:LEU:HD23	22:O:25:ARG:CD	2.47	0.45
2:B:485:C:HO2'	24:S:60:HIS:CE1	2.34	0.45
5:D:29:VAL:O	5:D:185:ASN:HB3	2.16	0.45
19:H:94:ILE:CG2	19:H:99:ILE:HD11	2.46	0.45
8:E:154:ASP:C	8:E:156:ASN:H	2.20	0.45
8:E:134:LEU:CD2	8:E:161:ALA:HB2	2.44	0.45
23:Q:111:LYS:HB2	28:R:48:LYS:HE2	1.98	0.45
28:R:5:PHE:CD1	28:R:5:PHE:N	2.84	0.45
2:B:2895:G:O2'	2:B:2896:C:H5'	2.15	0.45
29:T:54:GLU:HG3	29:T:89:GLU:H	1.81	0.45
29:T:83:ALA:O	29:T:84:TYR:HB2	2.17	0.45
16:L:80:SER:HB3	16:L:115:GLU:OE2	2.16	0.45
7:P:3:ILE:HD13	7:P:3:ILE:O	2.16	0.45
21:N:79:LEU:O	21:N:80:PHE:HB2	2.16	0.45
6:K:8:LEU:N	6:K:8:LEU:HD12	2.28	0.45
26:F:110:ILE:HB	26:F:113:PHE:HB3	1.98	0.45
2:B:63:A:OP2	2:B:63:A:C8	2.68	0.45
2:B:845:A:N1	2:B:847:U:H1'	2.32	0.45
2:B:674:G:H1'	8:E:69:ARG:HE	1.82	0.45
1:A:7:G:O2'	1:A:8:C:H5'	2.16	0.45
4:C:18:VAL:HG13	4:C:18:VAL:O	2.16	0.45
2:B:2088:A:H2'	2:B:2089:C:C6	2.52	0.45
18:X:15:ASN:HD22	18:X:15:ASN:H	1.63	0.45
30:Z:66:THR:O	30:Z:70:GLU:HG3	2.16	0.45
2:B:1945:G:C4	2:B:1946:U:C5	3.04	0.45
2:B:30:G:H2'	2:B:31:C:H6	1.80	0.45
2:B:992:C:O2'	2:B:993:G:H5'	2.16	0.45
2:B:1585:C:H2'	2:B:1586:A:O4'	2.16	0.45
2:B:2340:A:H2'	2:B:2341:G:H8	1.81	0.45
2:B:425:G:O2'	2:B:426:C:H5'	2.15	0.45
2:B:2415:G:H2'	2:B:2416:C:C6	2.51	0.45
30:Z:29:PHE:N	30:Z:29:PHE:CD1	2.84	0.45
2:B:819:A:OP2	2:B:1187:G:N2	2.49	0.45
17:M:29:GLY:HA2	17:M:106:ASP:HB2	1.98	0.45
26:F:74:ALA:HB3	26:F:77:LYS:O	2.15	0.45
2:B:1059:G:H2'	2:B:1060:U:C5	2.51	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:184:ARG:HD3	5:D:186:LEU:HD22	1.98	0.45
11:4:10:LEU:HD13	11:4:33:HIS:CD2	2.52	0.45
22:O:34:HIS:HB3	22:O:36:TYR:HE2	1.81	0.45
2:B:1080:A:H2'	2:B:1081:U:C6	2.50	0.45
10:O:43:THR:HG23	10:O:47:TYR:O	2.17	0.45
9:Y:15:ARG:HD2	9:Y:15:ARG:N	2.31	0.45
14:V:79:ARG:NH1	17:M:134:THR:HG21	2.32	0.45
2:B:675:A:OP1	8:E:60:TRP:NE1	2.49	0.45
17:M:41:LEU:O	17:M:94:ALA:N	2.49	0.45
2:B:1476:U:HO2'	2:B:1477:A:H8	1.65	0.45
3:I:14:ALA:HA	3:I:45:THR:HG21	1.96	0.45
2:B:2840:C:O2'	2:B:2841:C:H5'	2.17	0.45
2:B:936:A:H2'	2:B:937:C:C6	2.51	0.45
2:B:1341:G:H2'	2:B:1397:U:HO2'	1.82	0.45
2:B:219:A:O2'	2:B:220:G:H5'	2.16	0.45
7:P:103:THR:HG22	7:P:104:GLY:N	2.32	0.45
20:J:64:VAL:HG22	20:J:68:LYS:HD2	1.98	0.45
12:1:25:ASN:OD1	12:1:27:ARG:HB2	2.16	0.45
2:B:1880:U:H2'	2:B:1881:C:C6	2.52	0.45
5:D:202:ILE:HD12	5:D:202:ILE:N	2.31	0.45
2:B:2309:A:H2'	2:B:2310:C:C6	2.52	0.45
2:B:2418:A:H2'	2:B:2419:U:O4'	2.16	0.45
2:B:2630:G:O2'	2:B:2631:G:H5'	2.17	0.45
2:B:2569:G:O2'	2:B:2570:G:H5'	2.16	0.45
4:C:259:ASN:OD1	4:C:261:ARG:HB3	2.17	0.45
2:B:463:G:N2	2:B:466:A:OP2	2.45	0.45
8:E:138:LEU:O	8:E:142:ALA:N	2.50	0.45
27:G:32:LEU:HB3	27:G:34:ARG:CZ	2.47	0.45
27:G:23:ILE:HG21	27:G:71:LEU:HD11	1.98	0.45
16:L:121:THR:HG22	16:L:141:LYS:HB3	1.98	0.45
20:J:123:LYS:O	20:J:124:VAL:HG13	2.16	0.45
2:B:667:U:H2'	2:B:668:A:O4'	2.17	0.45
21:N:32:GLU:O	21:N:114:GLU:HA	2.17	0.45
2:B:2515:C:O2'	2:B:2516:A:H5'	2.16	0.45
2:B:2306:C:H3'	2:B:2307:G:H5'	1.92	0.45
15:2:22:MET:HE2	15:2:31:LEU:HD13	1.97	0.45
26:F:29:ARG:HH11	26:F:29:ARG:HB2	1.82	0.45
3:I:126:ARG:HA	3:I:129:GLU:OE2	2.16	0.45
2:B:363:G:H2'	2:B:364:C:H6	1.81	0.45
25:U:26:ASN:ND2	25:U:26:ASN:N	2.64	0.45
27:G:93:TYR:HA	27:G:105:SER:O	2.16	0.45
7:P:52:ARG:HG2	7:P:52:ARG:NH1	2.31	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:H:49:ALA:HB3	19:H:50:ARG:HH12	1.81	0.45
18:X:1:MET:CG	18:X:4:LYS:HD3	2.47	0.45
2:B:2811:G:O2'	2:B:2812:G:H5'	2.16	0.45
2:B:1490:A:H2'	4:C:97:ASP:OD1	2.16	0.45
2:B:322:A:P	8:E:163:ASN:HD22	2.39	0.45
2:B:1789:A:H2'	2:B:1790:C:O4'	2.17	0.45
2:B:840:C:H2'	2:B:841:G:C8	2.52	0.45
2:B:246:C:C2'	2:B:247:G:H5'	2.46	0.45
2:B:2025:C:H2'	2:B:2026:U:C6	2.52	0.45
2:B:219:A:H2	2:B:234:U:O2	2.00	0.45
2:B:2023:C:H4'	2:B:2617:U:O3'	2.17	0.45
8:E:152:GLU:HA	8:E:152:GLU:OE1	2.16	0.45
2:B:107:G:H2'	2:B:108:G:H8	1.80	0.45
12:1:11:VAL:O	12:1:48:TYR:HA	2.15	0.45
23:Q:57:ARG:HG2	23:Q:57:ARG:HH11	1.82	0.45
2:B:848:C:H2'	2:B:849:A:H8	1.81	0.45
4:C:106:PRO:HB3	4:C:141:HIS:CE1	2.52	0.45
4:C:143:VAL:HG12	4:C:144:GLU:H	1.81	0.45
4:C:128:THR:HG23	4:C:190:THR:HG22	1.98	0.45
2:B:9:G:H21	2:B:10:A:N6	2.04	0.45
20:J:16:TYR:CD2	20:J:140:LEU:HD12	2.51	0.45
26:F:131:VAL:O	26:F:132:ARG:HB2	2.17	0.45
3:I:32:VAL:HG13	3:I:66:PHE:CD2	2.51	0.45
21:N:65:LEU:HD11	21:N:69:ARG:CZ	2.46	0.45
5:D:112:THR:O	5:D:113:SER:HB2	2.17	0.45
2:B:2515:C:H2'	2:B:2516:A:H8	1.82	0.45
9:Y:8:GLN:HB3	9:Y:31:ILE:C	2.37	0.45
3:I:19:PRO:HG2	3:I:22:PRO:HB2	1.99	0.45
27:G:10:VAL:HB	27:G:47:ASN:O	2.16	0.45
8:E:69:ARG:O	8:E:70:SER:CB	2.64	0.45
2:B:2589:A:H2'	2:B:2590:A:C8	2.51	0.45
2:B:2189:U:H2'	2:B:2190:G:C8	2.48	0.45
2:B:2065:C:H1'	2:B:2449:U:H3	1.81	0.45
2:B:2092:U:H5	2:B:2226:C:OP2	2.00	0.45
2:B:813:U:H2'	2:B:814:C:H6	1.80	0.45
2:B:98:G:C2'	2:B:99:U:H5''	2.45	0.45
2:B:2892:G:H5''	2:B:2894:G:H22	1.81	0.45
2:B:831:G:H2'	2:B:832:U:O4'	2.16	0.45
13:3:28:LEU:HD22	13:3:43:LEU:CB	2.46	0.45
14:V:48:MET:O	14:V:51:GLN:HG3	2.17	0.45
26:F:59:ILE:HG22	26:F:98:PHE:HE1	1.82	0.45
22:O:20:GLU:OE2	22:O:21:LEU:HG	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:W:38:ARG:N	31:W:38:ARG:HD3	2.31	0.45
23:Q:23:TYR:CB	23:Q:27:ARG:HB3	2.47	0.45
7:P:61:ARG:HD3	7:P:70:GLU:HG3	1.98	0.45
7:P:59:THR:H	7:P:72:VAL:HA	1.82	0.45
17:M:59:ARG:HE	17:M:60:GLN:N	2.09	0.45
20:J:44:TYR:CE2	23:Q:59:LEU:HD11	2.51	0.45
23:Q:91:ARG:HE	28:R:11:GLN:HB2	1.82	0.45
2:B:2420:C:O2'	2:B:2421:G:H5'	2.16	0.45
20:J:114:LEU:O	20:J:118:MET:HG3	2.17	0.45
26:F:3:LEU:HD12	26:F:96:TRP:CD1	2.52	0.45
2:B:1173:U:H1'	2:B:1177:G:H22	1.82	0.45
2:B:1173:U:H2'	2:B:1174:U:C4'	2.47	0.45
21:N:34:ILE:HB	21:N:113:ILE:CG2	2.44	0.45
2:B:2468:A:H2'	2:B:2476:A:C6	2.52	0.45
2:B:1551:A:H2'	2:B:1552:A:O4'	2.17	0.45
2:B:7:G:H4'	20:J:15:TRP:CZ2	2.52	0.45
24:S:50:VAL:O	24:S:53:SER:HB3	2.17	0.45
2:B:2790:U:H5'	2:B:2893:A:N7	2.32	0.45
27:G:54:ARG:HB3	27:G:57:TYR:HD1	1.79	0.45
2:B:1100:C:H2'	2:B:1101:U:C6	2.51	0.45
6:K:2:ILE:HG13	6:K:33:ALA:O	2.17	0.45
2:B:2889:C:H2'	2:B:2890:G:C8	2.51	0.45
31:W:23:LYS:HD2	31:W:24:ARG:HB3	1.99	0.45
5:D:106:LYS:HB3	5:D:206:ALA:CB	2.47	0.45
16:L:84:LYS:C	16:L:86:GLU:H	2.20	0.45
2:B:1799:G:C5	4:C:175:LEU:HD13	2.52	0.45
2:B:1599:U:OP1	29:T:39:THR:HA	2.16	0.45
26:F:78:ILE:HA	26:F:79:ARG:HE	1.82	0.45
26:F:78:ILE:H	26:F:79:ARG:NH1	2.13	0.45
19:H:132:PHE:HB2	19:H:142:VAL:CG2	2.47	0.45
8:E:181:ILE:HG13	16:L:2:ARG:HB3	1.99	0.45
24:S:24:ILE:CG2	24:S:71:VAL:HG11	2.44	0.45
27:G:3:VAL:O	27:G:68:ARG:HG3	2.17	0.45
27:G:72:ASN:O	27:G:76:ILE:HG12	2.16	0.45
21:N:51:LEU:HD11	21:N:69:ARG:HG3	1.99	0.45
26:F:107:VAL:HB	26:F:108:PRO:HD3	1.99	0.45
14:V:6:ALA:O	14:V:65:VAL:HG12	2.17	0.45
2:B:2740:A:H2'	2:B:2741:A:C8	2.51	0.45
10:O:42:ILE:HG22	10:O:43:THR:O	2.16	0.45
12:1:22:THR:OG1	12:1:23:THR:N	2.49	0.45
8:E:60:TRP:CZ3	8:E:62:GLN:HA	2.52	0.45
2:B:1408:G:O2'	2:B:1409:U:H5'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:6:G:H2'	1:A:7:G:C8	2.51	0.45
20:J:29:ALA:O	20:J:32:LEU:HB2	2.17	0.45
2:B:2751:G:H5'	27:G:2:ARG:HD2	1.99	0.45
2:B:21:A:O2'	2:B:22:C:H5'	2.16	0.45
2:B:2373:G:O2'	2:B:2374:C:H5'	2.17	0.45
17:M:40:ARG:HB3	17:M:95:LEU:HD12	1.99	0.45
2:B:1746:A:H2'	2:B:1747:U:C6	2.51	0.45
2:B:639:U:H2'	2:B:640:C:H6	1.79	0.45
2:B:817:C:H2'	2:B:818:G:O4'	2.16	0.45
4:C:32:LEU:O	4:C:63:ILE:HG12	2.17	0.45
2:B:244:A:H2'	2:B:245:G:O4'	2.17	0.45
2:B:125:A:C6	15:2:10:LEU:HD23	2.52	0.45
5:D:30:GLU:HB3	5:D:185:ASN:ND2	2.31	0.45
27:G:157:LYS:HB3	27:G:159:LYS:HG2	1.98	0.45
18:X:36:GLN:HB2	18:X:37:LEU:H	1.50	0.45
4:C:138:SER:O	4:C:140:VAL:HG23	2.17	0.45
2:B:587:C:H4'	2:B:588:U:C6	2.52	0.45
16:L:29:LYS:C	16:L:31:GLY:H	2.21	0.45
21:N:79:LEU:C	21:N:81:ASN:H	2.20	0.45
2:B:784:G:N2	4:C:225:ASN:HD22	2.13	0.45
2:B:1561:C:H2'	2:B:1562:U:C6	2.52	0.45
2:B:2678:C:H2'	2:B:2679:A:H8	1.82	0.45
2:B:1593:A:H2'	2:B:1594:U:H6	1.80	0.45
2:B:982:C:O2	2:B:982:C:H2'	2.16	0.45
22:O:2:ASP:OD2	22:O:4:LYS:HB3	2.16	0.45
3:I:12:VAL:HG23	3:I:41:PHE:CE2	2.52	0.45
2:B:2751:G:H4'	2:B:2752:C:OP1	2.16	0.45
25:U:12:VAL:HG22	25:U:69:VAL:CG1	2.45	0.45
9:Y:37:ARG:HG3	9:Y:38:GLU:OE1	2.17	0.45
12:1:18:HIS:CD2	12:1:40:PRO:HD2	2.52	0.45
2:B:508:A:O2'	2:B:509:C:OP1	2.35	0.45
2:B:242:G:N7	13:3:4:LYS:HG2	2.31	0.45
5:D:138:LEU:HD22	5:D:138:LEU:N	2.31	0.45
3:I:72:THR:HG21	3:I:111:THR:O	2.17	0.45
9:Y:21:ALA:O	9:Y:24:LEU:HB3	2.17	0.45
26:F:78:ILE:N	26:F:79:ARG:HH11	2.15	0.45
19:H:69:ALA:HA	19:H:140:ALA:CB	2.47	0.45
24:S:42:LYS:O	24:S:45:VAL:HG22	2.17	0.45
26:F:106:ALA:N	26:F:108:PRO:HD2	2.31	0.45
2:B:2146:C:C4'	2:B:2148:G:H1'	2.47	0.45
1:A:28:C:H2'	1:A:29:A:O4'	2.17	0.45
12:1:36:LYS:HA	12:1:46:VAL:O	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2783:U:H2'	2:B:2784:U:H6	1.82	0.45
5:D:123:LYS:O	5:D:165:MET:HE1	2.17	0.45
23:Q:81:GLY:C	23:Q:83:LYS:N	2.68	0.45
27:G:83:THR:C	27:G:84:LYS:HD3	2.38	0.45
2:B:2463:C:O2'	2:B:2464:G:H5'	2.16	0.45
24:S:25:ARG:CZ	24:S:74:ILE:HG23	2.47	0.45
17:M:94:ALA:O	17:M:96:ILE:HG23	2.16	0.45
23:Q:7:VAL:O	23:Q:11:ALA:HB2	2.17	0.45
2:B:1845:G:O2'	2:B:1846:G:H5'	2.17	0.45
8:E:59:PRO:CB	8:E:67:ARG:HH22	2.30	0.45
2:B:2671:G:H2'	2:B:2672:U:H6	1.81	0.45
24:S:33:LEU:HG	24:S:51:LEU:HD23	1.99	0.45
3:I:109:ALA:HB1	3:I:124:MET:CG	2.47	0.45
2:B:1584:U:H3'	2:B:1585:C:H5'	1.99	0.45
23:Q:35:PHE:C	23:Q:37:ALA:N	2.71	0.45
2:B:220:G:H1	2:B:427:U:H2'	1.82	0.45
2:B:2835:A:H61	2:B:2878:U:H2'	1.82	0.45
22:O:14:ALA:C	22:O:16:ARG:H	2.21	0.45
2:B:464:U:H2'	2:B:465:G:O4'	2.17	0.45
2:B:2714:G:O2'	2:B:2715:C:H5'	2.17	0.45
2:B:1239:G:H5''	35:B:4021:HOH:O	2.17	0.45
2:B:1637:A:H2'	2:B:1638:C:C6	2.52	0.45
2:B:1740:G:H2'	2:B:1741:C:H6	1.80	0.45
16:L:142:ILE:HD12	16:L:142:ILE:N	2.31	0.45
2:B:297:G:H2'	2:B:298:G:O4'	2.17	0.44
19:H:89:LYS:HB3	19:H:90:LEU:H	1.59	0.44
29:T:87:LEU:HB2	29:T:91:GLN:CG	2.46	0.44
26:F:45:ASP:C	26:F:47:LYS:H	2.20	0.44
24:S:61:ASN:HB3	24:S:62:ASP:H	1.51	0.44
6:K:85:VAL:O	6:K:87:LEU:HD23	2.17	0.44
6:K:71:ARG:O	6:K:72:PRO:C	2.56	0.44
1:A:28:C:H2'	1:A:29:A:H8	1.82	0.44
19:H:41:LYS:CA	19:H:44:ILE:HG13	2.48	0.44
2:B:1047:G:O2'	2:B:1110:G:N1	2.42	0.44
22:O:67:ASN:H	22:O:70:ALA:CB	2.26	0.44
11:4:36:ARG:HG2	11:4:37:GLN:H	1.81	0.44
2:B:329:G:H1	25:U:16:LYS:HZ3	1.63	0.44
2:B:72:U:H1'	18:X:51:ALA:CB	2.47	0.44
27:G:102:ILE:CD1	27:G:116:LEU:HD11	2.46	0.44
2:B:2181:U:H2'	2:B:2182:U:O4'	2.16	0.44
2:B:1797:G:O3'	4:C:255:LYS:HA	2.18	0.44
2:B:2228:G:H2'	2:B:2229:U:H6	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:175:G:O2'	2:B:176:A:H5'	2.17	0.44
2:B:971:G:OP2	2:B:974:G:N2	2.50	0.44
23:Q:35:PHE:C	23:Q:37:ALA:H	2.20	0.44
24:S:13:SER:O	24:S:101:SER:HB3	2.16	0.44
18:X:45:GLN:O	18:X:46:VAL:HB	2.17	0.44
2:B:2215:C:O2'	2:B:2216:G:H5'	2.17	0.44
1:A:17:C:H2'	1:A:18:G:O4'	2.17	0.44
2:B:990:A:H1'	2:B:1156:A:C2	2.53	0.44
2:B:1064:C:H2'	2:B:1065:U:O4'	2.17	0.44
20:J:106:LYS:HA	20:J:106:LYS:HD2	1.86	0.44
27:G:36:LEU:HD22	27:G:36:LEU:N	2.32	0.44
2:B:1091:G:O2'	2:B:1092:C:H5'	2.17	0.44
30:Z:7:VAL:HG21	30:Z:59:ILE:CD1	2.48	0.44
20:J:44:TYR:HB2	23:Q:63:ARG:CD	2.47	0.44
19:H:141:LYS:HE2	19:H:141:LYS:HB2	1.73	0.44
18:X:6:LEU:O	18:X:7:ARG:HB3	2.18	0.44
24:S:70:LYS:HD3	24:S:110:ARG:C	2.38	0.44
15:2:22:MET:HA	15:2:28:ARG:HG3	1.99	0.44
9:Y:51:SER:HA	9:Y:54:VAL:CG2	2.48	0.44
31:W:77:LYS:HZ3	31:W:77:LYS:HB2	1.81	0.44
2:B:1172:C:C2'	2:B:1172:C:O2	2.65	0.44
14:V:16:ALA:HA	14:V:19:ARG:NE	2.27	0.44
9:Y:12:ALA:HB2	9:Y:53:MET:CE	2.47	0.44
14:V:29:ILE:HG13	14:V:88:HIS:CE1	2.51	0.44
2:B:182:A:O2'	2:B:183:C:H5'	2.17	0.44
22:O:116:GLN:O	22:O:117:PHE:HB3	2.17	0.44
2:B:327:G:O2'	2:B:328:U:H5'	2.16	0.44
29:T:93:LEU:HD22	29:T:93:LEU:N	2.32	0.44
2:B:528:A:H3'	2:B:528:A:H8	1.81	0.44
2:B:1921:G:O2'	2:B:1922:G:H5'	2.17	0.44
19:H:119:ASN:HB2	19:H:120:GLY:H	1.71	0.44
22:O:106:LEU:HA	22:O:109:ALA:HB3	1.99	0.44
7:P:44:GLY:HA3	7:P:60:VAL:CG1	2.48	0.44
2:B:1146:C:H2'	2:B:1147:A:C8	2.52	0.44
30:Z:11:ARG:HB3	30:Z:12:PRO:HD2	1.99	0.44
8:E:129:PRO:HB3	8:E:159:LEU:HD23	1.99	0.44
2:B:1652:A:OP1	21:N:8:ARG:HD3	2.17	0.44
29:T:57:VAL:O	29:T:85:VAL:O	2.35	0.44
16:L:79:LEU:HD13	16:L:115:GLU:O	2.17	0.44
26:F:46:LYS:HA	26:F:46:LYS:NZ	2.32	0.44
7:P:3:ILE:CG2	7:P:4:ILE:N	2.80	0.44
7:P:6:GLN:HA	7:P:9:GLN:HG2	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:3:LEU:HA	16:L:6:LEU:HD21	1.99	0.44
26:F:65:LEU:CD2	26:F:87:LYS:HD2	2.47	0.44
2:B:138:U:H6	2:B:138:U:O5'	2.00	0.44
2:B:1076:C:H4'	3:I:94:LYS:NZ	2.31	0.44
2:B:1349:C:H2'	2:B:1350:C:C6	2.51	0.44
5:D:91:THR:HG23	5:D:92:VAL:N	2.26	0.44
14:V:42:LEU:CD2	14:V:42:LEU:H	2.25	0.44
2:B:2863:C:O2'	2:B:2864:G:H5'	2.16	0.44
2:B:845:A:C2'	2:B:846:U:H5''	2.40	0.44
2:B:2472:G:C2'	2:B:2475:C:H42	2.26	0.44
2:B:718:A:H5'	2:B:719:C:C5	2.52	0.44
4:C:248:GLY:C	4:C:249:VAL:HG22	2.37	0.44
2:B:2098:U:H2'	2:B:2099:U:C6	2.52	0.44
30:Z:21:ALA:HB3	30:Z:23:ASN:ND2	2.32	0.44
2:B:1897:G:O2'	2:B:1898:U:H5'	2.16	0.44
2:B:1920:C:H2'	2:B:1921:G:C8	2.53	0.44
2:B:932:U:H1'	2:B:934:U:C4	2.52	0.44
2:B:765:C:H2'	2:B:766:U:C6	2.52	0.44
25:U:2:ALA:O	25:U:5:ARG:NH2	2.50	0.44
3:I:63:ASP:O	3:I:65:SER:N	2.50	0.44
24:S:60:HIS:ND1	24:S:60:HIS:O	2.51	0.44
26:F:13:LYS:HE3	26:F:14:LYS:N	2.32	0.44
31:W:23:LYS:CG	31:W:24:ARG:N	2.80	0.44
15:2:10:LEU:HD13	15:2:10:LEU:C	2.38	0.44
5:D:24:VAL:HG23	5:D:189:VAL:N	2.33	0.44
19:H:80:ILE:CD1	19:H:102:ALA:HB3	2.47	0.44
28:R:6:GLN:HE22	28:R:9:GLY:N	2.16	0.44
2:B:470:A:H61	29:T:72:GLN:NE2	2.15	0.44
29:T:40:LYS:O	29:T:44:LYS:N	2.49	0.44
29:T:55:VAL:HG22	29:T:87:LEU:CD2	2.48	0.44
16:L:2:ARG:HG2	16:L:2:ARG:O	2.17	0.44
24:S:17:VAL:HG11	24:S:103:ILE:HG12	2.00	0.44
6:K:98:ARG:HA	6:K:118:LEU:CD2	2.47	0.44
25:U:73:ASN:HB3	25:U:95:PHE:CD2	2.51	0.44
19:H:8:LYS:O	19:H:9:VAL:C	2.56	0.44
2:B:1434:A:H62	2:B:1558:C:N4	2.15	0.44
2:B:2862:G:H2'	2:B:2863:C:H6	1.83	0.44
8:E:176:ASP:OD1	8:E:178:VAL:HG12	2.17	0.44
29:T:12:ARG:HB3	29:T:12:ARG:HH11	1.83	0.44
2:B:1409:U:O2'	2:B:1410:G:H5'	2.17	0.44
19:H:70:GLU:CD	19:H:70:GLU:H	2.19	0.44
4:C:52:HIS:NE2	4:C:218:THR:HG23	2.33	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:U:11:ILE:HG23	25:U:12:VAL:N	2.33	0.44
2:B:1103:A:H5''	2:B:1104:C:C5	2.53	0.44
2:B:1846:G:H2'	2:B:1847:A:O4'	2.18	0.44
4:C:78:GLU:HG3	4:C:94:LEU:HB3	2.00	0.44
1:A:14:U:H5'	1:A:70:C:O2'	2.16	0.44
4:C:30:ALA:C	4:C:32:LEU:H	2.20	0.44
2:B:1842:G:H2'	2:B:1843:C:H6	1.83	0.44
2:B:1072:C:N3	2:B:1092:C:N4	2.64	0.44
5:D:122:VAL:HG12	5:D:122:VAL:O	2.18	0.44
9:Y:5:LYS:HE2	9:Y:57:GLU:O	2.17	0.44
2:B:907:G:O2'	2:B:908:C:H5'	2.18	0.44
31:W:30:VAL:HG13	31:W:30:VAL:O	2.18	0.44
31:W:54:ARG:C	31:W:56:HIS:H	2.20	0.44
5:D:107:VAL:H	5:D:205:PRO:HA	1.82	0.44
27:G:15:ASP:HA	27:G:26:LYS:NZ	2.32	0.44
29:T:32:LEU:HG	29:T:83:ALA:HB2	2.00	0.44
29:T:48:GLN:O	29:T:52:GLU:HA	2.18	0.44
3:I:11:GLN:NE2	3:I:74:PRO:HG2	2.32	0.44
24:S:29:VAL:HG23	24:S:70:LYS:HA	2.00	0.44
3:I:32:VAL:HG22	3:I:60:VAL:CG2	2.48	0.44
6:K:20:MET:O	6:K:41:ILE:HD12	2.17	0.44
2:B:2750:A:H8	2:B:2750:A:OP1	1.99	0.44
1:A:52:A:H2'	1:A:53:A:H8	1.82	0.44
2:B:1470:A:H2'	2:B:1471:G:O4'	2.18	0.44
5:D:79:LEU:HD22	5:D:79:LEU:H	1.83	0.44
25:U:21:ARG:HG3	25:U:21:ARG:NH1	2.32	0.44
2:B:2531:A:H5''	27:G:156:TYR:CE1	2.52	0.44
20:J:40:HIS:ND1	20:J:41:LYS:HG3	2.32	0.44
2:B:1794:A:O2'	2:B:1795:C:H5'	2.18	0.44
24:S:13:SER:HB3	24:S:16:LYS:HE3	1.98	0.44
27:G:54:ARG:HD3	27:G:55:ASP:N	2.33	0.44
19:H:73:ASN:ND2	19:H:73:ASN:N	2.66	0.44
13:3:28:LEU:O	13:3:28:LEU:HG	2.18	0.44
2:B:1684:G:H2'	2:B:1685:C:C6	2.52	0.44
2:B:84:A:H4'	2:B:85:G:O5'	2.17	0.44
6:K:103:VAL:HG23	6:K:122:VAL:O	2.18	0.44
3:I:63:ASP:C	3:I:65:SER:N	2.71	0.44
2:B:494:G:O2'	2:B:495:G:H5'	2.17	0.44
2:B:2527:C:O3'	11:4:31:PRO:HB2	2.16	0.44
2:B:1792:G:O2'	2:B:1793:C:H5'	2.17	0.44
30:Z:18:ARG:HA	30:Z:18:ARG:HE	1.83	0.44
25:U:85:ARG:CZ	25:U:85:ARG:HA	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:W:39:GLN:CG	31:W:40:ARG:N	2.79	0.44
8:E:192:ALA:O	8:E:196:VAL:HG23	2.18	0.44
4:C:140:VAL:CG2	4:C:163:ILE:HG12	2.48	0.44
26:F:78:ILE:HG23	26:F:82:TYR:CB	2.47	0.44
24:S:57:ASN:O	24:S:61:ASN:HB2	2.18	0.44
6:K:99:ILE:H	6:K:118:LEU:HD22	1.82	0.44
2:B:346:A:H5'	2:B:346:A:N3	2.33	0.44
11:4:8:LYS:HG2	11:4:9:LYS:HD3	1.99	0.44
31:W:46:ALA:HB2	31:W:78:PHE:CD1	2.44	0.44
2:B:646:U:H5''	2:B:647:G:C8	2.52	0.44
28:R:19:THR:HB	28:R:97:LYS:HA	1.99	0.44
23:Q:77:LYS:O	23:Q:80:ASN:HB3	2.18	0.44
1:A:83:G:P	9:Y:16:LEU:HD21	2.58	0.44
17:M:42:THR:HB	17:M:45:GLN:HG3	2.00	0.44
17:M:64:TRP:HB2	17:M:104:GLU:CB	2.46	0.44
2:B:20:C:H2'	2:B:21:A:H8	1.82	0.44
16:L:132:ARG:HA	16:L:135:ILE:CG2	2.48	0.44
7:P:25:VAL:HA	7:P:85:VAL:CA	2.48	0.44
2:B:2830:C:H1'	2:B:2836:U:O4'	2.18	0.44
2:B:2604:U:O2'	2:B:2605:U:H5'	2.16	0.44
2:B:2543:G:H2'	2:B:2544:G:C8	2.52	0.44
2:B:651:G:OP1	13:3:18:LYS:HE3	2.18	0.44
2:B:1161:C:H2'	2:B:1162:G:C8	2.52	0.44
13:3:32:LEU:HA	13:3:35:LYS:HD2	2.00	0.44
2:B:1681:G:N3	2:B:1762:A:H2'	2.32	0.44
2:B:1459:G:P	2:B:1459:G:H8	2.40	0.44
20:J:4:PHE:O	20:J:44:TYR:CZ	2.71	0.44
4:C:144:GLU:HB3	4:C:187:CYS:HB3	1.99	0.44
29:T:30:ILE:O	29:T:85:VAL:HG23	2.18	0.44
29:T:50:LEU:O	29:T:52:GLU:N	2.49	0.44
29:T:50:LEU:O	29:T:51:PHE:HB2	2.17	0.44
26:F:43:ILE:HG13	26:F:44:ALA:N	2.31	0.44
21:N:82:GLU:HB3	21:N:83:LEU:H	1.59	0.44
26:F:113:PHE:HZ	26:F:175:PRO:HB2	1.80	0.44
25:U:34:ILE:HG12	25:U:63:ALA:CB	2.46	0.44
2:B:1173:U:O2	2:B:1174:U:H1'	2.18	0.44
2:B:2186:G:O2'	2:B:2187:U:H5'	2.18	0.44
2:B:1438:U:C4	2:B:1552:A:N6	2.86	0.44
2:B:2038:G:H2'	2:B:2039:U:H6	1.80	0.44
17:M:102:LEU:HB3	17:M:103:TYR:CD1	2.53	0.44
27:G:103:ASN:HA	27:G:113:ASP:OD1	2.16	0.44
2:B:335:C:OP2	25:U:81:ARG:NH1	2.46	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2087:G:O2'	2:B:2088:A:H5'	2.18	0.44
2:B:2794:C:O2'	2:B:2795:C:H5'	2.18	0.44
2:B:2800:A:H2'	2:B:2801:G:H8	1.82	0.44
2:B:993:G:O2'	2:B:994:C:H5'	2.18	0.44
2:B:1534:U:O2'	2:B:1535:A:H8	2.00	0.44
2:B:2368:C:H2'	2:B:2369:A:H8	1.82	0.44
23:Q:16:ILE:O	23:Q:18:LYS:N	2.50	0.44
4:C:62:ARG:O	4:C:63:ILE:HG12	2.17	0.44
2:B:1640:A:H2'	2:B:1641:A:H8	1.83	0.44
1:A:35:C:H2'	1:A:36:C:O4'	2.18	0.44
2:B:2096:C:O2'	2:B:2097:A:H5'	2.18	0.44
30:Z:77:LYS:CG	30:Z:78:TYR:H	2.30	0.44
2:B:770:G:H1'	2:B:1379:U:C4	2.52	0.44
2:B:2385:C:H2'	2:B:2386:A:C8	2.52	0.44
31:W:37:VAL:HG12	31:W:38:ARG:HD3	1.99	0.44
23:Q:96:ASP:C	23:Q:98:ALA:N	2.70	0.44
19:H:106:ALA:N	19:H:108:VAL:HG23	2.33	0.44
7:P:6:GLN:O	7:P:10:GLU:HB2	2.17	0.44
7:P:6:GLN:HA	7:P:9:GLN:NE2	2.33	0.44
26:F:90:LEU:HB3	26:F:95:MET:HA	1.99	0.44
3:I:19:PRO:HB2	3:I:22:PRO:HD2	2.00	0.44
10:O:41:HIS:HB2	21:N:99:LYS:O	2.17	0.44
2:B:2793:C:H2'	2:B:2794:C:C6	2.53	0.44
5:D:8:LYS:O	5:D:9:VAL:HB	2.17	0.44
5:D:47:ALA:HB1	5:D:81:GLU:HG3	1.99	0.44
2:B:1124:G:H1'	11:4:38:GLY:OXT	2.17	0.44
2:B:1322:A:C2'	2:B:1323:C:H5'	2.47	0.44
24:S:13:SER:CB	24:S:16:LYS:HE3	2.48	0.44
2:B:1629:U:O2	2:B:2698:U:H5'	2.18	0.44
2:B:2648:G:H2'	2:B:2649:C:H6	1.81	0.44
2:B:2233:U:H2'	2:B:2234:G:H8	1.83	0.44
2:B:1183:U:H2'	2:B:1184:U:H6	1.83	0.44
2:B:2617:U:C2'	2:B:2618:G:H5'	2.48	0.44
22:O:14:ALA:O	22:O:18:LEU:HB2	2.17	0.44
2:B:2419:U:OP2	13:3:32:LEU:HD13	2.18	0.44
2:B:465:G:H2'	2:B:466:A:C8	2.52	0.44
25:U:98:ASN:OD1	25:U:100:GLU:HB2	2.17	0.44
2:B:121:G:H2'	2:B:122:G:C8	2.53	0.44
3:I:38:CYS:O	3:I:42:ASN:ND2	2.50	0.44
19:H:14:SER:HB2	19:H:17:ASP:HB2	1.99	0.44
2:B:256:A:H2'	2:B:257:C:H6	1.82	0.44
20:J:70:THR:HG22	20:J:90:GLU:OE2	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:72:SER:C	8:E:74:LYS:H	2.20	0.44
2:B:2221:G:O2'	2:B:2222:C:H5'	2.18	0.44
8:E:122:GLU:O	8:E:123:LYS:HB2	2.17	0.44
5:D:117:GLY:HA2	5:D:164:GLN:NE2	2.33	0.44
2:B:1904:G:H1'	2:B:1927:A:N1	2.32	0.44
4:C:203:VAL:O	4:C:204:LEU:HB2	2.18	0.44
18:X:23:ARG:HD3	29:T:50:LEU:HD12	2.00	0.44
4:C:134:ILE:O	4:C:134:ILE:HG13	2.16	0.44
2:B:587:C:H4'	2:B:588:U:H6	1.83	0.44
3:I:32:VAL:HG22	3:I:60:VAL:HG21	2.00	0.44
11:4:35:GLN:HB2	11:4:35:GLN:HE21	1.67	0.44
20:J:57:LEU:HB3	20:J:58:ASN:H	1.68	0.44
26:F:32:LYS:HE2	26:F:34:THR:CG2	2.48	0.44
5:D:118:PHE:CE1	5:D:123:LYS:HD2	2.53	0.44
28:R:15:SER:H	28:R:18:GLN:CG	2.30	0.44
2:B:1547:C:H2'	2:B:1548:A:C8	2.53	0.44
18:X:52:ARG:O	18:X:55:THR:HB	2.18	0.44
2:B:617:G:O2'	2:B:618:G:H5'	2.18	0.44
7:P:13:LYS:HG2	7:P:76:HIS:ND1	2.33	0.44
2:B:1723:G:N7	2:B:1737:G:N2	2.61	0.44
27:G:173:ALA:HB3	27:G:175:LYS:HZ3	1.81	0.44
2:B:1945:G:H2'	2:B:1946:U:C6	2.53	0.44
2:B:1946:U:H2'	2:B:1947:C:H6	1.83	0.44
2:B:1583:A:H4'	2:B:1585:C:C4	2.53	0.44
2:B:1717:A:H2'	2:B:1718:G:O4'	2.18	0.44
22:O:56:LYS:HG2	22:O:60:GLU:CG	2.47	0.44
2:B:934:U:H2'	2:B:935:C:H6	1.83	0.44
5:D:159:LYS:HD3	5:D:159:LYS:C	2.37	0.44
2:B:1146:C:H2'	2:B:1147:A:H8	1.83	0.44
2:B:1145:C:O2'	2:B:1146:C:H5'	2.18	0.44
12:1:38:PHE:HB2	12:1:45:HIS:CE1	2.53	0.44
24:S:81:SER:CB	24:S:99:ARG:HA	2.48	0.44
2:B:1516:G:H2'	2:B:1517:G:H8	1.83	0.44
30:Z:71:LEU:HA	30:Z:74:ARG:HE	1.83	0.43
25:U:8:ASP:HB3	25:U:71:ILE:HG22	2.00	0.43
29:T:40:LYS:O	29:T:43:ILE:HG22	2.18	0.43
2:B:2356:U:C5'	31:W:16:GLU:HG3	2.36	0.43
3:I:37:PHE:HB2	3:I:66:PHE:CZ	2.53	0.43
22:O:35:ILE:HG13	22:O:71:ALA:CB	2.48	0.43
19:H:18:GLN:NE2	19:H:44:ILE:HG21	2.32	0.43
2:B:72:U:H1'	18:X:51:ALA:HA	1.99	0.43
4:C:52:HIS:HA	4:C:216:ARG:HB2	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:156:SER:HB3	4:C:159:THR:CG2	2.45	0.43
2:B:2373:G:H2'	2:B:2374:C:C6	2.53	0.43
17:M:96:ILE:HD11	17:M:126:ILE:CG1	2.47	0.43
30:Z:20:HIS:C	30:Z:22:LEU:H	2.22	0.43
27:G:54:ARG:HD2	27:G:57:TYR:HE1	1.83	0.43
15:2:34:ARG:HB3	15:2:39:ARG:HB2	1.99	0.43
2:B:214:G:N2	2:B:216:A:N3	2.65	0.43
2:B:2314:A:H2'	2:B:2315:G:H8	1.83	0.43
2:B:630:G:N2	2:B:632:A:H3'	2.32	0.43
2:B:1541:C:H2'	2:B:1542:U:H6	1.83	0.43
4:C:30:ALA:N	4:C:31:PRO:HD2	2.32	0.43
6:K:2:ILE:HD13	6:K:6:THR:HG21	2.00	0.43
2:B:1258:U:O4'	8:E:79:ARG:HD2	2.18	0.43
23:Q:51:GLN:O	23:Q:54:ARG:HB2	2.17	0.43
2:B:2527:C:O2'	2:B:2528:U:H5'	2.18	0.43
21:N:71:ARG:HH21	21:N:71:ARG:CG	2.31	0.43
2:B:2352:A:H8	2:B:2352:A:O5'	2.01	0.43
20:J:72:LYS:O	20:J:73:VAL:HG13	2.18	0.43
16:L:79:LEU:HA	16:L:79:LEU:HD23	1.90	0.43
19:H:103:VAL:CG1	19:H:142:VAL:HG11	2.47	0.43
21:N:86:ARG:HE	21:N:117:ASP:CG	2.21	0.43
26:F:2:LYS:CE	26:F:100:GLU:HG2	2.48	0.43
26:F:163:GLU:CA	26:F:166:ARG:HH11	2.22	0.43
2:B:160:A:N6	2:B:167:A:H1'	2.33	0.43
2:B:1076:C:H2'	2:B:1077:A:H8	1.82	0.43
2:B:956:G:N2	2:B:959:A:H3'	2.33	0.43
2:B:672:C:H2'	2:B:673:C:H6	1.84	0.43
2:B:1553:A:H2'	2:B:1555:G:N7	2.33	0.43
2:B:981:A:H4'	2:B:2037:A:H5'	2.00	0.43
18:X:18:LEU:O	18:X:22:LEU:HB3	2.18	0.43
5:D:13:ARG:HD2	7:P:55:HIS:ND1	2.33	0.43
17:M:23:GLY:O	17:M:101:VAL:HG12	2.18	0.43
12:1:3:GLY:O	12:1:5:ARG:N	2.51	0.43
2:B:1103:A:H5''	2:B:1104:C:C6	2.53	0.43
2:B:2556:C:H2'	2:B:2557:G:O4'	2.18	0.43
23:Q:49:ARG:O	23:Q:53:LYS:HE2	2.18	0.43
2:B:2776:A:H4'	2:B:2777:G:O5'	2.18	0.43
2:B:39:G:H2'	2:B:40:U:H6	1.81	0.43
2:B:65:U:H2'	2:B:66:C:H6	1.82	0.43
8:E:1:MET:HB2	8:E:16:GLU:CA	2.49	0.43
2:B:2028:U:H2'	2:B:2029:G:C8	2.53	0.43
20:J:64:VAL:O	20:J:65:THR:HG22	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:676:A:N1	2:B:2069:G:O2'	2.46	0.43
2:B:1687:G:O2'	2:B:1688:U:H5'	2.18	0.43
2:B:1998:A:OP2	5:D:141:ARG:NH2	2.51	0.43
2:B:374:A:N6	2:B:400:G:H1'	2.33	0.43
7:P:15:ASP:O	7:P:17:PRO:HD3	2.18	0.43
27:G:67:ALA:HA	27:G:70:LEU:HB2	2.00	0.43
30:Z:39:TRP:HB2	30:Z:46:PHE:CE2	2.53	0.43
2:B:2331:G:O2'	31:W:40:ARG:HB2	2.18	0.43
20:J:45:THR:HG1	20:J:48:VAL:HB	1.84	0.43
2:B:1693:U:H4'	2:B:1694:C:OP2	2.19	0.43
16:L:79:LEU:HB3	16:L:115:GLU:O	2.17	0.43
8:E:181:ILE:HD13	16:L:3:LEU:HD23	1.99	0.43
2:B:28:A:N6	2:B:512:G:O2'	2.51	0.43
6:K:12:ASP:OD2	6:K:85:VAL:HG13	2.18	0.43
2:B:77:G:H2'	2:B:78:U:O4'	2.17	0.43
8:E:29:HIS:O	8:E:33:VAL:HG23	2.18	0.43
26:F:103:ILE:HD11	26:F:174:PHE:CA	2.47	0.43
2:B:143:C:H2'	2:B:144:A:C8	2.53	0.43
4:C:196:ASN:O	4:C:197:ALA:HB3	2.16	0.43
2:B:277:G:N3	2:B:361:G:O6	2.50	0.43
13:3:21:PHE:O	13:3:22:LYS:O	2.37	0.43
13:3:54:LEU:HD11	13:3:58:ILE:HD11	2.01	0.43
5:D:118:PHE:HZ	5:D:123:LYS:HZ3	1.66	0.43
5:D:121:THR:HB	5:D:127:PHE:CD1	2.53	0.43
28:R:97:LYS:O	28:R:98:ILE:HB	2.18	0.43
7:P:50:ARG:O	7:P:51:ASN:HB2	2.18	0.43
3:I:83:ALA:N	3:I:100:ILE:HD11	2.33	0.43
23:Q:75:TYR:O	23:Q:78:PHE:HB3	2.18	0.43
2:B:1723:G:C4	2:B:1724:G:C8	3.07	0.43
8:E:31:VAL:HG21	8:E:104:ALA:CB	2.47	0.43
2:B:988:A:O5'	9:Y:11:SER:HB3	2.18	0.43
2:B:2699:C:O2'	2:B:2700:A:H5'	2.18	0.43
3:I:103:ALA:O	3:I:107:GLU:HG3	2.18	0.43
2:B:596:U:H2'	2:B:597:G:C8	2.53	0.43
2:B:1251:C:O2'	2:B:1252:G:H3'	2.18	0.43
16:L:105:ILE:HG22	16:L:106:GLU:N	2.33	0.43
2:B:2014:A:H2'	2:B:2015:A:C8	2.53	0.43
2:B:736:C:H2'	2:B:737:C:H6	1.83	0.43
30:Z:77:LYS:CD	30:Z:78:TYR:H	2.30	0.43
2:B:2365:G:H4'	31:W:59:PHE:CE1	2.54	0.43
6:K:64:ARG:HH12	6:K:101:GLY:CA	2.30	0.43
2:B:2733:A:H2'	2:B:2734:A:O4'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1137:G:O2'	2:B:1138:G:H5'	2.18	0.43
2:B:1076:C:H2'	2:B:1077:A:C8	2.53	0.43
26:F:128:SER:HB3	26:F:154:THR:CG2	2.44	0.43
26:F:62:GLN:HB2	26:F:63:LYS:H	1.64	0.43
26:F:92:GLY:O	26:F:95:MET:HB3	2.18	0.43
2:B:783:A:H8	2:B:784:G:H4'	1.83	0.43
21:N:28:LEU:HD23	21:N:113:ILE:HG23	2.00	0.43
2:B:956:G:OP2	17:M:86:LYS:HE2	2.18	0.43
27:G:84:LYS:HG3	27:G:131:VAL:CB	2.46	0.43
2:B:2846:G:OP1	7:P:51:ASN:HB2	2.18	0.43
25:U:81:ARG:HB2	25:U:96:LYS:HG3	1.99	0.43
21:N:49:GLU:N	21:N:50:PRO:CD	2.81	0.43
13:3:44:ARG:N	13:3:45:PRO:CD	2.82	0.43
2:B:2457:U:C2'	2:B:2458:G:H5'	2.48	0.43
2:B:322:A:H2'	8:E:163:ASN:HD21	1.81	0.43
2:B:1733:G:H2'	2:B:1734:G:H8	1.80	0.43
27:G:54:ARG:HD3	27:G:54:ARG:C	2.38	0.43
27:G:54:ARG:HD2	27:G:57:TYR:CE1	2.54	0.43
4:C:61:TYR:HA	4:C:85:ASN:ND2	2.33	0.43
2:B:2370:G:H2'	2:B:2371:G:O4'	2.18	0.43
2:B:2852:G:H2'	2:B:2853:C:H6	1.81	0.43
2:B:526:A:N6	2:B:2626:C:C4'	2.81	0.43
2:B:2489:U:H2'	2:B:2490:G:O4'	2.18	0.43
2:B:122:G:O2'	2:B:123:G:H5'	2.19	0.43
3:I:4:VAL:O	3:I:4:VAL:HG13	2.18	0.43
15:2:1:MET:HG2	15:2:2:LYS:H	1.83	0.43
17:M:32:GLY:HA2	17:M:117:PHE:CZ	2.53	0.43
2:B:923:G:H5'	31:W:25:PHE:CZ	2.54	0.43
31:W:39:GLN:HG3	31:W:42:THR:N	2.33	0.43
2:B:2260:C:O2'	2:B:2261:C:H5'	2.19	0.43
20:J:55:ILE:HG22	20:J:123:LYS:HB2	2.00	0.43
29:T:55:VAL:HG13	29:T:85:VAL:HG12	1.99	0.43
19:H:78:VAL:HB	19:H:143:ILE:O	2.19	0.43
24:S:27:LYS:H	24:S:27:LYS:CD	2.32	0.43
24:S:28:LYS:O	24:S:29:VAL:HG23	2.19	0.43
2:B:2421:G:N7	13:3:30:HIS:NE2	2.67	0.43
2:B:345:A:N3	2:B:346:A:N1	2.66	0.43
30:Z:14:THR:HA	30:Z:28:ARG:CA	2.39	0.43
20:J:25:LEU:O	20:J:27:ARG:N	2.50	0.43
3:I:91:LYS:O	3:I:94:LYS:HB2	2.18	0.43
2:B:2144:G:O2'	2:B:2146:C:H5'	2.18	0.43
1:A:28:C:H5	1:A:56:G:H22	1.66	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:1:47:ILE:HD12	12:1:47:ILE:N	2.33	0.43
3:I:29:GLN:NE2	3:I:29:GLN:HA	2.32	0.43
27:G:105:SER:C	27:G:106:LEU:HD23	2.39	0.43
2:B:2886:A:N6	10:0:39:ARG:NE	2.62	0.43
19:H:54:LEU:HA	19:H:58:LEU:CB	2.48	0.43
27:G:116:LEU:HG	27:G:120:ILE:HD12	2.01	0.43
2:B:1796:U:H4'	4:C:252:LYS:O	2.18	0.43
16:L:77:ILE:HG13	16:L:101:ILE:HD11	2.00	0.43
16:L:85:VAL:HG22	16:L:94:THR:HG21	2.01	0.43
2:B:18:U:OP1	23:Q:29:ARG:NH2	2.50	0.43
7:P:89:GLY:N	7:P:112:ARG:NH1	2.66	0.43
2:B:340:A:H2'	2:B:341:C:O4'	2.19	0.43
2:B:2199:A:H5''	2:B:2200:C:H5	1.84	0.43
2:B:2369:A:H2'	2:B:2370:G:C8	2.53	0.43
2:B:409:G:H2'	2:B:410:G:C8	2.53	0.43
13:3:9:ALA:O	13:3:13:PHE:HD2	2.01	0.43
11:4:30:GLU:HA	11:4:31:PRO:HD3	1.89	0.43
4:C:123:ILE:HD13	4:C:135:PRO:HG2	1.99	0.43
2:B:1526:C:H2'	2:B:1527:G:O4'	2.19	0.43
5:D:98:VAL:C	5:D:100:LEU:N	2.71	0.43
8:E:146:VAL:O	8:E:167:VAL:HA	2.18	0.43
8:E:146:VAL:HG12	8:E:147:LEU:N	2.34	0.43
23:Q:86:SER:O	23:Q:88:GLU:N	2.48	0.43
4:C:66:PHE:CE2	4:C:104:LEU:HD11	2.54	0.43
19:H:68:ARG:HD3	19:H:134:VAL:HG21	2.00	0.43
25:U:73:ASN:ND2	25:U:74:ALA:N	2.66	0.43
11:4:7:VAL:CG1	11:4:8:LYS:H	2.22	0.43
26:F:106:ALA:HA	26:F:135:ILE:HD13	1.99	0.43
2:B:62:U:C2'	2:B:62:U:O2	2.63	0.43
14:V:93:ARG:NH1	14:V:93:ARG:HG3	2.30	0.43
10:0:41:HIS:HB2	21:N:99:LYS:C	2.37	0.43
27:G:10:VAL:HG13	27:G:14:VAL:HB	2.00	0.43
24:S:51:LEU:C	24:S:53:SER:H	2.21	0.43
2:B:2893:A:H4'	2:B:2894:G:H5'	1.99	0.43
2:B:2411:A:H2'	2:B:2412:A:H8	1.82	0.43
2:B:1424:G:O2'	2:B:1425:G:H5'	2.18	0.43
2:B:1666:G:C2'	2:B:1667:G:H5'	2.48	0.43
2:B:2874:C:H2'	2:B:2875:C:C6	2.54	0.43
2:B:924:G:H2'	2:B:925:A:H8	1.83	0.43
26:F:134:GLN:NE2	26:F:136:ILE:HA	2.33	0.43
2:B:1878:G:H2'	2:B:1879:C:C6	2.53	0.43
2:B:12:U:O2	2:B:2626:C:H4'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:92:C:O2'	1:A:93:C:H5'	2.18	0.43
2:B:736:C:H2'	2:B:737:C:C6	2.54	0.43
18:X:13:GLU:HA	18:X:13:GLU:OE2	2.18	0.43
2:B:1893:C:H2'	2:B:1894:C:O4'	2.18	0.43
2:B:2408:U:O2'	2:B:2409:G:H5'	2.18	0.43
2:B:298:G:OP1	25:U:83:GLY:HA2	2.18	0.43
7:P:61:ARG:HD3	7:P:70:GLU:CG	2.49	0.43
29:T:72:GLN:H	29:T:72:GLN:HG2	1.63	0.43
22:O:49:VAL:HG11	22:O:82:ALA:CA	2.48	0.43
24:S:26:GLY:O	24:S:28:LYS:N	2.52	0.43
8:E:32:VAL:HG23	8:E:33:VAL:N	2.34	0.43
2:B:2146:C:H4'	2:B:2148:G:H1'	2.00	0.43
1:A:53:A:C2'	1:A:54:G:H5'	2.49	0.43
2:B:2742:G:O2'	2:B:2743:U:H5'	2.17	0.43
27:G:106:LEU:N	27:G:106:LEU:HD23	2.33	0.43
27:G:94:ARG:HH21	27:G:104:LEU:HA	1.82	0.43
2:B:2819:G:O2'	2:B:2820:A:H5''	2.18	0.43
2:B:416:U:H2'	2:B:417:C:H6	1.84	0.43
2:B:101:A:H2'	2:B:102:U:OP2	2.19	0.43
2:B:1478:G:O2'	2:B:1479:G:H5'	2.18	0.43
2:B:1401:G:H2'	2:B:1402:U:H6	1.83	0.43
2:B:1576:U:O2'	2:B:1577:C:H5'	2.19	0.43
2:B:2847:U:H5''	7:P:94:ALA:HB2	2.00	0.43
2:B:1739:A:H2'	2:B:1740:G:C8	2.53	0.43
2:B:1740:G:H2'	2:B:1741:C:C6	2.54	0.43
2:B:2220:U:O2'	2:B:2221:G:H5'	2.18	0.43
2:B:1567:G:H5'	4:C:57:HIS:CD2	2.53	0.43
3:I:15:GLY:O	3:I:16:MET:HB2	2.19	0.43
17:M:54:THR:O	17:M:56:ALA:N	2.45	0.43
5:D:54:ALA:HA	5:D:76:GLY:N	2.33	0.43
8:E:131:THR:HB	8:E:164:LEU:HG	2.00	0.43
8:E:153:LEU:HG	8:E:154:ASP:N	2.34	0.43
16:L:92:LEU:CD2	16:L:124:GLY:HA3	2.48	0.43
16:L:81:ASP:HA	16:L:84:LYS:CE	2.36	0.43
4:C:64:VAL:O	4:C:65:ASP:CB	2.54	0.43
29:T:57:VAL:HG12	29:T:86:THR:OG1	2.18	0.43
26:F:74:ALA:HB1	26:F:76:PHE:CD2	2.53	0.43
2:B:1060:U:C1'	2:B:1062:G:H5'	2.49	0.43
27:G:1:SER:O	27:G:3:VAL:N	2.52	0.43
6:K:43:ILE:HG21	6:K:46:ALA:HB2	2.01	0.43
2:B:163:C:O4'	2:B:163:C:O2	2.37	0.43
2:B:1175:A:H3'	2:B:1176:U:O4'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:G:9:VAL:HG12	27:G:11:PRO:CD	2.47	0.43
5:D:62:LYS:O	5:D:66:GLY:N	2.51	0.43
2:B:2590:A:H5''	4:C:237:ARG:NH2	2.33	0.43
2:B:1803:A:H4'	4:C:256:THR:OG1	2.18	0.43
16:L:96:LYS:HE2	16:L:102:GLY:O	2.19	0.43
2:B:2751:G:C2'	2:B:2751:G:N3	2.78	0.43
29:T:74:ILE:HG13	29:T:75:GLY:N	2.34	0.43
2:B:2737:G:H2'	2:B:2738:A:H8	1.83	0.43
20:J:12:LYS:O	20:J:13:ARG:HB2	2.18	0.43
2:B:2243:U:O2	2:B:2434:A:C2	2.72	0.43
22:O:28:VAL:CG2	22:O:106:LEU:HD21	2.47	0.43
1:A:39:A:H2	1:A:46:A:H61	1.67	0.43
2:B:2825:G:H2'	2:B:2826:A:H5'	2.00	0.43
2:B:1843:C:O2'	2:B:1844:C:H5'	2.19	0.43
5:D:45:TYR:N	5:D:45:TYR:CD1	2.87	0.43
26:F:59:ILE:H	26:F:59:ILE:HG13	1.66	0.43
19:H:14:SER:C	19:H:16:GLY:N	2.72	0.43
2:B:1904:G:O2'	2:B:1905:C:H5'	2.19	0.43
18:X:59:GLU:N	18:X:59:GLU:OE2	2.52	0.43
2:B:1333:G:H2'	2:B:1334:G:H8	1.84	0.43
24:S:40:ASN:O	24:S:41:LYS:HG3	2.18	0.43
2:B:2659:G:N2	2:B:2661:G:H3'	2.34	0.43
27:G:71:LEU:O	27:G:74:MET:HB2	2.18	0.43
16:L:89:VAL:HG23	16:L:123:ARG:CG	2.45	0.43
26:F:41:GLU:HB2	26:F:48:LEU:HD11	2.00	0.43
19:H:131:SER:CA	19:H:141:LYS:HA	2.41	0.43
2:B:2305:U:H1'	26:F:132:ARG:HA	2.00	0.43
24:S:47:VAL:HG23	24:S:48:LYS:N	2.33	0.43
30:Z:28:ARG:HG2	30:Z:28:ARG:O	2.19	0.43
1:A:51:G:H2'	1:A:52:A:O5'	2.19	0.43
2:B:1174:U:H2'	2:B:1175:A:H5''	1.99	0.43
2:B:1177:G:H2'	2:B:1178:C:C6	2.53	0.43
2:B:613:A:C2	8:E:173:THR:HG21	2.54	0.43
2:B:2784:U:O2'	2:B:2785:C:H5'	2.19	0.43
2:B:6:A:O2'	2:B:7:G:H5'	2.19	0.43
28:R:49:ILE:HG22	28:R:54:VAL:HB	2.00	0.43
2:B:978:G:O4'	2:B:1001:A:H2	2.02	0.43
21:N:11:ASN:O	21:N:12:ARG:HB2	2.17	0.43
2:B:2028:U:O2'	2:B:2029:G:H5'	2.18	0.43
5:D:111:GLY:H	5:D:194:PRO:CG	2.32	0.43
13:3:23:HIS:ND1	13:3:24:LYS:N	2.67	0.43
2:B:518:G:H2'	2:B:519:U:C6	2.54	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:6:GLN:HE21	30:Z:50:ARG:N	2.01	0.43
29:T:4:GLU:CD	29:T:5:GLU:N	2.72	0.43
27:G:23:ILE:O	27:G:34:ARG:HA	2.18	0.43
4:C:141:HIS:CG	4:C:142:ASN:N	2.87	0.43
26:F:78:ILE:HA	26:F:79:ARG:HH11	1.84	0.43
7:P:9:GLN:HA	7:P:12:MET:SD	2.59	0.43
17:M:18:ARG:HA	17:M:18:ARG:HD2	1.74	0.43
9:Y:8:GLN:OE1	9:Y:23:LEU:HD11	2.18	0.43
2:B:2144:G:N2	2:B:2146:C:O4'	2.49	0.43
22:O:35:ILE:HG13	22:O:71:ALA:HB2	2.01	0.43
25:U:25:LYS:N	25:U:34:ILE:O	2.51	0.43
2:B:2785:C:H2'	2:B:2786:U:C6	2.53	0.43
2:B:2819:G:H2'	2:B:2821:A:N7	2.33	0.43
2:B:1548:A:H2'	2:B:1549:A:H8	1.82	0.43
4:C:245:THR:OG1	4:C:249:VAL:HG23	2.19	0.43
27:G:120:ILE:HD13	27:G:120:ILE:C	2.39	0.43
27:G:132:LEU:H	27:G:132:LEU:HG	1.71	0.43
7:P:91:VAL:HG11	7:P:96:LEU:CD1	2.47	0.43
25:U:11:ILE:CG2	25:U:12:VAL:N	2.82	0.43
2:B:751:A:C5'	24:S:90:LYS:HA	2.48	0.43
3:I:14:ALA:CB	3:I:50:LYS:HA	2.49	0.43
2:B:902:C:H2'	2:B:903:C:C6	2.53	0.43
2:B:1291:C:O2'	2:B:1292:G:H5'	2.19	0.43
2:B:766:U:H2'	2:B:767:U:C6	2.54	0.43
2:B:2389:G:H5''	2:B:2390:U:O4'	2.18	0.43
2:B:2104:C:C6	2:B:2104:C:C3'	3.00	0.43
2:B:2888:C:H2'	2:B:2889:C:C6	2.54	0.43
2:B:282:A:O2'	2:B:283:G:H5'	2.19	0.43
5:D:54:ALA:N	5:D:76:GLY:HA2	2.34	0.42
28:R:6:GLN:HE22	28:R:9:GLY:C	2.23	0.42
16:L:122:VAL:HG23	16:L:143:GLU:OE1	2.19	0.42
2:B:2204:G:OP2	4:C:146:LYS:HD2	2.19	0.42
4:C:173:LEU:CD2	4:C:173:LEU:N	2.80	0.42
29:T:29:THR:HA	29:T:86:THR:CA	2.42	0.42
19:H:106:ALA:C	19:H:108:VAL:N	2.73	0.42
2:B:1204:A:N1	2:B:1241:A:N1	2.67	0.42
2:B:2598:A:H5''	4:C:233:GLY:HA3	2.01	0.42
26:F:102:LEU:CD2	26:F:106:ALA:HB3	2.49	0.42
26:F:102:LEU:HA	26:F:106:ALA:HB2	1.99	0.42
26:F:116:LEU:HB3	26:F:176:PHE:CA	2.47	0.42
9:Y:51:SER:HA	9:Y:54:VAL:HG22	2.01	0.42
1:A:43:C:C2'	26:F:91:ARG:HD2	2.49	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:2861:U:H2'	2:B:2862:G:C8	2.52	0.42
2:B:674:G:O3'	8:E:60:TRP:CZ2	2.71	0.42
5:D:13:ARG:HH12	7:P:74:GLN:CG	2.31	0.42
25:U:70:ALA:HB1	25:U:79:ALA:CB	2.49	0.42
2:B:974:G:P	28:R:78:ARG:HD3	2.58	0.42
27:G:21:GLN:O	27:G:37:ASN:HB2	2.18	0.42
2:B:782:A:C2	4:C:224:MET:SD	3.12	0.42
20:J:13:ARG:HB3	20:J:53:TYR:HD2	1.84	0.42
2:B:599:A:H2'	2:B:600:G:H8	1.84	0.42
5:D:60:VAL:HG23	5:D:60:VAL:O	2.19	0.42
24:S:81:SER:HA	24:S:99:ARG:HA	1.99	0.42
2:B:991:C:H5'	2:B:991:C:H6	1.84	0.42
2:B:586:A:H5'	8:E:84:THR:OG1	2.18	0.42
2:B:1864:U:O2'	2:B:1865:U:H5'	2.19	0.42
2:B:2379:G:H2'	2:B:2380:C:C6	2.54	0.42
2:B:838:C:C2	2:B:941:A:C6	3.07	0.42
7:P:36:LYS:HA	7:P:36:LYS:HD3	1.90	0.42
27:G:89:VAL:HG12	27:G:90:GLY:N	2.33	0.42
2:B:1459:G:H5''	2:B:1460:U:OP1	2.19	0.42
8:E:117:ARG:HA	8:E:185:LYS:HG2	2.00	0.42
27:G:26:LYS:CB	27:G:32:LEU:HG	2.43	0.42
28:R:4:VAL:HB	28:R:39:LEU:HG	2.01	0.42
16:L:81:ASP:O	16:L:83:ALA:N	2.45	0.42
29:T:48:GLN:HE21	29:T:48:GLN:CA	2.19	0.42
24:S:28:LYS:HB3	24:S:29:VAL:H	1.43	0.42
24:S:24:ILE:CD1	24:S:36:LEU:HD21	2.48	0.42
2:B:1140:C:C2'	2:B:1141:U:H5'	2.49	0.42
26:F:118:ALA:HA	26:F:176:PHE:HE2	1.84	0.42
25:U:47:PRO:HB3	25:U:55:GLY:HA3	2.02	0.42
2:B:1559:U:H3'	2:B:1560:G:H5'	2.01	0.42
20:J:23:LYS:HE3	20:J:142:ILE:HG12	2.02	0.42
2:B:1805:A:N3	4:C:49:THR:HG23	2.33	0.42
2:B:2098:U:H2'	2:B:2099:U:O4'	2.19	0.42
24:S:25:ARG:HH11	24:S:25:ARG:HB2	1.84	0.42
2:B:314:C:O2'	2:B:315:G:H5'	2.18	0.42
7:P:89:GLY:HA2	7:P:112:ARG:H	1.83	0.42
30:Z:63:GLY:HA3	30:Z:66:THR:OG1	2.19	0.42
2:B:607:U:O4	2:B:620:G:H5''	2.19	0.42
4:C:71:ASP:C	4:C:73:ILE:H	2.22	0.42
2:B:832:U:H2'	2:B:833:A:C8	2.53	0.42
2:B:1537:G:H5'	2:B:1538:G:OP2	2.19	0.42
2:B:2243:U:O2'	2:B:2244:U:H5'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:124:LYS:H	4:C:191:LEU:HD13	1.84	0.42
2:B:85:G:OP1	25:U:6:ARG:N	2.52	0.42
2:B:2345:G:N3	2:B:2381:A:H2'	2.33	0.42
2:B:1881:C:H2'	2:B:1882:U:O4'	2.20	0.42
7:P:45:VAL:N	7:P:60:VAL:HG13	2.34	0.42
25:U:45:GLN:HB3	25:U:45:GLN:HE21	1.72	0.42
2:B:1690:A:H2'	2:B:1691:C:O4'	2.19	0.42
2:B:748:G:C8	24:S:89:ALA:HB1	2.54	0.42
2:B:2299:U:H2'	2:B:2300:C:C6	2.54	0.42
2:B:1908:C:O2'	2:B:1909:C:H5'	2.20	0.42
2:B:1556:C:O2'	2:B:1557:C:H5'	2.19	0.42
12:1:10:LEU:HA	12:1:49:LYS:O	2.19	0.42
19:H:81:ALA:CB	19:H:147:VAL:HG23	2.49	0.42
8:E:157:LEU:HG	8:E:169:VAL:HG11	2.00	0.42
29:T:62:VAL:HG12	29:T:63:VAL:H	1.85	0.42
21:N:51:LEU:HD21	21:N:70:THR:HG21	2.02	0.42
21:N:83:LEU:HD23	21:N:115:LEU:HD11	2.01	0.42
2:B:2515:C:OP1	20:J:81:ILE:HG12	2.19	0.42
15:2:17:GLY:O	15:2:21:ARG:HB2	2.19	0.42
2:B:141:G:H1	29:T:2:ILE:CD1	2.20	0.42
2:B:705:A:O2'	2:B:706:A:H5'	2.19	0.42
1:A:5:U:H2'	1:A:6:G:H8	1.83	0.42
7:P:33:GLU:HA	7:P:33:GLU:OE1	2.18	0.42
2:B:2064:C:H2'	2:B:2065:C:H6	1.81	0.42
15:2:30:VAL:HA	15:2:33:ARG:HH22	1.83	0.42
19:H:25:TYR:CD1	19:H:30:LEU:HG	2.54	0.42
2:B:2746:U:C4'	27:G:138:GLN:HA	2.49	0.42
4:C:28:PRO:HG2	4:C:33:LEU:HD11	2.00	0.42
2:B:1539:U:H3'	2:B:1540:G:H8	1.84	0.42
2:B:1336:A:H3'	2:B:1337:G:H8	1.83	0.42
22:O:18:LEU:HD23	22:O:25:ARG:HD3	2.00	0.42
2:B:2660:A:H2'	2:B:2661:G:C8	2.53	0.42
2:B:1672:A:C2	2:B:2582:G:H5'	2.54	0.42
22:O:77:ALA:O	22:O:81:ARG:HD3	2.19	0.42
5:D:125:TRP:CE3	5:D:160:LYS:HD3	2.53	0.42
20:J:99:ARG:HH11	20:J:99:ARG:HG2	1.83	0.42
16:L:19:LEU:N	16:L:19:LEU:HD12	2.33	0.42
24:S:71:VAL:O	24:S:71:VAL:HG22	2.19	0.42
19:H:7:ASP:CG	19:H:8:LYS:N	2.73	0.42
11:4:8:LYS:CG	11:4:9:LYS:HD3	2.48	0.42
8:E:48:THR:C	8:E:50:ALA:H	2.23	0.42
1:A:28:C:H2'	1:A:29:A:C8	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:0:41:HIS:O	10:0:42:ILE:O	2.38	0.42
10:0:31:LYS:H	10:0:31:LYS:HD2	1.85	0.42
14:V:79:ARG:HA	14:V:86:LEU:HA	2.01	0.42
2:B:433:C:H2'	2:B:434:U:C6	2.53	0.42
2:B:1946:U:H2'	2:B:1947:C:C6	2.54	0.42
4:C:93:VAL:CG2	4:C:115:ILE:HD11	2.49	0.42
2:B:2317:A:H2'	2:B:2318:G:O4'	2.19	0.42
28:R:59:ILE:HA	28:R:101:ILE:H	1.85	0.42
25:U:2:ALA:HB3	25:U:5:ARG:CZ	2.50	0.42
2:B:1299:G:N2	2:B:1640:A:C8	2.88	0.42
2:B:1237:A:O2'	2:B:1238:G:O4'	2.37	0.42
4:C:132:ARG:HG3	4:C:132:ARG:O	2.19	0.42
2:B:2236:U:O2'	2:B:2237:G:H5'	2.19	0.42
2:B:350:G:O2'	2:B:351:C:H5'	2.19	0.42
2:B:483:A:C4	25:U:57:ILE:HD11	2.54	0.42
2:B:911:A:H2'	17:M:9:PHE:CZ	2.54	0.42
2:B:566:U:H2'	2:B:567:U:O4'	2.20	0.42
2:B:388:G:N7	2:B:390:U:H2'	2.34	0.42
2:B:2365:G:O2'	31:W:59:PHE:CE1	2.72	0.42
19:H:99:ILE:CD1	19:H:130:VAL:HG11	2.48	0.42
2:B:10:A:H2'	2:B:11:C:C2	2.55	0.42
27:G:6:ALA:HB3	27:G:68:ARG:NE	2.34	0.42
20:J:110:PRO:O	20:J:115:GLY:HA3	2.19	0.42
11:4:27:CYS:HB3	11:4:33:HIS:HB2	2.01	0.42
26:F:137:PHE:CD2	26:F:137:PHE:N	2.83	0.42
13:3:16:THR:HG21	13:3:48:MET:SD	2.60	0.42
10:0:38:LEU:HD13	10:0:41:HIS:CE1	2.54	0.42
19:H:59:ALA:CA	19:H:62:LEU:HG	2.50	0.42
24:S:83:LYS:HD3	24:S:97:LEU:CD1	2.47	0.42
2:B:962:G:N2	2:B:2250:G:H22	2.12	0.42
16:L:135:ILE:HG23	16:L:136:GLU:N	2.35	0.42
2:B:38:A:N3	8:E:43:THR:HB	2.33	0.42
2:B:1315:C:H2'	2:B:1316:U:C6	2.55	0.42
10:0:33:SER:C	10:0:35:GLU:N	2.72	0.42
24:S:12:SER:O	24:S:13:SER:HB3	2.20	0.42
2:B:1731:G:O2'	2:B:1732:C:H5''	2.20	0.42
2:B:235:U:H2'	2:B:236:C:C6	2.55	0.42
5:D:39:ASP:CG	5:D:41:ALA:H	2.23	0.42
2:B:1147:A:O2'	2:B:1148:U:H5'	2.19	0.42
2:B:1515:A:H3'	2:B:1516:G:H8	1.84	0.42
13:3:24:LYS:HB2	16:L:64:PHE:CD2	2.54	0.42
2:B:2145:C:H2'	2:B:2145:C:H6	1.64	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:M:17:ASN:HD22	17:M:17:ASN:HA	1.60	0.42
2:B:189:G:H2'	2:B:205:G:H22	1.84	0.42
19:H:34:GLY:O	19:H:35:LYS:HG2	2.20	0.42
25:U:84:PHE:CE2	25:U:93:ARG:HG2	2.54	0.42
12:1:33:LEU:HD12	12:1:34:GLU:N	2.35	0.42
23:Q:57:ARG:HA	23:Q:60:TRP:CE3	2.55	0.42
2:B:1818:U:H2'	4:C:152:GLN:O	2.19	0.42
29:T:41:ALA:C	29:T:43:ILE:N	2.72	0.42
23:Q:104:ALA:C	23:Q:106:THR:H	2.23	0.42
6:K:43:ILE:CG2	6:K:54:LYS:HA	2.49	0.42
6:K:42:THR:HG23	6:K:57:VAL:HG22	2.01	0.42
26:F:97:GLU:O	26:F:100:GLU:HB2	2.20	0.42
8:E:46:GLN:HB3	8:E:86:ALA:HA	2.01	0.42
27:G:93:TYR:O	27:G:94:ARG:O	2.37	0.42
2:B:1562:U:H2'	2:B:1563:U:C6	2.54	0.42
8:E:58:LYS:CD	8:E:58:LYS:N	2.83	0.42
2:B:1438:U:O2'	2:B:1439:A:H5'	2.19	0.42
2:B:2834:G:H2'	2:B:2879:A:H61	1.85	0.42
27:G:97:VAL:HG23	27:G:124:CYS:SG	2.60	0.42
27:G:125:PRO:HD3	27:G:131:VAL:HG22	2.01	0.42
22:O:90:VAL:HG22	22:O:115:LEU:HD11	2.01	0.42
18:X:1:MET:HA	18:X:4:LYS:HB3	2.02	0.42
17:M:28:PHE:HB3	17:M:64:TRP:CE2	2.55	0.42
2:B:611:C:H2'	2:B:612:G:O4'	2.20	0.42
2:B:2341:G:O2'	2:B:2342:C:H5'	2.19	0.42
17:M:57:VAL:HA	17:M:112:LEU:HD11	2.00	0.42
4:C:162:GLN:HE22	4:C:174:ARG:HH21	1.67	0.42
2:B:1050:A:H2'	2:B:1051:G:C8	2.54	0.42
14:V:51:GLN:HA	14:V:56:PHE:CB	2.49	0.42
5:D:202:ILE:O	5:D:202:ILE:HG22	2.18	0.42
2:B:497:A:H2'	2:B:498:G:O4'	2.20	0.42
2:B:688:U:O2'	2:B:689:A:H5'	2.20	0.42
2:B:2778:A:O2'	2:B:2781:A:H5'	2.20	0.42
30:Z:68:LEU:HD22	30:Z:78:TYR:CD1	2.54	0.42
4:C:149:LYS:HD3	4:C:152:GLN:NE2	2.26	0.42
29:T:43:ILE:CG2	29:T:58:VAL:HG21	2.49	0.42
26:F:46:LYS:O	26:F:49:LEU:HB3	2.19	0.42
2:B:2305:U:C1'	26:F:132:ARG:HA	2.49	0.42
24:S:3:THR:HG21	24:S:58:ALA:HB2	2.01	0.42
6:K:118:LEU:C	6:K:120:PRO:HD2	2.40	0.42
26:F:110:ILE:HA	26:F:111:ARG:NE	2.35	0.42
2:B:144:A:H2'	2:B:145:C:H6	1.83	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:90:PHE:O	5:D:91:THR:C	2.57	0.42
5:D:37:VAL:CG2	5:D:91:THR:HA	2.50	0.42
19:H:44:ILE:C	19:H:46:PHE:N	2.72	0.42
2:B:2884:U:H4'	10:O:49:ARG:NH2	2.35	0.42
2:B:2786:U:O2'	5:D:66:GLY:HA3	2.20	0.42
2:B:326:G:O2'	2:B:327:G:H5'	2.19	0.42
2:B:2531:A:H4'	27:G:156:TYR:CD1	2.54	0.42
2:B:1199:U:H2'	2:B:1200:C:H6	1.83	0.42
2:B:538:A:H2'	2:B:539:G:O4'	2.20	0.42
27:G:174:LYS:NZ	27:G:176:LYS:HG2	2.34	0.42
26:F:134:GLN:HB3	26:F:134:GLN:HE21	1.56	0.42
2:B:1541:C:H2'	2:B:1542:U:O4'	2.20	0.42
2:B:2710:C:H2'	2:B:2711:A:C8	2.52	0.42
2:B:1642:G:O2'	2:B:1643:G:H5'	2.19	0.42
5:D:141:ARG:O	5:D:142:VAL:HG13	2.20	0.42
1:A:15:A:H3'	1:A:15:A:OP2	2.19	0.42
2:B:1035:U:H2'	2:B:1036:G:H8	1.85	0.42
2:B:531:C:O2'	2:B:563:A:H5''	2.20	0.42
2:B:659:G:H4'	8:E:95:LYS:HB3	2.00	0.42
25:U:3:LYS:CB	25:U:82:VAL:HG21	2.50	0.42
2:B:853:C:H2'	2:B:854:C:H6	1.85	0.42
23:Q:63:ARG:HH12	23:Q:96:ASP:HA	1.85	0.42
16:L:40:SER:OG	16:L:41:ARG:HG3	2.18	0.42
19:H:75:LEU:HD11	19:H:103:VAL:O	2.19	0.42
19:H:72:ILE:HG23	19:H:140:ALA:CB	2.49	0.42
26:F:130:GLY:HA2	26:F:152:ASP:HA	2.01	0.42
14:V:4:ILE:HB	14:V:63:ILE:HG13	2.00	0.42
6:K:20:MET:C	6:K:41:ILE:HD12	2.40	0.42
9:Y:7:THR:O	9:Y:54:VAL:HA	2.20	0.42
31:W:77:LYS:HZ3	31:W:77:LYS:H	1.63	0.42
2:B:279:A:C2	2:B:362:A:H4'	2.54	0.42
2:B:1438:U:N3	2:B:1552:A:N6	2.68	0.42
26:F:147:ARG:NH1	26:F:147:ARG:HB3	2.34	0.42
27:G:83:THR:HA	27:G:84:LYS:NZ	2.35	0.42
27:G:84:LYS:O	27:G:85:LYS:O	2.38	0.42
2:B:877:A:H2'	2:B:899:A:N1	2.35	0.42
2:B:154:U:O2'	2:B:155:A:H5'	2.19	0.42
23:Q:9:ALA:C	23:Q:11:ALA:N	2.72	0.42
12:I:3:GLY:C	12:I:5:ARG:N	2.73	0.42
2:B:1315:C:H2'	2:B:1316:U:H6	1.84	0.42
2:B:1537:G:H5''	2:B:1537:G:N3	2.35	0.42
2:B:764:A:N1	2:B:1789:A:O2'	2.51	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:I:48:ILE:O	3:I:49:GLU:HB3	2.20	0.42
2:B:1495:A:C2	2:B:1578:U:H1'	2.54	0.42
27:G:137:LYS:O	27:G:140:ILE:HG13	2.19	0.42
2:B:2282:G:H5'	2:B:2389:G:H1'	2.01	0.42
2:B:1739:A:H2'	2:B:1740:G:H8	1.84	0.42
22:O:52:SER:O	22:O:55:GLU:HG3	2.20	0.42
23:Q:15:LYS:HD2	23:Q:19:GLN:HE21	1.84	0.42
31:W:36:ILE:H	31:W:36:ILE:HG13	1.70	0.42
8:E:160:ALA:C	8:E:162:ARG:H	2.22	0.42
23:Q:86:SER:CB	28:R:51:VAL:HA	2.49	0.42
16:L:121:THR:HB	16:L:141:LYS:HD2	2.02	0.42
16:L:92:LEU:H	16:L:92:LEU:CD2	2.31	0.42
29:T:25:GLU:C	29:T:27:SER:H	2.22	0.42
2:B:1059:G:N2	3:I:130:GLY:HA3	2.35	0.42
21:N:82:GLU:C	21:N:84:GLY:N	2.72	0.42
6:K:15:GLY:HA2	6:K:46:ALA:HA	2.01	0.42
2:B:2733:A:C8	2:B:2733:A:H3'	2.55	0.42
2:B:286:U:H2'	2:B:287:G:C8	2.54	0.42
8:E:48:THR:C	8:E:50:ALA:N	2.73	0.42
22:O:30:ARG:HG3	22:O:30:ARG:NH1	2.35	0.42
10:O:42:ILE:CD1	21:N:98:LEU:HD12	2.43	0.42
14:V:16:ALA:N	14:V:19:ARG:HH21	2.17	0.42
2:B:2785:C:H2'	2:B:2786:U:H6	1.84	0.42
11:4:36:ARG:CG	11:4:37:GLN:H	2.33	0.42
23:Q:77:LYS:HE2	23:Q:116:LEU:CD2	2.46	0.42
18:X:56:LEU:O	18:X:58:ASN:N	2.53	0.42
17:M:41:LEU:C	17:M:43:ALA:H	2.23	0.42
17:M:71:LYS:HG2	17:M:73:ILE:CD1	2.49	0.42
2:B:928:A:O2'	9:Y:37:ARG:HD3	2.20	0.42
19:H:21:VAL:HG21	19:H:25:TYR:HD2	1.84	0.42
2:B:924:G:H2'	2:B:925:A:C8	2.55	0.42
2:B:2617:U:C4	2:B:2618:G:N7	2.88	0.42
2:B:1063:G:O2'	2:B:1064:C:H5'	2.20	0.42
2:B:350:G:H2'	2:B:351:C:O4'	2.20	0.42
2:B:483:A:H3'	2:B:484:C:H6	1.84	0.42
23:Q:21:LYS:HD3	23:Q:21:LYS:HA	1.83	0.42
2:B:1854:A:N6	2:B:1888:G:H1'	2.34	0.42
2:B:1668:A:N3	2:B:1670:C:C4	2.88	0.42
2:B:1369:G:O2'	2:B:1370:C:H5'	2.20	0.42
2:B:43:G:H2'	2:B:44:A:O4'	2.19	0.42
8:E:158:PHE:HD2	8:E:169:VAL:HG23	1.85	0.42
27:G:15:ASP:OD2	27:G:17:LYS:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:Q:111:LYS:HE3	28:R:48:LYS:NZ	2.34	0.42
16:L:41:ARG:HG2	16:L:41:ARG:HH21	1.85	0.42
6:K:119:ALA:HB3	6:K:120:PRO:CD	2.50	0.42
2:B:141:G:OP2	2:B:142:A:C4	2.73	0.42
3:I:129:GLU:CB	3:I:133:ARG:HH12	2.23	0.42
2:B:1820:U:H3	4:C:197:ALA:HA	1.85	0.42
2:B:545:U:C2	2:B:548:G:OP2	2.73	0.42
2:B:2075:U:H2'	2:B:2238:G:N2	2.34	0.42
28:R:18:GLN:O	28:R:18:GLN:HG3	2.20	0.42
12:1:7:LYS:CD	13:3:33:THR:HG21	2.46	0.42
2:B:1108:U:C5	2:B:1109:C:C5	3.08	0.42
4:C:249:VAL:O	4:C:250:GLN:C	2.58	0.42
2:B:2796:U:H3'	2:B:2798:U:O4	2.19	0.42
2:B:2813:A:H2'	2:B:2814:A:C8	2.55	0.42
2:B:413:C:H2'	2:B:414:C:C6	2.54	0.42
2:B:828:U:H4'	2:B:831:G:N1	2.35	0.42
2:B:560:C:H3'	2:B:561:G:C8	2.55	0.42
2:B:2002:G:OP1	21:N:13:ASN:HA	2.20	0.42
2:B:1922:G:O2'	2:B:1923:U:H5'	2.20	0.42
25:U:5:ARG:HH21	25:U:5:ARG:HG2	1.84	0.42
27:G:139:VAL:O	27:G:142:GLN:HB3	2.20	0.42
2:B:697:G:H2'	2:B:698:C:C6	2.55	0.42
2:B:1310:G:H1'	2:B:1611:C:H5'	2.01	0.42
26:F:68:LYS:HB3	26:F:69:ALA:H	1.71	0.42
16:L:109:LYS:HB3	16:L:111:ILE:HD11	2.02	0.42
30:Z:5:CYS:HB3	30:Z:10:LYS:N	2.14	0.41
31:W:19:ARG:N	31:W:19:ARG:HD3	2.35	0.41
19:H:80:ILE:HB	19:H:144:VAL:CG1	2.35	0.41
17:M:59:ARG:O	17:M:60:GLN:C	2.58	0.41
8:E:149:ILE:O	8:E:188:MET:HA	2.20	0.41
27:G:74:MET:O	27:G:78:VAL:HG13	2.20	0.41
2:B:513:A:O2'	2:B:514:A:H5'	2.20	0.41
6:K:13:ASN:ND2	6:K:98:ARG:H	2.17	0.41
21:N:41:ALA:C	21:N:43:GLU:N	2.72	0.41
2:B:141:G:H5''	2:B:142:A:C1'	2.50	0.41
9:Y:7:THR:O	9:Y:54:VAL:HG12	2.20	0.41
26:F:155:ILE:HG22	26:F:156:THR:N	2.35	0.41
2:B:1171:G:H2'	2:B:1172:C:H4'	2.02	0.41
19:H:4:ILE:CD1	19:H:37:VAL:HG13	2.50	0.41
19:H:44:ILE:CG2	19:H:51:ARG:HH22	2.32	0.41
2:B:1654:A:O2'	5:D:118:PHE:CB	2.68	0.41
2:B:170:U:O2'	2:B:171:U:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:L:77:ILE:O	16:L:110:VAL:O	2.38	0.41
28:R:78:ARG:NH2	28:R:78:ARG:HG3	2.34	0.41
4:C:206:LYS:HZ3	4:C:212:TRP:HH2	1.67	0.41
8:E:31:VAL:O	8:E:34:ALA:HB3	2.20	0.41
2:B:522:A:H2'	2:B:523:C:H6	1.81	0.41
22:O:105:ALA:C	22:O:107:ALA:N	2.74	0.41
2:B:215:G:C4'	2:B:216:A:H4'	2.50	0.41
4:C:124:LYS:N	4:C:191:LEU:HD13	2.35	0.41
6:K:24:VAL:HG13	6:K:33:ALA:HB2	2.02	0.41
2:B:1182:G:H2'	2:B:1183:U:O4'	2.20	0.41
2:B:1987:A:H2'	2:B:1988:G:C8	2.55	0.41
4:C:259:ASN:C	4:C:261:ARG:H	2.23	0.41
2:B:107:G:O2'	2:B:108:G:H5'	2.19	0.41
7:P:44:GLY:HA3	7:P:60:VAL:HG12	2.01	0.41
22:O:61:GLN:HE21	22:O:61:GLN:HB3	1.63	0.41
2:B:2249:U:H4'	2:B:2275:C:C5	2.55	0.41
2:B:2352:A:N1	31:W:30:VAL:HG11	2.35	0.41
23:Q:30:VAL:HG22	23:Q:31:TYR:N	2.35	0.41
29:T:89:GLU:C	29:T:91:GLN:H	2.24	0.41
26:F:78:ILE:HG13	26:F:82:TYR:CE1	2.55	0.41
6:K:47:ILE:HG23	6:K:48:PRO:N	2.34	0.41
21:N:76:VAL:HA	21:N:79:LEU:HD12	2.02	0.41
26:F:11:VAL:HG12	26:F:12:VAL:N	2.22	0.41
26:F:11:VAL:O	26:F:12:VAL:HB	2.20	0.41
26:F:1:ALA:HB1	26:F:4:HIS:HB3	2.01	0.41
24:S:4:ILE:HG22	24:S:106:VAL:HG22	2.02	0.41
26:F:31:GLU:O	26:F:32:LYS:O	2.38	0.41
28:R:23:GLU:O	28:R:24:LYS:C	2.59	0.41
21:N:98:LEU:O	21:N:112:TYR:HB2	2.20	0.41
10:O:49:ARG:O	10:O:51:ARG:NE	2.53	0.41
5:D:118:PHE:HZ	5:D:123:LYS:NZ	2.17	0.41
2:B:1547:C:H2'	2:B:1548:A:H8	1.84	0.41
2:B:1552:A:H2'	2:B:1553:A:C5'	2.50	0.41
23:Q:83:LYS:NZ	23:Q:83:LYS:HA	2.35	0.41
7:P:50:ARG:HB3	7:P:57:ALA:O	2.20	0.41
25:U:50:ALA:H	25:U:53:GLN:NE2	2.18	0.41
7:P:112:ARG:HB2	7:P:112:ARG:NH1	2.34	0.41
27:G:152:ARG:HD2	27:G:152:ARG:HA	1.86	0.41
24:S:33:LEU:HG	24:S:51:LEU:CD2	2.50	0.41
2:B:1535:A:O2'	2:B:1536:C:H5'	2.20	0.41
2:B:1335:C:H2'	2:B:1336:A:C8	2.55	0.41
2:B:2889:C:O2'	2:B:2890:G:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:J:36:LEU:HD12	20:J:121:LYS:HE3	2.02	0.41
2:B:1999:C:O2'	2:B:2000:C:H5'	2.20	0.41
16:L:74:THR:HA	16:L:107:PHE:O	2.20	0.41
8:E:146:VAL:HA	8:E:185:LYS:O	2.21	0.41
8:E:161:ALA:HA	8:E:164:LEU:HD12	2.02	0.41
23:Q:93:ILE:HG23	23:Q:94:LEU:N	2.35	0.41
16:L:124:GLY:H	16:L:143:GLU:HG3	1.84	0.41
2:B:1693:U:O2'	4:C:13:ARG:NH2	2.53	0.41
4:C:152:GLN:HA	4:C:155:ARG:CD	2.49	0.41
29:T:39:THR:O	29:T:41:ALA:N	2.48	0.41
29:T:54:GLU:CG	29:T:90:GLY:H	2.27	0.41
29:T:29:THR:H	29:T:91:GLN:NE2	2.18	0.41
4:C:129:LEU:HB3	4:C:134:ILE:CG2	2.46	0.41
21:N:73:ASN:O	21:N:76:VAL:HG22	2.21	0.41
26:F:108:PRO:C	26:F:110:ILE:H	2.24	0.41
3:I:91:LYS:HG3	3:I:91:LYS:O	2.20	0.41
26:F:31:GLU:HB2	26:F:158:THR:HG23	2.02	0.41
26:F:34:THR:O	26:F:35:LEU:HB2	2.20	0.41
2:B:1172:C:H3'	2:B:1173:U:H6	1.78	0.41
2:B:1431:A:H2'	2:B:1432:G:C8	2.55	0.41
14:V:30:ILE:HA	14:V:91:PHE:O	2.21	0.41
2:B:956:G:H5''	17:M:76:LYS:HE2	2.02	0.41
16:L:57:LEU:C	16:L:59:ARG:H	2.24	0.41
11:4:3:VAL:HG23	11:4:4:ARG:N	2.30	0.41
27:G:84:LYS:CB	27:G:132:LEU:HG	2.50	0.41
27:G:84:LYS:HG3	27:G:131:VAL:C	2.41	0.41
23:Q:78:PHE:CE2	23:Q:82:LEU:HD11	2.55	0.41
28:R:2:TYR:CB	28:R:42:ALA:HB2	2.50	0.41
2:B:2457:U:H2'	2:B:2458:G:H5'	2.02	0.41
2:B:2369:A:O2'	2:B:2370:G:H5'	2.20	0.41
2:B:2027:G:O2'	2:B:2028:U:H5'	2.20	0.41
6:K:107:LEU:C	6:K:109:SER:N	2.73	0.41
2:B:1531:C:H2'	2:B:1532:A:C8	2.55	0.41
2:B:596:U:H2'	2:B:597:G:H8	1.84	0.41
3:I:35:MET:SD	3:I:35:MET:C	2.98	0.41
15:2:32:ALA:HA	15:2:35:ARG:HB2	2.02	0.41
23:Q:67:ALA:O	23:Q:70:GLN:HB3	2.20	0.41
12:1:33:LEU:HD12	12:1:34:GLU:H	1.84	0.41
2:B:319:G:H2'	2:B:320:A:O4'	2.21	0.41
27:G:17:LYS:O	27:G:23:ILE:HG23	2.20	0.41
27:G:28:LYS:O	27:G:30:GLY:N	2.53	0.41
27:G:32:LEU:HB3	27:G:34:ARG:NE	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:G:30:GLY:CA	27:G:78:VAL:HA	2.46	0.41
4:C:90:ILE:HD13	4:C:103:ILE:C	2.40	0.41
4:C:173:LEU:O	4:C:173:LEU:HD23	2.21	0.41
4:C:184:GLU:O	4:C:185:ALA:HB3	2.20	0.41
2:B:2517:C:C2	2:B:2542:A:N6	2.88	0.41
8:E:28:VAL:HG23	8:E:29:HIS:N	2.36	0.41
26:F:137:PHE:O	26:F:138:PRO:C	2.59	0.41
2:B:1057:A:H62	2:B:1086:A:H2'	1.85	0.41
26:F:1:ALA:CA	26:F:4:HIS:HB3	2.51	0.41
26:F:92:GLY:HA2	26:F:95:MET:HE3	2.03	0.41
14:V:80:HIS:HB3	14:V:83:LYS:O	2.20	0.41
2:B:1803:A:H3'	2:B:1804:C:H6	1.84	0.41
25:U:14:THR:HB	25:U:68:ASN:HB3	2.03	0.41
21:N:60:VAL:O	21:N:63:ARG:HB3	2.20	0.41
2:B:1418:G:C2'	2:B:1580:A:H61	2.34	0.41
2:B:1848:A:H2'	2:B:1849:G:C8	2.56	0.41
27:G:154:GLU:O	27:G:158:GLY:N	2.54	0.41
21:N:12:ARG:HG3	21:N:13:ASN:N	2.36	0.41
31:W:41:GLY:HA2	31:W:44:PHE:CE2	2.55	0.41
2:B:632:A:H2'	2:B:633:A:C8	2.56	0.41
2:B:633:A:OP1	16:L:68:SER:HB2	2.20	0.41
4:C:30:ALA:O	4:C:32:LEU:N	2.53	0.41
2:B:378:C:C2'	2:B:379:G:H5'	2.50	0.41
2:B:1064:C:O2'	2:B:1065:U:H5'	2.20	0.41
27:G:70:LEU:HD22	27:G:70:LEU:HA	1.93	0.41
31:W:45:HIS:ND1	31:W:45:HIS:N	2.66	0.41
28:R:43:ASN:ND2	28:R:44:GLY:N	2.68	0.41
24:S:8:ARG:HB3	24:S:102:HIS:CE1	2.55	0.41
6:K:77:ILE:HG12	7:P:71:ARG:HD2	2.02	0.41
4:C:142:ASN:HA	4:C:153:LEU:O	2.20	0.41
4:C:64:VAL:HG12	4:C:65:ASP:N	2.35	0.41
20:J:55:ILE:CB	20:J:123:LYS:HB2	2.50	0.41
19:H:106:ALA:O	19:H:108:VAL:N	2.52	0.41
7:P:1:SER:H1	7:P:4:ILE:HB	1.84	0.41
6:K:119:ALA:O	6:K:120:PRO:O	2.39	0.41
2:B:2267:A:C8	2:B:2267:A:C4'	3.03	0.41
17:M:21:ALA:HB1	17:M:100:LYS:HE2	2.02	0.41
6:K:42:THR:O	6:K:43:ILE:C	2.59	0.41
17:M:18:ARG:CA	17:M:38:ARG:HH22	2.33	0.41
9:Y:7:THR:HG22	9:Y:8:GLN:N	2.35	0.41
2:B:2786:U:H4'	5:D:66:GLY:O	2.21	0.41
1:A:98:G:N1	14:V:14:LYS:HB2	2.31	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:250:GLN:HG2	4:C:254:LYS:HG2	2.02	0.41
2:B:2394:C:H2'	2:B:2395:C:C6	2.56	0.41
2:B:172:A:O2'	2:B:173:A:H5'	2.20	0.41
7:P:13:LYS:CD	7:P:76:HIS:HA	2.49	0.41
25:U:81:ARG:HG3	25:U:81:ARG:NH2	2.35	0.41
2:B:2602:A:H3'	2:B:2602:A:OP1	2.21	0.41
22:O:88:LYS:HG2	22:O:116:GLN:HB2	2.02	0.41
2:B:1210:G:N3	2:B:1212:G:N2	2.68	0.41
2:B:2817:U:O2	2:B:2836:U:H1'	2.20	0.41
2:B:1789:A:H2'	2:B:1790:C:C6	2.55	0.41
2:B:866:A:H61	2:B:913:U:C1'	2.33	0.41
2:B:2552:U:C2	2:B:2554:U:H5'	2.56	0.41
2:B:2520:C:C6	2:B:2567:G:H1'	2.55	0.41
9:Y:5:LYS:N	9:Y:5:LYS:HE2	2.35	0.41
2:B:519:U:H2'	2:B:520:G:H8	1.85	0.41
2:B:268:C:O2	2:B:268:C:H2'	2.20	0.41
25:U:94:PHE:HA	25:U:101:THR:HA	2.01	0.41
2:B:1973:G:O2'	2:B:1974:C:H5'	2.20	0.41
2:B:627:A:H4'	2:B:628:G:OP1	2.20	0.41
19:H:29:PHE:C	19:H:31:VAL:N	2.73	0.41
31:W:49:ASN:HB3	31:W:81:ILE:CD1	2.51	0.41
19:H:99:ILE:CD1	19:H:144:VAL:HG21	2.50	0.41
2:B:996:A:H4'	23:Q:91:ARG:CG	2.49	0.41
20:J:45:THR:N	20:J:46:PRO:CD	2.83	0.41
2:B:1799:G:N2	2:B:1818:U:O2'	2.53	0.41
19:H:114:GLU:HA	19:H:133:GLN:O	2.21	0.41
19:H:7:ASP:HA	19:H:15:LEU:CD2	2.40	0.41
19:H:9:VAL:O	19:H:10:ALA:C	2.58	0.41
26:F:12:VAL:HG13	26:F:27:VAL:HG21	2.01	0.41
2:B:1351:C:H2'	2:B:1352:U:O4'	2.20	0.41
1:A:28:C:H5	1:A:56:G:N1	2.14	0.41
27:G:93:TYR:HE1	27:G:160:GLY:HA2	1.85	0.41
2:B:1430:G:H2'	2:B:1431:A:C8	2.56	0.41
10:O:32:THR:OG1	10:O:50:GLY:HA2	2.21	0.41
8:E:60:TRP:CZ2	8:E:62:GLN:NE2	2.89	0.41
2:B:308:G:H2'	2:B:309:A:O4'	2.21	0.41
2:B:327:G:H2'	2:B:328:U:O4'	2.20	0.41
2:B:2086:U:H2'	2:B:2087:G:H8	1.84	0.41
2:B:1490:A:H2'	4:C:97:ASP:CG	2.41	0.41
2:B:165:A:H2'	2:B:166:U:O4'	2.20	0.41
2:B:2199:A:O2'	30:Z:36:HIS:HE1	2.03	0.41
2:B:2338:C:O2'	2:B:2339:C:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:278:A:C2'	2:B:278:A:N3	2.84	0.41
2:B:1011:G:O2'	2:B:1013:C:H5''	2.21	0.41
2:B:2026:U:H2'	2:B:2027:G:O4'	2.21	0.41
2:B:509:C:H5''	2:B:510:C:OP2	2.20	0.41
27:G:170:THR:O	27:G:171:LYS:HD3	2.21	0.41
2:B:1739:A:H2'	2:B:1740:G:O4'	2.20	0.41
2:B:683:U:O5'	2:B:683:U:H6	2.03	0.41
2:B:1760:C:H2'	2:B:1761:C:O4'	2.19	0.41
15:2:6:GLN:HA	15:2:6:GLN:NE2	2.35	0.41
2:B:1376:C:H5''	35:B:3917:HOH:O	2.20	0.41
2:B:855:G:C2	31:W:23:LYS:HG2	2.53	0.41
5:D:23:PRO:O	5:D:24:VAL:HB	2.20	0.41
2:B:850:U:O2'	9:Y:22:THR:HG22	2.20	0.41
4:C:80:LEU:CD1	4:C:109:LEU:HG	2.41	0.41
4:C:171:VAL:HB	4:C:183:VAL:HG12	2.03	0.41
2:B:10:A:H61	2:B:2895:G:H1'	1.84	0.41
20:J:54:ILE:HD12	20:J:55:ILE:H	1.86	0.41
30:Z:45:ARG:HE	30:Z:47:VAL:CG1	2.27	0.41
25:U:73:ASN:HD22	25:U:74:ALA:H	1.68	0.41
13:3:31:ILE:HG12	13:3:31:ILE:O	2.21	0.41
2:B:160:A:H1'	2:B:2208:C:O2'	2.20	0.41
9:Y:33:HIS:O	9:Y:34:THR:HB	2.21	0.41
17:M:123:LYS:HG2	17:M:123:LYS:H	1.71	0.41
14:V:6:ALA:HB2	14:V:42:LEU:HB3	2.01	0.41
2:B:2867:G:H2'	2:B:2868:A:OP2	2.21	0.41
1:A:95:U:H2'	1:A:96:G:H8	1.84	0.41
1:A:94:A:OP1	14:V:19:ARG:HD3	2.20	0.41
2:B:2590:A:O2'	2:B:2591:C:H5'	2.20	0.41
22:O:115:LEU:HD13	22:O:116:GLN:H	1.86	0.41
2:B:1568:G:H4'	4:C:58:LYS:CB	2.49	0.41
20:J:11:VAL:HG21	20:J:13:ARG:NH1	2.36	0.41
19:H:30:LEU:O	19:H:36:ALA:HB3	2.21	0.41
1:A:89:U:C2	2:B:958:U:H2'	2.55	0.41
26:F:133:GLU:HA	26:F:150:GLY:HA2	2.03	0.41
2:B:912:C:O2'	2:B:913:U:H5'	2.21	0.41
27:G:133:LYS:HD3	27:G:133:LYS:H	1.85	0.41
2:B:247:G:H4'	2:B:386:G:C4	2.55	0.41
2:B:1830:C:H2'	2:B:1831:G:C8	2.55	0.41
2:B:1750:G:H2'	2:B:1751:U:C6	2.56	0.41
2:B:235:U:H2'	2:B:236:C:H6	1.86	0.41
2:B:1936:A:H2	2:B:1943:U:O4	2.04	0.41
2:B:483:A:H2'	2:B:484:C:O4'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1965:C:H5''	2:B:1966:A:H2'	2.01	0.41
17:M:50:ARG:HA	17:M:53:MET:HE3	2.02	0.41
2:B:738:G:O2'	2:B:739:A:H5'	2.20	0.41
25:U:4:ILE:CD1	25:U:71:ILE:HG23	2.51	0.41
25:U:83:GLY:O	25:U:93:ARG:HA	2.20	0.41
5:D:22:ILE:HG22	5:D:23:PRO:O	2.20	0.41
8:E:147:LEU:O	8:E:168:ASP:O	2.38	0.41
8:E:154:ASP:OD2	8:E:157:LEU:HB3	2.21	0.41
20:J:44:TYR:HB2	23:Q:63:ARG:HG2	2.03	0.41
23:Q:84:LYS:O	23:Q:86:SER:N	2.53	0.41
28:R:38:VAL:HG11	28:R:41:ILE:HD11	2.03	0.41
28:R:40:MET:HG3	28:R:48:LYS:HA	2.02	0.41
4:C:64:VAL:HG11	4:C:66:PHE:CE2	2.56	0.41
2:B:587:C:C6	2:B:671:C:H1'	2.56	0.41
22:O:49:VAL:HG11	22:O:82:ALA:HA	2.03	0.41
2:B:2320:U:O2'	2:B:2322:A:N7	2.48	0.41
9:Y:6:ILE:HG22	9:Y:7:THR:H	1.85	0.41
2:B:1434:A:N6	2:B:1558:C:H42	2.19	0.41
14:V:28:ALA:HA	14:V:88:HIS:ND1	2.36	0.41
20:J:23:LYS:CE	20:J:142:ILE:HG23	2.45	0.41
2:B:2483:C:H2'	2:B:2484:G:O4'	2.21	0.41
2:B:1846:G:N2	2:B:1848:A:N6	2.69	0.41
2:B:2382:G:H21	13:3:41:ARG:NH2	2.18	0.41
2:B:1475:G:H4'	2:B:1476:U:O5'	2.21	0.41
2:B:2041:U:H2'	2:B:2042:A:C8	2.55	0.41
2:B:2223:G:C2'	2:B:2224:G:H5'	2.51	0.41
2:B:225:C:H2'	2:B:226:A:O4'	2.21	0.41
20:J:109:LEU:CD1	20:J:119:PHE:HB2	2.50	0.41
30:Z:17:ASN:HD22	30:Z:25:THR:HB	1.85	0.41
2:B:715:A:H2'	2:B:716:A:C8	2.55	0.41
2:B:2398:U:H2'	2:B:2399:G:H8	1.86	0.41
30:Z:59:ILE:CD1	30:Z:67:VAL:HG21	2.51	0.41
25:U:88:ASP:O	25:U:90:LYS:N	2.54	0.41
31:W:18:LYS:H	31:W:35:ILE:CG2	2.34	0.41
23:Q:24:TYR:CD1	23:Q:25:GLY:N	2.86	0.41
12:1:6:GLU:HG2	12:1:52:LYS:HE2	2.03	0.41
19:H:128:HIS:CE1	19:H:130:VAL:HG13	2.56	0.41
27:G:17:LYS:CA	27:G:17:LYS:HZ2	2.33	0.41
20:J:45:THR:H	20:J:46:PRO:CD	2.27	0.41
4:C:143:VAL:HG11	4:C:173:LEU:HD11	2.03	0.41
2:B:10:A:H61	2:B:2895:G:C1'	2.34	0.41
29:T:23:ALA:C	29:T:25:GLU:H	2.24	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:C:121:ALA:HB3	4:C:129:LEU:HD11	2.03	0.41
19:H:78:VAL:HG11	19:H:103:VAL:HG12	2.03	0.41
2:B:1059:G:H2'	2:B:1060:U:C6	2.55	0.41
24:S:45:VAL:HA	24:S:48:LYS:HB3	2.03	0.41
21:N:79:LEU:HA	21:N:83:LEU:HD12	2.02	0.41
6:K:8:LEU:HD12	6:K:19:VAL:O	2.20	0.41
2:B:2734:A:H2'	2:B:2735:G:C5'	2.47	0.41
6:K:71:ARG:CG	6:K:105:ARG:HH21	2.26	0.41
2:B:285:G:O2'	2:B:286:U:H5'	2.20	0.41
2:B:1616:A:H4'	2:B:1617:C:OP2	2.21	0.41
19:H:41:LYS:C	19:H:43:ASN:N	2.74	0.41
27:G:10:VAL:HG21	27:G:49:LEU:HD13	2.03	0.41
27:G:47:ASN:CG	27:G:48:THR:N	2.74	0.41
14:V:30:ILE:HG12	14:V:91:PHE:HB2	2.02	0.41
16:L:47:ARG:NH2	16:L:47:ARG:HB3	2.27	0.41
14:V:83:LYS:HA	14:V:84:PRO:HD3	1.92	0.41
8:E:170:ARG:HH22	8:E:176:ASP:HB2	1.86	0.41
5:D:119:ALA:HB2	5:D:163:GLY:C	2.41	0.41
28:R:14:VAL:HG21	28:R:98:ILE:CG1	2.44	0.41
2:B:672:C:H2'	2:B:673:C:C6	2.56	0.41
2:B:713:G:O2'	2:B:714:U:H5'	2.20	0.41
26:F:37:MET:CE	26:F:149:ARG:HD2	2.50	0.41
16:L:56:PRO:O	16:L:60:ARG:HG3	2.19	0.41
2:B:2467:C:H42	2:B:2483:C:N4	2.18	0.41
7:P:98:TYR:CE2	7:P:99:LEU:HD23	2.56	0.41
7:P:58:PHE:HE1	7:P:83:ILE:HG13	1.86	0.41
2:B:1857:G:H21	2:B:1884:G:H2'	1.86	0.41
27:G:154:GLU:H	27:G:158:GLY:CA	2.32	0.41
2:B:988:A:OP1	9:Y:11:SER:HB3	2.21	0.41
2:B:1322:A:C5	2:B:1323:C:C5	3.09	0.41
7:P:24:THR:C	7:P:25:VAL:HG13	2.40	0.41
14:V:1:MET:HE2	14:V:2:PHE:H	1.86	0.41
2:B:185:G:H2'	2:B:186:G:O4'	2.21	0.41
21:N:9:GLN:C	21:N:17:ARG:HD3	2.41	0.41
4:C:161:VAL:HG13	4:C:174:ARG:O	2.21	0.41
2:B:786:C:H5''	2:B:1780:A:C8	2.56	0.41
2:B:839:U:H2'	2:B:840:C:C6	2.56	0.41
2:B:909:A:H2'	2:B:912:C:C5	2.54	0.41
11:4:16:ILE:HG12	11:4:25:VAL:HG22	2.03	0.41
4:C:251:THR:O	4:C:251:THR:HG22	2.20	0.41
2:B:1917:U:O2'	2:B:1918:A:H5'	2.20	0.41
2:B:1064:C:H5'	3:I:88:GLY:HA3	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Z:18:ARG:HH11	30:Z:24:ALA:N	2.18	0.41
2:B:2363:G:O2'	2:B:2364:C:H5'	2.20	0.41
2:B:1518:C:H2'	2:B:1519:G:H8	1.84	0.41
2:B:1653:G:O6	21:N:10:LEU:O	2.39	0.41
2:B:1270:C:H5''	2:B:1271:G:O5'	2.21	0.41
1:A:62:C:H2'	1:A:63:C:C6	2.56	0.41
20:J:130:HIS:CG	20:J:130:HIS:O	2.74	0.41
2:B:367:G:N2	2:B:368:A:H1'	2.36	0.41
27:G:42:VAL:HA	27:G:50:THR:O	2.21	0.41
12:1:37:LYS:HB2	12:1:48:TYR:CD2	2.55	0.41
16:L:89:VAL:O	16:L:89:VAL:HG13	2.21	0.41
23:Q:105:PHE:HA	23:Q:108:LEU:CG	2.50	0.41
8:E:181:ILE:O	16:L:2:ARG:N	2.53	0.41
24:S:47:VAL:HG12	24:S:103:ILE:CG2	2.46	0.41
6:K:116:ILE:HG13	6:K:116:ILE:H	1.71	0.41
2:B:2733:A:O2'	2:B:2734:A:H5'	2.21	0.41
2:B:2519:U:C6	2:B:2542:A:N6	2.89	0.41
20:J:82:GLY:O	20:J:83:GLY:C	2.59	0.41
1:A:42:C:C6	26:F:65:LEU:HD13	2.56	0.41
2:B:142:A:H2'	2:B:143:C:C5	2.54	0.41
2:B:1430:G:O2'	2:B:1431:A:H5'	2.21	0.41
4:C:6:LYS:HA	4:C:7:PRO:HD3	1.91	0.41
2:B:2848:G:H1'	2:B:2868:A:N6	2.36	0.41
2:B:920:A:H2'	2:B:921:C:H6	1.86	0.41
8:E:170:ARG:NH2	8:E:176:ASP:HB2	2.36	0.41
2:B:2723:C:H2'	2:B:2724:U:O4'	2.21	0.41
2:B:75:G:H4'	18:X:48:ARG:NH2	2.32	0.41
27:G:122:ALA:HA	27:G:131:VAL:O	2.20	0.41
2:B:2635:A:C5'	5:D:79:LEU:HB2	2.51	0.41
2:B:35:G:H1'	2:B:454:A:C4	2.55	0.41
19:H:67:ALA:HB1	19:H:70:GLU:CG	2.51	0.41
4:C:216:ARG:NH1	4:C:216:ARG:CG	2.84	0.41
27:G:87:GLN:HE21	27:G:164:ALA:CA	2.32	0.41
2:B:2241:A:O2'	2:B:2242:G:H5'	2.21	0.41
2:B:1718:G:O2'	2:B:1719:G:H5'	2.21	0.41
21:N:17:ARG:O	21:N:18:GLN:HG2	2.21	0.41
2:B:1397:U:H5''	2:B:1398:C:H5	1.85	0.41
4:C:63:ILE:HD13	4:C:63:ILE:HA	1.87	0.41
1:A:35:C:O2	1:A:35:C:C3'	2.69	0.41
2:B:2692:G:H1'	2:B:2847:U:O2'	2.21	0.41
1:A:100:G:H2'	1:A:101:A:O4'	2.20	0.41
2:B:2488:G:O2'	2:B:2489:U:H5'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:1183:U:O2'	2:B:1184:U:H5'	2.21	0.41
2:B:2439:A:H4'	2:B:2440:C:O5'	2.21	0.41
9:Y:5:LYS:H	9:Y:5:LYS:HE2	1.86	0.41
2:B:374:A:H61	2:B:400:G:H1'	1.85	0.41
31:W:27:GLY:O	31:W:63:ASP:HA	2.21	0.41
2:B:1068:G:C6	2:B:1069:A:N6	2.89	0.41
16:L:118:THR:O	16:L:120:VAL:HG23	2.20	0.41
1:A:3:C:H2'	1:A:4:C:C6	2.56	0.41
30:Z:77:LYS:O	30:Z:78:TYR:HB3	2.21	0.40
2:B:856:G:H2'	2:B:857:G:C8	2.56	0.40
31:W:24:ARG:HD2	31:W:25:PHE:N	2.36	0.40
31:W:50:VAL:O	31:W:52:CYS:N	2.54	0.40
2:B:1799:G:C4	4:C:175:LEU:HD13	2.56	0.40
2:B:2899:A:H5'	20:J:136:GLN:OE1	2.21	0.40
16:L:29:LYS:C	16:L:31:GLY:N	2.73	0.40
19:H:114:GLU:OE2	19:H:134:VAL:HA	2.21	0.40
6:K:97:THR:HB	6:K:98:ARG:NH2	2.36	0.40
3:I:37:PHE:HZ	3:I:56:VAL:HG11	1.86	0.40
21:N:72:ASP:C	21:N:74:GLU:N	2.73	0.40
14:V:4:ILE:CD1	14:V:63:ILE:HG13	2.51	0.40
8:E:29:HIS:C	8:E:32:VAL:HG22	2.41	0.40
20:J:58:ASN:O	20:J:59:ALA:HB3	2.21	0.40
1:A:28:C:OP1	22:O:34:HIS:HB2	2.21	0.40
2:B:2073:C:O2'	2:B:2074:U:H5'	2.20	0.40
2:B:650:C:O3'	13:3:48:MET:HE1	2.20	0.40
17:M:82:MET:O	17:M:83:GLY:C	2.58	0.40
2:B:722:A:H2'	2:B:723:C:C6	2.56	0.40
17:M:120:ALA:C	17:M:122:ALA:N	2.73	0.40
2:B:1505:A:H2'	2:B:1506:U:O4'	2.21	0.40
3:I:7:TYR:C	3:I:7:TYR:CD1	2.95	0.40
17:M:93:VAL:HG22	17:M:94:ALA:H	1.86	0.40
2:B:1353:A:H2'	2:B:1354:A:H8	1.85	0.40
23:Q:7:VAL:HG23	23:Q:8:ILE:N	2.35	0.40
2:B:993:G:OP1	23:Q:49:ARG:NH1	2.55	0.40
4:C:75:ALA:CB	4:C:95:TYR:HA	2.51	0.40
2:B:40:U:H2'	2:B:41:C:H6	1.86	0.40
21:N:19:ALA:C	21:N:21:PHE:N	2.74	0.40
5:D:125:TRP:CD1	5:D:160:LYS:HB3	2.56	0.40
12:1:39:ASP:OD1	12:1:42:VAL:HG23	2.20	0.40
2:B:1951:U:H2'	2:B:1953:A:OP2	2.21	0.40
2:B:2138:G:H2'	2:B:2139:U:C5'	2.51	0.40
7:P:29:VAL:O	7:P:40:GLN:N	2.54	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:W:49:ASN:C	31:W:50:VAL:HG22	2.41	0.40
2:B:2365:G:OP1	31:W:54:ARG:HG3	2.21	0.40
2:B:2384:U:H5''	2:B:2386:A:OP1	2.20	0.40
31:W:36:ILE:HD12	31:W:39:GLN:HE22	1.85	0.40
6:K:70:ARG:HH11	6:K:76:VAL:HG22	1.86	0.40
8:E:151:GLY:HA2	8:E:195:GLN:HE22	1.86	0.40
4:C:64:VAL:HG11	4:C:66:PHE:CZ	2.56	0.40
21:N:25:ALA:HA	21:N:44:LEU:HD11	2.04	0.40
21:N:82:GLU:O	21:N:84:GLY:N	2.54	0.40
26:F:102:LEU:O	26:F:103:ILE:CB	2.69	0.40
26:F:33:ILE:HG22	26:F:90:LEU:HD23	2.01	0.40
2:B:705:A:H2'	2:B:706:A:H8	1.87	0.40
14:V:29:ILE:HA	14:V:38:LEU:O	2.22	0.40
1:A:75:G:H1'	14:V:29:ILE:HG12	2.03	0.40
2:B:2784:U:H2'	2:B:2785:C:C6	2.56	0.40
5:D:62:LYS:N	5:D:63:PRO:CD	2.84	0.40
18:X:18:LEU:HA	18:X:21:LEU:HD12	2.03	0.40
19:H:54:LEU:O	19:H:58:LEU:N	2.55	0.40
7:P:50:ARG:CD	7:P:56:SER:HB3	2.51	0.40
18:X:1:MET:HG3	18:X:4:LYS:HD3	2.02	0.40
2:B:2797:U:H3'	2:B:2798:U:H5	1.86	0.40
2:B:1870:C:H2'	2:B:1871:A:N3	2.36	0.40
2:B:863:A:O2'	2:B:864:G:H5'	2.21	0.40
4:C:20:ASN:HB3	4:C:23:LEU:HD13	2.03	0.40
22:O:6:ALA:O	22:O:10:ARG:HG3	2.21	0.40
1:A:18:G:H2'	1:A:19:C:C6	2.57	0.40
2:B:1863:G:H2'	2:B:1864:U:O4'	2.21	0.40
2:B:189:G:H2'	2:B:205:G:N2	2.36	0.40
15:2:6:GLN:HA	15:2:7:PRO:HD2	1.89	0.40
19:H:26:ALA:HA	19:H:31:VAL:HG23	2.03	0.40
30:Z:30:LEU:HA	30:Z:31:PRO:HD3	1.93	0.40
30:Z:5:CYS:SG	30:Z:7:VAL:HG12	2.61	0.40
25:U:85:ARG:O	25:U:86:PHE:HB2	2.20	0.40
31:W:54:ARG:CB	31:W:54:ARG:HH11	2.34	0.40
23:Q:30:VAL:HG11	23:Q:33:VAL:HG22	2.03	0.40
23:Q:59:LEU:HD13	23:Q:60:TRP:N	2.37	0.40
2:B:2204:G:O2'	2:B:2205:A:H5'	2.21	0.40
27:G:68:ARG:HH12	27:G:72:ASN:ND2	2.02	0.40
6:K:115:ILE:CG2	6:K:116:ILE:N	2.84	0.40
6:K:99:ILE:H	6:K:118:LEU:CD2	2.35	0.40
2:B:163:C:O2	2:B:163:C:H5'	2.22	0.40
2:B:1350:C:H5'	2:B:1351:C:OP2	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:E:46:GLN:HB2	8:E:87:ALA:O	2.21	0.40
31:W:76:ARG:HB3	31:W:78:PHE:CE2	2.56	0.40
19:H:48:GLU:HA	19:H:51:ARG:CZ	2.51	0.40
2:B:2667:C:H2'	2:B:2668:G:O4'	2.21	0.40
2:B:1431:A:H2'	2:B:1432:G:H8	1.86	0.40
8:E:173:THR:C	8:E:175:ILE:N	2.75	0.40
25:U:35:VAL:HB	25:U:38:ILE:HB	2.03	0.40
19:H:61:VAL:C	19:H:63:ALA:H	2.24	0.40
2:B:2688:G:H1'	2:B:2721:A:H61	1.86	0.40
2:B:1507:C:H2'	2:B:1508:A:H4'	2.03	0.40
2:B:870:U:C2'	2:B:871:U:H5'	2.50	0.40
2:B:30:G:H2'	2:B:31:C:O4'	2.22	0.40
2:B:1105:U:O2'	2:B:1106:G:H5'	2.21	0.40
2:B:540:C:H2'	2:B:541:A:C8	2.55	0.40
2:B:2839:G:O2'	2:B:2840:C:H5'	2.21	0.40
4:C:36:ASN:HD21	4:C:85:ASN:ND2	2.20	0.40
2:B:768:G:O2'	2:B:769:U:H5'	2.21	0.40
9:Y:20:LYS:HG3	9:Y:20:LYS:H	1.67	0.40
5:D:96:ILE:HD12	5:D:96:ILE:N	2.35	0.40
2:B:811:U:OP2	16:L:20:GLY:HA2	2.21	0.40
2:B:55:G:H2'	2:B:56:A:H8	1.85	0.40
2:B:296:U:H2'	2:B:297:G:C8	2.57	0.40
2:B:2336:A:H1'	2:B:2385:C:O4'	2.21	0.40
5:D:30:GLU:HG3	5:D:52:THR:CG2	2.50	0.40
23:Q:27:ARG:HA	23:Q:33:VAL:CG2	2.50	0.40
2:B:625:G:O2'	2:B:626:A:H5'	2.20	0.40
2:B:670:A:H4'	2:B:671:C:C5'	2.37	0.40
19:H:106:ALA:C	19:H:108:VAL:H	2.25	0.40
21:N:39:PRO:C	21:N:41:ALA:N	2.75	0.40
20:J:77:HIS:CD2	20:J:84:ILE:N	2.89	0.40
2:B:1021:A:C2	2:B:1023:U:C2	3.09	0.40
20:J:59:ALA:C	20:J:61:LYS:N	2.75	0.40
2:B:284:U:H2'	2:B:285:G:H8	1.87	0.40
2:B:784:G:O6	4:C:227:VAL:HG11	2.21	0.40
2:B:2186:G:H2'	2:B:2187:U:H6	1.86	0.40
2:B:1439:A:N3	2:B:1553:A:C5	2.90	0.40
11:4:36:ARG:O	11:4:37:GLN:C	2.60	0.40
1:A:8:C:OP1	22:O:15:ARG:NH2	2.52	0.40
7:P:96:LEU:N	7:P:96:LEU:HD12	2.37	0.40
6:K:30:ARG:HH11	6:K:30:ARG:HG2	1.86	0.40
2:B:528:A:C8	2:B:528:A:H3'	2.56	0.40
4:C:220:ARG:O	4:C:223:ALA:HB3	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:O:94:ARG:O	22:O:97:PHE:HB2	2.21	0.40
14:V:77:VAL:HG23	14:V:89:ILE:CG2	2.52	0.40
2:B:2295:C:OP2	22:O:9:ARG:NH2	2.55	0.40
3:I:48:ILE:HG22	3:I:49:GLU:HG2	2.02	0.40
2:B:1051:G:H2'	2:B:1051:G:N3	2.36	0.40
1:A:35:C:H2'	1:A:36:C:C5'	2.51	0.40
2:B:2282:G:O2'	2:B:2283:C:OP2	2.33	0.40
2:B:1997:C:O2'	2:B:1998:A:H5'	2.22	0.40
2:B:2049:G:O2'	2:B:2050:C:H5'	2.21	0.40
2:B:1427:A:H4'	2:B:1428:C:O4'	2.21	0.40
23:Q:42:GLY:HA3	28:R:75:VAL:HG21	2.04	0.40
23:Q:27:ARG:HG3	23:Q:27:ARG:HH11	1.85	0.40
28:R:34:GLU:HB3	28:R:58:VAL:CG2	2.51	0.40
21:N:2:ARG:HG2	21:N:5:LYS:HB2	2.03	0.40
4:C:140:VAL:O	4:C:141:HIS:HB2	2.21	0.40
4:C:83:ASP:HA	4:C:84:PRO:HD3	1.85	0.40
29:T:61:LEU:HD12	29:T:62:VAL:O	2.21	0.40
5:D:186:LEU:CD2	7:P:3:ILE:HD11	2.47	0.40
2:B:1204:A:N1	2:B:1241:A:C2	2.90	0.40
2:B:776:G:H4'	2:B:777:G:O5'	2.22	0.40
25:U:46:LYS:HE3	25:U:47:PRO:O	2.21	0.40
22:O:34:HIS:CE1	22:O:65:THR:HG21	2.57	0.40
9:Y:12:ALA:HB2	9:Y:53:MET:HE1	2.04	0.40
1:A:73:A:C5	1:A:74:U:C5	3.10	0.40
20:J:20:ALA:HA	20:J:23:LYS:HG3	2.04	0.40
19:H:62:LEU:O	19:H:63:ALA:C	2.60	0.40
2:B:2462:C:H2'	2:B:2463:C:C6	2.57	0.40
2:B:2591:C:OP1	4:C:237:ARG:HG3	2.21	0.40
2:B:2077:A:C6	2:B:2078:C:N4	2.90	0.40
2:B:962:G:H21	2:B:2250:G:H1	1.67	0.40
28:R:63:VAL:HA	28:R:95:ASP:O	2.21	0.40
23:Q:9:ALA:O	23:Q:11:ALA:N	2.53	0.40
27:G:37:ASN:ND2	27:G:40:VAL:HB	2.34	0.40
24:S:31:GLN:C	24:S:33:LEU:N	2.73	0.40
2:B:2199:A:H3'	2:B:2200:C:C6	2.57	0.40
2:B:1275:A:C4	21:N:16:HIS:CD2	3.10	0.40
14:V:10:LYS:C	14:V:11:GLU:HG3	2.41	0.40
2:B:2359:C:O2'	2:B:2360:G:H5'	2.21	0.40
2:B:2665:A:H2'	2:B:2666:C:O2	2.21	0.40
2:B:2455:G:H2'	2:B:2456:C:H6	1.85	0.40
4:C:12:ARG:HA	4:C:15:VAL:CG2	2.52	0.40
2:B:2219:U:O2'	2:B:2220:U:H5'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:D:141:ARG:HG3	5:D:141:ARG:O	2.22	0.40
6:K:39:ILE:HD13	6:K:39:ILE:HA	1.93	0.40
26:F:124:ARG:HA	26:F:124:ARG:HD2	1.93	0.40
2:B:2252:G:O2'	2:B:2253:G:H5'	2.21	0.40
2:B:2655:G:O2'	2:B:2656:U:P	2.80	0.40
2:B:807:U:H2'	2:B:808:G:H8	1.86	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	I	139/141 (99%)	119 (86%)	15 (11%)	5 (4%)	5	36
4	C	269/272 (99%)	174 (65%)	49 (18%)	46 (17%)	0	1
5	D	207/209 (99%)	112 (54%)	63 (30%)	32 (16%)	0	1
6	K	119/123 (97%)	75 (63%)	28 (24%)	16 (13%)	0	2
7	P	112/114 (98%)	62 (55%)	35 (31%)	15 (13%)	0	2
8	E	199/201 (99%)	131 (66%)	51 (26%)	17 (8%)	1	9
9	Y	56/58 (97%)	36 (64%)	14 (25%)	6 (11%)	1	5
10	0	54/56 (96%)	39 (72%)	10 (18%)	5 (9%)	1	8
11	4	36/38 (95%)	21 (58%)	7 (19%)	8 (22%)	0	0
12	1	48/54 (89%)	37 (77%)	5 (10%)	6 (12%)	1	3
13	3	62/64 (97%)	44 (71%)	13 (21%)	5 (8%)	1	10
14	V	92/94 (98%)	65 (71%)	23 (25%)	4 (4%)	4	31
15	2	44/46 (96%)	29 (66%)	14 (32%)	1 (2%)	10	52
16	L	141/144 (98%)	88 (62%)	30 (21%)	23 (16%)	0	1
17	M	134/136 (98%)	86 (64%)	31 (23%)	17 (13%)	0	3
18	X	61/63 (97%)	38 (62%)	18 (30%)	5 (8%)	1	10
19	H	147/149 (99%)	77 (52%)	41 (28%)	29 (20%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	J	140/142 (99%)	88 (63%)	36 (26%)	16 (11%)	1	4
21	N	118/127 (93%)	72 (61%)	34 (29%)	12 (10%)	1	6
22	O	114/117 (97%)	84 (74%)	25 (22%)	5 (4%)	4	29
23	Q	115/117 (98%)	73 (64%)	34 (30%)	8 (7%)	2	14
24	S	108/110 (98%)	69 (64%)	28 (26%)	11 (10%)	1	6
25	U	100/103 (97%)	53 (53%)	25 (25%)	22 (22%)	0	0
26	F	176/178 (99%)	107 (61%)	44 (25%)	25 (14%)	0	2
27	G	174/176 (99%)	100 (58%)	48 (28%)	26 (15%)	0	1
28	R	101/103 (98%)	65 (64%)	25 (25%)	11 (11%)	1	5
29	T	91/100 (91%)	50 (55%)	31 (34%)	10 (11%)	1	5
30	Z	75/78 (96%)	53 (71%)	18 (24%)	4 (5%)	3	24
31	W	77/84 (92%)	29 (38%)	27 (35%)	21 (27%)	0	0
All	All	3309/3397 (97%)	2076 (63%)	822 (25%)	411 (12%)	1	3

All (411) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	I	18	ASN
4	C	77	VAL
4	C	107	LYS
5	D	9	VAL
5	D	14	ILE
5	D	74	GLU
5	D	107	VAL
5	D	122	VAL
5	D	169	ARG
5	D	170	VAL
5	D	184	ARG
6	K	31	ARG
6	K	35	VAL
6	K	72	PRO
6	K	119	ALA
6	K	120	PRO
7	P	25	VAL
7	P	50	ARG
7	P	65	ASN
7	P	75	THR
7	P	100	ARG

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Mol	Chain	Res	Type
8	E	45	ALA
8	E	60	TRP
8	E	69	ARG
8	E	79	ARG
8	E	165	HIS
8	E	167	VAL
9	Y	2	LYS
10	O	42	ILE
10	O	51	ARG
13	3	31	ILE
13	3	50	SER
16	L	51	GLU
16	L	89	VAL
16	L	100	ILE
16	L	111	ILE
16	L	116	VAL
17	M	2	LEU
17	M	36	VAL
17	M	78	LEU
18	X	2	LYS
19	H	9	VAL
19	H	10	ALA
19	H	31	VAL
19	H	32	PRO
19	H	33	GLN
19	H	73	ASN
19	H	77	THR
19	H	105	ALA
19	H	136	SER
19	H	147	VAL
20	J	4	PHE
20	J	44	TYR
20	J	45	THR
20	J	73	VAL
20	J	81	ILE
20	J	124	VAL
21	N	11	ASN
21	N	82	GLU
23	Q	30	VAL
23	Q	31	TYR
23	Q	89	ILE
24	S	3	THR

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Mol	Chain	Res	Type
24	S	13	SER
24	S	27	LYS
24	S	61	ASN
25	U	6	ARG
25	U	18	LYS
25	U	42	LYS
25	U	85	ARG
26	F	9	ASP
26	F	32	LYS
26	F	41	GLU
26	F	43	ILE
26	F	77	LYS
26	F	92	GLY
26	F	103	ILE
26	F	110	ILE
26	F	112	ASP
26	F	138	PRO
26	F	149	ARG
27	G	9	VAL
27	G	11	PRO
27	G	46	ASP
27	G	85	LYS
27	G	89	VAL
27	G	91	VAL
27	G	94	ARG
27	G	117	PRO
27	G	172	GLU
29	T	2	ILE
29	T	39	THR
29	T	58	VAL
29	T	88	LYS
30	Z	33	LEU
30	Z	77	LYS
31	W	9	THR
31	W	30	VAL
31	W	36	ILE
31	W	50	VAL
31	W	59	PHE
31	W	60	ALA
31	W	61	LYS
3	I	14	ALA
3	I	64	ARG

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Mol	Chain	Res	Type
4	C	3	VAL
4	C	18	VAL
4	C	35	LYS
4	C	36	ASN
4	C	63	ILE
4	C	69	ASN
4	C	93	VAL
4	C	94	LEU
4	C	123	ILE
4	C	141	HIS
4	C	142	ASN
4	C	232	GLY
4	C	239	PHE
4	C	255	LYS
5	D	91	THR
5	D	93	GLY
5	D	121	THR
5	D	136	ASN
5	D	145	SER
6	K	18	ARG
6	K	46	ALA
6	K	92	GLU
6	K	110	GLU
7	P	37	LYS
7	P	38	ARG
7	P	64	SER
7	P	83	ILE
7	P	101	GLU
8	E	42	GLY
8	E	46	GLN
9	Y	4	ILE
10	O	48	TYR
11	4	4	ARG
11	4	8	LYS
12	1	4	ILE
13	3	20	GLY
13	3	22	LYS
14	V	25	LYS
15	2	44	VAL
16	L	15	ALA
16	L	28	GLY
17	M	19	GLY

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Mol	Chain	Res	Type
17	M	56	ALA
17	M	69	PRO
17	M	83	GLY
17	M	134	THR
18	X	9	LYS
19	H	3	VAL
19	H	12	LEU
19	H	28	ASN
19	H	64	ALA
19	H	125	THR
20	J	43	GLU
20	J	84	ILE
20	J	111	LYS
21	N	10	LEU
21	N	89	SER
21	N	98	LEU
21	N	100	CYS
21	N	101	GLY
21	N	119	SER
22	O	83	LEU
22	O	98	GLN
23	Q	18	LYS
24	S	14	ALA
24	S	25	ARG
24	S	96	ILE
25	U	19	GLY
25	U	41	VAL
25	U	47	PRO
25	U	78	LYS
25	U	89	GLY
26	F	11	VAL
26	F	36	ASN
26	F	78	ILE
26	F	135	ILE
26	F	148	VAL
27	G	2	ARG
27	G	84	LYS
27	G	97	VAL
27	G	107	GLY
28	R	24	LYS
28	R	57	GLY
29	T	19	LYS

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Mol	Chain	Res	Type
29	T	38	ALA
29	T	69	ARG
30	Z	35	SER
31	W	12	GLY
31	W	14	ASP
31	W	17	ALA
31	W	32	ALA
31	W	51	GLY
31	W	53	GLY
31	W	62	ALA
31	W	77	LYS
3	I	23	VAL
4	C	4	LYS
4	C	37	SER
4	C	59	GLN
4	C	64	VAL
4	C	65	ASP
4	C	88	ALA
4	C	121	ALA
4	C	140	VAL
4	C	189	ALA
4	C	190	THR
4	C	222	THR
5	D	113	SER
5	D	127	PHE
5	D	164	GLN
5	D	167	ASN
5	D	181	ASP
5	D	194	PRO
6	K	6	THR
6	K	17	ARG
7	P	104	GLY
9	Y	9	THR
11	4	34	LYS
16	L	3	LEU
16	L	5	THR
16	L	117	THR
17	M	43	ALA
17	M	59	ARG
17	M	77	PRO
18	X	37	LEU
19	H	11	ASN

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Mol	Chain	Res	Type
19	H	44	ILE
19	H	83	LYS
19	H	103	VAL
20	J	72	LYS
20	J	113	PRO
21	N	61	ALA
21	N	83	LEU
22	O	100	HIS
23	Q	4	LYS
23	Q	10	ARG
23	Q	88	GLU
24	S	40	ASN
25	U	9	GLU
25	U	49	PRO
25	U	61	GLU
25	U	96	LYS
26	F	42	ALA
26	F	87	LYS
26	F	176	PHE
27	G	31	GLU
27	G	38	ASP
27	G	164	ALA
28	R	43	ASN
31	W	13	ARG
31	W	23	LYS
3	I	49	GLU
4	C	52	HIS
4	C	53	ILE
4	C	70	LYS
4	C	196	ASN
4	C	212	TRP
4	C	237	ARG
4	C	248	GLY
5	D	24	VAL
5	D	31	ALA
5	D	95	SER
5	D	131	ASP
5	D	159	LYS
5	D	162	ALA
5	D	197	THR
6	K	4	GLU
6	K	14	SER

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Mol	Chain	Res	Type
7	P	31	VAL
7	P	108	ARG
8	E	153	LEU
9	Y	34	THR
9	Y	49	ALA
9	Y	50	VAL
10	O	26	SER
10	O	54	ILE
11	4	9	LYS
11	4	16	ILE
11	4	37	GLN
12	1	35	LEU
12	1	36	LYS
12	1	50	GLU
12	1	51	ALA
14	V	71	LYS
16	L	4	ASN
16	L	17	LYS
16	L	29	LYS
16	L	36	LYS
16	L	66	PHE
16	L	81	ASP
16	L	94	THR
16	L	99	ASN
16	L	143	GLU
17	M	42	THR
17	M	60	GLN
17	M	72	PRO
18	X	62	GLY
19	H	7	ASP
19	H	54	LEU
19	H	100	ALA
19	H	118	PRO
20	J	5	THR
20	J	13	ARG
21	N	13	ASN
21	N	104	ALA
22	O	99	TYR
24	S	29	VAL
24	S	80	PRO
25	U	12	VAL
25	U	50	ALA

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Mol	Chain	Res	Type
25	U	82	VAL
25	U	91	LYS
25	U	92	VAL
25	U	101	THR
27	G	32	LEU
27	G	61	TRP
27	G	120	ILE
27	G	170	THR
28	R	7	SER
28	R	65	ALA
29	T	28	ASN
29	T	86	THR
31	W	70	VAL
4	C	105	ALA
4	C	145	MET
4	C	186	ASP
4	C	246	PRO
5	D	54	ALA
5	D	56	LYS
5	D	109	VAL
5	D	119	ALA
5	D	143	PRO
6	K	43	ILE
6	K	93	GLN
8	E	70	SER
11	4	20	ASP
13	3	58	ILE
16	L	19	LEU
16	L	41	ARG
16	L	54	GLN
17	M	20	LEU
18	X	16	THR
19	H	62	LEU
19	H	86	ASP
19	H	99	ILE
20	J	2	LYS
20	J	14	ASP
22	O	68	LYS
25	U	51	LEU
25	U	67	SER
26	F	7	TYR
26	F	12	VAL

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Mol	Chain	Res	Type
26	F	133	GLU
26	F	136	ILE
28	R	52	PRO
28	R	70	GLU
28	R	79	ARG
28	R	98	ILE
28	R	101	ILE
30	Z	28	ARG
31	W	27	GLY
31	W	74	LYS
4	C	31	PRO
4	C	34	GLU
4	C	249	VAL
4	C	260	LYS
5	D	173	GLN
6	K	101	GLY
8	E	78	TRP
8	E	96	VAL
8	E	129	PRO
8	E	177	PRO
14	V	15	GLY
14	V	84	PRO
17	M	73	ILE
17	M	81	ARG
23	Q	91	ARG
24	S	32	ALA
27	G	92	GLY
27	G	155	PRO
28	R	40	MET
29	T	55	VAL
4	C	48	ILE
4	C	150	GLY
8	E	81	GLY
8	E	83	VAL
19	H	108	VAL
26	F	88	VAL
31	W	37	VAL
7	P	63	ILE
8	E	148	ILE
25	U	15	GLY
27	G	16	VAL
4	C	151	GLY

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Mol	Chain	Res	Type
7	P	4	ILE
11	4	7	VAL
12	1	30	PRO
16	L	31	GLY
20	J	112	GLY
19	H	121	VAL
27	G	18	ILE
27	G	119	GLY
27	G	168	VAL
4	C	147	PRO
19	H	16	GLY
26	F	82	TYR

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	I	109/109 (100%)	107 (98%)	2 (2%)	71 93
4	C	216/217 (100%)	176 (82%)	40 (18%)	2 11
5	D	164/164 (100%)	142 (87%)	22 (13%)	6 26
6	K	102/104 (98%)	79 (78%)	23 (22%)	1 6
7	P	99/99 (100%)	81 (82%)	18 (18%)	2 12
8	E	165/165 (100%)	136 (82%)	29 (18%)	3 13
9	Y	48/48 (100%)	38 (79%)	10 (21%)	2 8
10	0	47/47 (100%)	36 (77%)	11 (23%)	1 4
11	4	34/34 (100%)	28 (82%)	6 (18%)	3 13
12	1	45/48 (94%)	40 (89%)	5 (11%)	9 36
13	3	51/51 (100%)	47 (92%)	4 (8%)	18 58
14	V	78/78 (100%)	62 (80%)	16 (20%)	2 8
15	2	38/38 (100%)	32 (84%)	6 (16%)	4 16
16	L	102/103 (99%)	89 (87%)	13 (13%)	6 29
17	M	109/109 (100%)	91 (84%)	18 (16%)	3 14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	X	55/55 (100%)	40 (73%)	15 (27%)	0	2
19	H	114/114 (100%)	64 (56%)	50 (44%)	0	0
20	J	116/116 (100%)	101 (87%)	15 (13%)	6	28
21	N	100/103 (97%)	87 (87%)	13 (13%)	6	28
22	O	86/87 (99%)	70 (81%)	16 (19%)	2	11
23	Q	89/89 (100%)	74 (83%)	15 (17%)	3	14
24	S	93/93 (100%)	79 (85%)	14 (15%)	4	19
25	U	83/84 (99%)	68 (82%)	15 (18%)	2	12
26	F	149/149 (100%)	114 (76%)	35 (24%)	1	4
27	G	137/137 (100%)	113 (82%)	24 (18%)	3	13
28	R	84/84 (100%)	73 (87%)	11 (13%)	6	28
29	T	80/84 (95%)	66 (82%)	14 (18%)	3	13
30	Z	67/68 (98%)	52 (78%)	15 (22%)	1	6
31	W	59/62 (95%)	45 (76%)	14 (24%)	1	4
All	All	2719/2739 (99%)	2230 (82%)	489 (18%)	2	12

All (489) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	I	63	ASP
3	I	96	LYS
4	C	4	LYS
4	C	8	THR
4	C	12	ARG
4	C	37	SER
4	C	43	ASN
4	C	45	ASN
4	C	52	HIS
4	C	62	ARG
4	C	65	ASP
4	C	66	PHE
4	C	77	VAL
4	C	89	ASN
4	C	90	ILE
4	C	100	ARG
4	C	109	LEU
4	C	123	ILE

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Mol	Chain	Res	Type
4	C	129	LEU
4	C	134	ILE
4	C	142	ASN
4	C	155	ARG
4	C	167	ASP
4	C	172	THR
4	C	173	LEU
4	C	176	ARG
4	C	180	MET
4	C	181	ARG
4	C	187	CYS
4	C	190	THR
4	C	196	ASN
4	C	202	ARG
4	C	203	VAL
4	C	211	ARG
4	C	212	TRP
4	C	213	ARG
4	C	224	MET
4	C	227	VAL
4	C	235	GLU
4	C	249	VAL
4	C	250	GLN
4	C	257	ARG
5	D	17	GLU
5	D	34	VAL
5	D	40	LEU
5	D	55	LYS
5	D	56	LYS
5	D	59	ARG
5	D	74	GLU
5	D	79	LEU
5	D	81	GLU
5	D	84	LEU
5	D	88	GLU
5	D	91	THR
5	D	99	GLU
5	D	123	LYS
5	D	124	ARG
5	D	138	LEU
5	D	142	VAL
5	D	148	GLN

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Mol	Chain	Res	Type
5	D	159	LYS
5	D	179	ARG
5	D	180	VAL
5	D	197	THR
6	K	2	ILE
6	K	8	LEU
6	K	9	ASN
6	K	18	ARG
6	K	21	CYS
6	K	25	LEU
6	K	32	TYR
6	K	47	ILE
6	K	53	LYS
6	K	54	LYS
6	K	58	LEU
6	K	64	ARG
6	K	70	ARG
6	K	72	PRO
6	K	79	PHE
6	K	87	LEU
6	K	88	ASN
6	K	89	ASN
6	K	98	ARG
6	K	104	THR
6	K	105	ARG
6	K	111	LYS
6	K	120	PRO
7	P	3	ILE
7	P	6	GLN
7	P	19	PHE
7	P	25	VAL
7	P	33	GLU
7	P	38	ARG
7	P	43	GLU
7	P	61	ARG
7	P	65	ASN
7	P	82	SER
7	P	83	ILE
7	P	99	LEU
7	P	100	ARG
7	P	101	GLU
7	P	111	GLU

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Mol	Chain	Res	Type
7	P	112	ARG
7	P	113	LEU
7	P	114	ASN
8	E	2	GLU
8	E	3	LEU
8	E	5	LEU
8	E	7	ASP
8	E	9	GLN
8	E	22	ASP
8	E	24	ASN
8	E	40	ARG
8	E	58	LYS
8	E	60	TRP
8	E	62	GLN
8	E	67	ARG
8	E	69	ARG
8	E	70	SER
8	E	78	TRP
8	E	92	HIS
8	E	97	ASN
8	E	98	LYS
8	E	108	ILE
8	E	110	SER
8	E	111	GLU
8	E	116	ASP
8	E	118	LEU
8	E	122	GLU
8	E	149	ILE
8	E	150	THR
8	E	159	LEU
8	E	163	ASN
8	E	189	THR
9	Y	2	LYS
9	Y	6	ILE
9	Y	8	GLN
9	Y	15	ARG
9	Y	19	HIS
9	Y	23	LEU
9	Y	30	ARG
9	Y	37	ARG
9	Y	43	ILE
9	Y	55	LYS

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Mol	Chain	Res	Type
10	0	2	VAL
10	0	5	ASN
10	0	27	LEU
10	0	31	LYS
10	0	37	HIS
10	0	38	LEU
10	0	41	HIS
10	0	45	ASP
10	0	51	ARG
10	0	53	VAL
10	0	56	LYS
11	4	1	MET
11	4	2	LYS
11	4	9	LYS
11	4	15	LYS
11	4	25	VAL
11	4	35	GLN
12	1	6	GLU
12	1	9	LYS
12	1	31	GLU
12	1	35	LEU
12	1	44	GLN
13	3	7	ARG
13	3	14	LYS
13	3	18	LYS
13	3	61	LEU
14	V	7	GLU
14	V	35	GLU
14	V	40	ILE
14	V	42	LEU
14	V	45	ASP
14	V	46	LYS
14	V	49	ASN
14	V	51	GLN
14	V	53	LYS
14	V	66	ASP
14	V	68	LYS
14	V	69	GLU
14	V	70	ILE
14	V	75	GLN
14	V	79	ARG
14	V	90	ASP

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Mol	Chain	Res	Type
15	2	19	ARG
15	2	33	ARG
15	2	35	ARG
15	2	39	ARG
15	2	42	LEU
15	2	43	THR
16	L	6	LEU
16	L	27	LEU
16	L	47	ARG
16	L	55	MET
16	L	60	ARG
16	L	67	THR
16	L	69	ARG
16	L	91	ASP
16	L	92	LEU
16	L	99	ASN
16	L	118	THR
16	L	122	VAL
16	L	123	ARG
17	M	7	THR
17	M	10	ARG
17	M	17	ASN
17	M	26	VAL
17	M	38	ARG
17	M	70	ASP
17	M	78	LEU
17	M	81	ARG
17	M	88	ASN
17	M	90	GLU
17	M	104	GLU
17	M	108	VAL
17	M	110	GLU
17	M	111	GLU
17	M	114	ARG
17	M	115	GLU
17	M	123	LYS
17	M	127	LYS
18	X	1	MET
18	X	8	GLU
18	X	9	LYS
18	X	15	ASN
18	X	17	GLU

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Mol	Chain	Res	Type
18	X	18	LEU
18	X	21	LEU
18	X	28	LEU
18	X	29	ARG
18	X	30	MET
18	X	36	GLN
18	X	38	GLN
18	X	48	ARG
18	X	49	ASP
18	X	59	GLU
19	H	3	VAL
19	H	4	ILE
19	H	12	LEU
19	H	14	SER
19	H	15	LEU
19	H	19	VAL
19	H	25	TYR
19	H	28	ASN
19	H	31	VAL
19	H	32	PRO
19	H	33	GLN
19	H	41	LYS
19	H	43	ASN
19	H	44	ILE
19	H	46	PHE
19	H	48	GLU
19	H	50	ARG
19	H	54	LEU
19	H	55	GLU
19	H	57	LYS
19	H	60	GLU
19	H	62	LEU
19	H	66	ASN
19	H	68	ARG
19	H	70	GLU
19	H	71	LYS
19	H	73	ASN
19	H	75	LEU
19	H	76	GLU
19	H	79	THR
19	H	82	SER
19	H	83	LYS

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Mol	Chain	Res	Type
19	H	87	GLU
19	H	89	LYS
19	H	90	LEU
19	H	104	THR
19	H	110	VAL
19	H	112	LYS
19	H	116	ARG
19	H	119	ASN
19	H	125	THR
19	H	128	HIS
19	H	130	VAL
19	H	135	HIS
19	H	137	GLU
19	H	138	VAL
19	H	139	PHE
19	H	141	LYS
19	H	147	VAL
19	H	149	GLU
20	J	3	THR
20	J	5	THR
20	J	12	LYS
20	J	28	LEU
20	J	35	ARG
20	J	44	TYR
20	J	65	THR
20	J	73	VAL
20	J	95	ARG
20	J	120	ARG
20	J	124	VAL
20	J	129	GLU
20	J	131	ASN
20	J	138	GLN
20	J	141	ASP
21	N	1	MET
21	N	11	ASN
21	N	20	MET
21	N	35	LYS
21	N	46	ARG
21	N	62	ASN
21	N	69	ARG
21	N	71	ARG
21	N	82	GLU

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Mol	Chain	Res	Type
21	N	83	LEU
21	N	112	TYR
21	N	114	GLU
21	N	120	GLU
22	O	9	ARG
22	O	17	LYS
22	O	20	GLU
22	O	31	THR
22	O	35	ILE
22	O	58	ILE
22	O	62	LEU
22	O	74	VAL
22	O	81	ARG
22	O	89	ASP
22	O	98	GLN
22	O	100	HIS
22	O	106	LEU
22	O	108	ASP
22	O	115	LEU
22	O	116	GLN
23	Q	2	ARG
23	Q	5	ARG
23	Q	10	ARG
23	Q	13	HIS
23	Q	33	VAL
23	Q	35	PHE
23	Q	50	ARG
23	Q	69	ARG
23	Q	79	ILE
23	Q	83	LYS
23	Q	88	GLU
23	Q	89	ILE
23	Q	90	ASP
23	Q	91	ARG
23	Q	96	ASP
24	S	7	HIS
24	S	15	GLN
24	S	22	ASP
24	S	27	LYS
24	S	57	ASN
24	S	61	ASN
24	S	66	ILE

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Mol	Chain	Res	Type
24	S	69	LEU
24	S	73	LYS
24	S	84	ARG
24	S	86	MET
24	S	88	ARG
24	S	97	LEU
24	S	99	ARG
25	U	7	ASP
25	U	11	ILE
25	U	13	LEU
25	U	20	LYS
25	U	26	ASN
25	U	45	GLN
25	U	49	PRO
25	U	51	LEU
25	U	53	GLN
25	U	60	LYS
25	U	73	ASN
25	U	78	LYS
25	U	81	ARG
25	U	85	ARG
25	U	88	ASP
26	F	13	LYS
26	F	29	ARG
26	F	32	LYS
26	F	46	LYS
26	F	50	ASP
26	F	55	ASP
26	F	62	GLN
26	F	68	LYS
26	F	70	ARG
26	F	76	PHE
26	F	79	ARG
26	F	89	THR
26	F	91	ARG
26	F	96	TRP
26	F	97	GLU
26	F	100	GLU
26	F	102	LEU
26	F	103	ILE
26	F	109	ARG
26	F	111	ARG

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Mol	Chain	Res	Type
26	F	121	PHE
26	F	128	SER
26	F	129	MET
26	F	134	GLN
26	F	137	PHE
26	F	138	PRO
26	F	143	ASP
26	F	147	ARG
26	F	149	ARG
26	F	157	THR
26	F	168	LEU
26	F	173	ASP
26	F	174	PHE
26	F	177	ARG
26	F	178	LYS
27	G	14	VAL
27	G	26	LYS
27	G	31	GLU
27	G	34	ARG
27	G	37	ASN
27	G	46	ASP
27	G	54	ARG
27	G	59	ASP
27	G	61	TRP
27	G	66	THR
27	G	68	ARG
27	G	70	LEU
27	G	84	LYS
27	G	94	ARG
27	G	105	SER
27	G	106	LEU
27	G	120	ILE
27	G	132	LEU
27	G	133	LYS
27	G	138	GLN
27	G	152	ARG
27	G	162	ARG
27	G	166	GLU
27	G	176	LYS
28	R	4	VAL
28	R	5	PHE
28	R	22	LEU

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Mol	Chain	Res	Type
28	R	39	LEU
28	R	53	PHE
28	R	70	GLU
28	R	71	LYS
28	R	72	VAL
28	R	79	ARG
28	R	82	HIS
28	R	86	GLN
29	T	2	ILE
29	T	3	ARG
29	T	4	GLU
29	T	9	LYS
29	T	11	LEU
29	T	32	LEU
29	T	34	VAL
29	T	43	ILE
29	T	48	GLN
29	T	64	LYS
29	T	68	LYS
29	T	69	ARG
29	T	73	ARG
29	T	81	LYS
30	Z	2	SER
30	Z	6	GLN
30	Z	14	THR
30	Z	25	THR
30	Z	27	ARG
30	Z	28	ARG
30	Z	30	LEU
30	Z	33	LEU
30	Z	37	ARG
30	Z	46	PHE
30	Z	50	ARG
30	Z	56	MET
30	Z	66	THR
30	Z	77	LYS
30	Z	78	TYR
31	W	11	ASN
31	W	14	ASP
31	W	19	ARG
31	W	23	LYS
31	W	24	ARG

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Mol	Chain	Res	Type
31	W	25	PHE
31	W	28	GLU
31	W	39	GLN
31	W	44	PHE
31	W	49	ASN
31	W	50	VAL
31	W	75	ASN
31	W	77	LYS
31	W	82	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (106) such sidechains are listed below:

Mol	Chain	Res	Type
3	I	11	GLN
3	I	29	GLN
3	I	33	ASN
3	I	93	ASN
4	C	43	ASN
4	C	59	GLN
4	C	85	ASN
4	C	89	ASN
4	C	114	GLN
4	C	116	GLN
4	C	133	ASN
4	C	152	GLN
4	C	162	GLN
4	C	196	ASN
4	C	225	ASN
4	C	238	ASN
5	D	32	ASN
5	D	49	GLN
5	D	126	ASN
5	D	130	GLN
5	D	136	ASN
5	D	148	GLN
5	D	164	GLN
5	D	185	ASN
6	K	88	ASN
6	K	89	ASN
6	K	90	ASN
7	P	6	GLN
7	P	11	GLN

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Mol	Chain	Res	Type
7	P	40	GLN
7	P	114	ASN
8	E	24	ASN
8	E	29	HIS
8	E	30	GLN
8	E	62	GLN
8	E	163	ASN
8	E	195	GLN
9	Y	48	ASN
11	4	13	ASN
11	4	35	GLN
11	4	37	GLN
14	V	44	HIS
14	V	49	ASN
14	V	51	GLN
14	V	80	HIS
14	V	88	HIS
15	2	6	GLN
15	2	13	ASN
16	L	4	ASN
16	L	38	GLN
16	L	54	GLN
16	L	104	GLN
17	M	17	ASN
18	X	15	ASN
18	X	20	ASN
18	X	25	GLN
19	H	18	GLN
19	H	28	ASN
19	H	43	ASN
19	H	73	ASN
20	J	40	HIS
20	J	130	HIS
20	J	138	GLN
21	N	11	ASN
21	N	62	ASN
21	N	107	ASN
22	O	19	GLN
22	O	38	GLN
22	O	61	GLN
22	O	67	ASN
22	O	100	HIS

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Mol	Chain	Res	Type
23	Q	19	GLN
23	Q	51	GLN
23	Q	71	ASN
23	Q	80	ASN
24	S	61	ASN
25	U	26	ASN
25	U	45	GLN
25	U	52	ASN
25	U	73	ASN
26	F	51	ASN
26	F	62	GLN
26	F	126	ASN
26	F	134	GLN
27	G	37	ASN
27	G	47	ASN
27	G	63	GLN
27	G	72	ASN
27	G	87	GLN
27	G	110	HIS
27	G	114	HIS
28	R	6	GLN
28	R	86	GLN
28	R	87	GLN
29	T	48	GLN
29	T	72	GLN
29	T	91	GLN
29	T	92	ASN
30	Z	6	GLN
30	Z	17	ASN
30	Z	20	HIS
30	Z	23	ASN
30	Z	36	HIS
31	W	11	ASN
31	W	39	GLN
31	W	75	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	116/120 (96%)	17 (14%)	1 (0%)
2	B	2837/2904 (97%)	435 (15%)	18 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
All	All	2953/3024 (97%)	452 (15%)	19 (0%)

All (452) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	16	G
1	A	25	U
1	A	26	C
1	A	30	C
1	A	35	C
1	A	36	C
1	A	42	C
1	A	52	A
1	A	53	A
1	A	67	G
1	A	87	U
1	A	88	C
1	A	89	U
1	A	90	C
1	A	96	G
1	A	99	A
1	A	109	A
2	B	2	G
2	B	4	U
2	B	27	G
2	B	34	U
2	B	46	G
2	B	63	A
2	B	71	A
2	B	72	U
2	B	74	A
2	B	75	G
2	B	91	A
2	B	96	C
2	B	99	U
2	B	101	A
2	B	102	U
2	B	103	A
2	B	118	A
2	B	119	A
2	B	120	U
2	B	125	A

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Mol	Chain	Res	Type
2	B	126	A
2	B	128	C
2	B	135	U
2	B	137	U
2	B	140	C
2	B	141	G
2	B	142	A
2	B	144	A
2	B	160	A
2	B	162	U
2	B	163	C
2	B	179	C
2	B	180	G
2	B	181	A
2	B	196	A
2	B	199	A
2	B	215	G
2	B	216	A
2	B	221	A
2	B	222	A
2	B	230	G
2	B	233	A
2	B	248	G
2	B	250	G
2	B	252	G
2	B	255	A
2	B	265	A
2	B	266	G
2	B	267	C
2	B	271	G
2	B	276	U
2	B	277	G
2	B	278	A
2	B	279	A
2	B	281	C
2	B	291	G
2	B	299	A
2	B	302	C
2	B	311	A
2	B	329	G
2	B	330	A
2	B	333	G

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Mol	Chain	Res	Type
2	B	346	A
2	B	349	U
2	B	353	C
2	B	367	G
2	B	371	A
2	B	372	G
2	B	386	G
2	B	387	U
2	B	395	U
2	B	396	G
2	B	405	U
2	B	411	G
2	B	412	A
2	B	424	G
2	B	435	C
2	B	455	C
2	B	456	C
2	B	457	A
2	B	479	A
2	B	480	A
2	B	481	G
2	B	491	G
2	B	504	A
2	B	505	A
2	B	508	A
2	B	509	C
2	B	510	C
2	B	512	G
2	B	527	C
2	B	532	A
2	B	533	G
2	B	545	U
2	B	546	U
2	B	547	A
2	B	548	G
2	B	549	G
2	B	550	C
2	B	563	A
2	B	573	U
2	B	574	A
2	B	575	A
2	B	588	U

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Mol	Chain	Res	Type
2	B	603	A
2	B	613	A
2	B	614	A
2	B	615	U
2	B	616	A
2	B	627	A
2	B	632	A
2	B	637	A
2	B	645	C
2	B	646	U
2	B	647	G
2	B	654	A
2	B	655	A
2	B	671	C
2	B	686	U
2	B	718	A
2	B	719	C
2	B	722	A
2	B	727	A
2	B	730	A
2	B	747	U
2	B	765	C
2	B	775	G
2	B	782	A
2	B	784	G
2	B	785	G
2	B	805	G
2	B	806	C
2	B	811	U
2	B	812	C
2	B	819	A
2	B	827	U
2	B	828	U
2	B	847	U
2	B	859	G
2	B	872	U
2	B	874	G
2	B	877	A
2	B	878	A
2	B	899	A
2	B	910	A
2	B	912	C

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Mol	Chain	Res	Type
2	B	932	U
2	B	933	A
2	B	941	A
2	B	946	C
2	B	961	C
2	B	973	A
2	B	974	G
2	B	983	A
2	B	991	C
2	B	995	C
2	B	996	A
2	B	1012	U
2	B	1013	C
2	B	1022	G
2	B	1023	U
2	B	1025	G
2	B	1033	U
2	B	1047	G
2	B	1051	G
2	B	1056	G
2	B	1062	G
2	B	1070	A
2	B	1088	A
2	B	1090	A
2	B	1106	G
2	B	1110	G
2	B	1111	A
2	B	1112	G
2	B	1126	A
2	B	1132	U
2	B	1133	A
2	B	1135	C
2	B	1136	G
2	B	1139	G
2	B	1141	U
2	B	1142	A
2	B	1171	G
2	B	1172	C
2	B	1173	U
2	B	1174	U
2	B	1186	G
2	B	1204	A

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Mol	Chain	Res	Type
2	B	1205	A
2	B	1211	C
2	B	1212	G
2	B	1238	G
2	B	1242	U
2	B	1247	A
2	B	1248	G
2	B	1250	G
2	B	1251	C
2	B	1253	A
2	B	1256	G
2	B	1266	G
2	B	1271	G
2	B	1272	A
2	B	1273	U
2	B	1275	A
2	B	1301	A
2	B	1302	A
2	B	1324	G
2	B	1325	U
2	B	1337	G
2	B	1341	G
2	B	1352	U
2	B	1365	A
2	B	1368	G
2	B	1379	U
2	B	1383	A
2	B	1384	A
2	B	1388	G
2	B	1396	U
2	B	1397	U
2	B	1416	G
2	B	1419	A
2	B	1428	C
2	B	1434	A
2	B	1451	C
2	B	1453	A
2	B	1454	C
2	B	1455	G
2	B	1459	G
2	B	1460	U
2	B	1461	C

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Mol	Chain	Res	Type
2	B	1476	U
2	B	1477	A
2	B	1482	G
2	B	1486	U
2	B	1490	A
2	B	1493	C
2	B	1494	A
2	B	1504	A
2	B	1505	A
2	B	1507	C
2	B	1508	A
2	B	1509	A
2	B	1510	G
2	B	1524	G
2	B	1532	A
2	B	1535	A
2	B	1537	G
2	B	1540	G
2	B	1552	A
2	B	1559	U
2	B	1560	G
2	B	1569	A
2	B	1578	U
2	B	1584	U
2	B	1588	G
2	B	1608	A
2	B	1610	A
2	B	1634	A
2	B	1635	A
2	B	1647	U
2	B	1648	U
2	B	1674	G
2	B	1700	A
2	B	1706	C
2	B	1713	A
2	B	1715	G
2	B	1724	G
2	B	1725	U
2	B	1727	C
2	B	1729	U
2	B	1730	C
2	B	1732	C

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Mol	Chain	Res	Type
2	B	1733	G
2	B	1738	G
2	B	1756	G
2	B	1758	U
2	B	1764	C
2	B	1773	A
2	B	1800	C
2	B	1816	C
2	B	1829	A
2	B	1833	C
2	B	1870	C
2	B	1871	A
2	B	1872	A
2	B	1884	G
2	B	1906	G
2	B	1927	A
2	B	1929	G
2	B	1930	G
2	B	1937	A
2	B	1938	A
2	B	1939	U
2	B	1940	U
2	B	1955	U
2	B	1967	C
2	B	1970	A
2	B	1971	U
2	B	1972	G
2	B	1991	U
2	B	1993	U
2	B	1997	C
2	B	2022	U
2	B	2023	C
2	B	2031	A
2	B	2032	G
2	B	2033	A
2	B	2043	C
2	B	2048	G
2	B	2055	C
2	B	2056	G
2	B	2060	A
2	B	2061	G
2	B	2062	A

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Mol	Chain	Res	Type
2	B	2069	G
2	B	2072	C
2	B	2102	G
2	B	2103	C
2	B	2109	U
2	B	2136	G
2	B	2137	U
2	B	2138	G
2	B	2143	C
2	B	2144	G
2	B	2145	C
2	B	2147	A
2	B	2148	G
2	B	2149	U
2	B	2153	C
2	B	2154	A
2	B	2155	U
2	B	2157	G
2	B	2181	U
2	B	2183	A
2	B	2184	A
2	B	2192	U
2	B	2198	A
2	B	2203	U
2	B	2204	G
2	B	2211	A
2	B	2212	A
2	B	2213	U
2	B	2225	A
2	B	2238	G
2	B	2239	G
2	B	2266	A
2	B	2273	A
2	B	2283	C
2	B	2287	A
2	B	2288	A
2	B	2305	U
2	B	2307	G
2	B	2308	G
2	B	2309	A
2	B	2311	A
2	B	2320	U

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Mol	Chain	Res	Type
2	B	2321	U
2	B	2322	A
2	B	2325	G
2	B	2333	A
2	B	2337	G
2	B	2345	G
2	B	2347	C
2	B	2361	G
2	B	2372	U
2	B	2379	G
2	B	2383	G
2	B	2385	C
2	B	2396	G
2	B	2402	U
2	B	2403	C
2	B	2406	A
2	B	2423	U
2	B	2426	A
2	B	2429	G
2	B	2430	A
2	B	2434	A
2	B	2435	A
2	B	2441	U
2	B	2448	A
2	B	2472	G
2	B	2476	A
2	B	2491	U
2	B	2502	G
2	B	2505	G
2	B	2506	U
2	B	2518	A
2	B	2535	G
2	B	2554	U
2	B	2566	A
2	B	2567	G
2	B	2573	C
2	B	2586	U
2	B	2602	A
2	B	2609	U
2	B	2613	U
2	B	2629	U
2	B	2630	G

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Mol	Chain	Res	Type
2	B	2634	A
2	B	2654	A
2	B	2682	A
2	B	2689	U
2	B	2690	U
2	B	2714	G
2	B	2726	A
2	B	2739	U
2	B	2744	G
2	B	2748	A
2	B	2750	A
2	B	2751	G
2	B	2752	C
2	B	2753	A
2	B	2757	A
2	B	2765	A
2	B	2778	A
2	B	2791	G
2	B	2797	U
2	B	2798	U
2	B	2799	A
2	B	2800	A
2	B	2802	G
2	B	2808	G
2	B	2820	A
2	B	2821	A
2	B	2836	U
2	B	2850	A
2	B	2866	U
2	B	2867	G
2	B	2872	A
2	B	2873	A
2	B	2883	A
2	B	2885	G
2	B	2894	G
2	B	2901	C
2	B	2903	U

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	66	A

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Mol	Chain	Res	Type
2	B	63	A
2	B	162	U
2	B	508	A
2	B	670	A
2	B	858	G
2	B	1210	G
2	B	1301	A
2	B	1419	A
2	B	1509	A
2	B	2213	U
2	B	2282	G
2	B	2336	A
2	B	2425	A
2	B	2434	A
2	B	2756	U
2	B	2832	U
2	B	2894	G
2	B	2902	C

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 112 ligands modelled in this entry, 111 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	NMY	B	2905	-	45,45,45	2.20	13 (28%)	67,67,67	1.25	7 (10%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	NMY	B	2905	-	-	0/18/94/94	0/4/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	B	2905	NMY	C8-C7	6.21	1.57	1.52
32	B	2905	NMY	C8-C9	6.11	1.57	1.52
32	B	2905	NMY	O22-C18	4.54	1.53	1.41
32	B	2905	NMY	C3-C2	4.37	1.59	1.53
32	B	2905	NMY	O5-C1	3.43	1.50	1.41
32	B	2905	NMY	C10-C9	2.96	1.57	1.52
32	B	2905	NMY	O22-C22	2.62	1.50	1.44
32	B	2905	NMY	C19-N23	2.58	1.51	1.47
32	B	2905	NMY	O16-C13	2.54	1.46	1.41
32	B	2905	NMY	O5-C5	2.29	1.50	1.44
32	B	2905	NMY	C4-C5	2.28	1.58	1.53
32	B	2905	NMY	C12-C7	2.22	1.58	1.52
32	B	2905	NMY	C20-C21	2.18	1.58	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	B	2905	NMY	O22-C22-C23	4.02	111.91	106.97
32	B	2905	NMY	O11-C13-O16	3.58	114.93	111.51
32	B	2905	NMY	O18-C18-C19	3.22	114.46	108.09
32	B	2905	NMY	O5-C5-C6	3.03	110.70	106.97
32	B	2905	NMY	O11-C13-C14	2.80	112.50	107.50
32	B	2905	NMY	C18-O22-C22	2.75	119.08	113.73
32	B	2905	NMY	O14-C14-C15	2.37	118.18	111.20

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	117/120 (97%)	-0.28	0 100 100	49, 83, 138, 174	0
2	B	2841/2904 (97%)	0.06	161 (5%) 23 5	16, 60, 154, 180	0
3	I	141/141 (100%)	0.17	15 (10%) 7 2	93, 176, 180, 180	0
4	C	271/272 (99%)	0.83	46 (16%) 2 1	9, 50, 104, 180	0
5	D	209/209 (100%)	0.49	21 (10%) 8 2	20, 76, 135, 180	0
6	K	121/123 (98%)	1.19	28 (23%) 1 1	14, 72, 133, 180	0
7	P	114/114 (100%)	1.42	35 (30%) 1 1	35, 86, 151, 180	0
8	E	201/201 (100%)	-0.05	10 (4%) 28 6	10, 67, 144, 180	0
9	Y	58/58 (100%)	0.20	0 100 100	34, 74, 139, 180	0
10	0	56/56 (100%)	0.86	9 (16%) 2 1	15, 74, 151, 180	0
11	4	38/38 (100%)	0.15	4 (10%) 7 2	35, 91, 145, 151	0
12	1	50/54 (92%)	0.89	12 (24%) 1 1	52, 90, 134, 174	0
13	3	64/64 (100%)	0.07	1 (1%) 68 22	26, 59, 87, 158	0
14	V	94/94 (100%)	-0.12	3 (3%) 45 10	29, 97, 155, 178	0
15	2	46/46 (100%)	0.59	6 (13%) 4 1	14, 50, 83, 144	0
16	L	143/144 (99%)	0.07	1 (0%) 84 40	25, 70, 133, 180	0
17	M	136/136 (100%)	0.27	10 (7%) 14 4	21, 68, 136, 180	0
18	X	63/63 (100%)	1.26	15 (23%) 1 1	21, 81, 149, 175	0
19	H	149/149 (100%)	0.22	4 (2%) 52 12	31, 134, 180, 180	0
20	J	142/142 (100%)	0.74	20 (14%) 3 1	23, 82, 140, 169	0
21	N	120/127 (94%)	0.64	10 (8%) 11 3	24, 71, 139, 180	0
22	O	116/117 (99%)	-0.39	1 (0%) 81 35	35, 83, 145, 180	0
23	Q	117/117 (100%)	0.20	5 (4%) 34 7	10, 66, 129, 167	0
24	S	110/110 (100%)	0.38	8 (7%) 15 4	6, 62, 123, 152	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	U	102/103 (99%)	-0.36	1 (0%) 79 31	21, 77, 140, 180	0
26	F	178/178 (100%)	-0.14	8 (4%) 32 7	56, 128, 177, 180	0
27	G	176/176 (100%)	0.49	14 (7%) 12 3	49, 112, 163, 180	0
28	R	103/103 (100%)	-0.27	2 (1%) 64 19	25, 87, 151, 176	0
29	T	93/100 (93%)	1.24	21 (22%) 1 1	22, 77, 159, 180	0
30	Z	77/78 (98%)	0.63	9 (11%) 5 2	12, 51, 112, 143	0
31	W	79/84 (94%)	1.10	16 (20%) 1 1	18, 85, 141, 159	0
All	All	6325/6421 (98%)	0.24	496 (7%) 13 3	6, 70, 161, 180	0

All (496) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	T	3	ARG	10.0
18	X	63	ALA	9.1
2	B	137	U	8.9
29	T	1	MET	8.6
7	P	86	LYS	8.3
7	P	67	GLU	8.3
29	T	4	GLU	8.2
3	I	26	ALA	8.0
2	B	138	U	7.4
3	I	27	LEU	7.4
18	X	62	GLY	7.3
7	P	26	GLU	7.2
5	D	10	GLY	6.9
12	1	27	ARG	6.7
18	X	9	LYS	6.7
29	T	2	ILE	6.6
3	I	29	GLN	6.6
2	B	145	C	6.4
30	Z	74	ARG	6.3
12	1	52	LYS	6.3
5	D	209	ALA	6.3
6	K	71	ARG	6.3
3	I	25	PRO	6.3
7	P	87	ARG	6.3
31	W	69	GLU	6.1
2	B	1729	U	6.1
4	C	17	LYS	6.0
2	B	508	A	6.0

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Mol	Chain	Res	Type	RSRZ
2	B	654	A	5.9
18	X	7	ARG	5.9
31	W	41	GLY	5.9
18	X	11	VAL	5.8
20	J	129	GLU	5.7
30	Z	76	GLU	5.6
27	G	45	ALA	5.5
26	F	119	LYS	5.4
8	E	155	GLU	5.4
2	B	136	G	5.3
18	X	10	SER	5.3
2	B	2610	C	5.3
4	C	1	ALA	5.2
2	B	1730	C	5.2
26	F	118	ALA	5.2
18	X	61	ALA	5.2
2	B	2585	U	5.1
7	P	70	GLU	5.1
3	I	22	PRO	5.1
31	W	76	ARG	5.1
7	P	61	ARG	5.1
30	Z	71	LEU	5.0
4	C	271	SER	5.0
4	C	27	LYS	5.0
12	1	15	GLY	4.9
29	T	70	HIS	4.8
2	B	2618	G	4.8
29	T	71	GLY	4.8
2	B	2571	U	4.8
11	4	12	ARG	4.8
4	C	78	GLU	4.8
2	B	2102	G	4.7
6	K	35	VAL	4.7
4	C	202	ARG	4.6
2	B	2619	C	4.6
2	B	1374	G	4.6
17	M	1	MET	4.6
4	C	166	ARG	4.6
7	P	107	ALA	4.5
4	C	4	LYS	4.5
6	K	68	GLY	4.5
7	P	109	ILE	4.5

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Mol	Chain	Res	Type	RSRZ
2	B	2680	U	4.5
7	P	43	GLU	4.4
20	J	76	HIS	4.4
30	Z	72	ARG	4.4
7	P	108	ARG	4.4
2	B	653	U	4.4
2	B	1130	U	4.4
2	B	1728	C	4.4
6	K	17	ARG	4.4
20	J	81	ILE	4.4
31	W	75	ASN	4.4
7	P	105	LYS	4.4
2	B	1870	C	4.3
29	T	5	GLU	4.3
2	B	2844	G	4.3
18	X	60	LYS	4.3
6	K	69	VAL	4.3
2	B	2611	C	4.2
4	C	268	ARG	4.2
2	B	1373	A	4.2
2	B	2256	G	4.2
17	M	6	ARG	4.2
2	B	1600	C	4.1
21	N	69	ARG	4.1
17	M	90	GLU	4.1
2	B	2569	G	4.1
4	C	114	GLN	4.1
20	J	23	LYS	4.1
4	C	3	VAL	4.0
5	D	57	ALA	4.0
2	B	2139	U	4.0
2	B	2689	U	4.0
3	I	24	GLY	4.0
29	T	68	LYS	4.0
2	B	405	U	3.9
6	K	9	ASN	3.9
2	B	2354	C	3.9
2	B	2602	A	3.9
4	C	16	VAL	3.9
2	B	1538	G	3.9
2	B	2503	A	3.9
7	P	103	THR	3.9

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Mol	Chain	Res	Type	RSRZ
2	B	2506	U	3.8
2	B	2032	G	3.8
7	P	71	ARG	3.8
10	0	47	TYR	3.8
2	B	1019	U	3.8
2	B	507	A	3.8
30	Z	73	ALA	3.8
2	B	2514	U	3.8
18	X	8	GLU	3.8
7	P	88	ARG	3.7
27	G	46	ASP	3.7
2	B	139	U	3.7
7	P	1	SER	3.7
4	C	2	VAL	3.7
30	Z	75	GLY	3.7
3	I	21	PRO	3.7
14	V	50	MET	3.7
27	G	176	LYS	3.7
24	S	84	ARG	3.7
2	B	1559	U	3.7
14	V	34	LYS	3.7
2	B	2513	A	3.7
6	K	106	GLU	3.6
27	G	44	HIS	3.6
4	C	18	VAL	3.6
31	W	12	GLY	3.6
5	D	154	LYS	3.6
2	B	2679	A	3.6
31	W	74	LYS	3.6
2	B	2617	U	3.6
5	D	8	LYS	3.6
2	B	1377	G	3.6
26	F	116	LEU	3.6
21	N	1	MET	3.6
18	X	12	GLU	3.5
2	B	2152	G	3.5
2	B	2505	G	3.5
5	D	56	LYS	3.5
27	G	18	ILE	3.5
30	Z	70	GLU	3.5
23	Q	29	ARG	3.4
4	C	34	GLU	3.4

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Mol	Chain	Res	Type	RSRZ
20	J	91	GLU	3.4
6	K	36	GLY	3.4
17	M	77	PRO	3.4
2	B	1136	G	3.4
2	B	1375	U	3.4
2	B	2517	C	3.4
7	P	66	GLY	3.4
21	N	70	THR	3.4
4	C	70	LYS	3.4
4	C	137	GLY	3.4
30	Z	78	TYR	3.4
17	M	78	LEU	3.4
31	W	13	ARG	3.4
2	B	2355	G	3.3
2	B	2574	G	3.3
2	B	2145	C	3.3
4	C	96	LYS	3.3
2	B	1731	G	3.3
24	S	82	MET	3.3
2	B	2570	G	3.3
29	T	42	GLU	3.3
4	C	19	VAL	3.3
4	C	76	VAL	3.3
2	B	2721	A	3.3
4	C	167	ASP	3.3
2	B	763	G	3.3
2	B	1020	A	3.3
7	P	110	LYS	3.2
10	0	7	PRO	3.2
2	B	764	A	3.2
2	B	1205	A	3.2
2	B	2353	G	3.2
29	T	67	VAL	3.2
2	B	1134	A	3.2
2	B	1293	C	3.2
2	B	2825	G	3.2
15	2	28	ARG	3.2
2	B	2691	C	3.2
29	T	7	LEU	3.2
7	P	62	LYS	3.2
2	B	696	G	3.2
30	Z	77	LYS	3.2

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Mol	Chain	Res	Type	RSRZ
7	P	106	ALA	3.1
27	G	57	TYR	3.1
31	W	78	PHE	3.1
21	N	68	ALA	3.1
29	T	72	GLN	3.1
7	P	84	SER	3.1
5	D	156	PHE	3.1
10	O	11	LYS	3.1
5	D	193	VAL	3.1
27	G	36	LEU	3.1
2	B	1512	C	3.1
20	J	128	ASN	3.1
2	B	2516	A	3.1
2	B	2520	C	3.1
27	G	47	ASN	3.1
2	B	2061	G	3.1
20	J	22	GLY	3.1
29	T	24	MET	3.1
2	B	514	A	3.1
10	O	8	THR	3.1
4	C	35	LYS	3.1
6	K	77	ILE	3.1
18	X	57	LEU	3.0
2	B	878	A	3.0
29	T	16	VAL	3.0
8	E	93	SER	3.0
17	M	5	LYS	3.0
2	B	2180	U	3.0
2	B	697	G	3.0
16	L	116	VAL	3.0
20	J	82	GLY	3.0
2	B	2058	A	3.0
2	B	1132	U	3.0
2	B	2586	U	3.0
3	I	4	VAL	3.0
29	T	64	LYS	3.0
17	M	135	VAL	3.0
2	B	140	C	3.0
6	K	72	PRO	2.9
7	P	45	VAL	2.9
6	K	43	ILE	2.9
18	X	6	LEU	2.9

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Mol	Chain	Res	Type	RSRZ
2	B	762	U	2.9
20	J	69	ARG	2.9
4	C	24	HIS	2.9
7	P	25	VAL	2.9
28	R	50	GLY	2.9
2	B	2109	U	2.9
10	O	51	ARG	2.9
2	B	515	A	2.9
7	P	46	VAL	2.9
21	N	44	LEU	2.9
31	W	15	SER	2.9
27	G	21	GLN	2.9
4	C	23	LEU	2.8
2	B	123	G	2.8
4	C	135	PRO	2.8
20	J	80	HIS	2.8
20	J	24	THR	2.8
20	J	86	GLN	2.8
3	I	19	PRO	2.8
4	C	201	LEU	2.8
23	Q	20	ALA	2.8
2	B	1539	U	2.8
2	B	1663	G	2.8
10	O	31	LYS	2.8
23	Q	4	LYS	2.8
6	K	66	LYS	2.8
2	B	2872	A	2.8
5	D	129	THR	2.8
8	E	92	HIS	2.8
3	I	28	GLY	2.8
4	C	26	GLY	2.8
5	D	54	ALA	2.8
5	D	148	GLN	2.8
2	B	2255	G	2.8
6	K	18	ARG	2.8
7	P	102	ARG	2.8
24	S	85	ILE	2.8
6	K	116	ILE	2.8
15	2	20	ALA	2.7
22	O	84	GLU	2.7
2	B	2059	A	2.7
2	B	2258	C	2.7

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Mol	Chain	Res	Type	RSRZ
21	N	51	LEU	2.7
20	J	12	LYS	2.7
20	J	65	THR	2.7
6	K	55	GLY	2.7
2	B	1632	A	2.7
4	C	132	ARG	2.7
2	B	2212	A	2.7
31	W	77	LYS	2.7
2	B	1750	G	2.7
2	B	2181	U	2.7
18	X	13	GLU	2.7
23	Q	28	SER	2.7
5	D	147	GLY	2.7
23	Q	84	LYS	2.7
2	B	124	G	2.7
24	S	93	ALA	2.7
2	B	2108	A	2.7
6	K	80	ASP	2.7
7	P	85	VAL	2.7
29	T	76	ARG	2.7
4	C	28	PRO	2.6
4	C	131	MET	2.6
20	J	75	TYR	2.6
6	K	8	LEU	2.6
2	B	2572	A	2.6
19	H	1	MET	2.6
2	B	2690	U	2.6
29	T	65	GLY	2.6
2	B	1408	G	2.6
2	B	1537	G	2.6
5	D	176	ASP	2.6
2	B	2320	U	2.6
2	B	1045	C	2.6
8	E	91	ASP	2.6
2	B	2423	U	2.6
24	S	83	LYS	2.6
2	B	436	C	2.6
6	K	110	GLU	2.6
2	B	2140	G	2.6
2	B	207	A	2.6
28	R	51	VAL	2.6
3	I	34	ILE	2.6

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Mol	Chain	Res	Type	RSRZ
6	K	90	ASN	2.6
2	B	2422	C	2.6
6	K	78	ARG	2.5
15	2	21	ARG	2.5
27	G	43	LYS	2.5
3	I	18	ASN	2.5
7	P	99	LEU	2.5
12	1	28	THR	2.5
8	E	37	ALA	2.5
18	X	22	LEU	2.5
17	M	126	ILE	2.5
26	F	166	ARG	2.5
10	0	9	ARG	2.5
19	H	109	GLU	2.5
2	B	435	C	2.5
4	C	79	ARG	2.5
15	2	46	LYS	2.5
31	W	70	VAL	2.5
7	P	41	ALA	2.5
14	V	67	GLY	2.5
26	F	117	SER	2.5
7	P	104	GLY	2.5
2	B	1259	G	2.5
2	B	2103	C	2.5
6	K	105	ARG	2.5
7	P	60	VAL	2.5
5	D	9	VAL	2.5
2	B	401	A	2.5
2	B	34	U	2.5
29	T	46	ALA	2.5
7	P	44	GLY	2.5
2	B	1981	A	2.5
2	B	2211	A	2.5
2	B	2620	C	2.5
2	B	2182	U	2.4
15	2	14	ARG	2.4
2	B	2062	A	2.4
2	B	404	A	2.4
2	B	2271	G	2.4
8	E	59	PRO	2.4
12	1	26	LYS	2.4
3	I	30	GLN	2.4

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Mol	Chain	Res	Type	RSRZ
4	C	134	ILE	2.4
10	O	6	LYS	2.4
18	X	16	THR	2.4
20	J	44	TYR	2.4
2	B	2688	G	2.4
4	C	75	ALA	2.4
6	K	113	MET	2.4
4	C	136	VAL	2.4
4	C	178	GLY	2.4
19	H	95	GLY	2.4
2	B	1534	U	2.4
17	M	136	MET	2.4
27	G	42	VAL	2.3
29	T	66	LYS	2.3
4	C	95	TYR	2.3
2	B	1566	A	2.3
4	C	110	LYS	2.3
2	B	519	U	2.3
4	C	179	GLU	2.3
12	I	9	LYS	2.3
20	J	130	HIS	2.3
4	C	25	LYS	2.3
2	B	1046	A	2.3
13	3	28	LEU	2.3
7	P	111	GLU	2.3
3	I	23	VAL	2.3
7	P	112	ARG	2.3
4	C	168	GLY	2.3
6	K	107	LEU	2.3
6	K	119	ALA	2.3
27	G	7	PRO	2.3
7	P	91	VAL	2.3
24	S	65	ASP	2.3
2	B	1533	C	2.3
24	S	86	MET	2.3
25	U	87	GLU	2.3
2	B	520	G	2.3
26	F	176	PHE	2.3
4	C	206	LYS	2.2
31	W	11	ASN	2.2
2	B	130	C	2.2
2	B	581	C	2.2

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Mol	Chain	Res	Type	RSRZ
2	B	765	C	2.2
2	B	1774	C	2.2
20	J	63	ALA	2.2
2	B	784	G	2.2
2	B	2057	G	2.2
7	P	69	VAL	2.2
4	C	165	ALA	2.2
12	1	11	VAL	2.2
24	S	41	LYS	2.2
31	W	38	ARG	2.2
2	B	144	A	2.2
2	B	2052	A	2.2
2	B	143	C	2.2
29	T	69	ARG	2.2
2	B	2568	U	2.2
2	B	2427	C	2.2
10	0	38	LEU	2.2
21	N	21	PHE	2.2
2	B	1407	G	2.2
2	B	1565	C	2.2
12	1	50	GLU	2.2
29	T	15	HIS	2.2
6	K	52	VAL	2.2
2	B	403	U	2.2
2	B	2319	G	2.2
26	F	44	ALA	2.2
12	1	4	ILE	2.2
2	B	574	A	2.2
31	W	84	GLU	2.2
31	W	37	VAL	2.2
7	P	24	THR	2.2
2	B	2020	A	2.1
4	C	29	PHE	2.1
27	G	37	ASN	2.1
2	B	2213	U	2.1
2	B	1274	A	2.1
21	N	47	VAL	2.1
26	F	79	ARG	2.1
27	G	148	ARG	2.1
6	K	67	LYS	2.1
19	H	138	VAL	2.1
12	1	32	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	135	U	2.1
11	4	13	ASN	2.1
6	K	111	LYS	2.1
2	B	1263	U	2.1
2	B	1598	A	2.1
2	B	2019	A	2.1
2	B	2662	A	2.1
8	E	60	TRP	2.1
20	J	11	VAL	2.1
2	B	2110	G	2.1
8	E	152	GLU	2.1
5	D	114	LYS	2.1
5	D	208	LYS	2.1
31	W	39	GLN	2.1
21	N	71	ARG	2.1
2	B	1207	C	2.1
2	B	2681	C	2.1
5	D	55	LYS	2.1
12	1	49	LYS	2.1
2	B	2735	G	2.1
3	I	14	ALA	2.1
2	B	1982	U	2.1
4	C	172	THR	2.1
5	D	161	MET	2.1
2	B	2584	U	2.1
2	B	2609	U	2.1
8	E	61	ARG	2.1
15	2	22	MET	2.0
6	K	89	ASN	2.0
21	N	98	LEU	2.0
2	B	967	U	2.0
2	B	2875	C	2.0
12	1	14	ALA	2.0
17	M	36	VAL	2.0
8	E	150	THR	2.0
2	B	142	A	2.0
11	4	14	CYS	2.0
2	B	2676	C	2.0
5	D	178	VAL	2.0
20	J	79	GLY	2.0
2	B	546	U	2.0
5	D	17	GLU	2.0

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Mol	Chain	Res	Type	RSRZ
4	C	203	VAL	2.0
5	D	155	VAL	2.0
2	B	2021	C	2.0
2	B	2719	G	2.0
11	4	9	LYS	2.0
4	C	5	CYS	2.0

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

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

6.3 Carbohydrates i

There are no carbohydrates in this entry.

6.4 Ligands i

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
33	MG	B	3270	1/1	0.33	16.90	128,128,128,128	0
32	NMY	B	2905	42/42	0.77	12.40	100,100,100,100	42
33	MG	B	3194	1/1	0.33	8.08	136,136,136,136	0
33	MG	B	3181	1/1	0.33	6.16	45,45,45,45	0
33	MG	B	3590	1/1	0.26	5.73	54,54,54,54	0
33	MG	B	3021	1/1	0.34	4.85	39,39,39,39	0
33	MG	B	3550	1/1	0.36	4.09	41,41,41,41	0
33	MG	B	3496	1/1	0.54	3.98	57,57,57,57	0
33	MG	B	3175	1/1	0.35	3.34	47,47,47,47	0
33	MG	B	3509	1/1	0.41	1.40	75,75,75,75	0
33	MG	B	3289	1/1	0.36	1.38	41,41,41,41	0
33	MG	B	3206	1/1	0.44	1.25	36,36,36,36	0
33	MG	B	3400	1/1	0.33	1.16	15,15,15,15	0
33	MG	B	3188	1/1	0.55	0.96	55,55,55,55	0
33	MG	B	3600	1/1	0.23	0.88	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
33	MG	B	3349	1/1	0.15	0.87	41,41,41,41	0
33	MG	B	3418	1/1	0.40	0.62	67,67,67,67	0
33	MG	B	3382	1/1	0.14	0.16	34,34,34,34	0
33	MG	B	3412	1/1	0.26	0.16	52,52,52,52	0
33	MG	B	3369	1/1	0.36	0.10	24,24,24,24	0
33	MG	B	3050	1/1	0.13	-0.03	82,82,82,82	0
33	MG	B	3561	1/1	0.17	-0.31	138,138,138,138	0
33	MG	B	3555	1/1	0.17	-0.36	68,68,68,68	0
33	MG	B	3044	1/1	0.18	-0.37	64,64,64,64	0
33	MG	B	3471	1/1	0.24	-0.42	59,59,59,59	0
33	MG	B	3157	1/1	0.15	-0.44	32,32,32,32	0
33	MG	B	3253	1/1	0.21	-0.45	67,67,67,67	0
33	MG	B	3344	1/1	0.20	-0.47	30,30,30,30	0
33	MG	B	3145	1/1	0.14	-0.55	54,54,54,54	0
33	MG	B	3505	1/1	0.30	-0.64	49,49,49,49	0
33	MG	B	3516	1/1	0.14	-0.74	36,36,36,36	0
33	MG	B	3221	1/1	0.11	-0.76	131,131,131,131	0
33	MG	B	3061	1/1	0.17	-0.81	25,25,25,25	0
33	MG	B	3428	1/1	0.14	-0.84	13,13,13,13	0
33	MG	B	3359	1/1	0.16	-0.84	31,31,31,31	0
33	MG	B	3028	1/1	0.17	-0.87	5,5,5,5	0
33	MG	B	3376	1/1	0.12	-0.91	44,44,44,44	0
33	MG	B	3240	1/1	0.11	-0.98	170,170,170,170	0
33	MG	B	3103	1/1	0.13	-1.01	45,45,45,45	0
33	MG	B	3537	1/1	0.13	-1.06	32,32,32,32	0
33	MG	B	3444	1/1	0.14	-1.12	32,32,32,32	0
33	MG	B	3450	1/1	0.12	-1.12	75,75,75,75	0
33	MG	B	3433	1/1	0.18	-1.15	60,60,60,60	0
33	MG	B	3066	1/1	0.19	-1.27	41,41,41,41	0
33	MG	B	3531	1/1	0.11	-1.28	42,42,42,42	0
33	MG	B	3169	1/1	0.13	-1.32	36,36,36,36	0
33	MG	B	3488	1/1	0.09	-1.35	66,66,66,66	0
33	MG	B	3164	1/1	0.10	-1.40	32,32,32,32	0
33	MG	B	3259	1/1	0.14	-1.44	46,46,46,46	0
33	MG	B	3596	1/1	0.09	-1.48	25,25,25,25	0
33	MG	B	3201	1/1	0.07	-1.61	32,32,32,32	0
33	MG	B	3439	1/1	0.05	-1.61	37,37,37,37	0
33	MG	B	3353	1/1	0.18	-1.62	29,29,29,29	0
34	ZN	4	617	1/1	0.07	-1.66	72,72,72,72	0
33	MG	B	3512	1/1	0.29	-1.79	32,32,32,32	0
33	MG	B	3232	1/1	0.12	-1.80	28,28,28,28	0
33	MG	B	3338	1/1	0.14	-1.86	30,30,30,30	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
33	MG	B	3577	1/1	0.14	-1.88	8,8,8,8	0
33	MG	B	3423	1/1	0.21	-1.89	31,31,31,31	0
33	MG	B	3464	1/1	0.13	-1.89	52,52,52,52	0
33	MG	B	3586	1/1	0.10	-1.93	33,33,33,33	0
33	MG	B	3568	1/1	0.09	-2.03	28,28,28,28	0
33	MG	B	3085	1/1	0.15	-2.09	18,18,18,18	0
33	MG	B	3096	1/1	0.07	-2.13	43,43,43,43	0
33	MG	B	3543	1/1	0.11	-2.20	80,80,80,80	0
33	MG	B	3217	1/1	0.04	-2.26	50,50,50,50	0
33	MG	B	3302	1/1	0.07	-2.28	25,25,25,25	0
33	MG	B	3406	1/1	0.15	-2.28	29,29,29,29	0
33	MG	B	3227	1/1	0.08	-2.31	28,28,28,28	0
33	MG	B	3612	1/1	0.09	-2.40	81,81,81,81	0
33	MG	B	3235	1/1	0.10	-2.44	8,8,8,8	0
33	MG	B	3078	1/1	0.07	-2.57	27,27,27,27	0
33	MG	B	3499	1/1	0.10	-2.61	45,45,45,45	0
33	MG	B	3110	1/1	0.07	-2.67	45,45,45,45	0
33	MG	B	3364	1/1	0.11	-2.67	26,26,26,26	0
33	MG	B	3032	1/1	0.05	-2.72	5,5,5,5	0
33	MG	B	3265	1/1	0.07	-2.77	46,46,46,46	0
33	MG	B	3090	1/1	0.06	-2.87	28,28,28,28	0
33	MG	B	3521	1/1	0.11	-2.89	93,93,93,93	0
33	MG	B	3331	1/1	0.10	-3.00	76,76,76,76	0
33	MG	B	3038	1/1	0.08	-3.00	64,64,64,64	0
33	MG	B	3492	1/1	0.07	-3.01	41,41,41,41	0
33	MG	B	3124	1/1	0.08	-3.04	22,22,22,22	0
33	MG	B	3582	1/1	0.06	-3.15	21,21,21,21	0
33	MG	B	3135	1/1	0.11	-3.15	7,7,7,7	0
33	MG	B	3484	1/1	0.07	-3.15	44,44,44,44	0
33	MG	B	3282	1/1	0.06	-3.19	18,18,18,18	0
33	MG	B	3573	1/1	0.05	-3.34	37,37,37,37	0
33	MG	B	3476	1/1	0.06	-3.37	5,5,5,5	0
33	MG	B	3007	1/1	0.07	-3.55	24,24,24,24	0
33	MG	B	3457	1/1	0.08	-3.58	37,37,37,37	0
33	MG	B	3151	1/1	0.05	-3.63	34,34,34,34	0
33	MG	B	3001	1/1	0.07	-3.71	24,24,24,24	0
33	MG	B	3295	1/1	0.12	-3.72	59,59,59,59	0
33	MG	B	3212	1/1	0.09	-3.83	42,42,42,42	0
33	MG	B	3321	1/1	0.05	-3.90	34,34,34,34	0
33	MG	B	3607	1/1	0.10	-4.02	30,30,30,30	0
33	MG	B	3141	1/1	0.04	-4.08	14,14,14,14	0
33	MG	B	3326	1/1	0.09	-4.27	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
33	MG	B	3389	1/1	0.05	-4.62	55,55,55,55	0
33	MG	B	3130	1/1	0.04	-4.80	41,41,41,41	0
33	MG	B	3316	1/1	0.09	-4.85	58,58,58,58	0
33	MG	B	3309	1/1	0.07	-5.09	46,46,46,46	0
33	MG	B	3246	1/1	0.07	-5.14	108,108,108,108	0
33	MG	B	3072	1/1	0.06	-5.33	42,42,42,42	0
33	MG	B	3528	1/1	0.03	-6.26	46,46,46,46	0
33	MG	B	3056	1/1	0.14	-6.57	66,66,66,66	0
33	MG	B	3480	1/1	0.08	-7.32	21,21,21,21	0
33	MG	B	3014	1/1	0.05	-7.79	38,38,38,38	0
33	MG	B	3394	1/1	0.07	-9.15	32,32,32,32	0
33	MG	B	3276	1/1	0.05	-15.76	14,14,14,14	0
33	MG	B	3117	1/1	0.13	-18.44	22,22,22,22	0

6.5 Other polymers ⓘ

There are no such residues in this entry.