Full wwPDB EM Validation Report

Jun 18, 2026 – 01:01 pm BST

PDB ID	:	7PJT / pdb_00007pjt
EMDB ID	:	EMD-13459
Title	:	Structure of the 70S ribosome with tRNAs in hybrid state 1 (H1)
Authors	:	Petrychenko, V.; Peng, B.Z.; Schwarzer, A.C.; Peske, F.; Rodnina, M.V.; Fischer, N.
Deposited on	:	2021-08-24
Resolution	:	6.00 Å(reported)
Based on initial models	:	4AQY, 5LZD, 6YSS

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

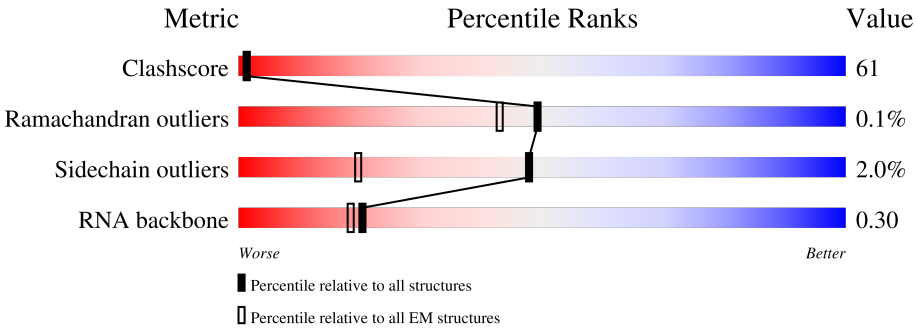
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

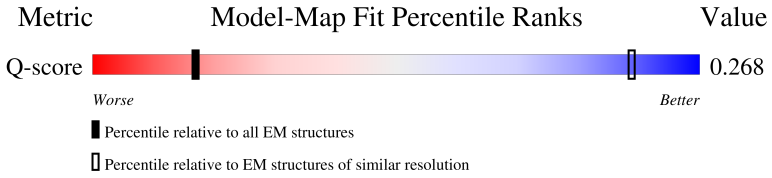
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 6.00 Å.

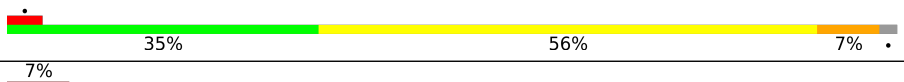
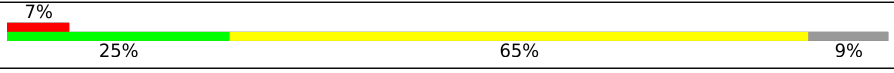
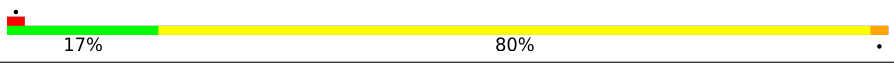
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	525 (5.50 - 6.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	0	57	
2	1	55	
3	2	46	

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Mol	Chain	Length	Quality of chain
4	3	65	25% 69% 5%
5	4	38	18% 82%
6	5	165	62% 63% 16% 21%
7	6	70	10% 20% 63% 11% 6%
8	A	2903	61% 36%
9	B	120	62% 33%
10	C	273	27% 71%
11	D	209	26% 73%
12	E	201	33% 67%
13	F	179	28% 69%
14	G	177	30% 67%
15	H	149	51% 39% 60%
16	I	142	58% 85% 14%
17	J	142	25% 74%
18	K	123	7% 21% 78%
19	L	144	35% 62%
20	M	136	26% 74%
21	N	127	17% 77% 6%
22	O	117	22% 74%
23	P	115	26% 71%
24	Q	118	27% 71%
25	R	103	23% 72%
26	S	110	40% 57%
27	T	100	31% 60% 7%
28	U	104	40% 57%

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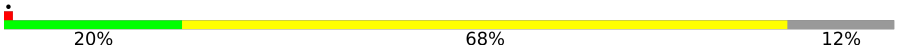
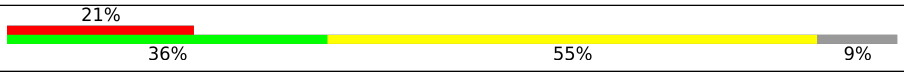
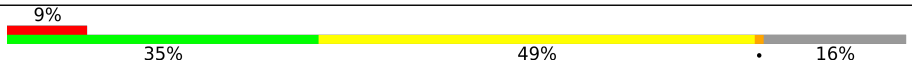
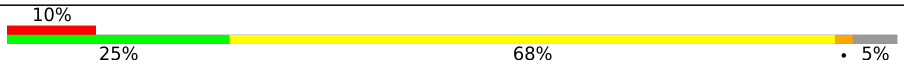
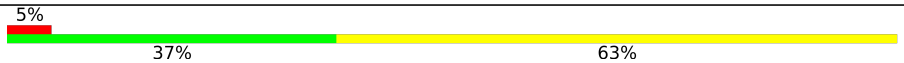
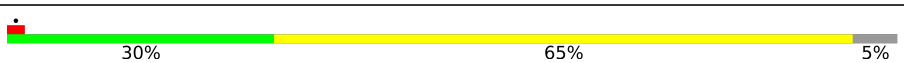
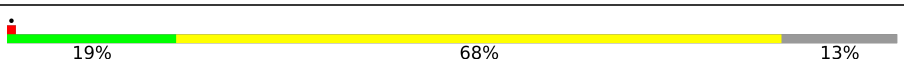
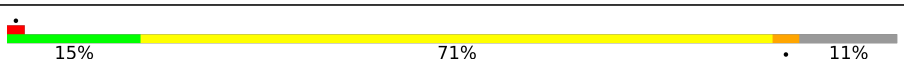
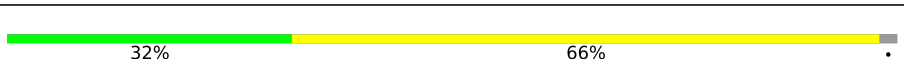
Mol	Chain	Length	Quality of chain
29	V	94	
30	W	85	
31	X	78	
32	Y	63	
33	Z	59	
34	a	1542	
35	b	240	
36	c	233	
37	d	206	
38	e	167	
39	f	135	
40	g	179	
41	h	130	
42	i	130	
43	j	103	
44	k	129	
45	l	124	
46	m	118	
47	n	102	
48	o	89	
49	p	82	
50	q	84	
51	r	75	
52	s	92	
53	t	87	

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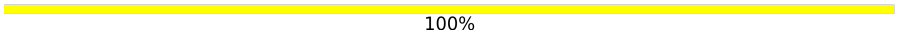
Mol	Chain	Length	Quality of chain
54	u	71	
55	v	77	
56	w	76	
57	y	2	
58	z	33	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
34	2MG	a	1207	-	-	X	-
34	2MG	a	1516	-	-	X	-
34	PSU	a	516	-	-	X	-
8	2MG	A	2445	-	-	X	-

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 147222 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 protein called 50S ribosomal protein L32.

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

- Molecule 2 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	1	50	409	263	75	71	0	0

- Molecule 3 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	2	46	377	228	90	57	2	0	0

- Molecule 4 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	3	64	504	323	105	74	2	0	0

- Molecule 5 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	4	38	302	185	65	48	4	0	0

- Molecule 6 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	5	131	647	385	131	131	0	0

- Molecule 7 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 8 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A	2902	Total	C	N	O	P	0	0
			62317	27806	11469	20140	2902		

- Molecule 9 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	B	120	Total	C	N	O	P	0	0
			2570	1144	468	838	120		

- Molecule 10 is a protein called 50S ribosomal protein L2.

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

- Molecule 11 is a protein called 50S ribosomal protein L3.

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

- Molecule 12 is a protein called 50S ribosomal protein L4.

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

- Molecule 13 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	F	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 14 is a protein called 50S ribosomal protein L6.

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

- Molecule 15 is a protein called 50S ribosomal protein L9.

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

- Molecule 16 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	I	141	Total	C	N	O	0	0
			693	411	141	141		

- Molecule 17 is a protein called 50S ribosomal protein L13.

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

- Molecule 18 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 19 is a protein called 50S ribosomal protein L15.

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

- Molecule 20 is a protein called 50S ribosomal protein L16.

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

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

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

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

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

- Molecule 23 is a protein called 50S ribosomal protein L19.

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

- Molecule 24 is a protein called 50S ribosomal protein L20.

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

- Molecule 25 is a protein called 50S ribosomal protein L21.

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

- Molecule 26 is a protein called 50S ribosomal protein L22.

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

- Molecule 27 is a protein called 50S ribosomal protein L23.

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

- Molecule 28 is a protein called 50S ribosomal protein L24.

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

- Molecule 29 is a protein called 50S ribosomal protein L25.

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

- Molecule 30 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	W	75	Total 575	C 356	N 116	O 102	S 1	0	0

- Molecule 31 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	X	77	Total 625	C 388	N 129	O 106	S 2	0	0

- Molecule 32 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Y	63	Total 509	C 313	N 99	O 95	S 2	0	0

- Molecule 33 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Z	58	Total 449	C 281	N 87	O 79	S 2	0	0

- Molecule 34 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	a	1540	Total 33050	C 14748	N 6057	O 10705	P 1540	0	0

- Molecule 35 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	b	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 36 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	c	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 37 is a protein called 30S ribosomal protein S4.

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

- Molecule 38 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	e	157	Total	C	N	O	S	0	0
			1141	709	218	208	6		

- Molecule 39 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	f	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 40 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	g	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 41 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	h	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 42 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	i	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 43 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	j	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 44 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	k	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 45 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	l	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 46 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	m	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 47 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	n	101	Total	C	N	O	S	0	0
			799	498	165	133	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	35	ALA	-	insertion	UNP C3SR07

- Molecule 48 is a protein called 30S ribosomal protein S15.

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

- Molecule 49 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	p	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 50 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 51 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	r	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 52 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	s	82	Total	C	N	O	S	0	0
			658	421	125	110	2		

- Molecule 53 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	t	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 54 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	u	65	Total	C	N	O	S	0	0
			506	313	105	87	1		

- Molecule 55 is a RNA chain called P-site tRNA(fMet).

Mol	Chain	Residues	Atoms						AltConf	Trace
55	v	77	Total	C	N	O	P	S	0	0
			1642	733	297	534	77	1		

- Molecule 56 is a RNA chain called P-site fMet-Phe-tRNA(Phe).

Mol	Chain	Residues	Atoms						AltConf	Trace
56	w	76	Total	C	N	O	P	S	0	0
			1631	731	291	531	76	2		

- Molecule 57 is a protein called Dipeptide (FME-PHE).

Mol	Chain	Residues	Atoms					AltConf	Trace
57	y	2	Total	C	N	O	S	0	0
			21	15	2	3	1		

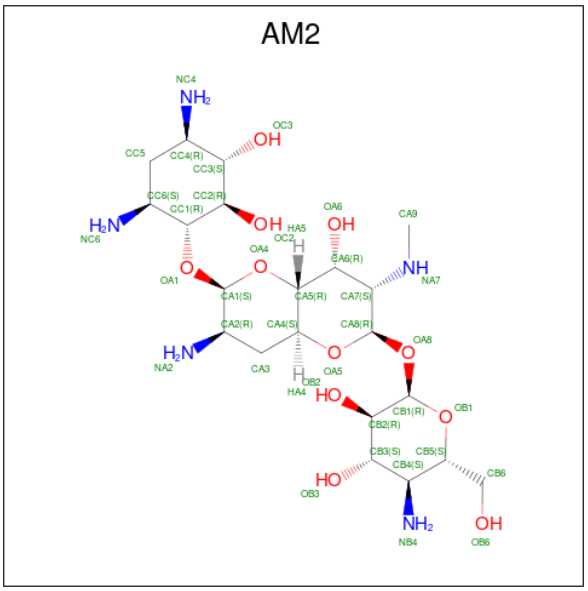
- Molecule 58 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	z	11	Total	C	N	O	P	0	0
			230	103	35	81	11		

- Molecule 59 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
59	4	1	Total	Zn	0
			1	1	
59	6	1	Total	Zn	0
			1	1	

- Molecule 60 is APRAMYCIN (CCD ID: AM2) (formula: $C_{21}H_{41}N_5O_{11}$).



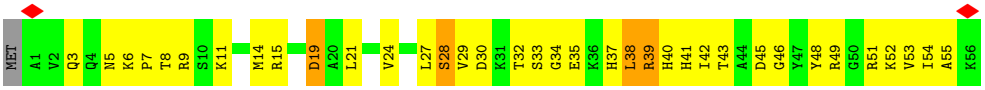
Mol	Chain	Residues	Atoms				AltConf
60	a	1	Total	C	N	O	0
			37	21	5	11	

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

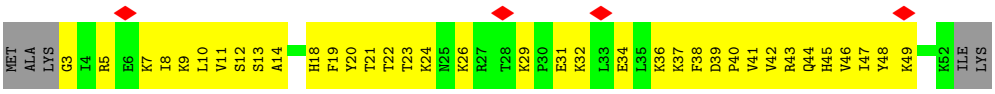
• Molecule 1: 50S ribosomal protein L32

Chain 0:



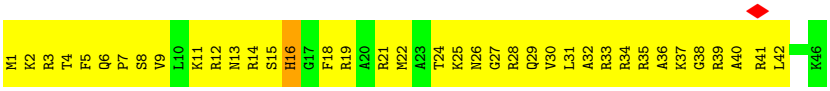
• Molecule 2: 50S ribosomal protein L33

Chain 1:



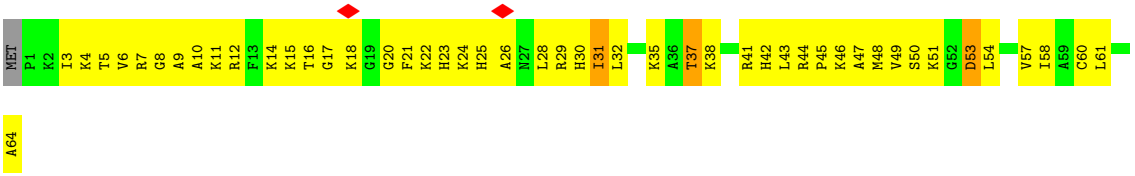
• Molecule 3: 50S ribosomal protein L34

Chain 2:



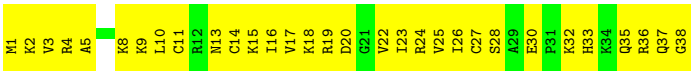
• Molecule 4: 50S ribosomal protein L35

Chain 3:



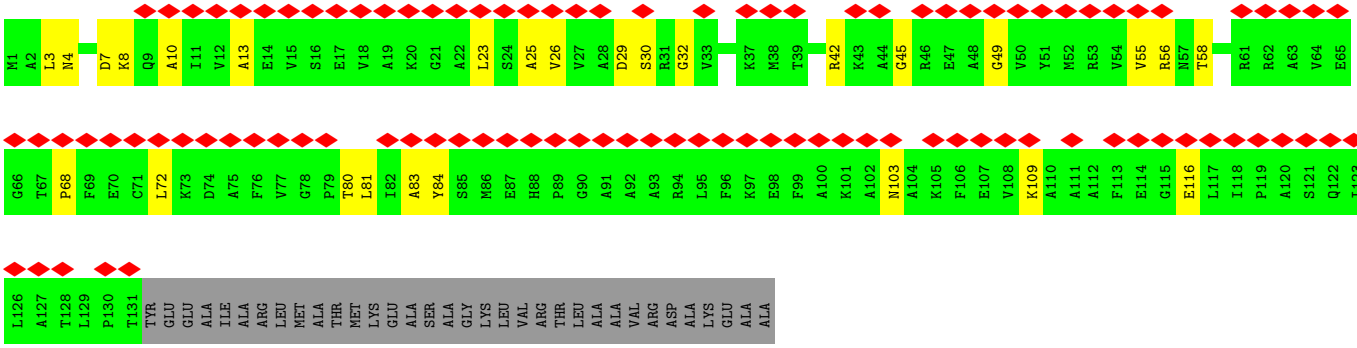
• Molecule 5: 50S ribosomal protein L36

Chain 4:



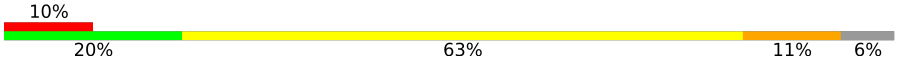
• Molecule 6: 50S ribosomal protein L10

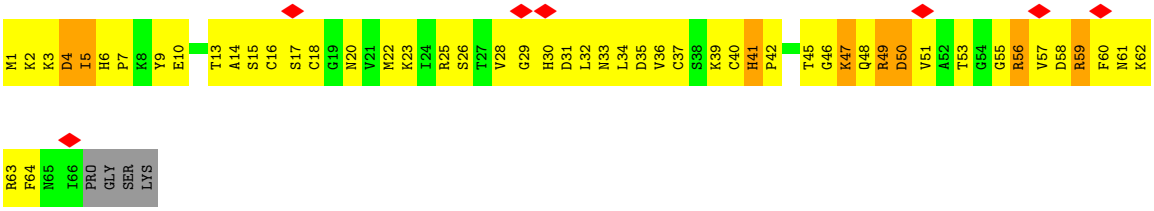
Chain 5:



• Molecule 7: 50S ribosomal protein L31

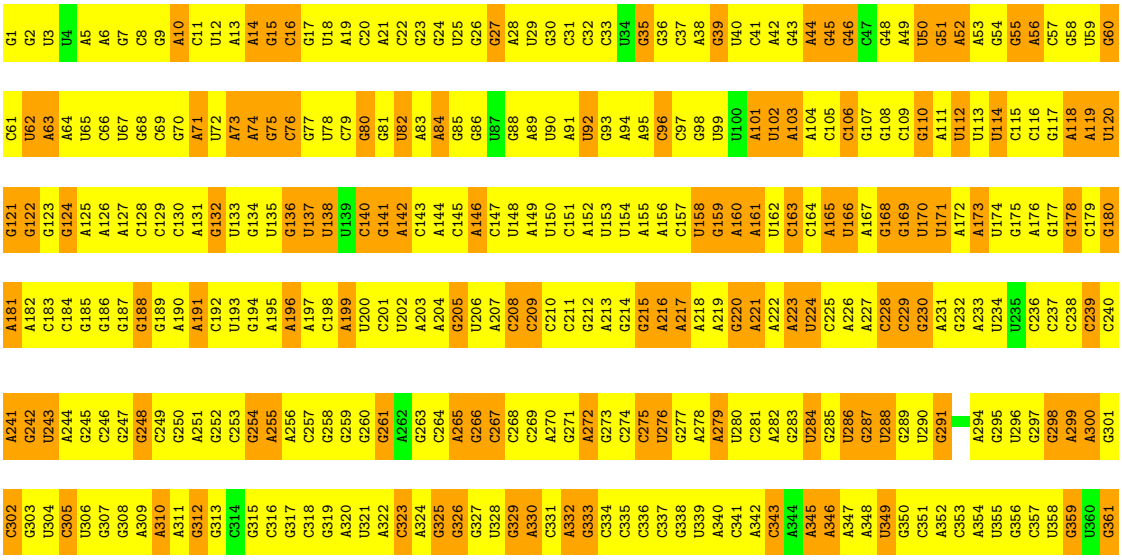
Chain 6:

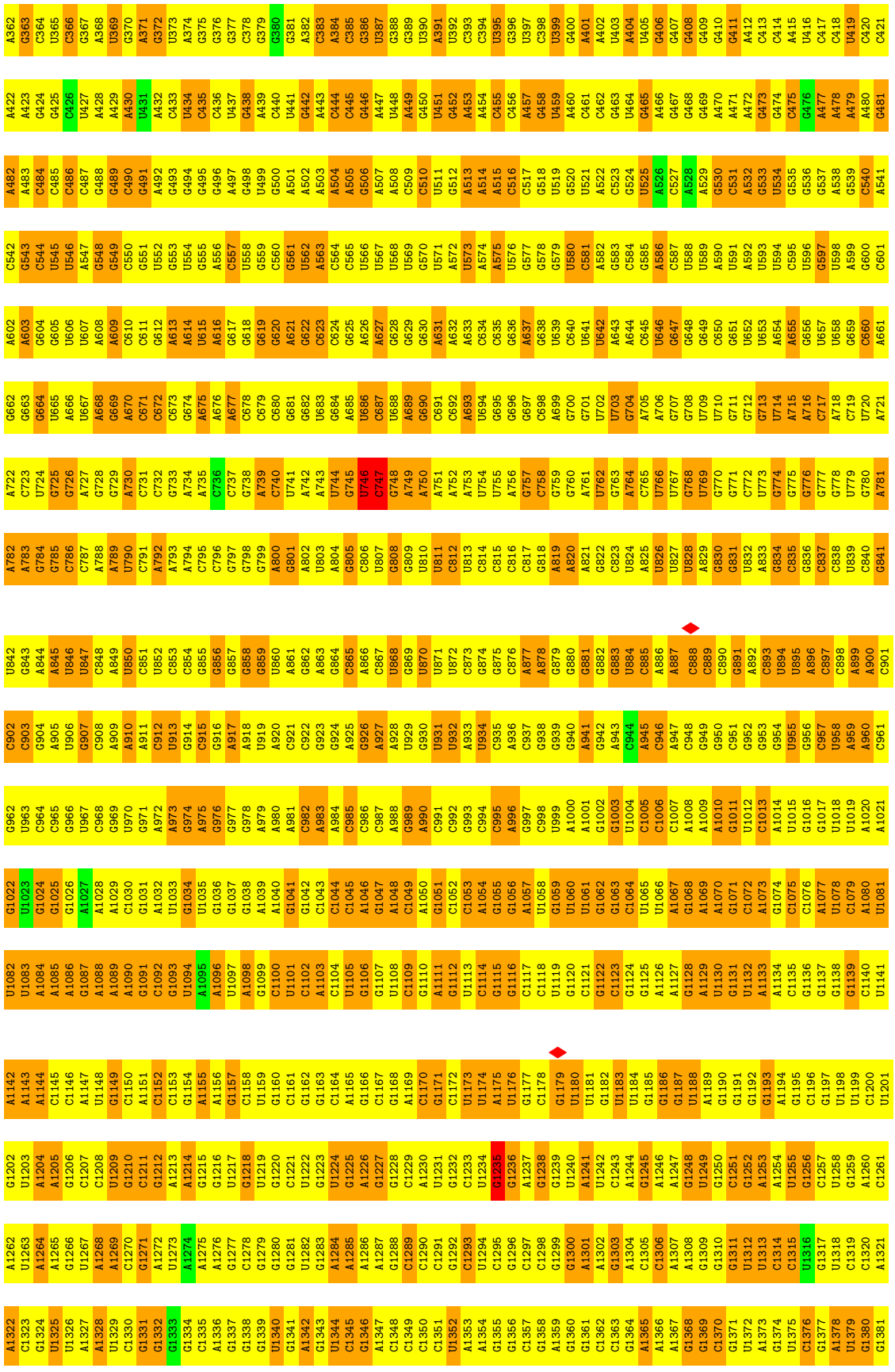


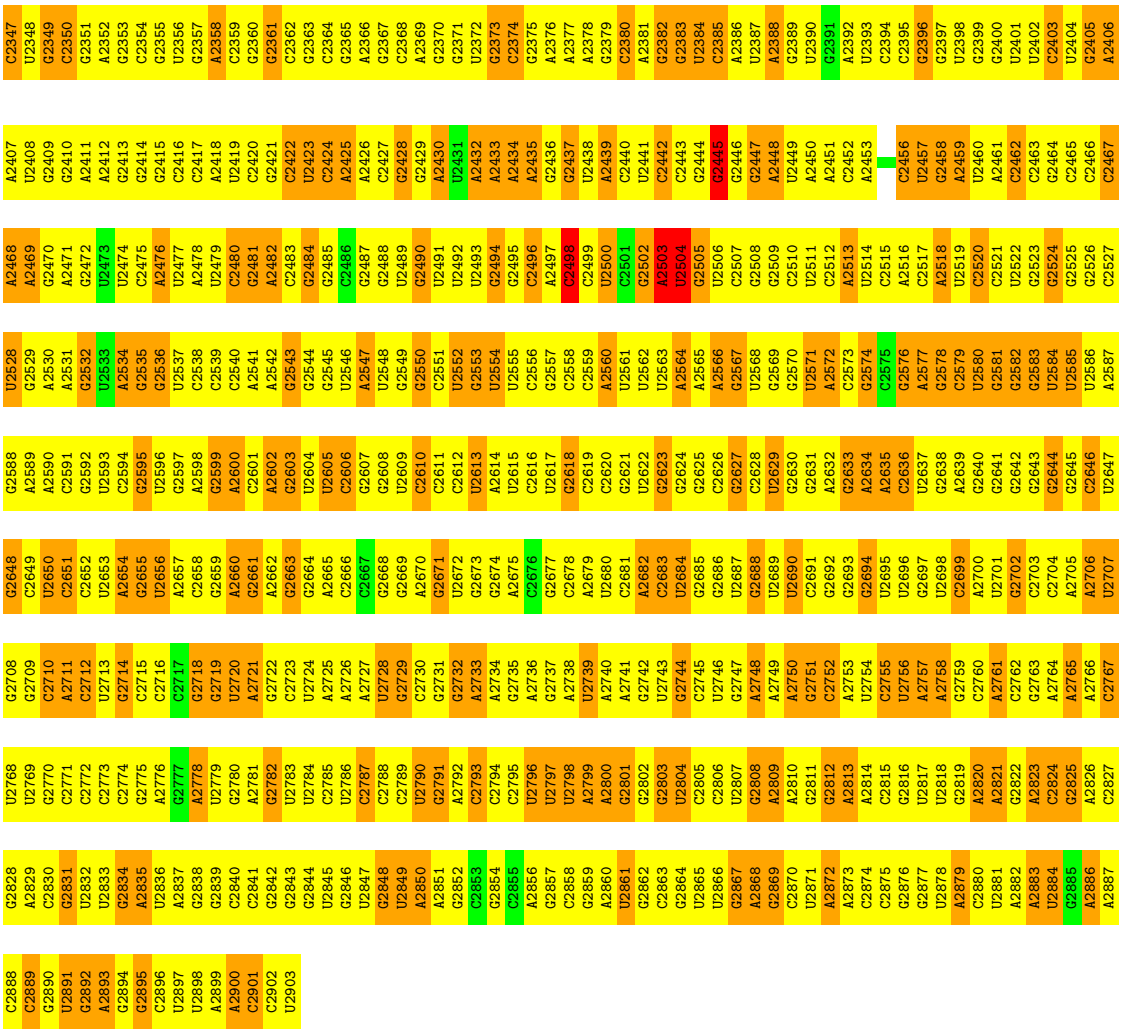


• Molecule 8: 23S ribosomal RNA

Chain A:

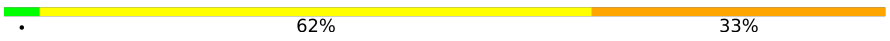


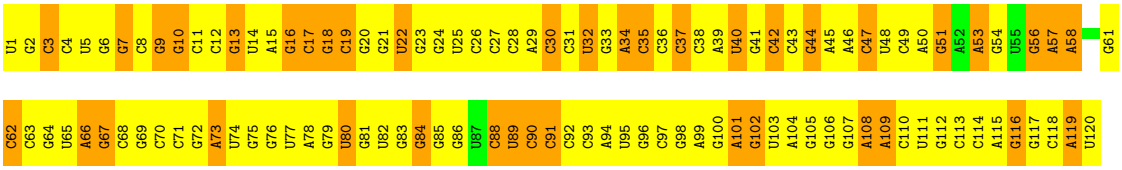




• Molecule 9: 5S ribosomal RNA

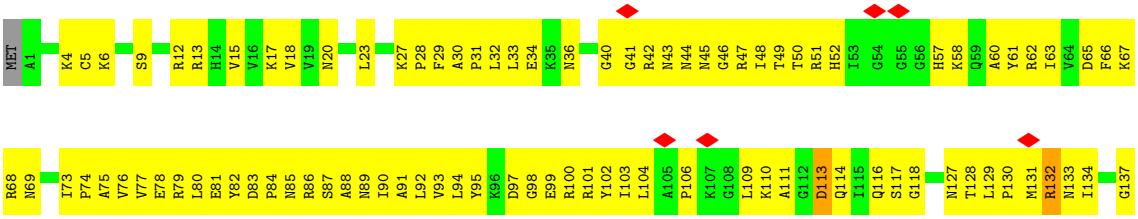
Chain B:

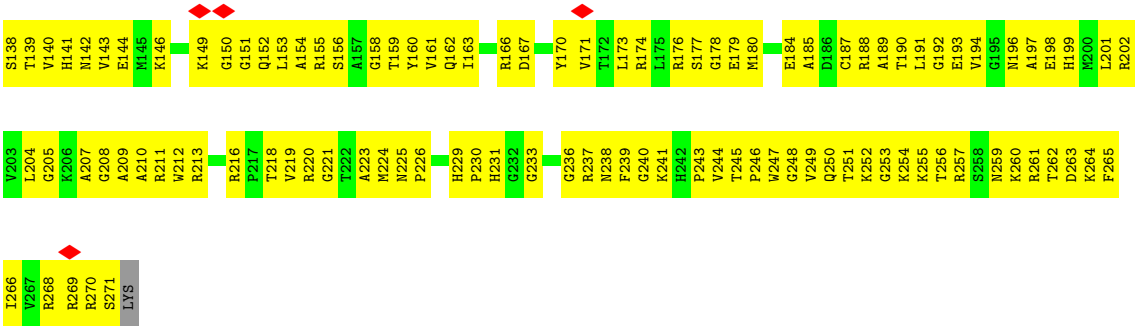




• Molecule 10: 50S ribosomal protein L2

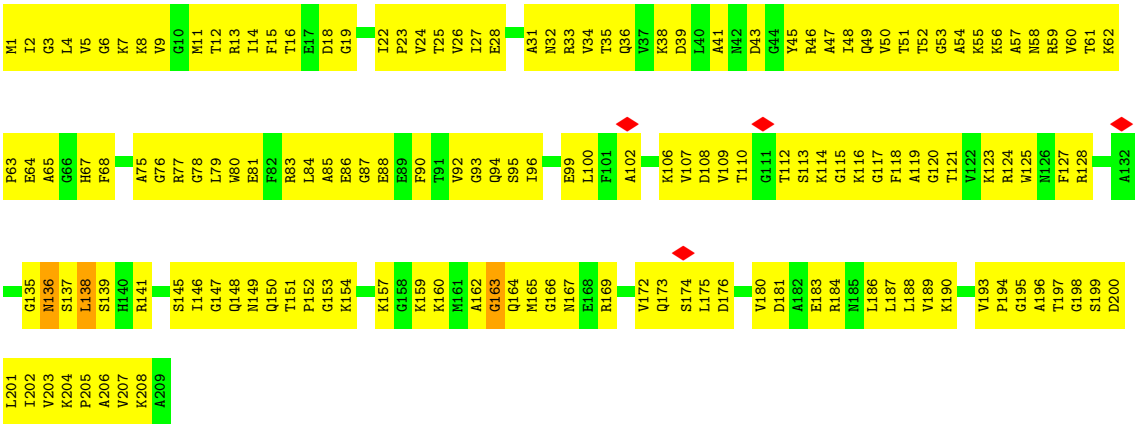
Chain C:





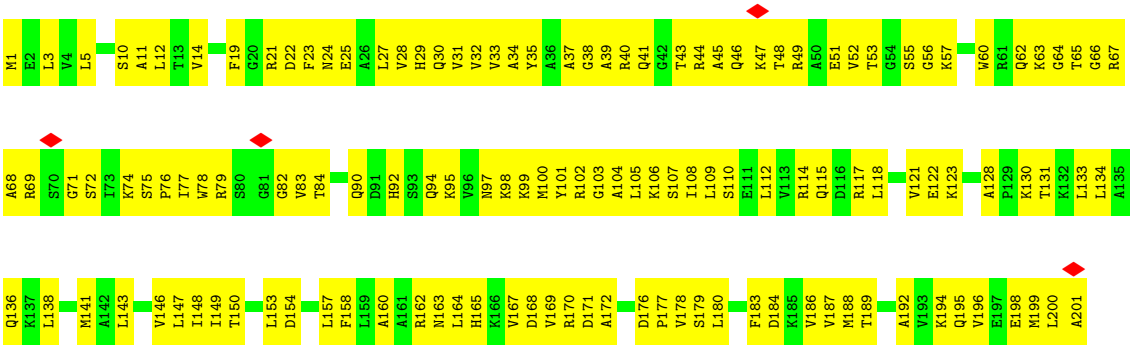
• Molecule 11: 50S ribosomal protein L3

Chain D:



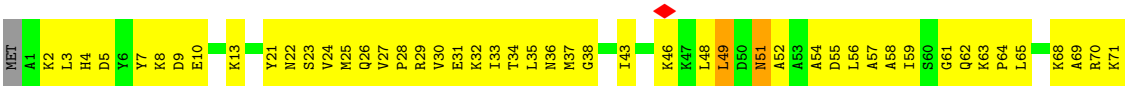
• Molecule 12: 50S ribosomal protein L4

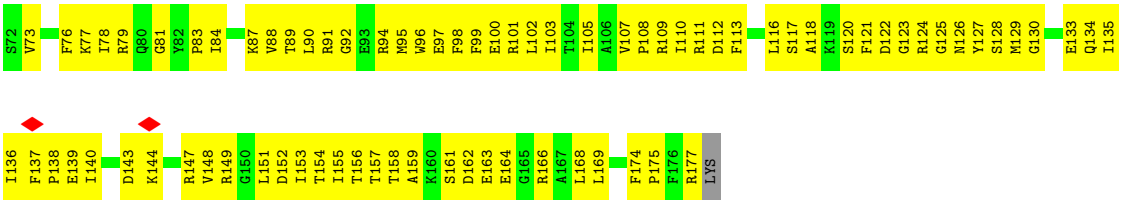
Chain E:



• Molecule 13: 50S ribosomal protein L5

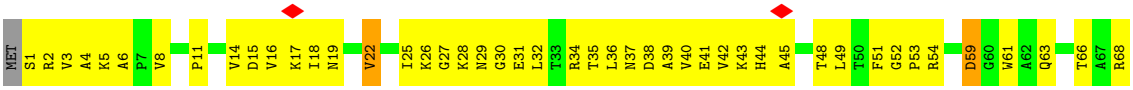
Chain F:

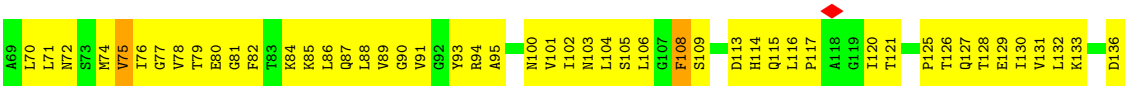




• Molecule 14: 50S ribosomal protein L6

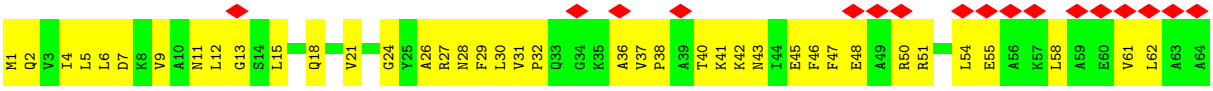
Chain G:

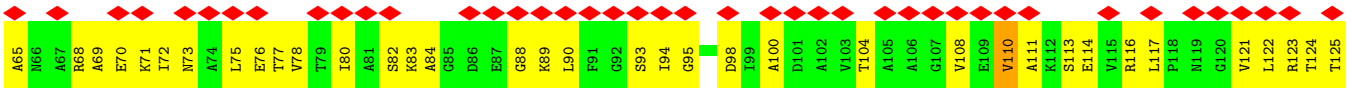


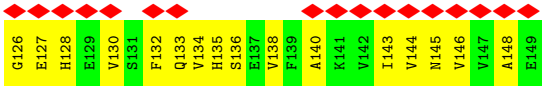


• Molecule 15: 50S ribosomal protein L9

Chain H:

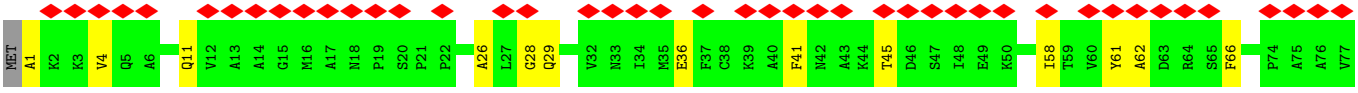


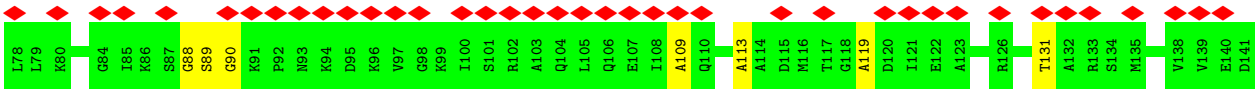




• Molecule 16: 50S ribosomal protein L11

Chain I:

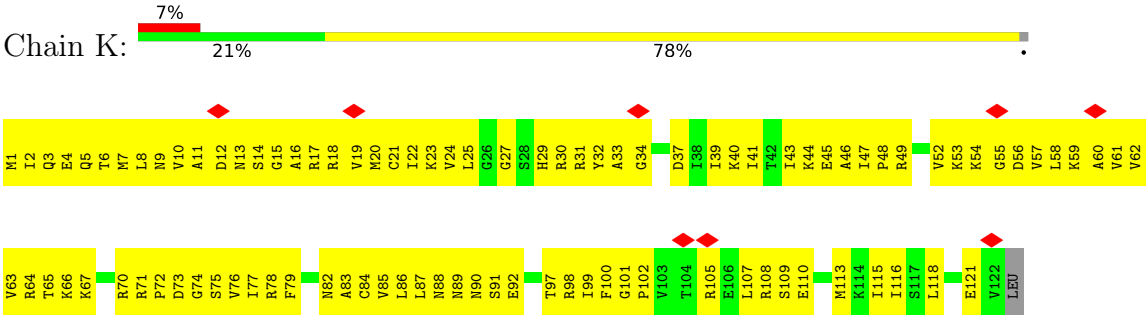




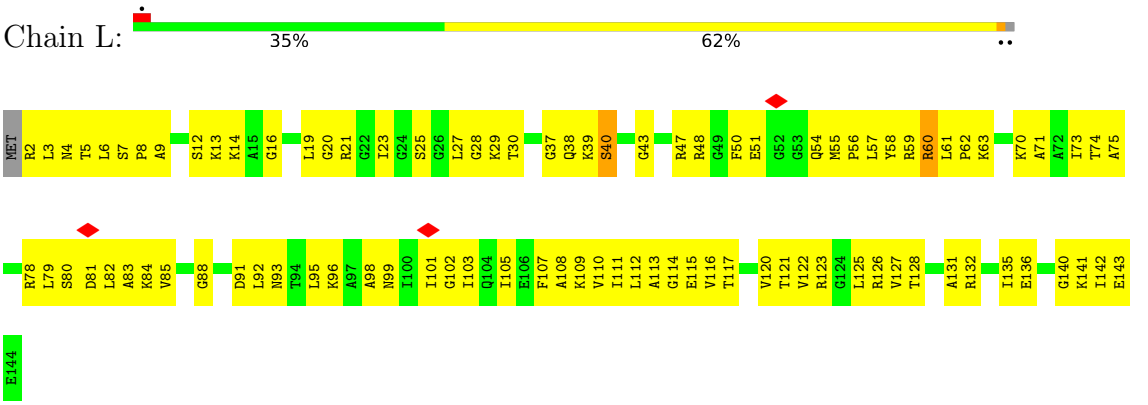
• Molecule 17: 50S ribosomal protein L13

Chain J:

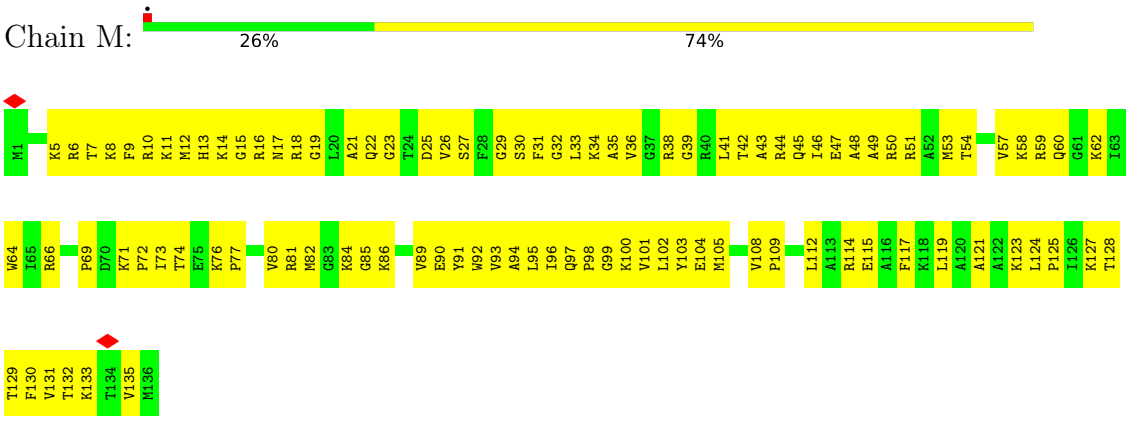
• Molecule 18: 50S ribosomal protein L14



• Molecule 19: 50S ribosomal protein L15

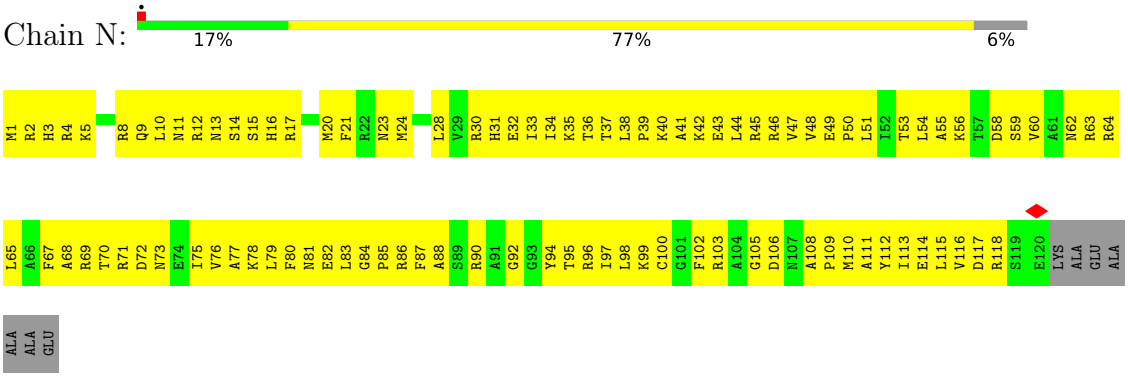


• Molecule 20: 50S ribosomal protein L16



• Molecule 21: 50S ribosomal protein L17

Chain N:

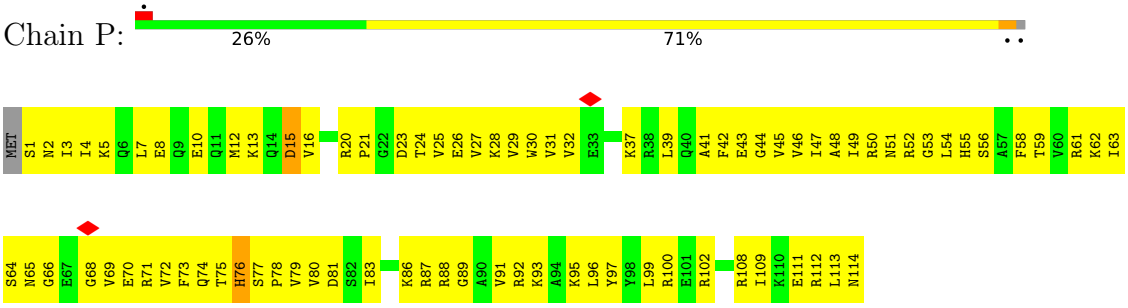


• Molecule 22: 50S ribosomal protein L18

Chain O:

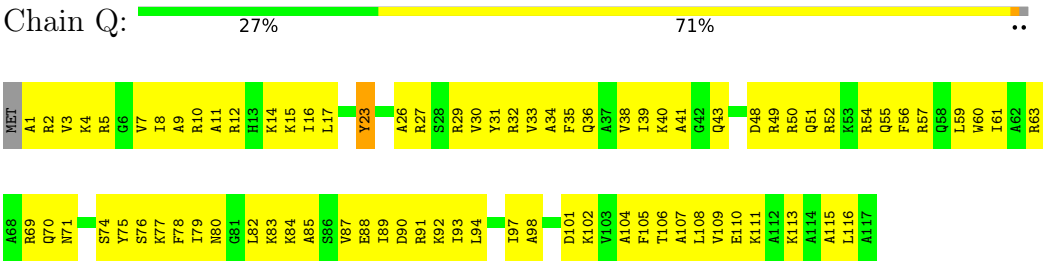
• Molecule 23: 50S ribosomal protein L19

Chain P:



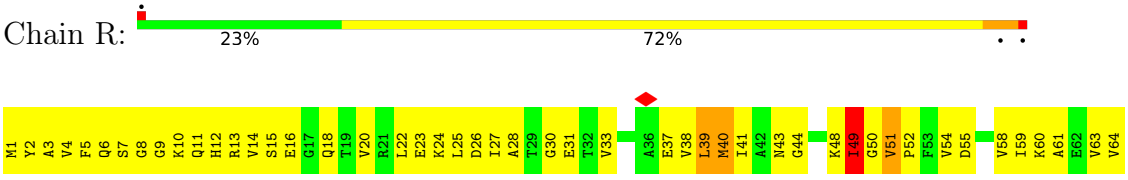
• Molecule 24: 50S ribosomal protein L20

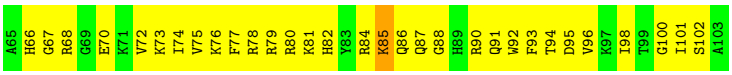
Chain Q:



• Molecule 25: 50S ribosomal protein L21

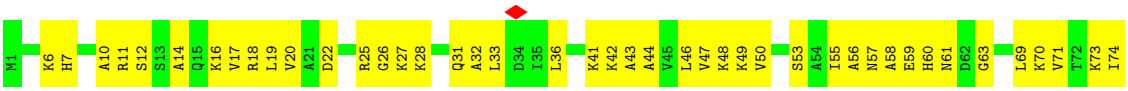
Chain R:





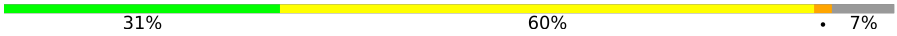
• Molecule 26: 50S ribosomal protein L22

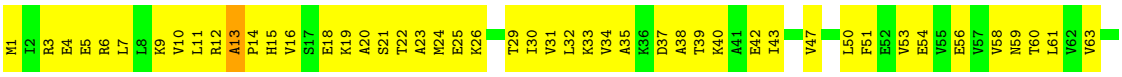
Chain S:

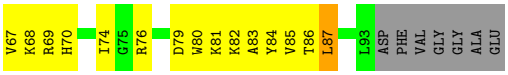


• Molecule 27: 50S ribosomal protein L23

Chain T:

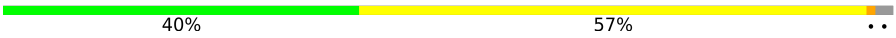






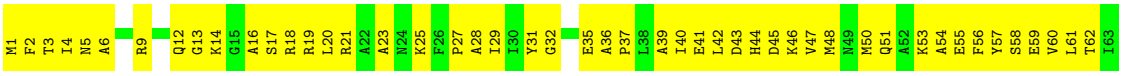
• Molecule 28: 50S ribosomal protein L24

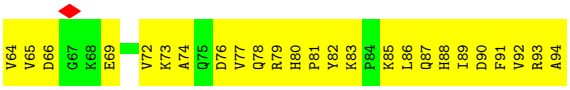
Chain U:



• Molecule 29: 50S ribosomal protein L25

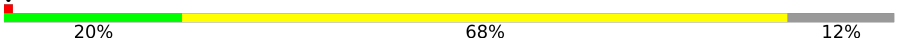
Chain V:

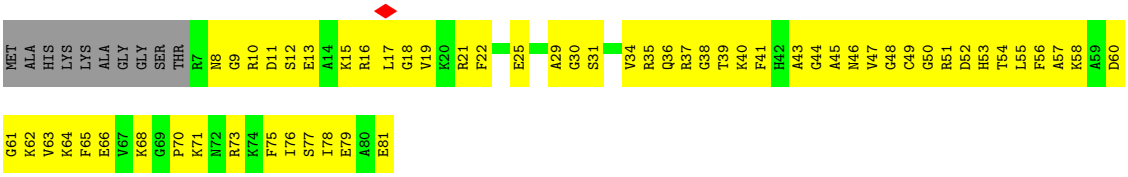




• Molecule 30: 50S ribosomal protein L27

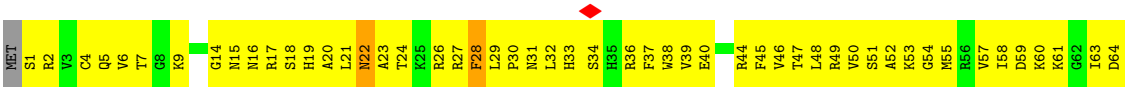
Chain W:

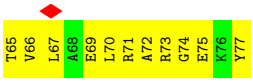




• Molecule 31: 50S ribosomal protein L28

Chain X:



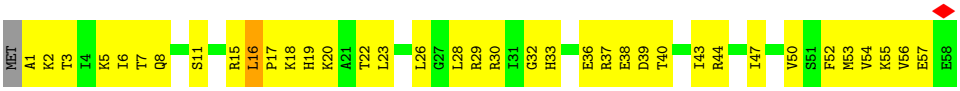


• Molecule 32: 50S ribosomal protein L29

Chain Y:

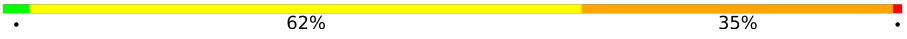
• Molecule 33: 50S ribosomal protein L30

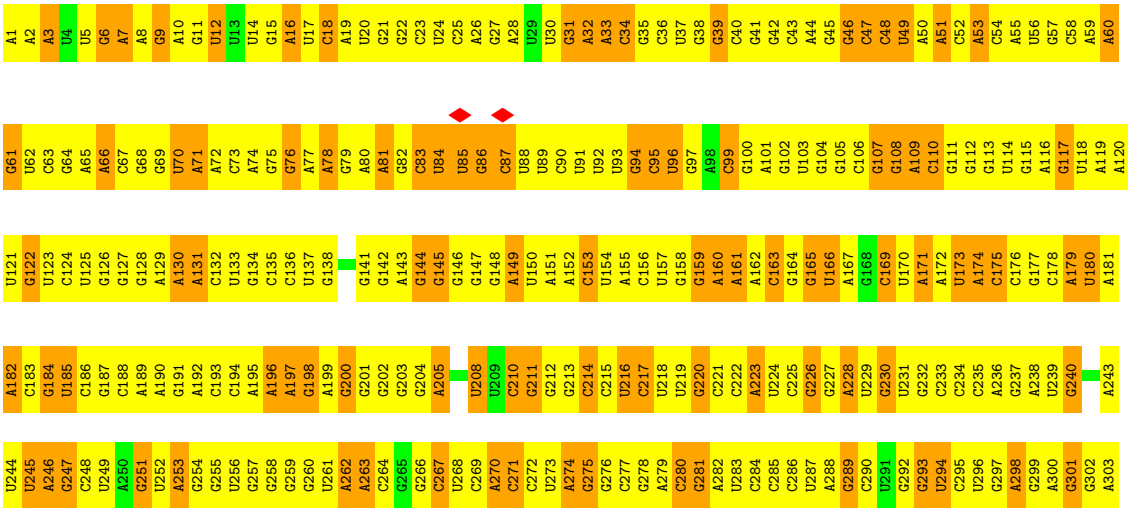
Chain Z:

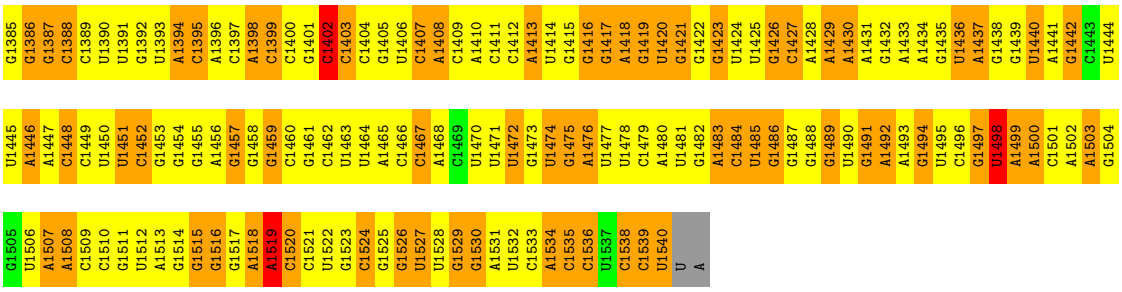


• Molecule 34: 16S ribosomal RNA

Chain a:

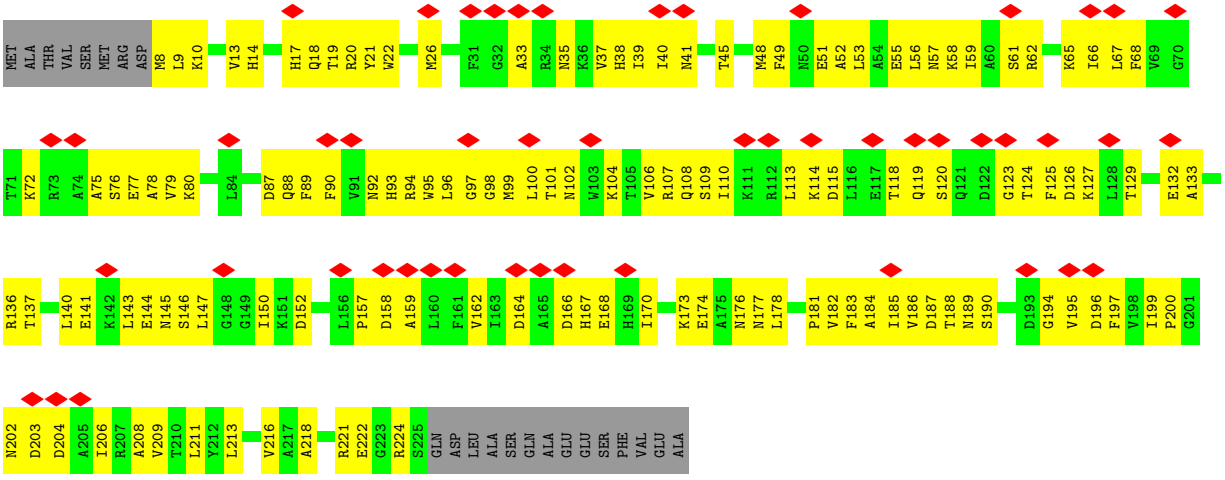






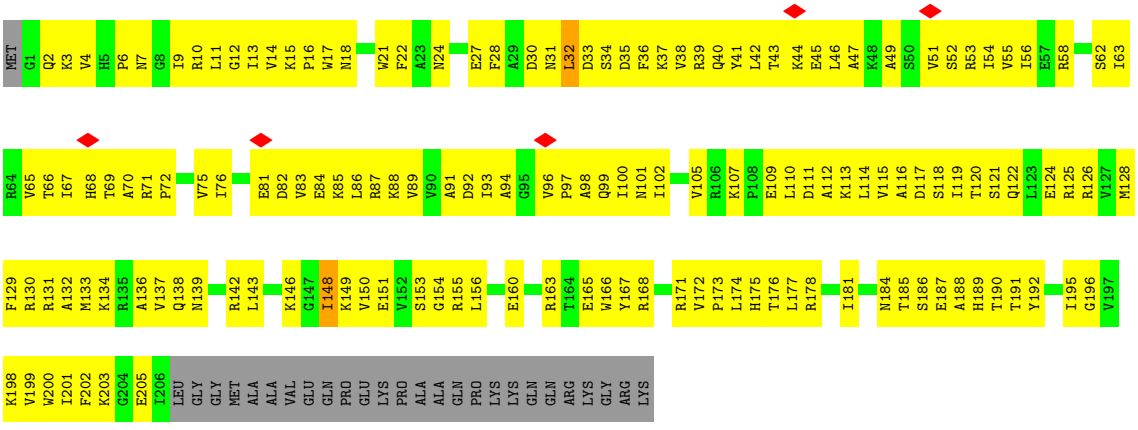
• Molecule 35: 30S ribosomal protein S2

Chain b:



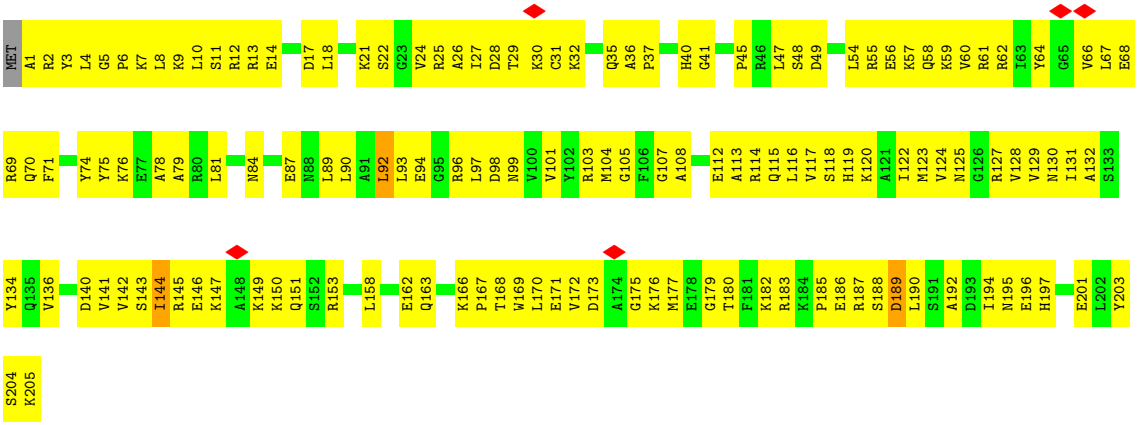
• Molecule 36: 30S ribosomal protein S3

Chain c:



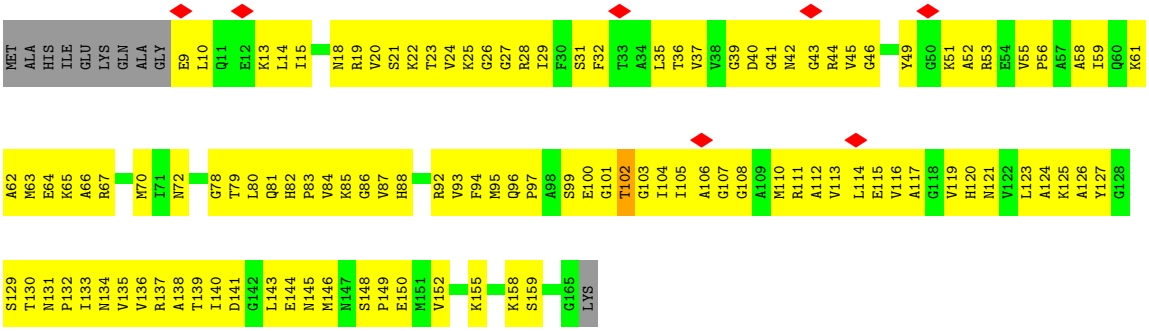
• Molecule 37: 30S ribosomal protein S4

Chain d:



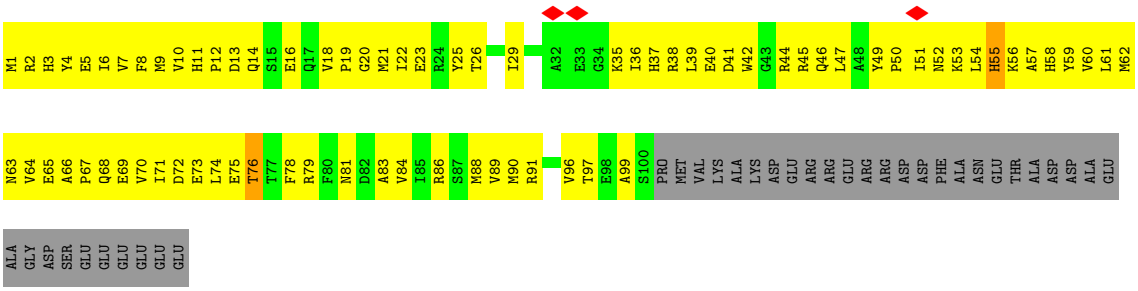
• Molecule 38: 30S ribosomal protein S5

Chain e:



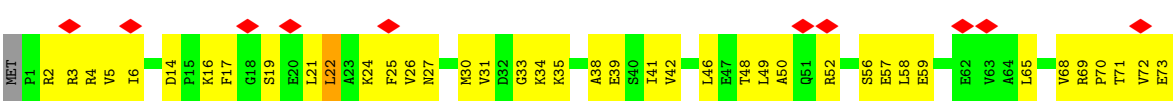
• Molecule 39: 30S ribosomal protein S6

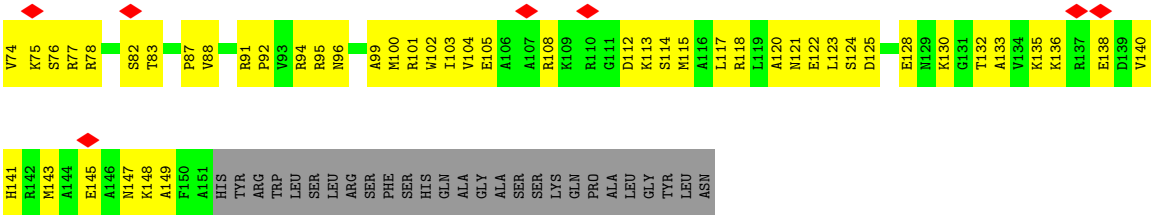
Chain f:



• Molecule 40: 30S ribosomal protein S7

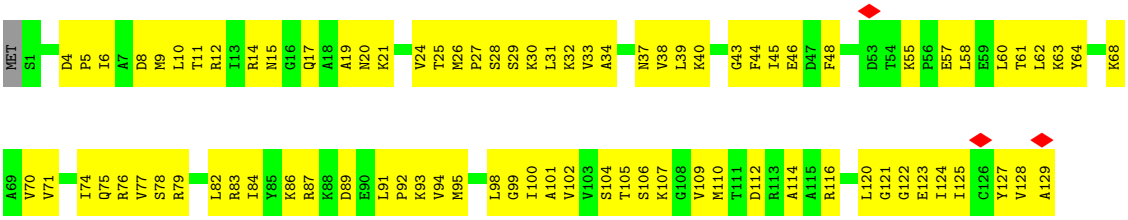
Chain g:





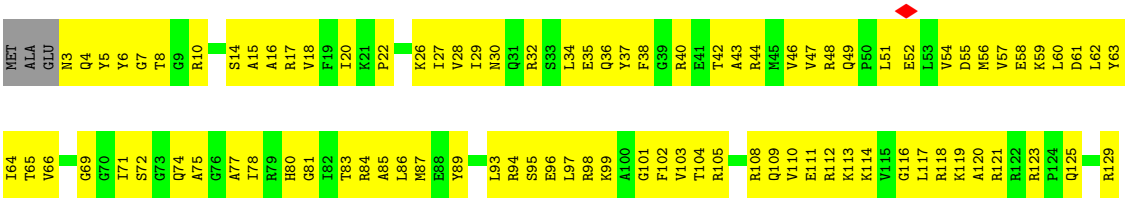
• Molecule 41: 30S ribosomal protein S8

Chain h:



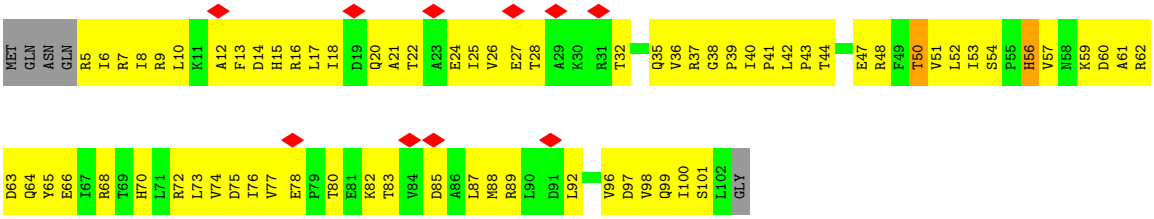
• Molecule 42: 30S ribosomal protein S9

Chain i:



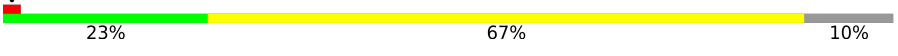
• Molecule 43: 30S ribosomal protein S10

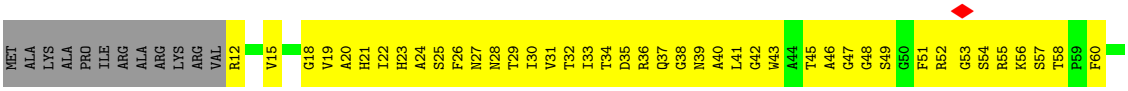
Chain j:



• Molecule 44: 30S ribosomal protein S11

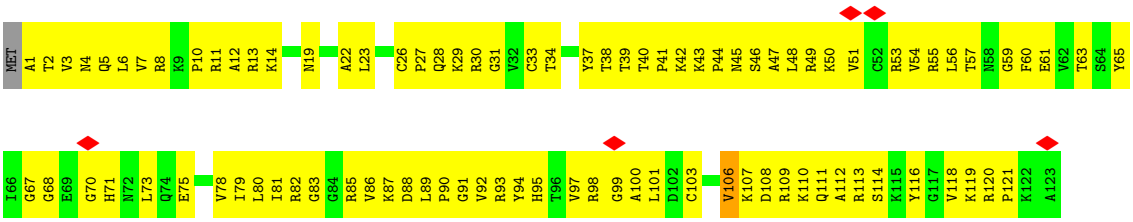
Chain k:





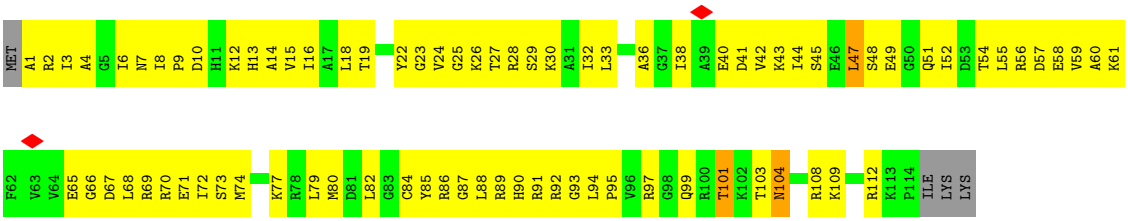
• Molecule 45: 30S ribosomal protein S12

Chain l:



• Molecule 46: 30S ribosomal protein S13

Chain m:

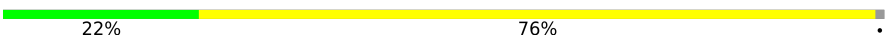


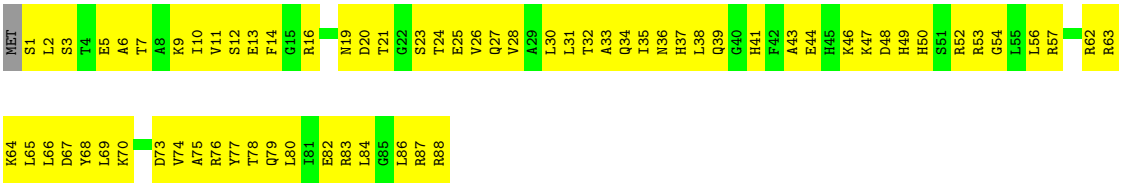
• Molecule 47: 30S ribosomal protein S14

Chain n:

• Molecule 48: 30S ribosomal protein S15

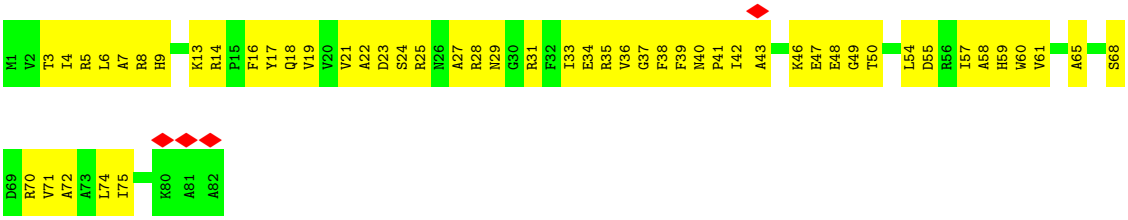
Chain o:





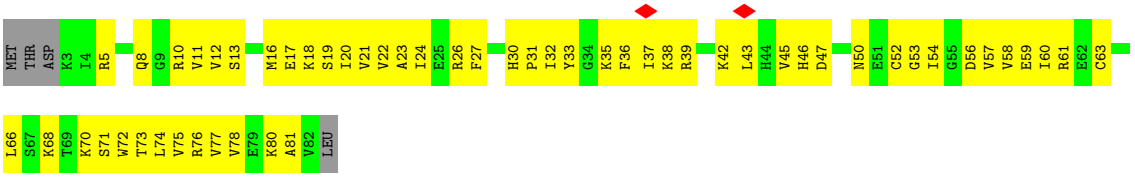
• Molecule 49: 30S ribosomal protein S16

Chain p:



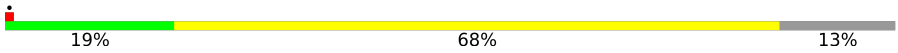
• Molecule 50: 30S ribosomal protein S17

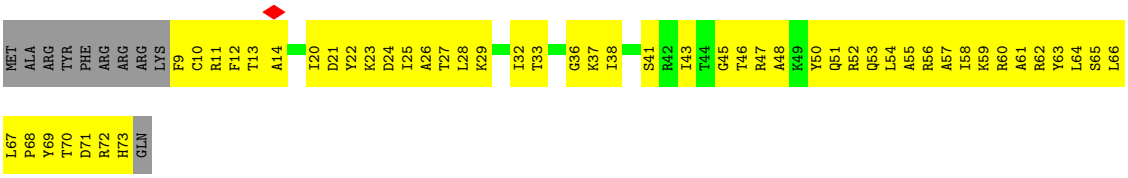
Chain q:



• Molecule 51: 30S ribosomal protein S18

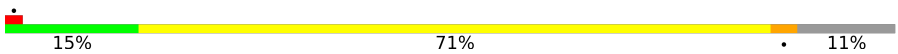
Chain r:

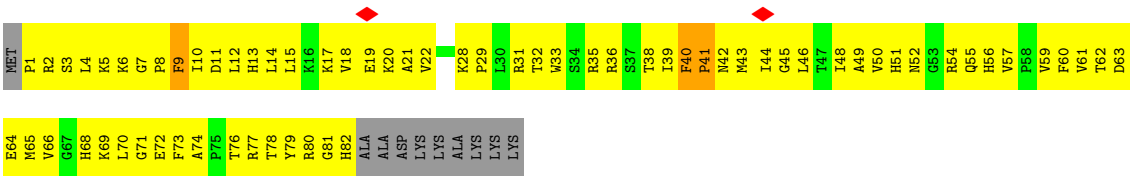




• Molecule 52: 30S ribosomal protein S19

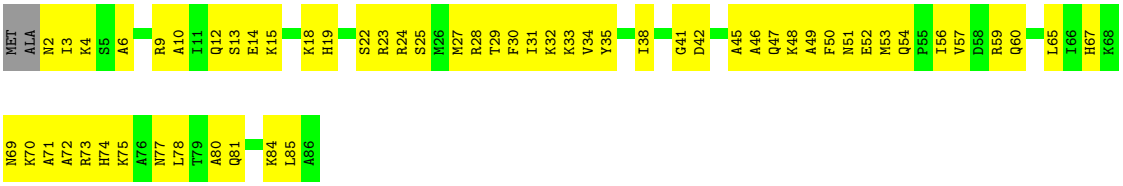
Chain s:





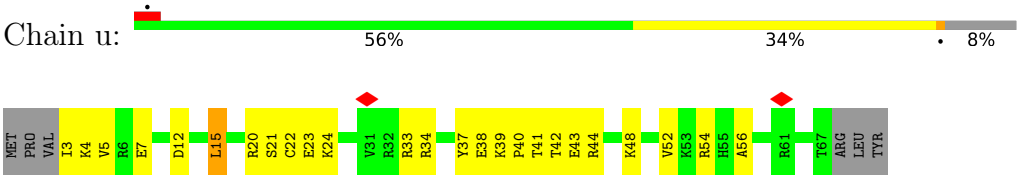
• Molecule 53: 30S ribosomal protein S20

Chain t:



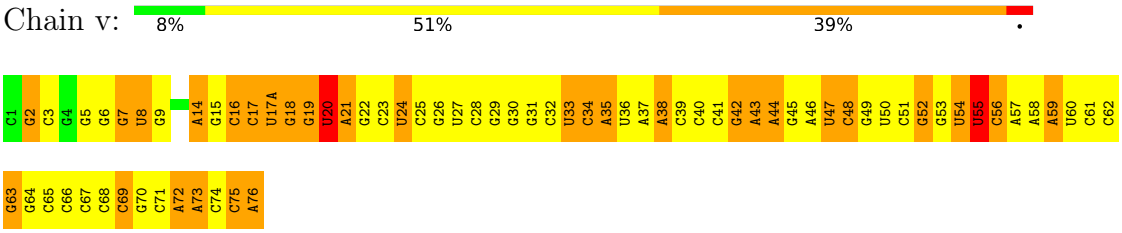
• Molecule 54: 30S ribosomal protein S21

Chain u:



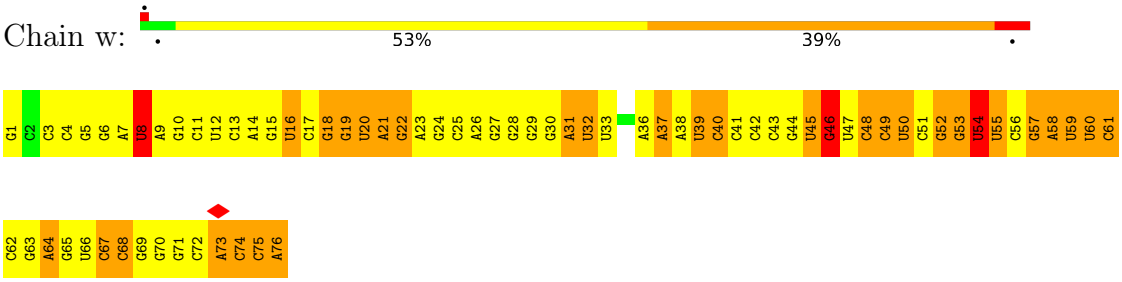
• Molecule 55: P-site tRNA(fMet)

Chain v:



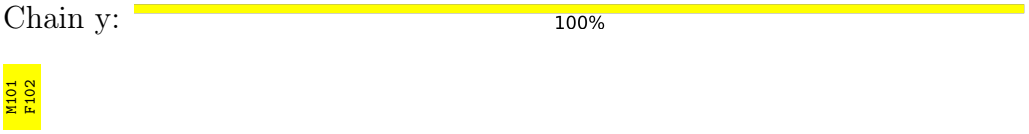
• Molecule 56: P-site fMet-Phe-tRNA(Phe)

Chain w:



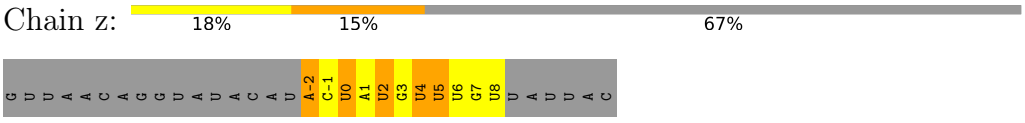
• Molecule 57: Dipeptide (FME-PHE)

Chain y:



• Molecule 58: mRNA

Chain z:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	6937	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1200	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	11.607	Depositor
Minimum map value	-7.178	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	1.5	Depositor
Map size (Å)	334.08, 334.08, 334.08	wwPDB
Map dimensions	288, 288, 288	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.16, 1.16, 1.16	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 4OC, 5MU, 5MC, OMG, MA6, FME, 2MA, ZN, PSU, 1MG, G7M, OMU, UR3, MIA, 2MG, 6MZ, OMC, AM2, H2U, 4SU

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	0	0.59	0/450	0.79	1/599 (0.2%)
2	1	0.34	0/416	0.61	0/554
3	2	0.52	0/380	0.80	0/498
4	3	0.60	0/513	1.01	2/676 (0.3%)
5	4	0.43	0/303	0.66	0/397
6	5	0.24	0/646	0.64	0/898
7	6	0.64	1/531 (0.2%)	1.04	2/709 (0.3%)
8	A	0.49	0/69266	0.53	9/108055 (0.0%)
9	B	0.42	0/2873	0.49	0/4478
10	C	0.51	0/2121	0.78	2/2852 (0.1%)
11	D	0.48	0/1586	0.77	2/2134 (0.1%)
12	E	0.46	0/1571	0.64	0/2113
13	F	0.47	0/1434	0.72	0/1926
14	G	0.40	0/1343	0.70	2/1816 (0.1%)
15	H	0.39	0/1122	0.76	2/1515 (0.1%)
16	I	0.26	0/692	0.67	0/960
17	J	0.46	0/1152	0.64	0/1551
18	K	0.41	0/947	0.72	0/1268
19	L	0.54	0/1054	0.88	3/1403 (0.2%)
20	M	0.47	0/1093	0.69	0/1460
21	N	0.45	0/973	0.74	0/1301
22	O	0.49	0/902	0.79	1/1209 (0.1%)
23	P	0.49	0/929	0.75	2/1242 (0.2%)
24	Q	0.58	0/960	0.76	1/1278 (0.1%)
25	R	0.52	0/829	0.89	5/1107 (0.5%)
26	S	0.59	0/864	0.90	0/1156
27	T	0.48	0/744	0.82	1/994 (0.1%)
28	U	0.50	0/787	0.86	2/1051 (0.2%)
29	V	0.42	0/766	0.60	0/1025
30	W	0.43	0/582	0.69	0/769
31	X	0.48	0/635	0.97	2/848 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	Y	0.53	0/510	1.08	2/677 (0.3%)
33	Z	0.41	0/453	0.63	0/605
34	a	0.44	1/36725 (0.0%)	0.52	6/57285 (0.0%)
35	b	0.41	0/1735	0.65	0/2338
36	c	0.38	0/1651	0.64	0/2225
37	d	0.40	0/1665	0.77	3/2227 (0.1%)
38	e	0.41	0/1154	0.65	0/1554
39	f	0.34	0/835	0.66	0/1128
40	g	0.38	0/1195	0.67	0/1602
41	h	0.44	0/989	0.69	0/1326
42	i	0.47	0/1034	0.81	0/1375
43	j	0.44	1/796 (0.1%)	0.76	0/1077
44	k	0.42	0/885	0.70	0/1195
45	l	0.41	0/969	0.70	0/1300
46	m	0.42	0/892	0.79	1/1193 (0.1%)
47	n	0.53	0/811	1.05	5/1081 (0.5%)
48	o	0.42	0/722	0.68	0/964
49	p	0.37	0/659	0.71	0/884
50	q	0.40	0/657	0.67	0/881
51	r	0.41	0/544	0.70	0/731
52	s	0.63	0/675	1.07	3/908 (0.3%)
53	t	0.45	0/671	0.62	0/888
54	u	0.47	0/512	0.83	0/683
55	v	0.39	0/1745	0.48	0/2716
56	w	0.41	1/1650 (0.1%)	0.53	0/2569
57	y	0.40	0/11	0.41	0/13
58	z	0.41	0/255	0.71	1/394 (0.3%)
All	All	0.47	4/158864 (0.0%)	0.59	60/237661 (0.0%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	6	5	ILE	C-N	-7.07	1.23	1.33
56	w	46	G7M	O3'-P	6.58	1.62	1.56
34	a	1498	UR3	O3'-P	6.00	1.62	1.56
43	j	56	HIS	N-CA	5.76	1.50	1.46

All (60) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1196	A	C2'-C3'-O3'	14.57	131.35	109.50
31	X	28	PHE	CA-C-N	-13.96	99.47	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	X	28	PHE	C-N-CA	-13.96	99.47	122.65
34	a	1053	G	O3'-P-O5'	-12.34	85.50	104.00
47	n	39	GLU	N-CA-C	-10.28	99.49	114.39
37	d	79	ALA	N-CA-C	-9.58	100.84	111.28
52	s	41	PRO	N-CA-C	-9.09	100.89	113.53
25	R	52	PRO	N-CA-C	-8.60	101.57	113.53
19	L	60	ARG	CA-C-N	-8.07	105.02	121.48
19	L	60	ARG	C-N-CA	-8.07	105.02	121.48
10	C	132	ARG	N-CA-C	-7.59	104.15	113.41
32	Y	19	LEU	N-CA-C	-7.54	102.91	112.93
25	R	48	LYS	N-CA-C	-7.39	101.57	110.44
24	Q	23	TYR	CB-CA-C	7.20	121.97	109.65
25	R	49	ILE	N-CA-C	7.18	117.94	110.62
25	R	39	LEU	N-CA-C	6.86	118.55	111.14
28	U	81	ARG	CA-C-N	-6.82	114.25	123.12
28	U	81	ARG	C-N-CA	-6.82	114.25	123.12
4	3	30	HIS	N-CA-C	6.75	118.29	111.07
8	A	2550	G	C4'-C3'-O3'	-6.71	102.94	113.00
15	H	108	VAL	N-CA-C	-6.65	105.85	112.17
10	C	207	ALA	N-CA-C	-6.59	104.10	111.28
34	a	1054	C	O5'-P-OP1	6.56	127.67	108.00
8	A	819	A	C2'-C3'-O3'	-6.55	103.88	113.70
14	G	109	SER	N-CA-C	-6.53	106.53	114.75
47	n	41	ARG	N-CA-C	-6.44	106.05	114.04
37	d	76	LYS	N-CA-C	-6.36	104.34	111.28
34	a	1053	G	OP1-P-O3'	-6.36	88.94	108.00
46	m	101	THR	CA-CB-OG1	-6.28	100.18	109.60
47	n	60	GLN	CA-C-N	-6.04	113.63	122.86
47	n	60	GLN	C-N-CA	-6.04	113.63	122.86
52	s	66	VAL	N-CA-C	-5.99	108.02	113.71
27	T	13	ALA	N-CA-C	5.94	113.56	108.22
8	A	1235	G	C2'-C3'-O3'	-5.91	104.84	113.70
8	A	2572	A	C2'-C3'-O3'	5.82	118.22	109.50
19	L	38	GLN	N-CA-C	-5.76	105.00	111.28
4	3	37	THR	N-CA-C	-5.73	105.04	111.28
34	a	1053	G	OP2-P-O3'	-5.67	90.99	108.00
8	A	504	A	C2'-C3'-O3'	5.62	122.13	113.70
1	0	39	ARG	CA-C-O	-5.56	114.79	120.80
14	G	108	PHE	N-CA-C	-5.55	104.87	111.03
7	6	41	HIS	N-CA-C	-5.43	100.71	109.40
11	D	163	GLY	N-CA-C	5.43	117.04	111.56
8	A	2049	G	C4'-C3'-O3'	-5.40	104.90	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	6	47	LYS	N-CA-C	-5.38	105.35	112.34
8	A	479	A	C4'-C3'-O3'	5.34	117.41	109.40
22	O	54	VAL	N-CA-C	-5.33	107.11	112.17
32	Y	20	ASN	N-CA-C	-5.33	105.55	111.36
37	d	163	GLN	N-CA-C	-5.33	106.36	112.86
58	z	-2	A	C2'-C3'-O3'	-5.32	105.72	113.70
8	A	1921	G	C2'-C3'-O3'	-5.32	105.72	113.70
8	A	2571	U	C2'-C3'-O3'	-5.31	105.74	113.70
15	H	110	VAL	N-CA-C	5.29	115.47	107.75
34	a	644	U	C4'-C3'-O3'	5.16	120.74	113.00
52	s	19	GLU	N-CA-C	-5.16	105.55	111.07
11	D	136	ASN	N-CA-C	5.07	117.65	110.50
25	R	40	MET	CA-C-O	-5.07	115.81	121.23
23	P	76	HIS	CA-C-N	-5.05	105.79	120.69
23	P	76	HIS	C-N-CA	-5.05	105.79	120.69
47	n	45	VAL	N-CA-C	-5.01	104.78	111.05

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	444	0	461	43	0
2	1	409	0	440	52	0
3	2	377	0	418	62	0
4	3	504	0	574	71	0
5	4	302	0	341	46	0
6	5	647	0	336	19	0
7	6	522	0	521	68	0
8	A	62317	0	31359	6655	0
9	B	2570	0	1301	238	0
10	C	2082	0	2157	313	0
11	D	1565	0	1616	233	0
12	E	1552	0	1619	174	0
13	F	1410	0	1447	169	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	G	1323	0	1374	135	0
15	H	1111	0	1148	101	0
16	I	693	0	347	17	0
17	J	1129	0	1162	129	0
18	K	938	0	1012	137	0
19	L	1045	0	1117	134	0
20	M	1074	0	1157	131	0
21	N	960	0	1000	155	0
22	O	892	0	923	95	0
23	P	917	0	965	130	0
24	Q	947	0	1022	126	0
25	R	816	0	839	106	0
26	S	857	0	922	77	0
27	T	738	0	807	83	0
28	U	779	0	834	78	0
29	V	753	0	780	85	0
30	W	575	0	592	81	0
31	X	625	0	655	94	0
32	Y	509	0	543	37	0
33	Z	449	0	491	39	0
34	a	33050	0	16655	3445	0
35	b	1704	0	1732	140	0
36	c	1624	0	1699	185	0
37	d	1643	0	1710	198	0
38	e	1141	0	1170	130	0
39	f	817	0	808	108	0
40	g	1181	0	1240	85	0
41	h	979	0	1034	94	0
42	i	1022	0	1070	121	0
43	j	786	0	828	101	0
44	k	869	0	878	130	0
45	l	955	0	1019	131	0
46	m	883	0	944	109	0
47	n	799	0	841	86	0
48	o	714	0	737	81	0
49	p	649	0	666	67	0
50	q	648	0	691	67	0
51	r	535	0	552	83	0
52	s	658	0	685	91	0
53	t	665	0	714	79	0
54	u	506	0	502	27	0
55	v	1642	0	839	168	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
56	w	1631	0	838	142	0
57	y	21	0	19	3	0
58	z	230	0	116	12	0
59	4	1	0	0	0	0
59	6	1	0	0	0	0
60	a	37	0	41	4	0
All	All	147222	0	98308	14599	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 61.

All (14599) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:524:G:H2'	8:A:525:U:C5'	0.90	1.38
7:6:61:ASN:ND2	7:6:64:PHE:CD1	1.94	1.34
8:A:524:G:C2'	8:A:525:U:H5"	0.84	1.31
8:A:53:A:H62	8:A:117:G:N2	1.26	1.29
8:A:1299:G:N2	8:A:1641:A:H62	1.25	1.29
8:A:53:A:N6	8:A:117:G:H21	1.27	1.28
34:a:1417:G:N2	34:a:1483:A:N6	1.84	1.25
8:A:1800:C:N3	8:A:1817:G:N2	1.84	1.24
8:A:1358:G:N2	8:A:1373:A:H62	1.34	1.23
8:A:1299:G:H21	8:A:1641:A:N6	1.35	1.23
8:A:1687:G:N2	8:A:1701:A:H62	1.36	1.22
8:A:713:G:N2	8:A:718:A:H62	1.38	1.21
8:A:1687:G:H21	8:A:1701:A:N6	1.35	1.20
8:A:446:G:H21	8:A:454:A:N6	1.41	1.18
8:A:534:U:O4	8:A:559:G:O6	1.62	1.17
34:a:663:A:N6	34:a:742:G:H1	1.40	1.16
8:A:243:U:N3	8:A:255:A:C8	2.13	1.16
8:A:776:G:O6	8:A:2072:C:OP1	1.58	1.16
8:A:713:G:H21	8:A:718:A:N6	1.44	1.15
8:A:1358:G:H21	8:A:1373:A:N6	1.40	1.15
34:a:438:U:C2	34:a:496:A:N6	2.15	1.15
7:6:18:CYS:HB2	7:6:40:CYS:CB	1.68	1.14
8:A:524:G:C2	8:A:525:U:C1'	2.30	1.14
8:A:1352:U:H3	8:A:1378:A:N6	1.42	1.13
9:B:72:G:N2	9:B:104:A:H62	1.45	1.13
8:A:538:A:H62	8:A:555:G:N2	1.46	1.11
8:A:1968:G:OP1	8:A:2592:G:OP1	1.69	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:524:G:N3	8:A:525:U:O4’	1.82	1.10
8:A:298:G:N2	8:A:340:A:H62	1.48	1.10
8:A:446:G:N2	8:A:454:A:H61	1.49	1.10
34:a:520:A:H62	34:a:529:G:N2	1.48	1.09
8:A:1254:A:OP2	8:A:1256:G:H8	1.33	1.09
34:a:146:G:N2	34:a:177:G:N7	2.01	1.08
8:A:1690:A:H62	8:A:1697:G:N2	1.50	1.08
8:A:524:G:C3’	8:A:525:U:H5”	1.83	1.07
9:B:72:G:H21	9:B:104:A:N6	1.50	1.07
55:v:15:G:N2	55:v:48:C:H42	1.50	1.07
8:A:524:G:H2’	8:A:525:U:C4’	1.84	1.06
24:Q:26:ALA:HA	24:Q:29:ARG:HB2	1.37	1.06
8:A:524:G:H2’	8:A:525:U:H5’	1.34	1.06
34:a:448:A:N6	34:a:486:U:C2	2.23	1.06
8:A:2019:A:N6	8:A:2035:G:H1	1.53	1.06
55:v:15:G:H22	55:v:48:C:N4	1.52	1.06
8:A:2711:A:OP2	8:A:2714:G:OP2	1.74	1.05
8:A:2297:A:N6	8:A:2319:G:N3	2.05	1.04
34:a:1440:U:H3	34:a:1461:G:H1	1.05	1.04
8:A:15:G:N1	8:A:525:U:O2	1.90	1.04
7:6:49:ARG:NH1	7:6:50:ASP:OD1	1.91	1.04
8:A:2056:G:OP2	8:A:2057:G:OP2	1.75	1.04
8:A:524:G:C2	8:A:525:U:H1’	1.91	1.03
8:A:538:A:N6	8:A:555:G:H21	1.55	1.03
8:A:524:G:N2	8:A:525:U:H1’	1.71	1.03
8:A:196:A:H61	8:A:831:G:N2	1.56	1.02
8:A:784:G:OP1	8:A:2588:G:OP1	1.77	1.02
8:A:1007:C:H3’	8:A:1008:A:H2’	1.40	1.02
8:A:2810:A:H62	8:A:2890:G:N2	1.56	1.02
8:A:999:U:H3	8:A:1155:A:N6	1.56	1.01
34:a:151:A:N6	34:a:170:U:H3	1.58	1.01
8:A:1071:G:N2	8:A:1089:A:H61	1.58	1.01
34:a:1113:C:H4’	36:c:13:ILE:HG12	1.42	1.01
8:A:1056:G:C2	8:A:1103:A:C6	2.48	1.01
8:A:450:G:O6	8:A:453:A:OP1	1.75	1.01
8:A:1056:G:N2	8:A:1103:A:C5	2.29	1.01
8:A:2562:U:C2	8:A:2566:A:N6	2.29	1.01
34:a:1417:G:H21	34:a:1483:A:N6	1.52	1.00
8:A:244:A:H62	8:A:254:G:N2	1.57	1.00
8:A:2099:U:H3	8:A:2190:G:H1	1.10	1.00
8:A:2298:A:H62	8:A:2318:G:N2	1.58	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:784:G:OP2	8:A:2589:A:OP1	1.78	0.99
34:a:1006:G:N1	34:a:1022:A:C2	2.31	0.99
7:6:18:CYS:HB2	7:6:40:CYS:HB3	1.26	0.99
55:v:69:C:H2'	55:v:70:G:H8	1.27	0.99
8:A:581:C:H2'	8:A:582:A:H8	1.26	0.99
8:A:1254:A:OP2	8:A:1256:G:C8	2.15	0.99
8:A:1869:G:N2	8:A:1872:A:N7	2.09	0.99
34:a:1085:U:OP2	34:a:1086:U:O4	1.81	0.99
7:6:59:ARG:HA	7:6:62:LYS:HG2	1.45	0.99
8:A:75:G:N1	8:A:111:A:C2	2.30	0.99
8:A:1053:C:O2	8:A:1106:G:N2	1.96	0.98
34:a:116:A:OP2	34:a:289:G:OP2	1.81	0.98
56:w:9:A:N6	56:w:23:A:N7	2.11	0.98
34:a:151:A:N6	34:a:170:U:C2	2.31	0.98
52:s:17:LYS:HA	52:s:20:LYS:HD2	1.45	0.98
8:A:1265:A:OP2	8:A:2615:U:OP1	1.82	0.98
34:a:458:U:H3	34:a:474:G:H1	1.11	0.98
8:A:298:G:H21	8:A:340:A:H62	0.99	0.98
8:A:776:G:C6	8:A:2072:C:OP1	2.16	0.98
8:A:1040:A:N6	8:A:1115:G:H1	1.61	0.98
8:A:1800:C:H42	8:A:1817:G:H21	1.09	0.98
8:A:1056:G:C2	8:A:1103:A:C5	2.52	0.98
8:A:244:A:N6	8:A:254:G:H21	1.61	0.97
8:A:2810:A:N6	8:A:2890:G:H21	1.62	0.97
8:A:1418:G:H21	8:A:1580:A:N6	1.62	0.97
34:a:1444:U:H3	34:a:1458:G:H1	1.11	0.97
34:a:1426:G:N1	34:a:1474:U:N3	2.11	0.97
8:A:598:U:H2'	8:A:599:A:H8	1.27	0.97
8:A:696:G:H1	8:A:766:U:H3	1.02	0.97
8:A:2562:U:N3	8:A:2566:A:N6	2.13	0.97
8:A:243:U:C2	8:A:255:A:N7	2.33	0.96
8:A:1071:G:H21	8:A:1089:A:N6	1.62	0.96
8:A:2111:U:H1'	8:A:2118:U:H1'	1.46	0.96
8:A:243:U:N3	8:A:255:A:N7	2.12	0.96
34:a:520:A:N6	34:a:529:G:N2	2.12	0.96
34:a:1157:A:N6	34:a:1178:G:N3	2.13	0.96
5:4:23:ILE:HB	5:4:38:GLY:HA3	1.48	0.96
8:A:1287:A:H3'	8:A:1288:G:H21	1.30	0.96
8:A:1690:A:N6	8:A:1697:G:H21	1.60	0.96
55:v:8:4SU:N3	55:v:14:A:N7	2.13	0.96
8:A:1862:G:H1	8:A:1880:U:H3	1.00	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:52:HIS:CE1	10:C:218:THR:HG23	1.99	0.96
8:A:60:G:N2	8:A:88:G:N7	2.14	0.95
34:a:149:A:N1	34:a:172:A:N6	2.14	0.95
34:a:1445:U:H3	34:a:1457:G:H1	1.00	0.95
8:A:1056:G:C4	8:A:1103:A:N6	2.35	0.95
8:A:1428:C:N4	8:A:1570:A:OP2	1.99	0.95
8:A:375:G:H1	8:A:399:U:H3	1.11	0.95
8:A:2142:A:N6	8:A:2150:C:O2	2.00	0.95
8:A:641:U:N3	8:A:647:G:O6	2.00	0.95
3:2:1:MET:SD	3:2:3:ARG:NH2	2.40	0.95
34:a:1445:U:O2	34:a:1457:G:N2	1.99	0.94
8:A:158:U:H3	8:A:168:G:H1	0.95	0.94
8:A:1259:G:H2'	8:A:1260:A:H8	1.32	0.94
56:w:5:G:N2	56:w:68:C:O2	1.99	0.94
8:A:2526:G:H1	8:A:2537:U:H3	0.97	0.94
8:A:534:U:H3	8:A:559:G:H1	1.02	0.94
11:D:115:GLY:O	21:N:3:HIS:CE1	2.20	0.94
22:O:90:VAL:HG23	22:O:117:PHE:HB3	1.50	0.94
34:a:1012:A:C6	34:a:1018:G:C6	2.55	0.94
7:6:61:ASN:ND2	7:6:64:PHE:HD1	1.59	0.94
8:A:1053:C:N3	8:A:1106:G:N1	2.16	0.94
34:a:79:G:C2	34:a:90:C:C2	2.56	0.94
34:a:1006:G:N1	34:a:1022:A:H2	1.62	0.94
41:h:12:ARG:HB3	41:h:24:VAL:HG11	1.48	0.94
8:A:1468:U:H3	8:A:1524:G:H1	0.96	0.94
34:a:151:A:N6	34:a:170:U:O2	2.00	0.94
8:A:524:G:C3'	8:A:525:U:C5'	2.42	0.94
8:A:2528:U:H3	8:A:2535:G:H1	0.95	0.94
40:g:74:VAL:HA	40:g:87:PRO:HA	1.49	0.94
8:A:15:G:O6	8:A:525:U:N3	2.00	0.93
52:s:38:THR:HA	52:s:69:LYS:HA	1.49	0.93
14:G:85:LYS:HB2	14:G:164:ALA:HA	1.48	0.93
8:A:2810:A:N6	8:A:2890:G:N2	2.14	0.93
8:A:460:A:N6	8:A:469:G:H21	1.67	0.93
8:A:1029:A:N6	8:A:1125:G:N2	2.15	0.93
34:a:1006:G:H1	34:a:1022:A:H2	1.09	0.93
8:A:2130:U:H4'	8:A:2134:A:H4'	1.50	0.93
8:A:1203:U:N3	8:A:1242:U:O4	2.02	0.93
37:d:56:GLU:HA	37:d:59:LYS:HD2	1.48	0.93
8:A:676:A:N7	8:A:802:A:N6	2.16	0.93
34:a:1351:U:H3	34:a:1371:G:H1	0.98	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:158:U:H3'	8:A:159:G:H8	1.33	0.93
8:A:1800:C:H42	8:A:1817:G:N2	1.66	0.93
8:A:1782:U:OP1	8:A:1783:A:OP2	1.87	0.92
34:a:323:U:C6	34:a:323:U:OP2	2.23	0.92
8:A:1418:G:N2	8:A:1580:A:C6	2.37	0.92
34:a:119:A:N7	34:a:287:U:O2	2.02	0.92
8:A:2100:G:N1	8:A:2189:U:O2	2.00	0.92
34:a:448:A:N6	34:a:486:U:N3	2.15	0.92
56:w:6:G:N2	56:w:67:C:O2	2.00	0.92
34:a:664:G:H22	34:a:741:G:H1	1.17	0.92
34:a:796:C:H2'	34:a:797:C:H6	1.32	0.92
56:w:9:A:N7	56:w:23:A:N6	2.18	0.92
11:D:39:ASP:O	11:D:43:ASP:HB2	1.68	0.92
25:R:58:VAL:H	25:R:102:SER:HB2	1.33	0.92
34:a:886:G:H1	34:a:911:U:H3	1.16	0.92
34:a:1415:G:O6	34:a:1485:U:O4	1.86	0.92
35:b:87:ASP:HB3	35:b:224:ARG:HH22	1.32	0.92
8:A:298:G:H21	8:A:340:A:N6	1.67	0.92
34:a:409:U:H3	34:a:433:G:H1	1.16	0.92
34:a:925:G:H1	34:a:1391:U:H3	0.98	0.92
34:a:744:C:H2'	34:a:745:G:C8	2.05	0.92
23:P:96:LEU:HB3	23:P:99:LEU:HD12	1.51	0.91
8:A:1047:G:N2	8:A:1111:A:N7	2.17	0.91
34:a:1086:U:H2'	34:a:1087:G:H8	1.31	0.91
40:g:132:THR:HA	40:g:135:LYS:HD2	1.51	0.91
8:A:284:U:H3	8:A:356:G:H1	1.05	0.91
8:A:524:G:O2'	8:A:525:U:H5"	1.70	0.91
34:a:627:G:H2'	34:a:628:G:H8	1.36	0.91
36:c:34:SER:OG	36:c:58:ARG:NH1	2.04	0.91
34:a:152:A:N6	34:a:169:C:N3	2.18	0.91
13:F:147:ARG:HE	13:F:149:ARG:HB3	1.35	0.91
8:A:1259:G:H2'	8:A:1260:A:C8	2.06	0.91
34:a:520:A:N6	34:a:529:G:C2	2.39	0.91
8:A:2209:G:H3'	8:A:2210:U:H2'	1.51	0.90
9:B:73:A:H62	9:B:103:U:H3	0.96	0.90
10:C:74:PRO:HA	10:C:116:GLN:HB3	1.53	0.90
34:a:1420:U:H3'	34:a:1421:G:H8	1.35	0.90
8:A:534:U:N3	8:A:559:G:N1	2.10	0.90
8:A:1042:G:N1	8:A:1113:U:N3	2.18	0.90
34:a:416:G:H1	34:a:427:U:H3	0.94	0.90
34:a:137:U:H3	34:a:226:G:H1	0.91	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:151:A:N6	34:a:170:U:N3	2.15	0.90
34:a:1426:G:N2	34:a:1474:U:O2	2.05	0.90
8:A:1501:G:H2'	8:A:1502:A:H8	1.36	0.90
8:A:676:A:N6	8:A:802:A:N1	2.19	0.90
34:a:935:A:N1	40:g:2:ARG:NH1	2.19	0.90
8:A:459:U:H3	8:A:470:A:H62	1.08	0.90
25:R:63:VAL:HA	25:R:96:VAL:HG12	1.53	0.90
8:A:75:G:N1	8:A:111:A:H2	1.67	0.90
8:A:1445:G:O6	8:A:1466:U:O2	1.89	0.90
9:B:15:A:H3'	9:B:16:G:H8	1.36	0.90
18:K:43:ILE:HB	18:K:55:GLY:H	1.36	0.90
34:a:823:C:H2'	34:a:824:G:H8	1.37	0.90
8:A:1718:G:H1	8:A:1742:U:H3	0.93	0.90
44:k:63:GLN:HG3	44:k:98:ALA:HB2	1.54	0.90
8:A:247:G:HO2'	8:A:386:G:H1	0.94	0.90
8:A:660:C:H2'	8:A:661:A:H8	1.36	0.90
8:A:1687:G:N2	8:A:1701:A:N7	2.19	0.90
8:A:2345:G:O6	8:A:2371:G:N2	2.05	0.90
8:A:1779:U:O2	8:A:1783:A:N6	2.05	0.89
8:A:2289:G:O6	8:A:2343:U:C2	2.25	0.89
11:D:119:ALA:HB1	11:D:123:LYS:HB3	1.54	0.89
8:A:2619:C:H5"	11:D:157:LYS:HG2	1.51	0.89
34:a:416:G:H2'	34:a:417:G:H8	1.36	0.89
34:a:1425:U:H3	34:a:1475:G:H1	1.20	0.89
45:l:53:ARG:HA	45:l:63:THR:HA	1.54	0.89
8:A:196:A:N6	8:A:831:G:H21	1.69	0.89
8:A:695:G:H1	8:A:767:U:H3	1.01	0.89
8:A:2821:A:OP2	8:A:2822:G:OP2	1.91	0.89
8:A:519:U:H2'	8:A:520:G:H8	1.36	0.89
34:a:114:U:H2'	34:a:115:G:C8	2.08	0.89
4:3:9:ALA:HA	4:3:12:ARG:HB2	1.53	0.89
8:A:1310:G:H3'	8:A:1311:G:H8	1.36	0.89
8:A:1690:A:H62	8:A:1697:G:H21	0.89	0.89
8:A:1040:A:H61	8:A:1115:G:H1	0.92	0.89
8:A:1291:C:H2'	8:A:1292:G:H8	1.37	0.89
34:a:509:A:O2'	34:a:510:A:O4'	1.91	0.89
34:a:843:U:H4'	34:a:844:G:H5"	1.55	0.89
8:A:2813:A:H2'	8:A:2814:A:H8	1.38	0.88
8:A:2818:U:O2	8:A:2828:G:N2	2.06	0.88
34:a:1351:U:O2	34:a:1371:G:N2	2.06	0.88
8:A:1770:G:H1	8:A:1982:U:H3	0.98	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1800:C:C4	8:A:1817:G:N2	2.39	0.88
8:A:1853:A:H2'	8:A:1854:A:C8	2.08	0.88
8:A:2898:U:H2'	8:A:2899:A:H8	1.38	0.88
34:a:581:G:H3'	34:a:758:C:H42	1.36	0.88
8:A:2861:U:H2'	8:A:2862:G:H8	1.39	0.88
37:d:104:MET:HG3	37:d:170:LEU:HD13	1.54	0.88
23:P:26:GLU:HG2	23:P:43:GLU:HB3	1.55	0.88
8:A:200:U:OP1	31:X:22:ASN:ND2	2.06	0.88
8:A:1554:U:C2	8:A:1634:A:N7	2.41	0.88
34:a:174:A:OP2	34:a:175:C:OP2	1.90	0.88
34:a:711:G:H2'	34:a:712:A:H8	1.37	0.88
8:A:2221:G:H2'	8:A:2222:C:C6	2.09	0.88
13:F:110:ILE:HB	13:F:113:PHE:HB2	1.55	0.88
17:J:68:LYS:HA	17:J:71:ASP:HB2	1.56	0.88
34:a:1298:U:O2	34:a:1299:A:N6	2.06	0.88
8:A:2857:G:N2	8:A:2860:A:OP2	2.06	0.88
34:a:151:A:H62	34:a:170:U:H3	0.89	0.88
34:a:1418:A:H2'	34:a:1419:G:C8	2.09	0.88
8:A:2615:U:H2'	8:A:2616:C:H6	1.38	0.88
34:a:1124:G:N2	34:a:1125:U:O4	2.06	0.88
34:a:1417:G:C2	34:a:1483:A:N6	2.40	0.88
10:C:20:ASN:HD22	10:C:23:LEU:HG	1.39	0.87
49:p:18:GLN:HA	49:p:38:PHE:HA	1.54	0.87
8:A:679:C:N3	8:A:799:G:N2	2.20	0.87
17:J:16:TYR:HB3	17:J:140:LEU:HB2	1.57	0.87
8:A:460:A:H62	8:A:469:G:N2	1.71	0.87
34:a:634:C:H2'	34:a:635:A:H8	1.40	0.87
35:b:14:HIS:HB2	35:b:202:ASN:HB2	1.56	0.87
35:b:119:GLN:HA	35:b:123:GLY:HA3	1.56	0.87
46:m:22:TYR:HB3	46:m:65:GLU:HA	1.56	0.87
8:A:373:U:H3	8:A:401:A:N6	1.70	0.87
34:a:1426:G:N1	34:a:1474:U:C2	2.42	0.87
34:a:64:G:N1	34:a:68:G:O6	2.06	0.87
56:w:6:G:N1	56:w:67:C:N3	2.23	0.87
11:D:55:LYS:HG3	11:D:77:ARG:HB3	1.55	0.87
20:M:34:LYS:HA	20:M:101:VAL:HA	1.55	0.87
8:A:1644:C:H2'	8:A:1645:G:H8	1.40	0.87
8:A:1800:C:N4	8:A:1817:G:N2	2.23	0.87
8:A:1825:U:H2'	8:A:1826:G:H8	1.40	0.87
8:A:2111:U:HO2'	8:A:2118:U:HO2'	1.07	0.87
34:a:458:U:O2	34:a:474:G:N2	2.08	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:536:C:H2'	34:a:537:G:H8	1.40	0.87
34:a:1487:G:H2'	34:a:1488:G:H8	1.40	0.87
55:v:20:H2U:H61	55:v:21:A:H4'	1.54	0.87
7:6:7:PRO:HG2	13:F:61:GLY:HA2	1.55	0.86
8:A:534:U:C4	8:A:559:G:O6	2.27	0.86
8:A:540:C:H2'	8:A:541:A:H8	1.38	0.86
8:A:558:U:H5'	17:J:114:LEU:HD22	1.57	0.86
55:v:15:G:H22	55:v:48:C:H42	0.88	0.86
22:O:67:ASN:H	22:O:70:ALA:HB3	1.40	0.86
34:a:1381:U:H3	40:g:77:ARG:HG2	1.40	0.86
36:c:155:ARG:HD3	36:c:192:TYR:HB3	1.54	0.86
34:a:744:C:H2'	34:a:745:G:H8	1.36	0.86
8:A:585:G:H2'	8:A:1251:C:H42	1.37	0.86
8:A:1299:G:N2	8:A:1641:A:N6	2.05	0.86
8:A:1418:G:N2	8:A:1580:A:C5	2.44	0.86
17:J:56:VAL:HB	17:J:124:VAL:HA	1.56	0.86
8:A:1166:G:H2'	8:A:1167:C:C6	2.10	0.86
15:H:133:GLN:HE22	15:H:138:VAL:H	1.20	0.86
34:a:1012:A:N6	34:a:1018:G:O6	2.09	0.86
4:3:12:ARG:NH2	19:L:61:LEU:O	2.09	0.86
8:A:244:A:H62	8:A:254:G:H21	0.87	0.86
9:B:37:C:O2	22:O:100:HIS:NE2	2.09	0.86
15:H:127:GLU:HA	15:H:145:ASN:HB3	1.56	0.86
34:a:222:C:H2'	34:a:223:A:H8	1.38	0.86
8:A:373:U:H3	8:A:401:A:H62	0.87	0.86
21:N:77:ALA:O	21:N:81:ASN:HB2	1.74	0.86
34:a:663:A:N1	34:a:742:G:N2	2.23	0.86
34:a:719:C:N3	51:r:62:ARG:NH2	2.24	0.86
8:A:2182:U:H2'	8:A:2183:A:H8	1.39	0.86
14:G:136:ASP:OD1	14:G:139:VAL:N	2.08	0.86
34:a:940:C:H2'	34:a:941:G:C8	2.10	0.86
8:A:1109:C:H2'	8:A:1110:G:C8	2.10	0.86
34:a:187:G:N2	34:a:190:A:OP2	2.09	0.86
34:a:657:U:H2'	34:a:658:C:H6	1.41	0.86
31:X:26:ARG:HH21	31:X:28:PHE:HA	1.40	0.86
8:A:75:G:O6	8:A:111:A:N1	2.09	0.85
8:A:1422:G:N1	8:A:1576:U:N3	2.20	0.85
3:2:14:ARG:NH1	8:A:1377:G:O2'	2.09	0.85
8:A:2659:G:H1'	8:A:2662:A:H61	1.39	0.85
9:B:5:U:H2'	9:B:6:G:H8	1.40	0.85
8:A:193:U:O4	8:A:202:U:N3	2.09	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1215:G:H1	8:A:1234:U:H3	1.24	0.85
8:A:1724:G:O6	8:A:1737:G:N2	2.09	0.85
3:2:39:ARG:NH2	8:A:468:G:N7	2.23	0.85
8:A:2000:C:H2'	8:A:2001:C:H6	1.40	0.85
34:a:1268:G:N2	34:a:1326:U:O2	2.09	0.85
34:a:1444:U:O2	34:a:1458:G:N2	2.10	0.85
56:w:22:G:O6	56:w:46:G7M:N2	2.10	0.85
11:D:46:ARG:HB3	11:D:84:LEU:HD12	1.58	0.85
34:a:1053:G:H4'	34:a:1054:C:H3'	1.59	0.85
34:a:122:G:N2	34:a:290:C:O2'	2.10	0.85
34:a:674:G:N1	34:a:716:A:C2	2.43	0.85
8:A:1352:U:O4	8:A:1378:A:N7	2.08	0.85
20:M:21:ALA:HB2	20:M:97:GLN:HB2	1.59	0.85
8:A:598:U:H2'	8:A:599:A:C8	2.11	0.85
8:A:640:C:H2'	8:A:641:U:C6	2.12	0.85
8:A:1031:G:H2'	8:A:1032:A:C8	2.11	0.85
8:A:1802:A:H2'	8:A:1803:A:C8	2.12	0.85
10:C:152:GLN:HA	10:C:155:ARG:HD3	1.58	0.85
40:g:149:ALA:HA	44:k:60:PHE:HB3	1.58	0.85
7:6:1:MET:N	9:B:44:G:OP1	2.09	0.85
8:A:75:G:H1	8:A:111:A:H2	0.90	0.85
8:A:196:A:N6	8:A:831:G:N2	2.23	0.85
8:A:263:G:H2'	8:A:264:C:O4'	1.77	0.85
8:A:1093:G:H21	8:A:1094:U:H1'	1.42	0.85
18:K:21:CYS:HB2	18:K:41:ILE:HG22	1.59	0.85
26:S:74:ILE:HB	26:S:105:VAL:HG13	1.58	0.85
8:A:959:A:N6	20:M:82:MET:SD	2.49	0.84
30:W:15:LYS:O	30:W:35:ARG:NH2	2.09	0.84
34:a:751:U:H3'	34:a:752:G:H8	1.41	0.84
8:A:764:A:N3	10:C:211:ARG:NH2	2.24	0.84
8:A:2011:U:OP2	26:S:16:LYS:NZ	2.09	0.84
34:a:85:U:H5'	34:a:86:G:H5'	1.57	0.84
34:a:192:A:N3	53:t:54:GLN:NE2	2.26	0.84
8:A:2019:A:N1	8:A:2035:G:N2	2.23	0.84
35:b:124:THR:HA	35:b:127:LYS:HE2	1.58	0.84
8:A:2298:A:N6	8:A:2318:G:N2	2.25	0.84
8:A:2595:G:N2	8:A:2598:A:OP2	2.09	0.84
11:D:110:THR:HB	11:D:202:ILE:HB	1.58	0.84
37:d:67:LEU:O	37:d:71:PHE:HB2	1.78	0.84
8:A:2825:G:N2	8:A:2826:A:N7	2.26	0.84
8:A:2845:U:O4	8:A:2871:U:N3	2.09	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:e:15:ILE:HB	38:e:35:LEU:HB3	1.59	0.84
8:A:78:U:H3	8:A:108:G:H1	1.22	0.84
34:a:134:G:O6	49:p:25:ARG:NH2	2.10	0.84
34:a:244:U:O4	34:a:893:C:N3	2.10	0.84
8:A:524:G:N1	8:A:525:U:C2	2.46	0.84
8:A:1342:A:O2'	8:A:1344:U:OP1	1.96	0.84
8:A:1358:G:H21	8:A:1373:A:H62	0.84	0.84
11:D:46:ARG:HH21	11:D:86:GLU:HA	1.43	0.84
8:A:1748:C:H2'	8:A:1749:A:H8	1.42	0.84
12:E:52:VAL:O	12:E:74:LYS:NZ	2.11	0.84
34:a:520:A:N6	34:a:529:G:H21	1.75	0.84
34:a:671:G:O3'	39:f:79:ARG:NH1	2.10	0.84
7:6:61:ASN:HD22	7:6:64:PHE:HA	1.41	0.84
8:A:762:U:N3	8:A:1431:A:OP1	2.11	0.84
8:A:959:A:H2'	8:A:960:A:C8	2.13	0.84
8:A:1354:A:N6	8:A:1377:G:N2	2.25	0.84
32:Y:5:GLU:HA	32:Y:8:GLU:HG2	1.58	0.84
34:a:41:G:H2'	34:a:42:G:H8	1.40	0.84
8:A:281:C:H2'	8:A:282:A:H8	1.43	0.83
8:A:1926:U:H3	8:A:1929:G:H1	1.10	0.83
8:A:1999:C:H2'	8:A:2000:C:H6	1.42	0.83
10:C:140:VAL:HG12	10:C:191:LEU:HA	1.60	0.83
14:G:85:LYS:H	14:G:164:ALA:HB2	1.43	0.83
34:a:626:G:H2'	34:a:627:G:H8	1.42	0.83
34:a:690:G:N2	34:a:697:U:O4	2.11	0.83
34:a:1090:U:H2'	34:a:1091:U:C6	2.13	0.83
34:a:1192:C:OP2	36:c:2:GLN:NE2	2.09	0.83
8:A:705:A:OP2	8:A:726:G:N2	2.12	0.83
8:A:2820:A:HO2'	21:N:3:HIS:HD1	1.22	0.83
28:U:28:LEU:HG	28:U:30:SER:H	1.42	0.83
34:a:861:G:O6	34:a:869:G:N2	2.10	0.83
8:A:680:C:H2'	8:A:681:G:H8	1.43	0.83
8:A:1425:G:N2	8:A:1573:G:O6	2.10	0.83
34:a:377:G:H2'	34:a:378:G:C8	2.13	0.83
41:h:86:LYS:HG3	41:h:92:PRO:HD3	1.59	0.83
8:A:182:A:N6	8:A:215:G:O6	2.11	0.83
8:A:2298:A:N6	8:A:2318:G:H21	1.77	0.83
8:A:2591:C:H2'	8:A:2592:G:H8	1.44	0.83
9:B:22:U:H3	9:B:61:G:H1	0.85	0.83
22:O:89:ASP:HA	22:O:116:GLN:HB2	1.58	0.83
34:a:415:A:N6	34:a:428:G:O6	2.08	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:r:71:ASP:O	54:u:4:LYS:NZ	2.08	0.83
8:A:1919:A:H4'	8:A:1920:C:H5'	1.60	0.83
8:A:2460:U:N3	8:A:2492:U:O4	2.10	0.83
34:a:1249:C:O2	34:a:1288:A:N6	2.12	0.83
42:i:38:PHE:O	42:i:44:ARG:NH1	2.11	0.83
8:A:996:A:H2'	8:A:997:G:H8	1.42	0.83
8:A:1032:A:N1	8:A:1122:G:O6	2.11	0.83
8:A:1568:G:N7	10:C:27:LYS:NZ	2.27	0.83
20:M:100:LYS:NZ	20:M:101:VAL:O	2.11	0.83
50:q:60:ILE:HA	50:q:75:VAL:H	1.43	0.83
34:a:1426:G:C6	34:a:1474:U:N3	2.46	0.83
46:m:95:PRO:HG2	46:m:101:THR:HG22	1.61	0.83
51:r:59:LYS:HA	51:r:62:ARG:HD2	1.61	0.83
8:A:1418:G:N2	8:A:1580:A:N6	2.25	0.83
8:A:1679:A:H2'	8:A:1680:U:H6	1.43	0.83
12:E:146:VAL:HG21	12:E:187:VAL:HG23	1.61	0.83
31:X:44:ARG:NH1	31:X:45:PHE:O	2.11	0.83
34:a:390:U:H2'	34:a:391:G:H8	1.43	0.83
4:3:7:ARG:NE	8:A:245:G:O6	2.11	0.82
8:A:810:U:H2'	19:L:30:THR:H	1.42	0.82
8:A:2711:A:P	8:A:2714:G:OP2	2.37	0.82
22:O:92:PHE:HB2	22:O:117:PHE:HD2	1.42	0.82
56:w:69:G:H2'	56:w:70:G:H8	1.44	0.82
7:6:18:CYS:CB	7:6:40:CYS:HB3	2.08	0.82
8:A:627:A:OP1	19:L:78:ARG:NH2	2.13	0.82
8:A:1501:G:H2'	8:A:1502:A:C8	2.14	0.82
9:B:76:G:OP1	29:V:9:ARG:NH2	2.10	0.82
8:A:744:U:H3'	8:A:745:1MG:H8	1.43	0.82
8:A:2246:G:H2'	8:A:2247:A:H8	1.45	0.82
8:A:2637:U:OP1	11:D:83:ARG:NH2	2.13	0.82
8:A:908:C:OP1	20:M:22:GLN:NE2	2.12	0.82
8:A:1056:G:C2	8:A:1103:A:N6	2.48	0.82
8:A:1057:A:N1	8:A:1082:U:C4	2.48	0.82
8:A:1341:G:N3	27:T:59:ASN:ND2	2.28	0.82
8:A:2130:U:O4'	8:A:2159:G:N2	2.12	0.82
11:D:107:VAL:HG12	11:D:205:PRO:HA	1.60	0.82
14:G:121:THR:HB	14:G:133:LYS:HG3	1.60	0.82
34:a:105:G:H2'	34:a:106:C:C6	2.14	0.82
8:A:781:A:OP1	10:C:216:ARG:NH2	2.13	0.82
35:b:14:HIS:CD2	35:b:202:ASN:H	1.97	0.82
8:A:463:G:N2	8:A:466:A:OP2	2.12	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1827:U:H2'	8:A:1828:G:C8	2.13	0.82
8:A:2685:G:H2'	8:A:2686:G:H8	1.42	0.82
10:C:41:GLY:O	10:C:49:THR:N	2.13	0.82
22:O:27:VAL:N	22:O:38:GLN:O	2.10	0.82
34:a:416:G:H2'	34:a:417:G:C8	2.15	0.82
8:A:195:A:C8	8:A:197:A:OP1	2.32	0.82
8:A:455:C:H42	8:A:472:A:H3'	1.45	0.82
8:A:810:U:OP1	8:A:1253:A:N7	2.12	0.82
8:A:2245:U:H5"	8:A:2246:G:H5'	1.61	0.82
9:B:22:U:O2	9:B:61:G:N2	2.12	0.82
11:D:49:GLN:OE1	11:D:67:HIS:NE2	2.10	0.82
34:a:555:U:H2'	34:a:556:C:C6	2.15	0.82
43:j:10:LEU:HB3	43:j:18:ILE:HD11	1.62	0.82
2:1:42:VAL:HG12	2:1:44:GLN:HG2	1.61	0.82
8:A:1361:G:H2'	8:A:1362:C:H6	1.45	0.82
8:A:2216:G:H2'	8:A:2217:G:H8	1.42	0.82
34:a:119:A:N6	34:a:287:U:O2	2.11	0.82
8:A:1395:A:OP1	8:A:1604:C:OP2	1.98	0.81
8:A:1408:G:H1	8:A:1594:U:H3	0.84	0.81
8:A:2356:U:O2	8:A:2361:G:N2	2.12	0.81
8:A:2373:G:H2'	8:A:2374:C:C6	2.15	0.81
35:b:56:LEU:HD13	35:b:59:ILE:HD11	1.62	0.81
47:n:85:ARG:HG2	47:n:89:MET:HE1	1.60	0.81
8:A:13:A:O2'	8:A:15:G:N7	2.14	0.81
30:W:13:GLU:O	30:W:15:LYS:NZ	2.12	0.81
5:4:19:ARG:HG2	8:A:2756:U:H5"	1.62	0.81
8:A:640:C:H2'	8:A:641:U:H6	1.41	0.81
8:A:1494:A:H3'	8:A:1495:A:H8	1.44	0.81
8:A:1814:G:H3'	8:A:1815:A:H2'	1.61	0.81
8:A:1900:A:H1'	8:A:1970:A:H2'	1.60	0.81
8:A:2728:U:H2'	8:A:2729:G:H8	1.46	0.81
10:C:106:PRO:HD2	10:C:109:LEU:HD22	1.62	0.81
11:D:120:GLY:O	11:D:123:LYS:N	2.14	0.81
33:Z:8:GLN:HA	33:Z:54:VAL:HG12	1.62	0.81
34:a:627:G:H2'	34:a:628:G:C8	2.15	0.81
34:a:1071:C:OP1	38:e:53:ARG:NH2	2.14	0.81
34:a:1323:G:H2'	34:a:1324:A:C8	2.15	0.81
8:A:347:A:H2'	8:A:348:A:H8	1.44	0.81
8:A:1422:G:N2	8:A:1576:U:O2	2.13	0.81
8:A:2092:U:O4	8:A:2228:G:N1	2.14	0.81
8:A:2899:A:H2'	8:A:2900:A:C8	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:79:G:N2	34:a:90:C:C2	2.48	0.81
34:a:198:G:H2'	34:a:199:A:H8	1.44	0.81
51:r:38:ILE:HG12	51:r:58:ILE:HD13	1.62	0.81
10:C:43:ASN:OD1	10:C:46:GLY:N	2.14	0.81
13:F:65:LEU:HD13	13:F:87:LYS:HE3	1.62	0.81
34:a:864:A:H2'	34:a:865:A:C8	2.16	0.81
48:o:7:THR:HA	48:o:30:LEU:HD21	1.62	0.81
8:A:1679:A:H2'	8:A:1680:U:C6	2.15	0.81
8:A:1802:A:H2'	8:A:1803:A:H8	1.44	0.81
8:A:2362:C:H2'	8:A:2363:G:H8	1.44	0.81
34:a:137:U:O2	34:a:226:G:N2	2.11	0.81
34:a:692:U:OP2	44:k:27:ASN:ND2	2.14	0.81
34:a:940:C:H2'	34:a:941:G:H8	1.41	0.81
8:A:563:A:OP1	24:Q:40:LYS:NZ	2.14	0.81
8:A:1161:C:H2'	8:A:1162:G:H8	1.46	0.81
10:C:67:LYS:HG2	10:C:69:ASN:HB3	1.62	0.81
34:a:685:G:N2	34:a:705:G:O6	2.13	0.81
8:A:521:U:H2'	8:A:522:A:H8	1.45	0.81
8:A:959:A:N1	8:A:2495:G:O2'	2.12	0.81
8:A:1712:U:H3'	8:A:1713:A:H2'	1.61	0.81
34:a:323:U:OP2	34:a:323:U:H6	1.59	0.81
41:h:75:GLN:HE22	41:h:77:VAL:HG23	1.46	0.81
55:v:20:H2U:H2'	55:v:21:A:H4'	1.62	0.81
2:1:22:THR:HG21	8:A:2286:G:H1	1.43	0.81
8:A:748:G:OP1	26:S:88:ARG:NH1	2.12	0.81
8:A:1554:U:O2	8:A:1634:A:N7	2.13	0.81
12:E:158:PHE:HA	12:E:169:VAL:HG21	1.62	0.81
28:U:25:LYS:HD3	28:U:34:ILE:HG22	1.62	0.81
30:W:46:ASN:O	30:W:58:LYS:N	2.12	0.81
39:f:90:MET:SD	51:r:60:ARG:NH2	2.54	0.81
8:A:1926:U:N3	8:A:1929:G:N1	2.19	0.81
13:F:36:ASN:N	13:F:152:ASP:OD1	2.12	0.81
13:F:126:ASN:OD1	13:F:157:THR:N	2.13	0.81
34:a:61:G:H2'	34:a:62:U:C6	2.15	0.81
34:a:438:U:N3	34:a:496:A:N6	2.28	0.81
8:A:2102:G:N1	8:A:2187:U:O4	2.14	0.80
12:E:112:LEU:HB3	12:E:118:LEU:HD21	1.63	0.80
34:a:332:G:OP2	53:t:2:ASN:ND2	2.14	0.80
34:a:1086:U:H3	34:a:1099:G:H1	1.27	0.80
8:A:371:A:N6	8:A:402:A:OP2	2.14	0.80
8:A:1090:A:N6	8:A:1101:U:O2	2.14	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2683:C:H5”	23:P:50:ARG:HH12	1.43	0.80
34:a:124:C:H2’	34:a:125:U:C6	2.15	0.80
34:a:194:C:H4’	53:t:59:ARG:HG2	1.61	0.80
34:a:546:A:OP1	37:d:69:ARG:N	2.15	0.80
8:A:171:U:H2’	8:A:172:A:H8	1.46	0.80
13:F:21:TYR:HE2	13:F:28:PRO:HD3	1.46	0.80
19:L:132:ARG:HG3	19:L:142:ILE:HD11	1.64	0.80
30:W:62:LYS:HB2	30:W:81:GLU:HB2	1.63	0.80
34:a:666:G:O6	34:a:740:U:C2	2.35	0.80
34:a:1425:U:O2	34:a:1475:G:N2	2.14	0.80
50:q:56:ASP:OD1	50:q:81:ALA:N	2.13	0.80
8:A:1071:G:H21	8:A:1089:A:H61	0.84	0.80
8:A:2356:U:O4	8:A:2361:G:O6	2.00	0.80
34:a:721:G:OP2	51:r:41:SER:OG	1.98	0.80
34:a:1524:C:H2’	34:a:1525:G:H8	1.47	0.80
38:e:86:GLY:N	38:e:93:VAL:O	2.12	0.80
56:w:23:A:H2’	56:w:24:G:C8	2.16	0.80
5:4:19:ARG:NH2	8:A:2755:C:OP1	2.14	0.80
9:B:86:G:H3’	9:B:88:C:H41	1.47	0.80
8:A:195:A:N7	8:A:197:A:OP1	2.14	0.80
8:A:820:A:N3	8:A:943:A:O2’	2.14	0.80
19:L:47:ARG:NH1	19:L:58:TYR:OH	2.14	0.80
34:a:1323:G:H2’	34:a:1324:A:H8	1.46	0.80
8:A:881:G:H1	8:A:895:U:H3	1.29	0.80
8:A:2086:U:O4	8:A:2233:U:N3	2.14	0.80
8:A:2355:G:H2’	8:A:2356:U:C6	2.17	0.80
8:A:2489:U:H2’	8:A:2490:G:C8	2.16	0.80
21:N:41:ALA:HA	21:N:44:LEU:HB2	1.61	0.80
34:a:626:G:H2’	34:a:627:G:C8	2.17	0.80
56:w:16:U:O2’	56:w:20:U:O4	2.00	0.80
8:A:1361:G:H2’	8:A:1362:C:C6	2.15	0.80
8:A:1567:G:OP2	10:C:82:TYR:OH	1.99	0.80
34:a:390:U:H2’	34:a:391:G:C8	2.16	0.80
34:a:1235:U:H2’	34:a:1236:A:H8	1.47	0.80
8:A:680:C:H2’	8:A:681:G:C8	2.16	0.80
8:A:803:U:H2’	8:A:804:A:H8	1.46	0.80
8:A:1548:A:H2’	8:A:1549:A:H8	1.47	0.80
8:A:1913:A:C5	34:a:1494:G:H4’	2.17	0.80
8:A:2679:A:H4’	11:D:194:PRO:HG3	1.64	0.80
11:D:183:GLU:HG2	11:D:184:ARG:HG3	1.64	0.80
22:O:51:ALA:HB3	22:O:78:VAL:HB	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:20:U:H2'	34:a:21:G:C8	2.17	0.80
34:a:372:C:O2	34:a:372:C:O2'	2.00	0.80
34:a:509:A:H3'	34:a:509:A:OP2	1.81	0.80
34:a:521:G:N7	45:l:49:ARG:NH2	2.27	0.80
34:a:1006:G:O6	34:a:1022:A:N1	2.15	0.80
56:w:26:A:N6	56:w:44:G:N1	2.30	0.80
3:2:12:ARG:NH2	8:A:464:U:O2'	2.10	0.80
8:A:243:U:C4	8:A:255:A:C8	2.70	0.80
9:B:94:A:OP1	29:V:19:ARG:NE	2.11	0.79
11:D:54:ALA:HA	11:D:76:GLY:HA2	1.63	0.79
34:a:376:G:N1	34:a:387:U:N3	2.30	0.79
34:a:714:G:H2'	34:a:715:A:H8	1.45	0.79
46:m:44:ILE:HA	46:m:47:LEU:HD13	1.62	0.79
8:A:1754:A:OP1	23:P:93:LYS:NZ	2.14	0.79
18:K:71:ARG:HD3	18:K:72:PRO:HD2	1.62	0.79
20:M:121:ALA:HA	20:M:124:LEU:HD13	1.64	0.79
34:a:448:A:N7	34:a:486:U:O4	2.15	0.79
34:a:1486:G:H2'	34:a:1487:G:C8	2.17	0.79
36:c:150:VAL:HG23	36:c:199:VAL:HG22	1.64	0.79
40:g:120:ALA:HA	40:g:123:LEU:HD12	1.64	0.79
8:A:69:C:H2'	8:A:70:G:C8	2.16	0.79
8:A:209:C:H2'	8:A:210:C:H6	1.46	0.79
8:A:1770:G:N2	8:A:1982:U:O2	2.14	0.79
8:A:2562:U:O2	8:A:2566:A:N6	2.15	0.79
8:A:2562:U:H3	8:A:2566:A:N6	1.78	0.79
8:A:2818:U:H3	8:A:2828:G:H1	0.81	0.79
34:a:376:G:O6	34:a:387:U:O4	2.00	0.79
1:0:5:ASN:ND2	8:A:2022:U:O4	2.15	0.79
8:A:247:G:OP2	8:A:249:C:N4	2.15	0.79
8:A:713:G:H21	8:A:718:A:H62	0.83	0.79
8:A:1224:U:O2'	8:A:1225:G:O5'	1.99	0.79
11:D:13:ARG:NH1	23:P:54:LEU:O	2.14	0.79
11:D:108:ASP:HA	11:D:175:LEU:HD13	1.64	0.79
34:a:796:C:H2'	34:a:797:C:C6	2.16	0.79
55:v:33:U:O2'	55:v:35:A:OP2	2.01	0.79
10:C:176:ARG:O	10:C:176:ARG:NH1	2.15	0.79
34:a:79:G:N2	34:a:90:C:O2	2.15	0.79
34:a:1345:U:OP1	42:i:121:ARG:NH1	2.14	0.79
8:A:759:G:H2'	8:A:760:G:H8	1.48	0.79
8:A:1064:C:N3	8:A:1068:G:O2'	2.14	0.79
8:A:1076:C:H1'	16:I:90:GLY:HA2	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1554:U:N3	8:A:1634:A:C8	2.51	0.79
9:B:5:U:H2'	9:B:6:G:C8	2.17	0.79
11:D:8:LYS:NZ	11:D:193:VAL:O	2.14	0.79
20:M:23:GLY:O	20:M:34:LYS:NZ	2.14	0.79
21:N:98:LEU:HD22	21:N:112:TYR:HB2	1.64	0.79
27:T:9:LYS:O	27:T:12:ARG:NH2	2.13	0.79
31:X:31:ASN:OD1	31:X:51:SER:OG	2.01	0.79
34:a:78:A:H2'	34:a:79:G:C8	2.17	0.79
34:a:131:A:H2'	34:a:132:C:H6	1.48	0.79
34:a:628:G:H2'	34:a:629:A:C8	2.18	0.79
34:a:1109:C:OP1	36:c:175:HIS:ND1	2.15	0.79
37:d:205:LYS:OXT	37:d:205:LYS:NZ	2.14	0.79
55:v:15:G:N1	55:v:48:C:N3	2.27	0.79
8:A:242:G:N2	8:A:255:A:OP2	2.16	0.79
8:A:2243:U:H2'	8:A:2244:U:C6	2.17	0.79
8:A:2484:G:OP2	20:M:44:ARG:NH1	2.15	0.79
56:w:31:A:N6	56:w:39:PSU:O2	2.16	0.79
8:A:460:A:H62	8:A:469:G:H21	1.24	0.79
8:A:929:U:H4'	33:Z:37:ARG:HH21	1.48	0.79
8:A:1384:A:O2'	8:A:1404:C:O2'	1.99	0.79
8:A:1782:U:P	8:A:1783:A:OP2	2.40	0.79
8:A:2216:G:H2'	8:A:2217:G:C8	2.17	0.79
34:a:414:A:OP2	34:a:428:G:N2	2.16	0.79
34:a:606:G:N2	34:a:632:U:OP1	2.14	0.79
8:A:620:G:OP2	8:A:620:G:N2	2.13	0.79
8:A:638:G:H2'	8:A:639:U:C6	2.18	0.79
9:B:63:C:H2'	9:B:64:G:H8	1.48	0.79
29:V:28:ALA:N	29:V:40:ILE:O	2.15	0.79
36:c:149:LYS:O	36:c:200:TRP:N	2.15	0.79
8:A:519:U:H2'	8:A:520:G:C8	2.16	0.79
8:A:1807:G:O2'	8:A:1810:A:N6	2.16	0.79
8:A:2735:G:N2	8:A:2769:U:O2	2.11	0.79
9:B:11:C:O2	9:B:109:A:N6	2.15	0.79
34:a:1391:U:H2'	34:a:1392:G:C8	2.18	0.79
56:w:25:C:H2'	56:w:26:A:H8	1.46	0.79
1:0:9:ARG:NH1	8:A:516:C:O5'	2.15	0.78
8:A:2320:U:O2'	8:A:2322:A:N7	2.13	0.78
8:A:2412:A:H3'	8:A:2413:G:H8	1.48	0.78
8:A:2615:U:H2'	8:A:2616:C:C6	2.18	0.78
22:O:24:THR:HG23	22:O:90:VAL:HG12	1.64	0.78
34:a:1192:C:P	36:c:3:LYS:HZ1	2.05	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:525:U:H5'	8:A:525:U:H6	1.46	0.78
8:A:1469:A:OP2	8:A:1522:A:N6	2.15	0.78
8:A:1565:C:O2'	8:A:1567:G:N7	2.13	0.78
9:B:73:A:N6	9:B:103:U:H3	1.78	0.78
14:G:29:ASN:ND2	14:G:77:GLY:O	2.13	0.78
34:a:1356:G:H2'	34:a:1357:A:C8	2.19	0.78
8:A:151:C:H2'	8:A:152:A:H8	1.48	0.78
8:A:443:A:H3'	12:E:40:ARG:HH22	1.47	0.78
8:A:738:G:H2'	8:A:739:A:C8	2.18	0.78
8:A:972:A:H3'	8:A:973:A:H2'	1.63	0.78
8:A:1042:G:N2	8:A:1113:U:O2	2.16	0.78
8:A:2329:U:H2'	8:A:2330:G:C8	2.18	0.78
9:B:1:U:H2'	9:B:2:G:C8	2.19	0.78
34:a:429:U:OP1	37:d:12:ARG:NH2	2.16	0.78
34:a:559:A:H4'	34:a:560:A:H3'	1.64	0.78
34:a:751:U:H3'	34:a:752:G:C8	2.18	0.78
34:a:823:C:H2'	34:a:824:G:C8	2.18	0.78
8:A:1852:U:O2	8:A:1890:A:N6	2.17	0.78
8:A:2637:U:O2	8:A:2776:A:N7	2.16	0.78
8:A:174:U:H2'	8:A:175:G:H8	1.49	0.78
8:A:1251:C:OP2	24:Q:5:ARG:NH2	2.15	0.78
11:D:117:GLY:N	11:D:165:MET:O	2.16	0.78
18:K:40:LYS:HA	18:K:59:LYS:HA	1.64	0.78
34:a:157:U:O2	34:a:164:G:O6	2.01	0.78
34:a:308:C:H2'	34:a:309:A:H8	1.47	0.78
34:a:1235:U:H2'	34:a:1236:A:C8	2.18	0.78
8:A:324:A:OP2	8:A:1205:A:N6	2.17	0.78
8:A:1086:A:OP1	8:A:1087:G:N2	2.16	0.78
8:A:2746:U:O2	8:A:2758:A:N6	2.16	0.78
8:A:2899:A:H2'	8:A:2900:A:H8	1.47	0.78
21:N:9:GLN:HG2	21:N:11:ASN:H	1.46	0.78
34:a:1422:G:N2	34:a:1478:U:O2	2.14	0.78
50:q:10:ARG:HB3	50:q:23:ALA:HB3	1.63	0.78
8:A:65:U:O2'	8:A:456:C:N3	2.16	0.78
8:A:308:G:H2'	8:A:309:A:C8	2.18	0.78
8:A:2483:C:N3	20:M:123:LYS:NZ	2.29	0.78
34:a:882:C:H2'	34:a:883:C:H6	1.48	0.78
8:A:320:A:N3	12:E:163:ASN:ND2	2.32	0.78
8:A:666:A:H2'	8:A:667:U:H6	1.47	0.78
8:A:1443:U:H2'	8:A:1444:G:H8	1.47	0.78
8:A:1912:A:O2'	34:a:1494:G:O2'	2.00	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2134:A:N6	8:A:2156:G:O2'	2.12	0.78
8:A:2578:G:H2'	8:A:2579:C:H6	1.49	0.78
14:G:163:TYR:HB2	14:G:166:GLU:HB2	1.65	0.78
22:O:28:VAL:HA	22:O:37:ALA:HA	1.65	0.78
34:a:313:A:H2'	34:a:314:C:C6	2.18	0.78
39:f:9:MET:SD	51:r:65:SER:OG	2.40	0.78
8:A:443:A:O5'	12:E:40:ARG:NH2	2.17	0.78
8:A:924:G:H2'	8:A:925:A:H8	1.49	0.78
13:F:43:ILE:HG21	13:F:78:ILE:HG22	1.65	0.78
40:g:56:SER:OG	40:g:59:GLU:OE1	2.02	0.78
8:A:69:C:H2'	8:A:70:G:H8	1.48	0.78
8:A:446:G:H21	8:A:454:A:H61	0.81	0.78
8:A:538:A:H62	8:A:555:G:H21	0.81	0.78
8:A:1029:A:N6	8:A:1125:G:C2	2.51	0.78
8:A:2070:A:H2'	8:A:2071:A:H8	1.48	0.78
34:a:114:U:H2'	34:a:115:G:H8	1.47	0.78
34:a:666:G:O6	34:a:740:U:O2	2.01	0.78
34:a:925:G:H2'	34:a:927:G:H8	1.47	0.78
34:a:1118:U:H5"	42:i:105:ARG:HG3	1.66	0.78
1:0:9:ARG:HE	8:A:517:C:P	2.06	0.77
3:2:34:ARG:O	3:2:38:GLY:N	2.17	0.77
8:A:587:C:OP1	19:L:21:ARG:NH1	2.18	0.77
19:L:47:ARG:HG2	19:L:50:PHE:HB2	1.65	0.77
22:O:83:LEU:HA	22:O:88:LYS:HE2	1.65	0.77
34:a:102:G:H2'	34:a:103:U:H6	1.48	0.77
34:a:108:G:OP2	34:a:326:G:N1	2.16	0.77
34:a:469:C:H2'	34:a:470:C:C6	2.19	0.77
48:o:44:GLU:O	48:o:46:LYS:NZ	2.17	0.77
8:A:538:A:H2'	8:A:539:G:O4'	1.84	0.77
8:A:738:G:H2'	8:A:739:A:H8	1.50	0.77
8:A:1798:U:H5"	10:C:257:ARG:HB2	1.66	0.77
9:B:74:U:O4	9:B:102:G:N2	2.17	0.77
18:K:74:GLY:O	23:P:74:GLN:NE2	2.15	0.77
24:Q:67:ALA:O	24:Q:71:ASN:ND2	2.16	0.77
8:A:695:G:O6	8:A:767:U:O4	2.01	0.77
8:A:1857:G:N2	8:A:1885:A:OP2	2.16	0.77
8:A:2457:PSU:N3	8:A:2494:G:O6	2.17	0.77
18:K:48:PRO:HB3	34:a:1423:G:H5'	1.66	0.77
39:f:38:ARG:NH2	39:f:99:ALA:O	2.18	0.77
8:A:408:G:H2'	8:A:409:G:H8	1.49	0.77
8:A:1153:C:OP1	24:Q:91:ARG:NH2	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2231:U:OP1	31:X:29:LEU:N	2.17	0.77
10:C:140:VAL:O	10:C:161:VAL:N	2.13	0.77
18:K:64:ARG:NH1	18:K:102:PRO:O	2.17	0.77
23:P:59:THR:HG23	23:P:72:VAL:HG22	1.66	0.77
34:a:1218:C:H2'	34:a:1219:A:C8	2.18	0.77
34:a:1318:A:OP1	52:s:6:LYS:NZ	2.17	0.77
38:e:87:VAL:HA	38:e:92:ARG:HA	1.67	0.77
8:A:1184:U:OP1	33:Z:30:ARG:NH1	2.17	0.77
8:A:2127:G:O2'	8:A:2128:G:N7	2.18	0.77
8:A:2387:U:O2'	30:W:37:ARG:NH1	2.17	0.77
9:B:1:U:H2'	9:B:2:G:H8	1.49	0.77
12:E:105:LEU:HA	12:E:108:ILE:HD12	1.66	0.77
19:L:56:PRO:HG2	19:L:59:ARG:HD3	1.66	0.77
34:a:405:U:O4	37:d:1:ALA:N	2.18	0.77
34:a:1287:A:H2'	34:a:1288:A:C8	2.19	0.77
34:a:1420:U:H3'	34:a:1421:G:C8	2.20	0.77
8:A:589:U:H2'	8:A:590:A:H8	1.50	0.77
34:a:61:G:H2'	34:a:62:U:H6	1.48	0.77
34:a:375:U:H5"	49:p:6:LEU:HD22	1.66	0.77
34:a:1415:G:H1	34:a:1485:U:H3	1.29	0.77
42:i:22:PRO:HA	42:i:60:LEU:HA	1.65	0.77
44:k:28:ASN:OD1	44:k:29:THR:N	2.18	0.77
4:3:7:ARG:NH1	8:A:243:U:OP2	2.18	0.77
4:3:44:ARG:HD3	8:A:2417:C:H5"	1.66	0.77
8:A:580:U:H2'	8:A:581:C:C6	2.20	0.77
8:A:813:U:OP1	25:R:84:ARG:NH1	2.17	0.77
8:A:1685:C:H2'	8:A:1686:C:H6	1.50	0.77
8:A:1817:G:H3'	10:C:155:ARG:HH21	1.50	0.77
8:A:2313:C:H2'	8:A:2314:A:H8	1.49	0.77
8:A:2785:C:H2'	8:A:2786:U:H6	1.49	0.77
9:B:72:G:H21	9:B:104:A:H62	0.77	0.77
13:F:121:PHE:HA	13:F:127:TYR:HA	1.67	0.77
49:p:21:VAL:HG13	49:p:33:ILE:HB	1.67	0.77
8:A:687:C:O2	8:A:1780:A:N6	2.16	0.77
8:A:1036:G:H2'	8:A:1037:G:H8	1.48	0.77
8:A:1166:G:H2'	8:A:1167:C:H6	1.49	0.77
8:A:1168:G:O6	8:A:1181:U:O4	2.03	0.77
8:A:2074:U:O2	8:A:2597:G:N2	2.17	0.77
8:A:2115:G:N2	8:A:2118:U:OP2	2.16	0.77
8:A:2450:A:H2'	8:A:2451:A:C8	2.20	0.77
14:G:127:GLN:HG2	14:G:128:THR:HG23	1.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:S:25:ARG:O	26:S:27:LYS:NZ	2.18	0.77
29:V:6:ALA:HB3	29:V:65:VAL:HB	1.66	0.77
29:V:37:PRO:HA	29:V:93:ARG:HH22	1.49	0.77
34:a:124:C:H2'	34:a:125:U:H6	1.50	0.77
44:k:22:ILE:O	44:k:86:LYS:N	2.18	0.77
8:A:1508:A:O2'	8:A:1509:A:O4'	2.02	0.77
8:A:2845:U:H2'	8:A:2846:G:C8	2.19	0.77
14:G:11:PRO:HD2	14:G:14:VAL:HG21	1.66	0.77
17:J:49:ASP:OD1	17:J:51:GLY:N	2.17	0.77
17:J:88:THR:N	17:J:91:GLU:OE1	2.17	0.77
34:a:363:A:N6	45:l:26:CYS:SG	2.58	0.77
34:a:1191:A:H5"	36:c:3:LYS:HE3	1.66	0.77
8:A:2114:A:H3'	8:A:2115:G:C8	2.20	0.77
8:A:2683:C:H2'	8:A:2684:U:H5'	1.65	0.77
34:a:69:G:O2'	34:a:70:U:O5'	2.02	0.77
34:a:190:A:H3'	34:a:191:G:H8	1.51	0.77
34:a:199:A:H2'	34:a:200:G:C8	2.19	0.77
34:a:911:U:OP1	45:l:93:ARG:NH1	2.18	0.77
34:a:1395:C:H2'	34:a:1396:A:C8	2.19	0.77
8:A:83:A:H2'	8:A:101:A:N1	2.00	0.76
8:A:84:A:OP1	28:U:5:ARG:NH1	2.18	0.76
8:A:2680:U:H5'	11:D:194:PRO:HA	1.65	0.76
23:P:47:ILE:HA	23:P:96:LEU:HD12	1.66	0.76
45:l:33:CYS:H	45:l:54:VAL:HG12	1.50	0.76
3:2:39:ARG:NH1	8:A:469:G:O6	2.17	0.76
5:4:18:LYS:HG3	5:4:23:ILE:HG13	1.65	0.76
8:A:484:C:H2'	8:A:485:C:H6	1.50	0.76
8:A:524:G:C2'	8:A:525:U:C5'	1.75	0.76
8:A:581:C:H2'	8:A:582:A:C8	2.16	0.76
8:A:672:C:H2'	8:A:673:C:C6	2.21	0.76
8:A:849:A:H2'	8:A:850:U:H6	1.49	0.76
8:A:1590:A:H2'	8:A:1591:A:C8	2.20	0.76
8:A:2439:A:N6	56:w:76:A:OP1	2.17	0.76
13:F:130:GLY:HA2	13:F:152:ASP:HA	1.66	0.76
21:N:37:THR:OG1	21:N:109:PRO:O	2.02	0.76
34:a:323:U:H2'	34:a:324:G:O4'	1.85	0.76
34:a:720:C:O2'	51:r:51:GLN:NE2	2.18	0.76
34:a:1317:C:O2	52:s:36:ARG:NH1	2.17	0.76
34:a:1479:C:H2'	34:a:1480:A:C8	2.20	0.76
34:a:1495:U:H2'	34:a:1496:C:C6	2.20	0.76
38:e:85:LYS:HA	38:e:94:PHE:HA	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1360:G:O6	8:A:1371:G:N2	2.18	0.76
11:D:12:THR:O	11:D:24:VAL:N	2.15	0.76
34:a:536:C:H2'	34:a:537:G:C8	2.20	0.76
34:a:944:G:N1	34:a:1338:G:OP2	2.18	0.76
37:d:104:MET:HG2	37:d:172:VAL:HG12	1.68	0.76
8:A:678:C:H2'	8:A:679:C:C6	2.20	0.76
8:A:1150:C:H2'	8:A:1151:A:H8	1.50	0.76
8:A:1152:C:H2'	8:A:1153:C:H6	1.49	0.76
8:A:1408:G:N2	8:A:1594:U:O2	2.16	0.76
8:A:1821:A:H2'	8:A:1822:C:C6	2.21	0.76
8:A:2099:U:H2'	8:A:2100:G:H8	1.49	0.76
8:A:2102:G:N2	8:A:2188:U:O2	2.19	0.76
8:A:2685:G:H2'	8:A:2686:G:C8	2.21	0.76
8:A:2788:C:O2'	8:A:2809:A:N3	2.17	0.76
9:B:114:C:H2'	9:B:115:A:H8	1.48	0.76
10:C:57:HIS:ND1	10:C:58:LYS:O	2.17	0.76
18:K:13:ASN:ND2	18:K:97:THR:OG1	2.19	0.76
24:Q:88:GLU:O	25:R:11:GLN:NE2	2.18	0.76
28:U:9:GLU:HA	28:U:23:LYS:HA	1.66	0.76
34:a:34:C:H2'	34:a:35:G:C8	2.20	0.76
34:a:285:C:H2'	34:a:286:C:H6	1.51	0.76
34:a:600:A:H2'	34:a:601:G:H8	1.51	0.76
43:j:80:THR:OG1	43:j:83:THR:N	2.16	0.76
5:4:11:CYS:SG	5:4:33:HIS:CE1	2.76	0.76
8:A:769:U:H2'	8:A:770:G:H8	1.51	0.76
8:A:1668:A:H61	8:A:1676:A:H61	1.34	0.76
8:A:2047:C:H2'	8:A:2048:G:C8	2.19	0.76
8:A:2298:A:N6	8:A:2318:G:C2	2.53	0.76
8:A:2735:G:H2'	8:A:2736:A:H8	1.51	0.76
13:F:56:LEU:HA	13:F:59:ILE:HB	1.67	0.76
21:N:28:LEU:HD23	21:N:48:VAL:HG21	1.65	0.76
8:A:878:A:H3'	8:A:879:G:C8	2.19	0.76
8:A:1471:G:O6	8:A:1521:G:N2	2.16	0.76
8:A:2137:U:N3	8:A:2155:U:O2	2.16	0.76
8:A:2445:2MG:H2'	8:A:2446:G:C8	2.21	0.76
10:C:209:ALA:O	10:C:213:ARG:N	2.18	0.76
20:M:25:ASP:O	20:M:66:ARG:NH2	2.15	0.76
34:a:1220:G:H2'	34:a:1221:G:H8	1.50	0.76
34:a:1402:4OC:H2'	34:a:1403:C:C2	2.21	0.76
45:l:89:LEU:HD12	45:l:90:PRO:HD2	1.67	0.76
8:A:674:G:O2'	12:E:62:GLN:NE2	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:733:G:H3'	8:A:761:A:H61	1.48	0.76
34:a:17:U:O2	34:a:1079:G:N2	2.19	0.76
34:a:1038:C:H2'	34:a:1039:G:H8	1.49	0.76
34:a:1266:G:N2	34:a:1269:A:OP2	2.13	0.76
37:d:196:GLU:N	37:d:196:GLU:OE1	2.18	0.76
3:2:22:MET:O	3:2:28:ARG:NH1	2.19	0.76
8:A:623:C:H2'	8:A:624:C:C6	2.20	0.76
8:A:1084:A:O2'	8:A:1105:U:O2	2.04	0.76
9:B:61:G:H2'	9:B:62:C:C6	2.20	0.76
26:S:25:ARG:H	26:S:27:LYS:HD2	1.49	0.76
29:V:61:LEU:HD13	29:V:73:LYS:HA	1.66	0.76
34:a:859:G:OP2	34:a:869:G:N1	2.15	0.76
34:a:951:G:N3	34:a:970:C:O2'	2.19	0.76
34:a:1149:C:H2'	34:a:1150:A:H8	1.50	0.76
34:a:1241:G:H2'	34:a:1242:G:H8	1.49	0.76
44:k:45:THR:OG1	44:k:48:GLY:N	2.17	0.76
4:3:38:LYS:HA	4:3:41:ARG:HE	1.50	0.76
7:6:42:PRO:O	7:6:45:THR:O	2.04	0.76
8:A:721:A:H2'	8:A:722:A:C8	2.21	0.76
8:A:721:A:H2'	8:A:722:A:H8	1.49	0.76
8:A:858:G:H3'	8:A:859:G:C8	2.21	0.76
8:A:994:C:OP1	24:Q:52:ARG:NH2	2.19	0.76
8:A:1548:A:H2'	8:A:1549:A:C8	2.19	0.76
8:A:2199:A:H3'	8:A:2200:C:H6	1.51	0.76
21:N:10:LEU:HB3	21:N:12:ARG:HH21	1.51	0.76
34:a:385:C:H2'	34:a:386:C:C6	2.21	0.76
34:a:938:A:H2'	34:a:939:G:C8	2.21	0.76
40:g:14:ASP:OD2	40:g:17:PHE:N	2.18	0.76
8:A:706:A:OP1	10:C:6:LYS:NZ	2.18	0.76
13:F:125:GLY:O	13:F:157:THR:OG1	2.02	0.76
29:V:21:ARG:NH1	29:V:87:GLN:O	2.18	0.76
33:Z:23:LEU:HD11	33:Z:50:VAL:HG11	1.68	0.76
34:a:413:G:N2	34:a:428:G:O3'	2.19	0.76
34:a:416:G:N2	34:a:427:U:O2	2.18	0.76
34:a:799:G:H2'	34:a:800:G:C8	2.21	0.76
34:a:1415:G:O6	34:a:1485:U:C4	2.39	0.76
40:g:4:ARG:NH1	40:g:5:VAL:O	2.19	0.76
56:w:23:A:H2'	56:w:24:G:H8	1.51	0.76
8:A:154:U:H2'	8:A:155:A:H8	1.51	0.75
8:A:1851:U:H2'	8:A:1852:U:C2	2.20	0.75
34:a:1307:U:O4	34:a:1330:U:N3	2.18	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:w:5:G:N1	56:w:68:C:N3	2.29	0.75
2:1:45:HIS:ND1	8:A:2371:G:O2'	2.19	0.75
4:3:22:LYS:NZ	8:A:631:A:OP2	2.18	0.75
8:A:2874:C:H5"	21:N:4:ARG:HH11	1.50	0.75
34:a:377:G:H2'	34:a:378:G:H8	1.47	0.75
34:a:920:U:H2'	34:a:921:U:H6	1.50	0.75
40:g:73:GLU:O	40:g:88:VAL:N	2.18	0.75
44:k:105:ARG:HH22	44:k:107:THR:HG22	1.51	0.75
4:3:60:CYS:HA	19:L:48:ARG:HD2	1.66	0.75
8:A:284:U:O4	8:A:356:G:O6	2.04	0.75
8:A:461:C:N3	8:A:469:G:N2	2.35	0.75
8:A:471:A:OP1	12:E:79:ARG:NH1	2.19	0.75
8:A:1013:C:OP2	8:A:1014:A:OP2	2.04	0.75
8:A:1248:G:N7	12:E:46:GLN:NE2	2.35	0.75
8:A:1329:U:OP2	8:A:1330:C:N4	2.20	0.75
8:A:1847:G:N2	8:A:1894:C:O2	2.19	0.75
8:A:1973:G:H2'	8:A:1974:C:C6	2.21	0.75
8:A:2183:A:H2'	8:A:2184:A:H8	1.52	0.75
8:A:2821:A:H2'	8:A:2822:G:C8	2.22	0.75
11:D:33:ARG:HH12	11:D:52:THR:HA	1.51	0.75
19:L:79:LEU:HG	19:L:113:ALA:H	1.52	0.75
34:a:146:G:N1	34:a:177:G:O6	2.20	0.75
34:a:378:G:H2'	34:a:379:C:C6	2.20	0.75
38:e:148:SER:OG	38:e:150:GLU:OE1	2.04	0.75
8:A:779:U:H2'	8:A:780:G:H8	1.51	0.75
8:A:999:U:H3	8:A:1155:A:H62	0.78	0.75
8:A:1007:C:H4'	17:J:110:PRO:HG3	1.68	0.75
8:A:1217:U:O2	8:A:1232:G:O6	2.04	0.75
8:A:1725:U:N3	8:A:1736:U:O2	2.19	0.75
8:A:2707:U:H2'	8:A:2708:G:H8	1.50	0.75
34:a:1185:G:H2'	34:a:1186:G:H8	1.50	0.75
8:A:205:G:N2	8:A:206:U:O4	2.19	0.75
8:A:281:C:H2'	8:A:282:A:C8	2.20	0.75
8:A:438:G:H2'	8:A:439:A:C8	2.22	0.75
8:A:843:G:H2'	8:A:844:A:C8	2.21	0.75
8:A:1698:A:H4'	8:A:1699:G:H3'	1.68	0.75
8:A:2002:G:OP1	21:N:17:ARG:NH1	2.19	0.75
9:B:92:C:OP1	29:V:18:ARG:NH2	2.19	0.75
11:D:146:ILE:HB	11:D:159:LYS:HE2	1.68	0.75
19:L:19:LEU:O	19:L:21:ARG:NH2	2.19	0.75
22:O:30:ARG:HA	22:O:35:ILE:HG13	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Z:16:LEU:HB2	33:Z:19:HIS:CD2	2.20	0.75
34:a:128:G:H2'	34:a:129:A:C8	2.21	0.75
34:a:406:G:H21	37:d:115:GLN:HE22	1.33	0.75
40:g:27:ASN:HA	40:g:30:MET:HE2	1.69	0.75
8:A:6:A:N3	17:J:135:GLN:NE2	2.34	0.75
8:A:7:G:OP1	17:J:123:LYS:NZ	2.19	0.75
8:A:903:C:H2'	8:A:904:G:H8	1.52	0.75
10:C:245:THR:N	10:C:249:VAL:O	2.18	0.75
34:a:711:G:H2'	34:a:712:A:C8	2.20	0.75
34:a:921:U:O2'	38:e:22:LYS:O	2.04	0.75
34:a:1368:A:OP2	42:i:113:LYS:NZ	2.20	0.75
34:a:1521:C:H2'	34:a:1522:U:C6	2.22	0.75
44:k:35:ASP:OD1	44:k:38:GLY:N	2.19	0.75
56:w:7:A:O2'	56:w:49:C:O4'	2.04	0.75
2:1:42:VAL:O	2:1:44:GLN:NE2	2.19	0.75
8:A:213:A:O2'	8:A:214:G:O4'	2.01	0.75
8:A:879:G:H2'	8:A:880:G:H8	1.51	0.75
8:A:1862:G:O6	8:A:1880:U:O4	2.05	0.75
8:A:2166:U:N3	8:A:2170:A:OP2	2.19	0.75
8:A:2580:PSU:H2'	8:A:2581:G:C4	2.21	0.75
10:C:259:ASN:ND2	10:C:262:THR:OG1	2.19	0.75
11:D:61:THR:N	11:D:64:GLU:OE1	2.20	0.75
24:Q:43:GLN:NE2	25:R:77:PHE:O	2.18	0.75
34:a:25:C:H2'	34:a:26:A:H8	1.52	0.75
34:a:459:A:H2'	34:a:460:A:H8	1.52	0.75
34:a:1154:G:H2'	34:a:1155:A:H8	1.50	0.75
8:A:250:G:H2'	8:A:251:A:C8	2.22	0.75
8:A:608:A:H2'	8:A:609:A:C8	2.21	0.75
8:A:838:C:H2'	8:A:839:U:H6	1.50	0.75
8:A:923:G:H2'	8:A:924:G:H8	1.50	0.75
8:A:1612:C:N4	8:A:1613:G:O6	2.20	0.75
8:A:2898:U:H2'	8:A:2899:A:C8	2.20	0.75
18:K:78:ARG:NE	23:P:70:GLU:OE1	2.20	0.75
27:T:30:ILE:N	27:T:85:VAL:O	2.17	0.75
34:a:102:G:H2'	34:a:103:U:C6	2.21	0.75
34:a:410:G:OP2	37:d:30:LYS:NZ	2.17	0.75
34:a:1320:C:H42	52:s:35:ARG:HB2	1.51	0.75
34:a:1521:C:H2'	34:a:1522:U:H6	1.52	0.75
8:A:641:U:O2'	8:A:2350:C:OP1	2.04	0.75
8:A:1512:C:H2'	8:A:1513:U:H6	1.52	0.75
8:A:2815:C:H2'	8:A:2816:G:H8	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2849:U:N3	8:A:2867:G:N3	2.35	0.75
21:N:53:THR:HA	21:N:56:LYS:HE3	1.67	0.75
23:P:52:ARG:H	23:P:56:SER:HA	1.52	0.75
34:a:429:U:O2'	37:d:21:LYS:NZ	2.19	0.75
34:a:811:C:O2'	34:a:900:A:N6	2.20	0.75
34:a:1169:A:H2'	34:a:1170:A:C8	2.20	0.75
8:A:1926:U:O4	8:A:1929:G:N2	2.20	0.74
17:J:4:PHE:O	24:Q:63:ARG:NH2	2.19	0.74
22:O:12:THR:HA	22:O:15:ARG:HB2	1.68	0.74
34:a:1060:U:H2'	34:a:1061:G:H8	1.52	0.74
34:a:1236:A:H4'	34:a:1304:G:H4'	1.69	0.74
8:A:106:C:H2'	8:A:107:G:C8	2.22	0.74
8:A:1439:A:H3'	8:A:1440:U:H6	1.52	0.74
8:A:2452:C:N4	8:A:2504:PSU:O2	2.19	0.74
8:A:2694:G:H2'	8:A:2695:U:C6	2.21	0.74
9:B:69:G:O6	9:B:107:G:N2	2.18	0.74
10:C:250:GLN:NE2	10:C:251:THR:O	2.19	0.74
30:W:64:LYS:NZ	30:W:79:GLU:OE2	2.21	0.74
34:a:390:U:O3'	49:p:28:ARG:NH2	2.19	0.74
34:a:1418:A:O2'	34:a:1419:G:O4'	2.01	0.74
36:c:10:ARG:NH2	36:c:176:THR:O	2.19	0.74
40:g:39:GLU:OE2	42:i:40:ARG:NH1	2.20	0.74
8:A:1799:G:OP1	10:C:257:ARG:NH1	2.20	0.74
10:C:97:ASP:OD1	10:C:98:GLY:N	2.21	0.74
11:D:14:ILE:HG12	11:D:24:VAL:HG21	1.67	0.74
27:T:6:ARG:HA	27:T:9:LYS:HD2	1.68	0.74
34:a:438:U:C2	34:a:496:A:C6	2.75	0.74
34:a:490:C:H2'	34:a:491:G:H8	1.51	0.74
34:a:589:U:O2	34:a:650:G:O6	2.05	0.74
34:a:674:G:C6	34:a:716:A:N1	2.54	0.74
34:a:1254:A:H2'	34:a:1255:G:H8	1.52	0.74
36:c:139:ASN:OD1	36:c:142:ARG:NH2	2.21	0.74
8:A:370:G:OP2	8:A:422:A:OP2	2.04	0.74
8:A:644:A:H2'	8:A:645:C:C6	2.21	0.74
8:A:1056:G:N3	8:A:1103:A:N6	2.35	0.74
8:A:1599:U:H2'	8:A:1600:C:C6	2.23	0.74
8:A:1789:A:OP1	10:C:220:ARG:N	2.18	0.74
8:A:2243:U:H2'	8:A:2244:U:H6	1.53	0.74
8:A:2488:G:H2'	8:A:2489:U:H6	1.51	0.74
8:A:2526:G:O6	8:A:2537:U:O4	2.05	0.74
9:B:63:C:H2'	9:B:64:G:C8	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:X:4:CYS:SG	31:X:5:GLN:N	2.61	0.74
34:a:323:U:OP2	34:a:323:U:C5	2.40	0.74
34:a:1426:G:O6	34:a:1474:U:O4	2.05	0.74
34:a:1489:G:H2'	34:a:1490:U:H6	1.53	0.74
9:B:70:C:H2'	9:B:71:C:H6	1.52	0.74
10:C:110:LYS:NZ	10:C:111:ALA:O	2.20	0.74
34:a:116:A:OP2	34:a:289:G:P	2.46	0.74
34:a:882:C:H2'	34:a:883:C:C6	2.21	0.74
43:j:28:THR:HG22	43:j:87:LEU:HD12	1.69	0.74
8:A:660:C:H2'	8:A:661:A:C8	2.21	0.74
8:A:1818:U:OP2	10:C:86:ARG:NH1	2.21	0.74
8:A:2131:U:O2	8:A:2158:A:N6	2.21	0.74
8:A:2235:G:H2'	8:A:2236:U:H6	1.52	0.74
13:F:25:MET:O	13:F:29:ARG:NH1	2.19	0.74
34:a:46:G:H2'	34:a:366:A:H62	1.53	0.74
34:a:263:A:H2'	34:a:264:C:H6	1.50	0.74
5:4:13:ASN:HD22	5:4:28:SER:HB3	1.52	0.74
8:A:78:U:H2'	8:A:79:C:C6	2.22	0.74
8:A:934:U:H2'	8:A:935:C:C6	2.22	0.74
8:A:1380:G:H2'	8:A:1381:G:H8	1.51	0.74
8:A:1549:A:H2'	8:A:1550:C:H6	1.53	0.74
8:A:2244:U:H2'	8:A:2245:U:C2	2.22	0.74
9:B:76:G:N2	9:B:100:G:O6	2.18	0.74
34:a:54:C:N4	34:a:353:A:OP2	2.20	0.74
50:q:16:MET:HG2	50:q:19:SER:HB2	1.70	0.74
55:v:25:C:H2'	55:v:26:G:H8	1.53	0.74
4:3:12:ARG:HE	19:L:63:LYS:HG3	1.52	0.74
8:A:1940:U:O2	8:A:1942:C:N4	2.21	0.74
8:A:2336:A:H61	30:W:39:THR:HG21	1.53	0.74
21:N:9:GLN:NE2	21:N:11:ASN:OD1	2.20	0.74
34:a:1095:U:H5"	34:a:1108:G:H1	1.52	0.74
38:e:64:GLU:HA	38:e:67:ARG:HD2	1.69	0.74
45:l:91:GLY:O	45:l:93:ARG:NH1	2.21	0.74
45:l:99:GLY:N	45:l:103:CYS:O	2.21	0.74
51:r:62:ARG:HB3	51:r:69:TYR:CZ	2.22	0.74
8:A:58:G:O2'	8:A:73:A:N1	2.21	0.74
8:A:248:G:H5"	8:A:386:G:H22	1.53	0.74
8:A:698:C:O2'	8:A:734:A:N6	2.20	0.74
8:A:1681:G:H21	8:A:1762:A:H3'	1.53	0.74
8:A:2515:C:H2'	8:A:2516:A:H8	1.53	0.74
8:A:2813:A:H2'	8:A:2814:A:C8	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:4:ILE:HA	23:P:7:LEU:HD12	1.70	0.74
34:a:738:C:H2'	34:a:739:C:C6	2.22	0.74
34:a:1147:C:H2'	34:a:1148:U:C6	2.22	0.74
8:A:1964:G:O2'	8:A:1967:C:OP2	2.06	0.74
27:T:11:LEU:HA	27:T:34:VAL:HG23	1.69	0.74
34:a:348:G:H2'	34:a:349:A:H8	1.52	0.74
34:a:402:G:OP1	37:d:70:GLN:NE2	2.21	0.74
34:a:1115:U:H2'	34:a:1116:U:C6	2.23	0.74
34:a:1426:G:O6	34:a:1474:U:C4	2.41	0.74
39:f:10:VAL:HG12	39:f:84:VAL:HA	1.70	0.74
49:p:5:ARG:NH2	49:p:23:ASP:O	2.21	0.74
8:A:1463:C:H2'	8:A:1464:G:H8	1.52	0.73
8:A:2246:G:H2'	8:A:2247:A:C8	2.22	0.73
8:A:2492:U:H2'	8:A:2493:U:C6	2.21	0.73
34:a:539:A:H2'	34:a:540:G:C8	2.23	0.73
8:A:592:A:H2'	8:A:593:U:H6	1.53	0.73
8:A:1278:C:H5'	21:N:24:MET:HE3	1.70	0.73
8:A:1703:G:H2'	8:A:1704:C:C6	2.22	0.73
8:A:1718:G:O6	8:A:1742:U:O4	2.06	0.73
8:A:2261:C:OP1	30:W:15:LYS:NZ	2.21	0.73
8:A:2749:A:OP1	14:G:1:SER:OG	2.03	0.73
8:A:2846:G:H2'	8:A:2847:U:C6	2.24	0.73
12:E:48:THR:H	12:E:51:GLU:HB2	1.53	0.73
18:K:39:ILE:N	18:K:60:ALA:O	2.21	0.73
23:P:48:ALA:O	23:P:59:THR:N	2.22	0.73
34:a:15:G:O4'	34:a:1396:A:O2'	2.06	0.73
34:a:62:U:N3	34:a:105:G:N1	2.26	0.73
44:k:20:ALA:O	44:k:84:MET:N	2.20	0.73
8:A:291:G:O6	8:A:349:U:O2	2.06	0.73
8:A:675:A:H2'	8:A:676:A:C8	2.24	0.73
8:A:2551:C:H2'	8:A:2552:OMU:C2	2.18	0.73
8:A:2655:G:N2	8:A:2656:U:O4	2.19	0.73
8:A:2675:A:N1	8:A:2732:G:N2	2.35	0.73
9:B:111:U:H2'	9:B:112:G:H8	1.53	0.73
15:H:1:MET:N	15:H:21:VAL:O	2.17	0.73
18:K:30:ARG:NE	18:K:32:TYR:O	2.22	0.73
34:a:373:A:H61	34:a:391:G:H1'	1.53	0.73
35:b:18:GLN:HA	35:b:37:VAL:HA	1.70	0.73
37:d:168:THR:O	37:d:183:ARG:NH1	2.21	0.73
39:f:2:ARG:HD2	39:f:68:GLN:HE21	1.53	0.73
52:s:46:LEU:H	52:s:61:VAL:HB	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:192:C:H2'	8:A:193:U:H5'	1.70	0.73
14:G:26:LYS:HA	14:G:31:GLU:HA	1.71	0.73
15:H:94:ILE:HG22	15:H:122:LEU:HB2	1.71	0.73
17:J:45:THR:HG22	17:J:47:HIS:H	1.54	0.73
18:K:73:ASP:OD1	18:K:75:SER:N	2.18	0.73
23:P:24:THR:O	23:P:86:LYS:N	2.19	0.73
34:a:662:U:H2'	34:a:663:A:C8	2.23	0.73
34:a:911:U:H2'	34:a:912:C:C6	2.24	0.73
34:a:1317:C:O2	47:n:49:GLN:NE2	2.17	0.73
50:q:10:ARG:O	50:q:23:ALA:N	2.19	0.73
8:A:459:U:O4	8:A:470:A:N7	2.21	0.73
8:A:547:A:H4'	8:A:548:G:C4	2.22	0.73
8:A:1217:U:C2	8:A:1232:G:O6	2.42	0.73
8:A:1800:C:O2'	10:C:152:GLN:OE1	2.03	0.73
8:A:1889:A:N3	8:A:2086:U:O2'	2.22	0.73
8:A:2528:U:O2	8:A:2535:G:N2	2.16	0.73
9:B:24:G:N3	9:B:27:C:N4	2.30	0.73
34:a:82:G:C5	34:a:83:C:H1'	2.23	0.73
34:a:363:A:OP2	45:l:30:ARG:NE	2.18	0.73
34:a:713:G:H2'	34:a:714:G:C8	2.23	0.73
34:a:824:G:H2'	34:a:825:A:H8	1.52	0.73
34:a:829:G:H2'	34:a:830:G:H8	1.52	0.73
34:a:888:G:N2	34:a:909:A:H62	1.86	0.73
34:a:964:A:H4'	34:a:1198:G:H4'	1.69	0.73
34:a:1090:U:N3	34:a:1095:U:O4	2.17	0.73
37:d:123:MET:HE2	37:d:145:ARG:HA	1.69	0.73
38:e:112:ALA:HA	38:e:115:GLU:HB2	1.71	0.73
8:A:838:C:H2'	8:A:839:U:C6	2.23	0.73
8:A:936:A:H2'	8:A:937:C:C6	2.24	0.73
8:A:977:G:H5'	24:Q:54:ARG:HH22	1.54	0.73
8:A:1036:G:H2'	8:A:1037:G:C8	2.23	0.73
8:A:1180:U:H2'	8:A:1181:U:C6	2.23	0.73
8:A:2305:U:H5"	13:F:130:GLY:HA3	1.69	0.73
8:A:2544:G:H2'	8:A:2545:G:H8	1.53	0.73
9:B:40:U:O2	9:B:45:A:N6	2.18	0.73
9:B:114:C:H2'	9:B:115:A:C8	2.24	0.73
11:D:35:THR:N	11:D:49:GLN:O	2.22	0.73
28:U:40:LEU:O	28:U:42:LYS:NZ	2.20	0.73
34:a:79:G:C2	34:a:90:C:N3	2.56	0.73
34:a:788:U:H2'	34:a:789:U:C6	2.24	0.73
34:a:1426:G:C2	34:a:1474:U:O2	2.41	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1489:G:H2'	34:a:1490:U:C6	2.22	0.73
47:n:54:ASP:HA	47:n:59:ARG:HG3	1.71	0.73
49:p:3:THR:OG1	49:p:22:ALA:O	2.05	0.73
5:4:4:ARG:NH1	8:A:2477:U:O2	2.21	0.73
8:A:304:U:H3	8:A:313:G:H1	1.37	0.73
8:A:679:C:C2	8:A:799:G:N2	2.57	0.73
8:A:814:C:H2'	8:A:815:C:H6	1.53	0.73
8:A:947:A:H2'	8:A:948:C:C6	2.23	0.73
8:A:2452:C:H2'	8:A:2453:A:C8	2.23	0.73
34:a:918:A:H2'	34:a:919:A:C8	2.24	0.73
34:a:1338:G:H2'	34:a:1339:A:C8	2.24	0.73
45:l:80:LEU:HD12	45:l:100:ALA:HB1	1.70	0.73
8:A:605:G:OP1	12:E:99:LYS:NZ	2.22	0.73
23:P:29:VAL:HG12	23:P:80:VAL:HA	1.70	0.73
34:a:555:U:H2'	34:a:556:C:H6	1.52	0.73
34:a:750:C:H2'	34:a:751:U:H6	1.51	0.73
34:a:1148:U:H5"	42:i:10:ARG:HH21	1.51	0.73
41:h:91:LEU:HD12	41:h:92:PRO:HD2	1.70	0.73
42:i:129:ARG:NH1	55:v:32:C:OP2	2.22	0.73
7:6:60:PHE:HB2	52:s:41:PRO:HB2	1.70	0.73
8:A:182:A:H2'	8:A:183:C:H6	1.54	0.73
8:A:524:G:C2	8:A:525:U:O4'	2.35	0.73
8:A:673:C:OP1	12:E:49:ARG:NH2	2.22	0.73
8:A:1628:G:H2'	8:A:1629:U:C6	2.24	0.73
8:A:2000:C:H2'	8:A:2001:C:C6	2.24	0.73
8:A:2232:C:H2'	8:A:2233:U:C6	2.24	0.73
8:A:2728:U:H2'	8:A:2729:G:C8	2.24	0.73
18:K:59:LYS:NZ	18:K:89:ASN:O	2.20	0.73
21:N:37:THR:HA	21:N:110:MET:HA	1.71	0.73
34:a:1135:U:O2	34:a:1138:G:N1	2.15	0.73
34:a:1218:C:H2'	34:a:1219:A:H8	1.50	0.73
43:j:20:GLN:HE22	43:j:92:LEU:HD13	1.52	0.73
55:v:62:C:H2'	55:v:63:G:C8	2.24	0.73
8:A:68:G:H2'	8:A:69:C:C6	2.24	0.73
8:A:524:G:C6	8:A:525:U:C2	2.77	0.73
8:A:832:U:H2'	8:A:833:A:C8	2.24	0.73
8:A:871:U:H2'	8:A:872:U:H6	1.52	0.73
8:A:881:G:N2	8:A:895:U:O2	2.22	0.73
8:A:1030:C:N3	8:A:1125:G:N2	2.37	0.73
8:A:1253:A:H3'	8:A:1254:A:H8	1.51	0.73
8:A:1925:C:O2'	8:A:1926:U:O5'	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2304:G:H4'	13:F:129:MET:HA	1.70	0.73
8:A:2590:A:H5"	10:C:237:ARG:HE	1.54	0.73
34:a:198:G:H2'	34:a:199:A:C8	2.23	0.73
34:a:725:G:H2'	34:a:726:C:C6	2.24	0.73
34:a:1191:A:OP1	36:c:3:LYS:NZ	2.16	0.73
34:a:1227:A:O5'	46:m:109:LYS:NZ	2.21	0.73
34:a:1438:G:H1	34:a:1463:U:H3	1.33	0.73
34:a:1460:C:H2'	34:a:1461:G:H8	1.54	0.73
41:h:101:ALA:HB1	41:h:124:ILE:HD11	1.71	0.73
8:A:1561:C:H2'	8:A:1562:U:C6	2.23	0.72
8:A:1946:U:H2'	8:A:1947:C:H6	1.54	0.72
8:A:2199:A:OP1	31:X:36:ARG:NH2	2.22	0.72
8:A:2296:U:OP2	22:O:9:ARG:NH2	2.21	0.72
11:D:172:VAL:HG13	11:D:175:LEU:HD11	1.72	0.72
34:a:41:G:H2'	34:a:42:G:C8	2.22	0.72
34:a:738:C:OP1	39:f:4:TYR:OH	2.07	0.72
34:a:846:G:H2'	34:a:847:G:H8	1.52	0.72
35:b:20:ARG:NH2	35:b:21:TYR:OH	2.21	0.72
51:r:11:ARG:HA	51:r:14:ALA:HB3	1.69	0.72
56:w:69:G:H2'	56:w:70:G:C8	2.24	0.72
8:A:158:U:H3'	8:A:159:G:C8	2.22	0.72
8:A:304:U:O4	8:A:313:G:O6	2.07	0.72
8:A:408:G:N2	8:A:419:U:O2	2.17	0.72
8:A:441:U:H2'	8:A:442:G:C8	2.24	0.72
9:B:4:C:H2'	9:B:5:U:C6	2.24	0.72
20:M:66:ARG:NH1	20:M:104:GLU:OE2	2.22	0.72
34:a:407:U:H2'	34:a:408:A:C8	2.25	0.72
34:a:628:G:H2'	34:a:629:A:H8	1.53	0.72
34:a:1040:U:H2'	34:a:1041:G:H8	1.53	0.72
34:a:1219:A:H2'	34:a:1220:G:H8	1.53	0.72
34:a:1240:U:OP1	40:g:118:ARG:NH2	2.22	0.72
37:d:74:TYR:OH	37:d:96:ARG:NH1	2.22	0.72
55:v:52:G:H3'	55:v:53:G:H8	1.53	0.72
5:4:8:LYS:O	5:4:35:GLN:NE2	2.21	0.72
8:A:1222:U:O2	8:A:1227:G:O6	2.07	0.72
8:A:1905:C:H2'	8:A:1930:G:C5	2.23	0.72
8:A:2730:C:H2'	8:A:2731:G:C8	2.23	0.72
13:F:127:TYR:HE2	13:F:129:MET:HB3	1.54	0.72
20:M:17:ASN:ND2	20:M:96:ILE:O	2.21	0.72
31:X:71:ARG:NH2	31:X:77:TYR:OH	2.21	0.72
34:a:112:G:H21	34:a:354:G:H5'	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:542:G:O3'	37:d:13:ARG:NH2	2.23	0.72
34:a:1324:A:H2'	34:a:1325:C:C6	2.24	0.72
38:e:103:GLY:N	38:e:121:ASN:OD1	2.17	0.72
44:k:23:HIS:HB2	44:k:86:LYS:HE2	1.69	0.72
56:w:68:C:H2'	56:w:69:G:C8	2.24	0.72
8:A:556:A:H3'	8:A:557:C:C6	2.24	0.72
8:A:1011:G:OP2	24:Q:69:ARG:NH1	2.21	0.72
8:A:1193:G:OP1	19:L:14:LYS:NZ	2.22	0.72
12:E:97:ASN:HB2	12:E:100:MET:HG3	1.69	0.72
34:a:376:G:H2'	34:a:377:G:H8	1.54	0.72
34:a:1352:C:H2'	34:a:1353:G:C8	2.24	0.72
47:n:97:LYS:NZ	47:n:98:LYS:O	2.21	0.72
8:A:429:A:H2'	8:A:430:A:C8	2.23	0.72
8:A:534:U:N3	8:A:559:G:C6	2.57	0.72
8:A:2561:U:O3'	18:K:40:LYS:NZ	2.22	0.72
8:A:2636:C:O2'	11:D:45:TYR:OH	2.06	0.72
13:F:3:LEU:HD21	13:F:96:TRP:HB3	1.71	0.72
17:J:27:ARG:O	17:J:30:THR:OG1	2.07	0.72
34:a:774:G:H2'	34:a:775:G:H8	1.54	0.72
34:a:872:A:O2'	34:a:874:G:OP2	2.07	0.72
5:4:30:GLU:OE2	5:4:32:LYS:N	2.19	0.72
7:6:22:MET:HE1	13:F:2:LYS:HD3	1.70	0.72
8:A:273:G:N1	8:A:365:U:O4	2.23	0.72
8:A:348:A:H2'	8:A:349:U:C6	2.25	0.72
8:A:1263:U:H2'	8:A:1264:A:C4	2.23	0.72
10:C:177:SER:O	10:C:270:ARG:NE	2.20	0.72
14:G:103:ASN:HA	14:G:113:ASP:HA	1.72	0.72
23:P:24:THR:N	23:P:87:ARG:O	2.23	0.72
34:a:143:A:H5"	34:a:144:G:H5"	1.70	0.72
34:a:151:A:H3'	34:a:152:A:H8	1.54	0.72
34:a:1327:C:H2'	34:a:1328:C:C6	2.24	0.72
36:c:35:ASP:OD2	36:c:58:ARG:NE	2.21	0.72
38:e:20:VAL:O	38:e:31:SER:N	2.22	0.72
8:A:1260:A:H2'	8:A:1261:C:C6	2.24	0.72
8:A:1300:G:H4'	8:A:1301:A:H5"	1.71	0.72
8:A:1435:G:H2'	8:A:1436:G:H8	1.55	0.72
8:A:2760:C:O2'	14:G:138:GLN:NE2	2.22	0.72
9:B:70:C:H2'	9:B:71:C:C6	2.25	0.72
30:W:35:ARG:HA	30:W:54:THR:HG22	1.71	0.72
34:a:382:A:H2'	34:a:383:A:C8	2.24	0.72
34:a:468:A:H3'	34:a:469:C:H6	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:694:A:N1	34:a:787:A:O2'	2.22	0.72
34:a:896:C:H2'	34:a:897:C:C6	2.25	0.72
34:a:1496:C:H2'	34:a:1497:G:C8	2.25	0.72
4:3:44:ARG:NH2	8:A:2418:A:OP1	2.21	0.72
4:3:51:LYS:HA	4:3:54:LEU:HD12	1.70	0.72
8:A:1183:U:H2'	8:A:1184:U:C6	2.24	0.72
8:A:1789:A:OP2	10:C:220:ARG:NE	2.21	0.72
8:A:2591:C:H2'	8:A:2592:G:C8	2.24	0.72
10:C:254:LYS:NZ	10:C:255:LYS:O	2.22	0.72
26:S:92:ARG:NH1	26:S:93:ALA:O	2.22	0.72
34:a:59:A:O2'	34:a:388:G:OP1	2.08	0.72
34:a:131:A:H2'	34:a:132:C:C6	2.23	0.72
34:a:1284:C:H3'	34:a:1285:A:H8	1.55	0.72
36:c:84:GLU:OE2	36:c:88:LYS:NZ	2.21	0.72
37:d:25:ARG:NH2	37:d:29:THR:OG1	2.23	0.72
37:d:116:LEU:HD11	37:d:151:GLN:HE22	1.53	0.72
38:e:125:LYS:NZ	38:e:126:ALA:O	2.16	0.72
44:k:35:ASP:OD1	44:k:39:ASN:N	2.22	0.72
8:A:18:U:OP1	24:Q:29:ARG:NH1	2.23	0.72
8:A:32:C:H2'	8:A:33:C:C6	2.24	0.72
8:A:1198:U:H2'	8:A:1199:U:C6	2.25	0.72
8:A:1354:A:H62	8:A:1377:G:N2	1.88	0.72
8:A:1831:G:H2'	8:A:1832:C:C6	2.24	0.72
8:A:2783:U:H2'	8:A:2784:U:H6	1.55	0.72
10:C:263:ASP:OD1	10:C:264:LYS:NZ	2.23	0.72
27:T:20:ALA:HB1	27:T:31:VAL:HG21	1.72	0.72
34:a:1110:A:H3'	34:a:1111:A:H8	1.54	0.72
42:i:75:ALA:HA	42:i:78:ILE:HD12	1.71	0.72
3:2:5:PHE:O	3:2:6:GLN:NE2	2.23	0.72
8:A:209:C:H2'	8:A:210:C:C6	2.25	0.72
8:A:1949:G:H2'	8:A:1950:G:C8	2.24	0.72
8:A:2688:G:N1	8:A:2720:U:OP2	2.22	0.72
12:E:109:LEU:HA	12:E:112:LEU:HD12	1.70	0.72
28:U:73:ASN:OD1	28:U:77:GLY:N	2.22	0.72
31:X:32:LEU:O	31:X:33:HIS:ND1	2.23	0.72
34:a:618:C:H5'	34:a:619:U:H5"	1.71	0.72
34:a:1072:G:H2'	34:a:1073:U:C6	2.25	0.72
36:c:111:ASP:OD2	36:c:114:LEU:N	2.22	0.72
56:w:7:A:N6	56:w:67:C:N3	2.37	0.72
8:A:284:U:O2	8:A:356:G:N2	2.23	0.71
8:A:672:C:H2'	8:A:673:C:H6	1.52	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:742:A:H2'	8:A:743:A:H8	1.55	0.71
8:A:1050:A:H2'	8:A:1051:G:C8	2.25	0.71
8:A:1448:G:H2'	8:A:1449:G:H8	1.54	0.71
8:A:2720:U:C4	8:A:2873:A:N7	2.58	0.71
9:B:117:G:H2'	9:B:118:C:C6	2.25	0.71
34:a:1338:G:H1'	55:v:42:G:H5"	1.70	0.71
34:a:1419:G:C5	34:a:1420:U:H1'	2.25	0.71
35:b:98:GLY:N	35:b:174:GLU:OE2	2.23	0.71
54:u:22:CYS:SG	54:u:23:GLU:N	2.63	0.71
8:A:601:C:O2'	12:E:99:LYS:NZ	2.21	0.71
8:A:611:C:H2'	8:A:612:G:O4'	1.89	0.71
8:A:906:U:H2'	8:A:907:G:C8	2.26	0.71
8:A:1181:U:H2'	8:A:1182:G:C8	2.25	0.71
8:A:1524:G:H2'	8:A:1525:A:C8	2.25	0.71
8:A:1866:A:H2'	8:A:1867:G:O4'	1.89	0.71
8:A:2600:A:H2'	8:A:2601:C:C6	2.25	0.71
19:L:88:GLY:O	19:L:121:THR:N	2.22	0.71
21:N:98:LEU:N	21:N:112:TYR:O	2.22	0.71
34:a:448:A:N7	34:a:486:U:C4	2.58	0.71
34:a:556:C:H2'	34:a:557:G:H8	1.54	0.71
34:a:925:G:N2	34:a:1391:U:O2	2.23	0.71
43:j:10:LEU:N	43:j:72:ARG:O	2.23	0.71
46:m:44:ILE:HG23	46:m:47:LEU:HD22	1.71	0.71
3:2:40:ALA:N	8:A:459:U:OP1	2.22	0.71
8:A:78:U:H2'	8:A:79:C:H6	1.55	0.71
8:A:1682:G:H2'	8:A:1683:U:C6	2.25	0.71
8:A:1946:U:H2'	8:A:1947:C:C6	2.24	0.71
8:A:2037:A:H2'	8:A:2038:G:H8	1.54	0.71
8:A:2102:G:C2	8:A:2103:C:H1'	2.26	0.71
21:N:65:LEU:HD11	21:N:69:ARG:HH11	1.55	0.71
25:R:6:GLN:N	25:R:37:GLU:OE2	2.21	0.71
34:a:407:U:H2'	34:a:408:A:H8	1.55	0.71
34:a:489:C:H2'	34:a:490:C:C6	2.25	0.71
38:e:82:HIS:ND1	38:e:83:PRO:O	2.22	0.71
42:i:129:ARG:NH2	55:v:35:A:OP2	2.22	0.71
8:A:319:G:H1	8:A:323:C:H5	1.36	0.71
8:A:796:C:H2'	8:A:797:G:C8	2.26	0.71
8:A:995:C:OP2	24:Q:52:ARG:NH2	2.23	0.71
8:A:1161:C:H2'	8:A:1162:G:C8	2.25	0.71
8:A:1283:G:N2	8:A:1286:A:OP2	2.24	0.71
8:A:2357:G:O5'	30:W:16:ARG:NH2	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2528:U:O4	8:A:2535:G:O6	2.08	0.71
8:A:2637:U:H5'	11:D:45:TYR:CZ	2.26	0.71
8:A:2720:U:O4'	8:A:2872:A:N6	2.24	0.71
22:O:92:PHE:HB2	22:O:117:PHE:CD2	2.25	0.71
38:e:99:SER:HG	38:e:102:THR:HG1	1.39	0.71
50:q:77:VAL:HG11	50:q:80:LYS:HB2	1.72	0.71
8:A:458:G:N2	8:A:470:A:OP2	2.22	0.71
8:A:759:G:H2'	8:A:760:G:C8	2.26	0.71
8:A:2008:C:H2'	8:A:2009:A:C8	2.25	0.71
8:A:2442:C:H2'	8:A:2443:C:H6	1.54	0.71
8:A:2886:A:H3'	8:A:2887:A:H8	1.55	0.71
20:M:26:VAL:HB	20:M:133:LYS:HA	1.73	0.71
23:P:112:ARG:HH21	23:P:114:ASN:HD21	1.37	0.71
34:a:237:G:H2'	34:a:238:A:C8	2.24	0.71
34:a:378:G:H2'	34:a:379:C:H6	1.56	0.71
34:a:459:A:H2'	34:a:460:A:C8	2.26	0.71
34:a:826:C:O2	41:h:15:ASN:ND2	2.22	0.71
8:A:75:G:O3'	32:Y:48:ARG:NH1	2.24	0.71
8:A:556:A:H3'	8:A:557:C:H6	1.56	0.71
8:A:1825:U:H2'	8:A:1826:G:C8	2.23	0.71
30:W:16:ARG:O	30:W:35:ARG:NH1	2.22	0.71
34:a:34:C:H2'	34:a:35:G:H8	1.54	0.71
34:a:338:A:N1	34:a:351:G:O6	2.24	0.71
34:a:358:U:H2'	34:a:359:G:H8	1.54	0.71
34:a:493:A:H2'	34:a:494:G:C8	2.24	0.71
34:a:1252:A:H2'	34:a:1253:G:C8	2.25	0.71
35:b:55:GLU:HA	35:b:58:LYS:HD2	1.71	0.71
37:d:98:ASP:OD2	37:d:114:ARG:NH1	2.23	0.71
46:m:108:ARG:NH1	46:m:108:ARG:O	2.21	0.71
56:w:8:4SU:H5"	56:w:48:C:H4'	1.72	0.71
7:6:20:ASN:HD21	7:6:39:LYS:H	1.37	0.71
8:A:408:G:H2'	8:A:409:G:C8	2.25	0.71
8:A:2134:A:H3'	8:A:2156:G:H22	1.54	0.71
8:A:2313:C:H2'	8:A:2314:A:C8	2.25	0.71
8:A:2820:A:O2'	21:N:3:HIS:ND1	2.19	0.71
9:B:16:G:N2	9:B:69:G:H1'	2.06	0.71
9:B:93:C:H2'	9:B:94:A:H8	1.55	0.71
34:a:35:G:H2'	34:a:36:C:C6	2.26	0.71
34:a:119:A:N7	34:a:287:U:C2	2.57	0.71
34:a:253:A:OP1	50:q:68:LYS:NZ	2.19	0.71
34:a:958:A:H2'	34:a:959:A:C4	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:d:122:ILE:HG23	37:d:142:VAL:HG23	1.72	0.71
45:l:113:ARG:HB2	45:l:118:VAL:HB	1.72	0.71
56:w:61:C:H2'	56:w:62:C:C6	2.26	0.71
2:1:37:LYS:HB2	2:1:48:TYR:CG	2.25	0.71
8:A:174:U:H2'	8:A:175:G:C8	2.24	0.71
8:A:877:A:O2'	8:A:900:A:N6	2.23	0.71
8:A:1114:C:H2'	8:A:1115:G:C8	2.24	0.71
8:A:2711:A:H3'	8:A:2714:G:H4'	1.72	0.71
9:B:116:G:H2'	9:B:117:G:C8	2.26	0.71
14:G:86:LEU:HB3	14:G:130:ILE:HB	1.72	0.71
14:G:94:ARG:N	14:G:105:SER:OG	2.23	0.71
17:J:43:GLU:N	17:J:43:GLU:OE1	2.23	0.71
17:J:109:LEU:O	17:J:111:LYS:NZ	2.24	0.71
19:L:96:LYS:NZ	19:L:103:ILE:O	2.20	0.71
20:M:90:GLU:HG3	20:M:91:TYR:HD2	1.56	0.71
27:T:39:THR:N	27:T:42:GLU:OE2	2.24	0.71
34:a:269:C:H2'	34:a:270:A:C8	2.26	0.71
34:a:321:A:H2'	34:a:322:C:C6	2.26	0.71
42:i:48:ARG:HG2	42:i:52:GLU:HB3	1.73	0.71
8:A:1056:G:N3	8:A:1103:A:C6	2.59	0.71
8:A:1168:G:H1	8:A:1181:U:H3	0.75	0.71
8:A:1183:U:H2'	8:A:1184:U:H6	1.55	0.71
8:A:1394:U:H2'	8:A:1395:A:O4'	1.91	0.71
8:A:1495:A:H2'	8:A:1496:A:C8	2.25	0.71
8:A:1830:C:H2'	8:A:1831:G:H8	1.56	0.71
18:K:39:ILE:O	18:K:60:ALA:N	2.23	0.71
19:L:135:ILE:HG22	19:L:140:GLY:HA3	1.71	0.71
21:N:2:ARG:HA	21:N:5:LYS:HD3	1.71	0.71
26:S:60:HIS:O	26:S:61:ASN:ND2	2.23	0.71
53:t:4:LYS:HG3	53:t:6:ALA:H	1.55	0.71
55:v:5:G:H2'	55:v:6:G:H8	1.56	0.71
4:3:4:LYS:NZ	8:A:253:C:OP1	2.23	0.71
7:6:42:PRO:O	7:6:45:THR:C	2.34	0.71
8:A:112:U:H2'	8:A:113:U:C2	2.26	0.71
8:A:839:U:H3	8:A:939:G:H1	1.37	0.71
8:A:1114:C:H2'	8:A:1115:G:H8	1.56	0.71
8:A:1162:G:H2'	8:A:1163:G:H8	1.54	0.71
8:A:1198:U:H2'	8:A:1199:U:H6	1.55	0.71
8:A:2645:G:OP2	8:A:2645:G:N2	2.21	0.71
17:J:64:VAL:HG22	17:J:69:ARG:HH21	1.56	0.71
34:a:745:G:H2'	34:a:746:A:C8	2.26	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1178:G:O6	42:i:98:ARG:NH2	2.18	0.71
34:a:1381:U:H2'	34:a:1382:C:C2	2.26	0.71
34:a:1522:U:H2'	34:a:1523:G:H8	1.56	0.71
38:e:106:ALA:HB1	38:e:110:MET:HE3	1.71	0.71
8:A:16:C:N3	8:A:525:U:O2	2.24	0.70
8:A:439:A:H2'	8:A:440:C:C6	2.26	0.70
8:A:2366:A:H4'	30:W:58:LYS:HE3	1.73	0.70
23:P:47:ILE:HD13	23:P:61:ARG:HB2	1.72	0.70
34:a:166:U:H2'	34:a:167:A:H8	1.53	0.70
34:a:409:U:O4	34:a:433:G:O6	2.09	0.70
34:a:570:G:H2'	34:a:571:U:C6	2.26	0.70
44:k:48:GLY:O	44:k:68:ARG:NH1	2.24	0.70
47:n:56:SER:O	47:n:60:GLN:NE2	2.24	0.70
8:A:366:C:H2'	8:A:367:G:C8	2.26	0.70
8:A:638:G:H2'	8:A:639:U:H6	1.55	0.70
8:A:810:U:C4	19:L:30:THR:HG22	2.25	0.70
8:A:887:A:H4'	8:A:887:A:OP1	1.91	0.70
10:C:141:HIS:ND1	10:C:192:GLY:O	2.24	0.70
11:D:38:LYS:NZ	11:D:81:GLU:OE2	2.20	0.70
13:F:109:ARG:NH1	13:F:135:ILE:O	2.23	0.70
31:X:2:ARG:HG2	31:X:49:ARG:HH22	1.55	0.70
34:a:589:U:C2	34:a:650:G:O6	2.44	0.70
34:a:594:U:O2	34:a:645:G:O6	2.09	0.70
56:w:26:A:N1	56:w:44:G:N2	2.39	0.70
6:5:55:VAL:HA	8:A:1084:A:H5'	1.72	0.70
8:A:577:G:H2'	8:A:578:G:C8	2.25	0.70
8:A:1146:C:H2'	8:A:1147:A:H8	1.55	0.70
8:A:1581:G:H2'	8:A:1582:C:C6	2.25	0.70
8:A:2691:C:N3	8:A:2719:G:N2	2.38	0.70
34:a:577:G:H2'	34:a:578:C:C6	2.26	0.70
34:a:1038:C:H2'	34:a:1039:G:C8	2.26	0.70
34:a:1241:G:H2'	34:a:1242:G:C8	2.26	0.70
38:e:99:SER:OG	38:e:102:THR:OG1	2.09	0.70
42:i:35:GLU:HA	42:i:44:ARG:HE	1.56	0.70
8:A:20:C:H2'	8:A:21:A:H8	1.55	0.70
8:A:33:C:N3	8:A:473:G:N2	2.38	0.70
8:A:1654:A:O2'	11:D:118:PHE:O	2.08	0.70
8:A:1844:C:H5"	10:C:255:LYS:HG3	1.73	0.70
8:A:2514:U:H2'	8:A:2515:C:C6	2.27	0.70
22:O:5:SER:HA	22:O:8:ILE:HD12	1.73	0.70
34:a:151:A:N7	34:a:170:U:O4	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:901:A:C5	34:a:902:G:H1'	2.26	0.70
34:a:1057:G:H5"	36:c:153:SER:HB3	1.71	0.70
34:a:1267:C:H3'	34:a:1268:G:H8	1.55	0.70
37:d:45:PRO:HG2	37:d:47:LEU:HD11	1.72	0.70
8:A:111:A:H2'	8:A:112:U:C6	2.26	0.70
8:A:219:A:N3	8:A:234:U:O2'	2.22	0.70
8:A:871:U:H2'	8:A:872:U:C6	2.27	0.70
8:A:1318:U:H2'	8:A:1319:C:C6	2.27	0.70
8:A:1463:C:H2'	8:A:1464:G:C8	2.26	0.70
8:A:2016:U:H2'	8:A:2017:U:C6	2.27	0.70
8:A:2720:U:N3	8:A:2873:A:C8	2.59	0.70
8:A:2811:G:H2'	8:A:2812:G:H8	1.56	0.70
27:T:59:ASN:HB2	27:T:84:TYR:HB2	1.72	0.70
34:a:391:G:O3'	49:p:8:ARG:NH2	2.25	0.70
34:a:617:G:N1	34:a:624:C:N3	2.39	0.70
34:a:673:A:H2'	34:a:674:G:C8	2.27	0.70
34:a:674:G:H1	34:a:716:A:H2	1.37	0.70
34:a:1154:G:H2'	34:a:1155:A:C8	2.27	0.70
46:m:67:ASP:OD1	46:m:70:ARG:NH1	2.25	0.70
47:n:46:LEU:O	47:n:50:THR:HG23	1.91	0.70
8:A:52:A:OP2	8:A:119:A:N6	2.21	0.70
8:A:481:G:H2'	8:A:507:A:H62	1.57	0.70
8:A:594:U:H3	8:A:663:G:H1	0.80	0.70
8:A:1571:A:H2'	8:A:1572:A:H8	1.54	0.70
8:A:2785:C:H2'	8:A:2786:U:C6	2.26	0.70
34:a:755:G:H2'	34:a:756:C:C6	2.27	0.70
34:a:1149:C:O2'	34:a:1280:A:N1	2.24	0.70
35:b:166:ASP:OD1	35:b:190:SER:OG	2.07	0.70
37:d:115:GLN:O	37:d:118:SER:OG	2.08	0.70
42:i:32:ARG:NH1	42:i:36:GLN:O	2.21	0.70
50:q:10:ARG:N	50:q:23:ALA:O	2.24	0.70
8:A:167:A:H3'	8:A:168:G:H8	1.56	0.70
8:A:595:C:H2'	8:A:596:U:H6	1.55	0.70
8:A:1590:A:H2'	8:A:1591:A:H8	1.56	0.70
8:A:1851:U:O2	8:A:1891:G:O6	2.10	0.70
8:A:1879:C:H2'	8:A:1880:U:C6	2.26	0.70
8:A:2204:G:OP2	10:C:149:LYS:NZ	2.16	0.70
8:A:2640:G:OP1	17:J:96:ARG:NH2	2.24	0.70
9:B:8:C:H5"	22:O:15:ARG:HH22	1.55	0.70
24:Q:98:ALA:O	24:Q:102:LYS:NZ	2.17	0.70
34:a:21:G:H2'	34:a:22:G:H8	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1086:U:H2'	34:a:1087:G:C8	2.21	0.70
34:a:1430:A:N6	34:a:1471:U:O4	2.24	0.70
39:f:36:ILE:HG23	39:f:64:VAL:HG22	1.72	0.70
40:g:69:ARG:NH2	40:g:96:ASN:OD1	2.25	0.70
56:w:6:G:H2'	56:w:7:A:C8	2.26	0.70
8:A:592:A:H2'	8:A:593:U:C6	2.27	0.70
8:A:631:A:H2'	8:A:632:A:O4'	1.91	0.70
8:A:690:G:O3'	10:C:216:ARG:NH1	2.18	0.70
8:A:2010:G:OP2	26:S:41:LYS:NZ	2.25	0.70
8:A:2096:C:H2'	8:A:2097:A:C8	2.27	0.70
8:A:2204:G:P	10:C:146:LYS:HZ1	2.15	0.70
8:A:2232:C:OP1	31:X:26:ARG:NH1	2.24	0.70
32:Y:3:ALA:HA	32:Y:6:LEU:HD12	1.72	0.70
34:a:108:G:OP1	34:a:326:G:N2	2.25	0.70
34:a:137:U:H2'	34:a:138:G:H8	1.57	0.70
34:a:674:G:O6	34:a:716:A:N1	2.25	0.70
36:c:149:LYS:HB3	36:c:200:TRP:HB2	1.73	0.70
42:i:113:LYS:HA	42:i:120:ALA:HB2	1.74	0.70
49:p:4:ILE:HG12	49:p:21:VAL:HG23	1.74	0.70
2:1:36:LYS:HG2	2:1:47:ILE:HD12	1.74	0.70
8:A:75:G:C6	8:A:111:A:N1	2.60	0.70
8:A:1408:G:O6	8:A:1594:U:O4	2.08	0.70
8:A:1415:U:H3	8:A:1587:G:H1	1.40	0.70
8:A:1444:G:H2'	8:A:1445:G:H8	1.57	0.70
8:A:1801:A:N6	8:A:2201:G:O2'	2.25	0.70
8:A:2444:G:H2'	8:A:2445:2MG:H8	1.57	0.70
8:A:2514:U:H3	8:A:2570:G:H1	1.40	0.70
9:B:15:A:H3'	9:B:16:G:C8	2.25	0.70
34:a:652:U:O4	34:a:752:G:O2'	2.09	0.70
34:a:958:A:HO2'	34:a:985:C:HO2'	1.31	0.70
36:c:122:GLN:HA	36:c:125:ARG:HE	1.57	0.70
37:d:94:GLU:OE2	37:d:103:ARG:NH2	2.25	0.70
3:2:32:ALA:O	3:2:36:ALA:N	2.20	0.70
7:6:1:MET:HA	9:B:43:C:H5"	1.73	0.70
8:A:310:A:O2'	8:A:311:A:H2'	1.92	0.70
8:A:420:C:H2'	8:A:421:C:C6	2.27	0.70
8:A:618:G:OP2	12:E:102:ARG:NH1	2.23	0.70
8:A:821:A:H8	8:A:946:C:C6	2.09	0.70
8:A:903:C:H2'	8:A:904:G:C8	2.26	0.70
8:A:1294:U:O2	21:N:23:ASN:ND2	2.25	0.70
8:A:1358:G:N2	8:A:1373:A:N6	2.12	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1750:G:O2'	8:A:2860:A:N1	2.24	0.70
8:A:1857:G:O2'	8:A:1885:A:N6	2.24	0.70
9:B:9:G:P	22:O:25:ARG:HH12	2.15	0.70
10:C:9:SER:OG	10:C:12:ARG:N	2.25	0.70
25:R:24:LYS:HA	25:R:94:THR:HG23	1.74	0.70
27:T:58:VAL:HG23	27:T:85:VAL:HG22	1.72	0.70
34:a:630:A:H2'	34:a:631:C:C2	2.26	0.70
34:a:1157:A:N6	34:a:1178:G:C4	2.59	0.70
34:a:1277:C:H1'	34:a:1282:C:O2	1.92	0.70
43:j:65:TYR:HB3	47:n:96:LEU:HD11	1.74	0.70
44:k:49:SER:HA	44:k:68:ARG:HD3	1.73	0.70
8:A:25:U:H5"	26:S:80:PRO:HD3	1.73	0.69
8:A:153:U:H2'	8:A:154:U:C6	2.27	0.69
8:A:154:U:H2'	8:A:155:A:C8	2.27	0.69
8:A:692:C:HO2'	8:A:1354:A:HO2'	1.40	0.69
8:A:2192:U:O2'	8:A:2193:G:OP1	2.10	0.69
10:C:116:GLN:H	10:C:127:ASN:ND2	1.89	0.69
11:D:88:GLU:OE1	11:D:88:GLU:N	2.25	0.69
19:L:95:LEU:HB3	19:L:101:ILE:HG21	1.73	0.69
34:a:338:A:H2'	34:a:339:C:C6	2.27	0.69
35:b:102:ASN:OD1	35:b:104:LYS:NZ	2.20	0.69
36:c:18:ASN:OD1	36:c:53:ARG:NH2	2.24	0.69
37:d:78:ALA:HA	37:d:81:LEU:HB2	1.72	0.69
3:2:3:ARG:NH2	8:A:752:A:OP1	2.24	0.69
8:A:397:U:H3'	31:X:53:LYS:HZ2	1.56	0.69
8:A:1753:G:H2'	8:A:1754:A:H3'	1.74	0.69
8:A:2172:U:H4'	8:A:2174:C:H41	1.56	0.69
8:A:2231:U:H5"	31:X:26:ARG:HH22	1.57	0.69
9:B:115:A:H2'	9:B:116:G:C8	2.28	0.69
11:D:48:ILE:HG23	11:D:84:LEU:HD21	1.73	0.69
11:D:176:ASP:HB2	11:D:190:LYS:HB3	1.74	0.69
12:E:148:ILE:N	12:E:168:ASP:O	2.19	0.69
30:W:36:GLN:HE22	30:W:41:PHE:H	1.40	0.69
34:a:496:A:O2'	34:a:497:G:N7	2.24	0.69
34:a:593:U:H2'	34:a:594:U:C6	2.27	0.69
34:a:806:C:H2'	34:a:807:A:H8	1.56	0.69
34:a:971:G:OP2	34:a:1231:G:N2	2.25	0.69
34:a:1120:C:H2'	34:a:1121:U:H6	1.58	0.69
46:m:33:LEU:HD23	46:m:36:ALA:HB3	1.73	0.69
8:A:540:C:H2'	8:A:541:A:C8	2.26	0.69
8:A:1439:A:H3'	8:A:1440:U:C6	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1685:C:H2'	8:A:1686:C:C6	2.26	0.69
8:A:1982:U:H2'	8:A:1983:G:H8	1.57	0.69
8:A:2386:A:H2'	8:A:2387:U:C6	2.27	0.69
8:A:2726:A:N3	18:K:67:LYS:NZ	2.39	0.69
8:A:2836:U:H2'	8:A:2837:A:H8	1.57	0.69
8:A:2840:C:H2'	8:A:2841:C:H6	1.56	0.69
34:a:18:C:H2'	34:a:19:A:H8	1.57	0.69
34:a:380:G:N1	34:a:384:G:O6	2.24	0.69
34:a:1166:G:N1	34:a:1169:A:OP1	2.25	0.69
35:b:72:LYS:HZ3	35:b:204:ASP:HB3	1.54	0.69
40:g:50:ALA:HB2	40:g:57:GLU:HG2	1.74	0.69
41:h:46:GLU:N	41:h:46:GLU:OE1	2.24	0.69
55:v:21:A:HO2'	55:v:22:G:H8	1.40	0.69
56:w:52:G:H2'	56:w:53:G:C8	2.27	0.69
8:A:84:A:O2'	8:A:99:U:O2	2.09	0.69
8:A:1029:A:N6	8:A:1125:G:H21	1.88	0.69
8:A:1417:C:H2'	8:A:1418:G:C8	2.26	0.69
8:A:2729:G:H2'	8:A:2730:C:C6	2.28	0.69
10:C:130:PRO:HA	10:C:188:ARG:HA	1.74	0.69
10:C:167:ASP:N	10:C:170:TYR:O	2.26	0.69
11:D:117:GLY:O	11:D:165:MET:N	2.24	0.69
14:G:59:ASP:OD1	14:G:59:ASP:N	2.21	0.69
15:H:65:ALA:O	15:H:68:ARG:NH2	2.23	0.69
20:M:33:LEU:HD12	20:M:117:PHE:HD1	1.57	0.69
34:a:119:A:C5	34:a:287:U:O2	2.44	0.69
34:a:314:C:H2'	34:a:315:A:C8	2.27	0.69
34:a:455:G:H2'	34:a:456:A:C8	2.28	0.69
34:a:633:G:H2'	34:a:634:C:C6	2.27	0.69
34:a:1129:C:O2'	34:a:1139:G:O6	2.07	0.69
8:A:794:A:H2'	8:A:795:C:H6	1.56	0.69
8:A:1370:C:O3'	10:C:44:ASN:ND2	2.22	0.69
8:A:1443:U:H2'	8:A:1444:G:C8	2.27	0.69
8:A:1486:U:H2'	8:A:1487:U:H6	1.57	0.69
8:A:2194:U:H2'	8:A:2195:U:H6	1.57	0.69
8:A:2313:C:H5"	13:F:87:LYS:HD3	1.73	0.69
10:C:131:MET:HG2	10:C:134:ILE:HD12	1.74	0.69
14:G:88:LEU:HB2	14:G:128:THR:HG22	1.72	0.69
34:a:253:A:H2'	34:a:254:G:H8	1.56	0.69
34:a:308:C:H2'	34:a:309:A:C8	2.27	0.69
34:a:662:U:H2'	34:a:663:A:H8	1.55	0.69
34:a:1090:U:H2'	34:a:1091:U:H6	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:16:C:H3’	55:v:17:C:O4’	1.92	0.69
8:A:132:G:H2’	8:A:133:U:C6	2.28	0.69
8:A:133:U:H2’	8:A:134:G:C8	2.27	0.69
8:A:534:U:H2’	8:A:535:G:H8	1.58	0.69
8:A:1042:G:O6	8:A:1113:U:O4	2.11	0.69
8:A:1985:C:H2’	8:A:1986:C:H6	1.56	0.69
8:A:2586:U:H2’	8:A:2587:A:C8	2.28	0.69
30:W:50:GLY:N	30:W:54:THR:O	2.26	0.69
31:X:4:CYS:SG	31:X:7:THR:N	2.63	0.69
31:X:66:VAL:O	31:X:70:LEU:HG	1.92	0.69
33:Z:38:GLU:N	33:Z:38:GLU:OE1	2.22	0.69
34:a:834:U:O2	34:a:852:G:O6	2.10	0.69
34:a:1372:U:H3’	34:a:1373:G:H8	1.57	0.69
34:a:1500:A:H5”	34:a:1508:A:H5’	1.73	0.69
41:h:95:MET:HB2	41:h:99:GLY:H	1.58	0.69
50:q:20:ILE:HG21	50:q:52:CYS:HB2	1.75	0.69
7:6:15:SER:O	7:6:34:LEU:N	2.16	0.69
8:A:195:A:H2’	8:A:198:C:H41	1.55	0.69
8:A:319:G:H2’	8:A:320:A:C8	2.28	0.69
8:A:404:A:N1	8:A:421:C:O2’	2.21	0.69
8:A:481:G:OP2	28:U:44:HIS:N	2.20	0.69
8:A:2444:G:H2’	8:A:2445:2MG:C8	2.26	0.69
8:A:2811:G:H2’	8:A:2812:G:C8	2.28	0.69
8:A:2849:U:O4	23:P:20:ARG:NH2	2.26	0.69
10:C:43:ASN:OD1	10:C:47:ARG:N	2.25	0.69
34:a:17:U:H1’	34:a:1080:A:H1’	1.73	0.69
34:a:395:C:H2’	34:a:396:C:C6	2.27	0.69
34:a:985:C:H2’	34:a:986:U:C6	2.27	0.69
36:c:69:THR:O	36:c:105:VAL:N	2.23	0.69
8:A:324:A:H2’	8:A:325:G:O4’	1.93	0.69
8:A:807:U:H2’	8:A:808:G:H8	1.58	0.69
8:A:1039:A:H2’	8:A:1040:A:O4’	1.92	0.69
8:A:1644:C:H2’	8:A:1645:G:C8	2.25	0.69
8:A:1899:A:O2’	8:A:1900:A:OP2	2.11	0.69
8:A:2056:G:OP2	8:A:2057:G:P	2.51	0.69
8:A:2099:U:O2	8:A:2190:G:N2	2.21	0.69
8:A:2144:G:H4’	8:A:2145:C:H5	1.57	0.69
8:A:2307:G:N1	13:F:38:GLY:O	2.26	0.69
8:A:2897:U:H2’	8:A:2898:U:C6	2.27	0.69
9:B:44:G:N2	9:B:48:U:O2	2.26	0.69
9:B:117:G:H2’	9:B:118:C:H6	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:77:LYS:O	13:F:79:ARG:NH2	2.25	0.69
23:P:89:GLY:HA2	23:P:111:GLU:HA	1.74	0.69
27:T:13:ALA:N	27:T:33:LYS:O	2.20	0.69
34:a:62:U:O2	34:a:105:G:N2	2.25	0.69
34:a:129:A:H61	34:a:232:G:H1	1.41	0.69
34:a:356:A:N3	34:a:368:U:O2'	2.24	0.69
34:a:710:G:H2'	34:a:711:G:C8	2.28	0.69
34:a:1412:C:H2'	34:a:1413:A:C8	2.28	0.69
56:w:19:G:N2	56:w:57:G:H1'	2.07	0.69
8:A:250:G:H2'	8:A:251:A:O4'	1.92	0.69
8:A:373:U:C2	8:A:401:A:N6	2.60	0.69
8:A:1298:C:H2'	8:A:1299:G:C8	2.28	0.69
8:A:1322:A:O2'	26:S:84:ARG:NH1	2.26	0.69
8:A:1831:G:H2'	8:A:1832:C:H6	1.58	0.69
8:A:1857:G:H2'	8:A:1884:G:H22	1.57	0.69
8:A:1996:C:O2	8:A:1997:C:H1'	1.93	0.69
8:A:2445:2MG:H2'	8:A:2446:G:H8	1.55	0.69
8:A:2751:G:OP2	14:G:2:ARG:NH2	2.24	0.69
8:A:2759:G:H1'	14:G:34:ARG:HH12	1.58	0.69
10:C:91:ALA:N	10:C:103:ILE:O	2.23	0.69
19:L:55:MET:O	19:L:60:ARG:NH1	2.26	0.69
34:a:109:A:H2'	34:a:326:G:H21	1.57	0.69
34:a:324:G:N2	34:a:327:A:O5'	2.25	0.69
34:a:1524:C:H2'	34:a:1525:G:C8	2.26	0.69
37:d:125:ASN:ND2	37:d:140:ASP:OD2	2.24	0.69
39:f:37:HIS:N	39:f:63:ASN:O	2.21	0.69
43:j:65:TYR:OH	47:n:85:ARG:NE	2.24	0.69
48:o:33:ALA:HA	48:o:36:ASN:HD21	1.57	0.69
49:p:40:ASN:HB3	49:p:49:GLY:HA3	1.74	0.69
54:u:33:ARG:HD2	54:u:34:ARG:HG3	1.75	0.69
8:A:514:A:H2'	8:A:515:A:C8	2.28	0.69
8:A:918:A:H2'	8:A:919:U:H6	1.56	0.69
8:A:1199:U:H2'	8:A:1200:C:C6	2.28	0.69
8:A:1500:G:O3'	10:C:100:ARG:NH1	2.26	0.69
8:A:1555:G:H2'	8:A:1556:C:C6	2.28	0.69
8:A:1990:C:H2'	8:A:1991:U:C2	2.28	0.69
34:a:199:A:H2'	34:a:200:G:H8	1.57	0.69
34:a:567:G:H2'	34:a:568:G:O4'	1.93	0.69
34:a:1134:G:H1	34:a:1140:C:H42	1.39	0.69
34:a:1399:C:O2	34:a:1502:A:N6	2.26	0.69
35:b:176:ASN:ND2	35:b:194:GLY:O	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:i:87:MET:HE3	42:i:94:ARG:HH22	1.57	0.69
55:v:17:C:H5"	55:v:17(A):U:H5"	1.75	0.69
3:2:8:SER:HB3	3:2:11:LYS:HB2	1.74	0.68
8:A:61:C:OP2	32:Y:47:ARG:NH1	2.25	0.68
8:A:576:U:O2'	8:A:2502:G:O6	2.11	0.68
8:A:644:A:N1	8:A:2369:A:H1'	2.07	0.68
8:A:784:G:OP2	8:A:2589:A:P	2.51	0.68
8:A:895:U:O2'	8:A:897:C:OP2	2.11	0.68
9:B:42:C:O2'	13:F:62:GLN:NE2	2.22	0.68
11:D:196:ALA:O	11:D:199:SER:OG	2.10	0.68
34:a:692:U:O2'	34:a:694:A:N7	2.19	0.68
34:a:714:G:H2'	34:a:715:A:C8	2.28	0.68
35:b:182:VAL:HB	35:b:196:ASP:H	1.56	0.68
38:e:32:PHE:O	38:e:52:ALA:N	2.19	0.68
50:q:30:HIS:HE1	50:q:32:ILE:HB	1.58	0.68
52:s:11:ASP:OD1	52:s:12:LEU:N	2.26	0.68
2:1:43:ARG:NH2	8:A:643:A:N7	2.41	0.68
8:A:475:C:H4'	8:A:510:C:H5"	1.75	0.68
8:A:935:C:H2'	8:A:936:A:H8	1.58	0.68
8:A:1429:G:H2'	8:A:1430:G:H8	1.58	0.68
17:J:5:THR:O	17:J:7:LYS:NZ	2.26	0.68
23:P:62:LYS:O	23:P:69:VAL:N	2.23	0.68
34:a:19:A:H4'	34:a:864:A:H5'	1.76	0.68
34:a:182:A:O2'	34:a:184:G:N7	2.21	0.68
34:a:355:C:H2'	34:a:356:A:H8	1.57	0.68
34:a:545:C:H2'	34:a:546:A:C8	2.28	0.68
34:a:886:G:O6	34:a:911:U:O4	2.12	0.68
34:a:1028:C:O2'	34:a:1032:G:O6	2.11	0.68
34:a:1219:A:H2'	34:a:1220:G:C8	2.28	0.68
45:l:31:GLY:HA3	45:l:54:VAL:HB	1.75	0.68
7:6:5:ILE:HD12	13:F:63:LYS:HB3	1.74	0.68
8:A:220:G:H22	8:A:427:U:H2'	1.57	0.68
8:A:1476:U:H2'	8:A:1477:A:H8	1.58	0.68
8:A:1675:C:H2'	8:A:1676:A:O4'	1.92	0.68
8:A:1770:G:O6	8:A:1982:U:O4	2.11	0.68
8:A:2037:A:H2'	8:A:2038:G:C8	2.28	0.68
8:A:2134:A:H3'	8:A:2156:G:N2	2.09	0.68
8:A:2307:G:OP1	8:A:2308:G:N2	2.26	0.68
18:K:108:ARG:NH1	34:a:346:G:OP1	2.26	0.68
34:a:931:C:N4	34:a:1387:G:O6	2.25	0.68
35:b:57:ASN:ND2	35:b:222:GLU:OE1	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:i:95:SER:OG	42:i:96:GLU:OE1	2.10	0.68
52:s:2:ARG:NH1	52:s:6:LYS:O	2.25	0.68
8:A:459:U:H3	8:A:470:A:N6	1.88	0.68
8:A:574:A:N6	8:A:2034:U:OP1	2.27	0.68
8:A:665:U:H2'	8:A:666:A:H8	1.59	0.68
8:A:946:C:H2'	8:A:947:A:H8	1.57	0.68
8:A:2118:U:H5	8:A:2148:G:H1'	1.59	0.68
25:R:67:GLY:O	25:R:93:PHE:N	2.22	0.68
31:X:5:GLN:OE1	31:X:49:ARG:N	2.26	0.68
34:a:2:A:N3	34:a:613:C:O2'	2.26	0.68
34:a:67:C:O2'	34:a:171:A:N3	2.24	0.68
34:a:685:G:H2'	34:a:686:U:C6	2.28	0.68
34:a:727:G:N2	34:a:730:G:OP2	2.23	0.68
34:a:923:A:O2'	34:a:1399:C:OP2	2.08	0.68
34:a:1185:G:H2'	34:a:1186:G:C8	2.27	0.68
34:a:1254:A:H2'	34:a:1255:G:C8	2.28	0.68
34:a:1320:C:H2'	34:a:1321:U:C6	2.27	0.68
34:a:1388:C:H2'	34:a:1389:C:H6	1.58	0.68
34:a:1487:G:H2'	34:a:1488:G:C8	2.25	0.68
44:k:32:THR:OG1	44:k:42:GLY:O	2.06	0.68
8:A:434:U:O2	8:A:435:C:N4	2.26	0.68
8:A:630:G:N2	8:A:633:A:OP2	2.25	0.68
8:A:796:C:H2'	8:A:797:G:H8	1.59	0.68
8:A:1425:G:H2'	8:A:1426:G:C8	2.28	0.68
8:A:1483:G:O6	8:A:1506:U:O2	2.11	0.68
8:A:1486:U:H2'	8:A:1487:U:C6	2.28	0.68
8:A:1676:A:H2'	8:A:1677:A:O4'	1.93	0.68
8:A:1681:G:N3	8:A:1762:A:H2'	2.09	0.68
11:D:148:GLN:HB2	11:D:152:PRO:HG2	1.74	0.68
30:W:48:GLY:N	30:W:56:PHE:O	2.16	0.68
34:a:1084:G:H5"	34:a:1086:U:C4	2.27	0.68
56:w:9:A:N3	56:w:45:U:H2'	2.08	0.68
56:w:18:G:H1	56:w:55:PSU:HN3	1.42	0.68
8:A:106:C:H2'	8:A:107:G:H8	1.58	0.68
8:A:297:G:H3'	8:A:298:G:H8	1.57	0.68
8:A:321:U:H5"	12:E:131:THR:HG23	1.74	0.68
8:A:545:U:H2'	8:A:546:U:C2	2.28	0.68
8:A:1029:A:H62	8:A:1125:G:N2	1.92	0.68
8:A:1291:C:H2'	8:A:1292:G:C8	2.27	0.68
8:A:1464:G:H2'	8:A:1465:G:C8	2.28	0.68
8:A:1464:G:H2'	8:A:1465:G:H8	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2019:A:H61	8:A:2035:G:H1	0.78	0.68
8:A:2186:G:C2	8:A:2187:U:H1'	2.29	0.68
24:Q:84:LYS:HB2	24:Q:115:ALA:HB1	1.75	0.68
27:T:37:ASP:O	27:T:81:LYS:NZ	2.27	0.68
34:a:249:U:O2	34:a:275:G:O6	2.11	0.68
34:a:287:U:H2'	34:a:288:A:C8	2.28	0.68
34:a:605:U:O2	34:a:633:G:N2	2.26	0.68
34:a:1057:G:H2'	34:a:1058:G:O4'	1.94	0.68
34:a:1060:U:H2'	34:a:1061:G:C8	2.29	0.68
34:a:1439:G:OP2	53:t:32:LYS:NZ	2.26	0.68
34:a:1493:A:OP1	60:a:2001:AM2:NC6	2.26	0.68
41:h:33:VAL:O	41:h:37:ASN:ND2	2.27	0.68
8:A:347:A:H2'	8:A:348:A:C8	2.29	0.68
8:A:671:C:O2'	8:A:672:C:O5'	2.09	0.68
8:A:740:C:OP2	8:A:1784:A:OP1	2.11	0.68
8:A:1136:G:HO2'	8:A:2038:G:HO2'	1.40	0.68
8:A:1375:U:H2'	8:A:1376:C:C6	2.29	0.68
8:A:1664:A:H2'	8:A:1665:A:H8	1.59	0.68
8:A:1999:C:H2'	8:A:2000:C:C6	2.27	0.68
8:A:2144:G:O2'	8:A:2147:A:N6	2.27	0.68
8:A:2535:G:H2'	8:A:2536:G:C8	2.27	0.68
12:E:130:LYS:HB2	12:E:133:LEU:HG	1.76	0.68
23:P:13:LYS:NZ	23:P:75:THR:O	2.21	0.68
27:T:4:GLU:HA	27:T:7:LEU:HB2	1.75	0.68
29:V:59:GLU:HG2	29:V:60:VAL:H	1.59	0.68
34:a:123:U:H2'	34:a:124:C:C6	2.28	0.68
34:a:541:G:H2'	34:a:542:G:C8	2.29	0.68
38:e:129:SER:OG	38:e:131:ASN:OD1	2.12	0.68
8:A:108:G:H2'	8:A:109:C:C6	2.29	0.68
8:A:143:C:H2'	8:A:144:A:H8	1.58	0.68
8:A:194:G:H2'	8:A:195:A:O4'	1.92	0.68
8:A:1042:G:N1	8:A:1113:U:C2	2.58	0.68
8:A:1826:G:O2'	8:A:1971:U:OP2	2.11	0.68
10:C:239:PHE:O	10:C:241:LYS:HG2	1.94	0.68
12:E:90:GLN:HB2	12:E:92:HIS:CE1	2.29	0.68
18:K:21:CYS:HA	18:K:41:ILE:HA	1.73	0.68
28:U:85:ARG:HH12	28:U:99:SER:HB3	1.59	0.68
34:a:76:G:O6	34:a:93:U:O2	2.12	0.68
34:a:497:G:H2'	34:a:498:A:C8	2.28	0.68
34:a:750:C:H2'	34:a:751:U:C6	2.29	0.68
34:a:1284:C:H3'	34:a:1285:A:C8	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:g:46:LEU:HD11	40:g:57:GLU:HB3	1.76	0.68
43:j:40:ILE:HB	43:j:73:LEU:HB3	1.75	0.68
50:q:61:ARG:O	50:q:73:THR:N	2.24	0.68
7:6:3:LYS:NZ	7:6:4:ASP:OD2	2.24	0.68
8:A:578:G:OP1	8:A:1255:U:O2'	2.11	0.68
8:A:725:G:H2'	8:A:726:G:C4	2.28	0.68
8:A:984:A:H3'	8:A:985:C:C6	2.29	0.68
8:A:1614:A:N6	26:S:92:ARG:O	2.19	0.68
8:A:2277:G:OP1	20:M:11:LYS:NZ	2.24	0.68
8:A:2278:A:OP1	20:M:10:ARG:NH2	2.26	0.68
8:A:2537:U:H2'	8:A:2538:C:C6	2.28	0.68
8:A:2581:G:H1'	8:A:2582:G:N7	2.09	0.68
8:A:2846:G:OP1	23:P:52:ARG:NH1	2.27	0.68
12:E:29:HIS:HA	19:L:6:LEU:HD23	1.76	0.68
13:F:129:MET:O	13:F:153:ILE:N	2.26	0.68
21:N:95:THR:HA	21:N:115:LEU:HA	1.75	0.68
23:P:27:VAL:N	23:P:42:PHE:O	2.21	0.68
34:a:962:C:H2'	34:a:963:G:H8	1.59	0.68
34:a:1215:G:H2'	34:a:1216:A:H8	1.59	0.68
34:a:1413:A:OP1	45:l:53:ARG:NH2	2.26	0.68
43:j:37:ARG:HB2	43:j:75:ASP:HB3	1.75	0.68
44:k:19:VAL:O	44:k:33:ILE:HA	1.94	0.68
50:q:13:SER:HB2	50:q:16:MET:HE1	1.75	0.68
7:6:18:CYS:N	7:6:40:CYS:SG	2.67	0.68
8:A:259:G:N3	8:A:621:A:O2'	2.27	0.68
8:A:306:U:H2'	8:A:307:G:O4'	1.93	0.68
8:A:1284:A:H2'	8:A:1285:A:C8	2.28	0.68
8:A:1308:A:H2'	8:A:1309:G:H8	1.59	0.68
8:A:1643:G:H2'	8:A:1644:C:H6	1.59	0.68
8:A:2099:U:H2'	8:A:2100:G:C8	2.28	0.68
8:A:2289:G:H2'	8:A:2290:G:H8	1.58	0.68
9:B:62:C:H2'	9:B:63:C:H6	1.59	0.68
34:a:558:G:OP2	34:a:559:A:O2'	2.10	0.68
34:a:794:A:H2'	34:a:795:C:C6	2.29	0.68
34:a:1510:C:H2'	34:a:1511:G:C8	2.29	0.68
35:b:115:ASP:O	35:b:118:THR:OG1	2.11	0.68
42:i:27:ILE:HA	42:i:62:LEU:HB2	1.74	0.68
8:A:440:C:H2'	8:A:441:U:H6	1.59	0.67
8:A:918:A:H2'	8:A:919:U:C6	2.30	0.67
8:A:999:U:O4	8:A:1155:A:N7	2.27	0.67
8:A:1226:A:O5'	24:Q:15:LYS:NZ	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1424:G:H2'	8:A:1425:G:C8	2.29	0.67
8:A:1547:C:H2'	8:A:1548:A:H8	1.59	0.67
8:A:1562:U:H2'	8:A:1563:U:H6	1.60	0.67
8:A:1734:G:H2'	8:A:1735:A:C8	2.29	0.67
21:N:97:ILE:HG23	21:N:113:ILE:HB	1.74	0.67
34:a:376:G:O6	34:a:387:U:C4	2.47	0.67
8:A:948:C:H2'	8:A:949:G:H8	1.59	0.67
8:A:1386:C:H2'	8:A:1387:A:C8	2.29	0.67
8:A:2097:A:H2'	8:A:2098:U:C6	2.29	0.67
8:A:2269:G:C2	8:A:2270:A:H1'	2.29	0.67
8:A:2291:U:H2'	8:A:2292:U:C6	2.29	0.67
9:B:8:C:O3'	22:O:15:ARG:NH1	2.27	0.67
34:a:85:U:H4'	34:a:86:G:H8	1.59	0.67
34:a:946:A:H2'	34:a:947:G:C8	2.29	0.67
34:a:1372:U:OP1	42:i:72:SER:OG	2.12	0.67
34:a:1519:MA6:H8	34:a:1520:C:O4'	1.94	0.67
42:i:93:LEU:HG	42:i:96:GLU:HB2	1.76	0.67
46:m:12:LYS:HD2	46:m:16:ILE:HG22	1.77	0.67
4:3:26:ALA:HB2	19:L:62:PRO:HD3	1.76	0.67
8:A:210:C:H2'	8:A:211:C:H6	1.60	0.67
8:A:243:U:C4	8:A:255:A:H8	2.12	0.67
8:A:355:U:H2'	8:A:356:G:H8	1.58	0.67
8:A:397:U:H3'	31:X:53:LYS:NZ	2.09	0.67
8:A:832:U:H2'	8:A:833:A:H8	1.58	0.67
8:A:1652:A:H62	21:N:11:ASN:HD21	1.41	0.67
8:A:1795:C:O2'	8:A:1901:A:OP2	2.08	0.67
8:A:1800:C:OP1	10:C:257:ARG:NH2	2.26	0.67
8:A:1847:G:O2'	8:A:1848:A:O5'	2.12	0.67
8:A:1954:G:H5"	8:A:2550:G:H21	1.59	0.67
8:A:2747:G:N1	8:A:2756:U:OP1	2.24	0.67
15:H:43:ASN:O	15:H:47:PHE:CB	2.42	0.67
17:J:80:HIS:O	17:J:83:GLY:N	2.27	0.67
24:Q:49:ARG:NH2	25:R:73:LYS:O	2.22	0.67
34:a:201:G:O6	34:a:216:U:O4	2.12	0.67
34:a:500:G:H2'	34:a:501:C:C6	2.29	0.67
34:a:1255:G:N2	34:a:1259:C:O2	2.18	0.67
34:a:1260:G:OP1	34:a:1284:C:O2'	2.10	0.67
36:c:124:GLU:OE2	36:c:189:HIS:N	2.25	0.67
56:w:27:G:H2'	56:w:28:G:C8	2.28	0.67
1:0:3:GLN:NE2	8:A:2017:U:H1'	2.10	0.67
3:2:25:LYS:O	3:2:29:GLN:NE2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:7:G:H2'	8:A:8:C:C6	2.29	0.67
8:A:208:C:H2'	8:A:209:C:C6	2.29	0.67
8:A:241:A:N6	8:A:256:A:OP2	2.26	0.67
8:A:595:C:H2'	8:A:596:U:C6	2.29	0.67
8:A:1048:A:N7	8:A:1111:A:N6	2.43	0.67
8:A:1562:U:H2'	8:A:1563:U:C6	2.29	0.67
8:A:1594:U:H2'	8:A:1595:C:C6	2.29	0.67
8:A:1628:G:H2'	8:A:1629:U:H6	1.58	0.67
8:A:1857:G:H2'	8:A:1884:G:N2	2.10	0.67
8:A:1973:G:H2'	8:A:1974:C:H6	1.57	0.67
8:A:2024:G:O2'	11:D:154:LYS:NZ	2.26	0.67
8:A:2735:G:H2'	8:A:2736:A:C8	2.29	0.67
9:B:5:U:OP1	9:B:61:G:O2'	2.12	0.67
11:D:110:THR:N	11:D:202:ILE:O	2.27	0.67
13:F:36:ASN:OD1	13:F:37:MET:N	2.27	0.67
19:L:121:THR:HG23	19:L:141:LYS:HG3	1.76	0.67
34:a:213:G:H2'	34:a:214:C:H5'	1.76	0.67
34:a:573:A:P	34:a:574:A:OP2	2.52	0.67
34:a:1193:G:OP1	36:c:166:TRP:NE1	2.27	0.67
34:a:1409:C:H2'	34:a:1410:A:C8	2.29	0.67
37:d:6:PRO:HB2	37:d:9:LYS:HB2	1.76	0.67
53:t:73:ARG:HB3	53:t:73:ARG:NH1	2.09	0.67
55:v:62:C:H2'	55:v:63:G:H8	1.59	0.67
56:w:31:A:OP2	56:w:32:PSU:N3	2.27	0.67
56:w:63:G:H2'	56:w:64:A:C8	2.29	0.67
3:2:5:PHE:HE2	8:A:1612:C:H5"	1.60	0.67
8:A:1005:C:H2'	8:A:1006:C:C6	2.29	0.67
8:A:1936:A:H4'	8:A:1937:A:C8	2.30	0.67
11:D:85:ALA:N	11:D:88:GLU:OE2	2.26	0.67
12:E:117:ARG:HH21	12:E:184:ASP:HA	1.59	0.67
34:a:464:U:H2'	34:a:465:A:H2'	1.76	0.67
34:a:556:C:H2'	34:a:557:G:C8	2.29	0.67
34:a:781:A:H2'	34:a:782:A:H5'	1.77	0.67
37:d:10:LEU:HD13	37:d:62:ARG:HD2	1.76	0.67
50:q:61:ARG:N	50:q:73:THR:O	2.26	0.67
8:A:620:G:O2'	19:L:99:ASN:ND2	2.28	0.67
8:A:665:U:H2'	8:A:666:A:C8	2.29	0.67
8:A:1359:A:OP1	8:A:1360:G:OP2	2.13	0.67
8:A:1734:G:H2'	8:A:1735:A:H8	1.60	0.67
8:A:1790:C:H2'	8:A:1791:A:C5	2.30	0.67
8:A:1799:G:O5'	8:A:1819:A:N6	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1799:G:N1	8:A:1819:A:OP2	2.22	0.67
8:A:1871:A:H3'	8:A:1872:A:C8	2.29	0.67
8:A:2167:U:N3	8:A:2170:A:OP1	2.28	0.67
20:M:33:LEU:N	20:M:103:TYR:O	2.24	0.67
34:a:161:A:H3'	34:a:162:A:H8	1.59	0.67
34:a:577:G:H2'	34:a:578:C:H6	1.59	0.67
34:a:896:C:H2'	34:a:897:C:H6	1.58	0.67
34:a:925:G:H2'	34:a:927:G:C8	2.30	0.67
34:a:1112:C:O2	36:c:178:ARG:N	2.24	0.67
41:h:93:LYS:NZ	41:h:112:ASP:OD1	2.27	0.67
44:k:34:THR:HA	44:k:40:ALA:HA	1.77	0.67
55:v:69:C:H2'	55:v:70:G:C8	2.19	0.67
8:A:197:A:OP1	8:A:198:C:OP2	2.12	0.67
8:A:732:C:H2'	8:A:733:G:O4'	1.95	0.67
8:A:923:G:H2'	8:A:924:G:C8	2.29	0.67
8:A:941:A:H3'	8:A:942:G:H8	1.60	0.67
8:A:1356:G:H2'	8:A:1357:C:C6	2.29	0.67
8:A:1722:A:N6	8:A:1738:G:O2'	2.28	0.67
8:A:1812:U:O2'	10:C:44:ASN:N	2.28	0.67
8:A:2073:C:H2'	8:A:2074:U:H6	1.59	0.67
8:A:2582:G:H2'	8:A:2583:G:H8	1.59	0.67
9:B:6:G:H2'	9:B:7:G:C8	2.30	0.67
10:C:263:ASP:OD1	10:C:263:ASP:N	2.27	0.67
24:Q:90:ASP:N	25:R:11:GLN:OE1	2.25	0.67
34:a:54:C:OP1	34:a:351:G:N2	2.28	0.67
34:a:677:U:O2	34:a:777:A:O2'	2.12	0.67
36:c:28:PHE:HZ	47:n:93:ILE:HG23	1.59	0.67
5:4:5:ALA:N	8:A:2466:C:OP1	2.28	0.67
8:A:514:A:H2'	8:A:515:A:H8	1.60	0.67
8:A:764:A:H5"	10:C:208:GLY:HA2	1.75	0.67
8:A:995:C:O2	24:Q:92:LYS:NZ	2.28	0.67
8:A:1174:U:H2'	8:A:1175:A:C6	2.29	0.67
8:A:1175:A:N3	8:A:1175:A:H2'	2.10	0.67
8:A:1184:U:H5'	33:Z:29:ARG:NH1	2.08	0.67
8:A:1358:G:C2	8:A:1373:A:N6	2.60	0.67
8:A:1432:G:H2'	8:A:1433:A:C8	2.29	0.67
8:A:2065:C:H2'	8:A:2066:C:H6	1.60	0.67
8:A:2073:C:N3	8:A:2437:G:N1	2.43	0.67
8:A:2666:C:N4	14:G:108:PHE:O	2.19	0.67
11:D:46:ARG:NE	11:D:86:GLU:OE1	2.28	0.67
12:E:22:ASP:OD1	12:E:23:PHE:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:27:GLY:N	14:G:30:GLY:O	2.27	0.67
34:a:235:C:H2'	34:a:236:A:H8	1.59	0.67
34:a:625:U:H2'	34:a:626:G:H8	1.59	0.67
34:a:745:G:H2'	34:a:746:A:H8	1.60	0.67
34:a:888:G:H21	34:a:909:A:H62	1.40	0.67
34:a:1072:G:H2'	34:a:1073:U:H6	1.59	0.67
34:a:1252:A:H2'	34:a:1253:G:H8	1.59	0.67
34:a:1392:G:H2'	34:a:1393:U:C6	2.30	0.67
34:a:1476:A:H2'	34:a:1477:U:C6	2.30	0.67
41:h:28:SER:HB3	41:h:58:LEU:HB2	1.76	0.67
8:A:117:G:OP2	8:A:119:A:O2'	2.13	0.67
8:A:563:A:OP2	25:R:79:ARG:NH2	2.28	0.67
8:A:1354:A:N6	8:A:1377:G:H21	1.93	0.67
8:A:1561:C:H2'	8:A:1562:U:H6	1.59	0.67
8:A:1746:A:H2'	8:A:1747:U:C6	2.30	0.67
8:A:2125:G:N2	8:A:2172:U:OP1	2.28	0.67
8:A:2297:A:H62	8:A:2319:G:H21	1.43	0.67
8:A:2751:G:P	14:G:2:ARG:HH22	2.17	0.67
8:A:2812:G:H2'	8:A:2813:A:C8	2.30	0.67
9:B:22:U:O4	9:B:61:G:O6	2.12	0.67
11:D:108:ASP:N	11:D:204:LYS:O	2.22	0.67
20:M:109:PRO:HB2	20:M:112:LEU:HB3	1.76	0.67
34:a:545:C:H2'	34:a:546:A:H8	1.60	0.67
34:a:920:U:H2'	34:a:921:U:C6	2.30	0.67
34:a:1059:C:H2'	34:a:1060:U:C6	2.29	0.67
38:e:87:VAL:HB	38:e:92:ARG:HG3	1.75	0.67
58:z:0:U:H2'	58:z:1:A:C8	2.30	0.67
8:A:68:G:H2'	8:A:69:C:H6	1.60	0.67
8:A:772:C:H2'	8:A:773:U:C6	2.29	0.67
8:A:2836:U:H2'	8:A:2837:A:C8	2.30	0.67
34:a:38:G:H1	34:a:397:A:H5'	1.59	0.67
34:a:516:PSU:H2'	34:a:517:G:C4	2.29	0.67
34:a:634:C:H2'	34:a:635:A:C8	2.26	0.67
34:a:879:C:H2'	34:a:880:C:C6	2.30	0.67
34:a:1130:A:N6	34:a:1131:G:O6	2.28	0.67
34:a:1280:A:OP2	43:j:9:ARG:NH2	2.22	0.67
8:A:177:G:H3'	8:A:178:G:H8	1.60	0.66
8:A:448:U:H4'	12:E:79:ARG:HH21	1.58	0.66
8:A:464:U:H2'	8:A:465:G:C8	2.30	0.66
8:A:975:A:O4'	25:R:78:ARG:NH1	2.28	0.66
8:A:2011:U:H2'	8:A:2012:G:O4'	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2257:U:H2'	8:A:2258:C:C6	2.30	0.66
8:A:2265:U:H2'	8:A:2266:A:C8	2.30	0.66
8:A:2362:C:H2'	8:A:2363:G:C8	2.28	0.66
8:A:2706:A:O2'	8:A:2707:U:OP1	2.10	0.66
14:G:101:VAL:HG22	14:G:115:GLN:HA	1.75	0.66
27:T:61:LEU:HD21	27:T:82:LYS:HB3	1.77	0.66
34:a:680:C:H2'	34:a:681:A:H8	1.58	0.66
34:a:767:A:H2'	34:a:768:A:H8	1.60	0.66
36:c:153:SER:O	36:c:196:GLY:N	2.28	0.66
56:w:10:G:H2'	56:w:11:C:C6	2.30	0.66
1:0:30:ASP:OD2	1:0:33:SER:N	2.28	0.66
7:6:16:CYS:SG	7:6:17:SER:N	2.69	0.66
8:A:522:A:H2'	8:A:523:C:C6	2.29	0.66
8:A:1063:G:H2'	16:I:88:GLY:HA3	1.76	0.66
8:A:1341:G:H1'	27:T:59:ASN:CG	2.20	0.66
8:A:1430:G:H2'	8:A:1431:A:C8	2.30	0.66
8:A:1687:G:N2	8:A:1701:A:C5	2.63	0.66
8:A:1765:U:H2'	8:A:1766:G:H8	1.60	0.66
8:A:1818:U:O2'	10:C:152:GLN:O	2.12	0.66
8:A:2245:U:O2'	8:A:2436:G:OP2	2.12	0.66
9:B:39:A:C5	9:B:40:U:O4	2.48	0.66
11:D:1:MET:HE2	11:D:2:ILE:HG12	1.77	0.66
13:F:105:ILE:HG21	13:F:138:PRO:HG3	1.76	0.66
23:P:26:GLU:HA	23:P:43:GLU:HA	1.77	0.66
34:a:147:G:H2'	34:a:148:G:C8	2.30	0.66
34:a:626:G:P	49:p:35:ARG:HH22	2.19	0.66
34:a:1391:U:H2'	34:a:1392:G:H8	1.60	0.66
36:c:149:LYS:HG3	36:c:168:ARG:HB3	1.78	0.66
38:e:80:LEU:HD23	38:e:119:VAL:HG21	1.76	0.66
50:q:11:VAL:HG13	50:q:54:ILE:HA	1.77	0.66
8:A:576:U:N3	8:A:577:G:O6	2.28	0.66
8:A:586:A:H4'	12:E:84:THR:HG21	1.77	0.66
8:A:648:G:H5"	8:A:2352:A:H5'	1.77	0.66
8:A:1280:G:H2'	8:A:1281:G:H8	1.60	0.66
8:A:2635:A:O2'	11:D:81:GLU:OE1	2.13	0.66
11:D:7:LYS:HB3	11:D:28:GLU:HB3	1.75	0.66
11:D:181:ASP:OD1	11:D:184:ARG:N	2.21	0.66
13:F:62:GLN:HB2	13:F:94:ARG:HH12	1.61	0.66
14:G:86:LEU:HD11	14:G:161:VAL:HB	1.77	0.66
33:Z:6:ILE:HG22	33:Z:56:VAL:HG13	1.78	0.66
34:a:735:C:H2'	34:a:736:C:C6	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:750:C:H4'	48:o:20:ASP:HA	1.77	0.66
34:a:1237:C:O2'	34:a:1300:G:N2	2.28	0.66
7:6:49:ARG:NH1	7:6:50:ASP:CG	2.54	0.66
8:A:291:G:O6	8:A:349:U:C2	2.48	0.66
8:A:2353:G:O2'	30:W:29:ALA:O	2.11	0.66
39:f:41:ASP:OD1	39:f:42:TRP:N	2.28	0.66
44:k:33:ILE:O	44:k:41:LEU:N	2.24	0.66
45:l:37:TYR:O	45:l:51:VAL:N	2.19	0.66
47:n:50:THR:HG22	52:s:12:LEU:HD22	1.76	0.66
52:s:11:ASP:OD2	52:s:13:HIS:NE2	2.29	0.66
2:1:5:ARG:NH2	2:1:23:THR:O	2.28	0.66
8:A:444:C:O2'	8:A:445:C:O5'	2.13	0.66
8:A:515:A:H3'	8:A:516:C:H6	1.59	0.66
8:A:1308:A:H2'	8:A:1309:G:C8	2.31	0.66
8:A:2201:G:H2'	8:A:2202:U:C6	2.30	0.66
18:K:113:MET:HE3	18:K:116:ILE:HG21	1.76	0.66
34:a:210:C:OP2	34:a:211:G:N1	2.29	0.66
34:a:263:A:H2'	34:a:264:C:C6	2.30	0.66
34:a:454:G:H2'	34:a:455:G:C8	2.31	0.66
34:a:538:G:OP2	45:l:109:ARG:NH1	2.28	0.66
34:a:993:G:O2'	34:a:995:C:N4	2.28	0.66
41:h:63:LYS:HB3	41:h:70:VAL:HG21	1.77	0.66
4:3:17:GLY:H	8:A:629:G:P	2.18	0.66
8:A:171:U:H2'	8:A:172:A:C8	2.29	0.66
8:A:666:A:H2'	8:A:667:U:C6	2.29	0.66
8:A:808:G:HO2'	8:A:1254:A:HO2'	1.40	0.66
8:A:2078:C:H2'	8:A:2079:U:C6	2.31	0.66
13:F:65:LEU:N	13:F:87:LYS:O	2.24	0.66
29:V:25:LYS:HD2	29:V:43:ASP:HA	1.77	0.66
34:a:561:U:O2'	34:a:562:U:OP1	2.14	0.66
34:a:1515:G:H2'	34:a:1516:2MG:C8	2.31	0.66
34:a:1523:G:H2'	34:a:1524:C:C6	2.30	0.66
40:g:78:ARG:NH1	40:g:83:THR:OG1	2.28	0.66
8:A:285:G:N2	8:A:355:U:O2	2.25	0.66
8:A:1444:G:H2'	8:A:1445:G:C8	2.30	0.66
8:A:1470:A:H3'	8:A:1471:G:H8	1.59	0.66
8:A:1687:G:C2	8:A:1702:G:C6	2.84	0.66
8:A:1951:U:H2'	8:A:1953:A:OP2	1.96	0.66
8:A:2656:U:O2	8:A:2665:A:N7	2.28	0.66
10:C:139:THR:HG22	10:C:162:GLN:HB2	1.78	0.66
11:D:115:GLY:O	21:N:3:HIS:NE2	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:93:TYR:OH	14:G:151:ARG:NH1	2.27	0.66
20:M:90:GLU:HG3	20:M:91:TYR:CD2	2.29	0.66
34:a:1343:G:H2'	34:a:1344:C:O4'	1.96	0.66
39:f:68:GLN:CD	39:f:68:GLN:H	2.04	0.66
50:q:57:VAL:HB	50:q:78:VAL:HG23	1.78	0.66
8:A:417:C:H2'	8:A:418:C:C6	2.30	0.66
8:A:466:A:N1	8:A:795:C:O2'	2.24	0.66
8:A:532:A:H4'	8:A:533:G:C8	2.31	0.66
8:A:850:U:H2'	8:A:851:C:C6	2.31	0.66
8:A:910:A:N1	8:A:2277:G:H1'	2.11	0.66
8:A:1029:A:C6	8:A:1125:G:N2	2.64	0.66
8:A:1070:A:O2'	8:A:1096:A:O3'	2.14	0.66
8:A:1152:C:H2'	8:A:1153:C:C6	2.31	0.66
8:A:1715:G:O2'	8:A:1716:U:O5'	2.14	0.66
8:A:2127:G:C6	8:A:2161:C:H1'	2.30	0.66
8:A:2249:U:O2'	8:A:2252:G:OP2	2.13	0.66
8:A:2461:A:H1'	8:A:2492:U:C4	2.31	0.66
8:A:2543:G:C6	8:A:2765:A:N7	2.64	0.66
27:T:34:VAL:HG22	27:T:35:ALA:H	1.61	0.66
34:a:600:A:H2'	34:a:601:G:C8	2.30	0.66
34:a:674:G:H2'	34:a:675:A:H8	1.60	0.66
34:a:1024:G:O2'	34:a:1025:U:OP1	2.13	0.66
34:a:1390:U:H2'	34:a:1391:U:C6	2.31	0.66
34:a:1409:C:H2'	34:a:1410:A:H8	1.60	0.66
44:k:118:ASN:H	54:u:34:ARG:NH1	1.94	0.66
8:A:175:G:H2'	8:A:176:A:H8	1.60	0.66
8:A:220:G:H1	8:A:427:U:H3'	1.59	0.66
8:A:583:G:OP1	24:Q:10:ARG:NH1	2.29	0.66
8:A:627:A:P	19:L:78:ARG:HH22	2.19	0.66
8:A:679:C:H2'	8:A:680:C:H6	1.61	0.66
8:A:972:A:OP2	8:A:973:A:O2'	2.14	0.66
8:A:1666:G:H3'	8:A:1667:G:H8	1.61	0.66
8:A:1862:G:N1	8:A:1880:U:N3	2.28	0.66
8:A:2311:A:O2'	8:A:2312:U:O4'	2.12	0.66
8:A:2889:C:H2'	8:A:2890:G:C8	2.31	0.66
9:B:4:C:H2'	9:B:5:U:H6	1.60	0.66
11:D:112:THR:HA	11:D:169:ARG:HA	1.78	0.66
12:E:90:GLN:OE1	12:E:92:HIS:NE2	2.29	0.66
15:H:71:LYS:HE2	15:H:104:THR:HG22	1.77	0.66
19:L:108:ALA:H	19:L:125:LEU:HD11	1.61	0.66
21:N:10:LEU:HB3	21:N:12:ARG:NH2	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R:60:LYS:O	25:R:100:GLY:N	2.27	0.66
34:a:384:G:H2'	34:a:385:C:C6	2.31	0.66
34:a:694:A:H2'	34:a:695:A:O4'	1.96	0.66
34:a:737:C:OP1	39:f:91:ARG:N	2.27	0.66
34:a:834:U:H2'	34:a:835:U:C6	2.31	0.66
34:a:938:A:O3'	40:g:94:ARG:NH2	2.28	0.66
34:a:1017:U:H2'	34:a:1018:G:H8	1.59	0.66
34:a:1161:C:H2'	34:a:1162:C:H6	1.60	0.66
34:a:1520:C:H2'	34:a:1521:C:C6	2.31	0.66
36:c:34:SER:O	36:c:38:VAL:HG13	1.95	0.66
38:e:152:VAL:HA	38:e:155:LYS:HG2	1.78	0.66
40:g:121:ASN:O	40:g:124:SER:OG	2.10	0.66
55:v:41:C:O2'	55:v:42:G:H5'	1.96	0.66
3:2:42:LEU:HB3	8:A:126:A:H61	1.61	0.66
8:A:657:U:H2'	8:A:658:U:C6	2.30	0.66
8:A:814:C:H2'	8:A:815:C:C6	2.31	0.66
8:A:947:A:C6	8:A:971:G:N1	2.64	0.66
8:A:1050:A:H2'	8:A:1051:G:H8	1.61	0.66
8:A:1941:C:H2'	8:A:1942:C:C6	2.30	0.66
8:A:2235:G:H2'	8:A:2236:U:C6	2.30	0.66
8:A:2367:G:H2'	8:A:2368:C:C6	2.31	0.66
8:A:2658:C:N4	8:A:2659:G:O6	2.29	0.66
8:A:2795:C:H2'	8:A:2796:U:C6	2.30	0.66
8:A:2828:G:H2'	8:A:2829:A:C8	2.30	0.66
8:A:2862:G:H2'	8:A:2863:C:C6	2.30	0.66
17:J:57:LEU:HA	17:J:125:TYR:O	1.95	0.66
18:K:41:ILE:N	18:K:58:LEU:O	2.28	0.66
31:X:39:VAL:N	31:X:44:ARG:O	2.24	0.66
34:a:8:A:C6	37:d:205:LYS:HA	2.31	0.66
34:a:222:C:H2'	34:a:223:A:C8	2.27	0.66
34:a:710:G:H2'	34:a:711:G:H8	1.60	0.66
34:a:827:U:H5"	41:h:21:LYS:HE3	1.78	0.66
34:a:1345:U:C2	34:a:1377:A:C6	2.84	0.66
34:a:1516:2MG:N1	34:a:1520:C:N3	2.44	0.66
6:5:8:LYS:HA	8:A:1046:A:C8	2.32	0.65
8:A:151:C:H2'	8:A:152:A:C8	2.30	0.65
8:A:189:G:H21	8:A:207:A:H62	1.42	0.65
8:A:488:G:N1	8:A:491:G:OP2	2.28	0.65
8:A:996:A:H2'	8:A:997:G:C8	2.28	0.65
8:A:1146:C:H2'	8:A:1147:A:C8	2.30	0.65
8:A:1252:G:N3	24:Q:32:ARG:NH2	2.45	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1453:A:H2	21:N:77:ALA:HB2	1.61	0.65
8:A:1797:G:H2'	8:A:1798:U:C6	2.30	0.65
8:A:2358:A:H2'	8:A:2359:C:C6	2.31	0.65
8:A:2464:G:H2'	8:A:2465:C:H6	1.61	0.65
10:C:91:ALA:O	10:C:103:ILE:N	2.29	0.65
14:G:89:VAL:O	14:G:160:GLY:N	2.29	0.65
31:X:36:ARG:HG2	31:X:47:THR:HG22	1.76	0.65
34:a:45:G:H2'	34:a:46:G:C8	2.31	0.65
34:a:376:G:H2'	34:a:377:G:C8	2.31	0.65
34:a:657:U:H2'	34:a:658:C:C6	2.29	0.65
34:a:767:A:H2'	34:a:768:A:C8	2.31	0.65
34:a:894:G:H2'	34:a:895:G:C8	2.31	0.65
34:a:962:C:H2'	34:a:963:G:C8	2.31	0.65
34:a:1119:C:OP1	42:i:84:ARG:NH1	2.29	0.65
34:a:1121:U:H2'	34:a:1122:U:C6	2.31	0.65
34:a:1445:U:C2	34:a:1457:G:N1	2.60	0.65
41:h:100:ILE:HG13	41:h:128:VAL:HB	1.78	0.65
41:h:105:THR:HA	41:h:122:GLY:HA2	1.76	0.65
42:i:54:VAL:HG11	42:i:93:LEU:HD21	1.78	0.65
53:t:73:ARG:HG2	53:t:77:ASN:HD21	1.61	0.65
8:A:947:A:H2'	8:A:948:C:H6	1.60	0.65
8:A:1827:U:OP1	8:A:1971:U:O2'	2.08	0.65
8:A:2251:OMG:H3'	8:A:2252:G:H8	1.60	0.65
8:A:2287:A:C8	8:A:2289:G:C8	2.85	0.65
8:A:2461:A:H1'	8:A:2492:U:N3	2.11	0.65
8:A:2804:U:H2'	8:A:2805:C:C6	2.30	0.65
9:B:95:U:OP1	29:V:19:ARG:NH2	2.28	0.65
18:K:63:VAL:HG23	18:K:64:ARG:HG3	1.77	0.65
34:a:433:G:H2'	34:a:434:U:C6	2.31	0.65
34:a:580:C:H2'	34:a:581:G:O4'	1.96	0.65
34:a:894:G:H2'	34:a:895:G:H8	1.61	0.65
34:a:1014:A:H2'	34:a:1015:G:C8	2.31	0.65
34:a:1288:A:H2'	34:a:1289:A:C8	2.31	0.65
35:b:96:LEU:HB2	35:b:99:MET:HE2	1.78	0.65
36:c:154:GLY:HA3	36:c:195:ILE:HG23	1.77	0.65
37:d:149:LYS:O	37:d:150:LYS:HG2	1.96	0.65
47:n:23:ARG:NH1	47:n:55:SER:OG	2.28	0.65
52:s:79:TYR:CZ	52:s:81:GLY:HA2	2.31	0.65
56:w:31:A:N1	56:w:39:PSU:N1	2.42	0.65
4:3:6:VAL:N	19:L:48:ARG:HH22	1.94	0.65
8:A:161:A:H3'	8:A:162:U:H6	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1178:C:H4'	8:A:1179:G:C5	2.32	0.65
8:A:1608:A:O2'	8:A:1611:C:N4	2.29	0.65
8:A:2070:A:H2'	8:A:2071:A:C8	2.30	0.65
8:A:2821:A:H2'	8:A:2822:G:H8	1.60	0.65
10:C:156:SER:HB2	10:C:159:THR:HG21	1.77	0.65
15:H:89:LYS:H	15:H:124:THR:HG22	1.61	0.65
18:K:98:ARG:HA	18:K:118:LEU:HD11	1.77	0.65
34:a:62:U:O4	34:a:105:G:O6	2.13	0.65
34:a:891:U:O2	34:a:907:A:N7	2.30	0.65
34:a:931:C:N3	34:a:1387:G:N1	2.45	0.65
4:3:44:ARG:HE	8:A:2418:A:P	2.20	0.65
8:A:373:U:H2'	8:A:374:A:H8	1.62	0.65
8:A:779:U:H2'	8:A:780:G:C8	2.30	0.65
8:A:956:G:H2'	8:A:957:C:H2'	1.78	0.65
8:A:1682:G:H2'	8:A:1683:U:H6	1.60	0.65
9:B:62:C:H2'	9:B:63:C:C6	2.32	0.65
11:D:13:ARG:HH12	23:P:55:HIS:HA	1.62	0.65
23:P:15:ASP:OD1	23:P:15:ASP:N	2.29	0.65
28:U:46:LYS:HD2	28:U:47:PRO:HD2	1.76	0.65
34:a:540:G:H3'	34:a:541:G:H8	1.61	0.65
34:a:643:C:H5"	41:h:31:LEU:HD21	1.77	0.65
35:b:100:LEU:HG	35:b:157:PRO:HG2	1.77	0.65
45:l:67:GLY:O	45:l:98:ARG:NH1	2.30	0.65
45:l:78:VAL:HG22	45:l:101:LEU:HD23	1.78	0.65
52:s:31:ARG:HH11	52:s:55:GLN:HE22	1.41	0.65
8:A:195:A:N6	8:A:198:C:O5'	2.30	0.65
8:A:203:A:H3'	8:A:204:A:C8	2.32	0.65
8:A:409:G:H2'	8:A:410:G:C8	2.31	0.65
8:A:547:A:O2'	8:A:548:G:N7	2.29	0.65
8:A:1153:C:H2'	8:A:1154:G:C8	2.31	0.65
8:A:1835:2MG:H2'	8:A:1836:C:C6	2.32	0.65
8:A:1954:G:N1	8:A:1986:C:OP1	2.28	0.65
8:A:2275:C:C2	20:M:84:LYS:HE2	2.32	0.65
8:A:2364:C:H2'	8:A:2365:G:O4'	1.96	0.65
8:A:2733:A:C8	11:D:208:LYS:HE2	2.32	0.65
8:A:2752:C:H2'	8:A:2753:A:O4'	1.95	0.65
8:A:2824:C:H2'	8:A:2825:G:N3	2.12	0.65
9:B:93:C:H2'	9:B:94:A:C8	2.31	0.65
17:J:48:VAL:HA	17:J:114:LEU:HD21	1.79	0.65
34:a:191:G:H2'	34:a:192:A:C8	2.31	0.65
34:a:310:G:OP1	49:p:31:ARG:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:604:G:H2'	34:a:605:U:O4'	1.95	0.65
49:p:17:TYR:O	49:p:39:PHE:N	2.30	0.65
56:w:50:U:H2'	56:w:51:C:C6	2.31	0.65
8:A:306:U:H3	8:A:310:A:H62	1.42	0.65
8:A:534:U:O2	8:A:559:G:N2	2.30	0.65
8:A:764:A:N7	8:A:1776:G:H1'	2.11	0.65
8:A:785:G:H2'	8:A:786:C:C6	2.31	0.65
8:A:2138:G:H1	8:A:2154:A:HO2'	1.43	0.65
8:A:2297:A:H62	8:A:2319:G:N2	1.94	0.65
8:A:2488:G:H2'	8:A:2489:U:C6	2.31	0.65
8:A:2519:U:O2'	8:A:2541:A:N6	2.28	0.65
8:A:2818:U:O4	8:A:2828:G:O6	2.13	0.65
34:a:59:A:H3'	34:a:331:G:H22	1.62	0.65
34:a:60:A:N1	34:a:108:G:H4'	2.12	0.65
39:f:50:PRO:HD2	51:r:73:HIS:ND1	2.12	0.65
56:w:51:C:H2'	56:w:52:G:C8	2.32	0.65
8:A:229:C:C4	8:A:230:G:H1'	2.31	0.65
8:A:487:C:H2'	8:A:488:G:O4'	1.97	0.65
8:A:784:G:O5'	10:C:225:ASN:ND2	2.28	0.65
8:A:1365:A:H5'	31:X:1:SER:HB3	1.78	0.65
8:A:1438:U:H2'	8:A:1439:A:C8	2.32	0.65
8:A:1653:G:OP1	21:N:2:ARG:NH2	2.29	0.65
8:A:2114:A:H3'	8:A:2115:G:H8	1.60	0.65
8:A:2332:C:OP1	30:W:73:ARG:NH1	2.30	0.65
8:A:2374:C:H2'	8:A:2375:G:C8	2.32	0.65
8:A:2526:G:H2'	8:A:2527:C:C6	2.31	0.65
8:A:2544:G:H2'	8:A:2545:G:C8	2.30	0.65
8:A:2735:G:O6	8:A:2769:U:O4	2.14	0.65
8:A:2771:C:H2'	8:A:2772:C:H6	1.62	0.65
25:R:3:ALA:HB2	25:R:41:ILE:HD13	1.77	0.65
34:a:824:G:H2'	34:a:825:A:C8	2.32	0.65
34:a:1221:G:OP1	52:s:35:ARG:NH1	2.30	0.65
45:l:34:THR:N	45:l:53:ARG:O	2.29	0.65
48:o:5:GLU:OE1	48:o:5:GLU:N	2.19	0.65
8:A:730:A:H2'	8:A:731:C:H6	1.62	0.65
8:A:1130:U:C5	11:D:152:PRO:HA	2.32	0.65
8:A:1322:A:O3'	26:S:98:LYS:NZ	2.20	0.65
8:A:1643:G:H2'	8:A:1644:C:C6	2.31	0.65
8:A:1684:G:H2'	8:A:1685:C:H6	1.61	0.65
8:A:2153:C:H2'	8:A:2154:A:H8	1.61	0.65
13:F:109:ARG:NE	13:F:136:ILE:O	2.22	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:13:ALA:HB3	27:T:33:LYS:HB2	1.79	0.65
34:a:725:G:H2'	34:a:726:C:H6	1.62	0.65
34:a:855:U:OP2	34:a:871:U:N3	2.30	0.65
47:n:2:LYS:HD2	47:n:5:MET:HE3	1.79	0.65
56:w:26:A:N6	56:w:44:G:H1	1.95	0.65
3:2:24:THR:HG23	3:2:27:GLY:H	1.62	0.65
8:A:284:U:N3	8:A:356:G:N1	2.24	0.65
8:A:462:C:N4	8:A:463:G:O6	2.30	0.65
8:A:484:C:H2'	8:A:485:C:C6	2.32	0.65
8:A:563:A:O3'	24:Q:40:LYS:NZ	2.30	0.65
8:A:849:A:H2'	8:A:850:U:C6	2.31	0.65
8:A:946:C:H2'	8:A:947:A:C8	2.31	0.65
8:A:1223:G:OP2	25:R:90:ARG:NH1	2.30	0.65
8:A:1299:G:C2	8:A:1641:A:N6	2.55	0.65
8:A:1600:C:H2'	8:A:1601:G:H8	1.61	0.65
8:A:1664:A:OP1	8:A:1665:A:OP2	2.15	0.65
8:A:2010:G:O3'	26:S:42:LYS:NZ	2.29	0.65
8:A:2633:G:H2'	8:A:2634:A:H8	1.61	0.65
8:A:2693:G:H2'	8:A:2694:G:H8	1.61	0.65
8:A:2829:A:H2'	8:A:2830:C:C6	2.31	0.65
12:E:48:THR:N	12:E:51:GLU:HB2	2.12	0.65
12:E:148:ILE:HB	12:E:169:VAL:HA	1.79	0.65
13:F:63:LYS:HG3	13:F:64:PRO:HD2	1.78	0.65
30:W:31:SER:H	30:W:57:ALA:HB3	1.60	0.65
34:a:196:A:O2'	34:a:221:C:O2'	2.15	0.65
34:a:1157:A:H5'	34:a:1158:C:N1	2.12	0.65
34:a:1247:U:O2	34:a:1290:G:O6	2.14	0.65
34:a:1422:G:O6	34:a:1478:U:O4	2.14	0.65
34:a:1460:C:H2'	34:a:1461:G:C8	2.31	0.65
36:c:148:ILE:HG13	36:c:200:TRP:O	1.97	0.65
38:e:82:HIS:CD2	41:h:95:MET:HE3	2.32	0.65
44:k:23:HIS:HA	44:k:86:LYS:HB3	1.79	0.65
8:A:5:A:H2'	8:A:6:A:C8	2.32	0.65
8:A:173:A:H2'	8:A:174:U:H6	1.62	0.65
8:A:247:G:O2'	8:A:386:G:N1	2.13	0.65
8:A:250:G:H4'	19:L:59:ARG:HD2	1.77	0.65
8:A:536:G:H21	17:J:47:HIS:CG	2.14	0.65
8:A:690:G:H2'	8:A:691:C:H6	1.62	0.65
8:A:1171:G:H22	8:A:1177:G:N2	1.94	0.65
8:A:1174:U:OP1	8:A:1176:U:N3	2.30	0.65
8:A:1221:C:H2'	8:A:1222:U:C6	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2233:U:H2'	8:A:2234:G:H8	1.62	0.65
8:A:2436:G:H2'	8:A:2437:G:C8	2.32	0.65
8:A:2528:U:N3	8:A:2535:G:N1	2.22	0.65
8:A:2729:G:H4'	11:D:190:LYS:HE2	1.79	0.65
9:B:77:U:H2'	9:B:78:A:H8	1.62	0.65
12:E:195:GLN:HG2	12:E:199:MET:HE3	1.78	0.65
20:M:114:ARG:HG3	20:M:130:PHE:CD2	2.31	0.65
24:Q:55:GLN:O	24:Q:59:LEU:HG	1.96	0.65
34:a:220:G:H2'	34:a:221:C:H6	1.62	0.65
34:a:295:C:H2'	34:a:296:U:O4'	1.97	0.65
34:a:1207:2MG:H2'	34:a:1208:C:H6	1.61	0.65
34:a:1216:A:H5"	47:n:4:SER:OG	1.96	0.65
34:a:1220:G:H2'	34:a:1221:G:C8	2.32	0.65
8:A:2217:G:H2'	8:A:2218:G:H8	1.62	0.64
8:A:2602:A:H2'	56:w:74:C:H5"	1.79	0.64
9:B:116:G:H2'	9:B:117:G:H8	1.61	0.64
34:a:159:G:O2'	34:a:162:A:N7	2.30	0.64
34:a:210:C:O2'	34:a:211:G:H5"	1.96	0.64
34:a:284:C:H2'	34:a:285:C:H6	1.62	0.64
34:a:1131:G:H2'	34:a:1132:C:H6	1.62	0.64
34:a:1270:G:H2'	34:a:1271:A:C8	2.32	0.64
34:a:1291:U:H2'	34:a:1292:G:C8	2.32	0.64
34:a:1419:G:H2'	34:a:1420:U:H4'	1.78	0.64
36:c:119:ILE:HG23	36:c:132:ALA:HB1	1.77	0.64
38:e:21:SER:OG	38:e:22:LYS:N	2.25	0.64
48:o:39:GLN:O	48:o:43:ALA:HB2	1.96	0.64
8:A:53:A:N6	8:A:117:G:N2	2.05	0.64
8:A:195:A:H2'	8:A:198:C:N4	2.12	0.64
8:A:221:A:H1'	8:A:233:A:H1'	1.78	0.64
8:A:627:A:O2'	8:A:636:G:N2	2.31	0.64
8:A:1016:G:C6	8:A:1147:A:C6	2.85	0.64
8:A:1430:G:H2'	8:A:1431:A:H8	1.62	0.64
8:A:1752:C:H2'	8:A:1753:G:C8	2.32	0.64
8:A:2418:A:H2'	8:A:2419:U:C6	2.31	0.64
8:A:2545:G:H2'	8:A:2546:U:C6	2.31	0.64
8:A:2547:A:H2'	8:A:2548:U:H6	1.61	0.64
8:A:2597:G:H2'	8:A:2598:A:C8	2.32	0.64
8:A:2880:C:O3'	21:N:90:ARG:NH1	2.30	0.64
24:Q:2:ARG:HH22	24:Q:4:LYS:HG2	1.62	0.64
34:a:939:G:O3'	40:g:101:ARG:NH2	2.29	0.64
34:a:1028:C:HO2'	34:a:1033:G:H1	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1120:C:H2'	34:a:1121:U:C6	2.32	0.64
34:a:1147:C:H4'	42:i:6:TYR:CZ	2.32	0.64
34:a:1321:U:H3'	34:a:1322:C:H2'	1.78	0.64
38:e:44:ARG:HE	38:e:72:ASN:HD21	1.44	0.64
44:k:124:LYS:HG3	44:k:125:LYS:N	2.12	0.64
46:m:3:ILE:HA	46:m:56:ARG:CZ	2.26	0.64
46:m:48:SER:N	46:m:51:GLN:OE1	2.30	0.64
53:t:25:SER:O	53:t:29:THR:OG1	2.15	0.64
8:A:428:A:H2'	8:A:429:A:C8	2.32	0.64
8:A:1218:G:N1	8:A:1232:G:N7	2.46	0.64
8:A:1223:G:OP1	25:R:68:ARG:NH2	2.31	0.64
8:A:1249:U:O2'	8:A:1250:G:O4'	2.16	0.64
8:A:2060:A:O2'	8:A:2061:G:OP2	2.15	0.64
8:A:2128:G:C2	8:A:2129:C:H4'	2.31	0.64
8:A:2144:G:H4'	8:A:2145:C:C5	2.33	0.64
8:A:2416:C:H2'	8:A:2417:C:C6	2.32	0.64
8:A:2746:U:H5"	14:G:137:LYS:HE2	1.79	0.64
34:a:453:G:H3'	34:a:454:G:H8	1.61	0.64
34:a:853:C:H2'	34:a:854:U:C6	2.31	0.64
36:c:148:ILE:HD12	36:c:201:ILE:HG12	1.80	0.64
39:f:69:GLU:OE1	39:f:69:GLU:N	2.24	0.64
45:l:48:LEU:O	45:l:50:LYS:NZ	2.23	0.64
45:l:113:ARG:HH21	45:l:120:ARG:HA	1.63	0.64
53:t:56:ILE:HD13	53:t:59:ARG:HH21	1.62	0.64
58:z:5:U:H2'	58:z:6:U:C6	2.33	0.64
8:A:647:G:H3'	8:A:648:G:H8	1.62	0.64
8:A:648:G:H2'	8:A:649:G:H8	1.62	0.64
8:A:1056:G:C5	8:A:1103:A:N6	2.66	0.64
8:A:1156:A:N1	24:Q:50:ARG:NH2	2.45	0.64
8:A:1356:G:H2'	8:A:1357:C:H6	1.61	0.64
8:A:1697:G:H3'	8:A:1698:A:H2'	1.78	0.64
8:A:2194:U:H2'	8:A:2195:U:C6	2.33	0.64
8:A:2206:C:H2'	8:A:2207:C:H6	1.62	0.64
8:A:2578:G:H2'	8:A:2579:C:C6	2.33	0.64
8:A:2644:G:H2'	8:A:2645:G:C4	2.31	0.64
8:A:2746:U:N3	8:A:2756:U:O4	2.16	0.64
19:L:88:GLY:HA2	19:L:120:VAL:HG12	1.79	0.64
20:M:27:SER:N	20:M:104:GLU:OE2	2.27	0.64
23:P:4:ILE:HD12	23:P:7:LEU:HB2	1.78	0.64
29:V:55:GLU:OE1	29:V:58:SER:OG	2.09	0.64
34:a:544:G:H2'	34:a:545:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:636:U:H2'	34:a:637:C:C6	2.33	0.64
34:a:764:C:H2'	34:a:765:G:O4'	1.97	0.64
36:c:122:GLN:HG2	36:c:125:ARG:HH21	1.63	0.64
6:5:4:ASN:N	8:A:1044:C:OP1	2.30	0.64
8:A:203:A:C5	8:A:204:A:C6	2.86	0.64
8:A:458:G:O2'	8:A:459:U:OP2	2.12	0.64
8:A:698:C:H5"	8:A:699:A:H5'	1.79	0.64
8:A:754:U:H2'	8:A:755:U:C6	2.32	0.64
8:A:807:U:C2	8:A:808:G:C8	2.86	0.64
8:A:1234:U:H3'	8:A:1235:G:H8	1.63	0.64
8:A:1287:A:O4'	21:N:103:ARG:NH2	2.31	0.64
8:A:1585:C:H3'	8:A:1586:A:H8	1.62	0.64
8:A:2694:G:H2'	8:A:2695:U:H6	1.62	0.64
8:A:2861:U:H2'	8:A:2862:G:C8	2.27	0.64
11:D:102:ALA:HA	11:D:180:VAL:HG21	1.79	0.64
13:F:133:GLU:OE1	13:F:136:ILE:N	2.31	0.64
17:J:7:LYS:O	17:J:11:VAL:HG13	1.98	0.64
20:M:33:LEU:O	20:M:102:LEU:N	2.24	0.64
24:Q:33:VAL:HA	24:Q:36:GLN:HE21	1.62	0.64
34:a:202:G:H2'	34:a:203:G:H8	1.63	0.64
34:a:563:A:H2'	34:a:567:G:C8	2.32	0.64
34:a:910:C:H2'	34:a:911:U:H6	1.63	0.64
34:a:919:A:O2'	34:a:1080:A:N1	2.31	0.64
34:a:1012:A:N6	34:a:1018:G:C6	2.63	0.64
34:a:1368:A:OP1	42:i:112:ARG:NH2	2.30	0.64
36:c:63:ILE:HG23	36:c:98:ALA:HA	1.79	0.64
36:c:151:GLU:CD	36:c:166:TRP:HB3	2.22	0.64
37:d:8:LEU:HD11	37:d:30:LYS:HG3	1.79	0.64
8:A:49:A:H4'	8:A:50:U:H5"	1.79	0.64
8:A:85:G:C5'	28:U:27:VAL:HB	2.26	0.64
8:A:175:G:H2'	8:A:176:A:C8	2.33	0.64
8:A:582:A:H2'	8:A:583:G:C8	2.33	0.64
8:A:848:C:H2'	8:A:849:A:H8	1.62	0.64
8:A:1060:U:O2'	8:A:1062:G:OP2	2.15	0.64
8:A:1603:A:H2'	8:A:1604:C:O4'	1.97	0.64
13:F:122:ASP:OD1	13:F:125:GLY:N	2.30	0.64
17:J:5:THR:OG1	17:J:7:LYS:NZ	2.31	0.64
34:a:171:A:H2'	34:a:172:A:C8	2.32	0.64
34:a:755:G:H2'	34:a:756:C:H6	1.60	0.64
34:a:1209:C:O2'	34:a:1210:C:O5'	2.15	0.64
8:A:173:A:H2'	8:A:174:U:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:709:U:H2'	8:A:710:U:C6	2.32	0.64
8:A:858:G:H21	8:A:2268:A:H2'	1.62	0.64
8:A:1310:G:H3'	8:A:1311:G:C8	2.28	0.64
8:A:1437:C:H2'	8:A:1438:U:C6	2.33	0.64
8:A:1755:A:H5'	23:P:102:ARG:NH2	2.12	0.64
8:A:2545:G:C2	8:A:2546:U:C2	2.85	0.64
14:G:40:VAL:HA	14:G:54:ARG:H	1.62	0.64
27:T:4:GLU:N	27:T:4:GLU:OE2	2.28	0.64
34:a:21:G:H2'	34:a:22:G:C8	2.33	0.64
34:a:76:G:O6	34:a:93:U:C2	2.51	0.64
34:a:201:G:H1	34:a:216:U:H3	1.46	0.64
34:a:1440:U:O4	34:a:1461:G:O6	2.15	0.64
34:a:1495:U:H2'	34:a:1496:C:H6	1.62	0.64
46:m:49:GLU:HA	46:m:52:ILE:HD13	1.80	0.64
53:t:35:TYR:HA	53:t:38:ILE:HD12	1.80	0.64
55:v:24:U:H2'	55:v:25:C:C6	2.32	0.64
8:A:1098:A:H2'	8:A:1099:G:C8	2.33	0.64
8:A:1287:A:N6	21:N:105:GLY:O	2.31	0.64
8:A:1330:C:H2'	8:A:1331:G:C8	2.33	0.64
8:A:1387:A:C6	8:A:1401:G:N1	2.65	0.64
8:A:1681:G:N2	8:A:1763:G:OP2	2.29	0.64
8:A:1751:U:H2'	8:A:1752:C:C5	2.32	0.64
8:A:2543:G:C2	8:A:2544:G:C4	2.86	0.64
8:A:2729:G:O3'	11:D:190:LYS:NZ	2.27	0.64
18:K:53:LYS:NZ	18:K:54:LYS:O	2.31	0.64
23:P:26:GLU:OE2	23:P:42:PHE:N	2.31	0.64
24:Q:78:PHE:O	24:Q:82:LEU:HG	1.98	0.64
34:a:70:U:H4'	34:a:71:A:H5'	1.79	0.64
34:a:243:A:C2	34:a:245:U:H2'	2.32	0.64
34:a:581:G:N1	34:a:759:A:OP2	2.29	0.64
34:a:1112:C:H1'	36:c:178:ARG:HB2	1.79	0.64
34:a:1147:C:H2'	34:a:1148:U:H6	1.61	0.64
36:c:6:PRO:HA	36:c:9:ILE:HG22	1.80	0.64
52:s:52:ASN:OD1	52:s:55:GLN:N	2.28	0.64
56:w:25:C:H2'	56:w:26:A:C8	2.30	0.64
3:2:3:ARG:NH1	8:A:752:A:OP2	2.30	0.64
8:A:375:G:H2'	8:A:376:G:C8	2.33	0.64
8:A:1056:G:C2	8:A:1103:A:N7	2.66	0.64
8:A:1184:U:H5'	33:Z:29:ARG:HH11	1.62	0.64
8:A:1404:C:H2'	8:A:1405:U:H6	1.63	0.64
8:A:2107:G:H3'	8:A:2108:A:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2442:C:H2'	8:A:2443:C:C6	2.31	0.64
8:A:2452:C:C6	57:y:101:FME:HG3	2.33	0.64
13:F:147:ARG:H	13:F:149:ARG:NH2	1.95	0.64
24:Q:91:ARG:HA	24:Q:94:LEU:HD12	1.80	0.64
33:Z:44:ARG:HA	33:Z:47:ILE:HD12	1.80	0.64
33:Z:57:GLU:N	33:Z:57:GLU:OE1	2.31	0.64
34:a:61:G:H5"	53:t:4:LYS:HZ2	1.62	0.64
34:a:82:G:H1	34:a:86:G:H1'	1.62	0.64
34:a:512:U:H2'	34:a:513:C:C6	2.33	0.64
34:a:675:A:H2'	34:a:676:A:C8	2.32	0.64
41:h:100:ILE:N	41:h:128:VAL:O	2.23	0.64
8:A:55:G:H2'	8:A:56:A:H8	1.61	0.64
8:A:80:G:H3'	8:A:81:G:H8	1.61	0.64
8:A:118:A:P	8:A:119:A:H5"	2.38	0.64
8:A:399:U:H3'	8:A:400:G:H8	1.63	0.64
8:A:557:C:O3'	17:J:114:LEU:HD13	1.97	0.64
8:A:747:5MC:O2'	8:A:748:G:OP1	2.16	0.64
8:A:799:G:H3'	8:A:800:A:H2'	1.80	0.64
8:A:911:A:H2'	20:M:9:PHE:HZ	1.63	0.64
8:A:932:U:H4'	8:A:933:A:O4'	1.98	0.64
8:A:976:G:H2'	8:A:977:G:H8	1.62	0.64
8:A:1028:A:C4	8:A:2487:G:H4'	2.33	0.64
8:A:1336:A:H2'	8:A:1337:G:H8	1.61	0.64
8:A:1772:A:N6	8:A:1980:G:O6	2.31	0.64
8:A:1819:A:H1'	8:A:1821:A:C5	2.33	0.64
8:A:1932:A:H62	8:A:1968:G:H21	1.44	0.64
8:A:1953:A:O2'	8:A:2559:C:O2	2.15	0.64
8:A:2367:G:H2'	8:A:2368:C:H6	1.61	0.64
14:G:161:VAL:O	14:G:162:ARG:HG3	1.98	0.64
23:P:53:GLY:N	23:P:56:SER:OG	2.31	0.64
34:a:862:C:H2'	34:a:863:U:C6	2.33	0.64
34:a:1338:G:H2'	34:a:1339:A:H8	1.61	0.64
8:A:242:G:O2'	8:A:243:U:O5'	2.14	0.63
8:A:524:G:C5	8:A:525:U:C6	2.85	0.63
8:A:571:U:H3'	25:R:80:ARG:NH1	2.12	0.63
8:A:656:G:H2'	8:A:657:U:C6	2.34	0.63
8:A:1059:G:H5'	8:A:1060:U:C5	2.34	0.63
8:A:1435:G:H2'	8:A:1436:G:C8	2.33	0.63
8:A:1653:G:H3'	21:N:2:ARG:HD3	1.80	0.63
8:A:2397:G:C6	8:A:2420:C:C4	2.86	0.63
8:A:2516:A:H2'	8:A:2517:C:C6	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2735:G:H1	8:A:2769:U:H3	0.72	0.63
10:C:4:LYS:NZ	10:C:15:VAL:O	2.31	0.63
10:C:244:VAL:HG12	10:C:250:GLN:HA	1.80	0.63
18:K:11:ALA:O	18:K:100:PHE:N	2.31	0.63
34:a:186:C:N4	34:a:187:G:C6	2.65	0.63
34:a:918:A:H2'	34:a:919:A:H8	1.62	0.63
34:a:1116:U:H2'	34:a:1117:A:H8	1.62	0.63
34:a:1208:C:H2'	34:a:1209:C:C6	2.33	0.63
34:a:1253:G:O2'	34:a:1254:A:H5'	1.97	0.63
37:d:54:LEU:HD23	37:d:58:GLN:HE22	1.63	0.63
43:j:9:ARG:H	43:j:99:GLN:HB3	1.63	0.63
45:l:41:PRO:HG3	45:l:47:ALA:H	1.63	0.63
4:3:24:LYS:HZ2	4:3:25:HIS:H	1.44	0.63
5:4:25:VAL:N	5:4:35:GLN:O	2.23	0.63
8:A:437:U:H2'	8:A:438:G:C8	2.33	0.63
8:A:2248:C:H3'	8:A:2249:U:H6	1.63	0.63
8:A:2586:U:H2'	8:A:2587:A:H8	1.64	0.63
28:U:67:SER:OG	28:U:68:ASN:OD1	2.16	0.63
30:W:29:ALA:N	30:W:60:ASP:OD1	2.32	0.63
31:X:30:PRO:HB2	31:X:32:LEU:HD21	1.80	0.63
34:a:136:C:H2'	34:a:137:U:C6	2.33	0.63
34:a:512:U:H2'	34:a:513:C:H6	1.63	0.63
34:a:636:U:H2'	34:a:637:C:H6	1.64	0.63
42:i:111:GLU:H	42:i:111:GLU:CD	2.03	0.63
44:k:18:GLY:O	44:k:82:GLU:N	2.31	0.63
56:w:67:C:H3'	56:w:68:C:C6	2.33	0.63
2:1:24:LYS:O	2:1:26:LYS:NZ	2.30	0.63
4:3:23:HIS:O	4:3:47:ALA:N	2.32	0.63
8:A:49:A:O4'	8:A:118:A:N6	2.32	0.63
8:A:524:G:C2	8:A:525:U:N1	2.66	0.63
8:A:879:G:H2'	8:A:880:G:C8	2.32	0.63
8:A:915:C:H3'	8:A:916:G:H8	1.63	0.63
8:A:980:A:C6	8:A:981:A:C6	2.86	0.63
8:A:1544:A:H2'	8:A:1545:A:C8	2.33	0.63
8:A:1682:G:C4	8:A:1757:A:H1'	2.34	0.63
8:A:2001:C:H2'	8:A:2002:G:O4'	1.97	0.63
8:A:2052:A:OP1	11:D:146:ILE:N	2.30	0.63
8:A:2707:U:H2'	8:A:2708:G:C8	2.33	0.63
19:L:51:GLU:OE2	19:L:57:LEU:N	2.31	0.63
23:P:88:ARG:O	23:P:111:GLU:HG3	1.98	0.63
34:a:296:U:H2'	34:a:297:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:775:G:H2'	34:a:776:G:C8	2.34	0.63
34:a:783:C:N3	34:a:800:G:N2	2.46	0.63
34:a:985:C:H2'	34:a:986:U:H6	1.63	0.63
34:a:1359:C:H3'	47:n:75:ARG:HH22	1.64	0.63
37:d:14:GLU:OE2	37:d:55:ARG:NH1	2.31	0.63
39:f:59:TYR:OH	51:r:65:SER:O	2.15	0.63
43:j:18:ILE:O	43:j:22:THR:HG23	1.99	0.63
55:v:53:G:C8	55:v:54:5MU:H72	2.33	0.63
8:A:129:C:H2'	8:A:130:C:H6	1.62	0.63
8:A:216:A:C2	8:A:217:A:H1'	2.33	0.63
8:A:327:G:H2'	8:A:328:U:C6	2.34	0.63
8:A:414:C:H2'	8:A:415:A:H8	1.62	0.63
8:A:627:A:N6	8:A:637:A:O4'	2.31	0.63
8:A:634:C:OP1	19:L:126:ARG:NH1	2.31	0.63
8:A:695:G:O6	8:A:767:U:C4	2.51	0.63
8:A:754:U:H2'	8:A:755:U:H6	1.64	0.63
8:A:998:C:OP1	24:Q:83:LYS:NZ	2.19	0.63
8:A:1199:U:H2'	8:A:1200:C:H6	1.63	0.63
8:A:1266:G:O2'	8:A:2012:G:O6	2.17	0.63
8:A:2000:C:O2'	8:A:2001:C:H5'	1.98	0.63
8:A:2286:G:H1'	8:A:2287:A:C2	2.34	0.63
8:A:2358:A:H61	19:L:54:GLN:HE22	1.46	0.63
8:A:2397:G:O6	8:A:2419:U:O2	2.17	0.63
8:A:2557:G:H2'	8:A:2558:C:H6	1.63	0.63
8:A:2619:C:H2'	8:A:2620:C:H6	1.62	0.63
11:D:88:GLU:CD	11:D:88:GLU:H	2.06	0.63
14:G:16:VAL:HG11	14:G:44:HIS:CD2	2.34	0.63
34:a:47:C:O4'	34:a:365:U:N3	2.32	0.63
34:a:1152:A:O5'	43:j:72:ARG:NH2	2.32	0.63
2:1:11:VAL:O	2:1:49:LYS:N	2.26	0.63
5:4:20:ASP:H	8:A:2757:A:P	2.21	0.63
8:A:298:G:N2	8:A:340:A:N6	2.31	0.63
8:A:397:U:O5'	31:X:53:LYS:NZ	2.32	0.63
8:A:682:G:H2'	8:A:683:U:H6	1.62	0.63
8:A:1268:A:N3	8:A:2013:A:N6	2.46	0.63
8:A:1400:U:H2'	8:A:1401:G:C8	2.33	0.63
8:A:1532:A:H2'	8:A:1533:C:C6	2.33	0.63
8:A:2039:U:H2'	8:A:2040:G:H8	1.63	0.63
8:A:2123:G:N2	8:A:2175:C:H41	1.97	0.63
8:A:2350:C:H2'	8:A:2351:G:O4'	1.99	0.63
8:A:2564:A:OP1	8:A:2648:G:O2'	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:B:109:A:H2'	9:B:110:C:C6	2.33	0.63
10:C:154:ALA:O	10:C:159:THR:OG1	2.16	0.63
12:E:21:ARG:O	12:E:114:ARG:NH1	2.31	0.63
17:J:58:ASN:N	17:J:127:GLY:O	2.30	0.63
27:T:67:VAL:HG22	27:T:74:ILE:HD11	1.81	0.63
34:a:82:G:N1	34:a:86:G:H1'	2.14	0.63
34:a:232:G:H2'	34:a:233:C:H6	1.63	0.63
34:a:538:G:H2'	34:a:539:A:H8	1.63	0.63
34:a:1067:A:N3	34:a:1068:G:H1'	2.13	0.63
34:a:1492:A:H5"	45:l:43:LYS:HD3	1.80	0.63
8:A:5:A:H2'	8:A:6:A:H8	1.63	0.63
8:A:55:G:H2'	8:A:56:A:C8	2.34	0.63
8:A:580:U:H2'	8:A:581:C:H6	1.63	0.63
8:A:643:A:N1	8:A:2369:A:O2'	2.30	0.63
8:A:863:A:O2'	9:B:100:G:N3	2.32	0.63
8:A:882:G:O2'	56:w:19:G:O2'	2.07	0.63
8:A:1164:C:H2'	8:A:1165:A:H8	1.63	0.63
8:A:1181:U:H2'	8:A:1182:G:H8	1.63	0.63
8:A:1287:A:OP1	21:N:105:GLY:N	2.31	0.63
8:A:1807:G:O2'	8:A:1809:A:N6	2.30	0.63
8:A:2008:C:H2'	8:A:2009:A:H8	1.62	0.63
8:A:2143:C:H2'	8:A:2144:G:O4'	1.99	0.63
8:A:2438:U:O2'	8:A:2440:C:OP1	2.16	0.63
8:A:2547:A:H2'	8:A:2548:U:C6	2.33	0.63
8:A:2641:G:H2'	8:A:2642:G:H8	1.63	0.63
8:A:2882:A:P	21:N:96:ARG:HE	2.22	0.63
11:D:35:THR:HB	11:D:49:GLN:HG2	1.80	0.63
14:G:15:ASP:OD1	14:G:16:VAL:N	2.32	0.63
14:G:170:THR:OG1	14:G:171:LYS:N	2.30	0.63
15:H:38:PRO:O	15:H:43:ASN:ND2	2.25	0.63
21:N:82:GLU:O	21:N:86:ARG:N	2.31	0.63
23:P:49:ILE:HA	23:P:58:PHE:HA	1.81	0.63
27:T:63:VAL:HG11	27:T:80:TRP:CE2	2.34	0.63
34:a:402:G:H2'	34:a:403:C:C6	2.33	0.63
34:a:1251:A:H2'	34:a:1252:A:C8	2.33	0.63
34:a:1270:G:H2'	34:a:1271:A:H8	1.61	0.63
8:A:82:U:H2'	8:A:83:A:C8	2.33	0.63
8:A:153:U:H2'	8:A:154:U:H6	1.64	0.63
8:A:416:U:H2'	8:A:417:C:C6	2.33	0.63
8:A:503:A:H4'	8:A:505:A:H5"	1.79	0.63
8:A:1096:A:H2	16:I:28:GLY:N	1.96	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1137:G:H2'	8:A:1138:G:O4'	1.97	0.63
8:A:1275:A:C6	21:N:16:HIS:HA	2.34	0.63
8:A:1425:G:N2	8:A:1574:C:C4	2.67	0.63
8:A:1445:G:O6	8:A:1466:U:C2	2.51	0.63
8:A:1468:U:O4	8:A:1524:G:O6	2.17	0.63
8:A:1835:2MG:H2'	8:A:1836:C:H6	1.62	0.63
8:A:2014:A:H2'	8:A:2015:A:C8	2.34	0.63
8:A:2036:C:H2'	8:A:2037:A:H8	1.64	0.63
8:A:2251:OMG:HM22	8:A:2252:G:H5'	1.80	0.63
8:A:2553:G:N3	8:A:2583:G:H1'	2.14	0.63
8:A:2653:U:OP2	8:A:2654:A:O2'	2.15	0.63
8:A:2677:G:H2'	8:A:2678:C:C6	2.34	0.63
8:A:2682:A:O2'	23:P:55:HIS:NE2	2.31	0.63
9:B:56:G:H1'	9:B:58:A:H62	1.62	0.63
15:H:133:GLN:OE1	15:H:134:VAL:N	2.31	0.63
29:V:76:ASP:H	29:V:90:ASP:HB2	1.63	0.63
34:a:407:U:O2'	37:d:112:GLU:OE1	2.15	0.63
34:a:428:G:H3'	37:d:12:ARG:HH22	1.63	0.63
8:A:37:C:H2'	8:A:38:A:H8	1.64	0.63
8:A:103:A:H3'	8:A:104:A:H8	1.64	0.63
8:A:520:G:H2'	8:A:521:U:C6	2.34	0.63
8:A:878:A:H3'	8:A:879:G:H8	1.60	0.63
8:A:1245:G:H2'	8:A:1246:A:H8	1.64	0.63
8:A:1434:A:H61	8:A:1558:C:H42	1.45	0.63
8:A:1571:A:H2'	8:A:1572:A:C8	2.34	0.63
8:A:1737:G:H2'	8:A:1738:G:H1'	1.80	0.63
8:A:2052:A:C8	11:D:146:ILE:HD11	2.34	0.63
8:A:2772:C:H2'	8:A:2773:C:H6	1.62	0.63
13:F:36:ASN:HB3	13:F:152:ASP:OD2	1.99	0.63
25:R:66:HIS:HA	25:R:94:THR:HG22	1.80	0.63
33:Z:6:ILE:HD11	33:Z:28:LEU:HD21	1.81	0.63
34:a:1013:G:N2	34:a:1016:A:OP2	2.31	0.63
34:a:1081:A:H2'	34:a:1082:A:H8	1.64	0.63
34:a:1417:G:O2'	34:a:1418:A:H5'	1.99	0.63
37:d:9:LYS:HD3	37:d:37:PRO:HG2	1.80	0.63
4:3:37:THR:O	4:3:41:ARG:HG3	1.99	0.63
4:3:61:LEU:HD12	4:3:64:ALA:HB2	1.81	0.63
8:A:302:C:H2'	8:A:303:G:C8	2.33	0.63
8:A:612:G:H2'	8:A:614:A:N7	2.14	0.63
8:A:988:A:H3'	33:Z:11:SER:HB2	1.81	0.63
8:A:992:C:H2'	8:A:993:G:H8	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1016:G:O6	8:A:1147:A:N6	2.32	0.63
8:A:1096:A:H2	16:I:28:GLY:H	1.46	0.63
8:A:1175:A:H5'	8:A:1176:U:C5	2.34	0.63
8:A:1422:G:O6	8:A:1576:U:O4	2.17	0.63
8:A:2642:G:OP1	17:J:78:THR:OG1	2.15	0.63
14:G:144:ALA:HA	14:G:147:LEU:HD12	1.80	0.63
18:K:61:VAL:O	18:K:85:VAL:N	2.28	0.63
20:M:64:TRP:HB2	20:M:104:GLU:HB2	1.80	0.63
21:N:67:PHE:O	21:N:71:ARG:NH2	2.31	0.63
27:T:20:ALA:HA	27:T:31:VAL:HG11	1.80	0.63
34:a:17:U:H2'	34:a:18:C:C6	2.33	0.63
34:a:83:C:O3'	34:a:88:U:N3	2.25	0.63
34:a:149:A:H2'	34:a:150:U:C6	2.33	0.63
34:a:177:G:O2'	34:a:178:C:O4'	2.07	0.63
34:a:300:A:O2'	34:a:564:C:N3	2.29	0.63
34:a:1125:U:O2'	43:j:7:ARG:NH2	2.32	0.63
34:a:1144:G:N2	34:a:1146:A:H62	1.97	0.63
34:a:1268:G:H2'	34:a:1269:A:C8	2.34	0.63
34:a:1314:C:N4	52:s:1:PRO:O	2.32	0.63
39:f:14:GLN:N	39:f:14:GLN:OE1	2.32	0.63
39:f:49:TYR:OH	51:r:62:ARG:O	2.08	0.63
56:w:6:G:O6	56:w:67:C:N4	2.32	0.63
2:1:36:LYS:HD3	8:A:2344:U:P	2.38	0.62
8:A:447:A:O2'	8:A:473:G:N7	2.25	0.62
8:A:524:G:C4	8:A:525:U:O4'	2.52	0.62
8:A:866:A:C8	8:A:914:G:C6	2.87	0.62
8:A:1476:U:H2'	8:A:1477:A:C8	2.33	0.62
8:A:1592:C:H2'	8:A:1593:A:C8	2.34	0.62
8:A:1628:G:N1	8:A:1639:C:N3	2.46	0.62
8:A:1687:G:N2	8:A:1701:A:N6	2.13	0.62
8:A:1750:G:H2'	8:A:1751:U:C6	2.34	0.62
8:A:1871:A:H3'	8:A:1872:A:H8	1.64	0.62
8:A:1903:G:C2	8:A:1904:G:C8	2.87	0.62
8:A:1926:U:O2	8:A:1929:G:O6	2.17	0.62
8:A:2065:C:H2'	8:A:2066:C:C6	2.34	0.62
8:A:2182:U:O2'	8:A:2183:A:H5'	1.99	0.62
8:A:2333:A:H4'	8:A:2334:U:H5"	1.81	0.62
8:A:2521:C:H1'	8:A:2565:A:N3	2.13	0.62
11:D:51:THR:OG1	11:D:78:GLY:O	2.10	0.62
11:D:116:LYS:HB2	11:D:166:GLY:HA3	1.81	0.62
11:D:149:ASN:O	11:D:152:PRO:HD2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:E:27:LEU:HD21	12:E:104:ALA:HA	1.80	0.62
18:K:109:SER:OG	18:K:110:GLU:N	2.32	0.62
27:T:5:GLU:OE1	27:T:5:GLU:N	2.22	0.62
30:W:36:GLN:NE2	30:W:41:PHE:H	1.97	0.62
34:a:1077:G:O6	34:a:1081:A:N6	2.32	0.62
34:a:1095:U:C5'	34:a:1108:G:H1	2.11	0.62
36:c:41:TYR:O	36:c:45:GLU:HG2	1.99	0.62
36:c:129:PHE:CZ	36:c:130:ARG:HG3	2.34	0.62
38:e:44:ARG:NE	38:e:72:ASN:HD21	1.97	0.62
42:i:6:TYR:OH	42:i:8:THR:OG1	2.14	0.62
42:i:7:GLY:HA2	42:i:84:ARG:HG2	1.80	0.62
53:t:47:GLN:O	53:t:51:ASN:ND2	2.32	0.62
8:A:754:U:H5'	8:A:1619:G:H5'	1.80	0.62
8:A:1419:A:O2'	8:A:1421:G:N7	2.32	0.62
8:A:2466:C:O2'	8:A:2467:C:H5'	1.99	0.62
8:A:2626:C:H2'	8:A:2627:G:C8	2.34	0.62
8:A:2783:U:H2'	8:A:2784:U:C6	2.34	0.62
8:A:2828:G:H2'	8:A:2829:A:H8	1.62	0.62
8:A:2840:C:H2'	8:A:2841:C:C6	2.34	0.62
21:N:36:THR:O	21:N:111:ALA:N	2.27	0.62
25:R:8:GLY:O	25:R:10:LYS:NZ	2.32	0.62
34:a:321:A:H2'	34:a:322:C:H6	1.63	0.62
34:a:541:G:H2'	34:a:542:G:H8	1.63	0.62
34:a:686:U:O2'	34:a:687:A:O5'	2.17	0.62
34:a:1040:U:H2'	34:a:1041:G:C8	2.34	0.62
34:a:1125:U:OP1	43:j:37:ARG:NE	2.32	0.62
34:a:1150:A:C2	43:j:41:PRO:HG2	2.34	0.62
34:a:1187:G:O2'	47:n:101:TRP:N	2.32	0.62
34:a:1240:U:P	40:g:115:MET:H	2.22	0.62
34:a:1477:U:H2'	34:a:1478:U:H6	1.64	0.62
40:g:82:SER:OG	40:g:83:THR:N	2.32	0.62
56:w:5:G:H2'	56:w:6:G:C8	2.34	0.62
8:A:176:A:H3'	8:A:177:G:N2	2.13	0.62
8:A:268:C:H2'	8:A:269:C:H6	1.63	0.62
8:A:1013:C:H2'	8:A:1014:A:H8	1.65	0.62
8:A:1042:G:C6	8:A:1113:U:N3	2.67	0.62
8:A:1074:G:H5"	8:A:1075:C:C5	2.34	0.62
8:A:2173:A:H2'	8:A:2174:C:C6	2.35	0.62
8:A:2206:C:H2'	8:A:2207:C:C6	2.34	0.62
8:A:2241:A:H2'	8:A:2242:G:C8	2.34	0.62
8:A:2261:C:H2'	8:A:2262:U:C6	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2345:G:N3	8:A:2381:A:H2'	2.14	0.62
8:A:2355:G:H2'	8:A:2356:U:H6	1.61	0.62
8:A:2462:C:H2'	8:A:2463:C:C6	2.33	0.62
8:A:2771:C:H2'	8:A:2772:C:C6	2.35	0.62
8:A:2798:U:H4'	8:A:2799:A:C4	2.33	0.62
9:B:81:G:H2'	9:B:82:U:C6	2.34	0.62
13:F:55:ASP:O	13:F:59:ILE:N	2.32	0.62
34:a:36:C:H2'	34:a:37:U:C6	2.34	0.62
34:a:440:C:C2	34:a:441:A:C8	2.87	0.62
34:a:838:G:H2'	34:a:839:C:C6	2.34	0.62
34:a:1414:U:H2'	34:a:1415:G:N7	2.15	0.62
42:i:55:ASP:HB2	42:i:59:LYS:HG3	1.80	0.62
44:k:80:ASN:HD22	44:k:105:ARG:HB3	1.65	0.62
53:t:34:VAL:HG12	53:t:38:ILE:HD11	1.81	0.62
55:v:7:G:O2'	55:v:49:G:OP2	2.13	0.62
3:2:31:LEU:H	3:2:31:LEU:HD12	1.64	0.62
7:6:49:ARG:HH11	7:6:50:ASP:CG	2.08	0.62
8:A:742:A:H2'	8:A:743:A:C8	2.35	0.62
8:A:1048:A:H2'	8:A:1049:C:C6	2.34	0.62
8:A:1474:U:H5'	8:A:1475:G:OP2	1.99	0.62
8:A:2047:C:H2'	8:A:2048:G:H8	1.61	0.62
8:A:2644:G:H2'	8:A:2645:G:N3	2.15	0.62
8:A:2693:G:H2'	8:A:2694:G:C8	2.34	0.62
15:H:38:PRO:C	15:H:43:ASN:HD22	2.07	0.62
20:M:25:ASP:OD1	20:M:26:VAL:N	2.30	0.62
23:P:88:ARG:NH1	23:P:114:ASN:O	2.32	0.62
25:R:60:LYS:H	25:R:100:GLY:HA3	1.64	0.62
34:a:186:C:C4	34:a:187:G:C5	2.87	0.62
34:a:227:G:H2'	34:a:228:A:C8	2.35	0.62
34:a:253:A:H2'	34:a:254:G:C8	2.34	0.62
34:a:284:C:H2'	34:a:285:C:C6	2.34	0.62
34:a:675:A:H2'	34:a:676:A:H8	1.64	0.62
34:a:880:C:H3'	45:l:5:GLN:NE2	2.14	0.62
34:a:885:G:OP2	45:l:14:LYS:NZ	2.33	0.62
35:b:166:ASP:HB3	35:b:190:SER:HA	1.81	0.62
38:e:24:VAL:N	38:e:27:GLY:O	2.33	0.62
42:i:5:TYR:HB2	42:i:20:ILE:HG13	1.80	0.62
46:m:3:ILE:HG23	46:m:56:ARG:HG2	1.79	0.62
2:1:8:ILE:HG22	2:1:9:LYS:H	1.62	0.62
8:A:121:G:H4'	8:A:149:A:H5'	1.81	0.62
8:A:843:G:H2'	8:A:844:A:H8	1.61	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1056:G:N1	8:A:1103:A:N7	2.47	0.62
8:A:1295:C:O4'	21:N:23:ASN:ND2	2.32	0.62
8:A:1962:5MC:O2'	8:A:1964:G:OP2	2.16	0.62
8:A:2709:G:H2'	8:A:2710:C:C6	2.35	0.62
15:H:95:GLY:N	15:H:98:ASP:OD2	2.31	0.62
25:R:4:VAL:HG22	25:R:13:ARG:HA	1.82	0.62
25:R:70:GLU:CD	25:R:70:GLU:H	2.08	0.62
34:a:338:A:H2'	34:a:339:C:H6	1.64	0.62
34:a:680:C:H2'	34:a:681:A:C8	2.33	0.62
34:a:927:G:O2'	34:a:1503:A:N6	2.28	0.62
34:a:984:C:N3	34:a:1222:G:N1	2.47	0.62
34:a:1059:C:OP2	36:c:198:LYS:NZ	2.30	0.62
34:a:1081:A:H2'	34:a:1082:A:C8	2.33	0.62
34:a:1125:U:OP2	43:j:37:ARG:NH2	2.33	0.62
34:a:1445:U:N3	34:a:1457:G:N1	2.21	0.62
8:A:182:A:H2'	8:A:183:C:C6	2.34	0.62
8:A:744:U:H3'	8:A:745:1MG:C8	2.33	0.62
8:A:868:U:H2'	8:A:869:G:O4'	2.00	0.62
8:A:896:A:N6	56:w:56:C:H5'	2.15	0.62
8:A:1196:C:C2	8:A:1197:G:C8	2.88	0.62
8:A:2289:G:H2'	8:A:2290:G:C8	2.34	0.62
15:H:2:GLN:NE2	15:H:18:GLN:O	2.28	0.62
21:N:48:VAL:HG23	21:N:51:LEU:HD12	1.82	0.62
32:Y:28:LEU:HA	32:Y:31:GLN:HE21	1.64	0.62
34:a:285:C:H2'	34:a:286:C:C6	2.33	0.62
34:a:998:C:H2'	34:a:999:C:C6	2.34	0.62
34:a:1139:G:N2	34:a:1142:G:O6	2.32	0.62
34:a:1178:G:N2	34:a:1180:A:H3'	2.14	0.62
34:a:1359:C:O5'	47:n:75:ARG:NH2	2.31	0.62
36:c:186:SER:OG	36:c:187:GLU:N	2.32	0.62
37:d:67:LEU:O	37:d:71:PHE:CB	2.47	0.62
40:g:38:ALA:HA	40:g:41:ILE:HD12	1.80	0.62
40:g:112:ASP:H	40:g:118:ARG:HD2	1.64	0.62
43:j:8:ILE:HA	43:j:99:GLN:O	1.98	0.62
55:v:66:C:H2'	55:v:67:C:C6	2.33	0.62
56:w:37:MIA:H2'	56:w:38:A:O4'	2.00	0.62
58:z:0:U:H2'	58:z:1:A:H8	1.65	0.62
2:1:37:LYS:NZ	8:A:2347:C:O5'	2.32	0.62
7:6:1:MET:N	9:B:40:U:O4	2.30	0.62
8:A:164:C:H3'	8:A:165:A:H8	1.64	0.62
8:A:251:A:H5'	19:L:47:ARG:CZ	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:681:G:H2'	8:A:682:G:C8	2.34	0.62
8:A:717:C:H2'	8:A:718:A:O4'	1.99	0.62
8:A:752:A:O3'	8:A:753:A:H8	1.82	0.62
8:A:772:C:H2'	8:A:773:U:H6	1.65	0.62
8:A:1178:C:H4'	8:A:1179:G:C4	2.35	0.62
8:A:1293:C:H2'	8:A:1294:U:C6	2.35	0.62
8:A:1535:A:H62	8:A:1538:G:H21	1.46	0.62
8:A:1799:G:O6	8:A:1819:A:H2'	1.99	0.62
8:A:2646:C:H2'	8:A:2647:U:O4'	2.00	0.62
8:A:2768:U:O2'	17:J:95:ARG:NH1	2.32	0.62
8:A:2815:C:H2'	8:A:2816:G:C8	2.34	0.62
9:B:81:G:H1	9:B:95:U:H3	1.47	0.62
11:D:32:ASN:N	11:D:96:ILE:O	2.32	0.62
13:F:118:ALA:O	13:F:166:ARG:NH2	2.33	0.62
14:G:90:GLY:HA2	14:G:159:LYS:HE3	1.81	0.62
27:T:40:LYS:HE2	27:T:60:THR:N	2.15	0.62
34:a:22:G:H2'	34:a:23:C:C6	2.35	0.62
34:a:60:A:O2'	53:t:4:LYS:NZ	2.26	0.62
34:a:214:C:H2'	34:a:215:C:O2	2.00	0.62
34:a:279:A:H4'	34:a:281:G:C8	2.34	0.62
34:a:454:G:H2'	34:a:455:G:H8	1.64	0.62
34:a:500:G:H2'	34:a:501:C:H6	1.62	0.62
34:a:753:A:H4'	48:o:68:TYR:HE1	1.65	0.62
34:a:1256:A:H5'	34:a:1258:G:H1'	1.81	0.62
34:a:1474:U:H2'	34:a:1475:G:H8	1.65	0.62
34:a:1510:C:H2'	34:a:1511:G:H8	1.64	0.62
43:j:41:PRO:HA	43:j:72:ARG:HD3	1.82	0.62
8:A:132:G:H2'	8:A:133:U:H6	1.63	0.62
8:A:559:G:H1'	24:Q:55:GLN:NE2	2.14	0.62
8:A:966:G:H4'	8:A:2271:G:H22	1.64	0.62
8:A:1386:C:H2'	8:A:1387:A:H8	1.62	0.62
11:D:150:GLN:HA	11:D:153:GLY:HA2	1.81	0.62
17:J:86:GLN:N	17:J:86:GLN:OE1	2.32	0.62
23:P:48:ALA:HB3	23:P:59:THR:HB	1.81	0.62
24:Q:57:ARG:CZ	24:Q:61:ILE:HD11	2.30	0.62
34:a:358:U:H2'	34:a:359:G:C8	2.35	0.62
34:a:1054:C:H42	58:z:7:G:H1	1.47	0.62
34:a:1437:A:H2'	34:a:1438:G:H8	1.65	0.62
43:j:14:ASP:CG	43:j:17:LEU:H	2.08	0.62
45:l:23:LEU:HD21	45:l:81:ILE:HG23	1.81	0.62
51:r:24:ASP:O	51:r:28:LEU:HG	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:41:ARG:NH1	8:A:2351:G:O6	2.32	0.62
8:A:481:G:OP2	28:U:43:LYS:NZ	2.31	0.62
8:A:882:G:O6	8:A:894:U:O2	2.17	0.62
8:A:967:U:H2'	8:A:968:C:C6	2.34	0.62
8:A:1034:G:C6	8:A:1122:G:C5	2.88	0.62
8:A:1056:G:N2	8:A:1103:A:N7	2.48	0.62
8:A:1392:A:H2'	8:A:1393:A:C8	2.35	0.62
8:A:1453:A:C5	21:N:73:ASN:HB3	2.34	0.62
8:A:1691:C:H2'	8:A:1692:U:C6	2.35	0.62
8:A:1826:G:OP2	10:C:221:GLY:N	2.32	0.62
8:A:2024:G:H2'	8:A:2025:C:C6	2.35	0.62
8:A:2432:A:H2'	8:A:2433:A:C8	2.34	0.62
8:A:2540:C:H2'	8:A:2541:A:O4'	2.00	0.62
8:A:2557:G:H2'	8:A:2558:C:C6	2.34	0.62
9:B:71:C:H2'	9:B:72:G:O4'	2.00	0.62
19:L:55:MET:HG3	19:L:60:ARG:HB3	1.81	0.62
25:R:24:LYS:HE2	25:R:66:HIS:HE1	1.65	0.62
27:T:10:VAL:O	27:T:12:ARG:NH1	2.33	0.62
31:X:63:ILE:O	31:X:67:LEU:HG	1.99	0.62
34:a:510:A:N3	34:a:543:U:O2'	2.25	0.62
34:a:751:U:H5'	48:o:20:ASP:OD1	2.00	0.62
34:a:768:A:N3	34:a:1512:U:O2'	2.33	0.62
34:a:1119:C:H2'	34:a:1120:C:H6	1.64	0.62
34:a:1267:C:H3'	34:a:1268:G:C8	2.34	0.62
38:e:85:LYS:HG2	38:e:94:PHE:CG	2.35	0.62
44:k:82:GLU:HG3	44:k:107:THR:OG1	2.00	0.62
53:t:59:ARG:NH1	53:t:60:GLN:HE22	1.97	0.62
7:6:63:ARG:HD2	52:s:8:PRO:HG2	1.81	0.62
8:A:203:A:O5'	8:A:204:A:H2'	1.99	0.62
8:A:457:A:H62	8:A:471:A:H62	1.48	0.62
8:A:775:G:C6	8:A:794:A:C8	2.88	0.62
8:A:939:G:H2'	8:A:940:G:C8	2.35	0.62
8:A:1009:A:OP2	8:A:1010:A:OP2	2.18	0.62
8:A:1279:G:C6	8:A:1292:G:C6	2.88	0.62
8:A:1665:A:C4	8:A:1666:G:C8	2.87	0.62
8:A:2727:A:O2'	18:K:70:ARG:NH2	2.33	0.62
8:A:2824:C:O2'	8:A:2825:G:O4'	2.18	0.62
13:F:27:VAL:HG13	13:F:29:ARG:HH11	1.64	0.62
15:H:113:SER:O	15:H:116:ARG:NH1	2.33	0.62
19:L:20:GLY:O	19:L:21:ARG:HD3	2.00	0.62
22:O:24:THR:HB	22:O:42:PRO:HD3	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:23:ASP:HA	23:P:88:ARG:HA	1.82	0.62
24:Q:85:ALA:HB2	24:Q:115:ALA:HB2	1.82	0.62
28:U:39:ASN:ND2	28:U:63:ALA:O	2.33	0.62
34:a:468:A:H3'	34:a:469:C:C6	2.35	0.62
34:a:542:G:H2'	34:a:543:U:C6	2.35	0.62
34:a:693:G:OP2	44:k:126:ARG:NH1	2.33	0.62
34:a:1006:G:C2	34:a:1007:U:C2	2.88	0.62
34:a:1103:C:H2'	34:a:1104:G:C8	2.35	0.62
44:k:75:GLU:CD	44:k:75:GLU:H	2.07	0.62
3:2:2:LYS:HE2	8:A:687:C:H4'	1.81	0.61
3:2:8:SER:N	8:A:686:U:H3	1.98	0.61
8:A:340:A:O2'	12:E:162:ARG:NH1	2.33	0.61
8:A:1746:A:H2'	8:A:1747:U:H6	1.64	0.61
8:A:2739:U:H3'	8:A:2763:G:H1	1.65	0.61
10:C:243:PRO:O	10:C:251:THR:N	2.25	0.61
13:F:32:LYS:HA	13:F:95:MET:HE2	1.80	0.61
25:R:31:GLU:N	25:R:31:GLU:OE2	2.33	0.61
26:S:18:ARG:HH22	26:S:77:ASP:HA	1.65	0.61
27:T:76:ARG:HH21	27:T:79:ASP:CG	2.07	0.61
34:a:159:G:H2'	34:a:161:A:H5"	1.81	0.61
34:a:348:G:H2'	34:a:349:A:C8	2.35	0.61
35:b:125:PHE:HE1	35:b:136:ARG:HB2	1.65	0.61
36:c:69:THR:HG22	36:c:71:ARG:H	1.63	0.61
38:e:82:HIS:ND1	41:h:95:MET:HG2	2.15	0.61
42:i:35:GLU:N	42:i:35:GLU:OE1	2.33	0.61
44:k:20:ALA:HB3	44:k:83:VAL:HA	1.80	0.61
8:A:565:C:H4'	8:A:1253:A:N6	2.14	0.61
8:A:1129:A:N7	8:A:2570:G:H4'	2.15	0.61
8:A:1564:C:H2'	8:A:1565:C:C6	2.36	0.61
8:A:1771:C:H2'	8:A:1772:A:C8	2.35	0.61
8:A:1786:A:C4	8:A:1938:A:N6	2.67	0.61
8:A:1804:C:N3	8:A:1814:G:N2	2.48	0.61
8:A:1829:A:H3'	8:A:1830:C:H6	1.66	0.61
8:A:2024:G:H2'	8:A:2025:C:H6	1.65	0.61
8:A:2142:A:H3'	8:A:2143:C:C6	2.34	0.61
8:A:2372:U:H2'	8:A:2373:G:H8	1.64	0.61
8:A:2372:U:H2'	8:A:2373:G:C8	2.35	0.61
8:A:2711:A:OP2	8:A:2714:G:P	2.58	0.61
8:A:2856:A:C6	8:A:2862:G:C6	2.88	0.61
10:C:77:VAL:HA	10:C:93:VAL:HA	1.82	0.61
10:C:133:ASN:HD22	15:H:89:LYS:HE3	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:K:90:ASN:OD1	18:K:91:SER:N	2.29	0.61
27:T:43:ILE:O	27:T:47:VAL:HG22	1.99	0.61
30:W:68:LYS:HG2	30:W:75:PHE:CD1	2.35	0.61
34:a:302:G:O3'	45:l:13:ARG:NH2	2.30	0.61
34:a:679:C:H2'	34:a:680:C:C6	2.36	0.61
34:a:1097:C:H2'	34:a:1098:C:C6	2.35	0.61
34:a:1445:U:O2	34:a:1457:G:C2	2.52	0.61
34:a:1519:MA6:H5"	34:a:1520:C:O4'	2.00	0.61
55:v:40:C:H2'	55:v:41:C:H6	1.65	0.61
8:A:158:U:O4	8:A:168:G:O6	2.17	0.61
8:A:816:C:H2'	8:A:817:C:C6	2.36	0.61
8:A:977:G:H5'	24:Q:54:ARG:NH2	2.15	0.61
8:A:1183:U:O3'	33:Z:29:ARG:NH1	2.33	0.61
17:J:77:HIS:CE1	17:J:79:GLY:H	2.18	0.61
18:K:105:ARG:CZ	23:P:31:VAL:HG11	2.29	0.61
20:M:8:LYS:HG3	20:M:9:PHE:H	1.65	0.61
23:P:99:LEU:HA	23:P:102:ARG:HB2	1.83	0.61
24:Q:105:PHE:O	24:Q:109:VAL:HG23	2.00	0.61
34:a:388:G:H8	34:a:388:G:P	2.23	0.61
34:a:842:U:N3	34:a:844:G:OP2	2.32	0.61
34:a:1147:C:O2'	42:i:6:TYR:OH	2.14	0.61
34:a:1355:G:C6	34:a:1368:A:C6	2.88	0.61
34:a:1415:G:N1	34:a:1485:U:N3	2.38	0.61
38:e:81:GLN:N	38:e:146:MET:SD	2.71	0.61
38:e:114:LEU:HD12	38:e:119:VAL:HB	1.81	0.61
43:j:64:GLN:O	47:n:99:ALA:N	2.33	0.61
50:q:11:VAL:HG22	50:q:54:ILE:HG22	1.81	0.61
50:q:16:MET:N	50:q:16:MET:SD	2.73	0.61
54:u:44:ARG:O	54:u:48:LYS:HD3	2.00	0.61
7:6:63:ARG:HA	47:n:42:TRP:CZ2	2.36	0.61
8:A:141:G:O2'	8:A:142:A:OP2	2.18	0.61
8:A:225:C:C2	8:A:226:A:C8	2.88	0.61
8:A:603:A:H5"	8:A:655:A:H61	1.66	0.61
8:A:681:G:H2'	8:A:682:G:H8	1.64	0.61
8:A:896:A:C2	56:w:56:C:OP1	2.54	0.61
8:A:2373:G:H2'	8:A:2374:C:H6	1.65	0.61
8:A:2466:C:H2'	8:A:2467:C:H6	1.65	0.61
8:A:2867:G:O2'	8:A:2868:A:OP2	2.18	0.61
11:D:115:GLY:O	21:N:3:HIS:HE1	1.78	0.61
15:H:135:HIS:CG	15:H:136:SER:H	2.18	0.61
21:N:70:THR:HG21	21:N:75:ILE:HG21	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:S:58:ALA:O	26:S:63:GLY:N	2.32	0.61
34:a:117:G:H2'	34:a:118:U:C6	2.36	0.61
34:a:289:G:H2'	34:a:290:C:C6	2.35	0.61
34:a:333:U:H2'	34:a:334:C:H6	1.65	0.61
34:a:341:C:H2'	34:a:342:C:C6	2.36	0.61
34:a:640:A:H4'	41:h:107:LYS:HZ1	1.66	0.61
34:a:1129:C:C2	34:a:1139:G:C6	2.88	0.61
38:e:44:ARG:HD2	38:e:72:ASN:OD1	2.00	0.61
46:m:18:LEU:HD11	46:m:33:LEU:HG	1.83	0.61
51:r:62:ARG:HG2	51:r:67:LEU:HD22	1.81	0.61
8:A:32:C:H2'	8:A:33:C:C5	2.35	0.61
8:A:1131:G:C5	8:A:2025:C:H4'	2.36	0.61
8:A:1545:A:H2'	8:A:1546:G:O4'	2.01	0.61
8:A:1957:C:H2'	8:A:1958:C:H6	1.65	0.61
8:A:2034:U:H2'	8:A:2035:G:C8	2.35	0.61
8:A:2291:U:H2'	8:A:2292:U:H6	1.65	0.61
8:A:2329:U:H2'	8:A:2330:G:H8	1.65	0.61
8:A:2406:A:H4'	8:A:2407:A:H5"	1.82	0.61
8:A:2698:U:H2'	8:A:2699:C:C6	2.35	0.61
8:A:2721:A:H2'	8:A:2722:G:O4'	2.01	0.61
13:F:101:ARG:HG3	13:F:105:ILE:HD12	1.83	0.61
17:J:40:HIS:O	17:J:41:LYS:HD3	2.00	0.61
23:P:30:TRP:CZ3	23:P:39:LEU:HB2	2.35	0.61
25:R:76:LYS:HB2	25:R:85:LYS:HB3	1.83	0.61
27:T:30:ILE:HG12	27:T:85:VAL:HB	1.82	0.61
36:c:149:LYS:HE3	36:c:200:TRP:CD2	2.35	0.61
37:d:90:LEU:HA	37:d:93:LEU:HG	1.82	0.61
42:i:114:LYS:H	42:i:120:ALA:HA	1.64	0.61
44:k:28:ASN:HD22	44:k:56:LYS:NZ	1.99	0.61
45:l:79:ILE:HG22	45:l:80:LEU:H	1.63	0.61
8:A:580:U:O2'	8:A:581:C:O5'	2.15	0.61
8:A:628:G:H2'	8:A:629:G:H8	1.66	0.61
8:A:707:G:H1	8:A:724:U:H3	1.47	0.61
8:A:1721:G:N1	8:A:1738:G:C5	2.68	0.61
8:A:1763:G:C8	8:A:1764:C:H4'	2.36	0.61
8:A:1806:C:H2'	8:A:1807:G:O4'	1.99	0.61
8:A:1862:G:N2	8:A:1880:U:O2	2.27	0.61
8:A:2179:C:H1'	8:A:2180:U:H3'	1.81	0.61
8:A:2309:A:H3'	8:A:2310:C:H6	1.66	0.61
8:A:2322:A:H3'	8:A:2323:G:H8	1.63	0.61
8:A:2531:A:H5"	14:G:156:TYR:CZ	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2896:C:H2'	8:A:2897:U:C6	2.35	0.61
17:J:99:ARG:HA	17:J:102:GLU:HB2	1.83	0.61
34:a:35:G:N3	45:l:114:SER:OG	2.33	0.61
34:a:71:A:C4	34:a:100:G:H1'	2.35	0.61
34:a:94:G:H4'	34:a:95:C:H5'	1.82	0.61
34:a:113:G:H2'	34:a:114:U:C6	2.35	0.61
34:a:868:C:H3'	34:a:869:G:C8	2.35	0.61
34:a:1006:G:N1	34:a:1023:U:O4'	2.34	0.61
34:a:1161:C:H2'	34:a:1162:C:C6	2.35	0.61
34:a:1350:A:OP2	42:i:119:LYS:NZ	2.29	0.61
34:a:1539:C:H4'	34:a:1540:U:H4'	1.83	0.61
36:c:10:ARG:HD2	36:c:181:ILE:HG22	1.83	0.61
36:c:63:ILE:HG22	36:c:96:VAL:HG23	1.83	0.61
40:g:92:PRO:HA	40:g:95:ARG:HD2	1.83	0.61
40:g:113:LYS:HB2	40:g:117:LEU:HD13	1.82	0.61
44:k:24:ALA:N	44:k:86:LYS:O	2.28	0.61
46:m:15:VAL:HG13	46:m:33:LEU:HD12	1.82	0.61
48:o:16:ARG:N	48:o:16:ARG:HD2	2.16	0.61
52:s:40:PHE:HB3	52:s:43:MET:H	1.65	0.61
1:0:30:ASP:OD2	1:0:32:THR:N	2.34	0.61
8:A:443:A:C5	12:E:40:ARG:HD2	2.35	0.61
8:A:521:U:H2'	8:A:522:A:C8	2.30	0.61
8:A:579:G:H2'	8:A:580:U:C6	2.35	0.61
8:A:711:G:O6	8:A:720:U:O2	2.19	0.61
8:A:953:G:H2'	8:A:954:G:H8	1.65	0.61
8:A:1004:U:H2'	8:A:1011:G:C8	2.36	0.61
8:A:1770:G:N1	8:A:1982:U:N3	2.22	0.61
8:A:2526:G:N1	8:A:2537:U:N3	2.25	0.61
9:B:89:U:H2'	20:M:16:ARG:HH21	1.65	0.61
24:Q:87:VAL:HG13	24:Q:89:ILE:HD12	1.83	0.61
34:a:249:U:C2	34:a:275:G:O6	2.53	0.61
34:a:499:A:H61	34:a:547:A:H5"	1.64	0.61
34:a:522:C:H2'	34:a:523:A:C8	2.35	0.61
34:a:833:G:C5	34:a:834:U:C4	2.88	0.61
34:a:1006:G:C6	34:a:1022:A:N1	2.68	0.61
34:a:1189:U:OP1	47:n:98:LYS:NZ	2.26	0.61
34:a:1279:G:O2'	34:a:1282:C:N4	2.34	0.61
37:d:61:ARG:HG2	37:d:66:VAL:HG13	1.83	0.61
39:f:47:LEU:HD21	39:f:57:ALA:HB3	1.83	0.61
40:g:59:GLU:OE1	40:g:59:GLU:N	2.32	0.61
41:h:12:ARG:NH1	41:h:25:THR:O	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:l:79:ILE:HD12	45:l:103:CYS:HB2	1.81	0.61
46:m:13:HIS:HB2	46:m:16:ILE:HG12	1.82	0.61
46:m:65:GLU:HG2	46:m:66:GLY:H	1.66	0.61
50:q:22:VAL:HG13	50:q:24:ILE:HD11	1.82	0.61
50:q:63:CYS:N	50:q:71:SER:O	2.24	0.61
1:0:3:GLN:HA	8:A:2615:U:C2	2.36	0.61
5:4:4:ARG:O	5:4:37:GLN:NE2	2.25	0.61
8:A:138:U:H2'	8:A:140:C:C5	2.35	0.61
8:A:397:U:H2'	8:A:398:C:C6	2.36	0.61
8:A:628:G:H2'	8:A:629:G:C8	2.36	0.61
8:A:779:U:H3	8:A:785:G:H1	1.49	0.61
8:A:836:G:H1	8:A:942:G:H22	1.49	0.61
8:A:1484:U:H2'	8:A:1485:U:H6	1.65	0.61
8:A:1830:C:H2'	8:A:1831:G:C8	2.35	0.61
8:A:1838:C:N4	8:A:1898:U:H2'	2.15	0.61
8:A:2025:C:H2'	8:A:2026:U:C6	2.36	0.61
8:A:2117:A:N6	8:A:2170:A:N1	2.49	0.61
8:A:2130:U:H2'	8:A:2131:U:N1	2.16	0.61
8:A:2130:U:HO2'	8:A:2133:G:HO2'	1.48	0.61
8:A:2596:U:H2'	8:A:2597:G:O4'	2.00	0.61
8:A:2632:A:H2'	8:A:2633:G:C8	2.35	0.61
9:B:80:U:OP1	20:M:18:ARG:NH2	2.32	0.61
11:D:61:THR:H	11:D:64:GLU:CD	2.09	0.61
12:E:134:LEU:O	12:E:138:LEU:HG	2.00	0.61
34:a:81:A:H61	34:a:86:G:N2	1.98	0.61
34:a:509:A:OP2	34:a:509:A:C3'	2.48	0.61
34:a:522:C:OP1	45:l:68:GLY:N	2.34	0.61
34:a:892:A:N7	34:a:906:A:H2	1.98	0.61
34:a:1095:U:H2'	34:a:1096:C:C6	2.36	0.61
34:a:1428:A:C6	34:a:1473:G:C6	2.88	0.61
36:c:87:ARG:HG3	36:c:100:ILE:HG12	1.82	0.61
36:c:109:GLU:N	36:c:109:GLU:OE1	2.33	0.61
45:l:42:LYS:HD3	45:l:87:LYS:O	2.01	0.61
1:0:49:ARG:NH2	8:A:2884:U:O4'	2.33	0.61
5:4:4:ARG:NH2	8:A:2477:U:H2'	2.16	0.61
6:5:29:ASP:O	8:A:1053:C:O2'	2.19	0.61
8:A:594:U:O4	8:A:663:G:O6	2.19	0.61
8:A:695:G:N1	8:A:767:U:N3	2.25	0.61
8:A:699:A:H62	8:A:733:G:H21	1.48	0.61
8:A:1416:G:O2'	8:A:1417:C:O4'	2.19	0.61
8:A:1442:U:H2'	8:A:1443:U:C6	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1604:C:H2'	8:A:1605:C:C6	2.36	0.61
10:C:142:ASN:ND2	10:C:190:THR:OG1	2.33	0.61
11:D:124:ARG:NH1	11:D:162:ALA:O	2.32	0.61
13:F:34:THR:HA	13:F:90:LEU:HD12	1.83	0.61
15:H:132:PHE:H	15:H:140:ALA:HB3	1.65	0.61
19:L:110:VAL:HB	19:L:127:VAL:HG22	1.83	0.61
30:W:36:GLN:HB2	30:W:40:LYS:HD2	1.82	0.61
34:a:302:G:H2'	34:a:303:A:H8	1.66	0.61
34:a:312:C:H2'	34:a:313:A:H8	1.66	0.61
34:a:820:U:OP2	34:a:820:U:H2'	2.01	0.61
34:a:912:C:H2'	34:a:913:A:C8	2.35	0.61
34:a:1124:G:H3'	43:j:37:ARG:HH21	1.65	0.61
37:d:144:ILE:HG13	37:d:177:MET:HB3	1.83	0.61
50:q:18:LYS:H	50:q:50:ASN:HD21	1.49	0.61
8:A:142:A:H2'	8:A:143:C:H6	1.66	0.61
8:A:672:C:H5'	12:E:84:THR:HG23	1.82	0.61
8:A:1044:C:O2'	8:A:1111:A:N1	2.31	0.61
8:A:1159:U:H2'	8:A:1160:G:H8	1.66	0.61
8:A:1171:G:H22	8:A:1177:G:H22	1.48	0.61
8:A:2198:A:C2	15:H:29:PHE:HB2	2.35	0.61
8:A:2825:G:N2	8:A:2825:G:OP2	2.33	0.61
15:H:50:ARG:HH11	15:H:51:ARG:HB3	1.66	0.61
22:O:98:GLN:OE1	22:O:99:TYR:N	2.31	0.61
34:a:192:A:H2'	34:a:193:C:C6	2.36	0.61
34:a:753:A:H4'	48:o:68:TYR:CE1	2.35	0.61
34:a:1033:G:H2'	34:a:1034:G:O4'	2.01	0.61
34:a:1324:A:H2'	34:a:1325:C:H6	1.64	0.61
34:a:1535:C:H5'	34:a:1536:C:H5"	1.82	0.61
35:b:186:VAL:N	35:b:199:ILE:O	2.31	0.61
36:c:112:ALA:O	36:c:116:ALA:N	2.28	0.61
37:d:54:LEU:O	37:d:58:GLN:NE2	2.34	0.61
44:k:118:ASN:H	54:u:34:ARG:HH11	1.48	0.61
51:r:20:ILE:H	51:r:53:GLN:NE2	1.99	0.61
53:t:53:MET:SD	53:t:54:GLN:N	2.74	0.61
7:6:61:ASN:ND2	7:6:64:PHE:HA	2.14	0.60
8:A:286:U:H2'	8:A:287:G:C8	2.36	0.60
8:A:417:C:H2'	8:A:418:C:H6	1.65	0.60
8:A:1040:A:N1	8:A:1115:G:N2	2.42	0.60
8:A:1162:G:H2'	8:A:1163:G:C8	2.35	0.60
8:A:1292:G:H2'	8:A:1293:C:C6	2.35	0.60
8:A:1703:G:H2'	8:A:1704:C:H6	1.63	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2052:A:H8	8:A:2052:A:O5'	1.84	0.60
8:A:2328:A:H2'	8:A:2329:U:C6	2.36	0.60
12:E:149:ILE:HB	12:E:188:MET:HA	1.83	0.60
13:F:62:GLN:HB2	13:F:94:ARG:HH22	1.65	0.60
14:G:151:ARG:HH21	14:G:159:LYS:C	2.09	0.60
23:P:112:ARG:HE	23:P:114:ASN:ND2	1.99	0.60
34:a:34:C:O4'	45:l:28:GLN:NE2	2.33	0.60
34:a:68:G:N2	34:a:101:A:N1	2.49	0.60
34:a:416:G:O6	34:a:427:U:O4	2.19	0.60
34:a:911:U:H2'	34:a:912:C:H6	1.63	0.60
34:a:1474:U:H2'	34:a:1475:G:C8	2.36	0.60
44:k:29:THR:O	44:k:46:ALA:N	2.29	0.60
46:m:82:LEU:HD21	52:s:64:GLU:HB3	1.82	0.60
48:o:74:VAL:HA	48:o:77:TYR:HB3	1.82	0.60
1:0:9:ARG:HH12	8:A:516:C:P	2.24	0.60
4:3:26:ALA:HB2	19:L:61:LEU:HD13	1.82	0.60
8:A:534:U:H2'	8:A:535:G:C8	2.35	0.60
8:A:669:G:N1	8:A:801:G:O6	2.34	0.60
8:A:670:A:P	19:L:43:GLY:HA3	2.41	0.60
8:A:682:G:H2'	8:A:683:U:C6	2.36	0.60
8:A:840:C:N4	8:A:939:G:O6	2.33	0.60
8:A:861:A:N3	9:B:79:G:O2'	2.33	0.60
8:A:1848:A:H2'	8:A:1849:G:C8	2.36	0.60
8:A:2075:U:C4	8:A:2238:G:C6	2.89	0.60
8:A:2270:A:H2'	8:A:2271:G:H8	1.65	0.60
8:A:2580:PSU:H5'	11:D:135:GLY:C	2.25	0.60
8:A:2643:G:C6	8:A:2644:G:C6	2.88	0.60
8:A:2798:U:H4'	8:A:2799:A:C5	2.36	0.60
8:A:2895:G:H2'	8:A:2896:C:C6	2.36	0.60
9:B:39:A:C2	9:B:44:G:C2	2.89	0.60
9:B:116:G:H5"	22:O:55:GLU:HG2	1.83	0.60
15:H:58:LEU:HA	15:H:61:VAL:HG22	1.83	0.60
15:H:82:SER:HB3	15:H:146:VAL:HG11	1.83	0.60
21:N:103:ARG:HD2	21:N:108:ALA:HB3	1.83	0.60
25:R:16:GLU:HA	25:R:98:ILE:HB	1.82	0.60
31:X:31:ASN:OD1	31:X:52:ALA:N	2.23	0.60
34:a:25:C:H2'	34:a:26:A:C8	2.35	0.60
34:a:392:C:H4'	49:p:13:LYS:HZ2	1.65	0.60
34:a:404:G:O2'	34:a:405:U:O4'	2.15	0.60
34:a:452:A:C2	34:a:453:G:C8	2.89	0.60
34:a:813:U:OP1	34:a:903:G:O2'	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:833:G:H2'	34:a:834:U:C6	2.36	0.60
34:a:973:G:H1'	43:j:57:VAL:HG12	1.83	0.60
34:a:1435:G:H2'	34:a:1436:U:C6	2.36	0.60
37:d:188:SER:OG	37:d:189:ASP:OD1	2.18	0.60
43:j:97:ASP:OD1	43:j:98:VAL:N	2.33	0.60
44:k:93:GLU:OE2	44:k:97:ARG:NH2	2.35	0.60
45:l:109:ARG:O	45:l:110:LYS:NZ	2.29	0.60
49:p:21:VAL:HG22	49:p:33:ILE:HD12	1.83	0.60
51:r:33:THR:OG1	51:r:37:LYS:N	2.26	0.60
5:4:38:GLY:O	8:A:1124:G:H1'	2.01	0.60
8:A:215:G:N3	8:A:216:A:O2'	2.28	0.60
8:A:299:A:H2'	8:A:300:A:C8	2.35	0.60
8:A:373:U:N3	8:A:401:A:N6	2.34	0.60
8:A:1667:G:O2'	8:A:1991:U:O4	2.19	0.60
8:A:1788:C:OP1	10:C:220:ARG:NH2	2.35	0.60
8:A:1913:A:N6	34:a:1494:G:OP1	2.34	0.60
8:A:2072:C:H2'	8:A:2073:C:C6	2.36	0.60
8:A:2080:A:H2'	8:A:2081:U:C6	2.37	0.60
8:A:2190:G:H2'	8:A:2191:A:C8	2.36	0.60
8:A:2204:G:H2'	8:A:2205:A:H8	1.66	0.60
8:A:2305:U:H2'	8:A:2306:C:O4'	2.01	0.60
8:A:2874:C:OP1	21:N:4:ARG:NE	2.34	0.60
11:D:47:ALA:CA	11:D:84:LEU:HG	2.30	0.60
14:G:45:ALA:O	14:G:48:THR:OG1	2.13	0.60
20:M:30:SER:HA	20:M:133:LYS:HD3	1.83	0.60
20:M:76:LYS:NZ	20:M:82:MET:SD	2.74	0.60
21:N:49:GLU:OE2	21:N:94:TYR:N	2.33	0.60
34:a:119:A:C6	34:a:287:U:O2	2.54	0.60
34:a:444:G:H2'	34:a:445:G:H8	1.66	0.60
34:a:938:A:C6	34:a:939:G:C6	2.89	0.60
34:a:1078:U:H2'	34:a:1079:G:O4'	2.00	0.60
34:a:1366:C:O2'	43:j:62:ARG:NH2	2.34	0.60
36:c:122:GLN:HA	36:c:125:ARG:NE	2.15	0.60
38:e:82:HIS:CG	41:h:95:MET:HG2	2.35	0.60
48:o:6:ALA:O	48:o:9:LYS:HG3	2.01	0.60
51:r:33:THR:OG1	51:r:36:GLY:N	2.34	0.60
8:A:243:U:O2	8:A:255:A:N7	2.34	0.60
8:A:633:A:H5"	19:L:70:LYS:HD3	1.83	0.60
8:A:921:C:H2'	8:A:922:C:C6	2.37	0.60
8:A:1068:G:N7	8:A:1069:A:H1'	2.16	0.60
8:A:1069:A:H5'	8:A:1075:C:C4	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1222:U:C2	8:A:1227:G:O6	2.54	0.60
8:A:1908:C:H2'	8:A:1909:C:C6	2.36	0.60
8:A:2288:A:H2	8:A:2325:G:C5	2.19	0.60
15:H:70:GLU:OE2	15:H:71:LYS:NZ	2.33	0.60
17:J:28:LEU:O	17:J:32:LEU:HG	2.01	0.60
34:a:9:G:H2'	34:a:10:A:H8	1.66	0.60
34:a:846:G:H2'	34:a:847:G:C8	2.34	0.60
34:a:1206:G:C5	34:a:1207:2MG:C8	2.89	0.60
34:a:1288:A:O2'	34:a:1352:C:O2'	2.19	0.60
45:l:82:ARG:HG3	45:l:95:HIS:HB2	1.83	0.60
48:o:76:ARG:HA	48:o:79:GLN:HB2	1.82	0.60
2:1:29:LYS:NZ	8:A:2286:G:H3'	2.16	0.60
6:5:32:GLY:HA3	8:A:1055:G:H4'	1.82	0.60
8:A:1368:G:H2'	8:A:1369:G:C8	2.37	0.60
8:A:1595:C:H2'	8:A:1596:A:C8	2.36	0.60
8:A:1977:A:H2'	8:A:1978:A:O4'	2.01	0.60
8:A:2057:G:C4	8:A:2058:A:N7	2.69	0.60
8:A:2341:G:H2'	8:A:2342:C:C6	2.36	0.60
8:A:2567:G:H2'	8:A:2568:U:C6	2.36	0.60
8:A:2675:A:N6	8:A:2732:G:N1	2.50	0.60
8:A:2689:U:O4'	8:A:2713:U:N3	2.34	0.60
8:A:2870:C:H2'	8:A:2871:U:C6	2.35	0.60
9:B:17:C:H2'	9:B:18:G:O4'	2.00	0.60
18:K:49:ARG:NH2	34:a:1424:U:OP1	2.26	0.60
18:K:113:MET:O	18:K:116:ILE:HG22	2.00	0.60
22:O:50:ALA:O	22:O:81:ARG:NH2	2.34	0.60
22:O:93:ASP:CG	22:O:95:SER:H	2.08	0.60
30:W:11:ASP:OD1	30:W:12:SER:N	2.33	0.60
34:a:500:G:H5"	45:l:120:ARG:NH2	2.16	0.60
34:a:821:G:H2'	34:a:822:U:C6	2.36	0.60
34:a:890:G:N2	34:a:891:U:O4	2.27	0.60
34:a:1004:A:OP2	34:a:1023:U:N3	2.34	0.60
34:a:1406:U:H3'	34:a:1407:5MC:HM53	1.84	0.60
36:c:83:VAL:HA	36:c:86:LEU:HD12	1.82	0.60
49:p:6:LEU:HD23	49:p:17:TYR:CG	2.37	0.60
49:p:55:ASP:OD1	49:p:55:ASP:N	2.32	0.60
51:r:22:TYR:CD1	51:r:60:ARG:HD3	2.37	0.60
56:w:37:MIA:H3'	56:w:38:A:H8	1.65	0.60
3:2:37:LYS:NZ	8:A:469:G:O6	2.35	0.60
8:A:533:G:H2'	8:A:534:U:C6	2.37	0.60
8:A:1301:A:C6	8:A:1303:G:C4	2.90	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1975:G:H2'	8:A:1976:U:O4'	2.01	0.60
8:A:2078:C:H2'	8:A:2079:U:H6	1.67	0.60
8:A:2895:G:H2'	8:A:2896:C:H6	1.65	0.60
34:a:61:G:H5"	53:t:4:LYS:NZ	2.16	0.60
34:a:269:C:H2'	34:a:270:A:H8	1.65	0.60
34:a:337:G:H2'	34:a:338:A:C8	2.37	0.60
34:a:515:G:C6	34:a:537:G:C6	2.90	0.60
34:a:564:C:P	45:l:11:ARG:HH21	2.24	0.60
34:a:592:G:H2'	34:a:593:U:C6	2.36	0.60
34:a:797:C:H2'	34:a:798:U:C6	2.37	0.60
34:a:891:U:H2'	34:a:892:A:H8	1.67	0.60
34:a:1359:C:OP2	47:n:62:ASN:ND2	2.35	0.60
47:n:6:LYS:O	47:n:10:VAL:HG23	2.02	0.60
8:A:662:G:H4'	19:L:14:LYS:HB3	1.84	0.60
8:A:783:A:OP2	8:A:784:G:OP2	2.20	0.60
8:A:1130:U:C4	11:D:152:PRO:HA	2.36	0.60
8:A:1290:C:H2'	8:A:1291:C:C6	2.37	0.60
8:A:1549:A:H2'	8:A:1550:C:C6	2.36	0.60
8:A:2505:G:C6	8:A:2576:G:C8	2.90	0.60
8:A:2543:G:H2'	8:A:2544:G:C8	2.37	0.60
8:A:2674:G:H2'	8:A:2675:A:C8	2.37	0.60
8:A:2846:G:H5'	23:P:52:ARG:NH1	2.16	0.60
10:C:81:GLU:HB3	10:C:90:ILE:HG13	1.83	0.60
10:C:138:SER:N	10:C:163:ILE:HD12	2.17	0.60
13:F:110:ILE:HA	13:F:136:ILE:HG21	1.84	0.60
18:K:62:VAL:HA	18:K:84:CYS:HA	1.83	0.60
34:a:67:C:H2'	34:a:68:G:C8	2.36	0.60
34:a:331:G:O3'	53:t:3:ILE:HD13	2.02	0.60
34:a:359:G:H2'	34:a:360:G:C8	2.37	0.60
34:a:362:G:H2'	34:a:363:A:H3'	1.84	0.60
34:a:408:A:H2'	34:a:409:U:O4'	2.01	0.60
34:a:553:A:H2'	34:a:554:A:H8	1.67	0.60
34:a:578:C:O2'	34:a:728:A:N3	2.29	0.60
34:a:880:C:O5'	45:l:5:GLN:NE2	2.35	0.60
34:a:940:C:P	40:g:101:ARG:HH21	2.25	0.60
34:a:1042:A:O2'	34:a:1043:G:H5'	2.02	0.60
34:a:1203:C:H2'	34:a:1204:A:C8	2.37	0.60
34:a:1315:U:H2'	34:a:1316:G:O4'	2.02	0.60
34:a:1424:U:H2'	34:a:1425:U:H6	1.65	0.60
34:a:1452:C:H5'	34:a:1453:G:C4	2.37	0.60
34:a:1467:C:H2'	34:a:1468:A:C8	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:i:114:LYS:NZ	42:i:121:ARG:HE	1.99	0.60
8:A:226:A:H2'	8:A:227:A:C8	2.37	0.60
8:A:353:C:H2'	8:A:354:A:C8	2.37	0.60
8:A:391:A:O2'	8:A:410:G:OP1	2.19	0.60
8:A:811:U:H2'	19:L:21:ARG:HA	1.82	0.60
8:A:1009:A:O2'	8:A:1010:A:O4'	2.12	0.60
8:A:1013:C:OP2	8:A:1014:A:P	2.60	0.60
8:A:1142:A:C5	8:A:1144:A:C5	2.90	0.60
8:A:1176:U:H2'	8:A:1177:G:O4'	2.02	0.60
8:A:1242:U:H2'	8:A:1243:C:C6	2.37	0.60
8:A:1858:A:C6	8:A:1885:A:C8	2.90	0.60
8:A:1954:G:N2	8:A:2551:C:OP1	2.35	0.60
8:A:1955:U:O4	8:A:2556:C:N4	2.34	0.60
8:A:2600:A:H2'	8:A:2601:C:H6	1.67	0.60
8:A:2792:A:H2'	8:A:2793:C:O4'	2.02	0.60
9:B:26:C:H2'	9:B:27:C:C6	2.37	0.60
10:C:68:ARG:NH2	10:C:117:SER:OG	2.35	0.60
18:K:3:GLN:NE2	18:K:31:ARG:O	2.35	0.60
20:M:5:LYS:HD3	20:M:6:ARG:HB2	1.84	0.60
21:N:36:THR:OG1	21:N:40:LYS:HD2	2.01	0.60
23:P:16:VAL:HG21	23:P:75:THR:HG23	1.83	0.60
23:P:65:ASN:OD1	23:P:66:GLY:N	2.35	0.60
27:T:61:LEU:HD11	27:T:82:LYS:H	1.66	0.60
27:T:76:ARG:NH2	27:T:79:ASP:OD2	2.34	0.60
29:V:80:HIS:HB3	29:V:83:LYS:O	2.01	0.60
34:a:220:G:H2'	34:a:221:C:C6	2.36	0.60
34:a:1008:U:N3	34:a:1022:A:H1'	2.17	0.60
34:a:1078:U:H2'	34:a:1079:G:C8	2.36	0.60
34:a:1212:U:O2'	34:a:1213:A:N7	2.34	0.60
34:a:1276:G:N3	34:a:1282:C:H1'	2.16	0.60
37:d:169:TRP:CD1	37:d:185:PRO:HD3	2.36	0.60
42:i:114:LYS:HB2	42:i:117:LEU:HD12	1.84	0.60
8:A:781:A:H2	8:A:1776:G:N3	2.00	0.60
8:A:783:A:H2'	8:A:784:G:H4'	1.84	0.60
8:A:960:A:H2'	8:A:962:G:H8	1.67	0.60
8:A:1036:G:C5	8:A:1120:G:C6	2.89	0.60
8:A:1139:G:H2'	8:A:1140:C:H6	1.67	0.60
8:A:1642:G:H2'	8:A:1643:G:C8	2.37	0.60
8:A:1766:G:C6	8:A:1987:A:C6	2.90	0.60
8:A:2183:A:H2'	8:A:2184:A:C8	2.35	0.60
8:A:2282:G:C2	8:A:2425:A:C6	2.90	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2590:A:H2'	8:A:2591:C:H6	1.66	0.60
8:A:2657:A:H1'	8:A:2665:A:C6	2.36	0.60
10:C:106:PRO:HG2	10:C:109:LEU:HB2	1.84	0.60
10:C:262:THR:O	10:C:265:PHE:N	2.25	0.60
12:E:49:ARG:NH1	12:E:75:SER:HA	2.16	0.60
13:F:109:ARG:HB3	13:F:136:ILE:HG22	1.84	0.60
24:Q:5:ARG:O	24:Q:5:ARG:HG3	2.02	0.60
24:Q:35:PHE:O	24:Q:39:ILE:HG12	2.01	0.60
29:V:76:ASP:OD1	29:V:77:VAL:N	2.35	0.60
33:Z:16:LEU:H	33:Z:19:HIS:HD2	1.50	0.60
34:a:77:A:O2'	34:a:78:A:OP1	2.19	0.60
34:a:387:U:H5"	34:a:388:G:OP2	2.01	0.60
34:a:1116:U:H2'	34:a:1117:A:C8	2.36	0.60
34:a:1132:C:H2'	34:a:1133:G:C8	2.37	0.60
35:b:66:ILE:HA	35:b:159:ALA:HB3	1.83	0.60
42:i:83:THR:HA	42:i:86:LEU:HB2	1.84	0.60
45:l:6:LEU:HB3	50:q:33:TYR:CE1	2.37	0.60
51:r:55:ALA:HA	51:r:58:ILE:HD12	1.83	0.60
52:s:52:ASN:N	52:s:55:GLN:O	2.28	0.60
53:t:19:HIS:O	53:t:22:SER:OG	2.15	0.60
55:v:73:A:H2'	55:v:74:C:C2	2.36	0.60
8:A:549:G:H2'	8:A:550:C:C6	2.36	0.60
8:A:715:A:N3	48:o:39:GLN:NE2	2.49	0.60
8:A:965:C:H2'	8:A:966:G:H8	1.67	0.60
8:A:1599:U:O2'	8:A:1600:C:H5'	2.02	0.60
8:A:1839:G:C5	8:A:1840:G:C8	2.89	0.60
8:A:2153:C:H2'	8:A:2154:A:C8	2.36	0.60
8:A:2436:G:O2'	8:A:2598:A:N1	2.28	0.60
8:A:2788:C:H2'	8:A:2789:C:C6	2.36	0.60
9:B:106:G:H2'	9:B:107:G:C8	2.36	0.60
26:S:19:LEU:HA	26:S:22:ASP:OD2	2.02	0.60
33:Z:8:GLN:O	33:Z:32:GLY:N	2.31	0.60
34:a:237:G:H5"	50:q:26:ARG:CZ	2.31	0.60
34:a:1004:A:H2'	34:a:1005:A:C4	2.37	0.60
37:d:186:GLU:N	37:d:189:ASP:OD2	2.33	0.60
53:t:24:ARG:HG2	53:t:28:ARG:HH12	1.67	0.60
55:v:40:C:H2'	55:v:41:C:C6	2.37	0.60
7:6:10:GLU:OE2	7:6:28:VAL:N	2.35	0.59
8:A:163:C:H2'	8:A:164:C:O4'	2.01	0.59
8:A:641:U:C4	8:A:647:G:O6	2.54	0.59
8:A:965:C:H2'	8:A:966:G:C8	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1438:U:H2'	8:A:1439:A:H8	1.66	0.59
8:A:1496:A:H2'	8:A:1498:C:C4	2.37	0.59
8:A:1663:G:N1	8:A:1998:A:C6	2.70	0.59
8:A:2103:C:H2'	8:A:2103:C:O2	1.99	0.59
8:A:2176:A:H2'	8:A:2177:C:C6	2.37	0.59
8:A:2188:U:H2'	8:A:2189:U:O4'	2.02	0.59
8:A:2199:A:C2	8:A:2200:C:H1'	2.37	0.59
8:A:2462:C:H2'	8:A:2463:C:H6	1.67	0.59
10:C:142:ASN:HB3	10:C:190:THR:HB	1.84	0.59
16:I:61:TYR:H	16:I:66:PHE:HA	1.67	0.59
17:J:68:LYS:HB3	17:J:72:LYS:HG3	1.84	0.59
25:R:3:ALA:O	25:R:14:VAL:N	2.31	0.59
34:a:91:U:H2'	34:a:92:U:C6	2.37	0.59
34:a:381:C:H2'	34:a:382:A:C8	2.36	0.59
34:a:617:G:O4'	49:p:46:LYS:NZ	2.25	0.59
34:a:632:U:H5"	34:a:633:G:C8	2.37	0.59
34:a:674:G:H2'	34:a:675:A:C8	2.36	0.59
34:a:1481:U:H2'	34:a:1482:G:N9	2.17	0.59
35:b:93:HIS:ND1	35:b:145:ASN:O	2.29	0.59
38:e:96:GLN:HG3	38:e:97:PRO:HD2	1.84	0.59
41:h:107:LYS:H	41:h:120:LEU:HD13	1.66	0.59
42:i:29:ILE:O	42:i:32:ARG:N	2.35	0.59
49:p:34:GLU:HG2	49:p:36:VAL:HG13	1.83	0.59
4:3:60:CYS:O	19:L:48:ARG:NH1	2.35	0.59
7:6:56:ARG:HB3	52:s:44:ILE:HD11	1.85	0.59
8:A:364:C:H2'	8:A:365:U:C5	2.37	0.59
8:A:444:C:H2'	8:A:445:C:C6	2.37	0.59
8:A:543:G:H2'	8:A:544:C:C6	2.36	0.59
8:A:717:C:H3'	8:A:718:A:H8	1.67	0.59
8:A:1736:U:H2'	8:A:1737:G:C4	2.37	0.59
8:A:1819:A:H1'	8:A:1821:A:C6	2.36	0.59
8:A:2345:G:C2	8:A:2381:A:C4	2.90	0.59
8:A:2399:G:C6	8:A:2418:A:C6	2.90	0.59
8:A:2663:G:H2'	8:A:2664:G:O4'	2.02	0.59
8:A:2680:U:OP1	11:D:116:LYS:NZ	2.34	0.59
8:A:2718:G:H2'	8:A:2719:G:O4'	2.02	0.59
10:C:63:ILE:H	10:C:63:ILE:HD12	1.66	0.59
10:C:97:ASP:OD1	10:C:99:GLU:N	2.35	0.59
19:L:12:SER:O	19:L:13:LYS:HD3	2.02	0.59
20:M:34:LYS:NZ	20:M:99:GLY:O	2.27	0.59
30:W:63:VAL:HA	30:W:78:ILE:HD13	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:46:G:H2'	34:a:366:A:N6	2.16	0.59
34:a:991:U:H2'	34:a:1212:U:H1'	1.83	0.59
34:a:1071:C:H2'	34:a:1072:G:H8	1.67	0.59
34:a:1261:A:H4'	34:a:1283:U:H4'	1.82	0.59
34:a:1328:C:OP1	46:m:27:THR:OG1	2.16	0.59
37:d:87:GLU:HA	37:d:90:LEU:HD12	1.83	0.59
39:f:2:ARG:C	39:f:65:GLU:HG3	2.27	0.59
42:i:114:LYS:HG3	42:i:120:ALA:HB1	1.84	0.59
46:m:19:THR:HA	46:m:24:VAL:HG12	1.83	0.59
48:o:31:LEU:HD13	48:o:62:ARG:HB2	1.84	0.59
49:p:7:ALA:HB2	49:p:18:GLN:HB2	1.83	0.59
55:v:39:C:H2'	55:v:40:C:H6	1.66	0.59
2:1:11:VAL:N	2:1:49:LYS:O	2.34	0.59
8:A:201:C:O2	8:A:251:A:H2	1.84	0.59
8:A:335:C:C2	8:A:336:C:C5	2.90	0.59
8:A:591:U:H2'	8:A:592:A:C8	2.37	0.59
8:A:711:G:C6	8:A:721:A:C6	2.90	0.59
8:A:778:G:OP1	10:C:47:ARG:NH1	2.34	0.59
8:A:1380:G:H8	8:A:1380:G:OP2	1.85	0.59
8:A:1849:G:H2'	8:A:1850:G:H8	1.67	0.59
8:A:1880:U:H2'	8:A:1881:C:H6	1.67	0.59
8:A:2464:G:H2'	8:A:2465:C:C6	2.36	0.59
8:A:2889:C:H2'	8:A:2890:G:H8	1.67	0.59
9:B:83:G:C6	9:B:94:A:C6	2.90	0.59
13:F:92:GLY:H	13:F:95:MET:HE3	1.67	0.59
15:H:43:ASN:O	15:H:47:PHE:HB3	2.01	0.59
18:K:60:ALA:HA	18:K:87:LEU:HG	1.83	0.59
19:L:80:SER:N	19:L:114:GLY:O	2.35	0.59
20:M:41:LEU:HG	20:M:96:ILE:HG13	1.84	0.59
20:M:50:ARG:NH2	56:w:55:PSU:OP1	2.34	0.59
23:P:13:LYS:HE3	23:P:76:HIS:HA	1.84	0.59
34:a:404:G:H8	34:a:404:G:OP2	1.85	0.59
34:a:438:U:O2	34:a:496:A:C6	2.56	0.59
34:a:601:G:H2'	34:a:602:A:C8	2.37	0.59
34:a:1079:G:H4'	38:e:49:TYR:CE2	2.37	0.59
34:a:1111:A:H61	36:c:176:THR:HA	1.67	0.59
37:d:123:MET:HG3	37:d:145:ARG:HB2	1.84	0.59
39:f:21:MET:SD	39:f:25:TYR:OH	2.60	0.59
45:l:50:LYS:N	45:l:50:LYS:HD2	2.18	0.59
46:m:33:LEU:HB3	46:m:40:GLU:HG2	1.84	0.59
53:t:30:PHE:O	53:t:34:VAL:HG23	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:15:G:O6	55:v:48:C:O2	2.19	0.59
4:3:21:PHE:N	4:3:48:MET:SD	2.69	0.59
6:5:42:ARG:HA	16:I:119:ALA:HA	1.83	0.59
8:A:499:U:H2'	8:A:500:G:O4'	2.01	0.59
8:A:1083:U:O2'	8:A:1085:A:OP2	2.19	0.59
8:A:1595:C:H2'	8:A:1596:A:H8	1.68	0.59
8:A:2606:C:H2'	8:A:2607:G:C8	2.37	0.59
8:A:2618:G:H2'	8:A:2619:C:H6	1.68	0.59
8:A:2704:C:H2'	8:A:2705:A:O4'	2.02	0.59
8:A:2791:G:H2'	8:A:2792:A:C8	2.37	0.59
9:B:71:C:H3'	9:B:72:G:H8	1.67	0.59
10:C:160:TYR:HB3	10:C:193:GLU:HA	1.83	0.59
11:D:31:ALA:O	11:D:33:ARG:NH2	2.34	0.59
15:H:84:ALA:HB3	15:H:148:ALA:HB2	1.84	0.59
19:L:123:ARG:HE	19:L:143:GLU:CD	2.11	0.59
21:N:114:GLU:OE2	21:N:118:ARG:NH1	2.34	0.59
32:Y:41:HIS:O	32:Y:45:GLN:HG3	2.03	0.59
34:a:28:A:O2'	34:a:296:U:OP1	2.11	0.59
34:a:262:A:H2'	34:a:263:A:C8	2.37	0.59
34:a:444:G:C6	34:a:491:G:C6	2.90	0.59
34:a:539:A:H2'	34:a:540:G:H8	1.63	0.59
34:a:1077:G:H2'	34:a:1079:G:OP2	2.03	0.59
34:a:1162:C:H2'	34:a:1163:A:H8	1.68	0.59
38:e:21:SER:HA	38:e:31:SER:H	1.67	0.59
45:l:86:VAL:HG23	45:l:89:LEU:H	1.67	0.59
49:p:61:VAL:HA	49:p:65:ALA:H	1.65	0.59
5:4:19:ARG:NE	8:A:2756:U:OP2	2.34	0.59
8:A:589:U:H2'	8:A:590:A:C8	2.34	0.59
8:A:649:G:H2'	8:A:650:C:C6	2.38	0.59
8:A:679:C:H2'	8:A:680:C:C6	2.37	0.59
8:A:935:C:H2'	8:A:936:A:C8	2.37	0.59
8:A:957:C:C4	8:A:959:A:C5	2.91	0.59
8:A:1257:C:H4'	12:E:78:TRP:CE2	2.38	0.59
8:A:1448:G:H2'	8:A:1449:G:C8	2.36	0.59
8:A:1665:A:H1'	18:K:1:MET:HB3	1.84	0.59
8:A:1709:U:H2'	8:A:1710:G:H8	1.68	0.59
8:A:1858:A:N6	8:A:1884:G:O2'	2.36	0.59
8:A:2159:G:O2'	8:A:2160:C:O5'	2.21	0.59
8:A:2380:C:H2'	8:A:2381:A:C8	2.38	0.59
8:A:2417:C:H2'	8:A:2418:A:H8	1.66	0.59
9:B:82:U:H2'	9:B:83:G:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:53:PRO:HD3	14:G:61:TRP:CZ3	2.36	0.59
34:a:234:C:H2'	34:a:235:C:C6	2.36	0.59
34:a:444:G:H2'	34:a:445:G:C8	2.37	0.59
34:a:571:U:H5"	34:a:819:A:C2	2.37	0.59
34:a:605:U:H2'	34:a:606:G:H8	1.68	0.59
34:a:1485:U:H3'	34:a:1486:G:H8	1.67	0.59
35:b:206:ILE:HA	35:b:209:VAL:HG12	1.84	0.59
38:e:95:MET:HE1	38:e:143:LEU:HG	1.84	0.59
44:k:60:PHE:O	44:k:64:VAL:HG23	2.02	0.59
44:k:116:PRO:HG2	54:u:34:ARG:HD3	1.83	0.59
45:l:31:GLY:HA2	45:l:55:ARG:O	2.01	0.59
49:p:61:VAL:HA	49:p:65:ALA:HB3	1.83	0.59
8:A:54:G:H2'	8:A:55:G:O4'	2.03	0.59
8:A:408:G:O6	8:A:419:U:O4	2.20	0.59
8:A:591:U:O4	8:A:592:A:N6	2.36	0.59
8:A:794:A:H2'	8:A:795:C:C6	2.37	0.59
8:A:948:C:H2'	8:A:949:G:C8	2.36	0.59
8:A:1000:A:OP2	8:A:1154:G:N1	2.35	0.59
8:A:1072:C:N4	8:A:1093:G:O6	2.35	0.59
8:A:1130:U:O3'	8:A:1131:G:H8	1.86	0.59
8:A:1568:G:P	10:C:62:ARG:HH22	2.24	0.59
8:A:1846:G:N1	8:A:1895:C:N3	2.51	0.59
8:A:2293:G:OP1	22:O:94:ARG:NE	2.35	0.59
8:A:2621:G:H2'	8:A:2622:U:O4'	2.02	0.59
8:A:2649:C:H2'	8:A:2650:U:C6	2.37	0.59
12:E:164:LEU:HB3	12:E:167:VAL:HG22	1.83	0.59
14:G:29:ASN:HB2	14:G:78:VAL:HA	1.84	0.59
19:L:20:GLY:HA2	19:L:28:GLY:HA2	1.83	0.59
25:R:79:ARG:O	25:R:81:LYS:HG2	2.03	0.59
27:T:3:ARG:HB3	27:T:5:GLU:OE1	2.03	0.59
30:W:66:GLU:OE1	30:W:76:ILE:HA	2.02	0.59
34:a:237:G:O3'	50:q:26:ARG:NH1	2.35	0.59
34:a:396:C:H2'	34:a:398:U:C5	2.38	0.59
34:a:522:C:OP2	45:l:65:TYR:OH	2.21	0.59
34:a:588:G:H3'	34:a:589:U:H6	1.68	0.59
34:a:780:A:H2	34:a:803:G:N1	2.00	0.59
34:a:881:G:H2'	34:a:882:C:C6	2.37	0.59
34:a:1416:G:H2'	34:a:1417:G:O4'	2.03	0.59
34:a:1458:G:H2'	34:a:1459:G:C8	2.37	0.59
34:a:1515:G:H2'	34:a:1516:2MG:H8	1.65	0.59
37:d:61:ARG:O	37:d:64:TYR:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:e:100:GLU:HA	38:e:121:ASN:ND2	2.17	0.59
1:0:3:GLN:HE21	8:A:2017:U:H1'	1.67	0.59
8:A:626:A:H3'	19:L:78:ARG:HH12	1.67	0.59
8:A:644:A:H2'	8:A:645:C:H6	1.65	0.59
8:A:941:A:H3'	8:A:942:G:C8	2.36	0.59
8:A:1211:C:H3'	8:A:1212:G:H5'	1.85	0.59
8:A:1322:A:O3'	26:S:84:ARG:NH1	2.36	0.59
8:A:1398:C:H5"	27:T:59:ASN:HD21	1.67	0.59
8:A:1484:U:H2'	8:A:1485:U:C6	2.38	0.59
8:A:1771:C:O2'	8:A:1786:A:N3	2.33	0.59
8:A:1792:G:O6	8:A:1828:G:N2	2.36	0.59
8:A:1903:G:C2	8:A:1904:G:N7	2.71	0.59
8:A:2057:G:H2'	8:A:2058:A:C8	2.37	0.59
8:A:2129:C:H3'	8:A:2130:U:C5	2.38	0.59
8:A:2642:G:H2'	8:A:2643:G:H8	1.68	0.59
8:A:2651:C:H2'	8:A:2652:C:H6	1.67	0.59
8:A:2742:G:H2'	8:A:2743:U:C6	2.36	0.59
8:A:2832:U:O2	8:A:2834:G:N1	2.36	0.59
8:A:2835:A:O4'	8:A:2879:A:N6	2.36	0.59
11:D:32:ASN:ND2	11:D:52:THR:HB	2.17	0.59
17:J:122:LEU:HD12	17:J:123:LYS:H	1.68	0.59
18:K:7:MET:HE1	18:K:44:LYS:HE3	1.84	0.59
23:P:88:ARG:HG2	23:P:112:ARG:HB3	1.84	0.59
24:Q:9:ALA:O	24:Q:12:ARG:N	2.35	0.59
34:a:100:G:H3'	34:a:101:A:H8	1.67	0.59
34:a:321:A:H5"	34:a:328:C:N3	2.18	0.59
34:a:491:G:OP1	37:d:147:LYS:NZ	2.31	0.59
39:f:4:TYR:CZ	39:f:91:ARG:HD3	2.37	0.59
44:k:112:VAL:HG13	51:r:72:ARG:HG2	1.83	0.59
51:r:47:ARG:O	51:r:50:TYR:N	2.35	0.59
5:4:25:VAL:HB	5:4:35:GLN:HB2	1.85	0.59
8:A:543:G:C6	8:A:544:C:N4	2.71	0.59
8:A:574:A:N7	8:A:2033:A:H4'	2.16	0.59
8:A:606:U:H2'	8:A:607:U:O4'	2.03	0.59
8:A:1245:G:H2'	8:A:1246:A:C8	2.37	0.59
8:A:1437:C:H2'	8:A:1438:U:H6	1.66	0.59
8:A:1805:A:H5"	10:C:247:TRP:CD2	2.38	0.59
8:A:1957:C:H2'	8:A:1958:C:C6	2.38	0.59
8:A:2651:C:H2'	8:A:2652:C:C6	2.37	0.59
12:E:146:VAL:HG12	12:E:167:VAL:HG12	1.83	0.59
13:F:174:PHE:CG	13:F:175:PRO:HD2	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:L:20:GLY:CA	19:L:28:GLY:HA2	2.33	0.59
24:Q:107:ALA:HA	24:Q:110:GLU:HG2	1.82	0.59
24:Q:108:LEU:HD13	25:R:49:ILE:HG23	1.85	0.59
25:R:1:MET:HA	25:R:43:ASN:HA	1.84	0.59
25:R:75:VAL:HG22	25:R:86:GLN:HG2	1.84	0.59
27:T:34:VAL:N	27:T:81:LYS:O	2.34	0.59
34:a:82:G:N2	34:a:88:U:OP2	2.34	0.59
34:a:310:G:H2'	34:a:311:C:O4'	2.03	0.59
34:a:359:G:H2'	34:a:360:G:H8	1.66	0.59
34:a:406:G:N2	37:d:115:GLN:HE22	2.01	0.59
34:a:427:U:OP2	34:a:428:G:O2'	2.20	0.59
34:a:673:A:H2'	34:a:674:G:H8	1.65	0.59
34:a:1207:2MG:H2'	34:a:1208:C:C6	2.38	0.59
36:c:87:ARG:NH1	36:c:98:ALA:O	2.33	0.59
36:c:109:GLU:HB2	36:c:143:LEU:HD23	1.85	0.59
7:6:61:ASN:CG	7:6:64:PHE:CD1	2.79	0.59
8:A:40:U:H2'	8:A:41:C:C6	2.37	0.59
8:A:620:G:H21	8:A:620:G:P	2.25	0.59
8:A:660:C:OP1	12:E:95:LYS:N	2.27	0.59
8:A:696:G:N2	8:A:766:U:O2	2.25	0.59
8:A:884:U:O2	8:A:892:A:O2'	2.21	0.59
8:A:975:A:C8	8:A:990:A:N6	2.71	0.59
8:A:1010:A:H5"	24:Q:65:ASN:HD22	1.68	0.59
8:A:1401:G:H2'	8:A:1402:U:C6	2.37	0.59
8:A:1587:G:H2'	8:A:1588:G:H8	1.68	0.59
8:A:1626:A:H8	8:A:1626:A:OP2	1.85	0.59
8:A:2205:A:H2'	8:A:2206:C:C6	2.38	0.59
8:A:2221:G:H2'	8:A:2222:C:H6	1.68	0.59
8:A:2430:A:H2'	8:A:2430:A:N3	2.18	0.59
8:A:2706:A:HO2'	8:A:2707:U:P	2.25	0.59
8:A:2831:G:N7	11:D:59:ARG:NH1	2.51	0.59
8:A:2882:A:OP1	21:N:96:ARG:NE	2.35	0.59
12:E:65:THR:HG23	12:E:67:ARG:H	1.65	0.59
12:E:75:SER:OG	12:E:77:ILE:N	2.36	0.59
34:a:68:G:H1	34:a:101:A:N6	2.01	0.59
34:a:790:A:H2'	34:a:791:G:C8	2.37	0.59
34:a:984:C:C2	34:a:1222:G:N2	2.71	0.59
34:a:1296:C:H5'	46:m:13:HIS:NE2	2.18	0.59
34:a:1317:C:OP2	47:n:27:LYS:NZ	2.35	0.59
35:b:187:ASP:OD1	35:b:189:ASN:N	2.22	0.59
36:c:124:GLU:HG3	36:c:188:ALA:HB1	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:c:134:LYS:O	36:c:138:GLN:HG2	2.03	0.59
42:i:109:GLN:NE2	42:i:110:VAL:O	2.36	0.59
46:m:12:LYS:O	46:m:43:LYS:HG3	2.03	0.59
54:u:48:LYS:O	54:u:52:VAL:HG23	2.03	0.59
4:3:38:LYS:HA	4:3:41:ARG:NE	2.16	0.59
8:A:84:A:H62	8:A:101:A:H2	1.50	0.59
8:A:210:C:H2'	8:A:211:C:C6	2.38	0.59
8:A:924:G:H2'	8:A:925:A:C8	2.35	0.59
8:A:1005:C:H2'	8:A:1006:C:H6	1.67	0.59
8:A:1013:C:H2'	8:A:1014:A:C8	2.38	0.59
8:A:1292:G:H2'	8:A:1293:C:H6	1.68	0.59
8:A:1394:U:H4'	8:A:1603:A:H4'	1.84	0.59
8:A:1778:U:H3'	8:A:1784:A:N6	2.18	0.59
8:A:2119:A:C6	8:A:2169:A:C5	2.91	0.59
8:A:2846:G:H5'	23:P:52:ARG:CZ	2.33	0.59
11:D:113:SER:OG	11:D:167:ASN:N	2.36	0.59
12:E:21:ARG:NH1	12:E:103:GLY:O	2.35	0.59
20:M:42:THR:HA	20:M:93:VAL:HG12	1.85	0.59
25:R:67:GLY:N	25:R:93:PHE:O	2.30	0.59
26:S:28:LYS:HB2	26:S:31:GLN:CD	2.28	0.59
34:a:194:C:H4'	53:t:59:ARG:CG	2.33	0.59
34:a:400:C:H2'	34:a:401:C:C6	2.38	0.59
34:a:600:A:N6	34:a:639:G:C6	2.70	0.59
34:a:615:G:C6	34:a:626:G:C6	2.91	0.59
34:a:709:U:H2'	34:a:710:G:H8	1.67	0.59
34:a:1210:C:H5'	34:a:1214:C:H41	1.68	0.59
34:a:1465:A:H2'	34:a:1466:C:H6	1.68	0.59
44:k:28:ASN:CG	44:k:46:ALA:HB3	2.27	0.59
47:n:35:ALA:O	47:n:36:ALA:C	2.45	0.59
47:n:57:PRO:HA	47:n:60:GLN:HE21	1.67	0.59
49:p:4:ILE:HA	49:p:21:VAL:HA	1.85	0.59
53:t:72:ALA:HA	53:t:75:LYS:HE2	1.84	0.59
3:2:9:VAL:O	3:2:13:ASN:ND2	2.36	0.58
8:A:20:C:H2'	8:A:21:A:C8	2.36	0.58
8:A:272:A:H2'	8:A:273:G:C8	2.38	0.58
8:A:685:A:O2'	8:A:773:U:O4	2.14	0.58
8:A:687:C:H2'	8:A:688:U:O4'	2.02	0.58
8:A:716:A:C2	8:A:717:C:H1'	2.37	0.58
8:A:835:C:C2	8:A:836:G:C8	2.91	0.58
8:A:1063:G:N2	16:I:131:THR:O	2.36	0.58
8:A:1219:U:H2'	8:A:1220:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1235:G:H2'	8:A:1236:G:C4	2.38	0.58
8:A:1561:C:O2'	8:A:1562:U:H5'	2.03	0.58
8:A:1846:G:H5"	34:a:702:A:N6	2.18	0.58
8:A:1853:A:H2'	8:A:1854:A:H8	1.63	0.58
8:A:2094:A:H2'	8:A:2095:A:O4'	2.02	0.58
8:A:2719:G:OP1	23:P:97:TYR:OH	2.21	0.58
8:A:2865:U:OP2	8:A:2866:U:O2'	2.20	0.58
11:D:34:VAL:HA	11:D:50:VAL:HG22	1.84	0.58
11:D:125:TRP:NE1	11:D:160:LYS:HB3	2.18	0.58
20:M:12:MET:HG2	20:M:72:PRO:HG2	1.85	0.58
20:M:115:GLU:O	20:M:119:LEU:HG	2.02	0.58
22:O:56:LYS:HA	22:O:59:ALA:HB3	1.85	0.58
24:Q:32:ARG:O	24:Q:36:GLN:NE2	2.37	0.58
34:a:592:G:H2'	34:a:593:U:H6	1.67	0.58
34:a:601:G:H2'	34:a:602:A:H8	1.67	0.58
34:a:664:G:N2	34:a:741:G:H1	1.96	0.58
34:a:1252:A:H61	34:a:1285:A:H61	1.50	0.58
34:a:1471:U:H2'	34:a:1472:U:C6	2.38	0.58
42:i:35:GLU:HA	42:i:44:ARG:NE	2.17	0.58
55:v:48:C:C4	55:v:59:A:C8	2.90	0.58
56:w:10:G:H2'	56:w:11:C:H6	1.67	0.58
8:A:216:A:H2'	8:A:217:A:O4'	2.03	0.58
8:A:623:C:H2'	8:A:624:C:H6	1.66	0.58
8:A:975:A:OP1	25:R:78:ARG:NH2	2.36	0.58
8:A:984:A:OP1	8:A:985:C:N4	2.24	0.58
8:A:1070:A:H5"	8:A:1073:A:OP2	2.03	0.58
8:A:1313:U:H4'	8:A:1332:G:H4'	1.83	0.58
8:A:1417:C:H2'	8:A:1418:G:H8	1.68	0.58
8:A:1631:G:N2	8:A:1634:A:OP2	2.28	0.58
8:A:1820:U:H3	10:C:197:ALA:HB1	1.65	0.58
8:A:1928:A:C8	8:A:1929:G:C2	2.91	0.58
8:A:2293:G:C6	8:A:2340:A:C6	2.91	0.58
8:A:2445:2MG:C2	8:A:2446:G:C5	2.91	0.58
8:A:2458:G:C8	8:A:2490:G:C6	2.91	0.58
8:A:2467:C:H2'	8:A:2468:A:O4'	2.04	0.58
8:A:2547:A:H4'	18:K:29:HIS:HE2	1.67	0.58
8:A:2588:G:C6	8:A:2607:G:N1	2.71	0.58
18:K:24:VAL:HA	18:K:39:ILE:HG22	1.84	0.58
34:a:775:G:C6	34:a:776:G:C6	2.91	0.58
34:a:838:G:C5	34:a:849:G:C6	2.90	0.58
34:a:878:A:H2'	34:a:879:C:C6	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1107:C:C4	34:a:1108:G:C8	2.91	0.58
34:a:1157:A:N6	34:a:1178:G:C2	2.66	0.58
34:a:1210:C:O2'	34:a:1211:U:O4'	2.18	0.58
36:c:65:VAL:HB	36:c:100:ILE:HA	1.86	0.58
42:i:51:LEU:HB3	42:i:56:MET:HB2	1.84	0.58
43:j:51:VAL:N	43:j:63:ASP:OD1	2.23	0.58
55:v:71:C:H2'	55:v:72:A:C8	2.38	0.58
56:w:18:G:C6	56:w:55:PSU:O4	2.56	0.58
56:w:58:A:H3'	56:w:58:A:P	2.44	0.58
7:6:17:SER:OG	7:6:40:CYS:SG	2.62	0.58
8:A:149:A:H2'	8:A:150:U:C6	2.38	0.58
8:A:413:C:H2'	8:A:414:C:H6	1.67	0.58
8:A:481:G:O2'	8:A:482:A:O4'	2.22	0.58
8:A:519:U:H5"	26:S:25:ARG:HH22	1.67	0.58
8:A:577:G:C2	8:A:578:G:C5	2.91	0.58
8:A:887:A:C2	8:A:889:C:H5"	2.38	0.58
8:A:971:G:C6	8:A:972:A:C2	2.90	0.58
8:A:1175:A:H5'	8:A:1176:U:H5	1.68	0.58
8:A:1879:C:H2'	8:A:1880:U:H6	1.66	0.58
8:A:2389:G:H5"	8:A:2390:U:O4'	2.03	0.58
8:A:2451:A:O2'	56:w:76:A:N7	2.31	0.58
8:A:2463:C:C2	8:A:2464:G:C8	2.92	0.58
8:A:2492:U:H2'	8:A:2493:U:H6	1.66	0.58
8:A:2670:A:H2'	8:A:2671:G:C8	2.38	0.58
15:H:93:SER:HB2	15:H:123:ARG:NE	2.18	0.58
21:N:36:THR:OG1	21:N:37:THR:N	2.36	0.58
28:U:39:ASN:HD22	28:U:62:ALA:C	2.10	0.58
29:V:3:THR:HG22	29:V:64:VAL:HG23	1.85	0.58
34:a:39:G:N3	34:a:404:G:N2	2.52	0.58
34:a:195:A:O2'	34:a:196:A:O4'	2.18	0.58
34:a:369:G:H2'	34:a:370:C:C6	2.38	0.58
34:a:697:U:H2'	34:a:698:G:O4'	2.03	0.58
34:a:726:C:N4	34:a:727:G:O6	2.36	0.58
34:a:859:G:C4	34:a:860:A:C8	2.90	0.58
34:a:1114:C:H2'	34:a:1115:U:C6	2.37	0.58
34:a:1125:U:C4	34:a:1127:G:C4	2.91	0.58
34:a:1327:C:H2'	34:a:1328:C:H6	1.66	0.58
34:a:1482:G:H2'	34:a:1483:A:C5	2.38	0.58
36:c:82:ASP:O	36:c:86:LEU:HG	2.02	0.58
46:m:13:HIS:HB2	46:m:16:ILE:CG1	2.32	0.58
55:v:20:H2U:H2'	55:v:21:A:C4'	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:534:U:C2	8:A:535:G:C8	2.90	0.58
8:A:591:U:H2'	8:A:592:A:H8	1.69	0.58
8:A:1005:C:C2	8:A:1143:A:C6	2.91	0.58
8:A:1049:C:C2	8:A:1050:A:C8	2.91	0.58
8:A:1289:C:H2'	8:A:1290:C:C6	2.38	0.58
8:A:1359:A:N6	8:A:1360:G:N3	2.51	0.58
8:A:1594:U:H2'	8:A:1595:C:H6	1.66	0.58
8:A:2388:A:H8	8:A:2389:G:C8	2.21	0.58
10:C:131:MET:HA	10:C:134:ILE:HB	1.84	0.58
11:D:2:ILE:HG21	11:D:90:PHE:HZ	1.68	0.58
29:V:36:ALA:O	29:V:93:ARG:NH2	2.36	0.58
34:a:100:G:C4	34:a:101:A:C8	2.91	0.58
34:a:109:A:H2'	34:a:326:G:N2	2.17	0.58
34:a:157:U:O2	34:a:164:G:C6	2.56	0.58
34:a:255:G:C2	34:a:272:C:C2	2.91	0.58
34:a:332:G:O3'	53:t:2:ASN:ND2	2.29	0.58
34:a:605:U:H2'	34:a:606:G:C8	2.37	0.58
34:a:689:C:H4'	34:a:705:G:H1'	1.85	0.58
34:a:900:A:H2'	34:a:901:A:C8	2.38	0.58
34:a:1061:G:H2'	34:a:1062:U:C6	2.37	0.58
38:e:20:VAL:HG23	38:e:31:SER:OG	2.03	0.58
48:o:32:THR:HA	48:o:35:ILE:HB	1.85	0.58
8:A:67:U:H2'	8:A:68:G:H8	1.67	0.58
8:A:121:G:C2	8:A:131:A:C4	2.91	0.58
8:A:381:G:OP1	31:X:15:ASN:ND2	2.25	0.58
8:A:614:A:O2'	8:A:615:U:OP2	2.18	0.58
8:A:627:A:N6	8:A:637:A:O5'	2.36	0.58
8:A:647:G:C5	8:A:648:G:C5	2.91	0.58
8:A:786:C:H2'	8:A:787:C:C6	2.39	0.58
8:A:1661:G:H2'	8:A:1662:U:C6	2.39	0.58
8:A:1664:A:C5	8:A:2726:A:C6	2.91	0.58
8:A:1843:C:C2	8:A:1844:C:C5	2.92	0.58
8:A:1901:A:O5'	10:C:252:LYS:NZ	2.26	0.58
8:A:2018:G:C6	8:A:2019:A:C5	2.92	0.58
8:A:2054:A:H5"	8:A:2055:C:O5'	2.04	0.58
8:A:2069:G7M:O2'	8:A:2070:A:O4'	2.22	0.58
8:A:2144:G:C8	8:A:2146:C:H1'	2.39	0.58
8:A:2191:A:H2'	8:A:2192:U:C6	2.39	0.58
8:A:2246:G:C4	8:A:2247:A:C8	2.92	0.58
8:A:2356:U:N3	8:A:2361:G:N1	2.13	0.58
11:D:8:LYS:HB2	11:D:201:LEU:HD11	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:2:ARG:HA	14:G:5:LYS:HB2	1.85	0.58
14:G:117:PRO:O	14:G:120:ILE:HG12	2.03	0.58
18:K:53:LYS:HE2	18:K:54:LYS:HB3	1.86	0.58
31:X:16:ASN:O	31:X:23:ALA:HA	2.03	0.58
34:a:317:U:H2'	34:a:318:G:H8	1.68	0.58
42:i:105:ARG:O	42:i:105:ARG:HD3	2.04	0.58
6:5:26:VAL:HA	6:5:83:ALA:H	1.69	0.58
8:A:108:G:H2'	8:A:109:C:H6	1.67	0.58
8:A:319:G:H2'	8:A:320:A:H8	1.68	0.58
8:A:629:G:H2'	8:A:630:G:C8	2.39	0.58
8:A:639:U:H2'	8:A:640:C:C6	2.38	0.58
8:A:883:G:N1	8:A:894:U:O4	2.36	0.58
8:A:1453:A:C2	21:N:77:ALA:HB2	2.38	0.58
8:A:1547:C:H2'	8:A:1548:A:C8	2.39	0.58
8:A:1936:A:C5	8:A:1945:G:C6	2.91	0.58
8:A:1955:U:C4	8:A:2552:OMU:H6	2.37	0.58
8:A:2312:U:H4'	13:F:84:ILE:HG23	1.84	0.58
8:A:2376:A:C4	22:O:99:TYR:CZ	2.92	0.58
8:A:2588:G:C6	8:A:2589:A:N7	2.71	0.58
8:A:2677:G:H2'	8:A:2678:C:H6	1.69	0.58
11:D:107:VAL:HA	11:D:206:ALA:N	2.18	0.58
21:N:13:ASN:OD1	21:N:15:SER:N	2.36	0.58
34:a:446:G:H3'	34:a:447:G:H8	1.68	0.58
34:a:585:G:H2'	34:a:586:C:C6	2.38	0.58
34:a:624:C:H2'	34:a:625:U:C6	2.39	0.58
34:a:760:G:C5	34:a:761:G:H1'	2.39	0.58
34:a:1157:A:N7	34:a:1180:A:N6	2.52	0.58
37:d:11:SER:HA	37:d:18:LEU:HD12	1.84	0.58
40:g:124:SER:O	40:g:128:GLU:HG2	2.04	0.58
41:h:62:LEU:HD23	41:h:64:TYR:CZ	2.38	0.58
53:t:14:GLU:HG3	53:t:18:LYS:HE2	1.84	0.58
8:A:214:G:H2'	8:A:215:G:C4	2.38	0.58
8:A:494:G:H21	26:S:57:ASN:HD21	1.52	0.58
8:A:936:A:H2'	8:A:937:C:H6	1.68	0.58
8:A:1178:C:H2'	8:A:1180:U:C6	2.39	0.58
8:A:1276:A:H8	8:A:1276:A:OP2	1.86	0.58
8:A:1395:A:C5	8:A:1398:C:C4	2.91	0.58
8:A:1667:G:H22	8:A:1991:U:H2'	1.68	0.58
8:A:1754:A:O3'	23:P:102:ARG:NH2	2.36	0.58
8:A:1797:G:H5"	10:C:254:LYS:H	1.67	0.58
8:A:1958:C:H2'	8:A:1959:G:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2024:G:OP2	8:A:2034:U:H4'	2.03	0.58
8:A:2536:G:H2'	8:A:2537:U:H6	1.67	0.58
8:A:2683:C:H5"	23:P:50:ARG:NH1	2.14	0.58
9:B:27:C:H2'	9:B:28:C:C6	2.39	0.58
10:C:94:LEU:HD13	10:C:100:ARG:HG2	1.85	0.58
10:C:250:GLN:OE1	10:C:254:LYS:HB2	2.03	0.58
14:G:148:ARG:HA	14:G:161:VAL:HG21	1.84	0.58
24:Q:7:VAL:HG23	24:Q:8:ILE:H	1.68	0.58
24:Q:35:PHE:CE1	24:Q:39:ILE:HD11	2.38	0.58
32:Y:25:GLN:HG2	32:Y:29:ARG:NH2	2.19	0.58
34:a:68:G:H2'	34:a:69:G:O4'	2.03	0.58
34:a:114:U:C2	34:a:115:G:N7	2.72	0.58
34:a:355:C:H2'	34:a:356:A:C8	2.37	0.58
34:a:607:A:H2'	34:a:608:A:C8	2.37	0.58
34:a:667:G:H4'	48:o:50:HIS:CE1	2.39	0.58
34:a:769:G:H2'	34:a:770:C:H6	1.67	0.58
34:a:1047:G:H2'	34:a:1048:G:C8	2.39	0.58
34:a:1068:G:N7	34:a:1094:G:H3'	2.19	0.58
34:a:1142:G:C5	34:a:1143:G:H1'	2.37	0.58
34:a:1153:G:OP1	43:j:15:HIS:NE2	2.30	0.58
34:a:1411:C:H2'	34:a:1412:C:C6	2.39	0.58
34:a:1522:U:H2'	34:a:1523:G:C8	2.38	0.58
47:n:32:ASP:OD1	47:n:33:VAL:N	2.37	0.58
52:s:31:ARG:NH1	52:s:55:GLN:HE22	2.02	0.58
8:A:129:C:H2'	8:A:130:C:C6	2.37	0.58
8:A:351:C:H2'	8:A:352:A:H8	1.66	0.58
8:A:677:A:O2'	8:A:2070:A:O2'	2.21	0.58
8:A:1279:G:H2'	8:A:1280:G:O4'	2.03	0.58
8:A:1663:G:N2	8:A:1992:G:O6	2.37	0.58
8:A:1937:A:N7	8:A:1939:5MU:H2'	2.19	0.58
8:A:2051:A:H5"	8:A:2578:G:P	2.44	0.58
8:A:2205:A:H2'	8:A:2206:C:H6	1.68	0.58
8:A:2207:C:H2'	8:A:2208:C:C6	2.38	0.58
8:A:2294:G:P	22:O:94:ARG:HH12	2.27	0.58
8:A:2781:A:H5"	8:A:2782:G:H5'	1.85	0.58
10:C:129:LEU:C	10:C:188:ARG:HG3	2.28	0.58
12:E:117:ARG:NH2	12:E:183:PHE:O	2.37	0.58
12:E:146:VAL:O	12:E:168:ASP:N	2.27	0.58
14:G:14:VAL:HA	14:G:26:LYS:O	2.04	0.58
28:U:8:ASP:O	28:U:24:VAL:HG23	2.04	0.58
34:a:95:C:H2'	34:a:96:U:H6	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:412:A:C8	34:a:414:A:H5"	2.39	0.58
34:a:606:G:OP1	34:a:607:A:H5'	2.04	0.58
34:a:774:G:H2'	34:a:775:G:C8	2.36	0.58
34:a:1514:G:H2'	34:a:1515:G:C8	2.39	0.58
37:d:187:ARG:HH12	37:d:192:ALA:HA	1.68	0.58
39:f:25:TYR:O	39:f:29:ILE:HG12	2.03	0.58
47:n:16:ALA:HA	47:n:55:SER:HA	1.85	0.58
51:r:71:ASP:N	51:r:71:ASP:OD1	2.37	0.58
56:w:54:5MU:H2'	56:w:55:PSU:C6	2.37	0.58
8:A:7:G:H2'	8:A:8:C:H6	1.69	0.58
8:A:53:A:C5	8:A:117:G:N2	2.72	0.58
8:A:172:A:H2'	8:A:173:A:H8	1.69	0.58
8:A:243:U:H2'	8:A:244:A:C8	2.39	0.58
8:A:327:G:H2'	8:A:328:U:H6	1.67	0.58
8:A:465:G:H2'	8:A:466:A:C8	2.39	0.58
8:A:537:G:H5"	17:J:5:THR:HG21	1.86	0.58
8:A:576:U:H2'	8:A:577:G:C8	2.38	0.58
8:A:642:U:O2	8:A:644:A:H3'	2.04	0.58
8:A:1042:G:O6	8:A:1113:U:C4	2.57	0.58
8:A:1093:G:O2'	8:A:1094:U:OP1	2.20	0.58
8:A:1327:A:H2'	8:A:1328:A:O4'	2.03	0.58
8:A:1336:A:H2'	8:A:1337:G:C8	2.38	0.58
8:A:1371:G:P	10:C:44:ASN:HD21	2.26	0.58
8:A:1437:C:HO2'	8:A:1516:G:HO2'	1.51	0.58
8:A:1863:G:H2'	8:A:1864:U:H6	1.69	0.58
8:A:1894:C:H2'	8:A:1895:C:H6	1.68	0.58
8:A:2057:G:H2'	8:A:2058:A:H8	1.69	0.58
8:A:2092:U:P	15:H:28:ASN:HD21	2.26	0.58
8:A:2356:U:O2'	30:W:16:ARG:NE	2.31	0.58
8:A:2466:C:H2'	8:A:2467:C:C6	2.39	0.58
8:A:2813:A:C4	8:A:2814:A:C8	2.91	0.58
8:A:2821:A:O3'	11:D:167:ASN:ND2	2.36	0.58
9:B:90:C:H2'	9:B:91:C:O4'	2.03	0.58
10:C:161:VAL:HG23	10:C:174:ARG:O	2.03	0.58
12:E:105:LEU:O	12:E:108:ILE:HB	2.04	0.58
13:F:32:LYS:HG3	13:F:156:THR:HG21	1.84	0.58
34:a:446:G:H3'	34:a:447:G:C8	2.39	0.58
34:a:718:A:OP1	44:k:118:ASN:ND2	2.37	0.58
34:a:799:G:H2'	34:a:800:G:H8	1.67	0.58
34:a:1045:C:H2'	34:a:1046:A:H8	1.67	0.58
38:e:15:ILE:HG13	38:e:36:THR:HA	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:30:LYS:HB3	41:h:31:LEU:HD22	1.86	0.58
41:h:75:GLN:HE21	41:h:127:TYR:HB2	1.68	0.58
46:m:84:CYS:HB3	52:s:73:PHE:CE1	2.39	0.58
3:2:16:HIS:HB3	3:2:21:ARG:CZ	2.34	0.58
8:A:523:C:H2'	8:A:524:G:C8	2.39	0.58
8:A:709:U:H2'	8:A:710:U:H6	1.67	0.58
8:A:745:1MG:O2'	8:A:750:A:N6	2.35	0.58
8:A:1082:U:H2'	8:A:1086:A:H61	1.69	0.58
8:A:1468:U:O2	8:A:1524:G:N2	2.28	0.58
8:A:1684:G:H2'	8:A:1685:C:C6	2.39	0.58
8:A:1901:A:H2'	8:A:1902:C:H6	1.68	0.58
8:A:2106:U:H2'	8:A:2107:G:H8	1.68	0.58
8:A:2658:C:OP1	14:G:159:LYS:NZ	2.37	0.58
8:A:2829:A:H2'	8:A:2830:C:H6	1.68	0.58
12:E:10:SER:OG	12:E:11:ALA:N	2.35	0.58
13:F:34:THR:O	13:F:35:LEU:HD23	2.04	0.58
15:H:6:LEU:H	15:H:36:ALA:HA	1.67	0.58
20:M:43:ALA:HB2	20:M:69:PRO:HG2	1.86	0.58
21:N:81:ASN:O	21:N:85:PRO:HG2	2.04	0.58
29:V:44:HIS:CD2	29:V:86:LEU:H	2.21	0.58
34:a:165:G:O2'	34:a:166:U:H5'	2.04	0.58
34:a:232:G:H2'	34:a:233:C:C6	2.39	0.58
34:a:458:U:H2'	34:a:459:A:C8	2.39	0.58
34:a:863:U:O2'	34:a:865:A:N7	2.26	0.58
34:a:883:C:H2'	34:a:884:U:C6	2.39	0.58
34:a:899:C:C2	34:a:900:A:C8	2.92	0.58
34:a:1065:U:OP2	34:a:1190:G:N2	2.36	0.58
34:a:1252:A:H61	34:a:1285:A:N6	2.01	0.58
34:a:1406:U:H2'	34:a:1407:5MC:C6	2.39	0.58
43:j:52:LEU:HB2	47:n:81:ARG:CZ	2.34	0.58
47:n:62:ASN:HD21	47:n:75:ARG:HE	1.52	0.58
53:t:53:MET:HE2	53:t:57:VAL:HG11	1.86	0.58
53:t:53:MET:HE3	53:t:78:LEU:HD12	1.86	0.58
7:6:1:MET:HE3	7:6:6:HIS:CD2	2.39	0.57
7:6:17:SER:OG	7:6:35:ASP:O	2.16	0.57
8:A:71:A:H4'	8:A:72:U:H3'	1.84	0.57
8:A:269:C:C2	8:A:270:A:C8	2.92	0.57
8:A:399:U:H3'	8:A:400:G:C8	2.39	0.57
8:A:455:C:N3	8:A:472:A:H2'	2.19	0.57
8:A:455:C:O2	8:A:473:G:H5'	2.03	0.57
8:A:494:G:H21	26:S:57:ASN:ND2	2.02	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:553:G:H2'	8:A:554:U:C6	2.39	0.57
8:A:636:G:H4'	8:A:638:G:H4'	1.86	0.57
8:A:656:G:H2'	8:A:657:U:H6	1.69	0.57
8:A:859:G:O2'	8:A:860:U:OP2	2.21	0.57
8:A:1157:G:OP2	8:A:1157:G:H3'	2.04	0.57
8:A:1370:C:H2'	8:A:1371:G:C8	2.39	0.57
8:A:1478:G:H1	8:A:1513:U:H3	1.50	0.57
8:A:1917:PSU:H3'	8:A:1918:A:H8	1.68	0.57
8:A:2078:C:O4'	8:A:2434:A:O2'	2.13	0.57
8:A:2157:G:O2'	8:A:2158:A:O4'	2.12	0.57
8:A:2313:C:O4'	13:F:36:ASN:ND2	2.37	0.57
8:A:2410:G:H3'	8:A:2411:A:H8	1.68	0.57
8:A:2436:G:H2'	8:A:2437:G:H8	1.68	0.57
8:A:2762:C:C2	8:A:2763:G:C8	2.92	0.57
9:B:111:U:H2'	9:B:112:G:C8	2.37	0.57
12:E:134:LEU:HD22	12:E:160:ALA:HB1	1.85	0.57
13:F:5:ASP:HA	13:F:8:LYS:HE2	1.85	0.57
28:U:13:LEU:HD11	28:U:70:ALA:HB2	1.86	0.57
28:U:14:THR:HB	28:U:68:ASN:HD22	1.68	0.57
34:a:35:G:H2'	34:a:36:C:H6	1.69	0.57
34:a:136:C:H2'	34:a:137:U:H6	1.67	0.57
34:a:587:G:N2	34:a:754:C:OP2	2.33	0.57
34:a:589:U:O2	34:a:650:G:C6	2.56	0.57
34:a:803:G:H2'	34:a:804:U:O4'	2.04	0.57
34:a:852:G:H2'	34:a:853:C:O4'	2.04	0.57
34:a:1009:U:H3	34:a:1020:G:H1	1.50	0.57
34:a:1355:G:H2'	34:a:1356:G:H8	1.69	0.57
35:b:89:PHE:HD2	35:b:150:ILE:HA	1.68	0.57
43:j:14:ASP:OD1	43:j:16:ARG:N	2.36	0.57
43:j:65:TYR:CD1	47:n:98:LYS:HA	2.39	0.57
46:m:85:TYR:N	52:s:72:GLU:O	2.27	0.57
5:4:3:VAL:O	5:4:37:GLN:NE2	2.37	0.57
6:5:25:ALA:HB3	6:5:84:TYR:HA	1.86	0.57
8:A:557:C:O2'	17:J:47:HIS:O	2.14	0.57
8:A:833:A:H2'	8:A:834:G:C8	2.39	0.57
8:A:1057:A:O3'	8:A:1071:G:H1'	2.03	0.57
8:A:1222:U:P	25:R:90:ARG:HH12	2.27	0.57
8:A:1747:U:H2'	8:A:1748:C:C6	2.38	0.57
8:A:2093:G:H21	8:A:2198:A:N6	2.02	0.57
8:A:2659:G:N1	8:A:2663:G:O6	2.37	0.57
8:A:2669:G:H2'	8:A:2670:A:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2671:G:H2'	8:A:2672:U:C6	2.38	0.57
8:A:2888:C:H2'	8:A:2889:C:C6	2.39	0.57
9:B:48:U:H2'	9:B:49:C:C6	2.38	0.57
10:C:231:HIS:NE2	10:C:243:PRO:HA	2.19	0.57
12:E:150:THR:HG23	12:E:171:ASP:OD1	2.04	0.57
13:F:118:ALA:HB1	13:F:166:ARG:HH21	1.69	0.57
13:F:133:GLU:CD	13:F:136:ILE:HG23	2.29	0.57
17:J:26:GLY:O	17:J:30:THR:HG23	2.05	0.57
24:Q:101:ASP:OD1	24:Q:104:ALA:N	2.27	0.57
27:T:30:ILE:CG1	27:T:85:VAL:HB	2.34	0.57
34:a:15:G:H1	34:a:920:U:H3	1.52	0.57
34:a:44:A:H2'	34:a:45:G:C8	2.39	0.57
34:a:586:C:OP1	50:q:35:LYS:NZ	2.37	0.57
34:a:716:A:H1'	44:k:118:ASN:O	2.04	0.57
34:a:1152:A:H2'	34:a:1153:G:C8	2.39	0.57
37:d:141:VAL:HG13	37:d:179:GLY:H	1.68	0.57
8:A:37:C:H2'	8:A:38:A:C8	2.39	0.57
8:A:67:U:H2'	8:A:68:G:C8	2.40	0.57
8:A:322:A:H5'	12:E:162:ARG:HH11	1.69	0.57
8:A:664:G:O2'	8:A:940:G:OP1	2.17	0.57
8:A:691:C:H2'	8:A:692:C:H6	1.67	0.57
8:A:1362:C:H2'	8:A:1363:C:C6	2.39	0.57
8:A:1389:G:H2'	8:A:1390:U:O4'	2.04	0.57
8:A:1413:A:H61	8:A:1590:A:N6	2.01	0.57
8:A:1774:C:H2'	8:A:1775:U:H5'	1.86	0.57
8:A:1842:G:H2'	8:A:1843:C:H6	1.68	0.57
8:A:2098:U:H2'	8:A:2099:U:C6	2.39	0.57
8:A:2553:G:H3'	8:A:2554:U:H5"	1.85	0.57
8:A:2796:U:O2'	8:A:2797:U:OP1	2.21	0.57
21:N:54:LEU:HD11	21:N:62:ASN:HB3	1.85	0.57
22:O:39:VAL:HG12	22:O:48:LEU:HD12	1.85	0.57
27:T:54:GLU:O	27:T:87:LEU:HB3	2.04	0.57
28:U:6:ARG:O	28:U:24:VAL:HB	2.04	0.57
31:X:18:SER:N	31:X:22:ASN:O	2.35	0.57
34:a:126:G:OP1	34:a:605:U:O2'	2.21	0.57
34:a:570:G:H2'	34:a:571:U:C5	2.39	0.57
34:a:690:G:H2'	34:a:691:G:C8	2.40	0.57
34:a:890:G:H4'	34:a:891:U:H5'	1.86	0.57
34:a:954:G:H2'	34:a:955:U:C6	2.39	0.57
34:a:1009:U:O2	34:a:1020:G:N2	2.33	0.57
34:a:1176:A:C4	34:a:1177:G:C8	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1483:A:N6	34:a:1484:C:N3	2.52	0.57
35:b:133:ALA:O	35:b:137:THR:HG23	2.03	0.57
37:d:124:VAL:HG13	37:d:127:ARG:HB2	1.87	0.57
38:e:63:MET:HB3	38:e:67:ARG:HH21	1.69	0.57
49:p:3:THR:O	49:p:22:ALA:N	2.31	0.57
56:w:31:A:H3'	56:w:32:PSU:O4	2.03	0.57
8:A:311:A:C8	8:A:332:A:C5	2.92	0.57
8:A:421:C:H4'	8:A:422:A:H5'	1.85	0.57
8:A:494:G:N2	26:S:57:ASN:OD1	2.37	0.57
8:A:685:A:N1	8:A:787:C:H1'	2.19	0.57
8:A:974:G:C5	8:A:989:G:C5	2.93	0.57
8:A:994:C:O2'	8:A:996:A:OP1	2.21	0.57
8:A:999:U:N3	8:A:1155:A:N6	2.29	0.57
8:A:1248:G:OP1	12:E:44:ARG:NH1	2.37	0.57
8:A:1604:C:H2'	8:A:1605:C:H6	1.68	0.57
8:A:1628:G:O6	8:A:1639:C:N4	2.37	0.57
8:A:2299:U:OP1	13:F:71:LYS:NZ	2.33	0.57
8:A:2398:U:H2'	8:A:2399:G:H8	1.70	0.57
8:A:2591:C:OP1	10:C:237:ARG:NH1	2.37	0.57
8:A:2594:C:H2'	8:A:2595:G:O4'	2.05	0.57
8:A:2619:C:H2'	8:A:2620:C:C6	2.39	0.57
8:A:2859:G:C2	8:A:2860:A:C4	2.91	0.57
10:C:92:LEU:HD11	10:C:100:ARG:HB3	1.85	0.57
10:C:106:PRO:HG2	10:C:109:LEU:HD13	1.85	0.57
11:D:6:GLY:HA3	11:D:27:ILE:HG23	1.85	0.57
14:G:72:ASN:O	14:G:76:ILE:HG12	2.04	0.57
19:L:80:SER:HB3	19:L:114:GLY:HA3	1.86	0.57
22:O:17:LYS:HE3	22:O:21:LEU:HD11	1.85	0.57
24:Q:43:GLN:NE2	25:R:77:PHE:HB3	2.19	0.57
28:U:43:LYS:O	28:U:58:VAL:N	2.36	0.57
29:V:73:LYS:HB3	29:V:92:VAL:HG13	1.84	0.57
34:a:407:U:H4'	37:d:112:GLU:HA	1.86	0.57
34:a:707:U:H2'	34:a:708:C:C5	2.40	0.57
34:a:943:U:C2	34:a:944:G:C8	2.92	0.57
34:a:1028:C:C2'	34:a:1033:G:H1	2.17	0.57
34:a:1340:A:H2'	34:a:1341:U:O4'	2.05	0.57
34:a:1349:A:H3'	34:a:1350:A:H8	1.69	0.57
34:a:1407:5MC:H2'	34:a:1408:A:C8	2.39	0.57
37:d:27:ILE:HG13	37:d:28:ASP:N	2.18	0.57
38:e:46:GLY:N	38:e:70:MET:HE2	2.20	0.57
39:f:50:PRO:HA	39:f:54:LEU:O	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:g:3:ARG:HD2	40:g:4:ARG:N	2.19	0.57
41:h:29:SER:O	41:h:33:VAL:HG23	2.03	0.57
51:r:70:THR:OG1	51:r:71:ASP:N	2.33	0.57
4:3:24:LYS:NZ	4:3:25:HIS:HB2	2.19	0.57
5:4:16:ILE:HD13	5:4:25:VAL:HG13	1.87	0.57
8:A:31:C:H2'	8:A:32:C:H6	1.69	0.57
8:A:355:U:H2'	8:A:356:G:C8	2.37	0.57
8:A:383:C:N4	8:A:386:G:OP2	2.37	0.57
8:A:413:C:H2'	8:A:414:C:C6	2.39	0.57
8:A:438:G:H2'	8:A:439:A:H8	1.67	0.57
8:A:835:C:H2'	8:A:836:G:H8	1.69	0.57
8:A:859:G:O2'	8:A:916:G:O6	2.13	0.57
8:A:861:A:H3'	8:A:862:G:H8	1.69	0.57
8:A:952:G:C6	8:A:966:G:C6	2.93	0.57
8:A:995:C:H5"	24:Q:52:ARG:HG2	1.85	0.57
8:A:1016:G:H2'	8:A:1017:G:H8	1.69	0.57
8:A:1563:U:H2'	8:A:1564:C:C6	2.39	0.57
8:A:2163:A:P	8:A:2164:C:H41	2.27	0.57
8:A:2209:G:H2'	8:A:2210:U:C6	2.40	0.57
8:A:2343:U:H2'	8:A:2344:U:C4	2.39	0.57
8:A:2698:U:H2'	8:A:2699:C:C5	2.39	0.57
8:A:2790:U:O5'	8:A:2893:A:N6	2.38	0.57
10:C:87:SER:O	10:C:196:ASN:ND2	2.37	0.57
13:F:54:ALA:HA	13:F:57:ALA:HB3	1.87	0.57
18:K:14:SER:HB2	18:K:86:LEU:HD12	1.87	0.57
34:a:153:C:H2'	34:a:154:U:H6	1.70	0.57
34:a:343:U:O3'	34:a:344:A:H2'	2.04	0.57
34:a:527:G7M:O2'	34:a:535:A:N1	2.37	0.57
34:a:594:U:H2'	34:a:595:A:C4	2.39	0.57
34:a:672:U:P	39:f:79:ARG:HH12	2.27	0.57
34:a:825:A:H2'	34:a:826:C:C6	2.39	0.57
34:a:900:A:H2'	34:a:901:A:H8	1.70	0.57
34:a:1319:A:O2'	34:a:1323:G:N7	2.37	0.57
34:a:1412:C:OP1	45:l:53:ARG:NH1	2.37	0.57
38:e:18:ASN:OD1	38:e:19:ARG:N	2.37	0.57
42:i:111:GLU:N	42:i:111:GLU:OE1	2.37	0.57
55:v:42:G:HO2'	55:v:43:A:H8	1.51	0.57
4:3:22:LYS:HZ3	8:A:630:G:H3'	1.69	0.57
8:A:10:A:C6	8:A:11:C:C2	2.92	0.57
8:A:116:C:H1'	8:A:127:A:N3	2.19	0.57
8:A:541:A:C6	8:A:553:G:C6	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:559:G:H1'	24:Q:55:GLN:HE22	1.67	0.57
8:A:809:G:C5	8:A:810:U:C4	2.93	0.57
8:A:897:C:H2'	8:A:898:C:O4'	2.05	0.57
8:A:1379:U:H3'	8:A:1379:U:OP2	2.05	0.57
8:A:1498:C:C2	8:A:1499:C:C5	2.93	0.57
8:A:2816:G:H5"	21:N:99:LYS:HE3	1.87	0.57
9:B:8:C:O3'	22:O:25:ARG:NH1	2.38	0.57
11:D:125:TRP:CD1	11:D:160:LYS:HB3	2.40	0.57
28:U:16:LYS:HZ1	28:U:39:ASN:HA	1.69	0.57
31:X:21:LEU:HG	55:v:75:C:H42	1.70	0.57
34:a:134:G:H1'	34:a:325:A:C8	2.40	0.57
34:a:383:A:H3'	34:a:384:G:H8	1.69	0.57
34:a:664:G:H5"	51:r:52:ARG:NH2	2.20	0.57
34:a:723:U:O2	34:a:855:U:H4'	2.04	0.57
34:a:729:A:H2'	34:a:730:G:O4'	2.03	0.57
34:a:942:G:C6	34:a:1342:C:C4	2.92	0.57
34:a:946:A:H2'	34:a:947:G:H8	1.68	0.57
34:a:1045:C:H2'	34:a:1046:A:C8	2.39	0.57
34:a:1359:C:O2'	34:a:1361:G:OP2	2.14	0.57
34:a:1385:G:H2'	34:a:1386:G:O4'	2.05	0.57
34:a:1388:C:H2'	34:a:1389:C:C6	2.38	0.57
45:l:82:ARG:O	45:l:95:HIS:N	2.37	0.57
1:0:15:ARG:NH1	8:A:1266:G:OP2	2.37	0.57
8:A:108:G:C2	8:A:109:C:C2	2.92	0.57
8:A:126:A:O2'	8:A:127:A:O4'	2.13	0.57
8:A:481:G:O2'	8:A:482:A:O5'	2.22	0.57
8:A:539:G:O6	8:A:554:U:O2	2.22	0.57
8:A:579:G:H2'	8:A:580:U:H6	1.70	0.57
8:A:690:G:H2'	8:A:691:C:C6	2.39	0.57
8:A:922:C:H2'	8:A:923:G:H8	1.70	0.57
8:A:1174:U:H5'	8:A:1175:A:C2	2.40	0.57
8:A:1196:C:O2	8:A:1226:A:O2'	2.20	0.57
8:A:2122:U:H3'	8:A:2123:G:C8	2.40	0.57
8:A:2841:C:H2'	8:A:2842:G:C8	2.39	0.57
8:A:2875:C:H2'	8:A:2876:G:H8	1.69	0.57
11:D:124:ARG:NH2	11:D:164:GLN:O	2.38	0.57
14:G:32:LEU:HD13	14:G:74:MET:HG2	1.87	0.57
24:Q:14:LYS:HA	24:Q:17:LEU:HD12	1.86	0.57
34:a:24:U:H2'	34:a:25:C:H6	1.69	0.57
34:a:107:G:N7	53:t:9:ARG:NH1	2.52	0.57
34:a:978:A:C5	34:a:1318:A:C6	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1103:C:H5"	35:b:96:LEU:HD23	1.85	0.57
34:a:1440:U:O2	34:a:1461:G:N2	2.33	0.57
34:a:1448:C:H2'	34:a:1449:C:C6	2.40	0.57
36:c:110:LEU:HD12	36:c:203:LYS:HZ2	1.70	0.57
37:d:8:LEU:HD21	37:d:21:LYS:HG2	1.86	0.57
38:e:83:PRO:HA	38:e:96:GLN:HA	1.87	0.57
45:l:3:VAL:O	45:l:7:VAL:HG23	2.04	0.57
53:t:47:GLN:HE21	53:t:51:ASN:CG	2.12	0.57
55:v:42:G:O2'	55:v:43:A:H8	1.86	0.57
55:v:66:C:H2'	55:v:67:C:H6	1.69	0.57
8:A:42:A:H2'	8:A:43:G:H8	1.69	0.57
8:A:247:G:H3'	8:A:249:C:H5	1.69	0.57
8:A:288:U:H2'	8:A:289:G:C8	2.40	0.57
8:A:301:G:O2'	8:A:302:C:H5"	2.04	0.57
8:A:777:G:O3'	10:C:47:ARG:NH2	2.37	0.57
8:A:853:C:H2'	8:A:854:C:H6	1.70	0.57
8:A:1034:G:H2'	8:A:1035:U:O4'	2.04	0.57
8:A:1053:C:N4	8:A:1106:G:O6	2.27	0.57
8:A:1082:U:H4'	8:A:1083:U:OP2	2.05	0.57
8:A:1419:A:O4'	8:A:1579:A:N6	2.37	0.57
8:A:1677:A:H3'	8:A:1678:A:H8	1.68	0.57
8:A:1824:G:H2'	8:A:1825:U:H6	1.68	0.57
8:A:2108:A:H2'	8:A:2109:U:C2	2.40	0.57
8:A:2530:A:N6	14:G:155:PRO:HG3	2.20	0.57
8:A:2773:C:H2'	8:A:2774:C:C6	2.40	0.57
8:A:2846:G:H2'	8:A:2847:U:H6	1.69	0.57
12:E:48:THR:OG1	12:E:51:GLU:N	2.37	0.57
13:F:117:SER:OG	13:F:118:ALA:N	2.38	0.57
13:F:122:ASP:N	13:F:126:ASN:O	2.35	0.57
19:L:37:GLY:H	19:L:40:SER:HB3	1.68	0.57
20:M:48:ALA:HA	20:M:51:ARG:HD2	1.87	0.57
30:W:45:ALA:N	30:W:77:SER:OG	2.37	0.57
34:a:52:C:H2'	34:a:53:A:C8	2.40	0.57
34:a:426:U:H2'	34:a:427:U:C6	2.39	0.57
34:a:460:A:C6	34:a:461:A:C6	2.93	0.57
34:a:1200:C:H4'	34:a:1201:A:H5"	1.86	0.57
34:a:1240:U:H3'	34:a:1241:G:H8	1.70	0.57
34:a:1329:A:H2'	34:a:1330:U:O4'	2.04	0.57
36:c:46:LEU:HB3	36:c:49:ALA:HB3	1.87	0.57
40:g:26:VAL:O	40:g:30:MET:HG3	2.05	0.57
48:o:54:GLY:O	48:o:57:ARG:HB3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:r:57:ALA:HA	51:r:60:ARG:HD2	1.86	0.57
52:s:55:GLN:HG3	52:s:56:HIS:H	1.69	0.57
8:A:239:C:H2'	8:A:240:C:C6	2.40	0.57
8:A:350:G:H2'	8:A:351:C:C6	2.39	0.57
8:A:543:G:C6	8:A:551:G:N1	2.73	0.57
8:A:963:U:C2	8:A:964:C:C5	2.92	0.57
8:A:983:A:H2'	8:A:984:A:C8	2.40	0.57
8:A:1028:A:H2'	8:A:1029:A:C8	2.40	0.57
8:A:1108:U:H3'	8:A:1109:C:C5	2.39	0.57
8:A:1190:G:H2'	8:A:1191:G:H8	1.68	0.57
8:A:1431:A:H2'	8:A:1432:G:C8	2.40	0.57
8:A:1709:U:H1'	8:A:2859:G:H21	1.70	0.57
8:A:1741:C:H2'	8:A:1742:U:H6	1.70	0.57
8:A:1788:C:H3'	8:A:1789:A:H8	1.70	0.57
8:A:1831:G:C6	8:A:1975:G:N1	2.73	0.57
8:A:1833:C:H2'	8:A:1834:U:C6	2.39	0.57
8:A:1970:A:C5	8:A:1972:G:C5	2.93	0.57
8:A:2060:A:H3'	12:E:63:LYS:HE3	1.85	0.57
8:A:2175:C:H3'	8:A:2176:A:C8	2.40	0.57
8:A:2332:C:H4'	8:A:2336:A:N6	2.20	0.57
8:A:2335:A:H5"	8:A:2336:A:OP2	2.04	0.57
8:A:2478:A:H2'	8:A:2479:U:H6	1.70	0.57
8:A:2496:C:H3'	8:A:2497:A:C8	2.40	0.57
8:A:2590:A:H2'	8:A:2591:C:C6	2.40	0.57
8:A:2630:G:C5	8:A:2894:G:C6	2.93	0.57
8:A:2745:C:H2'	8:A:2746:U:C6	2.40	0.57
11:D:116:LYS:HD3	11:D:166:GLY:HA3	1.86	0.57
24:Q:74:SER:HG	24:Q:76:SER:HG	1.48	0.57
34:a:144:G:C5	34:a:179:A:C5	2.93	0.57
34:a:284:C:C2	34:a:285:C:C5	2.93	0.57
34:a:730:G:O3'	34:a:814:A:N6	2.33	0.57
34:a:1095:U:C4	34:a:1096:C:C4	2.93	0.57
51:r:33:THR:HG23	51:r:37:LYS:O	2.05	0.57
3:2:27:GLY:O	3:2:30:VAL:HG12	2.05	0.57
8:A:67:U:C2	8:A:68:G:C8	2.93	0.57
8:A:530:G:H4'	8:A:532:A:H62	1.69	0.57
8:A:751:A:C5	8:A:789:A:C6	2.93	0.57
8:A:855:G:C6	8:A:923:G:C6	2.93	0.57
8:A:1894:C:H2'	8:A:1895:C:C6	2.40	0.57
8:A:2167:U:H3	8:A:2170:A:P	2.27	0.57
8:A:2439:A:C2	8:A:2586:U:H5"	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2496:C:H3'	8:A:2497:A:H8	1.70	0.57
8:A:2535:G:H2'	8:A:2536:G:H8	1.69	0.57
8:A:2870:C:H2'	8:A:2871:U:H6	1.70	0.57
9:B:110:C:H2'	9:B:111:U:C6	2.40	0.57
14:G:87:GLN:O	14:G:162:ARG:N	2.38	0.57
22:O:35:ILE:N	22:O:53:THR:OG1	2.38	0.57
34:a:24:U:H2'	34:a:25:C:C6	2.40	0.57
34:a:67:C:H2'	34:a:68:G:H8	1.70	0.57
34:a:610:U:H2'	34:a:611:C:H6	1.68	0.57
34:a:674:G:C2	34:a:675:A:C5	2.93	0.57
35:b:101:THR:HA	35:b:178:LEU:HD11	1.87	0.57
37:d:84:ASN:HA	38:e:101:GLY:O	2.05	0.57
38:e:79:THR:HA	38:e:119:VAL:HG13	1.85	0.57
38:e:83:PRO:HB3	38:e:96:GLN:HB2	1.85	0.57
8:A:481:G:P	28:U:44:HIS:HD1	2.28	0.56
8:A:577:G:N1	8:A:578:G:C6	2.73	0.56
8:A:635:C:H2'	8:A:636:G:H8	1.70	0.56
8:A:882:G:O6	8:A:894:U:C2	2.58	0.56
8:A:1143:A:H4'	8:A:1144:A:OP2	2.04	0.56
8:A:1145:C:H2'	8:A:1146:C:H6	1.70	0.56
8:A:1406:U:H2'	8:A:1407:G:H8	1.70	0.56
8:A:2078:C:H1'	8:A:2434:A:H1'	1.87	0.56
8:A:2123:G:H22	8:A:2172:U:H6	1.53	0.56
8:A:2241:A:H2'	8:A:2242:G:H8	1.70	0.56
8:A:2399:G:O6	8:A:2418:A:N6	2.38	0.56
8:A:2686:G:H2'	8:A:2687:U:O4'	2.04	0.56
8:A:2769:U:H3'	8:A:2770:G:H8	1.69	0.56
8:A:2819:G:C6	8:A:2828:G:C6	2.93	0.56
8:A:2848:G:H2'	8:A:2867:G:H22	1.70	0.56
11:D:34:VAL:HG12	11:D:92:VAL:HA	1.86	0.56
21:N:13:ASN:ND2	21:N:16:HIS:HB2	2.19	0.56
29:V:44:HIS:NE2	29:V:85:LYS:HA	2.20	0.56
31:X:38:TRP:CZ2	31:X:40:GLU:HA	2.40	0.56
34:a:289:G:H2'	34:a:290:C:H6	1.70	0.56
34:a:455:G:C2	34:a:456:A:C4	2.93	0.56
34:a:1026:G:N2	34:a:1029:U:H3	2.03	0.56
34:a:1231:G:H2'	34:a:1232:U:C6	2.40	0.56
34:a:1314:C:H5	52:s:3:SER:HB2	1.70	0.56
34:a:1493:A:OP1	60:a:2001:AM2:HA5	2.05	0.56
36:c:43:THR:O	36:c:47:ALA:HB2	2.04	0.56
37:d:187:ARG:HH22	37:d:192:ALA:HA	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:j:6:ILE:HA	43:j:101:SER:O	2.05	0.56
45:l:29:LYS:HB3	45:l:56:LEU:HD22	1.87	0.56
45:l:56:LEU:HD12	45:l:60:PHE:HB2	1.87	0.56
50:q:59:GLU:OE1	50:q:76:ARG:NH2	2.38	0.56
56:w:37:MIA:H112	58:z:4:U:C2	2.40	0.56
8:A:12:U:H2'	8:A:13:A:C8	2.40	0.56
8:A:777:G:H2'	8:A:778:G:H8	1.69	0.56
8:A:983:A:H2'	8:A:984:A:H8	1.70	0.56
8:A:1082:U:H5"	8:A:1083:U:H5"	1.86	0.56
8:A:1175:A:H3'	8:A:1176:U:C6	2.40	0.56
8:A:1184:U:H2'	8:A:1185:G:C8	2.40	0.56
8:A:1510:G:H2'	8:A:1511:G:H8	1.71	0.56
8:A:1667:G:H1	8:A:1992:G:P	2.28	0.56
8:A:1667:G:OP1	18:K:7:MET:N	2.38	0.56
8:A:1745:A:H2'	8:A:1746:A:H8	1.69	0.56
8:A:1863:G:H2'	8:A:1864:U:C6	2.41	0.56
8:A:1981:A:H4'	8:A:1982:U:OP2	2.05	0.56
8:A:1987:A:H2'	8:A:1988:G:C8	2.40	0.56
8:A:2018:G:C4	8:A:2019:A:C8	2.92	0.56
8:A:2731:G:H4'	11:D:173:GLN:CD	2.30	0.56
8:A:2824:C:H2'	8:A:2825:G:C4	2.39	0.56
8:A:2891:U:H2'	8:A:2892:G:C8	2.40	0.56
9:B:34:A:N6	9:B:44:G:O2'	2.38	0.56
9:B:83:G:O6	9:B:94:A:N6	2.38	0.56
13:F:120:SER:HB3	13:F:128:SER:O	2.04	0.56
14:G:1:SER:O	14:G:4:ALA:N	2.37	0.56
21:N:9:GLN:HG2	21:N:11:ASN:N	2.19	0.56
25:R:75:VAL:HG13	25:R:86:GLN:HE21	1.70	0.56
34:a:810:C:H2'	34:a:811:C:H6	1.70	0.56
34:a:1074:G:H2'	34:a:1075:U:C6	2.40	0.56
34:a:1127:G:H2'	34:a:1128:C:H6	1.70	0.56
34:a:1263:C:H2'	34:a:1264:U:H6	1.70	0.56
34:a:1314:C:H2'	34:a:1315:U:C6	2.40	0.56
37:d:97:LEU:O	37:d:101:VAL:HG23	2.05	0.56
42:i:17:ARG:HB2	42:i:65:THR:OG1	2.05	0.56
44:k:110:THR:HG22	54:u:4:LYS:HB3	1.87	0.56
47:n:2:LYS:HB2	47:n:5:MET:HG3	1.87	0.56
1:0:21:LEU:H	26:S:19:LEU:HD11	1.71	0.56
4:3:46:LYS:NZ	8:A:631:A:OP1	2.37	0.56
8:A:16:C:H2'	8:A:17:G:C8	2.40	0.56
8:A:242:G:H22	8:A:254:G:H3'	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:330:A:C8	8:A:1210:G:C8	2.94	0.56
8:A:579:G:H5'	8:A:2017:U:C5	2.40	0.56
8:A:705:A:H2'	8:A:706:A:O4'	2.05	0.56
8:A:743:A:H2'	8:A:744:U:C6	2.40	0.56
8:A:754:U:C2	8:A:755:U:C5	2.94	0.56
8:A:845:A:N6	8:A:932:U:C2	2.73	0.56
8:A:1059:G:N1	8:A:1080:A:N3	2.38	0.56
8:A:1385:A:C6	8:A:1403:A:C5	2.93	0.56
8:A:1731:G:C4	8:A:1733:G:C8	2.93	0.56
8:A:1778:U:H3'	8:A:1784:A:H62	1.70	0.56
8:A:2223:G:OP1	10:C:170:TYR:OH	2.23	0.56
8:A:2234:G:H2'	8:A:2235:G:C8	2.40	0.56
8:A:2394:C:H5"	19:L:63:LYS:HE2	1.87	0.56
8:A:2458:G:O6	8:A:2490:G:O2'	2.20	0.56
8:A:2745:C:H2'	8:A:2746:U:H6	1.69	0.56
8:A:2751:G:C8	14:G:2:ARG:HD2	2.41	0.56
8:A:2838:G:C4	8:A:2839:G:C8	2.93	0.56
9:B:89:U:H5'	9:B:90:C:O4'	2.05	0.56
9:B:92:C:H2'	9:B:93:C:H6	1.70	0.56
15:H:117:LEU:HD22	15:H:121:VAL:HA	1.88	0.56
18:K:9:ASN:HB3	18:K:83:ALA:HB2	1.87	0.56
23:P:51:ASN:O	23:P:52:ARG:HD3	2.04	0.56
24:Q:102:LYS:O	24:Q:106:THR:OG1	2.22	0.56
29:V:55:GLU:O	29:V:58:SER:OG	2.23	0.56
32:Y:10:SER:OG	32:Y:11:VAL:N	2.39	0.56
32:Y:26:PHE:O	32:Y:30:MET:HG2	2.06	0.56
33:Z:5:LYS:HG2	33:Z:36:GLU:HB2	1.87	0.56
34:a:373:A:H1'	34:a:481:G:H8	1.70	0.56
34:a:518:C:O2'	34:a:530:G:N2	2.38	0.56
34:a:550:G:H2'	34:a:551:U:H6	1.70	0.56
34:a:953:G:C6	34:a:1229:A:N6	2.73	0.56
34:a:1211:U:H5'	34:a:1212:U:H5'	1.87	0.56
34:a:1227:A:O3'	46:m:109:LYS:NZ	2.37	0.56
34:a:1250:A:C4	34:a:1287:A:C6	2.94	0.56
34:a:1278:G:H1'	34:a:1279:G:C5	2.40	0.56
34:a:1450:U:H3'	34:a:1452:C:C4	2.40	0.56
34:a:1490:U:H2'	34:a:1491:G:C8	2.41	0.56
34:a:1492:A:H2'	34:a:1493:A:C8	2.40	0.56
36:c:72:PRO:HA	36:c:75:VAL:HG12	1.88	0.56
37:d:36:ALA:HB3	37:d:41:GLY:HA2	1.88	0.56
39:f:38:ARG:HG3	39:f:96:VAL:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:f:49:TYR:HB2	51:r:73:HIS:CE1	2.41	0.56
39:f:88:MET:HB2	51:r:63:TYR:HE2	1.69	0.56
39:f:88:MET:HB3	51:r:64:LEU:HD21	1.87	0.56
42:i:71:ILE:HG13	42:i:72:SER:H	1.70	0.56
48:o:10:ILE:HG22	48:o:26:VAL:HG13	1.86	0.56
55:v:29:G:H2'	55:v:30:G:H8	1.70	0.56
56:w:27:G:H2'	56:w:28:G:H8	1.70	0.56
56:w:40:C:H2'	56:w:41:C:C6	2.41	0.56
3:2:7:PRO:HB2	8:A:1309:G:H4'	1.87	0.56
7:6:7:PRO:HD2	13:F:62:GLN:N	2.19	0.56
8:A:38:A:N3	12:E:43:THR:OG1	2.38	0.56
8:A:143:C:H2'	8:A:144:A:C8	2.39	0.56
8:A:196:A:C6	8:A:805:G:C6	2.93	0.56
8:A:304:U:C4	8:A:313:G:O6	2.58	0.56
8:A:558:U:OP1	17:J:114:LEU:N	2.28	0.56
8:A:635:C:OP2	19:L:126:ARG:NH2	2.38	0.56
8:A:960:A:C8	8:A:962:G:C8	2.94	0.56
8:A:1047:G:H4'	8:A:1048:A:H8	1.71	0.56
8:A:1194:A:H2'	8:A:1195:G:O4'	2.05	0.56
8:A:1449:G:H2'	8:A:1450:G:C8	2.41	0.56
8:A:1541:C:H2'	8:A:1542:U:C6	2.41	0.56
8:A:2301:C:H2'	8:A:2302:U:C6	2.40	0.56
8:A:2358:A:H8	8:A:2358:A:OP1	1.88	0.56
8:A:2543:G:C6	8:A:2544:G:C6	2.94	0.56
8:A:2846:G:H5'	23:P:52:ARG:NH2	2.21	0.56
10:C:210:ALA:HA	10:C:213:ARG:HB2	1.87	0.56
21:N:24:MET:SD	21:N:40:LYS:HD3	2.46	0.56
25:R:58:VAL:N	25:R:102:SER:HB2	2.13	0.56
26:S:92:ARG:NH2	26:S:94:ASP:OD1	2.36	0.56
34:a:579:A:H2'	34:a:580:C:C6	2.40	0.56
34:a:718:A:C8	44:k:117:HIS:CG	2.93	0.56
34:a:829:G:H2'	34:a:830:G:C8	2.35	0.56
34:a:1357:A:N1	34:a:1365:G:O6	2.38	0.56
38:e:87:VAL:CG2	38:e:92:ARG:HE	2.18	0.56
46:m:85:TYR:O	46:m:89:ARG:HG2	2.05	0.56
8:A:17:G:C6	8:A:524:G:C6	2.93	0.56
8:A:53:A:N6	8:A:117:G:C2	2.64	0.56
8:A:243:U:N3	8:A:244:A:C5	2.73	0.56
8:A:271:G:C6	8:A:367:G:N1	2.74	0.56
8:A:320:A:H2'	12:E:131:THR:HG21	1.87	0.56
8:A:597:G:C6	8:A:598:U:C4	2.94	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1090:A:O2'	8:A:1091:G:OP1	2.16	0.56
8:A:1227:G:C4	8:A:1228:G:C8	2.94	0.56
8:A:1452:G:O2'	8:A:2702:G:O6	2.22	0.56
8:A:1686:C:C2	8:A:1687:G:C8	2.92	0.56
8:A:1804:C:C4	8:A:1814:G:N2	2.74	0.56
8:A:1937:A:C2	8:A:1939:5MU:C4	2.93	0.56
8:A:2118:U:C5	8:A:2148:G:H1'	2.40	0.56
8:A:2127:G:H8	8:A:2162:G:O6	1.88	0.56
8:A:2138:G:N1	8:A:2154:A:O2'	2.33	0.56
8:A:2418:A:H2'	8:A:2419:U:H6	1.69	0.56
10:C:80:LEU:HD11	10:C:89:ASN:HB2	1.86	0.56
14:G:26:LYS:NZ	14:G:27:GLY:O	2.36	0.56
15:H:126:GLY:O	15:H:128:HIS:ND1	2.37	0.56
19:L:23:ILE:HG21	25:R:84:ARG:HG2	1.87	0.56
20:M:34:LYS:HZ3	20:M:101:VAL:N	2.04	0.56
23:P:52:ARG:N	23:P:56:SER:OG	2.39	0.56
25:R:1:MET:N	25:R:44:GLY:H	2.03	0.56
27:T:82:LYS:HG2	27:T:83:ALA:H	1.69	0.56
28:U:52:ASN:C	28:U:54:PRO:HD3	2.31	0.56
34:a:162:A:C6	34:a:163:C:H1'	2.40	0.56
34:a:273:U:O4	34:a:274:A:N6	2.39	0.56
34:a:428:G:OP2	37:d:9:LYS:NZ	2.24	0.56
34:a:489:C:H2'	34:a:490:C:H6	1.66	0.56
34:a:727:G:N1	34:a:731:G:C6	2.73	0.56
34:a:776:G:H22	34:a:802:A:P	2.28	0.56
34:a:867:G:C6	34:a:868:C:C4	2.94	0.56
34:a:1124:G:O6	34:a:1150:A:N6	2.38	0.56
39:f:74:LEU:HG	39:f:78:PHE:CZ	2.41	0.56
47:n:30:ILE:HA	47:n:41:ARG:HG2	1.86	0.56
50:q:35:LYS:HG2	50:q:36:PHE:H	1.70	0.56
55:v:21:A:H2'	55:v:46:A:N6	2.20	0.56
8:A:142:A:H2'	8:A:143:C:C6	2.41	0.56
8:A:257:C:H2'	8:A:258:G:O4'	2.04	0.56
8:A:345:A:N3	8:A:347:A:N6	2.54	0.56
8:A:538:A:H4'	17:J:7:LYS:HD3	1.88	0.56
8:A:559:G:H2'	8:A:560:C:O4'	2.05	0.56
8:A:779:U:OP1	10:C:48:ILE:HG12	2.06	0.56
8:A:956:G:H4'	20:M:76:LYS:HZ2	1.70	0.56
8:A:992:C:H2'	8:A:993:G:C8	2.40	0.56
8:A:1370:C:H6	8:A:1370:C:OP2	1.87	0.56
8:A:1421:G:H1	8:A:1578:U:H3	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1521:G:H3'	8:A:1522:A:H8	1.70	0.56
8:A:1633:G:H2'	8:A:1635:A:N7	2.21	0.56
8:A:1767:G:H2'	8:A:1768:C:C6	2.41	0.56
8:A:1788:C:C2	8:A:1789:A:C8	2.94	0.56
8:A:1790:C:H2'	8:A:1791:A:N7	2.20	0.56
8:A:1841:U:N3	8:A:1842:G:N7	2.53	0.56
8:A:2221:G:C5	8:A:2222:C:C4	2.93	0.56
8:A:2358:A:H2'	8:A:2359:C:H6	1.69	0.56
8:A:2641:G:H2'	8:A:2642:G:C8	2.40	0.56
8:A:2773:C:H2'	8:A:2774:C:H6	1.70	0.56
10:C:32:LEU:HG	10:C:62:ARG:HA	1.88	0.56
10:C:261:ARG:HG2	10:C:262:THR:HG23	1.86	0.56
12:E:149:ILE:N	12:E:187:VAL:O	2.31	0.56
17:J:93:ILE:HA	17:J:97:PRO:HB3	1.86	0.56
27:T:51:PHE:O	27:T:53:VAL:HG13	2.05	0.56
34:a:821:G:H2'	34:a:822:U:H6	1.69	0.56
34:a:971:G:C8	34:a:1365:G:H4'	2.40	0.56
34:a:1179:A:H2'	34:a:1180:A:O4'	2.05	0.56
34:a:1317:C:N3	47:n:53:ARG:HD3	2.20	0.56
35:b:19:THR:O	35:b:21:TYR:N	2.38	0.56
44:k:124:LYS:HG3	44:k:125:LYS:H	1.69	0.56
48:o:32:THR:O	48:o:36:ASN:ND2	2.38	0.56
55:v:71:C:H2'	55:v:72:A:H8	1.71	0.56
4:3:23:HIS:N	4:3:47:ALA:O	2.39	0.56
7:6:49:ARG:CZ	7:6:50:ASP:OD1	2.52	0.56
8:A:141:G:H22	27:T:1:MET:HA	1.70	0.56
8:A:520:G:H2'	8:A:521:U:H6	1.69	0.56
8:A:934:U:H2'	8:A:935:C:H6	1.67	0.56
8:A:1168:G:C6	8:A:1182:G:C6	2.93	0.56
8:A:1457:U:O2	8:A:2702:G:O6	2.22	0.56
8:A:1565:C:C2	8:A:1567:G:C5	2.93	0.56
8:A:1630:A:H2'	8:A:1631:G:O4'	2.05	0.56
8:A:1649:G:O6	8:A:2009:A:N6	2.39	0.56
8:A:2192:U:H3'	8:A:2193:G:H8	1.70	0.56
8:A:2248:C:N3	8:A:2275:C:N4	2.54	0.56
8:A:2588:G:C6	8:A:2589:A:C5	2.94	0.56
8:A:2721:A:H3'	8:A:2722:G:H8	1.71	0.56
8:A:2733:A:H2'	8:A:2734:A:O4'	2.06	0.56
10:C:29:PHE:CD2	10:C:31:PRO:HD2	2.40	0.56
11:D:39:ASP:HA	11:D:46:ARG:HG2	1.87	0.56
22:O:15:ARG:O	22:O:18:LEU:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:64:SER:OG	23:P:65:ASN:N	2.37	0.56
34:a:156:C:H2'	34:a:157:U:O4'	2.05	0.56
34:a:376:G:O2'	34:a:377:G:H5'	2.06	0.56
34:a:429:U:H5'	37:d:8:LEU:HD12	1.87	0.56
34:a:746:A:H2'	34:a:747:A:H8	1.70	0.56
34:a:1223:C:H5"	34:a:1224:U:C5'	2.35	0.56
34:a:1258:G:N2	34:a:1279:G:H22	2.03	0.56
36:c:113:LYS:NZ	36:c:185:THR:O	2.26	0.56
41:h:77:VAL:HG21	41:h:127:TYR:CZ	2.41	0.56
48:o:13:GLU:O	48:o:83:ARG:NH2	2.20	0.56
1:0:48:TYR:CE1	1:0:49:ARG:HG3	2.41	0.56
8:A:15:G:C6	8:A:525:U:O2	2.58	0.56
8:A:197:A:C2	8:A:198:C:H1'	2.41	0.56
8:A:250:G:O3'	19:L:58:TYR:OH	2.22	0.56
8:A:606:U:O2	8:A:622:G:O6	2.24	0.56
8:A:1277:G:H2'	8:A:1278:C:H6	1.69	0.56
8:A:1366:A:OP2	31:X:1:SER:OG	2.24	0.56
8:A:1426:G:H3'	8:A:1427:A:C8	2.41	0.56
8:A:1524:G:H2'	8:A:1525:A:H8	1.68	0.56
8:A:1592:C:H2'	8:A:1593:A:H8	1.71	0.56
8:A:1827:U:O2'	8:A:1828:G:O4'	2.14	0.56
8:A:1928:A:N7	8:A:1929:G:N1	2.54	0.56
8:A:1929:G:N2	8:A:1929:G:OP2	2.30	0.56
8:A:2071:A:H2'	8:A:2072:C:H6	1.71	0.56
8:A:2172:U:O2'	8:A:2174:C:OP2	2.10	0.56
8:A:2700:A:C6	8:A:2708:G:C6	2.94	0.56
8:A:2809:A:H2'	8:A:2810:A:C8	2.41	0.56
10:C:167:ASP:O	10:C:170:TYR:N	2.29	0.56
10:C:240:GLY:O	10:C:241:LYS:HD3	2.06	0.56
10:C:250:GLN:NE2	10:C:253:GLY:O	2.31	0.56
11:D:51:THR:HB	11:D:79:LEU:HA	1.87	0.56
12:E:192:ALA:O	12:E:196:VAL:HG23	2.05	0.56
17:J:24:THR:O	17:J:28:LEU:HB2	2.06	0.56
23:P:23:ASP:H	23:P:46:VAL:HB	1.70	0.56
26:S:87:PRO:O	26:S:88:ARG:HD2	2.06	0.56
29:V:48:MET:SD	29:V:51:GLN:NE2	2.79	0.56
34:a:244:U:N3	34:a:893:C:O2	2.36	0.56
34:a:626:G:C2	34:a:627:G:C5	2.93	0.56
34:a:741:G:OP1	48:o:1:SER:N	2.29	0.56
34:a:875:U:O2'	41:h:14:ARG:HD2	2.05	0.56
34:a:1130:A:C5	34:a:1131:G:N7	2.74	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1382:C:H3'	34:a:1383:C:H5	1.70	0.56
45:l:2:THR:O	45:l:6:LEU:HG	2.05	0.56
55:v:39:C:H2'	55:v:40:C:C6	2.41	0.56
7:6:25:ARG:HB2	13:F:97:GLU:HG2	1.88	0.56
8:A:96:C:H2'	8:A:97:C:C6	2.40	0.56
8:A:172:A:H2'	8:A:173:A:C8	2.40	0.56
8:A:748:G:C5	8:A:750:A:C5	2.94	0.56
8:A:828:U:H2'	8:A:829:A:C8	2.41	0.56
8:A:989:G:OP2	33:Z:11:SER:OG	2.17	0.56
8:A:2060:A:C6	8:A:2502:G:C2	2.94	0.56
8:A:2159:G:H2'	8:A:2160:C:C6	2.41	0.56
8:A:2325:G:H2'	8:A:2326:C:C6	2.41	0.56
8:A:2708:G:H2'	8:A:2709:G:H8	1.69	0.56
8:A:2746:U:H2'	8:A:2747:G:O4'	2.06	0.56
8:A:2810:A:N6	8:A:2890:G:C2	2.66	0.56
9:B:8:C:O2'	22:O:25:ARG:NH1	2.38	0.56
10:C:174:ARG:HG3	10:C:180:MET:HE1	1.87	0.56
10:C:229:HIS:CD2	10:C:230:PRO:HD2	2.41	0.56
19:L:91:ASP:CG	19:L:92:LEU:H	2.14	0.56
34:a:37:U:HO2'	34:a:500:G:HO2'	1.52	0.56
34:a:110:C:H2'	34:a:111:G:C8	2.41	0.56
34:a:147:G:N2	34:a:176:C:C2	2.73	0.56
34:a:190:A:H3'	34:a:191:G:C8	2.38	0.56
34:a:695:A:H2'	34:a:696:A:C8	2.41	0.56
35:b:18:GLN:HG3	35:b:37:VAL:HG13	1.86	0.56
48:o:25:GLU:HG3	48:o:80:LEU:HD11	1.86	0.56
3:2:34:ARG:NE	3:2:39:ARG:HG3	2.21	0.56
8:A:209:C:H5'	8:A:681:G:H4'	1.87	0.56
8:A:446:G:N2	8:A:454:A:N6	2.23	0.56
8:A:581:C:OP1	24:Q:32:ARG:HG3	2.06	0.56
8:A:1222:U:H2'	8:A:1223:G:C8	2.41	0.56
8:A:1277:G:H2'	8:A:1278:C:C6	2.41	0.56
8:A:1355:G:H2'	8:A:1356:G:H8	1.71	0.56
8:A:1392:A:C6	8:A:1393:A:C6	2.94	0.56
8:A:1818:U:H4'	8:A:1819:A:H5'	1.88	0.56
8:A:2327:A:N7	8:A:2388:A:N6	2.54	0.56
8:A:2633:G:H2'	8:A:2634:A:C8	2.40	0.56
8:A:2726:A:H8	8:A:2726:A:P	2.29	0.56
8:A:2789:C:H2'	8:A:2893:A:C5	2.41	0.56
8:A:2852:G:H5'	21:N:64:ARG:HH22	1.71	0.56
10:C:30:ALA:HA	10:C:33:LEU:HG	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:49:THR:OG1	10:C:50:THR:N	2.38	0.56
30:W:52:ASP:N	30:W:52:ASP:OD1	2.39	0.56
34:a:8:A:N1	38:e:111:ARG:NH2	2.52	0.56
34:a:123:U:H2'	34:a:124:C:H6	1.69	0.56
34:a:392:C:O2'	34:a:483:C:O2'	2.24	0.56
34:a:719:C:H1'	51:r:37:LYS:HB3	1.86	0.56
34:a:775:G:C2	34:a:776:G:C4	2.94	0.56
34:a:1125:U:H2'	34:a:1126:U:H2'	1.88	0.56
34:a:1206:G:C4	34:a:1207:2MG:C8	2.94	0.56
34:a:1446:A:O2'	34:a:1447:A:O4'	2.21	0.56
36:c:10:ARG:HH21	36:c:177:LEU:HA	1.71	0.56
36:c:69:THR:HG21	36:c:75:VAL:HB	1.87	0.56
40:g:68:VAL:HG13	40:g:99:ALA:HB1	1.87	0.56
42:i:20:ILE:HD12	42:i:60:LEU:HD13	1.87	0.56
8:A:415:A:C6	8:A:2409:G:C6	2.94	0.55
8:A:430:A:H8	8:A:430:A:OP2	1.89	0.55
8:A:1228:G:H2'	8:A:1229:C:H6	1.72	0.55
8:A:1710:G:C6	8:A:1749:A:C6	2.94	0.55
8:A:1794:A:H2'	8:A:1795:C:H6	1.72	0.55
8:A:1848:A:H2'	8:A:1849:G:H8	1.71	0.55
8:A:1954:G:O2'	8:A:1956:U:O4	2.14	0.55
8:A:1988:G:C6	8:A:1989:G:C6	2.93	0.55
8:A:2252:G:C4	8:A:2253:G:C8	2.94	0.55
8:A:2274:A:O2'	8:A:2276:G:OP1	2.25	0.55
8:A:2294:G:H2'	8:A:2295:C:H6	1.71	0.55
8:A:2432:A:N1	31:X:20:ALA:HA	2.20	0.55
8:A:2756:U:H4'	8:A:2757:A:OP1	2.05	0.55
9:B:77:U:H2'	9:B:78:A:C8	2.41	0.55
10:C:52:HIS:HA	10:C:216:ARG:HB2	1.88	0.55
11:D:7:LYS:H	11:D:28:GLU:H	1.54	0.55
14:G:148:ARG:NH1	14:G:153:PRO:HD2	2.21	0.55
14:G:158:GLY:HA3	14:G:162:ARG:NH1	2.21	0.55
17:J:68:LYS:HA	17:J:71:ASP:CB	2.35	0.55
28:U:9:GLU:HG2	28:U:23:LYS:HB2	1.89	0.55
34:a:149:A:H1'	34:a:1446:A:H2	1.70	0.55
34:a:201:G:H2'	34:a:202:G:C8	2.40	0.55
34:a:248:C:H2'	34:a:249:U:C6	2.40	0.55
34:a:371:A:N6	34:a:391:G:O6	2.39	0.55
34:a:383:A:H3'	34:a:384:G:C8	2.41	0.55
34:a:456:A:H2'	34:a:457:G:H8	1.70	0.55
34:a:501:C:P	45:l:120:ARG:HH12	2.29	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:620:C:H2'	34:a:621:A:O4'	2.05	0.55
34:a:672:U:H2'	34:a:673:A:C8	2.40	0.55
34:a:1117:A:O3'	42:i:105:ARG:NE	2.39	0.55
34:a:1164:G:H2'	34:a:1165:U:H6	1.72	0.55
34:a:1460:C:C2	34:a:1461:G:C8	2.93	0.55
34:a:1523:G:H2'	34:a:1524:C:H6	1.68	0.55
35:b:126:ASP:OD1	35:b:126:ASP:N	2.34	0.55
36:c:130:ARG:O	36:c:134:LYS:HG2	2.06	0.55
47:n:35:ALA:C	47:n:37:SER:N	2.60	0.55
8:A:103:A:H3'	8:A:104:A:C8	2.41	0.55
8:A:109:C:C4	8:A:110:G:N7	2.74	0.55
8:A:183:C:H2'	8:A:184:C:C6	2.40	0.55
8:A:375:G:H2'	8:A:376:G:H8	1.70	0.55
8:A:632:A:N6	8:A:641:U:OP1	2.38	0.55
8:A:769:U:H2'	8:A:770:G:C8	2.37	0.55
8:A:1069:A:H4'	8:A:1070:A:OP1	2.07	0.55
8:A:1075:C:H2'	8:A:1076:C:C6	2.42	0.55
8:A:1131:G:O6	8:A:2024:G:O2'	2.22	0.55
8:A:1268:A:H2'	8:A:1269:A:O4'	2.06	0.55
8:A:1380:G:H2'	8:A:1381:G:C8	2.37	0.55
8:A:1506:U:H2'	8:A:1507:C:C6	2.41	0.55
8:A:1985:C:H2'	8:A:1986:C:C6	2.38	0.55
8:A:2405:G:N1	8:A:2411:A:OP2	2.39	0.55
8:A:2509:G:N1	8:A:2580:PSU:N3	2.54	0.55
8:A:2730:C:H2'	8:A:2731:G:H8	1.66	0.55
8:A:2861:U:C2	8:A:2862:G:C8	2.94	0.55
9:B:35:C:H2'	9:B:36:C:C6	2.41	0.55
9:B:61:G:H2'	9:B:62:C:H6	1.71	0.55
10:C:219:VAL:HG21	10:C:224:MET:SD	2.47	0.55
11:D:125:TRP:HB2	11:D:127:PHE:CE1	2.41	0.55
11:D:151:THR:HB	11:D:152:PRO:HD3	1.87	0.55
13:F:174:PHE:CD2	13:F:175:PRO:HD2	2.41	0.55
14:G:89:VAL:HG21	14:G:162:ARG:NH2	2.20	0.55
21:N:38:LEU:O	21:N:42:LYS:HG3	2.06	0.55
22:O:76:LYS:HG3	22:O:77:ALA:N	2.22	0.55
34:a:436:C:H2'	34:a:437:U:H6	1.71	0.55
34:a:540:G:C4	34:a:541:G:C8	2.94	0.55
34:a:765:G:H3'	34:a:812:G:H22	1.70	0.55
34:a:818:G:N2	34:a:820:U:O2'	2.39	0.55
34:a:914:A:C6	34:a:915:A:C5	2.94	0.55
34:a:1095:U:H2'	34:a:1096:C:H6	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1208:C:H2'	34:a:1209:C:H6	1.71	0.55
34:a:1310:G:P	46:m:86:ARG:HH22	2.29	0.55
34:a:1382:C:H3'	34:a:1383:C:C5	2.42	0.55
34:a:1465:A:H2'	34:a:1466:C:C6	2.41	0.55
34:a:1488:G:H2'	34:a:1489:G:C8	2.42	0.55
34:a:1520:C:H2'	34:a:1521:C:H6	1.69	0.55
37:d:143:SER:O	37:d:145:ARG:N	2.39	0.55
39:f:50:PRO:HB3	39:f:55:HIS:CD2	2.40	0.55
40:g:68:VAL:HG22	40:g:102:TRP:HE3	1.70	0.55
44:k:20:ALA:N	44:k:82:GLU:O	2.32	0.55
49:p:19:VAL:N	49:p:37:GLY:O	2.40	0.55
56:w:56:C:H2'	56:w:57:G:O4'	2.06	0.55
8:A:1020:A:H5'	8:A:1021:A:C8	2.41	0.55
8:A:1051:G:H2'	8:A:1052:C:C6	2.40	0.55
8:A:1081:U:H2'	8:A:1082:U:C2	2.42	0.55
8:A:1128:G:H22	8:A:2518:A:H2'	1.72	0.55
8:A:1128:G:N2	8:A:2518:A:H2'	2.20	0.55
8:A:1196:C:H2'	8:A:1197:G:H8	1.70	0.55
8:A:1369:G:O2'	8:A:1370:C:H5'	2.06	0.55
8:A:1422:G:C6	8:A:1577:C:N3	2.75	0.55
8:A:2084:C:H2'	8:A:2085:U:O4'	2.06	0.55
8:A:2791:G:H2'	8:A:2792:A:H8	1.71	0.55
8:A:2841:C:C2	8:A:2877:G:N2	2.74	0.55
9:B:81:G:N2	9:B:95:U:O2	2.38	0.55
10:C:78:GLU:CD	10:C:79:ARG:HE	2.14	0.55
10:C:184:GLU:HB3	10:C:187:CYS:SG	2.46	0.55
18:K:30:ARG:NH2	18:K:34:GLY:H	2.04	0.55
21:N:33:ILE:HB	21:N:114:GLU:HB3	1.88	0.55
23:P:13:LYS:HG2	23:P:76:HIS:HD1	1.71	0.55
23:P:27:VAL:O	23:P:42:PHE:N	2.39	0.55
31:X:54:GLY:O	31:X:58:ILE:HG13	2.05	0.55
33:Z:29:ARG:HE	33:Z:30:ARG:HH12	1.53	0.55
34:a:402:G:H2'	34:a:403:C:H6	1.71	0.55
34:a:625:U:O2'	34:a:626:G:H5'	2.06	0.55
34:a:706:A:H2'	34:a:707:U:C6	2.42	0.55
34:a:708:C:H2'	34:a:709:U:H6	1.72	0.55
34:a:853:C:H2'	34:a:854:U:H6	1.71	0.55
34:a:874:G:H2'	34:a:875:U:H6	1.71	0.55
34:a:1050:G:N1	34:a:1209:C:N3	2.54	0.55
34:a:1226:C:OP2	34:a:1226:C:H2'	2.06	0.55
34:a:1477:U:H2'	34:a:1478:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:d:146:GLU:HG3	37:d:149:LYS:HE3	1.88	0.55
47:n:62:ASN:HB3	47:n:73:PHE:CD2	2.40	0.55
8:A:31:C:H2'	8:A:32:C:C6	2.42	0.55
8:A:218:A:C4	8:A:219:A:C8	2.94	0.55
8:A:436:C:H2'	8:A:437:U:C6	2.42	0.55
8:A:523:C:H2'	8:A:524:G:H8	1.70	0.55
8:A:741:U:H2'	8:A:742:A:H8	1.71	0.55
8:A:799:G:C6	8:A:800:A:C6	2.95	0.55
8:A:1000:A:H2'	8:A:1001:A:C8	2.41	0.55
8:A:1323:C:OP1	26:S:84:ARG:NE	2.40	0.55
8:A:1341:G:N2	8:A:1398:C:H4'	2.21	0.55
8:A:1405:U:H2'	8:A:1406:U:C6	2.40	0.55
8:A:1411:U:H2'	8:A:1412:U:C6	2.42	0.55
8:A:1494:A:C4	8:A:1495:A:C8	2.95	0.55
8:A:1889:A:H2'	8:A:1890:A:O4'	2.07	0.55
8:A:2122:U:H2'	8:A:2123:G:O4'	2.07	0.55
8:A:2301:C:H2'	8:A:2302:U:H6	1.71	0.55
8:A:2483:C:O2'	20:M:51:ARG:NH1	2.38	0.55
8:A:2523:G:O2'	8:A:2524:G:H5'	2.06	0.55
8:A:2728:U:O2'	8:A:2729:G:O5'	2.24	0.55
8:A:2836:U:C4	8:A:2837:A:N7	2.74	0.55
8:A:2851:A:H2'	8:A:2852:G:H8	1.72	0.55
10:C:43:ASN:C	10:C:46:GLY:H	2.15	0.55
11:D:108:ASP:O	11:D:204:LYS:N	2.39	0.55
14:G:26:LYS:HZ3	14:G:27:GLY:C	2.14	0.55
21:N:77:ALA:O	21:N:81:ASN:CB	2.53	0.55
27:T:6:ARG:O	27:T:9:LYS:HB2	2.07	0.55
29:V:4:ILE:O	29:V:64:VAL:N	2.39	0.55
34:a:490:C:H2'	34:a:491:G:C8	2.36	0.55
34:a:1191:A:OP2	36:c:2:GLN:NE2	2.39	0.55
37:d:158:LEU:HD11	37:d:177:MET:HG2	1.88	0.55
43:j:10:LEU:HB2	43:j:72:ARG:HB2	1.89	0.55
50:q:18:LYS:H	50:q:50:ASN:ND2	2.03	0.55
55:v:31:G:N1	55:v:40:C:N3	2.54	0.55
8:A:271:G:C4	8:A:367:G:N2	2.75	0.55
8:A:309:A:H1'	8:A:329:G:C2	2.41	0.55
8:A:391:A:H1'	8:A:411:G:O4'	2.07	0.55
8:A:481:G:H2'	8:A:507:A:N6	2.20	0.55
8:A:496:G:H2'	8:A:497:A:O4'	2.07	0.55
8:A:545:U:O2'	8:A:546:U:OP1	2.22	0.55
8:A:810:U:C2	19:L:30:THR:HA	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1521:G:H3'	8:A:1522:A:H2'	1.86	0.55
8:A:1612:C:H2'	8:A:1613:G:C8	2.41	0.55
8:A:1781:U:H4'	8:A:1782:U:H5"	1.87	0.55
8:A:1937:A:N6	8:A:1939:5MU:O2'	2.40	0.55
8:A:2048:G:H2'	8:A:2049:G:O4'	2.06	0.55
8:A:2172:U:H4'	8:A:2174:C:C5	2.42	0.55
8:A:2824:C:O2'	8:A:2825:G:O5'	2.24	0.55
10:C:116:GLN:H	10:C:127:ASN:HD21	1.55	0.55
12:E:170:ARG:NH2	12:E:176:ASP:OD2	2.40	0.55
17:J:122:LEU:HD11	17:J:124:VAL:HG13	1.88	0.55
19:L:2:ARG:O	19:L:5:THR:OG1	2.14	0.55
20:M:35:ALA:HB2	20:M:102:LEU:HD11	1.87	0.55
21:N:13:ASN:OD1	21:N:16:HIS:N	2.28	0.55
34:a:208:U:H1'	34:a:212:G:C2	2.41	0.55
34:a:655:A:C6	34:a:656:G:C5	2.94	0.55
34:a:1103:C:P	35:b:94:ARG:HH22	2.29	0.55
34:a:1152:A:OP1	43:j:70:HIS:ND1	2.40	0.55
34:a:1182:G:O2'	34:a:1183:U:H5"	2.06	0.55
34:a:1411:C:H2'	34:a:1412:C:H6	1.71	0.55
34:a:1523:G:C4	34:a:1524:C:C5	2.95	0.55
37:d:167:PRO:HG2	37:d:170:LEU:HD12	1.89	0.55
48:o:32:THR:HA	48:o:35:ILE:HD12	1.89	0.55
50:q:61:ARG:HB3	50:q:73:THR:HG23	1.88	0.55
1:0:3:GLN:OE1	1:0:7:PRO:HD3	2.07	0.55
8:A:455:C:C2	8:A:473:G:H5'	2.42	0.55
8:A:485:C:H2'	8:A:486:C:H6	1.72	0.55
8:A:491:G:H2'	8:A:492:A:C8	2.42	0.55
8:A:661:A:OP1	12:E:94:GLN:NE2	2.40	0.55
8:A:951:C:H2'	8:A:952:G:H8	1.70	0.55
8:A:1070:A:N6	16:I:26:ALA:O	2.37	0.55
8:A:1253:A:H3'	8:A:1254:A:C8	2.37	0.55
8:A:1704:C:H3'	8:A:1705:A:H8	1.71	0.55
8:A:2071:A:H2'	8:A:2072:C:C6	2.41	0.55
8:A:2091:C:H3'	8:A:2092:U:C6	2.41	0.55
8:A:2387:U:H4'	30:W:37:ARG:HH22	1.72	0.55
8:A:2423:U:C4	8:A:2425:A:C6	2.95	0.55
8:A:2655:G:H4'	8:A:2656:U:O5'	2.05	0.55
8:A:2874:C:H2'	8:A:2875:C:C6	2.42	0.55
9:B:73:A:N7	9:B:103:U:O4	2.40	0.55
12:E:3:LEU:HB2	12:E:12:LEU:H	1.70	0.55
15:H:100:ALA:HB1	15:H:110:VAL:HG23	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:M:17:ASN:OD1	20:M:97:GLN:NE2	2.40	0.55
29:V:76:ASP:HB3	29:V:90:ASP:OD2	2.06	0.55
30:W:68:LYS:HE2	30:W:75:PHE:CE2	2.42	0.55
32:Y:5:GLU:OE1	32:Y:5:GLU:N	2.23	0.55
34:a:79:G:C6	34:a:90:C:C4	2.95	0.55
34:a:108:G:O6	34:a:327:A:N6	2.38	0.55
34:a:132:C:H2'	34:a:133:U:C6	2.41	0.55
34:a:219:U:H2'	34:a:220:G:C8	2.42	0.55
34:a:238:A:H2'	34:a:239:U:C6	2.42	0.55
34:a:276:G:H2'	34:a:277:C:C6	2.41	0.55
34:a:1289:A:H2'	34:a:1290:G:H5'	1.89	0.55
34:a:1309:G:OP1	46:m:86:ARG:NH2	2.38	0.55
39:f:13:ASP:OD2	39:f:14:GLN:NE2	2.40	0.55
42:i:5:TYR:CE2	42:i:89:TYR:HB2	2.41	0.55
46:m:80:MET:HE3	46:m:91:ARG:HG2	1.89	0.55
56:w:18:G:C4	56:w:57:G:C6	2.95	0.55
2:1:45:HIS:NE2	8:A:2372:U:H1'	2.22	0.55
8:A:229:C:N3	8:A:230:G:H1'	2.22	0.55
8:A:297:G:H3'	8:A:298:G:C8	2.41	0.55
8:A:672:C:C2	8:A:673:C:C5	2.95	0.55
8:A:920:A:C6	8:A:921:C:C4	2.94	0.55
8:A:1040:A:N6	8:A:1116:G:O6	2.40	0.55
8:A:1136:G:O2'	8:A:2038:G:O2'	2.15	0.55
8:A:1319:C:N4	8:A:1334:G:O6	2.40	0.55
8:A:1409:U:H2'	8:A:1410:G:C8	2.41	0.55
8:A:1606:C:H4'	8:A:1608:A:H5'	1.87	0.55
8:A:2495:G:H4'	20:M:82:MET:HE3	1.89	0.55
8:A:2514:U:H2'	8:A:2515:C:H6	1.71	0.55
8:A:2521:C:C2	8:A:2545:G:N2	2.75	0.55
8:A:2831:G:OP1	11:D:58:ASN:ND2	2.30	0.55
8:A:2851:A:H2'	8:A:2852:G:C8	2.41	0.55
12:E:105:LEU:HD21	12:E:177:PRO:HG3	1.88	0.55
13:F:120:SER:HB2	13:F:127:TYR:CZ	2.41	0.55
20:M:99:GLY:HA2	29:V:82:TYR:HB3	1.87	0.55
23:P:62:LYS:N	23:P:69:VAL:O	2.40	0.55
27:T:58:VAL:CG2	27:T:85:VAL:HG22	2.37	0.55
34:a:309:A:H2'	34:a:310:G:H8	1.71	0.55
34:a:416:G:C2	34:a:417:G:C5	2.95	0.55
34:a:455:G:C6	34:a:456:A:C6	2.94	0.55
34:a:668:G:H2'	34:a:669:G:H8	1.72	0.55
34:a:676:A:H2'	34:a:677:U:H6	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:738:C:H2'	34:a:739:C:H6	1.67	0.55
34:a:856:C:H2'	34:a:857:C:H6	1.71	0.55
34:a:881:G:OP2	45:l:5:GLN:NE2	2.40	0.55
34:a:1178:G:H22	34:a:1180:A:H3'	1.70	0.55
36:c:41:TYR:HA	36:c:44:LYS:HE2	1.89	0.55
37:d:61:ARG:NH2	37:d:67:LEU:HA	2.22	0.55
41:h:106:SER:OG	41:h:107:LYS:N	2.38	0.55
42:i:80:HIS:NE2	42:i:104:THR:O	2.39	0.55
48:o:28:VAL:HG21	48:o:66:LEU:HD21	1.89	0.55
48:o:64:LYS:HA	48:o:67:ASP:OD2	2.07	0.55
4:3:7:ARG:NH2	8:A:254:G:H1	2.05	0.55
8:A:176:A:H2'	8:A:177:G:N3	2.22	0.55
8:A:184:C:H2'	8:A:185:G:C8	2.42	0.55
8:A:695:G:H2'	8:A:696:G:O4'	2.07	0.55
8:A:853:C:H2'	8:A:854:C:C6	2.42	0.55
8:A:939:G:C2	8:A:940:G:C4	2.95	0.55
8:A:1000:A:H62	8:A:1154:G:H2'	1.72	0.55
8:A:1056:G:O6	8:A:1101:U:H3'	2.07	0.55
8:A:1129:A:C5	8:A:2570:G:H4'	2.42	0.55
8:A:1155:A:H4'	24:Q:54:ARG:NH2	2.21	0.55
8:A:1164:C:H2'	8:A:1165:A:C8	2.40	0.55
8:A:1234:U:H3'	8:A:1235:G:C8	2.42	0.55
8:A:1282:U:H3'	8:A:1283:G:H8	1.71	0.55
8:A:1408:G:H2'	8:A:1409:U:H6	1.72	0.55
8:A:1449:G:H2'	8:A:1450:G:H8	1.71	0.55
8:A:1544:A:H2'	8:A:1545:A:H8	1.70	0.55
8:A:1631:G:H21	8:A:1635:A:H62	1.53	0.55
8:A:1653:G:OP1	8:A:2822:G:N2	2.38	0.55
8:A:1705:A:H2'	8:A:1706:C:C6	2.41	0.55
8:A:1710:G:H2'	8:A:1711:A:H8	1.72	0.55
8:A:1764:C:H2'	8:A:1765:U:C6	2.41	0.55
8:A:2129:C:O2	8:A:2159:G:N1	2.40	0.55
8:A:2176:A:O2'	8:A:2177:C:O4'	2.13	0.55
8:A:2199:A:H3'	8:A:2200:C:C6	2.37	0.55
8:A:2283:C:C2	8:A:2389:G:C2	2.95	0.55
8:A:2567:G:H2'	8:A:2568:U:H6	1.71	0.55
8:A:2713:U:H3'	8:A:2714:G:H5"	1.88	0.55
8:A:2812:G:H2'	8:A:2813:A:H8	1.71	0.55
8:A:2881:U:H2'	8:A:2882:A:C8	2.42	0.55
9:B:18:G:H1'	9:B:67:G:H22	1.71	0.55
13:F:122:ASP:OD1	13:F:123:GLY:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:N:55:ALA:HA	21:N:80:PHE:CE2	2.42	0.55
22:O:81:ARG:HA	22:O:84:GLU:CD	2.32	0.55
25:R:31:GLU:O	25:R:63:VAL:HG23	2.06	0.55
27:T:13:ALA:O	27:T:33:LYS:N	2.22	0.55
31:X:63:ILE:HG23	31:X:64:ASP:H	1.70	0.55
34:a:54:C:N4	34:a:352:C:H2'	2.21	0.55
34:a:75:G:C2	34:a:96:U:C2	2.95	0.55
34:a:110:C:H2'	34:a:111:G:H8	1.72	0.55
34:a:158:G:H1'	34:a:164:G:C2	2.42	0.55
34:a:499:A:O4'	34:a:547:A:N6	2.40	0.55
34:a:502:A:H2'	34:a:503:C:H6	1.72	0.55
34:a:766:A:H2'	34:a:767:A:O4'	2.07	0.55
34:a:991:U:H4'	34:a:992:U:OP1	2.07	0.55
34:a:1223:C:H5"	34:a:1224:U:H5"	1.88	0.55
34:a:1297:G:N2	40:g:113:LYS:O	2.40	0.55
34:a:1486:G:H2'	34:a:1487:G:H8	1.71	0.55
35:b:95:TRP:HH2	35:b:100:LEU:H	1.54	0.55
55:v:42:G:C4	55:v:43:A:C8	2.95	0.55
3:2:40:ALA:HB2	8:A:459:U:H5"	1.89	0.55
4:3:24:LYS:HE2	4:3:44:ARG:HA	1.87	0.55
8:A:308:G:C2	8:A:501:A:C5	2.95	0.55
8:A:382:A:C2	8:A:393:C:N3	2.75	0.55
8:A:513:A:O2'	8:A:514:A:H5'	2.07	0.55
8:A:765:C:H2'	8:A:766:U:C6	2.41	0.55
8:A:850:U:H3	8:A:927:A:N6	2.05	0.55
8:A:933:A:H5'	8:A:934:U:OP2	2.07	0.55
8:A:1265:A:H61	8:A:2013:A:H3'	1.72	0.55
8:A:1317:G:C6	8:A:1336:A:C6	2.95	0.55
8:A:1398:C:H2'	8:A:1399:C:C6	2.42	0.55
8:A:1679:A:H4'	8:A:1990:C:H4'	1.89	0.55
8:A:2013:A:C6	8:A:2014:A:N1	2.75	0.55
8:A:2038:G:H2'	8:A:2039:U:C6	2.41	0.55
8:A:2046:G:H2'	8:A:2047:C:C6	2.42	0.55
8:A:2220:U:N3	8:A:2221:G:N7	2.54	0.55
8:A:2590:A:O3'	10:C:237:ARG:CZ	2.55	0.55
8:A:2739:U:H2'	8:A:2740:A:H8	1.71	0.55
8:A:2790:U:O4'	8:A:2893:A:N6	2.40	0.55
8:A:2834:G:H2'	8:A:2879:A:N6	2.22	0.55
9:B:82:U:H2'	9:B:83:G:C8	2.40	0.55
18:K:5:GLN:NE2	18:K:20:MET:SD	2.80	0.55
18:K:110:GLU:N	18:K:110:GLU:OE1	2.34	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:L:110:VAL:N	19:L:126:ARG:O	2.32	0.55
21:N:8:ARG:NH2	21:N:43:GLU:OE2	2.40	0.55
22:O:86:GLY:HA2	22:O:88:LYS:HE3	1.88	0.55
30:W:36:GLN:OE1	30:W:41:PHE:N	2.40	0.55
34:a:32:A:H2'	34:a:33:A:C8	2.42	0.55
34:a:607:A:H2'	34:a:608:A:H8	1.72	0.55
34:a:683:G:H2'	34:a:684:U:H6	1.71	0.55
34:a:736:C:H5"	39:f:90:MET:HE2	1.87	0.55
34:a:791:G:H2'	34:a:792:A:C8	2.42	0.55
34:a:1103:C:H2'	34:a:1104:G:H8	1.69	0.55
34:a:1107:C:H5'	36:c:168:ARG:NH2	2.21	0.55
34:a:1276:G:H2'	34:a:1277:C:O4'	2.06	0.55
34:a:1446:A:H2'	34:a:1447:A:C8	2.42	0.55
34:a:1525:G:OP1	44:k:121:ARG:NH2	2.40	0.55
8:A:629:G:C6	8:A:630:G:C6	2.95	0.55
8:A:684:G:O3'	8:A:788:A:N6	2.40	0.55
8:A:822:G:N2	8:A:836:G:H1'	2.22	0.55
8:A:929:U:H2'	8:A:930:G:C8	2.42	0.55
8:A:1115:G:H2'	8:A:1116:G:C8	2.41	0.55
8:A:1652:A:N1	8:A:1653:G:N2	2.55	0.55
8:A:1824:G:H2'	8:A:1825:U:C6	2.41	0.55
8:A:1845:G:H5'	10:C:255:LYS:NZ	2.22	0.55
8:A:2410:G:H3'	8:A:2411:A:C8	2.42	0.55
8:A:2812:G:C4	8:A:2813:A:C8	2.95	0.55
8:A:2875:C:H2'	8:A:2876:G:C8	2.42	0.55
10:C:32:LEU:HD11	10:C:63:ILE:HB	1.88	0.55
17:J:15:TRP:HB2	17:J:137:PRO:HA	1.89	0.55
17:J:65:THR:H	17:J:68:LYS:NZ	2.05	0.55
19:L:29:LYS:HB2	25:R:82:HIS:CE1	2.42	0.55
21:N:48:VAL:O	21:N:51:LEU:HB2	2.06	0.55
21:N:103:ARG:HG3	21:N:110:MET:SD	2.46	0.55
28:U:8:ASP:C	28:U:23:LYS:HG3	2.32	0.55
31:X:15:ASN:HB2	31:X:23:ALA:HB1	1.89	0.55
34:a:41:G:C6	34:a:402:G:C6	2.94	0.55
34:a:219:U:C2	34:a:220:G:C8	2.95	0.55
34:a:437:U:O2'	37:d:119:HIS:ND1	2.40	0.55
34:a:1071:C:H2'	34:a:1072:G:C8	2.41	0.55
34:a:1074:G:H2'	34:a:1075:U:H6	1.71	0.55
34:a:1117:A:C6	34:a:1184:G:C6	2.95	0.55
38:e:80:LEU:HB2	38:e:97:PRO:HD3	1.89	0.55
38:e:108:GLY:C	38:e:110:MET:H	2.15	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:78:SER:OG	41:h:125:ILE:HA	2.06	0.55
46:m:74:MET:HA	46:m:77:LYS:HE2	1.89	0.55
1:0:38:LEU:HB3	1:0:41:HIS:HB2	1.89	0.54
8:A:530:G:H5"	8:A:532:A:N7	2.21	0.54
8:A:1048:A:C5	8:A:1111:A:C6	2.95	0.54
8:A:1202:G:O6	8:A:1244:A:N6	2.40	0.54
8:A:1227:G:O5'	24:Q:15:LYS:NZ	2.40	0.54
8:A:1661:G:H2'	8:A:1662:U:H6	1.70	0.54
8:A:1851:U:OP1	55:v:3:C:O2'	2.18	0.54
8:A:1866:A:H61	8:A:1875:G:H1'	1.72	0.54
8:A:1910:G:C6	8:A:1911:PSU:C4	2.95	0.54
8:A:2234:G:H2'	8:A:2235:G:H8	1.72	0.54
8:A:2400:G:H2'	8:A:2401:U:C6	2.43	0.54
8:A:2550:G:C6	8:A:2551:C:C4	2.96	0.54
8:A:2759:G:H1'	14:G:34:ARG:NH1	2.22	0.54
8:A:2897:U:H2'	8:A:2898:U:O4'	2.07	0.54
9:B:31:C:H1'	9:B:54:G:N1	2.22	0.54
9:B:105:G:H2'	9:B:106:G:C8	2.42	0.54
10:C:174:ARG:HA	10:C:180:MET:SD	2.47	0.54
11:D:47:ALA:HA	11:D:84:LEU:HG	1.88	0.54
11:D:77:ARG:O	11:D:77:ARG:HD2	2.07	0.54
11:D:106:LYS:HA	11:D:175:LEU:O	2.07	0.54
12:E:170:ARG:NH2	12:E:179:SER:OG	2.39	0.54
15:H:133:GLN:OE1	15:H:135:HIS:N	2.34	0.54
20:M:45:GLN:OE1	20:M:125:PRO:HD3	2.07	0.54
21:N:86:ARG:HH21	21:N:117:ASP:HB3	1.69	0.54
23:P:13:LYS:HG2	23:P:76:HIS:ND1	2.22	0.54
24:Q:113:LYS:HA	24:Q:116:LEU:HB2	1.88	0.54
28:U:7:ASP:HA	28:U:23:LYS:NZ	2.22	0.54
31:X:63:ILE:HG12	31:X:67:LEU:HD11	1.88	0.54
31:X:64:ASP:OD1	31:X:64:ASP:N	2.38	0.54
34:a:202:G:H22	34:a:215:C:H5	1.54	0.54
34:a:215:C:O2'	34:a:465:A:N6	2.39	0.54
34:a:629:A:C6	34:a:630:A:N1	2.75	0.54
34:a:832:G:C6	34:a:855:U:C4	2.95	0.54
34:a:838:G:H2'	34:a:839:C:H6	1.72	0.54
34:a:1036:A:H8	34:a:1036:A:P	2.29	0.54
35:b:186:VAL:HG12	35:b:199:ILE:C	2.32	0.54
47:n:62:ASN:ND2	47:n:75:ARG:HE	2.04	0.54
49:p:39:PHE:HA	49:p:50:THR:OG1	2.07	0.54
53:t:48:LYS:O	53:t:52:GLU:HG2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:73:A:O2'	8:A:74:A:OP2	2.23	0.54
8:A:150:U:H2'	8:A:151:C:C6	2.43	0.54
8:A:247:G:H3'	8:A:249:C:C5	2.42	0.54
8:A:854:C:N3	8:A:924:G:N1	2.55	0.54
8:A:954:G:OP1	20:M:15:GLY:N	2.36	0.54
8:A:1410:G:C6	8:A:1593:A:C6	2.95	0.54
8:A:1923:U:C4	8:A:1924:C:C4	2.96	0.54
8:A:1967:C:H2'	8:A:1968:G:O4'	2.06	0.54
8:A:1987:A:H2'	8:A:1988:G:H8	1.72	0.54
8:A:2146:C:O2'	8:A:2148:G:O6	2.23	0.54
8:A:2228:G:H2'	8:A:2229:U:C6	2.42	0.54
8:A:2246:G:C2	8:A:2247:A:C4	2.95	0.54
8:A:2547:A:C8	8:A:2566:A:C5	2.95	0.54
8:A:2709:G:H2'	8:A:2710:C:H6	1.70	0.54
9:B:105:G:H2'	9:B:106:G:H8	1.71	0.54
9:B:117:G:OP1	22:O:56:LYS:NZ	2.39	0.54
10:C:260:LYS:HA	10:C:263:ASP:CG	2.31	0.54
11:D:110:THR:HG21	11:D:169:ARG:HH11	1.72	0.54
19:L:108:ALA:HB3	19:L:125:LEU:HD21	1.89	0.54
27:T:14:PRO:HA	27:T:32:LEU:HA	1.89	0.54
31:X:14:GLY:HA3	31:X:28:PHE:HE1	1.71	0.54
34:a:27:G:C6	34:a:557:G:N1	2.75	0.54
34:a:202:G:H1	34:a:215:C:H41	1.54	0.54
34:a:391:G:H2'	34:a:392:C:C6	2.42	0.54
34:a:509:A:O2'	34:a:510:A:O5'	2.23	0.54
34:a:557:G:C6	34:a:558:G:C2	2.95	0.54
34:a:619:U:H3	37:d:131:ILE:HD11	1.72	0.54
34:a:872:A:O3'	34:a:873:A:H3'	2.07	0.54
34:a:888:G:H21	34:a:909:A:N6	2.04	0.54
34:a:988:G:N1	34:a:1218:C:N3	2.54	0.54
34:a:1447:A:O2'	34:a:1448:C:H5'	2.07	0.54
39:f:72:ASP:O	39:f:76:THR:OG1	2.23	0.54
40:g:48:THR:O	40:g:52:ARG:HG2	2.07	0.54
42:i:69:GLY:O	42:i:74:GLN:NE2	2.40	0.54
46:m:65:GLU:O	46:m:69:ARG:HG2	2.07	0.54
52:s:40:PHE:H	52:s:43:MET:HE3	1.73	0.54
8:A:155:A:H2'	8:A:156:A:C8	2.42	0.54
8:A:208:C:H2'	8:A:209:C:C5	2.41	0.54
8:A:208:C:H2'	8:A:209:C:H6	1.72	0.54
8:A:312:G:H2'	8:A:313:G:H8	1.72	0.54
8:A:416:U:H2'	8:A:417:C:H6	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:688:U:O2	8:A:787:C:H4'	2.08	0.54
8:A:814:C:C2	8:A:815:C:C5	2.95	0.54
8:A:950:G:C6	8:A:968:C:N3	2.75	0.54
8:A:1014:A:C6	8:A:1149:G:C6	2.96	0.54
8:A:1070:A:H3'	8:A:1072:C:H5"	1.89	0.54
8:A:1900:A:H2	8:A:1970:A:C2	2.25	0.54
8:A:1934:C:C2	8:A:1935:G:C8	2.95	0.54
8:A:2357:G:N2	8:A:2360:G:OP2	2.35	0.54
8:A:2403:C:C4	8:A:2415:G:C6	2.96	0.54
8:A:2496:C:OP2	20:M:81:ARG:HD3	2.08	0.54
8:A:2590:A:H5"	10:C:237:ARG:NE	2.20	0.54
8:A:2812:G:C2	8:A:2813:A:C4	2.95	0.54
10:C:270:ARG:HD3	10:C:271:SER:N	2.22	0.54
13:F:54:ALA:O	13:F:58:ALA:N	2.34	0.54
19:L:91:ASP:OD1	19:L:92:LEU:N	2.40	0.54
19:L:136:GLU:HA	19:L:140:GLY:N	2.22	0.54
22:O:26:LEU:HD12	22:O:38:GLN:O	2.07	0.54
29:V:73:LYS:O	29:V:92:VAL:N	2.40	0.54
30:W:18:GLY:C	30:W:34:VAL:HG23	2.32	0.54
34:a:494:G:O2'	34:a:496:A:H8	1.90	0.54
34:a:564:C:OP1	45:l:11:ARG:NH2	2.34	0.54
34:a:716:A:H2'	34:a:717:U:C6	2.43	0.54
34:a:722:G:H2'	34:a:724:G:C8	2.41	0.54
34:a:765:G:C6	34:a:812:G:C4	2.95	0.54
34:a:863:U:H2'	34:a:865:A:OP2	2.07	0.54
34:a:1190:G:P	36:c:4:VAL:H	2.30	0.54
34:a:1209:C:H2'	34:a:1210:C:C5	2.43	0.54
34:a:1211:U:O3'	34:a:1212:U:H4'	2.07	0.54
34:a:1222:G:OP1	52:s:77:ARG:NH1	2.39	0.54
36:c:12:GLY:HA2	36:c:17:TRP:HH2	1.73	0.54
37:d:48:SER:OG	37:d:49:ASP:N	2.40	0.54
38:e:85:LYS:HG2	38:e:94:PHE:CD1	2.42	0.54
42:i:40:ARG:NE	42:i:42:THR:OG1	2.41	0.54
45:l:5:GLN:HA	45:l:8:ARG:HG3	1.89	0.54
45:l:10:PRO:HA	50:q:33:TYR:OH	2.07	0.54
52:s:45:GLY:HA2	52:s:61:VAL:O	2.07	0.54
55:v:25:C:C2	55:v:26:G:C8	2.96	0.54
8:A:133:U:H2'	8:A:134:G:H8	1.72	0.54
8:A:364:C:H2'	8:A:365:U:H5	1.72	0.54
8:A:597:G:C6	8:A:661:A:C6	2.95	0.54
8:A:748:G:O5'	26:S:89:ALA:HB2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1077:A:N6	8:A:1089:A:OP1	2.40	0.54
8:A:1120:G:H2'	8:A:1121:C:C6	2.42	0.54
8:A:1216:G:H2'	8:A:1217:U:C6	2.42	0.54
8:A:1384:A:N3	8:A:1405:U:H1'	2.23	0.54
8:A:1691:C:H2'	8:A:1692:U:H6	1.71	0.54
8:A:1712:U:H2'	8:A:1713:A:C8	2.43	0.54
8:A:2295:C:H2'	8:A:2296:U:O4'	2.07	0.54
8:A:2751:G:O4'	14:G:2:ARG:NH2	2.41	0.54
8:A:2812:G:O2'	8:A:2813:A:H5'	2.08	0.54
8:A:2842:G:H2'	8:A:2843:G:O4'	2.08	0.54
8:A:2854:G:C6	8:A:2864:G:C6	2.96	0.54
9:B:76:G:OP1	29:V:12:GLN:HB2	2.07	0.54
10:C:80:LEU:HD12	10:C:90:ILE:O	2.07	0.54
10:C:161:VAL:HG21	10:C:173:LEU:HB3	1.89	0.54
11:D:12:THR:N	11:D:24:VAL:O	2.25	0.54
11:D:164:GLN:NE2	11:D:165:MET:O	2.39	0.54
12:E:29:HIS:O	12:E:33:VAL:HG23	2.08	0.54
24:Q:56:PHE:HA	24:Q:59:LEU:HD12	1.88	0.54
34:a:440:C:OP1	37:d:120:LYS:NZ	2.25	0.54
34:a:538:G:H2'	34:a:539:A:C8	2.41	0.54
34:a:773:G:O6	34:a:807:A:N6	2.40	0.54
34:a:872:A:C8	34:a:874:G:C8	2.96	0.54
34:a:1105:A:H2'	34:a:1106:G:H8	1.70	0.54
34:a:1259:C:O2'	34:a:1283:U:O2	2.24	0.54
34:a:1481:U:H3'	34:a:1482:G:C8	2.42	0.54
35:b:18:GLN:CD	35:b:18:GLN:H	2.15	0.54
35:b:76:SER:HB3	35:b:92:ASN:HB2	1.88	0.54
35:b:118:THR:OG1	35:b:119:GLN:OE1	2.16	0.54
44:k:20:ALA:HA	44:k:33:ILE:HD13	1.89	0.54
52:s:48:ILE:HG21	52:s:70:LEU:HD23	1.89	0.54
8:A:196:A:C5	8:A:805:G:C5	2.96	0.54
8:A:418:C:H2'	8:A:419:U:H6	1.72	0.54
8:A:494:G:H21	26:S:57:ASN:CG	2.14	0.54
8:A:529:A:C5	8:A:2023:C:C4	2.96	0.54
8:A:579:G:C4	8:A:1262:A:C6	2.96	0.54
8:A:593:U:C2	8:A:594:U:C5	2.95	0.54
8:A:821:A:H2'	8:A:946:C:O4'	2.08	0.54
8:A:1057:A:H5'	8:A:1071:G:C4	2.43	0.54
8:A:1267:U:H2'	8:A:1268:A:C8	2.42	0.54
8:A:1293:C:H2'	8:A:1294:U:H6	1.71	0.54
8:A:1445:G:C6	8:A:1466:U:O2	2.59	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1638:C:O2'	8:A:1639:C:O5'	2.23	0.54
8:A:1686:C:N3	8:A:1703:G:N1	2.56	0.54
8:A:1694:C:O2	8:A:1695:G:N2	2.40	0.54
8:A:1826:G:H2'	8:A:1827:U:C6	2.42	0.54
8:A:1906:G:C8	8:A:1929:G:C8	2.94	0.54
8:A:2259:U:H2'	8:A:2260:C:H6	1.73	0.54
8:A:2279:G:C5	8:A:2280:G:C8	2.96	0.54
8:A:2747:G:OP1	14:G:137:LYS:NZ	2.39	0.54
8:A:2822:G:H1	21:N:2:ARG:HH21	1.55	0.54
8:A:2836:U:C4	8:A:2883:A:N6	2.76	0.54
10:C:140:VAL:HG23	10:C:161:VAL:HG13	1.88	0.54
11:D:27:ILE:HB	11:D:187:LEU:HB3	1.89	0.54
11:D:50:VAL:N	11:D:80:TRP:O	2.27	0.54
17:J:29:ALA:HA	17:J:32:LEU:HD12	1.88	0.54
20:M:11:LYS:HZ2	20:M:86:LYS:HB3	1.73	0.54
27:T:4:GLU:HA	27:T:7:LEU:HD12	1.89	0.54
34:a:8:A:H61	37:d:201:GLU:HB3	1.70	0.54
34:a:340:U:H2'	34:a:341:C:C6	2.42	0.54
34:a:552:U:H2'	34:a:553:A:H8	1.73	0.54
34:a:664:G:H5"	51:r:52:ARG:HH22	1.73	0.54
34:a:728:A:H2'	34:a:729:A:C8	2.42	0.54
34:a:1096:C:H2'	34:a:1097:C:H6	1.72	0.54
34:a:1321:U:OP2	34:a:1322:C:O2'	2.20	0.54
35:b:49:PHE:O	35:b:53:LEU:HG	2.08	0.54
35:b:59:ILE:HA	35:b:62:ARG:HD2	1.88	0.54
36:c:22:PHE:HA	43:j:13:PHE:CE2	2.43	0.54
45:l:19:ASN:O	45:l:93:ARG:HD2	2.07	0.54
52:s:17:LYS:O	52:s:20:LYS:HB2	2.08	0.54
53:t:10:ALA:O	53:t:13:SER:OG	2.18	0.54
55:v:30:G:N1	55:v:41:C:N3	2.56	0.54
1:0:9:ARG:HH11	8:A:517:C:P	2.31	0.54
3:2:1:MET:SD	8:A:752:A:H3'	2.47	0.54
4:3:7:ARG:CZ	8:A:254:G:H1	2.21	0.54
8:A:21:A:H2'	8:A:22:C:C6	2.43	0.54
8:A:226:A:H2'	8:A:227:A:H8	1.72	0.54
8:A:236:C:H2'	8:A:237:C:C6	2.43	0.54
8:A:283:G:H2'	8:A:284:U:O4'	2.08	0.54
8:A:678:C:H2'	8:A:679:C:C5	2.43	0.54
8:A:725:G:H2'	8:A:726:G:N9	2.23	0.54
8:A:831:G:H2'	8:A:832:U:O4'	2.07	0.54
8:A:1299:G:N2	8:A:1641:A:C5	2.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1410:G:C6	8:A:1593:A:N1	2.75	0.54
8:A:1526:C:H2'	8:A:1527:G:O4'	2.08	0.54
8:A:1653:G:N7	21:N:9:GLN:HB3	2.23	0.54
8:A:1759:A:H2'	8:A:1760:C:O4'	2.07	0.54
8:A:1807:G:N2	8:A:1809:A:H3'	2.23	0.54
8:A:1809:A:H2'	8:A:1810:A:C8	2.43	0.54
8:A:2210:U:C2	8:A:2212:A:C5	2.96	0.54
8:A:2252:G:N2	56:w:75:C:N3	2.55	0.54
8:A:2262:U:O4	8:A:2279:G:N1	2.41	0.54
8:A:2294:G:H2'	8:A:2295:C:C6	2.43	0.54
8:A:2528:U:C4	8:A:2535:G:O6	2.60	0.54
8:A:2723:C:OP2	11:D:114:LYS:NZ	2.35	0.54
11:D:33:ARG:NH1	11:D:52:THR:HA	2.20	0.54
11:D:56:LYS:O	11:D:60:VAL:HG13	2.07	0.54
12:E:108:ILE:O	12:E:112:LEU:HG	2.07	0.54
12:E:146:VAL:H	12:E:167:VAL:HA	1.73	0.54
21:N:98:LEU:O	21:N:112:TYR:N	2.27	0.54
23:P:61:ARG:CZ	23:P:100:ARG:HA	2.38	0.54
34:a:15:G:H2'	34:a:16:A:C8	2.42	0.54
34:a:62:U:O2	34:a:379:C:O2'	2.24	0.54
34:a:62:U:H1'	34:a:379:C:H1'	1.90	0.54
34:a:68:G:H1	34:a:101:A:H61	1.52	0.54
34:a:392:C:H5'	49:p:13:LYS:HG2	1.89	0.54
34:a:483:C:H5"	34:a:484:G:OP2	2.08	0.54
34:a:709:U:H2'	34:a:710:G:C8	2.42	0.54
34:a:1091:U:O2	34:a:1093:A:H8	1.91	0.54
34:a:1151:A:O2'	43:j:72:ARG:NH2	2.39	0.54
44:k:26:PHE:HE1	44:k:88:PRO:HG2	1.73	0.54
45:l:113:ARG:HD2	45:l:118:VAL:HG12	1.90	0.54
48:o:10:ILE:HG21	48:o:30:LEU:HG	1.89	0.54
51:r:68:PRO:HB2	51:r:70:THR:O	2.08	0.54
2:1:9:LYS:HA	2:1:21:THR:HA	1.89	0.54
6:5:68:PRO:HA	6:5:72:LEU:HA	1.89	0.54
8:A:250:G:O2'	19:L:47:ARG:NH1	2.38	0.54
8:A:729:G:H2'	8:A:1775:U:O2	2.07	0.54
8:A:748:G:P	26:S:88:ARG:HH11	2.29	0.54
8:A:816:C:H2'	8:A:817:C:H6	1.72	0.54
8:A:1028:A:OP2	8:A:1126:A:N6	2.40	0.54
8:A:1811:G:O2'	8:A:1812:U:O4'	2.13	0.54
8:A:2073:C:H2'	8:A:2074:U:C6	2.42	0.54
8:A:2107:G:H2'	8:A:2107:G:N3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2375:G:N1	8:A:2378:A:OP2	2.38	0.54
8:A:2617:U:C4	8:A:2618:G:C8	2.96	0.54
11:D:54:ALA:N	11:D:77:ARG:HG3	2.23	0.54
12:E:43:THR:OG1	12:E:43:THR:O	2.26	0.54
18:K:21:CYS:SG	18:K:23:LYS:N	2.78	0.54
25:R:4:VAL:HA	25:R:12:HIS:O	2.07	0.54
34:a:71:A:H61	34:a:99:C:H1'	1.72	0.54
34:a:247:G:H2'	34:a:248:C:C6	2.43	0.54
34:a:493:A:C5	34:a:494:G:C6	2.96	0.54
34:a:573:A:OP2	34:a:574:A:OP2	2.26	0.54
34:a:631:C:H5"	34:a:632:U:O4'	2.07	0.54
34:a:773:G:C6	34:a:807:A:C6	2.95	0.54
34:a:857:C:H2'	34:a:858:G:C8	2.43	0.54
34:a:899:C:H2'	34:a:900:A:C8	2.43	0.54
34:a:905:U:H2'	34:a:906:A:C8	2.43	0.54
34:a:1095:U:OP1	34:a:1108:G:C2	2.61	0.54
34:a:1108:G:OP1	36:c:174:LEU:N	2.41	0.54
34:a:1171:A:H2'	34:a:1172:C:H6	1.73	0.54
34:a:1288:A:HO2'	34:a:1352:C:HO2'	1.55	0.54
34:a:1415:G:C6	34:a:1485:U:N3	2.76	0.54
34:a:1417:G:H4'	34:a:1418:A:C5'	2.38	0.54
34:a:1496:C:H2'	34:a:1497:G:H8	1.69	0.54
35:b:80:LYS:HG2	35:b:90:PHE:CE2	2.43	0.54
35:b:98:GLY:H	35:b:174:GLU:CD	2.14	0.54
39:f:7:VAL:HG12	39:f:61:LEU:HA	1.88	0.54
45:l:108:ASP:C	45:l:110:LYS:HZ3	2.15	0.54
49:p:54:LEU:HA	49:p:57:ILE:HD12	1.90	0.54
7:6:28:VAL:HA	13:F:139:GLU:HG3	1.89	0.54
8:A:193:U:H2'	8:A:194:G:O4'	2.08	0.54
8:A:195:A:H3'	8:A:197:A:OP2	2.08	0.54
8:A:207:A:H3'	8:A:208:C:H6	1.73	0.54
8:A:323:C:O2'	8:A:1205:A:N1	2.39	0.54
8:A:404:A:C8	8:A:406:G:C6	2.96	0.54
8:A:460:A:H2'	8:A:461:C:O4'	2.07	0.54
8:A:545:U:H2'	8:A:546:U:N1	2.22	0.54
8:A:1300:G:C6	8:A:1626:A:C5	2.96	0.54
8:A:1500:G:C4	8:A:1501:G:C8	2.96	0.54
8:A:1515:A:C8	8:A:1516:G:C8	2.95	0.54
8:A:1517:G:H2'	8:A:1518:C:C6	2.42	0.54
8:A:1748:C:H2'	8:A:1749:A:C8	2.32	0.54
8:A:1812:U:H3'	8:A:1813:G:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1989:G:H2'	8:A:1990:C:O4'	2.06	0.54
8:A:2002:G:H2'	8:A:2003:A:H8	1.72	0.54
8:A:2018:G:C2	8:A:2019:A:C4	2.96	0.54
8:A:2108:A:H2'	8:A:2109:U:N3	2.22	0.54
8:A:2127:G:O2'	8:A:2128:G:OP2	2.25	0.54
8:A:2277:G:H3'	30:W:8:ASN:ND2	2.23	0.54
8:A:2643:G:H2'	8:A:2644:G:C8	2.43	0.54
8:A:2859:G:H2'	8:A:2860:A:C8	2.43	0.54
10:C:66:PHE:HB3	10:C:150:GLY:O	2.07	0.54
10:C:263:ASP:HA	10:C:266:ILE:HG13	1.89	0.54
13:F:9:ASP:HB2	13:F:10:GLU:OE1	2.08	0.54
13:F:118:ALA:HB1	13:F:166:ARG:HE	1.73	0.54
17:J:19:ASP:OD1	17:J:20:ALA:N	2.41	0.54
20:M:42:THR:O	20:M:46:ILE:HG12	2.07	0.54
20:M:69:PRO:HA	20:M:94:ALA:HB2	1.88	0.54
21:N:32:GLU:O	21:N:114:GLU:HB2	2.08	0.54
22:O:36:TYR:HA	22:O:52:SER:HB2	1.89	0.54
22:O:90:VAL:HG23	22:O:117:PHE:CB	2.33	0.54
28:U:9:GLU:OE1	28:U:21:ARG:HG2	2.08	0.54
34:a:204:G:C2	34:a:205:A:H1'	2.43	0.54
34:a:357:G:OP1	34:a:367:U:H2'	2.08	0.54
34:a:376:G:C6	34:a:387:U:N3	2.75	0.54
34:a:572:A:OP2	34:a:573:A:OP2	2.25	0.54
34:a:963:G:H21	43:j:57:VAL:HG11	1.72	0.54
34:a:1064:G:OP2	34:a:1385:G:O2'	2.25	0.54
34:a:1232:U:OP1	42:i:125:GLN:HG3	2.07	0.54
34:a:1250:A:C4	34:a:1251:A:C8	2.96	0.54
34:a:1315:U:OP2	52:s:5:LYS:NZ	2.40	0.54
34:a:1399:C:C2	34:a:1401:G:C6	2.96	0.54
35:b:80:LYS:HG2	35:b:90:PHE:HE2	1.73	0.54
35:b:213:LEU:HA	35:b:216:VAL:HG12	1.90	0.54
36:c:153:SER:N	36:c:196:GLY:O	2.41	0.54
49:p:70:ARG:O	49:p:74:LEU:HG	2.08	0.54
51:r:59:LYS:O	51:r:62:ARG:HB2	2.08	0.54
56:w:66:U:C2	56:w:67:C:H1'	2.42	0.54
6:5:3:LEU:O	6:5:7:ASP:CB	2.56	0.54
8:A:2:G:H2'	8:A:3:U:H6	1.73	0.54
8:A:136:G:C6	8:A:144:A:N6	2.75	0.54
8:A:161:A:H3'	8:A:162:U:C6	2.42	0.54
8:A:233:A:H2'	8:A:234:U:O4'	2.07	0.54
8:A:449:A:C5	8:A:450:G:C5	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:603:A:H4'	8:A:604:G:O5'	2.07	0.54
8:A:733:G:C8	8:A:761:A:N6	2.76	0.54
8:A:918:A:N6	8:A:2268:A:OP2	2.29	0.54
8:A:995:C:H41	17:J:2:LYS:NZ	2.06	0.54
8:A:1139:G:H8	8:A:1139:G:OP2	1.91	0.54
8:A:1206:G:H2'	8:A:1207:C:H6	1.73	0.54
8:A:1354:A:N6	8:A:1377:G:C2	2.75	0.54
8:A:1488:C:H2'	8:A:1489:C:C6	2.43	0.54
8:A:1764:C:H2'	8:A:1765:U:H6	1.70	0.54
8:A:2172:U:H5"	8:A:2175:C:N4	2.22	0.54
8:A:2456:C:H2'	8:A:2457:PSU:C6	2.43	0.54
8:A:2562:U:H2'	8:A:2563:U:C6	2.43	0.54
8:A:2708:G:H2'	8:A:2709:G:C8	2.43	0.54
8:A:2811:G:C2	8:A:2812:G:C4	2.96	0.54
8:A:2900:A:H2'	8:A:2901:C:C6	2.43	0.54
11:D:124:ARG:HE	11:D:165:MET:HE3	1.73	0.54
12:E:133:LEU:O	12:E:136:GLN:HB3	2.08	0.54
13:F:105:ILE:HG22	13:F:109:ARG:HD3	1.89	0.54
14:G:136:ASP:HB3	14:G:139:VAL:HG12	1.90	0.54
17:J:16:TYR:O	17:J:54:ILE:HD12	2.08	0.54
17:J:49:ASP:OD1	17:J:50:THR:N	2.41	0.54
21:N:42:LYS:HB3	21:N:45:ARG:HH21	1.73	0.54
31:X:2:ARG:HA	31:X:49:ARG:NH1	2.23	0.54
32:Y:25:GLN:HG2	32:Y:29:ARG:HH22	1.71	0.54
33:Z:29:ARG:HE	33:Z:30:ARG:NH1	2.05	0.54
34:a:484:G:H4'	34:a:485:U:H3'	1.89	0.54
34:a:1228:C:H2'	34:a:1229:A:H8	1.73	0.54
34:a:1326:U:H2'	34:a:1327:C:C6	2.43	0.54
34:a:1422:G:H1	34:a:1478:U:H3	0.66	0.54
36:c:35:ASP:O	36:c:38:VAL:HG22	2.07	0.54
40:g:91:ARG:HB2	40:g:92:PRO:HD2	1.90	0.54
40:g:104:VAL:HG23	40:g:108:ARG:HH12	1.73	0.54
45:l:41:PRO:CD	45:l:47:ALA:H	2.21	0.54
49:p:41:PRO:HG2	49:p:42:ILE:HG23	1.89	0.54
56:w:65:G:H2'	56:w:66:U:C6	2.43	0.54
8:A:221:A:C4	8:A:266:G:N7	2.76	0.54
8:A:436:C:H2'	8:A:437:U:H6	1.73	0.54
8:A:569:U:H2'	8:A:570:G:O4'	2.07	0.54
8:A:637:A:C5	8:A:652:U:H4'	2.43	0.54
8:A:668:A:N6	8:A:670:A:H1'	2.23	0.54
8:A:695:G:N2	8:A:767:U:O2	2.33	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:802:A:C5	8:A:803:U:C4	2.95	0.54
8:A:1454:C:H1'	21:N:60:VAL:HG13	1.89	0.54
8:A:1664:A:N7	8:A:2726:A:N6	2.55	0.54
8:A:2093:G:O2'	8:A:2198:A:N1	2.38	0.54
8:A:2217:G:H2'	8:A:2218:G:C8	2.43	0.54
8:A:2345:G:H21	8:A:2381:A:H2'	1.73	0.54
8:A:2357:G:C2	8:A:2361:G:C4	2.96	0.54
8:A:2709:G:C4	8:A:2710:C:C5	2.96	0.54
8:A:2784:U:H2'	8:A:2785:C:C6	2.43	0.54
9:B:13:G:H21	9:B:69:G:H21	1.55	0.54
10:C:106:PRO:HA	10:C:193:GLU:O	2.08	0.54
13:F:164:GLU:OE1	13:F:164:GLU:N	2.35	0.54
15:H:135:HIS:HB3	15:H:138:VAL:HG23	1.90	0.54
18:K:19:VAL:HG12	18:K:43:ILE:HG13	1.89	0.54
23:P:47:ILE:HD11	23:P:59:THR:HG22	1.90	0.54
24:Q:74:SER:HG	24:Q:77:LYS:H	1.54	0.54
31:X:19:HIS:NE2	55:v:75:C:OP2	2.35	0.54
34:a:49:U:C4	34:a:364:A:C6	2.95	0.54
34:a:126:G:H2'	34:a:127:G:O4'	2.07	0.54
34:a:142:G:H3'	34:a:143:A:H8	1.72	0.54
34:a:550:G:H2'	34:a:551:U:C6	2.43	0.54
34:a:719:C:H42	51:r:62:ARG:HH12	1.55	0.54
34:a:737:C:C2	34:a:738:C:C5	2.96	0.54
34:a:938:A:H2'	34:a:939:G:H8	1.68	0.54
34:a:951:G:C6	34:a:1231:G:C5	2.96	0.54
34:a:1121:U:H2'	34:a:1122:U:H6	1.70	0.54
34:a:1157:A:H4'	34:a:1158:C:O5'	2.07	0.54
34:a:1164:G:H2'	34:a:1165:U:C6	2.43	0.54
34:a:1191:A:H5"	36:c:3:LYS:CE	2.35	0.54
34:a:1352:C:H2'	34:a:1353:G:H8	1.73	0.54
34:a:1373:G:H5'	40:g:35:LYS:HD2	1.90	0.54
34:a:1431:A:N6	34:a:1470:U:O4	2.40	0.54
39:f:5:GLU:HA	39:f:63:ASN:HA	1.90	0.54
39:f:45:ARG:N	39:f:57:ALA:O	2.41	0.54
43:j:5:ARG:N	43:j:77:VAL:HG23	2.22	0.54
44:k:78:ILE:C	44:k:79:LYS:HD2	2.33	0.54
45:l:41:PRO:CG	45:l:47:ALA:H	2.21	0.54
48:o:87:ARG:HH21	48:o:88:ARG:NH1	2.06	0.54
50:q:30:HIS:CE1	50:q:32:ILE:HB	2.42	0.54
55:v:52:G:C2	55:v:63:G:C2	2.96	0.54
8:A:301:G:C6	8:A:317:G:C6	2.95	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:577:G:H2'	8:A:578:G:H8	1.69	0.53
8:A:594:U:H2'	8:A:595:C:C6	2.42	0.53
8:A:633:A:O2'	8:A:2404:U:OP1	2.20	0.53
8:A:676:A:H1'	8:A:2443:C:H1'	1.89	0.53
8:A:850:U:H2'	8:A:851:C:H6	1.71	0.53
8:A:909:A:C4	8:A:912:C:C5	2.96	0.53
8:A:1308:A:H2'	8:A:1309:G:O4'	2.08	0.53
8:A:1657:U:H2'	8:A:1658:C:C6	2.43	0.53
8:A:1754:A:O2'	23:P:102:ARG:NH2	2.29	0.53
8:A:1843:C:H4'	10:C:250:GLN:OE1	2.08	0.53
8:A:1853:A:C6	8:A:1854:A:C6	2.97	0.53
8:A:2039:U:H2'	8:A:2040:G:C8	2.42	0.53
8:A:2158:A:H2'	8:A:2159:G:C5	2.44	0.53
8:A:2356:U:C4	8:A:2361:G:O6	2.61	0.53
8:A:2465:C:H2'	8:A:2466:C:C6	2.42	0.53
8:A:2742:G:H2'	8:A:2743:U:H6	1.73	0.53
9:B:9:G:C5	9:B:112:G:C6	2.96	0.53
15:H:43:ASN:O	15:H:47:PHE:HB2	2.07	0.53
20:M:121:ALA:O	20:M:124:LEU:N	2.36	0.53
34:a:418:C:H2'	34:a:419:C:C6	2.44	0.53
34:a:520:A:P	45:l:48:LEU:HB2	2.48	0.53
34:a:730:G:O6	48:o:50:HIS:NE2	2.40	0.53
34:a:777:A:H3'	34:a:778:G:H8	1.73	0.53
34:a:880:C:OP1	45:l:4:ASN:ND2	2.41	0.53
34:a:1084:G:H21	34:a:1102:A:N6	2.06	0.53
34:a:1514:G:H2'	34:a:1515:G:H8	1.71	0.53
37:d:98:ASP:OD1	37:d:98:ASP:N	2.38	0.53
37:d:141:VAL:HA	37:d:179:GLY:O	2.07	0.53
39:f:44:ARG:HA	39:f:58:HIS:HA	1.90	0.53
39:f:55:HIS:HB2	39:f:56:LYS:HD3	1.90	0.53
40:g:136:LYS:O	40:g:140:VAL:HG23	2.08	0.53
42:i:7:GLY:HA3	42:i:81:GLY:O	2.08	0.53
49:p:9:HIS:O	49:p:16:PHE:N	2.41	0.53
53:t:24:ARG:HB3	53:t:28:ARG:HH22	1.73	0.53
56:w:63:G:H2'	56:w:64:A:H8	1.73	0.53
1:0:52:LYS:HE2	1:0:55:ALA:H	1.73	0.53
8:A:9:G:H2'	8:A:2629:U:O4	2.08	0.53
8:A:42:A:H2'	8:A:43:G:C8	2.44	0.53
8:A:279:A:H62	8:A:361:G:H1'	1.72	0.53
8:A:309:A:N3	8:A:329:G:O2'	2.38	0.53
8:A:522:A:H2'	8:A:523:C:H6	1.71	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:720:U:H2'	8:A:721:A:C8	2.43	0.53
8:A:872:U:H2'	8:A:873:C:C6	2.44	0.53
8:A:984:A:H3'	8:A:985:C:C5	2.43	0.53
8:A:1171:G:N2	8:A:1177:G:H22	2.06	0.53
8:A:1196:C:H2'	8:A:1197:G:C8	2.43	0.53
8:A:1213:A:H2'	8:A:1214:A:O4'	2.08	0.53
8:A:1417:C:C2	8:A:1418:G:C8	2.96	0.53
8:A:1678:A:C4	8:A:1679:A:C8	2.96	0.53
8:A:1726:C:N3	8:A:1735:A:N6	2.56	0.53
8:A:1727:C:N3	8:A:1734:G:N1	2.56	0.53
8:A:1770:G:H2'	8:A:1771:C:O4'	2.07	0.53
8:A:1862:G:O6	8:A:1880:U:C4	2.62	0.53
8:A:1992:G:C4	8:A:1997:C:C4	2.96	0.53
8:A:2107:G:H3'	8:A:2108:A:H8	1.71	0.53
8:A:2125:G:H2'	8:A:2126:A:N3	2.23	0.53
8:A:2127:G:O6	8:A:2161:C:H1'	2.07	0.53
8:A:2322:A:C4	8:A:2323:G:C8	2.96	0.53
9:B:71:C:H3'	9:B:72:G:C8	2.43	0.53
9:B:75:G:H21	29:V:88:HIS:CE1	2.26	0.53
11:D:49:GLN:HB2	11:D:81:GLU:HG3	1.91	0.53
19:L:71:ALA:O	19:L:74:THR:OG1	2.24	0.53
34:a:69:G:H2'	34:a:70:U:C6	2.42	0.53
34:a:120:A:C4	34:a:122:G:C5	2.96	0.53
34:a:177:G:OP1	53:t:59:ARG:NH1	2.41	0.53
34:a:512:U:O5'	37:d:40:HIS:HE1	1.91	0.53
34:a:567:G:C5	34:a:568:G:C8	2.96	0.53
34:a:572:A:C6	34:a:864:A:C6	2.97	0.53
34:a:577:G:C4	34:a:816:A:N1	2.76	0.53
34:a:646:G:H2'	34:a:647:C:O4'	2.09	0.53
34:a:764:C:H5"	48:o:49:HIS:ND1	2.23	0.53
34:a:802:A:H3'	34:a:803:G:C8	2.43	0.53
34:a:1266:G:N2	34:a:1268:G:H3'	2.22	0.53
34:a:1328:C:O3'	46:m:28:ARG:HG3	2.09	0.53
34:a:1448:C:H2'	34:a:1449:C:H6	1.73	0.53
37:d:120:LYS:HG2	37:d:130:ASN:HB3	1.89	0.53
39:f:6:ILE:HD13	39:f:89:VAL:HB	1.90	0.53
44:k:25:SER:OG	44:k:28:ASN:O	2.14	0.53
3:2:15:SER:OG	3:2:16:HIS:N	2.41	0.53
6:5:10:ALA:HA	6:5:13:ALA:HB3	1.91	0.53
8:A:17:G:N1	8:A:524:G:C6	2.77	0.53
8:A:370:G:O2'	8:A:424:G:OP1	2.25	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:630:G:H1	8:A:634:C:N4	2.07	0.53
8:A:678:C:H2'	8:A:679:C:H6	1.71	0.53
8:A:708:G:H2'	8:A:709:U:C6	2.43	0.53
8:A:774:G:O2'	8:A:777:G:H1'	2.09	0.53
8:A:776:G:C4	8:A:793:A:C5	2.96	0.53
8:A:795:C:H2'	8:A:796:C:H6	1.73	0.53
8:A:798:G:H2'	8:A:799:G:C8	2.43	0.53
8:A:974:G:H4'	25:R:78:ARG:HH12	1.73	0.53
8:A:1805:A:H5"	10:C:247:TRP:CE2	2.44	0.53
8:A:2242:G:C6	8:A:2243:U:C4	2.96	0.53
8:A:2552:OMU:H2'	8:A:2554:U:OP2	2.09	0.53
8:A:2747:G:C2	8:A:2756:U:C5	2.96	0.53
8:A:2748:A:H4'	14:G:3:VAL:HG11	1.90	0.53
8:A:2874:C:H2'	8:A:2875:C:H6	1.74	0.53
9:B:17:C:C4	9:B:18:G:C8	2.96	0.53
9:B:92:C:H2'	9:B:93:C:C6	2.43	0.53
9:B:99:A:C4	9:B:100:G:C8	2.96	0.53
14:G:1:SER:H1	14:G:61:TRP:HB3	1.73	0.53
20:M:33:LEU:HB2	20:M:117:PHE:CD1	2.43	0.53
21:N:59:SER:OG	21:N:62:ASN:OD1	2.22	0.53
22:O:75:GLY:HA2	22:O:78:VAL:HG12	1.90	0.53
23:P:111:GLU:HG2	23:P:113:LEU:H	1.73	0.53
26:S:10:ALA:O	26:S:12:SER:N	2.40	0.53
31:X:16:ASN:H	31:X:23:ALA:HB1	1.72	0.53
32:Y:18:LEU:O	32:Y:22:LEU:HB2	2.08	0.53
34:a:494:G:HO2'	34:a:496:A:H8	1.55	0.53
34:a:570:G:H5"	34:a:820:U:O5'	2.08	0.53
34:a:685:G:H21	34:a:704:A:H62	1.56	0.53
34:a:769:G:OP2	34:a:803:G:O2'	2.26	0.53
34:a:1131:G:H2'	34:a:1132:C:C6	2.41	0.53
34:a:1401:G:C6	34:a:1402:4OC:N3	2.76	0.53
34:a:1424:U:H2'	34:a:1425:U:C6	2.41	0.53
34:a:1455:G:H2'	34:a:1456:A:H8	1.73	0.53
36:c:62:SER:CB	36:c:97:PRO:HG2	2.37	0.53
36:c:62:SER:HB3	36:c:97:PRO:HG2	1.89	0.53
36:c:91:ALA:HA	36:c:94:ALA:HB3	1.91	0.53
39:f:11:HIS:HB3	39:f:14:GLN:OE1	2.08	0.53
43:j:7:ARG:HA	43:j:75:ASP:HA	1.91	0.53
44:k:74:LYS:HD2	44:k:75:GLU:N	2.23	0.53
46:m:82:LEU:HD21	52:s:64:GLU:CB	2.38	0.53
46:m:84:CYS:SG	46:m:86:ARG:HB2	2.48	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:o:14:PHE:CE2	48:o:84:LEU:HD11	2.44	0.53
49:p:7:ALA:O	49:p:29:ASN:ND2	2.41	0.53
53:t:73:ARG:HB3	53:t:73:ARG:CZ	2.38	0.53
8:A:207:A:H3'	8:A:208:C:C6	2.43	0.53
8:A:469:G:OP2	12:E:55:SER:OG	2.27	0.53
8:A:539:G:H2'	8:A:540:C:C6	2.43	0.53
8:A:648:G:H2'	8:A:649:G:C8	2.42	0.53
8:A:907:G:C6	8:A:908:C:C4	2.97	0.53
8:A:972:A:OP2	8:A:974:G:H5'	2.09	0.53
8:A:980:A:N7	8:A:1136:G:H5'	2.23	0.53
8:A:1051:G:H1	8:A:1108:U:H3	1.57	0.53
8:A:1599:U:H2'	8:A:1600:C:H6	1.69	0.53
8:A:1715:G:H1'	8:A:1716:U:H5	1.74	0.53
8:A:1952:A:C5	18:K:22:ILE:HG21	2.44	0.53
8:A:2292:U:N3	8:A:2341:G:O6	2.41	0.53
8:A:2556:C:H2'	8:A:2557:G:O4'	2.09	0.53
8:A:2562:U:C4	8:A:2563:U:C4	2.96	0.53
8:A:2597:G:C2	8:A:2598:A:C4	2.97	0.53
8:A:2772:C:H2'	8:A:2773:C:C6	2.43	0.53
9:B:30:C:H2'	9:B:31:C:O4'	2.09	0.53
12:E:1:MET:N	12:E:14:VAL:H	2.06	0.53
20:M:77:PRO:HD2	20:M:80:VAL:HG21	1.90	0.53
23:P:42:PHE:HA	23:P:62:LYS:NZ	2.23	0.53
34:a:426:U:OP1	37:d:35:GLN:NE2	2.39	0.53
34:a:505:G:H4'	34:a:534:U:H3	1.73	0.53
34:a:771:G:C6	34:a:809:G:C6	2.96	0.53
34:a:776:G:H5"	34:a:777:A:OP1	2.08	0.53
34:a:829:G:C6	34:a:858:G:C2	2.96	0.53
34:a:861:G:H2'	34:a:862:C:C6	2.43	0.53
34:a:956:U:H2'	34:a:957:U:C2	2.44	0.53
34:a:1215:G:H2'	34:a:1216:A:C8	2.42	0.53
34:a:1287:A:C5	34:a:1288:A:C6	2.96	0.53
34:a:1290:G:H5"	40:g:34:LYS:HZ2	1.73	0.53
34:a:1372:U:H2'	34:a:1373:G:O4'	2.09	0.53
34:a:1530:G:H2'	34:a:1531:A:C8	2.43	0.53
36:c:51:VAL:HG13	36:c:68:HIS:O	2.07	0.53
37:d:123:MET:SD	37:d:128:VAL:HG22	2.48	0.53
44:k:116:PRO:HG2	54:u:34:ARG:CD	2.38	0.53
45:l:80:LEU:HD11	45:l:101:LEU:HD13	1.89	0.53
47:n:21:ALA:HA	47:n:24:ALA:HB3	1.89	0.53
1:0:53:VAL:HG23	1:0:54:ILE:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:20:TYR:OH	8:A:2347:C:O3'	2.23	0.53
8:A:75:G:H4'	32:Y:48:ARG:NH2	2.23	0.53
8:A:381:G:C2	8:A:382:A:C4	2.97	0.53
8:A:543:G:C6	8:A:551:G:C2	2.96	0.53
8:A:648:G:C2	8:A:649:G:C5	2.97	0.53
8:A:800:A:C2	8:A:802:A:C8	2.96	0.53
8:A:1042:G:C2	8:A:1113:U:O2	2.62	0.53
8:A:1233:C:N3	8:A:1234:U:C5	2.77	0.53
8:A:1234:U:H2'	8:A:1235:G:O4'	2.08	0.53
8:A:1315:C:C2	8:A:1338:G:N2	2.76	0.53
8:A:1366:A:H2'	8:A:1367:A:O4'	2.09	0.53
8:A:1370:C:O2'	8:A:1371:G:O4'	2.20	0.53
8:A:1524:G:C2	8:A:1525:A:C4	2.97	0.53
8:A:1631:G:N2	8:A:1635:A:H62	2.07	0.53
8:A:1770:G:O6	8:A:1982:U:C4	2.61	0.53
8:A:1799:G:H21	10:C:153:LEU:HD23	1.73	0.53
8:A:1965:C:H3'	8:A:1966:A:H8	1.73	0.53
8:A:2014:A:O2'	8:A:2015:A:O4'	2.17	0.53
8:A:2074:U:C2'	8:A:2597:G:H21	2.22	0.53
8:A:2506:U:O2	8:A:2506:U:H2'	2.08	0.53
8:A:2767:C:H2'	8:A:2768:U:H6	1.74	0.53
10:C:239:PHE:HD1	10:C:241:LYS:H	1.54	0.53
11:D:35:THR:H	11:D:50:VAL:HA	1.73	0.53
16:I:4:VAL:HA	16:I:58:ILE:C	2.33	0.53
18:K:12:ASP:OD1	18:K:12:ASP:N	2.38	0.53
20:M:51:ARG:HG2	56:w:54:5MU:H5'	1.89	0.53
24:Q:60:TRP:CZ3	24:Q:92:LYS:HB2	2.44	0.53
29:V:9:ARG:HA	29:V:41:GLU:OE1	2.08	0.53
33:Z:17:PRO:HA	33:Z:20:LYS:HE2	1.89	0.53
34:a:9:G:H2'	34:a:10:A:C8	2.43	0.53
34:a:91:U:H2'	34:a:92:U:H6	1.73	0.53
34:a:244:U:C4	34:a:893:C:N3	2.76	0.53
34:a:373:A:C4	34:a:374:A:C2	2.95	0.53
34:a:438:U:N3	34:a:496:A:C6	2.77	0.53
34:a:794:A:H2'	34:a:795:C:H6	1.73	0.53
34:a:805:C:H2'	34:a:806:C:C6	2.44	0.53
34:a:936:C:C4	34:a:937:A:N7	2.77	0.53
34:a:976:G:P	47:n:72:GLY:H	2.31	0.53
34:a:1093:A:H2'	34:a:1095:U:O4'	2.08	0.53
34:a:1234:C:H2'	34:a:1235:U:C6	2.44	0.53
34:a:1250:A:H2'	34:a:1251:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:k:26:PHE:CE1	44:k:88:PRO:HG2	2.44	0.53
46:m:13:HIS:ND1	46:m:41:ASP:OD1	2.42	0.53
52:s:62:THR:H	52:s:65:MET:HG3	1.74	0.53
55:v:52:G:C4	55:v:53:G:C8	2.96	0.53
56:w:3:C:N3	56:w:71:G:N1	2.56	0.53
8:A:103:A:C4	8:A:104:A:C8	2.97	0.53
8:A:104:A:C6	8:A:105:C:C5	2.97	0.53
8:A:122:G:C4	8:A:123:G:C8	2.97	0.53
8:A:236:C:H2'	8:A:237:C:H6	1.73	0.53
8:A:377:G:N2	8:A:397:U:O2	2.35	0.53
8:A:386:G:O2'	8:A:387:U:OP1	2.23	0.53
8:A:401:A:H2'	8:A:402:A:C8	2.44	0.53
8:A:613:A:H3'	8:A:613:A:N3	2.24	0.53
8:A:655:A:H8	8:A:655:A:OP1	1.91	0.53
8:A:956:G:H4'	20:M:76:LYS:NZ	2.23	0.53
8:A:974:G:H8	8:A:990:A:H62	1.57	0.53
8:A:1101:U:H2'	8:A:1102:C:H5"	1.90	0.53
8:A:1277:G:H5"	21:N:40:LYS:NZ	2.23	0.53
8:A:1283:G:H2'	8:A:1285:A:OP2	2.08	0.53
8:A:1287:A:C4	8:A:1288:G:C2	2.97	0.53
8:A:1364:G:H5"	31:X:2:ARG:HG3	1.91	0.53
8:A:1404:C:H2'	8:A:1405:U:C6	2.44	0.53
8:A:1569:A:C2	8:A:1570:A:C4	2.96	0.53
8:A:1650:A:H2'	8:A:1651:G:C8	2.43	0.53
8:A:1799:G:N2	10:C:153:LEU:HD23	2.24	0.53
8:A:1814:G:H2'	8:A:1815:A:C8	2.44	0.53
8:A:1817:G:H5"	10:C:86:ARG:NE	2.24	0.53
8:A:2328:A:H2'	8:A:2329:U:H6	1.72	0.53
8:A:2558:C:H2'	8:A:2559:C:H6	1.73	0.53
8:A:2627:G:H2'	8:A:2628:C:C6	2.43	0.53
8:A:2677:G:N1	8:A:2731:G:C6	2.77	0.53
9:B:68:C:H2'	9:B:69:G:O4'	2.09	0.53
11:D:87:GLY:N	11:D:88:GLU:OE1	2.41	0.53
13:F:127:TYR:HD2	13:F:155:ILE:HD13	1.73	0.53
15:H:42:LYS:O	15:H:46:PHE:HB3	2.08	0.53
18:K:12:ASP:OD2	18:K:86:LEU:N	2.35	0.53
22:O:41:ALA:HB3	22:O:43:ASN:ND2	2.23	0.53
25:R:15:SER:O	25:R:18:GLN:HG2	2.09	0.53
34:a:200:G:H2'	34:a:201:G:H8	1.74	0.53
34:a:281:G:H4'	34:a:282:A:H5'	1.91	0.53
34:a:364:A:H4'	34:a:365:U:OP1	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:525:C:H2'	34:a:526:C:C6	2.44	0.53
34:a:679:C:O2'	34:a:680:C:H5'	2.09	0.53
34:a:712:A:H3'	34:a:713:G:C8	2.44	0.53
34:a:966:2MG:C2	55:v:34:C:H5'	2.43	0.53
34:a:1012:A:N1	34:a:1018:G:C5	2.77	0.53
34:a:1363:A:H2'	34:a:1365:G:N7	2.23	0.53
35:b:75:ALA:O	35:b:79:VAL:HG23	2.09	0.53
40:g:38:ALA:O	40:g:42:VAL:HG13	2.09	0.53
47:n:30:ILE:HG23	47:n:41:ARG:HG2	1.90	0.53
48:o:78:THR:O	48:o:82:GLU:HG3	2.09	0.53
55:v:33:U:O2'	55:v:34:C:O5'	2.27	0.53
3:2:37:LYS:HE2	8:A:458:G:C8	2.43	0.53
8:A:85:G:H5'	28:U:27:VAL:HB	1.90	0.53
8:A:449:A:C4	8:A:450:G:C8	2.97	0.53
8:A:519:U:C2	8:A:520:G:C8	2.96	0.53
8:A:695:G:C2	8:A:768:G:C5	2.97	0.53
8:A:784:G:OP1	8:A:2588:G:H5"	2.09	0.53
8:A:803:U:H2'	8:A:804:A:C8	2.37	0.53
8:A:848:C:C2	8:A:849:A:C8	2.97	0.53
8:A:1450:G:N1	8:A:1462:C:N3	2.57	0.53
8:A:1659:G:C6	8:A:1660:G:C5	2.96	0.53
8:A:2624:G:C2	8:A:2625:G:C4	2.96	0.53
8:A:2711:A:O5'	8:A:2714:G:H5'	2.09	0.53
8:A:2727:A:H2'	8:A:2728:U:C6	2.44	0.53
8:A:2731:G:C2	8:A:2732:G:C5	2.97	0.53
8:A:2731:G:N1	8:A:2732:G:C6	2.77	0.53
12:E:37:ALA:O	12:E:40:ARG:N	2.42	0.53
15:H:4:ILE:HD11	15:H:43:ASN:HB3	1.91	0.53
22:O:18:LEU:HD11	22:O:25:ARG:HD3	1.90	0.53
26:S:43:ALA:O	26:S:47:VAL:HG23	2.08	0.53
31:X:48:LEU:HB3	31:X:50:VAL:HG13	1.89	0.53
34:a:117:G:C2	34:a:118:U:C2	2.96	0.53
34:a:319:G:H2'	34:a:320:A:H8	1.73	0.53
34:a:382:A:C6	34:a:383:A:C6	2.97	0.53
34:a:405:U:OP2	37:d:2:ARG:NH1	2.41	0.53
34:a:437:U:O2'	37:d:153:ARG:NH1	2.41	0.53
34:a:570:G:C5	34:a:873:A:C5	2.96	0.53
34:a:704:A:C6	34:a:705:G:C5	2.97	0.53
34:a:731:G:H2'	34:a:732:C:C6	2.43	0.53
34:a:796:C:OP1	44:k:127:ARG:N	2.41	0.53
34:a:842:U:H4'	34:a:846:G:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1098:C:H1'	34:a:1167:A:H2	1.74	0.53
34:a:1142:G:C4	34:a:1143:G:H1'	2.44	0.53
34:a:1202:U:C4	34:a:1203:C:C4	2.97	0.53
38:e:133:ILE:HG23	38:e:134:ASN:H	1.73	0.53
45:l:78:VAL:O	45:l:79:ILE:HD13	2.09	0.53
46:m:14:ALA:O	46:m:18:LEU:HG	2.08	0.53
52:s:22:VAL:HG12	52:s:46:LEU:HD21	1.91	0.53
53:t:41:GLY:HA2	53:t:85:LEU:HD11	1.89	0.53
53:t:42:ASP:O	53:t:46:ALA:N	2.22	0.53
56:w:24:G:H2'	56:w:25:C:O4'	2.09	0.53
8:A:477:A:H2'	8:A:478:A:C8	2.44	0.53
8:A:717:C:H3'	8:A:718:A:C8	2.43	0.53
8:A:859:G:C2	8:A:916:G:C5	2.97	0.53
8:A:1036:G:N2	8:A:1119:U:O2	2.40	0.53
8:A:1074:G:H8	8:A:1075:C:C6	2.26	0.53
8:A:1501:G:H5'	10:C:100:ARG:HH12	1.73	0.53
8:A:1579:A:H2'	8:A:1580:A:O4'	2.09	0.53
8:A:1636:U:H2'	8:A:1637:A:H8	1.74	0.53
8:A:1742:U:H2'	8:A:1743:G:O4'	2.09	0.53
8:A:2082:A:C5	8:A:2239:G:C6	2.97	0.53
8:A:2334:U:H1'	22:O:13:ARG:HB2	1.91	0.53
8:A:2733:A:C4	8:A:2734:A:C8	2.96	0.53
9:B:67:G:H2'	9:B:68:C:O4'	2.09	0.53
9:B:75:G:H2'	9:B:76:G:H8	1.74	0.53
10:C:29:PHE:CE2	10:C:100:ARG:HD3	2.44	0.53
14:G:174:LYS:HG2	14:G:175:LYS:H	1.74	0.53
17:J:37:ARG:NH1	17:J:44:TYR:OH	2.40	0.53
20:M:57:VAL:HB	20:M:112:LEU:HD11	1.91	0.53
20:M:94:ALA:O	20:M:96:ILE:HG12	2.09	0.53
22:O:52:SER:OG	22:O:54:VAL:HG12	2.08	0.53
23:P:1:SER:OG	23:P:2:ASN:N	2.41	0.53
29:V:2:PHE:CE2	29:V:56:PHE:HB2	2.44	0.53
30:W:37:ARG:O	30:W:53:HIS:ND1	2.42	0.53
34:a:21:G:C2	34:a:22:G:C5	2.96	0.53
34:a:297:G:N2	34:a:301:G:N7	2.57	0.53
34:a:414:A:H2'	34:a:415:A:O4'	2.09	0.53
34:a:422:C:H4'	34:a:423:G:O4'	2.08	0.53
34:a:555:U:C2	34:a:556:C:C5	2.97	0.53
34:a:885:G:C6	34:a:913:A:N1	2.77	0.53
34:a:905:U:H2'	34:a:906:A:H8	1.74	0.53
34:a:1137:C:O2'	34:a:1138:G:N2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1222:G:O5'	52:s:77:ARG:NH2	2.41	0.53
34:a:1250:A:H2'	34:a:1251:A:C8	2.44	0.53
37:d:78:ALA:HA	37:d:81:LEU:CB	2.38	0.53
42:i:20:ILE:HB	42:i:60:LEU:HB3	1.90	0.53
55:v:21:A:O2'	55:v:22:G:H8	1.90	0.53
56:w:25:C:C2	56:w:26:A:C8	2.97	0.53
4:3:53:ASP:O	4:3:57:VAL:HG23	2.09	0.53
8:A:223:A:C6	8:A:422:A:C6	2.97	0.53
8:A:450:G:H1	8:A:454:A:P	2.32	0.53
8:A:460:A:H3'	8:A:461:C:C6	2.44	0.53
8:A:515:A:H2'	8:A:515:A:N3	2.24	0.53
8:A:525:U:C5'	8:A:525:U:H6	2.20	0.53
8:A:542:C:H2'	8:A:543:G:C8	2.44	0.53
8:A:613:A:H4'	8:A:614:A:C8	2.44	0.53
8:A:741:U:H2'	8:A:742:A:C8	2.44	0.53
8:A:845:A:N1	8:A:932:U:C4	2.77	0.53
8:A:877:A:C5	8:A:899:A:C6	2.96	0.53
8:A:977:G:C4	8:A:978:G:C8	2.97	0.53
8:A:1219:U:H2'	8:A:1220:G:H8	1.74	0.53
8:A:1394:U:C4	8:A:1395:A:C5	2.97	0.53
8:A:1644:C:O2'	8:A:1645:G:H5'	2.09	0.53
8:A:1665:A:O2'	18:K:1:MET:O	2.14	0.53
8:A:1707:G:O6	8:A:1751:U:O2	2.26	0.53
8:A:1721:G:N1	8:A:1738:G:N7	2.56	0.53
8:A:1954:G:N2	8:A:2551:C:H5"	2.24	0.53
8:A:2543:G:H2'	8:A:2544:G:H8	1.74	0.53
8:A:2569:G:H2'	8:A:2570:G:H8	1.74	0.53
8:A:2682:A:C4	11:D:23:PRO:HB3	2.44	0.53
8:A:2740:A:OP2	8:A:2763:G:N2	2.39	0.53
8:A:2799:A:C6	8:A:2801:G:C5	2.96	0.53
9:B:47:C:H2'	9:B:48:U:O4'	2.08	0.53
11:D:5:VAL:HG22	11:D:202:ILE:HG13	1.90	0.53
13:F:129:MET:HG3	13:F:153:ILE:HB	1.90	0.53
17:J:119:PHE:HE1	17:J:122:LEU:HD23	1.74	0.53
19:L:3:LEU:HA	19:L:6:LEU:HD13	1.91	0.53
20:M:95:LEU:C	20:M:97:GLN:HE22	2.16	0.53
26:S:84:ARG:HH11	26:S:98:LYS:NZ	2.07	0.53
28:U:14:THR:HB	28:U:68:ASN:ND2	2.23	0.53
30:W:9:GLY:C	30:W:10:ARG:HD3	2.34	0.53
34:a:110:C:H2'	34:a:111:G:O4'	2.09	0.53
34:a:123:U:H5"	34:a:311:C:O2'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:446:G:H2'	34:a:447:G:O4'	2.09	0.53
34:a:1251:A:O2'	34:a:1369:C:O3'	2.26	0.53
34:a:1378:C:H3'	34:a:1378:C:OP2	2.09	0.53
34:a:1419:G:O6	34:a:1481:U:O2	2.27	0.53
35:b:52:ALA:HA	35:b:55:GLU:HG2	1.91	0.53
44:k:35:ASP:N	44:k:39:ASN:O	2.34	0.53
48:o:23:SER:OG	48:o:26:VAL:HG23	2.09	0.53
8:A:336:C:H2'	8:A:337:C:C6	2.44	0.53
8:A:524:G:C4	8:A:525:U:C6	2.97	0.53
8:A:574:A:C2	8:A:2054:A:H5'	2.44	0.53
8:A:864:G:H2'	8:A:865:C:C6	2.43	0.53
8:A:891:G:C6	8:A:892:A:C6	2.97	0.53
8:A:962:G:C6	8:A:963:U:C4	2.96	0.53
8:A:1220:G:C6	8:A:1221:C:C4	2.96	0.53
8:A:1244:A:O2'	8:A:1245:G:H5'	2.09	0.53
8:A:1264:A:N7	8:A:1265:A:C4	2.77	0.53
8:A:2052:A:O2'	11:D:149:ASN:N	2.42	0.53
8:A:2092:U:OP1	8:A:2199:A:O2'	2.27	0.53
8:A:2108:A:H2	8:A:2182:U:H3	1.56	0.53
8:A:2521:C:C2	8:A:2545:G:C2	2.97	0.53
8:A:2526:G:N1	8:A:2538:C:N3	2.57	0.53
8:A:2531:A:H2'	8:A:2532:G:H5'	1.90	0.53
8:A:2535:G:C2	8:A:2536:G:C5	2.97	0.53
8:A:2697:G:H2'	8:A:2698:U:C6	2.43	0.53
8:A:2897:U:H2'	8:A:2898:U:H6	1.73	0.53
10:C:83:ASP:HB2	10:C:90:ILE:HD13	1.91	0.53
10:C:90:ILE:HD12	10:C:102:TYR:CD2	2.44	0.53
21:N:68:ALA:O	21:N:70:THR:N	2.42	0.53
32:Y:39:GLN:HB3	32:Y:42:LEU:HG	1.91	0.53
33:Z:18:LYS:O	33:Z:22:THR:OG1	2.22	0.53
34:a:181:A:H2'	34:a:194:C:H42	1.74	0.53
34:a:228:A:H2'	34:a:229:U:H6	1.74	0.53
34:a:246:A:H61	34:a:279:A:H5"	1.74	0.53
34:a:317:U:C2	34:a:318:G:C8	2.97	0.53
34:a:333:U:H2'	34:a:334:C:C6	2.43	0.53
34:a:477:C:H2'	34:a:478:A:C8	2.44	0.53
34:a:888:G:H3'	34:a:889:A:H8	1.73	0.53
34:a:944:G:C2	34:a:1340:A:C6	2.96	0.53
34:a:1068:G:H8	34:a:1094:G:H5"	1.74	0.53
34:a:1099:G:H2'	34:a:1100:C:O4'	2.09	0.53
34:a:1124:G:C6	34:a:1150:A:N6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1150:A:N3	43:j:41:PRO:HG2	2.24	0.53
34:a:1475:G:H2'	34:a:1476:A:C8	2.44	0.53
35:b:113:LEU:HA	35:b:143:LEU:HD21	1.90	0.53
36:c:21:TRP:CE3	36:c:58:ARG:HD2	2.44	0.53
39:f:42:TRP:HB2	39:f:59:TYR:HB2	1.90	0.53
41:h:84:ILE:O	41:h:123:GLU:HG3	2.08	0.53
52:s:22:VAL:HG21	52:s:42:ASN:HD21	1.73	0.53
52:s:40:PHE:H	52:s:43:MET:HG2	1.72	0.53
55:v:36:U:H2'	55:v:37:A:O4'	2.09	0.53
1:0:29:VAL:HA	1:0:35:GLU:O	2.10	0.52
3:2:11:LYS:O	3:2:15:SER:HB3	2.09	0.52
7:6:46:GLY:C	7:6:48:GLN:N	2.65	0.52
8:A:121:G:C5	8:A:131:A:C6	2.97	0.52
8:A:573:U:O2'	8:A:574:A:H3'	2.08	0.52
8:A:833:A:C5	8:A:834:G:N7	2.77	0.52
8:A:962:G:C5	8:A:963:U:C5	2.97	0.52
8:A:999:U:C2	8:A:1155:A:N6	2.74	0.52
8:A:1280:G:H2'	8:A:1281:G:C8	2.43	0.52
8:A:1470:A:H2'	8:A:1471:G:O4'	2.10	0.52
8:A:1480:C:H2'	8:A:1481:U:C6	2.43	0.52
8:A:1551:A:H2'	8:A:1552:A:C8	2.44	0.52
8:A:1841:U:C4	8:A:1842:G:N7	2.78	0.52
8:A:1846:G:H2'	8:A:1847:G:C8	2.44	0.52
8:A:1948:G:N1	8:A:1959:G:C6	2.78	0.52
8:A:1952:A:C2	8:A:2560:A:H1'	2.44	0.52
8:A:2103:C:H5'	8:A:2104:C:OP2	2.10	0.52
8:A:2149:U:H2'	8:A:2150:C:O4'	2.09	0.52
8:A:2254:C:H2'	8:A:2255:G:O4'	2.09	0.52
8:A:2393:U:H2'	8:A:2394:C:H6	1.75	0.52
8:A:2531:A:C6	8:A:2532:G:C5	2.97	0.52
8:A:2624:G:H2'	8:A:2625:G:C8	2.44	0.52
11:D:12:THR:OG1	11:D:13:ARG:N	2.37	0.52
13:F:99:PHE:CZ	13:F:103:ILE:HD12	2.44	0.52
15:H:135:HIS:CD2	15:H:136:SER:H	2.27	0.52
17:J:89:PHE:O	17:J:93:ILE:HG12	2.08	0.52
18:K:88:ASN:OD1	18:K:89:ASN:N	2.42	0.52
19:L:79:LEU:N	19:L:113:ALA:O	2.42	0.52
29:V:72:VAL:HA	29:V:94:ALA:N	2.23	0.52
30:W:62:LYS:O	30:W:79:GLU:N	2.42	0.52
34:a:18:C:C2	34:a:19:A:C8	2.97	0.52
34:a:100:G:C5	34:a:101:A:C5	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:292:G:H2'	34:a:293:G:H4'	1.91	0.52
34:a:410:G:C6	34:a:429:U:H1'	2.43	0.52
34:a:459:A:C2	34:a:460:A:C5	2.97	0.52
34:a:575:G:C4	34:a:821:G:C8	2.96	0.52
34:a:705:G:C6	34:a:706:A:C5	2.97	0.52
34:a:741:G:OP1	48:o:34:GLN:NE2	2.42	0.52
34:a:1152:A:H2'	34:a:1153:G:H8	1.73	0.52
34:a:1167:A:C5	34:a:1169:A:N1	2.77	0.52
34:a:1386:G:C4	34:a:1387:G:C8	2.97	0.52
34:a:1454:G:H8	34:a:1454:G:OP2	1.92	0.52
35:b:14:HIS:NE2	35:b:40:ILE:HG21	2.23	0.52
35:b:95:TRP:CE3	35:b:99:MET:HE3	2.45	0.52
36:c:150:VAL:HA	36:c:199:VAL:HA	1.90	0.52
40:g:104:VAL:HG23	40:g:108:ARG:NH1	2.24	0.52
42:i:101:GLY:O	42:i:103:VAL:N	2.42	0.52
56:w:68:C:H2'	56:w:69:G:H8	1.73	0.52
1:0:8:THR:O	1:0:11:LYS:N	2.43	0.52
1:0:28:SER:O	1:0:37:HIS:N	2.40	0.52
2:1:22:THR:CG2	8:A:2286:G:H1	2.19	0.52
2:1:39:ASP:OD1	2:1:41:VAL:N	2.42	0.52
7:6:36:VAL:HG23	13:F:108:PRO:HB2	1.91	0.52
8:A:102:U:H3	32:Y:3:ALA:H	1.57	0.52
8:A:184:C:H2'	8:A:185:G:H8	1.74	0.52
8:A:396:G:OP2	31:X:9:LYS:NZ	2.35	0.52
8:A:397:U:H5"	31:X:31:ASN:HD22	1.73	0.52
8:A:585:G:C2'	8:A:1251:C:H42	2.15	0.52
8:A:630:G:H2'	8:A:632:A:OP2	2.08	0.52
8:A:645:C:N4	8:A:2349:G:O2'	2.41	0.52
8:A:695:G:C6	8:A:767:U:N3	2.69	0.52
8:A:713:G:N2	8:A:718:A:N6	2.18	0.52
8:A:758:C:O2	8:A:1981:A:H2	1.92	0.52
8:A:955:PSU:OP1	20:M:13:HIS:ND1	2.36	0.52
8:A:1109:C:O2'	8:A:1110:G:O4'	2.20	0.52
8:A:1195:G:H2'	8:A:1196:C:C6	2.44	0.52
8:A:1480:C:H2'	8:A:1481:U:H6	1.74	0.52
8:A:1709:U:C2	8:A:1710:G:C8	2.98	0.52
8:A:1767:G:H2'	8:A:1768:C:H6	1.74	0.52
8:A:1797:G:C6	8:A:1798:U:C4	2.98	0.52
8:A:1798:U:C4	8:A:1819:A:C2	2.97	0.52
8:A:2082:A:H2'	8:A:2083:G:O4'	2.10	0.52
8:A:2558:C:H2'	8:A:2559:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2721:A:C5	8:A:2722:G:C5	2.96	0.52
8:A:2816:G:C6	8:A:2831:G:C6	2.97	0.52
8:A:2848:G:O2'	8:A:2849:U:O5'	2.25	0.52
9:B:2:G:C6	9:B:3:C:C4	2.97	0.52
9:B:94:A:H2'	9:B:95:U:C6	2.44	0.52
9:B:101:A:H2'	9:B:101:A:N3	2.24	0.52
13:F:23:SER:OG	13:F:26:GLN:N	2.42	0.52
20:M:57:VAL:HG21	20:M:112:LEU:HD21	1.91	0.52
23:P:50:ARG:O	23:P:56:SER:HA	2.09	0.52
29:V:3:THR:HA	29:V:62:THR:O	2.08	0.52
29:V:80:HIS:HA	29:V:87:GLN:NE2	2.24	0.52
34:a:1:A:H2'	34:a:2:A:C8	2.44	0.52
34:a:280:C:O2'	50:q:39:ARG:NH1	2.42	0.52
34:a:312:C:H2'	34:a:313:A:C8	2.44	0.52
34:a:584:G:C2	34:a:585:G:C4	2.97	0.52
34:a:686:U:H4'	44:k:43:TRP:HE1	1.74	0.52
34:a:718:A:C4	34:a:719:C:C5	2.97	0.52
34:a:911:U:C2	34:a:912:C:C5	2.97	0.52
34:a:991:U:O2	34:a:1213:A:N7	2.43	0.52
34:a:1166:G:O2'	34:a:1170:A:N6	2.42	0.52
3:2:8:SER:O	3:2:12:ARG:HG2	2.10	0.52
5:4:10:LEU:HD23	5:4:33:HIS:CD2	2.44	0.52
8:A:236:C:C2	8:A:237:C:C5	2.97	0.52
8:A:481:G:OP2	28:U:44:HIS:ND1	2.42	0.52
8:A:588:U:C2	8:A:589:U:C5	2.97	0.52
8:A:783:A:OP2	8:A:2589:A:OP1	2.28	0.52
8:A:858:G:O2'	8:A:2268:A:N3	2.35	0.52
8:A:1005:C:C2	8:A:1006:C:C5	2.97	0.52
8:A:1157:G:OP1	8:A:1158:C:OP2	2.26	0.52
8:A:1266:G:C2	8:A:2012:G:C5	2.97	0.52
8:A:1651:G:C6	8:A:1652:A:C6	2.96	0.52
8:A:1708:C:H2'	8:A:1709:U:C6	2.44	0.52
8:A:1758:U:O2'	8:A:1759:A:O5'	2.19	0.52
8:A:2117:A:O2'	8:A:2118:U:O5'	2.23	0.52
8:A:2280:G:N1	8:A:2281:A:C5	2.77	0.52
8:A:2809:A:H2'	8:A:2810:A:H8	1.75	0.52
11:D:86:GLU:N	11:D:88:GLU:OE2	2.40	0.52
14:G:155:PRO:O	14:G:170:THR:OG1	2.13	0.52
19:L:79:LEU:HD11	19:L:112:LEU:HA	1.91	0.52
22:O:7:ARG:HG3	22:O:96:GLY:HA3	1.91	0.52
25:R:24:LYS:HE2	25:R:66:HIS:CE1	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:111:G:H4'	49:p:27:ALA:HB2	1.90	0.52
34:a:197:A:H4'	34:a:198:G:H5'	1.92	0.52
34:a:246:A:C2	34:a:282:A:C5	2.97	0.52
34:a:420:U:H2'	34:a:422:C:C5	2.44	0.52
34:a:516:PSU:O2	34:a:533:A:OP1	2.27	0.52
34:a:588:G:H3'	34:a:589:U:C6	2.44	0.52
34:a:680:C:O2'	34:a:681:A:H5'	2.10	0.52
34:a:879:C:H2'	34:a:880:C:H6	1.75	0.52
34:a:953:G:H2'	34:a:954:G:O4'	2.10	0.52
34:a:1048:G:H2'	34:a:1050:G:H8	1.75	0.52
34:a:1077:G:N2	34:a:1080:A:OP2	2.35	0.52
34:a:1175:G:H2'	34:a:1176:A:C8	2.44	0.52
36:c:55:VAL:HB	36:c:66:THR:HB	1.91	0.52
36:c:63:ILE:N	36:c:97:PRO:O	2.42	0.52
55:v:37:A:H2'	55:v:38:A:C8	2.44	0.52
56:w:70:G:H2'	56:w:71:G:H8	1.74	0.52
5:4:30:GLU:HG3	5:4:33:HIS:H	1.74	0.52
6:5:30:SER:C	8:A:1054:A:H4'	2.34	0.52
8:A:60:G:N2	8:A:74:A:C4	2.78	0.52
8:A:272:A:C6	8:A:273:G:C5	2.97	0.52
8:A:337:C:H2'	8:A:338:G:O4'	2.09	0.52
8:A:395:U:H2'	8:A:396:G:C8	2.44	0.52
8:A:433:C:H2'	8:A:434:U:H6	1.73	0.52
8:A:442:G:H8	8:A:442:G:OP2	1.93	0.52
8:A:616:A:C4	8:A:617:G:C8	2.97	0.52
8:A:877:A:C6	8:A:899:A:C5	2.98	0.52
8:A:1353:A:H2'	8:A:1354:A:C8	2.44	0.52
8:A:1360:G:C8	8:A:1361:G:C8	2.97	0.52
8:A:1442:U:H2'	8:A:1443:U:H6	1.72	0.52
8:A:1750:G:H2'	8:A:1751:U:H6	1.74	0.52
8:A:1751:U:H2'	8:A:1752:C:H5	1.74	0.52
8:A:2077:A:C5	8:A:2435:A:C5	2.97	0.52
8:A:2127:G:C5	8:A:2161:C:H1'	2.44	0.52
8:A:2197:U:O3'	8:A:2198:A:H8	1.92	0.52
8:A:2230:G:C2	8:A:2231:U:C4	2.98	0.52
8:A:2283:C:H2'	8:A:2284:A:O4'	2.09	0.52
8:A:2560:A:H2'	8:A:2561:U:O4'	2.09	0.52
8:A:2625:G:H2'	8:A:2626:C:C6	2.44	0.52
9:B:23:G:C6	9:B:61:G:C6	2.97	0.52
10:C:48:ILE:O	10:C:48:ILE:HG13	2.10	0.52
10:C:131:MET:HE1	10:C:163:ILE:HG12	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:65:LEU:HB2	13:F:88:VAL:HA	1.91	0.52
20:M:50:ARG:O	20:M:54:THR:OG1	2.20	0.52
21:N:10:LEU:O	21:N:12:ARG:HG3	2.09	0.52
27:T:18:GLU:O	27:T:22:THR:OG1	2.23	0.52
34:a:22:G:H2'	34:a:23:C:C5	2.44	0.52
34:a:403:C:H2'	34:a:404:G:C8	2.44	0.52
34:a:448:A:C8	34:a:487:A:C6	2.97	0.52
34:a:496:A:H2	34:a:498:A:H62	1.58	0.52
34:a:502:A:P	45:l:112:ALA:HA	2.50	0.52
34:a:720:C:C4	34:a:721:G:C6	2.98	0.52
34:a:763:G:H2'	34:a:764:C:C6	2.45	0.52
34:a:895:G:H2'	34:a:896:C:C6	2.45	0.52
34:a:951:G:H2'	34:a:952:U:C6	2.45	0.52
34:a:1239:A:O2'	40:g:113:LYS:O	2.26	0.52
36:c:18:ASN:O	36:c:39:ARG:NH2	2.42	0.52
38:e:99:SER:O	38:e:102:THR:OG1	2.27	0.52
39:f:72:ASP:HA	39:f:75:GLU:HG3	1.90	0.52
47:n:24:ALA:HA	47:n:27:LYS:HD3	1.92	0.52
51:r:29:LYS:HA	51:r:32:ILE:HG22	1.92	0.52
55:v:24:U:H2'	55:v:25:C:H6	1.72	0.52
3:2:8:SER:CB	3:2:11:LYS:HB2	2.38	0.52
3:2:11:LYS:NZ	8:A:686:U:OP2	2.30	0.52
4:3:25:HIS:ND1	8:A:2361:G:OP2	2.43	0.52
8:A:12:U:H2'	8:A:13:A:O4'	2.10	0.52
8:A:79:C:H2'	8:A:80:G:C8	2.44	0.52
8:A:114:U:H2'	8:A:115:C:C6	2.44	0.52
8:A:131:A:C2	8:A:132:G:C5	2.98	0.52
8:A:199:A:C5	8:A:2434:A:N1	2.77	0.52
8:A:270:A:N1	8:A:369:U:O2'	2.42	0.52
8:A:274:C:C4	8:A:275:C:H1'	2.44	0.52
8:A:279:A:H3'	8:A:280:U:H6	1.74	0.52
8:A:443:A:C6	12:E:40:ARG:HD2	2.44	0.52
8:A:460:A:H3'	8:A:461:C:H6	1.75	0.52
8:A:563:A:H2	8:A:578:G:H22	1.56	0.52
8:A:586:A:OP1	12:E:84:THR:OG1	2.28	0.52
8:A:673:C:N4	8:A:808:G:C6	2.78	0.52
8:A:910:A:N6	8:A:2277:G:O2'	2.43	0.52
8:A:1065:U:OP1	8:A:1075:C:H1'	2.09	0.52
8:A:1361:G:C4	8:A:1362:C:C5	2.97	0.52
8:A:1525:A:H2'	8:A:1526:C:O4'	2.09	0.52
8:A:2127:G:N2	8:A:2129:C:O2'	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2270:A:H2'	8:A:2271:G:C8	2.43	0.52
8:A:2277:G:O5'	30:W:8:ASN:ND2	2.39	0.52
8:A:2289:G:O6	8:A:2343:U:O2	2.26	0.52
8:A:2323:G:O2'	8:A:2324:U:H5'	2.10	0.52
8:A:2357:G:C5	8:A:2361:G:C6	2.98	0.52
8:A:2415:G:N3	8:A:2415:G:H2'	2.25	0.52
8:A:2463:C:H2'	8:A:2464:G:H8	1.73	0.52
8:A:2638:G:H22	8:A:2775:G:H2'	1.74	0.52
8:A:2720:U:C2	8:A:2721:A:C8	2.96	0.52
8:A:2877:G:H2'	8:A:2878:U:O4'	2.09	0.52
10:C:208:GLY:O	10:C:211:ARG:HB2	2.09	0.52
11:D:15:PHE:CG	23:P:78:PRO:HD3	2.45	0.52
14:G:126:THR:OG1	14:G:129:GLU:HG2	2.09	0.52
14:G:142:GLN:NE2	14:G:146:ASP:OD2	2.43	0.52
17:J:23:LYS:HB3	17:J:28:LEU:HD21	1.92	0.52
17:J:45:THR:HG22	17:J:48:VAL:H	1.74	0.52
18:K:17:ARG:H	18:K:46:ALA:HA	1.74	0.52
19:L:9:ALA:O	19:L:12:SER:OG	2.22	0.52
20:M:94:ALA:HB3	20:M:96:ILE:HD11	1.91	0.52
24:Q:93:ILE:HG13	25:R:11:GLN:HB2	1.92	0.52
34:a:219:U:H2'	34:a:220:G:H8	1.74	0.52
34:a:648:A:H2'	34:a:649:A:H8	1.74	0.52
34:a:697:U:H4'	34:a:786:G:H4'	1.90	0.52
34:a:710:G:OP1	39:f:53:LYS:HD3	2.09	0.52
34:a:924:C:H2'	34:a:925:G:C8	2.44	0.52
35:b:19:THR:HA	35:b:38:HIS:CD2	2.44	0.52
41:h:10:LEU:HD12	41:h:76:ARG:HB2	1.91	0.52
42:i:116:GLY:HA2	43:j:62:ARG:NH1	2.24	0.52
46:m:93:GLY:HA2	46:m:108:ARG:HH22	1.74	0.52
1:0:49:ARG:HG2	8:A:2884:U:C5	2.44	0.52
7:6:63:ARG:HA	47:n:42:TRP:CE2	2.45	0.52
8:A:52:A:C6	8:A:53:A:C6	2.97	0.52
8:A:118:A:H5'	8:A:119:A:H8	1.75	0.52
8:A:631:A:N6	8:A:632:A:C6	2.78	0.52
8:A:635:C:C2	8:A:636:G:C8	2.97	0.52
8:A:744:U:H2'	8:A:745:1MG:O4'	2.09	0.52
8:A:876:C:H2'	8:A:877:A:O4'	2.09	0.52
8:A:1032:A:N1	8:A:1122:G:C6	2.78	0.52
8:A:1171:G:H1	8:A:1177:G:H22	1.56	0.52
8:A:1227:G:C6	8:A:1228:G:C5	2.98	0.52
8:A:1229:C:H2'	8:A:1230:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1268:A:C4	8:A:2013:A:N6	2.77	0.52
8:A:1551:A:C6	8:A:1552:A:C6	2.98	0.52
8:A:1557:C:H2'	8:A:1558:C:H5	1.74	0.52
8:A:1913:A:C6	34:a:1494:G:H5"	2.45	0.52
8:A:2098:U:H2'	8:A:2099:U:H6	1.75	0.52
8:A:2135:A:H2'	8:A:2136:G:H5'	1.92	0.52
8:A:2215:C:C2	8:A:2216:G:C8	2.97	0.52
8:A:2318:G:H3'	8:A:2319:G:C8	2.44	0.52
8:A:2331:G:H2'	8:A:2332:C:C6	2.45	0.52
8:A:2458:G:H2'	8:A:2490:G:O6	2.10	0.52
8:A:2784:U:H2'	8:A:2785:C:H6	1.75	0.52
8:A:2820:A:N1	11:D:197:THR:OG1	2.41	0.52
10:C:20:ASN:ND2	10:C:23:LEU:HG	2.18	0.52
10:C:95:TYR:HB2	10:C:97:ASP:OD1	2.09	0.52
14:G:148:ARG:HD2	14:G:163:TYR:OH	2.09	0.52
20:M:103:TYR:HB2	20:M:117:PHE:HE1	1.75	0.52
25:R:74:ILE:HG21	25:R:87:GLN:HE21	1.75	0.52
29:V:47:VAL:HA	29:V:50:MET:HG2	1.91	0.52
31:X:6:VAL:HG13	31:X:7:THR:HG23	1.92	0.52
31:X:18:SER:OG	31:X:22:ASN:N	2.42	0.52
34:a:8:A:N6	37:d:205:LYS:HA	2.25	0.52
34:a:185:U:H2'	34:a:186:C:C6	2.45	0.52
34:a:247:G:C6	34:a:278:G:C6	2.98	0.52
34:a:683:G:H21	44:k:39:ASN:HA	1.75	0.52
34:a:780:A:C2	34:a:803:G:N1	2.77	0.52
34:a:958:A:OP1	52:s:54:ARG:NH1	2.41	0.52
34:a:1074:G:C6	34:a:1102:A:C6	2.97	0.52
34:a:1121:U:C2	34:a:1122:U:C5	2.97	0.52
34:a:1122:U:H2'	34:a:1123:U:C6	2.45	0.52
34:a:1308:U:H6	46:m:97:ARG:HH12	1.56	0.52
36:c:187:GLU:N	36:c:187:GLU:OE1	2.43	0.52
38:e:14:LEU:HA	38:e:36:THR:OG1	2.10	0.52
39:f:50:PRO:HB2	39:f:53:LYS:HA	1.91	0.52
41:h:17:GLN:NE2	41:h:62:LEU:HD11	2.25	0.52
43:j:80:THR:HG1	43:j:83:THR:H	1.51	0.52
55:v:51:C:C2	55:v:52:G:C8	2.97	0.52
55:v:70:G:H2'	55:v:71:C:C6	2.43	0.52
5:4:19:ARG:HE	8:A:2755:C:H3'	1.74	0.52
7:6:61:ASN:ND2	7:6:64:PHE:CE1	2.63	0.52
8:A:2:G:H2'	8:A:3:U:C6	2.44	0.52
8:A:185:G:C2	8:A:186:G:C4	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:191:A:H3'	8:A:192:C:H6	1.74	0.52
8:A:285:G:C6	8:A:356:G:C6	2.98	0.52
8:A:481:G:C6	8:A:507:A:C4	2.96	0.52
8:A:851:C:C2	8:A:852:U:C5	2.97	0.52
8:A:1217:U:O2	8:A:1232:G:C6	2.63	0.52
8:A:1248:G:C2	24:Q:2:ARG:HG3	2.45	0.52
8:A:1303:G:H2'	8:A:1304:A:H8	1.75	0.52
8:A:1325:U:C4	26:S:86:MET:HE1	2.45	0.52
8:A:1416:G:C6	8:A:1583:A:C8	2.98	0.52
8:A:1666:G:OP1	18:K:82:ASN:ND2	2.43	0.52
8:A:1901:A:H2'	8:A:1902:C:C6	2.44	0.52
8:A:1933:G:C2	8:A:1934:C:C2	2.98	0.52
8:A:1975:G:C6	8:A:1976:U:C2	2.98	0.52
8:A:2223:G:H2'	8:A:2224:G:O4'	2.10	0.52
8:A:2277:G:P	30:W:8:ASN:HD22	2.32	0.52
8:A:2456:C:N3	8:A:2457:PSU:C2	2.78	0.52
8:A:2810:A:C6	8:A:2890:G:N2	2.71	0.52
8:A:2815:C:C2	8:A:2816:G:C8	2.97	0.52
11:D:57:ALA:HA	11:D:60:VAL:HG22	1.92	0.52
18:K:18:ARG:O	18:K:44:LYS:N	2.43	0.52
24:Q:34:ALA:O	24:Q:38:VAL:HG23	2.10	0.52
34:a:145:G:N2	34:a:178:C:N3	2.57	0.52
34:a:351:G:H8	34:a:351:G:OP2	1.93	0.52
34:a:681:A:N6	34:a:710:G:C6	2.78	0.52
34:a:885:G:O2'	34:a:886:G:H5'	2.09	0.52
34:a:1039:G:H2'	34:a:1040:U:C6	2.45	0.52
34:a:1445:U:O4	34:a:1457:G:O6	2.26	0.52
37:d:195:ASN:HB3	37:d:197:HIS:CE1	2.45	0.52
41:h:38:VAL:HG11	41:h:102:VAL:HG22	1.91	0.52
45:l:70:GLY:C	45:l:107:LYS:HZ1	2.16	0.52
46:m:43:LYS:N	46:m:43:LYS:HD2	2.25	0.52
53:t:14:GLU:O	53:t:18:LYS:HG3	2.09	0.52
55:v:5:G:H2'	55:v:6:G:C8	2.39	0.52
55:v:14:A:C6	55:v:22:G:C5	2.98	0.52
55:v:53:G:C6	55:v:54:5MU:C4	2.97	0.52
8:A:239:C:N4	8:A:259:G:O6	2.41	0.52
8:A:394:C:H2'	8:A:395:U:O4'	2.09	0.52
8:A:493:G:H2'	8:A:494:G:O4'	2.10	0.52
8:A:530:G:H4'	8:A:532:A:N6	2.24	0.52
8:A:924:G:N3	8:A:925:A:C8	2.78	0.52
8:A:1124:G:H2'	8:A:1125:G:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1408:G:H2'	8:A:1409:U:C6	2.45	0.52
8:A:1661:G:C6	8:A:1662:U:C4	2.96	0.52
8:A:1710:G:H2'	8:A:1711:A:C8	2.45	0.52
8:A:1745:A:H2'	8:A:1746:A:C8	2.45	0.52
8:A:1754:A:C8	23:P:93:LYS:HE2	2.44	0.52
8:A:1876:A:C4	8:A:1877:A:C8	2.98	0.52
8:A:2505:G:C5	8:A:2576:G:C5	2.98	0.52
9:B:6:G:H2'	9:B:7:G:H8	1.71	0.52
11:D:124:ARG:HB3	11:D:125:TRP:CD1	2.45	0.52
12:E:138:LEU:O	12:E:143:LEU:N	2.36	0.52
13:F:31:GLU:N	13:F:31:GLU:OE1	2.39	0.52
19:L:92:LEU:HD12	19:L:93:ASN:N	2.24	0.52
21:N:14:SER:OG	21:N:15:SER:N	2.43	0.52
31:X:26:ARG:NE	31:X:27:ARG:O	2.42	0.52
34:a:129:A:N1	34:a:232:G:N2	2.52	0.52
34:a:166:U:H2'	34:a:167:A:C8	2.39	0.52
34:a:237:G:C6	34:a:238:A:C6	2.98	0.52
34:a:337:G:O2'	34:a:338:A:H5'	2.08	0.52
34:a:404:G:H2'	34:a:405:U:C6	2.45	0.52
34:a:406:G:H1'	34:a:495:A:C6	2.44	0.52
34:a:615:G:C5	34:a:626:G:C6	2.97	0.52
34:a:706:A:C5	34:a:707:U:C4	2.97	0.52
34:a:1014:A:H4'	52:s:13:HIS:CD2	2.45	0.52
34:a:1091:U:O3'	34:a:1092:A:H8	1.92	0.52
34:a:1157:A:O4'	34:a:1181:G:N2	2.43	0.52
34:a:1181:G:H1'	34:a:1182:G:C4	2.45	0.52
34:a:1308:U:OP2	46:m:97:ARG:HD2	2.09	0.52
34:a:1355:G:H2'	34:a:1356:G:C8	2.45	0.52
36:c:16:PRO:HG2	36:c:53:ARG:HH22	1.75	0.52
42:i:16:ALA:HA	42:i:66:VAL:HG22	1.92	0.52
43:j:8:ILE:HB	43:j:74:VAL:HG12	1.91	0.52
47:n:19:TYR:O	47:n:22:LYS:HB3	2.10	0.52
49:p:7:ALA:HB1	49:p:9:HIS:ND1	2.25	0.52
49:p:58:ALA:HA	49:p:61:VAL:HG22	1.91	0.52
55:v:54:5MU:H2'	55:v:55:PSU:C4	2.44	0.52
1:0:6:LYS:NZ	8:A:1262:A:N3	2.50	0.52
5:4:30:GLU:HG3	5:4:33:HIS:N	2.25	0.52
8:A:122:G:H2'	8:A:123:G:O4'	2.09	0.52
8:A:207:A:H2'	8:A:208:C:O4'	2.10	0.52
8:A:289:G:H2'	8:A:290:U:C6	2.45	0.52
8:A:289:G:H2'	8:A:290:U:H6	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:372:G:C8	31:X:60:LYS:HD2	2.44	0.52
8:A:524:G:N1	8:A:525:U:N1	2.57	0.52
8:A:594:U:H2'	8:A:595:C:H6	1.74	0.52
8:A:716:A:O4'	48:o:39:GLN:NE2	2.43	0.52
8:A:775:G:C5	8:A:794:A:C8	2.98	0.52
8:A:777:G:H2'	8:A:778:G:C8	2.44	0.52
8:A:953:G:O6	8:A:965:C:N4	2.42	0.52
8:A:1005:C:O2'	8:A:1006:C:O5'	2.21	0.52
8:A:1168:G:H3'	8:A:1169:A:H8	1.75	0.52
8:A:1614:A:N1	26:S:93:ALA:HB2	2.24	0.52
8:A:1709:U:H2'	8:A:1710:G:C8	2.44	0.52
8:A:1785:A:H2'	8:A:1787:A:N7	2.25	0.52
8:A:1827:U:H2'	8:A:1828:G:N9	2.24	0.52
8:A:1913:A:C4	34:a:1494:G:H4'	2.45	0.52
8:A:2073:C:N4	8:A:2437:G:O6	2.42	0.52
8:A:2317:A:H2'	8:A:2318:G:C8	2.45	0.52
8:A:2812:G:H2'	8:A:2813:A:O4'	2.09	0.52
21:N:2:ARG:HA	21:N:5:LYS:CD	2.39	0.52
21:N:28:LEU:HD21	21:N:115:LEU:HD21	1.92	0.52
30:W:44:GLY:H	30:W:47:VAL:HB	1.75	0.52
34:a:23:C:H2'	34:a:24:U:H6	1.75	0.52
34:a:33:A:H2'	34:a:34:C:C6	2.44	0.52
34:a:138:G:C6	34:a:226:G:C5	2.98	0.52
34:a:298:A:H2'	34:a:299:G:O4'	2.10	0.52
34:a:347:G:H2'	34:a:348:G:O4'	2.10	0.52
34:a:359:G:C4	34:a:360:G:C8	2.98	0.52
34:a:391:G:P	49:p:28:ARG:HH22	2.32	0.52
34:a:537:G:O5'	45:l:109:ARG:NH1	2.43	0.52
34:a:552:U:C4	34:a:553:A:N7	2.78	0.52
34:a:708:C:H2'	34:a:709:U:C6	2.44	0.52
34:a:774:G:C4	34:a:775:G:C8	2.97	0.52
34:a:813:U:H2'	34:a:814:A:H5"	1.90	0.52
34:a:917:G:C2	34:a:918:A:C5	2.97	0.52
35:b:209:VAL:O	35:b:213:LEU:HD23	2.09	0.52
40:g:4:ARG:NH1	40:g:6:ILE:HA	2.23	0.52
41:h:4:ASP:OD2	41:h:76:ARG:NH2	2.37	0.52
42:i:5:TYR:CD2	42:i:89:TYR:HB2	2.44	0.52
45:l:70:GLY:O	45:l:107:LYS:NZ	2.38	0.52
46:m:88:LEU:HD22	46:m:92:ARG:NH2	2.25	0.52
3:2:32:ALA:HB2	8:A:180:G:OP1	2.10	0.52
8:A:66:C:H5'	8:A:456:C:C2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:311:A:O4'	8:A:332:A:C4	2.63	0.52
8:A:609:A:H3'	8:A:610:C:C6	2.44	0.52
8:A:640:C:C2	8:A:641:U:C5	2.98	0.52
8:A:728:G:N2	8:A:730:A:H1'	2.25	0.52
8:A:743:A:H2'	8:A:744:U:H6	1.75	0.52
8:A:895:U:H4'	8:A:896:A:OP2	2.09	0.52
8:A:976:G:H2'	8:A:977:G:C8	2.44	0.52
8:A:1256:G:H2'	8:A:1257:C:C6	2.44	0.52
8:A:1510:G:H2'	8:A:1511:G:C8	2.44	0.52
8:A:1569:A:H2'	8:A:1570:A:O4'	2.09	0.52
8:A:1739:A:H2'	8:A:1740:G:O4'	2.09	0.52
8:A:1827:U:H5"	8:A:1971:U:O3'	2.09	0.52
8:A:2270:A:C4	8:A:2271:G:C8	2.98	0.52
8:A:2295:C:H2'	8:A:2296:U:C6	2.45	0.52
8:A:2531:A:C4	8:A:2532:G:C8	2.97	0.52
8:A:2704:C:C2	8:A:2705:A:C8	2.98	0.52
8:A:2771:C:C2	8:A:2772:C:C5	2.98	0.52
8:A:2841:C:H2'	8:A:2842:G:H8	1.74	0.52
9:B:16:G:H2'	9:B:17:C:C6	2.44	0.52
9:B:18:G:H1'	9:B:67:G:N2	2.25	0.52
9:B:26:C:H2'	9:B:27:C:H6	1.74	0.52
13:F:33:ILE:O	13:F:90:LEU:N	2.34	0.52
17:J:35:ARG:HD3	17:J:40:HIS:CE1	2.45	0.52
25:R:68:ARG:HB3	25:R:90:ARG:HB3	1.92	0.52
30:W:61:GLY:HA2	30:W:81:GLU:O	2.09	0.52
34:a:21:G:H5'	34:a:573:A:N1	2.24	0.52
34:a:42:G:N1	34:a:401:C:N3	2.58	0.52
34:a:79:G:H22	34:a:90:C:H2'	1.75	0.52
34:a:202:G:O6	34:a:215:C:N4	2.43	0.52
34:a:287:U:H2'	34:a:288:A:H8	1.71	0.52
34:a:338:A:H2	34:a:351:G:H1	1.55	0.52
34:a:339:C:H2'	34:a:340:U:H6	1.75	0.52
34:a:620:C:C2	34:a:621:A:C8	2.98	0.52
34:a:665:A:C4	34:a:733:G:C4	2.98	0.52
34:a:828:U:C4	34:a:859:G:C8	2.98	0.52
34:a:1349:A:H3'	42:i:119:LYS:HZ1	1.75	0.52
34:a:1359:C:H4'	34:a:1362:A:H62	1.75	0.52
34:a:1520:C:C2	34:a:1521:C:C5	2.98	0.52
36:c:14:VAL:HG13	36:c:15:LYS:HG2	1.91	0.52
38:e:36:THR:HG21	38:e:63:MET:HE1	1.91	0.52
43:j:66:GLU:OE1	43:j:68:ARG:HG3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:k:23:HIS:O	44:k:29:THR:HG23	2.10	0.52
48:o:7:THR:O	48:o:11:VAL:HG23	2.09	0.52
56:w:10:G:O6	56:w:45:U:N3	2.43	0.52
56:w:65:G:C2	56:w:66:U:C4	2.98	0.52
58:z:6:U:H2'	58:z:7:G:H8	1.73	0.52
5:4:15:LYS:O	5:4:26:ILE:N	2.38	0.51
8:A:309:A:H1'	8:A:329:G:N3	2.25	0.51
8:A:383:C:H3'	8:A:385:C:H5	1.76	0.51
8:A:414:C:C2	8:A:415:A:C8	2.98	0.51
8:A:487:C:O2'	26:S:53:SER:HA	2.10	0.51
8:A:518:G:H4'	26:S:18:ARG:NH1	2.24	0.51
8:A:587:C:P	19:L:21:ARG:HH12	2.30	0.51
8:A:711:G:C6	8:A:721:A:C5	2.98	0.51
8:A:751:A:C6	8:A:789:A:C5	2.98	0.51
8:A:1008:A:OP1	8:A:1008:A:H8	1.94	0.51
8:A:1168:G:N2	8:A:1181:U:O2	2.28	0.51
8:A:1473:G:H2'	8:A:1474:U:O4'	2.09	0.51
8:A:1490:A:C2	10:C:73:ILE:HG12	2.45	0.51
8:A:1839:G:C5	8:A:1927:A:C2	2.99	0.51
8:A:2100:G:H2'	8:A:2101:A:C8	2.44	0.51
8:A:2116:G:C2	8:A:2165:C:C2	2.98	0.51
8:A:2266:A:N3	8:A:2272:U:C4	2.78	0.51
8:A:2278:A:N6	8:A:2279:G:C5	2.78	0.51
8:A:2649:C:H2'	8:A:2650:U:H6	1.74	0.51
8:A:2681:C:H4'	8:A:2682:A:H5'	1.92	0.51
8:A:2786:U:H2'	8:A:2787:C:C6	2.45	0.51
8:A:2896:C:C2	8:A:2897:U:C5	2.98	0.51
10:C:82:TYR:CE2	10:C:84:PRO:HD3	2.45	0.51
10:C:166:ARG:HA	10:C:171:VAL:HA	1.92	0.51
10:C:236:GLY:O	10:C:238:ASN:ND2	2.43	0.51
10:C:245:THR:HG23	10:C:249:VAL:O	2.10	0.51
14:G:114:HIS:HD2	14:G:116:LEU:HD23	1.76	0.51
34:a:187:G:C2	34:a:191:G:O6	2.63	0.51
34:a:226:G:H2'	34:a:227:G:C8	2.46	0.51
34:a:231:U:H2'	34:a:232:G:H8	1.75	0.51
34:a:431:A:C4	34:a:432:A:C8	2.98	0.51
34:a:516:PSU:H3'	34:a:517:G:C8	2.45	0.51
34:a:540:G:H2'	34:a:541:G:O4'	2.10	0.51
34:a:628:G:C2	34:a:629:A:C5	2.98	0.51
34:a:645:G:C6	34:a:646:G:C5	2.98	0.51
34:a:674:G:N1	34:a:716:A:H2	2.01	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:735:C:H2'	34:a:736:C:H6	1.73	0.51
34:a:769:G:H2'	34:a:770:C:C6	2.44	0.51
34:a:780:A:H5"	44:k:124:LYS:HD3	1.91	0.51
36:c:87:ARG:HH11	36:c:98:ALA:C	2.17	0.51
38:e:88:HIS:HB3	38:e:138:ALA:HB2	1.92	0.51
40:g:65:LEU:HA	40:g:68:VAL:HG12	1.92	0.51
41:h:34:ALA:HB1	41:h:109:VAL:HG21	1.92	0.51
46:m:4:ALA:H	46:m:56:ARG:NH2	2.08	0.51
56:w:9:A:H1'	56:w:45:U:O2'	2.11	0.51
2:1:3:GLY:N	8:A:2283:C:H5'	2.26	0.51
2:1:22:THR:HG21	8:A:2286:G:N1	2.20	0.51
4:3:18:LYS:HG3	8:A:651:G:H5'	1.92	0.51
8:A:494:G:H4'	26:S:6:LYS:HB2	1.90	0.51
8:A:565:C:H4'	8:A:1253:A:H61	1.75	0.51
8:A:577:G:H5'	8:A:2502:G:C2	2.45	0.51
8:A:902:C:O2'	8:A:903:C:O5'	2.23	0.51
8:A:1030:C:C4	8:A:1125:G:N2	2.78	0.51
8:A:1062:G:H1'	8:A:1088:A:N6	2.26	0.51
8:A:1228:G:H2'	8:A:1229:C:C6	2.45	0.51
8:A:1300:G:H2'	8:A:1635:A:OP1	2.10	0.51
8:A:1791:A:H4'	10:C:204:LEU:O	2.10	0.51
8:A:1874:C:H2'	8:A:1875:G:C8	2.45	0.51
8:A:2172:U:O3'	8:A:2173:A:H8	1.92	0.51
8:A:2204:G:H2'	8:A:2205:A:C8	2.43	0.51
8:A:2211:A:O2'	8:A:2212:A:O5'	2.24	0.51
8:A:2330:G:H2'	8:A:2331:G:O4'	2.09	0.51
8:A:2528:U:N3	8:A:2535:G:C6	2.76	0.51
8:A:2618:G:H2'	8:A:2619:C:C6	2.45	0.51
8:A:2839:G:H2'	8:A:2840:C:H6	1.74	0.51
9:B:6:G:O2'	9:B:7:G:H5'	2.10	0.51
10:C:28:PRO:HG3	10:C:62:ARG:HH21	1.74	0.51
10:C:92:LEU:HA	10:C:102:TYR:HA	1.91	0.51
15:H:27:ARG:HE	31:X:59:ASP:HB3	1.76	0.51
18:K:13:ASN:OD1	18:K:97:THR:N	2.36	0.51
21:N:1:MET:HG3	21:N:3:HIS:CD2	2.45	0.51
21:N:87:PHE:O	21:N:90:ARG:N	2.44	0.51
23:P:63:ILE:HA	23:P:68:GLY:HA2	1.90	0.51
27:T:29:THR:HA	27:T:86:THR:HA	1.90	0.51
29:V:44:HIS:HD2	29:V:86:LEU:H	1.58	0.51
34:a:39:G:C2	34:a:404:G:C2	2.98	0.51
34:a:187:G:C2	34:a:191:G:C6	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:354:G:H2'	34:a:355:C:C6	2.45	0.51
34:a:538:G:C4	34:a:539:A:C8	2.98	0.51
34:a:1347:G:H22	34:a:1373:G:H3'	1.74	0.51
34:a:1350:A:C6	34:a:1351:U:C4	2.98	0.51
35:b:48:MET:HA	35:b:51:GLU:HB3	1.92	0.51
49:p:7:ALA:HB1	49:p:9:HIS:CE1	2.46	0.51
49:p:9:HIS:HE1	49:p:29:ASN:OD1	1.93	0.51
2:1:36:LYS:O	8:A:2344:U:O2'	2.21	0.51
8:A:15:G:N1	8:A:525:U:C2	2.72	0.51
8:A:325:G:C6	8:A:338:G:N2	2.79	0.51
8:A:449:A:H2'	8:A:450:G:O4'	2.09	0.51
8:A:948:C:C2	8:A:949:G:C8	2.98	0.51
8:A:1022:G:C6	8:A:1141:U:C5	2.98	0.51
8:A:1142:A:C6	8:A:1144:A:C4	2.99	0.51
8:A:1337:G:C2	8:A:1338:G:C4	2.98	0.51
8:A:1464:G:C2	8:A:1465:G:C4	2.98	0.51
8:A:1652:A:C2	8:A:1653:G:N2	2.78	0.51
8:A:1789:A:H5"	10:C:218:THR:O	2.11	0.51
8:A:1791:A:H8	8:A:1791:A:O5'	1.92	0.51
8:A:1942:C:H2'	8:A:1943:U:C5	2.46	0.51
8:A:2236:U:H2'	8:A:2237:G:O4'	2.10	0.51
8:A:2239:G:C6	8:A:2240:U:C4	2.98	0.51
8:A:2345:G:C6	8:A:2371:G:N2	2.68	0.51
8:A:2450:A:C2	8:A:2451:A:C5	2.98	0.51
8:A:2808:G:O2'	8:A:2809:A:OP2	2.27	0.51
13:F:116:LEU:HD23	13:F:117:SER:O	2.11	0.51
15:H:94:ILE:O	15:H:121:VAL:HB	2.11	0.51
17:J:60:ASP:OD1	17:J:60:ASP:N	2.42	0.51
21:N:33:ILE:HG13	21:N:113:ILE:O	2.09	0.51
34:a:8:A:C6	37:d:205:LYS:HD2	2.45	0.51
34:a:36:C:H2'	34:a:37:U:H6	1.75	0.51
34:a:119:A:C8	34:a:288:A:C6	2.98	0.51
34:a:186:C:H2'	34:a:187:G:O4'	2.10	0.51
34:a:222:C:O2'	34:a:223:A:H5'	2.10	0.51
34:a:491:G:C6	34:a:492:C:C4	2.97	0.51
34:a:511:C:H1'	37:d:40:HIS:NE2	2.26	0.51
34:a:610:U:H2'	34:a:611:C:C6	2.45	0.51
34:a:929:G:C6	34:a:930:C:C4	2.98	0.51
34:a:951:G:H2'	34:a:952:U:H6	1.76	0.51
34:a:1125:U:C2	34:a:1127:G:C8	2.98	0.51
34:a:1244:G:H2'	34:a:1245:C:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1321:U:O2'	52:s:77:ARG:NH1	2.44	0.51
36:c:42:LEU:HD11	36:c:67:ILE:HD11	1.92	0.51
39:f:42:TRP:HE3	39:f:45:ARG:HE	1.57	0.51
40:g:39:GLU:HA	40:g:42:VAL:HG22	1.92	0.51
44:k:63:GLN:OE1	44:k:94:SER:OG	2.28	0.51
47:n:29:ILE:HG22	47:n:40:ASP:HA	1.91	0.51
50:q:66:LEU:N	50:q:70:LYS:O	2.31	0.51
2:1:29:LYS:HZ2	8:A:2286:G:H3'	1.75	0.51
4:3:5:THR:HG21	8:A:242:G:H3'	1.92	0.51
8:A:194:G:C5	8:A:195:A:C5	2.98	0.51
8:A:428:A:C6	8:A:429:A:C6	2.98	0.51
8:A:564:C:OP1	24:Q:40:LYS:NZ	2.44	0.51
8:A:616:A:H2'	8:A:617:G:O4'	2.10	0.51
8:A:740:C:P	8:A:1784:A:OP1	2.68	0.51
8:A:778:G:H2'	8:A:779:U:C6	2.45	0.51
8:A:883:G:N2	8:A:884:U:O2'	2.43	0.51
8:A:1074:G:H5"	8:A:1075:C:H5	1.75	0.51
8:A:1178:C:O2'	8:A:1180:U:H5'	2.10	0.51
8:A:1485:U:H2'	8:A:1486:U:C6	2.46	0.51
8:A:1569:A:H2'	8:A:1570:A:C8	2.45	0.51
8:A:1744:A:H3'	8:A:1745:A:H8	1.75	0.51
8:A:1952:A:H2	8:A:2560:A:H1'	1.74	0.51
8:A:2123:G:N2	8:A:2172:U:H6	2.08	0.51
8:A:2278:A:H3'	8:A:2279:G:H5"	1.92	0.51
8:A:2382:G:H5"	8:A:2383:G:OP1	2.10	0.51
8:A:2592:G:C6	8:A:2603:G:O6	2.64	0.51
8:A:2731:G:O2'	8:A:2732:G:H5'	2.10	0.51
8:A:2789:C:C4	8:A:2893:A:C2	2.99	0.51
10:C:244:VAL:HA	10:C:250:GLN:HA	1.92	0.51
11:D:99:GLU:CD	11:D:99:GLU:H	2.18	0.51
13:F:4:HIS:O	13:F:8:LYS:HG3	2.11	0.51
13:F:133:GLU:HG2	13:F:134:GLN:N	2.26	0.51
18:K:17:ARG:N	18:K:45:GLU:O	2.40	0.51
19:L:116:VAL:HG22	19:L:117:THR:H	1.75	0.51
22:O:26:LEU:HD13	22:O:39:VAL:HG22	1.91	0.51
22:O:34:HIS:H	22:O:65:THR:HB	1.76	0.51
26:S:77:ASP:O	26:S:101:SER:HB3	2.10	0.51
28:U:6:ARG:HA	28:U:24:VAL:CG1	2.41	0.51
28:U:7:ASP:OD1	28:U:7:ASP:N	2.34	0.51
28:U:39:ASN:HB3	28:U:62:ALA:HB3	1.91	0.51
31:X:17:ARG:HD2	31:X:23:ALA:HB2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:261:U:H2'	34:a:263:A:OP2	2.10	0.51
34:a:502:A:H2'	34:a:503:C:C6	2.45	0.51
34:a:545:C:OP1	37:d:57:LYS:NZ	2.44	0.51
34:a:576:C:H2'	34:a:578:C:OP2	2.11	0.51
34:a:602:A:C6	34:a:603:U:C4	2.99	0.51
34:a:792:A:C2	34:a:794:A:C6	2.99	0.51
34:a:794:A:C5	34:a:795:C:C4	2.98	0.51
34:a:1063:C:H3'	34:a:1064:G:H8	1.75	0.51
37:d:11:SER:OG	37:d:12:ARG:N	2.43	0.51
42:i:7:GLY:O	42:i:18:VAL:N	2.34	0.51
53:t:74:HIS:O	53:t:78:LEU:HG	2.09	0.51
55:v:6:G:O2'	55:v:7:G:H5'	2.10	0.51
4:3:61:LEU:HB3	4:3:64:ALA:HB3	1.93	0.51
7:6:2:LYS:N	9:B:43:C:OP1	2.27	0.51
8:A:123:G:C6	8:A:124:G:C6	2.99	0.51
8:A:190:A:H5'	8:A:191:A:OP2	2.11	0.51
8:A:538:A:O2'	17:J:8:PRO:HD2	2.10	0.51
8:A:733:G:C5	8:A:761:A:C6	2.99	0.51
8:A:868:U:C4	8:A:869:G:N7	2.79	0.51
8:A:887:A:O2'	8:A:888:C:H3'	2.11	0.51
8:A:966:G:H1'	8:A:2267:A:H62	1.75	0.51
8:A:1104:C:H2'	8:A:1105:U:C6	2.45	0.51
8:A:1145:C:H2'	8:A:1146:C:C6	2.45	0.51
8:A:1307:A:C4	8:A:1308:A:C8	2.99	0.51
8:A:1354:A:H2'	8:A:1355:G:H5'	1.92	0.51
8:A:1418:G:C2	8:A:1580:A:N6	2.77	0.51
8:A:1487:U:H2'	8:A:1488:C:C6	2.46	0.51
8:A:1797:G:H2'	8:A:1798:U:H6	1.72	0.51
8:A:2111:U:O4	8:A:2145:C:O2'	2.24	0.51
8:A:2588:G:C5	8:A:2589:A:N7	2.78	0.51
8:A:2687:U:H2'	8:A:2688:G:C1'	2.41	0.51
9:B:101:A:C4	9:B:102:G:C8	2.99	0.51
11:D:22:ILE:O	11:D:24:VAL:HG13	2.11	0.51
12:E:45:ALA:O	12:E:47:LYS:NZ	2.43	0.51
13:F:4:HIS:O	13:F:7:TYR:HB3	2.11	0.51
13:F:122:ASP:CG	13:F:124:ARG:H	2.19	0.51
14:G:114:HIS:ND1	14:G:150:TYR:OH	2.40	0.51
15:H:75:LEU:HD11	15:H:78:VAL:HG13	1.93	0.51
20:M:58:LYS:O	20:M:60:GLN:N	2.44	0.51
24:Q:80:ASN:O	24:Q:84:LYS:HG2	2.10	0.51
34:a:6:G:O2'	34:a:7:A:H5"	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:147:G:C2	34:a:176:C:N3	2.79	0.51
34:a:320:A:H2'	34:a:321:A:C8	2.46	0.51
34:a:537:G:H2'	34:a:538:G:H8	1.75	0.51
34:a:557:G:H2'	34:a:558:G:O4'	2.11	0.51
34:a:617:G:H2'	34:a:618:C:C6	2.46	0.51
34:a:849:G:H2'	34:a:850:U:O4'	2.11	0.51
34:a:872:A:C5	34:a:874:G:C8	2.98	0.51
34:a:881:G:C6	34:a:882:C:C4	2.99	0.51
34:a:1347:G:OP2	42:i:108:ARG:HD3	2.09	0.51
37:d:90:LEU:HD13	37:d:187:ARG:HD3	1.92	0.51
45:l:27:PRO:HB2	45:l:28:GLN:CD	2.34	0.51
47:n:64:CYS:HB3	47:n:69:ARG:H	1.75	0.51
48:o:2:LEU:HG	48:o:34:GLN:OE1	2.10	0.51
55:v:31:G:N1	55:v:40:C:C4	2.79	0.51
56:w:14:A:C5	56:w:22:G:C2	2.98	0.51
56:w:60:U:H5"	56:w:61:C:H5	1.75	0.51
8:A:114:U:C2	8:A:115:C:C5	2.99	0.51
8:A:291:G:C6	8:A:350:G:C5	2.99	0.51
8:A:315:G:H2'	8:A:316:C:C6	2.46	0.51
8:A:350:G:H2'	8:A:351:C:H6	1.75	0.51
8:A:372:G:OP2	31:X:61:LYS:HE2	2.11	0.51
8:A:432:A:H2'	8:A:433:C:C6	2.45	0.51
8:A:460:A:N6	8:A:469:G:N2	2.37	0.51
8:A:465:G:C2	8:A:466:A:C4	2.98	0.51
8:A:493:G:C4	8:A:494:G:C8	2.99	0.51
8:A:495:G:C2	8:A:496:G:C4	2.98	0.51
8:A:585:G:N1	8:A:1251:C:O2	2.43	0.51
8:A:637:A:H5"	19:L:112:LEU:HD23	1.93	0.51
8:A:772:C:C2	8:A:773:U:C5	2.98	0.51
8:A:874:G:C6	8:A:875:G:N7	2.79	0.51
8:A:1014:A:C6	8:A:1015:U:C4	2.98	0.51
8:A:1068:G:H3'	8:A:1069:A:C4'	2.41	0.51
8:A:1170:C:C4	8:A:1180:U:C2	2.98	0.51
8:A:1186:G:C2	8:A:1187:G:H1'	2.45	0.51
8:A:1323:C:P	26:S:98:LYS:HZ3	2.31	0.51
8:A:1340:U:OP1	27:T:84:TYR:OH	2.17	0.51
8:A:1350:C:H2'	8:A:1351:C:C6	2.46	0.51
8:A:1537:G:H3'	8:A:1537:G:N3	2.25	0.51
8:A:1569:A:O4'	10:C:58:LYS:NZ	2.43	0.51
8:A:1785:A:C5	8:A:1787:A:C5	2.99	0.51
8:A:2123:G:H1'	8:A:2176:A:N1	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2136:G:H2'	8:A:2137:U:C6	2.46	0.51
8:A:2262:U:H2'	8:A:2263:C:H6	1.75	0.51
8:A:2414:G:C2	8:A:2415:G:C8	2.99	0.51
8:A:2680:U:OP1	11:D:114:LYS:HG3	2.11	0.51
8:A:2837:A:H2'	8:A:2838:G:H8	1.75	0.51
9:B:6:G:C6	9:B:115:A:C6	2.99	0.51
9:B:39:A:H2'	9:B:40:U:C6	2.46	0.51
9:B:57:A:H3'	9:B:58:A:H8	1.75	0.51
11:D:36:GLN:O	11:D:49:GLN:N	2.30	0.51
12:E:148:ILE:HB	12:E:169:VAL:HG12	1.92	0.51
14:G:89:VAL:HG21	14:G:162:ARG:HH21	1.75	0.51
21:N:58:ASP:OD1	21:N:63:ARG:NH2	2.32	0.51
24:Q:12:ARG:O	24:Q:15:LYS:HB3	2.09	0.51
24:Q:78:PHE:HE1	24:Q:109:VAL:HA	1.76	0.51
25:R:64:VAL:N	25:R:95:ASP:O	2.29	0.51
25:R:67:GLY:HA3	25:R:93:PHE:CE1	2.46	0.51
28:U:43:LYS:HZ2	28:U:44:HIS:C	2.19	0.51
31:X:34:SER:HA	31:X:49:ARG:HA	1.92	0.51
34:a:155:A:C6	34:a:167:A:C6	2.99	0.51
34:a:230:G:C6	34:a:231:U:C4	2.99	0.51
34:a:373:A:O2'	34:a:451:A:N7	2.44	0.51
34:a:440:C:H2'	34:a:441:A:O4'	2.10	0.51
34:a:478:A:H2'	34:a:479:U:O4'	2.11	0.51
34:a:504:C:C2	34:a:542:G:N2	2.79	0.51
34:a:582:C:H2'	34:a:583:A:O4'	2.11	0.51
34:a:661:G:H2'	34:a:662:U:C6	2.45	0.51
34:a:895:G:H2'	34:a:896:C:H6	1.75	0.51
34:a:1367:C:OP1	43:j:62:ARG:NH1	2.44	0.51
34:a:1448:C:C2	34:a:1449:C:C5	2.98	0.51
37:d:94:GLU:HA	37:d:99:ASN:OD1	2.09	0.51
37:d:96:ARG:O	37:d:99:ASN:HB3	2.10	0.51
38:e:45:VAL:HB	38:e:117:ALA:HA	1.92	0.51
41:h:95:MET:HE2	41:h:98:LEU:HB2	1.91	0.51
45:l:79:ILE:HG22	45:l:80:LEU:N	2.25	0.51
47:n:5:MET:HA	47:n:8:ARG:HB2	1.93	0.51
48:o:73:ASP:OD1	48:o:75:ALA:N	2.44	0.51
51:r:9:PHE:N	51:r:45:GLY:HA3	2.25	0.51
51:r:64:LEU:O	51:r:65:SER:OG	2.29	0.51
8:A:110:G:C6	8:A:111:A:N6	2.78	0.51
8:A:217:A:H2'	8:A:218:A:O4'	2.11	0.51
8:A:268:C:H2'	8:A:269:C:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:341:C:C2	8:A:342:A:C8	2.99	0.51
8:A:541:A:N6	8:A:553:G:O6	2.44	0.51
8:A:638:G:C2	8:A:639:U:C2	2.98	0.51
8:A:733:G:C5	8:A:761:A:C5	2.99	0.51
8:A:767:U:O2'	8:A:768:G:O4'	2.25	0.51
8:A:1000:A:N6	8:A:1154:G:H2'	2.26	0.51
8:A:1182:G:H2'	8:A:1183:U:O4'	2.11	0.51
8:A:1275:A:C6	8:A:1296:G:H4'	2.45	0.51
8:A:1372:U:H2'	8:A:1373:A:C8	2.45	0.51
8:A:1374:G:C5	8:A:1375:U:C4	2.98	0.51
8:A:1399:C:C2	8:A:1400:U:C5	2.98	0.51
8:A:1447:C:H2'	8:A:1448:G:C8	2.45	0.51
8:A:1510:G:C2	8:A:1511:G:C4	2.99	0.51
8:A:1754:A:C6	8:A:1755:A:C6	2.99	0.51
8:A:1825:U:C2	8:A:1826:G:C8	2.99	0.51
8:A:1857:G:C6	8:A:1884:G:C5	2.98	0.51
8:A:2049:G:C6	8:A:2050:C:C4	2.98	0.51
8:A:2091:C:H3'	8:A:2092:U:H6	1.76	0.51
8:A:2144:G:N2	8:A:2149:U:O4	2.43	0.51
8:A:2252:G:C5	8:A:2253:G:C8	2.99	0.51
8:A:2461:A:C6	8:A:2462:C:C4	2.98	0.51
8:A:2688:G:N2	8:A:2722:G:O6	2.44	0.51
10:C:219:VAL:HG22	10:C:220:ARG:C	2.36	0.51
12:E:105:LEU:O	12:E:109:LEU:HG	2.11	0.51
22:O:29:HIS:HB3	22:O:36:TYR:HB2	1.93	0.51
23:P:28:LYS:HE3	23:P:41:ALA:HB2	1.91	0.51
23:P:88:ARG:O	23:P:88:ARG:HG2	2.10	0.51
24:Q:79:ILE:HA	24:Q:82:LEU:HD12	1.93	0.51
34:a:86:G:O2'	34:a:87:C:H3'	2.11	0.51
34:a:126:G:C6	34:a:236:A:N6	2.79	0.51
34:a:230:G:C2	34:a:231:U:C2	2.99	0.51
34:a:293:G:C4	34:a:305:G:N2	2.79	0.51
34:a:337:G:C6	34:a:338:A:C6	2.99	0.51
34:a:369:G:H2'	34:a:370:C:H6	1.73	0.51
34:a:398:U:H2'	34:a:399:G:H8	1.75	0.51
34:a:606:G:H21	34:a:631:C:H3'	1.76	0.51
34:a:627:G:C2	34:a:628:G:C5	2.98	0.51
34:a:861:G:C6	34:a:862:C:N4	2.79	0.51
34:a:1252:A:N6	34:a:1285:A:H61	2.08	0.51
34:a:1332:A:H2'	34:a:1333:A:C8	2.45	0.51
34:a:1528:U:O2'	34:a:1529:G:OP2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:b:195:VAL:HG22	35:b:197:PHE:H	1.76	0.51
36:c:30:ASP:O	36:c:33:ASP:HB3	2.11	0.51
36:c:116:ALA:HB1	36:c:186:SER:HB3	1.92	0.51
36:c:171:ARG:HG3	36:c:173:PRO:HD3	1.93	0.51
37:d:143:SER:C	37:d:145:ARG:H	2.19	0.51
39:f:37:HIS:NE2	39:f:65:GLU:HB2	2.25	0.51
44:k:36:ARG:O	44:k:36:ARG:NH1	2.34	0.51
44:k:116:PRO:O	54:u:34:ARG:NH2	2.44	0.51
45:l:43:LYS:HB3	45:l:44:PRO:HD3	1.93	0.51
45:l:56:LEU:N	45:l:60:PHE:O	2.41	0.51
55:v:38:A:C5	55:v:39:C:C5	2.99	0.51
55:v:44:A:H3'	55:v:45:G:H8	1.76	0.51
2:1:24:LYS:HD2	2:1:29:LYS:HE2	1.92	0.51
4:3:12:ARG:NH1	8:A:2394:C:H5'	2.26	0.51
7:6:2:LYS:HE3	9:B:40:U:OP2	2.11	0.51
8:A:38:A:H1'	12:E:43:THR:O	2.10	0.51
8:A:64:A:N6	8:A:91:A:H61	2.09	0.51
8:A:116:C:H2'	8:A:117:G:C8	2.46	0.51
8:A:411:G:OP2	8:A:2406:A:O2'	2.25	0.51
8:A:1208:C:H2'	8:A:1209:U:C6	2.46	0.51
8:A:1225:G:H3'	8:A:1225:G:OP2	2.10	0.51
8:A:1232:G:C4	8:A:1233:C:C5	2.99	0.51
8:A:1278:C:O3'	21:N:34:ILE:HB	2.11	0.51
8:A:1338:G:H2'	8:A:1339:G:C8	2.45	0.51
8:A:2091:C:OP2	8:A:2092:U:O2'	2.26	0.51
8:A:2142:A:C5	8:A:2143:C:C4	2.99	0.51
8:A:2271:G:H5'	30:W:16:ARG:HG3	1.93	0.51
8:A:2297:A:N1	8:A:2319:G:O2'	2.40	0.51
8:A:2444:G:C2	8:A:2445:2MG:C5	2.99	0.51
8:A:2447:G:H2'	8:A:2500:U:OP2	2.11	0.51
8:A:2526:G:H2'	8:A:2527:C:H6	1.75	0.51
8:A:2591:C:C2	8:A:2592:G:C8	2.99	0.51
8:A:2725:A:C4	8:A:2727:A:C8	2.99	0.51
8:A:2850:A:C4	8:A:2851:A:C8	2.99	0.51
8:A:2850:A:C5	8:A:2869:G:H5'	2.45	0.51
8:A:2857:G:H2'	8:A:2859:G:OP2	2.10	0.51
11:D:12:THR:HG23	11:D:24:VAL:HG23	1.92	0.51
13:F:35:LEU:HD22	13:F:153:ILE:HA	1.92	0.51
14:G:84:LYS:O	14:G:132:LEU:N	2.43	0.51
17:J:65:THR:O	17:J:68:LYS:HE2	2.11	0.51
18:K:23:LYS:HG3	18:K:25:LEU:HD23	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:U:23:LYS:HB3	28:U:36:GLU:OE2	2.10	0.51
28:U:95:PHE:O	28:U:99:SER:HA	2.11	0.51
34:a:15:G:C2	34:a:16:A:C4	2.99	0.51
34:a:132:C:H2'	34:a:133:U:H6	1.74	0.51
34:a:352:C:O2'	34:a:353:A:H5"	2.10	0.51
34:a:406:G:C8	34:a:495:A:C4	2.99	0.51
34:a:533:A:C6	34:a:536:C:N3	2.79	0.51
34:a:915:A:C2	34:a:916:U:H1'	2.46	0.51
34:a:1279:G:H1'	34:a:1282:C:H42	1.76	0.51
34:a:1313:U:O5'	52:s:3:SER:OG	2.29	0.51
38:e:78:GLY:HA2	38:e:119:VAL:HA	1.93	0.51
46:m:8:ILE:O	46:m:8:ILE:HG13	2.11	0.51
50:q:46:HIS:N	50:q:70:LYS:HD2	2.26	0.51
55:v:31:G:C2	55:v:32:C:C2	2.99	0.51
1:0:15:ARG:HH11	8:A:1266:G:P	2.34	0.51
8:A:44:A:H2'	8:A:45:G:O4'	2.10	0.51
8:A:110:G:C6	8:A:111:A:C6	2.98	0.51
8:A:377:G:C6	8:A:378:C:C4	2.99	0.51
8:A:402:A:H2'	8:A:403:U:O4'	2.10	0.51
8:A:592:A:C6	8:A:593:U:C4	2.99	0.51
8:A:677:A:N6	8:A:802:A:C8	2.79	0.51
8:A:684:G:H3'	8:A:774:G:O6	2.11	0.51
8:A:839:U:H2'	8:A:840:C:C6	2.45	0.51
8:A:845:A:H2'	8:A:847:U:H5'	1.93	0.51
8:A:1208:C:C4	8:A:1209:U:C4	2.99	0.51
8:A:1224:U:HO2'	8:A:1225:G:P	2.31	0.51
8:A:1241:A:C5	8:A:1242:U:C6	2.99	0.51
8:A:1417:C:C2'	8:A:1418:G:H8	2.24	0.51
8:A:1455:G:N7	21:N:64:ARG:NH1	2.59	0.51
8:A:1465:G:H2'	8:A:1466:U:O4'	2.11	0.51
8:A:1587:G:H2'	8:A:1588:G:C8	2.45	0.51
8:A:1663:G:O6	8:A:1998:A:N6	2.42	0.51
8:A:1839:G:C6	8:A:1840:G:C8	2.99	0.51
8:A:1842:G:C4	8:A:1843:C:C6	2.99	0.51
8:A:2023:C:H4'	8:A:2617:U:O3'	2.11	0.51
8:A:2061:G:OP1	12:E:63:LYS:NZ	2.44	0.51
8:A:2083:G:H2'	8:A:2084:C:H6	1.76	0.51
8:A:2102:G:N1	8:A:2103:C:H1'	2.26	0.51
8:A:2227:A:H2'	8:A:2228:G:C8	2.46	0.51
8:A:2261:C:H2'	8:A:2262:U:H6	1.76	0.51
8:A:2261:C:C2	8:A:2262:U:C5	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2279:G:C6	8:A:2280:G:C5	2.99	0.51
8:A:2345:G:O6	8:A:2371:G:C2	2.64	0.51
8:A:2347:C:H2'	8:A:2348:U:C6	2.45	0.51
8:A:2374:C:H2'	8:A:2375:G:H8	1.76	0.51
8:A:2432:A:N6	31:X:20:ALA:O	2.28	0.51
9:B:8:C:C5'	22:O:15:ARG:HH22	2.24	0.51
9:B:104:A:H2'	9:B:105:G:O4'	2.11	0.51
12:E:115:GLN:OE1	12:E:117:ARG:HD2	2.10	0.51
19:L:82:LEU:HB2	19:L:116:VAL:HG21	1.93	0.51
20:M:76:LYS:HZ3	20:M:82:MET:HA	1.76	0.51
27:T:21:SER:O	27:T:25:GLU:HG2	2.11	0.51
34:a:38:G:C2	34:a:397:A:C4	2.98	0.51
34:a:251:G:N2	34:a:254:G:O6	2.42	0.51
34:a:382:A:H2'	34:a:383:A:H8	1.75	0.51
34:a:737:C:H2'	34:a:738:C:C6	2.45	0.51
34:a:838:G:C6	34:a:849:G:C5	2.99	0.51
34:a:945:G:H21	34:a:1334:G:H4'	1.76	0.51
34:a:1320:C:N3	52:s:35:ARG:NH2	2.59	0.51
34:a:1359:C:P	47:n:62:ASN:HD22	2.33	0.51
34:a:1456:A:H2'	34:a:1457:G:O4'	2.11	0.51
34:a:1490:U:H3'	34:a:1491:G:H8	1.76	0.51
35:b:98:GLY:HA2	35:b:101:THR:OG1	2.11	0.51
36:c:119:ILE:HD11	36:c:136:ALA:HB2	1.93	0.51
38:e:59:ILE:HG23	38:e:63:MET:HE3	1.92	0.51
46:m:18:LEU:HB2	46:m:29:SER:OG	2.11	0.51
51:r:20:ILE:HG21	51:r:54:LEU:HD23	1.91	0.51
3:2:35:ARG:HD3	8:A:54:G:H4'	1.92	0.51
8:A:160:A:N6	8:A:167:A:H1'	2.26	0.51
8:A:296:U:H2'	8:A:297:G:H8	1.76	0.51
8:A:297:G:C5	8:A:298:G:C5	2.99	0.51
8:A:457:A:C5	8:A:459:U:C4	2.99	0.51
8:A:691:C:H2'	8:A:692:C:C6	2.45	0.51
8:A:699:A:H2'	8:A:700:G:O4'	2.10	0.51
8:A:746:PSU:H5"	8:A:748:G:H1'	1.93	0.51
8:A:851:C:H2'	8:A:852:U:H6	1.75	0.51
8:A:882:G:H2'	8:A:882:G:N3	2.26	0.51
8:A:1061:U:H2'	8:A:1068:G:H1'	1.93	0.51
8:A:1132:U:O2	17:J:75:TYR:HB2	2.10	0.51
8:A:1243:C:C2	8:A:1244:A:C8	2.99	0.51
8:A:1264:A:N6	8:A:1265:A:N1	2.59	0.51
8:A:1268:A:H62	8:A:2012:G:H21	1.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1412:U:H2'	8:A:1413:A:C8	2.46	0.51
8:A:1569:A:C6	8:A:1570:A:C6	2.99	0.51
8:A:1668:A:N6	8:A:1676:A:H61	2.05	0.51
8:A:1687:G:C6	8:A:1688:U:C4	2.99	0.51
8:A:1754:A:H2'	8:A:1755:A:C8	2.45	0.51
8:A:1804:C:H2'	8:A:1805:A:H8	1.76	0.51
8:A:1811:G:C6	8:A:1812:U:C4	2.99	0.51
8:A:1890:A:H2'	8:A:1891:G:H8	1.76	0.51
8:A:2110:G:N2	8:A:2179:C:C4	2.79	0.51
8:A:2234:G:C4	8:A:2235:G:C8	2.99	0.51
8:A:2251:OMG:C4	8:A:2252:G:C8	2.98	0.51
8:A:2327:A:H2'	8:A:2328:A:C8	2.46	0.51
8:A:2460:U:O2	8:A:2492:U:N3	2.37	0.51
8:A:2544:G:C2	8:A:2545:G:C4	2.99	0.51
8:A:2659:G:H1'	8:A:2662:A:N6	2.19	0.51
10:C:32:LEU:HD23	10:C:102:TYR:CD2	2.46	0.51
10:C:42:ARG:HA	10:C:48:ILE:HA	1.93	0.51
13:F:109:ARG:HH11	13:F:136:ILE:C	2.19	0.51
14:G:2:ARG:HA	14:G:5:LYS:CB	2.41	0.51
20:M:95:LEU:HB3	20:M:97:GLN:HE22	1.75	0.51
25:R:10:LYS:HG3	25:R:12:HIS:CE1	2.46	0.51
25:R:16:GLU:OE2	25:R:101:ILE:N	2.44	0.51
25:R:75:VAL:HA	25:R:86:GLN:HG2	1.92	0.51
34:a:161:A:C2	34:a:162:A:H1'	2.46	0.51
34:a:215:C:H1'	34:a:465:A:H62	1.76	0.51
34:a:223:A:H2'	34:a:224:U:C6	2.45	0.51
34:a:243:A:N6	34:a:283:U:O4	2.44	0.51
34:a:299:G:N2	34:a:566:G:O6	2.44	0.51
34:a:578:C:H2'	34:a:579:A:H8	1.76	0.51
34:a:660:C:C2	34:a:661:G:C8	2.99	0.51
34:a:748:G:H2'	34:a:749:A:C8	2.45	0.51
36:c:21:TRP:CD2	36:c:58:ARG:HD2	2.46	0.51
40:g:87:PRO:HD3	40:g:147:ASN:HB2	1.92	0.51
41:h:27:PRO:HA	41:h:57:GLU:HA	1.93	0.51
42:i:101:GLY:C	42:i:103:VAL:H	2.19	0.51
44:k:23:HIS:NE2	44:k:25:SER:HB3	2.26	0.51
44:k:52:ARG:HH21	44:k:53:GLY:HA2	1.76	0.51
8:A:111:A:C6	8:A:112:U:O4	2.64	0.50
8:A:126:A:C4	8:A:127:A:N1	2.79	0.50
8:A:268:C:C2	8:A:425:G:C2	2.99	0.50
8:A:275:C:C4	8:A:276:U:H1'	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:275:C:H3'	8:A:276:U:C5'	2.41	0.50
8:A:412:A:N7	8:A:2412:A:H1'	2.26	0.50
8:A:428:A:H2'	8:A:429:A:H8	1.72	0.50
8:A:455:C:C4	8:A:472:A:C4	3.00	0.50
8:A:465:G:H21	8:A:683:U:C2'	2.24	0.50
8:A:524:G:C2'	8:A:525:U:H5'	2.05	0.50
8:A:828:U:O2'	8:A:829:A:O4'	2.17	0.50
8:A:870:U:H2'	8:A:871:U:C6	2.46	0.50
8:A:1133:A:N6	8:A:2025:C:O2'	2.44	0.50
8:A:1304:A:H2'	8:A:1305:C:H6	1.74	0.50
8:A:1439:A:H2'	8:A:1440:U:O4'	2.11	0.50
8:A:1651:G:H2'	8:A:1652:A:C8	2.46	0.50
8:A:1786:A:C6	8:A:1938:A:N1	2.79	0.50
8:A:1829:A:H3'	8:A:1830:C:C6	2.45	0.50
8:A:1947:C:H2'	8:A:1948:G:C8	2.46	0.50
8:A:2009:A:O5'	26:S:41:LYS:NZ	2.35	0.50
8:A:2282:G:O2'	8:A:2425:A:N6	2.44	0.50
8:A:2320:U:O2'	8:A:2321:U:OP2	2.29	0.50
8:A:2639:A:H1'	8:A:2778:A:C2	2.46	0.50
8:A:2671:G:H2'	8:A:2672:U:H6	1.76	0.50
8:A:2725:A:O2'	8:A:2726:A:O5'	2.28	0.50
9:B:116:G:H4'	22:O:54:VAL:HG13	1.93	0.50
13:F:3:LEU:HD22	13:F:100:GLU:HB2	1.92	0.50
13:F:37:MET:SD	13:F:149:ARG:HG3	2.51	0.50
14:G:40:VAL:C	14:G:54:ARG:HB2	2.37	0.50
15:H:82:SER:OG	15:H:83:LYS:N	2.43	0.50
15:H:135:HIS:CG	15:H:136:SER:N	2.79	0.50
23:P:27:VAL:HG23	23:P:83:ILE:HG13	1.93	0.50
29:V:25:LYS:HZ2	29:V:43:ASP:N	2.09	0.50
34:a:92:U:C4	34:a:93:U:C4	2.99	0.50
34:a:129:A:N6	34:a:232:G:H1	2.06	0.50
34:a:137:U:O4	34:a:226:G:O6	2.29	0.50
34:a:283:U:H2'	34:a:284:C:H6	1.76	0.50
34:a:405:U:OP1	34:a:406:G:O2'	2.27	0.50
34:a:575:G:C6	34:a:881:G:C6	2.98	0.50
34:a:683:G:H2'	34:a:684:U:C6	2.45	0.50
34:a:776:G:N2	34:a:802:A:OP2	2.44	0.50
34:a:777:A:C4	34:a:778:G:C8	3.00	0.50
34:a:803:G:C2	34:a:804:U:C2	2.98	0.50
34:a:907:A:C4	34:a:908:A:C8	2.99	0.50
34:a:1148:U:H2'	34:a:1149:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1176:A:H3'	34:a:1177:G:H8	1.74	0.50
34:a:1220:G:C2	34:a:1221:G:C5	2.99	0.50
34:a:1237:C:H3'	34:a:1336:C:N4	2.26	0.50
34:a:1272:G:C6	34:a:1273:C:C4	2.98	0.50
36:c:17:TRP:H	36:c:17:TRP:HE3	1.58	0.50
40:g:14:ASP:CG	40:g:17:PHE:H	2.15	0.50
46:m:26:LYS:HG3	46:m:30:LYS:HE2	1.93	0.50
53:t:22:SER:OG	53:t:23:ARG:N	2.44	0.50
56:w:51:C:H2'	56:w:52:G:H8	1.76	0.50
56:w:70:G:H2'	56:w:71:G:C8	2.46	0.50
5:4:19:ARG:HH21	8:A:2755:C:P	2.34	0.50
8:A:565:C:H2'	8:A:566:U:O4'	2.10	0.50
8:A:584:C:N4	8:A:585:G:O6	2.44	0.50
8:A:649:G:H2'	8:A:650:C:H6	1.76	0.50
8:A:720:U:H2'	8:A:721:A:H8	1.76	0.50
8:A:783:A:N7	8:A:785:G:C8	2.79	0.50
8:A:951:C:H2'	8:A:952:G:C8	2.45	0.50
8:A:1384:A:H1'	8:A:1405:U:H1'	1.93	0.50
8:A:1577:C:H2'	8:A:1578:U:C2	2.46	0.50
8:A:1649:G:O2'	21:N:106:ASP:OD2	2.27	0.50
8:A:1771:C:N4	8:A:1772:A:H62	2.09	0.50
8:A:1826:G:C6	8:A:1827:U:C4	2.99	0.50
8:A:1890:A:H2'	8:A:1891:G:C8	2.46	0.50
8:A:2231:U:O2'	8:A:2232:C:H5'	2.09	0.50
8:A:2306:C:H3'	8:A:2307:G:C8	2.46	0.50
8:A:2416:C:H2'	8:A:2417:C:H6	1.75	0.50
8:A:2531:A:H5'	14:G:173:ALA:HB1	1.92	0.50
8:A:2696:U:H2'	8:A:2697:G:H8	1.76	0.50
8:A:2714:G:C6	8:A:2715:C:C4	3.00	0.50
10:C:259:ASN:OD1	10:C:261:ARG:HB3	2.11	0.50
21:N:97:ILE:HG12	21:N:113:ILE:HG13	1.93	0.50
22:O:39:VAL:HB	22:O:48:LEU:HB2	1.93	0.50
27:T:11:LEU:HD23	32:Y:26:PHE:HE1	1.77	0.50
28:U:12:VAL:HB	28:U:19:GLY:H	1.77	0.50
31:X:4:CYS:SG	31:X:6:VAL:N	2.84	0.50
34:a:341:C:H2'	34:a:342:C:H6	1.75	0.50
34:a:492:C:C4	34:a:493:A:N6	2.79	0.50
34:a:536:C:C2'	34:a:537:G:H8	2.19	0.50
34:a:540:G:C6	34:a:541:G:C5	2.99	0.50
34:a:792:A:C2	34:a:794:A:C5	2.99	0.50
34:a:836:G:C5	34:a:851:G:C6	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1085:U:OP2	34:a:1086:U:C4	2.62	0.50
34:a:1108:G:H2'	34:a:1109:C:H5'	1.91	0.50
34:a:1118:U:H1'	34:a:1179:A:C5	2.45	0.50
34:a:1404:C:H2'	34:a:1405:G:C8	2.46	0.50
43:j:15:HIS:HA	43:j:18:ILE:HG22	1.94	0.50
43:j:80:THR:C	43:j:82:LYS:H	2.20	0.50
45:l:81:ILE:HD11	45:l:94:TYR:HB2	1.92	0.50
49:p:5:ARG:NH1	49:p:24:SER:HA	2.26	0.50
50:q:45:VAL:HA	50:q:72:TRP:O	2.11	0.50
52:s:39:ILE:HG21	52:s:65:MET:O	2.11	0.50
52:s:44:ILE:HG12	52:s:63:ASP:HA	1.92	0.50
7:6:30:HIS:ND1	7:6:31:ASP:O	2.45	0.50
8:A:16:C:H2'	8:A:17:G:H8	1.76	0.50
8:A:45:G:H5'	8:A:46:G:OP1	2.12	0.50
8:A:60:G:N1	8:A:88:G:O6	2.41	0.50
8:A:134:G:C6	8:A:146:A:N1	2.79	0.50
8:A:582:A:C6	8:A:1259:G:C6	3.00	0.50
8:A:656:G:C2	8:A:657:U:C2	2.98	0.50
8:A:810:U:OP1	8:A:1253:A:C8	2.64	0.50
8:A:1441:G:C6	8:A:1551:A:C6	2.99	0.50
8:A:1658:C:H2'	8:A:1659:G:C8	2.47	0.50
8:A:1905:C:H4'	8:A:1906:G:H5"	1.94	0.50
8:A:1935:G:N2	8:A:1964:G:O5'	2.44	0.50
8:A:2121:G:H2'	8:A:2122:U:C6	2.46	0.50
8:A:2299:U:OP2	13:F:70:ARG:NH1	2.36	0.50
8:A:2376:A:H2'	8:A:2377:A:C8	2.46	0.50
8:A:2588:G:H2'	8:A:2589:A:O4'	2.11	0.50
8:A:2699:C:H2'	8:A:2700:A:H8	1.76	0.50
9:B:49:C:H2'	9:B:50:A:C8	2.46	0.50
9:B:101:A:C5	9:B:102:G:C5	2.98	0.50
10:C:23:LEU:HD13	10:C:82:TYR:HB2	1.93	0.50
10:C:78:GLU:OE1	10:C:79:ARG:HB2	2.12	0.50
17:J:57:LEU:HD13	17:J:128:ASN:C	2.36	0.50
18:K:13:ASN:HB3	18:K:98:ARG:HB3	1.93	0.50
20:M:73:ILE:O	20:M:90:GLU:N	2.21	0.50
24:Q:63:ARG:O	24:Q:66:ALA:HB3	2.11	0.50
26:S:69:LEU:HD11	26:S:107:VAL:HB	1.93	0.50
26:S:84:ARG:O	26:S:96:ILE:N	2.28	0.50
34:a:160:A:H2'	34:a:160:A:N3	2.25	0.50
34:a:687:A:H62	34:a:703:G:H21	1.59	0.50
35:b:173:LYS:HA	35:b:176:ASN:HB2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:c:46:LEU:HD12	36:c:49:ALA:HB2	1.91	0.50
39:f:11:HIS:C	39:f:13:ASP:H	2.19	0.50
40:g:71:THR:HG23	40:g:72:VAL:HG13	1.92	0.50
42:i:46:VAL:HA	42:i:49:GLN:NE2	2.27	0.50
49:p:23:ASP:OD2	49:p:25:ARG:HB2	2.11	0.50
51:r:13:THR:HB	51:r:50:TYR:CE2	2.47	0.50
52:s:39:ILE:HA	52:s:70:LEU:HD11	1.93	0.50
53:t:15:LYS:HA	53:t:18:LYS:HD2	1.94	0.50
2:1:3:GLY:N	8:A:2283:C:O3'	2.45	0.50
8:A:115:C:H2'	8:A:116:C:H6	1.76	0.50
8:A:220:G:N2	8:A:427:U:H2'	2.25	0.50
8:A:225:C:H2'	8:A:226:A:O4'	2.12	0.50
8:A:239:C:N3	8:A:259:G:N1	2.59	0.50
8:A:452:G:C2'	8:A:453:A:H5'	2.42	0.50
8:A:556:A:H2	17:J:48:VAL:HG11	1.76	0.50
8:A:591:U:C2	8:A:592:A:N7	2.79	0.50
8:A:635:C:H2'	8:A:636:G:C8	2.47	0.50
8:A:636:G:P	19:L:128:THR:HA	2.52	0.50
8:A:1252:G:H1	24:Q:36:GLN:CD	2.19	0.50
8:A:1734:G:C2	8:A:1735:A:C5	2.99	0.50
8:A:2198:A:N3	15:H:29:PHE:HB2	2.27	0.50
8:A:2290:G:H2'	8:A:2291:U:C6	2.47	0.50
8:A:2322:A:C5	8:A:2323:G:C5	3.00	0.50
8:A:2520:C:C6	8:A:2567:G:H1'	2.47	0.50
8:A:2526:G:C6	8:A:2538:C:N3	2.79	0.50
8:A:2660:A:H2'	8:A:2661:G:C8	2.47	0.50
8:A:2814:A:C6	8:A:2815:C:C4	3.00	0.50
8:A:2856:A:N6	8:A:2862:G:O6	2.45	0.50
10:C:239:PHE:CE1	10:C:241:LYS:HB2	2.47	0.50
11:D:124:ARG:HG3	11:D:165:MET:CG	2.41	0.50
14:G:8:VAL:O	14:G:49:LEU:N	2.44	0.50
14:G:19:ASN:HB2	14:G:22:VAL:HG22	1.94	0.50
18:K:66:LYS:N	18:K:82:ASN:OD1	2.45	0.50
19:L:132:ARG:HA	19:L:135:ILE:HD12	1.93	0.50
22:O:10:ARG:HG3	22:O:10:ARG:HH21	1.75	0.50
25:R:4:VAL:HG13	25:R:12:HIS:C	2.37	0.50
25:R:16:GLU:HG3	25:R:101:ILE:HG13	1.93	0.50
34:a:31:G:O6	34:a:48:C:H5"	2.12	0.50
34:a:142:G:H2'	34:a:143:A:O4'	2.11	0.50
34:a:396:C:O2'	34:a:398:U:OP1	2.28	0.50
34:a:441:A:C5	34:a:442:G:C8	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:722:G:C8	34:a:724:G:H1'	2.47	0.50
34:a:1036:A:H2'	34:a:1037:C:O4'	2.11	0.50
34:a:1110:A:H3'	34:a:1111:A:C8	2.40	0.50
34:a:1263:C:H2'	34:a:1264:U:C6	2.45	0.50
34:a:1272:G:C2	34:a:1273:C:C2	2.99	0.50
34:a:1526:G:C8	54:u:41:THR:HG21	2.46	0.50
35:b:51:GLU:O	35:b:55:GLU:HG2	2.11	0.50
38:e:24:VAL:HG13	38:e:26:GLY:N	2.26	0.50
38:e:87:VAL:HG21	38:e:92:ARG:HE	1.77	0.50
39:f:35:LYS:O	39:f:65:GLU:N	2.43	0.50
41:h:10:LEU:HD22	41:h:74:ILE:HD11	1.93	0.50
41:h:94:VAL:HG12	41:h:129:ALA:HB2	1.93	0.50
45:l:33:CYS:N	45:l:54:VAL:HG12	2.20	0.50
3:2:5:PHE:CE2	8:A:1612:C:H5"	2.46	0.50
8:A:58:G:N1	8:A:70:G:C6	2.80	0.50
8:A:353:C:C2	8:A:354:A:C8	3.00	0.50
8:A:491:G:H2'	8:A:492:A:O4'	2.10	0.50
8:A:538:A:O3'	17:J:7:LYS:HD2	2.11	0.50
8:A:547:A:H4'	8:A:548:G:N9	2.26	0.50
8:A:604:G:C6	8:A:625:G:C6	2.99	0.50
8:A:713:G:N2	8:A:719:C:N3	2.60	0.50
8:A:953:G:N3	8:A:954:G:C8	2.80	0.50
8:A:972:A:H8	8:A:973:A:HO2'	1.59	0.50
8:A:1041:G:C2	8:A:1042:G:C8	2.99	0.50
8:A:1280:G:C4	8:A:1281:G:C8	2.99	0.50
8:A:1582:C:H2'	8:A:1583:A:O4'	2.11	0.50
8:A:1655:A:H1'	11:D:118:PHE:CE1	2.47	0.50
8:A:1715:G:H2'	8:A:1743:G:O6	2.11	0.50
8:A:1807:G:H1'	8:A:1811:G:H22	1.76	0.50
8:A:1948:G:C6	8:A:1959:G:C6	2.99	0.50
8:A:2067:G:O2'	8:A:2069:G7M:H5'	2.12	0.50
8:A:2251:OMG:H2'	8:A:2252:G:O4'	2.11	0.50
8:A:2298:A:H2'	8:A:2299:U:O4'	2.12	0.50
8:A:2314:A:C4	8:A:2315:G:C8	2.99	0.50
8:A:2569:G:C4	8:A:2570:G:C8	2.99	0.50
8:A:2582:G:H2'	8:A:2583:G:C8	2.43	0.50
8:A:2643:G:O6	8:A:2772:C:N4	2.44	0.50
8:A:2677:G:C6	8:A:2731:G:O6	2.65	0.50
9:B:115:A:H2'	9:B:116:G:H8	1.75	0.50
10:C:43:ASN:ND2	10:C:45:ASN:HB3	2.27	0.50
10:C:116:GLN:O	10:C:127:ASN:ND2	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:7:LYS:C	11:D:201:LEU:HD22	2.36	0.50
12:E:108:ILE:CD1	12:E:177:PRO:HB3	2.42	0.50
13:F:111:ARG:NH1	46:m:77:LYS:HD2	2.27	0.50
14:G:19:ASN:CB	14:G:22:VAL:HG22	2.42	0.50
14:G:86:LEU:HD12	14:G:162:ARG:O	2.12	0.50
17:J:9:GLU:CD	17:J:9:GLU:H	2.18	0.50
18:K:57:VAL:HG22	18:K:89:ASN:HD21	1.76	0.50
22:O:43:ASN:OD1	22:O:44:GLY:N	2.45	0.50
23:P:88:ARG:HG3	23:P:112:ARG:CZ	2.42	0.50
34:a:128:G:H2'	34:a:129:A:H8	1.74	0.50
34:a:155:A:N6	34:a:167:A:N6	2.59	0.50
34:a:160:A:H2	34:a:344:A:H1'	1.76	0.50
34:a:202:G:H2'	34:a:203:G:C8	2.43	0.50
34:a:429:U:H4'	34:a:430:A:O5'	2.10	0.50
34:a:560:A:O5'	34:a:566:G:N2	2.45	0.50
34:a:656:G:H2'	34:a:657:U:H6	1.76	0.50
34:a:667:G:O2'	48:o:48:ASP:OD1	2.28	0.50
34:a:795:C:H5"	34:a:796:C:OP2	2.11	0.50
34:a:833:G:C6	34:a:834:U:C4	3.00	0.50
34:a:857:C:H2'	34:a:858:G:O4'	2.11	0.50
34:a:894:G:C2	34:a:895:G:C4	3.00	0.50
34:a:1107:C:OP1	36:c:172:VAL:N	2.43	0.50
34:a:1307:U:C4	34:a:1308:U:C4	3.00	0.50
34:a:1532:U:H2'	34:a:1533:C:O4'	2.11	0.50
37:d:103:ARG:HH12	37:d:190:LEU:HD13	1.75	0.50
40:g:30:MET:SD	40:g:35:LYS:HG3	2.52	0.50
46:m:19:THR:O	46:m:24:VAL:O	2.28	0.50
49:p:16:PHE:CE1	49:p:40:ASN:HB2	2.47	0.50
56:w:11:C:H2'	56:w:12:U:C6	2.46	0.50
5:4:8:LYS:NZ	8:A:2467:C:OP1	2.40	0.50
8:A:49:A:C2	8:A:177:G:C2	2.99	0.50
8:A:122:G:O6	8:A:130:C:N4	2.45	0.50
8:A:285:G:H1	8:A:355:U:H3	1.59	0.50
8:A:332:A:C8	8:A:335:C:N4	2.80	0.50
8:A:357:C:H2'	8:A:358:U:H6	1.77	0.50
8:A:539:G:H2'	8:A:540:C:O4'	2.12	0.50
8:A:546:U:C2	8:A:547:A:C4	3.00	0.50
8:A:755:U:H2'	8:A:756:A:H8	1.77	0.50
8:A:836:G:C4	8:A:837:C:C5	2.99	0.50
8:A:849:A:C4	8:A:850:U:C5	3.00	0.50
8:A:915:C:H3'	8:A:916:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:984:A:H3'	8:A:985:C:H6	1.76	0.50
8:A:1268:A:H62	8:A:2012:G:N2	2.10	0.50
8:A:1328:A:H2'	8:A:1330:C:C5	2.45	0.50
8:A:1411:U:H2'	8:A:1412:U:H6	1.76	0.50
8:A:1431:A:H2'	8:A:1432:G:H8	1.76	0.50
8:A:1707:G:H2'	8:A:1708:C:O4'	2.11	0.50
8:A:1797:G:H5"	10:C:254:LYS:N	2.26	0.50
8:A:1842:G:H2'	8:A:1843:C:C6	2.46	0.50
8:A:2038:G:H2'	8:A:2039:U:H6	1.77	0.50
8:A:2056:G:C5	8:A:2577:A:C4	3.00	0.50
8:A:2080:A:H2'	8:A:2081:U:O4'	2.11	0.50
8:A:2227:A:H5"	10:C:260:LYS:CE	2.41	0.50
8:A:2264:C:O2'	8:A:2265:U:H5'	2.12	0.50
8:A:2334:U:OP1	30:W:71:LYS:NZ	2.38	0.50
8:A:2758:A:H2'	8:A:2759:G:O4'	2.11	0.50
9:B:32:U:H5"	9:B:53:A:N1	2.26	0.50
9:B:90:C:H5"	20:M:18:ARG:HG2	1.94	0.50
10:C:198:GLU:O	10:C:201:LEU:HG	2.11	0.50
18:K:7:MET:HE1	18:K:44:LYS:HG3	1.93	0.50
18:K:73:ASP:OD2	18:K:75:SER:OG	2.24	0.50
20:M:62:LYS:O	20:M:105:MET:HG3	2.11	0.50
24:Q:43:GLN:HE21	25:R:77:PHE:HB3	1.75	0.50
24:Q:49:ARG:NH2	25:R:74:ILE:HG13	2.27	0.50
30:W:16:ARG:C	30:W:35:ARG:HH12	2.17	0.50
34:a:246:A:N6	34:a:279:A:O4'	2.45	0.50
34:a:635:A:O2'	50:q:5:ARG:NH2	2.43	0.50
34:a:799:G:C5	34:a:800:G:C5	2.99	0.50
34:a:953:G:C4	34:a:954:G:C8	3.00	0.50
34:a:1043:G:O2'	34:a:1044:A:O5'	2.29	0.50
34:a:1129:C:N4	34:a:1139:G:O2'	2.45	0.50
34:a:1203:C:H2'	34:a:1204:A:H8	1.76	0.50
34:a:1233:G:H5'	42:i:118:ARG:HH22	1.75	0.50
34:a:1455:G:H2'	34:a:1456:A:C8	2.45	0.50
37:d:96:ARG:HB2	37:d:99:ASN:HB2	1.94	0.50
37:d:117:VAL:O	37:d:120:LYS:N	2.38	0.50
40:g:14:ASP:CG	40:g:16:LYS:H	2.19	0.50
41:h:75:GLN:HE21	41:h:127:TYR:CB	2.25	0.50
42:i:42:THR:O	42:i:46:VAL:HG23	2.11	0.50
46:m:65:GLU:HG2	46:m:66:GLY:N	2.25	0.50
47:n:37:SER:HA	47:n:40:ASP:CB	2.42	0.50
56:w:19:G:H4'	56:w:20:U:O5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:w:19:G:C5	56:w:57:G:C2	2.99	0.50
56:w:48:C:N4	56:w:59:U:O4	2.45	0.50
4:3:12:ARG:HE	19:L:63:LYS:CG	2.23	0.50
8:A:349:U:H2'	8:A:350:G:C8	2.46	0.50
8:A:534:U:O2'	24:Q:48:ASP:OD2	2.27	0.50
8:A:681:G:C2	8:A:682:G:C4	2.99	0.50
8:A:689:A:C4	8:A:690:G:C8	3.00	0.50
8:A:751:A:C6	8:A:789:A:C6	3.00	0.50
8:A:799:G:H2'	8:A:800:A:C8	2.46	0.50
8:A:1014:A:N6	8:A:1149:G:O6	2.45	0.50
8:A:1022:G:C5	8:A:1140:C:C4	2.99	0.50
8:A:1376:C:H2'	8:A:1377:G:C8	2.46	0.50
8:A:1415:U:O4	8:A:1587:G:O6	2.30	0.50
8:A:1585:C:H2'	8:A:1586:A:O4'	2.12	0.50
8:A:1853:A:C2	8:A:1854:A:C4	3.00	0.50
8:A:2095:A:O5'	15:H:11:ASN:ND2	2.45	0.50
8:A:2142:A:N7	8:A:2143:C:N4	2.60	0.50
8:A:2286:G:H2'	8:A:2286:G:N3	2.25	0.50
8:A:2327:A:C5	8:A:2388:A:N1	2.80	0.50
8:A:2696:U:H2'	8:A:2697:G:C8	2.46	0.50
8:A:2714:G:H2'	8:A:2715:C:H6	1.77	0.50
8:A:2839:G:H2'	8:A:2840:C:C6	2.46	0.50
9:B:26:C:C4	9:B:27:C:C4	3.00	0.50
9:B:109:A:C5	9:B:110:C:C4	2.99	0.50
10:C:143:VAL:HB	10:C:153:LEU:HB2	1.92	0.50
10:C:229:HIS:CE1	10:C:231:HIS:H	2.30	0.50
11:D:3:GLY:C	11:D:4:LEU:HD12	2.37	0.50
11:D:113:SER:OG	11:D:114:LYS:O	2.16	0.50
12:E:188:MET:SD	12:E:196:VAL:HG21	2.52	0.50
15:H:24:GLY:HA2	15:H:28:ASN:HD22	1.76	0.50
18:K:78:ARG:HB2	23:P:70:GLU:HB2	1.93	0.50
24:Q:36:GLN:HA	24:Q:39:ILE:HG12	1.93	0.50
25:R:5:PHE:CE2	25:R:7:SER:HB3	2.47	0.50
27:T:6:ARG:NH1	27:T:10:VAL:HG12	2.26	0.50
27:T:11:LEU:O	27:T:12:ARG:NH2	2.45	0.50
34:a:103:U:C2	34:a:104:G:C8	3.00	0.50
34:a:270:A:H2'	34:a:271:C:C6	2.47	0.50
34:a:305:G:H4'	34:a:306:A:H5'	1.94	0.50
34:a:312:C:C2	34:a:313:A:C8	3.00	0.50
34:a:334:C:H2'	34:a:335:C:C6	2.47	0.50
34:a:537:G:P	45:l:109:ARG:HH12	2.34	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:562:U:O2	45:l:12:ALA:N	2.45	0.50
34:a:629:A:C5	34:a:630:A:C6	3.00	0.50
34:a:642:A:H2	41:h:104:SER:OG	1.95	0.50
34:a:665:A:C8	34:a:733:G:C2	2.99	0.50
34:a:784:A:H2'	34:a:785:G:C8	2.47	0.50
34:a:955:U:H1'	52:s:82:HIS:HD2	1.76	0.50
34:a:1074:G:N2	34:a:1101:A:O2'	2.40	0.50
34:a:1296:C:H4'	34:a:1302:C:N4	2.27	0.50
34:a:1426:G:C2	34:a:1474:U:C2	2.99	0.50
36:c:128:MET:HE2	36:c:131:ARG:HB2	1.93	0.50
38:e:45:VAL:O	38:e:70:MET:HG3	2.11	0.50
38:e:62:ALA:HA	38:e:65:LYS:HG2	1.94	0.50
39:f:38:ARG:O	39:f:62:MET:HG3	2.12	0.50
40:g:112:ASP:N	40:g:118:ARG:HH11	2.09	0.50
42:i:75:ALA:O	42:i:78:ILE:HB	2.12	0.50
43:j:65:TYR:HA	47:n:99:ALA:H	1.77	0.50
44:k:15:VAL:HG23	44:k:78:ILE:HG13	1.93	0.50
51:r:12:PHE:HE2	51:r:54:LEU:HD21	1.76	0.50
51:r:24:ASP:O	51:r:27:THR:OG1	2.26	0.50
52:s:52:ASN:OD1	52:s:54:ARG:N	2.40	0.50
53:t:70:LYS:HA	53:t:73:ARG:HH12	1.76	0.50
55:v:71:C:C2	55:v:72:A:N7	2.79	0.50
5:4:16:ILE:HG23	5:4:25:VAL:HG22	1.92	0.50
8:A:227:A:C6	8:A:2407:A:H1'	2.47	0.50
8:A:444:C:O3'	24:Q:1:ALA:N	2.31	0.50
8:A:446:G:O5'	8:A:446:G:H8	1.95	0.50
8:A:452:G:H2'	8:A:453:A:H5'	1.94	0.50
8:A:578:G:C4	8:A:2018:G:H5'	2.46	0.50
8:A:578:G:O2'	8:A:580:U:OP2	2.19	0.50
8:A:648:G:H4'	8:A:2352:A:OP1	2.11	0.50
8:A:843:G:C2	8:A:844:A:C4	3.00	0.50
8:A:1139:G:H2'	8:A:1140:C:C6	2.46	0.50
8:A:1426:G:C6	8:A:1427:A:C6	3.00	0.50
8:A:1429:G:H2'	8:A:1430:G:C8	2.42	0.50
8:A:1664:A:H2'	8:A:1665:A:C8	2.44	0.50
8:A:1787:A:OP2	8:A:1788:C:H5	1.95	0.50
8:A:1799:G:H5"	10:C:257:ARG:NH1	2.26	0.50
8:A:1818:U:H2'	10:C:155:ARG:HG3	1.93	0.50
8:A:1844:C:O2'	10:C:255:LYS:NZ	2.39	0.50
8:A:1977:A:C2	8:A:1978:A:H1'	2.47	0.50
8:A:2069:G7M:C2	8:A:2443:C:C2	2.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2112:G:C5	55:v:19:G:C5	3.00	0.50
8:A:2266:A:H1'	8:A:2272:U:H3	1.77	0.50
8:A:2611:C:H2'	8:A:2612:C:C6	2.47	0.50
8:A:2690:U:N3	8:A:2873:A:N1	2.60	0.50
8:A:2786:U:H2'	8:A:2787:C:H6	1.76	0.50
8:A:2830:C:H3'	11:D:59:ARG:HH11	1.77	0.50
9:B:12:C:O2'	30:W:70:PRO:O	2.29	0.50
9:B:28:C:H5"	22:O:31:THR:HG21	1.94	0.50
10:C:18:VAL:HG11	10:C:202:ARG:HB3	1.93	0.50
14:G:87:GLN:HG2	14:G:128:THR:O	2.11	0.50
18:K:7:MET:HG2	18:K:18:ARG:HH21	1.77	0.50
22:O:81:ARG:HA	22:O:84:GLU:OE1	2.12	0.50
25:R:70:GLU:O	25:R:72:VAL:N	2.44	0.50
30:W:48:GLY:HA3	30:W:56:PHE:CZ	2.46	0.50
34:a:84:U:P	34:a:88:U:H3	2.35	0.50
34:a:178:C:H2'	34:a:179:A:H8	1.77	0.50
34:a:208:U:H6	34:a:208:U:H3'	1.77	0.50
34:a:208:U:H2'	34:a:211:G:O6	2.12	0.50
34:a:376:G:N2	34:a:387:U:O2	2.44	0.50
34:a:449:G:C2	34:a:450:G:C4	2.99	0.50
34:a:578:C:C2	34:a:579:A:C8	3.00	0.50
34:a:797:C:C2	34:a:798:U:C5	3.00	0.50
34:a:970:C:H42	42:i:129:ARG:C	2.16	0.50
34:a:1100:C:H2'	34:a:1102:A:O5'	2.12	0.50
34:a:1151:A:O2'	34:a:1152:A:O5'	2.29	0.50
38:e:114:LEU:HD13	38:e:117:ALA:HB3	1.93	0.50
44:k:28:ASN:HB2	44:k:56:LYS:HZ1	1.77	0.50
45:l:27:PRO:HB2	45:l:28:GLN:OE1	2.12	0.50
48:o:49:HIS:HA	48:o:52:ARG:HB2	1.94	0.50
49:p:19:VAL:HB	49:p:36:VAL:O	2.12	0.50
52:s:32:THR:OG1	52:s:33:TRP:N	2.45	0.50
52:s:35:ARG:HG2	52:s:50:VAL:HG13	1.94	0.50
55:v:16:C:O2'	55:v:60:U:O3'	2.24	0.50
55:v:18:G:C5	55:v:58:A:C6	3.00	0.50
1:0:54:ILE:HD11	21:N:98:LEU:HD13	1.94	0.50
2:1:12:SER:OG	2:1:14:ALA:O	2.29	0.50
5:4:13:ASN:O	5:4:27:CYS:HA	2.12	0.50
8:A:32:C:N3	8:A:474:G:N1	2.60	0.50
8:A:167:A:C2	8:A:168:G:H1'	2.47	0.50
8:A:171:U:C2	8:A:172:A:C8	3.00	0.50
8:A:195:A:H62	8:A:198:C:P	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:250:G:H2'	8:A:251:A:H8	1.73	0.50
8:A:904:G:H2'	8:A:905:A:C8	2.47	0.50
8:A:912:C:H2'	8:A:913:U:C6	2.47	0.50
8:A:1031:G:C6	8:A:1032:A:C6	3.00	0.50
8:A:1378:A:C5	8:A:1380:G:C5	2.99	0.50
8:A:1512:C:H2'	8:A:1513:U:C6	2.40	0.50
8:A:1535:A:N6	8:A:1538:G:H21	2.10	0.50
8:A:1666:G:H3'	8:A:1667:G:C8	2.45	0.50
8:A:1707:G:C8	8:A:1756:G:C5	3.00	0.50
8:A:1718:G:O6	8:A:1742:U:C4	2.64	0.50
8:A:1796:U:O2'	8:A:1797:G:H5'	2.12	0.50
8:A:1936:A:C4	8:A:1940:U:N3	2.80	0.50
8:A:2255:G:C6	8:A:2256:G:C5	3.00	0.50
8:A:2318:G:H3'	8:A:2319:G:H8	1.76	0.50
8:A:2345:G:O6	8:A:2372:U:N3	2.45	0.50
8:A:2398:U:H2'	8:A:2399:G:C8	2.45	0.50
8:A:2476:A:H2	8:A:2481:G:H1	1.59	0.50
8:A:2538:C:H2'	8:A:2539:C:H6	1.77	0.50
8:A:2655:G:H1'	8:A:2656:U:OP2	2.12	0.50
8:A:2781:A:H5"	8:A:2782:G:C5'	2.42	0.50
8:A:2805:C:H2'	8:A:2806:C:O4'	2.12	0.50
8:A:2828:G:C2	8:A:2829:A:C5	3.00	0.50
10:C:219:VAL:HG21	10:C:224:MET:HG3	1.94	0.50
11:D:5:VAL:HG13	11:D:201:LEU:O	2.12	0.50
15:H:40:THR:HG23	15:H:43:ASN:ND2	2.27	0.50
17:J:41:LYS:HA	24:Q:70:GLN:NE2	2.26	0.50
21:N:68:ALA:HA	21:N:71:ARG:HD2	1.94	0.50
21:N:87:PHE:HE1	21:N:116:VAL:HG23	1.77	0.50
26:S:25:ARG:H	26:S:27:LYS:CD	2.24	0.50
34:a:18:C:H2'	34:a:19:A:C8	2.43	0.50
34:a:191:G:H2'	34:a:192:A:H8	1.77	0.50
34:a:228:A:H2'	34:a:229:U:C6	2.47	0.50
34:a:426:U:OP1	37:d:32:LYS:NZ	2.33	0.50
34:a:743:A:C6	34:a:744:C:C4	3.00	0.50
34:a:860:A:C5	34:a:861:G:C5	3.00	0.50
34:a:1172:C:H2'	34:a:1173:U:C6	2.47	0.50
34:a:1172:C:H2'	34:a:1173:U:H6	1.77	0.50
34:a:1405:G:H2'	34:a:1406:U:H6	1.76	0.50
36:c:35:ASP:HA	36:c:38:VAL:HG22	1.94	0.50
36:c:109:GLU:HB2	36:c:143:LEU:CD2	2.41	0.50
38:e:15:ILE:HD12	38:e:35:LEU:HG	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:l:88:ASP:N	45:l:88:ASP:OD1	2.44	0.50
46:m:89:ARG:HH21	46:m:95:PRO:HD2	1.77	0.50
52:s:2:ARG:NH2	52:s:9:PHE:HB3	2.27	0.50
53:t:24:ARG:HG2	53:t:28:ARG:NH1	2.26	0.50
55:v:39:C:C2	55:v:40:C:C5	3.00	0.50
8:A:103:A:H8	8:A:103:A:OP2	1.95	0.49
8:A:122:G:H2'	8:A:123:G:H8	1.76	0.49
8:A:231:A:C6	8:A:232:G:C6	3.00	0.49
8:A:332:A:C4	8:A:335:C:C5	3.00	0.49
8:A:381:G:OP1	31:X:17:ARG:HD3	2.11	0.49
8:A:410:G:C2	8:A:2407:A:C5	3.00	0.49
8:A:414:C:H2'	8:A:415:A:C8	2.43	0.49
8:A:560:C:H2'	8:A:561:G:O4'	2.12	0.49
8:A:954:G:H5"	20:M:13:HIS:HB3	1.94	0.49
8:A:1054:A:H2'	8:A:1055:G:C8	2.47	0.49
8:A:1255:U:C4	12:E:68:ALA:HA	2.47	0.49
8:A:1318:U:C2	8:A:1319:C:C5	3.00	0.49
8:A:1510:G:C4	8:A:1511:G:C8	2.99	0.49
8:A:1653:G:OP1	8:A:2822:G:N1	2.44	0.49
8:A:1661:G:N1	8:A:2000:C:N3	2.60	0.49
8:A:1681:G:C2	8:A:1762:A:C4	3.00	0.49
8:A:1950:G:OP1	34:a:1421:G:H5"	2.11	0.49
8:A:2248:C:P	8:A:2249:U:H5	2.35	0.49
8:A:2282:G:H21	8:A:2390:U:H3	1.60	0.49
8:A:2286:G:H4'	8:A:2287:A:O4'	2.12	0.49
8:A:2368:C:H2'	8:A:2369:A:H8	1.76	0.49
8:A:2752:C:C4	8:A:2753:A:C5	2.99	0.49
9:B:10:G:OP2	9:B:11:C:N4	2.21	0.49
9:B:34:A:N6	9:B:44:G:HO2'	2.10	0.49
9:B:97:C:H2'	9:B:98:G:O4'	2.12	0.49
11:D:8:LYS:HG2	11:D:197:THR:HA	1.93	0.49
11:D:200:ASP:N	11:D:200:ASP:OD1	2.36	0.49
12:E:147:LEU:HD11	12:E:179:SER:HB2	1.94	0.49
12:E:153:LEU:HG	12:E:158:PHE:CE2	2.47	0.49
12:E:172:ALA:HB1	12:E:199:MET:HE1	1.93	0.49
18:K:17:ARG:N	18:K:46:ALA:HA	2.26	0.49
23:P:28:LYS:HB3	23:P:39:LEU:HD11	1.94	0.49
24:Q:82:LEU:HB3	24:Q:87:VAL:HB	1.93	0.49
29:V:80:HIS:CE1	29:V:82:TYR:H	2.30	0.49
30:W:37:ARG:HB2	30:W:40:LYS:HE3	1.93	0.49
31:X:5:GLN:HB2	31:X:50:VAL:HG12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:15:G:C4	34:a:16:A:C8	3.00	0.49
34:a:138:G:C6	34:a:226:G:C6	3.00	0.49
34:a:158:G:H1'	34:a:164:G:N1	2.26	0.49
34:a:375:U:O3'	49:p:6:LEU:HD13	2.12	0.49
34:a:452:A:H1'	49:p:70:ARG:NH1	2.27	0.49
34:a:717:U:C2	34:a:734:G:C8	3.00	0.49
34:a:734:G:H2'	34:a:734:G:N3	2.25	0.49
34:a:779:C:H2'	34:a:780:A:C8	2.47	0.49
34:a:794:A:H2'	34:a:795:C:O4'	2.12	0.49
34:a:863:U:O2	34:a:867:G:N2	2.45	0.49
34:a:900:A:C6	34:a:901:A:C5	3.00	0.49
34:a:932:C:H2'	34:a:933:G:C8	2.46	0.49
34:a:959:A:C3'	34:a:960:U:H4'	2.42	0.49
34:a:1096:C:H2'	34:a:1097:C:C6	2.47	0.49
34:a:1146:A:H2'	34:a:1146:A:N3	2.26	0.49
34:a:1161:C:C2	34:a:1162:C:C5	3.00	0.49
34:a:1303:C:H2'	34:a:1304:G:O4'	2.11	0.49
34:a:1416:G:C5	34:a:1417:G:C5	2.99	0.49
34:a:1452:C:H4'	34:a:1453:G:H5"	1.94	0.49
34:a:1458:G:H5"	53:t:25:SER:OG	2.12	0.49
34:a:1481:U:C4	34:a:1482:G:N1	2.79	0.49
34:a:1488:G:C2	34:a:1489:G:C5	3.00	0.49
34:a:1513:A:C6	34:a:1523:G:C6	3.00	0.49
35:b:14:HIS:CD2	35:b:40:ILE:HG21	2.47	0.49
36:c:42:LEU:HD22	36:c:54:ILE:HG12	1.94	0.49
37:d:201:GLU:HA	37:d:204:SER:OG	2.11	0.49
39:f:2:ARG:CZ	39:f:91:ARG:HH12	2.25	0.49
39:f:18:VAL:HA	39:f:21:MET:HB2	1.93	0.49
39:f:22:ILE:O	39:f:26:THR:HG22	2.12	0.49
40:g:49:LEU:HD22	40:g:123:LEU:HD13	1.94	0.49
41:h:58:LEU:HD21	41:h:60:LEU:HD21	1.93	0.49
41:h:93:LYS:HD3	41:h:116:ARG:HE	1.77	0.49
46:m:2:ARG:HE	46:m:7:ASN:CG	2.20	0.49
47:n:66:GLN:HE21	47:n:79:LEU:HD13	1.77	0.49
51:r:20:ILE:HB	51:r:53:GLN:HG2	1.94	0.49
55:v:51:C:H2'	55:v:52:G:O4'	2.11	0.49
55:v:52:G:C5	55:v:53:G:N7	2.80	0.49
7:6:9:TYR:CZ	7:6:26:SER:HA	2.47	0.49
8:A:321:U:H3	8:A:341:C:H4'	1.77	0.49
8:A:584:C:OP1	24:Q:5:ARG:N	2.21	0.49
8:A:634:C:H2'	8:A:635:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:658:U:C2	8:A:659:G:C8	3.00	0.49
8:A:671:C:H2'	8:A:672:C:C6	2.47	0.49
8:A:821:A:H8	8:A:946:C:C5	2.30	0.49
8:A:1155:A:H4'	24:Q:54:ARG:HH21	1.76	0.49
8:A:1318:U:H2'	8:A:1319:C:C5	2.46	0.49
8:A:1355:G:C4	8:A:1356:G:C8	3.00	0.49
8:A:1590:A:C2	8:A:1591:A:C5	3.00	0.49
8:A:1628:G:C6	8:A:1639:C:N3	2.80	0.49
8:A:1846:G:N1	8:A:1895:C:C4	2.80	0.49
8:A:1846:G:H2'	8:A:1847:G:N9	2.26	0.49
8:A:1891:G:C5	8:A:1892:C:C5	3.00	0.49
8:A:2040:G:H2'	8:A:2041:U:O4'	2.12	0.49
8:A:2294:G:C2	8:A:2339:C:C2	3.00	0.49
8:A:2353:G:C2	8:A:2354:C:H1'	2.47	0.49
8:A:2519:U:C5	8:A:2541:A:C5	2.99	0.49
8:A:2674:G:C2	8:A:2675:A:C4	2.99	0.49
8:A:2688:G:O6	8:A:2719:G:H3'	2.11	0.49
10:C:166:ARG:HA	10:C:171:VAL:HG22	1.94	0.49
11:D:36:GLN:HE22	11:D:38:LYS:HG2	1.78	0.49
11:D:106:LYS:HD3	11:D:174:SER:HA	1.95	0.49
11:D:181:ASP:HB3	11:D:186:LEU:O	2.12	0.49
14:G:105:SER:OG	14:G:105:SER:O	2.31	0.49
15:H:77:THR:HB	15:H:143:ILE:HB	1.93	0.49
17:J:27:ARG:C	17:J:30:THR:HG1	2.15	0.49
17:J:96:ARG:O	17:J:99:ARG:N	2.39	0.49
19:L:111:ILE:HA	19:L:128:THR:HG23	1.94	0.49
28:U:42:LYS:HD3	28:U:59:GLU:OE2	2.12	0.49
32:Y:5:GLU:CA	32:Y:8:GLU:HG2	2.36	0.49
34:a:39:G:C6	34:a:40:C:C4	3.00	0.49
34:a:339:C:H2'	34:a:340:U:C6	2.47	0.49
34:a:563:A:C2	34:a:567:G:C5	2.99	0.49
34:a:614:C:H2'	34:a:615:G:O4'	2.12	0.49
34:a:814:A:H5'	34:a:816:A:C8	2.47	0.49
34:a:824:G:C2	34:a:825:A:C5	3.00	0.49
34:a:894:G:C4	34:a:895:G:C8	3.00	0.49
34:a:967:5MC:H3'	34:a:968:A:C8	2.48	0.49
34:a:1406:U:H2'	34:a:1407:5MC:H6	1.77	0.49
34:a:1418:A:H3'	34:a:1418:A:OP2	2.13	0.49
36:c:27:GLU:N	36:c:27:GLU:OE1	2.45	0.49
38:e:59:ILE:O	38:e:63:MET:HG2	2.12	0.49
42:i:98:ARG:HD3	42:i:103:VAL:HG21	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:k:68:ARG:HA	44:k:71:ASP:OD2	2.12	0.49
54:u:12:ASP:HA	54:u:15:LEU:HB3	1.93	0.49
55:v:41:C:O2'	55:v:42:G:OP1	2.30	0.49
56:w:26:A:N6	56:w:44:G:C6	2.79	0.49
58:z:1:A:H2'	58:z:2:U:C6	2.47	0.49
58:z:6:U:H2'	58:z:7:G:C8	2.46	0.49
2:1:7:LYS:O	2:1:8:ILE:HD13	2.12	0.49
7:6:18:CYS:CB	7:6:40:CYS:CB	2.63	0.49
8:A:123:G:C2	8:A:124:G:C4	3.00	0.49
8:A:301:G:C6	8:A:317:G:C5	2.99	0.49
8:A:440:C:H2'	8:A:441:U:C6	2.44	0.49
8:A:452:G:N1	8:A:458:G:N7	2.60	0.49
8:A:457:A:H4'	8:A:458:G:OP1	2.11	0.49
8:A:563:A:C4	8:A:2018:G:C2	3.00	0.49
8:A:563:A:C6	8:A:2018:G:C4	3.00	0.49
8:A:768:G:C4	8:A:769:U:C5	3.01	0.49
8:A:987:C:H1'	8:A:1001:A:H1'	1.93	0.49
8:A:1062:G:H4'	8:A:1063:G:OP1	2.12	0.49
8:A:1417:C:H2'	8:A:1418:G:O4'	2.12	0.49
8:A:1426:G:H3'	8:A:1427:A:H8	1.76	0.49
8:A:1687:G:N1	8:A:1702:G:O6	2.45	0.49
8:A:1748:C:C2	8:A:1749:A:C8	3.00	0.49
8:A:1753:G:OP1	23:P:92:ARG:NH1	2.33	0.49
8:A:1842:G:C5	8:A:1843:C:C5	3.00	0.49
8:A:1904:G:H2'	8:A:1905:C:H6	1.77	0.49
8:A:1932:A:H62	8:A:1968:G:N2	2.08	0.49
8:A:1999:C:C2	8:A:2000:C:C6	2.99	0.49
8:A:2122:U:H3'	8:A:2123:G:H8	1.75	0.49
8:A:2166:U:H2'	8:A:2167:U:N1	2.26	0.49
8:A:2189:U:N3	8:A:2190:G:N7	2.59	0.49
8:A:2331:G:O2'	30:W:39:THR:OG1	2.26	0.49
8:A:2526:G:N2	8:A:2537:U:O2	2.34	0.49
8:A:2532:G:H4'	8:A:2657:A:H2	1.77	0.49
8:A:2619:C:C2	8:A:2620:C:C5	3.00	0.49
8:A:2650:U:H2'	8:A:2651:C:C6	2.46	0.49
8:A:2786:U:H2'	8:A:2787:C:O4'	2.11	0.49
8:A:2874:C:C2	8:A:2875:C:C5	3.00	0.49
9:B:90:C:OP2	20:M:16:ARG:HD2	2.13	0.49
10:C:156:SER:O	10:C:159:THR:OG1	2.30	0.49
10:C:250:GLN:HE22	10:C:253:GLY:C	2.20	0.49
18:K:48:PRO:HA	34:a:1423:G:OP2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:K:88:ASN:HB3	18:K:91:SER:O	2.12	0.49
29:V:3:THR:HG23	29:V:62:THR:HG23	1.94	0.49
34:a:285:C:C2	34:a:286:C:C5	3.00	0.49
34:a:375:U:H4'	49:p:6:LEU:HD22	1.93	0.49
34:a:825:A:H2'	34:a:826:C:H6	1.77	0.49
34:a:910:C:C2	34:a:911:U:C5	3.00	0.49
34:a:914:A:H2'	34:a:915:A:O4'	2.13	0.49
34:a:1028:C:O2'	34:a:1033:G:N1	2.39	0.49
34:a:1073:U:O2	35:b:102:ASN:ND2	2.45	0.49
34:a:1378:C:C4	34:a:1379:G:C8	3.01	0.49
38:e:56:PRO:HA	38:e:59:ILE:HD12	1.94	0.49
44:k:28:ASN:C	44:k:29:THR:HG1	2.18	0.49
50:q:60:ILE:HG22	50:q:74:LEU:HD12	1.94	0.49
56:w:3:C:H2'	56:w:4:C:H6	1.77	0.49
7:6:10:GLU:OE2	7:6:29:GLY:N	2.38	0.49
8:A:272:A:C6	8:A:273:G:C6	3.00	0.49
8:A:284:U:C4	8:A:356:G:O6	2.64	0.49
8:A:322:A:C2	8:A:340:A:C6	3.00	0.49
8:A:417:C:C2	8:A:418:C:C5	3.01	0.49
8:A:481:G:H1'	8:A:506:G:N2	2.27	0.49
8:A:582:A:N6	8:A:1259:G:O6	2.46	0.49
8:A:689:A:H2'	8:A:690:G:C8	2.47	0.49
8:A:729:G:C4	8:A:1775:U:C2	3.00	0.49
8:A:781:A:N1	8:A:1776:G:O2'	2.35	0.49
8:A:1050:A:O2'	8:A:1051:G:H5'	2.12	0.49
8:A:1130:U:O2	8:A:2025:C:H5"	2.12	0.49
8:A:1176:U:C4	8:A:1177:G:C5	2.99	0.49
8:A:1243:C:H2'	8:A:1244:A:H8	1.77	0.49
8:A:1266:G:H22	8:A:2012:G:H3'	1.77	0.49
8:A:1350:C:H2'	8:A:1351:C:H6	1.78	0.49
8:A:1491:G:H2'	8:A:1492:G:C8	2.47	0.49
8:A:1681:G:C6	8:A:1762:A:C6	3.01	0.49
8:A:1741:C:H2'	8:A:1742:U:C6	2.47	0.49
8:A:2140:G:H2'	8:A:2141:G:O4'	2.12	0.49
8:A:2204:G:OP1	10:C:146:LYS:NZ	2.45	0.49
8:A:2415:G:C4	8:A:2416:C:C5	3.00	0.49
8:A:2543:G:H21	8:A:2646:C:H4'	1.77	0.49
8:A:2560:A:C6	8:A:2561:U:C4	3.01	0.49
8:A:2564:A:C5	8:A:2565:A:C6	3.01	0.49
8:A:2731:G:O3'	11:D:208:LYS:NZ	2.44	0.49
8:A:2757:A:N1	14:G:66:THR:OG1	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:6:GLY:HA2	11:D:28:GLU:O	2.13	0.49
12:E:110:SER:OG	12:E:114:ARG:NH1	2.46	0.49
13:F:21:TYR:CE2	13:F:28:PRO:HD3	2.37	0.49
18:K:21:CYS:SG	18:K:22:ILE:N	2.85	0.49
20:M:31:PHE:CD1	20:M:132:THR:HA	2.47	0.49
28:U:73:ASN:C	28:U:75:ALA:H	2.19	0.49
34:a:158:G:H2'	34:a:158:G:N3	2.27	0.49
34:a:278:G:H21	34:a:279:A:H62	1.60	0.49
34:a:374:A:C8	34:a:375:U:C6	3.00	0.49
34:a:414:A:C5	34:a:415:A:C8	3.00	0.49
34:a:438:U:C4	34:a:494:G:C5	3.00	0.49
34:a:617:G:O6	34:a:624:C:N4	2.45	0.49
34:a:667:G:H4'	48:o:50:HIS:ND1	2.27	0.49
34:a:683:G:N2	44:k:39:ASN:HA	2.27	0.49
34:a:771:G:C6	34:a:772:U:C4	3.01	0.49
34:a:836:G:C4	34:a:851:G:C2	3.00	0.49
34:a:867:G:C2	34:a:868:C:C2	3.00	0.49
34:a:1079:G:H2'	34:a:1080:A:H8	1.76	0.49
34:a:1103:C:H5"	35:b:96:LEU:CD2	2.43	0.49
34:a:1171:A:H2'	34:a:1172:C:C6	2.47	0.49
34:a:1190:G:OP2	36:c:4:VAL:N	2.45	0.49
34:a:1217:C:H2'	34:a:1218:C:C6	2.46	0.49
34:a:1516:2MG:N1	34:a:1520:C:C4	2.80	0.49
34:a:1528:U:H4'	34:a:1529:G:H21	1.77	0.49
36:c:81:GLU:O	36:c:85:LYS:HG2	2.12	0.49
42:i:3:ASN:OD1	42:i:4:GLN:N	2.46	0.49
43:j:15:HIS:CE1	43:j:16:ARG:HG3	2.47	0.49
44:k:33:ILE:HB	44:k:41:LEU:HB2	1.93	0.49
55:v:29:G:C6	55:v:42:G:C6	3.00	0.49
56:w:10:G:N2	56:w:26:A:H1'	2.25	0.49
3:2:14:ARG:NH1	8:A:1377:G:HO2'	2.09	0.49
4:3:54:LEU:O	4:3:58:ILE:HG13	2.12	0.49
7:6:13:THR:OG1	7:6:31:ASP:OD2	2.30	0.49
8:A:149:A:H2'	8:A:150:U:H6	1.77	0.49
8:A:242:G:H2'	8:A:254:G:O6	2.12	0.49
8:A:250:G:C5	8:A:251:A:C5	3.00	0.49
8:A:303:G:H2'	8:A:304:U:H6	1.77	0.49
8:A:377:G:H1	8:A:397:U:H3	1.60	0.49
8:A:392:U:H2'	8:A:393:C:C6	2.47	0.49
8:A:464:U:C4	8:A:788:A:C4	3.00	0.49
8:A:465:G:C6	8:A:466:A:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:513:A:N3	8:A:514:A:C8	2.81	0.49
8:A:552:U:N3	8:A:553:G:N7	2.61	0.49
8:A:585:G:N2	8:A:1253:A:O5'	2.35	0.49
8:A:615:U:N3	12:E:38:GLY:HA3	2.27	0.49
8:A:625:G:H2'	8:A:626:A:C8	2.48	0.49
8:A:738:G:C4	8:A:739:A:N7	2.81	0.49
8:A:764:A:N3	10:C:211:ARG:HD3	2.28	0.49
8:A:874:G:C4	8:A:875:G:C8	3.00	0.49
8:A:913:U:H2'	8:A:913:U:OP2	2.13	0.49
8:A:969:G:H2'	8:A:970:U:O4'	2.13	0.49
8:A:1024:G:H3'	8:A:1025:G:H2'	1.95	0.49
8:A:1130:U:O4	11:D:152:PRO:HA	2.13	0.49
8:A:1150:C:H2'	8:A:1151:A:C8	2.39	0.49
8:A:1287:A:H62	21:N:106:ASP:HB3	1.78	0.49
8:A:1367:A:H5"	8:A:1368:G:O4'	2.12	0.49
8:A:1587:G:C4	8:A:1588:G:C8	3.01	0.49
8:A:1723:G:H2'	8:A:1724:G:O4'	2.12	0.49
8:A:1781:U:H3'	8:A:1781:U:OP2	2.12	0.49
8:A:1814:G:C6	8:A:1815:A:N6	2.81	0.49
8:A:1847:G:N2	8:A:1848:A:H62	2.11	0.49
8:A:1894:C:O2'	8:A:1895:C:H5'	2.11	0.49
8:A:1949:G:O4'	34:a:1419:G:N2	2.46	0.49
8:A:2083:G:H2'	8:A:2084:C:C6	2.47	0.49
8:A:2129:C:O2	8:A:2129:C:H2'	2.10	0.49
8:A:2214:C:H3'	8:A:2215:C:H6	1.77	0.49
8:A:2683:C:N3	8:A:2727:A:O2'	2.45	0.49
8:A:2862:G:H2'	8:A:2863:C:H6	1.76	0.49
8:A:2876:G:C2	8:A:2877:G:C4	3.00	0.49
12:E:1:MET:H1	12:E:14:VAL:HG22	1.77	0.49
13:F:65:LEU:HB3	13:F:87:LYS:HG3	1.94	0.49
14:G:148:ARG:HD2	14:G:163:TYR:CZ	2.47	0.49
21:N:53:THR:HG23	21:N:56:LYS:NZ	2.28	0.49
23:P:13:LYS:HG2	23:P:76:HIS:CE1	2.47	0.49
34:a:186:C:C2	34:a:187:G:C8	3.01	0.49
34:a:292:G:C6	34:a:309:A:C6	3.00	0.49
34:a:301:G:H4'	34:a:564:C:N4	2.27	0.49
34:a:410:G:OP1	37:d:25:ARG:HG3	2.12	0.49
34:a:553:A:H2'	34:a:554:A:C8	2.48	0.49
34:a:653:U:O4'	41:h:55:LYS:NZ	2.44	0.49
34:a:859:G:H2'	34:a:860:A:H8	1.77	0.49
34:a:908:A:C4	34:a:909:A:C8	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:941:G:C2	34:a:1343:G:C2	2.99	0.49
34:a:1239:A:H4'	34:a:1240:U:H5"	1.95	0.49
37:d:25:ARG:NH2	37:d:26:ALA:HB3	2.28	0.49
39:f:14:GLN:N	39:f:14:GLN:CD	2.70	0.49
39:f:89:VAL:HG22	39:f:90:MET:H	1.76	0.49
42:i:7:GLY:N	42:i:85:ALA:HB2	2.27	0.49
43:j:83:THR:O	43:j:87:LEU:HD13	2.13	0.49
48:o:14:PHE:HD2	48:o:25:GLU:HG2	1.77	0.49
3:2:11:LYS:HB3	8:A:686:U:C4	2.47	0.49
8:A:51:G:N2	8:A:119:A:N3	2.61	0.49
8:A:219:A:C6	8:A:220:G:C5	3.00	0.49
8:A:222:A:O2'	8:A:224:U:H5'	2.13	0.49
8:A:658:U:O3'	12:E:95:LYS:NZ	2.46	0.49
8:A:665:U:C2	8:A:666:A:C8	3.01	0.49
8:A:732:C:H2'	8:A:733:G:C8	2.48	0.49
8:A:800:A:C2	8:A:802:A:H8	2.30	0.49
8:A:861:A:H3'	8:A:862:G:C8	2.48	0.49
8:A:1153:C:H2'	8:A:1154:G:O4'	2.12	0.49
8:A:1180:U:H2'	8:A:1181:U:H6	1.74	0.49
8:A:1416:G:C4	8:A:1417:C:C5	3.00	0.49
8:A:1600:C:C2	8:A:1601:G:C8	3.01	0.49
8:A:1864:U:O2	8:A:1878:G:O6	2.30	0.49
8:A:1890:A:C4	8:A:1891:G:C8	3.01	0.49
8:A:2069:G7M:C2	8:A:2070:A:C4	2.96	0.49
8:A:2190:G:H2'	8:A:2191:A:H8	1.78	0.49
8:A:2206:C:C2	8:A:2207:C:C5	3.01	0.49
8:A:2330:G:C6	8:A:2331:G:C5	3.00	0.49
8:A:2519:U:C4	8:A:2542:A:N7	2.80	0.49
8:A:2774:C:H2'	8:A:2775:G:O4'	2.12	0.49
8:A:2806:C:H2'	8:A:2807:U:O4'	2.12	0.49
8:A:2810:A:C5	8:A:2890:G:N2	2.81	0.49
8:A:2821:A:C2	8:A:2822:G:C4	3.01	0.49
8:A:2839:G:OP1	21:N:46:ARG:NE	2.41	0.49
8:A:2848:G:N2	8:A:2867:G:C4	2.80	0.49
9:B:101:A:H3'	9:B:102:G:C8	2.48	0.49
11:D:61:THR:OG1	11:D:64:GLU:HB3	2.13	0.49
13:F:161:SER:OG	13:F:163:GLU:OE1	2.21	0.49
18:K:21:CYS:HB2	18:K:39:ILE:HD12	1.95	0.49
28:U:8:ASP:OD1	28:U:9:GLU:N	2.46	0.49
34:a:10:A:H2'	34:a:11:G:H8	1.77	0.49
34:a:15:G:H4'	38:e:28:ARG:CZ	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:44:A:H2'	34:a:45:G:H8	1.77	0.49
34:a:374:A:C2'	34:a:375:U:H5'	2.42	0.49
34:a:581:G:OP1	48:o:64:LYS:NZ	2.35	0.49
34:a:648:A:H2'	34:a:649:A:C8	2.47	0.49
34:a:786:G:N1	34:a:797:C:C4	2.81	0.49
34:a:856:C:H2'	34:a:857:C:C6	2.48	0.49
34:a:1018:G:H2'	34:a:1019:A:H8	1.77	0.49
34:a:1048:G:O2'	34:a:1050:G:OP1	2.30	0.49
35:b:162:VAL:O	35:b:185:ILE:HD12	2.12	0.49
37:d:140:ASP:OD1	37:d:141:VAL:N	2.40	0.49
38:e:150:GLU:H	38:e:150:GLU:CD	2.19	0.49
43:j:98:VAL:HB	43:j:100:ILE:HD11	1.95	0.49
45:l:82:ARG:N	45:l:95:HIS:O	2.40	0.49
45:l:98:ARG:HA	45:l:103:CYS:SG	2.53	0.49
45:l:106:VAL:HG12	45:l:107:LYS:H	1.77	0.49
51:r:46:THR:HG21	51:r:54:LEU:HD12	1.94	0.49
55:v:51:C:C2	55:v:64:G:C2	3.00	0.49
56:w:3:C:H2'	56:w:4:C:C6	2.48	0.49
4:3:28:LEU:HD12	4:3:28:LEU:H	1.78	0.49
8:A:2:G:N1	8:A:2902:C:C4	2.81	0.49
8:A:228:C:N4	8:A:417:C:O2'	2.45	0.49
8:A:353:C:H2'	8:A:354:A:H8	1.76	0.49
8:A:470:A:H2'	8:A:471:A:C8	2.47	0.49
8:A:492:A:H2'	8:A:493:G:O4'	2.12	0.49
8:A:565:C:H4'	8:A:1253:A:C6	2.47	0.49
8:A:609:A:H3'	8:A:610:C:H6	1.78	0.49
8:A:693:A:C6	8:A:770:G:C6	3.00	0.49
8:A:807:U:H2'	8:A:808:G:C8	2.43	0.49
8:A:884:U:H4'	8:A:885:C:OP2	2.08	0.49
8:A:950:G:C6	8:A:951:C:C4	3.00	0.49
8:A:974:G:C2	8:A:1186:G:C6	3.01	0.49
8:A:1221:C:C4	8:A:1222:U:C4	3.00	0.49
8:A:1309:G:C4	8:A:1310:G:C8	3.01	0.49
8:A:1632:A:C6	8:A:1633:G:C6	3.01	0.49
8:A:1727:C:C2	8:A:1734:G:C2	3.01	0.49
8:A:1935:G:C5	8:A:1962:5MC:HM53	2.47	0.49
8:A:2127:G:O2'	8:A:2128:G:C5	2.65	0.49
8:A:2293:G:C6	8:A:2340:A:N1	2.80	0.49
8:A:2413:G:C2	8:A:2414:G:C4	3.00	0.49
8:A:2511:U:P	11:D:128:ARG:HH21	2.35	0.49
8:A:2836:U:O4	8:A:2837:A:N6	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2881:U:H2'	8:A:2882:A:H8	1.78	0.49
9:B:33:G:C4	9:B:34:A:C8	3.00	0.49
9:B:62:C:C2	9:B:63:C:C5	3.01	0.49
10:C:76:VAL:HB	10:C:114:GLN:OE1	2.13	0.49
10:C:229:HIS:CG	10:C:230:PRO:HD2	2.48	0.49
11:D:32:ASN:O	11:D:95:SER:HA	2.12	0.49
12:E:117:ARG:O	12:E:186:VAL:HG12	2.13	0.49
25:R:58:VAL:O	25:R:59:ILE:HD13	2.12	0.49
34:a:91:U:C2	34:a:92:U:C5	3.01	0.49
34:a:112:G:N2	34:a:354:G:H5'	2.27	0.49
34:a:188:C:H2'	34:a:189:A:O4'	2.12	0.49
34:a:253:A:O4'	34:a:275:G:N2	2.45	0.49
34:a:283:U:C4	34:a:284:C:C4	3.00	0.49
34:a:350:G:H2'	34:a:351:G:C8	2.47	0.49
34:a:643:C:C5'	41:h:31:LEU:HD21	2.41	0.49
34:a:984:C:C2	34:a:1222:G:C2	3.01	0.49
34:a:1012:A:C5	34:a:1013:G:C5	3.01	0.49
34:a:1095:U:OP1	34:a:1108:G:N1	2.46	0.49
34:a:1153:G:N1	34:a:1154:G:C5	2.81	0.49
34:a:1314:C:H2'	34:a:1315:U:H6	1.78	0.49
34:a:1444:U:H2'	34:a:1445:U:C6	2.48	0.49
34:a:1513:A:H2'	34:a:1514:G:C8	2.48	0.49
37:d:197:HIS:CD2	37:d:197:HIS:H	2.30	0.49
37:d:201:GLU:HG3	38:e:104:ILE:HG23	1.95	0.49
38:e:114:LEU:HD21	38:e:143:LEU:HD11	1.93	0.49
39:f:67:PRO:O	39:f:71:ILE:HG12	2.13	0.49
43:j:6:ILE:HB	43:j:76:ILE:HG23	1.95	0.49
44:k:28:ASN:CG	44:k:29:THR:H	2.18	0.49
44:k:78:ILE:O	44:k:79:LYS:HD2	2.12	0.49
49:p:40:ASN:ND2	49:p:43:ALA:HB2	2.28	0.49
8:A:52:A:H3'	8:A:53:A:H8	1.78	0.49
8:A:346:A:C5	8:A:347:A:C5	3.00	0.49
8:A:363:G:C6	8:A:364:C:C4	3.01	0.49
8:A:483:A:O3'	28:U:47:PRO:HD3	2.10	0.49
8:A:494:G:C2	8:A:495:G:C8	3.00	0.49
8:A:699:A:HO2'	8:A:1554:U:H3	1.60	0.49
8:A:711:G:C6	8:A:712:G:C5	3.00	0.49
8:A:821:A:H5"	8:A:822:G:C5'	2.43	0.49
8:A:927:A:C6	8:A:928:A:C5	3.01	0.49
8:A:1128:G:N1	8:A:2518:A:C5	2.81	0.49
8:A:1251:C:OP2	24:Q:5:ARG:HD2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1309:G:C6	8:A:1310:G:N7	2.81	0.49
8:A:1365:A:H5'	31:X:1:SER:CB	2.40	0.49
8:A:1383:A:H1'	8:A:1406:U:H5'	1.93	0.49
8:A:1384:A:H1'	8:A:1405:U:C1'	2.43	0.49
8:A:1501:G:OP1	10:C:100:ARG:NH2	2.46	0.49
8:A:1577:C:H2'	8:A:1578:U:N1	2.27	0.49
8:A:1715:G:O2'	8:A:1716:U:P	2.70	0.49
8:A:1786:A:HO2'	8:A:1787:A:P	2.36	0.49
8:A:1794:A:N6	8:A:1826:G:O6	2.46	0.49
8:A:1901:A:H5"	10:C:252:LYS:HD2	1.94	0.49
8:A:1907:G:H1'	8:A:1908:C:O5'	2.13	0.49
8:A:2214:C:H3'	8:A:2215:C:C6	2.47	0.49
8:A:2231:U:H2'	8:A:2232:C:C6	2.47	0.49
8:A:2276:G:OP2	20:M:85:GLY:N	2.34	0.49
8:A:2458:G:H21	8:A:2459:A:N6	2.11	0.49
8:A:2834:G:C8	8:A:2879:A:C6	3.01	0.49
11:D:46:ARG:NH2	11:D:86:GLU:HA	2.21	0.49
11:D:88:GLU:HG3	11:D:90:PHE:HE1	1.77	0.49
12:E:1:MET:N	12:E:14:VAL:HG22	2.28	0.49
13:F:34:THR:HG23	13:F:88:VAL:O	2.13	0.49
14:G:117:PRO:HG2	14:G:120:ILE:HD11	1.94	0.49
17:J:95:ARG:C	17:J:96:ARG:HG3	2.37	0.49
18:K:99:ILE:HD11	18:K:115:ILE:HD13	1.94	0.49
18:K:109:SER:OG	18:K:110:GLU:OE1	2.31	0.49
20:M:8:LYS:HG3	20:M:9:PHE:N	2.28	0.49
21:N:72:ASP:O	21:N:76:VAL:HG23	2.13	0.49
23:P:13:LYS:CE	23:P:76:HIS:HA	2.43	0.49
23:P:30:TRP:HB2	23:P:79:VAL:HG13	1.95	0.49
25:R:37:GLU:O	25:R:38:VAL:C	2.54	0.49
25:R:51:VAL:HG21	25:R:54:VAL:HA	1.95	0.49
31:X:14:GLY:O	31:X:26:ARG:N	2.45	0.49
34:a:19:A:N3	34:a:572:A:H2	2.09	0.49
34:a:32:A:N6	34:a:553:A:C6	2.80	0.49
34:a:210:C:OP2	34:a:211:G:C6	2.66	0.49
34:a:223:A:H2'	34:a:224:U:H6	1.77	0.49
34:a:769:G:H4'	34:a:1513:A:H4'	1.94	0.49
34:a:793:U:O2	34:a:1516:2MG:O2'	2.23	0.49
34:a:796:C:C2	34:a:797:C:C5	3.00	0.49
34:a:818:G:C2	34:a:820:U:O2'	2.66	0.49
34:a:924:C:H2'	34:a:925:G:H8	1.78	0.49
34:a:1053:G:C5	34:a:1200:C:H5	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1258:G:H2'	34:a:1259:C:H6	1.78	0.49
34:a:1305:G:N2	34:a:1331:G:H1'	2.28	0.49
34:a:1359:C:P	47:n:75:ARG:HH21	2.35	0.49
34:a:1491:G:C4	60:a:2001:AM2:HA31	2.48	0.49
35:b:58:LYS:O	35:b:62:ARG:HG3	2.12	0.49
37:d:94:GLU:HG3	37:d:185:PRO:HG2	1.95	0.49
37:d:151:GLN:CD	37:d:153:ARG:HE	2.21	0.49
39:f:3:HIS:HD2	39:f:37:HIS:NE2	2.10	0.49
44:k:30:ILE:HA	44:k:45:THR:HA	1.95	0.49
44:k:109:ILE:O	54:u:4:LYS:HA	2.13	0.49
52:s:52:ASN:HA	52:s:76:THR:HG22	1.95	0.49
55:v:23:C:H2'	55:v:24:U:C6	2.47	0.49
55:v:29:G:H2'	55:v:30:G:C8	2.47	0.49
5:4:10:LEU:HB3	5:4:33:HIS:ND1	2.27	0.49
8:A:123:G:N1	8:A:129:C:N3	2.61	0.49
8:A:190:A:C8	8:A:207:A:C6	3.01	0.49
8:A:217:A:H3'	8:A:218:A:H8	1.78	0.49
8:A:532:A:H3'	24:Q:27:ARG:CZ	2.43	0.49
8:A:534:U:N3	8:A:535:G:N7	2.61	0.49
8:A:588:U:H2'	8:A:589:U:C6	2.47	0.49
8:A:686:U:H4'	8:A:687:C:OP2	2.09	0.49
8:A:766:U:H2'	8:A:767:U:C6	2.48	0.49
8:A:878:A:H5'	8:A:879:G:N7	2.28	0.49
8:A:957:C:OP1	20:M:76:LYS:N	2.41	0.49
8:A:1107:G:H2'	8:A:1108:U:H6	1.78	0.49
8:A:1241:A:H2'	8:A:1241:A:N3	2.28	0.49
8:A:1258:U:H2'	8:A:1259:G:H8	1.78	0.49
8:A:1306:C:H2'	8:A:1307:A:H8	1.77	0.49
8:A:1338:G:C2	8:A:1339:G:C2	3.01	0.49
8:A:1532:A:N1	8:A:1540:G:C6	2.81	0.49
8:A:1571:A:C4	8:A:1572:A:C8	3.00	0.49
8:A:1692:U:N3	8:A:1694:C:N3	2.60	0.49
8:A:1737:G:H2'	8:A:1738:G:C1'	2.42	0.49
8:A:1761:C:C4	8:A:1762:A:C5	3.01	0.49
8:A:1765:U:H2'	8:A:1766:G:C8	2.44	0.49
8:A:1789:A:C6	8:A:1790:C:C4	3.01	0.49
8:A:1794:A:H2'	8:A:1795:C:C6	2.47	0.49
8:A:1952:A:H2'	8:A:1953:A:C8	2.48	0.49
8:A:2056:G:C6	8:A:2577:A:C4	3.01	0.49
8:A:2333:A:C8	8:A:2335:A:C4	3.01	0.49
8:A:2508:G:C6	8:A:2509:G:C5	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2602:A:OP2	8:A:2602:A:H4'	2.12	0.49
8:A:2668:G:C4	8:A:2669:G:C8	3.01	0.49
8:A:2721:A:C4	8:A:2722:G:C8	3.01	0.49
8:A:2814:A:C5	8:A:2815:C:C5	3.01	0.49
9:B:106:G:H2'	9:B:107:G:O4'	2.12	0.49
10:C:254:LYS:O	10:C:256:THR:HG23	2.12	0.49
11:D:107:VAL:HA	11:D:206:ALA:H	1.78	0.49
14:G:40:VAL:CA	14:G:54:ARG:H	2.26	0.49
14:G:89:VAL:HG12	14:G:159:LYS:HA	1.95	0.49
15:H:130:VAL:HG21	15:H:144:VAL:HB	1.95	0.49
18:K:13:ASN:CG	18:K:97:THR:H	2.21	0.49
18:K:78:ARG:HH21	23:P:100:ARG:NH1	2.11	0.49
21:N:84:GLY:O	21:N:88:ALA:HB2	2.11	0.49
27:T:40:LYS:HE2	27:T:60:THR:H	1.76	0.49
33:Z:1:ALA:O	33:Z:3:THR:HG23	2.13	0.49
34:a:21:G:C4	34:a:22:G:C8	3.01	0.49
34:a:27:G:C6	34:a:28:A:C5	3.00	0.49
34:a:42:G:H2'	34:a:43:C:C6	2.48	0.49
34:a:54:C:O2'	34:a:55:A:H5'	2.13	0.49
34:a:108:G:N7	34:a:109:A:H2	2.11	0.49
34:a:215:C:H2'	34:a:216:U:O4'	2.13	0.49
34:a:438:U:H4'	37:d:119:HIS:CD2	2.47	0.49
34:a:843:U:P	34:a:846:G:C4	3.06	0.49
34:a:1115:U:H2'	34:a:1116:U:H6	1.75	0.49
34:a:1204:A:H2'	34:a:1205:U:N1	2.28	0.49
34:a:1250:A:H2'	34:a:1251:A:O4'	2.13	0.49
34:a:1361:G:C4	34:a:1362:A:C8	3.01	0.49
35:b:14:HIS:HB3	35:b:208:ALA:HB2	1.94	0.49
36:c:18:ASN:HB3	36:c:55:VAL:HA	1.95	0.49
36:c:87:ARG:HH21	36:c:88:LYS:NZ	2.11	0.49
37:d:17:ASP:OD2	37:d:27:ILE:HG21	2.13	0.49
39:f:88:MET:HB2	51:r:63:TYR:CE2	2.48	0.49
44:k:28:ASN:HD21	44:k:47:GLY:H	1.60	0.49
44:k:116:PRO:O	44:k:117:HIS:ND1	2.41	0.49
46:m:14:ALA:N	46:m:42:VAL:O	2.46	0.49
51:r:10:CYS:SG	51:r:47:ARG:N	2.81	0.49
56:w:15:G:C2	56:w:16:U:C4	3.01	0.49
56:w:36:A:H2'	56:w:37:MIA:H8	1.94	0.49
5:4:5:ALA:H	8:A:2466:C:P	2.36	0.49
5:4:11:CYS:N	5:4:14:CYS:SG	2.86	0.49
8:A:188:G:H2'	8:A:189:G:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:407:G:H2'	8:A:408:G:H8	1.78	0.49
8:A:409:G:H2'	8:A:410:G:H8	1.78	0.49
8:A:444:C:H2'	8:A:445:C:C5	2.48	0.49
8:A:513:A:H2'	8:A:514:A:H8	1.78	0.49
8:A:538:A:N6	8:A:555:G:N2	2.30	0.49
8:A:579:G:C5	8:A:1262:A:C6	3.01	0.49
8:A:647:G:C6	8:A:648:G:C6	3.01	0.49
8:A:672:C:N4	8:A:809:G:C6	2.81	0.49
8:A:707:G:H2'	8:A:708:G:O4'	2.12	0.49
8:A:1032:A:C6	8:A:1122:G:O6	2.65	0.49
8:A:1048:A:N6	8:A:1111:A:N7	2.60	0.49
8:A:1124:G:C6	8:A:1125:G:C6	3.01	0.49
8:A:1170:C:H3'	8:A:1171:G:H8	1.77	0.49
8:A:1391:U:H2'	8:A:1393:A:OP2	2.13	0.49
8:A:1780:A:H3'	8:A:1780:A:OP2	2.13	0.49
8:A:1794:A:C6	8:A:1826:G:C6	3.01	0.49
8:A:1987:A:C2	8:A:1988:G:C5	3.01	0.49
8:A:2093:G:C5	8:A:2225:A:C5	3.01	0.49
8:A:2163:A:H8	8:A:2163:A:O5'	1.94	0.49
8:A:2190:G:C2	8:A:2191:A:C4	3.00	0.49
8:A:2299:U:H2'	8:A:2300:C:C6	2.47	0.49
8:A:2523:G:H2'	8:A:2524:G:C8	2.48	0.49
8:A:2618:G:O2'	8:A:2619:C:H5'	2.13	0.49
8:A:2637:U:C2	8:A:2782:G:C2	3.00	0.49
8:A:2896:C:H2'	8:A:2897:U:H6	1.76	0.49
10:C:229:HIS:ND1	10:C:231:HIS:N	2.61	0.49
13:F:37:MET:HE2	13:F:151:LEU:HB3	1.94	0.49
13:F:69:ALA:HA	13:F:84:ILE:HG21	1.94	0.49
14:G:94:ARG:HA	14:G:127:GLN:HG3	1.94	0.49
15:H:55:GLU:O	15:H:58:LEU:HG	2.12	0.49
23:P:45:VAL:O	23:P:47:ILE:HG23	2.13	0.49
25:R:5:PHE:O	25:R:11:GLN:HA	2.13	0.49
26:S:46:LEU:O	26:S:50:VAL:HG22	2.13	0.49
28:U:26:ASN:OD1	28:U:26:ASN:N	2.46	0.49
31:X:23:ALA:O	31:X:24:THR:OG1	2.27	0.49
34:a:92:U:H2'	34:a:93:U:C6	2.48	0.49
34:a:107:G:P	34:a:325:A:H62	2.36	0.49
34:a:149:A:H2'	34:a:150:U:H6	1.76	0.49
34:a:171:A:H2'	34:a:172:A:O4'	2.12	0.49
34:a:366:A:H2	34:a:394:G:H1	1.61	0.49
34:a:574:A:H5"	34:a:575:G:OP2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:643:C:H2'	34:a:644:U:C6	2.48	0.49
34:a:689:C:H2'	34:a:690:G:O4'	2.13	0.49
34:a:739:C:H2'	34:a:740:U:O4'	2.13	0.49
34:a:790:A:C5	34:a:791:G:C5	3.01	0.49
34:a:876:C:H2'	34:a:877:G:C8	2.47	0.49
34:a:943:U:H2'	34:a:944:G:H8	1.76	0.49
34:a:1043:G:O2'	34:a:1044:A:O4'	2.30	0.49
34:a:1297:G:H8	34:a:1297:G:OP2	1.96	0.49
34:a:1310:G:P	46:m:86:ARG:HH12	2.36	0.49
34:a:1367:C:H3'	42:i:113:LYS:NZ	2.28	0.49
34:a:1518:MA6:H8	34:a:1518:MA6:H3'	1.93	0.49
39:f:66:ALA:HB1	39:f:67:PRO:HD2	1.94	0.49
43:j:8:ILE:O	43:j:10:LEU:HD12	2.13	0.49
44:k:22:ILE:N	44:k:84:MET:O	2.45	0.49
46:m:70:ARG:O	46:m:73:SER:OG	2.29	0.49
46:m:88:LEU:O	46:m:92:ARG:HD2	2.12	0.49
49:p:72:ALA:HA	49:p:75:ILE:HD12	1.95	0.49
54:u:41:THR:OG1	54:u:42:THR:N	2.43	0.49
55:v:16:C:H1'	55:v:60:U:H1'	1.94	0.49
55:v:58:A:O2'	55:v:60:U:OP2	2.21	0.49
56:w:65:G:H2'	56:w:66:U:C5	2.48	0.49
1:0:28:SER:OG	1:0:39:ARG:HG2	2.12	0.48
8:A:15:G:O6	8:A:525:U:C2	2.65	0.48
8:A:88:G:N2	8:A:89:A:C4	2.81	0.48
8:A:93:G:C2	8:A:94:A:C4	3.01	0.48
8:A:272:A:H2'	8:A:273:G:H8	1.75	0.48
8:A:639:U:C2	8:A:640:C:C5	3.00	0.48
8:A:824:U:H2'	8:A:825:A:C8	2.48	0.48
8:A:869:G:O2'	8:A:870:U:H5'	2.12	0.48
8:A:938:G:H2'	8:A:939:G:H8	1.78	0.48
8:A:995:C:HO2'	8:A:996:A:P	2.36	0.48
8:A:1045:C:P	8:A:1047:G:H5'	2.53	0.48
8:A:1227:G:H2'	8:A:1228:G:H8	1.76	0.48
8:A:1275:A:C4	21:N:16:HIS:CD2	3.01	0.48
8:A:1355:G:H2'	8:A:1356:G:C8	2.48	0.48
8:A:1362:C:C4	8:A:1363:C:C4	3.01	0.48
8:A:1395:A:OP1	8:A:1604:C:P	2.71	0.48
8:A:1427:A:H4'	8:A:1428:C:O4'	2.12	0.48
8:A:1437:C:O2'	8:A:1516:G:H4'	2.13	0.48
8:A:1517:G:H2'	8:A:1518:C:H6	1.76	0.48
8:A:1690:A:N6	8:A:1697:G:N2	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1720:U:H3'	8:A:1721:G:H8	1.78	0.48
8:A:1799:G:C5	8:A:1819:A:C8	3.01	0.48
8:A:1838:C:H41	8:A:1899:A:P	2.36	0.48
8:A:1980:G:C2	8:A:1982:U:C4	3.00	0.48
8:A:2108:A:H3'	8:A:2109:U:C6	2.47	0.48
8:A:2118:U:C4	8:A:2147:A:C6	3.01	0.48
8:A:2357:G:C6	8:A:2361:G:C6	3.01	0.48
8:A:2443:C:H3'	8:A:2444:G:H8	1.78	0.48
8:A:2536:G:H2'	8:A:2537:U:C6	2.47	0.48
8:A:2545:G:H2'	8:A:2546:U:H6	1.75	0.48
8:A:2599:G:C4	8:A:2600:A:C8	3.01	0.48
8:A:2634:A:H2'	8:A:2635:A:C8	2.48	0.48
8:A:2856:A:H2'	8:A:2857:G:C8	2.48	0.48
8:A:2880:C:O2'	21:N:92:GLY:O	2.29	0.48
9:B:83:G:C6	9:B:94:A:N6	2.81	0.48
10:C:40:GLY:HA3	10:C:42:ARG:HH11	1.78	0.48
14:G:88:LEU:HD11	14:G:95:ALA:HB2	1.94	0.48
26:S:14:ALA:HA	26:S:17:VAL:HG22	1.94	0.48
33:Z:7:THR:OG1	33:Z:55:LYS:HE2	2.13	0.48
34:a:10:A:O2'	34:a:507:C:O3'	2.26	0.48
34:a:340:U:H2'	34:a:341:C:H6	1.78	0.48
34:a:515:G:C5	34:a:516:PSU:C2	3.01	0.48
34:a:810:C:C4	34:a:811:C:H5	2.31	0.48
34:a:865:A:H5'	34:a:1078:U:O4	2.13	0.48
34:a:899:C:H2'	34:a:900:A:H8	1.78	0.48
34:a:1002:G:N1	34:a:1039:G:C6	2.81	0.48
34:a:1048:G:H2'	34:a:1050:G:C8	2.48	0.48
34:a:1079:G:H2'	34:a:1080:A:C8	2.48	0.48
34:a:1204:A:H2'	34:a:1205:U:C6	2.48	0.48
34:a:1304:G:H2'	34:a:1305:G:C4	2.48	0.48
35:b:95:TRP:CZ3	35:b:100:LEU:HD13	2.47	0.48
37:d:6:PRO:HG2	37:d:9:LYS:NZ	2.28	0.48
38:e:13:LYS:C	38:e:36:THR:HG23	2.38	0.48
50:q:16:MET:CG	50:q:19:SER:HB2	2.41	0.48
55:v:8:4SU:S4	55:v:14:A:H8	2.35	0.48
56:w:42:C:H2'	56:w:43:C:C6	2.48	0.48
7:6:34:LEU:HD12	13:F:105:ILE:HG23	1.95	0.48
8:A:128:C:H2'	8:A:129:C:C6	2.48	0.48
8:A:351:C:H2'	8:A:352:A:C8	2.47	0.48
8:A:603:A:C8	8:A:655:A:C6	3.01	0.48
8:A:809:G:C6	8:A:810:U:N3	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1058:U:P	8:A:1071:G:H1'	2.53	0.48
8:A:1065:U:O4	8:A:1075:C:H5'	2.12	0.48
8:A:1683:U:N3	8:A:1684:G:N7	2.61	0.48
8:A:1702:G:C2	8:A:1703:G:C4	3.00	0.48
8:A:1910:G:H5'	8:A:1910:G:N3	2.27	0.48
8:A:1941:C:C2	8:A:1965:C:C2	3.02	0.48
8:A:1970:A:C4	8:A:1972:G:C8	3.01	0.48
8:A:2059:A:H4'	12:E:64:GLY:O	2.14	0.48
8:A:2266:A:H4'	8:A:2267:A:N3	2.28	0.48
8:A:2469:A:C2	8:A:2482:A:H1'	2.48	0.48
8:A:2471:A:C2	8:A:2472:G:H1'	2.49	0.48
8:A:2594:C:H2'	8:A:2595:G:C8	2.49	0.48
8:A:2741:A:C6	8:A:2742:G:C4	3.01	0.48
8:A:2784:U:C2	8:A:2785:C:C5	3.01	0.48
8:A:2821:A:OP2	11:D:115:GLY:HA3	2.13	0.48
8:A:2848:G:N2	8:A:2867:G:N3	2.61	0.48
9:B:16:G:C6	9:B:69:G:C2	3.01	0.48
10:C:132:ARG:O	15:H:89:LYS:NZ	2.29	0.48
13:F:124:ARG:HA	13:F:161:SER:HA	1.95	0.48
19:L:79:LEU:HD11	19:L:112:LEU:HD12	1.96	0.48
20:M:32:GLY:HA2	20:M:104:GLU:HA	1.95	0.48
27:T:39:THR:HB	27:T:42:GLU:CD	2.38	0.48
28:U:43:LYS:N	28:U:58:VAL:O	2.46	0.48
29:V:32:GLY:O	29:V:93:ARG:NH1	2.39	0.48
34:a:2:A:O2'	34:a:613:C:H4'	2.12	0.48
34:a:672:U:P	39:f:79:ARG:HH22	2.36	0.48
34:a:693:G:C8	58:z:-2:A:H1'	2.48	0.48
34:a:728:A:OP1	48:o:53:ARG:NH1	2.44	0.48
34:a:808:C:C2	34:a:809:G:C8	3.01	0.48
34:a:813:U:OP1	34:a:904:U:H5'	2.13	0.48
34:a:984:C:H2'	34:a:985:C:C6	2.48	0.48
34:a:1006:G:C6	34:a:1022:A:C2	3.02	0.48
35:b:8:MET:C	35:b:10:LYS:H	2.21	0.48
54:u:54:ARG:O	54:u:56:ALA:N	2.42	0.48
3:2:40:ALA:HB3	3:2:41:ARG:HD3	1.95	0.48
8:A:123:G:C6	8:A:124:G:C5	3.01	0.48
8:A:167:A:H2'	8:A:168:G:O4'	2.14	0.48
8:A:196:A:C6	8:A:831:G:N2	2.80	0.48
8:A:215:G:H1'	8:A:216:A:H4'	1.95	0.48
8:A:332:A:C5	8:A:335:C:C4	3.01	0.48
8:A:340:A:H2'	8:A:341:C:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:464:U:H2'	8:A:465:G:O4'	2.12	0.48
8:A:593:U:H2'	8:A:594:U:H6	1.77	0.48
8:A:695:G:C6	8:A:696:G:C5	3.01	0.48
8:A:810:U:P	8:A:1253:A:N7	2.87	0.48
8:A:953:G:C4	8:A:954:G:C8	3.01	0.48
8:A:971:G:H3'	8:A:972:A:C8	2.47	0.48
8:A:987:C:H2'	8:A:988:A:O4'	2.13	0.48
8:A:1142:A:C4	8:A:1144:A:N7	2.81	0.48
8:A:1167:C:H2'	8:A:1168:G:H8	1.76	0.48
8:A:1230:A:H2'	8:A:1231:U:O4'	2.12	0.48
8:A:1301:A:C2	8:A:1303:G:C6	3.01	0.48
8:A:1499:C:H2'	8:A:1500:G:H5'	1.95	0.48
8:A:1699:G:C4	8:A:1763:G:N2	2.81	0.48
8:A:1927:A:O2'	8:A:1928:A:H5'	2.13	0.48
8:A:1933:G:C6	8:A:1934:C:C4	3.02	0.48
8:A:2013:A:H2	26:S:88:ARG:HH12	1.62	0.48
8:A:2200:C:OP1	31:X:36:ARG:N	2.42	0.48
8:A:2294:G:N1	8:A:2339:C:N3	2.61	0.48
8:A:2589:A:C4	8:A:2590:A:C8	3.01	0.48
8:A:2689:U:OP1	8:A:2691:C:N4	2.47	0.48
18:K:1:MET:CE	18:K:32:TYR:HB3	2.43	0.48
23:P:21:PRO:HB2	23:P:91:VAL:HG21	1.94	0.48
25:R:12:HIS:O	25:R:14:VAL:HG13	2.13	0.48
25:R:15:SER:H	25:R:18:GLN:NE2	2.11	0.48
34:a:10:A:H2'	34:a:11:G:C8	2.48	0.48
34:a:38:G:H22	34:a:397:A:H5'	1.77	0.48
34:a:247:G:H2'	34:a:248:C:H6	1.79	0.48
34:a:357:G:OP1	34:a:367:U:H6	1.95	0.48
34:a:384:G:H2'	34:a:385:C:H6	1.75	0.48
34:a:457:G:C2	34:a:458:U:H1'	2.49	0.48
34:a:910:C:H2'	34:a:911:U:C6	2.45	0.48
34:a:1014:A:H4'	52:s:13:HIS:CE1	2.48	0.48
34:a:1233:G:H2'	34:a:1234:C:C6	2.48	0.48
34:a:1249:C:C2	34:a:1288:A:N6	2.67	0.48
34:a:1258:G:H2'	34:a:1259:C:C6	2.49	0.48
34:a:1314:C:C5	52:s:3:SER:HB2	2.48	0.48
36:c:39:ARG:NH1	36:c:54:ILE:O	2.46	0.48
40:g:99:ALA:O	40:g:103:ILE:HG12	2.13	0.48
43:j:21:ALA:O	43:j:25:ILE:HG12	2.12	0.48
51:r:20:ILE:HD13	51:r:54:LEU:HG	1.95	0.48
55:v:21:A:H62	55:v:46:A:H1'	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:22:G:H2'	55:v:23:C:H6	1.77	0.48
2:1:36:LYS:HG2	2:1:47:ILE:CD1	2.43	0.48
8:A:286:U:H2'	8:A:287:G:H8	1.76	0.48
8:A:554:U:H2'	8:A:555:G:C8	2.48	0.48
8:A:975:A:C4	8:A:990:A:C6	3.01	0.48
8:A:1146:C:C2	8:A:1147:A:C8	3.01	0.48
8:A:1206:G:H2'	8:A:1207:C:C6	2.49	0.48
8:A:1354:A:C6	8:A:1377:G:N2	2.81	0.48
8:A:1548:A:C4	8:A:1549:A:C8	3.02	0.48
8:A:1992:G:N1	8:A:1997:C:C2	2.82	0.48
8:A:2172:U:H4'	8:A:2174:C:N4	2.24	0.48
8:A:2323:G:H2'	8:A:2324:U:C6	2.49	0.48
8:A:2413:G:C6	8:A:2414:G:C6	3.01	0.48
8:A:2489:U:O2'	8:A:2490:G:H5'	2.14	0.48
8:A:2544:G:C2	8:A:2545:G:C5	3.01	0.48
8:A:2583:G:C6	8:A:2584:U:C2	3.01	0.48
8:A:2632:A:H2'	8:A:2633:G:H8	1.75	0.48
8:A:2642:G:C2	8:A:2773:C:C2	3.01	0.48
8:A:2859:G:C6	8:A:2860:A:C6	3.01	0.48
10:C:18:VAL:O	10:C:18:VAL:HG23	2.13	0.48
10:C:65:ASP:OD2	10:C:101:ARG:HD3	2.13	0.48
10:C:83:ASP:OD1	10:C:85:ASN:ND2	2.47	0.48
10:C:131:MET:HG2	10:C:134:ILE:CD1	2.44	0.48
10:C:246:PRO:HB2	10:C:247:TRP:CZ3	2.48	0.48
23:P:13:LYS:NZ	23:P:76:HIS:HA	2.28	0.48
30:W:21:ARG:HB3	30:W:25:GLU:CD	2.38	0.48
31:X:51:SER:OG	31:X:52:ALA:N	2.47	0.48
34:a:182:A:C4	34:a:184:G:C5	3.01	0.48
34:a:433:G:H2'	34:a:434:U:H6	1.78	0.48
34:a:446:G:C2	34:a:489:C:C2	3.01	0.48
34:a:453:G:C6	34:a:454:G:C5	3.01	0.48
34:a:521:G:C5	45:l:49:ARG:NH2	2.80	0.48
34:a:567:G:C6	34:a:568:G:C5	3.01	0.48
34:a:660:C:H2'	34:a:661:G:O4'	2.13	0.48
34:a:707:U:H2'	34:a:708:C:C6	2.48	0.48
34:a:751:U:C4	34:a:752:G:C6	3.01	0.48
34:a:777:A:C6	34:a:778:G:C5	3.01	0.48
34:a:916:U:H2'	34:a:917:G:C8	2.48	0.48
34:a:924:C:H5'	34:a:1399:C:P	2.54	0.48
34:a:951:G:C6	34:a:1231:G:C6	3.02	0.48
34:a:1001:C:H2'	34:a:1002:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1010:U:H2'	34:a:1011:C:O4'	2.12	0.48
34:a:1184:G:H2'	34:a:1185:G:H8	1.79	0.48
34:a:1292:G:C6	34:a:1293:C:C4	3.02	0.48
34:a:1364:U:O2'	34:a:1365:G:H5'	2.13	0.48
34:a:1529:G:N3	34:a:1529:G:H2'	2.28	0.48
35:b:65:LYS:HE2	35:b:158:ASP:OD2	2.13	0.48
37:d:171:GLU:HB2	37:d:182:LYS:HG3	1.93	0.48
38:e:62:ALA:HB3	38:e:63:MET:HE2	1.95	0.48
44:k:107:THR:O	54:u:7:GLU:HB2	2.13	0.48
55:v:52:G:C6	55:v:53:G:C5	3.01	0.48
56:w:18:G:O2'	56:w:57:G:N1	2.40	0.48
3:2:16:HIS:HB3	3:2:21:ARG:NH1	2.29	0.48
8:A:2:G:O6	8:A:2902:C:N4	2.47	0.48
8:A:136:G:N1	8:A:144:A:C6	2.82	0.48
8:A:247:G:H4'	8:A:386:G:C2	2.48	0.48
8:A:368:A:C5	8:A:369:U:C2	3.01	0.48
8:A:439:A:H2'	8:A:440:C:H6	1.78	0.48
8:A:778:G:H5'	10:C:47:ARG:CZ	2.42	0.48
8:A:787:C:H3'	8:A:791:C:H41	1.79	0.48
8:A:843:G:O6	8:A:936:A:N6	2.47	0.48
8:A:920:A:C4	8:A:921:C:C5	3.01	0.48
8:A:1061:U:N3	16:I:11:GLN:O	2.46	0.48
8:A:1136:G:N1	8:A:1137:G:C5	2.82	0.48
8:A:1162:G:C4	8:A:1163:G:C8	3.01	0.48
8:A:1172:C:C2	8:A:1177:G:N2	2.82	0.48
8:A:1297:C:H2'	8:A:1298:C:C6	2.48	0.48
8:A:1540:G:H2'	8:A:1541:C:C6	2.49	0.48
8:A:1783:A:H2	8:A:2608:G:H21	1.61	0.48
8:A:1788:C:C5'	10:C:220:ARG:HH21	2.27	0.48
8:A:2102:G:H1	8:A:2188:U:H3	1.61	0.48
8:A:2104:C:C4	8:A:2105:U:C4	3.02	0.48
8:A:2542:A:H8	8:A:2542:A:OP2	1.97	0.48
8:A:2715:C:H2'	8:A:2716:C:O4'	2.14	0.48
8:A:2776:A:C8	8:A:2782:G:C5	3.01	0.48
9:B:20:G:H2'	9:B:21:G:O4'	2.14	0.48
9:B:37:C:H2'	9:B:38:C:O4'	2.13	0.48
9:B:101:A:C4	9:B:102:G:N7	2.81	0.48
10:C:198:GLU:HB3	10:C:201:LEU:HD12	1.95	0.48
11:D:36:GLN:HE22	11:D:38:LYS:CG	2.27	0.48
11:D:113:SER:HA	11:D:194:PRO:HB3	1.96	0.48
12:E:23:PHE:HB2	12:E:114:ARG:NH2	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:E:29:HIS:NE2	19:L:8:PRO:HD3	2.28	0.48
13:F:69:ALA:HB3	13:F:81:GLY:H	1.79	0.48
13:F:116:LEU:O	13:F:177:ARG:N	2.32	0.48
14:G:32:LEU:HB3	14:G:74:MET:HG2	1.95	0.48
14:G:140:ILE:HA	14:G:143:VAL:HG12	1.94	0.48
23:P:43:GLU:N	23:P:43:GLU:OE1	2.45	0.48
24:Q:16:ILE:HG13	24:Q:31:TYR:HE1	1.77	0.48
24:Q:108:LEU:HA	25:R:49:ILE:HG21	1.94	0.48
27:T:18:GLU:OE1	27:T:18:GLU:N	2.31	0.48
34:a:293:G:C6	34:a:294:U:C4	3.01	0.48
34:a:375:U:C4	34:a:376:G:N7	2.81	0.48
34:a:809:G:C6	34:a:810:C:C4	3.01	0.48
34:a:832:G:C6	34:a:833:G:C5	3.01	0.48
34:a:886:G:O6	34:a:911:U:C4	2.65	0.48
34:a:1187:G:N3	34:a:1187:G:H2'	2.29	0.48
34:a:1265:C:H2'	34:a:1266:G:H8	1.78	0.48
34:a:1380:U:C6	40:g:2:ARG:HD3	2.49	0.48
34:a:1414:U:H2'	34:a:1415:G:C8	2.48	0.48
36:c:119:ILE:HA	36:c:122:GLN:OE1	2.13	0.48
38:e:40:ASP:OD1	38:e:41:GLY:N	2.47	0.48
52:s:49:ALA:O	52:s:56:HIS:HB3	2.13	0.48
55:v:35:A:C6	58:z:3:G:N1	2.81	0.48
55:v:41:C:H3'	55:v:42:G:H8	1.78	0.48
8:A:246:C:H4'	8:A:385:C:O2'	2.14	0.48
8:A:471:A:H3'	8:A:472:A:H8	1.79	0.48
8:A:618:G:C5	8:A:619:G:C5	3.02	0.48
8:A:682:G:N1	8:A:796:C:N3	2.62	0.48
8:A:713:G:C5	8:A:714:U:C5	3.01	0.48
8:A:894:U:C4	8:A:895:U:C4	3.02	0.48
8:A:974:G:H4'	8:A:975:A:OP1	2.13	0.48
8:A:1057:A:H2'	8:A:1060:U:C4	2.49	0.48
8:A:1115:G:C2	8:A:1116:G:C5	3.02	0.48
8:A:1171:G:H1	8:A:1177:G:H1	1.62	0.48
8:A:1197:G:C2	8:A:1198:U:C5	3.02	0.48
8:A:1213:A:C5	8:A:1237:A:C5	3.01	0.48
8:A:1242:U:H2'	8:A:1243:C:H6	1.79	0.48
8:A:1413:A:N6	8:A:1590:A:N6	2.62	0.48
8:A:1450:G:H2'	8:A:1451:C:C6	2.49	0.48
8:A:1500:G:O2'	10:C:100:ARG:NH1	2.46	0.48
8:A:1658:C:H2'	8:A:1659:G:H8	1.78	0.48
8:A:1722:A:C8	8:A:1739:A:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1840:G:C5	8:A:1841:U:C5	3.01	0.48
8:A:1863:G:H2'	8:A:1864:U:O4'	2.13	0.48
8:A:1875:G:HO2'	8:A:1876:A:P	2.36	0.48
8:A:1902:C:O2'	10:C:241:LYS:O	2.28	0.48
8:A:2129:C:H3'	8:A:2130:U:H5	1.79	0.48
8:A:2148:G:C2	8:A:2149:U:C5	3.02	0.48
8:A:2247:A:H2'	8:A:2248:C:H6	1.78	0.48
8:A:2403:C:H2'	8:A:2404:U:C6	2.48	0.48
8:A:2547:A:HO2'	18:K:29:HIS:CD2	2.31	0.48
8:A:2578:G:N7	11:D:145:SER:HB3	2.29	0.48
10:C:143:VAL:HG13	10:C:189:ALA:HB2	1.94	0.48
12:E:47:LYS:HA	12:E:51:GLU:OE2	2.13	0.48
13:F:101:ARG:HE	13:F:139:GLU:CD	2.22	0.48
13:F:122:ASP:CG	13:F:126:ASN:HB2	2.38	0.48
17:J:122:LEU:HD12	17:J:123:LYS:N	2.27	0.48
18:K:37:ASP:O	18:K:61:VAL:HG23	2.14	0.48
18:K:66:LYS:NZ	18:K:79:PHE:O	2.21	0.48
21:N:68:ALA:HA	21:N:71:ARG:HH21	1.79	0.48
23:P:12:MET:HG2	23:P:76:HIS:CD2	2.48	0.48
34:a:45:G:H2'	34:a:46:G:H8	1.77	0.48
34:a:84:U:H3'	34:a:88:U:O4	2.12	0.48
34:a:293:G:N3	34:a:305:G:N2	2.61	0.48
34:a:303:A:H2'	34:a:304:U:H6	1.79	0.48
34:a:409:U:H2'	34:a:410:G:O4'	2.13	0.48
34:a:563:A:H5"	34:a:564:C:OP1	2.14	0.48
34:a:585:G:H2'	34:a:586:C:H6	1.77	0.48
34:a:760:G:C6	34:a:761:G:H1'	2.49	0.48
34:a:809:G:H2'	34:a:810:C:C6	2.49	0.48
34:a:911:U:H5"	45:l:91:GLY:HA2	1.95	0.48
34:a:975:A:N1	34:a:1366:C:O2'	2.29	0.48
34:a:1157:A:H5'	34:a:1158:C:C2	2.48	0.48
34:a:1167:A:H2'	34:a:1169:A:C5	2.49	0.48
34:a:1229:A:H2'	34:a:1230:C:C6	2.49	0.48
34:a:1386:G:C5	34:a:1387:G:N7	2.82	0.48
35:b:51:GLU:OE1	35:b:197:PHE:HE2	1.96	0.48
36:c:18:ASN:HB3	36:c:55:VAL:HG22	1.94	0.48
37:d:13:ARG:HD2	37:d:55:ARG:HH12	1.78	0.48
39:f:3:HIS:NE2	39:f:65:GLU:OE1	2.47	0.48
39:f:38:ARG:CZ	39:f:61:LEU:HD21	2.44	0.48
47:n:57:PRO:HA	47:n:60:GLN:NE2	2.28	0.48
48:o:9:LYS:O	48:o:12:SER:OG	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:4:ARG:C	5:4:37:GLN:HE21	2.20	0.48
8:A:60:G:O6	8:A:89:A:N6	2.47	0.48
8:A:396:G:C4	8:A:397:U:C5	3.02	0.48
8:A:441:U:C2	8:A:442:G:N7	2.82	0.48
8:A:769:U:C2	8:A:770:G:C8	3.01	0.48
8:A:949:G:H2'	8:A:950:G:H8	1.77	0.48
8:A:1016:G:H2'	8:A:1017:G:C8	2.46	0.48
8:A:1056:G:N2	8:A:1103:A:C4	2.79	0.48
8:A:1170:C:N4	8:A:1178:C:C2	2.81	0.48
8:A:1243:C:H2'	8:A:1244:A:C8	2.49	0.48
8:A:1279:G:OP1	21:N:35:LYS:N	2.46	0.48
8:A:1330:C:H2'	8:A:1331:G:H8	1.76	0.48
8:A:1387:A:C6	8:A:1388:G:C5	3.01	0.48
8:A:1417:C:C2'	8:A:1418:G:C8	2.96	0.48
8:A:1434:A:H61	8:A:1558:C:N4	2.12	0.48
8:A:1516:G:H2'	8:A:1517:G:C8	2.49	0.48
8:A:1649:G:C2	8:A:1650:A:C5	3.02	0.48
8:A:1805:A:H4'	10:C:247:TRP:CZ2	2.48	0.48
8:A:1840:G:H2'	8:A:1841:U:O4'	2.14	0.48
8:A:1896:G:C6	8:A:1897:G:C5	3.02	0.48
8:A:1905:C:C4	8:A:1930:G:N2	2.82	0.48
8:A:2038:G:C2	8:A:2039:U:C2	3.02	0.48
8:A:2120:G:C2	8:A:2121:G:C8	3.01	0.48
8:A:2187:U:C4	8:A:2188:U:C2	3.02	0.48
8:A:2241:A:C2	8:A:2242:G:C5	3.01	0.48
8:A:2677:G:N1	8:A:2731:G:O6	2.46	0.48
9:B:13:G:O2'	9:B:15:A:H2'	2.14	0.48
12:E:60:TRP:CE2	12:E:67:ARG:HD3	2.48	0.48
12:E:101:TYR:O	12:E:104:ALA:HB3	2.13	0.48
13:F:107:VAL:HA	13:F:110:ILE:CD1	2.43	0.48
15:H:90:LEU:HD12	15:H:123:ARG:C	2.38	0.48
20:M:35:ALA:HA	20:M:128:THR:HA	1.96	0.48
24:Q:65:ASN:O	24:Q:69:ARG:HG2	2.13	0.48
25:R:30:GLY:HA2	25:R:63:VAL:O	2.14	0.48
30:W:46:ASN:HB2	30:W:78:ILE:HB	1.95	0.48
34:a:8:A:N6	37:d:201:GLU:HB3	2.29	0.48
34:a:38:G:H1'	34:a:397:A:N6	2.28	0.48
34:a:203:G:C6	34:a:215:C:N4	2.82	0.48
34:a:325:A:C4	34:a:326:G:C8	3.00	0.48
34:a:369:G:N2	34:a:393:A:H1'	2.29	0.48
34:a:460:A:N6	34:a:461:A:N6	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:635:A:H2'	34:a:636:U:H6	1.78	0.48
34:a:665:A:P	51:r:56:ARG:HH22	2.36	0.48
34:a:839:C:H2'	34:a:840:C:C6	2.49	0.48
34:a:1146:A:C4	34:a:1147:C:C5	3.01	0.48
34:a:1407:5MC:H2'	34:a:1408:A:H8	1.78	0.48
34:a:1413:A:H2'	34:a:1414:U:O4'	2.14	0.48
34:a:1431:A:N1	34:a:1470:U:N3	2.61	0.48
34:a:1456:A:C2	34:a:1457:G:H1'	2.49	0.48
37:d:10:LEU:HD22	37:d:62:ARG:NH1	2.27	0.48
37:d:96:ARG:HB2	37:d:99:ASN:CB	2.43	0.48
38:e:136:VAL:O	38:e:140:ILE:HG13	2.14	0.48
39:f:41:ASP:C	39:f:42:TRP:HD1	2.21	0.48
42:i:22:PRO:CA	42:i:60:LEU:HA	2.41	0.48
44:k:31:VAL:HG21	44:k:66:ALA:HA	1.95	0.48
44:k:105:ARG:NH1	44:k:106:ILE:O	2.47	0.48
46:m:82:LEU:HB3	52:s:73:PHE:CZ	2.48	0.48
52:s:18:VAL:HG11	52:s:43:MET:HE2	1.96	0.48
52:s:49:ALA:HA	52:s:57:VAL:O	2.14	0.48
53:t:80:ALA:O	53:t:84:LYS:HB3	2.13	0.48
2:1:18:HIS:CG	2:1:19:PHE:N	2.80	0.48
8:A:15:G:H2'	8:A:16:C:O4'	2.13	0.48
8:A:35:G:H8	8:A:35:G:OP2	1.96	0.48
8:A:122:G:H2'	8:A:123:G:C8	2.48	0.48
8:A:260:G:C6	8:A:261:G:N7	2.82	0.48
8:A:287:G:C2	8:A:288:U:C2	3.01	0.48
8:A:468:G:H5"	12:E:55:SER:OG	2.13	0.48
8:A:712:G:C6	8:A:713:G:C5	3.01	0.48
8:A:876:C:H2'	8:A:877:A:C8	2.48	0.48
8:A:896:A:N1	56:w:56:C:OP1	2.47	0.48
8:A:958:U:H5'	20:M:14:LYS:NZ	2.28	0.48
8:A:1202:G:C6	8:A:1244:A:C6	3.02	0.48
8:A:1424:G:C6	8:A:1425:G:C6	3.01	0.48
8:A:1471:G:H2'	8:A:1472:C:C6	2.48	0.48
8:A:1498:C:H2'	8:A:1499:C:C6	2.49	0.48
8:A:1566:A:C5	10:C:212:TRP:CE2	3.01	0.48
8:A:1583:A:H4'	8:A:1585:C:C5	2.49	0.48
8:A:1683:U:C2	8:A:1684:G:N7	2.82	0.48
8:A:1785:A:O2'	8:A:1786:A:H5'	2.13	0.48
8:A:1807:G:H2'	8:A:1809:A:N7	2.29	0.48
8:A:1838:C:N4	8:A:1899:A:O5'	2.46	0.48
8:A:1983:G:C4	8:A:1984:G:C8	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2101:A:H5'	8:A:2102:G:OP2	2.13	0.48
8:A:2215:C:H2'	8:A:2216:G:H8	1.78	0.48
8:A:2282:G:N3	8:A:2425:A:N6	2.61	0.48
8:A:2346:A:C4	8:A:2383:G:C5	3.01	0.48
8:A:2351:G:H1'	8:A:2367:G:N2	2.29	0.48
8:A:2476:A:H5"	8:A:2476:A:H8	1.78	0.48
8:A:2494:G:C5	8:A:2495:G:C8	3.01	0.48
8:A:2503:2MA:H4'	8:A:2504:PSU:OP2	2.13	0.48
8:A:2534:A:C6	8:A:2535:G:C8	3.01	0.48
8:A:2545:G:C5	8:A:2546:U:C4	3.02	0.48
8:A:2590:A:OP2	10:C:236:GLY:HA2	2.13	0.48
8:A:2685:G:N3	8:A:2686:G:C8	2.82	0.48
8:A:2850:A:H2'	8:A:2851:A:C8	2.49	0.48
11:D:65:ALA:HA	11:D:68:PHE:HB2	1.95	0.48
13:F:28:PRO:HA	13:F:158:THR:OG1	2.13	0.48
13:F:127:TYR:CE2	13:F:129:MET:HB3	2.41	0.48
14:G:76:ILE:HB	14:G:82:PHE:CZ	2.48	0.48
14:G:104:LEU:HD13	14:G:106:LEU:HD11	1.95	0.48
17:J:47:HIS:O	17:J:48:VAL:HG13	2.13	0.48
17:J:64:VAL:HB	17:J:68:LYS:HZ1	1.79	0.48
21:N:97:ILE:HA	21:N:113:ILE:HA	1.96	0.48
23:P:21:PRO:HA	23:P:46:VAL:CG1	2.44	0.48
32:Y:42:LEU:HD23	32:Y:45:GLN:NE2	2.29	0.48
34:a:81:A:C6	34:a:82:G:C6	3.02	0.48
34:a:86:G:H22	34:a:90:C:H41	1.62	0.48
34:a:149:A:H1'	34:a:1446:A:C2	2.48	0.48
34:a:308:C:C2	34:a:309:A:C8	3.02	0.48
34:a:376:G:N1	34:a:387:U:C2	2.72	0.48
34:a:622:A:H3'	34:a:623:C:H6	1.79	0.48
34:a:716:A:C6	34:a:717:U:C4	3.02	0.48
34:a:913:A:OP1	45:l:87:LYS:NZ	2.31	0.48
34:a:922:G:H21	34:a:1398:A:H2	1.60	0.48
34:a:945:G:C2	34:a:946:A:C8	3.01	0.48
34:a:1118:U:H2'	34:a:1119:C:O4'	2.13	0.48
34:a:1167:A:H8	34:a:1167:A:O5'	1.96	0.48
34:a:1179:A:C5	34:a:1180:A:C5	3.02	0.48
34:a:1258:G:H22	34:a:1279:G:H22	1.61	0.48
34:a:1358:U:H5"	34:a:1359:C:OP2	2.12	0.48
34:a:1393:U:H2'	34:a:1395:C:H5	1.78	0.48
34:a:1457:G:C4	34:a:1458:G:C8	3.02	0.48
42:i:117:LEU:HD13	42:i:121:ARG:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:j:9:ARG:HG3	43:j:99:GLN:HG2	1.96	0.48
44:k:94:SER:HA	44:k:97:ARG:HD2	1.95	0.48
48:o:2:LEU:HD21	48:o:34:GLN:N	2.29	0.48
53:t:47:GLN:NE2	53:t:50:PHE:HB3	2.28	0.48
55:v:31:G:H2'	55:v:32:C:C6	2.49	0.48
55:v:52:G:N1	55:v:63:G:C6	2.82	0.48
3:2:18:PHE:HB3	8:A:126:A:P	2.54	0.48
4:3:7:ARG:O	4:3:11:LYS:HG2	2.14	0.48
8:A:168:G:H2'	8:A:169:G:C8	2.48	0.48
8:A:174:U:C2	8:A:175:G:N7	2.82	0.48
8:A:247:G:C8	8:A:249:C:C4	3.02	0.48
8:A:661:A:H4'	19:L:13:LYS:HD2	1.96	0.48
8:A:856:G:H2'	8:A:857:G:C8	2.49	0.48
8:A:957:C:O2	8:A:959:A:H5"	2.14	0.48
8:A:997:G:H5"	24:Q:91:ARG:HH11	1.78	0.48
8:A:1178:C:H2'	8:A:1180:U:C5	2.49	0.48
8:A:1429:G:C6	8:A:1568:G:C6	3.01	0.48
8:A:1470:A:C4	8:A:1471:G:C8	3.02	0.48
8:A:1555:G:H2'	8:A:1556:C:H6	1.76	0.48
8:A:1586:A:C5	8:A:1587:G:C5	3.02	0.48
8:A:1640:A:H2'	8:A:1641:A:C8	2.49	0.48
8:A:1653:G:P	8:A:2822:G:H22	2.37	0.48
8:A:1692:U:C2	8:A:1694:C:C4	3.02	0.48
8:A:1731:G:C6	8:A:1733:G:C5	3.02	0.48
8:A:1835:2MG:HM23	8:A:1836:C:H1'	1.96	0.48
8:A:1964:G:C2	8:A:1967:C:C4	3.02	0.48
8:A:2086:U:N3	8:A:2234:G:C5	2.82	0.48
8:A:2618:G:C4	8:A:2619:C:C5	3.02	0.48
8:A:2639:A:H8	8:A:2639:A:O5'	1.96	0.48
8:A:2795:C:H2'	8:A:2796:U:H6	1.78	0.48
9:B:84:G:N1	9:B:93:C:N3	2.62	0.48
10:C:140:VAL:N	10:C:161:VAL:O	2.26	0.48
13:F:125:GLY:HA3	13:F:159:ALA:HB3	1.95	0.48
13:F:134:GLN:HE22	13:F:148:VAL:HA	1.78	0.48
15:H:50:ARG:NH1	15:H:54:LEU:HD11	2.28	0.48
20:M:6:ARG:HD3	20:M:6:ARG:O	2.13	0.48
34:a:27:G:C6	34:a:557:G:C6	3.02	0.48
34:a:54:C:H41	34:a:352:C:H2'	1.78	0.48
34:a:77:A:N6	34:a:93:U:H3	2.12	0.48
34:a:172:A:C5	34:a:174:A:N7	2.82	0.48
34:a:211:G:H2'	34:a:212:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:561:U:HO2'	34:a:562:U:P	2.36	0.48
34:a:639:G:N1	34:a:640:A:C5	2.81	0.48
34:a:667:G:H2'	34:a:668:G:H8	1.79	0.48
34:a:673:A:O3'	39:f:86:ARG:NH2	2.47	0.48
34:a:716:A:H2'	34:a:717:U:H6	1.77	0.48
34:a:718:A:C4	44:k:117:HIS:CE1	3.02	0.48
34:a:719:C:O2'	51:r:38:ILE:O	2.22	0.48
34:a:730:G:O2'	34:a:814:A:N6	2.47	0.48
34:a:784:A:H2'	34:a:785:G:H8	1.78	0.48
34:a:875:U:O2'	41:h:14:ARG:NH1	2.38	0.48
34:a:881:G:H2'	34:a:882:C:H6	1.77	0.48
34:a:890:G:H1'	34:a:906:A:N6	2.28	0.48
34:a:930:C:H2'	34:a:931:C:C6	2.48	0.48
34:a:1014:A:H4'	52:s:13:HIS:NE2	2.28	0.48
34:a:1026:G:C8	34:a:1027:C:H5	2.32	0.48
34:a:1033:G:H3'	34:a:1034:G:C8	2.49	0.48
34:a:1222:G:OP1	34:a:1322:C:H5	1.97	0.48
34:a:1249:C:N3	34:a:1288:A:N7	2.62	0.48
34:a:1304:G:H21	34:a:1333:A:H62	1.60	0.48
34:a:1377:A:C4	40:g:6:ILE:HG13	2.49	0.48
41:h:92:PRO:O	41:h:93:LYS:HD2	2.14	0.48
43:j:51:VAL:HG21	47:n:81:ARG:HB2	1.94	0.48
44:k:122:PRO:HD2	54:u:37:TYR:HB2	1.96	0.48
45:l:4:ASN:O	45:l:8:ARG:HG3	2.13	0.48
48:o:2:LEU:HD11	48:o:34:GLN:HB2	1.95	0.48
48:o:33:ALA:HA	48:o:36:ASN:ND2	2.26	0.48
55:v:50:U:H2'	55:v:51:C:C6	2.49	0.48
2:1:5:ARG:HB3	2:1:23:THR:HB	1.96	0.48
3:2:31:LEU:HD23	3:2:42:LEU:HD21	1.95	0.48
8:A:105:C:C2	8:A:106:C:C5	3.02	0.48
8:A:303:G:H2'	8:A:304:U:C6	2.49	0.48
8:A:522:A:C4	8:A:523:C:C5	3.02	0.48
8:A:669:G:C2	8:A:801:G:C6	3.02	0.48
8:A:703:U:O2	8:A:728:G:O6	2.31	0.48
8:A:727:A:H2'	8:A:728:G:O4'	2.14	0.48
8:A:795:C:H2'	8:A:796:C:C6	2.48	0.48
8:A:1056:G:H21	8:A:1087:G:H21	1.62	0.48
8:A:1126:A:H4'	8:A:1127:A:O5'	2.14	0.48
8:A:1314:C:H2'	8:A:1315:C:C6	2.49	0.48
8:A:1343:G:H1'	8:A:1597:A:C4	2.48	0.48
8:A:1374:G:H2'	8:A:1375:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1418:G:N2	8:A:1580:A:H62	2.08	0.48
8:A:1455:G:N1	8:A:1456:G:C5	2.82	0.48
8:A:1506:U:O2'	8:A:1507:C:O4'	2.24	0.48
8:A:1581:G:H2'	8:A:1582:C:H6	1.75	0.48
8:A:1642:G:C2	8:A:1643:G:C4	3.02	0.48
8:A:1670:C:H2'	8:A:1671:U:O4'	2.13	0.48
8:A:1849:G:H2'	8:A:1850:G:C8	2.49	0.48
8:A:1906:G:C6	8:A:1929:G:C2	3.01	0.48
8:A:2046:G:C4	8:A:2623:G:C2	3.02	0.48
8:A:2108:A:N1	8:A:2183:A:N6	2.62	0.48
8:A:2191:A:H2'	8:A:2192:U:H6	1.77	0.48
8:A:2305:U:H5"	13:F:130:GLY:CA	2.41	0.48
8:A:2412:A:C6	8:A:2413:G:C5	3.02	0.48
8:A:2432:A:N1	55:v:75:C:N4	2.62	0.48
8:A:2740:A:C4	8:A:2741:A:C8	3.02	0.48
8:A:2801:G:H2'	8:A:2802:G:O4'	2.14	0.48
8:A:2838:G:H2'	8:A:2839:G:O4'	2.13	0.48
11:D:200:ASP:O	11:D:201:LEU:HD12	2.13	0.48
12:E:46:GLN:C	12:E:47:LYS:HD3	2.39	0.48
12:E:154:ASP:HB3	12:E:157:LEU:HG	1.95	0.48
12:E:177:PRO:HA	12:E:180:LEU:HD12	1.96	0.48
13:F:21:TYR:HB3	13:F:26:GLN:HB3	1.96	0.48
14:G:43:LYS:HB2	14:G:43:LYS:HE3	1.64	0.48
34:a:107:G:C6	34:a:108:G:H1'	2.49	0.48
34:a:171:A:C6	34:a:172:A:C6	3.02	0.48
34:a:186:C:H2'	34:a:187:G:C8	2.49	0.48
34:a:283:U:H2'	34:a:284:C:C6	2.49	0.48
34:a:292:G:C2	34:a:309:A:C2	3.02	0.48
34:a:373:A:C5	34:a:482:A:C6	3.02	0.48
34:a:448:A:N6	34:a:486:U:O2	2.41	0.48
34:a:545:C:H5"	37:d:68:GLU:HG2	1.94	0.48
34:a:722:G:C2	34:a:724:G:C5	3.01	0.48
34:a:787:A:C6	34:a:788:U:C4	3.01	0.48
34:a:988:G:H2'	34:a:989:U:O4'	2.13	0.48
34:a:1280:A:P	43:j:9:ARG:HH12	2.37	0.48
34:a:1292:G:H2'	34:a:1293:C:C6	2.49	0.48
34:a:1317:C:C4	47:n:53:ARG:HD3	2.48	0.48
34:a:1486:G:C6	34:a:1487:G:C6	3.01	0.48
34:a:1488:G:N1	34:a:1489:G:C6	2.82	0.48
42:i:49:GLN:O	42:i:52:GLU:HG3	2.13	0.48
44:k:21:HIS:NE2	44:k:34:THR:HG23	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:o:52:ARG:O	48:o:56:LEU:HG	2.14	0.48
51:r:20:ILE:HB	51:r:53:GLN:CG	2.44	0.48
3:2:25:LYS:C	3:2:29:GLN:HE21	2.20	0.47
8:A:60:G:C8	8:A:62:U:C5	3.02	0.47
8:A:343:C:O2	8:A:343:C:H2'	2.14	0.47
8:A:379:G:O6	8:A:395:U:O2	2.32	0.47
8:A:536:G:H2'	8:A:537:G:O4'	2.14	0.47
8:A:679:C:C2	8:A:680:C:C6	3.02	0.47
8:A:684:G:C8	8:A:774:G:C6	3.02	0.47
8:A:695:G:H2'	8:A:696:G:C8	2.49	0.47
8:A:708:G:H2'	8:A:709:U:H6	1.79	0.47
8:A:737:C:C2	8:A:738:G:C8	3.02	0.47
8:A:957:C:C2	8:A:959:A:C8	3.01	0.47
8:A:983:A:N7	8:A:984:A:N6	2.53	0.47
8:A:1171:G:H1	8:A:1177:G:N2	2.12	0.47
8:A:1300:G:C5	8:A:1626:A:C4	3.02	0.47
8:A:1443:U:C2	8:A:1444:G:C8	3.01	0.47
8:A:1444:G:C2	8:A:1445:G:C4	3.02	0.47
8:A:1449:G:C4	8:A:1450:G:C8	3.02	0.47
8:A:1481:U:C2	8:A:1511:G:N1	2.82	0.47
8:A:1632:A:H2'	8:A:1633:G:C8	2.49	0.47
8:A:1677:A:H2'	8:A:1678:A:O4'	2.14	0.47
8:A:1682:G:C6	8:A:1683:U:C4	3.02	0.47
8:A:1773:A:C2	8:A:1774:C:H1'	2.49	0.47
8:A:1779:U:H5	8:A:1784:A:C8	2.31	0.47
8:A:1846:G:C6	8:A:1847:G:C6	3.02	0.47
8:A:1851:U:C2	8:A:1891:G:O6	2.66	0.47
8:A:2282:G:O2'	8:A:2390:U:O4	2.30	0.47
8:A:2282:G:C6	8:A:2425:A:C2	3.02	0.47
8:A:2286:G:H8	8:A:2287:A:C6	2.32	0.47
8:A:2531:A:C2'	8:A:2532:G:H5'	2.44	0.47
8:A:2551:C:H2'	8:A:2552:OMU:N1	2.29	0.47
8:A:2669:G:H2'	8:A:2670:A:H8	1.78	0.47
9:B:103:U:H2'	9:B:104:A:O4'	2.14	0.47
9:B:113:C:H2'	9:B:114:C:C6	2.48	0.47
10:C:128:THR:HB	10:C:190:THR:HA	1.96	0.47
15:H:80:ILE:O	15:H:146:VAL:HA	2.14	0.47
15:H:95:GLY:H	15:H:98:ASP:CG	2.20	0.47
18:K:4:GLU:OE2	18:K:23:LYS:HA	2.14	0.47
27:T:23:ALA:HB1	27:T:29:THR:HB	1.96	0.47
34:a:127:G:H4'	50:q:5:ARG:NH1	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:201:G:C6	34:a:202:G:C6	3.02	0.47
34:a:505:G:C2	34:a:506:G:C5	3.01	0.47
34:a:575:G:C6	34:a:881:G:C5	3.02	0.47
34:a:706:A:H2'	34:a:707:U:H6	1.79	0.47
34:a:720:C:H3'	34:a:721:G:C8	2.49	0.47
34:a:799:G:H2'	34:a:800:G:O4'	2.14	0.47
34:a:865:A:H2'	34:a:866:C:C6	2.48	0.47
34:a:931:C:N3	34:a:1387:G:C6	2.82	0.47
34:a:1386:G:H2'	34:a:1387:G:C8	2.49	0.47
35:b:22:TRP:O	35:b:22:TRP:CG	2.67	0.47
35:b:125:PHE:CE1	35:b:136:ARG:HB2	2.47	0.47
37:d:24:VAL:HG13	37:d:25:ARG:N	2.29	0.47
41:h:94:VAL:HG21	41:h:101:ALA:HB2	1.96	0.47
42:i:44:ARG:HA	42:i:47:VAL:HG22	1.96	0.47
46:m:3:ILE:HG21	46:m:59:VAL:HG21	1.96	0.47
47:n:48:LEU:HD23	47:n:49:GLN:N	2.28	0.47
8:A:237:C:C2	8:A:238:C:C5	3.02	0.47
8:A:388:G:C6	8:A:390:U:C2	3.02	0.47
8:A:483:A:C8	8:A:484:C:C5	3.03	0.47
8:A:572:A:H3'	8:A:573:U:H6	1.79	0.47
8:A:728:G:H4'	10:C:12:ARG:HH11	1.79	0.47
8:A:755:U:H2'	8:A:756:A:C8	2.50	0.47
8:A:919:U:C2	8:A:920:A:C8	3.02	0.47
8:A:982:C:O2'	8:A:983:A:OP1	2.26	0.47
8:A:1093:G:N2	8:A:1094:U:H1'	2.21	0.47
8:A:1208:C:H2'	8:A:1209:U:O4'	2.15	0.47
8:A:1342:A:N7	8:A:1601:G:N1	2.62	0.47
8:A:1362:C:H2'	8:A:1363:C:H6	1.77	0.47
8:A:1406:U:H2'	8:A:1407:G:C8	2.49	0.47
8:A:1488:C:H2'	8:A:1489:C:H6	1.78	0.47
8:A:1633:G:C2	8:A:1635:A:C4	3.03	0.47
8:A:1663:G:O2'	8:A:1664:A:O5'	2.26	0.47
8:A:1695:G:C6	8:A:1696:G:C4	3.01	0.47
8:A:1747:U:H2'	8:A:1748:C:H6	1.78	0.47
8:A:1828:G:H8	8:A:1828:G:O5'	1.96	0.47
8:A:2351:G:C6	8:A:2365:G:C6	3.02	0.47
8:A:2384:U:H2'	8:A:2386:A:OP1	2.13	0.47
8:A:2405:G:O2'	8:A:2406:A:P	2.73	0.47
8:A:2531:A:C5	8:A:2532:G:N7	2.81	0.47
8:A:2560:A:H2'	8:A:2561:U:C6	2.49	0.47
8:A:2655:G:N2	8:A:2664:G:H2'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2722:G:C6	8:A:2723:C:C4	3.02	0.47
9:B:78:A:H62	9:B:98:G:H21	1.62	0.47
9:B:118:C:H2'	9:B:119:A:C8	2.48	0.47
10:C:88:ALA:HA	10:C:196:ASN:HD22	1.79	0.47
10:C:178:GLY:C	10:C:270:ARG:HG2	2.39	0.47
11:D:7:LYS:O	11:D:9:VAL:HG23	2.14	0.47
11:D:16:THR:OG1	11:D:18:ASP:OD1	2.11	0.47
11:D:50:VAL:HG12	11:D:51:THR:N	2.29	0.47
14:G:102:ILE:CD1	14:G:116:LEU:HD11	2.45	0.47
14:G:125:PRO:HG2	14:G:129:GLU:CB	2.44	0.47
20:M:64:TRP:N	20:M:104:GLU:O	2.46	0.47
21:N:30:ARG:HD2	21:N:31:HIS:CE1	2.49	0.47
34:a:76:G:C6	34:a:95:C:C4	3.02	0.47
34:a:79:G:C2	34:a:90:C:O2	2.63	0.47
34:a:160:A:N6	34:a:346:G:C8	2.83	0.47
34:a:190:A:H2'	34:a:191:G:O4'	2.14	0.47
34:a:510:A:N3	34:a:543:U:H1'	2.30	0.47
34:a:636:U:H5'	50:q:5:ARG:NH2	2.29	0.47
34:a:766:A:H2'	34:a:767:A:C8	2.49	0.47
34:a:864:A:C5	34:a:865:A:C6	3.03	0.47
34:a:951:G:N1	34:a:1231:G:C5	2.82	0.47
34:a:1032:G:O6	34:a:1033:G:N1	2.46	0.47
34:a:1084:G:C5	34:a:1085:U:C4	3.01	0.47
34:a:1095:U:P	34:a:1108:G:H1	2.37	0.47
34:a:1200:C:O5'	34:a:1201:A:H3'	2.14	0.47
34:a:1226:C:OP2	34:a:1226:C:H6	1.97	0.47
34:a:1450:U:N3	34:a:1452:C:O2	2.47	0.47
34:a:1509:C:H2'	34:a:1510:C:C6	2.48	0.47
34:a:1511:G:N1	34:a:1525:G:C6	2.82	0.47
34:a:1513:A:H2'	34:a:1514:G:H8	1.77	0.47
35:b:18:GLN:HG3	35:b:37:VAL:HG22	1.96	0.47
36:c:138:GLN:O	36:c:142:ARG:HG2	2.13	0.47
39:f:50:PRO:HD2	51:r:73:HIS:CG	2.49	0.47
41:h:6:ILE:HD12	41:h:6:ILE:H	1.79	0.47
46:m:33:LEU:HD23	46:m:33:LEU:HA	1.69	0.47
51:r:20:ILE:H	51:r:53:GLN:CD	2.22	0.47
53:t:6:ALA:O	53:t:9:ARG:HB2	2.15	0.47
55:v:44:A:H3'	55:v:45:G:C8	2.50	0.47
56:w:18:G:N1	56:w:55:PSU:C4	2.79	0.47
6:5:56:ARG:C	6:5:58:THR:H	2.23	0.47
8:A:63:A:OP2	8:A:63:A:H3'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:73:A:HO2'	8:A:74:A:P	2.38	0.47
8:A:103:A:C5	8:A:104:A:C5	3.02	0.47
8:A:121:G:C4	8:A:131:A:C6	3.02	0.47
8:A:257:C:H3'	8:A:258:G:H8	1.79	0.47
8:A:358:U:C2	8:A:359:G:C8	3.02	0.47
8:A:383:C:H5'	8:A:384:A:O5'	2.14	0.47
8:A:404:A:C4	8:A:406:G:C2	3.02	0.47
8:A:487:C:H4'	26:S:56:ALA:HB1	1.97	0.47
8:A:533:G:H2'	8:A:534:U:H6	1.78	0.47
8:A:593:U:H2'	8:A:594:U:C6	2.49	0.47
8:A:953:G:H2'	8:A:954:G:C8	2.49	0.47
8:A:1048:A:C6	8:A:1111:A:C5	3.03	0.47
8:A:1220:G:C2	8:A:1221:C:C2	3.02	0.47
8:A:1347:A:C4	8:A:1348:C:C6	3.02	0.47
8:A:1522:A:H4'	8:A:1524:G:C8	2.50	0.47
8:A:1807:G:H21	8:A:1809:A:H8	1.63	0.47
8:A:2018:G:C5	8:A:2019:A:N7	2.83	0.47
8:A:2191:A:C2	8:A:2192:U:C2	3.02	0.47
8:A:2280:G:O6	8:A:2281:A:N6	2.48	0.47
8:A:2436:G:O2'	8:A:2437:G:H5'	2.14	0.47
8:A:2480:C:C4	8:A:2481:G:C5	3.02	0.47
8:A:2495:G:O3'	20:M:82:MET:HG2	2.14	0.47
8:A:2508:G:C4	8:A:2509:G:C8	3.02	0.47
8:A:2657:A:H3'	8:A:2658:C:H6	1.78	0.47
9:B:12:C:C5	30:W:70:PRO:HB3	2.50	0.47
9:B:19:C:H2'	9:B:20:G:C8	2.49	0.47
12:E:28:VAL:O	12:E:32:VAL:HG22	2.13	0.47
13:F:27:VAL:CG1	13:F:29:ARG:HH11	2.27	0.47
18:K:39:ILE:O	18:K:41:ILE:HG23	2.14	0.47
20:M:32:GLY:CA	20:M:104:GLU:HA	2.44	0.47
27:T:15:HIS:CG	27:T:16:VAL:N	2.82	0.47
32:Y:38:GLN:O	32:Y:40:SER:N	2.45	0.47
34:a:282:A:C2	34:a:283:U:H1'	2.49	0.47
34:a:393:A:C2	34:a:394:G:C8	3.02	0.47
34:a:400:C:H2'	34:a:401:C:H6	1.76	0.47
34:a:409:U:P	37:d:21:LYS:HE2	2.54	0.47
34:a:412:A:H2'	34:a:414:A:H4'	1.96	0.47
34:a:441:A:C6	34:a:442:G:C8	3.03	0.47
34:a:455:G:C2	34:a:478:A:N1	2.83	0.47
34:a:466:A:H5'	34:a:467:U:OP2	2.15	0.47
34:a:518:C:H2'	34:a:530:G:N3	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:536:C:C2	34:a:537:G:C8	3.02	0.47
34:a:585:G:OP2	50:q:38:LYS:NZ	2.41	0.47
34:a:606:G:N2	34:a:631:C:H3'	2.29	0.47
34:a:622:A:H3'	34:a:623:C:C6	2.48	0.47
34:a:711:G:C2	34:a:712:A:C5	3.02	0.47
34:a:712:A:H3'	34:a:713:G:H8	1.78	0.47
34:a:782:A:O3'	34:a:1515:G:H4'	2.14	0.47
34:a:785:G:N1	34:a:798:U:O4	2.48	0.47
34:a:1058:G:H2'	34:a:1059:C:O4'	2.14	0.47
34:a:1082:A:OP1	38:e:22:LYS:NZ	2.39	0.47
34:a:1253:G:H2'	34:a:1254:A:H8	1.79	0.47
34:a:1475:G:H2'	34:a:1476:A:H8	1.79	0.47
37:d:134:TYR:CE2	37:d:136:VAL:HA	2.49	0.47
38:e:93:VAL:HG22	38:e:94:PHE:H	1.80	0.47
41:h:95:MET:HB3	41:h:98:LEU:HB2	1.96	0.47
47:n:73:PHE:CZ	47:n:78:GLY:HA2	2.48	0.47
50:q:45:VAL:C	50:q:70:LYS:HD2	2.39	0.47
55:v:30:G:H2'	55:v:31:G:C8	2.49	0.47
8:A:75:G:C6	8:A:76:C:C4	3.03	0.47
8:A:302:C:H2'	8:A:303:G:H8	1.79	0.47
8:A:347:A:C2	8:A:348:A:C5	3.02	0.47
8:A:428:A:C2	8:A:429:A:C4	3.02	0.47
8:A:449:A:C6	8:A:450:G:C4	3.03	0.47
8:A:659:G:O5'	12:E:95:LYS:HD3	2.14	0.47
8:A:783:A:O2'	8:A:785:G:OP1	2.21	0.47
8:A:866:A:C5	8:A:867:C:C5	3.03	0.47
8:A:1017:G:H2'	8:A:1018:U:H6	1.79	0.47
8:A:1036:G:H1	8:A:1119:U:H3	1.61	0.47
8:A:1124:G:H2'	8:A:1125:G:C8	2.49	0.47
8:A:1220:G:C6	8:A:1230:A:C6	3.02	0.47
8:A:1307:A:C6	8:A:1308:A:C5	3.02	0.47
8:A:1429:G:C5	8:A:1568:G:C6	3.01	0.47
8:A:1469:A:H2'	8:A:1470:A:C8	2.49	0.47
8:A:1509:A:H2'	8:A:1510:G:O4'	2.12	0.47
8:A:1553:A:C5	8:A:1555:G:C5	3.03	0.47
8:A:1665:A:H2'	8:A:1666:G:O4'	2.14	0.47
8:A:1766:G:C2	8:A:1987:A:C4	3.02	0.47
8:A:1792:G:C5	8:A:1793:C:C5	3.02	0.47
8:A:1822:C:O2'	8:A:1823:G:H5'	2.14	0.47
8:A:1826:G:C5	8:A:1827:U:C4	3.03	0.47
8:A:1880:U:H2'	8:A:1881:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2010:G:OP1	26:S:41:LYS:HD2	2.15	0.47
8:A:2010:G:H2'	8:A:2011:U:C6	2.50	0.47
8:A:2051:A:C6	8:A:2614:A:C2	3.02	0.47
8:A:2138:G:C6	8:A:2154:A:N3	2.82	0.47
8:A:2290:G:H2'	8:A:2291:U:O4'	2.14	0.47
8:A:2407:A:C2	8:A:2408:U:C4	3.02	0.47
8:A:2543:G:H5"	8:A:2767:C:OP1	2.14	0.47
8:A:2562:U:O4	8:A:2566:A:N7	2.48	0.47
8:A:2849:U:C4	8:A:2867:G:N3	2.82	0.47
10:C:66:PHE:HZ	10:C:86:ARG:HH12	1.62	0.47
11:D:118:PHE:CE2	11:D:163:GLY:HA2	2.49	0.47
11:D:125:TRP:HB2	11:D:127:PHE:HE1	1.78	0.47
12:E:83:VAL:HG22	12:E:84:THR:H	1.79	0.47
14:G:89:VAL:N	14:G:160:GLY:O	2.47	0.47
15:H:45:GLU:HG3	15:H:46:PHE:H	1.78	0.47
19:L:2:ARG:HB2	19:L:5:THR:OG1	2.14	0.47
21:N:24:MET:HE1	21:N:40:LYS:HD3	1.96	0.47
26:S:36:LEU:HD13	26:S:48:LYS:HA	1.96	0.47
29:V:40:ILE:HG21	29:V:65:VAL:HG21	1.96	0.47
31:X:31:ASN:O	31:X:51:SER:HA	2.12	0.47
31:X:53:LYS:O	31:X:57:VAL:HG23	2.14	0.47
34:a:61:G:C6	34:a:107:G:C6	3.02	0.47
34:a:104:G:OP1	53:t:15:LYS:NZ	2.30	0.47
34:a:481:G:O2'	34:a:483:C:N4	2.47	0.47
34:a:694:A:C6	34:a:695:A:C4	3.02	0.47
34:a:909:A:H3'	34:a:910:C:H6	1.79	0.47
34:a:1026:G:O6	34:a:1035:A:C5	2.67	0.47
34:a:1217:C:H2'	34:a:1218:C:H6	1.79	0.47
34:a:1223:C:P	52:s:77:ARG:HH21	2.37	0.47
34:a:1250:A:H1'	34:a:1287:A:H62	1.78	0.47
34:a:1385:G:C5	34:a:1386:G:C8	3.02	0.47
34:a:1473:G:H2'	34:a:1473:G:N3	2.29	0.47
35:b:14:HIS:CB	35:b:202:ASN:HB2	2.36	0.47
37:d:8:LEU:O	37:d:12:ARG:HG2	2.13	0.47
37:d:84:ASN:O	37:d:87:GLU:HG2	2.14	0.47
41:h:104:SER:HB3	41:h:123:GLU:O	2.14	0.47
42:i:18:VAL:HG22	42:i:64:ILE:HD13	1.96	0.47
43:j:53:ILE:CG2	43:j:63:ASP:HB3	2.44	0.47
44:k:49:SER:HG	44:k:51:PHE:HD2	1.60	0.47
45:l:41:PRO:HD3	45:l:47:ALA:H	1.79	0.47
45:l:41:PRO:HD3	45:l:47:ALA:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:54:5MU:O5'	55:v:54:5MU:H6	1.97	0.47
4:3:12:ARG:NE	19:L:63:LYS:HG3	2.26	0.47
8:A:58:G:C2	8:A:70:G:C2	3.03	0.47
8:A:92:U:C4	8:A:93:G:C5	3.02	0.47
8:A:136:G:C6	8:A:144:A:C6	3.02	0.47
8:A:346:A:C6	8:A:347:A:C5	3.02	0.47
8:A:497:A:C5	8:A:498:G:C5	3.03	0.47
8:A:532:A:P	8:A:561:G:H21	2.37	0.47
8:A:581:C:C2	8:A:582:A:C8	3.02	0.47
8:A:598:U:C2	8:A:599:A:C8	3.02	0.47
8:A:747:5MC:OP2	26:S:90:LYS:NZ	2.43	0.47
8:A:781:A:N6	10:C:211:ARG:HH22	2.12	0.47
8:A:923:G:C2	8:A:924:G:C5	3.03	0.47
8:A:929:U:C2	8:A:930:G:C8	3.03	0.47
8:A:975:A:C5	8:A:976:G:C8	3.02	0.47
8:A:1057:A:N1	8:A:1082:U:C5	2.81	0.47
8:A:1246:A:H2'	8:A:1247:A:O4'	2.14	0.47
8:A:1483:G:H3'	8:A:1484:U:H6	1.79	0.47
8:A:1730:C:O2'	8:A:1731:G:O5'	2.33	0.47
8:A:1789:A:H5'	10:C:219:VAL:HA	1.96	0.47
8:A:1795:C:H2'	8:A:1796:U:O4'	2.15	0.47
8:A:1865:U:C4	8:A:1875:G:C2	3.02	0.47
8:A:2003:A:N1	8:A:2004:G:C5	2.82	0.47
8:A:2207:C:H2'	8:A:2208:C:H6	1.78	0.47
8:A:2207:C:O2'	8:A:2208:C:H5'	2.14	0.47
8:A:2247:A:H2'	8:A:2248:C:O4'	2.14	0.47
8:A:2304:G:H5'	13:F:120:SER:HB3	1.95	0.47
8:A:2306:C:H3'	8:A:2307:G:H8	1.80	0.47
8:A:2314:A:H2'	8:A:2315:G:O4'	2.15	0.47
8:A:2524:G:N1	8:A:2525:G:C5	2.82	0.47
8:A:2650:U:O2'	8:A:2651:C:H5'	2.15	0.47
8:A:2723:C:H2'	8:A:2724:U:O4'	2.14	0.47
8:A:2756:U:H1'	8:A:2757:A:H5"	1.97	0.47
8:A:2822:G:H1	21:N:2:ARG:NH2	2.13	0.47
8:A:2889:C:C2	8:A:2890:G:C8	3.02	0.47
9:B:39:A:C4	9:B:40:U:C4	3.02	0.47
9:B:75:G:C4	9:B:76:G:C8	3.02	0.47
10:C:156:SER:HB2	10:C:159:THR:CG2	2.42	0.47
13:F:111:ARG:HG2	13:F:112:ASP:OD2	2.14	0.47
19:L:2:ARG:O	19:L:5:THR:N	2.47	0.47
19:L:123:ARG:HH21	19:L:143:GLU:CD	2.21	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:N:115:LEU:H	21:N:115:LEU:HG	1.51	0.47
25:R:28:ALA:HB3	25:R:31:GLU:CD	2.40	0.47
26:S:32:ALA:O	26:S:33:LEU:C	2.57	0.47
26:S:59:GLU:HA	26:S:63:GLY:O	2.14	0.47
29:V:16:ALA:O	29:V:19:ARG:HB2	2.14	0.47
34:a:27:G:H2'	34:a:28:A:O4'	2.14	0.47
34:a:61:G:C4	34:a:107:G:N2	2.82	0.47
34:a:212:G:H2'	34:a:213:G:H8	1.77	0.47
34:a:363:A:C4	34:a:364:A:C8	3.02	0.47
34:a:412:A:H62	34:a:431:A:H61	1.63	0.47
34:a:505:G:OP1	34:a:505:G:H8	1.97	0.47
34:a:619:U:N3	37:d:131:ILE:HD11	2.30	0.47
34:a:685:G:H2'	34:a:686:U:H6	1.76	0.47
34:a:800:G:H2'	34:a:801:U:C5	2.50	0.47
34:a:834:U:O2	34:a:852:G:C6	2.67	0.47
34:a:858:G:O2'	34:a:859:G:H5'	2.15	0.47
34:a:963:G:H2'	34:a:964:A:C8	2.49	0.47
34:a:1099:G:H3'	34:a:1100:C:C6	2.50	0.47
34:a:1141:C:H2'	34:a:1142:G:C8	2.50	0.47
36:c:133:MET:HE2	36:c:150:VAL:HG22	1.96	0.47
38:e:44:ARG:HG3	38:e:70:MET:SD	2.55	0.47
40:g:105:GLU:HA	40:g:108:ARG:HD2	1.96	0.47
44:k:63:GLN:O	44:k:67:GLU:HG3	2.15	0.47
46:m:3:ILE:H	46:m:3:ILE:HD12	1.78	0.47
48:o:47:LYS:HD3	48:o:49:HIS:NE2	2.29	0.47
49:p:68:SER:HB3	49:p:71:VAL:HG23	1.97	0.47
56:w:18:G:C6	56:w:58:A:C5	3.02	0.47
5:4:2:LYS:HZ1	5:4:32:LYS:C	2.22	0.47
8:A:15:G:C6	8:A:525:U:C2	3.03	0.47
8:A:21:A:C6	8:A:520:G:C6	3.02	0.47
8:A:348:A:C5	8:A:349:U:C4	3.03	0.47
8:A:576:U:C4	8:A:577:G:O6	2.67	0.47
8:A:714:U:O2'	8:A:715:A:H3'	2.15	0.47
8:A:721:A:C2	8:A:722:A:C4	3.03	0.47
8:A:785:G:C5	8:A:786:C:C4	3.03	0.47
8:A:803:U:C2	8:A:804:A:C8	3.02	0.47
8:A:830:G:C8	8:A:2448:A:C2	3.03	0.47
8:A:855:G:C5	8:A:856:G:C8	3.03	0.47
8:A:874:G:C2	8:A:875:G:C8	3.03	0.47
8:A:1051:G:C2	8:A:1052:C:C2	3.03	0.47
8:A:1068:G:C8	8:A:1069:A:H1'	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1222:U:O2	8:A:1227:G:C6	2.67	0.47
8:A:1608:A:C8	8:A:1611:C:C4	3.02	0.47
8:A:1678:A:C6	8:A:1679:A:C5	3.02	0.47
8:A:1838:C:O2'	8:A:1898:U:O4	2.33	0.47
8:A:1840:G:C6	8:A:1841:U:C4	3.03	0.47
8:A:1998:A:H2'	8:A:1999:C:H6	1.80	0.47
8:A:2060:A:H3'	12:E:63:LYS:CE	2.45	0.47
8:A:2164:C:H2'	8:A:2165:C:H6	1.80	0.47
8:A:2445:2MG:C2'	8:A:2446:G:H8	2.26	0.47
8:A:2754:U:H2'	8:A:2756:U:OP1	2.14	0.47
8:A:2767:C:H2'	8:A:2768:U:C6	2.49	0.47
8:A:2832:U:O4'	8:A:2834:G:C2	2.67	0.47
11:D:11:MET:HA	11:D:25:THR:HA	1.97	0.47
19:L:12:SER:C	19:L:13:LYS:HD3	2.39	0.47
21:N:38:LEU:HG	21:N:42:LYS:HD2	1.97	0.47
22:O:79:ALA:O	22:O:83:LEU:HG	2.15	0.47
22:O:101:GLY:O	22:O:104:GLN:HB3	2.14	0.47
23:P:89:GLY:O	23:P:112:ARG:HB2	2.14	0.47
25:R:68:ARG:HB2	25:R:90:ARG:HE	1.80	0.47
29:V:37:PRO:CA	29:V:93:ARG:HH22	2.23	0.47
34:a:15:G:C6	34:a:16:A:C6	3.02	0.47
34:a:74:A:C4	34:a:97:G:C2	3.03	0.47
34:a:142:G:C5	34:a:143:A:C5	3.03	0.47
34:a:338:A:N1	34:a:351:G:C6	2.82	0.47
34:a:373:A:C2	34:a:374:A:C4	3.02	0.47
34:a:495:A:C5	34:a:496:A:C6	3.03	0.47
34:a:584:G:C6	34:a:585:G:C5	3.03	0.47
34:a:760:G:H5'	34:a:761:G:OP2	2.14	0.47
34:a:779:C:H2'	34:a:780:A:C4	2.49	0.47
34:a:988:G:C2	34:a:1218:C:C2	3.03	0.47
34:a:1184:G:C5	34:a:1185:G:N7	2.82	0.47
34:a:1338:G:C2	34:a:1339:A:C4	3.02	0.47
34:a:1487:G:C4	34:a:1488:G:C8	3.02	0.47
35:b:114:LYS:O	35:b:118:THR:HG23	2.15	0.47
36:c:21:TRP:CG	36:c:58:ARG:HB2	2.50	0.47
37:d:171:GLU:OE1	37:d:180:THR:OG1	2.29	0.47
38:e:43:GLY:O	38:e:72:ASN:HA	2.13	0.47
38:e:103:GLY:O	38:e:121:ASN:HA	2.14	0.47
40:g:118:ARG:O	40:g:122:GLU:HG2	2.14	0.47
42:i:34:LEU:HD11	42:i:44:ARG:HG2	1.96	0.47
43:j:9:ARG:N	43:j:99:GLN:HB3	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:l:33:CYS:O	45:l:75:GLU:HG2	2.15	0.47
50:q:21:VAL:HG12	50:q:22:VAL:H	1.79	0.47
52:s:50:VAL:HB	52:s:74:ALA:HB2	1.97	0.47
2:1:10:LEU:O	2:1:19:PHE:HB2	2.14	0.47
2:1:24:LYS:HB3	2:1:26:LYS:HZ1	1.80	0.47
2:1:45:HIS:CE1	8:A:2371:G:H1'	2.49	0.47
4:3:49:VAL:HG11	4:3:57:VAL:HG21	1.95	0.47
5:4:17:VAL:HG12	5:4:24:ARG:HB2	1.96	0.47
7:6:25:ARG:HD2	13:F:97:GLU:OE2	2.15	0.47
8:A:84:A:N3	8:A:85:G:H1'	2.30	0.47
8:A:185:G:C4	8:A:212:G:N2	2.83	0.47
8:A:216:A:C8	8:A:432:A:N6	2.82	0.47
8:A:255:A:H2'	8:A:256:A:O4'	2.14	0.47
8:A:263:G:C2'	8:A:264:C:O4'	2.55	0.47
8:A:340:A:C6	8:A:341:C:C2	3.03	0.47
8:A:459:U:C2	8:A:460:A:C8	3.02	0.47
8:A:586:A:H3'	8:A:586:A:C8	2.50	0.47
8:A:607:U:H5	8:A:620:G:C6	2.33	0.47
8:A:657:U:H2'	8:A:658:U:C5	2.49	0.47
8:A:704:G:C2	8:A:726:G:C4	3.03	0.47
8:A:723:C:H2'	8:A:724:U:C6	2.50	0.47
8:A:825:A:H2'	8:A:826:U:C6	2.49	0.47
8:A:852:U:H2'	8:A:853:C:H6	1.80	0.47
8:A:971:G:H5"	8:A:974:G:H3'	1.97	0.47
8:A:975:A:C6	8:A:976:G:C8	3.03	0.47
8:A:980:A:H2'	8:A:981:A:C8	2.50	0.47
8:A:1003:G:N3	8:A:1003:G:H2'	2.29	0.47
8:A:1050:A:C2	8:A:2751:G:C5	3.02	0.47
8:A:1051:G:H2'	8:A:1052:C:H6	1.79	0.47
8:A:1103:A:C5	8:A:1104:C:C4	3.03	0.47
8:A:1140:C:H5'	17:J:26:GLY:HA3	1.95	0.47
8:A:1178:C:H2'	8:A:1180:U:H6	1.80	0.47
8:A:1221:C:H2'	8:A:1222:U:H6	1.78	0.47
8:A:1244:A:H2'	8:A:1245:G:H8	1.78	0.47
8:A:1268:A:C2	8:A:2013:A:C6	3.03	0.47
8:A:1314:C:N3	8:A:1339:G:N2	2.62	0.47
8:A:1357:C:H2'	8:A:1358:G:O4'	2.15	0.47
8:A:1408:G:C2	8:A:1595:C:C2	3.03	0.47
8:A:1410:G:O6	8:A:1593:A:N6	2.47	0.47
8:A:1419:A:C4	8:A:1421:G:C5	3.03	0.47
8:A:1430:G:C2	8:A:1431:A:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1454:C:H5'	21:N:63:ARG:NH2	2.28	0.47
8:A:1473:G:N1	8:A:1519:G:C6	2.83	0.47
8:A:1482:G:N3	8:A:1483:G:C8	2.83	0.47
8:A:1496:A:H2'	8:A:1498:C:C5	2.49	0.47
8:A:1538:G:C2	8:A:1539:U:C2	3.02	0.47
8:A:1574:C:N3	8:A:1575:C:C5	2.83	0.47
8:A:1603:A:C6	8:A:1604:C:C2	3.02	0.47
8:A:1652:A:H62	21:N:11:ASN:ND2	2.10	0.47
8:A:1786:A:O2'	8:A:1787:A:O5'	2.23	0.47
8:A:1861:G:H2'	8:A:1862:G:H5"	1.97	0.47
8:A:1862:G:C2	8:A:1881:C:C2	3.03	0.47
8:A:1862:G:C6	8:A:1881:C:C4	3.02	0.47
8:A:1865:U:O2'	8:A:1866:A:O5'	2.32	0.47
8:A:1890:A:H2'	8:A:1891:G:O4'	2.14	0.47
8:A:1891:G:C4	8:A:1892:C:C6	3.02	0.47
8:A:2056:G:C5	8:A:2577:A:C5	3.03	0.47
8:A:2128:G:H3'	8:A:2129:C:C5'	2.44	0.47
8:A:2150:C:O2'	8:A:2151:U:OP1	2.25	0.47
8:A:2191:A:H2'	8:A:2192:U:O4'	2.14	0.47
8:A:2218:G:H2'	8:A:2219:U:O4'	2.14	0.47
8:A:2315:G:OP1	13:F:32:LYS:NZ	2.33	0.47
8:A:2336:A:O2'	8:A:2337:G:H5'	2.15	0.47
8:A:2360:G:H5"	8:A:2361:G:OP2	2.15	0.47
8:A:2378:A:H1'	22:O:91:SER:OG	2.14	0.47
8:A:2412:A:C4	8:A:2413:G:C8	3.02	0.47
8:A:2468:A:O2'	8:A:2469:A:O5'	2.22	0.47
8:A:2510:C:N4	8:A:2579:C:H42	2.13	0.47
8:A:2522:U:H3	8:A:2765:A:H62	1.63	0.47
8:A:2543:G:H2'	8:A:2544:G:O4'	2.15	0.47
8:A:2580:PSU:H2'	8:A:2581:G:N9	2.30	0.47
8:A:2620:C:OP2	11:D:157:LYS:NZ	2.47	0.47
8:A:2642:G:N1	8:A:2773:C:N3	2.63	0.47
8:A:2684:U:H4'	18:K:76:VAL:HG21	1.96	0.47
8:A:2714:G:H2'	8:A:2715:C:C6	2.50	0.47
8:A:2714:G:C5	8:A:2715:C:C5	3.03	0.47
8:A:2741:A:C5	8:A:2742:G:C8	3.02	0.47
8:A:2808:G:C2	8:A:2891:U:C4	3.03	0.47
8:A:2809:A:H8	8:A:2809:A:O5'	1.97	0.47
8:A:2836:U:C2	8:A:2837:A:C8	3.03	0.47
8:A:2899:A:C2	8:A:2900:A:C5	3.03	0.47
9:B:83:G:N1	9:B:94:A:C6	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:49:THR:OG1	10:C:50:THR:HG23	2.14	0.47
12:E:29:HIS:CE1	19:L:8:PRO:HD3	2.50	0.47
13:F:4:HIS:NE2	13:F:8:LYS:HD3	2.28	0.47
13:F:49:LEU:C	13:F:51:ASN:N	2.70	0.47
15:H:26:ALA:HA	15:H:30:LEU:HB2	1.97	0.47
18:K:11:ALA:HB1	18:K:100:PHE:O	2.15	0.47
21:N:50:PRO:HA	21:N:53:THR:HB	1.97	0.47
23:P:108:ARG:O	23:P:109:ILE:HD13	2.15	0.47
25:R:23:GLU:HA	25:R:93:PHE:HA	1.97	0.47
26:S:10:ALA:HB3	26:S:101:SER:HB2	1.96	0.47
29:V:73:LYS:N	29:V:92:VAL:O	2.40	0.47
31:X:2:ARG:HG2	31:X:49:ARG:NH2	2.25	0.47
33:Z:11:SER:O	33:Z:15:ARG:NH2	2.46	0.47
34:a:12:U:H5"	34:a:526:C:H1'	1.97	0.47
34:a:51:A:N1	34:a:116:A:C4	2.83	0.47
34:a:77:A:H2'	34:a:78:A:C8	2.50	0.47
34:a:109:A:C8	34:a:327:A:H5'	2.49	0.47
34:a:185:U:H2'	34:a:186:C:O4'	2.14	0.47
34:a:201:G:O6	34:a:216:U:C4	2.67	0.47
34:a:258:G:H2'	34:a:259:G:C8	2.49	0.47
34:a:292:G:C8	34:a:293:G:H1'	2.49	0.47
34:a:293:G:N3	34:a:293:G:H2'	2.30	0.47
34:a:342:C:H2'	34:a:343:U:C6	2.49	0.47
34:a:373:A:C5	34:a:482:A:N1	2.83	0.47
34:a:374:A:C5	34:a:375:U:C5	3.03	0.47
34:a:384:G:C6	34:a:385:C:N4	2.83	0.47
34:a:474:G:H2'	34:a:475:C:C6	2.50	0.47
34:a:562:U:H3	45:l:12:ALA:HB3	1.80	0.47
34:a:575:G:C5	34:a:821:G:N7	2.83	0.47
34:a:624:C:H2'	34:a:625:U:H6	1.78	0.47
34:a:654:G:C5	34:a:655:A:C8	3.03	0.47
34:a:667:G:H4'	48:o:50:HIS:CG	2.50	0.47
34:a:676:A:H2'	34:a:677:U:C6	2.49	0.47
34:a:703:G:O2'	34:a:704:A:OP2	2.29	0.47
34:a:768:A:OP1	34:a:804:U:H4'	2.14	0.47
34:a:812:G:H1'	34:a:813:U:C5	2.50	0.47
34:a:817:C:N3	34:a:819:A:C8	2.83	0.47
34:a:859:G:C6	34:a:860:A:C5	3.02	0.47
34:a:881:G:H2'	34:a:882:C:O4'	2.14	0.47
34:a:886:G:H2'	34:a:887:G:O4'	2.14	0.47
34:a:899:C:C4	34:a:900:A:C5	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1058:G:C6	34:a:1059:C:C4	3.03	0.47
34:a:1079:G:C2	34:a:1080:A:C4	3.02	0.47
34:a:1118:U:C5'	42:i:105:ARG:HG3	2.42	0.47
34:a:1239:A:H2	34:a:1296:C:C4	2.32	0.47
34:a:1253:G:C2	34:a:1254:A:C5	3.02	0.47
34:a:1327:C:H2'	34:a:1328:C:C5	2.50	0.47
34:a:1327:C:C2	34:a:1328:C:C5	3.03	0.47
34:a:1403:C:H2'	34:a:1404:C:C6	2.50	0.47
34:a:1436:U:C2	34:a:1437:A:N7	2.83	0.47
34:a:1522:U:C2	34:a:1523:G:C8	3.03	0.47
35:b:184:ALA:O	35:b:199:ILE:HB	2.15	0.47
36:c:14:VAL:HG22	36:c:15:LYS:HD2	1.97	0.47
36:c:41:TYR:HA	36:c:44:LYS:CE	2.44	0.47
36:c:113:LYS:HD3	36:c:184:ASN:CG	2.40	0.47
37:d:84:ASN:HB3	37:d:87:GLU:CD	2.40	0.47
37:d:144:ILE:HB	37:d:149:LYS:CE	2.45	0.47
37:d:144:ILE:HG12	37:d:177:MET:O	2.15	0.47
37:d:162:GLU:N	37:d:162:GLU:OE1	2.48	0.47
37:d:169:TRP:HB2	37:d:183:ARG:O	2.15	0.47
39:f:38:ARG:HH21	39:f:40:GLU:CD	2.22	0.47
39:f:46:GLN:HA	39:f:56:LYS:HA	1.96	0.47
41:h:11:THR:HG22	41:h:14:ARG:NH1	2.29	0.47
45:l:71:HIS:HB2	45:l:73:LEU:HD13	1.96	0.47
46:m:71:GLU:O	46:m:74:MET:HE3	2.15	0.47
48:o:69:LEU:HD12	48:o:69:LEU:HA	1.67	0.47
51:r:71:ASP:C	51:r:72:ARG:HD3	2.39	0.47
52:s:28:LYS:HD2	52:s:29:PRO:N	2.30	0.47
53:t:19:HIS:C	53:t:22:SER:HG	2.15	0.47
55:v:72:A:H2'	55:v:73:A:C8	2.50	0.47
7:6:28:VAL:CA	13:F:139:GLU:HG3	2.45	0.47
8:A:39:G:H2'	8:A:40:U:C6	2.50	0.47
8:A:85:G:C6	8:A:86:G:C5	3.02	0.47
8:A:221:A:C8	8:A:266:G:C6	3.03	0.47
8:A:223:A:C5	8:A:422:A:C4	3.03	0.47
8:A:250:G:C6	8:A:251:A:C2	3.02	0.47
8:A:268:C:N3	8:A:425:G:N1	2.62	0.47
8:A:309:A:H1'	8:A:329:G:C4	2.50	0.47
8:A:353:C:H2'	8:A:354:A:O4'	2.14	0.47
8:A:524:G:N2	8:A:525:U:C1'	2.51	0.47
8:A:597:G:C6	8:A:661:A:N1	2.83	0.47
8:A:675:A:OP1	12:E:71:GLY:HA3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:707:G:C6	8:A:708:G:C5	3.02	0.47
8:A:711:G:C4	8:A:712:G:C8	3.03	0.47
8:A:783:A:P	8:A:2589:A:OP1	2.72	0.47
8:A:796:C:O5'	12:E:57:LYS:NZ	2.48	0.47
8:A:808:G:C4	8:A:809:G:C8	3.02	0.47
8:A:821:A:C8	8:A:946:C:C6	2.96	0.47
8:A:1110:G:HO2'	8:A:1111:A:P	2.37	0.47
8:A:1120:G:C5	8:A:1121:C:C4	3.02	0.47
8:A:1216:G:H2'	8:A:1217:U:H6	1.79	0.47
8:A:1300:G:N7	8:A:1626:A:H2'	2.30	0.47
8:A:1346:G:C4	8:A:1347:A:C8	3.03	0.47
8:A:1444:G:C4	8:A:1445:G:C8	3.03	0.47
8:A:1692:U:H2'	8:A:1694:C:C5	2.50	0.47
8:A:1700:A:H5'	8:A:1701:A:OP2	2.15	0.47
8:A:1722:A:C5	8:A:1739:A:C8	3.02	0.47
8:A:1726:C:C2	8:A:1735:A:N1	2.83	0.47
8:A:1846:G:C2	8:A:1847:G:C2	3.03	0.47
8:A:1903:G:N1	8:A:1904:G:C5	2.83	0.47
8:A:2101:A:H2'	8:A:2102:G:C8	2.50	0.47
8:A:2244:U:H2'	8:A:2245:U:N1	2.30	0.47
8:A:2414:G:C4	8:A:2415:G:C8	3.03	0.47
8:A:2432:A:O2'	8:A:2433:A:O4'	2.25	0.47
8:A:2519:U:O4	8:A:2541:A:H2'	2.15	0.47
8:A:2547:A:C4	8:A:2548:U:C5	3.03	0.47
8:A:2580:PSU:H2'	8:A:2581:G:C5	2.49	0.47
8:A:2704:C:C4	8:A:2705:A:C5	3.02	0.47
8:A:2856:A:H2'	8:A:2857:G:O4'	2.15	0.47
10:C:129:LEU:HG	10:C:134:ILE:HG13	1.96	0.47
13:F:64:PRO:HA	13:F:88:VAL:HB	1.97	0.47
14:G:1:SER:OG	14:G:3:VAL:HG22	2.15	0.47
14:G:75:VAL:O	14:G:79:THR:HG23	2.15	0.47
15:H:29:PHE:C	15:H:32:PRO:HD2	2.40	0.47
15:H:69:ALA:O	15:H:70:GLU:HB3	2.15	0.47
18:K:79:PHE:CD1	23:P:69:VAL:HG22	2.50	0.47
19:L:115:GLU:N	19:L:115:GLU:OE1	2.48	0.47
29:V:76:ASP:N	29:V:90:ASP:HB2	2.29	0.47
34:a:81:A:H3'	34:a:82:G:C8	2.50	0.47
34:a:151:A:C4	34:a:152:A:C8	3.02	0.47
34:a:205:A:N6	34:a:214:C:O2'	2.48	0.47
34:a:255:G:H2'	34:a:256:U:C6	2.50	0.47
34:a:469:C:H2'	34:a:470:C:H6	1.73	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:660:C:N3	34:a:746:A:N6	2.63	0.47
34:a:667:G:H2'	34:a:668:G:C8	2.50	0.47
34:a:695:A:H2'	34:a:696:A:H8	1.77	0.47
34:a:741:G:H2'	34:a:742:G:O4'	2.15	0.47
34:a:836:G:C6	34:a:851:G:C5	3.02	0.47
34:a:941:G:C2	34:a:942:G:H1'	2.49	0.47
34:a:1003:G:H2'	34:a:1003:G:N3	2.29	0.47
34:a:1111:A:H2'	34:a:1112:C:C6	2.50	0.47
34:a:1119:C:H2'	34:a:1120:C:C6	2.47	0.47
34:a:1130:A:C6	34:a:1146:A:C5	3.03	0.47
34:a:1213:A:C5	34:a:1215:G:C4	3.02	0.47
34:a:1249:C:O2'	42:i:74:GLN:NE2	2.42	0.47
34:a:1250:A:H1'	34:a:1287:A:N6	2.30	0.47
34:a:1300:G:N1	34:a:1335:U:O4'	2.48	0.47
34:a:1476:A:C2	34:a:1477:U:C2	3.03	0.47
36:c:39:ARG:HD3	47:n:92:GLU:CD	2.40	0.47
37:d:171:GLU:HB3	37:d:180:THR:OG1	2.13	0.47
38:e:141:ASP:O	38:e:144:GLU:HG2	2.15	0.47
39:f:52:ASN:HB2	39:f:54:LEU:HD12	1.96	0.47
42:i:97:LEU:O	42:i:102:PHE:HB2	2.15	0.47
42:i:113:LYS:HD2	42:i:118:ARG:O	2.15	0.47
50:q:56:ASP:CG	50:q:80:LYS:HA	2.40	0.47
55:v:49:G:N1	55:v:66:C:C4	2.83	0.47
55:v:53:G:C5	55:v:54:5MU:C4	3.03	0.47
3:2:19:ARG:N	8:A:126:A:OP2	2.28	0.47
4:3:7:ARG:O	4:3:10:ALA:HB3	2.14	0.47
8:A:7:G:C2	8:A:8:C:C2	3.03	0.47
8:A:38:A:C6	8:A:442:G:C6	3.02	0.47
8:A:58:G:H2'	8:A:59:U:O4'	2.14	0.47
8:A:102:U:C4	32:Y:4:LYS:HE2	2.50	0.47
8:A:136:G:C6	8:A:137:U:C4	3.02	0.47
8:A:205:G:O2'	8:A:206:U:OP2	2.32	0.47
8:A:226:A:C6	8:A:227:A:C5	3.03	0.47
8:A:282:A:C6	8:A:359:G:C6	3.03	0.47
8:A:601:C:H4'	12:E:99:LYS:HD3	1.95	0.47
8:A:869:G:C2'	8:A:870:U:H5'	2.44	0.47
8:A:871:U:C2	8:A:872:U:C5	3.03	0.47
8:A:1019:U:O2'	8:A:1021:A:N7	2.47	0.47
8:A:1124:G:C5	8:A:1125:G:C5	3.03	0.47
8:A:1131:G:N7	8:A:2025:C:H4'	2.29	0.47
8:A:1175:A:H3'	8:A:1176:U:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1202:G:C6	8:A:1203:U:N3	2.83	0.47
8:A:1229:C:H2'	8:A:1230:A:H8	1.80	0.47
8:A:1501:G:N3	8:A:1502:A:C8	2.83	0.47
8:A:1538:G:C6	8:A:1539:U:C4	3.02	0.47
8:A:1566:A:H3'	8:A:1567:G:C8	2.50	0.47
8:A:1730:C:H2'	8:A:1730:C:O2	2.13	0.47
8:A:1789:A:C5	8:A:1790:C:C4	3.03	0.47
8:A:2119:A:C2	8:A:2169:A:H2'	2.50	0.47
8:A:2181:U:O2'	8:A:2182:U:O4'	2.21	0.47
8:A:2204:G:C5	8:A:2221:G:C2	3.03	0.47
8:A:2412:A:H3'	8:A:2413:G:C8	2.38	0.47
8:A:2480:C:H3'	8:A:2481:G:H8	1.79	0.47
8:A:2584:U:H2'	8:A:2585:U:C6	2.49	0.47
8:A:2740:A:C5	8:A:2741:A:C5	3.03	0.47
9:B:15:A:OP2	9:B:69:G:N2	2.43	0.47
10:C:36:ASN:OD1	10:C:61:TYR:HB2	2.15	0.47
12:E:98:LYS:HB3	12:E:102:ARG:NH2	2.29	0.47
18:K:5:GLN:HA	18:K:20:MET:SD	2.55	0.47
18:K:15:GLY:C	18:K:17:ARG:HH21	2.23	0.47
18:K:64:ARG:NH2	18:K:101:GLY:HA3	2.29	0.47
19:L:19:LEU:O	19:L:21:ARG:HG2	2.15	0.47
19:L:84:LYS:HZ2	19:L:98:ALA:C	2.22	0.47
21:N:54:LEU:HD22	21:N:65:LEU:HD23	1.96	0.47
23:P:48:ALA:HB3	23:P:59:THR:CB	2.44	0.47
27:T:38:ALA:HB3	27:T:81:LYS:HZ2	1.80	0.47
29:V:5:ASN:HA	29:V:64:VAL:O	2.15	0.47
34:a:197:A:C6	34:a:221:C:H4'	2.50	0.47
34:a:205:A:H2'	34:a:205:A:N3	2.30	0.47
34:a:382:A:H8	34:a:382:A:OP2	1.98	0.47
34:a:453:G:C4	34:a:454:G:C8	3.03	0.47
34:a:569:C:H5'	34:a:574:A:N6	2.30	0.47
34:a:626:G:N1	34:a:627:G:C6	2.83	0.47
34:a:718:A:H3'	34:a:719:C:C5	2.49	0.47
34:a:974:A:OP2	47:n:81:ARG:NH2	2.40	0.47
34:a:1051:C:H42	34:a:1208:C:H42	1.63	0.47
34:a:1185:G:C2	34:a:1186:G:C4	3.02	0.47
34:a:1295:U:H2'	34:a:1296:C:C6	2.49	0.47
34:a:1308:U:OP2	46:m:97:ARG:NH1	2.40	0.47
34:a:1395:C:H2'	34:a:1396:A:H8	1.71	0.47
60:a:2001:AM2:HC61	60:a:2001:AM2:CA5	2.28	0.47
43:j:20:GLN:NE2	43:j:92:LEU:HD13	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:j:88:MET:O	43:j:89:ARG:HG2	2.15	0.47
45:l:61:GLU:N	45:l:61:GLU:OE2	2.47	0.47
46:m:2:ARG:O	46:m:56:ARG:NH1	2.48	0.47
56:w:29:G:C2	56:w:42:C:C2	3.03	0.47
56:w:48:C:C4	56:w:59:U:N3	2.83	0.47
56:w:59:U:H4'	56:w:60:U:OP1	2.15	0.47
4:3:22:LYS:HZ3	8:A:630:G:C3'	2.28	0.47
8:A:579:G:C5	8:A:1262:A:N6	2.82	0.47
8:A:592:A:C4	8:A:593:U:C5	3.03	0.47
8:A:622:G:C6	8:A:623:C:C4	3.03	0.47
8:A:628:G:C6	8:A:636:G:C2	3.03	0.47
8:A:695:G:C4	8:A:696:G:C8	3.02	0.47
8:A:747:5MC:O2'	8:A:2613:U:O4	2.32	0.47
8:A:957:C:P	20:M:76:LYS:H	2.38	0.47
8:A:1191:G:H2'	8:A:1192:G:H8	1.80	0.47
8:A:1204:A:H4'	8:A:1205:A:O5'	2.14	0.47
8:A:1211:C:H3'	8:A:1212:G:C5'	2.45	0.47
8:A:1225:G:O2'	8:A:1226:A:O4'	2.26	0.47
8:A:1287:A:N6	21:N:106:ASP:HB3	2.30	0.47
8:A:1342:A:O2'	8:A:1345:C:N4	2.46	0.47
8:A:1598:A:H2'	8:A:1599:U:O4'	2.15	0.47
8:A:1949:G:H2'	8:A:1950:G:O4'	2.16	0.47
8:A:2196:C:H2'	8:A:2197:U:C6	2.49	0.47
8:A:2586:U:C2	8:A:2587:A:C8	3.03	0.47
8:A:2684:U:H2'	8:A:2685:G:O4'	2.14	0.47
8:A:2821:A:OP2	21:N:3:HIS:CE1	2.68	0.47
9:B:29:A:C2	9:B:56:G:C2	3.03	0.47
12:E:24:ASN:CG	12:E:27:LEU:H	2.23	0.47
14:G:85:LYS:HD3	14:G:131:VAL:HG13	1.97	0.47
15:H:50:ARG:HD3	15:H:51:ARG:HB3	1.97	0.47
30:W:36:GLN:O	30:W:53:HIS:HB2	2.15	0.47
34:a:115:G:O2'	34:a:289:G:H8	1.97	0.47
34:a:150:U:H2'	34:a:151:A:H8	1.80	0.47
34:a:321:A:C4	34:a:322:C:C5	3.03	0.47
34:a:375:U:C5'	49:p:6:LEU:HD22	2.42	0.47
34:a:517:G:H22	34:a:533:A:P	2.38	0.47
34:a:552:U:C2	34:a:553:A:C8	3.03	0.47
34:a:680:C:N3	34:a:711:G:N1	2.63	0.47
34:a:688:G:C5	34:a:700:G:C2	3.03	0.47
34:a:695:A:OP1	44:k:53:GLY:HA3	2.15	0.47
34:a:1051:C:H2'	34:a:1052:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1166:G:C2	34:a:1171:A:N6	2.83	0.47
34:a:1428:A:H2'	34:a:1429:A:C8	2.50	0.47
34:a:1471:U:C2	34:a:1472:U:C5	3.02	0.47
37:d:173:ASP:OD1	37:d:176:LYS:N	2.30	0.47
38:e:14:LEU:HA	38:e:36:THR:HG1	1.80	0.47
38:e:80:LEU:HB3	38:e:146:MET:SD	2.54	0.47
44:k:55:ARG:C	44:k:57:SER:H	2.23	0.47
45:l:22:ALA:HB3	45:l:94:TYR:CE2	2.50	0.47
47:n:35:ALA:O	47:n:38:ASP:N	2.46	0.47
48:o:70:LYS:HD3	48:o:77:TYR:CE2	2.50	0.47
50:q:12:VAL:HG22	50:q:21:VAL:C	2.39	0.47
50:q:42:LYS:O	50:q:43:LEU:HD22	2.15	0.47
56:w:16:U:O2'	56:w:60:U:N3	2.48	0.47
56:w:68:C:N4	56:w:69:G:O6	2.48	0.47
8:A:8:C:H2'	8:A:9:G:O4'	2.16	0.46
8:A:12:U:C4	8:A:13:A:C6	3.03	0.46
8:A:187:G:C6	8:A:188:G:C5	3.03	0.46
8:A:324:A:H62	8:A:338:G:H21	1.62	0.46
8:A:545:U:O2'	8:A:546:U:P	2.73	0.46
8:A:600:G:H2'	8:A:601:C:C6	2.50	0.46
8:A:680:C:C2	8:A:681:G:N7	2.84	0.46
8:A:733:G:C6	8:A:761:A:C4	3.03	0.46
8:A:993:G:C6	8:A:1162:G:C6	3.04	0.46
8:A:1004:U:H2'	8:A:1011:G:H8	1.78	0.46
8:A:1013:C:C2	8:A:1014:A:C8	3.02	0.46
8:A:1204:A:H1'	8:A:1206:G:N7	2.30	0.46
8:A:1223:G:C2	8:A:1227:G:C4	3.03	0.46
8:A:1296:G:C6	8:A:1645:G:C6	3.03	0.46
8:A:1326:U:C6	8:A:1648:U:H1'	2.50	0.46
8:A:1343:G:H3'	8:A:1344:U:C6	2.50	0.46
8:A:1394:U:H5"	8:A:1603:A:O3'	2.15	0.46
8:A:1426:G:C5	8:A:1427:A:C6	3.03	0.46
8:A:1452:G:C4	8:A:2702:G:C6	3.03	0.46
8:A:1454:C:H5'	21:N:63:ARG:CZ	2.45	0.46
8:A:1470:A:C6	8:A:1471:G:C5	3.03	0.46
8:A:1715:G:H22	8:A:1743:G:H3'	1.79	0.46
8:A:2003:A:C2	8:A:2004:G:C4	3.03	0.46
8:A:2067:G:O2'	8:A:2069:G7M:OP1	2.20	0.46
8:A:2297:A:N3	8:A:2320:U:C2	2.83	0.46
8:A:2307:G:O4'	8:A:2308:G:C5	2.68	0.46
8:A:2794:C:N3	8:A:2803:G:N1	2.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2842:G:N1	8:A:2876:G:C6	2.83	0.46
8:A:2891:U:H2'	8:A:2892:G:N7	2.30	0.46
9:B:81:G:H2'	9:B:82:U:H6	1.78	0.46
10:C:143:VAL:HG22	10:C:189:ALA:HB1	1.96	0.46
11:D:34:VAL:O	11:D:93:GLY:N	2.25	0.46
13:F:116:LEU:HD22	13:F:174:PHE:CE2	2.50	0.46
14:G:84:LYS:N	14:G:132:LEU:O	2.35	0.46
19:L:23:ILE:HG21	25:R:84:ARG:H	1.79	0.46
21:N:20:MET:HE3	21:N:40:LYS:HZ3	1.79	0.46
27:T:6:ARG:O	27:T:10:VAL:HG13	2.16	0.46
28:U:73:ASN:OD1	28:U:75:ALA:N	2.48	0.46
29:V:65:VAL:HG22	29:V:66:ASP:CG	2.40	0.46
34:a:318:G:C6	34:a:336:A:N1	2.84	0.46
34:a:386:C:H2'	34:a:387:U:O4'	2.15	0.46
34:a:569:C:H5'	34:a:574:A:H62	1.78	0.46
34:a:655:A:O2'	34:a:656:G:H5'	2.15	0.46
34:a:705:G:C5	34:a:706:A:C8	3.04	0.46
34:a:714:G:H8	34:a:714:G:OP2	1.98	0.46
34:a:803:G:C6	34:a:804:U:C4	3.03	0.46
34:a:835:U:OP1	51:r:48:ALA:HB3	2.15	0.46
34:a:836:G:C5	34:a:851:G:C5	3.03	0.46
34:a:898:G:N2	34:a:902:G:C5	2.83	0.46
34:a:917:G:H2'	34:a:918:A:C8	2.51	0.46
34:a:1074:G:O4'	35:b:102:ASN:ND2	2.48	0.46
34:a:1175:G:H3'	34:a:1176:A:H8	1.80	0.46
34:a:1177:G:C6	34:a:1178:G:C6	3.03	0.46
34:a:1246:A:N1	34:a:1292:G:C6	2.83	0.46
34:a:1255:G:H4'	34:a:1256:A:OP1	2.13	0.46
34:a:1266:G:N1	34:a:1270:G:C6	2.82	0.46
35:b:164:ASP:OD1	35:b:167:HIS:N	2.36	0.46
36:c:146:LYS:HB2	36:c:202:PHE:HE2	1.79	0.46
37:d:123:MET:HE3	37:d:143:SER:OG	2.14	0.46
39:f:51:ILE:HD13	39:f:86:ARG:NE	2.30	0.46
41:h:48:PHE:HB2	41:h:58:LEU:HD11	1.97	0.46
46:m:22:TYR:CD2	46:m:68:LEU:HD23	2.50	0.46
55:v:22:G:N7	55:v:46:A:N1	2.63	0.46
55:v:37:A:H2'	55:v:38:A:H8	1.79	0.46
7:6:58:ASP:C	7:6:62:LYS:HE3	2.41	0.46
8:A:31:C:C2	8:A:32:C:C5	3.03	0.46
8:A:124:G:N2	8:A:128:C:C4	2.83	0.46
8:A:181:A:C2	8:A:182:A:C8	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:379:G:C5	8:A:396:G:C6	3.03	0.46
8:A:408:G:C2	8:A:409:G:C5	3.03	0.46
8:A:726:G:O2'	8:A:727:A:OP2	2.31	0.46
8:A:794:A:C4	8:A:795:C:C6	3.03	0.46
8:A:909:A:H2'	8:A:912:C:H5	1.79	0.46
8:A:953:G:N1	8:A:965:C:N3	2.62	0.46
8:A:1057:A:H8	8:A:1060:U:H3	1.59	0.46
8:A:1161:C:C2	8:A:1162:G:C8	3.03	0.46
8:A:1224:U:H2'	8:A:1225:G:C8	2.50	0.46
8:A:1275:A:H4'	8:A:1276:A:O5'	2.15	0.46
8:A:1343:G:H1'	8:A:1597:A:N3	2.31	0.46
8:A:1549:A:C4	8:A:1550:C:C5	3.03	0.46
8:A:1657:U:P	11:D:141:ARG:H	2.38	0.46
8:A:1820:U:H3	10:C:197:ALA:CB	2.28	0.46
8:A:1844:C:O3'	10:C:255:LYS:NZ	2.48	0.46
8:A:1851:U:H2'	8:A:1852:U:N1	2.31	0.46
8:A:2097:A:H2'	8:A:2098:U:H6	1.76	0.46
8:A:2100:G:C2	8:A:2101:A:C5	3.02	0.46
8:A:2243:U:C2	8:A:2244:U:C5	3.03	0.46
8:A:2262:U:C4	8:A:2279:G:N2	2.83	0.46
8:A:2297:A:H8	8:A:2297:A:OP2	1.98	0.46
8:A:2319:G:O2'	8:A:2320:U:OP1	2.34	0.46
8:A:2471:A:H2'	8:A:2472:G:O4'	2.15	0.46
8:A:2808:G:H4'	8:A:2809:A:O5'	2.14	0.46
8:A:2819:G:C2	8:A:2828:G:C4	3.04	0.46
8:A:2820:A:HO2'	21:N:3:HIS:CG	2.25	0.46
8:A:2829:A:H5"	11:D:55:LYS:NZ	2.30	0.46
8:A:2854:G:N1	8:A:2864:G:C6	2.83	0.46
9:B:32:U:C2	9:B:33:G:C8	3.03	0.46
12:E:31:VAL:O	12:E:34:ALA:HB3	2.16	0.46
14:G:102:ILE:HD12	14:G:116:LEU:HD11	1.97	0.46
15:H:69:ALA:C	15:H:71:LYS:H	2.23	0.46
16:I:36:GLU:CB	16:I:66:PHE:H	2.28	0.46
17:J:69:ARG:HG3	17:J:90:GLU:OE2	2.15	0.46
19:L:51:GLU:OE2	19:L:60:ARG:NH1	2.47	0.46
24:Q:57:ARG:HH12	24:Q:91:ARG:CZ	2.27	0.46
29:V:61:LEU:O	29:V:72:VAL:N	2.38	0.46
29:V:83:LYS:O	29:V:85:LYS:N	2.48	0.46
33:Z:22:THR:O	33:Z:26:LEU:HG	2.16	0.46
34:a:19:A:C6	34:a:917:G:C6	3.03	0.46
34:a:57:G:H2'	34:a:58:C:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:59:A:H3'	34:a:60:A:H5'	1.97	0.46
34:a:117:G:H2'	34:a:118:U:H6	1.78	0.46
34:a:120:A:C5	34:a:122:G:C6	3.03	0.46
34:a:342:C:H2'	34:a:343:U:H6	1.80	0.46
34:a:417:G:H2'	34:a:418:C:H6	1.80	0.46
34:a:449:G:H2'	34:a:450:G:C8	2.50	0.46
34:a:459:A:C6	34:a:474:G:N1	2.83	0.46
34:a:546:A:OP1	37:d:67:LEU:HB3	2.16	0.46
34:a:575:G:C5	34:a:881:G:C2	3.03	0.46
34:a:626:G:C4	34:a:627:G:N7	2.83	0.46
34:a:705:G:C5	34:a:706:A:N7	2.84	0.46
34:a:808:C:H2'	34:a:809:G:H8	1.80	0.46
34:a:836:G:C6	34:a:837:U:C2	3.02	0.46
34:a:846:G:C2	34:a:847:G:C5	3.03	0.46
34:a:922:G:H2'	34:a:923:A:C8	2.50	0.46
34:a:996:A:N6	34:a:1045:C:HO2'	2.13	0.46
34:a:1065:U:N3	34:a:1190:G:N3	2.62	0.46
34:a:1083:U:H2'	34:a:1084:G:O4'	2.15	0.46
34:a:1099:G:H3'	34:a:1100:C:H6	1.81	0.46
34:a:1109:C:H2'	34:a:1110:A:O4'	2.15	0.46
34:a:1221:G:O2'	34:a:1222:G:H5'	2.16	0.46
34:a:1324:A:C4	34:a:1325:C:C5	3.04	0.46
38:e:51:LYS:HE3	38:e:51:LYS:HB2	1.79	0.46
42:i:29:ILE:HD12	42:i:64:ILE:O	2.15	0.46
42:i:129:ARG:HH21	55:v:35:A:P	2.36	0.46
44:k:28:ASN:HD21	44:k:47:GLY:N	2.13	0.46
45:l:39:THR:OG1	45:l:40:THR:N	2.39	0.46
52:s:46:LEU:HD13	52:s:46:LEU:HA	1.76	0.46
2:1:31:GLU:C	2:1:32:LYS:HD3	2.40	0.46
8:A:77:G:C6	8:A:78:U:C4	3.02	0.46
8:A:289:G:H2'	8:A:290:U:O4'	2.15	0.46
8:A:356:G:H2'	8:A:357:C:C6	2.51	0.46
8:A:443:A:C8	12:E:40:ARG:CZ	2.98	0.46
8:A:493:G:O2'	26:S:7:HIS:HA	2.14	0.46
8:A:549:G:H2'	8:A:550:C:H6	1.79	0.46
8:A:584:C:N4	8:A:585:G:C6	2.83	0.46
8:A:1202:G:C6	8:A:1244:A:N1	2.83	0.46
8:A:1448:G:N1	8:A:1464:G:C6	2.83	0.46
8:A:1477:A:H62	8:A:1514:G:H21	1.62	0.46
8:A:1696:G:H8	8:A:1696:G:OP2	1.97	0.46
8:A:1721:G:H22	8:A:1738:G:H2'	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1931:U:H3'	8:A:1931:U:OP2	2.16	0.46
8:A:2052:A:P	11:D:146:ILE:HG12	2.54	0.46
8:A:2293:G:C2	8:A:2294:G:C4	3.04	0.46
8:A:2418:A:C5	8:A:2419:U:C4	3.02	0.46
8:A:2526:G:O6	8:A:2537:U:C4	2.69	0.46
8:A:2595:G:N1	8:A:2599:G:C6	2.84	0.46
8:A:2712:C:H2'	8:A:2712:C:OP1	2.16	0.46
9:B:31:C:H2'	9:B:32:U:H5'	1.96	0.46
9:B:84:G:N2	9:B:93:C:C2	2.83	0.46
12:E:106:LYS:HG3	12:E:200:LEU:HD12	1.97	0.46
13:F:4:HIS:HB2	13:F:96:TRP:CD2	2.51	0.46
14:G:26:LYS:HB2	14:G:31:GLU:OE1	2.15	0.46
15:H:32:PRO:HA	31:X:38:TRP:CD1	2.49	0.46
16:I:1:ALA:HB2	16:I:62:ALA:HB3	1.97	0.46
17:J:56:VAL:HG11	17:J:124:VAL:HG12	1.97	0.46
18:K:1:MET:HA	18:K:1:MET:HE3	1.96	0.46
25:R:4:VAL:O	25:R:39:LEU:N	2.48	0.46
30:W:36:GLN:CD	30:W:41:PHE:H	2.23	0.46
34:a:60:A:O3'	53:t:4:LYS:NZ	2.47	0.46
34:a:275:G:C6	34:a:276:G:C5	3.03	0.46
34:a:302:G:C4	34:a:303:A:C8	3.03	0.46
34:a:524:G:H2'	34:a:524:G:N3	2.29	0.46
34:a:557:G:N1	34:a:558:G:C2	2.83	0.46
34:a:736:C:O3'	39:f:90:MET:HG3	2.15	0.46
34:a:827:U:C2	34:a:874:G:C2	3.03	0.46
34:a:972:C:O3'	43:j:59:LYS:HB2	2.14	0.46
34:a:1070:U:H5	34:a:1094:G:O6	1.97	0.46
34:a:1102:A:C6	34:a:1103:C:C4	3.04	0.46
34:a:1110:A:C4	34:a:1111:A:C8	3.04	0.46
34:a:1290:G:H5"	40:g:34:LYS:NZ	2.30	0.46
34:a:1311:A:H2'	34:a:1312:G:O4'	2.15	0.46
34:a:1368:A:C6	34:a:1369:C:C4	3.03	0.46
36:c:129:PHE:CE2	36:c:130:ARG:HG3	2.49	0.46
36:c:151:GLU:HB3	36:c:198:LYS:HB2	1.98	0.46
44:k:96:ILE:O	44:k:99:LEU:HB3	2.15	0.46
46:m:2:ARG:HE	46:m:7:ASN:ND2	2.13	0.46
46:m:19:THR:HA	46:m:24:VAL:CG1	2.45	0.46
50:q:17:GLU:OE1	50:q:18:LYS:HE2	2.16	0.46
51:r:41:SER:C	51:r:43:ILE:H	2.23	0.46
1:0:42:ILE:HG22	1:0:48:TYR:HB2	1.97	0.46
8:A:122:G:N1	8:A:130:C:N3	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:131:A:H2'	8:A:132:G:C8	2.49	0.46
8:A:185:G:C6	8:A:186:G:C5	3.04	0.46
8:A:212:G:C2	8:A:213:A:C2	3.04	0.46
8:A:221:A:C1'	8:A:233:A:H1'	2.44	0.46
8:A:243:U:C2	8:A:244:A:C8	3.03	0.46
8:A:346:A:C4	8:A:347:A:C8	3.03	0.46
8:A:406:G:H2'	8:A:407:G:C8	2.50	0.46
8:A:463:G:H2'	8:A:465:G:OP2	2.16	0.46
8:A:481:G:C2	8:A:507:A:C8	3.04	0.46
8:A:591:U:N3	8:A:592:A:N7	2.64	0.46
8:A:684:G:O2'	8:A:788:A:N7	2.44	0.46
8:A:689:A:O2'	8:A:690:G:H5'	2.14	0.46
8:A:776:G:C2	8:A:793:A:N7	2.83	0.46
8:A:998:C:P	24:Q:91:ARG:HH12	2.38	0.46
8:A:1024:G:H2'	8:A:1025:G:C8	2.50	0.46
8:A:1286:A:C5	8:A:1289:C:C4	3.02	0.46
8:A:1343:G:O4'	8:A:1597:A:H2'	2.15	0.46
8:A:1352:U:N3	8:A:1378:A:N6	2.23	0.46
8:A:1548:A:C2	8:A:1549:A:C4	3.03	0.46
8:A:1556:C:H2'	8:A:1557:C:C6	2.50	0.46
8:A:1655:A:C6	8:A:1656:C:C2	3.04	0.46
8:A:1693:U:H5"	8:A:1694:C:C5	2.50	0.46
8:A:1707:G:C5	8:A:1756:G:C6	3.04	0.46
8:A:1708:C:H2'	8:A:1709:U:H6	1.79	0.46
8:A:1744:A:C2	8:A:1745:A:H1'	2.51	0.46
8:A:1796:U:O2'	10:C:253:GLY:N	2.48	0.46
8:A:2070:A:C4	8:A:2071:A:C8	3.04	0.46
8:A:2181:U:H2'	8:A:2182:U:C6	2.50	0.46
8:A:2345:G:N2	8:A:2381:A:H2'	2.31	0.46
8:A:2358:A:C5	8:A:2359:C:C4	3.04	0.46
8:A:2592:G:C6	8:A:2593:U:C4	3.04	0.46
8:A:2599:G:C2	8:A:2600:A:C4	3.04	0.46
9:B:2:G:C6	9:B:119:A:C6	3.03	0.46
9:B:80:U:OP2	20:M:18:ARG:NH1	2.38	0.46
12:E:122:GLU:O	12:E:123:LYS:C	2.58	0.46
15:H:128:HIS:N	15:H:144:VAL:O	2.38	0.46
21:N:103:ARG:HB2	21:N:108:ALA:H	1.80	0.46
32:Y:35:GLY:O	32:Y:36:GLN:NE2	2.48	0.46
34:a:104:G:N1	34:a:105:G:C5	2.84	0.46
34:a:110:C:C4	34:a:111:G:C5	3.03	0.46
34:a:115:G:HO2'	34:a:289:G:H8	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:420:U:H2'	34:a:422:C:C4	2.50	0.46
34:a:538:G:OP1	45:l:109:ARG:HD2	2.16	0.46
34:a:577:G:C4	34:a:578:C:C5	3.04	0.46
34:a:655:A:H2'	34:a:656:G:O4'	2.16	0.46
34:a:833:G:H2'	34:a:834:U:H6	1.80	0.46
34:a:851:G:C5	34:a:852:G:C8	3.04	0.46
34:a:963:G:H2'	34:a:964:A:H8	1.80	0.46
34:a:1063:C:O5'	34:a:1064:G:H2'	2.15	0.46
34:a:1102:A:H2'	34:a:1103:C:C6	2.50	0.46
34:a:1150:A:H4'	43:j:43:PRO:HB3	1.97	0.46
34:a:1292:G:H2'	34:a:1293:C:O4'	2.14	0.46
34:a:1349:A:C5	34:a:1350:A:C5	3.04	0.46
34:a:1372:U:H3'	34:a:1373:G:C8	2.46	0.46
34:a:1445:U:C2	34:a:1458:G:C2	3.03	0.46
34:a:1481:U:C5	34:a:1482:G:C6	3.03	0.46
35:b:95:TRP:NE1	35:b:97:GLY:HA2	2.30	0.46
36:c:35:ASP:HB3	36:c:56:ILE:HG21	1.98	0.46
37:d:12:ARG:NE	37:d:37:PRO:HG3	2.30	0.46
37:d:123:MET:O	37:d:143:SER:HB3	2.15	0.46
37:d:162:GLU:OE2	37:d:166:LYS:NZ	2.35	0.46
39:f:9:MET:HA	39:f:58:HIS:O	2.16	0.46
42:i:14:SER:OG	42:i:69:GLY:HA3	2.15	0.46
47:n:20:PHE:C	47:n:22:LYS:H	2.22	0.46
50:q:20:ILE:HG13	50:q:45:VAL:HB	1.97	0.46
5:4:14:CYS:HA	5:4:27:CYS:HA	1.98	0.46
8:A:126:A:C8	8:A:127:A:C6	3.04	0.46
8:A:150:U:H2'	8:A:151:C:H6	1.79	0.46
8:A:158:U:H2'	8:A:159:G:O4'	2.16	0.46
8:A:185:G:C6	8:A:212:G:N1	2.83	0.46
8:A:370:G:C6	8:A:424:G:C5	3.03	0.46
8:A:496:G:C2	8:A:497:A:H1'	2.50	0.46
8:A:754:U:O2'	8:A:755:U:H5'	2.16	0.46
8:A:833:A:C4	8:A:834:G:C8	3.04	0.46
8:A:858:G:N3	8:A:2268:A:N3	2.64	0.46
8:A:1137:G:C2	8:A:1138:G:C4	3.04	0.46
8:A:1201:U:H2'	8:A:1202:G:C8	2.51	0.46
8:A:1227:G:H2'	8:A:1228:G:C8	2.50	0.46
8:A:1256:G:C2	8:A:1257:C:C4	3.02	0.46
8:A:1389:G:N2	8:A:1399:C:C2	2.83	0.46
8:A:1426:G:H8	8:A:1426:G:O5'	1.98	0.46
8:A:1607:C:N4	8:A:1622:G:C8	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1715:G:OP1	8:A:1715:G:H8	1.98	0.46
8:A:1719:G:H2'	8:A:1720:U:O4'	2.16	0.46
8:A:1778:U:C2	8:A:1784:A:N7	2.84	0.46
8:A:2077:A:C4	8:A:2435:A:C8	3.04	0.46
8:A:2136:G:O6	8:A:2156:G:N3	2.48	0.46
8:A:2172:U:H4'	8:A:2174:C:H5	1.81	0.46
8:A:2335:A:O3'	8:A:2336:A:H8	1.98	0.46
8:A:2586:U:N3	8:A:2587:A:C5	2.83	0.46
8:A:2675:A:N6	8:A:2732:G:H1	2.13	0.46
8:A:2856:A:C6	8:A:2857:G:C6	3.03	0.46
10:C:179:GLU:HG2	10:C:269:ARG:HA	1.96	0.46
11:D:68:PHE:CZ	11:D:75:ALA:HA	2.51	0.46
11:D:108:ASP:CG	11:D:173:GLN:HA	2.41	0.46
12:E:5:LEU:HG	12:E:10:SER:O	2.15	0.46
12:E:32:VAL:HB	12:E:178:VAL:HG12	1.96	0.46
12:E:195:GLN:HA	12:E:198:GLU:HG2	1.95	0.46
13:F:98:PHE:CE1	13:F:102:LEU:HD12	2.51	0.46
14:G:25:ILE:N	14:G:32:LEU:O	2.37	0.46
24:Q:30:VAL:HG12	24:Q:32:ARG:H	1.79	0.46
24:Q:78:PHE:CD2	24:Q:82:LEU:HD11	2.50	0.46
32:Y:38:GLN:N	32:Y:38:GLN:OE1	2.48	0.46
33:Z:7:THR:OG1	33:Z:55:LYS:HB3	2.14	0.46
34:a:8:A:N6	37:d:201:GLU:O	2.49	0.46
34:a:203:G:N1	34:a:215:C:C4	2.84	0.46
34:a:253:A:C1'	34:a:275:G:H21	2.28	0.46
34:a:333:U:C2	34:a:334:C:C5	3.04	0.46
34:a:391:G:H21	34:a:482:A:H2	1.63	0.46
34:a:427:U:OP1	37:d:12:ARG:NH1	2.45	0.46
34:a:434:U:H2'	34:a:435:A:C8	2.51	0.46
34:a:483:C:C4	34:a:484:G:C5	3.04	0.46
34:a:528:C:H2'	34:a:529:G:C8	2.50	0.46
34:a:540:G:C6	34:a:541:G:C6	3.04	0.46
34:a:605:U:O2	34:a:633:G:C2	2.68	0.46
34:a:661:G:H2'	34:a:662:U:H6	1.79	0.46
34:a:674:G:H22	34:a:716:A:H2	1.63	0.46
34:a:687:A:N3	34:a:688:G:H1'	2.30	0.46
34:a:778:G:C6	34:a:779:C:C4	3.04	0.46
34:a:791:G:N1	34:a:792:A:N6	2.64	0.46
34:a:895:G:C6	34:a:896:C:C4	3.04	0.46
34:a:1185:G:C4	34:a:1186:G:C8	3.04	0.46
34:a:1244:G:O6	34:a:1294:G:C6	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1353:G:H2'	34:a:1354:U:C6	2.50	0.46
34:a:1428:A:C6	34:a:1473:G:C5	3.03	0.46
34:a:1442:G:C6	34:a:1461:G:C2	3.02	0.46
35:b:72:LYS:HZ1	35:b:164:ASP:HB2	1.81	0.46
35:b:89:PHE:HE2	35:b:152:ASP:H	1.63	0.46
35:b:95:TRP:HE1	35:b:97:GLY:HA2	1.79	0.46
38:e:15:ILE:N	38:e:35:LEU:O	2.39	0.46
38:e:55:VAL:O	38:e:59:ILE:HG13	2.16	0.46
39:f:39:LEU:HA	39:f:62:MET:HG3	1.97	0.46
41:h:4:ASP:CG	41:h:76:ARG:HH21	2.23	0.46
42:i:32:ARG:NH1	42:i:37:TYR:HA	2.30	0.46
43:j:52:LEU:O	47:n:81:ARG:HD2	2.15	0.46
45:l:30:ARG:O	45:l:56:LEU:HA	2.14	0.46
46:m:15:VAL:HG12	46:m:18:LEU:HD12	1.97	0.46
48:o:28:VAL:HG22	48:o:62:ARG:HG3	1.97	0.46
51:r:70:THR:OG1	51:r:72:ARG:NE	2.46	0.46
52:s:10:ILE:HG21	52:s:15:LEU:HD12	1.97	0.46
55:v:20:H2U:H2'	55:v:21:A:C5'	2.45	0.46
1:0:19:ASP:OD1	1:0:19:ASP:N	2.46	0.46
2:1:9:LYS:HG3	2:1:19:PHE:CD1	2.51	0.46
3:2:42:LEU:HB3	8:A:126:A:N6	2.29	0.46
8:A:9:G:N2	8:A:2895:G:C5	2.84	0.46
8:A:64:A:H1'	27:T:70:HIS:CG	2.50	0.46
8:A:219:A:C4	8:A:220:G:C8	3.04	0.46
8:A:266:G:H2'	8:A:267:C:O4'	2.15	0.46
8:A:415:A:C5	8:A:416:U:C5	3.03	0.46
8:A:452:G:C6	8:A:458:G:N7	2.84	0.46
8:A:579:G:O4'	8:A:2017:U:N3	2.48	0.46
8:A:607:U:C5	8:A:620:G:C6	3.04	0.46
8:A:767:U:H2'	8:A:768:G:H8	1.79	0.46
8:A:796:C:C5'	12:E:57:LYS:HZ1	2.29	0.46
8:A:846:U:O2'	8:A:847:U:H3'	2.16	0.46
8:A:953:G:N1	8:A:965:C:C4	2.84	0.46
8:A:1098:A:C5	8:A:1099:G:C6	3.04	0.46
8:A:1110:G:O2'	8:A:1111:A:OP2	2.33	0.46
8:A:1167:C:H2'	8:A:1168:G:C8	2.50	0.46
8:A:1223:G:N1	8:A:1227:G:C5	2.84	0.46
8:A:1276:A:OP1	8:A:1645:G:O2'	2.33	0.46
8:A:1551:A:C6	8:A:1552:A:C5	3.04	0.46
8:A:1797:G:C5	8:A:1798:U:C4	3.04	0.46
8:A:1831:G:C4	8:A:1832:C:C5	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1846:G:O6	8:A:1895:C:N4	2.49	0.46
8:A:2134:A:C4	8:A:2158:A:H1'	2.50	0.46
8:A:2311:A:H4'	13:F:73:VAL:HG21	1.97	0.46
8:A:2356:U:HO2'	30:W:16:ARG:HE	1.57	0.46
8:A:2543:G:C6	8:A:2765:A:C8	3.03	0.46
8:A:2638:G:C2	8:A:2775:G:C2	3.03	0.46
8:A:2816:G:H2'	8:A:2817:U:H6	1.81	0.46
11:D:174:SER:O	11:D:174:SER:OG	2.34	0.46
15:H:37:VAL:HG22	15:H:43:ASN:ND2	2.31	0.46
17:J:47:HIS:ND1	17:J:48:VAL:HG22	2.30	0.46
17:J:117:ALA:O	17:J:120:ARG:HB2	2.15	0.46
20:M:7:THR:OG1	20:M:8:LYS:N	2.49	0.46
20:M:38:ARG:HG3	20:M:98:PRO:HD3	1.98	0.46
20:M:46:ILE:HG23	20:M:103:TYR:OH	2.16	0.46
28:U:73:ASN:OD1	28:U:74:ALA:N	2.49	0.46
31:X:47:THR:C	31:X:48:LEU:HD12	2.41	0.46
34:a:8:A:N3	38:e:107:GLY:HA2	2.31	0.46
34:a:108:G:P	34:a:326:G:H22	2.38	0.46
34:a:161:A:H3'	34:a:162:A:C8	2.44	0.46
34:a:246:A:C5	34:a:279:A:C5	3.04	0.46
34:a:275:G:C5	34:a:276:G:C5	3.03	0.46
34:a:293:G:C5	34:a:305:G:N1	2.83	0.46
34:a:525:C:OP1	45:l:85:ARG:NH2	2.35	0.46
34:a:525:C:P	45:l:85:ARG:HH21	2.39	0.46
34:a:610:U:C2	34:a:611:C:C6	3.04	0.46
34:a:620:C:C4	34:a:621:A:C5	3.04	0.46
34:a:666:G:C6	34:a:740:U:O2	2.69	0.46
34:a:908:A:H2'	34:a:909:A:C8	2.50	0.46
34:a:951:G:C6	34:a:952:U:C4	3.04	0.46
34:a:959:A:H3'	34:a:960:U:H4'	1.98	0.46
34:a:1415:G:C6	34:a:1486:G:C6	3.04	0.46
34:a:1478:U:H2'	34:a:1479:C:O4'	2.16	0.46
35:b:108:GLN:CD	35:b:108:GLN:H	2.24	0.46
35:b:146:SER:OG	35:b:147:LEU:N	2.49	0.46
36:c:10:ARG:NH2	36:c:177:LEU:HA	2.30	0.46
36:c:63:ILE:O	36:c:98:ALA:HA	2.16	0.46
39:f:2:ARG:NH2	39:f:91:ARG:HH12	2.14	0.46
39:f:47:LEU:HD12	39:f:54:LEU:O	2.15	0.46
44:k:22:ILE:HD12	44:k:84:MET:O	2.16	0.46
44:k:34:THR:HG22	44:k:40:ALA:HA	1.98	0.46
45:l:120:ARG:HG2	45:l:121:PRO:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:25:C:H2'	55:v:26:G:C8	2.43	0.46
55:v:37:A:C4	55:v:38:A:C8	3.04	0.46
8:A:275:C:H3'	8:A:276:U:H5"	1.97	0.46
8:A:294:A:N6	8:A:345:A:C4	2.84	0.46
8:A:299:A:C6	8:A:300:A:C6	3.04	0.46
8:A:348:A:C2	8:A:349:U:C2	3.03	0.46
8:A:377:G:H2'	8:A:378:C:C6	2.51	0.46
8:A:391:A:H2'	8:A:392:U:H6	1.81	0.46
8:A:491:G:C5	8:A:492:A:C5	3.04	0.46
8:A:571:U:H3'	25:R:80:ARG:CZ	2.46	0.46
8:A:587:C:O2'	19:L:19:LEU:HD13	2.16	0.46
8:A:617:G:P	12:E:101:TYR:HE2	2.39	0.46
8:A:741:U:C2	8:A:742:A:C8	3.04	0.46
8:A:746:PSU:C5'	8:A:748:G:H1'	2.46	0.46
8:A:870:U:H2'	8:A:871:U:H6	1.81	0.46
8:A:987:C:C4	8:A:988:A:C5	3.04	0.46
8:A:1405:U:H2'	8:A:1406:U:H6	1.81	0.46
8:A:1779:U:C2	8:A:1783:A:N7	2.84	0.46
8:A:1823:G:H2'	8:A:1824:G:H8	1.79	0.46
8:A:1878:G:C5	8:A:1879:C:C4	3.03	0.46
8:A:2060:A:C2	8:A:2502:G:C5	3.03	0.46
8:A:2172:U:C5'	8:A:2174:C:H41	2.29	0.46
8:A:2309:A:H3'	8:A:2310:C:C6	2.48	0.46
8:A:2404:U:H2'	8:A:2405:G:C8	2.50	0.46
8:A:2659:G:N1	8:A:2663:G:C6	2.84	0.46
8:A:2744:G:C5	8:A:2761:A:C6	3.04	0.46
8:A:2749:A:C8	8:A:2750:A:H2'	2.51	0.46
8:A:2788:C:H2'	8:A:2789:C:H6	1.81	0.46
9:B:101:A:C6	9:B:102:G:C5	3.03	0.46
13:F:98:PHE:HE1	13:F:102:LEU:HD12	1.81	0.46
13:F:127:TYR:HB3	13:F:155:ILE:HD13	1.97	0.46
14:G:163:TYR:H	14:G:166:GLU:CB	2.29	0.46
17:J:20:ALA:HB3	17:J:58:ASN:C	2.41	0.46
17:J:107:GLY:O	17:J:109:LEU:N	2.49	0.46
18:K:2:ILE:HD12	18:K:6:THR:HG21	1.97	0.46
19:L:136:GLU:CD	19:L:142:ILE:HG13	2.40	0.46
21:N:43:GLU:O	21:N:47:VAL:HG23	2.16	0.46
22:O:93:ASP:OD1	22:O:94:ARG:N	2.48	0.46
25:R:6:GLN:HG2	25:R:37:GLU:CD	2.41	0.46
27:T:29:THR:HG23	27:T:86:THR:HB	1.98	0.46
27:T:50:LEU:HD13	27:T:50:LEU:HA	1.67	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:T:58:VAL:HG22	27:T:59:ASN:N	2.30	0.46
28:U:46:LYS:CD	28:U:47:PRO:HD2	2.45	0.46
34:a:100:G:C6	34:a:101:A:C5	3.04	0.46
34:a:112:G:C2	34:a:113:G:C8	3.04	0.46
34:a:185:U:H2'	34:a:186:C:H6	1.81	0.46
34:a:604:G:O6	34:a:635:A:N6	2.49	0.46
34:a:619:U:O2	37:d:129:VAL:HG13	2.16	0.46
34:a:683:G:O6	34:a:708:C:N4	2.49	0.46
34:a:720:C:OP1	34:a:721:G:H5"	2.16	0.46
34:a:771:G:H2'	34:a:772:U:H6	1.81	0.46
34:a:799:G:C6	34:a:800:G:C6	3.04	0.46
34:a:812:G:P	34:a:901:A:H61	2.37	0.46
34:a:1089:G:C6	34:a:1090:U:C4	3.04	0.46
34:a:1287:A:H61	34:a:1371:G:H5'	1.81	0.46
34:a:1296:C:H3'	34:a:1297:G:C8	2.51	0.46
34:a:1309:G:H2'	34:a:1310:G:H8	1.80	0.46
34:a:1465:A:C6	34:a:1466:C:C4	3.04	0.46
34:a:1516:2MG:HM23	34:a:1518:MA6:OP2	2.16	0.46
36:c:70:ALA:HA	36:c:105:VAL:O	2.15	0.46
39:f:6:ILE:HD12	39:f:88:MET:O	2.16	0.46
39:f:25:TYR:CZ	39:f:78:PHE:HE1	2.33	0.46
40:g:114:SER:O	40:g:118:ARG:NE	2.49	0.46
40:g:149:ALA:O	44:k:58:THR:HB	2.16	0.46
42:i:113:LYS:HD2	42:i:118:ARG:C	2.41	0.46
48:o:32:THR:HG21	48:o:86:LEU:HD11	1.97	0.46
49:p:19:VAL:H	49:p:37:GLY:C	2.23	0.46
3:2:19:ARG:HD3	8:A:125:A:OP2	2.16	0.46
6:5:30:SER:O	8:A:1054:A:H4'	2.15	0.46
8:A:15:G:H2'	8:A:16:C:C6	2.51	0.46
8:A:19:A:N6	8:A:522:A:N6	2.64	0.46
8:A:29:U:H2'	8:A:30:G:C8	2.50	0.46
8:A:58:G:H2'	8:A:59:U:C6	2.51	0.46
8:A:185:G:C2	8:A:212:G:C2	3.03	0.46
8:A:270:A:C2	8:A:370:G:C5	3.04	0.46
8:A:450:G:N1	8:A:454:A:OP1	2.30	0.46
8:A:497:A:C6	8:A:498:G:C5	3.04	0.46
8:A:559:G:H2'	8:A:560:C:C6	2.51	0.46
8:A:624:C:H2'	8:A:625:G:H8	1.80	0.46
8:A:727:A:C6	8:A:728:G:C6	3.04	0.46
8:A:727:A:OP1	8:A:1431:A:O2'	2.33	0.46
8:A:764:A:C6	8:A:781:A:C2	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:991:C:H1'	8:A:1185:G:C2	2.51	0.46
8:A:1403:A:H2'	8:A:1404:C:O4'	2.16	0.46
8:A:1472:C:O2'	8:A:1473:G:H5'	2.16	0.46
8:A:1485:U:H2'	8:A:1486:U:H6	1.79	0.46
8:A:1573:G:C5	8:A:1574:C:C6	3.04	0.46
8:A:1753:G:N2	8:A:1756:G:OP2	2.49	0.46
8:A:1754:A:C2	8:A:1755:A:C4	3.03	0.46
8:A:1979:U:H2'	8:A:1980:G:C8	2.50	0.46
8:A:2002:G:H2'	8:A:2003:A:C8	2.51	0.46
8:A:2059:A:N6	8:A:2503:2MA:H2'	2.31	0.46
8:A:2084:C:C4	8:A:2085:U:C4	3.03	0.46
8:A:2091:C:C4	8:A:2092:U:C4	3.04	0.46
8:A:2102:G:C6	8:A:2103:C:C6	3.04	0.46
8:A:2152:G:N3	8:A:2152:G:H2'	2.29	0.46
8:A:2201:G:C5	8:A:2223:G:C2	3.04	0.46
8:A:2437:G:H2'	8:A:2438:U:C6	2.50	0.46
8:A:2703:C:H2'	8:A:2704:C:H6	1.80	0.46
8:A:2821:A:C6	8:A:2822:G:C5	3.04	0.46
10:C:89:ASN:O	10:C:104:LEU:HD12	2.15	0.46
11:D:25:THR:O	11:D:188:LEU:HA	2.14	0.46
13:F:62:GLN:HB2	13:F:94:ARG:NH1	2.28	0.46
13:F:91:ARG:HA	13:F:95:MET:HB2	1.98	0.46
15:H:47:PHE:CD2	15:H:48:GLU:HB2	2.51	0.46
18:K:52:VAL:HG12	18:K:56:ASP:OD2	2.15	0.46
21:N:95:THR:HB	21:N:115:LEU:HD23	1.98	0.46
27:T:54:GLU:N	27:T:54:GLU:OE1	2.49	0.46
28:U:26:ASN:OD1	28:U:34:ILE:HB	2.16	0.46
29:V:46:LYS:O	29:V:50:MET:HE2	2.16	0.46
30:W:50:GLY:C	30:W:52:ASP:N	2.74	0.46
34:a:42:G:H2'	34:a:43:C:H6	1.81	0.46
34:a:184:G:H2'	34:a:185:U:O4'	2.16	0.46
34:a:202:G:H1	34:a:215:C:H5	1.63	0.46
34:a:226:G:C6	34:a:227:G:C6	3.03	0.46
34:a:404:G:C5	34:a:405:U:C4	3.04	0.46
34:a:690:G:H2'	34:a:691:G:N9	2.31	0.46
34:a:767:A:C4	34:a:768:A:C8	3.04	0.46
34:a:1079:G:C4	34:a:1080:A:C8	3.04	0.46
34:a:1125:U:P	43:j:37:ARG:HH21	2.38	0.46
34:a:1476:A:H2'	34:a:1477:U:H6	1.78	0.46
34:a:1534:A:H3'	34:a:1535:C:O4'	2.16	0.46
36:c:17:TRP:CD1	47:n:95:GLY:H	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:c:65:VAL:N	36:c:99:GLN:O	2.33	0.46
40:g:114:SER:C	40:g:118:ARG:NE	2.74	0.46
41:h:46:GLU:HB2	41:h:61:THR:OG1	2.16	0.46
42:i:40:ARG:O	42:i:44:ARG:HG3	2.15	0.46
43:j:47:GLU:C	43:j:66:GLU:HG2	2.40	0.46
44:k:52:ARG:HH22	44:k:56:LYS:NZ	2.14	0.46
49:p:59:HIS:HD1	49:p:60:TRP:CD1	2.34	0.46
53:t:45:ALA:HA	53:t:48:LYS:HB3	1.98	0.46
56:w:3:C:C2	56:w:71:G:C2	3.04	0.46
1:0:15:ARG:HE	8:A:1266:G:P	2.37	0.46
8:A:45:G:H3'	8:A:215:G:H8	1.81	0.46
8:A:219:A:H2'	8:A:220:G:O4'	2.16	0.46
8:A:328:U:H4'	28:U:65:GLN:OE1	2.16	0.46
8:A:556:A:C2	17:J:48:VAL:HG11	2.51	0.46
8:A:586:A:H3'	8:A:586:A:H8	1.81	0.46
8:A:643:A:C6	8:A:644:A:C5	3.04	0.46
8:A:764:A:O4'	10:C:211:ARG:HG3	2.16	0.46
8:A:787:C:OP1	8:A:790:U:OP2	2.34	0.46
8:A:952:G:N1	8:A:966:G:C6	2.84	0.46
8:A:962:G:C4	8:A:963:U:C6	3.04	0.46
8:A:1142:A:C4	8:A:1144:A:C8	3.04	0.46
8:A:1258:U:H2'	8:A:1259:G:C8	2.51	0.46
8:A:1501:G:C4	8:A:1502:A:C8	3.03	0.46
8:A:1524:G:H2'	8:A:1525:A:O4'	2.16	0.46
8:A:1574:C:C2	8:A:1575:C:C5	3.04	0.46
8:A:1641:A:C2	8:A:1642:G:H1'	2.51	0.46
8:A:1642:G:H2'	8:A:1643:G:O4'	2.16	0.46
8:A:1686:C:N4	8:A:1703:G:O6	2.49	0.46
8:A:1749:A:C4	8:A:1750:G:C8	3.03	0.46
8:A:1749:A:H2'	8:A:1750:G:C8	2.51	0.46
8:A:1753:G:N2	8:A:1756:G:O5'	2.49	0.46
8:A:1972:G:H2'	8:A:1973:G:H8	1.80	0.46
8:A:2120:G:N3	8:A:2120:G:H2'	2.31	0.46
8:A:2128:G:H3'	8:A:2129:C:H5"	1.97	0.46
8:A:2137:U:H2'	8:A:2138:G:C8	2.51	0.46
8:A:2465:C:H2'	8:A:2466:C:C5	2.51	0.46
8:A:2514:U:C2	8:A:2515:C:C5	3.04	0.46
8:A:2526:G:C6	8:A:2527:C:C4	3.04	0.46
8:A:2588:G:C4	8:A:2607:G:N2	2.83	0.46
10:C:78:GLU:OE1	10:C:79:ARG:NE	2.49	0.46
13:F:4:HIS:HB2	13:F:96:TRP:CG	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:G:148:ARG:CZ	14:G:153:PRO:HD2	2.45	0.46
15:H:73:ASN:HD21	15:H:76:GLU:HA	1.80	0.46
17:J:39:LYS:HB3	17:J:39:LYS:HE3	1.78	0.46
21:N:98:LEU:CD2	21:N:100:CYS:HB3	2.46	0.46
23:P:7:LEU:O	23:P:10:GLU:HG2	2.16	0.46
23:P:62:LYS:O	23:P:63:ILE:HD13	2.16	0.46
24:Q:31:TYR:HA	24:Q:34:ALA:HB3	1.97	0.46
28:U:39:ASN:HD21	28:U:64:ILE:HB	1.81	0.46
34:a:65:A:C5	34:a:381:C:C4	3.03	0.46
34:a:363:A:C6	34:a:364:A:C5	3.04	0.46
34:a:424:G:C2	34:a:425:G:C4	3.03	0.46
34:a:451:A:H61	34:a:481:G:H5'	1.80	0.46
34:a:518:C:H4'	34:a:519:C:C6	2.50	0.46
34:a:604:G:H2'	34:a:605:U:C6	2.51	0.46
34:a:811:C:H2'	34:a:811:C:O2	2.15	0.46
34:a:815:A:OP2	34:a:816:A:H8	1.99	0.46
34:a:937:A:C6	34:a:938:A:C5	3.04	0.46
34:a:941:G:N2	34:a:942:G:H1'	2.31	0.46
34:a:1032:G:C6	34:a:1033:G:C2	3.04	0.46
34:a:1349:A:H2'	34:a:1350:A:O4'	2.16	0.46
34:a:1361:G:C6	34:a:1362:A:C5	3.03	0.46
34:a:1457:G:H2'	34:a:1458:G:C8	2.51	0.46
35:b:182:VAL:HB	35:b:196:ASP:N	2.27	0.46
39:f:45:ARG:HB3	39:f:59:TYR:CD1	2.51	0.46
43:j:44:THR:OG1	43:j:70:HIS:HA	2.16	0.46
44:k:96:ILE:H	44:k:96:ILE:HD12	1.80	0.46
45:l:82:ARG:NH1	45:l:83:GLY:O	2.49	0.46
49:p:6:LEU:HB3	49:p:17:TYR:HB3	1.97	0.46
50:q:31:PRO:O	50:q:32:ILE:HD13	2.16	0.46
53:t:67:HIS:O	53:t:70:LYS:HB3	2.16	0.46
55:v:17:C:H5'	55:v:61:C:OP1	2.16	0.46
7:6:22:MET:HE3	7:6:23:LYS:N	2.31	0.46
7:6:34:LEU:HD21	7:6:36:VAL:C	2.41	0.46
8:A:159:G:C2	8:A:168:G:O6	2.68	0.46
8:A:244:A:H2'	8:A:245:G:O4'	2.16	0.46
8:A:387:U:H4'	8:A:388:G:O4'	2.16	0.46
8:A:625:G:C6	8:A:626:A:C6	3.04	0.46
8:A:677:A:H2'	8:A:677:A:N3	2.29	0.46
8:A:753:A:C4	8:A:754:U:C5	3.04	0.46
8:A:783:A:C5	8:A:785:G:H1'	2.50	0.46
8:A:857:G:C6	8:A:858:G:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:971:G:OP1	8:A:974:G:O2'	2.29	0.46
8:A:992:C:C2	8:A:1163:G:C2	3.03	0.46
8:A:998:C:H2'	8:A:999:U:C6	2.51	0.46
8:A:1018:U:H2'	8:A:1019:U:H6	1.81	0.46
8:A:1108:U:OP2	8:A:1109:C:N4	2.49	0.46
8:A:1202:G:N1	8:A:1244:A:C6	2.84	0.46
8:A:1218:G:C6	8:A:1219:U:C4	3.04	0.46
8:A:1364:G:H3'	31:X:1:SER:HA	1.97	0.46
8:A:1364:G:N1	8:A:1368:G:C6	2.84	0.46
8:A:1388:G:H2'	8:A:1389:G:H8	1.80	0.46
8:A:1432:G:C2	8:A:1433:A:C5	3.04	0.46
8:A:1435:G:C2	8:A:1436:G:C5	3.04	0.46
8:A:1537:G:N2	8:A:1538:G:C8	2.84	0.46
8:A:1578:U:O2'	8:A:1579:A:H5'	2.16	0.46
8:A:1694:C:H1'	8:A:1695:G:N2	2.31	0.46
8:A:1752:C:H2'	8:A:1753:G:H8	1.78	0.46
8:A:1917:PSU:H2'	8:A:1918:A:O4'	2.16	0.46
8:A:2011:U:C4	8:A:2012:G:C4	3.04	0.46
8:A:2053:G:C6	8:A:2054:A:C5	3.03	0.46
8:A:2076:U:H3'	8:A:2076:U:H6	1.80	0.46
8:A:2093:G:H21	8:A:2198:A:H62	1.63	0.46
8:A:2374:C:N4	8:A:2375:G:O6	2.49	0.46
8:A:2469:A:H2'	8:A:2470:G:O4'	2.16	0.46
8:A:2488:G:C4	8:A:2489:U:C5	3.03	0.46
8:A:2547:A:O2'	8:A:2548:U:H5'	2.16	0.46
8:A:2624:G:C6	8:A:2625:G:C6	3.03	0.46
8:A:2697:G:C6	8:A:2711:A:N1	2.84	0.46
8:A:2766:A:H2'	8:A:2766:A:N3	2.31	0.46
8:A:2852:G:H5'	21:N:64:ARG:NH2	2.31	0.46
8:A:2859:G:C6	8:A:2860:A:C5	3.03	0.46
9:B:43:C:C2	9:B:45:A:C8	3.04	0.46
10:C:78:GLU:CD	10:C:79:ARG:HB2	2.40	0.46
14:G:68:ARG:HD3	14:G:68:ARG:C	2.41	0.46
20:M:58:LYS:C	20:M:60:GLN:H	2.24	0.46
21:N:37:THR:OG1	21:N:38:LEU:N	2.49	0.46
21:N:37:THR:HA	21:N:110:MET:CA	2.44	0.46
25:R:68:ARG:CB	25:R:90:ARG:HE	2.29	0.46
34:a:11:G:H3'	34:a:12:U:H6	1.81	0.46
34:a:74:A:C2	34:a:97:G:C4	3.04	0.46
34:a:236:A:H5"	50:q:43:LEU:HD21	1.98	0.46
34:a:238:A:P	50:q:26:ARG:HH12	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:287:U:H6	34:a:287:U:O5'	1.99	0.46
34:a:541:G:C8	34:a:541:G:OP2	2.68	0.46
34:a:625:U:H4'	49:p:16:PHE:CE2	2.51	0.46
34:a:645:G:H2'	34:a:646:G:O4'	2.15	0.46
34:a:819:A:H5'	34:a:820:U:H5	1.80	0.46
34:a:939:G:C2	34:a:940:C:C4	3.03	0.46
34:a:1068:G:C8	34:a:1094:G:H5"	2.51	0.46
34:a:1096:C:C2	34:a:1097:C:C5	3.04	0.46
34:a:1159:U:C5	34:a:1182:G:C5	3.04	0.46
34:a:1206:G:H2'	34:a:1207:2MG:O4'	2.16	0.46
34:a:1531:A:H2'	34:a:1532:U:C6	2.51	0.46
35:b:55:GLU:HG3	35:b:197:PHE:CE2	2.51	0.46
37:d:151:GLN:OE1	37:d:153:ARG:NE	2.49	0.46
37:d:201:GLU:HB3	38:e:111:ARG:HH22	1.81	0.46
38:e:83:PRO:HA	38:e:95:MET:O	2.16	0.46
38:e:100:GLU:CD	38:e:100:GLU:H	2.25	0.46
39:f:8:PHE:CE2	39:f:60:VAL:HG21	2.51	0.46
39:f:76:THR:HA	39:f:79:ARG:HB3	1.98	0.46
40:g:75:LYS:NZ	40:g:77:ARG:HG3	2.31	0.46
40:g:138:GLU:HA	40:g:141:HIS:HB2	1.98	0.46
44:k:52:ARG:HH22	44:k:56:LYS:HZ3	1.64	0.46
48:o:1:SER:H3	48:o:34:GLN:CD	2.20	0.46
50:q:21:VAL:HA	50:q:43:LEU:O	2.15	0.46
54:u:40:PRO:HA	54:u:43:GLU:HG3	1.97	0.46
4:3:12:ARG:HH11	19:L:63:LYS:HG3	1.81	0.45
8:A:146:A:H2'	8:A:147:C:O4'	2.16	0.45
8:A:158:U:O2	8:A:168:G:N2	2.41	0.45
8:A:308:G:N2	8:A:329:G:H21	2.14	0.45
8:A:524:G:C6	8:A:525:U:N1	2.84	0.45
8:A:680:C:C2	8:A:798:G:N2	2.84	0.45
8:A:706:A:H61	8:A:725:G:H1'	1.81	0.45
8:A:712:G:H2'	8:A:713:G:O4'	2.15	0.45
8:A:844:A:H2'	8:A:845:A:C8	2.50	0.45
8:A:915:C:C4	8:A:916:G:C4	3.03	0.45
8:A:1074:G:H5"	8:A:1075:C:C6	2.51	0.45
8:A:1205:A:C4	12:E:165:HIS:CE1	3.04	0.45
8:A:1265:A:N6	8:A:2014:A:OP2	2.49	0.45
8:A:1343:G:C8	8:A:1597:A:C5	3.04	0.45
8:A:1449:G:N1	8:A:1463:C:C4	2.84	0.45
8:A:1664:A:N3	8:A:1665:A:C8	2.84	0.45
8:A:1799:G:N2	8:A:1818:U:O2'	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2071:A:O2'	8:A:2072:C:H5'	2.16	0.45
8:A:2085:U:O2	8:A:2234:G:O6	2.34	0.45
8:A:2118:U:C2	8:A:2147:A:N1	2.84	0.45
8:A:2123:G:H21	8:A:2175:C:H41	1.64	0.45
8:A:2162:G:H1'	8:A:2173:A:C5	2.51	0.45
8:A:2221:G:C2	8:A:2222:C:C2	3.04	0.45
8:A:2241:A:N1	8:A:2242:G:C6	2.84	0.45
8:A:2269:G:H2'	8:A:2270:A:O4'	2.16	0.45
8:A:2657:A:C5	8:A:2665:A:C8	3.04	0.45
8:A:2809:A:C2	8:A:2810:A:C4	3.04	0.45
8:A:2811:G:C4	8:A:2812:G:C8	3.03	0.45
8:A:2868:A:C5	8:A:2869:G:C5	3.04	0.45
9:B:2:G:C6	9:B:119:A:N1	2.84	0.45
9:B:81:G:C6	9:B:96:G:C5	3.04	0.45
10:C:254:LYS:NZ	10:C:256:THR:HA	2.31	0.45
11:D:5:VAL:HA	11:D:202:ILE:HA	1.98	0.45
11:D:51:THR:HB	11:D:79:LEU:HG	1.98	0.45
12:E:1:MET:H2	12:E:14:VAL:H	1.63	0.45
12:E:21:ARG:HH11	12:E:107:SER:HB3	1.81	0.45
17:J:21:THR:HG23	17:J:61:LYS:HG3	1.97	0.45
20:M:31:PHE:HD1	20:M:132:THR:HA	1.80	0.45
21:N:96:ARG:O	21:N:113:ILE:HG13	2.16	0.45
29:V:80:HIS:HA	29:V:87:GLN:CD	2.41	0.45
29:V:80:HIS:CD2	29:V:81:PRO:HD2	2.51	0.45
32:Y:28:LEU:HA	32:Y:31:GLN:NE2	2.30	0.45
34:a:17:U:C2'	34:a:1079:G:H21	2.28	0.45
34:a:23:C:H2'	34:a:24:U:C6	2.51	0.45
34:a:31:G:C6	34:a:48:C:H5"	2.51	0.45
34:a:71:A:N6	34:a:99:C:H1'	2.30	0.45
34:a:81:A:H3'	34:a:82:G:H8	1.80	0.45
34:a:119:A:C5	34:a:288:A:C4	3.04	0.45
34:a:371:A:H5'	34:a:372:C:OP2	2.15	0.45
34:a:390:U:C2	34:a:391:G:N7	2.84	0.45
34:a:460:A:H3'	34:a:461:A:H8	1.81	0.45
34:a:577:G:N7	34:a:816:A:N6	2.64	0.45
34:a:689:C:H2'	34:a:690:G:C8	2.51	0.45
34:a:710:G:O2'	34:a:711:G:H5'	2.16	0.45
34:a:830:G:N1	34:a:857:C:N3	2.64	0.45
34:a:835:U:N3	34:a:852:G:O6	2.50	0.45
34:a:907:A:C6	34:a:908:A:C5	3.04	0.45
34:a:922:G:H2'	34:a:923:A:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:953:G:C6	34:a:954:G:C5	3.04	0.45
34:a:1012:A:N1	34:a:1018:G:C6	2.84	0.45
34:a:1134:G:C6	34:a:1135:U:C4	3.05	0.45
34:a:1253:G:H2'	34:a:1254:A:C8	2.51	0.45
34:a:1415:G:N3	34:a:1416:G:C8	2.85	0.45
34:a:1465:A:C4	34:a:1466:C:C5	3.04	0.45
35:b:35:ASN:O	35:b:37:VAL:HG23	2.16	0.45
35:b:187:ASP:H	35:b:190:SER:HB2	1.81	0.45
39:f:21:MET:HB3	39:f:25:TYR:CZ	2.50	0.45
40:g:70:PRO:HB3	40:g:102:TRP:HH2	1.81	0.45
40:g:71:THR:HG22	40:g:141:HIS:NE2	2.30	0.45
40:g:149:ALA:HB1	44:k:58:THR:HG21	1.96	0.45
45:l:38:THR:HA	45:l:51:VAL:HG23	1.97	0.45
48:o:24:THR:HA	48:o:27:GLN:HB2	1.97	0.45
50:q:56:ASP:OD2	50:q:80:LYS:HD2	2.15	0.45
51:r:33:THR:C	51:r:36:GLY:H	2.24	0.45
55:v:52:G:C3'	55:v:53:G:H8	2.25	0.45
2:1:13:SER:OG	2:1:47:ILE:O	2.25	0.45
3:2:30:VAL:HG23	3:2:33:ARG:CZ	2.45	0.45
6:5:32:GLY:O	8:A:1055:G:H5'	2.16	0.45
8:A:8:C:C2	8:A:9:G:C8	3.04	0.45
8:A:195:A:N7	8:A:198:C:OP2	2.49	0.45
8:A:268:C:C4	8:A:425:G:N1	2.84	0.45
8:A:287:G:C4	8:A:288:U:C5	3.04	0.45
8:A:312:G:C2	8:A:313:G:C8	3.04	0.45
8:A:333:G:H2'	8:A:334:C:C6	2.51	0.45
8:A:468:G:H2'	8:A:469:G:O4'	2.17	0.45
8:A:489:G:N3	8:A:1284:A:N6	2.64	0.45
8:A:554:U:H2'	8:A:555:G:N9	2.31	0.45
8:A:662:G:C4	8:A:663:G:C8	3.04	0.45
8:A:706:A:C2	8:A:707:G:H1'	2.52	0.45
8:A:815:C:O2'	8:A:816:C:H5'	2.16	0.45
8:A:848:C:H2'	8:A:849:A:C8	2.46	0.45
8:A:866:A:C4	8:A:867:C:C6	3.05	0.45
8:A:1011:G:C6	8:A:1151:A:C6	3.04	0.45
8:A:1032:A:N1	8:A:1123:C:N3	2.64	0.45
8:A:1702:G:H2'	8:A:1703:G:H8	1.81	0.45
8:A:1742:U:C4	8:A:1743:G:C5	3.04	0.45
8:A:1786:A:C2	8:A:1938:A:C6	3.05	0.45
8:A:1840:G:C4	8:A:1841:U:C6	3.05	0.45
8:A:1857:G:N2	8:A:1884:G:H2'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1947:C:H2'	8:A:1948:G:H8	1.81	0.45
8:A:1954:G:H21	8:A:2551:C:H5"	1.80	0.45
8:A:2143:C:C4	8:A:2144:G:C6	3.05	0.45
8:A:2209:G:N2	8:A:2216:G:C4	2.84	0.45
8:A:2325:G:C6	8:A:2326:C:C4	3.04	0.45
8:A:2432:A:C5	55:v:75:C:N3	2.84	0.45
8:A:2458:G:H8	8:A:2458:G:O5'	1.98	0.45
8:A:2683:C:H5"	23:P:50:ARG:HH22	1.81	0.45
8:A:2728:U:H4'	8:A:2729:G:OP1	2.15	0.45
8:A:2774:C:C4	8:A:2775:G:C5	3.04	0.45
8:A:2839:G:C4	8:A:2840:C:C5	3.04	0.45
8:A:2869:G:C6	8:A:2870:C:C4	3.04	0.45
9:B:7:G:H5"	22:O:29:HIS:CG	2.51	0.45
11:D:114:LYS:HD3	11:D:116:LYS:HE3	1.98	0.45
12:E:1:MET:HE3	12:E:19:PHE:HB2	1.97	0.45
14:G:91:VAL:H	14:G:159:LYS:HE3	1.82	0.45
15:H:5:LEU:HB3	15:H:7:ASP:O	2.16	0.45
20:M:29:GLY:N	20:M:104:GLU:OE1	2.35	0.45
22:O:67:ASN:H	22:O:70:ALA:CB	2.20	0.45
23:P:28:LYS:O	23:P:81:ASP:HB3	2.16	0.45
24:Q:34:ALA:O	24:Q:35:PHE:C	2.57	0.45
25:R:38:VAL:HG21	25:R:59:ILE:HG12	1.98	0.45
26:S:70:LYS:HB2	26:S:110:ARG:HB2	1.98	0.45
33:Z:2:LYS:O	33:Z:39:ASP:N	2.43	0.45
34:a:255:G:P	50:q:70:LYS:HZ1	2.39	0.45
34:a:302:G:H2'	34:a:303:A:C8	2.50	0.45
34:a:363:A:C2	34:a:364:A:C4	3.04	0.45
34:a:406:G:O3'	37:d:2:ARG:NH2	2.49	0.45
34:a:444:G:C4	34:a:445:G:C8	3.04	0.45
34:a:503:C:OP2	45:l:112:ALA:HB2	2.16	0.45
34:a:581:G:H3'	34:a:758:C:N4	2.18	0.45
34:a:587:G:C2	34:a:755:G:C5	3.03	0.45
34:a:785:G:C4	34:a:786:G:C8	3.04	0.45
34:a:899:C:H2'	34:a:900:A:O4'	2.16	0.45
34:a:1008:U:H3	34:a:1022:A:H1'	1.81	0.45
34:a:1100:C:O2'	34:a:1102:A:OP1	2.22	0.45
34:a:1102:A:O2'	34:a:1103:C:H5'	2.16	0.45
34:a:1355:G:C2	34:a:1356:G:C4	3.05	0.45
34:a:1421:G:C2	34:a:1422:G:C5	3.04	0.45
35:b:129:THR:HG23	35:b:132:GLU:H	1.81	0.45
39:f:25:TYR:CE1	39:f:78:PHE:HE1	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:26:MET:O	41:h:58:LEU:N	2.39	0.45
41:h:29:SER:O	41:h:32:LYS:HB2	2.17	0.45
42:i:117:LEU:HD21	42:i:123:ARG:NH2	2.32	0.45
46:m:1:ALA:HB1	46:m:8:ILE:O	2.16	0.45
47:n:9:GLU:HG3	47:n:63:ARG:HE	1.81	0.45
47:n:66:GLN:HG3	47:n:79:LEU:HD22	1.98	0.45
51:r:20:ILE:HG21	51:r:54:LEU:HA	1.97	0.45
1:0:9:ARG:NH1	8:A:516:C:P	2.88	0.45
8:A:70:G:H3'	8:A:113:U:H1'	1.98	0.45
8:A:371:A:C8	8:A:373:U:C4	3.04	0.45
8:A:581:C:C2	8:A:582:A:N7	2.85	0.45
8:A:587:C:H2'	19:L:19:LEU:HB2	1.98	0.45
8:A:671:C:H2'	8:A:672:C:C5	2.52	0.45
8:A:891:G:H2'	8:A:892:A:O4'	2.17	0.45
8:A:902:C:H2'	8:A:903:C:C6	2.51	0.45
8:A:974:G:N7	8:A:989:G:C4	2.83	0.45
8:A:999:U:C2	8:A:1000:A:C8	3.04	0.45
8:A:1090:A:N9	8:A:1102:C:H1'	2.32	0.45
8:A:1122:G:H2'	8:A:1123:C:C6	2.51	0.45
8:A:1141:U:H4'	8:A:1142:A:O4'	2.16	0.45
8:A:1195:G:H2'	8:A:1196:C:H6	1.81	0.45
8:A:1299:G:O6	8:A:1639:C:H3'	2.17	0.45
8:A:1429:G:N3	8:A:1430:G:C8	2.85	0.45
8:A:1491:G:H2'	8:A:1492:G:H8	1.81	0.45
8:A:1560:G:C5	8:A:1561:C:C5	3.04	0.45
8:A:1586:A:C4	8:A:1587:G:C8	3.04	0.45
8:A:1588:G:O2'	8:A:1589:U:H5'	2.16	0.45
8:A:1630:A:N6	8:A:1637:A:N6	2.64	0.45
8:A:1663:G:C6	8:A:1998:A:N6	2.84	0.45
8:A:1773:A:HO2'	8:A:1978:A:N6	2.15	0.45
8:A:2093:G:N7	8:A:2225:A:H2'	2.32	0.45
8:A:2164:C:H2'	8:A:2165:C:C6	2.52	0.45
8:A:2228:G:OP2	10:C:260:LYS:NZ	2.48	0.45
8:A:2260:C:C2	8:A:2261:C:C5	3.04	0.45
8:A:2438:U:H5"	8:A:2439:A:OP1	2.16	0.45
8:A:2484:G:N3	20:M:123:LYS:NZ	2.61	0.45
8:A:2549:G:H2'	8:A:2550:G:H8	1.80	0.45
8:A:2661:G:H8	8:A:2661:G:OP2	1.99	0.45
8:A:2674:G:H2'	8:A:2675:A:H8	1.80	0.45
8:A:2733:A:H3'	8:A:2734:A:H8	1.81	0.45
10:C:184:GLU:OE2	10:C:185:ALA:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:F:9:ASP:HB3	13:F:13:LYS:NZ	2.31	0.45
14:G:87:GLN:HA	14:G:128:THR:O	2.16	0.45
15:H:88:GLY:HA2	15:H:125:THR:OG1	2.15	0.45
17:J:49:ASP:OD2	17:J:121:LYS:NZ	2.22	0.45
18:K:10:VAL:HG21	18:K:16:ALA:O	2.17	0.45
18:K:105:ARG:O	18:K:108:ARG:HB3	2.16	0.45
24:Q:94:LEU:HA	24:Q:97:ILE:HD12	1.99	0.45
28:U:73:ASN:ND2	28:U:78:LYS:H	2.14	0.45
29:V:61:LEU:HD13	29:V:74:ALA:H	1.81	0.45
29:V:89:ILE:HB	29:V:91:PHE:CE2	2.51	0.45
30:W:19:VAL:HG22	30:W:34:VAL:HB	1.99	0.45
30:W:48:GLY:O	30:W:55:LEU:HA	2.15	0.45
31:X:44:ARG:CZ	31:X:46:VAL:HG22	2.46	0.45
34:a:5:U:H4'	34:a:6:G:O5'	2.16	0.45
34:a:33:A:O2'	34:a:34:C:H5'	2.15	0.45
34:a:59:A:C4	34:a:331:G:N2	2.84	0.45
34:a:181:A:N6	34:a:194:C:H3'	2.31	0.45
34:a:219:U:O2'	34:a:220:G:H5'	2.16	0.45
34:a:231:U:C2	34:a:232:G:C8	3.04	0.45
34:a:505:G:C8	34:a:535:A:C8	3.05	0.45
34:a:543:U:H2'	34:a:544:G:H8	1.81	0.45
34:a:668:G:H2'	34:a:669:G:C8	2.50	0.45
34:a:671:G:N2	34:a:736:C:C2	2.85	0.45
34:a:881:G:C5	34:a:882:C:C4	3.04	0.45
34:a:1220:G:N3	34:a:1221:G:C8	2.84	0.45
34:a:1251:A:H2'	34:a:1252:A:H8	1.79	0.45
34:a:1434:A:H2'	34:a:1435:G:O4'	2.16	0.45
35:b:181:PRO:HB2	35:b:183:PHE:CE2	2.52	0.45
36:c:76:ILE:HD12	36:c:83:VAL:HG21	1.98	0.45
36:c:146:LYS:O	36:c:171:ARG:N	2.28	0.45
38:e:84:VAL:C	38:e:94:PHE:HD1	2.24	0.45
40:g:58:LEU:HB2	40:g:59:GLU:OE1	2.17	0.45
40:g:145:GLU:HA	40:g:148:LYS:HB2	1.97	0.45
41:h:34:ALA:HA	41:h:37:ASN:HD22	1.82	0.45
43:j:14:ASP:HB3	43:j:17:LEU:HB2	1.97	0.45
46:m:19:THR:HG23	46:m:25:GLY:C	2.42	0.45
46:m:54:THR:HA	46:m:57:ASP:OD2	2.15	0.45
47:n:69:ARG:HH12	47:n:81:ARG:NH2	2.13	0.45
50:q:60:ILE:C	50:q:75:VAL:HG23	2.41	0.45
51:r:32:ILE:HG13	51:r:37:LYS:C	2.40	0.45
53:t:27:MET:O	53:t:31:ILE:HG13	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:t:71:ALA:O	53:t:75:LYS:HG3	2.16	0.45
56:w:16:U:N3	56:w:59:U:O2	2.47	0.45
4:3:24:LYS:NZ	4:3:43:LEU:O	2.34	0.45
5:4:24:ARG:HG2	5:4:36:ARG:HG3	1.98	0.45
7:6:41:HIS:O	7:6:45:THR:OG1	2.27	0.45
8:A:165:A:H2'	8:A:166:U:O4'	2.17	0.45
8:A:379:G:C6	8:A:396:G:C6	3.04	0.45
8:A:656:G:C5	8:A:657:U:C4	3.05	0.45
8:A:830:G:C5	8:A:2448:A:C5	3.04	0.45
8:A:861:A:H2'	8:A:862:G:O4'	2.16	0.45
8:A:1115:G:C4	8:A:1116:G:C8	3.05	0.45
8:A:1282:U:H2'	8:A:1283:G:O4'	2.16	0.45
8:A:1348:C:H2'	8:A:1349:C:O4'	2.17	0.45
8:A:1380:G:C4	8:A:1381:G:C8	3.03	0.45
8:A:1398:C:H2'	8:A:1399:C:H6	1.81	0.45
8:A:1444:G:C6	8:A:1548:A:C6	3.04	0.45
8:A:1519:G:H2'	8:A:1520:U:O4'	2.17	0.45
8:A:1641:A:H3'	8:A:1642:G:H8	1.81	0.45
8:A:1663:G:C6	8:A:1998:A:C6	3.05	0.45
8:A:1683:U:H2'	8:A:1684:G:C8	2.51	0.45
8:A:1710:G:C2	8:A:1749:A:C4	3.04	0.45
8:A:1990:C:H2'	8:A:1991:U:N1	2.31	0.45
8:A:2051:A:N7	8:A:2614:A:C5	2.84	0.45
8:A:2199:A:O5'	8:A:2200:C:H5	2.00	0.45
8:A:2470:G:C2	8:A:2471:A:C8	3.04	0.45
8:A:2498:OMC:HM23	8:A:2498:OMC:H1'	1.64	0.45
8:A:2592:G:N1	8:A:2603:G:C6	2.85	0.45
8:A:2729:G:H2'	8:A:2730:C:H6	1.75	0.45
9:B:75:G:H2'	9:B:76:G:C8	2.50	0.45
9:B:76:G:H2'	9:B:77:U:C6	2.51	0.45
9:B:101:A:H3'	9:B:102:G:H8	1.82	0.45
10:C:245:THR:OG1	10:C:249:VAL:N	2.32	0.45
19:L:109:LYS:HG3	19:L:126:ARG:HB3	1.98	0.45
20:M:74:THR:HG22	20:M:89:VAL:HA	1.98	0.45
20:M:76:LYS:NZ	20:M:82:MET:HA	2.31	0.45
21:N:40:LYS:O	21:N:44:LEU:HD23	2.16	0.45
21:N:78:LYS:HG3	21:N:83:LEU:HD11	1.99	0.45
34:a:101:A:C6	34:a:102:G:N7	2.85	0.45
34:a:282:A:C8	34:a:283:U:C5	3.05	0.45
34:a:363:A:C5	45:l:27:PRO:HD2	2.51	0.45
34:a:570:G:C2	34:a:571:U:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:739:C:H1'	48:o:41:HIS:CE1	2.51	0.45
34:a:802:A:H3'	34:a:803:G:H8	1.81	0.45
34:a:987:G:N1	34:a:1219:A:C6	2.84	0.45
34:a:1095:U:H5'	34:a:1109:C:H1'	1.99	0.45
34:a:1232:U:H5"	42:i:125:GLN:O	2.16	0.45
34:a:1264:U:N3	34:a:1272:G:N1	2.64	0.45
34:a:1408:A:C5	34:a:1494:G:N1	2.85	0.45
34:a:1408:A:N3	34:a:1408:A:H2'	2.32	0.45
36:c:18:ASN:HA	36:c:55:VAL:HG13	1.98	0.45
36:c:133:MET:HE2	36:c:150:VAL:HG13	1.98	0.45
36:c:139:ASN:HA	36:c:142:ARG:CZ	2.47	0.45
38:e:40:ASP:CG	38:e:42:ASN:H	2.18	0.45
39:f:37:HIS:HB2	39:f:63:ASN:HB2	1.98	0.45
43:j:32:THR:HB	43:j:83:THR:HA	1.99	0.45
45:l:41:PRO:HG3	45:l:47:ALA:N	2.31	0.45
46:m:49:GLU:CD	46:m:49:GLU:H	2.23	0.45
46:m:68:LEU:O	46:m:72:ILE:HG12	2.17	0.45
52:s:40:PHE:N	52:s:43:MET:HG2	2.31	0.45
55:v:49:G:C6	55:v:50:U:C4	3.04	0.45
56:w:14:A:H3'	56:w:15:G:H8	1.81	0.45
8:A:62:U:O2'	8:A:63:A:N7	2.40	0.45
8:A:66:C:C2	8:A:89:A:C2	3.05	0.45
8:A:255:A:C4	8:A:256:A:C8	3.05	0.45
8:A:279:A:H3'	8:A:280:U:C6	2.51	0.45
8:A:524:G:H3'	8:A:525:U:C5'	2.39	0.45
8:A:572:A:C6	8:A:2033:A:C2	3.05	0.45
8:A:693:A:C5	8:A:694:U:C4	3.04	0.45
8:A:734:A:H3'	8:A:735:A:H8	1.82	0.45
8:A:784:G:P	10:C:225:ASN:HD21	2.40	0.45
8:A:841:G:C6	8:A:842:U:C4	3.04	0.45
8:A:845:A:C6	8:A:847:U:C2	3.04	0.45
8:A:849:A:O2'	8:A:850:U:H5'	2.16	0.45
8:A:924:G:C2	8:A:925:A:N7	2.85	0.45
8:A:932:U:H2'	8:A:932:U:OP1	2.16	0.45
8:A:1000:A:C8	8:A:1155:A:N6	2.84	0.45
8:A:1304:A:H2'	8:A:1305:C:C6	2.51	0.45
8:A:1340:U:H4'	8:A:1341:G:OP2	2.16	0.45
8:A:1418:G:C8	8:A:1418:G:OP2	2.69	0.45
8:A:1430:G:H1	8:A:1563:U:H3	1.65	0.45
8:A:1464:G:C6	8:A:1465:G:C6	3.05	0.45
8:A:1551:A:C2	8:A:1552:A:C4	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1725:U:H2'	8:A:1726:C:O4'	2.16	0.45
8:A:1773:A:C8	8:A:1829:A:C8	3.05	0.45
8:A:1823:G:H2'	8:A:1824:G:C8	2.51	0.45
8:A:1823:G:C4	8:A:1824:G:C8	3.04	0.45
8:A:1933:G:H2'	8:A:1934:C:C6	2.51	0.45
8:A:1972:G:H2'	8:A:1973:G:C8	2.52	0.45
8:A:2416:C:C2	8:A:2417:C:C5	3.04	0.45
8:A:2450:A:C2	8:A:2451:A:C4	3.04	0.45
8:A:2458:G:H2'	8:A:2490:G:H1	1.82	0.45
8:A:2606:C:N3	8:A:2607:G:C6	2.84	0.45
8:A:2637:U:H5'	11:D:45:TYR:CE1	2.52	0.45
9:B:102:G:H2'	9:B:103:U:H6	1.81	0.45
12:E:146:VAL:HG23	12:E:186:VAL:HA	1.98	0.45
13:F:34:THR:OG1	13:F:89:THR:HG23	2.16	0.45
17:J:132:HIS:O	17:J:135:GLN:N	2.48	0.45
18:K:77:ILE:HG13	23:P:71:ARG:HG3	1.98	0.45
29:V:80:HIS:HE1	29:V:82:TYR:CD1	2.34	0.45
34:a:66:A:H2'	34:a:67:C:C6	2.52	0.45
34:a:71:A:N3	34:a:100:G:H1'	2.31	0.45
34:a:414:A:N7	34:a:430:A:N1	2.64	0.45
34:a:429:U:O2	34:a:431:A:N7	2.49	0.45
34:a:509:A:H4'	34:a:510:A:OP1	2.16	0.45
34:a:511:C:H1'	37:d:40:HIS:CE1	2.52	0.45
34:a:515:G:C6	34:a:516:PSU:N3	2.85	0.45
34:a:574:A:O2'	34:a:882:C:O2'	2.32	0.45
34:a:720:C:C5	34:a:721:G:C5	3.04	0.45
34:a:812:G:H5'	34:a:903:G:H1'	1.97	0.45
34:a:1132:C:H2'	34:a:1133:G:H8	1.80	0.45
34:a:1210:C:H2'	34:a:1211:U:C6	2.51	0.45
34:a:1316:G:H22	34:a:1319:A:H5'	1.81	0.45
34:a:1509:C:H2'	34:a:1510:C:H6	1.80	0.45
36:c:10:ARG:NE	36:c:177:LEU:HD12	2.32	0.45
36:c:11:LEU:HB3	36:c:17:TRP:CH2	2.52	0.45
37:d:143:SER:C	37:d:145:ARG:N	2.74	0.45
41:h:29:SER:H	41:h:32:LYS:HB2	1.81	0.45
41:h:95:MET:HG3	41:h:129:ALA:HB1	1.97	0.45
43:j:56:HIS:CE1	43:j:57:VAL:HG13	2.51	0.45
43:j:77:VAL:HG13	43:j:78:GLU:OE1	2.15	0.45
44:k:109:ILE:HD13	54:u:5:VAL:HG23	1.98	0.45
45:l:113:ARG:HE	45:l:120:ARG:HA	1.81	0.45
51:r:57:ALA:O	51:r:60:ARG:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:w:11:C:H2'	56:w:12:U:H6	1.80	0.45
1:0:46:GLY:CA	1:0:54:ILE:HB	2.46	0.45
8:A:123:G:H3'	8:A:124:G:H8	1.82	0.45
8:A:237:C:O2'	8:A:238:C:H5'	2.17	0.45
8:A:253:C:H2'	8:A:254:G:O4'	2.16	0.45
8:A:374:A:C4	8:A:401:A:C6	3.05	0.45
8:A:429:A:H2'	8:A:430:A:N9	2.32	0.45
8:A:499:U:O3'	28:U:42:LYS:HE3	2.17	0.45
8:A:581:C:P	24:Q:32:ARG:HG3	2.56	0.45
8:A:617:G:C2	8:A:618:G:C8	3.04	0.45
8:A:617:G:C4	8:A:618:G:C8	3.04	0.45
8:A:953:G:C6	8:A:965:C:N4	2.85	0.45
8:A:976:G:C4	8:A:977:G:C8	3.05	0.45
8:A:1144:A:C6	8:A:1145:C:C4	3.04	0.45
8:A:1155:A:C5	8:A:1157:G:C5	3.05	0.45
8:A:1170:C:H3'	8:A:1171:G:C8	2.52	0.45
8:A:1170:C:H5'	8:A:1171:G:OP2	2.15	0.45
8:A:1191:G:O2'	8:A:1192:G:H5'	2.17	0.45
8:A:1208:C:C4	8:A:1239:G:N1	2.85	0.45
8:A:1425:G:H2'	8:A:1426:G:N9	2.31	0.45
8:A:1436:G:C6	8:A:1437:C:C4	3.05	0.45
8:A:1466:U:H5"	8:A:1467:U:H5'	1.98	0.45
8:A:1471:G:H2'	8:A:1472:C:H6	1.81	0.45
8:A:1586:A:C6	8:A:1587:G:C5	3.05	0.45
8:A:1601:G:H2'	8:A:1602:U:C6	2.51	0.45
8:A:1628:G:C6	8:A:1629:U:C4	3.05	0.45
8:A:1769:U:O2	8:A:1983:G:O6	2.35	0.45
8:A:1771:C:N4	8:A:1772:A:N6	2.64	0.45
8:A:1818:U:C2	10:C:152:GLN:HB3	2.51	0.45
8:A:1841:U:C2	8:A:1842:G:C8	3.05	0.45
8:A:2018:G:C6	8:A:2019:A:C6	3.05	0.45
8:A:2066:C:H2'	8:A:2067:G:C8	2.52	0.45
8:A:2121:G:H2'	8:A:2122:U:H6	1.81	0.45
8:A:2281:A:C2	8:A:2282:G:C5	3.04	0.45
8:A:2366:A:C6	8:A:2367:G:C4	3.05	0.45
8:A:2385:C:H2'	8:A:2386:A:C8	2.51	0.45
8:A:2485:G:H5"	20:M:45:GLN:CD	2.42	0.45
8:A:2513:A:H2'	8:A:2514:U:C6	2.51	0.45
8:A:2521:C:N3	8:A:2545:G:N1	2.64	0.45
8:A:2556:C:C4	8:A:2557:G:C5	3.05	0.45
8:A:2719:G:P	23:P:97:TYR:HH	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2807:U:H1'	8:A:2892:G:N2	2.31	0.45
8:A:2868:A:C6	8:A:2869:G:C5	3.04	0.45
8:A:2876:G:H4'	23:P:2:ASN:OD1	2.15	0.45
9:B:47:C:OP2	22:O:3:LYS:NZ	2.40	0.45
9:B:82:U:C2	9:B:83:G:C8	3.03	0.45
10:C:159:THR:O	10:C:194:VAL:HG23	2.17	0.45
11:D:53:GLY:HA3	11:D:77:ARG:HG3	1.99	0.45
12:E:30:GLN:NE2	12:E:31:VAL:HB	2.31	0.45
15:H:111:ALA:O	15:H:114:GLU:HG2	2.15	0.45
17:J:64:VAL:HB	17:J:68:LYS:CE	2.46	0.45
18:K:58:LEU:HA	18:K:89:ASN:CG	2.42	0.45
19:L:57:LEU:HA	19:L:60:ARG:CZ	2.47	0.45
26:S:76:VAL:HG13	26:S:103:ILE:HA	1.97	0.45
28:U:6:ARG:CZ	28:U:25:LYS:HA	2.46	0.45
29:V:17:SER:O	29:V:21:ARG:HG3	2.16	0.45
31:X:5:GLN:HG3	31:X:49:ARG:O	2.17	0.45
34:a:11:G:C2'	34:a:12:U:H5'	2.47	0.45
34:a:141:G:C6	34:a:223:A:C6	3.05	0.45
34:a:260:G:C2	34:a:261:U:N3	2.84	0.45
34:a:316:C:C5	34:a:351:G:C5	3.04	0.45
34:a:329:A:C5	34:a:332:G:C6	3.05	0.45
34:a:499:A:C6	34:a:547:A:C8	3.04	0.45
34:a:577:G:C8	34:a:816:A:N6	2.84	0.45
34:a:608:A:C2	34:a:609:A:H1'	2.52	0.45
34:a:621:A:C6	34:a:622:A:C5	3.05	0.45
34:a:893:C:H2'	34:a:894:G:O4'	2.17	0.45
34:a:901:A:N7	34:a:902:G:H1'	2.32	0.45
34:a:1000:A:N6	34:a:1041:G:O6	2.50	0.45
34:a:1066:C:C4	34:a:1067:A:N6	2.84	0.45
34:a:1093:A:H5"	34:a:1094:G:OP1	2.15	0.45
34:a:1103:C:C2	34:a:1104:G:C8	3.05	0.45
34:a:1387:G:H2'	34:a:1387:G:N3	2.31	0.45
34:a:1399:C:H4'	34:a:1400:C:O5'	2.17	0.45
34:a:1415:G:C2	34:a:1416:G:C8	3.05	0.45
34:a:1423:G:C6	34:a:1424:U:C4	3.04	0.45
34:a:1439:G:C2	34:a:1463:U:C2	3.05	0.45
34:a:1471:U:H2'	34:a:1472:U:C5	2.52	0.45
36:c:7:ASN:ND2	47:n:89:MET:O	2.50	0.45
40:g:31:VAL:C	40:g:33:GLY:H	2.25	0.45
46:m:36:ALA:O	46:m:38:ILE:HG13	2.17	0.45
46:m:55:LEU:O	46:m:59:VAL:HG23	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:n:65:ARG:HB3	47:n:79:LEU:HD21	1.98	0.45
2:1:45:HIS:CD2	8:A:2372:U:H1'	2.51	0.45
4:3:15:LYS:HA	4:3:21:PHE:CD1	2.52	0.45
8:A:36:G:C6	8:A:37:C:C4	3.04	0.45
8:A:39:G:N1	8:A:441:U:C4	2.85	0.45
8:A:52:A:H2'	8:A:53:A:C8	2.51	0.45
8:A:85:G:C6	8:A:98:G:C2	3.04	0.45
8:A:137:U:C4	8:A:138:U:C4	3.05	0.45
8:A:203:A:H2'	8:A:204:A:N7	2.31	0.45
8:A:260:G:O2'	8:A:608:A:N6	2.40	0.45
8:A:412:A:C5	8:A:2412:A:H1'	2.52	0.45
8:A:520:G:C4	8:A:521:U:C5	3.04	0.45
8:A:662:G:O3'	19:L:16:GLY:HA2	2.16	0.45
8:A:704:G:N2	8:A:726:G:N3	2.65	0.45
8:A:770:G:C4	8:A:771:G:C8	3.05	0.45
8:A:774:G:H4'	8:A:777:G:O2'	2.17	0.45
8:A:776:G:N3	8:A:793:A:C6	2.85	0.45
8:A:789:A:H3'	8:A:790:U:C6	2.52	0.45
8:A:809:G:H2'	8:A:810:U:O4'	2.16	0.45
8:A:969:G:H2'	8:A:970:U:C6	2.51	0.45
8:A:1220:G:H2'	8:A:1221:C:H6	1.82	0.45
8:A:1252:G:O4'	24:Q:32:ARG:NH2	2.45	0.45
8:A:1277:G:H5"	21:N:40:LYS:HZ1	1.81	0.45
8:A:1352:U:C2	8:A:1378:A:N6	2.84	0.45
8:A:1358:G:C2	8:A:1374:G:C6	3.05	0.45
8:A:1813:G:H2'	8:A:1814:G:O4'	2.16	0.45
8:A:1954:G:H1'	8:A:1956:U:C4	2.51	0.45
8:A:2023:C:C2	8:A:2024:G:C8	3.04	0.45
8:A:2059:A:C2	8:A:2503:2MA:C6	3.00	0.45
8:A:2418:A:C6	8:A:2419:U:C4	3.04	0.45
8:A:2458:G:C5	8:A:2490:G:C2	3.05	0.45
8:A:2507:C:N3	8:A:2583:G:C6	2.84	0.45
8:A:2538:C:H2'	8:A:2539:C:C6	2.51	0.45
8:A:2643:G:C6	8:A:2644:G:C5	3.05	0.45
8:A:2658:C:H2'	8:A:2659:G:C8	2.52	0.45
8:A:2679:A:H2'	8:A:2680:U:C6	2.52	0.45
8:A:2734:A:C5	8:A:2735:G:C8	3.05	0.45
8:A:2814:A:H2'	8:A:2815:C:H6	1.81	0.45
8:A:2848:G:C2	8:A:2867:G:C2	3.04	0.45
9:B:15:A:C4	9:B:109:A:C5	3.04	0.45
11:D:94:GLN:NE2	11:D:95:SER:O	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:E:178:VAL:HG23	12:E:179:SER:N	2.31	0.45
18:K:71:ARG:O	18:K:73:ASP:N	2.50	0.45
19:L:127:VAL:HG13	19:L:131:ALA:HB3	1.98	0.45
21:N:9:GLN:HE21	21:N:11:ASN:HA	1.81	0.45
21:N:60:VAL:O	21:N:63:ARG:HB2	2.16	0.45
21:N:64:ARG:HA	21:N:67:PHE:HB3	1.98	0.45
23:P:25:VAL:O	23:P:44:GLY:N	2.41	0.45
27:T:56:GLU:HB3	27:T:86:THR:HG23	1.98	0.45
29:V:78:GLN:O	29:V:87:GLN:HB2	2.17	0.45
31:X:37:PHE:HE1	31:X:55:MET:HE3	1.81	0.45
34:a:75:G:C6	34:a:76:G:C8	3.05	0.45
34:a:158:G:C4	34:a:164:G:C5	3.05	0.45
34:a:343:U:C2	34:a:347:G:N1	2.84	0.45
34:a:450:G:H3'	34:a:481:G:O6	2.16	0.45
34:a:505:G:H3'	34:a:506:G:H8	1.81	0.45
34:a:515:G:C6	34:a:537:G:N1	2.85	0.45
34:a:600:A:C2	34:a:601:G:C5	3.05	0.45
34:a:722:G:C6	34:a:724:G:C4	3.05	0.45
34:a:770:C:H2'	34:a:771:G:H8	1.81	0.45
34:a:806:C:H2'	34:a:807:A:C8	2.44	0.45
34:a:808:C:H2'	34:a:809:G:C8	2.52	0.45
34:a:839:C:H2'	34:a:840:C:O4'	2.17	0.45
34:a:872:A:O2'	34:a:873:A:H3'	2.16	0.45
34:a:976:G:C2	34:a:1363:A:C4	3.05	0.45
34:a:986:U:H2'	34:a:987:G:O4'	2.17	0.45
34:a:1114:C:H2'	34:a:1115:U:H6	1.79	0.45
34:a:1283:U:H2'	34:a:1284:C:O4'	2.16	0.45
34:a:1296:C:H5"	34:a:1297:G:OP2	2.16	0.45
34:a:1309:G:H2'	34:a:1310:G:C8	2.51	0.45
34:a:1436:U:H2'	34:a:1437:A:C8	2.50	0.45
34:a:1492:A:P	45:l:43:LYS:HZ3	2.40	0.45
36:c:115:VAL:O	36:c:119:ILE:HG12	2.16	0.45
37:d:27:ILE:HG13	37:d:28:ASP:H	1.82	0.45
37:d:141:VAL:HG12	37:d:142:VAL:H	1.82	0.45
38:e:105:ILE:HD13	38:e:105:ILE:HA	1.79	0.45
41:h:20:ASN:HA	41:h:64:TYR:OH	2.17	0.45
43:j:8:ILE:O	43:j:73:LEU:HD12	2.17	0.45
43:j:9:ARG:CG	43:j:99:GLN:HG2	2.47	0.45
51:r:20:ILE:HD12	51:r:53:GLN:HB3	1.99	0.45
51:r:64:LEU:HD23	51:r:64:LEU:HA	1.73	0.45
53:t:67:HIS:CE1	53:t:69:ASN:H	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:w:25:C:H2'	56:w:26:A:O4'	2.17	0.45
4:3:21:PHE:O	4:3:49:VAL:HG23	2.17	0.45
7:6:9:TYR:CE1	7:6:26:SER:HA	2.51	0.45
8:A:15:G:C2	8:A:16:C:C2	3.05	0.45
8:A:79:C:C2	8:A:108:G:N1	2.85	0.45
8:A:191:A:C4	8:A:192:C:C6	3.05	0.45
8:A:263:G:C2	8:A:264:C:C2	3.05	0.45
8:A:445:C:OP2	8:A:445:C:H6	1.99	0.45
8:A:533:G:C4	8:A:534:U:C5	3.05	0.45
8:A:733:G:O6	8:A:761:A:H3'	2.15	0.45
8:A:844:A:C2	8:A:845:A:N7	2.85	0.45
8:A:864:G:C2	8:A:865:C:C4	3.04	0.45
8:A:921:C:H2'	8:A:922:C:H6	1.80	0.45
8:A:923:G:C4	8:A:924:G:C8	3.05	0.45
8:A:928:A:H2'	8:A:929:U:C6	2.52	0.45
8:A:931:U:H6	8:A:931:U:OP1	2.00	0.45
8:A:995:C:H1'	24:Q:92:LYS:NZ	2.31	0.45
8:A:1047:G:C2	8:A:1110:G:C4	3.05	0.45
8:A:1299:G:H4'	8:A:1301:A:O4'	2.17	0.45
8:A:1472:C:H2'	8:A:1473:G:C8	2.52	0.45
8:A:1501:G:H5'	10:C:100:ARG:NH1	2.31	0.45
8:A:1718:G:H2'	8:A:1719:G:H8	1.82	0.45
8:A:1789:A:C5	8:A:1790:C:C5	3.05	0.45
8:A:1798:U:H2'	8:A:1819:A:N6	2.30	0.45
8:A:1804:C:H2'	8:A:1805:A:C8	2.52	0.45
8:A:1847:G:HO2'	8:A:1848:A:P	2.38	0.45
8:A:2036:C:C2	8:A:2037:A:C8	3.05	0.45
8:A:2101:A:H3'	8:A:2102:G:H8	1.81	0.45
8:A:2209:G:H2'	8:A:2210:U:C5	2.52	0.45
8:A:2266:A:N3	8:A:2272:U:N3	2.64	0.45
8:A:2534:A:H3'	8:A:2535:G:H5"	1.99	0.45
8:A:2668:G:C2	8:A:2669:G:C4	3.05	0.45
9:B:100:G:C4	9:B:101:A:C8	3.05	0.45
13:F:116:LEU:HD22	13:F:174:PHE:HE2	1.81	0.45
13:F:122:ASP:HB3	13:F:126:ASN:HB2	1.99	0.45
15:H:133:GLN:HE22	15:H:138:VAL:N	2.01	0.45
18:K:66:LYS:HG2	18:K:82:ASN:OD1	2.16	0.45
19:L:4:ASN:OD1	19:L:4:ASN:N	2.44	0.45
21:N:103:ARG:HG3	21:N:110:MET:CG	2.47	0.45
22:O:43:ASN:HD21	22:O:46:GLU:HG3	1.82	0.45
22:O:77:ALA:HA	22:O:80:GLU:CD	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:23:ASP:O	23:P:46:VAL:HG23	2.17	0.45
26:S:11:ARG:HA	26:S:11:ARG:HD2	1.82	0.45
29:V:1:MET:HE3	29:V:2:PHE:O	2.17	0.45
31:X:18:SER:OG	31:X:21:LEU:N	2.50	0.45
34:a:8:A:C5	37:d:205:LYS:HA	2.52	0.45
34:a:17:U:H2'	34:a:18:C:H6	1.79	0.45
34:a:53:A:C6	34:a:359:G:C6	3.04	0.45
34:a:54:C:H2'	34:a:352:C:N4	2.32	0.45
34:a:114:U:C2	34:a:115:G:C8	3.05	0.45
34:a:141:G:C2	34:a:223:A:C4	3.04	0.45
34:a:166:U:C2	34:a:167:A:C8	3.05	0.45
34:a:256:U:H2'	34:a:257:G:C8	2.52	0.45
34:a:262:A:C2	34:a:263:A:C5	3.05	0.45
34:a:263:A:H8	34:a:263:A:O5'	2.00	0.45
34:a:562:U:H2'	34:a:562:U:OP2	2.17	0.45
34:a:588:G:C6	34:a:753:A:C5	3.05	0.45
34:a:607:A:H2'	34:a:608:A:O4'	2.16	0.45
34:a:638:U:H2'	34:a:639:G:O4'	2.17	0.45
34:a:665:A:C2	34:a:732:C:C2	3.05	0.45
34:a:671:G:C2	34:a:736:C:N3	2.85	0.45
34:a:904:U:H2'	34:a:905:U:C6	2.52	0.45
34:a:918:A:C6	34:a:919:A:C6	3.05	0.45
34:a:1004:A:H2'	34:a:1005:A:C5	2.51	0.45
34:a:1063:C:C4	34:a:1064:G:C6	3.05	0.45
34:a:1178:G:N2	34:a:1180:A:O5'	2.50	0.45
34:a:1219:A:C2	34:a:1220:G:C5	3.05	0.45
34:a:1438:G:C2	34:a:1464:U:C2	3.04	0.45
34:a:1483:A:C5	34:a:1484:C:C2	3.04	0.45
37:d:84:ASN:HB3	37:d:87:GLU:OE2	2.17	0.45
37:d:187:ARG:NH1	37:d:192:ALA:HA	2.31	0.45
43:j:42:LEU:O	43:j:43:PRO:C	2.60	0.45
44:k:19:VAL:HA	44:k:82:GLU:HB2	1.98	0.45
56:w:75:C:H5"	56:w:76:A:OP2	2.16	0.45
8:A:52:A:C2	8:A:53:A:C4	3.04	0.45
8:A:77:G:C6	8:A:110:G:C6	3.04	0.45
8:A:134:G:C6	8:A:146:A:C6	3.04	0.45
8:A:242:G:O2'	8:A:243:U:P	2.75	0.45
8:A:348:A:H2'	8:A:349:U:H6	1.79	0.45
8:A:465:G:H2'	8:A:466:A:H8	1.82	0.45
8:A:522:A:C6	8:A:523:C:C4	3.05	0.45
8:A:616:A:H2'	8:A:617:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:638:G:C5	8:A:651:G:C2	3.05	0.45
8:A:682:G:N2	8:A:796:C:C2	2.84	0.45
8:A:751:A:H5'	26:S:90:LYS:HA	1.99	0.45
8:A:799:G:OP2	8:A:800:A:O2'	2.35	0.45
8:A:852:U:H2'	8:A:853:C:C6	2.51	0.45
8:A:927:A:C4	8:A:928:A:C8	3.04	0.45
8:A:938:G:C2	8:A:939:G:C8	3.05	0.45
8:A:955:PSU:N3	8:A:956:G:C4	2.85	0.45
8:A:1147:A:C6	8:A:1148:U:C4	3.05	0.45
8:A:1248:G:C6	12:E:46:GLN:HG2	2.52	0.45
8:A:1252:G:O2'	8:A:1253:A:H5"	2.17	0.45
8:A:1287:A:O2'	8:A:1288:G:H5'	2.16	0.45
8:A:1313:U:H3'	8:A:1314:C:C5	2.51	0.45
8:A:1355:G:C2	8:A:1356:G:C5	3.05	0.45
8:A:1369:G:H2'	8:A:1370:C:O4'	2.17	0.45
8:A:1464:G:C4	8:A:1465:G:C8	3.05	0.45
8:A:1715:G:H4'	8:A:1716:U:H5'	1.99	0.45
8:A:1880:U:O2'	8:A:1881:C:H5'	2.16	0.45
8:A:1926:U:C4	8:A:1929:G:N1	2.81	0.45
8:A:2130:U:H2'	8:A:2131:U:C6	2.51	0.45
8:A:2143:C:N4	8:A:2144:G:N1	2.65	0.45
8:A:2287:A:N1	8:A:2344:U:C4	2.85	0.45
8:A:2337:G:H2'	8:A:2338:C:C6	2.52	0.45
8:A:2394:C:C2	8:A:2395:C:C6	3.05	0.45
8:A:2432:A:C2	55:v:75:C:C4	3.05	0.45
8:A:2487:G:C2	8:A:2488:G:C8	3.05	0.45
8:A:2521:C:O2'	8:A:2564:A:H1'	2.17	0.45
8:A:2543:G:C4	8:A:2544:G:C8	3.04	0.45
8:A:2643:G:N1	8:A:2772:C:C4	2.85	0.45
8:A:2694:G:C5	8:A:2695:U:C4	3.05	0.45
8:A:2727:A:C2	8:A:2728:U:C4	3.05	0.45
8:A:2769:U:H2'	8:A:2770:G:O4'	2.16	0.45
8:A:2834:G:H2'	8:A:2879:A:H61	1.82	0.45
9:B:32:U:H2'	9:B:33:G:H8	1.82	0.45
11:D:1:MET:HE3	11:D:1:MET:HB2	1.82	0.45
11:D:26:VAL:HG21	23:P:4:ILE:HD13	1.98	0.45
11:D:200:ASP:C	11:D:201:LEU:HD12	2.42	0.45
12:E:48:THR:HG23	12:E:51:GLU:CD	2.41	0.45
12:E:100:MET:HE2	12:E:100:MET:HB3	1.76	0.45
17:J:73:VAL:HB	17:J:75:TYR:CE1	2.51	0.45
19:L:60:ARG:HG3	19:L:61:LEU:HD22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:L:73:ILE:O	19:L:105:ILE:HG23	2.17	0.45
20:M:27:SER:H	20:M:66:ARG:NH1	2.15	0.45
24:Q:111:LYS:HE3	25:R:50:GLY:HA3	1.99	0.45
31:X:17:ARG:NH2	31:X:21:LEU:O	2.49	0.45
32:Y:12:GLU:O	32:Y:16:THR:HG23	2.17	0.45
33:Z:30:ARG:O	33:Z:33:HIS:HB3	2.16	0.45
34:a:45:G:O2'	34:a:46:G:H5'	2.17	0.45
34:a:107:G:O6	53:t:9:ARG:NH1	2.38	0.45
34:a:174:A:C4	34:a:175:C:C5	3.05	0.45
34:a:439:U:C2	34:a:440:C:C6	3.05	0.45
34:a:446:G:C2	34:a:447:G:H1'	2.52	0.45
34:a:643:C:OP1	41:h:30:LYS:HD3	2.17	0.45
34:a:681:A:C6	34:a:710:G:C6	3.05	0.45
34:a:781:A:C5	34:a:802:A:C2	3.05	0.45
34:a:812:G:H5'	34:a:903:G:C1'	2.46	0.45
34:a:887:G:N1	34:a:911:U:C4	2.85	0.45
34:a:909:A:H3'	34:a:910:C:C6	2.52	0.45
34:a:933:G:N2	34:a:935:A:O4'	2.50	0.45
34:a:1088:G:N1	34:a:1098:C:N3	2.64	0.45
34:a:1110:A:C5	34:a:1111:A:C5	3.05	0.45
34:a:1119:C:O2'	34:a:1120:C:H5'	2.16	0.45
34:a:1246:A:C6	34:a:1292:G:O6	2.70	0.45
34:a:1260:G:H4'	34:a:1283:U:O2'	2.16	0.45
34:a:1329:A:H5"	46:m:25:GLY:H	1.82	0.45
34:a:1420:U:C2	34:a:1421:G:C8	3.04	0.45
34:a:1428:A:C6	34:a:1429:A:C6	3.04	0.45
34:a:1463:U:H2'	34:a:1464:U:C6	2.52	0.45
35:b:95:TRP:CH2	35:b:100:LEU:HD13	2.52	0.45
36:c:31:ASN:HA	36:c:58:ARG:NH1	2.31	0.45
36:c:121:SER:O	36:c:125:ARG:HG3	2.16	0.45
38:e:133:ILE:HG23	38:e:134:ASN:N	2.31	0.45
43:j:18:ILE:HD12	43:j:21:ALA:HB3	1.98	0.45
45:l:53:ARG:HB2	45:l:63:THR:HG22	1.99	0.45
48:o:26:VAL:HG12	48:o:30:LEU:HD12	1.99	0.45
53:t:23:ARG:O	53:t:27:MET:HG3	2.17	0.45
4:3:31:ILE:C	4:3:32:LEU:HG	2.42	0.45
5:4:3:VAL:HA	5:4:37:GLN:HG2	1.99	0.45
8:A:259:G:C2	8:A:260:G:C8	3.05	0.45
8:A:451:U:OP1	12:E:47:LYS:NZ	2.37	0.45
8:A:489:G:C6	8:A:491:G:C5	3.05	0.45
8:A:531:C:C5	8:A:2035:G:C2	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:645:C:H2'	8:A:647:G:C8	2.52	0.45
8:A:659:G:C5	8:A:660:C:C4	3.05	0.45
8:A:681:G:C6	8:A:797:G:N1	2.85	0.45
8:A:870:U:OP1	20:M:6:ARG:HD2	2.17	0.45
8:A:978:G:N1	8:A:979:A:C5	2.85	0.45
8:A:1063:G:O6	8:A:1078:U:H1'	2.17	0.45
8:A:1289:C:H2'	8:A:1290:C:H6	1.81	0.45
8:A:1353:A:C6	8:A:1378:A:C4	3.05	0.45
8:A:1419:A:C4	8:A:1579:A:C6	3.05	0.45
8:A:1449:G:C5	8:A:1450:G:N7	2.85	0.45
8:A:1492:G:C4	8:A:1496:A:N6	2.84	0.45
8:A:1788:C:O2	8:A:1788:C:H2'	2.17	0.45
8:A:1858:A:H3'	8:A:1859:U:C6	2.52	0.45
8:A:1916:A:O2'	8:A:1917:PSU:H6	2.00	0.45
8:A:1986:C:C2	8:A:1987:A:C8	3.04	0.45
8:A:2046:G:C4	8:A:2047:C:C5	3.05	0.45
8:A:2109:U:H2'	8:A:2110:G:C4	2.52	0.45
8:A:2198:A:C8	15:H:29:PHE:CE1	3.05	0.45
8:A:2204:G:N3	8:A:2205:A:C8	2.84	0.45
8:A:2259:U:H2'	8:A:2260:C:C6	2.51	0.45
8:A:2269:G:H3'	8:A:2270:A:H8	1.82	0.45
8:A:2290:G:H2'	8:A:2291:U:H6	1.81	0.45
8:A:2293:G:N1	8:A:2294:G:C5	2.85	0.45
8:A:2563:U:H2'	8:A:2565:A:OP2	2.17	0.45
8:A:2728:U:H5'	18:K:70:ARG:HH21	1.82	0.45
8:A:2735:G:C2	8:A:2770:G:H1'	2.52	0.45
8:A:2895:G:C2	8:A:2896:C:C2	3.05	0.45
11:D:176:ASP:C	11:D:189:VAL:HG23	2.41	0.45
13:F:118:ALA:HB1	13:F:166:ARG:NH2	2.32	0.45
25:R:59:ILE:HG23	25:R:100:GLY:O	2.17	0.45
28:U:13:LEU:N	28:U:68:ASN:O	2.49	0.45
30:W:50:GLY:C	30:W:52:ASP:H	2.23	0.45
34:a:21:G:N3	34:a:22:G:C8	2.85	0.45
34:a:133:U:O2'	34:a:134:G:N7	2.49	0.45
34:a:171:A:H2'	34:a:172:A:H8	1.79	0.45
34:a:293:G:C4	34:a:294:U:C5	3.05	0.45
34:a:438:U:H5'	37:d:119:HIS:ND1	2.32	0.45
34:a:522:C:H3'	34:a:523:A:H8	1.82	0.45
34:a:616:G:N1	34:a:617:G:C6	2.85	0.45
34:a:654:G:C6	34:a:655:A:C4	3.04	0.45
34:a:715:A:C6	34:a:716:A:C5	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:868:C:H2'	34:a:869:G:O4'	2.17	0.45
34:a:1244:G:C6	34:a:1245:C:C4	3.05	0.45
34:a:1278:G:H1'	34:a:1279:G:N7	2.32	0.45
34:a:1308:U:O3'	46:m:90:HIS:NE2	2.37	0.45
34:a:1451:U:O2'	34:a:1452:C:OP1	2.33	0.45
34:a:1492:A:C5	34:a:1493:A:N6	2.84	0.45
36:c:52:SER:OG	36:c:111:ASP:OD2	2.23	0.45
36:c:174:LEU:HD23	36:c:174:LEU:HA	1.75	0.45
37:d:68:GLU:OE2	37:d:203:TYR:OH	2.25	0.45
38:e:61:LYS:O	38:e:65:LYS:HG2	2.17	0.45
39:f:45:ARG:HG2	39:f:46:GLN:O	2.17	0.45
41:h:100:ILE:CG1	41:h:128:VAL:HB	2.45	0.45
43:j:52:LEU:HB2	47:n:81:ARG:NE	2.32	0.45
52:s:72:GLU:N	52:s:72:GLU:OE1	2.50	0.45
1:0:21:LEU:HG	26:S:19:LEU:HD21	1.97	0.44
4:3:6:VAL:HG13	4:3:9:ALA:HB3	1.98	0.44
5:4:22:VAL:HG12	5:4:38:GLY:H	1.82	0.44
7:6:18:CYS:HB3	7:6:39:LYS:HB2	1.99	0.44
8:A:56:A:H2'	8:A:57:C:C6	2.52	0.44
8:A:135:U:H2'	8:A:136:G:C8	2.52	0.44
8:A:155:A:H2'	8:A:156:A:H8	1.81	0.44
8:A:182:A:C4	8:A:183:C:C6	3.05	0.44
8:A:338:G:H2'	8:A:339:U:O4'	2.17	0.44
8:A:495:G:O4'	26:S:57:ASN:ND2	2.50	0.44
8:A:606:U:H5"	12:E:97:ASN:CG	2.41	0.44
8:A:704:G:N2	8:A:726:G:C4	2.85	0.44
8:A:875:G:C5	8:A:876:C:C4	3.05	0.44
8:A:939:G:C4	8:A:940:G:C8	3.06	0.44
8:A:970:U:H2'	8:A:971:G:C8	2.52	0.44
8:A:999:U:H3'	8:A:1154:G:H1	1.82	0.44
8:A:1080:A:O2'	8:A:1081:U:H5	2.00	0.44
8:A:1166:G:C2	8:A:1184:U:C2	3.05	0.44
8:A:1255:U:C2	12:E:66:GLY:O	2.71	0.44
8:A:1322:A:N3	8:A:1322:A:H2'	2.32	0.44
8:A:1500:G:C6	8:A:1501:G:C5	3.06	0.44
8:A:1600:C:H6	8:A:1600:C:OP2	2.00	0.44
8:A:1682:G:C5	8:A:1683:U:C4	3.05	0.44
8:A:1849:G:C2	8:A:1850:G:C5	3.06	0.44
8:A:2041:U:H2'	8:A:2042:A:C8	2.52	0.44
8:A:2158:A:H4'	8:A:2159:G:OP1	2.18	0.44
8:A:2227:A:H5"	10:C:260:LYS:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2400:G:H2'	8:A:2401:U:H6	1.81	0.44
8:A:2437:G:H8	8:A:2437:G:OP2	2.00	0.44
8:A:2523:G:H2'	8:A:2524:G:H8	1.82	0.44
8:A:2543:G:C6	8:A:2544:G:C5	3.05	0.44
8:A:2663:G:C2	8:A:2664:G:H1'	2.51	0.44
8:A:2697:G:C6	8:A:2711:A:C6	3.05	0.44
8:A:2809:A:C4	8:A:2810:A:C8	3.05	0.44
8:A:2822:G:H2'	8:A:2823:A:H5"	1.98	0.44
8:A:2902:C:C4	8:A:2903:U:C4	3.04	0.44
10:C:43:ASN:HD21	10:C:45:ASN:HB3	1.82	0.44
10:C:60:ALA:HB3	10:C:62:ARG:NH1	2.32	0.44
11:D:109:VAL:HA	11:D:203:VAL:HA	1.98	0.44
12:E:11:ALA:O	12:E:12:LEU:HD22	2.17	0.44
20:M:41:LEU:O	20:M:93:VAL:HA	2.16	0.44
25:R:26:ASP:O	25:R:27:ILE:HD13	2.18	0.44
34:a:82:G:H21	34:a:88:U:H3'	1.82	0.44
34:a:95:C:H2'	34:a:96:U:C6	2.50	0.44
34:a:109:A:N3	34:a:109:A:H5"	2.32	0.44
34:a:175:C:O2'	34:a:176:C:H5'	2.17	0.44
34:a:253:A:C6	34:a:274:A:N1	2.85	0.44
34:a:393:A:H2'	34:a:393:A:N3	2.31	0.44
34:a:394:G:H2'	34:a:395:C:H6	1.82	0.44
34:a:446:G:C3'	34:a:447:G:H8	2.30	0.44
34:a:575:G:C6	34:a:821:G:N7	2.85	0.44
34:a:640:A:O2'	41:h:107:LYS:NZ	2.31	0.44
34:a:654:G:C2	34:a:655:A:H1'	2.52	0.44
34:a:909:A:C4	34:a:910:C:C6	3.05	0.44
34:a:1037:C:H2'	34:a:1038:C:C6	2.52	0.44
34:a:1106:G:C6	34:a:1107:C:C4	3.05	0.44
34:a:1125:U:H3'	34:a:1127:G:N7	2.31	0.44
34:a:1154:G:C4	34:a:1155:A:C8	3.05	0.44
34:a:1270:G:C2	34:a:1271:A:C5	3.05	0.44
34:a:1270:G:N3	34:a:1271:A:C8	2.85	0.44
34:a:1375:A:H2'	34:a:1376:U:C6	2.52	0.44
34:a:1421:G:C2	34:a:1480:A:C2	3.05	0.44
35:b:22:TRP:CG	35:b:38:HIS:HE2	2.34	0.44
36:c:133:MET:HE1	36:c:166:TRP:HA	1.98	0.44
37:d:117:VAL:HG22	37:d:122:ILE:HG13	1.99	0.44
37:d:129:VAL:HG12	37:d:131:ILE:H	1.83	0.44
37:d:187:ARG:NH2	37:d:192:ALA:HA	2.31	0.44
42:i:71:ILE:HG13	42:i:72:SER:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:l:82:ARG:HB3	45:l:97:VAL:HG22	1.99	0.44
50:q:11:VAL:CG1	50:q:54:ILE:HA	2.45	0.44
53:t:9:ARG:HA	53:t:12:GLN:OE1	2.17	0.44
2:1:38:PHE:CE1	2:1:43:ARG:HA	2.53	0.44
8:A:138:U:H2'	8:A:140:C:H5	1.81	0.44
8:A:160:A:H2'	8:A:161:A:C8	2.52	0.44
8:A:188:G:O2'	8:A:1365:A:N6	2.50	0.44
8:A:197:A:H2'	8:A:198:C:O4'	2.18	0.44
8:A:453:A:H1'	8:A:457:A:O2'	2.17	0.44
8:A:520:G:P	26:S:25:ARG:HH12	2.40	0.44
8:A:603:A:C5'	8:A:655:A:H61	2.29	0.44
8:A:661:A:H2'	8:A:662:G:H8	1.83	0.44
8:A:675:A:N3	8:A:2443:C:O2'	2.43	0.44
8:A:776:G:H1'	8:A:793:A:N1	2.31	0.44
8:A:847:U:H2'	8:A:848:C:C6	2.52	0.44
8:A:921:C:C2	8:A:922:C:C5	3.06	0.44
8:A:943:A:H2'	8:A:943:A:N3	2.31	0.44
8:A:969:G:C6	8:A:970:U:C4	3.05	0.44
8:A:1017:G:H2'	8:A:1018:U:C6	2.53	0.44
8:A:1150:C:C2	8:A:1151:A:C8	3.05	0.44
8:A:1153:C:H2'	8:A:1154:G:H8	1.75	0.44
8:A:1297:C:H2'	8:A:1298:C:H6	1.82	0.44
8:A:1300:G:N2	8:A:1634:A:C4	2.85	0.44
8:A:1388:G:H2'	8:A:1389:G:C8	2.52	0.44
8:A:1450:G:C2	8:A:1462:C:C2	3.05	0.44
8:A:1455:G:C2	8:A:1456:G:C4	3.05	0.44
8:A:1490:A:C5	10:C:73:ILE:HG23	2.52	0.44
8:A:1537:G:C2	8:A:1538:G:C8	3.05	0.44
8:A:1560:G:C4	8:A:1561:C:C5	3.06	0.44
8:A:1652:A:C2	8:A:2006:C:C2	3.05	0.44
8:A:1727:C:H2'	8:A:1728:C:C6	2.52	0.44
8:A:1967:C:C4	8:A:1968:G:C5	3.05	0.44
8:A:2097:A:C6	8:A:2193:G:N1	2.85	0.44
8:A:2201:G:H2'	8:A:2202:U:O4'	2.17	0.44
8:A:2350:C:N3	8:A:2368:C:N4	2.66	0.44
8:A:2460:U:C4	8:A:2461:A:C8	3.05	0.44
8:A:2595:G:H5"	8:A:2596:U:OP2	2.17	0.44
8:A:2635:A:H2'	8:A:2636:C:H6	1.82	0.44
8:A:2758:A:O4'	14:G:63:GLN:NE2	2.50	0.44
8:A:2762:C:H2'	8:A:2763:G:O4'	2.16	0.44
10:C:118:GLY:O	10:C:129:LEU:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:8:LYS:HB2	11:D:201:LEU:CD1	2.47	0.44
11:D:11:MET:HE2	11:D:23:PRO:HB2	2.00	0.44
11:D:47:ALA:HA	11:D:84:LEU:N	2.31	0.44
23:P:32:VAL:HG22	23:P:37:LYS:HA	1.99	0.44
24:Q:48:ASP:HA	24:Q:51:GLN:HB3	1.99	0.44
25:R:64:VAL:HB	25:R:95:ASP:CB	2.47	0.44
28:U:6:ARG:NH1	28:U:25:LYS:O	2.51	0.44
31:X:63:ILE:HG23	31:X:64:ASP:N	2.32	0.44
33:Z:29:ARG:C	33:Z:30:ARG:HD3	2.43	0.44
34:a:5:U:H5"	34:a:6:G:OP1	2.17	0.44
34:a:68:G:H5'	34:a:171:A:H1'	1.99	0.44
34:a:179:A:C4	34:a:180:U:C5	3.04	0.44
34:a:359:G:C6	34:a:360:G:C5	3.04	0.44
34:a:451:A:N6	34:a:481:G:C8	2.85	0.44
34:a:452:A:N1	34:a:480:U:C4	2.85	0.44
34:a:926:G:H4'	34:a:927:G:OP2	2.15	0.44
34:a:1048:G:OP1	47:n:1:ALA:N	2.41	0.44
34:a:1229:A:O2'	55:v:30:G:OP1	2.24	0.44
34:a:1290:G:C6	34:a:1291:U:C4	3.05	0.44
34:a:1349:A:P	42:i:119:LYS:HZ3	2.41	0.44
34:a:1519:MA6:H8	34:a:1520:C:C4'	2.48	0.44
36:c:10:ARG:HB3	36:c:14:VAL:CG1	2.48	0.44
36:c:32:LEU:HD22	36:c:36:PHE:HB2	1.99	0.44
36:c:149:LYS:HA	36:c:168:ARG:HA	1.98	0.44
37:d:60:VAL:HG22	37:d:194:ILE:HG12	1.99	0.44
39:f:1:MET:CE	39:f:67:PRO:HD3	2.47	0.44
40:g:133:ALA:O	40:g:136:LYS:HB3	2.17	0.44
41:h:15:ASN:O	41:h:19:ALA:HB3	2.16	0.44
41:h:62:LEU:HD23	41:h:64:TYR:OH	2.16	0.44
43:j:24:GLU:O	43:j:28:THR:OG1	2.23	0.44
46:m:79:LEU:HA	46:m:79:LEU:HD23	1.69	0.44
50:q:11:VAL:HG11	50:q:53:GLY:O	2.17	0.44
50:q:20:ILE:HD13	50:q:52:CYS:SG	2.57	0.44
52:s:28:LYS:HB3	52:s:28:LYS:HE3	1.78	0.44
53:t:53:MET:O	53:t:54:GLN:C	2.59	0.44
54:u:40:PRO:HA	54:u:43:GLU:CG	2.48	0.44
55:v:30:G:O6	55:v:41:C:N4	2.49	0.44
4:3:61:LEU:HA	4:3:61:LEU:HD13	1.73	0.44
8:A:54:G:C6	8:A:55:G:C5	3.05	0.44
8:A:79:C:C2	8:A:108:G:C2	3.06	0.44
8:A:152:A:C6	8:A:175:G:C6	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:160:A:N3	8:A:2208:C:O2'	2.49	0.44
8:A:187:G:H2'	8:A:188:G:O4'	2.16	0.44
8:A:246:C:C4	8:A:247:G:N7	2.86	0.44
8:A:308:G:C2	8:A:501:A:N7	2.85	0.44
8:A:402:A:H2'	8:A:403:U:C1'	2.48	0.44
8:A:529:A:C5	8:A:2042:A:C2	3.06	0.44
8:A:706:A:H5'	10:C:6:LYS:HD2	1.99	0.44
8:A:710:U:C2	8:A:722:A:C2	3.05	0.44
8:A:763:G:C4	8:A:765:C:C6	3.05	0.44
8:A:918:A:H5"	9:B:97:C:O2'	2.17	0.44
8:A:1050:A:C4	8:A:1051:G:C8	3.05	0.44
8:A:1149:G:H2'	8:A:1150:C:C6	2.53	0.44
8:A:1585:C:H3'	8:A:1586:A:C8	2.47	0.44
8:A:1615:C:C2	26:S:87:PRO:HG2	2.51	0.44
8:A:1797:G:C6	8:A:1823:G:O6	2.70	0.44
8:A:2160:C:O3'	8:A:2161:C:H4'	2.17	0.44
8:A:2335:A:C4	8:A:2337:G:C8	3.05	0.44
8:A:2412:A:C6	8:A:2413:G:C4	3.06	0.44
8:A:2461:A:C5	8:A:2462:C:C4	3.05	0.44
8:A:2544:G:C4	8:A:2545:G:C8	3.05	0.44
8:A:2578:G:C4	8:A:2579:C:C5	3.06	0.44
8:A:2619:C:C5'	11:D:157:LYS:HZ2	2.30	0.44
8:A:2687:U:C4	8:A:2688:G:C2	3.05	0.44
8:A:2700:A:H2'	8:A:2701:U:C6	2.52	0.44
8:A:2735:G:C2	8:A:2736:A:C5	3.05	0.44
8:A:2841:C:C2	8:A:2877:G:C2	3.05	0.44
8:A:2865:U:H2'	8:A:2866:U:C5	2.52	0.44
9:B:5:U:C2	9:B:6:G:C8	3.06	0.44
9:B:85:G:N1	9:B:92:C:C4	2.86	0.44
10:C:144:GLU:OE2	10:C:188:ARG:NH1	2.50	0.44
10:C:198:GLU:O	10:C:199:HIS:C	2.59	0.44
12:E:168:ASP:OD2	12:E:170:ARG:HG3	2.17	0.44
17:J:93:ILE:O	17:J:97:PRO:HD3	2.18	0.44
23:P:3:ILE:H	23:P:3:ILE:HD12	1.82	0.44
23:P:4:ILE:HG13	23:P:8:GLU:OE2	2.17	0.44
28:U:39:ASN:ND2	28:U:62:ALA:O	2.47	0.44
29:V:5:ASN:C	29:V:42:LEU:HD21	2.42	0.44
30:W:45:ALA:O	30:W:47:VAL:HG23	2.16	0.44
32:Y:9:LYS:HB3	32:Y:13:GLU:HB2	1.99	0.44
33:Z:44:ARG:O	33:Z:47:ILE:HB	2.18	0.44
34:a:33:A:HO2'	34:a:34:C:H5'	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:79:G:N1	34:a:91:U:N3	2.65	0.44
34:a:109:A:C8	34:a:327:A:O4'	2.71	0.44
34:a:399:G:C6	34:a:400:C:C4	3.05	0.44
34:a:417:G:C5	34:a:418:C:C5	3.06	0.44
34:a:438:U:O2	34:a:496:A:N6	2.46	0.44
34:a:564:C:H2'	34:a:565:U:O4'	2.17	0.44
34:a:591:U:H2'	34:a:592:G:C8	2.53	0.44
34:a:688:G:O6	34:a:700:G:C6	2.70	0.44
34:a:716:A:C2	34:a:717:U:C2	3.06	0.44
34:a:786:G:C6	34:a:797:C:N4	2.85	0.44
34:a:809:G:H2'	34:a:810:C:H6	1.82	0.44
34:a:815:A:C5	34:a:1529:G:C5	3.04	0.44
34:a:949:A:H61	34:a:1232:U:H3	1.65	0.44
34:a:978:A:C6	34:a:1319:A:C5	3.05	0.44
34:a:1165:U:H2'	34:a:1166:G:O4'	2.17	0.44
34:a:1200:C:H5"	34:a:1202:U:OP1	2.17	0.44
34:a:1255:G:C2	34:a:1279:G:N2	2.86	0.44
34:a:1255:G:H2'	34:a:1258:G:H21	1.83	0.44
34:a:1351:U:N3	34:a:1352:C:C5	2.85	0.44
34:a:1355:G:C4	34:a:1356:G:C8	3.05	0.44
34:a:1356:G:C6	34:a:1357:A:C6	3.05	0.44
34:a:1485:U:H3'	34:a:1486:G:C8	2.50	0.44
35:b:102:ASN:HA	35:b:104:LYS:HZ2	1.82	0.44
35:b:170:ILE:O	35:b:174:GLU:HG3	2.17	0.44
36:c:191:THR:HB	36:c:192:TYR:CE2	2.52	0.44
37:d:94:GLU:CD	37:d:190:LEU:HD11	2.42	0.44
37:d:123:MET:HG2	37:d:128:VAL:HA	1.99	0.44
38:e:141:ASP:OD1	38:e:145:ASN:ND2	2.49	0.44
41:h:8:ASP:OD1	41:h:12:ARG:HD2	2.17	0.44
41:h:40:LYS:HB2	41:h:48:PHE:HE2	1.83	0.44
43:j:41:PRO:HA	43:j:72:ARG:CD	2.47	0.44
50:q:12:VAL:HG22	50:q:21:VAL:O	2.17	0.44
55:v:6:G:N1	55:v:68:C:N3	2.64	0.44
56:w:22:G:C2	56:w:23:A:N7	2.85	0.44
56:w:29:G:C6	56:w:30:G:C5	3.05	0.44
1:0:39:ARG:HB3	1:0:40:HIS:CE1	2.52	0.44
7:6:32:LEU:HD23	7:6:33:ASN:N	2.32	0.44
8:A:7:G:C6	8:A:8:C:C4	3.05	0.44
8:A:321:U:OP2	12:E:131:THR:N	2.48	0.44
8:A:463:G:N1	8:A:467:G:C6	2.86	0.44
8:A:483:A:O5'	8:A:484:C:H5	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:485:C:H2'	8:A:486:C:C6	2.50	0.44
8:A:500:G:N2	8:A:502:A:H3'	2.32	0.44
8:A:534:U:C2	8:A:535:G:N7	2.85	0.44
8:A:689:A:H2'	8:A:690:G:O4'	2.16	0.44
8:A:706:A:C4	8:A:707:G:C8	3.05	0.44
8:A:706:A:N6	8:A:725:G:O2'	2.48	0.44
8:A:780:G:H21	8:A:783:A:H62	1.65	0.44
8:A:792:A:C5	8:A:2440:C:C2	3.05	0.44
8:A:879:G:C2	8:A:880:G:C5	3.05	0.44
8:A:1006:C:C2	8:A:1138:G:N2	2.86	0.44
8:A:1007:C:O5'	8:A:1008:A:O2'	2.34	0.44
8:A:1225:G:H2'	8:A:1226:A:C4	2.52	0.44
8:A:1264:A:N7	8:A:1265:A:C5	2.85	0.44
8:A:1342:A:C6	8:A:1397:U:C4	3.04	0.44
8:A:1361:G:C6	8:A:1371:G:N2	2.86	0.44
8:A:1389:G:C2	8:A:1399:C:N3	2.84	0.44
8:A:1439:A:C5	8:A:1440:U:H1'	2.53	0.44
8:A:1456:G:H2'	8:A:1457:U:O4'	2.17	0.44
8:A:1541:C:H2'	8:A:1542:U:H6	1.79	0.44
8:A:1663:G:C6	8:A:1992:G:N7	2.85	0.44
8:A:1666:G:C5	8:A:1667:G:C5	3.05	0.44
8:A:1693:U:O2'	10:C:13:ARG:NH1	2.51	0.44
8:A:1694:C:H4'	8:A:1695:G:O4'	2.17	0.44
8:A:1858:A:C8	8:A:1859:U:C5	3.06	0.44
8:A:1889:A:C6	8:A:1890:A:C5	3.05	0.44
8:A:1942:C:H2'	8:A:1943:U:H5	1.81	0.44
8:A:2077:A:C4	8:A:2435:A:N7	2.85	0.44
8:A:2262:U:H2'	8:A:2263:C:C6	2.50	0.44
8:A:2335:A:C5	8:A:2337:G:C5	3.04	0.44
8:A:2393:U:H2'	8:A:2394:C:C6	2.52	0.44
8:A:2605:PSU:H2'	8:A:2606:C:C5	2.52	0.44
8:A:2652:C:H2'	8:A:2653:U:O4'	2.18	0.44
8:A:2826:A:C4	8:A:2827:C:C6	3.05	0.44
8:A:2829:A:O3'	11:D:55:LYS:NZ	2.46	0.44
8:A:2844:G:C6	8:A:2845:U:C4	3.05	0.44
9:B:10:G:H3'	9:B:11:C:C5	2.52	0.44
9:B:76:G:O2'	29:V:78:GLN:OE1	2.25	0.44
12:E:76:PRO:HB3	12:E:82:GLY:O	2.17	0.44
13:F:34:THR:N	13:F:154:THR:OG1	2.44	0.44
13:F:69:ALA:HB3	13:F:81:GLY:N	2.33	0.44
13:F:148:VAL:HG12	13:F:148:VAL:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:H:41:LYS:O	15:H:45:GLU:HG2	2.17	0.44
15:H:78:VAL:O	15:H:144:VAL:HA	2.17	0.44
17:J:37:ARG:HG3	17:J:118:MET:HE1	1.99	0.44
19:L:51:GLU:CD	19:L:60:ARG:HH12	2.25	0.44
20:M:49:ALA:O	20:M:53:MET:HG2	2.16	0.44
24:Q:2:ARG:HD2	24:Q:3:VAL:N	2.32	0.44
27:T:25:GLU:HG3	27:T:26:LYS:H	1.82	0.44
29:V:17:SER:OG	29:V:21:ARG:NH2	2.51	0.44
31:X:58:ILE:HG23	31:X:66:VAL:HG21	2.00	0.44
32:Y:31:GLN:O	32:Y:36:GLN:N	2.42	0.44
34:a:159:G:C2'	34:a:161:A:H5"	2.46	0.44
34:a:237:G:H2'	34:a:238:A:H8	1.78	0.44
34:a:362:G:N2	34:a:364:A:H5"	2.33	0.44
34:a:505:G:C4	34:a:535:A:C5	3.06	0.44
34:a:590:U:C4	34:a:650:G:C6	3.06	0.44
34:a:609:A:C6	34:a:610:U:C5	3.06	0.44
34:a:665:A:C2	34:a:732:C:H2'	2.53	0.44
34:a:714:G:H4'	34:a:776:G:H5'	1.99	0.44
34:a:726:C:H2'	34:a:727:G:C8	2.53	0.44
34:a:783:C:C4	34:a:800:G:N2	2.86	0.44
34:a:976:G:N7	34:a:1362:A:C6	2.86	0.44
34:a:1017:U:H2'	34:a:1018:G:C8	2.48	0.44
34:a:1018:G:H2'	34:a:1019:A:C8	2.53	0.44
34:a:1311:A:N3	34:a:1312:G:H1'	2.33	0.44
34:a:1349:A:H3'	34:a:1350:A:C8	2.52	0.44
34:a:1386:G:C4	34:a:1387:G:N7	2.86	0.44
35:b:55:GLU:O	35:b:59:ILE:HG12	2.18	0.44
35:b:164:ASP:HA	35:b:203:ASP:OD2	2.18	0.44
37:d:5:GLY:O	37:d:7:LYS:NZ	2.34	0.44
37:d:141:VAL:HG12	37:d:142:VAL:N	2.32	0.44
38:e:131:ASN:O	38:e:135:VAL:HG23	2.18	0.44
41:h:29:SER:HB3	41:h:32:LYS:HG3	1.99	0.44
43:j:10:LEU:CB	43:j:18:ILE:HD11	2.40	0.44
43:j:22:THR:O	43:j:26:VAL:HG22	2.18	0.44
44:k:68:ARG:HA	44:k:71:ASP:CG	2.42	0.44
55:v:40:C:C2	55:v:41:C:C5	3.06	0.44
56:w:8:4SU:N3	56:w:15:G:O6	2.51	0.44
3:2:19:ARG:HB2	8:A:125:A:H5"	1.98	0.44
4:3:14:LYS:HD3	4:3:14:LYS:HA	1.87	0.44
6:5:45:GLY:HA2	6:5:49:GLY:C	2.43	0.44
8:A:36:G:O2'	8:A:451:U:O4'	2.25	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:49:A:H2'	8:A:49:A:N3	2.33	0.44
8:A:197:A:H3'	8:A:198:C:H6	1.83	0.44
8:A:630:G:P	8:A:650:C:HO2'	2.39	0.44
8:A:679:C:C2	8:A:680:C:C5	3.06	0.44
8:A:690:G:C6	8:A:691:C:C4	3.06	0.44
8:A:703:U:H2'	8:A:704:G:C1'	2.47	0.44
8:A:801:G:C4	12:E:49:ARG:HD3	2.53	0.44
8:A:810:U:H2'	19:L:30:THR:N	2.22	0.44
8:A:815:C:N3	8:A:1193:G:C2	2.85	0.44
8:A:901:C:H2'	8:A:902:C:O4'	2.17	0.44
8:A:907:G:C2	8:A:908:C:C2	3.05	0.44
8:A:1042:G:H22	8:A:1113:U:H2'	1.82	0.44
8:A:1057:A:C6	8:A:1086:A:C4	3.06	0.44
8:A:1060:U:O2'	8:A:1062:G:H5'	2.18	0.44
8:A:1064:C:H2'	8:A:1069:A:OP2	2.18	0.44
8:A:1230:A:C6	8:A:1231:U:N3	2.85	0.44
8:A:1343:G:H2'	8:A:1343:G:N3	2.31	0.44
8:A:1403:A:H3'	8:A:1404:C:H6	1.81	0.44
8:A:1690:A:H2'	8:A:1691:C:O4'	2.17	0.44
8:A:1710:G:O2'	8:A:2858:C:N3	2.49	0.44
8:A:1802:A:C2	8:A:1803:A:C4	3.06	0.44
8:A:1813:G:H8	8:A:1813:G:OP2	2.00	0.44
8:A:1816:C:HO2'	8:A:1817:G:P	2.40	0.44
8:A:1857:G:C5	8:A:1884:G:C6	3.06	0.44
8:A:1935:G:N7	8:A:1962:5MC:HM53	2.33	0.44
8:A:1955:U:O2'	8:A:1956:U:OP1	2.30	0.44
8:A:2131:U:H4'	8:A:2133:G:H4'	2.00	0.44
8:A:2231:U:C2	8:A:2232:C:C5	3.05	0.44
8:A:2494:G:C6	8:A:2495:G:C8	3.05	0.44
8:A:2564:A:C5	8:A:2565:A:N1	2.86	0.44
8:A:2607:G:H2'	8:A:2608:G:C8	2.52	0.44
8:A:2636:C:O3'	11:D:45:TYR:OH	2.33	0.44
8:A:2721:A:C6	8:A:2722:G:C5	3.05	0.44
8:A:2867:G:HO2'	8:A:2868:A:P	2.39	0.44
8:A:2867:G:C6	23:P:20:ARG:NH1	2.85	0.44
11:D:84:LEU:HB3	11:D:88:GLU:OE2	2.17	0.44
12:E:154:ASP:HB3	12:E:157:LEU:CG	2.47	0.44
13:F:62:GLN:HB2	13:F:94:ARG:NH2	2.32	0.44
15:H:26:ALA:HA	15:H:30:LEU:HD12	2.00	0.44
17:J:14:ASP:HB2	17:J:16:TYR:CZ	2.52	0.44
17:J:15:TRP:HB3	17:J:55:ILE:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:J:17:VAL:HA	17:J:55:ILE:HB	1.99	0.44
19:L:27:LEU:HD12	19:L:27:LEU:H	1.83	0.44
29:V:51:GLN:OE1	29:V:79:ARG:NH2	2.37	0.44
29:V:80:HIS:CG	29:V:81:PRO:HD2	2.52	0.44
31:X:21:LEU:HG	55:v:75:C:N4	2.31	0.44
34:a:16:A:H2'	34:a:16:A:N3	2.32	0.44
34:a:22:G:C2	34:a:23:C:C4	3.06	0.44
34:a:38:G:N2	34:a:397:A:O4'	2.51	0.44
34:a:85:U:C5'	34:a:86:G:H5'	2.39	0.44
34:a:123:U:C2	34:a:124:C:C5	3.06	0.44
34:a:164:G:C2	34:a:165:G:C4	3.05	0.44
34:a:204:G:H2'	34:a:205:A:H4'	1.99	0.44
34:a:548:G:H2'	34:a:549:C:C6	2.53	0.44
34:a:632:U:H3'	34:a:633:G:H5'	1.99	0.44
34:a:635:A:O3'	50:q:5:ARG:NH2	2.51	0.44
34:a:696:A:O2'	34:a:786:G:O3'	2.36	0.44
34:a:714:G:N2	34:a:777:A:H1'	2.32	0.44
34:a:722:G:C6	34:a:724:G:C2	3.06	0.44
34:a:730:G:C8	34:a:731:G:H1'	2.52	0.44
34:a:882:C:C2	34:a:883:C:C5	3.06	0.44
34:a:1071:C:C2	34:a:1072:G:N7	2.86	0.44
34:a:1117:A:O2'	42:i:105:ARG:HD2	2.17	0.44
34:a:1252:A:C2	34:a:1253:G:C4	3.06	0.44
34:a:1315:U:H3'	34:a:1316:G:C8	2.52	0.44
34:a:1394:A:H62	34:a:1501:C:H4'	1.83	0.44
35:b:182:VAL:HG11	35:b:195:VAL:HA	2.00	0.44
36:c:41:TYR:CD1	36:c:44:LYS:HE3	2.52	0.44
36:c:172:VAL:HG22	36:c:202:PHE:CB	2.47	0.44
37:d:130:ASN:OD1	37:d:130:ASN:N	2.50	0.44
38:e:41:GLY:N	38:e:116:VAL:O	2.51	0.44
41:h:94:VAL:HG11	41:h:100:ILE:O	2.17	0.44
45:l:23:LEU:HG	45:l:29:LYS:HB2	1.99	0.44
46:m:10:ASP:HB3	46:m:45:SER:OG	2.17	0.44
56:w:52:G:C6	56:w:53:G:C6	3.06	0.44
3:2:4:THR:OG1	3:2:5:PHE:N	2.50	0.44
5:4:9:LYS:HE2	5:4:15:LYS:HA	2.00	0.44
8:A:112:U:H2'	8:A:113:U:N1	2.32	0.44
8:A:178:G:H2'	8:A:179:C:H6	1.83	0.44
8:A:195:A:H61	8:A:198:C:H3'	1.82	0.44
8:A:291:G:C6	8:A:349:U:O2	2.71	0.44
8:A:297:G:C6	8:A:298:G:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:306:U:O4	8:A:310:A:N7	2.50	0.44
8:A:325:G:C6	8:A:326:G:C5	3.06	0.44
8:A:489:G:C4	8:A:1284:A:C6	3.05	0.44
8:A:659:G:C6	8:A:660:C:C4	3.05	0.44
8:A:670:A:H5"	19:L:43:GLY:HA3	1.98	0.44
8:A:706:A:H2'	8:A:707:G:O4'	2.17	0.44
8:A:712:G:C5	8:A:713:G:C5	3.05	0.44
8:A:784:G:O2'	8:A:785:G:O5'	2.22	0.44
8:A:930:G:C2	8:A:933:A:N7	2.86	0.44
8:A:1244:A:C4	8:A:1245:G:C8	3.06	0.44
8:A:1324:G:C2	8:A:1331:G:C2	3.06	0.44
8:A:1339:G:H8	8:A:1339:G:O5'	2.00	0.44
8:A:1361:G:C6	8:A:1362:C:N4	2.86	0.44
8:A:1363:C:C2	8:A:1364:G:C8	3.05	0.44
8:A:1425:G:C6	8:A:1426:G:N1	2.86	0.44
8:A:1551:A:H2'	8:A:1552:A:H8	1.82	0.44
8:A:1571:A:C6	8:A:1572:A:C5	3.06	0.44
8:A:1631:G:H21	8:A:1635:A:N6	2.15	0.44
8:A:1693:U:O2'	10:C:13:ARG:NH2	2.50	0.44
8:A:1771:C:H3'	8:A:1772:A:H8	1.83	0.44
8:A:1778:U:C3'	8:A:1784:A:H62	2.30	0.44
8:A:1786:A:C4	8:A:1938:A:C6	3.05	0.44
8:A:1786:A:C5	8:A:1938:A:N1	2.86	0.44
8:A:1833:C:H2'	8:A:1834:U:H6	1.80	0.44
8:A:1848:A:C6	8:A:1849:G:C5	3.06	0.44
8:A:1877:A:C5	8:A:1878:G:C8	3.06	0.44
8:A:1964:G:C4	8:A:1967:C:C5	3.06	0.44
8:A:2254:C:C2	8:A:2255:G:C8	3.06	0.44
8:A:2302:U:H2'	8:A:2303:G:O4'	2.18	0.44
8:A:2403:C:H2'	8:A:2404:U:H6	1.83	0.44
8:A:2547:A:H4'	18:K:29:HIS:NE2	2.30	0.44
8:A:2868:A:H2'	8:A:2869:G:C8	2.52	0.44
10:C:104:LEU:HD12	10:C:104:LEU:HA	1.80	0.44
13:F:31:GLU:O	13:F:91:ARG:NH2	2.50	0.44
14:G:17:LYS:HD2	14:G:17:LYS:HA	1.86	0.44
17:J:38:GLY:O	17:J:41:LYS:N	2.44	0.44
24:Q:8:ILE:O	24:Q:11:ALA:HB3	2.18	0.44
25:R:33:VAL:HG22	25:R:61:ALA:O	2.16	0.44
27:T:39:THR:O	27:T:42:GLU:HB2	2.18	0.44
29:V:16:ALA:HA	29:V:19:ARG:HD3	1.99	0.44
29:V:35:GLU:OE2	29:V:93:ARG:HD3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:107:G:H2'	34:a:108:G:O4'	2.18	0.44
34:a:147:G:H2'	34:a:148:G:H8	1.77	0.44
34:a:299:G:C2	34:a:566:G:O6	2.71	0.44
34:a:325:A:C6	34:a:326:G:C5	3.05	0.44
34:a:456:A:N1	34:a:476:U:H5	2.15	0.44
34:a:573:A:N7	34:a:574:A:C6	2.86	0.44
34:a:591:U:C2	34:a:592:G:N7	2.86	0.44
34:a:622:A:C8	34:a:623:C:C5	3.06	0.44
34:a:627:G:C4	34:a:628:G:N7	2.85	0.44
34:a:655:A:C4	34:a:656:G:C8	3.06	0.44
34:a:1356:G:H2'	34:a:1357:A:H8	1.77	0.44
34:a:1402:4OC:H1'	34:a:1402:4OC:HM23	1.53	0.44
34:a:1526:G:H2'	34:a:1527:U:C6	2.53	0.44
35:b:181:PRO:HA	35:b:196:ASP:OD2	2.17	0.44
38:e:86:GLY:O	38:e:138:ALA:HB1	2.17	0.44
41:h:12:ARG:HB3	41:h:24:VAL:CG1	2.34	0.44
43:j:7:ARG:HG3	43:j:75:ASP:CG	2.43	0.44
48:o:14:PHE:HE2	48:o:84:LEU:HD11	1.80	0.44
51:r:71:ASP:O	51:r:72:ARG:HD3	2.18	0.44
53:t:15:LYS:O	53:t:18:LYS:HB2	2.17	0.44
54:u:39:LYS:HB3	54:u:42:THR:OG1	2.18	0.44
56:w:40:C:H2'	56:w:41:C:C5	2.52	0.44
1:0:7:PRO:HG2	8:A:1264:A:P	2.58	0.44
7:6:55:GLY:HA2	7:6:59:ARG:HB2	1.99	0.44
8:A:54:G:C5	8:A:55:G:C8	3.06	0.44
8:A:219:A:C5	8:A:220:G:C5	3.06	0.44
8:A:272:A:N6	8:A:273:G:C6	2.85	0.44
8:A:287:G:H3'	8:A:288:U:H6	1.81	0.44
8:A:310:A:C6	8:A:312:G:C4	3.06	0.44
8:A:310:A:C5	8:A:312:G:C5	3.06	0.44
8:A:319:G:C6	8:A:320:A:C6	3.05	0.44
8:A:325:G:C4	8:A:326:G:C8	3.06	0.44
8:A:515:A:C2	8:A:1261:C:H1'	2.53	0.44
8:A:605:G:H2'	8:A:606:U:C6	2.53	0.44
8:A:607:U:C5	8:A:620:G:C5	3.05	0.44
8:A:646:U:C4	8:A:647:G:H1'	2.52	0.44
8:A:728:G:C4	8:A:730:A:C8	3.06	0.44
8:A:764:A:H1'	10:C:211:ARG:NH2	2.33	0.44
8:A:851:C:H2'	8:A:852:U:C6	2.50	0.44
8:A:924:G:C2	8:A:925:A:C5	3.06	0.44
8:A:925:A:C4	8:A:926:G:C8	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:953:G:C2	8:A:954:G:C8	3.06	0.44
8:A:963:U:H2'	8:A:964:C:H6	1.82	0.44
8:A:1252:G:C1'	24:Q:32:ARG:HH22	2.29	0.44
8:A:1282:U:C4	8:A:1283:G:C5	3.05	0.44
8:A:1385:A:H4'	8:A:1386:C:OP1	2.18	0.44
8:A:1462:C:H4'	8:A:2703:C:O4'	2.17	0.44
8:A:1483:G:N3	8:A:1483:G:H2'	2.33	0.44
8:A:1514:G:O2'	8:A:1557:C:H4'	2.18	0.44
8:A:1516:G:C6	8:A:1517:G:C5	3.06	0.44
8:A:1722:A:H2'	8:A:1723:G:H8	1.81	0.44
8:A:1723:G:C2	8:A:1724:G:C4	3.05	0.44
8:A:1860:G:C2	8:A:1861:G:C4	3.06	0.44
8:A:1952:A:C5	8:A:1953:A:C5	3.05	0.44
8:A:2114:A:C5	8:A:2115:G:C4	3.06	0.44
8:A:2135:A:N7	8:A:2136:G:C4	2.86	0.44
8:A:2158:A:H2'	8:A:2159:G:C6	2.53	0.44
8:A:2270:A:C6	8:A:2271:G:C5	3.06	0.44
8:A:2282:G:C6	8:A:2425:A:N1	2.86	0.44
8:A:2351:G:C2	8:A:2365:G:C2	3.06	0.44
8:A:2409:G:C6	8:A:2410:G:C5	3.06	0.44
8:A:2415:G:H2'	8:A:2416:C:C6	2.53	0.44
8:A:2511:U:H2'	8:A:2512:C:C6	2.52	0.44
8:A:2545:G:C6	8:A:2546:U:N3	2.86	0.44
8:A:2588:G:C4	8:A:2589:A:C8	3.06	0.44
8:A:2643:G:O2'	8:A:2644:G:H5'	2.17	0.44
8:A:2659:G:H3'	8:A:2660:A:H5"	2.00	0.44
8:A:2731:G:C6	8:A:2732:G:C6	3.06	0.44
9:B:26:C:H2'	9:B:27:C:O4'	2.17	0.44
9:B:29:A:H2'	9:B:30:C:O4'	2.18	0.44
10:C:137:GLY:N	10:C:163:ILE:HB	2.32	0.44
10:C:259:ASN:C	10:C:261:ARG:H	2.26	0.44
18:K:62:VAL:HG13	18:K:83:ALA:O	2.18	0.44
20:M:35:ALA:N	20:M:100:LYS:O	2.29	0.44
21:N:96:ARG:N	21:N:114:GLU:O	2.32	0.44
24:Q:56:PHE:HD1	24:Q:60:TRP:HE1	1.65	0.44
25:R:3:ALA:HB1	25:R:40:MET:O	2.16	0.44
26:S:70:LYS:HD3	26:S:110:ARG:HD3	2.00	0.44
31:X:28:PHE:C	31:X:29:LEU:HD22	2.43	0.44
34:a:15:G:C6	34:a:16:A:C5	3.06	0.44
34:a:79:G:N1	34:a:90:C:N3	2.66	0.44
34:a:179:A:C5	34:a:180:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:299:G:C6	34:a:300:A:C2	3.05	0.44
34:a:456:A:N1	34:a:476:U:C5	2.86	0.44
34:a:577:G:C8	34:a:816:A:C6	3.06	0.44
34:a:581:G:N2	34:a:759:A:OP2	2.49	0.44
34:a:736:C:C2	34:a:737:C:C6	3.05	0.44
34:a:958:A:O2'	34:a:985:C:O2'	2.08	0.44
34:a:1110:A:C6	34:a:1111:A:C5	3.06	0.44
34:a:1150:A:O3'	43:j:43:PRO:HB3	2.18	0.44
34:a:1237:C:H5"	34:a:1238:A:O4'	2.17	0.44
34:a:1247:U:H2'	34:a:1248:A:C8	2.53	0.44
34:a:1307:U:H5'	34:a:1308:U:OP2	2.17	0.44
36:c:86:LEU:HA	36:c:89:VAL:HG22	2.00	0.44
36:c:115:VAL:O	36:c:118:SER:OG	2.19	0.44
36:c:172:VAL:HG22	36:c:202:PHE:HB2	1.99	0.44
36:c:177:LEU:HA	36:c:177:LEU:HD12	1.75	0.44
42:i:80:HIS:NE2	42:i:105:ARG:HA	2.31	0.44
47:n:29:ILE:HG22	47:n:40:ASP:O	2.17	0.44
49:p:71:VAL:O	49:p:75:ILE:HG13	2.18	0.44
55:v:18:G:H8	55:v:18:G:OP1	2.01	0.44
55:v:59:A:C5	55:v:60:U:C4	3.05	0.44
2:1:37:LYS:HB2	2:1:48:TYR:CD1	2.52	0.44
8:A:36:G:N1	8:A:445:C:N4	2.65	0.44
8:A:54:G:C6	8:A:117:G:C2	3.05	0.44
8:A:58:G:C6	8:A:70:G:C6	3.05	0.44
8:A:134:G:O6	8:A:146:A:N6	2.51	0.44
8:A:166:U:H2'	8:A:167:A:H8	1.82	0.44
8:A:226:A:C4	8:A:227:A:C8	3.05	0.44
8:A:319:G:C6	8:A:320:A:C5	3.06	0.44
8:A:403:U:O3'	8:A:404:A:H4'	2.18	0.44
8:A:404:A:H1'	8:A:406:G:C4	2.53	0.44
8:A:410:G:N3	8:A:2407:A:N7	2.66	0.44
8:A:412:A:C4	8:A:413:C:C6	3.06	0.44
8:A:627:A:C5	8:A:637:A:C5	3.05	0.44
8:A:675:A:C6	8:A:676:A:N1	2.85	0.44
8:A:675:A:C5	8:A:676:A:C6	3.05	0.44
8:A:757:G:C5	8:A:758:C:C6	3.06	0.44
8:A:927:A:H2'	8:A:928:A:O4'	2.17	0.44
8:A:954:G:H5"	20:M:13:HIS:CB	2.48	0.44
8:A:997:G:C2	8:A:1159:U:C2	3.05	0.44
8:A:1042:G:H2'	8:A:1043:C:O4'	2.18	0.44
8:A:1306:C:C2	8:A:1623:G:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1337:G:C6	8:A:1338:G:C5	3.06	0.44
8:A:1359:A:H2'	8:A:1360:G:H5'	1.99	0.44
8:A:1387:A:C4	8:A:1388:G:C8	3.05	0.44
8:A:1511:G:H2'	8:A:1512:C:C6	2.53	0.44
8:A:1557:C:OP2	8:A:1558:C:H2'	2.17	0.44
8:A:1563:U:C2	8:A:1564:C:C5	3.06	0.44
8:A:1596:A:C6	8:A:1597:A:C5	3.05	0.44
8:A:1652:A:C2	8:A:2006:C:N3	2.86	0.44
8:A:1693:U:H5"	8:A:1694:C:H5	1.82	0.44
8:A:1696:G:C6	8:A:1697:G:N1	2.86	0.44
8:A:1760:C:H2'	8:A:1761:C:O4'	2.17	0.44
8:A:1814:G:OP2	8:A:1815:A:O2'	2.35	0.44
8:A:1860:G:C4	8:A:1861:G:C8	3.05	0.44
8:A:1906:G:C5	8:A:1929:G:C5	3.05	0.44
8:A:1988:G:H2'	8:A:1989:G:C8	2.53	0.44
8:A:2011:U:C2	8:A:2012:G:H1'	2.53	0.44
8:A:2018:G:H2'	8:A:2019:A:O4'	2.17	0.44
8:A:2069:G7M:N1	8:A:2070:A:C5	2.86	0.44
8:A:2074:U:C4	8:A:2436:G:N1	2.86	0.44
8:A:2261:C:H2'	8:A:2262:U:C5	2.52	0.44
8:A:2325:G:C2	8:A:2326:C:C2	3.06	0.44
8:A:2352:A:N1	30:W:30:GLY:HA3	2.31	0.44
8:A:2396:G:C6	8:A:2421:G:C6	3.06	0.44
8:A:2507:C:C4	8:A:2583:G:C6	3.05	0.44
8:A:2686:G:O2'	8:A:2687:U:H5'	2.18	0.44
9:B:9:G:N1	9:B:111:U:N3	2.63	0.44
9:B:66:A:N1	9:B:107:G:C4	2.85	0.44
9:B:91:C:OP1	20:M:38:ARG:NH2	2.51	0.44
10:C:137:GLY:H	10:C:163:ILE:HB	1.83	0.44
10:C:226:PRO:HG3	10:C:233:GLY:CA	2.47	0.44
12:E:121:VAL:O	12:E:189:THR:HA	2.18	0.44
13:F:129:MET:HG3	13:F:153:ILE:HD13	2.00	0.44
15:H:47:PHE:HA	15:H:51:ARG:CZ	2.47	0.44
17:J:23:LYS:HB3	17:J:28:LEU:CD2	2.47	0.44
20:M:36:VAL:HB	20:M:127:LYS:HG3	1.99	0.44
20:M:47:GLU:OE2	20:M:51:ARG:NE	2.51	0.44
22:O:49:VAL:HG11	22:O:81:ARG:HB3	2.00	0.44
23:P:88:ARG:O	23:P:112:ARG:N	2.36	0.44
24:Q:79:ILE:HD13	24:Q:82:LEU:HD12	1.99	0.44
24:Q:111:LYS:CD	25:R:50:GLY:HA3	2.46	0.44
31:X:39:VAL:HA	31:X:63:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:X:44:ARG:NH1	31:X:46:VAL:HG22	2.33	0.44
34:a:75:G:H2'	34:a:76:G:O4'	2.17	0.44
34:a:109:A:O2'	34:a:110:C:OP1	2.33	0.44
34:a:318:G:C6	34:a:319:G:C5	3.06	0.44
34:a:332:G:P	53:t:3:ILE:HD13	2.58	0.44
34:a:349:A:H2'	34:a:350:G:H8	1.83	0.44
34:a:354:G:C2	34:a:355:C:C4	3.05	0.44
34:a:444:G:C2	34:a:445:G:C4	3.06	0.44
34:a:511:C:O3'	37:d:40:HIS:CE1	2.71	0.44
34:a:518:C:H4'	34:a:519:C:H6	1.82	0.44
34:a:581:G:C4	34:a:758:C:N3	2.85	0.44
34:a:674:G:H21	44:k:117:HIS:HB2	1.83	0.44
34:a:717:U:N3	34:a:734:G:N7	2.65	0.44
34:a:746:A:H5'	34:a:836:G:H21	1.82	0.44
34:a:771:G:H2'	34:a:772:U:C6	2.53	0.44
34:a:1030:U:O4	34:a:1033:G:N2	2.51	0.44
34:a:1111:A:C6	34:a:1112:C:C4	3.06	0.44
34:a:1157:A:C8	34:a:1180:A:N6	2.86	0.44
34:a:1162:C:H2'	34:a:1163:A:C8	2.51	0.44
34:a:1351:U:C2	34:a:1352:C:C5	3.06	0.44
34:a:1357:A:OP2	34:a:1359:C:N4	2.51	0.44
34:a:1428:A:N6	34:a:1429:A:N6	2.66	0.44
34:a:1488:G:C2	34:a:1489:G:C4	3.06	0.44
35:b:26:MET:HE3	35:b:187:ASP:O	2.18	0.44
35:b:102:ASN:HA	35:b:104:LYS:NZ	2.33	0.44
36:c:12:GLY:HA2	36:c:17:TRP:CH2	2.53	0.44
37:d:123:MET:HA	37:d:127:ARG:O	2.17	0.44
38:e:113:VAL:HG21	38:e:136:VAL:HG12	2.00	0.44
39:f:2:ARG:HB2	39:f:4:TYR:HE1	1.81	0.44
39:f:37:HIS:CE1	39:f:65:GLU:HB2	2.53	0.44
39:f:97:THR:O	39:f:97:THR:HG23	2.18	0.44
41:h:39:LEU:O	41:h:44:PHE:N	2.51	0.44
44:k:115:ILE:HD13	51:r:72:ARG:HH22	1.83	0.44
46:m:87:GLY:O	46:m:91:ARG:HG3	2.18	0.44
47:n:35:ALA:O	47:n:37:SER:N	2.51	0.44
47:n:62:ASN:HD21	47:n:75:ARG:NE	2.14	0.44
52:s:38:THR:HA	52:s:69:LYS:CA	2.35	0.44
55:v:31:G:O6	55:v:40:C:N4	2.51	0.44
2:1:12:SER:HA	2:1:48:TYR:CD1	2.52	0.44
7:6:9:TYR:OH	13:F:101:ARG:NH2	2.51	0.44
8:A:49:A:C4	8:A:118:A:C6	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:68:G:C5	8:A:69:C:C4	3.05	0.44
8:A:291:G:C5	8:A:350:G:C6	3.05	0.44
8:A:376:G:H2'	8:A:377:G:H8	1.83	0.44
8:A:602:A:H4'	8:A:604:G:O3'	2.18	0.44
8:A:615:U:O4	12:E:39:ALA:N	2.50	0.44
8:A:764:A:OP1	10:C:212:TRP:HZ3	2.01	0.44
8:A:788:A:H3'	8:A:790:U:C4	2.53	0.44
8:A:798:G:P	12:E:56:GLY:H	2.41	0.44
8:A:855:G:C6	8:A:856:G:C5	3.05	0.44
8:A:1048:A:H2'	8:A:1049:C:H6	1.81	0.44
8:A:1069:A:H2'	8:A:1073:A:C5	2.53	0.44
8:A:1090:A:C8	8:A:1102:C:H1'	2.53	0.44
8:A:1112:G:H2'	8:A:1113:U:O4'	2.18	0.44
8:A:1132:U:H2'	8:A:1133:A:C5	2.53	0.44
8:A:1288:G:H1	21:N:105:GLY:HA3	1.82	0.44
8:A:1300:G:C6	8:A:1626:A:C4	3.06	0.44
8:A:1360:G:C6	8:A:1372:U:C2	3.05	0.44
8:A:1371:G:H2'	8:A:1372:U:C6	2.53	0.44
8:A:1763:G:H2'	8:A:1764:C:H5'	1.98	0.44
8:A:1770:G:N1	8:A:1982:U:O2	2.48	0.44
8:A:1823:G:N3	8:A:1824:G:C8	2.86	0.44
8:A:1925:C:O2'	8:A:1926:U:H6	2.01	0.44
8:A:2041:U:H2'	8:A:2042:A:H8	1.82	0.44
8:A:2199:A:C8	8:A:2200:C:C5	3.06	0.44
8:A:2230:G:C4	8:A:2231:U:C5	3.06	0.44
8:A:2289:G:O6	8:A:2343:U:N3	2.49	0.44
8:A:2508:G:H2'	8:A:2509:G:O4'	2.17	0.44
8:A:2535:G:C2	8:A:2536:G:C4	3.06	0.44
8:A:2543:G:N2	8:A:2646:C:H4'	2.33	0.44
8:A:2711:A:N6	8:A:2714:G:C8	2.86	0.44
8:A:2720:U:C4	8:A:2721:A:C5	3.05	0.44
8:A:2870:C:C4	8:A:2871:U:C4	3.06	0.44
11:D:146:ILE:HG13	11:D:147:GLY:N	2.33	0.44
11:D:176:ASP:O	11:D:190:LYS:N	2.47	0.44
11:D:187:LEU:O	11:D:188:LEU:HD23	2.18	0.44
12:E:198:GLU:O	12:E:201:ALA:N	2.45	0.44
13:F:32:LYS:O	13:F:156:THR:OG1	2.33	0.44
17:J:8:PRO:HA	17:J:11:VAL:HG22	2.00	0.44
18:K:102:PRO:HA	18:K:121:GLU:HB3	1.99	0.44
19:L:78:ARG:HD2	19:L:81:ASP:OD1	2.17	0.44
21:N:55:ALA:HA	21:N:80:PHE:CZ	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:77:SER:O	23:P:80:VAL:HG22	2.18	0.44
24:Q:74:SER:OG	24:Q:77:LYS:N	2.39	0.44
24:Q:75:TYR:O	24:Q:79:ILE:HG12	2.17	0.44
25:R:40:MET:HB3	25:R:40:MET:HE3	1.77	0.44
29:V:45:ASP:O	29:V:48:MET:HB3	2.18	0.44
31:X:39:VAL:HG21	31:X:46:VAL:HG23	1.98	0.44
34:a:9:G:C6	34:a:26:A:N6	2.86	0.44
34:a:22:G:H2'	34:a:23:C:H6	1.82	0.44
34:a:108:G:C2	53:t:9:ARG:HG3	2.52	0.44
34:a:198:G:C2	34:a:199:A:C5	3.06	0.44
34:a:299:G:H2'	34:a:300:A:C8	2.53	0.44
34:a:371:A:C6	34:a:391:G:C6	3.06	0.44
34:a:376:G:N3	34:a:377:G:C8	2.85	0.44
34:a:404:G:OP2	34:a:404:G:C8	2.69	0.44
34:a:446:G:C5	34:a:447:G:C5	3.05	0.44
34:a:505:G:H2'	34:a:506:G:C8	2.53	0.44
34:a:509:A:C4	34:a:510:A:C2	3.06	0.44
34:a:581:G:C8	34:a:758:C:N4	2.86	0.44
34:a:708:C:O2'	34:a:709:U:H5'	2.18	0.44
34:a:834:U:C2	34:a:852:G:O6	2.71	0.44
34:a:851:G:C6	34:a:852:G:N7	2.86	0.44
34:a:858:G:H3'	34:a:869:G:O6	2.18	0.44
34:a:870:U:C6	34:a:872:A:N1	2.86	0.44
34:a:943:U:H2'	34:a:944:G:C8	2.53	0.44
34:a:1047:G:H2'	34:a:1048:G:H8	1.82	0.44
34:a:1063:C:C4	34:a:1064:G:C5	3.05	0.44
34:a:1076:U:H3'	34:a:1077:G:H8	1.83	0.44
34:a:1130:A:H8	34:a:1130:A:P	2.40	0.44
34:a:1146:A:C5	34:a:1147:C:C4	3.06	0.44
34:a:1151:A:O3'	43:j:72:ARG:NH1	2.36	0.44
34:a:1169:A:C6	34:a:1170:A:C6	3.06	0.44
34:a:1310:G:H2'	34:a:1311:A:C8	2.52	0.44
34:a:1343:G:O3'	42:i:123:ARG:HG3	2.16	0.44
34:a:1482:G:H2'	34:a:1483:A:C4	2.52	0.44
35:b:19:THR:O	35:b:22:TRP:HD1	2.00	0.44
35:b:19:THR:C	35:b:21:TYR:H	2.26	0.44
35:b:124:THR:HG23	35:b:127:LYS:HB2	1.99	0.44
35:b:141:GLU:O	35:b:144:GLU:HG3	2.17	0.44
38:e:129:SER:OG	38:e:130:THR:N	2.51	0.44
39:f:36:ILE:HA	39:f:64:VAL:HA	2.00	0.44
39:f:74:LEU:HG	39:f:78:PHE:CE2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:i:6:TYR:HA	42:i:18:VAL:O	2.18	0.44
42:i:28:VAL:HG23	42:i:63:TYR:HD1	1.82	0.44
43:j:50:THR:OG1	43:j:63:ASP:O	2.33	0.44
44:k:12:ARG:HA	44:k:76:TYR:CD1	2.52	0.44
44:k:43:TRP:HZ3	44:k:45:THR:HG23	1.83	0.44
46:m:82:LEU:HB3	52:s:73:PHE:CE2	2.53	0.44
51:r:33:THR:N	51:r:37:LYS:O	2.39	0.44
52:s:11:ASP:HB3	52:s:14:LEU:HB3	2.00	0.44
55:v:21:A:N6	55:v:46:A:H1'	2.32	0.44
3:2:3:ARG:HH22	8:A:752:A:P	2.41	0.43
4:3:49:VAL:HB	4:3:54:LEU:HD21	2.00	0.43
4:3:53:ASP:OD1	4:3:53:ASP:N	2.51	0.43
6:5:80:THR:O	6:5:81:LEU:C	2.60	0.43
8:A:48:G:N1	8:A:178:G:C5	2.86	0.43
8:A:80:G:C4	8:A:81:G:C8	3.06	0.43
8:A:141:G:O2'	8:A:142:A:P	2.76	0.43
8:A:272:A:C5	8:A:273:G:N7	2.86	0.43
8:A:350:G:C6	8:A:351:C:C4	3.06	0.43
8:A:363:G:C2	8:A:364:C:C2	3.05	0.43
8:A:368:A:H2'	8:A:369:U:H1'	2.00	0.43
8:A:372:G:H2'	31:X:57:VAL:HG22	2.00	0.43
8:A:404:A:C6	8:A:421:C:C2	3.05	0.43
8:A:406:G:H2'	8:A:407:G:H8	1.82	0.43
8:A:415:A:C4	8:A:416:U:C6	3.06	0.43
8:A:424:G:N1	8:A:425:G:C5	2.86	0.43
8:A:463:G:N2	8:A:465:G:H3'	2.33	0.43
8:A:572:A:H2'	8:A:572:A:N3	2.32	0.43
8:A:597:G:N1	8:A:661:A:C6	2.86	0.43
8:A:700:G:C2	8:A:701:G:C4	3.06	0.43
8:A:765:C:C2	8:A:766:U:C5	3.06	0.43
8:A:776:G:O6	8:A:2072:C:P	2.70	0.43
8:A:809:G:H2'	8:A:810:U:C6	2.53	0.43
8:A:854:C:C2	8:A:924:G:C2	3.06	0.43
8:A:963:U:H2'	8:A:964:C:C6	2.52	0.43
8:A:974:G:C6	8:A:989:G:N7	2.86	0.43
8:A:1016:G:N1	8:A:1017:G:C5	2.86	0.43
8:A:1142:A:C2	8:A:1144:A:C8	3.05	0.43
8:A:1190:G:H2'	8:A:1191:G:C8	2.50	0.43
8:A:1303:G:N1	8:A:1304:A:C5	2.86	0.43
8:A:1419:A:C8	8:A:1579:A:N6	2.86	0.43
8:A:1464:G:C2	8:A:1465:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1532:A:H8	8:A:1532:A:OP2	2.01	0.43
8:A:1680:U:H2'	8:A:1681:G:O4'	2.18	0.43
8:A:1774:C:H2'	8:A:1774:C:O2	2.17	0.43
8:A:1786:A:C6	8:A:1938:A:C2	3.06	0.43
8:A:1811:G:C2	8:A:1812:U:C2	3.06	0.43
8:A:1811:G:H2'	8:A:1812:U:C6	2.53	0.43
8:A:1907:G:O2'	8:A:1908:C:H5"	2.18	0.43
8:A:1934:C:H2'	8:A:1935:G:O4'	2.17	0.43
8:A:2128:G:N3	8:A:2129:C:H4'	2.33	0.43
8:A:2251:OMG:C6	8:A:2252:G:C5	3.06	0.43
8:A:2254:C:H2'	8:A:2255:G:H8	1.83	0.43
8:A:2255:G:C4	8:A:2256:G:C8	3.05	0.43
8:A:2330:G:C2	8:A:2386:A:N1	2.86	0.43
8:A:2345:G:C2	8:A:2381:A:H2'	2.53	0.43
8:A:2355:G:C6	8:A:2363:G:C6	3.05	0.43
8:A:2528:U:H2'	8:A:2530:A:O5'	2.17	0.43
8:A:2550:G:O6	8:A:2551:C:N4	2.51	0.43
8:A:2638:G:OP1	11:D:83:ARG:NH1	2.36	0.43
8:A:2657:A:C8	8:A:2658:C:C5	3.05	0.43
8:A:2705:A:C4	8:A:2706:A:C8	3.05	0.43
8:A:2751:G:P	14:G:2:ARG:HH12	2.41	0.43
8:A:2786:U:O2	11:D:63:PRO:HB3	2.18	0.43
8:A:2816:G:H2'	8:A:2817:U:C6	2.53	0.43
10:C:131:MET:HG2	10:C:134:ILE:HB	2.00	0.43
11:D:2:ILE:HG21	11:D:90:PHE:CZ	2.51	0.43
11:D:121:THR:HB	11:D:127:PHE:CE1	2.53	0.43
17:J:31:GLU:CG	17:J:142:ILE:HD12	2.48	0.43
17:J:65:THR:H	17:J:68:LYS:HZ3	1.65	0.43
18:K:30:ARG:HH22	18:K:37:ASP:CG	2.24	0.43
24:Q:35:PHE:O	24:Q:39:ILE:N	2.45	0.43
24:Q:40:LYS:HE2	24:Q:40:LYS:HB2	1.83	0.43
25:R:73:LYS:HG2	25:R:75:VAL:HG23	2.00	0.43
27:T:7:LEU:O	27:T:10:VAL:N	2.48	0.43
34:a:55:A:C2	34:a:56:U:H1'	2.53	0.43
34:a:164:G:C4	34:a:165:G:C8	3.06	0.43
34:a:286:C:C2	34:a:287:U:C5	3.06	0.43
34:a:319:G:H2'	34:a:320:A:C8	2.51	0.43
34:a:399:G:C6	34:a:400:C:N4	2.86	0.43
34:a:448:A:N7	34:a:487:A:C5	2.86	0.43
34:a:507:C:C4	34:a:508:U:C4	3.05	0.43
34:a:524:G:C2	34:a:525:C:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:604:G:C6	34:a:635:A:N6	2.85	0.43
34:a:740:U:C5'	48:o:38:LEU:HD11	2.48	0.43
34:a:788:U:H4'	58:z:-2:A:H2	1.83	0.43
34:a:791:G:N2	34:a:1498:UR3:OP1	2.39	0.43
34:a:923:A:H2'	34:a:924:C:C6	2.53	0.43
34:a:936:C:N3	34:a:937:A:C8	2.86	0.43
34:a:948:C:H3'	46:m:104:ASN:HB3	1.99	0.43
34:a:1049:U:H5'	34:a:1201:A:OP1	2.18	0.43
34:a:1091:U:C2	34:a:1095:U:C4	3.06	0.43
34:a:1222:G:OP2	34:a:1322:C:N4	2.51	0.43
34:a:1426:G:H2'	34:a:1427:C:H6	1.83	0.43
34:a:1461:G:C6	34:a:1462:C:C4	3.05	0.43
34:a:1539:C:O3'	34:a:1540:U:H4'	2.17	0.43
37:d:3:TYR:O	37:d:4:LEU:HD23	2.18	0.43
37:d:141:VAL:CG1	37:d:179:GLY:H	2.30	0.43
38:e:45:VAL:HG23	38:e:116:VAL:HG23	2.00	0.43
38:e:113:VAL:HG11	38:e:139:THR:HG21	1.99	0.43
39:f:20:GLY:HA2	39:f:23:GLU:CD	2.42	0.43
39:f:72:ASP:HA	39:f:75:GLU:CG	2.48	0.43
43:j:36:VAL:HG22	43:j:38:GLY:H	1.82	0.43
46:m:89:ARG:HD2	46:m:94:LEU:HD12	1.99	0.43
47:n:43:ASN:O	47:n:46:LEU:HB2	2.18	0.43
53:t:30:PHE:CD2	53:t:56:ILE:HG21	2.53	0.43
55:v:15:G:N3	55:v:59:A:C6	2.86	0.43
56:w:18:G:O2'	56:w:57:G:N2	2.50	0.43
2:1:13:SER:N	2:1:47:ILE:O	2.51	0.43
2:1:40:PRO:O	2:1:43:ARG:HG3	2.18	0.43
4:3:24:LYS:HA	4:3:24:LYS:HD2	1.82	0.43
5:4:5:ALA:HB3	8:A:2466:C:H5'	2.01	0.43
5:4:19:ARG:NH1	8:A:2755:C:C4	2.85	0.43
8:A:19:A:H2'	8:A:20:C:O4'	2.17	0.43
8:A:196:A:N6	8:A:805:G:C2	2.86	0.43
8:A:231:A:H2'	8:A:232:G:C8	2.53	0.43
8:A:330:A:H8	8:A:1210:G:C5	2.37	0.43
8:A:397:U:H2'	8:A:398:C:H6	1.81	0.43
8:A:415:A:H2'	8:A:416:U:H6	1.81	0.43
8:A:419:U:H2'	8:A:420:C:C6	2.53	0.43
8:A:458:G:H22	8:A:469:G:H3'	1.83	0.43
8:A:703:U:C5	8:A:704:G:C5	3.05	0.43
8:A:843:G:C6	8:A:844:A:C6	3.05	0.43
8:A:900:A:H2'	8:A:901:C:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:965:C:C2	8:A:966:G:C8	3.06	0.43
8:A:1074:G:H8	8:A:1075:C:C5	2.35	0.43
8:A:1196:C:O2'	8:A:1226:A:H2'	2.18	0.43
8:A:1304:A:C6	8:A:1305:C:C4	3.06	0.43
8:A:1341:G:H4'	27:T:60:THR:O	2.18	0.43
8:A:1379:U:OP2	8:A:1380:G:OP2	2.34	0.43
8:A:1395:A:C8	8:A:1398:C:N4	2.86	0.43
8:A:1702:G:N1	8:A:1703:G:C5	2.86	0.43
8:A:1804:C:N4	8:A:1805:A:H62	2.16	0.43
8:A:1820:U:O4	10:C:158:GLY:HA3	2.18	0.43
8:A:2006:C:H5"	8:A:2048:G:H5"	1.98	0.43
8:A:2073:C:O2'	8:A:2074:U:H5'	2.18	0.43
8:A:2114:A:C2	8:A:2115:G:H1'	2.53	0.43
8:A:2186:G:N3	8:A:2187:U:H1'	2.33	0.43
8:A:2201:G:C6	8:A:2223:G:C2	3.05	0.43
8:A:2242:G:C2	8:A:2243:U:C2	3.06	0.43
8:A:2471:A:C6	8:A:2472:G:C4	3.06	0.43
8:A:2673:G:C4	8:A:2674:G:C8	3.06	0.43
8:A:2683:C:C2'	8:A:2684:U:H5'	2.42	0.43
11:D:36:GLN:HB3	11:D:49:GLN:CD	2.43	0.43
12:E:130:LYS:HA	12:E:130:LYS:HD3	1.89	0.43
17:J:51:GLY:O	17:J:121:LYS:NZ	2.46	0.43
18:K:2:ILE:HB	18:K:33:ALA:O	2.18	0.43
23:P:13:LYS:HD2	23:P:16:VAL:HG23	1.99	0.43
23:P:13:LYS:H	23:P:76:HIS:CE1	2.36	0.43
27:T:7:LEU:O	27:T:10:VAL:HG22	2.18	0.43
27:T:12:ARG:NE	27:T:12:ARG:HA	2.33	0.43
29:V:80:HIS:ND1	29:V:82:TYR:N	2.60	0.43
30:W:36:GLN:CB	30:W:40:LYS:HD2	2.47	0.43
34:a:59:A:H3'	34:a:60:A:C5'	2.48	0.43
34:a:107:G:C5	34:a:108:G:H1'	2.53	0.43
34:a:180:U:H2'	34:a:181:A:H8	1.83	0.43
34:a:184:G:H4'	34:a:225:C:P	2.59	0.43
34:a:226:G:C6	34:a:227:G:C5	3.06	0.43
34:a:292:G:N1	34:a:309:A:C6	2.87	0.43
34:a:332:G:H2'	34:a:333:U:H6	1.83	0.43
34:a:412:A:H62	34:a:431:A:N6	2.16	0.43
34:a:441:A:C5	34:a:442:G:N7	2.86	0.43
34:a:577:G:C4	34:a:816:A:C6	3.06	0.43
34:a:580:C:C4	34:a:581:G:C5	3.06	0.43
34:a:587:G:OP1	41:h:83:ARG:NH2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:606:G:P	34:a:607:A:H5'	2.59	0.43
34:a:665:A:H1'	34:a:733:G:H1'	1.99	0.43
34:a:728:A:OP1	48:o:53:ARG:NH2	2.48	0.43
34:a:942:G:H2'	34:a:942:G:N3	2.33	0.43
34:a:967:5MC:H5"	34:a:968:A:H2'	2.00	0.43
34:a:1265:C:C2	34:a:1266:G:C8	3.05	0.43
34:a:1313:U:OP2	52:s:4:LEU:N	2.33	0.43
34:a:1316:G:O6	52:s:6:LYS:NZ	2.41	0.43
34:a:1519:MA6:H8	34:a:1519:MA6:H3'	1.99	0.43
35:b:96:LEU:O	35:b:99:MET:HB2	2.18	0.43
41:h:43:GLY:O	41:h:45:ILE:N	2.51	0.43
41:h:110:MET:HB2	41:h:114:ALA:CB	2.48	0.43
55:v:67:C:O2'	55:v:68:C:H5'	2.18	0.43
1:0:51:ARG:HG3	1:0:53:VAL:CG1	2.47	0.43
8:A:544:C:H2'	8:A:545:U:C6	2.53	0.43
8:A:638:G:C5	8:A:639:U:C4	3.06	0.43
8:A:668:A:C6	8:A:670:A:C4	3.07	0.43
8:A:749:A:OP1	8:A:749:A:H8	2.01	0.43
8:A:759:G:C2	8:A:760:G:C4	3.06	0.43
8:A:777:G:O2'	10:C:47:ARG:NH2	2.51	0.43
8:A:815:C:C2	8:A:1193:G:N2	2.85	0.43
8:A:859:G:N3	8:A:916:G:C6	2.86	0.43
8:A:959:A:C6	8:A:960:A:N6	2.86	0.43
8:A:1002:G:C6	8:A:1003:G:C5	3.07	0.43
8:A:1097:U:H1'	16:I:29:GLN:CB	2.47	0.43
8:A:1175:A:H3'	8:A:1176:U:C5	2.54	0.43
8:A:1187:G:O2'	8:A:1188:U:H5'	2.17	0.43
8:A:1268:A:N3	8:A:2013:A:C6	2.86	0.43
8:A:1448:G:C6	8:A:1464:G:C6	3.06	0.43
8:A:1482:G:H2'	8:A:1483:G:H8	1.84	0.43
8:A:1499:C:N3	8:A:1500:G:C8	2.86	0.43
8:A:1572:A:C4	8:A:1573:G:C8	3.06	0.43
8:A:1661:G:C2	8:A:1662:U:C2	3.07	0.43
8:A:1680:U:H2'	8:A:1681:G:C8	2.53	0.43
8:A:1735:A:C6	8:A:1736:U:N3	2.86	0.43
8:A:1750:G:C2	8:A:1751:U:C2	3.06	0.43
8:A:1759:A:H2'	8:A:1760:C:H6	1.84	0.43
8:A:1764:C:C4	8:A:1765:U:C4	3.06	0.43
8:A:1818:U:OP2	10:C:155:ARG:NE	2.50	0.43
8:A:1823:G:C2	8:A:1824:G:C4	3.06	0.43
8:A:1905:C:H2'	8:A:1930:G:C4	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1932:A:N3	8:A:1969:A:C6	2.87	0.43
8:A:2437:G:H2'	8:A:2438:U:H6	1.84	0.43
8:A:2469:A:C2	8:A:2470:G:H1'	2.54	0.43
8:A:2515:C:H2'	8:A:2516:A:C8	2.43	0.43
8:A:2557:G:C4	8:A:2558:C:C5	3.07	0.43
8:A:2630:G:C4	8:A:2894:G:C2	3.06	0.43
8:A:2686:G:C6	8:A:2687:U:N3	2.87	0.43
8:A:2814:A:C4	8:A:2815:C:C6	3.06	0.43
8:A:2877:G:C2	8:A:2878:U:C2	3.06	0.43
10:C:34:GLU:HB3	10:C:61:TYR:HB3	2.00	0.43
10:C:113:ASP:OD1	10:C:113:ASP:N	2.51	0.43
11:D:157:LYS:HE3	11:D:157:LYS:HB3	1.71	0.43
13:F:143:ASP:OD2	13:F:144:LYS:HG2	2.19	0.43
15:H:114:GLU:HA	15:H:116:ARG:HH22	1.84	0.43
17:J:57:LEU:HD22	17:J:127:GLY:C	2.43	0.43
17:J:102:GLU:O	17:J:105:VAL:HG22	2.18	0.43
19:L:37:GLY:O	19:L:40:SER:HB3	2.17	0.43
20:M:39:GLY:O	20:M:96:ILE:HB	2.18	0.43
21:N:21:PHE:HB3	21:N:47:VAL:HG11	2.00	0.43
22:O:53:THR:HG23	22:O:74:VAL:HG23	2.00	0.43
23:P:7:LEU:HA	23:P:10:GLU:CD	2.43	0.43
29:V:21:ARG:NH1	29:V:27:PRO:HD2	2.34	0.43
29:V:21:ARG:HA	29:V:25:LYS:O	2.18	0.43
32:Y:10:SER:O	32:Y:14:LEU:HG	2.19	0.43
34:a:184:G:H2'	34:a:185:U:C6	2.53	0.43
34:a:301:G:C6	34:a:302:G:C5	3.06	0.43
34:a:342:C:C4	34:a:343:U:C4	3.05	0.43
34:a:346:G:N1	34:a:347:G:C4	2.86	0.43
34:a:450:G:OP1	34:a:452:A:OP1	2.36	0.43
34:a:515:G:O2'	34:a:516:PSU:O4'	2.31	0.43
34:a:538:G:C2	34:a:539:A:C4	3.06	0.43
34:a:687:A:OP2	34:a:687:A:C8	2.71	0.43
34:a:724:G:C2	34:a:725:G:C8	3.06	0.43
34:a:749:A:H2'	34:a:750:C:O4'	2.18	0.43
34:a:786:G:C6	34:a:787:A:C5	3.05	0.43
34:a:868:C:H3'	34:a:869:G:H8	1.82	0.43
34:a:902:G:H2'	34:a:903:G:H8	1.83	0.43
34:a:951:G:N1	34:a:1231:G:N7	2.67	0.43
34:a:978:A:C6	34:a:1318:A:C6	3.06	0.43
34:a:1019:A:H2'	34:a:1020:G:C8	2.53	0.43
34:a:1023:U:C6	34:a:1024:G:H1'	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1063:C:H3'	34:a:1064:G:C8	2.53	0.43
34:a:1072:G:C6	34:a:1104:G:N1	2.86	0.43
34:a:1239:A:C2	34:a:1296:C:C4	3.06	0.43
34:a:1264:U:C2	34:a:1272:G:N1	2.87	0.43
34:a:1380:U:C5	40:g:2:ARG:HD3	2.54	0.43
35:b:33:ALA:HA	35:b:39:ILE:HG12	1.99	0.43
36:c:24:ASN:O	36:c:28:PHE:N	2.51	0.43
38:e:158:LYS:HG2	38:e:159:SER:H	1.82	0.43
39:f:70:VAL:O	39:f:73:GLU:HB2	2.18	0.43
40:g:39:GLU:O	40:g:42:VAL:HG22	2.17	0.43
52:s:13:HIS:HB2	52:s:17:LYS:HZ1	1.82	0.43
52:s:39:ILE:HA	52:s:70:LEU:CD1	2.48	0.43
53:t:34:VAL:HG22	53:t:49:ALA:HB1	1.99	0.43
55:v:21:A:C4	55:v:48:C:C4	3.06	0.43
55:v:30:G:H2'	55:v:31:G:H8	1.83	0.43
55:v:55:PSU:H2'	55:v:57:A:P	2.58	0.43
56:w:14:A:C5	56:w:15:G:C4	3.06	0.43
4:3:8:GLY:O	4:3:11:LYS:N	2.51	0.43
7:6:58:ASP:O	7:6:62:LYS:HE3	2.18	0.43
8:A:95:A:H2'	8:A:96:C:O4'	2.18	0.43
8:A:192:C:H2'	8:A:192:C:O2	2.18	0.43
8:A:226:A:C6	8:A:227:A:C6	3.07	0.43
8:A:231:A:C5	8:A:232:G:C5	3.06	0.43
8:A:260:G:C5	8:A:261:G:C8	3.06	0.43
8:A:281:C:C2	8:A:282:A:C8	3.06	0.43
8:A:305:C:C2	8:A:313:G:C2	3.07	0.43
8:A:487:C:C4	8:A:488:G:C4	3.07	0.43
8:A:497:A:C4	8:A:498:G:C8	3.06	0.43
8:A:514:A:C8	8:A:514:A:OP2	2.71	0.43
8:A:530:G:H21	8:A:2035:G:C5'	2.31	0.43
8:A:535:G:C6	8:A:559:G:C6	3.07	0.43
8:A:539:G:C5	8:A:540:C:C4	3.06	0.43
8:A:616:A:H2'	8:A:617:G:H8	1.84	0.43
8:A:625:G:O2'	8:A:656:G:O2'	2.28	0.43
8:A:712:G:C4	8:A:713:G:C8	3.07	0.43
8:A:713:G:C6	8:A:714:U:C5	3.06	0.43
8:A:761:A:H5"	8:A:762:U:OP1	2.17	0.43
8:A:805:G:N2	8:A:831:G:C4	2.85	0.43
8:A:816:C:N4	8:A:1192:G:C6	2.86	0.43
8:A:923:G:N3	8:A:924:G:C8	2.86	0.43
8:A:1017:G:N1	8:A:1146:C:N3	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1031:G:C6	8:A:1124:G:C6	3.06	0.43
8:A:1196:C:H1'	8:A:1226:A:C2'	2.48	0.43
8:A:1203:U:H3'	8:A:1204:A:C8	2.53	0.43
8:A:1224:U:H4'	25:R:88:GLY:CA	2.49	0.43
8:A:1342:A:C5	8:A:1397:U:N3	2.87	0.43
8:A:1424:G:C6	8:A:1425:G:N1	2.86	0.43
8:A:1441:G:O6	8:A:1551:A:N6	2.51	0.43
8:A:1560:G:C6	8:A:1561:C:C4	3.07	0.43
8:A:1665:A:C5	8:A:1666:G:C8	3.06	0.43
8:A:1739:A:H3'	8:A:1740:G:H8	1.83	0.43
8:A:1916:A:O2'	8:A:1917:PSU:O4'	2.21	0.43
8:A:2028:U:H2'	8:A:2029:G:C8	2.54	0.43
8:A:2088:A:C6	8:A:2089:C:C4	3.06	0.43
8:A:2100:G:C4	8:A:2190:G:C2	3.06	0.43
8:A:2221:G:C6	8:A:2222:C:C4	3.07	0.43
8:A:2263:C:H2'	8:A:2264:C:C6	2.53	0.43
8:A:2564:A:N6	8:A:2647:U:H1'	2.33	0.43
8:A:2627:G:H8	8:A:2627:G:OP2	2.01	0.43
8:A:2631:G:C4	8:A:2632:A:C8	3.06	0.43
8:A:2658:C:P	14:G:159:LYS:HZ2	2.41	0.43
8:A:2683:C:O2	18:K:70:ARG:NH1	2.51	0.43
9:B:32:U:H2'	9:B:33:G:C8	2.53	0.43
9:B:92:C:C2	9:B:93:C:C5	3.06	0.43
10:C:42:ARG:N	10:C:42:ARG:HD2	2.32	0.43
10:C:57:HIS:CG	10:C:58:LYS:N	2.85	0.43
11:D:118:PHE:CD2	11:D:163:GLY:HA2	2.54	0.43
14:G:22:VAL:HB	14:G:35:THR:HA	2.00	0.43
14:G:100:ASN:OD1	14:G:120:ILE:HB	2.18	0.43
19:L:122:VAL:HG13	19:L:142:ILE:HA	2.00	0.43
23:P:58:PHE:CE1	23:P:73:PHE:HB2	2.53	0.43
27:T:38:ALA:HB3	27:T:81:LYS:NZ	2.33	0.43
31:X:30:PRO:O	31:X:32:LEU:HG	2.18	0.43
34:a:22:G:N3	34:a:23:C:C5	2.86	0.43
34:a:53:A:N6	34:a:359:G:O6	2.50	0.43
34:a:262:A:C2	34:a:263:A:C6	3.07	0.43
34:a:348:G:C4	34:a:349:A:C8	3.06	0.43
34:a:431:A:C5	34:a:432:A:C8	3.06	0.43
34:a:487:A:C2	34:a:488:C:H1'	2.53	0.43
34:a:617:G:C2	34:a:624:C:C2	3.07	0.43
34:a:667:G:C4	34:a:668:G:C8	3.06	0.43
34:a:681:A:N6	34:a:710:G:O6	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:743:A:H2'	34:a:744:C:C6	2.53	0.43
34:a:836:G:H2'	34:a:837:U:O4'	2.17	0.43
34:a:881:G:C2	34:a:882:C:C2	3.06	0.43
34:a:886:G:O6	34:a:912:C:N4	2.51	0.43
34:a:1034:G:C5	34:a:1035:A:N7	2.87	0.43
34:a:1079:G:N1	34:a:1080:A:C5	2.87	0.43
34:a:1148:U:H5'	42:i:6:TYR:HH	1.84	0.43
34:a:1151:A:O2'	34:a:1152:A:H8	2.01	0.43
34:a:1166:G:H3'	34:a:1168:U:OP1	2.17	0.43
34:a:1186:G:C2	34:a:1187:G:C8	3.06	0.43
34:a:1207:2MG:C5	34:a:1208:C:C5	3.06	0.43
34:a:1220:G:C4	34:a:1221:G:C8	3.06	0.43
34:a:1266:G:H22	34:a:1268:G:H3'	1.83	0.43
36:c:11:LEU:HD22	36:c:17:TRP:CD2	2.53	0.43
36:c:160:GLU:N	36:c:160:GLU:OE1	2.51	0.43
37:d:31:CYS:SG	37:d:32:LYS:N	2.91	0.43
38:e:80:LEU:H	38:e:97:PRO:HB3	1.84	0.43
43:j:28:THR:HG21	43:j:87:LEU:HA	2.00	0.43
44:k:56:LYS:HB3	44:k:56:LYS:HE2	1.63	0.43
45:l:39:THR:HG22	45:l:51:VAL:HG21	2.00	0.43
45:l:44:PRO:HD2	45:l:45:ASN:HD21	1.83	0.43
48:o:3:SER:OG	48:o:5:GLU:OE1	2.35	0.43
48:o:83:ARG:HB3	48:o:84:LEU:HD12	1.99	0.43
51:r:21:ASP:OD1	51:r:23:LYS:HG3	2.18	0.43
51:r:32:ILE:HG13	51:r:37:LYS:O	2.19	0.43
52:s:57:VAL:HG22	52:s:59:VAL:HG23	1.99	0.43
7:6:1:MET:CA	9:B:43:C:H5"	2.46	0.43
8:A:247:G:O3'	8:A:386:G:N2	2.51	0.43
8:A:379:G:C6	8:A:396:G:C5	3.06	0.43
8:A:393:C:H2'	8:A:394:C:C6	2.54	0.43
8:A:482:A:N6	8:A:506:G:O2'	2.52	0.43
8:A:513:A:H2'	8:A:514:A:C8	2.54	0.43
8:A:579:G:N7	8:A:1262:A:N6	2.67	0.43
8:A:601:C:H2'	8:A:602:A:O4'	2.19	0.43
8:A:668:A:C5	8:A:670:A:C8	3.07	0.43
8:A:724:U:C4	8:A:725:G:C5	3.06	0.43
8:A:857:G:H1'	30:W:22:PHE:CE2	2.53	0.43
8:A:871:U:C4	8:A:907:G:O6	2.72	0.43
8:A:904:G:H2'	8:A:905:A:H8	1.82	0.43
8:A:992:C:N3	8:A:1163:G:N1	2.67	0.43
8:A:1008:A:N6	8:A:1136:G:C6	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1149:G:H2'	8:A:1150:C:H6	1.83	0.43
8:A:1203:U:P	8:A:1204:A:H5"	2.58	0.43
8:A:1218:G:H2'	8:A:1219:U:C6	2.53	0.43
8:A:1247:A:C5	8:A:1249:U:C4	3.06	0.43
8:A:1265:A:N6	8:A:2013:A:H3'	2.33	0.43
8:A:1266:G:N2	8:A:2012:G:C4	2.86	0.43
8:A:1287:A:OP1	21:N:103:ARG:HB3	2.19	0.43
8:A:1306:C:N3	8:A:1623:G:C6	2.86	0.43
8:A:1337:G:C6	8:A:1338:G:C6	3.07	0.43
8:A:1378:A:C4	8:A:1380:G:N7	2.86	0.43
8:A:1550:C:O2'	8:A:1551:A:H5'	2.19	0.43
8:A:1665:A:H1'	18:K:1:MET:CB	2.46	0.43
8:A:1665:A:N6	8:A:1996:C:H42	2.17	0.43
8:A:1666:G:C6	8:A:1667:G:C6	3.06	0.43
8:A:1707:G:C4	8:A:1708:C:C6	3.06	0.43
8:A:1830:C:C2	8:A:1831:G:N7	2.86	0.43
8:A:1850:G:C6	8:A:1851:U:N3	2.86	0.43
8:A:1911:PSU:C2	8:A:1918:A:C4	3.06	0.43
8:A:1916:A:N7	8:A:1917:PSU:C4	2.87	0.43
8:A:2082:A:C6	8:A:2239:G:C6	3.07	0.43
8:A:2088:A:C5	8:A:2089:C:C4	3.07	0.43
8:A:2257:U:H2'	8:A:2258:C:H6	1.80	0.43
8:A:2307:G:O4'	8:A:2308:G:C4	2.71	0.43
8:A:2445:2MG:C2'	8:A:2446:G:C8	2.97	0.43
8:A:2507:C:C2	8:A:2583:G:C2	3.07	0.43
8:A:2525:G:N1	8:A:2539:C:C4	2.86	0.43
8:A:2547:A:O3'	18:K:29:HIS:NE2	2.51	0.43
8:A:2625:G:C2	8:A:2626:C:C2	3.06	0.43
8:A:2691:C:C4	8:A:2719:G:N2	2.86	0.43
8:A:2816:G:C4	8:A:2831:G:C2	3.07	0.43
9:B:16:G:H2'	9:B:17:C:H6	1.81	0.43
9:B:37:C:N3	9:B:48:U:O2'	2.49	0.43
13:F:122:ASP:OD1	13:F:124:ARG:N	2.51	0.43
13:F:168:LEU:HD23	13:F:169:LEU:HG	2.00	0.43
15:H:40:THR:N	15:H:43:ASN:HB2	2.33	0.43
15:H:45:GLU:HG3	15:H:46:PHE:N	2.33	0.43
18:K:30:ARG:NH2	18:K:33:ALA:HA	2.34	0.43
19:L:29:LYS:C	19:L:30:THR:HG23	2.44	0.43
19:L:101:ILE:HG13	19:L:102:GLY:N	2.34	0.43
23:P:77:SER:OG	23:P:80:VAL:HG22	2.18	0.43
27:T:69:ARG:CZ	27:T:74:ILE:HB	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:U:16:LYS:HG3	28:U:17:ASP:OD1	2.18	0.43
28:U:25:LYS:HD2	28:U:36:GLU:N	2.33	0.43
34:a:136:C:C2	34:a:137:U:C5	3.07	0.43
34:a:149:A:C5	34:a:150:U:C4	3.07	0.43
34:a:301:G:C4	34:a:302:G:C8	3.07	0.43
34:a:436:C:H2'	34:a:437:U:C6	2.52	0.43
34:a:570:G:H5"	34:a:820:U:C5'	2.49	0.43
34:a:618:C:O2'	49:p:14:ARG:NH2	2.52	0.43
34:a:629:A:N1	34:a:630:A:C2	2.87	0.43
34:a:654:G:N2	34:a:755:G:H5'	2.33	0.43
34:a:661:G:O2'	34:a:662:U:H5'	2.18	0.43
34:a:679:C:H2'	34:a:680:C:H6	1.79	0.43
34:a:709:U:C2	34:a:710:G:C8	3.06	0.43
34:a:719:C:H42	51:r:62:ARG:NH1	2.15	0.43
34:a:937:A:H1'	34:a:1379:G:C2	2.53	0.43
34:a:954:G:C5	34:a:955:U:C4	3.07	0.43
34:a:991:U:O2	34:a:1212:U:O2'	2.37	0.43
34:a:1014:A:C6	34:a:1015:G:C6	3.07	0.43
34:a:1032:G:N7	34:a:1033:G:C5	2.86	0.43
34:a:1091:U:O2'	34:a:1093:A:N7	2.30	0.43
34:a:1321:U:H2'	34:a:1322:C:C5	2.54	0.43
34:a:1484:C:H2'	34:a:1485:U:O4'	2.19	0.43
37:d:113:ALA:O	37:d:117:VAL:HG23	2.17	0.43
37:d:146:GLU:CG	37:d:149:LYS:HE3	2.48	0.43
42:i:43:ALA:O	42:i:47:VAL:HG13	2.18	0.43
45:l:65:TYR:CE2	45:l:67:GLY:HA2	2.53	0.43
47:n:30:ILE:HG23	47:n:41:ARG:CG	2.48	0.43
50:q:8:GLN:HA	50:q:58:VAL:O	2.19	0.43
54:u:3:ILE:O	54:u:5:VAL:N	2.49	0.43
55:v:56:C:C2	55:v:57:A:C8	3.06	0.43
56:w:24:G:C6	56:w:25:C:C4	3.07	0.43
56:w:29:G:C4	56:w:30:G:C8	3.07	0.43
2:1:38:PHE:CE2	8:A:2348:U:H1'	2.54	0.43
4:3:6:VAL:HG11	4:3:60:CYS:HB2	1.99	0.43
7:6:5:ILE:HB	13:F:63:LYS:CB	2.48	0.43
8:A:372:G:C4	31:X:60:LYS:HE3	2.53	0.43
8:A:381:G:C2	8:A:394:C:N3	2.87	0.43
8:A:383:C:H3'	8:A:385:C:C5	2.53	0.43
8:A:496:G:C5	8:A:497:A:C8	3.07	0.43
8:A:715:A:O2'	8:A:716:A:OP1	2.34	0.43
8:A:730:A:H2'	8:A:731:C:C6	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:776:G:C6	8:A:793:A:C8	3.07	0.43
8:A:1049:C:C4	8:A:1050:A:N7	2.87	0.43
8:A:1137:G:H1'	8:A:2039:U:OP1	2.18	0.43
8:A:1140:C:OP2	17:J:72:LYS:NZ	2.42	0.43
8:A:1206:G:C4	8:A:1207:C:C5	3.06	0.43
8:A:1277:G:C6	8:A:1278:C:C4	3.06	0.43
8:A:1470:A:C5	8:A:1471:G:C5	3.07	0.43
8:A:1513:U:H2'	8:A:1514:G:C8	2.54	0.43
8:A:1665:A:C5	8:A:1666:G:N7	2.86	0.43
8:A:1669:A:H2'	8:A:1669:A:N3	2.34	0.43
8:A:1713:A:H8	8:A:1713:A:OP1	2.00	0.43
8:A:1718:G:H2'	8:A:1719:G:C8	2.54	0.43
8:A:1721:G:C2	8:A:1738:G:C5	3.06	0.43
8:A:1887:C:H2'	8:A:1888:G:O4'	2.19	0.43
8:A:1936:A:C2	8:A:1945:G:C8	3.06	0.43
8:A:1952:A:C6	8:A:1953:A:C6	3.06	0.43
8:A:2171:A:O2'	8:A:2172:U:H5'	2.19	0.43
8:A:2295:C:C4	8:A:2296:U:C4	3.07	0.43
8:A:2356:U:C2	8:A:2361:G:N1	2.72	0.43
8:A:2413:G:C6	8:A:2414:G:C5	3.07	0.43
8:A:2589:A:N1	8:A:2590:A:C5	2.87	0.43
8:A:2643:G:C4	8:A:2644:G:C8	3.07	0.43
8:A:2684:U:H3'	8:A:2684:U:OP2	2.19	0.43
8:A:2851:A:C6	8:A:2852:G:C5	3.07	0.43
8:A:2881:U:C2	8:A:2882:A:N7	2.86	0.43
9:B:18:G:H3'	9:B:19:C:H6	1.84	0.43
10:C:179:GLU:HG2	10:C:268:ARG:O	2.18	0.43
10:C:270:ARG:NH1	10:C:271:SER:HB3	2.34	0.43
11:D:149:ASN:C	11:D:151:THR:N	2.73	0.43
13:F:49:LEU:HA	13:F:52:ALA:HB3	1.99	0.43
14:G:139:VAL:HA	14:G:142:GLN:HB3	2.01	0.43
15:H:90:LEU:HD21	15:H:146:VAL:HG11	2.00	0.43
18:K:19:VAL:HA	18:K:43:ILE:HA	2.00	0.43
20:M:129:THR:HG23	20:M:131:VAL:HG13	2.01	0.43
21:N:36:THR:C	21:N:110:MET:HE3	2.44	0.43
24:Q:57:ARG:NH2	24:Q:61:ILE:HD11	2.33	0.43
28:U:28:LEU:HD12	28:U:29:SER:H	1.83	0.43
33:Z:40:THR:OG1	33:Z:43:ILE:HG12	2.17	0.43
34:a:18:C:O5'	38:e:131:ASN:ND2	2.51	0.43
34:a:53:A:H8	34:a:53:A:OP2	2.02	0.43
34:a:162:A:H3'	34:a:163:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:398:U:H2'	34:a:399:G:C8	2.52	0.43
34:a:410:G:C2	34:a:429:U:C2	3.07	0.43
34:a:458:U:O2	34:a:474:G:C2	2.71	0.43
34:a:651:C:H2'	34:a:652:U:C6	2.54	0.43
34:a:711:G:N3	34:a:712:A:C8	2.86	0.43
34:a:840:C:N3	34:a:847:G:C6	2.87	0.43
34:a:843:U:H3'	34:a:844:G:C5	2.53	0.43
34:a:860:A:C4	34:a:861:G:C8	3.07	0.43
34:a:994:A:H2'	34:a:995:C:C6	2.54	0.43
34:a:1008:U:C2	34:a:1022:A:H1'	2.54	0.43
34:a:1099:G:C6	34:a:1100:C:C2	3.06	0.43
34:a:1122:U:H2'	34:a:1123:U:H6	1.83	0.43
34:a:1123:U:H1'	43:j:39:PRO:HG2	2.00	0.43
34:a:1167:A:N7	34:a:1169:A:N6	2.65	0.43
34:a:1218:C:O2'	34:a:1219:A:H5'	2.18	0.43
34:a:1294:G:C6	34:a:1295:U:N3	2.87	0.43
34:a:1343:G:H4'	42:i:123:ARG:HG3	2.01	0.43
34:a:1347:G:C5	42:i:108:ARG:CZ	3.01	0.43
34:a:1392:G:C2	34:a:1393:U:C4	3.07	0.43
34:a:1417:G:N2	34:a:1483:A:H62	2.02	0.43
34:a:1516:2MG:N2	34:a:1519:MA6:OP1	2.49	0.43
35:b:45:THR:HG22	35:b:200:PRO:HB2	2.00	0.43
37:d:22:SER:HB3	37:d:108:ALA:HB1	2.01	0.43
37:d:98:ASP:OD2	37:d:132:ALA:HB1	2.19	0.43
38:e:108:GLY:C	38:e:110:MET:N	2.77	0.43
42:i:114:LYS:HZ3	42:i:121:ARG:HE	1.64	0.43
44:k:25:SER:HG	44:k:28:ASN:H	1.66	0.43
45:l:1:ALA:O	45:l:2:THR:OG1	2.36	0.43
45:l:38:THR:HG23	45:l:49:ARG:C	2.44	0.43
47:n:48:LEU:O	47:n:51:LEU:HB2	2.18	0.43
55:v:51:C:N3	55:v:64:G:N1	2.67	0.43
1:0:43:THR:C	1:0:45:ASP:H	2.27	0.43
8:A:170:U:C2	8:A:171:U:C5	3.06	0.43
8:A:226:A:C2	8:A:227:A:C4	3.07	0.43
8:A:300:A:OP2	8:A:300:A:H8	2.02	0.43
8:A:303:G:N1	8:A:315:G:C6	2.87	0.43
8:A:516:C:H2'	8:A:517:C:C6	2.53	0.43
8:A:543:G:H2'	8:A:544:C:H6	1.82	0.43
8:A:647:G:C6	8:A:648:G:C5	3.06	0.43
8:A:672:C:N4	8:A:809:G:O6	2.52	0.43
8:A:693:A:N6	8:A:770:G:O6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:764:A:H1'	10:C:211:ARG:CZ	2.48	0.43
8:A:955:PSU:O2	8:A:956:G:C6	2.72	0.43
8:A:1029:A:H2'	8:A:1030:C:O4'	2.19	0.43
8:A:1057:A:C2	8:A:1086:A:C5	3.07	0.43
8:A:1225:G:C5	8:A:1226:A:C6	3.07	0.43
8:A:1232:G:C5	8:A:1233:C:C5	3.06	0.43
8:A:1309:G:C2	8:A:1310:G:C8	3.06	0.43
8:A:1361:G:C6	8:A:1362:C:C4	3.06	0.43
8:A:1378:A:C4	8:A:1380:G:C8	3.07	0.43
8:A:1557:C:OP2	8:A:1557:C:H6	2.02	0.43
8:A:1596:A:O2'	8:A:1597:A:H5'	2.18	0.43
8:A:1628:G:C2	8:A:1639:C:C2	3.07	0.43
8:A:1907:G:C5	8:A:1908:C:C4	3.07	0.43
8:A:1936:A:H5'	8:A:1937:A:C5	2.54	0.43
8:A:2038:G:C5	8:A:2039:U:C4	3.06	0.43
8:A:2146:C:O2'	8:A:2148:G:C6	2.67	0.43
8:A:2147:A:H8	8:A:2147:A:O5'	2.01	0.43
8:A:2285:C:H5"	8:A:2286:G:OP2	2.19	0.43
8:A:2298:A:C2	8:A:2299:U:H1'	2.54	0.43
8:A:2351:G:H1'	8:A:2367:G:H22	1.83	0.43
8:A:2351:G:N2	8:A:2365:G:H2'	2.34	0.43
8:A:2373:G:C6	8:A:2374:C:C4	3.07	0.43
8:A:2478:A:C4	8:A:2479:U:C6	3.07	0.43
8:A:2626:C:N3	8:A:2627:G:C6	2.87	0.43
8:A:2787:C:H1'	11:D:63:PRO:HG3	2.00	0.43
9:B:28:C:H2'	9:B:29:A:O4'	2.19	0.43
11:D:136:ASN:HD21	11:D:139:SER:CB	2.32	0.43
14:G:116:LEU:HD13	14:G:120:ILE:HG21	2.00	0.43
14:G:163:TYR:H	14:G:166:GLU:HB3	1.84	0.43
18:K:65:THR:HA	18:K:82:ASN:HA	1.99	0.43
23:P:24:THR:HG22	23:P:86:LYS:HB2	2.00	0.43
23:P:48:ALA:HA	23:P:95:LYS:HG3	2.01	0.43
28:U:39:ASN:C	28:U:41:VAL:HG13	2.43	0.43
34:a:77:A:HO2'	34:a:78:A:P	2.40	0.43
34:a:184:G:H2'	34:a:185:U:H6	1.84	0.43
34:a:204:G:C6	34:a:205:A:C8	3.07	0.43
34:a:227:G:C6	34:a:228:A:C6	3.06	0.43
34:a:258:G:H5"	53:t:81:GLN:HE22	1.83	0.43
34:a:348:G:N3	34:a:349:A:C8	2.87	0.43
34:a:584:G:C6	34:a:585:G:C6	3.06	0.43
34:a:689:C:C4	34:a:690:G:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:708:C:C2	34:a:709:U:C5	3.07	0.43
34:a:909:A:H2'	34:a:909:A:N3	2.33	0.43
34:a:916:U:H2'	34:a:917:G:H8	1.84	0.43
34:a:926:G:H5"	34:a:927:G:C5'	2.48	0.43
34:a:937:A:C2	34:a:938:A:C8	3.07	0.43
34:a:945:G:C6	34:a:1337:G:N1	2.86	0.43
34:a:978:A:C5	34:a:1318:A:N6	2.87	0.43
34:a:1066:C:H2'	34:a:1067:A:C8	2.53	0.43
34:a:1184:G:C4	34:a:1185:G:C8	3.07	0.43
34:a:1371:G:H2'	34:a:1372:U:H6	1.84	0.43
34:a:1480:A:O2'	34:a:1481:U:H5'	2.19	0.43
34:a:1507:A:H2'	34:a:1508:A:O4'	2.19	0.43
36:c:92:ASP:OD1	36:c:93:ILE:N	2.52	0.43
36:c:107:LYS:O	36:c:109:GLU:N	2.52	0.43
36:c:109:GLU:N	36:c:109:GLU:CD	2.77	0.43
36:c:133:MET:HG2	36:c:167:TYR:HD2	1.83	0.43
37:d:26:ALA:O	37:d:30:LYS:HB2	2.18	0.43
37:d:170:LEU:HD23	37:d:170:LEU:HA	1.74	0.43
39:f:11:HIS:CG	39:f:12:PRO:HD2	2.53	0.43
46:m:15:VAL:HG22	46:m:40:GLU:O	2.19	0.43
47:n:62:ASN:HB3	47:n:73:PHE:CG	2.53	0.43
48:o:24:THR:HB	48:o:65:LEU:HD22	2.00	0.43
55:v:16:C:C2	55:v:59:A:H2	2.35	0.43
55:v:17:C:P	55:v:18:G:H5'	2.58	0.43
55:v:29:G:N1	55:v:42:G:C6	2.86	0.43
1:0:3:GLN:OE1	1:0:6:LYS:HA	2.18	0.43
4:3:54:LEU:HA	4:3:57:VAL:HB	2.01	0.43
8:A:228:C:H42	8:A:417:C:C2'	2.32	0.43
8:A:271:G:O2'	8:A:272:A:O5'	2.33	0.43
8:A:342:A:C6	8:A:343:C:C4	3.07	0.43
8:A:459:U:C4	8:A:470:A:N7	2.87	0.43
8:A:489:G:C6	8:A:491:G:C4	3.07	0.43
8:A:563:A:C6	8:A:2018:G:C5	3.06	0.43
8:A:573:U:HO2'	8:A:574:A:H3'	1.84	0.43
8:A:638:G:C5	8:A:651:G:N2	2.87	0.43
8:A:681:G:C6	8:A:797:G:C6	3.07	0.43
8:A:730:A:N3	8:A:731:C:C6	2.87	0.43
8:A:799:G:C5	8:A:800:A:C5	3.07	0.43
8:A:840:C:H4'	8:A:1192:G:O2'	2.19	0.43
8:A:925:A:H2'	8:A:926:G:H8	1.83	0.43
8:A:970:U:H3'	8:A:971:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1106:G:C6	8:A:1107:G:C5	3.07	0.43
8:A:1112:G:C6	8:A:1113:U:C4	3.06	0.43
8:A:1118:C:H2'	8:A:1119:U:C6	2.54	0.43
8:A:1238:G:H2'	8:A:1239:G:H8	1.84	0.43
8:A:1255:U:C5	12:E:68:ALA:HA	2.53	0.43
8:A:1319:C:N3	8:A:1334:G:C6	2.86	0.43
8:A:1424:G:C5	8:A:1425:G:C6	3.07	0.43
8:A:1586:A:C6	8:A:1587:G:C4	3.06	0.43
8:A:1688:U:H1'	8:A:1701:A:C5	2.54	0.43
8:A:1731:G:C2	8:A:1733:G:C4	3.07	0.43
8:A:1749:A:H2'	8:A:1750:G:H8	1.84	0.43
8:A:1759:A:H2'	8:A:1760:C:C6	2.53	0.43
8:A:1785:A:C6	8:A:1787:A:C4	3.07	0.43
8:A:1796:U:H2'	8:A:1797:G:C8	2.54	0.43
8:A:1799:G:H1	8:A:1819:A:P	2.39	0.43
8:A:1869:G:C2	8:A:1873:G:C6	3.06	0.43
8:A:1932:A:C4	8:A:1969:A:C6	3.06	0.43
8:A:2040:G:H3'	8:A:2041:U:H6	1.83	0.43
8:A:2142:A:C5	8:A:2143:C:N4	2.87	0.43
8:A:2157:G:H2'	8:A:2158:A:C4	2.54	0.43
8:A:2295:C:OP1	22:O:10:ARG:NH2	2.51	0.43
8:A:2341:G:C2	8:A:2342:C:C2	3.06	0.43
8:A:2360:G:C2	8:A:2428:G:C2	3.07	0.43
8:A:2468:A:P	8:A:2476:A:H61	2.42	0.43
8:A:2505:G:C4	8:A:2576:G:C5	3.07	0.43
8:A:2563:U:H4'	18:K:27:GLY:C	2.43	0.43
8:A:2594:C:C4	8:A:2595:G:C5	3.07	0.43
8:A:2819:G:C2	8:A:2828:G:C5	3.06	0.43
8:A:2821:A:P	21:N:3:HIS:CE1	3.12	0.43
8:A:2875:C:P	21:N:4:ARG:HH12	2.42	0.43
9:B:31:C:H2'	9:B:53:A:H61	1.84	0.43
9:B:76:G:H2'	9:B:77:U:H6	1.83	0.43
10:C:40:GLY:O	10:C:42:ARG:NH1	2.52	0.43
11:D:8:LYS:NZ	11:D:195:GLY:O	2.32	0.43
11:D:15:PHE:HB3	23:P:78:PRO:CG	2.49	0.43
12:E:104:ALA:O	12:E:107:SER:OG	2.33	0.43
12:E:149:ILE:HD12	12:E:188:MET:HB2	2.01	0.43
15:H:9:VAL:HB	15:H:13:GLY:HA3	2.00	0.43
15:H:75:LEU:HG	15:H:76:GLU:H	1.83	0.43
17:J:57:LEU:HB3	17:J:58:ASN:HD22	1.83	0.43
19:L:136:GLU:HG2	19:L:140:GLY:C	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:M:42:THR:CA	20:M:93:VAL:HG12	2.48	0.43
20:M:105:MET:HE3	20:M:108:VAL:HG21	2.00	0.43
24:Q:23:TYR:HB3	24:Q:27:ARG:HB3	2.00	0.43
26:S:26:GLY:HA2	26:S:71:VAL:O	2.18	0.43
28:U:48:VAL:C	28:U:53:GLN:HB3	2.44	0.43
30:W:64:LYS:HZ2	30:W:79:GLU:CD	2.23	0.43
34:a:26:A:H61	34:a:558:G:C2'	2.32	0.43
34:a:32:A:H61	34:a:553:A:N6	2.17	0.43
34:a:35:G:C6	34:a:36:C:N4	2.86	0.43
34:a:64:G:C2	34:a:69:G:C6	3.07	0.43
34:a:82:G:N2	34:a:86:G:O2'	2.36	0.43
34:a:154:U:H2'	34:a:155:A:C8	2.54	0.43
34:a:361:G:C6	34:a:362:G:N2	2.87	0.43
34:a:373:A:H1'	34:a:481:G:C8	2.52	0.43
34:a:553:A:N3	34:a:554:A:C8	2.87	0.43
34:a:621:A:H2'	34:a:622:A:O4'	2.19	0.43
34:a:763:G:H2'	34:a:764:C:H6	1.83	0.43
34:a:1074:G:H2'	34:a:1075:U:O4'	2.18	0.43
34:a:1088:G:C4	34:a:1089:G:C8	3.07	0.43
34:a:1129:C:O3'	34:a:1130:A:H8	2.01	0.43
34:a:1138:G:C2	34:a:1140:C:C5	3.07	0.43
34:a:1348:U:O2	34:a:1349:A:C8	2.72	0.43
36:c:87:ARG:HD2	36:c:99:GLN:HA	2.01	0.43
37:d:54:LEU:C	37:d:58:GLN:HE22	2.27	0.43
37:d:58:GLN:O	37:d:62:ARG:HB2	2.19	0.43
40:g:75:LYS:HD2	40:g:76:SER:H	1.83	0.43
43:j:54:SER:C	43:j:56:HIS:H	2.26	0.43
46:m:58:GLU:HA	46:m:61:LYS:HG3	2.00	0.43
46:m:68:LEU:HA	46:m:71:GLU:OE1	2.19	0.43
46:m:97:ARG:HB2	46:m:99:GLN:NE2	2.33	0.43
54:u:21:SER:HA	54:u:24:LYS:HB2	2.01	0.43
55:v:37:A:C6	55:v:38:A:C5	3.07	0.43
2:1:24:LYS:HB3	2:1:26:LYS:NZ	2.34	0.43
3:2:26:ASN:CG	8:A:682:G:H5"	2.44	0.43
4:3:43:LEU:C	4:3:45:PRO:HD2	2.43	0.43
8:A:75:G:C4	8:A:76:C:C5	3.07	0.43
8:A:188:G:C5	8:A:189:G:C5	3.06	0.43
8:A:213:A:H2'	8:A:214:G:C8	2.54	0.43
8:A:247:G:P	8:A:249:C:H41	2.41	0.43
8:A:303:G:C6	8:A:315:G:C6	3.06	0.43
8:A:335:C:H2'	8:A:336:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:500:G:OP1	28:U:42:LYS:HE3	2.19	0.43
8:A:606:U:H5"	12:E:97:ASN:OD1	2.18	0.43
8:A:616:A:C5	8:A:617:G:C5	3.07	0.43
8:A:622:G:C4	8:A:623:C:C5	3.06	0.43
8:A:702:U:H5'	8:A:703:U:OP2	2.18	0.43
8:A:780:G:C4	8:A:785:G:C6	3.07	0.43
8:A:833:A:H2'	8:A:834:G:H8	1.82	0.43
8:A:996:A:N6	8:A:1160:G:C6	2.87	0.43
8:A:1166:G:C4	8:A:1167:C:C5	3.06	0.43
8:A:1173:U:O3'	8:A:1174:U:H4'	2.18	0.43
8:A:1228:G:C4	8:A:1229:C:C5	3.06	0.43
8:A:1308:A:C4	8:A:1309:G:C8	3.06	0.43
8:A:1319:C:C2	8:A:1320:C:C5	3.07	0.43
8:A:1349:C:N3	8:A:1350:C:N4	2.67	0.43
8:A:1407:G:C6	8:A:1596:A:C6	3.06	0.43
8:A:1440:U:N3	8:A:1441:G:N7	2.67	0.43
8:A:1458:U:H5'	8:A:1459:G:N2	2.34	0.43
8:A:1511:G:C6	8:A:1512:C:C4	3.07	0.43
8:A:1586:A:H2'	8:A:1587:G:O4'	2.19	0.43
8:A:1642:G:C4	8:A:1643:G:C8	3.07	0.43
8:A:1722:A:C2	8:A:1739:A:H1'	2.54	0.43
8:A:1801:A:C5	10:C:261:ARG:CZ	3.02	0.43
8:A:1897:G:H2'	8:A:1898:U:O4'	2.17	0.43
8:A:2066:C:C2	8:A:2067:G:N7	2.87	0.43
8:A:2075:U:N3	8:A:2238:G:C6	2.86	0.43
8:A:2108:A:H2	8:A:2182:U:N3	2.16	0.43
8:A:2118:U:N3	8:A:2147:A:N1	2.66	0.43
8:A:2210:U:OP1	8:A:2210:U:H6	2.02	0.43
8:A:2286:G:C8	8:A:2287:A:C6	3.07	0.43
8:A:2323:G:C2	8:A:2324:U:C2	3.07	0.43
8:A:2327:A:C2	8:A:2328:A:C5	3.06	0.43
8:A:2337:G:H2'	8:A:2338:C:H6	1.84	0.43
8:A:2337:G:C4	8:A:2338:C:C5	3.07	0.43
8:A:2352:A:H3'	8:A:2353:G:H8	1.84	0.43
8:A:2436:G:C2	8:A:2437:G:C5	3.06	0.43
8:A:2468:A:H3'	8:A:2476:A:N1	2.34	0.43
8:A:2478:A:H2'	8:A:2479:U:C6	2.53	0.43
8:A:2489:U:C2'	8:A:2490:G:C8	2.97	0.43
8:A:2516:A:C4	8:A:2569:G:N2	2.87	0.43
8:A:2564:A:C2	8:A:2647:U:H4'	2.54	0.43
8:A:2638:G:C6	8:A:2775:G:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2644:G:H2'	8:A:2645:G:C2	2.54	0.43
8:A:2809:A:C6	8:A:2810:A:C5	3.07	0.43
8:A:2826:A:C5	8:A:2827:C:C5	3.06	0.43
8:A:2868:A:C6	8:A:2869:G:C6	3.07	0.43
9:B:13:G:H21	9:B:69:G:N2	2.16	0.43
10:C:30:ALA:O	10:C:32:LEU:N	2.52	0.43
10:C:32:LEU:HD12	10:C:32:LEU:HA	1.78	0.43
10:C:74:PRO:HG3	10:C:116:GLN:NE2	2.33	0.43
10:C:144:GLU:CD	10:C:188:ARG:H	2.23	0.43
11:D:114:LYS:N	11:D:116:LYS:HZ2	2.16	0.43
12:E:194:LYS:O	12:E:198:GLU:HG2	2.19	0.43
14:G:44:HIS:HA	14:G:49:LEU:HD13	2.01	0.43
18:K:98:ARG:NH2	34:a:337:G:OP2	2.46	0.43
18:K:102:PRO:HB3	18:K:121:GLU:HG3	2.00	0.43
20:M:10:ARG:NH1	20:M:11:LYS:HE2	2.34	0.43
23:P:47:ILE:HG21	23:P:61:ARG:CB	2.49	0.43
25:R:40:MET:SD	25:R:49:ILE:HA	2.59	0.43
25:R:78:ARG:O	25:R:81:LYS:HB2	2.18	0.43
28:U:12:VAL:HG12	28:U:18:LYS:HA	2.00	0.43
34:a:41:G:C4	34:a:42:G:C8	3.07	0.43
34:a:109:A:C2	34:a:326:G:N1	2.87	0.43
34:a:186:C:C4	34:a:187:G:C6	3.07	0.43
34:a:230:G:O5'	49:p:31:ARG:NH2	2.52	0.43
34:a:244:U:O4	34:a:893:C:C4	2.69	0.43
34:a:270:A:H2'	34:a:271:C:H6	1.84	0.43
34:a:282:A:C4	34:a:283:U:C6	3.07	0.43
34:a:592:G:C6	34:a:593:U:C4	3.07	0.43
34:a:777:A:C5	34:a:778:G:C5	3.07	0.43
34:a:794:A:C6	34:a:795:C:N3	2.87	0.43
34:a:855:U:H2'	34:a:856:C:H6	1.83	0.43
34:a:929:G:O6	34:a:1389:C:N4	2.52	0.43
34:a:1026:G:H3'	34:a:1026:G:N3	2.34	0.43
34:a:1051:C:H42	34:a:1208:C:N4	2.17	0.43
34:a:1060:U:C2	34:a:1061:G:C8	3.06	0.43
34:a:1081:A:C4	34:a:1082:A:C8	3.07	0.43
34:a:1207:2MG:C6	34:a:1208:C:C4	3.07	0.43
34:a:1497:G:H3'	34:a:1498:UR3:H3U3	2.01	0.43
35:b:41:ASN:O	35:b:45:THR:HG23	2.19	0.43
36:c:39:ARG:HA	36:c:54:ILE:HG21	2.01	0.43
36:c:66:THR:HG23	36:c:101:ASN:OD1	2.19	0.43
37:d:3:TYR:C	37:d:4:LEU:HD23	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:g:19:SER:OG	40:g:22:LEU:HB2	2.18	0.43
44:k:19:VAL:O	44:k:21:HIS:CD2	2.72	0.43
45:l:119:LYS:HZ3	45:l:119:LYS:HG2	1.68	0.43
46:m:12:LYS:HB3	46:m:16:ILE:HG22	1.99	0.43
2:1:37:LYS:HB2	2:1:48:TYR:CD2	2.54	0.43
8:A:301:G:C2	8:A:302:C:C2	3.07	0.43
8:A:308:G:C2	8:A:309:A:C2	3.07	0.43
8:A:407:G:C2	8:A:421:C:N3	2.87	0.43
8:A:452:G:C6	8:A:453:A:C5	3.07	0.43
8:A:697:G:H2'	8:A:698:C:C6	2.53	0.43
8:A:715:A:C5	8:A:716:A:C5	3.07	0.43
8:A:732:C:C4	8:A:733:G:C5	3.06	0.43
8:A:782:A:OP1	8:A:782:A:H8	2.02	0.43
8:A:813:U:C4	8:A:1195:G:N1	2.87	0.43
8:A:837:C:H2'	8:A:838:C:H5'	1.99	0.43
8:A:869:G:H2'	8:A:870:U:O4'	2.19	0.43
8:A:979:A:C4	8:A:982:C:N4	2.87	0.43
8:A:1088:A:H5'	8:A:1089:A:OP1	2.19	0.43
8:A:1141:U:H4'	8:A:1142:A:O5'	2.17	0.43
8:A:1287:A:C6	8:A:1288:G:C6	3.06	0.43
8:A:1422:G:N1	8:A:1576:U:C2	2.79	0.43
8:A:1596:A:C2	8:A:1597:A:C4	3.06	0.43
8:A:1643:G:O2'	8:A:1644:C:O5'	2.25	0.43
8:A:1797:G:C6	8:A:1823:G:C6	3.07	0.43
8:A:1954:G:C2	8:A:2551:C:H5"	2.54	0.43
8:A:2150:C:H2'	8:A:2151:U:C4	2.53	0.43
8:A:2262:U:C2	8:A:2263:C:C5	3.06	0.43
8:A:2283:C:C2	8:A:2389:G:N2	2.87	0.43
8:A:2289:G:C2	8:A:2344:U:O2	2.72	0.43
8:A:2298:A:H3'	8:A:2299:U:H6	1.81	0.43
8:A:2311:A:H5'	13:F:76:PHE:HE2	1.83	0.43
8:A:2349:G:C6	8:A:2369:A:C6	3.06	0.43
8:A:2412:A:C5	8:A:2413:G:C5	3.07	0.43
8:A:2452:C:N4	57:y:101:FME:O1	2.51	0.43
8:A:2456:C:H2'	8:A:2457:PSU:H6	1.83	0.43
8:A:2463:C:H2'	8:A:2464:G:C8	2.53	0.43
8:A:2495:G:O2'	20:M:82:MET:SD	2.77	0.43
8:A:2633:G:H8	8:A:2633:G:OP2	2.02	0.43
9:B:33:G:O2'	9:B:34:A:H5'	2.19	0.43
9:B:110:C:C4	9:B:111:U:C4	3.07	0.43
10:C:51:ARG:HE	10:C:52:HIS:CE1	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:117:GLY:HA2	11:D:164:GLN:OE1	2.19	0.43
11:D:146:ILE:CG1	11:D:147:GLY:N	2.82	0.43
12:E:37:ALA:HA	12:E:40:ARG:HG3	2.00	0.43
15:H:95:GLY:H	15:H:98:ASP:HB2	1.84	0.43
16:I:109:ALA:O	16:I:113:ALA:HB2	2.19	0.43
22:O:24:THR:N	22:O:42:PRO:HG3	2.33	0.43
22:O:26:LEU:CD1	22:O:39:VAL:HG22	2.49	0.43
23:P:43:GLU:H	23:P:62:LYS:NZ	2.16	0.43
25:R:81:LYS:HD3	25:R:81:LYS:HA	1.43	0.43
26:S:73:LYS:O	26:S:106:VAL:HG12	2.19	0.43
28:U:7:ASP:HA	28:U:23:LYS:HZ3	1.84	0.43
28:U:51:LEU:HG	28:U:52:ASN:OD1	2.18	0.43
30:W:49:CYS:HA	30:W:55:LEU:HD23	2.01	0.43
31:X:32:LEU:HA	31:X:50:VAL:O	2.18	0.43
34:a:14:U:H3	34:a:16:A:H5"	1.83	0.43
34:a:54:C:H2'	34:a:352:C:H41	1.84	0.43
34:a:134:G:C5	34:a:135:C:C4	3.07	0.43
34:a:148:G:H22	34:a:174:A:H2	1.67	0.43
34:a:192:A:C6	34:a:193:C:C4	3.07	0.43
34:a:416:G:N1	34:a:427:U:N3	2.27	0.43
34:a:450:G:H5"	49:p:41:PRO:HB2	2.01	0.43
34:a:463:U:H2'	34:a:464:U:C2	2.54	0.43
34:a:541:G:C4	34:a:542:G:C8	3.07	0.43
34:a:552:U:N3	34:a:553:A:N7	2.66	0.43
34:a:665:A:C2	34:a:733:G:C8	3.07	0.43
34:a:669:G:C2	34:a:738:C:N3	2.87	0.43
34:a:710:G:C2	34:a:711:G:C5	3.06	0.43
34:a:734:G:O2'	51:r:59:LYS:HD3	2.19	0.43
34:a:833:G:C4	34:a:834:U:C5	3.07	0.43
34:a:1075:U:H2'	34:a:1076:U:C6	2.54	0.43
34:a:1279:G:H1'	34:a:1282:C:N4	2.34	0.43
34:a:1307:U:H3'	46:m:97:ARG:NH1	2.33	0.43
34:a:1513:A:N6	34:a:1523:G:O6	2.52	0.43
35:b:107:ARG:HB3	35:b:108:GLN:NE2	2.33	0.43
37:d:205:LYS:HA	37:d:205:LYS:HD2	1.86	0.43
42:i:26:LYS:HE3	42:i:26:LYS:HB3	1.89	0.43
44:k:43:TRP:CZ3	44:k:45:THR:HG23	2.54	0.43
48:o:38:LEU:HA	48:o:38:LEU:HD13	1.85	0.43
49:p:47:GLU:C	49:p:49:GLY:N	2.76	0.43
3:2:32:ALA:O	3:2:35:ARG:N	2.52	0.42
8:A:9:G:C6	8:A:2629:U:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:80:G:C2	8:A:107:G:C2	3.07	0.42
8:A:251:A:H5'	19:L:47:ARG:NH1	2.34	0.42
8:A:272:A:C4	8:A:273:G:C8	3.07	0.42
8:A:287:G:H2'	8:A:288:U:C6	2.54	0.42
8:A:379:G:O6	8:A:395:U:C2	2.71	0.42
8:A:588:U:H2'	8:A:589:U:H6	1.84	0.42
8:A:638:G:C6	8:A:651:G:C2	3.07	0.42
8:A:690:G:H5"	8:A:781:A:OP1	2.19	0.42
8:A:693:A:H2'	8:A:694:U:C6	2.54	0.42
8:A:700:G:C6	8:A:701:G:C5	3.07	0.42
8:A:784:G:N7	8:A:792:A:C5	2.87	0.42
8:A:811:U:C4	19:L:21:ARG:CZ	3.02	0.42
8:A:859:G:C4	8:A:916:G:C6	3.07	0.42
8:A:938:G:N3	8:A:939:G:C8	2.87	0.42
8:A:956:G:OP2	20:M:86:LYS:NZ	2.35	0.42
8:A:1022:G:C6	8:A:1140:C:N3	2.86	0.42
8:A:1163:G:C2	8:A:1164:C:C6	3.07	0.42
8:A:1182:G:C6	8:A:1183:U:C4	3.07	0.42
8:A:1203:U:O2'	19:L:4:ASN:ND2	2.52	0.42
8:A:1341:G:C6	27:T:84:TYR:CE2	3.06	0.42
8:A:1389:G:N1	8:A:1399:C:C4	2.87	0.42
8:A:1445:G:H2'	8:A:1446:C:H6	1.84	0.42
8:A:1465:G:H2'	8:A:1466:U:C6	2.54	0.42
8:A:1473:G:C2	8:A:1519:G:C2	3.07	0.42
8:A:1480:C:H2'	8:A:1481:U:O4'	2.19	0.42
8:A:1696:G:N1	8:A:1697:G:C2	2.87	0.42
8:A:1731:G:C5	8:A:1733:G:N7	2.87	0.42
8:A:1784:A:O2'	8:A:1785:A:OP2	2.34	0.42
8:A:1789:A:C4	8:A:1790:C:C5	3.07	0.42
8:A:1807:G:H1'	8:A:1811:G:N2	2.33	0.42
8:A:1807:G:C2'	8:A:1809:A:H62	2.30	0.42
8:A:1821:A:H2'	8:A:1822:C:H6	1.77	0.42
8:A:1825:U:H4'	10:C:231:HIS:HE1	1.84	0.42
8:A:2052:A:OP1	11:D:146:ILE:HG23	2.19	0.42
8:A:2139:U:C4	8:A:2154:A:N6	2.86	0.42
8:A:2216:G:C2	8:A:2217:G:C5	3.07	0.42
8:A:2298:A:H3'	8:A:2299:U:C6	2.54	0.42
8:A:2342:C:C4	8:A:2343:U:C4	3.07	0.42
8:A:2397:G:C5	8:A:2420:C:N3	2.86	0.42
8:A:2421:G:C5	55:v:76:A:C2	3.07	0.42
8:A:2489:U:H2'	8:A:2490:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2526:G:C2	8:A:2538:C:C2	3.07	0.42
8:A:2618:G:C6	8:A:2619:C:C4	3.07	0.42
8:A:2683:C:H2'	8:A:2683:C:O2	2.18	0.42
8:A:2715:C:C4	8:A:2716:C:C5	3.07	0.42
8:A:2868:A:C4	8:A:2869:G:C8	3.07	0.42
9:B:104:A:C6	9:B:105:G:C4	3.07	0.42
10:C:204:LEU:HD22	10:C:213:ARG:NE	2.34	0.42
11:D:62:LYS:HB2	11:D:63:PRO:HD3	1.99	0.42
11:D:110:THR:CG2	11:D:169:ARG:HH11	2.32	0.42
11:D:124:ARG:HD3	11:D:125:TRP:NE1	2.34	0.42
14:G:11:PRO:O	14:G:14:VAL:HG22	2.18	0.42
15:H:12:LEU:HD23	15:H:12:LEU:HA	1.88	0.42
15:H:37:VAL:HG22	15:H:43:ASN:HD21	1.83	0.42
17:J:73:VAL:HG11	17:J:75:TYR:CE2	2.54	0.42
17:J:92:MET:HA	17:J:95:ARG:HB2	2.01	0.42
18:K:92:GLU:OE1	18:K:92:GLU:N	2.34	0.42
20:M:71:LYS:N	20:M:92:TRP:HE3	2.17	0.42
21:N:73:ASN:O	21:N:76:VAL:HB	2.19	0.42
23:P:24:THR:HB	23:P:87:ARG:HB3	2.01	0.42
28:U:16:LYS:NZ	28:U:39:ASN:HA	2.33	0.42
29:V:29:ILE:HA	29:V:39:ALA:HA	2.00	0.42
34:a:231:U:P	49:p:31:ARG:HH12	2.42	0.42
34:a:511:C:C2	34:a:512:U:C5	3.07	0.42
34:a:537:G:C2	34:a:538:G:C5	3.07	0.42
34:a:556:C:C2	34:a:557:G:C8	3.07	0.42
34:a:592:G:C4	34:a:593:U:C5	3.07	0.42
34:a:650:G:C4	34:a:651:C:C6	3.07	0.42
34:a:685:G:C2	34:a:686:U:N3	2.87	0.42
34:a:766:A:H1'	34:a:814:A:N1	2.34	0.42
34:a:782:A:N6	34:a:800:G:H21	2.17	0.42
34:a:829:G:C4	34:a:830:G:C8	3.07	0.42
34:a:1085:U:O4'	34:a:1094:G:C2	2.72	0.42
34:a:1176:A:C6	34:a:1177:G:C5	3.06	0.42
34:a:1428:A:C5	34:a:1473:G:C6	3.07	0.42
36:c:21:TRP:CZ3	36:c:58:ARG:HD2	2.54	0.42
36:c:37:LYS:O	36:c:40:GLN:HB3	2.19	0.42
36:c:120:THR:HG21	36:c:186:SER:OG	2.18	0.42
38:e:39:GLY:HA2	38:e:45:VAL:HA	2.00	0.42
39:f:47:LEU:HG	39:f:55:HIS:HA	2.01	0.42
42:i:80:HIS:CE1	42:i:105:ARG:HA	2.54	0.42
52:s:46:LEU:O	52:s:60:PHE:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:u:20:ARG:O	54:u:24:LYS:HG2	2.18	0.42
55:v:44:A:C4	55:v:45:G:C8	3.07	0.42
6:5:103:ASN:O	6:5:109:LYS:HA	2.19	0.42
7:6:20:ASN:ND2	7:6:39:LYS:H	2.10	0.42
8:A:38:A:C6	8:A:442:G:N1	2.87	0.42
8:A:56:A:H2'	8:A:57:C:O4'	2.19	0.42
8:A:78:U:O4	8:A:108:G:O6	2.36	0.42
8:A:151:C:C2	8:A:152:A:N7	2.87	0.42
8:A:329:G:C2	8:A:477:A:C2	3.07	0.42
8:A:538:A:C6	8:A:539:G:C4	3.07	0.42
8:A:556:A:O5'	8:A:557:C:H5	2.03	0.42
8:A:577:G:H5'	8:A:2502:G:N2	2.33	0.42
8:A:636:G:N7	19:L:109:LYS:HE2	2.34	0.42
8:A:643:A:C6	8:A:644:A:C6	3.06	0.42
8:A:661:A:H2'	8:A:662:G:C8	2.54	0.42
8:A:703:U:C4	8:A:704:G:C5	3.07	0.42
8:A:780:G:N1	8:A:782:A:N1	2.66	0.42
8:A:920:A:C5	8:A:921:C:C5	3.06	0.42
8:A:976:G:C2	8:A:977:G:C5	3.07	0.42
8:A:1157:G:P	8:A:1158:C:OP2	2.77	0.42
8:A:1183:U:O3'	33:Z:29:ARG:CZ	2.67	0.42
8:A:1275:A:C5	21:N:16:HIS:HA	2.53	0.42
8:A:1310:G:C6	8:A:1605:C:N4	2.88	0.42
8:A:1369:G:C6	8:A:1370:C:C4	3.07	0.42
8:A:1384:A:H1'	8:A:1405:U:O4'	2.19	0.42
8:A:1416:G:N2	8:A:1583:A:H1'	2.33	0.42
8:A:1417:C:N4	8:A:1418:G:O6	2.52	0.42
8:A:1436:G:H2'	8:A:1437:C:C6	2.55	0.42
8:A:1684:G:C4	8:A:1685:C:C5	3.06	0.42
8:A:1697:G:H2'	8:A:1698:A:C8	2.53	0.42
8:A:1703:G:C2	8:A:1704:C:C2	3.06	0.42
8:A:1878:G:C6	8:A:1879:C:C4	3.07	0.42
8:A:2080:A:C5	8:A:2081:U:C4	3.07	0.42
8:A:2094:A:O2'	15:H:11:ASN:OD1	2.36	0.42
8:A:2193:G:H2'	8:A:2194:U:C6	2.54	0.42
8:A:2204:G:C6	8:A:2221:G:C6	3.07	0.42
8:A:2311:A:H1'	13:F:84:ILE:HD11	2.01	0.42
8:A:2312:U:H2'	13:F:36:ASN:HD21	1.84	0.42
8:A:2313:C:C5'	13:F:87:LYS:HD3	2.46	0.42
8:A:2578:G:N3	8:A:2579:C:C6	2.87	0.42
8:A:2690:U:C4	8:A:2873:A:N1	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2737:G:H2'	8:A:2738:A:C8	2.54	0.42
9:B:51:G:H22	9:B:53:A:H62	1.68	0.42
10:C:82:TYR:CZ	10:C:84:PRO:HD3	2.54	0.42
10:C:198:GLU:OE1	10:C:198:GLU:N	2.50	0.42
10:C:209:ALA:HA	10:C:212:TRP:CE2	2.54	0.42
11:D:3:GLY:O	11:D:4:LEU:HD12	2.19	0.42
12:E:141:MET:HB2	12:E:143:LEU:HG	2.01	0.42
17:J:13:ARG:HD3	17:J:121:LYS:NZ	2.34	0.42
17:J:31:GLU:HG3	17:J:142:ILE:HD12	2.00	0.42
20:M:12:MET:SD	20:M:71:LYS:HG3	2.58	0.42
20:M:54:THR:O	20:M:58:LYS:HA	2.19	0.42
30:W:65:PHE:CE1	30:W:76:ILE:HD11	2.54	0.42
31:X:33:HIS:O	31:X:49:ARG:HA	2.19	0.42
34:a:33:A:H2'	34:a:34:C:H6	1.84	0.42
34:a:72:A:H2'	34:a:73:C:H6	1.84	0.42
34:a:253:A:H3'	34:a:253:A:OP2	2.17	0.42
34:a:305:G:H4'	34:a:306:A:C5'	2.49	0.42
34:a:377:G:C8	34:a:377:G:OP2	2.72	0.42
34:a:415:A:C6	34:a:416:G:C4	3.07	0.42
34:a:454:G:C2	34:a:455:G:C5	3.07	0.42
34:a:500:G:O3'	45:l:120:ARG:NH1	2.45	0.42
34:a:612:C:H2'	34:a:613:C:H6	1.83	0.42
34:a:652:U:C4	34:a:752:G:N3	2.87	0.42
34:a:661:G:C2	34:a:745:G:C2	3.07	0.42
34:a:764:C:C2	34:a:765:G:H1'	2.54	0.42
34:a:818:G:N2	34:a:820:U:HO2'	2.17	0.42
34:a:949:A:H3'	34:a:950:U:C6	2.54	0.42
34:a:958:A:H2'	34:a:959:A:N3	2.33	0.42
34:a:1176:A:C5	34:a:1177:G:N7	2.87	0.42
34:a:1213:A:C4	34:a:1215:G:C8	3.07	0.42
34:a:1323:G:C6	34:a:1324:A:C6	3.07	0.42
34:a:1338:G:H21	55:v:41:C:C2'	2.33	0.42
35:b:65:LYS:HE2	35:b:158:ASP:CG	2.43	0.42
38:e:134:ASN:HA	38:e:137:ARG:HB2	2.00	0.42
42:i:20:ILE:HA	42:i:61:ASP:O	2.19	0.42
44:k:23:HIS:HD2	44:k:30:ILE:HD12	1.84	0.42
47:n:64:CYS:HB3	47:n:68:GLY:N	2.33	0.42
52:s:13:HIS:HB2	52:s:17:LYS:NZ	2.34	0.42
52:s:45:GLY:O	52:s:46:LEU:HD22	2.20	0.42
55:v:19:G:C2	55:v:57:A:N3	2.87	0.42
55:v:70:G:C4	55:v:71:C:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:46:G:C6	8:A:180:G:N1	2.87	0.42
8:A:240:C:O2'	8:A:257:C:N4	2.52	0.42
8:A:310:A:P	28:U:14:THR:HG23	2.59	0.42
8:A:342:A:H2'	8:A:343:C:C6	2.54	0.42
8:A:363:G:H2'	8:A:364:C:C6	2.53	0.42
8:A:491:G:H2'	8:A:492:A:H8	1.83	0.42
8:A:536:G:C6	8:A:537:G:C4	3.07	0.42
8:A:688:U:O4'	8:A:1780:A:N6	2.52	0.42
8:A:792:A:C4	8:A:2440:C:C2	3.06	0.42
8:A:813:U:C2	8:A:1195:G:C2	3.07	0.42
8:A:850:U:H3	8:A:927:A:H61	1.66	0.42
8:A:990:A:H5'	8:A:1157:G:OP1	2.19	0.42
8:A:1079:C:O2	8:A:1082:U:H5	2.02	0.42
8:A:1093:G:H2'	8:A:1093:G:N3	2.34	0.42
8:A:1289:C:C2	8:A:1290:C:C5	3.07	0.42
8:A:1433:A:H2'	8:A:1434:A:C8	2.54	0.42
8:A:1468:U:C4	8:A:1524:G:O6	2.72	0.42
8:A:1521:G:C6	8:A:1522:A:C6	3.08	0.42
8:A:1799:G:H5"	10:C:257:ARG:HH12	1.84	0.42
8:A:2134:A:H2'	8:A:2135:A:O4'	2.18	0.42
8:A:2223:G:C6	8:A:2224:G:C4	3.07	0.42
8:A:2234:G:C2	8:A:2235:G:C4	3.08	0.42
8:A:2269:G:C6	8:A:2270:A:C4	3.06	0.42
8:A:2417:C:C2	8:A:2418:A:C8	3.08	0.42
8:A:2465:C:C2	8:A:2466:C:C5	3.08	0.42
8:A:2497:A:H8	8:A:2497:A:OP2	2.02	0.42
8:A:2718:G:C5	8:A:2719:G:C5	3.07	0.42
8:A:2845:U:H2'	8:A:2846:G:O4'	2.19	0.42
9:B:28:C:H2'	9:B:29:A:C8	2.55	0.42
10:C:77:VAL:HA	10:C:93:VAL:HG12	2.00	0.42
10:C:254:LYS:NZ	10:C:256:THR:HG22	2.33	0.42
11:D:1:MET:HG3	11:D:205:PRO:HG2	2.01	0.42
14:G:38:ASP:OD1	14:G:39:ALA:N	2.52	0.42
14:G:101:VAL:HG13	14:G:114:HIS:C	2.44	0.42
18:K:61:VAL:HG12	18:K:87:LEU:HD21	2.01	0.42
25:R:68:ARG:CZ	25:R:90:ARG:HD3	2.49	0.42
29:V:20:LEU:HA	29:V:23:ALA:HB3	2.01	0.42
34:a:171:A:C5	34:a:172:A:C5	3.08	0.42
34:a:268:U:H2'	34:a:269:C:C6	2.54	0.42
34:a:283:U:C2	34:a:284:C:C6	3.07	0.42
34:a:298:A:H2'	34:a:299:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:448:A:C5	34:a:487:A:C4	3.06	0.42
34:a:515:G:C6	34:a:516:PSU:C2	3.08	0.42
34:a:582:C:C4	34:a:760:G:C6	3.07	0.42
34:a:583:A:H1'	34:a:759:A:N6	2.34	0.42
34:a:592:G:O6	34:a:648:A:N6	2.53	0.42
34:a:628:G:N1	34:a:629:A:C6	2.87	0.42
34:a:669:G:N1	34:a:738:C:C4	2.87	0.42
34:a:678:U:O2'	34:a:778:G:OP1	2.24	0.42
34:a:680:C:H6	34:a:680:C:OP2	2.01	0.42
34:a:771:G:C5	34:a:809:G:N1	2.88	0.42
34:a:808:C:C2	34:a:809:G:N7	2.88	0.42
34:a:1003:G:H3'	34:a:1004:A:C5'	2.48	0.42
34:a:1008:U:H2'	34:a:1009:U:O4'	2.19	0.42
34:a:1087:G:C5	34:a:1099:G:C2	3.07	0.42
34:a:1154:G:N3	34:a:1155:A:C8	2.87	0.42
34:a:1177:G:H2'	34:a:1178:G:C8	2.55	0.42
34:a:1256:A:H5'	34:a:1258:G:C1'	2.47	0.42
34:a:1262:C:H2'	34:a:1263:C:H6	1.84	0.42
34:a:1307:U:H3'	34:a:1308:U:H6	1.84	0.42
34:a:1363:A:H2'	34:a:1365:G:C8	2.54	0.42
34:a:1447:A:O5'	34:a:1448:C:H5	2.03	0.42
34:a:1450:U:O2'	34:a:1453:G:O6	2.25	0.42
34:a:1492:A:C6	34:a:1493:A:N6	2.88	0.42
34:a:1511:G:C6	34:a:1525:G:C6	3.07	0.42
35:b:72:LYS:HE2	35:b:72:LYS:HB3	1.74	0.42
35:b:95:TRP:CZ3	35:b:99:MET:HE3	2.54	0.42
35:b:96:LEU:H	35:b:99:MET:HE2	1.83	0.42
35:b:184:ALA:N	35:b:199:ILE:HD12	2.35	0.42
36:c:117:ASP:O	36:c:121:SER:OG	2.37	0.42
36:c:205:GLU:N	36:c:205:GLU:OE2	2.52	0.42
37:d:54:LEU:CD2	37:d:58:GLN:HE22	2.30	0.42
37:d:90:LEU:HD23	37:d:93:LEU:HD12	2.01	0.42
39:f:14:GLN:HG2	39:f:83:ALA:HA	2.01	0.42
42:i:16:ALA:N	42:i:77:ALA:HB1	2.34	0.42
43:j:35:GLN:HG2	43:j:77:VAL:O	2.20	0.42
45:l:56:LEU:C	45:l:59:GLY:H	2.26	0.42
45:l:90:PRO:O	45:l:92:VAL:HG23	2.19	0.42
46:m:57:ASP:O	46:m:60:ALA:HB3	2.19	0.42
47:n:80:SER:O	47:n:84:VAL:HG23	2.19	0.42
53:t:53:MET:HE1	53:t:75:LYS:HG2	2.01	0.42
53:t:71:ALA:HA	53:t:74:HIS:HD2	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:v:26:G:C4	55:v:27:U:C5	3.07	0.42
56:w:30:G:C2	56:w:31:A:C8	3.07	0.42
56:w:30:G:C2	56:w:41:C:N3	2.87	0.42
2:1:7:LYS:O	2:1:7:LYS:HG3	2.20	0.42
8:A:44:A:H8	8:A:44:A:OP2	2.02	0.42
8:A:118:A:OP2	8:A:119:A:H5"	2.18	0.42
8:A:217:A:C5	8:A:218:A:C5	3.07	0.42
8:A:346:A:C6	8:A:347:A:C4	3.07	0.42
8:A:417:C:C2	8:A:2407:A:C2	3.08	0.42
8:A:428:A:C6	8:A:429:A:C5	3.07	0.42
8:A:514:A:C4	8:A:515:A:C8	3.07	0.42
8:A:525:U:H5'	8:A:525:U:C6	2.38	0.42
8:A:562:U:C4	8:A:572:A:C8	3.07	0.42
8:A:635:C:O5'	19:L:109:LYS:NZ	2.49	0.42
8:A:642:U:C2	8:A:644:A:H3'	2.55	0.42
8:A:703:U:H2'	8:A:704:G:O4'	2.18	0.42
8:A:741:U:C4	8:A:757:G:N1	2.87	0.42
8:A:780:G:C2	8:A:785:G:C6	3.08	0.42
8:A:929:U:H2'	8:A:930:G:H8	1.85	0.42
8:A:975:A:C4	8:A:990:A:C5	3.07	0.42
8:A:1047:G:N2	8:A:1111:A:C8	2.86	0.42
8:A:1242:U:C4	8:A:1243:C:C4	3.08	0.42
8:A:1373:A:C8	8:A:1374:G:C8	3.07	0.42
8:A:1469:A:C6	8:A:1470:A:C6	3.07	0.42
8:A:1489:C:N3	8:A:1501:G:N1	2.68	0.42
8:A:1565:C:H2'	8:A:1567:G:O6	2.18	0.42
8:A:1589:U:H2'	8:A:1590:A:C8	2.53	0.42
8:A:1824:G:C6	8:A:1825:U:C4	3.07	0.42
8:A:1831:G:C6	8:A:1975:G:C6	3.08	0.42
8:A:1835:2MG:HN1	8:A:1930:G:N2	2.16	0.42
8:A:1850:G:C6	8:A:1851:U:C4	3.07	0.42
8:A:1858:A:C5	8:A:1859:U:C2	3.07	0.42
8:A:1992:G:C6	8:A:1997:C:C2	3.07	0.42
8:A:2231:U:H2'	8:A:2232:C:O4'	2.20	0.42
8:A:2265:U:C4	8:A:2266:A:C6	3.07	0.42
8:A:2315:G:C2	8:A:2316:G:C8	3.07	0.42
8:A:2409:G:H2'	8:A:2410:G:O4'	2.20	0.42
8:A:2465:C:H2'	8:A:2466:C:H6	1.84	0.42
8:A:2595:G:C2	8:A:2599:G:C6	3.07	0.42
8:A:2645:G:H4'	8:A:2732:G:O3'	2.19	0.42
8:A:2733:A:C5	8:A:2734:A:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2758:A:C2	14:G:70:LEU:HD11	2.54	0.42
8:A:2825:G:C2	8:A:2826:A:N7	2.87	0.42
8:A:2829:A:C6	8:A:2830:C:C4	3.08	0.42
8:A:2843:G:H2'	8:A:2844:G:H5'	2.00	0.42
8:A:2864:G:H2'	8:A:2865:U:O4'	2.19	0.42
9:B:114:C:H1'	22:O:47:VAL:HG21	2.01	0.42
9:B:116:G:C5'	22:O:55:GLU:HG2	2.49	0.42
10:C:34:GLU:HB2	10:C:63:ILE:HD11	2.00	0.42
10:C:85:ASN:O	10:C:86:ARG:HD3	2.19	0.42
11:D:7:LYS:HE2	11:D:198:GLY:HA2	2.00	0.42
12:E:110:SER:O	12:E:114:ARG:HG3	2.18	0.42
13:F:135:ILE:HD13	13:F:140:ILE:HG21	2.01	0.42
18:K:58:LEU:HA	18:K:89:ASN:ND2	2.34	0.42
19:L:96:LYS:HG2	19:L:101:ILE:HD11	2.00	0.42
22:O:40:ILE:HG23	22:O:46:GLU:O	2.20	0.42
25:R:7:SER:C	25:R:9:GLY:H	2.27	0.42
26:S:7:HIS:HB3	26:S:103:ILE:HB	2.01	0.42
26:S:53:SER:O	26:S:56:ALA:HB3	2.18	0.42
34:a:124:C:C2	34:a:125:U:C5	3.07	0.42
34:a:165:G:H2'	34:a:166:U:C6	2.54	0.42
34:a:357:G:C2	34:a:358:U:C5	3.07	0.42
34:a:397:A:C8	34:a:548:G:C8	3.07	0.42
34:a:403:C:O2'	34:a:404:G:H5'	2.20	0.42
34:a:416:G:N1	34:a:428:G:O6	2.53	0.42
34:a:416:G:C4	34:a:417:G:C8	3.08	0.42
34:a:585:G:C2	34:a:586:C:C2	3.07	0.42
34:a:695:A:H2'	34:a:696:A:O4'	2.20	0.42
34:a:734:G:C4	34:a:735:C:C5	3.07	0.42
34:a:742:G:C2	34:a:743:A:C8	3.07	0.42
34:a:756:C:H2'	34:a:757:U:O4'	2.20	0.42
34:a:815:A:N6	34:a:1529:G:C8	2.87	0.42
34:a:840:C:C2	34:a:847:G:N1	2.88	0.42
34:a:1050:G:C6	34:a:1051:C:N4	2.87	0.42
34:a:1074:G:C6	34:a:1102:A:N6	2.87	0.42
34:a:1104:G:H2'	34:a:1105:A:H8	1.83	0.42
34:a:1133:G:C2	34:a:1142:G:C2	3.08	0.42
34:a:1134:G:H1	34:a:1140:C:N4	2.13	0.42
34:a:1164:G:N1	34:a:1173:U:N3	2.67	0.42
34:a:1175:G:C3'	34:a:1176:A:H8	2.32	0.42
34:a:1196:A:H4'	34:a:1197:A:OP2	2.18	0.42
34:a:1287:A:C6	34:a:1288:A:N1	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1418:A:N6	34:a:1482:G:O2'	2.52	0.42
34:a:1477:U:C2	34:a:1478:U:C5	3.07	0.42
35:b:187:ASP:OD1	35:b:188:THR:N	2.53	0.42
36:c:118:SER:OG	36:c:119:ILE:N	2.52	0.42
37:d:105:GLY:C	37:d:107:GLY:H	2.26	0.42
38:e:65:LYS:HG3	38:e:66:ALA:N	2.34	0.42
38:e:84:VAL:N	38:e:95:MET:O	2.42	0.42
39:f:2:ARG:HB2	39:f:4:TYR:CE1	2.55	0.42
39:f:4:TYR:CE2	39:f:91:ARG:HG2	2.54	0.42
39:f:36:ILE:HG13	39:f:64:VAL:HG13	2.01	0.42
41:h:17:GLN:NE2	41:h:71:VAL:HG22	2.35	0.42
43:j:59:LYS:C	43:j:61:ALA:H	2.27	0.42
43:j:65:TYR:HD1	47:n:98:LYS:HA	1.81	0.42
45:l:92:VAL:C	45:l:93:ARG:HG3	2.45	0.42
46:m:23:GLY:HA2	46:m:68:LEU:HD22	2.02	0.42
46:m:80:MET:HE2	46:m:80:MET:HB3	1.86	0.42
52:s:2:ARG:HH11	52:s:7:GLY:C	2.27	0.42
52:s:11:ASP:HB3	52:s:14:LEU:CB	2.49	0.42
55:v:46:A:O2'	55:v:47:U:O4'	2.38	0.42
56:w:41:C:H2'	56:w:42:C:H6	1.84	0.42
56:w:75:C:H2'	56:w:76:A:N3	2.35	0.42
1:0:9:ARG:NE	8:A:517:C:OP1	2.47	0.42
1:0:11:LYS:NZ	1:0:14:MET:SD	2.65	0.42
8:A:10:A:C5	8:A:2800:A:C6	3.07	0.42
8:A:124:G:C2	8:A:128:C:N3	2.88	0.42
8:A:186:G:C4	8:A:187:G:C8	3.08	0.42
8:A:283:G:C2	8:A:358:U:C2	3.07	0.42
8:A:441:U:O2'	12:E:41:GLN:OE1	2.31	0.42
8:A:541:A:C6	8:A:542:C:C4	3.07	0.42
8:A:548:G:N7	8:A:549:G:C8	2.87	0.42
8:A:642:U:N3	8:A:644:A:O5'	2.53	0.42
8:A:646:U:C5	8:A:647:G:H1'	2.54	0.42
8:A:676:A:H1'	8:A:2443:C:C1'	2.49	0.42
8:A:733:G:H2'	8:A:761:A:N1	2.35	0.42
8:A:748:G:C5	8:A:750:A:C6	3.07	0.42
8:A:776:G:N1	8:A:2072:C:OP1	2.50	0.42
8:A:780:G:H1'	8:A:785:G:C2	2.54	0.42
8:A:847:U:C4	8:A:848:C:C4	3.07	0.42
8:A:882:G:N2	8:A:895:U:H4'	2.35	0.42
8:A:950:G:H2'	8:A:951:C:C6	2.55	0.42
8:A:1045:C:OP1	8:A:1046:A:H3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1067:A:N6	8:A:1069:A:H62	2.17	0.42
8:A:1137:G:C6	8:A:1138:G:C5	3.08	0.42
8:A:1163:G:O2'	8:A:1164:C:H5'	2.19	0.42
8:A:1184:U:C5'	33:Z:29:ARG:HH11	2.30	0.42
8:A:1266:G:N3	8:A:2012:G:C6	2.87	0.42
8:A:1279:G:C6	8:A:1280:G:C5	3.08	0.42
8:A:1290:C:H2'	8:A:1291:C:H6	1.82	0.42
8:A:1416:G:C6	8:A:1417:C:N4	2.87	0.42
8:A:1441:G:H4'	8:A:1628:G:OP1	2.19	0.42
8:A:1444:G:N1	8:A:1548:A:C6	2.87	0.42
8:A:1583:A:O5'	8:A:1584:U:H5	2.02	0.42
8:A:1622:G:H2'	8:A:1623:G:H8	1.83	0.42
8:A:1677:A:C2	8:A:1678:A:H1'	2.54	0.42
8:A:1686:C:H2'	8:A:1687:G:O4'	2.18	0.42
8:A:1715:G:HO2'	8:A:1716:U:C5'	2.30	0.42
8:A:1730:C:C2	8:A:1731:G:O6	2.73	0.42
8:A:1842:G:C4	8:A:1843:C:C5	3.08	0.42
8:A:2034:U:O2'	8:A:2035:G:H5'	2.19	0.42
8:A:2216:G:C4	8:A:2217:G:C8	3.07	0.42
8:A:2225:A:H4'	8:A:2226:C:H6	1.84	0.42
8:A:2264:C:N4	30:W:11:ASP:OD2	2.53	0.42
8:A:2271:G:C6	8:A:2272:U:C4	3.08	0.42
8:A:2286:G:H4'	8:A:2287:A:O5'	2.19	0.42
8:A:2312:U:H6	8:A:2312:U:O5'	2.02	0.42
8:A:2349:G:H2'	8:A:2350:C:O4'	2.20	0.42
8:A:2437:G:C6	8:A:2438:U:C4	3.08	0.42
8:A:2571:U:H2'	8:A:2574:G:O4'	2.19	0.42
8:A:2589:A:C6	8:A:2590:A:C5	3.08	0.42
8:A:2592:G:H2'	8:A:2593:U:C6	2.54	0.42
8:A:2617:U:N3	8:A:2618:G:C8	2.87	0.42
8:A:2621:G:H2'	8:A:2622:U:C6	2.55	0.42
8:A:2740:A:C6	8:A:2741:A:C5	3.08	0.42
8:A:2744:G:C6	8:A:2761:A:C5	3.08	0.42
8:A:2794:C:C2	8:A:2803:G:C2	3.08	0.42
8:A:2816:G:C6	8:A:2831:G:N1	2.88	0.42
8:A:2818:U:C4	8:A:2828:G:O6	2.72	0.42
10:C:167:ASP:H	10:C:170:TYR:C	2.28	0.42
12:E:128:ALA:O	12:E:130:LYS:N	2.52	0.42
13:F:133:GLU:OE1	13:F:136:ILE:HG23	2.19	0.42
14:G:41:GLU:HG3	14:G:52:GLY:O	2.19	0.42
14:G:116:LEU:HB3	14:G:120:ILE:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:I:41:PHE:O	16:I:45:THR:CB	2.68	0.42
18:K:86:LEU:C	18:K:87:LEU:HD23	2.45	0.42
19:L:23:ILE:HA	25:R:82:HIS:CE1	2.55	0.42
22:O:61:GLN:N	22:O:61:GLN:OE1	2.52	0.42
27:T:11:LEU:HD23	32:Y:26:PHE:CE1	2.55	0.42
27:T:21:SER:O	27:T:24:MET:HB3	2.19	0.42
34:a:27:G:C4	34:a:557:G:N2	2.88	0.42
34:a:158:G:C4	34:a:159:G:C8	3.08	0.42
34:a:189:A:H3'	34:a:190:A:H8	1.84	0.42
34:a:201:G:C6	34:a:217:C:N3	2.87	0.42
34:a:294:U:C2	34:a:295:C:C5	3.08	0.42
34:a:497:G:C2	34:a:498:A:C5	3.08	0.42
34:a:616:G:C2	34:a:617:G:C5	3.07	0.42
34:a:657:U:C2	34:a:658:C:C6	3.07	0.42
34:a:785:G:N1	34:a:798:U:C4	2.88	0.42
34:a:849:G:C6	34:a:850:U:N3	2.87	0.42
34:a:894:G:C6	34:a:895:G:C5	3.07	0.42
34:a:1028:C:H1'	34:a:1033:G:H22	1.84	0.42
34:a:1058:G:C5	34:a:1059:C:C5	3.07	0.42
34:a:1152:A:C2	34:a:1153:G:C4	3.07	0.42
34:a:1157:A:C4	34:a:1181:G:C2	3.08	0.42
34:a:1157:A:H2	34:a:1181:G:H5'	1.85	0.42
34:a:1160:G:N1	34:a:1161:C:C4	2.87	0.42
34:a:1229:A:H2'	34:a:1230:C:H6	1.84	0.42
34:a:1329:A:C6	34:a:1330:U:C2	3.08	0.42
34:a:1353:G:H2'	34:a:1354:U:H6	1.85	0.42
34:a:1497:G:C6	34:a:1498:UR3:C4	3.02	0.42
35:b:137:THR:O	35:b:140:LEU:HB3	2.18	0.42
36:c:67:ILE:HB	36:c:102:ILE:HD13	2.01	0.42
36:c:129:PHE:HE2	36:c:165:GLU:HG2	1.85	0.42
37:d:171:GLU:N	37:d:182:LYS:HE2	2.35	0.42
38:e:9:GLU:HG3	38:e:10:LEU:HD13	2.02	0.42
42:i:40:ARG:HB3	42:i:42:THR:OG1	2.19	0.42
42:i:121:ARG:HA	42:i:121:ARG:HD3	1.89	0.42
48:o:23:SER:OG	48:o:25:GLU:HB3	2.19	0.42
57:y:101:FME:HB3	57:y:102:PHE:H	1.52	0.42
1:0:15:ARG:HH11	8:A:1265:A:H3'	1.83	0.42
7:6:20:ASN:OD1	7:6:39:LYS:HB2	2.18	0.42
8:A:17:G:C6	8:A:18:U:C4	3.07	0.42
8:A:159:G:C2'	8:A:167:A:H61	2.33	0.42
8:A:196:A:C5	8:A:805:G:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:245:G:C5	8:A:254:G:N2	2.88	0.42
8:A:391:A:H1'	8:A:411:G:C8	2.55	0.42
8:A:391:A:C4	8:A:392:U:C6	3.08	0.42
8:A:395:U:H5"	8:A:396:G:OP2	2.18	0.42
8:A:631:A:N6	8:A:632:A:N1	2.67	0.42
8:A:715:A:C6	8:A:716:A:C4	3.08	0.42
8:A:756:A:H2'	8:A:757:G:O4'	2.20	0.42
8:A:802:A:C6	8:A:803:U:C4	3.08	0.42
8:A:812:C:O4'	8:A:1250:G:O2'	2.37	0.42
8:A:1064:C:H4'	16:I:89:SER:O	2.20	0.42
8:A:1068:G:H2'	8:A:1070:A:OP1	2.19	0.42
8:A:1168:G:O6	8:A:1181:U:C4	2.73	0.42
8:A:1221:C:H2'	8:A:1222:U:O4'	2.19	0.42
8:A:1245:G:C2	8:A:1246:A:C5	3.08	0.42
8:A:1291:C:C2	8:A:1292:G:C8	3.07	0.42
8:A:1301:A:C5	8:A:1303:G:C8	3.07	0.42
8:A:1346:G:H2'	8:A:1347:A:O4'	2.19	0.42
8:A:1416:G:H2'	8:A:1417:C:H6	1.85	0.42
8:A:1417:C:C2	8:A:1418:G:N7	2.87	0.42
8:A:1436:G:C2	8:A:1557:C:O2	2.72	0.42
8:A:1903:G:C2	8:A:1904:G:C5	3.08	0.42
8:A:1936:A:C4	8:A:1940:U:C4	3.08	0.42
8:A:2080:A:H2'	8:A:2081:U:H6	1.82	0.42
8:A:2139:U:C4	8:A:2154:A:C6	3.08	0.42
8:A:2300:C:O2	8:A:2300:C:H2'	2.20	0.42
8:A:2543:G:C5	8:A:2765:A:C8	3.07	0.42
8:A:2671:G:C2	8:A:2672:U:C2	3.07	0.42
8:A:2728:U:HO2'	8:A:2729:G:C5'	2.32	0.42
9:B:7:G:H2'	9:B:8:C:C6	2.54	0.42
9:B:44:G:H1'	9:B:47:C:H42	1.84	0.42
10:C:18:VAL:HG21	10:C:202:ARG:CZ	2.49	0.42
10:C:269:ARG:HG2	10:C:270:ARG:O	2.20	0.42
11:D:118:PHE:HA	11:D:163:GLY:C	2.44	0.42
13:F:30:VAL:HG23	13:F:156:THR:O	2.20	0.42
17:J:19:ASP:OD1	17:J:21:THR:N	2.52	0.42
17:J:59:ALA:H	17:J:126:ALA:HA	1.85	0.42
21:N:102:PHE:CD2	21:N:109:PRO:HA	2.54	0.42
23:P:5:LYS:HA	23:P:8:GLU:CD	2.45	0.42
28:U:33:VAL:HG22	28:U:64:ILE:O	2.19	0.42
28:U:67:SER:OG	28:U:68:ASN:N	2.52	0.42
29:V:80:HIS:CE1	29:V:83:LYS:H	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:18:GLY:N	30:W:35:ARG:O	2.42	0.42
32:Y:11:VAL:HG23	32:Y:12:GLU:N	2.34	0.42
34:a:22:G:C4	34:a:23:C:C5	3.07	0.42
34:a:35:G:C6	34:a:36:C:C4	3.07	0.42
34:a:46:G:H8	34:a:46:G:OP2	2.02	0.42
34:a:103:U:H2'	34:a:104:G:O4'	2.19	0.42
34:a:109:A:C4	34:a:327:A:C2	3.07	0.42
34:a:114:U:N3	34:a:115:G:C5	2.88	0.42
34:a:147:G:C2	34:a:148:G:C4	3.08	0.42
34:a:159:G:H4'	34:a:162:A:H62	1.84	0.42
34:a:216:U:C2	34:a:217:C:C5	3.07	0.42
34:a:474:G:H2'	34:a:475:C:H6	1.83	0.42
34:a:562:U:C5	34:a:884:U:C2	3.07	0.42
34:a:613:C:H2'	34:a:614:C:C6	2.55	0.42
34:a:617:G:N2	34:a:624:C:C2	2.87	0.42
34:a:676:A:H5"	44:k:114:PRO:HB3	2.02	0.42
34:a:1009:U:H2'	34:a:1010:U:C6	2.54	0.42
34:a:1027:C:H3'	34:a:1028:C:C5	2.54	0.42
34:a:1248:A:C4	34:a:1249:C:C5	3.08	0.42
34:a:1261:A:N6	34:a:1274:A:O2'	2.52	0.42
34:a:1308:U:O2'	34:a:1309:G:H5'	2.20	0.42
34:a:1370:G:C2	34:a:1371:G:C8	3.07	0.42
34:a:1437:A:H2'	34:a:1438:G:C8	2.50	0.42
34:a:1458:G:OP1	53:t:29:THR:OG1	2.21	0.42
34:a:1515:G:C4	34:a:1516:2MG:C8	3.08	0.42
35:b:13:VAL:HG11	35:b:211:LEU:HD23	2.01	0.42
37:d:8:LEU:CD1	37:d:30:LYS:HG3	2.48	0.42
37:d:196:GLU:HG2	37:d:197:HIS:N	2.35	0.42
43:j:59:LYS:C	43:j:61:ALA:N	2.76	0.42
45:l:44:PRO:HD2	45:l:45:ASN:ND2	2.35	0.42
45:l:65:TYR:HD2	45:l:95:HIS:HD2	1.66	0.42
50:q:74:LEU:HD11	50:q:76:ARG:C	2.45	0.42
53:t:59:ARG:CZ	53:t:60:GLN:HE22	2.32	0.42
55:v:9:G:C6	55:v:46:A:C6	3.07	0.42
55:v:21:A:C2'	55:v:22:G:H8	2.32	0.42
56:w:18:G:C2	56:w:57:G:C5	3.07	0.42
4:3:24:LYS:HZ1	4:3:25:HIS:HB2	1.84	0.42
5:4:11:CYS:HB3	5:4:33:HIS:HE1	1.84	0.42
8:A:48:G:C2	8:A:178:G:C5	3.07	0.42
8:A:145:C:H2'	8:A:146:A:C8	2.55	0.42
8:A:396:G:H2'	8:A:397:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:397:U:OP1	31:X:30:PRO:HA	2.20	0.42
8:A:478:A:H8	8:A:478:A:OP2	2.02	0.42
8:A:513:A:C4	8:A:514:A:C8	3.07	0.42
8:A:570:G:H22	8:A:2498:OMC:HM21	1.84	0.42
8:A:814:C:O2'	8:A:1225:G:N2	2.50	0.42
8:A:947:A:C2	8:A:971:G:C2	3.08	0.42
8:A:971:G:H2'	8:A:972:A:N9	2.34	0.42
8:A:976:G:N3	8:A:977:G:C8	2.88	0.42
8:A:1068:G:C5	8:A:1069:A:H1'	2.55	0.42
8:A:1218:G:O2'	8:A:1219:U:H5'	2.19	0.42
8:A:1232:G:H2'	8:A:1233:C:H6	1.85	0.42
8:A:1259:G:C2	8:A:1260:A:C5	3.08	0.42
8:A:1282:U:C4	8:A:1283:G:C6	3.08	0.42
8:A:1327:A:N6	8:A:1328:A:C6	2.87	0.42
8:A:1410:G:H2'	8:A:1410:G:N3	2.35	0.42
8:A:1567:G:OP2	10:C:84:PRO:HB3	2.20	0.42
8:A:1593:A:C6	8:A:1594:U:C4	3.07	0.42
8:A:1599:U:C2	8:A:1600:C:C5	3.07	0.42
8:A:1663:G:HO2'	8:A:1664:A:P	2.42	0.42
8:A:1702:G:C2	8:A:1703:G:C5	3.07	0.42
8:A:1787:A:H5'	8:A:2590:A:H5'	2.01	0.42
8:A:1851:U:H5"	55:v:3:C:O2'	2.19	0.42
8:A:1857:G:C6	8:A:1884:G:C4	3.07	0.42
8:A:1877:A:H2'	8:A:1878:G:O4'	2.19	0.42
8:A:1883:U:H3'	8:A:1884:G:H8	1.85	0.42
8:A:2144:G:H2'	8:A:2146:C:O2'	2.20	0.42
8:A:2147:A:N7	8:A:2148:G:C4	2.88	0.42
8:A:2167:U:O5'	8:A:2167:U:H6	2.02	0.42
8:A:2265:U:C4	8:A:2266:A:C5	3.08	0.42
8:A:2286:G:H8	8:A:2287:A:C5	2.37	0.42
8:A:2302:U:C4	8:A:2303:G:N7	2.88	0.42
8:A:2302:U:C2	8:A:2303:G:C8	3.08	0.42
8:A:2521:C:O2'	8:A:2564:A:N3	2.52	0.42
8:A:2634:A:H2'	8:A:2635:A:O4'	2.20	0.42
8:A:2696:U:C4	8:A:2714:G:C6	3.08	0.42
8:A:2769:U:C4	8:A:2770:G:C5	3.07	0.42
8:A:2807:U:H3	8:A:2891:U:H3	1.67	0.42
8:A:2809:A:C6	8:A:2810:A:C6	3.08	0.42
9:B:117:G:C4	9:B:118:C:C5	3.07	0.42
10:C:5:CYS:SG	10:C:17:LYS:HD2	2.60	0.42
10:C:219:VAL:HG22	10:C:220:ARG:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:E:27:LEU:HD23	12:E:28:VAL:N	2.34	0.42
12:E:154:ASP:HB3	12:E:157:LEU:HD21	2.02	0.42
14:G:143:VAL:O	14:G:147:LEU:HG	2.19	0.42
15:H:28:ASN:O	15:H:32:PRO:HG3	2.19	0.42
17:J:18:VAL:HG22	17:J:140:LEU:O	2.20	0.42
17:J:46:PRO:HG3	24:Q:59:LEU:HD22	2.02	0.42
18:K:1:MET:HE2	18:K:32:TYR:HB3	2.02	0.42
19:L:108:ALA:N	19:L:125:LEU:HD11	2.32	0.42
19:L:109:LYS:HG3	19:L:126:ARG:CB	2.49	0.42
21:N:79:LEU:HD23	21:N:83:LEU:HD12	2.02	0.42
22:O:106:LEU:HD23	22:O:107:ALA:N	2.34	0.42
23:P:47:ILE:HA	23:P:96:LEU:CD1	2.42	0.42
25:R:25:LEU:HD23	25:R:25:LEU:HA	1.92	0.42
27:T:67:VAL:O	27:T:67:VAL:HG13	2.19	0.42
28:U:61:GLU:N	28:U:61:GLU:OE1	2.53	0.42
30:W:66:GLU:OE1	30:W:66:GLU:N	2.52	0.42
34:a:81:A:H61	34:a:86:G:H21	1.63	0.42
34:a:81:A:C5	34:a:82:G:C5	3.07	0.42
34:a:100:G:C2	34:a:101:A:H1'	2.55	0.42
34:a:374:A:H3'	34:a:375:U:H6	1.85	0.42
34:a:409:U:OP1	37:d:21:LYS:HB3	2.19	0.42
34:a:435:A:C6	34:a:436:C:C4	3.07	0.42
34:a:499:A:C4	34:a:546:A:C2	3.08	0.42
34:a:553:A:C2	34:a:554:A:C5	3.07	0.42
34:a:725:G:C6	34:a:726:C:C4	3.07	0.42
34:a:746:A:H2'	34:a:747:A:C8	2.50	0.42
34:a:784:A:C6	34:a:799:G:C6	3.07	0.42
34:a:940:C:O2'	34:a:941:G:O4'	2.31	0.42
34:a:1084:G:C6	34:a:1085:U:C4	3.08	0.42
34:a:1206:G:C6	34:a:1207:2MG:C5	3.07	0.42
34:a:1220:G:C4	34:a:1221:G:N7	2.88	0.42
34:a:1239:A:N6	34:a:1297:G:O4'	2.52	0.42
34:a:1250:A:C6	34:a:1251:A:C5	3.07	0.42
34:a:1538:C:H2'	34:a:1539:C:H5"	2.01	0.42
35:b:110:ILE:CD1	35:b:147:LEU:HD23	2.49	0.42
37:d:69:ARG:O	37:d:70:GLN:HB3	2.19	0.42
37:d:169:TRP:C	37:d:182:LYS:HE3	2.44	0.42
44:k:15:VAL:HG23	44:k:15:VAL:O	2.19	0.42
45:l:68:GLY:H	45:l:116:TYR:HE1	1.68	0.42
46:m:84:CYS:HB3	52:s:73:PHE:CZ	2.55	0.42
48:o:24:THR:OG1	48:o:69:LEU:HD22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:s:10:ILE:CG2	52:s:15:LEU:HD12	2.50	0.42
53:t:69:ASN:HA	53:t:72:ALA:HB3	2.01	0.42
53:t:71:ALA:HA	53:t:74:HIS:CD2	2.54	0.42
55:v:21:A:H2'	55:v:46:A:C6	2.53	0.42
55:v:41:C:H4'	55:v:42:G:OP1	2.20	0.42
56:w:7:A:O2'	56:w:8:4SU:OP1	2.38	0.42
56:w:69:G:C4	56:w:70:G:C8	3.08	0.42
4:3:24:LYS:HG3	4:3:25:HIS:O	2.20	0.42
7:6:22:MET:HE3	7:6:23:LYS:H	1.84	0.42
8:A:26:G:C6	8:A:27:G:C2	3.07	0.42
8:A:54:G:N1	8:A:117:G:C2	2.88	0.42
8:A:189:G:C6	8:A:205:G:N3	2.88	0.42
8:A:248:G:H5"	8:A:386:G:N2	2.27	0.42
8:A:259:G:O2'	8:A:621:A:H4'	2.20	0.42
8:A:260:G:C6	8:A:261:G:C5	3.08	0.42
8:A:282:A:H2'	8:A:283:G:H8	1.84	0.42
8:A:350:G:C4	8:A:351:C:C5	3.08	0.42
8:A:524:G:C6	8:A:525:U:C6	3.08	0.42
8:A:748:G:C6	8:A:750:A:C6	3.08	0.42
8:A:833:A:C4	8:A:834:G:N7	2.88	0.42
8:A:925:A:H2'	8:A:926:G:C8	2.55	0.42
8:A:950:G:O6	8:A:968:C:N4	2.53	0.42
8:A:977:G:H2'	8:A:978:G:H8	1.84	0.42
8:A:978:G:C2	8:A:979:A:C8	3.08	0.42
8:A:1042:G:C2	8:A:1113:U:C2	3.07	0.42
8:A:1057:A:N7	8:A:1080:A:H2	2.18	0.42
8:A:1162:G:N3	8:A:1163:G:C8	2.88	0.42
8:A:1259:G:C4	8:A:1260:A:C8	3.08	0.42
8:A:1292:G:C6	8:A:1293:C:C4	3.08	0.42
8:A:1342:A:C4	8:A:1345:C:C4	3.08	0.42
8:A:1423:G:N1	8:A:1424:G:C5	2.87	0.42
8:A:1434:A:N6	8:A:1558:C:H42	2.15	0.42
8:A:1516:G:C4	8:A:1517:G:C8	3.07	0.42
8:A:1603:A:C2	8:A:1604:C:H1'	2.54	0.42
8:A:1799:G:C8	8:A:1819:A:C5	3.08	0.42
8:A:1881:C:H2'	8:A:1882:U:O4'	2.19	0.42
8:A:1894:C:C2	8:A:1895:C:C5	3.08	0.42
8:A:2084:C:H2'	8:A:2085:U:C6	2.55	0.42
8:A:2176:A:H8	8:A:2176:A:OP2	2.03	0.42
8:A:2230:G:C6	8:A:2231:U:O4	2.72	0.42
8:A:2248:C:O5'	8:A:2249:U:H5	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2252:G:C2	8:A:2253:G:H1'	2.55	0.42
8:A:2543:G:C2	8:A:2765:A:C8	3.08	0.42
8:A:2617:U:C4	8:A:2618:G:N7	2.88	0.42
8:A:2705:A:C6	8:A:2706:A:C5	3.07	0.42
8:A:2720:U:H1'	8:A:2872:A:N7	2.35	0.42
8:A:2739:U:O2'	8:A:2740:A:H5'	2.19	0.42
8:A:2895:G:C4	8:A:2896:C:C5	3.08	0.42
11:D:119:ALA:N	11:D:163:GLY:O	2.47	0.42
12:E:21:ARG:H	12:E:21:ARG:HG2	1.59	0.42
12:E:147:LEU:CD2	12:E:168:ASP:HB3	2.50	0.42
15:H:27:ARG:O	15:H:31:VAL:HB	2.20	0.42
15:H:93:SER:HB2	15:H:123:ARG:CZ	2.49	0.42
17:J:1:MET:SD	25:R:13:ARG:NH1	2.92	0.42
18:K:1:MET:HE3	18:K:2:ILE:H	1.84	0.42
18:K:64:ARG:O	18:K:82:ASN:HA	2.20	0.42
18:K:98:ARG:N	18:K:118:LEU:HD21	2.35	0.42
22:O:85:LYS:HD3	22:O:85:LYS:HA	1.81	0.42
25:R:20:VAL:HG12	25:R:22:LEU:HD21	2.02	0.42
27:T:19:LYS:NZ	27:T:84:TYR:OH	2.23	0.42
27:T:39:THR:HB	27:T:42:GLU:HG3	2.02	0.42
29:V:45:ASP:OD1	29:V:45:ASP:N	2.52	0.42
31:X:29:LEU:HD13	31:X:29:LEU:HA	1.76	0.42
33:Z:38:GLU:O	33:Z:43:ILE:HG13	2.19	0.42
34:a:79:G:N2	34:a:91:U:O2	2.53	0.42
34:a:113:G:C2	34:a:114:U:C2	3.07	0.42
34:a:187:G:H1'	34:a:190:A:N6	2.35	0.42
34:a:244:U:C4	34:a:894:G:C4	3.08	0.42
34:a:382:A:C2	34:a:383:A:C4	3.08	0.42
34:a:451:A:H4'	34:a:452:A:O4'	2.19	0.42
34:a:461:A:C4	34:a:462:G:N7	2.88	0.42
34:a:655:A:C5	34:a:656:G:N7	2.88	0.42
34:a:675:A:C4	34:a:676:A:C8	3.08	0.42
34:a:756:C:H2'	34:a:757:U:H6	1.85	0.42
34:a:767:A:H2	34:a:1512:U:H1'	1.85	0.42
34:a:939:G:H2'	34:a:940:C:C6	2.54	0.42
34:a:1065:U:O4'	34:a:1190:G:N2	2.52	0.42
34:a:1106:G:O2'	36:c:168:ARG:NH2	2.50	0.42
34:a:1174:G:H2'	34:a:1175:G:O4'	2.20	0.42
34:a:1262:C:H2'	34:a:1263:C:O4'	2.20	0.42
34:a:1343:G:C6	34:a:1344:C:N3	2.87	0.42
34:a:1349:A:C6	34:a:1350:A:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1482:G:H5"	34:a:1483:A:P	2.60	0.42
35:b:8:MET:O	35:b:9:LEU:HG	2.20	0.42
35:b:19:THR:C	35:b:21:TYR:N	2.76	0.42
38:e:106:ALA:HB2	38:e:124:ALA:HB3	2.00	0.42
40:g:22:LEU:HD13	40:g:22:LEU:HA	1.75	0.42
41:h:105:THR:HA	41:h:122:GLY:CA	2.48	0.42
41:h:107:LYS:HB2	41:h:120:LEU:CD1	2.50	0.42
42:i:29:ILE:O	42:i:30:ASN:C	2.63	0.42
45:l:30:ARG:HB2	45:l:57:THR:HG23	2.01	0.42
48:o:47:LYS:HD3	48:o:47:LYS:HA	1.84	0.42
50:q:18:LYS:HE3	50:q:18:LYS:HB2	1.83	0.42
53:t:49:ALA:O	53:t:53:MET:HG3	2.20	0.42
55:v:6:G:C2	55:v:68:C:C2	3.07	0.42
8:A:83:A:H8	8:A:83:A:O5'	2.03	0.42
8:A:190:A:C8	8:A:207:A:N6	2.88	0.42
8:A:299:A:C5	8:A:322:A:C5	3.07	0.42
8:A:332:A:O2'	8:A:334:C:OP2	2.23	0.42
8:A:338:G:C2	8:A:339:U:O2	2.73	0.42
8:A:639:U:H2'	8:A:640:C:H6	1.81	0.42
8:A:647:G:C4	8:A:648:G:C8	3.07	0.42
8:A:682:G:N1	8:A:683:U:C4	2.88	0.42
8:A:747:5MC:C2	8:A:2613:U:C4	3.07	0.42
8:A:831:G:H8	8:A:831:G:OP2	2.03	0.42
8:A:1017:G:O6	8:A:1146:C:N4	2.52	0.42
8:A:1116:G:C2	8:A:1117:C:C6	3.07	0.42
8:A:1205:A:C5	12:E:165:HIS:CD2	3.08	0.42
8:A:1251:C:H5"	24:Q:5:ARG:NH1	2.35	0.42
8:A:1256:G:H2'	8:A:1256:G:N3	2.35	0.42
8:A:1299:G:N2	8:A:1642:G:C6	2.88	0.42
8:A:1494:A:C6	8:A:1495:A:C5	3.07	0.42
8:A:1495:A:C2	8:A:1496:A:C4	3.08	0.42
8:A:1528:A:C6	8:A:1544:A:C8	3.08	0.42
8:A:1652:A:H2	8:A:2006:C:C2	2.38	0.42
8:A:1712:U:OP2	8:A:1713:A:O2'	2.33	0.42
8:A:1800:C:C4	8:A:1802:A:C8	3.08	0.42
8:A:1832:C:H2'	8:A:1833:C:O4'	2.20	0.42
8:A:2049:G:C5	8:A:2050:C:C5	3.08	0.42
8:A:2182:U:H2'	8:A:2183:A:C8	2.32	0.42
8:A:2200:C:OP2	31:X:36:ARG:NE	2.45	0.42
8:A:2287:A:O2'	8:A:2288:A:O5'	2.32	0.42
8:A:2293:G:N1	8:A:2340:A:C6	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2341:G:C6	8:A:2342:C:N4	2.87	0.42
8:A:2356:U:N3	8:A:2361:G:C6	2.71	0.42
8:A:2365:G:OP1	30:W:51:ARG:HG2	2.20	0.42
8:A:2394:C:C4	8:A:2395:C:C4	3.08	0.42
8:A:2405:G:H1'	8:A:2412:A:N6	2.35	0.42
8:A:2409:G:C6	8:A:2410:G:C4	3.08	0.42
8:A:2507:C:C2	8:A:2583:G:N1	2.88	0.42
8:A:2525:G:H2'	8:A:2526:G:H8	1.84	0.42
8:A:2531:A:H5"	14:G:156:TYR:CE2	2.55	0.42
8:A:2592:G:C5	8:A:2593:U:C4	3.08	0.42
8:A:2692:G:C4	8:A:2693:G:C8	3.08	0.42
8:A:2735:G:N1	8:A:2770:G:H1'	2.35	0.42
8:A:2816:G:O3'	21:N:99:LYS:NZ	2.42	0.42
8:A:2823:A:C6	8:A:2824:C:N3	2.88	0.42
11:D:32:ASN:H	11:D:96:ILE:H	1.68	0.42
12:E:115:GLN:HB3	12:E:117:ARG:HD2	2.01	0.42
13:F:36:ASN:HB3	13:F:152:ASP:CG	2.45	0.42
19:L:78:ARG:HA	19:L:113:ALA:HB3	2.02	0.42
19:L:105:ILE:HG22	19:L:107:PHE:H	1.85	0.42
20:M:95:LEU:HD23	20:M:95:LEU:HA	1.71	0.42
22:O:22:GLY:O	22:O:42:PRO:HB3	2.20	0.42
28:U:53:GLN:N	28:U:54:PRO:HD3	2.35	0.42
30:W:29:ALA:HB2	30:W:60:ASP:N	2.35	0.42
34:a:51:A:C6	34:a:116:A:C5	3.08	0.42
34:a:68:G:C2	34:a:69:G:H1'	2.53	0.42
34:a:73:C:H2'	34:a:74:A:H8	1.85	0.42
34:a:102:G:C4	34:a:103:U:C5	3.07	0.42
34:a:127:G:H4'	50:q:5:ARG:HH12	1.84	0.42
34:a:182:A:H8	34:a:182:A:OP2	2.02	0.42
34:a:295:C:C4	34:a:296:U:C4	3.08	0.42
34:a:327:A:H1'	34:a:329:A:C8	2.55	0.42
34:a:410:G:H1'	34:a:433:G:N1	2.35	0.42
34:a:421:U:C4	36:c:126:ARG:HD2	2.55	0.42
34:a:428:G:C2	34:a:430:A:C6	3.07	0.42
34:a:452:A:O2'	49:p:70:ARG:NE	2.52	0.42
34:a:453:G:C5	34:a:454:G:C5	3.08	0.42
34:a:473:U:H2'	34:a:474:G:C8	2.55	0.42
34:a:500:G:C6	34:a:501:C:C4	3.08	0.42
34:a:536:C:C2	34:a:537:G:N7	2.87	0.42
34:a:592:G:C6	34:a:648:A:C6	3.08	0.42
34:a:674:G:H5'	39:f:86:ARG:HH22	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:698:G:H2'	34:a:699:C:C6	2.54	0.42
34:a:754:C:C6	48:o:68:TYR:CE2	3.08	0.42
34:a:759:A:H4'	34:a:881:G:OP1	2.20	0.42
34:a:837:U:O2'	34:a:838:G:H5'	2.20	0.42
34:a:872:A:C8	34:a:874:G:H8	2.36	0.42
34:a:1019:A:H2'	34:a:1020:G:H8	1.84	0.42
34:a:1155:A:H2'	34:a:1156:G:O4'	2.20	0.42
34:a:1312:G:H5'	52:s:4:LEU:HD23	2.00	0.42
34:a:1377:A:H4'	34:a:1378:C:H5	1.85	0.42
34:a:1401:G:H2'	34:a:1402:4OC:C6	2.49	0.42
34:a:1430:A:N1	34:a:1471:U:C4	2.87	0.42
34:a:1492:A:N6	45:l:46:SER:OG	2.53	0.42
34:a:1516:2MG:HN2	34:a:1519:MA6:P	2.43	0.42
39:f:89:VAL:HG22	39:f:90:MET:N	2.35	0.42
44:k:21:HIS:HD2	44:k:32:THR:O	2.02	0.42
44:k:21:HIS:HA	44:k:84:MET:O	2.20	0.42
44:k:70:ALA:HA	44:k:73:VAL:HG12	2.01	0.42
44:k:112:VAL:HG12	44:k:112:VAL:O	2.20	0.42
48:o:73:ASP:HB3	48:o:76:ARG:HH21	1.84	0.42
55:v:23:C:H2'	55:v:24:U:C5	2.54	0.42
55:v:35:A:C6	55:v:36:U:C4	3.08	0.42
56:w:5:G:N1	56:w:69:G:C6	2.88	0.42
56:w:31:A:C8	56:w:32:PSU:C4	3.08	0.42
56:w:59:U:O2'	56:w:60:U:O4'	2.26	0.42
56:w:64:A:N6	56:w:65:G:O6	2.53	0.42
7:6:6:HIS:ND1	13:F:62:GLN:HA	2.35	0.42
8:A:17:G:H2'	8:A:18:U:C6	2.54	0.42
8:A:77:G:O6	8:A:110:G:C6	2.72	0.42
8:A:323:C:N3	8:A:333:G:C8	2.87	0.42
8:A:402:A:C5	8:A:403:U:N3	2.88	0.42
8:A:442:G:C6	8:A:444:C:N4	2.87	0.42
8:A:458:G:O2'	8:A:459:U:P	2.78	0.42
8:A:514:A:N3	8:A:515:A:C8	2.88	0.42
8:A:563:A:C5	8:A:564:C:C5	3.08	0.42
8:A:597:G:C2	8:A:598:U:C2	3.07	0.42
8:A:630:G:N1	8:A:634:C:N4	2.68	0.42
8:A:704:G:N2	8:A:726:G:O2'	2.51	0.42
8:A:715:A:C6	8:A:716:A:C5	3.08	0.42
8:A:779:U:P	10:C:48:ILE:HG12	2.60	0.42
8:A:871:U:N3	8:A:907:G:O6	2.53	0.42
8:A:966:G:O2'	8:A:2267:A:N6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:997:G:OP1	24:Q:90:ASP:HB2	2.19	0.42
8:A:1070:A:H61	16:I:26:ALA:C	2.25	0.42
8:A:1159:U:H2'	8:A:1160:G:C8	2.50	0.42
8:A:1345:C:H3'	8:A:1345:C:OP2	2.19	0.42
8:A:1348:C:C5	8:A:1349:C:C5	3.07	0.42
8:A:1486:U:C2	8:A:1487:U:C5	3.08	0.42
8:A:1505:A:C5	8:A:1506:U:C4	3.07	0.42
8:A:1567:G:H4'	8:A:1568:G:O4'	2.20	0.42
8:A:1601:G:C5	8:A:1602:U:C4	3.07	0.42
8:A:1641:A:C6	8:A:1642:G:C4	3.08	0.42
8:A:1662:U:O2'	8:A:2687:U:H5"	2.19	0.42
8:A:1678:A:C5	8:A:1679:A:C5	3.07	0.42
8:A:1846:G:C2	8:A:1895:C:C2	3.07	0.42
8:A:1928:A:N7	8:A:1929:G:C6	2.87	0.42
8:A:1959:G:H2'	8:A:1960:A:C8	2.55	0.42
8:A:1967:C:H2'	8:A:1968:G:C8	2.55	0.42
8:A:2093:G:C4	8:A:2225:A:C6	3.08	0.42
8:A:2101:A:N1	8:A:2189:U:H1'	2.34	0.42
8:A:2130:U:C4	8:A:2131:U:O4	2.73	0.42
8:A:2134:A:N3	8:A:2158:A:H1'	2.35	0.42
8:A:2152:G:C6	8:A:2153:C:C2	3.08	0.42
8:A:2550:G:C2'	8:A:2551:C:H5'	2.50	0.42
8:A:2633:G:C2	8:A:2634:A:C4	3.08	0.42
8:A:2739:U:H5"	8:A:2763:G:O6	2.20	0.42
8:A:2813:A:C8	8:A:2813:A:OP2	2.72	0.42
8:A:2819:G:C5	8:A:2828:G:C6	3.08	0.42
8:A:2831:G:H1'	8:A:2883:A:H2'	2.02	0.42
8:A:2850:A:H3'	8:A:2851:A:H8	1.84	0.42
13:F:127:TYR:CD2	13:F:155:ILE:HD13	2.53	0.42
15:H:58:LEU:O	15:H:62:LEU:HD13	2.19	0.42
15:H:65:ALA:HA	15:H:68:ARG:HB3	2.02	0.42
17:J:8:PRO:O	17:J:11:VAL:HG22	2.20	0.42
17:J:106:LYS:O	17:J:111:LYS:NZ	2.44	0.42
18:K:73:ASP:OD1	18:K:74:GLY:N	2.53	0.42
25:R:2:TYR:HB2	25:R:14:VAL:O	2.20	0.42
33:Z:3:THR:HG22	33:Z:38:GLU:HA	2.01	0.42
34:a:24:U:C2	34:a:25:C:C5	3.08	0.42
34:a:119:A:C8	34:a:240:G:C6	3.08	0.42
34:a:141:G:C2	34:a:223:A:C5	3.07	0.42
34:a:151:A:C2	34:a:152:A:H1'	2.55	0.42
34:a:174:A:C6	34:a:175:C:N4	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:355:C:C2	34:a:356:A:C8	3.08	0.42
34:a:357:G:H1'	34:a:368:U:O2	2.20	0.42
34:a:389:A:H3'	34:a:390:U:H6	1.84	0.42
34:a:410:G:N2	34:a:431:A:N7	2.68	0.42
34:a:417:G:C4	34:a:418:C:C6	3.08	0.42
34:a:421:U:H5'	34:a:422:C:C5	2.54	0.42
34:a:520:A:N7	34:a:521:G:C8	2.88	0.42
34:a:599:C:O3'	41:h:121:GLY:HA3	2.20	0.42
34:a:703:G:H4'	34:a:704:A:O5'	2.19	0.42
34:a:705:G:C4	34:a:706:A:C8	3.08	0.42
34:a:942:G:C6	34:a:943:U:C4	3.07	0.42
34:a:1004:A:P	34:a:1023:U:H3	2.43	0.42
34:a:1132:C:C2	34:a:1133:G:C8	3.07	0.42
34:a:1189:U:H4'	36:c:4:VAL:HG11	2.02	0.42
34:a:1232:U:H5"	42:i:125:GLN:HB3	2.01	0.42
34:a:1246:A:H2'	34:a:1247:U:C6	2.54	0.42
34:a:1405:G:H2'	34:a:1406:U:C6	2.54	0.42
34:a:1421:G:C2	34:a:1422:G:N7	2.88	0.42
34:a:1423:G:C5	34:a:1424:U:C5	3.08	0.42
34:a:1450:U:H3'	34:a:1452:C:N4	2.35	0.42
34:a:1516:2MG:C2	34:a:1520:C:C2	3.08	0.42
35:b:14:HIS:HB3	35:b:208:ALA:CB	2.50	0.42
35:b:49:PHE:CE1	35:b:53:LEU:HD21	2.55	0.42
36:c:149:LYS:CG	36:c:168:ARG:HB3	2.49	0.42
37:d:54:LEU:HD23	37:d:58:GLN:NE2	2.33	0.42
41:h:28:SER:HA	41:h:32:LYS:HD2	2.02	0.42
42:i:114:LYS:NZ	42:i:120:ALA:HB1	2.34	0.42
48:o:14:PHE:HA	48:o:83:ARG:HH12	1.85	0.42
48:o:63:ARG:NE	48:o:87:ARG:HH12	2.17	0.42
49:p:21:VAL:HG12	49:p:34:GLU:O	2.19	0.42
49:p:48:GLU:C	49:p:50:THR:N	2.77	0.42
51:r:47:ARG:HB2	51:r:50:TYR:HD2	1.85	0.42
52:s:51:HIS:HA	52:s:56:HIS:HA	2.02	0.42
55:v:35:A:C6	58:z:3:G:C6	3.08	0.42
55:v:64:G:H2'	55:v:65:C:O4'	2.19	0.42
56:w:15:G:N2	56:w:48:C:O2	2.47	0.42
1:0:30:ASP:O	1:0:34:GLY:HA2	2.19	0.41
2:1:44:GLN:O	2:1:46:VAL:HG13	2.20	0.41
5:4:19:ARG:HD3	8:A:2755:C:H2'	2.00	0.41
6:5:23:LEU:HA	6:5:116:GLU:CB	2.50	0.41
8:A:46:G:C6	8:A:180:G:C6	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:83:A:C4	8:A:101:A:C6	3.08	0.41
8:A:156:A:H2'	8:A:157:C:H6	1.83	0.41
8:A:210:C:C2	8:A:211:C:C5	3.07	0.41
8:A:389:G:N3	8:A:389:G:H2'	2.35	0.41
8:A:396:G:C6	8:A:397:U:C4	3.08	0.41
8:A:410:G:H2'	8:A:2407:A:N7	2.35	0.41
8:A:458:G:H4'	8:A:459:U:O5'	2.20	0.41
8:A:483:A:C2	28:U:57:ILE:HD11	2.55	0.41
8:A:538:A:O2'	17:J:9:GLU:OE2	2.35	0.41
8:A:579:G:C4	8:A:580:U:C5	3.08	0.41
8:A:677:A:C5	8:A:678:C:C5	3.08	0.41
8:A:893:C:H2'	8:A:894:U:C5	2.54	0.41
8:A:1128:G:C2	8:A:2518:A:C4	3.08	0.41
8:A:1148:U:H2'	8:A:1149:G:O4'	2.19	0.41
8:A:1155:A:H5"	24:Q:54:ARG:NE	2.35	0.41
8:A:1157:G:H3'	8:A:1157:G:P	2.60	0.41
8:A:1183:U:H4'	33:Z:29:ARG:CZ	2.50	0.41
8:A:1395:A:N7	8:A:1398:C:N4	2.67	0.41
8:A:1405:U:O2'	8:A:1406:U:H5'	2.19	0.41
8:A:1429:G:N7	10:C:27:LYS:NZ	2.65	0.41
8:A:1452:G:H2'	8:A:1452:G:N3	2.35	0.41
8:A:1661:G:C2	8:A:2000:C:C2	3.08	0.41
8:A:1770:G:C6	8:A:1771:C:C4	3.07	0.41
8:A:1770:G:C5	8:A:1771:C:C4	3.08	0.41
8:A:1805:A:C6	8:A:1813:G:N1	2.88	0.41
8:A:1857:G:H22	8:A:1884:G:H2'	1.84	0.41
8:A:2044:C:C2	8:A:2045:C:C5	3.08	0.41
8:A:2046:G:C6	8:A:2623:G:C5	3.08	0.41
8:A:2103:C:C2	8:A:2187:U:C4	3.07	0.41
8:A:2119:A:C6	8:A:2169:A:C6	3.07	0.41
8:A:2223:G:C5	8:A:2224:G:C5	3.08	0.41
8:A:2273:A:H2'	8:A:2274:A:C8	2.55	0.41
8:A:2507:C:H2'	8:A:2508:G:O4'	2.19	0.41
8:A:2550:G:N1	8:A:2559:C:C2	2.87	0.41
8:A:2633:G:C8	8:A:2633:G:OP2	2.72	0.41
8:A:2685:G:C6	8:A:2725:A:C6	3.08	0.41
8:A:2811:G:C6	8:A:2812:G:C6	3.08	0.41
8:A:2831:G:C8	11:D:59:ARG:NH1	2.88	0.41
8:A:2876:G:H2'	8:A:2877:G:H8	1.85	0.41
9:B:84:G:C2	9:B:93:C:C2	3.07	0.41
9:B:115:A:C2	9:B:116:G:C4	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:D:56:LYS:C	11:D:58:ASN:H	2.28	0.41
13:F:32:LYS:CA	13:F:95:MET:HE2	2.50	0.41
14:G:4:ALA:C	14:G:6:ALA:H	2.28	0.41
14:G:26:LYS:HD2	14:G:30:GLY:O	2.20	0.41
14:G:79:THR:OG1	14:G:80:GLU:N	2.53	0.41
18:K:15:GLY:O	18:K:47:ILE:HG23	2.20	0.41
18:K:16:ALA:C	18:K:17:ARG:HE	2.28	0.41
18:K:63:VAL:HG23	18:K:64:ARG:CG	2.49	0.41
20:M:135:VAL:HG11	29:V:54:ALA:HB1	2.02	0.41
22:O:6:ALA:O	22:O:9:ARG:HB3	2.19	0.41
24:Q:76:SER:OG	24:Q:77:LYS:N	2.53	0.41
26:S:55:ILE:H	26:S:55:ILE:HG13	1.66	0.41
27:T:12:ARG:H	27:T:34:VAL:HA	1.85	0.41
28:U:25:LYS:HZ2	28:U:36:GLU:HG2	1.84	0.41
32:Y:1:MET:SD	32:Y:6:LEU:HD23	2.60	0.41
34:a:8:A:H4'	38:e:125:LYS:HA	2.02	0.41
34:a:113:G:C5	34:a:114:U:C4	3.07	0.41
34:a:115:G:C4	34:a:289:G:C8	3.07	0.41
34:a:175:C:H2'	34:a:176:C:C6	2.55	0.41
34:a:238:A:P	50:q:26:ARG:HH22	2.43	0.41
34:a:297:G:C2	34:a:299:G:OP2	2.73	0.41
34:a:372:C:C2	34:a:387:U:C5	3.08	0.41
34:a:404:G:N3	34:a:498:A:H2	2.17	0.41
34:a:432:A:C6	34:a:433:G:C4	3.08	0.41
34:a:515:G:O2'	34:a:516:PSU:H6	2.03	0.41
34:a:545:C:C2	34:a:546:A:C8	3.08	0.41
34:a:600:A:C6	34:a:639:G:C6	3.08	0.41
34:a:614:C:N3	34:a:615:G:C8	2.88	0.41
34:a:725:G:C5	34:a:726:C:C4	3.08	0.41
34:a:738:C:O2'	34:a:739:C:H5'	2.19	0.41
34:a:767:A:H2'	34:a:768:A:O4'	2.19	0.41
34:a:921:U:O2'	38:e:23:THR:HB	2.20	0.41
34:a:949:A:H3'	34:a:950:U:H6	1.85	0.41
34:a:974:A:OP1	47:n:69:ARG:NH2	2.53	0.41
34:a:1005:A:N6	34:a:1025:U:O3'	2.53	0.41
34:a:1057:G:C5	34:a:1204:A:N1	2.87	0.41
34:a:1108:G:C6	34:a:1109:C:C5	3.08	0.41
34:a:1149:C:O5'	34:a:1149:C:H6	2.03	0.41
34:a:1189:U:H5"	36:c:4:VAL:HG21	2.01	0.41
34:a:1231:G:C6	34:a:1232:U:C4	3.07	0.41
34:a:1244:G:C6	34:a:1294:G:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1250:A:C4	34:a:1287:A:C5	3.07	0.41
34:a:1312:G:C4	34:a:1313:U:C5	3.08	0.41
34:a:1379:G:C2	34:a:1380:U:C5	3.08	0.41
35:b:49:PHE:CZ	35:b:53:LEU:HD11	2.55	0.41
35:b:218:ALA:HA	35:b:221:ARG:HE	1.85	0.41
37:d:120:LYS:HA	37:d:130:ASN:HB3	2.02	0.41
43:j:24:GLU:O	43:j:27:GLU:HG3	2.20	0.41
44:k:24:ALA:HB3	44:k:87:GLY:O	2.20	0.41
45:l:78:VAL:O	45:l:101:LEU:HB3	2.20	0.41
46:m:51:GLN:O	46:m:54:THR:OG1	2.36	0.41
48:o:28:VAL:HG13	48:o:62:ARG:HG3	2.02	0.41
48:o:36:ASN:OD1	48:o:37:HIS:N	2.53	0.41
49:p:61:VAL:HG12	49:p:65:ALA:HB3	2.01	0.41
50:q:18:LYS:HB3	50:q:47:ASP:O	2.19	0.41
51:r:65:SER:O	51:r:66:LEU:HD23	2.20	0.41
56:w:68:C:H6	56:w:68:C:OP2	2.03	0.41
3:2:19:ARG:NH2	8:A:124:G:C2	2.87	0.41
5:4:4:ARG:HB3	8:A:2466:C:OP1	2.20	0.41
8:A:64:A:C5	8:A:65:U:C5	3.08	0.41
8:A:64:A:H2'	8:A:65:U:H6	1.85	0.41
8:A:165:A:C6	8:A:166:U:C4	3.08	0.41
8:A:193:U:C2	8:A:194:G:C8	3.08	0.41
8:A:223:A:N6	8:A:422:A:N1	2.68	0.41
8:A:407:G:H2'	8:A:408:G:C8	2.54	0.41
8:A:408:G:O6	8:A:420:C:N4	2.53	0.41
8:A:433:C:H2'	8:A:434:U:C6	2.54	0.41
8:A:460:A:C4	8:A:470:A:C6	3.08	0.41
8:A:531:C:C4	8:A:2035:G:C2	3.08	0.41
8:A:538:A:C5	8:A:556:A:C5	3.08	0.41
8:A:631:A:OP1	8:A:631:A:H8	2.02	0.41
8:A:682:G:C2	8:A:796:C:C2	3.08	0.41
8:A:711:G:C5	8:A:721:A:N1	2.88	0.41
8:A:802:A:C4	8:A:803:U:C5	3.07	0.41
8:A:809:G:O2'	8:A:810:U:H5'	2.20	0.41
8:A:815:C:C2	8:A:1193:G:C2	3.08	0.41
8:A:938:G:C4	8:A:939:G:C8	3.08	0.41
8:A:955:PSU:H2'	8:A:956:G:O4'	2.20	0.41
8:A:969:G:H2'	8:A:970:U:H6	1.85	0.41
8:A:1206:G:C4	8:A:1207:C:C6	3.08	0.41
8:A:1239:G:H2'	8:A:1240:U:C6	2.54	0.41
8:A:1259:G:C2	8:A:1260:A:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1268:A:H3'	8:A:1269:A:H8	1.84	0.41
8:A:1387:A:H2'	8:A:1388:G:O4'	2.20	0.41
8:A:1509:A:C2	8:A:1510:G:C4	3.08	0.41
8:A:1532:A:C6	8:A:1540:G:C6	3.08	0.41
8:A:1545:A:H3'	8:A:1546:G:H8	1.85	0.41
8:A:1652:A:C6	8:A:1653:G:N2	2.87	0.41
8:A:1695:G:N1	8:A:1696:G:C5	2.88	0.41
8:A:1766:G:N1	8:A:1987:A:C5	2.88	0.41
8:A:1987:A:C2	8:A:1988:G:N7	2.88	0.41
8:A:2046:G:C5	8:A:2623:G:N1	2.88	0.41
8:A:2119:A:C5	8:A:2169:A:C6	3.08	0.41
8:A:2292:U:H2'	8:A:2293:G:C8	2.55	0.41
8:A:2367:G:C2	8:A:2368:C:C4	3.08	0.41
8:A:2720:U:O4	8:A:2873:A:C5	2.73	0.41
8:A:2820:A:N6	11:D:197:THR:O	2.53	0.41
8:A:2831:G:OP2	11:D:59:ARG:NH1	2.53	0.41
10:C:68:ARG:NH2	10:C:128:THR:HG22	2.35	0.41
10:C:162:GLN:NE2	34:a:712:A:H4'	2.35	0.41
11:D:173:GLN:OE1	11:D:208:LYS:HD2	2.20	0.41
13:F:27:VAL:HG13	13:F:29:ARG:HD3	2.01	0.41
13:F:161:SER:OG	13:F:162:ASP:N	2.52	0.41
17:J:11:VAL:HG23	17:J:13:ARG:NH1	2.35	0.41
17:J:13:ARG:HD3	17:J:121:LYS:HZ2	1.85	0.41
17:J:43:GLU:N	17:J:43:GLU:CD	2.78	0.41
17:J:84:ILE:O	17:J:85:LYS:HG3	2.19	0.41
18:K:20:MET:HE2	18:K:20:MET:HB3	1.79	0.41
18:K:98:ARG:HH21	34:a:337:G:P	2.43	0.41
19:L:79:LEU:CD1	19:L:112:LEU:HD12	2.49	0.41
23:P:27:VAL:HG22	23:P:29:VAL:HG13	2.02	0.41
24:Q:57:ARG:NE	24:Q:61:ILE:HD11	2.35	0.41
24:Q:90:ASP:OD1	24:Q:93:ILE:HG12	2.20	0.41
26:S:105:VAL:HG12	26:S:106:VAL:H	1.86	0.41
27:T:68:LYS:O	27:T:74:ILE:HD12	2.20	0.41
29:V:53:LYS:HD2	29:V:53:LYS:N	2.35	0.41
31:X:14:GLY:HA3	31:X:28:PHE:CE1	2.54	0.41
34:a:57:G:C6	34:a:58:C:C4	3.08	0.41
34:a:392:C:C2	34:a:393:A:C8	3.08	0.41
34:a:424:G:C6	34:a:425:G:C5	3.07	0.41
34:a:445:G:H2'	34:a:446:G:H8	1.85	0.41
34:a:499:A:N6	34:a:547:A:H5"	2.30	0.41
34:a:520:A:N6	34:a:521:G:C4	2.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:653:U:C5	41:h:55:LYS:HG2	2.55	0.41
34:a:704:A:C4	34:a:705:G:C8	3.08	0.41
34:a:786:G:C5	34:a:787:A:N7	2.89	0.41
34:a:790:A:C6	34:a:791:G:C6	3.07	0.41
34:a:859:G:H2'	34:a:860:A:C8	2.54	0.41
34:a:1136:C:O5'	34:a:1136:C:H6	2.03	0.41
34:a:1167:A:H2'	34:a:1169:A:C8	2.55	0.41
34:a:1206:G:C2	34:a:1207:2MG:H1'	2.55	0.41
34:a:1260:G:C6	34:a:1274:A:N1	2.88	0.41
34:a:1461:G:C5	34:a:1462:C:C5	3.08	0.41
35:b:20:ARG:NH2	35:b:21:TYR:CZ	2.88	0.41
35:b:66:ILE:HB	35:b:88:GLN:HG3	2.02	0.41
35:b:67:LEU:CD2	35:b:100:LEU:HD21	2.50	0.41
35:b:77:GLU:CD	35:b:78:ALA:N	2.78	0.41
36:c:149:LYS:HE3	36:c:200:TRP:CE3	2.55	0.41
36:c:190:THR:HG21	36:c:195:ILE:HD12	2.02	0.41
37:d:144:ILE:HB	37:d:149:LYS:CD	2.51	0.41
39:f:3:HIS:O	39:f:91:ARG:HD2	2.20	0.41
40:g:118:ARG:HD3	40:g:118:ARG:N	2.35	0.41
44:k:25:SER:HG	44:k:28:ASN:C	2.17	0.41
44:k:105:ARG:HH11	44:k:105:ARG:HG2	1.84	0.41
45:l:81:ILE:HG13	45:l:95:HIS:O	2.20	0.41
51:r:20:ILE:CG2	51:r:54:LEU:HD23	2.49	0.41
52:s:43:MET:O	52:s:46:LEU:HD23	2.20	0.41
53:t:65:LEU:HD13	53:t:65:LEU:HA	1.75	0.41
53:t:73:ARG:HG2	53:t:77:ASN:ND2	2.31	0.41
55:v:44:A:C5	55:v:45:G:C5	3.08	0.41
2:1:18:HIS:ND1	2:1:39:ASP:OD2	2.45	0.41
3:2:30:VAL:HA	3:2:33:ARG:HG3	2.00	0.41
8:A:8:C:N4	8:A:9:G:C6	2.88	0.41
8:A:48:G:C6	8:A:178:G:C6	3.07	0.41
8:A:53:A:C6	8:A:117:G:N2	2.68	0.41
8:A:93:G:H3'	8:A:94:A:H8	1.85	0.41
8:A:103:A:H8	8:A:103:A:P	2.43	0.41
8:A:283:G:H2'	8:A:284:U:C6	2.55	0.41
8:A:283:G:C6	8:A:358:U:N3	2.88	0.41
8:A:457:A:H8	8:A:457:A:O5'	2.03	0.41
8:A:532:A:N3	8:A:532:A:H2'	2.35	0.41
8:A:681:G:C4	8:A:682:G:C8	3.08	0.41
8:A:691:C:H5'	10:C:216:ARG:NH1	2.35	0.41
8:A:729:G:C2	8:A:1775:U:N1	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:753:A:C6	8:A:754:U:C4	3.08	0.41
8:A:822:G:C4	8:A:823:C:C5	3.09	0.41
8:A:843:G:C6	8:A:936:A:C6	3.08	0.41
8:A:1004:U:H4'	8:A:1010:A:N7	2.35	0.41
8:A:1178:C:C2	8:A:1180:U:C5	3.08	0.41
8:A:1218:G:C2	8:A:1232:G:C5	3.08	0.41
8:A:1288:G:H22	21:N:105:GLY:HA3	1.85	0.41
8:A:1303:G:H2'	8:A:1304:A:C8	2.54	0.41
8:A:1322:A:C5	8:A:1323:C:C5	3.08	0.41
8:A:1380:G:N3	8:A:1381:G:C8	2.88	0.41
8:A:1408:G:O6	8:A:1594:U:C4	2.73	0.41
8:A:1445:G:C4	8:A:1446:C:C6	3.08	0.41
8:A:1451:C:OP2	8:A:1451:C:H6	2.03	0.41
8:A:1567:G:C8	10:C:82:TYR:HE2	2.38	0.41
8:A:1735:A:N1	8:A:1736:U:C2	2.88	0.41
8:A:1744:A:C6	8:A:1745:A:C4	3.08	0.41
8:A:1750:G:C6	8:A:1751:U:C4	3.08	0.41
8:A:1770:G:C2	8:A:1983:G:C5	3.09	0.41
8:A:1857:G:C4	8:A:1884:G:C2	3.08	0.41
8:A:1875:G:O2'	8:A:1876:A:O5'	2.28	0.41
8:A:2018:G:H2'	8:A:2019:A:H8	1.84	0.41
8:A:2086:U:C2	8:A:2234:G:C5	3.08	0.41
8:A:2149:U:H3'	8:A:2150:C:C6	2.55	0.41
8:A:2185:U:N3	8:A:2186:G:C8	2.89	0.41
8:A:2204:G:C2	8:A:2205:A:C5	3.09	0.41
8:A:2226:C:C4	8:A:2227:A:C5	3.08	0.41
8:A:2274:A:H5"	8:A:2275:C:OP1	2.20	0.41
8:A:2314:A:H2'	8:A:2315:G:C8	2.56	0.41
8:A:2412:A:H2'	8:A:2413:G:O4'	2.20	0.41
8:A:2461:A:C5	8:A:2462:C:C5	3.08	0.41
8:A:2637:U:H3'	8:A:2638:G:C8	2.55	0.41
8:A:2718:G:C6	8:A:2719:G:C6	3.08	0.41
8:A:2821:A:C6	8:A:2822:G:C6	3.08	0.41
8:A:2861:U:N3	8:A:2862:G:N7	2.68	0.41
9:B:51:G:H5'	22:O:64:TYR:HB2	2.02	0.41
10:C:179:GLU:HB2	10:C:270:ARG:HB2	2.02	0.41
11:D:181:ASP:OD2	11:D:184:ARG:HB2	2.20	0.41
13:F:4:HIS:CE1	13:F:8:LYS:HD3	2.56	0.41
22:O:77:ALA:HA	22:O:80:GLU:OE1	2.19	0.41
23:P:87:ARG:NH2	23:P:109:ILE:O	2.23	0.41
29:V:64:VAL:HG22	29:V:69:GLU:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:38:G:H22	34:a:397:A:C5’	2.33	0.41
34:a:108:G:H5”	34:a:109:A:H5’	2.01	0.41
34:a:202:G:H1	34:a:215:C:N4	2.18	0.41
34:a:391:G:OP1	49:p:28:ARG:NH1	2.47	0.41
34:a:560:A:N6	34:a:566:G:OP1	2.54	0.41
34:a:674:G:H21	44:k:117:HIS:CB	2.33	0.41
34:a:695:A:C4	34:a:696:A:C8	3.08	0.41
34:a:786:G:C2	34:a:797:C:C2	3.08	0.41
34:a:925:G:C2	34:a:927:G:C5	3.08	0.41
34:a:928:G:C2	34:a:929:G:C8	3.08	0.41
34:a:945:G:C2	34:a:1337:G:N2	2.89	0.41
34:a:985:C:O2’	34:a:986:U:H5’	2.20	0.41
34:a:1008:U:H2’	34:a:1009:U:C6	2.55	0.41
34:a:1027:C:H3’	34:a:1028:C:C6	2.56	0.41
34:a:1108:G:H2’	34:a:1108:G:N3	2.36	0.41
34:a:1111:A:N6	36:c:176:THR:HA	2.35	0.41
34:a:1115:U:OP1	43:j:68:ARG:NH2	2.53	0.41
34:a:1147:C:H4’	42:i:6:TYR:CE1	2.56	0.41
34:a:1158:C:C5	34:a:1160:G:O4’	2.73	0.41
34:a:1228:C:H5’	46:m:112:ARG:HB3	2.03	0.41
34:a:1454:G:C2	34:a:1455:G:C8	3.09	0.41
35:b:102:ASN:O	35:b:106:VAL:HG23	2.19	0.41
36:c:6:PRO:O	36:c:9:ILE:HG22	2.18	0.41
37:d:103:ARG:NH2	37:d:190:LEU:HD21	2.35	0.41
38:e:36:THR:HG22	38:e:37:VAL:N	2.35	0.41
38:e:92:ARG:HB3	38:e:127:TYR:HB2	2.01	0.41
38:e:132:PRO:O	38:e:136:VAL:HG22	2.20	0.41
40:g:113:LYS:H	40:g:118:ARG:HD2	1.85	0.41
45:l:56:LEU:HA	45:l:56:LEU:HD23	1.68	0.41
45:l:110:LYS:HA	45:l:110:LYS:HD3	1.90	0.41
48:o:83:ARG:C	48:o:84:LEU:HD12	2.45	0.41
55:v:48:C:N3	55:v:59:A:C8	2.88	0.41
55:v:51:C:N3	55:v:64:G:C6	2.88	0.41
3:2:5:PHE:CZ	3:2:7:PRO:HB3	2.56	0.41
4:3:3:ILE:HG13	4:3:4:LYS:O	2.20	0.41
4:3:18:LYS:HB2	8:A:651:G:OP1	2.20	0.41
5:4:24:ARG:HG2	5:4:36:ARG:HA	2.02	0.41
7:6:14:ALA:HA	7:6:32:LEU:O	2.19	0.41
8:A:64:A:P	8:A:64:A:H8	2.43	0.41
8:A:176:A:H2’	8:A:177:G:C4	2.56	0.41
8:A:190:A:C2	8:A:191:A:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:269:C:H2'	8:A:270:A:C8	2.55	0.41
8:A:363:G:H2'	8:A:364:C:H6	1.86	0.41
8:A:491:G:O6	26:S:49:LYS:NZ	2.35	0.41
8:A:503:A:H1'	8:A:506:G:OP2	2.20	0.41
8:A:652:U:P	8:A:654:A:H61	2.44	0.41
8:A:699:A:N7	8:A:734:A:C5	2.88	0.41
8:A:924:G:C2	8:A:925:A:C8	3.08	0.41
8:A:928:A:C6	8:A:929:U:C4	3.09	0.41
8:A:945:A:C5	8:A:2448:A:C2	3.08	0.41
8:A:1038:G:H2'	8:A:1039:A:C8	2.56	0.41
8:A:1103:A:C6	8:A:1104:C:N3	2.89	0.41
8:A:1298:C:C2'	8:A:1299:G:C8	3.02	0.41
8:A:1317:G:O6	8:A:1336:A:N6	2.53	0.41
8:A:1416:G:O2'	8:A:1417:C:O5'	2.37	0.41
8:A:1476:U:O2'	8:A:1477:A:H5'	2.20	0.41
8:A:1482:G:C4	8:A:1483:G:C8	3.09	0.41
8:A:1826:G:C2	8:A:1827:U:C2	3.07	0.41
8:A:1883:U:H2'	8:A:1884:G:C1'	2.51	0.41
8:A:2002:G:O6	8:A:2003:A:N6	2.53	0.41
8:A:2085:U:O2'	8:A:2086:U:H5'	2.21	0.41
8:A:2096:C:H2'	8:A:2097:A:H8	1.77	0.41
8:A:2314:A:H2'	8:A:2315:G:H8	1.84	0.41
8:A:2330:G:N1	8:A:2386:A:C6	2.88	0.41
8:A:2330:G:N1	8:A:2386:A:N1	2.69	0.41
8:A:2380:C:H2'	8:A:2381:A:H8	1.82	0.41
8:A:2445:2MG:HM23	8:A:2446:G:H1'	2.01	0.41
8:A:2458:G:H2'	8:A:2490:G:C6	2.56	0.41
8:A:2495:G:O3'	20:M:82:MET:HE3	2.20	0.41
8:A:2740:A:H2'	8:A:2741:A:O4'	2.21	0.41
8:A:2859:G:H2'	8:A:2860:A:H8	1.86	0.41
9:B:9:G:C6	9:B:112:G:C6	3.08	0.41
11:D:36:GLN:HA	11:D:92:VAL:HG12	2.01	0.41
13:F:46:LYS:HE3	13:F:83:PRO:HG3	2.02	0.41
14:G:34:ARG:HG2	14:G:36:LEU:HD23	2.03	0.41
15:H:42:LYS:HE2	15:H:46:PHE:CD2	2.56	0.41
17:J:38:GLY:HA2	17:J:40:HIS:CE1	2.56	0.41
19:L:21:ARG:O	19:L:25:SER:HB3	2.20	0.41
20:M:58:LYS:HE2	20:M:58:LYS:HB2	1.84	0.41
22:O:43:ASN:HD21	22:O:46:GLU:CG	2.32	0.41
22:O:67:ASN:O	22:O:68:LYS:C	2.63	0.41
23:P:52:ARG:HB2	23:P:55:HIS:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:S:92:ARG:HG2	26:S:93:ALA:H	1.86	0.41
29:V:42:LEU:HA	29:V:42:LEU:HD23	1.81	0.41
31:X:47:THR:O	31:X:48:LEU:HD12	2.20	0.41
34:a:46:G:C4	34:a:366:A:C6	3.08	0.41
34:a:134:G:C2	34:a:135:C:C2	3.09	0.41
34:a:159:G:H1'	34:a:163:C:N3	2.36	0.41
34:a:267:C:H2'	34:a:268:U:C6	2.55	0.41
34:a:394:G:C2	34:a:395:C:C4	3.09	0.41
34:a:424:G:C6	34:a:425:G:C6	3.08	0.41
34:a:430:A:H3'	34:a:431:A:H8	1.85	0.41
34:a:433:G:C6	34:a:434:U:C4	3.09	0.41
34:a:622:A:H2'	34:a:623:C:O4'	2.20	0.41
34:a:656:G:H8	34:a:656:G:OP2	2.03	0.41
34:a:771:G:C5	34:a:772:U:C5	3.08	0.41
34:a:782:A:N7	34:a:801:U:N3	2.69	0.41
34:a:805:C:H2'	34:a:806:C:H6	1.86	0.41
34:a:929:G:C5	34:a:930:C:C5	3.08	0.41
34:a:955:U:C4	34:a:956:U:N3	2.89	0.41
34:a:957:U:H2'	34:a:959:A:OP2	2.20	0.41
34:a:964:A:H2	34:a:969:A:O2'	2.03	0.41
34:a:1000:A:H2'	34:a:1001:C:C6	2.55	0.41
34:a:1002:G:C4	34:a:1003:G:C8	3.09	0.41
34:a:1004:A:P	34:a:1004:A:H3'	2.61	0.41
34:a:1014:A:H5'	52:s:17:LYS:HE2	2.01	0.41
34:a:1105:A:H2'	34:a:1106:G:C8	2.53	0.41
34:a:1176:A:H2'	34:a:1177:G:C8	2.56	0.41
34:a:1249:C:O2	34:a:1289:A:N6	2.53	0.41
34:a:1444:U:H2'	34:a:1445:U:H6	1.84	0.41
34:a:1465:A:C5	34:a:1466:C:C5	3.08	0.41
36:c:118:SER:O	36:c:122:GLN:HG3	2.21	0.41
37:d:141:VAL:HG13	37:d:179:GLY:C	2.45	0.41
38:e:52:ALA:HB3	38:e:58:ALA:HB2	2.03	0.41
38:e:78:GLY:C	38:e:120:HIS:H	2.28	0.41
40:g:25:PHE:HD1	40:g:100:MET:HG2	1.85	0.41
42:i:101:GLY:C	42:i:103:VAL:N	2.78	0.41
46:m:7:ASN:O	46:m:8:ILE:C	2.64	0.41
46:m:14:ALA:HB1	46:m:33:LEU:HD11	2.03	0.41
46:m:74:MET:HE3	46:m:74:MET:HB3	1.91	0.41
53:t:59:ARG:HB2	53:t:60:GLN:NE2	2.36	0.41
55:v:14:A:C6	55:v:15:G:C4	3.08	0.41
8:A:45:G:N1	8:A:434:U:C4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:64:A:C4	8:A:65:U:C6	3.08	0.41
8:A:82:U:O2'	8:A:83:A:O4'	2.21	0.41
8:A:114:U:H2'	8:A:115:C:H6	1.84	0.41
8:A:118:A:C8	8:A:119:A:C8	3.08	0.41
8:A:250:G:O2'	19:L:47:ARG:NH2	2.54	0.41
8:A:260:G:C6	8:A:261:G:C8	3.09	0.41
8:A:317:G:C4	8:A:318:C:C5	3.08	0.41
8:A:336:C:O3'	28:U:3:LYS:HD2	2.21	0.41
8:A:383:C:H2'	8:A:385:C:N4	2.35	0.41
8:A:383:C:H5	8:A:385:C:H3'	1.86	0.41
8:A:433:C:C2	8:A:434:U:C5	3.08	0.41
8:A:441:U:O2'	8:A:442:G:H5'	2.19	0.41
8:A:579:G:H5'	8:A:2017:U:C6	2.55	0.41
8:A:599:A:H2'	8:A:600:G:C8	2.55	0.41
8:A:603:A:C8	8:A:655:A:N6	2.88	0.41
8:A:608:A:C5	8:A:609:A:C5	3.09	0.41
8:A:696:G:H3'	8:A:697:G:H8	1.84	0.41
8:A:817:C:H2'	8:A:818:G:C8	2.55	0.41
8:A:998:C:OP2	24:Q:91:ARG:NH1	2.50	0.41
8:A:1049:C:N3	8:A:1050:A:C8	2.89	0.41
8:A:1218:G:H2'	8:A:1219:U:H6	1.85	0.41
8:A:1268:A:N6	8:A:2012:G:H21	2.19	0.41
8:A:1436:G:H2'	8:A:1437:C:H6	1.85	0.41
8:A:1709:U:C2	8:A:1710:G:N7	2.89	0.41
8:A:1727:C:C4	8:A:1734:G:N1	2.89	0.41
8:A:1801:A:C4	10:C:261:ARG:CZ	3.04	0.41
8:A:1858:A:C6	8:A:1859:U:C2	3.08	0.41
8:A:1913:A:C2	56:w:38:A:H5'	2.56	0.41
8:A:1982:U:C2	8:A:1983:G:C8	3.09	0.41
8:A:2087:G:H2'	8:A:2088:A:H8	1.85	0.41
8:A:2271:G:H4'	30:W:16:ARG:NH1	2.36	0.41
8:A:2335:A:C4	8:A:2337:G:N7	2.88	0.41
8:A:2437:G:C8	8:A:2437:G:OP2	2.74	0.41
8:A:2463:C:N3	8:A:2464:G:N7	2.68	0.41
8:A:2484:G:C4	8:A:2485:G:C8	3.08	0.41
8:A:2487:G:N3	8:A:2488:G:C8	2.88	0.41
8:A:2538:C:C2	8:A:2539:C:C5	3.08	0.41
8:A:2643:G:N1	8:A:2772:C:N3	2.69	0.41
8:A:2776:A:C2	8:A:2778:A:C4	3.09	0.41
8:A:2851:A:C4	8:A:2852:G:C8	3.08	0.41
8:A:2875:C:H4'	23:P:1:SER:H1	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2900:A:H2'	8:A:2901:C:H6	1.83	0.41
9:B:71:C:C4	9:B:72:G:C5	3.08	0.41
10:C:43:ASN:O	10:C:46:GLY:N	2.50	0.41
10:C:239:PHE:HE1	10:C:241:LYS:C	2.27	0.41
12:E:25:GLU:HG2	19:L:7:SER:O	2.20	0.41
13:F:76:PHE:O	13:F:78:ILE:HG23	2.19	0.41
15:H:132:PHE:N	15:H:140:ALA:HB3	2.35	0.41
19:L:74:THR:HA	19:L:107:PHE:O	2.20	0.41
20:M:19:GLY:O	20:M:38:ARG:NH1	2.54	0.41
20:M:77:PRO:O	20:M:80:VAL:HB	2.20	0.41
22:O:30:ARG:HB3	22:O:97:PHE:CD1	2.55	0.41
22:O:80:GLU:O	22:O:84:GLU:HG3	2.21	0.41
22:O:99:TYR:OH	22:O:111:ARG:NH2	2.53	0.41
24:Q:31:TYR:CZ	24:Q:35:PHE:HB2	2.55	0.41
25:R:40:MET:SD	25:R:49:ILE:HD13	2.61	0.41
28:U:85:ARG:NH1	28:U:99:SER:HB3	2.32	0.41
29:V:12:GLN:N	29:V:12:GLN:OE1	2.54	0.41
29:V:20:LEU:HA	29:V:20:LEU:HD23	1.86	0.41
29:V:40:ILE:CG2	29:V:65:VAL:HG21	2.51	0.41
32:Y:24:GLU:HG2	32:Y:28:LEU:HD22	2.02	0.41
33:Z:52:PHE:CG	33:Z:53:MET:N	2.88	0.41
34:a:36:C:N3	34:a:37:U:C4	2.89	0.41
34:a:72:A:H2'	34:a:73:C:C6	2.55	0.41
34:a:189:A:H2'	34:a:190:A:O4'	2.20	0.41
34:a:252:U:H2'	34:a:253:A:C8	2.55	0.41
34:a:275:G:C6	34:a:276:G:C6	3.08	0.41
34:a:337:G:H2'	34:a:338:A:H8	1.81	0.41
34:a:527:G7M:N1	34:a:528:C:C4	2.88	0.41
34:a:537:G:N1	34:a:538:G:C5	2.89	0.41
34:a:626:G:OP1	49:p:35:ARG:NH2	2.52	0.41
34:a:629:A:C6	34:a:630:A:C2	3.08	0.41
34:a:645:G:C4	34:a:646:G:C8	3.09	0.41
34:a:646:G:C6	34:a:647:C:N3	2.88	0.41
34:a:666:G:C4	34:a:667:G:C8	3.08	0.41
34:a:674:G:O6	34:a:716:A:C6	2.74	0.41
34:a:678:U:H2'	34:a:679:C:H6	1.85	0.41
34:a:687:A:N1	34:a:704:A:C5	2.88	0.41
34:a:735:C:H2'	34:a:736:C:C5	2.55	0.41
34:a:755:G:H2'	34:a:756:C:O4'	2.20	0.41
34:a:785:G:C2	34:a:798:U:N3	2.88	0.41
34:a:900:A:C4	34:a:901:A:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:953:G:C6	34:a:1229:A:C6	3.08	0.41
34:a:955:U:H2'	34:a:956:U:O4'	2.21	0.41
34:a:1028:C:O2	34:a:1033:G:N1	2.53	0.41
34:a:1057:G:C6	34:a:1204:A:N6	2.89	0.41
34:a:1233:G:H5'	42:i:118:ARG:NH2	2.34	0.41
34:a:1250:A:N3	34:a:1370:G:O2'	2.53	0.41
34:a:1262:C:H2'	34:a:1263:C:C6	2.55	0.41
34:a:1284:C:C4	34:a:1285:A:C6	3.09	0.41
34:a:1308:U:H3'	46:m:97:ARG:NH2	2.35	0.41
34:a:1487:G:N3	34:a:1488:G:C8	2.88	0.41
35:b:58:LYS:O	35:b:61:SER:OG	2.17	0.41
35:b:76:SER:CB	35:b:92:ASN:HB2	2.50	0.41
35:b:120:SER:HA	35:b:125:PHE:CD2	2.56	0.41
37:d:175:GLY:O	37:d:176:LYS:HE2	2.20	0.41
41:h:94:VAL:HG12	41:h:99:GLY:HA3	2.02	0.41
42:i:99:LYS:HE2	42:i:99:LYS:HB2	1.89	0.41
43:j:10:LEU:O	43:j:72:ARG:N	2.53	0.41
43:j:52:LEU:HB2	47:n:81:ARG:HD2	2.03	0.41
44:k:36:ARG:HD3	44:k:37:GLN:OE1	2.20	0.41
51:r:61:ALA:CB	51:r:67:LEU:HB2	2.50	0.41
52:s:28:LYS:HD2	52:s:29:PRO:O	2.19	0.41
55:v:8:4SU:S4	55:v:14:A:C8	3.13	0.41
55:v:18:G:N2	55:v:58:A:O5'	2.54	0.41
55:v:43:A:N3	55:v:43:A:H2'	2.35	0.41
55:v:75:C:H6	55:v:75:C:H2'	1.63	0.41
56:w:6:G:N2	56:w:67:C:C2	2.76	0.41
56:w:8:4SU:O2	56:w:15:G:N1	2.53	0.41
56:w:8:4SU:O2'	56:w:9:A:H5'	2.21	0.41
56:w:19:G:H22	56:w:57:G:H1'	1.82	0.41
4:3:50:SER:HB2	4:3:53:ASP:OD2	2.20	0.41
8:A:32:C:N4	8:A:474:G:O6	2.53	0.41
8:A:52:A:C6	8:A:53:A:C5	3.08	0.41
8:A:116:C:H2'	8:A:117:G:O4'	2.20	0.41
8:A:128:C:C2	8:A:129:C:C5	3.08	0.41
8:A:265:A:C8	8:A:428:A:C6	3.09	0.41
8:A:306:U:H3	8:A:310:A:N6	2.15	0.41
8:A:458:G:O2'	8:A:469:G:O6	2.39	0.41
8:A:513:A:C2	8:A:514:A:C8	3.09	0.41
8:A:555:G:O2'	8:A:556:A:H8	2.04	0.41
8:A:669:G:C6	8:A:801:G:O6	2.73	0.41
8:A:708:G:C2	8:A:709:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:993:G:O2'	25:R:91:GLN:OE1	2.23	0.41
8:A:1107:G:H2'	8:A:1108:U:C6	2.55	0.41
8:A:1220:G:H2'	8:A:1221:C:C6	2.56	0.41
8:A:1364:G:N3	8:A:1368:G:C2	2.89	0.41
8:A:1565:C:C4	8:A:1567:G:C2	3.08	0.41
8:A:1613:G:N1	8:A:1619:G:C6	2.88	0.41
8:A:1637:A:C6	8:A:1638:C:C4	3.08	0.41
8:A:1770:G:C6	8:A:1982:U:N3	2.68	0.41
8:A:1823:G:C6	8:A:1824:G:C5	3.09	0.41
8:A:1824:G:C4	8:A:1825:U:C5	3.09	0.41
8:A:1858:A:C2	8:A:1859:U:H1'	2.56	0.41
8:A:2038:G:C6	8:A:2039:U:N3	2.89	0.41
8:A:2079:U:N3	8:A:2080:A:C8	2.89	0.41
8:A:2112:G:H8	8:A:2112:G:P	2.44	0.41
8:A:2126:A:N7	8:A:2162:G:N2	2.69	0.41
8:A:2168:G:N1	8:A:2169:A:C5	2.89	0.41
8:A:2290:G:C2	8:A:2343:U:O2	2.73	0.41
8:A:2316:G:H4'	13:F:124:ARG:NE	2.36	0.41
8:A:2469:A:C6	8:A:2470:G:C4	3.09	0.41
8:A:2519:U:C4	8:A:2541:A:C4	3.08	0.41
8:A:2630:G:C4	8:A:2631:G:C8	3.09	0.41
8:A:2648:G:C4	8:A:2649:C:C6	3.09	0.41
8:A:2648:G:C5	8:A:2649:C:C5	3.09	0.41
8:A:2661:G:C5	8:A:2662:A:C2	3.09	0.41
8:A:2704:C:H2'	8:A:2705:A:C8	2.55	0.41
9:B:16:G:O2'	9:B:17:C:H5'	2.20	0.41
9:B:35:C:O2'	9:B:36:C:O4'	2.37	0.41
9:B:44:G:N2	9:B:48:U:C2	2.88	0.41
9:B:66:A:OP2	9:B:108:A:N6	2.53	0.41
9:B:105:G:C2	9:B:106:G:C4	3.09	0.41
13:F:49:LEU:HD12	13:F:52:ALA:HB3	2.03	0.41
13:F:121:PHE:CE1	13:F:127:TYR:HD1	2.37	0.41
14:G:94:ARG:N	14:G:105:SER:HG	2.19	0.41
17:J:73:VAL:HG12	17:J:74:TYR:N	2.35	0.41
22:O:8:ILE:O	22:O:12:THR:OG1	2.30	0.41
25:R:6:GLN:HB2	25:R:10:LYS:N	2.36	0.41
27:T:40:LYS:HE3	27:T:60:THR:HG22	2.02	0.41
30:W:13:GLU:HB3	30:W:15:LYS:NZ	2.35	0.41
30:W:37:ARG:HA	30:W:37:ARG:HE	1.86	0.41
34:a:100:G:C6	34:a:101:A:C4	3.08	0.41
34:a:151:A:N7	34:a:170:U:C4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:155:A:N1	34:a:167:A:C6	2.89	0.41
34:a:173:U:C2	34:a:197:A:C2	3.09	0.41
34:a:192:A:C2	34:a:193:C:C2	3.08	0.41
34:a:279:A:OP1	34:a:281:G:H5'	2.21	0.41
34:a:292:G:C6	34:a:309:A:N1	2.88	0.41
34:a:301:G:C2	34:a:302:G:C4	3.09	0.41
34:a:375:U:C2	34:a:376:G:C8	3.08	0.41
34:a:408:A:C6	34:a:435:A:C6	3.09	0.41
34:a:453:G:H2'	34:a:454:G:O4'	2.21	0.41
34:a:520:A:C6	34:a:521:G:C4	3.08	0.41
34:a:550:G:C4	34:a:551:U:C5	3.09	0.41
34:a:580:C:H2'	34:a:581:G:C8	2.55	0.41
34:a:706:A:H5"	44:k:86:LYS:HZ3	1.85	0.41
34:a:748:G:H2'	34:a:749:A:H8	1.86	0.41
34:a:905:U:C2	34:a:906:A:C8	3.08	0.41
34:a:987:G:C6	34:a:1219:A:N6	2.89	0.41
34:a:999:C:N3	34:a:1042:A:N6	2.69	0.41
34:a:1157:A:N6	34:a:1177:G:N2	2.69	0.41
34:a:1240:U:O2'	34:a:1241:G:H5'	2.21	0.41
34:a:1265:C:H2'	34:a:1266:G:C8	2.55	0.41
34:a:1275:A:C4	34:a:1276:G:C8	3.09	0.41
34:a:1419:G:N7	34:a:1420:U:H1'	2.36	0.41
34:a:1445:U:C4	34:a:1457:G:O6	2.74	0.41
35:b:67:LEU:HD12	35:b:68:PHE:N	2.36	0.41
36:c:56:ILE:HD13	36:c:56:ILE:HA	1.85	0.41
40:g:143:MET:O	40:g:147:ASN:ND2	2.53	0.41
41:h:44:PHE:HD2	41:h:71:VAL:HG12	1.86	0.41
44:k:34:THR:C	44:k:41:LEU:HD23	2.46	0.41
46:m:15:VAL:HA	46:m:18:LEU:HG	2.02	0.41
47:n:22:LYS:HD3	47:n:51:LEU:HD21	2.03	0.41
51:r:47:ARG:HB2	51:r:50:TYR:CD2	2.55	0.41
53:t:41:GLY:HA2	53:t:85:LEU:HD21	2.03	0.41
56:w:62:C:H2'	56:w:63:G:C8	2.56	0.41
56:w:71:G:H2'	56:w:72:C:H6	1.86	0.41
2:1:34:GLU:OE2	2:1:49:LYS:HA	2.21	0.41
3:2:37:LYS:NZ	8:A:469:G:C6	2.89	0.41
5:4:23:ILE:CB	5:4:38:GLY:HA3	2.34	0.41
8:A:9:G:C2	8:A:2629:U:C4	3.09	0.41
8:A:51:G:N2	8:A:119:A:C4	2.89	0.41
8:A:271:G:C2	8:A:272:A:C5	3.09	0.41
8:A:273:G:C2	8:A:365:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:318:C:H2'	8:A:319:G:H8	1.84	0.41
8:A:492:A:H2	26:S:7:HIS:CE1	2.38	0.41
8:A:572:A:C3'	8:A:573:U:H6	2.33	0.41
8:A:586:A:C2	8:A:1254:A:N1	2.88	0.41
8:A:655:A:O3'	8:A:656:G:H8	2.03	0.41
8:A:681:G:C2	8:A:682:G:C5	3.09	0.41
8:A:713:G:N2	8:A:719:C:C4	2.88	0.41
8:A:794:A:C4	8:A:795:C:C5	3.08	0.41
8:A:866:A:C5	8:A:914:G:N7	2.88	0.41
8:A:945:A:C6	8:A:2448:A:C6	3.08	0.41
8:A:967:U:H2'	8:A:968:C:H6	1.85	0.41
8:A:980:A:C5	8:A:981:A:C5	3.09	0.41
8:A:1016:G:C4	8:A:1017:G:C8	3.09	0.41
8:A:1040:A:N6	8:A:1116:G:C6	2.89	0.41
8:A:1122:G:C5	8:A:1123:C:C4	3.08	0.41
8:A:1192:G:H2'	8:A:1193:G:O4'	2.21	0.41
8:A:1232:G:H2'	8:A:1233:C:C6	2.56	0.41
8:A:1252:G:C5	8:A:1253:A:C2	3.09	0.41
8:A:1310:G:C8	8:A:1311:G:N7	2.88	0.41
8:A:1318:U:H2'	8:A:1319:C:H6	1.81	0.41
8:A:1321:A:C4	8:A:1322:A:C8	3.08	0.41
8:A:1498:C:H2'	8:A:1499:C:H6	1.85	0.41
8:A:1661:G:C6	8:A:2000:C:N3	2.89	0.41
8:A:1722:A:H2'	8:A:1723:G:C8	2.56	0.41
8:A:1903:G:N1	8:A:1904:G:N7	2.68	0.41
8:A:1916:A:O2'	8:A:1917:PSU:C6	2.74	0.41
8:A:1933:G:H2'	8:A:1934:C:O4'	2.20	0.41
8:A:2004:G:H2'	8:A:2005:A:O4'	2.20	0.41
8:A:2074:U:C2	8:A:2436:G:C2	3.09	0.41
8:A:2108:A:O2'	8:A:2109:U:O4'	2.35	0.41
8:A:2117:A:N6	8:A:2166:U:H1'	2.36	0.41
8:A:2197:U:N3	8:A:2224:G:C2	2.89	0.41
8:A:2236:U:C4	8:A:2237:G:C5	3.09	0.41
8:A:2246:G:N3	8:A:2247:A:C8	2.89	0.41
8:A:2532:G:H3'	8:A:2532:G:OP2	2.19	0.41
8:A:2544:G:N1	8:A:2545:G:C5	2.88	0.41
8:A:2548:U:H5'	18:K:29:HIS:CE1	2.56	0.41
8:A:2594:C:N4	8:A:2595:G:C6	2.88	0.41
8:A:2601:C:C2	8:A:2603:G:N7	2.89	0.41
8:A:2699:C:H2'	8:A:2700:A:C8	2.56	0.41
8:A:2714:G:C4	8:A:2715:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2811:G:C6	8:A:2812:G:C5	3.09	0.41
9:B:10:G:C5	9:B:11:C:C4	3.09	0.41
9:B:39:A:C6	9:B:40:U:O4	2.72	0.41
9:B:89:U:H4'	9:B:90:C:C6	2.55	0.41
9:B:112:G:H2'	9:B:113:C:H6	1.85	0.41
11:D:4:LEU:HB3	11:D:5:VAL:H	1.68	0.41
11:D:6:GLY:HA3	11:D:27:ILE:CG2	2.50	0.41
13:F:8:LYS:HE2	13:F:8:LYS:HB2	1.82	0.41
14:G:41:GLU:HA	14:G:54:ARG:CZ	2.50	0.41
18:K:8:LEU:HB3	18:K:84:CYS:SG	2.60	0.41
19:L:75:ALA:HB3	19:L:108:ALA:HB2	2.02	0.41
21:N:31:HIS:C	21:N:33:ILE:H	2.29	0.41
23:P:21:PRO:HA	23:P:46:VAL:HG11	2.03	0.41
24:Q:116:LEU:HD23	24:Q:116:LEU:HA	1.79	0.41
26:S:69:LEU:HD12	26:S:108:SER:O	2.20	0.41
30:W:43:ALA:HA	30:W:55:LEU:HD13	2.02	0.41
30:W:73:ARG:H	30:W:73:ARG:HG2	1.69	0.41
32:Y:44:LYS:HA	32:Y:47:ARG:CZ	2.51	0.41
34:a:3:A:N3	34:a:613:C:H1'	2.36	0.41
34:a:60:A:C6	34:a:108:G:H4'	2.55	0.41
34:a:328:C:H4'	34:a:329:A:C5'	2.50	0.41
34:a:335:C:H2'	34:a:336:A:C8	2.55	0.41
34:a:341:C:H2'	34:a:342:C:C5	2.55	0.41
34:a:352:C:H4'	34:a:354:G:OP2	2.21	0.41
34:a:409:U:OP1	37:d:21:LYS:HE2	2.20	0.41
34:a:504:C:N3	34:a:542:G:C2	2.88	0.41
34:a:576:C:H3'	34:a:577:G:H5"	2.01	0.41
34:a:606:G:N2	34:a:631:C:H6	2.19	0.41
34:a:718:A:H5"	34:a:719:C:OP2	2.20	0.41
34:a:751:U:C3'	34:a:752:G:C8	2.99	0.41
34:a:779:C:H2'	34:a:780:A:N9	2.35	0.41
34:a:808:C:N3	34:a:809:G:N7	2.68	0.41
34:a:896:C:C2	34:a:897:C:C5	3.08	0.41
34:a:919:A:O2'	34:a:920:U:O5'	2.35	0.41
34:a:930:C:H2'	34:a:931:C:H6	1.84	0.41
34:a:1084:G:H2'	34:a:1085:U:C6	2.56	0.41
34:a:1276:G:C6	34:a:1277:C:C4	3.08	0.41
34:a:1294:G:H3'	34:a:1295:U:C6	2.55	0.41
34:a:1308:U:H4'	46:m:90:HIS:CE1	2.56	0.41
34:a:1314:C:O5'	52:s:5:LYS:HE3	2.19	0.41
35:b:17:HIS:O	35:b:38:HIS:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:b:106:VAL:O	35:b:109:SER:OG	2.27	0.41
36:c:154:GLY:HA3	36:c:195:ILE:HG12	2.02	0.41
37:d:127:ARG:O	37:d:129:VAL:HG23	2.20	0.41
38:e:82:HIS:CE1	41:h:95:MET:HG2	2.55	0.41
39:f:35:LYS:N	39:f:65:GLU:O	2.53	0.41
39:f:81:ASN:ND2	39:f:83:ALA:HB3	2.35	0.41
40:g:125:ASP:O	40:g:130:LYS:N	2.40	0.41
41:h:5:PRO:HA	41:h:8:ASP:HB3	2.03	0.41
41:h:79:ARG:HG2	41:h:82:LEU:HB3	2.03	0.41
43:j:32:THR:CB	43:j:83:THR:HA	2.51	0.41
44:k:28:ASN:CG	44:k:29:THR:N	2.78	0.41
44:k:73:VAL:O	44:k:74:LYS:C	2.63	0.41
44:k:112:VAL:HA	51:r:72:ARG:HH11	1.86	0.41
46:m:6:ILE:HG12	46:m:65:GLU:OE2	2.21	0.41
48:o:37:HIS:CD2	48:o:38:LEU:HD22	2.55	0.41
53:t:47:GLN:HE22	53:t:50:PHE:HD1	1.68	0.41
53:t:56:ILE:CD1	53:t:59:ARG:HH21	2.31	0.41
55:v:28:C:H2'	55:v:29:G:H8	1.86	0.41
55:v:31:G:C2	55:v:40:C:C2	3.09	0.41
55:v:41:C:H3'	55:v:42:G:C8	2.56	0.41
55:v:66:C:C2	55:v:67:C:C5	3.09	0.41
56:w:1:G:C6	56:w:73:A:C6	3.08	0.41
8:A:39:G:H2'	8:A:40:U:H6	1.86	0.41
8:A:81:G:C6	8:A:82:U:C2	3.09	0.41
8:A:164:C:C5	8:A:165:A:C5	3.09	0.41
8:A:222:A:H61	8:A:231:A:H2	1.68	0.41
8:A:312:G:N3	8:A:313:G:C8	2.89	0.41
8:A:597:G:O6	8:A:661:A:N6	2.53	0.41
8:A:637:A:H4'	8:A:638:G:O5'	2.20	0.41
8:A:659:G:C2	8:A:660:C:C2	3.09	0.41
8:A:676:A:H62	8:A:802:A:N6	2.19	0.41
8:A:744:U:OP2	11:D:137:SER:OG	2.26	0.41
8:A:777:G:C4	8:A:778:G:C8	3.09	0.41
8:A:782:A:C6	10:C:224:MET:SD	3.13	0.41
8:A:788:A:H3'	8:A:790:U:O4	2.20	0.41
8:A:797:G:N1	8:A:798:G:C6	2.89	0.41
8:A:918:A:N6	8:A:2268:A:C8	2.83	0.41
8:A:963:U:O2'	8:A:964:C:H5'	2.21	0.41
8:A:979:A:C2	8:A:982:C:N3	2.88	0.41
8:A:1069:A:H5"	8:A:1074:G:N7	2.36	0.41
8:A:1168:G:C6	8:A:1169:A:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1312:U:C2	8:A:1603:A:N1	2.88	0.41
8:A:1346:G:C6	8:A:1601:G:C6	3.08	0.41
8:A:1353:A:C5	8:A:1378:A:C5	3.09	0.41
8:A:1455:G:H5'	21:N:60:VAL:HG21	2.03	0.41
8:A:1489:C:N3	8:A:1501:G:C2	2.89	0.41
8:A:1510:G:C6	8:A:1511:G:C5	3.09	0.41
8:A:1651:G:C2	8:A:2007:U:C2	3.09	0.41
8:A:1696:G:C6	8:A:1697:G:C6	3.08	0.41
8:A:1766:G:N1	8:A:1767:G:C5	2.89	0.41
8:A:1811:G:C5	8:A:1812:U:C4	3.09	0.41
8:A:1832:C:C4	8:A:1833:C:C5	3.08	0.41
8:A:1853:A:C5	8:A:1854:A:C5	3.09	0.41
8:A:1983:G:C2	8:A:1984:G:C8	3.09	0.41
8:A:2142:A:N1	8:A:2150:C:H1'	2.36	0.41
8:A:2253:G:C6	8:A:2254:C:C4	3.08	0.41
8:A:2278:A:P	30:W:8:ASN:HD21	2.42	0.41
8:A:2317:A:C5	8:A:2318:G:C5	3.08	0.41
8:A:2324:U:H4'	8:A:2325:G:OP2	2.20	0.41
8:A:2374:C:H6	8:A:2374:C:OP2	2.02	0.41
8:A:2468:A:H4'	8:A:2469:A:OP1	2.21	0.41
8:A:2581:G:N2	8:A:2610:C:C2	2.89	0.41
8:A:2584:U:H3'	8:A:2585:U:H5"	2.03	0.41
8:A:2630:G:N3	8:A:2894:G:C2	2.89	0.41
8:A:2630:G:C8	8:A:2894:G:C5	3.09	0.41
8:A:2656:U:C2	8:A:2665:A:N7	2.89	0.41
8:A:2660:A:H2'	8:A:2661:G:O4'	2.20	0.41
8:A:2731:G:H2'	8:A:2732:G:C8	2.56	0.41
8:A:2801:G:C6	8:A:2802:G:C5	3.09	0.41
8:A:2898:U:C2	8:A:2899:A:N7	2.89	0.41
9:B:37:C:N4	9:B:44:G:H1	2.19	0.41
10:C:4:LYS:HA	10:C:4:LYS:HD2	1.82	0.41
10:C:74:PRO:HB2	10:C:114:GLN:NE2	2.36	0.41
11:D:18:ASP:OD1	11:D:19:GLY:N	2.54	0.41
11:D:207:VAL:HG13	11:D:208:LYS:H	1.85	0.41
12:E:200:LEU:HD13	12:E:200:LEU:HA	1.83	0.41
13:F:55:ASP:OD2	13:F:149:ARG:NH1	2.54	0.41
13:F:133:GLU:HG2	13:F:135:ILE:H	1.85	0.41
14:G:37:ASN:O	14:G:40:VAL:HG12	2.21	0.41
14:G:49:LEU:HD21	14:G:71:LEU:HG	2.03	0.41
15:H:125:THR:HG23	15:H:146:VAL:O	2.21	0.41
18:K:86:LEU:O	18:K:87:LEU:HD23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:P:20:ARG:HB3	23:P:21:PRO:HD2	2.02	0.41
23:P:54:LEU:HG	23:P:55:HIS:CE1	2.55	0.41
29:V:51:GLN:HA	29:V:56:PHE:CD2	2.55	0.41
30:W:38:GLY:C	30:W:40:LYS:H	2.28	0.41
31:X:51:SER:HG	31:X:52:ALA:H	1.69	0.41
31:X:63:ILE:O	31:X:66:VAL:HG22	2.21	0.41
33:Z:26:LEU:HD23	33:Z:26:LEU:HA	1.73	0.41
34:a:71:A:C8	34:a:100:G:C4	3.09	0.41
34:a:81:A:C6	34:a:82:G:C5	3.08	0.41
34:a:289:G:C2	34:a:312:C:C2	3.08	0.41
34:a:338:A:C2	34:a:351:G:N1	2.85	0.41
34:a:414:A:C2	34:a:415:A:H1'	2.55	0.41
34:a:612:C:H2'	34:a:613:C:C6	2.56	0.41
34:a:624:C:H2'	34:a:625:U:O4'	2.20	0.41
34:a:677:U:H2'	34:a:678:U:H6	1.85	0.41
34:a:677:U:H2'	34:a:678:U:C6	2.56	0.41
34:a:738:C:H6	34:a:738:C:O5'	2.04	0.41
34:a:753:A:P	48:o:68:TYR:HH	2.38	0.41
34:a:777:A:H2'	34:a:778:G:O4'	2.21	0.41
34:a:846:G:C4	34:a:847:G:N7	2.88	0.41
34:a:855:U:H2'	34:a:856:C:C6	2.56	0.41
34:a:892:A:C5	34:a:907:A:C5	3.09	0.41
34:a:914:A:N6	34:a:915:A:C6	2.89	0.41
34:a:922:G:C2	34:a:923:A:C4	3.09	0.41
34:a:951:G:C5	34:a:1231:G:C6	3.09	0.41
34:a:967:5MC:HM52	34:a:968:A:C2	2.55	0.41
34:a:1007:U:H2'	34:a:1008:U:C5	2.56	0.41
34:a:1133:G:C6	34:a:1134:G:C5	3.09	0.41
34:a:1457:G:OP1	53:t:33:LYS:NZ	2.50	0.41
36:c:133:MET:O	36:c:137:VAL:HG12	2.21	0.41
37:d:24:VAL:HG13	37:d:25:ARG:H	1.86	0.41
40:g:148:LYS:HB3	44:k:60:PHE:CE2	2.56	0.41
41:h:62:LEU:HD12	41:h:62:LEU:HA	1.73	0.41
42:i:51:LEU:C	42:i:56:MET:HB2	2.46	0.41
43:j:12:ALA:CB	43:j:96:VAL:HG22	2.50	0.41
45:l:109:ARG:NH2	45:l:111:GLN:HB2	2.35	0.41
46:m:28:ARG:O	46:m:32:ILE:HG12	2.21	0.41
46:m:92:ARG:HB2	46:m:94:LEU:HG	2.02	0.41
52:s:5:LYS:HG3	52:s:6:LYS:N	2.36	0.41
55:v:42:G:N3	55:v:43:A:C8	2.89	0.41
56:w:25:C:C2'	56:w:26:A:H8	2.26	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:w:42:C:H2'	56:w:43:C:H6	1.86	0.41
3:2:1:MET:HA	3:2:3:ARG:CZ	2.51	0.41
3:2:31:LEU:O	3:2:35:ARG:HG3	2.20	0.41
8:A:9:G:C2	8:A:2895:G:C6	3.09	0.41
8:A:15:G:H2'	8:A:16:C:H6	1.86	0.41
8:A:28:A:C5	8:A:513:A:C8	3.09	0.41
8:A:35:G:H2'	8:A:36:G:H8	1.86	0.41
8:A:84:A:C6	8:A:103:A:C5	3.09	0.41
8:A:90:U:H3'	8:A:91:A:C8	2.56	0.41
8:A:136:G:C5	8:A:137:U:C5	3.09	0.41
8:A:169:G:C4	8:A:170:U:C5	3.09	0.41
8:A:185:G:C4	8:A:186:G:C8	3.08	0.41
8:A:240:C:O5'	8:A:240:C:H6	2.04	0.41
8:A:247:G:H4'	8:A:386:G:C6	2.56	0.41
8:A:255:A:C6	8:A:256:A:C5	3.09	0.41
8:A:283:G:C6	8:A:284:U:C4	3.09	0.41
8:A:285:G:C2	8:A:355:U:O2	2.73	0.41
8:A:289:G:C2	8:A:290:U:C2	3.09	0.41
8:A:392:U:C2	8:A:393:C:C5	3.08	0.41
8:A:422:A:C5	8:A:423:A:C5	3.09	0.41
8:A:631:A:C6	8:A:632:A:C4	3.09	0.41
8:A:682:G:C4	8:A:683:U:C5	3.09	0.41
8:A:742:A:C4	8:A:743:A:C8	3.09	0.41
8:A:802:A:N3	8:A:802:A:H2'	2.36	0.41
8:A:809:G:C2	8:A:810:U:C2	3.09	0.41
8:A:840:C:N3	8:A:939:G:C6	2.89	0.41
8:A:873:C:H2'	8:A:874:G:O4'	2.20	0.41
8:A:917:A:C6	8:A:918:A:C5	3.09	0.41
8:A:923:G:C2	8:A:924:G:C4	3.09	0.41
8:A:997:G:OP1	24:Q:91:ARG:HD3	2.21	0.41
8:A:998:C:H2'	8:A:999:U:H6	1.85	0.41
8:A:1038:G:C6	8:A:1118:C:N4	2.89	0.41
8:A:1120:G:C6	8:A:1121:C:C4	3.09	0.41
8:A:1170:C:C4	8:A:1171:G:C4	3.09	0.41
8:A:1186:G:C6	8:A:1187:G:C4	3.08	0.41
8:A:1218:G:C5	8:A:1232:G:O6	2.74	0.41
8:A:1239:G:C2	8:A:1240:U:C2	3.08	0.41
8:A:1275:A:O4'	21:N:16:HIS:CE1	2.74	0.41
8:A:1299:G:C2	8:A:1642:G:C6	3.09	0.41
8:A:1317:G:C6	8:A:1336:A:N6	2.89	0.41
8:A:1317:G:H2'	8:A:1318:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1338:G:H2'	8:A:1339:G:N9	2.36	0.41
8:A:1417:C:C3'	8:A:1418:G:H8	2.33	0.41
8:A:1434:A:H3'	8:A:1435:G:H8	1.86	0.41
8:A:1434:A:C4	8:A:1435:G:C8	3.09	0.41
8:A:1458:U:H5'	8:A:1459:G:C2	2.56	0.41
8:A:1471:G:O2'	8:A:1472:C:H5'	2.20	0.41
8:A:1500:G:C5	8:A:1501:G:N7	2.89	0.41
8:A:1521:G:C5	8:A:1522:A:C5	3.09	0.41
8:A:1538:G:H2'	8:A:1539:U:H6	1.85	0.41
8:A:1719:G:H2'	8:A:1720:U:H6	1.85	0.41
8:A:1742:U:C2	8:A:1743:G:C8	3.09	0.41
8:A:1744:A:H2'	8:A:1745:A:O4'	2.20	0.41
8:A:1767:G:N1	8:A:1986:C:N3	2.68	0.41
8:A:1783:A:C2	8:A:2587:A:C6	3.09	0.41
8:A:1783:A:H5'	8:A:2608:G:O2'	2.21	0.41
8:A:1786:A:C2	8:A:1938:A:C5	3.09	0.41
8:A:1837:C:N3	8:A:1904:G:C6	2.88	0.41
8:A:1848:A:OP2	8:A:1848:A:H3'	2.21	0.41
8:A:1872:A:N6	8:A:1873:G:C2	2.89	0.41
8:A:1905:C:N3	8:A:1930:G:N2	2.69	0.41
8:A:1920:C:O2	8:A:1920:C:H2'	2.21	0.41
8:A:1999:C:C2	8:A:2000:C:C5	3.08	0.41
8:A:2016:U:H2'	8:A:2017:U:H6	1.77	0.41
8:A:2100:G:C6	8:A:2190:G:C6	3.08	0.41
8:A:2112:G:P	8:A:2112:G:C8	3.14	0.41
8:A:2113:U:H2'	8:A:2114:A:C8	2.56	0.41
8:A:2133:G:C4	8:A:2157:G:C6	3.09	0.41
8:A:2140:G:N1	8:A:2151:U:C2	2.89	0.41
8:A:2149:U:H3'	8:A:2150:C:C5	2.55	0.41
8:A:2209:G:C6	8:A:2216:G:C6	3.09	0.41
8:A:2304:G:N1	8:A:2313:C:C4	2.89	0.41
8:A:2346:A:O4'	8:A:2383:G:C8	2.74	0.41
8:A:2355:G:C6	8:A:2363:G:N1	2.89	0.41
8:A:2417:C:H2'	8:A:2418:A:C8	2.52	0.41
8:A:2432:A:C4	55:v:75:C:C2	3.09	0.41
8:A:2452:C:H2'	8:A:2453:A:H8	1.78	0.41
8:A:2458:G:C4	8:A:2490:G:C2	3.08	0.41
8:A:2461:A:H2'	8:A:2462:C:O4'	2.20	0.41
8:A:2505:G:C4	8:A:2576:G:C6	3.09	0.41
8:A:2520:C:H2'	8:A:2521:C:H6	1.86	0.41
8:A:2525:G:C2	8:A:2526:G:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2656:U:OP2	8:A:2664:G:N2	2.46	0.41
8:A:2693:G:C2	8:A:2694:G:C5	3.09	0.41
8:A:2819:G:N1	8:A:2828:G:C5	2.89	0.41
8:A:2823:A:C5	8:A:2824:C:C4	3.09	0.41
8:A:2849:U:OP2	8:A:2867:G:N2	2.52	0.41
9:B:8:C:H5"	22:O:15:ARG:NH2	2.29	0.41
9:B:9:G:C4	9:B:10:G:C8	3.09	0.41
9:B:81:G:C6	9:B:96:G:C6	3.08	0.41
10:C:23:LEU:HA	10:C:23:LEU:HD23	1.75	0.41
10:C:139:THR:HA	10:C:162:GLN:HA	2.02	0.41
10:C:144:GLU:CD	10:C:188:ARG:HB3	2.46	0.41
10:C:224:MET:HB2	10:C:224:MET:HE3	1.86	0.41
11:D:15:PHE:HB3	23:P:78:PRO:HG3	2.03	0.41
11:D:50:VAL:HG12	11:D:51:THR:H	1.86	0.41
15:H:7:ASP:N	15:H:15:LEU:HD13	2.35	0.41
15:H:27:ARG:HA	15:H:31:VAL:CG2	2.51	0.41
15:H:40:THR:H	15:H:43:ASN:HB2	1.85	0.41
15:H:95:GLY:H	15:H:98:ASP:CB	2.34	0.41
19:L:60:ARG:HG3	19:L:61:LEU:N	2.36	0.41
19:L:110:VAL:HG22	19:L:125:LEU:HD23	2.02	0.41
19:L:123:ARG:HB2	19:L:143:GLU:OE2	2.20	0.41
20:M:33:LEU:HB2	20:M:117:PHE:CE1	2.56	0.41
20:M:123:LYS:HA	20:M:123:LYS:HD3	1.86	0.41
21:N:68:ALA:O	21:N:71:ARG:HD2	2.21	0.41
22:O:33:ARG:HD3	22:O:34:HIS:CD2	2.55	0.41
22:O:40:ILE:HG22	22:O:41:ALA:O	2.21	0.41
24:Q:77:LYS:O	24:Q:116:LEU:HD11	2.20	0.41
25:R:23:GLU:OE1	25:R:91:GLN:HG3	2.20	0.41
25:R:24:LYS:HB2	25:R:92:TRP:HB3	2.03	0.41
28:U:30:SER:O	28:U:30:SER:OG	2.35	0.41
28:U:43:LYS:HG2	28:U:60:LYS:HD3	2.03	0.41
29:V:51:GLN:HB2	29:V:57:TYR:OH	2.20	0.41
30:W:38:GLY:H	30:W:40:LYS:HE3	1.86	0.41
32:Y:18:LEU:HA	32:Y:21:LEU:HB2	2.03	0.41
32:Y:26:PHE:HA	32:Y:29:ARG:NH2	2.36	0.41
34:a:62:U:H2'	34:a:63:C:C6	2.56	0.41
34:a:122:G:C4	34:a:123:U:C6	3.09	0.41
34:a:136:C:C2	34:a:137:U:C6	3.09	0.41
34:a:179:A:H3'	34:a:180:U:H6	1.85	0.41
34:a:243:A:C5	34:a:281:G:N2	2.89	0.41
34:a:327:A:C4	34:a:329:A:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:336:A:C6	34:a:337:G:N7	2.89	0.41
34:a:379:C:H3'	34:a:380:G:C8	2.55	0.41
34:a:412:A:H3'	34:a:413:G:H4'	2.03	0.41
34:a:421:U:OP2	34:a:422:C:N4	2.34	0.41
34:a:423:G:N2	34:a:424:G:N7	2.69	0.41
34:a:540:G:C3'	34:a:541:G:H8	2.31	0.41
34:a:560:A:C6	34:a:566:G:O4'	2.74	0.41
34:a:650:G:C5	34:a:651:C:C4	3.09	0.41
34:a:685:G:N2	34:a:704:A:H62	2.18	0.41
34:a:771:G:C6	34:a:809:G:N1	2.89	0.41
34:a:815:A:C6	34:a:1529:G:C4	3.09	0.41
34:a:832:G:C2	34:a:855:U:C2	3.08	0.41
34:a:833:G:C2	34:a:834:U:C2	3.09	0.41
34:a:907:A:H2'	34:a:908:A:O4'	2.20	0.41
34:a:916:U:H5'	34:a:917:G:OP2	2.20	0.41
34:a:917:G:C4	34:a:918:A:N7	2.88	0.41
34:a:927:G:HO2'	34:a:1503:A:H62	1.60	0.41
34:a:950:U:H4'	34:a:971:G:N1	2.36	0.41
34:a:967:5MC:H2'	34:a:968:A:N7	2.35	0.41
34:a:975:A:H5'	34:a:975:A:N3	2.35	0.41
34:a:1002:G:C6	34:a:1003:G:C5	3.08	0.41
34:a:1057:G:C5	34:a:1058:G:C5	3.09	0.41
34:a:1117:A:H4'	42:i:105:ARG:NH1	2.35	0.41
34:a:1154:G:C2	34:a:1155:A:C4	3.08	0.41
34:a:1186:G:N2	34:a:1187:G:H1'	2.36	0.41
34:a:1187:G:N3	34:a:1188:A:C8	2.88	0.41
34:a:1255:G:H3'	34:a:1279:G:O6	2.20	0.41
34:a:1270:G:N1	34:a:1271:A:C5	2.89	0.41
34:a:1288:A:H2'	34:a:1289:A:N9	2.36	0.41
34:a:1332:A:H2'	34:a:1333:A:H8	1.84	0.41
34:a:1346:A:C8	34:a:1348:U:C4	3.09	0.41
34:a:1350:A:C4	34:a:1351:U:C5	3.09	0.41
34:a:1382:C:H6	34:a:1383:C:H5	1.67	0.41
34:a:1407:5MC:C2'	34:a:1408:A:H8	2.34	0.41
34:a:1428:A:C6	34:a:1429:A:C5	3.08	0.41
34:a:1451:U:H5"	34:a:1452:C:C5	2.56	0.41
34:a:1478:U:H2'	34:a:1479:C:C6	2.56	0.41
34:a:1481:U:H2'	34:a:1482:G:C4	2.56	0.41
34:a:1481:U:H2'	34:a:1482:G:C1'	2.51	0.41
34:a:1527:U:H2'	34:a:1528:U:C6	2.55	0.41
35:b:95:TRP:HH2	35:b:100:LEU:HB2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:b:124:THR:C	35:b:126:ASP:H	2.28	0.41
35:b:183:PHE:HB3	35:b:199:ILE:HD11	2.03	0.41
36:c:110:LEU:O	36:c:203:LYS:NZ	2.34	0.41
36:c:110:LEU:HD13	36:c:110:LEU:HA	1.82	0.41
36:c:129:PHE:CG	36:c:130:ARG:N	2.89	0.41
36:c:156:LEU:HD12	36:c:163:ARG:NH1	2.36	0.41
37:d:131:ILE:HG22	37:d:134:TYR:N	2.35	0.41
38:e:29:ILE:HD13	38:e:29:ILE:HA	1.97	0.41
38:e:45:VAL:C	38:e:70:MET:HG3	2.46	0.41
38:e:49:TYR:CD1	38:e:133:ILE:HD12	2.56	0.41
38:e:55:VAL:HB	38:e:56:PRO:HD3	2.03	0.41
41:h:17:GLN:HA	41:h:62:LEU:HD21	2.03	0.41
41:h:107:LYS:HB2	41:h:120:LEU:HD11	2.03	0.41
43:j:59:LYS:O	43:j:61:ALA:N	2.54	0.41
44:k:54:SER:O	44:k:57:SER:OG	2.24	0.41
45:l:86:VAL:HG21	45:l:89:LEU:HB3	2.03	0.41
45:l:87:LYS:O	45:l:87:LYS:HG3	2.21	0.41
46:m:68:LEU:HA	46:m:68:LEU:HD12	1.81	0.41
47:n:97:LYS:NZ	47:n:99:ALA:HA	2.36	0.41
48:o:24:THR:HG22	48:o:27:GLN:NE2	2.35	0.41
48:o:31:LEU:HD23	48:o:31:LEU:HA	1.91	0.41
51:r:22:TYR:HD1	51:r:60:ARG:HH11	1.69	0.41
51:r:41:SER:C	51:r:43:ILE:N	2.78	0.41
54:u:38:GLU:OE1	54:u:38:GLU:N	2.43	0.41
55:v:2:G:H2'	55:v:3:C:H6	1.86	0.41
55:v:32:C:H3'	55:v:33:U:H6	1.86	0.41
55:v:52:G:N1	55:v:53:G:C5	2.89	0.41
55:v:55:PSU:H2'	55:v:57:A:OP2	2.21	0.41
55:v:59:A:N7	55:v:60:U:C4	2.89	0.41
55:v:67:C:H2'	55:v:68:C:H6	1.86	0.41
56:w:5:G:H2'	56:w:6:G:H8	1.82	0.41
56:w:10:G:C4	56:w:11:C:C5	3.09	0.41
56:w:24:G:C5	56:w:25:C:C4	3.09	0.41
1:0:15:ARG:NH1	8:A:1265:A:H3'	2.36	0.41
4:3:43:LEU:HD23	4:3:43:LEU:HA	1.80	0.41
8:A:38:A:N1	8:A:442:G:C6	2.89	0.41
8:A:80:G:C6	8:A:81:G:C5	3.09	0.41
8:A:96:C:H2'	8:A:97:C:C5	2.55	0.41
8:A:120:U:H3'	8:A:120:U:OP2	2.21	0.41
8:A:123:G:C4	8:A:124:G:C8	3.09	0.41
8:A:370:G:O6	8:A:424:G:C5	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:381:G:C2	8:A:394:C:C2	3.08	0.41
8:A:500:G:C2	8:A:503:A:C8	3.09	0.41
8:A:659:G:H2'	8:A:660:C:C6	2.55	0.41
8:A:696:G:C2	8:A:767:U:N3	2.89	0.41
8:A:745:1MG:C2	8:A:753:A:N6	2.89	0.41
8:A:765:C:H2'	8:A:766:U:H6	1.85	0.41
8:A:793:A:OP2	8:A:2071:A:O2'	2.39	0.41
8:A:973:A:O2'	8:A:974:G:H5'	2.21	0.41
8:A:974:G:O2'	8:A:989:G:N1	2.54	0.41
8:A:980:A:C2	8:A:981:A:C4	3.09	0.41
8:A:1031:G:H2'	8:A:1032:A:H8	1.80	0.41
8:A:1057:A:N6	8:A:1082:U:O4	2.53	0.41
8:A:1092:C:N3	8:A:1100:C:N4	2.69	0.41
8:A:1159:U:C2	8:A:1160:G:C8	3.09	0.41
8:A:1215:G:C6	8:A:1216:G:N7	2.89	0.41
8:A:1238:G:C4	8:A:1239:G:C8	3.09	0.41
8:A:1355:G:C4	8:A:1377:G:N2	2.88	0.41
8:A:1408:G:N1	8:A:1595:C:N3	2.68	0.41
8:A:1520:U:H2'	8:A:1521:G:O4'	2.21	0.41
8:A:1638:C:C2	8:A:1639:C:C5	3.09	0.41
8:A:1649:G:C6	8:A:2009:A:C6	3.09	0.41
8:A:1656:C:H2'	8:A:1657:U:C6	2.56	0.41
8:A:1661:G:C5	8:A:1662:U:C5	3.09	0.41
8:A:1713:A:N6	8:A:1746:A:C6	2.89	0.41
8:A:1715:G:HO2'	8:A:1716:U:P	2.43	0.41
8:A:1753:G:N1	8:A:1756:G:C6	2.89	0.41
8:A:1794:A:N1	8:A:1826:G:C6	2.89	0.41
8:A:1952:A:C6	18:K:22:ILE:HG21	2.56	0.41
8:A:1955:U:H5	8:A:2557:G:N2	2.19	0.41
8:A:1996:C:P	18:K:31:ARG:HD3	2.61	0.41
8:A:2065:C:H5"	8:A:2252:G:O2'	2.22	0.41
8:A:2108:A:H2	8:A:2182:U:C2	2.39	0.41
8:A:2361:G:H2'	8:A:2362:C:C6	2.56	0.41
8:A:2386:A:C1'	30:W:53:HIS:HE1	2.34	0.41
8:A:2436:G:N3	8:A:2598:A:H2	2.19	0.41
8:A:2520:C:C5	8:A:2567:G:C4	3.09	0.41
8:A:2584:U:H5"	8:A:2585:U:OP2	2.21	0.41
8:A:2643:G:C5	8:A:2644:G:C5	3.09	0.41
8:A:2705:A:C5	8:A:2706:A:C5	3.09	0.41
8:A:2757:A:H2'	8:A:2758:A:H5'	2.02	0.41
8:A:2801:G:C4	8:A:2802:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2831:G:OP2	8:A:2831:G:H8	2.04	0.41
8:A:2864:G:C6	8:A:2865:U:N3	2.89	0.41
9:B:13:G:OP2	9:B:13:G:C8	2.74	0.41
9:B:19:C:H3'	9:B:19:C:OP2	2.21	0.41
12:E:28:VAL:HA	12:E:31:VAL:HG12	2.03	0.41
12:E:115:GLN:OE1	12:E:117:ARG:NH1	2.52	0.41
13:F:34:THR:C	13:F:35:LEU:HD23	2.46	0.41
14:G:93:TYR:CZ	14:G:106:LEU:HA	2.56	0.41
17:J:112:GLY:O	17:J:115:GLY:N	2.54	0.41
18:K:53:LYS:HD3	18:K:54:LYS:O	2.21	0.41
18:K:99:ILE:HB	18:K:118:LEU:HG	2.03	0.41
22:O:76:LYS:HG3	22:O:77:ALA:H	1.86	0.41
23:P:25:VAL:N	23:P:44:GLY:O	2.26	0.41
25:R:10:LYS:O	25:R:12:HIS:NE2	2.54	0.41
29:V:13:GLY:O	29:V:14:LYS:C	2.64	0.41
31:X:65:THR:HG23	31:X:69:GLU:OE2	2.20	0.41
34:a:60:A:P	34:a:331:G:H1	2.43	0.41
34:a:64:G:C2	34:a:67:C:N4	2.88	0.41
34:a:77:A:O2'	34:a:78:A:P	2.79	0.41
34:a:134:G:C6	34:a:135:C:C4	3.09	0.41
34:a:325:A:H2'	34:a:326:G:C8	2.56	0.41
34:a:338:A:H8	34:a:338:A:OP2	2.03	0.41
34:a:372:C:H4'	34:a:373:A:OP1	2.20	0.41
34:a:429:U:C5'	37:d:8:LEU:HD12	2.48	0.41
34:a:499:A:C4	34:a:546:A:H2	2.39	0.41
34:a:503:C:H2'	34:a:504:C:C6	2.56	0.41
34:a:541:G:C2	34:a:542:G:C4	3.09	0.41
34:a:684:U:C1'	44:k:39:ASN:HD22	2.34	0.41
34:a:888:G:N2	34:a:910:C:N4	2.69	0.41
34:a:937:A:N3	34:a:937:A:H2'	2.36	0.41
34:a:978:A:C4	34:a:1319:A:C2	3.09	0.41
34:a:1144:G:C6	34:a:1145:A:C6	3.09	0.41
34:a:1361:G:H3'	34:a:1362:A:H8	1.85	0.41
34:a:1366:C:OP1	42:i:118:ARG:HD2	2.20	0.41
34:a:1412:C:H2'	34:a:1413:A:N9	2.36	0.41
34:a:1417:G:H4'	34:a:1418:A:O5'	2.22	0.41
34:a:1489:G:C2	34:a:1490:U:C2	3.09	0.41
34:a:1497:G:H2'	34:a:1497:G:N3	2.36	0.41
35:b:13:VAL:HB	35:b:208:ALA:HA	2.02	0.41
36:c:67:ILE:O	36:c:102:ILE:HA	2.21	0.41
37:d:115:GLN:HG2	37:d:119:HIS:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:d:146:GLU:H	37:d:146:GLU:CD	2.27	0.41
38:e:24:VAL:HG22	38:e:25:LYS:N	2.36	0.41
38:e:149:PRO:HG2	38:e:150:GLU:OE1	2.21	0.41
44:k:54:SER:OG	44:k:55:ARG:N	2.53	0.41
47:n:97:LYS:HG3	47:n:98:LYS:C	2.46	0.41
56:w:20:U:H2'	56:w:21:A:H5'	2.01	0.41
56:w:24:G:C2	56:w:25:C:C2	3.09	0.41
56:w:59:U:H2'	56:w:60:U:C2	2.56	0.41
3:2:13:ASN:ND2	8:A:125:A:N3	2.68	0.40
4:3:14:LYS:O	4:3:21:PHE:HA	2.22	0.40
4:3:16:THR:HG23	4:3:20:GLY:C	2.46	0.40
8:A:227:A:C2	8:A:2407:A:H1'	2.56	0.40
8:A:242:G:H22	8:A:254:G:C3'	2.33	0.40
8:A:298:G:N1	8:A:339:U:H5	2.18	0.40
8:A:342:A:C5	8:A:343:C:C5	3.10	0.40
8:A:419:U:C2	8:A:420:C:C5	3.09	0.40
8:A:490:C:H3'	8:A:491:G:H5"	2.02	0.40
8:A:584:C:H2'	8:A:585:G:C8	2.56	0.40
8:A:587:C:N3	8:A:671:C:C6	2.89	0.40
8:A:608:A:H2'	8:A:609:A:O4'	2.21	0.40
8:A:616:A:C6	8:A:617:G:C4	3.09	0.40
8:A:689:A:C6	8:A:690:G:C5	3.09	0.40
8:A:752:A:N7	8:A:1781:U:C2	2.88	0.40
8:A:780:G:N2	8:A:783:A:H62	2.19	0.40
8:A:813:U:H2'	8:A:814:C:C6	2.56	0.40
8:A:822:G:H2'	8:A:823:C:H6	1.86	0.40
8:A:831:G:C6	8:A:832:U:C2	3.09	0.40
8:A:833:A:H1'	19:L:51:GLU:O	2.21	0.40
8:A:915:C:H2'	8:A:916:G:O4'	2.21	0.40
8:A:1084:A:C4	8:A:1085:A:N1	2.90	0.40
8:A:1143:A:N6	17:J:30:THR:HG21	2.35	0.40
8:A:1155:A:C6	8:A:1157:G:C4	3.09	0.40
8:A:1157:G:C4	8:A:1158:C:C5	3.09	0.40
8:A:1167:C:C2	8:A:1168:G:C8	3.09	0.40
8:A:1234:U:C2'	8:A:1235:G:H5'	2.51	0.40
8:A:1347:A:C2	8:A:1600:C:C2	3.09	0.40
8:A:1358:G:N2	8:A:1373:A:C5	2.78	0.40
8:A:1397:U:OP2	8:A:1397:U:H6	2.04	0.40
8:A:1635:A:H2'	8:A:1636:U:C6	2.56	0.40
8:A:1791:A:O2'	10:C:205:GLY:HA2	2.21	0.40
8:A:1848:A:P	8:A:1848:A:H3'	2.62	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1873:G:H8	8:A:1873:G:OP2	2.03	0.40
8:A:1877:A:C4	8:A:1878:G:C8	3.09	0.40
8:A:1988:G:C2	8:A:1989:G:C4	3.09	0.40
8:A:2057:G:N3	8:A:2058:A:C8	2.89	0.40
8:A:2075:U:N3	8:A:2238:G:O6	2.53	0.40
8:A:2102:G:C2	8:A:2188:U:O2	2.75	0.40
8:A:2186:G:C4	8:A:2187:U:H1'	2.55	0.40
8:A:2251:OMG:C2	8:A:2252:G:H1'	2.56	0.40
8:A:2277:G:O6	8:A:2278:A:C5	2.74	0.40
8:A:2357:G:H5'	8:A:2358:A:OP2	2.21	0.40
8:A:2370:G:C6	8:A:2371:G:C6	3.09	0.40
8:A:2388:A:C8	8:A:2389:G:C8	3.04	0.40
8:A:2523:G:C4	8:A:2524:G:C8	3.09	0.40
8:A:2669:G:C2	8:A:2670:A:C5	3.09	0.40
8:A:2673:G:N1	8:A:2674:G:C5	2.89	0.40
8:A:2677:G:C2	8:A:2731:G:C6	3.09	0.40
8:A:2694:G:C2	8:A:2695:U:C2	3.09	0.40
8:A:2725:A:C4	8:A:2727:A:N7	2.89	0.40
8:A:2737:G:C6	8:A:2738:A:C6	3.09	0.40
8:A:2848:G:H2'	8:A:2867:G:N2	2.35	0.40
8:A:2861:U:C2	8:A:2862:G:N7	2.89	0.40
8:A:2895:G:C6	8:A:2896:C:C4	3.10	0.40
9:B:6:G:C4	9:B:7:G:C8	3.09	0.40
10:C:88:ALA:HB3	10:C:104:LEU:HD11	2.02	0.40
11:D:108:ASP:OD1	11:D:173:GLN:HA	2.21	0.40
13:F:134:GLN:HA	13:F:137:PHE:CD2	2.56	0.40
14:G:42:VAL:HG12	14:G:51:PHE:HD1	1.86	0.40
15:H:41:LYS:HE2	15:H:41:LYS:HA	2.03	0.40
17:J:37:ARG:HA	17:J:118:MET:CE	2.50	0.40
21:N:38:LEU:HB3	21:N:39:PRO:HD3	2.02	0.40
21:N:87:PHE:CD1	21:N:94:TYR:HB3	2.56	0.40
24:Q:38:VAL:O	24:Q:41:ALA:HB3	2.21	0.40
24:Q:61:ILE:O	24:Q:64:ILE:HB	2.21	0.40
24:Q:111:LYS:HE3	25:R:50:GLY:CA	2.50	0.40
25:R:20:VAL:O	25:R:22:LEU:HG	2.20	0.40
26:S:10:ALA:HB3	26:S:101:SER:CB	2.51	0.40
28:U:98:ASN:O	28:U:99:SER:C	2.62	0.40
31:X:73:ARG:NH2	31:X:75:GLU:OE1	2.54	0.40
32:Y:47:ARG:HB2	32:Y:47:ARG:NH2	2.36	0.40
34:a:59:A:C5	34:a:354:G:C6	3.09	0.40
34:a:64:G:C8	34:a:99:C:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:71:A:C5	34:a:100:G:C8	3.10	0.40
34:a:79:G:N1	34:a:90:C:C2	2.89	0.40
34:a:316:C:C5	34:a:351:G:C4	3.09	0.40
34:a:349:A:H2'	34:a:350:G:C8	2.56	0.40
34:a:361:G:H2'	34:a:362:G:N9	2.36	0.40
34:a:374:A:H2'	34:a:375:U:H5'	2.02	0.40
34:a:391:G:H2'	34:a:392:C:H6	1.83	0.40
34:a:405:U:H5"	34:a:406:G:O4'	2.21	0.40
34:a:426:U:H5"	37:d:35:GLN:HE22	1.86	0.40
34:a:448:A:C6	34:a:486:U:N3	2.85	0.40
34:a:460:A:N1	34:a:461:A:C6	2.90	0.40
34:a:621:A:C4	34:a:622:A:C8	3.10	0.40
34:a:625:U:H4'	49:p:16:PHE:CD2	2.56	0.40
34:a:627:G:C4	34:a:628:G:C8	3.09	0.40
34:a:762:U:N3	34:a:763:G:N7	2.69	0.40
34:a:804:U:OP2	34:a:805:C:N4	2.53	0.40
34:a:907:A:H3'	34:a:908:A:H8	1.85	0.40
34:a:1002:G:H3'	34:a:1003:G:H8	1.86	0.40
34:a:1099:G:C5	34:a:1100:C:C2	3.09	0.40
34:a:1227:A:H3'	34:a:1227:A:N3	2.35	0.40
34:a:1252:A:C4	34:a:1253:G:C8	3.08	0.40
34:a:1275:A:H3'	34:a:1276:G:C8	2.56	0.40
34:a:1359:C:H3'	47:n:75:ARG:NH2	2.34	0.40
34:a:1515:G:C2	34:a:1516:2MG:C4	3.09	0.40
35:b:101:THR:HG21	35:b:177:ASN:HD21	1.85	0.40
37:d:89:LEU:O	37:d:93:LEU:HG	2.21	0.40
38:e:83:PRO:HD3	38:e:97:PRO:HD2	2.04	0.40
41:h:9:MET:HG2	41:h:26:MET:SD	2.61	0.40
42:i:51:LEU:HD12	42:i:56:MET:HA	2.02	0.40
43:j:48:ARG:CZ	47:n:101:TRP:CE2	3.03	0.40
43:j:82:LYS:HG3	43:j:85:ASP:OD2	2.21	0.40
44:k:81:LEU:HD23	44:k:81:LEU:HA	1.86	0.40
45:l:85:ARG:NH2	45:l:87:LYS:HD3	2.36	0.40
46:m:9:PRO:HG2	46:m:12:LYS:HG3	2.03	0.40
46:m:44:ILE:O	46:m:47:LEU:HB2	2.21	0.40
54:u:44:ARG:C	54:u:48:LYS:HD3	2.46	0.40
55:v:70:G:C6	55:v:71:C:N4	2.89	0.40
3:2:37:LYS:NZ	8:A:469:G:N7	2.69	0.40
4:3:15:LYS:HD2	4:3:16:THR:C	2.46	0.40
4:3:60:CYS:C	4:3:61:LEU:HD22	2.46	0.40
8:A:1:G:H2'	8:A:2:G:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:38:A:C6	8:A:39:G:N7	2.89	0.40
8:A:63:A:N3	27:T:70:HIS:NE2	2.66	0.40
8:A:77:G:O2'	32:Y:7:ARG:NH1	2.54	0.40
8:A:79:C:C2	8:A:80:G:C8	3.09	0.40
8:A:106:C:C2	8:A:107:G:C8	3.08	0.40
8:A:118:A:C5'	8:A:119:A:H8	2.33	0.40
8:A:166:U:H2'	8:A:167:A:O4'	2.21	0.40
8:A:297:G:C5	8:A:298:G:C4	3.08	0.40
8:A:325:G:H2'	8:A:326:G:C8	2.56	0.40
8:A:327:G:N1	8:A:336:C:C4	2.90	0.40
8:A:520:G:C6	8:A:521:U:C4	3.09	0.40
8:A:615:U:C4	12:E:35:TYR:CZ	3.08	0.40
8:A:622:G:C2	8:A:623:C:C2	3.09	0.40
8:A:626:A:H3'	19:L:78:ARG:NH1	2.34	0.40
8:A:656:G:C6	8:A:657:U:C4	3.09	0.40
8:A:711:G:N2	8:A:712:G:H1'	2.36	0.40
8:A:719:C:C4	8:A:720:U:C4	3.09	0.40
8:A:750:A:H5'	8:A:1617:C:O2	2.21	0.40
8:A:780:G:N3	8:A:785:G:C6	2.90	0.40
8:A:869:G:C5	8:A:870:U:C4	3.09	0.40
8:A:939:G:H2'	8:A:940:G:H8	1.83	0.40
8:A:965:C:C2	8:A:966:G:N7	2.88	0.40
8:A:985:C:C2	8:A:986:C:C5	3.09	0.40
8:A:990:A:H3'	8:A:990:A:OP2	2.21	0.40
8:A:1017:G:N1	8:A:1146:C:C4	2.89	0.40
8:A:1017:G:C4	8:A:1018:U:C5	3.09	0.40
8:A:1047:G:C5	8:A:1110:G:C5	3.09	0.40
8:A:1206:G:C5	8:A:1207:C:C5	3.09	0.40
8:A:1230:A:C5	8:A:1231:U:C4	3.10	0.40
8:A:1259:G:C4	8:A:1260:A:N7	2.90	0.40
8:A:1343:G:C1'	8:A:1597:A:H2'	2.52	0.40
8:A:1349:C:C2	8:A:1350:C:C5	3.09	0.40
8:A:1361:G:O2'	8:A:1362:C:H5'	2.21	0.40
8:A:1405:U:C2	8:A:1406:U:C5	3.09	0.40
8:A:1497:U:C2	8:A:1578:U:OP1	2.73	0.40
8:A:1587:G:N3	8:A:1588:G:C8	2.89	0.40
8:A:1686:C:C2	8:A:1703:G:C2	3.09	0.40
8:A:1770:G:C5	8:A:1983:G:C6	3.09	0.40
8:A:1935:G:C2	8:A:1964:G:C4	3.09	0.40
8:A:1967:C:C2	8:A:1968:G:C8	3.10	0.40
8:A:2069:G7M:C2	8:A:2070:A:C5	3.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2123:G:H1'	8:A:2176:A:H61	1.86	0.40
8:A:2216:G:N3	8:A:2217:G:C8	2.89	0.40
8:A:2234:G:C6	8:A:2235:G:C5	3.09	0.40
8:A:2261:C:N3	8:A:2280:G:C2	2.90	0.40
8:A:2278:A:N6	8:A:2279:G:C6	2.89	0.40
8:A:2345:G:C5	8:A:2347:C:C5	3.09	0.40
8:A:2352:A:C2	8:A:2353:G:H1'	2.57	0.40
8:A:2422:C:C5	8:A:2424:C:N4	2.89	0.40
8:A:2460:U:C2	8:A:2493:U:N3	2.90	0.40
8:A:2494:G:H2'	8:A:2494:G:N3	2.36	0.40
8:A:2592:G:H2'	8:A:2593:U:O4'	2.21	0.40
8:A:2655:G:H22	8:A:2664:G:H2'	1.85	0.40
8:A:2697:G:H2'	8:A:2698:U:H6	1.87	0.40
8:A:2816:G:O2'	8:A:2817:U:H5'	2.20	0.40
9:B:7:G:H2'	9:B:8:C:H6	1.86	0.40
10:C:144:GLU:HA	10:C:151:GLY:HA2	2.03	0.40
10:C:226:PRO:HG3	10:C:233:GLY:HA2	2.03	0.40
10:C:230:PRO:HG2	10:C:246:PRO:HA	2.03	0.40
11:D:49:GLN:HA	11:D:81:GLU:HA	2.03	0.40
11:D:136:ASN:ND2	11:D:139:SER:HB2	2.37	0.40
14:G:77:GLY:HA2	14:G:81:GLY:HA2	2.02	0.40
17:J:23:LYS:HA	17:J:23:LYS:HD2	1.77	0.40
17:J:45:THR:HB	17:J:48:VAL:O	2.21	0.40
17:J:80:HIS:O	17:J:82:GLY:N	2.54	0.40
17:J:90:GLU:O	17:J:93:ILE:HB	2.21	0.40
18:K:15:GLY:O	18:K:47:ILE:N	2.53	0.40
18:K:107:LEU:HD12	18:K:107:LEU:H	1.85	0.40
20:M:41:LEU:HB3	20:M:46:ILE:HD11	2.02	0.40
20:M:53:MET:HG2	20:M:53:MET:H	1.64	0.40
20:M:74:THR:HA	20:M:89:VAL:HA	2.02	0.40
21:N:114:GLU:CD	21:N:118:ARG:HE	2.25	0.40
22:O:20:GLU:HG2	22:O:21:LEU:HD23	2.03	0.40
23:P:99:LEU:HA	23:P:99:LEU:HD23	1.81	0.40
24:Q:51:GLN:OE1	24:Q:54:ARG:HB2	2.21	0.40
24:Q:107:ALA:O	24:Q:110:GLU:HB2	2.22	0.40
26:S:16:LYS:O	26:S:20:VAL:HG23	2.21	0.40
26:S:41:LYS:O	26:S:44:ALA:N	2.54	0.40
27:T:33:LYS:HE2	27:T:80:TRP:CH2	2.55	0.40
28:U:16:LYS:HG3	28:U:17:ASP:CG	2.46	0.40
34:a:14:U:N3	34:a:16:A:H5"	2.36	0.40
34:a:130:A:H2	34:a:263:A:N3	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:151:A:C3'	34:a:152:A:H8	2.29	0.40
34:a:173:U:H1'	34:a:197:A:C5	2.56	0.40
34:a:179:A:C5	34:a:180:U:C4	3.10	0.40
34:a:237:G:OP1	50:q:26:ARG:NE	2.55	0.40
34:a:275:G:C4	34:a:276:G:C8	3.09	0.40
34:a:440:C:H2'	34:a:441:A:C8	2.56	0.40
34:a:496:A:H2	34:a:498:A:N6	2.19	0.40
34:a:604:G:C5	34:a:605:U:C4	3.10	0.40
34:a:607:A:C2	34:a:608:A:C4	3.09	0.40
34:a:645:G:C5	34:a:646:G:N7	2.89	0.40
34:a:646:G:C6	34:a:647:C:C4	3.09	0.40
34:a:666:G:C4	34:a:741:G:C2	3.09	0.40
34:a:684:U:O4'	44:k:39:ASN:ND2	2.52	0.40
34:a:774:G:C2	34:a:806:C:N3	2.89	0.40
34:a:907:A:C2	34:a:908:A:C4	3.10	0.40
34:a:917:G:N3	34:a:918:A:C8	2.89	0.40
34:a:991:U:H3'	34:a:1212:U:O2	2.21	0.40
34:a:1174:G:C6	34:a:1175:G:C5	3.10	0.40
34:a:1250:A:C8	34:a:1287:A:N7	2.88	0.40
34:a:1292:G:C2	34:a:1293:C:C2	3.09	0.40
34:a:1320:C:N3	52:s:71:GLY:HA3	2.36	0.40
34:a:1345:U:OP1	42:i:121:ARG:HD2	2.21	0.40
34:a:1521:C:C2	34:a:1522:U:C5	3.10	0.40
35:b:13:VAL:O	35:b:208:ALA:HB2	2.20	0.40
38:e:9:GLU:HG3	38:e:10:LEU:CD1	2.51	0.40
41:h:94:VAL:CG1	41:h:129:ALA:HB2	2.51	0.40
42:i:10:ARG:HA	42:i:15:ALA:HA	2.03	0.40
43:j:12:ALA:HB2	43:j:96:VAL:HG13	2.03	0.40
45:l:107:LYS:HE3	45:l:107:LYS:HB3	1.78	0.40
47:n:29:ILE:CG2	47:n:40:ASP:HA	2.50	0.40
47:n:45:VAL:O	47:n:48:LEU:HB3	2.21	0.40
48:o:19:ASN:O	48:o:21:THR:HG23	2.21	0.40
50:q:30:HIS:HB2	50:q:37:ILE:HD13	2.02	0.40
51:r:61:ALA:HB3	51:r:67:LEU:HB2	2.02	0.40
53:t:47:GLN:NE2	53:t:51:ASN:OD1	2.50	0.40
56:w:8:4SU:S4	56:w:14:A:H8	2.44	0.40
56:w:44:G:O3'	56:w:45:U:H4'	2.21	0.40
3:2:37:LYS:HE2	8:A:458:G:C4	2.57	0.40
8:A:14:A:C6	8:A:15:G:C4	3.09	0.40
8:A:103:A:C6	8:A:104:A:C5	3.09	0.40
8:A:121:G:N1	8:A:122:G:C5	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:219:A:H2'	8:A:220:G:C8	2.56	0.40
8:A:299:A:C2	8:A:300:A:C5	3.09	0.40
8:A:349:U:H2'	8:A:350:G:H8	1.85	0.40
8:A:363:G:C5	8:A:364:C:C5	3.09	0.40
8:A:406:G:C6	8:A:407:G:C5	3.09	0.40
8:A:470:A:H2'	8:A:471:A:H8	1.87	0.40
8:A:535:G:H2'	8:A:536:G:O4'	2.21	0.40
8:A:566:U:H2'	8:A:567:U:O4'	2.22	0.40
8:A:681:G:N1	8:A:682:G:C5	2.90	0.40
8:A:704:G:C2	8:A:726:G:N3	2.89	0.40
8:A:907:G:C4	8:A:908:C:C5	3.09	0.40
8:A:972:A:H2'	8:A:973:A:H8	1.86	0.40
8:A:987:C:N4	8:A:988:A:C5	2.90	0.40
8:A:1004:U:O2'	8:A:1011:G:H5'	2.21	0.40
8:A:1196:C:H2'	8:A:1197:G:O4'	2.21	0.40
8:A:1416:G:HO2'	8:A:1417:C:C5'	2.34	0.40
8:A:1417:C:N3	8:A:1418:G:C5	2.90	0.40
8:A:1434:A:C2	8:A:1435:G:C4	3.09	0.40
8:A:1446:C:H2'	8:A:1447:C:C6	2.57	0.40
8:A:1478:G:N1	8:A:1479:G:C5	2.89	0.40
8:A:1563:U:H2'	8:A:1564:C:H6	1.84	0.40
8:A:1590:A:O2'	8:A:1591:A:O5'	2.36	0.40
8:A:1792:G:O6	8:A:1828:G:C2	2.74	0.40
8:A:1800:C:N3	8:A:1817:G:C2	2.78	0.40
8:A:1800:C:O2'	8:A:1801:A:OP2	2.39	0.40
8:A:1835:2MG:N1	8:A:1930:G:N2	2.69	0.40
8:A:1845:G:H5'	10:C:255:LYS:HZ2	1.87	0.40
8:A:1960:A:C6	8:A:1961:C:C4	3.09	0.40
8:A:2058:A:H2'	8:A:2059:A:C8	2.56	0.40
8:A:2149:U:HO2'	8:A:2150:C:P	2.45	0.40
8:A:2185:U:C4	8:A:2186:G:C8	3.10	0.40
8:A:2208:C:N3	8:A:2217:G:N1	2.69	0.40
8:A:2288:A:H2	8:A:2325:G:C4	2.39	0.40
8:A:2293:G:O6	8:A:2340:A:N6	2.55	0.40
8:A:2464:G:C6	8:A:2465:C:C4	3.10	0.40
8:A:2468:A:H3'	8:A:2476:A:C6	2.56	0.40
8:A:2659:G:H2'	8:A:2660:A:H3'	2.04	0.40
8:A:2747:G:N2	8:A:2756:U:OP1	2.54	0.40
8:A:2762:C:C4	8:A:2763:G:C5	3.10	0.40
8:A:2774:C:N4	8:A:2775:G:C6	2.89	0.40
8:A:2789:C:H3'	8:A:2893:A:N6	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:2821:A:OP2	8:A:2821:A:H3'	2.21	0.40
8:A:2859:G:OP2	8:A:2859:G:H8	2.04	0.40
9:B:20:G:C6	9:B:64:G:N1	2.89	0.40
9:B:84:G:C2	9:B:93:C:N3	2.88	0.40
10:C:75:ALA:HB2	10:C:95:TYR:HA	2.04	0.40
10:C:79:ARG:O	10:C:91:ALA:HA	2.21	0.40
10:C:106:PRO:CD	10:C:109:LEU:HD22	2.44	0.40
10:C:137:GLY:CA	10:C:163:ILE:HB	2.51	0.40
10:C:220:ARG:O	10:C:223:ALA:HB3	2.22	0.40
10:C:245:THR:C	10:C:247:TRP:N	2.80	0.40
10:C:254:LYS:HG2	10:C:255:LYS:O	2.21	0.40
11:D:1:MET:SD	11:D:100:LEU:HD21	2.62	0.40
11:D:39:ASP:OD2	11:D:41:ALA:HB3	2.21	0.40
11:D:113:SER:HG	11:D:167:ASN:H	1.69	0.40
12:E:53:THR:O	12:E:53:THR:HG23	2.21	0.40
14:G:28:LYS:HB3	14:G:28:LYS:HE2	1.59	0.40
15:H:46:PHE:O	15:H:51:ARG:HG3	2.22	0.40
15:H:71:LYS:HE2	15:H:104:THR:CG2	2.50	0.40
18:K:66:LYS:HA	18:K:66:LYS:HD2	1.81	0.40
18:K:99:ILE:HG13	18:K:118:LEU:HD23	2.02	0.40
20:M:11:LYS:HD3	20:M:86:LYS:HD2	2.03	0.40
22:O:63:LYS:HG3	22:O:64:TYR:H	1.86	0.40
22:O:82:ALA:CB	22:O:115:LEU:HD21	2.51	0.40
23:P:88:ARG:HG3	23:P:112:ARG:NH1	2.36	0.40
28:U:12:VAL:C	28:U:13:LEU:HD23	2.46	0.40
29:V:6:ALA:CB	29:V:40:ILE:HD12	2.51	0.40
29:V:31:TYR:HA	29:V:93:ARG:CZ	2.52	0.40
31:X:72:ALA:C	31:X:74:GLY:N	2.79	0.40
32:Y:11:VAL:HG23	32:Y:12:GLU:H	1.86	0.40
34:a:57:G:H2'	34:a:58:C:O4'	2.22	0.40
34:a:110:C:C2	34:a:111:G:C8	3.10	0.40
34:a:144:G:C6	34:a:145:G:C4	3.09	0.40
34:a:218:U:H2'	34:a:219:U:O4'	2.21	0.40
34:a:286:C:H2'	34:a:287:U:C6	2.56	0.40
34:a:324:G:N2	34:a:327:A:H2'	2.36	0.40
34:a:363:A:P	45:l:30:ARG:HG3	2.61	0.40
34:a:568:G:N2	34:a:883:C:C2	2.89	0.40
34:a:582:C:C4	34:a:760:G:C5	3.09	0.40
34:a:626:G:OP1	49:p:35:ARG:NH1	2.54	0.40
34:a:772:U:N3	34:a:773:G:N7	2.69	0.40
34:a:782:A:C5	34:a:800:G:N2	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:915:A:H2'	34:a:916:U:O4'	2.20	0.40
34:a:919:A:H2'	34:a:920:U:C6	2.56	0.40
34:a:1012:A:C5	34:a:1018:G:N1	2.89	0.40
34:a:1084:G:H5"	34:a:1086:U:N3	2.36	0.40
34:a:1127:G:C2	34:a:1128:C:C6	3.09	0.40
34:a:1226:C:OP2	46:m:101:THR:OG1	2.36	0.40
34:a:1356:G:C6	34:a:1357:A:N6	2.90	0.40
34:a:1417:G:C2	34:a:1482:G:C6	3.09	0.40
34:a:1422:G:N2	34:a:1479:C:H1'	2.36	0.40
34:a:1499:A:H2'	34:a:1499:A:N3	2.37	0.40
34:a:1503:A:C8	34:a:1531:A:H1'	2.56	0.40
37:d:13:ARG:HG3	37:d:14:GLU:OE2	2.22	0.40
37:d:14:GLU:HB2	37:d:18:LEU:HD11	2.03	0.40
39:f:16:GLU:O	39:f:19:PRO:HD2	2.21	0.40
39:f:64:VAL:HG12	39:f:65:GLU:N	2.36	0.40
39:f:74:LEU:HD12	39:f:74:LEU:HA	1.92	0.40
39:f:75:GLU:OE2	39:f:76:THR:HG23	2.20	0.40
40:g:31:VAL:O	40:g:33:GLY:N	2.54	0.40
41:h:87:ARG:HB3	41:h:89:ASP:OD1	2.21	0.40
46:m:15:VAL:HA	46:m:18:LEU:CG	2.51	0.40
46:m:89:ARG:HA	46:m:94:LEU:HD12	2.03	0.40
51:r:25:ILE:HG13	51:r:26:ALA:N	2.36	0.40
51:r:58:ILE:HG23	51:r:67:LEU:HD11	2.04	0.40
52:s:21:ALA:HB1	52:s:46:LEU:CD1	2.51	0.40
1:0:14:MET:HB3	8:A:2045:C:O3'	2.22	0.40
2:1:38:PHE:CZ	2:1:43:ARG:HA	2.56	0.40
8:A:147:C:H2'	8:A:148:U:C6	2.56	0.40
8:A:178:G:C6	8:A:179:C:C4	3.09	0.40
8:A:266:G:C6	8:A:267:C:C5	3.09	0.40
8:A:269:C:H2'	8:A:270:A:H8	1.86	0.40
8:A:285:G:C5	8:A:356:G:C6	3.08	0.40
8:A:429:A:C6	8:A:430:A:N6	2.89	0.40
8:A:536:G:H21	17:J:47:HIS:CB	2.35	0.40
8:A:575:A:C5	8:A:576:U:C5	3.09	0.40
8:A:576:U:N3	8:A:577:G:C6	2.90	0.40
8:A:607:U:OP1	12:E:97:ASN:HA	2.20	0.40
8:A:705:A:OP2	8:A:725:G:N1	2.54	0.40
8:A:772:C:H5'	8:A:1355:G:H4'	2.03	0.40
8:A:1116:G:N3	8:A:1116:G:H2'	2.36	0.40
8:A:1136:G:C2	8:A:1137:G:C8	3.10	0.40
8:A:1154:G:P	24:Q:57:ARG:HE	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:1278:C:H5”	21:N:34:ILE:HD12	2.03	0.40
8:A:1328:A:C2	8:A:1330:C:C4	3.09	0.40
8:A:1334:G:C6	8:A:1335:C:C4	3.10	0.40
8:A:1398:C:H2’	8:A:1399:C:C5	2.57	0.40
8:A:1455:G:C5	21:N:64:ARG:NH1	2.90	0.40
8:A:1529:G:H1	8:A:1542:U:H3	1.69	0.40
8:A:1651:G:C2	8:A:1652:A:C4	3.10	0.40
8:A:1682:G:C4	8:A:1683:U:C5	3.10	0.40
8:A:1800:C:N4	8:A:1817:G:H21	1.86	0.40
8:A:1862:G:C6	8:A:1880:U:N3	2.82	0.40
8:A:1995:U:O2’	18:K:31:ARG:HD3	2.20	0.40
8:A:1998:A:H2’	8:A:1999:C:C6	2.57	0.40
8:A:2018:G:H2’	8:A:2019:A:C8	2.56	0.40
8:A:2053:G:H4’	11:D:150:GLN:HA	2.03	0.40
8:A:2100:G:C5	8:A:2190:G:C2	3.10	0.40
8:A:2108:A:H3’	8:A:2109:U:C5	2.57	0.40
8:A:2117:A:C6	8:A:2170:A:N1	2.89	0.40
8:A:2149:U:O2’	8:A:2150:C:OP1	2.34	0.40
8:A:2220:U:C2	8:A:2221:G:C8	3.10	0.40
8:A:2279:G:N7	30:W:10:ARG:NH2	2.69	0.40
8:A:2359:C:H2’	8:A:2360:G:O4’	2.20	0.40
8:A:2678:C:H2’	8:A:2679:A:O4’	2.22	0.40
8:A:2686:G:C6	8:A:2687:U:C4	3.09	0.40
8:A:2748:A:H2’	8:A:2749:A:O4’	2.21	0.40
8:A:2803:G:N1	8:A:2804:U:C4	2.89	0.40
10:C:77:VAL:CA	10:C:93:VAL:HG12	2.51	0.40
10:C:244:VAL:HB	10:C:248:GLY:C	2.46	0.40
11:D:125:TRP:CE2	11:D:160:LYS:HB3	2.56	0.40
12:E:72:SER:OG	12:E:74:LYS:N	2.52	0.40
15:H:45:GLU:CG	15:H:46:PHE:H	2.34	0.40
17:J:52:ASP:C	17:J:121:LYS:HD2	2.46	0.40
17:J:56:VAL:O	17:J:125:TYR:N	2.48	0.40
19:L:83:ALA:C	19:L:85:VAL:H	2.30	0.40
20:M:95:LEU:O	20:M:96:ILE:HD13	2.21	0.40
22:O:24:THR:OG1	22:O:40:ILE:O	2.28	0.40
22:O:71:ALA:HB1	22:O:106:LEU:HB2	2.03	0.40
27:T:25:GLU:HG3	27:T:26:LYS:N	2.36	0.40
27:T:32:LEU:O	27:T:82:LYS:HA	2.21	0.40
29:V:74:ALA:HA	29:V:91:PHE:HA	2.02	0.40
30:W:15:LYS:HB2	30:W:17:LEU:HD21	2.03	0.40
34:a:104:G:H4’	34:a:174:A:O4’	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:237:G:C2	34:a:238:A:C4	3.09	0.40
34:a:309:A:O2'	34:a:310:G:H5'	2.21	0.40
34:a:419:C:H2'	34:a:420:U:C6	2.57	0.40
34:a:446:G:C6	34:a:447:G:C4	3.10	0.40
34:a:550:G:C6	34:a:551:U:C4	3.10	0.40
34:a:621:A:H2'	34:a:622:A:C8	2.56	0.40
34:a:661:G:N3	34:a:745:G:C2	2.90	0.40
34:a:683:G:H21	44:k:39:ASN:ND2	2.20	0.40
34:a:812:G:N2	34:a:813:U:O4	2.52	0.40
34:a:996:A:N6	34:a:1045:C:O2'	2.54	0.40
34:a:1075:U:H4'	34:a:1101:A:N6	2.36	0.40
34:a:1102:A:C4	34:a:1103:C:C5	3.10	0.40
34:a:1111:A:C5	34:a:1112:C:C4	3.10	0.40
34:a:1129:C:O3'	34:a:1130:A:C8	2.75	0.40
34:a:1270:G:C4	34:a:1271:A:C8	3.08	0.40
34:a:1311:A:C5	34:a:1312:G:C8	3.10	0.40
34:a:1334:G:H2'	34:a:1335:U:H5'	2.04	0.40
34:a:1429:A:N6	34:a:1430:A:N6	2.69	0.40
34:a:1523:G:C6	34:a:1524:C:C4	3.09	0.40
35:b:95:TRP:HB3	35:b:168:GLU:CD	2.47	0.40
39:f:90:MET:HE1	51:r:60:ARG:NE	2.35	0.40
40:g:4:ARG:HH11	40:g:6:ILE:HD13	1.85	0.40
42:i:114:LYS:HZ2	42:i:120:ALA:HB1	1.86	0.40
2:1:43:ARG:NH1	8:A:2370:G:H4'	2.37	0.40
8:A:66:C:C4	8:A:67:U:C5	3.10	0.40
8:A:74:A:O2'	8:A:88:G:C8	2.71	0.40
8:A:85:G:C5	8:A:98:G:N2	2.90	0.40
8:A:136:G:H2'	8:A:137:U:O4'	2.21	0.40
8:A:161:A:O2'	8:A:2208:C:O4'	2.36	0.40
8:A:201:C:H2'	8:A:202:U:C6	2.57	0.40
8:A:359:G:N3	8:A:359:G:H2'	2.37	0.40
8:A:383:C:H5'	8:A:384:A:C5'	2.52	0.40
8:A:412:A:N6	8:A:2412:A:O4'	2.55	0.40
8:A:422:A:C6	8:A:423:A:C6	3.09	0.40
8:A:464:U:H2'	8:A:465:G:H8	1.81	0.40
8:A:499:U:C4	8:A:500:G:C5	3.10	0.40
8:A:695:G:H2'	8:A:696:G:H8	1.85	0.40
8:A:703:U:H3'	8:A:704:G:C8	2.56	0.40
8:A:706:A:N6	8:A:725:G:H1'	2.36	0.40
8:A:722:A:C6	8:A:723:C:C4	3.09	0.40
8:A:722:A:C5	8:A:723:C:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A:796:C:C2	8:A:797:G:N7	2.89	0.40
8:A:861:A:C4	8:A:862:G:C8	3.09	0.40
8:A:928:A:H2'	8:A:929:U:H6	1.84	0.40
8:A:983:A:C8	8:A:984:A:N7	2.90	0.40
8:A:1042:G:N1	8:A:1114:C:C4	2.90	0.40
8:A:1157:G:C6	8:A:1158:C:C4	3.10	0.40
8:A:1188:U:H2'	8:A:1189:A:H8	1.87	0.40
8:A:1248:G:C5	24:Q:2:ARG:HB2	2.56	0.40
8:A:1257:C:H4'	12:E:78:TRP:CD2	2.56	0.40
8:A:1270:C:H5"	8:A:1271:G:H5'	2.03	0.40
8:A:1279:G:P	21:N:35:LYS:H	2.44	0.40
8:A:1286:A:C6	8:A:1289:C:C2	3.10	0.40
8:A:1368:G:C6	8:A:1369:G:O6	2.74	0.40
8:A:1380:G:OP2	8:A:1380:G:C8	2.70	0.40
8:A:1431:A:C2	8:A:1432:G:C4	3.09	0.40
8:A:1445:G:H2'	8:A:1446:C:C6	2.57	0.40
8:A:1483:G:O6	8:A:1506:U:C2	2.74	0.40
8:A:1527:G:N2	8:A:1546:G:O6	2.55	0.40
8:A:1561:C:C2	8:A:1562:U:C5	3.10	0.40
8:A:1640:A:H2'	8:A:1641:A:H8	1.86	0.40
8:A:1707:G:C8	8:A:1708:C:C5	3.10	0.40
8:A:1749:A:H2'	8:A:1750:G:O4'	2.22	0.40
8:A:1823:G:N1	8:A:1824:G:C5	2.89	0.40
8:A:1947:C:C2	8:A:1948:G:C8	3.09	0.40
8:A:2060:A:N6	12:E:69:ARG:HH22	2.19	0.40
8:A:2207:C:C2	8:A:2218:G:C2	3.09	0.40
8:A:2225:A:H4'	8:A:2226:C:O4'	2.20	0.40
8:A:2228:G:C5	8:A:2229:U:C4	3.10	0.40
8:A:2252:G:C5	8:A:2253:G:N7	2.90	0.40
8:A:2404:U:H2'	8:A:2405:G:O4'	2.22	0.40
8:A:2435:A:C6	8:A:2436:G:N7	2.90	0.40
8:A:2481:G:HO2'	8:A:2482:A:P	2.44	0.40
8:A:2530:A:OP1	8:A:2535:G:N2	2.54	0.40
8:A:2588:G:H8	8:A:2588:G:O5'	2.05	0.40
8:A:2596:U:C2	8:A:2597:G:C8	3.10	0.40
8:A:2631:G:C2	8:A:2632:A:C4	3.09	0.40
8:A:2816:G:C6	8:A:2817:U:C4	3.09	0.40
8:A:2818:U:O2	8:A:2828:G:C2	2.72	0.40
8:A:2830:C:O2'	8:A:2883:A:N1	2.52	0.40
9:B:10:G:H3'	9:B:11:C:C6	2.56	0.40
10:C:109:LEU:HA	10:C:109:LEU:HD12	1.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:C:142:ASN:H	10:C:154:ALA:HB3	1.86	0.40
12:E:108:ILE:HD11	12:E:177:PRO:HB3	2.02	0.40
13:F:24:VAL:O	13:F:27:VAL:HG12	2.22	0.40
13:F:59:ILE:O	13:F:98:PHE:HE2	2.04	0.40
15:H:69:ALA:CB	15:H:72:ILE:HG23	2.50	0.40
15:H:75:LEU:H	15:H:75:LEU:HD23	1.86	0.40
17:J:103:ILE:HD12	17:J:103:ILE:HA	1.82	0.40
18:K:1:MET:O	18:K:2:ILE:HD13	2.22	0.40
20:M:35:ALA:HA	20:M:128:THR:HG22	2.03	0.40
21:N:33:ILE:HB	21:N:114:GLU:CB	2.51	0.40
23:P:24:THR:CB	23:P:87:ARG:HB3	2.51	0.40
25:R:6:GLN:HG3	25:R:9:GLY:HA2	2.03	0.40
25:R:10:LYS:HE3	25:R:10:LYS:HB3	1.94	0.40
26:S:33:LEU:HD12	26:S:33:LEU:HA	1.89	0.40
27:T:37:ASP:O	27:T:38:ALA:C	2.65	0.40
30:W:79:GLU:O	30:W:81:GLU:N	2.50	0.40
34:a:39:G:C2	34:a:40:C:C2	3.09	0.40
34:a:62:U:H2'	34:a:63:C:H6	1.87	0.40
34:a:113:G:C6	34:a:315:A:N6	2.89	0.40
34:a:174:A:C6	34:a:175:C:C4	3.10	0.40
34:a:195:A:C4	34:a:196:A:N1	2.89	0.40
34:a:278:G:N2	34:a:279:A:H62	2.20	0.40
34:a:354:G:H2'	34:a:355:C:H6	1.84	0.40
34:a:401:C:OP2	37:d:69:ARG:HD2	2.21	0.40
34:a:410:G:H1'	34:a:433:G:N2	2.37	0.40
34:a:456:A:C2	34:a:476:U:H5	2.40	0.40
34:a:461:A:H2'	34:a:461:A:N3	2.36	0.40
34:a:540:G:C2	34:a:541:G:C4	3.10	0.40
34:a:674:G:N2	34:a:716:A:H2	2.19	0.40
34:a:681:A:H2'	34:a:682:G:O4'	2.22	0.40
34:a:689:C:C4	34:a:690:G:C5	3.10	0.40
34:a:695:A:H61	34:a:797:C:H1'	1.87	0.40
34:a:829:G:C5	34:a:830:G:N7	2.90	0.40
34:a:835:U:O2	34:a:851:G:O6	2.39	0.40
34:a:852:G:C4	34:a:853:C:C6	3.09	0.40
34:a:885:G:N1	34:a:886:G:C5	2.90	0.40
34:a:924:C:H5'	34:a:1399:C:OP1	2.21	0.40
34:a:933:G:C2	34:a:1385:G:C2	3.10	0.40
34:a:1073:U:C2'	35:b:102:ASN:HD21	2.34	0.40
34:a:1157:A:H4'	34:a:1158:C:C5'	2.52	0.40
34:a:1237:C:H5'	34:a:1238:A:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1264:U:C2	34:a:1272:G:C2	3.09	0.40
34:a:1311:A:C2	34:a:1312:G:H1'	2.57	0.40
34:a:1315:U:O2	34:a:1360:A:H2	2.05	0.40
34:a:1316:G:H2'	34:a:1318:A:OP2	2.22	0.40
34:a:1416:G:C6	34:a:1417:G:C5	3.10	0.40
34:a:1430:A:C4	34:a:1431:A:C8	3.10	0.40
34:a:1488:G:C6	34:a:1489:G:C6	3.09	0.40
37:d:89:LEU:O	37:d:92:LEU:HB2	2.22	0.40
38:e:114:LEU:HA	38:e:117:ALA:HB3	2.04	0.40
39:f:40:GLU:O	39:f:61:LEU:HB3	2.22	0.40
40:g:148:LYS:HG3	44:k:60:PHE:CD1	2.57	0.40
44:k:40:ALA:C	44:k:41:LEU:HD22	2.47	0.40
51:r:10:CYS:SG	51:r:13:THR:HG22	2.60	0.40
51:r:25:ILE:HA	51:r:28:LEU:HD12	2.04	0.40
55:v:14:A:C6	55:v:22:G:C6	3.09	0.40
55:v:68:C:H2'	55:v:69:C:C6	2.57	0.40
56:w:6:G:N1	56:w:67:C:C2	2.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
1	0	54/57 (95%)	42 (78%)	12 (22%)	0	100	100
2	1	48/55 (87%)	38 (79%)	10 (21%)	0	100	100
3	2	44/46 (96%)	27 (61%)	17 (39%)	0	100	100
4	3	62/65 (95%)	48 (77%)	14 (23%)	0	100	100
5	4	36/38 (95%)	28 (78%)	8 (22%)	0	100	100
6	5	129/165 (78%)	100 (78%)	29 (22%)	0	100	100
7	6	64/70 (91%)	54 (84%)	10 (16%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	C	269/273 (98%)	213 (79%)	56 (21%)	0	100	100
11	D	207/209 (99%)	172 (83%)	34 (16%)	1 (0%)	24	63
12	E	199/201 (99%)	165 (83%)	34 (17%)	0	100	100
13	F	175/179 (98%)	153 (87%)	22 (13%)	0	100	100
14	G	174/177 (98%)	149 (86%)	25 (14%)	0	100	100
15	H	147/149 (99%)	117 (80%)	30 (20%)	0	100	100
16	I	139/142 (98%)	104 (75%)	35 (25%)	0	100	100
17	J	140/142 (99%)	109 (78%)	31 (22%)	0	100	100
18	K	120/123 (98%)	101 (84%)	19 (16%)	0	100	100
19	L	141/144 (98%)	108 (77%)	33 (23%)	0	100	100
20	M	134/136 (98%)	109 (81%)	24 (18%)	1 (1%)	18	56
21	N	118/127 (93%)	87 (74%)	31 (26%)	0	100	100
22	O	114/117 (97%)	101 (89%)	13 (11%)	0	100	100
23	P	112/115 (97%)	98 (88%)	14 (12%)	0	100	100
24	Q	115/118 (98%)	102 (89%)	13 (11%)	0	100	100
25	R	101/103 (98%)	87 (86%)	14 (14%)	0	100	100
26	S	108/110 (98%)	89 (82%)	19 (18%)	0	100	100
27	T	91/100 (91%)	74 (81%)	17 (19%)	0	100	100
28	U	100/104 (96%)	81 (81%)	19 (19%)	0	100	100
29	V	92/94 (98%)	79 (86%)	13 (14%)	0	100	100
30	W	73/85 (86%)	56 (77%)	17 (23%)	0	100	100
31	X	75/78 (96%)	63 (84%)	12 (16%)	0	100	100
32	Y	61/63 (97%)	49 (80%)	12 (20%)	0	100	100
33	Z	56/59 (95%)	51 (91%)	5 (9%)	0	100	100
35	b	216/240 (90%)	184 (85%)	32 (15%)	0	100	100
36	c	204/233 (88%)	181 (89%)	23 (11%)	0	100	100
37	d	203/206 (98%)	160 (79%)	42 (21%)	1 (0%)	24	63
38	e	155/167 (93%)	119 (77%)	36 (23%)	0	100	100
39	f	98/135 (73%)	88 (90%)	10 (10%)	0	100	100
40	g	149/179 (83%)	130 (87%)	19 (13%)	0	100	100
41	h	127/130 (98%)	107 (84%)	20 (16%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
42	i	125/130 (96%)	98 (78%)	27 (22%)	0	100 100
43	j	96/103 (93%)	76 (79%)	19 (20%)	1 (1%)	12 48
44	k	114/129 (88%)	92 (81%)	22 (19%)	0	100 100
45	l	121/124 (98%)	96 (79%)	25 (21%)	0	100 100
46	m	112/118 (95%)	99 (88%)	13 (12%)	0	100 100
47	n	99/102 (97%)	87 (88%)	12 (12%)	0	100 100
48	o	86/89 (97%)	74 (86%)	12 (14%)	0	100 100
49	p	80/82 (98%)	61 (76%)	19 (24%)	0	100 100
50	q	78/84 (93%)	68 (87%)	10 (13%)	0	100 100
51	r	63/75 (84%)	49 (78%)	14 (22%)	0	100 100
52	s	80/92 (87%)	70 (88%)	10 (12%)	0	100 100
53	t	83/87 (95%)	66 (80%)	17 (20%)	0	100 100
54	u	63/71 (89%)	50 (79%)	13 (21%)	0	100 100
All	All	5850/6220 (94%)	4809 (82%)	1037 (18%)	4 (0%)	49 83

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
43	j	60	ASP
37	d	144	ILE
11	D	138	LEU
20	M	59	ARG

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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
1	0	47/48 (98%)	42 (89%)	5 (11%)	6 21
2	1	45/49 (92%)	45 (100%)	0	100 100
3	2	38/38 (100%)	37 (97%)	1 (3%)	40 61

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
4	3	51/52 (98%)	46 (90%)	5 (10%)	7 24
5	4	34/34 (100%)	33 (97%)	1 (3%)	37 58
7	6	59/62 (95%)	49 (83%)	10 (17%)	2 10
10	C	216/218 (99%)	215 (100%)	1 (0%)	81 83
11	D	164/164 (100%)	163 (99%)	1 (1%)	78 82
12	E	165/165 (100%)	165 (100%)	0	100 100
13	F	148/150 (99%)	143 (97%)	5 (3%)	32 54
14	G	137/138 (99%)	133 (97%)	4 (3%)	37 58
15	H	114/114 (100%)	114 (100%)	0	100 100
17	J	116/116 (100%)	113 (97%)	3 (3%)	40 61
18	K	103/104 (99%)	103 (100%)	0	100 100
19	L	102/103 (99%)	100 (98%)	2 (2%)	48 66
20	M	109/109 (100%)	109 (100%)	0	100 100
21	N	100/103 (97%)	100 (100%)	0	100 100
22	O	86/87 (99%)	82 (95%)	4 (5%)	23 44
23	P	99/100 (99%)	98 (99%)	1 (1%)	68 78
24	Q	89/90 (99%)	89 (100%)	0	100 100
25	R	84/84 (100%)	80 (95%)	4 (5%)	23 44
26	S	93/93 (100%)	88 (95%)	5 (5%)	20 41
27	T	80/84 (95%)	79 (99%)	1 (1%)	61 74
28	U	83/85 (98%)	82 (99%)	1 (1%)	63 75
29	V	78/78 (100%)	78 (100%)	0	100 100
30	W	57/63 (90%)	57 (100%)	0	100 100
31	X	67/68 (98%)	66 (98%)	1 (2%)	57 72
32	Y	55/55 (100%)	50 (91%)	5 (9%)	9 27
33	Z	48/49 (98%)	47 (98%)	1 (2%)	47 65
35	b	180/198 (91%)	180 (100%)	0	100 100
36	c	170/190 (90%)	168 (99%)	2 (1%)	63 75
37	d	172/173 (99%)	169 (98%)	3 (2%)	53 69
38	e	114/126 (90%)	112 (98%)	2 (2%)	51 68
39	f	87/116 (75%)	85 (98%)	2 (2%)	44 64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	g	124/147 (84%)	121 (98%)	3 (2%)	43	63
41	h	104/105 (99%)	103 (99%)	1 (1%)	68	78
42	i	105/107 (98%)	103 (98%)	2 (2%)	50	67
43	j	86/90 (96%)	85 (99%)	1 (1%)	63	75
44	k	89/99 (90%)	89 (100%)	0	100	100
45	l	103/104 (99%)	102 (99%)	1 (1%)	68	78
46	m	92/96 (96%)	89 (97%)	3 (3%)	33	55
47	n	79/84 (94%)	74 (94%)	5 (6%)	16	37
48	o	76/77 (99%)	76 (100%)	0	100	100
49	p	65/65 (100%)	65 (100%)	0	100	100
50	q	74/78 (95%)	73 (99%)	1 (1%)	59	72
51	r	56/65 (86%)	56 (100%)	0	100	100
52	s	72/79 (91%)	67 (93%)	5 (7%)	14	36
53	t	65/66 (98%)	65 (100%)	0	100	100
54	u	46/61 (75%)	45 (98%)	1 (2%)	45	64
57	y	1/1 (100%)	1 (100%)	0	100	100
All	All	4627/4830 (96%)	4534 (98%)	93 (2%)	48	66

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	19	ASP
1	0	24	VAL
1	0	27	LEU
1	0	28	SER
1	0	38	LEU
3	2	16	HIS
4	3	29	ARG
4	3	31	ILE
4	3	35	LYS
4	3	42	HIS
4	3	53	ASP
5	4	1	MET
7	6	4	ASP
7	6	37	CYS
7	6	47	LYS

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Mol	Chain	Res	Type
7	6	49	ARG
7	6	50	ASP
7	6	51	VAL
7	6	53	THR
7	6	56	ARG
7	6	57	VAL
7	6	59	ARG
10	C	113	ASP
11	D	138	LEU
13	F	22	ASN
13	F	48	LEU
13	F	49	LEU
13	F	51	ASN
13	F	68	LYS
14	G	18	ILE
14	G	22	VAL
14	G	59	ASP
14	G	75	VAL
17	J	48	VAL
17	J	77	HIS
17	J	116	ARG
19	L	39	LYS
19	L	40	SER
22	O	31	THR
22	O	53	THR
22	O	67	ASN
22	O	103	VAL
23	P	15	ASP
25	R	49	ILE
25	R	51	VAL
25	R	55	ASP
25	R	85	LYS
26	S	77	ASP
26	S	78	GLU
26	S	101	SER
26	S	104	THR
26	S	105	VAL
27	T	87	LEU
28	U	81	ARG
31	X	22	ASN
32	Y	14	LEU
32	Y	17	GLU

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Mol	Chain	Res	Type
32	Y	18	LEU
32	Y	22	LEU
32	Y	57	LEU
33	Z	16	LEU
36	c	32	LEU
36	c	148	ILE
37	d	75	TYR
37	d	92	LEU
37	d	189	ASP
38	e	102	THR
38	e	123	LEU
39	f	55	HIS
39	f	76	THR
40	g	21	LEU
40	g	22	LEU
40	g	24	LYS
41	h	68	LYS
42	i	57	VAL
42	i	58	GLU
43	j	50	THR
45	l	106	VAL
46	m	47	LEU
46	m	103	THR
46	m	104	ASN
47	n	5	MET
47	n	12	ARG
47	n	47	LYS
47	n	61	ARG
47	n	63	ARG
50	q	27	PHE
52	s	9	PHE
52	s	40	PHE
52	s	68	HIS
52	s	78	THR
52	s	80	ARG
54	u	15	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (102) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	3	GLN
1	0	37	HIS

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Mol	Chain	Res	Type
3	2	6	GLN
3	2	26	ASN
3	2	29	GLN
5	4	13	ASN
7	6	6	HIS
7	6	61	ASN
7	6	65	ASN
10	C	85	ASN
10	C	127	ASN
10	C	133	ASN
10	C	142	ASN
10	C	162	GLN
10	C	196	ASN
10	C	238	ASN
10	C	259	ASN
11	D	36	GLN
11	D	136	ASN
11	D	173	GLN
12	E	62	GLN
13	F	20	ASN
13	F	62	GLN
14	G	29	ASN
14	G	63	GLN
14	G	127	GLN
14	G	138	GLN
15	H	28	ASN
15	H	43	ASN
15	H	73	ASN
15	H	135	HIS
19	L	99	ASN
20	M	97	GLN
21	N	9	GLN
21	N	11	ASN
21	N	16	HIS
21	N	31	HIS
21	N	107	ASN
22	O	116	GLN
23	P	9	GLN
23	P	14	GLN
24	Q	36	GLN
24	Q	55	GLN
24	Q	80	ASN

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Mol	Chain	Res	Type
25	R	18	GLN
25	R	66	HIS
25	R	82	HIS
25	R	86	GLN
26	S	7	HIS
26	S	60	HIS
26	S	102	HIS
27	T	59	ASN
29	V	87	GLN
31	X	16	ASN
31	X	22	ASN
32	Y	31	GLN
32	Y	36	GLN
32	Y	45	GLN
33	Z	19	HIS
35	b	17	HIS
35	b	23	ASN
35	b	119	GLN
35	b	145	ASN
37	d	40	HIS
37	d	58	GLN
37	d	70	GLN
37	d	99	ASN
37	d	151	GLN
38	e	72	ASN
39	f	3	HIS
39	f	68	GLN
40	g	121	ASN
40	g	147	ASN
41	h	37	ASN
41	h	66	GLN
41	h	75	GLN
42	i	74	GLN
43	j	20	GLN
43	j	58	ASN
44	k	28	ASN
44	k	39	ASN
44	k	80	ASN
45	l	45	ASN
46	m	13	HIS
47	n	3	GLN
47	n	62	ASN

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Mol	Chain	Res	Type
47	n	66	GLN
48	o	37	HIS
48	o	41	HIS
48	o	45	HIS
49	p	9	HIS
50	q	50	ASN
51	r	51	GLN
51	r	53	GLN
52	s	42	ASN
52	s	55	GLN
52	s	56	HIS
52	s	82	HIS
53	t	47	GLN
53	t	51	ASN
53	t	60	GLN
53	t	77	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
34	a	1539/1542 (99%)	578 (37%)	0
55	v	76/77 (98%)	30 (39%)	0
56	w	75/76 (98%)	33 (44%)	0
58	z	10/33 (30%)	6 (60%)	0
8	A	2900/2903 (99%)	1096 (37%)	86 (2%)
9	B	119/120 (99%)	46 (38%)	2 (1%)
All	All	4719/4751 (99%)	1789 (37%)	88 (1%)

All (1789) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
8	A	10	A
8	A	14	A
8	A	15	G
8	A	16	C
8	A	23	G
8	A	24	G
8	A	27	G
8	A	35	G
8	A	39	G
8	A	44	A

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Mol	Chain	Res	Type
8	A	45	G
8	A	46	G
8	A	50	U
8	A	51	G
8	A	52	A
8	A	55	G
8	A	56	A
8	A	60	G
8	A	62	U
8	A	63	A
8	A	71	A
8	A	73	A
8	A	74	A
8	A	75	G
8	A	76	C
8	A	80	G
8	A	82	U
8	A	84	A
8	A	92	U
8	A	96	C
8	A	101	A
8	A	102	U
8	A	103	A
8	A	106	C
8	A	110	G
8	A	112	U
8	A	114	U
8	A	118	A
8	A	119	A
8	A	120	U
8	A	121	G
8	A	122	G
8	A	124	G
8	A	132	G
8	A	136	G
8	A	137	U
8	A	138	U
8	A	140	C
8	A	141	G
8	A	142	A
8	A	146	A
8	A	158	U

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Mol	Chain	Res	Type
8	A	159	G
8	A	160	A
8	A	161	A
8	A	163	C
8	A	165	A
8	A	166	U
8	A	168	G
8	A	169	G
8	A	170	U
8	A	171	U
8	A	173	A
8	A	178	G
8	A	180	G
8	A	181	A
8	A	188	G
8	A	191	A
8	A	196	A
8	A	199	A
8	A	205	G
8	A	208	C
8	A	209	C
8	A	215	G
8	A	216	A
8	A	217	A
8	A	220	G
8	A	221	A
8	A	223	A
8	A	224	U
8	A	228	C
8	A	229	C
8	A	230	G
8	A	239	C
8	A	241	A
8	A	242	G
8	A	243	U
8	A	248	G
8	A	252	G
8	A	254	G
8	A	255	A
8	A	261	G
8	A	265	A
8	A	266	G

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Mol	Chain	Res	Type
8	A	267	C
8	A	272	A
8	A	275	C
8	A	276	U
8	A	277	G
8	A	278	A
8	A	279	A
8	A	284	U
8	A	286	U
8	A	287	G
8	A	288	U
8	A	291	G
8	A	295	G
8	A	298	G
8	A	299	A
8	A	300	A
8	A	302	C
8	A	305	C
8	A	310	A
8	A	312	G
8	A	323	C
8	A	325	G
8	A	326	G
8	A	329	G
8	A	330	A
8	A	331	C
8	A	332	A
8	A	333	G
8	A	343	C
8	A	345	A
8	A	346	A
8	A	349	U
8	A	359	G
8	A	361	G
8	A	362	A
8	A	363	G
8	A	366	C
8	A	369	U
8	A	371	A
8	A	372	G
8	A	383	C
8	A	384	A

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Mol	Chain	Res	Type
8	A	385	C
8	A	386	G
8	A	387	U
8	A	391	A
8	A	395	U
8	A	399	U
8	A	401	A
8	A	404	A
8	A	405	U
8	A	406	G
8	A	408	G
8	A	411	G
8	A	419	U
8	A	430	A
8	A	434	U
8	A	435	C
8	A	438	G
8	A	442	G
8	A	445	C
8	A	446	G
8	A	449	A
8	A	451	U
8	A	452	G
8	A	453	A
8	A	455	C
8	A	457	A
8	A	458	G
8	A	459	U
8	A	465	G
8	A	473	G
8	A	475	C
8	A	477	A
8	A	478	A
8	A	480	A
8	A	481	G
8	A	482	A
8	A	484	C
8	A	486	C
8	A	489	G
8	A	490	C
8	A	491	G
8	A	504	A

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Mol	Chain	Res	Type
8	A	505	A
8	A	506	G
8	A	508	A
8	A	509	C
8	A	510	C
8	A	511	U
8	A	512	G
8	A	513	A
8	A	514	A
8	A	515	A
8	A	516	C
8	A	525	U
8	A	527	C
8	A	530	G
8	A	531	C
8	A	532	A
8	A	533	G
8	A	534	U
8	A	540	C
8	A	543	G
8	A	544	C
8	A	546	U
8	A	548	G
8	A	549	G
8	A	557	C
8	A	561	G
8	A	562	U
8	A	563	A
8	A	568	U
8	A	573	U
8	A	575	A
8	A	581	C
8	A	586	A
8	A	597	G
8	A	603	A
8	A	609	A
8	A	613	A
8	A	614	A
8	A	615	U
8	A	616	A
8	A	620	G
8	A	621	A

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Mol	Chain	Res	Type
8	A	622	G
8	A	623	C
8	A	627	A
8	A	631	A
8	A	637	A
8	A	642	U
8	A	646	U
8	A	647	G
8	A	653	U
8	A	655	A
8	A	660	C
8	A	664	G
8	A	668	A
8	A	669	G
8	A	670	A
8	A	672	C
8	A	675	A
8	A	677	A
8	A	686	U
8	A	687	C
8	A	689	A
8	A	690	G
8	A	693	A
8	A	703	U
8	A	704	G
8	A	713	G
8	A	714	U
8	A	715	A
8	A	716	A
8	A	717	C
8	A	725	G
8	A	726	G
8	A	730	A
8	A	739	A
8	A	740	C
8	A	744	U
8	A	747	5MC
8	A	748	G
8	A	749	A
8	A	750	A
8	A	757	G
8	A	762	U

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Mol	Chain	Res	Type
8	A	764	A
8	A	766	U
8	A	768	G
8	A	769	U
8	A	774	G
8	A	776	G
8	A	781	A
8	A	782	A
8	A	783	A
8	A	784	G
8	A	785	G
8	A	786	C
8	A	789	A
8	A	790	U
8	A	792	A
8	A	800	A
8	A	801	G
8	A	805	G
8	A	806	C
8	A	808	G
8	A	811	U
8	A	812	C
8	A	819	A
8	A	820	A
8	A	826	U
8	A	827	U
8	A	828	U
8	A	831	G
8	A	834	G
8	A	835	C
8	A	837	C
8	A	841	G
8	A	845	A
8	A	846	U
8	A	847	U
8	A	850	U
8	A	856	G
8	A	858	G
8	A	859	G
8	A	865	C
8	A	868	U
8	A	870	U

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Mol	Chain	Res	Type
8	A	877	A
8	A	878	A
8	A	881	G
8	A	883	G
8	A	884	U
8	A	885	C
8	A	886	A
8	A	887	A
8	A	888	C
8	A	889	C
8	A	890	C
8	A	891	G
8	A	893	C
8	A	894	U
8	A	895	U
8	A	896	A
8	A	897	C
8	A	899	A
8	A	900	A
8	A	902	C
8	A	903	C
8	A	907	G
8	A	910	A
8	A	912	C
8	A	913	U
8	A	915	C
8	A	917	A
8	A	927	A
8	A	931	U
8	A	932	U
8	A	934	U
8	A	941	A
8	A	945	A
8	A	946	C
8	A	957	C
8	A	959	A
8	A	961	C
8	A	973	A
8	A	974	G
8	A	975	A
8	A	976	G
8	A	982	C

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Mol	Chain	Res	Type
8	A	983	A
8	A	985	C
8	A	989	G
8	A	990	A
8	A	995	C
8	A	996	A
8	A	1003	G
8	A	1005	C
8	A	1006	C
8	A	1010	A
8	A	1011	G
8	A	1012	U
8	A	1013	C
8	A	1022	G
8	A	1025	G
8	A	1026	G
8	A	1033	U
8	A	1034	G
8	A	1041	G
8	A	1044	C
8	A	1045	C
8	A	1046	A
8	A	1047	G
8	A	1048	A
8	A	1049	C
8	A	1051	G
8	A	1053	C
8	A	1054	A
8	A	1055	G
8	A	1056	G
8	A	1057	A
8	A	1059	G
8	A	1060	U
8	A	1061	U
8	A	1062	G
8	A	1063	G
8	A	1064	C
8	A	1066	U
8	A	1067	A
8	A	1068	G
8	A	1069	A
8	A	1070	A

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Mol	Chain	Res	Type
8	A	1071	G
8	A	1072	C
8	A	1073	A
8	A	1075	C
8	A	1077	A
8	A	1078	U
8	A	1079	C
8	A	1080	A
8	A	1081	U
8	A	1083	U
8	A	1084	A
8	A	1085	A
8	A	1086	A
8	A	1087	G
8	A	1088	A
8	A	1089	A
8	A	1090	A
8	A	1091	G
8	A	1092	C
8	A	1093	G
8	A	1094	U
8	A	1096	A
8	A	1098	A
8	A	1100	C
8	A	1101	U
8	A	1102	C
8	A	1103	A
8	A	1105	U
8	A	1106	G
8	A	1109	C
8	A	1111	A
8	A	1112	G
8	A	1114	C
8	A	1115	G
8	A	1116	G
8	A	1122	G
8	A	1123	C
8	A	1128	G
8	A	1129	A
8	A	1130	U
8	A	1131	G
8	A	1132	U

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Mol	Chain	Res	Type
8	A	1133	A
8	A	1134	A
8	A	1135	C
8	A	1139	G
8	A	1142	A
8	A	1143	A
8	A	1144	A
8	A	1149	G
8	A	1152	C
8	A	1155	A
8	A	1157	G
8	A	1170	C
8	A	1171	G
8	A	1173	U
8	A	1174	U
8	A	1175	A
8	A	1176	U
8	A	1179	G
8	A	1180	U
8	A	1186	G
8	A	1187	G
8	A	1188	U
8	A	1193	G
8	A	1204	A
8	A	1205	A
8	A	1209	U
8	A	1210	G
8	A	1211	C
8	A	1212	G
8	A	1214	A
8	A	1218	G
8	A	1225	G
8	A	1226	A
8	A	1227	G
8	A	1235	G
8	A	1236	G
8	A	1238	G
8	A	1241	A
8	A	1245	G
8	A	1248	G
8	A	1249	U
8	A	1251	C

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Mol	Chain	Res	Type
8	A	1252	G
8	A	1253	A
8	A	1255	U
8	A	1256	G
8	A	1264	A
8	A	1268	A
8	A	1269	A
8	A	1271	G
8	A	1272	A
8	A	1273	U
8	A	1284	A
8	A	1285	A
8	A	1289	C
8	A	1293	C
8	A	1300	G
8	A	1301	A
8	A	1302	A
8	A	1303	G
8	A	1306	C
8	A	1311	G
8	A	1312	U
8	A	1313	U
8	A	1314	C
8	A	1315	C
8	A	1322	A
8	A	1325	U
8	A	1328	A
8	A	1332	G
8	A	1340	U
8	A	1342	A
8	A	1344	U
8	A	1345	C
8	A	1346	G
8	A	1352	U
8	A	1365	A
8	A	1368	G
8	A	1369	G
8	A	1370	C
8	A	1376	C
8	A	1378	A
8	A	1379	U
8	A	1380	G

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Mol	Chain	Res	Type
8	A	1383	A
8	A	1384	A
8	A	1385	A
8	A	1386	C
8	A	1393	A
8	A	1395	A
8	A	1396	U
8	A	1397	U
8	A	1398	C
8	A	1410	G
8	A	1411	U
8	A	1415	U
8	A	1416	G
8	A	1418	G
8	A	1419	A
8	A	1420	A
8	A	1421	G
8	A	1428	C
8	A	1429	G
8	A	1432	G
8	A	1433	A
8	A	1435	G
8	A	1448	G
8	A	1451	C
8	A	1452	G
8	A	1453	A
8	A	1454	C
8	A	1455	G
8	A	1458	U
8	A	1459	G
8	A	1460	U
8	A	1461	C
8	A	1467	U
8	A	1472	C
8	A	1473	G
8	A	1474	U
8	A	1482	G
8	A	1484	U
8	A	1488	C
8	A	1490	A
8	A	1491	G
8	A	1493	C

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Mol	Chain	Res	Type
8	A	1494	A
8	A	1495	A
8	A	1496	A
8	A	1497	U
8	A	1502	A
8	A	1503	A
8	A	1504	A
8	A	1506	U
8	A	1509	A
8	A	1512	C
8	A	1515	A
8	A	1521	G
8	A	1524	G
8	A	1528	A
8	A	1532	A
8	A	1534	U
8	A	1535	A
8	A	1536	C
8	A	1537	G
8	A	1544	A
8	A	1547	C
8	A	1551	A
8	A	1553	A
8	A	1554	U
8	A	1557	C
8	A	1558	C
8	A	1562	U
8	A	1563	U
8	A	1566	A
8	A	1569	A
8	A	1570	A
8	A	1578	U
8	A	1584	U
8	A	1585	C
8	A	1591	A
8	A	1594	U
8	A	1596	A
8	A	1598	A
8	A	1600	C
8	A	1607	C
8	A	1608	A
8	A	1609	A

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Mol	Chain	Res	Type
8	A	1610	A
8	A	1616	A
8	A	1617	C
8	A	1618	6MZ
8	A	1619	G
8	A	1622	G
8	A	1623	G
8	A	1626	A
8	A	1627	G
8	A	1628	G
8	A	1631	G
8	A	1635	A
8	A	1643	G
8	A	1644	C
8	A	1645	G
8	A	1646	C
8	A	1647	U
8	A	1648	U
8	A	1649	G
8	A	1651	G
8	A	1654	A
8	A	1657	U
8	A	1658	C
8	A	1664	A
8	A	1668	A
8	A	1669	A
8	A	1674	G
8	A	1691	C
8	A	1693	U
8	A	1695	G
8	A	1698	A
8	A	1699	G
8	A	1700	A
8	A	1702	G
8	A	1705	A
8	A	1715	G
8	A	1716	U
8	A	1726	C
8	A	1727	C
8	A	1729	U
8	A	1730	C
8	A	1731	G

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Mol	Chain	Res	Type
8	A	1732	C
8	A	1733	G
8	A	1735	A
8	A	1738	G
8	A	1750	G
8	A	1752	C
8	A	1754	A
8	A	1757	A
8	A	1758	U
8	A	1759	A
8	A	1764	C
8	A	1767	G
8	A	1769	U
8	A	1773	A
8	A	1774	C
8	A	1775	U
8	A	1782	U
8	A	1784	A
8	A	1787	A
8	A	1788	C
8	A	1797	G
8	A	1800	C
8	A	1801	A
8	A	1804	C
8	A	1808	A
8	A	1809	A
8	A	1810	A
8	A	1812	U
8	A	1813	G
8	A	1816	C
8	A	1817	G
8	A	1820	U
8	A	1821	A
8	A	1828	G
8	A	1829	A
8	A	1830	C
8	A	1833	C
8	A	1835	2MG
8	A	1848	A
8	A	1852	U
8	A	1857	G
8	A	1859	U

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Mol	Chain	Res	Type
8	A	1860	G
8	A	1862	G
8	A	1865	U
8	A	1866	A
8	A	1868	C
8	A	1869	G
8	A	1873	G
8	A	1874	C
8	A	1876	A
8	A	1884	G
8	A	1895	C
8	A	1900	A
8	A	1901	A
8	A	1902	C
8	A	1906	G
8	A	1908	C
8	A	1910	G
8	A	1917	PSU
8	A	1918	A
8	A	1919	A
8	A	1921	G
8	A	1922	G
8	A	1923	U
8	A	1925	C
8	A	1926	U
8	A	1928	A
8	A	1930	G
8	A	1932	A
8	A	1935	G
8	A	1938	A
8	A	1939	5MU
8	A	1940	U
8	A	1941	C
8	A	1944	U
8	A	1946	U
8	A	1955	U
8	A	1956	U
8	A	1962	5MC
8	A	1963	U
8	A	1964	G
8	A	1965	C
8	A	1967	C

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Mol	Chain	Res	Type
8	A	1970	A
8	A	1972	G
8	A	1977	A
8	A	1979	U
8	A	1982	U
8	A	1991	U
8	A	1992	G
8	A	1993	U
8	A	1997	C
8	A	2001	C
8	A	2002	G
8	A	2003	A
8	A	2007	U
8	A	2009	A
8	A	2012	G
8	A	2013	A
8	A	2015	A
8	A	2016	U
8	A	2019	A
8	A	2021	C
8	A	2022	U
8	A	2023	C
8	A	2027	G
8	A	2028	U
8	A	2029	G
8	A	2030	6MZ
8	A	2031	A
8	A	2032	G
8	A	2033	A
8	A	2034	U
8	A	2036	C
8	A	2042	A
8	A	2043	C
8	A	2044	C
8	A	2049	G
8	A	2051	A
8	A	2052	A
8	A	2055	C
8	A	2056	G
8	A	2057	G
8	A	2060	A
8	A	2061	G

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Mol	Chain	Res	Type
8	A	2062	A
8	A	2063	C
8	A	2067	G
8	A	2068	U
8	A	2069	G7M
8	A	2073	C
8	A	2076	U
8	A	2077	A
8	A	2081	U
8	A	2089	C
8	A	2091	C
8	A	2092	U
8	A	2093	G
8	A	2097	A
8	A	2101	A
8	A	2102	G
8	A	2103	C
8	A	2104	C
8	A	2109	U
8	A	2110	G
8	A	2111	U
8	A	2112	G
8	A	2114	A
8	A	2115	G
8	A	2116	G
8	A	2118	U
8	A	2119	A
8	A	2124	G
8	A	2125	G
8	A	2126	A
8	A	2127	G
8	A	2128	G
8	A	2129	C
8	A	2130	U
8	A	2131	U
8	A	2132	U
8	A	2133	G
8	A	2134	A
8	A	2135	A
8	A	2136	G
8	A	2138	G
8	A	2139	U

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Mol	Chain	Res	Type
8	A	2143	C
8	A	2144	G
8	A	2145	C
8	A	2146	C
8	A	2147	A
8	A	2148	G
8	A	2150	C
8	A	2151	U
8	A	2152	G
8	A	2153	C
8	A	2155	U
8	A	2156	G
8	A	2157	G
8	A	2158	A
8	A	2159	G
8	A	2160	C
8	A	2161	C
8	A	2162	G
8	A	2163	A
8	A	2164	C
8	A	2166	U
8	A	2169	A
8	A	2170	A
8	A	2171	A
8	A	2172	U
8	A	2173	A
8	A	2175	C
8	A	2176	A
8	A	2180	U
8	A	2181	U
8	A	2183	A
8	A	2186	G
8	A	2190	G
8	A	2193	G
8	A	2198	A
8	A	2199	A
8	A	2200	C
8	A	2203	U
8	A	2204	G
8	A	2208	C
8	A	2210	U
8	A	2211	A

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Mol	Chain	Res	Type
8	A	2212	A
8	A	2214	C
8	A	2225	A
8	A	2226	C
8	A	2232	C
8	A	2238	G
8	A	2239	G
8	A	2248	C
8	A	2251	OMG
8	A	2259	U
8	A	2262	U
8	A	2265	U
8	A	2266	A
8	A	2267	A
8	A	2269	G
8	A	2273	A
8	A	2274	A
8	A	2279	G
8	A	2281	A
8	A	2283	C
8	A	2285	C
8	A	2286	G
8	A	2287	A
8	A	2288	A
8	A	2297	A
8	A	2300	C
8	A	2305	U
8	A	2307	G
8	A	2308	G
8	A	2309	A
8	A	2310	C
8	A	2318	G
8	A	2320	U
8	A	2321	U
8	A	2322	A
8	A	2325	G
8	A	2327	A
8	A	2333	A
8	A	2334	U
8	A	2335	A
8	A	2336	A
8	A	2337	G

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Mol	Chain	Res	Type
8	A	2343	U
8	A	2344	U
8	A	2345	G
8	A	2347	C
8	A	2349	G
8	A	2350	C
8	A	2358	A
8	A	2361	G
8	A	2373	G
8	A	2374	C
8	A	2379	G
8	A	2380	C
8	A	2382	G
8	A	2383	G
8	A	2384	U
8	A	2385	C
8	A	2388	A
8	A	2392	A
8	A	2396	G
8	A	2402	U
8	A	2403	C
8	A	2406	A
8	A	2422	C
8	A	2423	U
8	A	2424	C
8	A	2425	A
8	A	2426	A
8	A	2427	C
8	A	2428	G
8	A	2429	G
8	A	2430	A
8	A	2432	A
8	A	2433	A
8	A	2434	A
8	A	2435	A
8	A	2437	G
8	A	2439	A
8	A	2441	U
8	A	2442	C
8	A	2445	2MG
8	A	2447	G
8	A	2448	A

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Mol	Chain	Res	Type
8	A	2449	U
8	A	2456	C
8	A	2458	G
8	A	2459	A
8	A	2462	C
8	A	2467	C
8	A	2469	A
8	A	2474	U
8	A	2475	C
8	A	2476	A
8	A	2480	C
8	A	2482	A
8	A	2484	G
8	A	2490	G
8	A	2491	U
8	A	2494	G
8	A	2496	C
8	A	2498	OMC
8	A	2499	C
8	A	2500	U
8	A	2502	G
8	A	2503	2MA
8	A	2504	PSU
8	A	2505	G
8	A	2513	A
8	A	2518	A
8	A	2520	C
8	A	2524	G
8	A	2528	U
8	A	2529	G
8	A	2532	G
8	A	2534	A
8	A	2535	G
8	A	2536	G
8	A	2543	G
8	A	2547	A
8	A	2553	G
8	A	2554	U
8	A	2555	U
8	A	2560	A
8	A	2564	A
8	A	2566	A

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Mol	Chain	Res	Type
8	A	2567	G
8	A	2572	A
8	A	2573	C
8	A	2574	G
8	A	2576	G
8	A	2577	A
8	A	2578	G
8	A	2579	C
8	A	2581	G
8	A	2582	G
8	A	2583	G
8	A	2584	U
8	A	2585	U
8	A	2595	G
8	A	2599	G
8	A	2600	A
8	A	2602	A
8	A	2603	G
8	A	2606	C
8	A	2609	U
8	A	2610	C
8	A	2613	U
8	A	2618	G
8	A	2623	G
8	A	2627	G
8	A	2629	U
8	A	2633	G
8	A	2634	A
8	A	2635	A
8	A	2636	C
8	A	2644	G
8	A	2646	C
8	A	2648	G
8	A	2650	U
8	A	2651	C
8	A	2654	A
8	A	2656	U
8	A	2660	A
8	A	2661	G
8	A	2663	G
8	A	2671	G
8	A	2682	A

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Mol	Chain	Res	Type
8	A	2683	C
8	A	2684	U
8	A	2688	G
8	A	2690	U
8	A	2694	G
8	A	2699	C
8	A	2702	G
8	A	2707	U
8	A	2710	C
8	A	2711	A
8	A	2712	C
8	A	2714	G
8	A	2718	G
8	A	2719	G
8	A	2720	U
8	A	2721	A
8	A	2729	G
8	A	2732	G
8	A	2733	A
8	A	2739	U
8	A	2744	G
8	A	2748	A
8	A	2750	A
8	A	2751	G
8	A	2752	C
8	A	2755	C
8	A	2757	A
8	A	2758	A
8	A	2761	A
8	A	2764	A
8	A	2765	A
8	A	2767	C
8	A	2778	A
8	A	2779	U
8	A	2780	G
8	A	2782	G
8	A	2787	C
8	A	2790	U
8	A	2791	G
8	A	2793	C
8	A	2796	U
8	A	2797	U

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Mol	Chain	Res	Type
8	A	2798	U
8	A	2799	A
8	A	2800	A
8	A	2801	G
8	A	2803	G
8	A	2804	U
8	A	2809	A
8	A	2812	G
8	A	2813	A
8	A	2820	A
8	A	2821	A
8	A	2823	A
8	A	2824	C
8	A	2825	G
8	A	2831	G
8	A	2833	U
8	A	2834	G
8	A	2835	A
8	A	2849	U
8	A	2850	A
8	A	2861	U
8	A	2867	G
8	A	2868	A
8	A	2869	G
8	A	2872	A
8	A	2879	A
8	A	2883	A
8	A	2884	U
8	A	2886	A
8	A	2889	C
8	A	2891	U
8	A	2892	G
8	A	2893	A
8	A	2895	G
8	A	2900	A
8	A	2901	C
9	B	3	C
9	B	7	G
9	B	9	G
9	B	10	G
9	B	13	G
9	B	14	U

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Mol	Chain	Res	Type
9	B	16	G
9	B	17	C
9	B	18	G
9	B	19	C
9	B	22	U
9	B	25	U
9	B	30	C
9	B	32	U
9	B	34	A
9	B	35	C
9	B	37	C
9	B	40	U
9	B	41	G
9	B	42	C
9	B	44	G
9	B	46	A
9	B	47	C
9	B	51	G
9	B	53	A
9	B	56	G
9	B	57	A
9	B	58	A
9	B	62	C
9	B	65	U
9	B	66	A
9	B	67	G
9	B	73	A
9	B	80	U
9	B	84	G
9	B	88	C
9	B	89	U
9	B	90	C
9	B	91	C
9	B	101	A
9	B	102	G
9	B	108	A
9	B	109	A
9	B	116	G
9	B	119	A
9	B	120	U
34	a	3	A
34	a	6	G

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Mol	Chain	Res	Type
34	a	7	A
34	a	9	G
34	a	12	U
34	a	16	A
34	a	18	C
34	a	30	U
34	a	31	G
34	a	32	A
34	a	33	A
34	a	34	C
34	a	39	G
34	a	46	G
34	a	47	C
34	a	48	C
34	a	49	U
34	a	50	A
34	a	51	A
34	a	53	A
34	a	60	A
34	a	61	G
34	a	66	A
34	a	70	U
34	a	71	A
34	a	76	G
34	a	78	A
34	a	80	A
34	a	81	A
34	a	83	C
34	a	84	U
34	a	85	U
34	a	86	G
34	a	87	C
34	a	89	U
34	a	94	G
34	a	95	C
34	a	96	U
34	a	99	C
34	a	107	G
34	a	108	G
34	a	109	A
34	a	110	C
34	a	117	G

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Mol	Chain	Res	Type
34	a	121	U
34	a	122	G
34	a	130	A
34	a	131	A
34	a	144	G
34	a	145	G
34	a	149	A
34	a	153	C
34	a	159	G
34	a	160	A
34	a	161	A
34	a	163	C
34	a	165	G
34	a	166	U
34	a	169	C
34	a	171	A
34	a	173	U
34	a	174	A
34	a	175	C
34	a	179	A
34	a	180	U
34	a	182	A
34	a	183	C
34	a	184	G
34	a	185	U
34	a	196	A
34	a	197	A
34	a	198	G
34	a	200	G
34	a	205	A
34	a	208	U
34	a	210	C
34	a	211	G
34	a	214	C
34	a	216	U
34	a	217	C
34	a	220	G
34	a	223	A
34	a	226	G
34	a	228	A
34	a	230	G
34	a	240	G

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Mol	Chain	Res	Type
34	a	245	U
34	a	246	A
34	a	247	G
34	a	251	G
34	a	253	A
34	a	262	A
34	a	263	A
34	a	266	G
34	a	267	C
34	a	270	A
34	a	271	C
34	a	274	A
34	a	275	G
34	a	280	C
34	a	281	G
34	a	289	G
34	a	293	G
34	a	294	U
34	a	298	A
34	a	301	G
34	a	306	A
34	a	317	U
34	a	321	A
34	a	322	C
34	a	323	U
34	a	324	G
34	a	326	G
34	a	328	C
34	a	329	A
34	a	330	C
34	a	338	A
34	a	344	A
34	a	345	C
34	a	351	G
34	a	352	C
34	a	353	A
34	a	354	G
34	a	356	A
34	a	361	G
34	a	363	A
34	a	364	A
34	a	365	U

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Mol	Chain	Res	Type
34	a	366	A
34	a	367	U
34	a	371	A
34	a	372	C
34	a	374	A
34	a	375	U
34	a	376	G
34	a	377	G
34	a	382	A
34	a	387	U
34	a	388	G
34	a	390	U
34	a	397	A
34	a	398	U
34	a	404	G
34	a	406	G
34	a	407	U
34	a	411	A
34	a	413	G
34	a	414	A
34	a	421	U
34	a	423	G
34	a	429	U
34	a	431	A
34	a	439	U
34	a	443	C
34	a	446	G
34	a	448	A
34	a	449	G
34	a	456	A
34	a	458	U
34	a	461	A
34	a	462	G
34	a	464	U
34	a	465	A
34	a	466	A
34	a	468	A
34	a	469	C
34	a	470	C
34	a	473	U
34	a	479	U
34	a	480	U

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Mol	Chain	Res	Type
34	a	483	C
34	a	484	G
34	a	485	U
34	a	486	U
34	a	493	A
34	a	495	A
34	a	496	A
34	a	505	G
34	a	509	A
34	a	510	A
34	a	511	C
34	a	516	PSU
34	a	517	G
34	a	518	C
34	a	519	C
34	a	521	G
34	a	525	C
34	a	530	G
34	a	531	U
34	a	532	A
34	a	533	A
34	a	534	U
34	a	535	A
34	a	536	C
34	a	537	G
34	a	541	G
34	a	547	A
34	a	548	G
34	a	554	A
34	a	560	A
34	a	561	U
34	a	562	U
34	a	563	A
34	a	564	C
34	a	567	G
34	a	570	G
34	a	572	A
34	a	574	A
34	a	576	C
34	a	577	G
34	a	582	C
34	a	583	A

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Mol	Chain	Res	Type
34	a	589	U
34	a	592	G
34	a	595	A
34	a	596	A
34	a	597	G
34	a	599	C
34	a	607	A
34	a	614	C
34	a	615	G
34	a	618	C
34	a	626	G
34	a	629	A
34	a	631	C
34	a	633	G
34	a	645	G
34	a	650	G
34	a	656	G
34	a	659	U
34	a	665	A
34	a	666	G
34	a	680	C
34	a	681	A
34	a	687	A
34	a	692	U
34	a	698	G
34	a	701	U
34	a	703	G
34	a	704	A
34	a	708	C
34	a	711	G
34	a	714	G
34	a	718	A
34	a	721	G
34	a	722	G
34	a	723	U
34	a	724	G
34	a	729	A
34	a	732	C
34	a	733	G
34	a	734	G
34	a	735	C
34	a	746	A

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Mol	Chain	Res	Type
34	a	748	G
34	a	751	U
34	a	753	A
34	a	755	G
34	a	756	C
34	a	759	A
34	a	765	G
34	a	773	G
34	a	774	G
34	a	777	A
34	a	781	A
34	a	782	A
34	a	787	A
34	a	788	U
34	a	790	A
34	a	792	A
34	a	793	U
34	a	794	A
34	a	796	C
34	a	805	C
34	a	808	C
34	a	810	C
34	a	811	C
34	a	812	G
34	a	814	A
34	a	815	A
34	a	816	A
34	a	817	C
34	a	820	U
34	a	821	G
34	a	822	U
34	a	828	U
34	a	832	G
34	a	838	G
34	a	841	C
34	a	843	U
34	a	844	G
34	a	846	G
34	a	848	C
34	a	849	G
34	a	851	G
34	a	854	U

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Mol	Chain	Res	Type
34	a	858	G
34	a	862	C
34	a	864	A
34	a	867	G
34	a	872	A
34	a	874	G
34	a	876	C
34	a	884	U
34	a	885	G
34	a	889	A
34	a	890	G
34	a	891	U
34	a	898	G
34	a	902	G
34	a	910	C
34	a	916	U
34	a	919	A
34	a	920	U
34	a	926	G
34	a	927	G
34	a	934	C
34	a	935	A
34	a	938	A
34	a	939	G
34	a	945	G
34	a	946	A
34	a	957	U
34	a	960	U
34	a	964	A
34	a	966	2MG
34	a	967	5MC
34	a	968	A
34	a	969	A
34	a	971	G
34	a	973	G
34	a	975	A
34	a	976	G
34	a	977	A
34	a	980	C
34	a	982	U
34	a	983	A
34	a	984	C

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Mol	Chain	Res	Type
34	a	986	U
34	a	992	U
34	a	993	G
34	a	994	A
34	a	996	A
34	a	997	U
34	a	998	C
34	a	1003	G
34	a	1004	A
34	a	1005	A
34	a	1006	G
34	a	1009	U
34	a	1010	U
34	a	1014	A
34	a	1020	G
34	a	1021	A
34	a	1022	A
34	a	1023	U
34	a	1024	G
34	a	1025	U
34	a	1026	G
34	a	1027	C
34	a	1028	C
34	a	1029	U
34	a	1030	U
34	a	1031	C
34	a	1032	G
34	a	1035	A
34	a	1042	A
34	a	1043	G
34	a	1044	A
34	a	1045	C
34	a	1050	G
34	a	1053	G
34	a	1054	C
34	a	1055	A
34	a	1056	U
34	a	1060	U
34	a	1064	G
34	a	1065	U
34	a	1066	C
34	a	1071	C

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Mol	Chain	Res	Type
34	a	1079	G
34	a	1081	A
34	a	1085	U
34	a	1088	G
34	a	1092	A
34	a	1094	G
34	a	1095	U
34	a	1101	A
34	a	1103	C
34	a	1108	G
34	a	1109	C
34	a	1111	A
34	a	1113	C
34	a	1120	C
34	a	1124	G
34	a	1125	U
34	a	1126	U
34	a	1127	G
34	a	1129	C
34	a	1130	A
34	a	1131	G
34	a	1134	G
34	a	1136	C
34	a	1137	C
34	a	1139	G
34	a	1140	C
34	a	1143	G
34	a	1145	A
34	a	1147	C
34	a	1150	A
34	a	1151	A
34	a	1152	A
34	a	1157	A
34	a	1158	C
34	a	1159	U
34	a	1160	G
34	a	1161	C
34	a	1167	A
34	a	1168	U
34	a	1169	A
34	a	1179	A
34	a	1184	G

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Mol	Chain	Res	Type
34	a	1190	G
34	a	1191	A
34	a	1193	G
34	a	1194	U
34	a	1196	A
34	a	1197	A
34	a	1198	G
34	a	1200	C
34	a	1206	G
34	a	1210	C
34	a	1212	U
34	a	1213	A
34	a	1214	C
34	a	1219	A
34	a	1222	G
34	a	1224	U
34	a	1225	A
34	a	1226	C
34	a	1237	C
34	a	1238	A
34	a	1239	A
34	a	1240	U
34	a	1241	G
34	a	1248	A
34	a	1250	A
34	a	1252	A
34	a	1253	G
34	a	1254	A
34	a	1256	A
34	a	1257	A
34	a	1258	G
34	a	1260	G
34	a	1261	A
34	a	1262	C
34	a	1267	C
34	a	1270	G
34	a	1274	A
34	a	1275	A
34	a	1278	G
34	a	1279	G
34	a	1280	A
34	a	1281	C

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Mol	Chain	Res	Type
34	a	1282	C
34	a	1285	A
34	a	1286	U
34	a	1287	A
34	a	1294	G
34	a	1295	U
34	a	1297	G
34	a	1300	G
34	a	1301	U
34	a	1302	C
34	a	1303	C
34	a	1304	G
34	a	1305	G
34	a	1307	U
34	a	1317	C
34	a	1320	C
34	a	1325	C
34	a	1328	C
34	a	1330	U
34	a	1331	G
34	a	1332	A
34	a	1338	G
34	a	1340	A
34	a	1345	U
34	a	1346	A
34	a	1347	G
34	a	1348	U
34	a	1350	A
34	a	1351	U
34	a	1358	U
34	a	1361	G
34	a	1363	A
34	a	1364	U
34	a	1370	G
34	a	1372	U
34	a	1374	A
34	a	1375	A
34	a	1378	C
34	a	1379	G
34	a	1381	U
34	a	1383	C
34	a	1386	G

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Mol	Chain	Res	Type
34	a	1387	G
34	a	1388	C
34	a	1394	A
34	a	1395	C
34	a	1397	C
34	a	1398	A
34	a	1399	C
34	a	1402	4OC
34	a	1403	C
34	a	1408	A
34	a	1413	A
34	a	1416	G
34	a	1417	G
34	a	1418	A
34	a	1419	G
34	a	1420	U
34	a	1421	G
34	a	1423	G
34	a	1426	G
34	a	1427	C
34	a	1429	A
34	a	1430	A
34	a	1432	G
34	a	1433	A
34	a	1436	U
34	a	1437	A
34	a	1440	U
34	a	1441	A
34	a	1442	G
34	a	1446	A
34	a	1448	C
34	a	1451	U
34	a	1452	C
34	a	1457	G
34	a	1459	G
34	a	1467	C
34	a	1472	U
34	a	1474	U
34	a	1475	G
34	a	1476	A
34	a	1483	A
34	a	1484	C

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Mol	Chain	Res	Type
34	a	1485	U
34	a	1486	G
34	a	1489	G
34	a	1491	G
34	a	1492	A
34	a	1494	G
34	a	1497	G
34	a	1498	UR3
34	a	1499	A
34	a	1500	A
34	a	1503	A
34	a	1504	G
34	a	1506	U
34	a	1507	A
34	a	1508	A
34	a	1515	G
34	a	1517	G
34	a	1519	MA6
34	a	1520	C
34	a	1524	C
34	a	1526	G
34	a	1527	U
34	a	1529	G
34	a	1530	G
34	a	1534	A
34	a	1535	C
34	a	1536	C
34	a	1538	C
34	a	1539	C
34	a	1540	U
55	v	2	G
55	v	7	G
55	v	14	A
55	v	16	C
55	v	17	C
55	v	17(A)	U
55	v	18	G
55	v	19	G
55	v	20	H2U
55	v	21	A
55	v	24	U
55	v	33	U

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Mol	Chain	Res	Type
55	v	34	C
55	v	35	A
55	v	38	A
55	v	42	G
55	v	43	A
55	v	44	A
55	v	47	U
55	v	48	C
55	v	52	G
55	v	55	PSU
55	v	56	C
55	v	59	A
55	v	63	G
55	v	69	C
55	v	72	A
55	v	73	A
55	v	75	C
55	v	76	A
56	w	8	4SU
56	w	13	C
56	w	16	U
56	w	17	C
56	w	18	G
56	w	19	G
56	w	20	U
56	w	21	A
56	w	22	G
56	w	31	A
56	w	33	U
56	w	40	C
56	w	45	U
56	w	46	G7M
56	w	47	U
56	w	48	C
56	w	49	C
56	w	50	U
56	w	52	G
56	w	53	G
56	w	54	5MU
56	w	57	G
56	w	58	A
56	w	59	U

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Mol	Chain	Res	Type
56	w	60	U
56	w	61	C
56	w	64	A
56	w	67	C
56	w	68	C
56	w	73	A
56	w	74	C
56	w	75	C
56	w	76	A
58	z	-1	C
58	z	0	U
58	z	2	U
58	z	4	U
58	z	5	U
58	z	8	U

All (88) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	A	73	A
8	A	141	G
8	A	242	G
8	A	361	G
8	A	444	C
8	A	457	A
8	A	458	G
8	A	479	A
8	A	481	G
8	A	504	A
8	A	510	C
8	A	545	U
8	A	562	U
8	A	580	U
8	A	619	G
8	A	671	C
8	A	686	U
8	A	715	A
8	A	746	PSU
8	A	758	C
8	A	784	G
8	A	819	A
8	A	827	U

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Mol	Chain	Res	Type
8	A	830	G
8	A	846	U
8	A	883	G
8	A	884	U
8	A	885	C
8	A	894	U
8	A	926	G
8	A	958	U
8	A	960	A
8	A	982	C
8	A	1024	G
8	A	1062	G
8	A	1082	U
8	A	1090	A
8	A	1093	G
8	A	1143	A
8	A	1183	U
8	A	1224	U
8	A	1300	G
8	A	1331	G
8	A	1385	A
8	A	1432	G
8	A	1552	A
8	A	1607	C
8	A	1643	G
8	A	1663	G
8	A	1715	G
8	A	1808	A
8	A	1816	C
8	A	1847	G
8	A	1875	G
8	A	1899	A
8	A	1907	G
8	A	1920	C
8	A	1921	G
8	A	1981	A
8	A	2015	A
8	A	2031	A
8	A	2149	U
8	A	2150	C
8	A	2158	A
8	A	2159	G

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Mol	Chain	Res	Type
8	A	2192	U
8	A	2287	A
8	A	2319	G
8	A	2324	U
8	A	2343	U
8	A	2344	U
8	A	2405	G
8	A	2426	A
8	A	2445	2MG
8	A	2468	A
8	A	2474	U
8	A	2481	G
8	A	2572	A
8	A	2655	G
8	A	2706	A
8	A	2728	U
8	A	2732	G
8	A	2756	U
8	A	2796	U
8	A	2808	G
8	A	2848	G
9	B	66	A
9	B	89	U

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

45 non-standard protein/DNA/RNA residues are modelled in this entry.

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	$\#\|Z\| > 2$
8	PSU	A	2604	8	18,21,22	1.06	2 (11%)	22,30,33	2.03	5 (22%)
56	5MU	w	54	56	19,22,23	1.45	6 (31%)	28,32,35	2.26	7 (25%)
8	PSU	A	746	8	18,21,22	1.09	1 (5%)	22,30,33	1.78	4 (18%)
8	PSU	A	2457	8	18,21,22	1.05	2 (11%)	22,30,33	1.99	5 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	G7M	w	46	56	23,26,27	2.55	8 (34%)	35,39,42	2.30	10 (28%)
56	4SU	w	8	56	18,21,22	3.57	8 (44%)	26,30,33	2.31	4 (15%)
57	FME	y	101	57	8,9,10	0.90	0	7,9,11	1.14	0
8	5MC	A	1962	8	18,22,23	3.49	7 (38%)	26,32,35	1.34	4 (15%)
8	PSU	A	955	8	18,21,22	1.05	1 (5%)	22,30,33	1.88	5 (22%)
34	PSU	a	516	34	18,21,22	1.07	1 (5%)	22,30,33	1.62	3 (13%)
56	PSU	w	32	56	18,21,22	1.06	1 (5%)	22,30,33	1.65	5 (22%)
34	MA6	a	1519	34	23,26,27	1.51	5 (21%)	34,38,41	2.66	10 (29%)
34	2MG	a	966	34	23,26,27	2.93	8 (34%)	32,38,41	2.27	12 (37%)
56	PSU	w	39	56	18,21,22	1.10	1 (5%)	22,30,33	1.74	3 (13%)
8	6MZ	A	1618	8	22,25,26	4.15	10 (45%)	30,36,39	4.42	16 (53%)
34	UR3	a	1498	34	19,22,23	2.48	6 (31%)	26,32,35	1.27	1 (3%)
55	H2U	v	20	55	18,21,22	2.95	5 (27%)	21,30,33	2.17	5 (23%)
8	5MU	A	1939	8	19,22,23	4.76	7 (36%)	28,32,35	3.71	13 (46%)
34	G7M	a	527	34	23,26,27	2.62	7 (30%)	35,39,42	2.38	10 (28%)
34	4OC	a	1402	34	20,23,24	2.94	8 (40%)	26,32,35	1.24	5 (19%)
34	2MG	a	1516	34	23,26,27	2.87	6 (26%)	32,38,41	2.13	10 (31%)
8	PSU	A	2605	8	18,21,22	1.00	1 (5%)	22,30,33	2.05	4 (18%)
8	PSU	A	1911	8	18,21,22	1.07	2 (11%)	22,30,33	2.15	6 (27%)
8	1MG	A	745	8	22,26,27	2.60	5 (22%)	33,39,42	2.05	8 (24%)
8	2MA	A	2503	8	22,25,26	3.50	10 (45%)	33,37,40	2.30	9 (27%)
8	G7M	A	2069	8	23,26,27	2.50	8 (34%)	35,39,42	2.47	11 (31%)
55	4SU	v	8	55	18,21,22	3.56	7 (38%)	26,30,33	2.08	6 (23%)
8	6MZ	A	2030	8	22,25,26	4.12	11 (50%)	30,36,39	4.44	14 (46%)
8	PSU	A	1917	8	18,21,22	0.97	1 (5%)	22,30,33	1.88	4 (18%)
8	OMG	A	2251	8,56	23,26,27	2.43	8 (34%)	33,38,41	1.94	8 (24%)
34	2MG	a	1207	34	23,26,27	2.79	9 (39%)	32,38,41	2.11	10 (31%)
8	2MG	A	1835	8	23,26,27	2.92	7 (30%)	32,38,41	2.33	11 (34%)
8	PSU	A	2580	8	18,21,22	1.32	2 (11%)	22,30,33	2.23	7 (31%)
56	MIA	w	37	56	28,31,32	2.47	6 (21%)	40,44,47	3.18	15 (37%)
34	5MC	a	1407	34	18,22,23	3.44	7 (38%)	26,32,35	1.18	3 (11%)
8	OMC	A	2498	8	19,22,23	0.95	1 (5%)	26,31,34	1.49	2 (7%)
55	PSU	v	55	55	18,21,22	1.11	1 (5%)	22,30,33	1.80	4 (18%)
8	PSU	A	2504	8	18,21,22	1.10	3 (16%)	22,30,33	2.17	5 (22%)
8	OMU	A	2552	8	19,22,23	2.90	7 (36%)	26,31,34	1.95	6 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	PSU	w	55	56	18,21,22	1.43	3 (16%)	22,30,33	1.89	7 (31%)
34	5MC	a	967	34	18,22,23	3.66	7 (38%)	26,32,35	1.18	3 (11%)
8	5MC	A	747	8	18,22,23	3.51	7 (38%)	26,32,35	1.50	2 (7%)
34	MA6	a	1518	34	23,26,27	1.54	5 (21%)	34,38,41	2.35	11 (32%)
55	5MU	v	54	55	19,22,23	4.80	7 (36%)	28,32,35	3.54	11 (39%)
8	2MG	A	2445	8	23,26,27	2.89	8 (34%)	32,38,41	2.29	9 (28%)

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
8	PSU	A	2604	8	-	0/7/25/26	0/2/2/2
56	5MU	w	54	56	-	3/7/25/26	0/2/2/2
8	PSU	A	746	8	-	1/7/25/26	0/2/2/2
8	PSU	A	2457	8	-	0/7/25/26	0/2/2/2
56	G7M	w	46	56	-	3/7/25/26	0/3/3/3
56	4SU	w	8	56	-	2/7/25/26	0/2/2/2
57	FME	y	101	57	-	6/7/9/11	-
8	5MC	A	1962	8	-	4/7/25/26	0/2/2/2
8	PSU	A	955	8	-	0/7/25/26	0/2/2/2
34	PSU	a	516	34	-	1/7/25/26	0/2/2/2
56	PSU	w	32	56	-	2/7/25/26	0/2/2/2
34	MA6	a	1519	34	-	4/11/29/30	0/3/3/3
34	2MG	a	966	34	-	1/9/27/28	0/3/3/3
56	PSU	w	39	56	-	5/7/25/26	0/2/2/2
8	6MZ	A	1618	8	-	5/9/27/28	0/3/3/3
34	UR3	a	1498	34	-	4/7/25/26	0/2/2/2
55	H2U	v	20	55	-	5/7/38/39	0/2/2/2
8	5MU	A	1939	8	-	1/7/25/26	0/2/2/2
34	G7M	a	527	34	-	1/7/25/26	0/3/3/3
34	4OC	a	1402	34	-	3/9/29/30	0/2/2/2
34	2MG	a	1516	34	-	0/9/27/28	0/3/3/3
8	PSU	A	2605	8	-	0/7/25/26	0/2/2/2
8	PSU	A	1911	8	-	1/7/25/26	0/2/2/2
8	1MG	A	745	8	-	0/7/25/26	0/3/3/3
8	2MA	A	2503	8	-	3/7/25/26	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	G7M	A	2069	8	-	2/7/25/26	0/3/3/3
55	4SU	v	8	55	-	0/7/25/26	0/2/2/2
8	6MZ	A	2030	8	-	2/9/27/28	0/3/3/3
8	PSU	A	1917	8	-	0/7/25/26	0/2/2/2
8	OMG	A	2251	8,56	-	3/9/27/28	0/3/3/3
34	2MG	a	1207	34	-	0/9/27/28	0/3/3/3
8	2MG	A	1835	8	-	2/9/27/28	0/3/3/3
8	PSU	A	2580	8	-	2/7/25/26	0/2/2/2
56	MIA	w	37	56	-	3/15/33/34	0/3/3/3
34	5MC	a	1407	34	-	0/7/25/26	0/2/2/2
8	OMC	A	2498	8	-	3/9/27/28	0/2/2/2
55	PSU	v	55	55	-	3/7/25/26	0/2/2/2
8	PSU	A	2504	8	-	0/7/25/26	0/2/2/2
8	OMU	A	2552	8	-	6/9/27/28	0/2/2/2
56	PSU	w	55	56	-	1/7/25/26	0/2/2/2
34	5MC	a	967	34	-	1/7/25/26	0/2/2/2
8	5MC	A	747	8	-	2/7/25/26	0/2/2/2
34	MA6	a	1518	34	-	3/11/29/30	0/3/3/3
55	5MU	v	54	55	-	2/7/25/26	0/2/2/2
8	2MG	A	2445	8	-	2/9/27/28	0/3/3/3

All (233) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1618	6MZ	C6-N6	12.21	1.47	1.34
8	A	2030	6MZ	C6-N6	11.92	1.47	1.34
55	v	54	5MU	C2-N1	11.24	1.56	1.38
8	A	1939	5MU	C2-N1	11.04	1.56	1.38
8	A	2503	2MA	C4-N3	10.36	1.47	1.34
55	v	54	5MU	C6-N1	10.29	1.55	1.38
8	A	1939	5MU	C6-N1	10.01	1.55	1.38
55	v	54	5MU	C4-C5	9.91	1.61	1.44
8	A	747	5MC	C6-C5	9.14	1.49	1.34
8	A	1939	5MU	C4-C5	9.05	1.59	1.44
55	v	20	H2U	C2-N1	9.01	1.48	1.35
34	a	967	5MC	C6-C5	9.00	1.49	1.34
8	A	2030	6MZ	C3'-C4'	-8.88	1.30	1.53
8	A	1618	6MZ	C3'-C4'	-8.75	1.30	1.53
34	a	1407	5MC	C6-C5	8.68	1.48	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1939	5MU	C4-N3	-8.63	1.22	1.38
8	A	1962	5MC	C6-C5	8.50	1.48	1.34
55	v	8	4SU	C4-N3	8.29	1.46	1.37
8	A	2030	6MZ	O4'-C4'	8.07	1.63	1.45
56	w	8	4SU	C4-N3	7.84	1.46	1.37
8	A	1835	2MG	C2-N3	7.81	1.46	1.31
55	v	54	5MU	C4-N3	-7.73	1.24	1.38
8	A	1618	6MZ	O4'-C4'	7.61	1.62	1.45
34	a	966	2MG	C2-N3	7.48	1.46	1.31
8	A	2445	2MG	C2-N3	7.48	1.46	1.31
34	a	1516	2MG	C2-N3	7.32	1.45	1.31
56	w	8	4SU	C2-N1	7.28	1.50	1.38
8	A	745	1MG	C2-N2	7.28	1.47	1.34
55	v	8	4SU	C2-N1	7.26	1.50	1.38
56	w	37	MIA	C13-C14	7.03	1.52	1.32
34	a	967	5MC	C4-N3	6.89	1.45	1.34
34	a	1207	2MG	C2-N3	6.86	1.45	1.31
34	a	1402	4OC	C4-N3	6.82	1.44	1.32
8	A	1962	5MC	C4-N3	6.70	1.45	1.34
56	w	37	MIA	C2-S10	6.64	1.81	1.75
8	A	2552	OMU	C2-N3	6.61	1.49	1.38
8	A	747	5MC	C4-N3	6.47	1.45	1.34
8	A	1835	2MG	C4-N3	6.45	1.49	1.34
8	A	2552	OMU	C2-N1	6.34	1.48	1.38
56	w	37	MIA	C6-N6	6.33	1.44	1.34
34	a	1516	2MG	C4-N3	6.27	1.49	1.34
8	A	1962	5MC	C2-N3	6.27	1.49	1.36
34	a	966	2MG	C4-N3	6.26	1.49	1.34
34	a	967	5MC	C2-N3	6.19	1.48	1.36
34	a	1516	2MG	C2-N2	6.17	1.47	1.33
8	A	745	1MG	C4-N3	6.16	1.48	1.34
34	a	966	2MG	C2-N2	6.14	1.47	1.33
8	A	1835	2MG	C2-N2	6.12	1.47	1.33
55	v	20	H2U	C2-N3	6.12	1.48	1.38
8	A	2251	OMG	C4-N3	6.06	1.48	1.34
8	A	2445	2MG	C2-N2	6.06	1.46	1.33
8	A	2445	2MG	C4-N3	6.02	1.48	1.34
34	a	1498	UR3	C6-C5	5.98	1.49	1.35
34	a	1207	2MG	C2-N2	5.93	1.46	1.33
34	a	527	G7M	C4-N3	5.93	1.48	1.34
34	a	527	G7M	C5-N7	-5.90	1.32	1.39
34	a	1407	5MC	C4-N3	5.81	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1207	2MG	C4-N3	5.78	1.48	1.34
34	a	527	G7M	C2-N3	5.74	1.47	1.33
8	A	1939	5MU	C6-C5	5.70	1.44	1.34
56	w	8	4SU	C4-S4	-5.69	1.57	1.68
56	w	8	4SU	C6-C5	5.68	1.48	1.35
8	A	2069	G7M	C4-N3	5.68	1.47	1.34
56	w	46	G7M	C4-N3	5.67	1.47	1.34
34	a	1498	UR3	C2-N1	5.65	1.46	1.38
8	A	2503	2MA	C2-N3	5.64	1.44	1.34
8	A	2503	2MA	C2-N1	5.64	1.44	1.34
55	v	8	4SU	C2-N3	5.64	1.48	1.38
55	v	8	4SU	C6-C5	5.63	1.48	1.35
34	a	1407	5MC	C2-N3	5.63	1.47	1.36
8	A	747	5MC	C2-N3	5.55	1.47	1.36
8	A	2503	2MA	C6-N1	5.53	1.42	1.35
34	a	1402	4OC	C6-C5	5.51	1.47	1.35
56	w	8	4SU	C2-N3	5.50	1.47	1.38
55	v	54	5MU	C6-C5	5.47	1.43	1.34
56	w	46	G7M	C2-N3	5.46	1.46	1.33
8	A	2251	OMG	C2-N3	5.44	1.46	1.33
34	a	1402	4OC	C2-N3	5.42	1.47	1.36
8	A	2552	OMU	C6-C5	5.37	1.47	1.35
56	w	46	G7M	C5-N7	-5.36	1.33	1.39
8	A	2069	G7M	C2-N3	5.14	1.45	1.33
8	A	745	1MG	C2-N3	5.13	1.43	1.34
55	v	8	4SU	C4-S4	-4.96	1.59	1.68
8	A	2069	G7M	C5-N7	-4.95	1.33	1.39
8	A	1618	6MZ	O4'-C1'	-4.88	1.30	1.42
8	A	2030	6MZ	O4'-C1'	-4.80	1.30	1.42
8	A	1962	5MC	C4-N4	4.73	1.46	1.34
8	A	2251	OMG	C2-N2	4.70	1.45	1.34
8	A	747	5MC	C4-N4	4.69	1.46	1.34
34	a	967	5MC	C4-N4	4.67	1.46	1.34
55	v	20	H2U	C4-N3	4.66	1.45	1.37
34	a	1407	5MC	C4-N4	4.64	1.46	1.34
34	a	1402	4OC	C4-N4	4.41	1.45	1.35
34	a	967	5MC	C6-N1	4.41	1.45	1.38
34	a	967	5MC	C2-N1	4.33	1.49	1.40
34	a	1498	UR3	C2-N3	4.30	1.47	1.39
34	a	1407	5MC	C2-N1	4.16	1.49	1.40
34	a	966	2MG	C2-N1	4.14	1.43	1.36
56	w	46	G7M	C2-N2	4.13	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	1618	6MZ	O3'-C3'	4.06	1.52	1.43
8	A	2069	G7M	C2-N2	4.00	1.43	1.34
34	a	1207	2MG	C2-N1	4.00	1.43	1.36
34	a	1407	5MC	C6-N1	3.98	1.44	1.38
34	a	527	G7M	C2-N2	3.96	1.43	1.34
8	A	2445	2MG	C5-N7	-3.94	1.31	1.39
8	A	2445	2MG	O6-C6	-3.88	1.16	1.23
34	a	1207	2MG	C5-N7	-3.84	1.31	1.39
8	A	2503	2MA	C5-C6	3.83	1.51	1.41
34	a	1402	4OC	C2-N1	3.82	1.48	1.40
8	A	747	5MC	C6-N1	3.79	1.44	1.38
34	a	1516	2MG	C5-N7	-3.79	1.31	1.39
8	A	2552	OMU	C4-N3	3.76	1.45	1.38
8	A	1962	5MC	C2-N1	3.69	1.48	1.40
34	a	1516	2MG	C2-N1	3.66	1.42	1.36
56	w	46	G7M	C5-C6	3.66	1.53	1.43
55	v	55	PSU	C6-C5	3.65	1.39	1.35
8	A	2445	2MG	C2-N1	3.65	1.42	1.36
8	A	2503	2MA	C4-N9	-3.64	1.29	1.37
34	a	1516	2MG	O6-C6	-3.64	1.16	1.23
8	A	747	5MC	C2-N1	3.62	1.47	1.40
8	A	2503	2MA	C6-N6	-3.62	1.25	1.34
8	A	2069	G7M	C5-C6	3.60	1.53	1.43
34	a	527	G7M	C5-C6	3.57	1.53	1.43
8	A	1962	5MC	C6-N1	3.56	1.44	1.38
56	w	39	PSU	C6-C5	3.55	1.39	1.35
34	a	1402	4OC	C5-C4	3.55	1.48	1.40
34	a	966	2MG	O6-C6	-3.55	1.16	1.23
8	A	1835	2MG	O6-C6	-3.55	1.16	1.23
34	a	1207	2MG	O6-C6	-3.54	1.16	1.23
34	a	1407	5MC	O2-C2	-3.52	1.17	1.23
8	A	2552	OMU	O4-C4	-3.51	1.17	1.24
8	A	747	5MC	O2-C2	-3.50	1.17	1.23
34	a	1518	MA6	C5-N7	-3.44	1.32	1.39
8	A	1835	2MG	C2-N1	3.42	1.42	1.36
8	A	1835	2MG	C5-N7	-3.41	1.32	1.39
8	A	745	1MG	C5-N7	-3.39	1.32	1.39
56	w	55	PSU	C2'-C1'	-3.37	1.49	1.53
34	a	1519	MA6	C5-N7	-3.36	1.32	1.39
34	a	1402	4OC	O2-C2	-3.33	1.17	1.23
8	A	1962	5MC	O2-C2	-3.33	1.17	1.23
34	a	527	G7M	O6-C6	-3.32	1.17	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	a	1519	MA6	C8-N9	-3.30	1.31	1.37
34	a	966	2MG	C5-N7	-3.28	1.32	1.39
8	A	746	PSU	C6-C5	3.28	1.39	1.35
8	A	2251	OMG	C5-N7	-3.27	1.32	1.39
34	a	1518	MA6	C5-C4	-3.23	1.33	1.39
8	A	1618	6MZ	C5-C4	-3.19	1.33	1.39
56	w	32	PSU	C6-C5	3.16	1.39	1.35
34	a	967	5MC	O2-C2	-3.16	1.17	1.23
56	w	37	MIA	C5-C4	-3.13	1.33	1.39
8	A	2503	2MA	C5-N7	-3.12	1.33	1.39
8	A	2580	PSU	O4'-C1'	-3.11	1.39	1.43
8	A	2030	6MZ	C5-C4	-3.10	1.33	1.39
8	A	2069	G7M	O6-C6	-3.10	1.17	1.23
8	A	2030	6MZ	O3'-C3'	3.09	1.50	1.43
8	A	1939	5MU	O4-C4	-3.05	1.17	1.23
8	A	2030	6MZ	O2'-C2'	-3.04	1.35	1.43
8	A	1618	6MZ	O2'-C2'	-2.99	1.35	1.43
8	A	2030	6MZ	C8-N9	-2.99	1.32	1.37
8	A	2251	OMG	O6-C6	-2.99	1.17	1.23
56	w	54	5MU	C4-N3	-2.98	1.33	1.38
56	w	55	PSU	C2-N1	-2.97	1.32	1.36
56	w	8	4SU	C5-C4	2.97	1.46	1.42
8	A	1618	6MZ	C8-N9	-2.95	1.32	1.37
34	a	1519	MA6	C5-C4	-2.95	1.33	1.39
8	A	1939	5MU	O2-C2	-2.94	1.17	1.23
34	a	516	PSU	C6-C5	2.91	1.38	1.35
56	w	46	G7M	O6-C6	-2.90	1.18	1.23
34	a	1498	UR3	O2-C2	-2.89	1.17	1.22
34	a	1518	MA6	C5-C6	-2.81	1.34	1.41
8	A	2605	PSU	C6-C5	2.80	1.38	1.35
34	a	1518	MA6	C6-N6	2.75	1.45	1.36
8	A	2552	OMU	O2-C2	-2.75	1.18	1.23
56	w	37	MIA	C5-N7	-2.71	1.33	1.39
34	a	1518	MA6	C8-N9	-2.69	1.32	1.37
55	v	8	4SU	C5-C4	2.68	1.46	1.42
8	A	1618	6MZ	C4-N9	-2.66	1.31	1.37
55	v	54	5MU	O4-C4	-2.64	1.18	1.23
8	A	1911	PSU	C6-C5	2.60	1.38	1.35
56	w	46	G7M	C2-N1	2.57	1.44	1.37
55	v	54	5MU	O2-C2	-2.57	1.18	1.23
34	a	1498	UR3	C6-N1	2.56	1.44	1.38
8	A	2604	PSU	C6-C5	2.56	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2251	OMG	C2-N1	2.55	1.44	1.37
34	a	1519	MA6	C6-N6	2.53	1.44	1.36
8	A	2503	2MA	C5-C4	-2.51	1.34	1.39
56	w	54	5MU	C6-C5	2.49	1.38	1.34
55	v	8	4SU	O2-C2	-2.48	1.18	1.23
8	A	2030	6MZ	C4-N9	-2.47	1.32	1.37
34	a	1402	4OC	C6-N1	2.46	1.43	1.38
8	A	2504	PSU	C6-C5	2.45	1.38	1.35
8	A	955	PSU	C6-C5	2.44	1.38	1.35
8	A	2552	OMU	C6-N1	2.43	1.43	1.38
8	A	2457	PSU	C6-C5	2.42	1.38	1.35
55	v	20	H2U	O4-C4	-2.40	1.18	1.23
34	a	1519	MA6	C5-C6	-2.40	1.35	1.41
8	A	1917	PSU	C6-C5	2.39	1.38	1.35
34	a	966	2MG	C4-N9	-2.39	1.31	1.38
8	A	2069	G7M	C4-N9	-2.37	1.31	1.38
55	v	20	H2U	O2-C2	-2.37	1.18	1.23
34	a	1207	2MG	C4-N9	-2.35	1.31	1.38
56	w	54	5MU	C6-N1	-2.34	1.34	1.38
56	w	8	4SU	O2-C2	-2.33	1.18	1.23
34	a	1498	UR3	O4-C4	-2.32	1.18	1.23
34	a	966	2MG	C5-C6	2.30	1.53	1.44
8	A	1835	2MG	C5-C6	2.29	1.52	1.44
8	A	2251	OMG	C5-C6	2.28	1.52	1.44
56	w	37	MIA	C8-N9	-2.25	1.33	1.37
8	A	1911	PSU	C4-C5	-2.23	1.37	1.44
8	A	2580	PSU	C4-C5	-2.23	1.37	1.44
56	w	54	5MU	C2-N1	2.22	1.42	1.38
8	A	2604	PSU	O4'-C1'	-2.20	1.40	1.43
56	w	55	PSU	C2-N3	-2.20	1.33	1.37
56	w	54	5MU	C2-N3	-2.20	1.34	1.38
56	w	46	G7M	C6-N1	2.19	1.42	1.38
8	A	2504	PSU	C4-C5	-2.17	1.38	1.44
8	A	2445	2MG	C8-N9	-2.16	1.32	1.37
8	A	2030	6MZ	C8-N7	2.15	1.35	1.31
8	A	2503	2MA	C8-N9	-2.14	1.33	1.37
56	w	54	5MU	C4-C5	2.12	1.48	1.44
34	a	527	G7M	C2-N1	2.11	1.42	1.37
8	A	1618	6MZ	C6-N1	-2.10	1.31	1.35
8	A	745	1MG	C5-C6	2.10	1.50	1.45
34	a	1207	2MG	C5-C6	2.09	1.52	1.44
8	A	2445	2MG	C4-N9	-2.08	1.32	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	A	2069	G7M	C2-N1	2.08	1.42	1.37
8	A	2030	6MZ	C6-N1	-2.08	1.31	1.35
8	A	2504	PSU	O4'-C1'	-2.08	1.41	1.43
8	A	2251	OMG	C6-N1	2.06	1.42	1.38
8	A	2457	PSU	O4'-C1'	-2.05	1.41	1.43
56	w	8	4SU	C6-N1	2.01	1.42	1.38
8	A	2498	OMC	C5-C4	-2.01	1.38	1.42
34	a	1207	2MG	C8-N9	-2.01	1.33	1.37

All (313) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	1618	6MZ	C4-N9-C8	13.46	120.31	105.73
8	A	2030	6MZ	C4-N9-C8	13.00	119.81	105.73
8	A	1939	5MU	C5-C4-N3	11.77	125.36	115.31
55	v	54	5MU	C5-C4-N3	11.06	124.75	115.31
8	A	1618	6MZ	N9-C8-N7	-10.72	99.26	113.91
8	A	2030	6MZ	N9-C8-N7	-10.52	99.53	113.91
8	A	1939	5MU	C5-C6-N1	-10.15	112.89	123.34
34	a	1519	MA6	N1-C6-N6	-9.43	106.78	117.08
55	v	54	5MU	C5-C6-N1	-9.01	114.07	123.34
56	w	37	MIA	C12-C13-C14	-8.92	109.78	127.14
56	w	37	MIA	C11-S10-C2	8.85	108.87	102.27
8	A	2030	6MZ	C5-C6-N1	8.77	127.55	118.20
8	A	1618	6MZ	C5-C6-N1	8.43	127.18	118.20
56	w	8	4SU	C4-N3-C2	-7.79	119.77	127.34
55	v	20	H2U	C4-N3-C2	-7.71	119.39	125.79
56	w	37	MIA	C5-C4-N3	-7.42	118.84	127.19
8	A	2030	6MZ	C9-N6-C6	-7.18	116.69	122.87
8	A	2503	2MA	N9-C8-N7	-6.76	104.67	113.91
56	w	8	4SU	C5-C4-N3	6.43	120.65	114.69
8	A	2069	G7M	C1'-N9-C4	-6.42	107.44	126.50
8	A	1835	2MG	C2-N3-C4	6.34	119.90	112.04
8	A	1618	6MZ	N3-C4-N9	6.33	137.50	127.08
55	v	8	4SU	C4-N3-C2	-6.25	121.27	127.34
8	A	2503	2MA	C4-N9-C8	6.20	112.44	105.73
8	A	2030	6MZ	N3-C4-N9	6.15	137.21	127.08
34	a	966	2MG	C2-N3-C4	6.05	119.54	112.04
34	a	1516	2MG	C2-N3-C4	6.00	119.48	112.04
8	A	747	5MC	C5-C6-N1	-5.90	117.27	123.34
8	A	2605	PSU	C4-N3-C2	-5.84	117.92	126.34
8	A	2604	PSU	C4-N3-C2	-5.78	118.01	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1519	MA6	C5-C4-N3	-5.73	119.27	126.75
8	A	2504	PSU	C4-N3-C2	-5.72	118.10	126.34
8	A	2457	PSU	C4-N3-C2	-5.68	118.16	126.34
8	A	2445	2MG	C2-N3-C4	5.66	119.06	112.04
8	A	1939	5MU	N3-C2-N1	5.61	122.34	114.89
8	A	1835	2MG	C5-C4-N3	-5.56	119.43	128.46
34	a	1207	2MG	C2-N3-C4	5.54	118.91	112.04
8	A	2445	2MG	C5-C4-N3	-5.52	119.50	128.46
8	A	2251	OMG	C5-C4-N3	-5.50	119.54	128.46
8	A	2030	6MZ	N1-C2-N3	-5.46	120.06	128.60
8	A	2069	G7M	CN7-N7-C5	5.46	133.55	126.77
34	a	1518	MA6	C5-C4-N3	-5.44	119.65	126.75
8	A	1939	5MU	O4-C4-C5	-5.44	118.60	124.90
56	w	37	MIA	N3-C4-N9	5.42	134.51	126.99
56	w	54	5MU	C4-N3-C2	-5.42	120.34	127.35
8	A	1618	6MZ	N1-C2-N3	-5.39	120.17	128.60
8	A	745	1MG	C1'-N9-C4	-5.39	110.48	126.50
34	a	1519	MA6	N1-C2-N3	-5.38	120.18	128.60
56	w	46	G7M	CN7-N7-C5	5.38	133.45	126.77
34	a	1518	MA6	N1-C6-N6	-5.37	111.21	117.08
8	A	1939	5MU	C4-N3-C2	-5.35	120.43	127.35
34	a	1518	MA6	N1-C2-N3	-5.31	120.29	128.60
34	a	527	G7M	C5-C4-N3	-5.31	117.97	128.15
56	w	54	5MU	N3-C2-N1	5.29	121.91	114.89
8	A	2552	OMU	C4-N3-C2	-5.28	119.62	126.58
34	a	527	G7M	CN7-N7-C5	5.26	133.30	126.77
8	A	1911	PSU	C4-N3-C2	-5.18	118.87	126.34
34	a	1516	2MG	C5-C4-N3	-5.18	120.06	128.46
55	v	54	5MU	C5M-C5-C6	-5.17	115.95	122.85
8	A	2580	PSU	N1-C2-N3	5.15	120.97	115.13
34	a	1207	2MG	C5-C4-N3	-5.10	120.18	128.46
8	A	1911	PSU	N1-C2-N3	5.10	120.91	115.13
8	A	1917	PSU	C4-N3-C2	-5.09	119.01	126.34
8	A	2580	PSU	C4-N3-C2	-5.08	119.01	126.34
8	A	2445	2MG	C2-N1-C6	-5.08	118.64	124.48
8	A	2504	PSU	N1-C2-N3	5.07	120.88	115.13
8	A	2605	PSU	N1-C2-N3	5.06	120.86	115.13
8	A	1618	6MZ	C9-N6-C6	-5.05	118.53	122.87
8	A	2069	G7M	CN7-N7-C8	-4.99	117.14	124.84
8	A	2498	OMC	C2'-C1'-N1	-4.99	104.54	114.22
55	v	54	5MU	C5M-C5-C4	4.95	124.21	118.77
56	w	37	MIA	C15-C14-C13	-4.95	108.35	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	v	54	5MU	N3-C2-N1	4.95	121.45	114.89
8	A	745	1MG	C5-C4-N3	-4.90	120.50	128.46
55	v	55	PSU	N1-C2-N3	4.88	120.66	115.13
8	A	1917	PSU	N1-C2-N3	4.83	120.61	115.13
55	v	8	4SU	C5-C4-S4	-4.83	118.24	124.47
56	w	37	MIA	C4-C5-C6	4.83	120.55	116.81
8	A	745	1MG	C1'-N9-C8	4.79	140.33	126.70
56	w	37	MIA	C16-C14-C13	-4.77	108.86	122.65
8	A	2457	PSU	N1-C2-N3	4.75	120.51	115.13
8	A	1618	6MZ	C5-C4-N9	-4.75	100.26	105.78
56	w	39	PSU	N1-C2-N3	4.75	120.51	115.13
34	a	966	2MG	C5-C4-N3	-4.74	120.77	128.46
8	A	955	PSU	N1-C2-N3	4.72	120.48	115.13
34	a	966	2MG	C2-N1-C6	-4.71	119.06	124.48
8	A	746	PSU	C4-N3-C2	-4.70	119.57	126.34
55	v	54	5MU	C4-N3-C2	-4.70	121.27	127.35
8	A	2604	PSU	N1-C2-N3	4.69	120.44	115.13
34	a	1207	2MG	C2-N1-C6	-4.69	119.08	124.48
34	a	527	G7M	C2-N3-C4	4.68	120.63	112.30
8	A	1835	2MG	C2-N1-C6	-4.66	119.11	124.48
34	a	527	G7M	C5-C6-N1	4.65	121.50	111.79
34	a	1498	UR3	C4-N3-C2	-4.63	120.20	124.56
56	w	46	G7M	C5-C4-N3	-4.58	119.36	128.15
56	w	32	PSU	C4-N3-C2	-4.58	119.73	126.34
55	v	54	5MU	O4-C4-C5	-4.57	119.61	124.90
8	A	2030	6MZ	C5-N7-C8	4.56	109.98	103.51
56	w	54	5MU	C5-C4-N3	4.56	119.20	115.31
56	w	37	MIA	N9-C8-N7	-4.54	107.70	113.91
8	A	2251	OMG	C2-N3-C4	4.54	120.39	112.30
56	w	46	G7M	C2-N3-C4	4.54	120.38	112.30
8	A	2069	G7M	C1'-N9-C8	4.53	142.04	126.74
8	A	1618	6MZ	C5-N7-C8	4.50	109.91	103.51
34	a	527	G7M	CN7-N7-C8	-4.49	117.90	124.84
34	a	516	PSU	C4-N3-C2	-4.49	119.87	126.34
8	A	746	PSU	N1-C2-N3	4.48	120.21	115.13
55	v	8	4SU	C5-C4-N3	4.43	118.80	114.69
8	A	2580	PSU	C6-C5-C4	4.39	121.27	118.20
8	A	2030	6MZ	C5-C4-N9	-4.39	100.68	105.78
34	a	527	G7M	C2-N1-C6	-4.38	117.12	125.10
55	v	55	PSU	C4-N3-C2	-4.32	120.12	126.34
56	w	39	PSU	C4-N3-C2	-4.31	120.12	126.34
56	w	46	G7M	CN7-N7-C8	-4.29	118.22	124.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	w	55	PSU	N1-C2-N3	4.27	119.97	115.13
34	a	1518	MA6	C4-C5-C6	4.24	120.63	115.88
8	A	1911	PSU	C6-C5-C4	4.21	121.14	118.20
8	A	2069	G7M	C5-C6-N1	4.21	120.58	111.79
34	a	1518	MA6	N3-C4-N9	4.15	133.92	127.08
34	a	527	G7M	N9-C4-N3	4.13	134.23	125.94
8	A	1835	2MG	N9-C4-N3	4.13	134.23	125.94
56	w	46	G7M	C1'-N9-C4	-4.11	114.28	126.50
56	w	8	4SU	C5-C4-S4	-4.09	119.19	124.47
56	w	46	G7M	C5-C6-N1	4.09	120.34	111.79
8	A	2503	2MA	C5-C4-N3	-4.04	122.65	127.19
8	A	2069	G7M	C2-N3-C4	4.01	119.45	112.30
8	A	1962	5MC	C5-C6-N1	-4.00	119.22	123.34
34	a	1518	MA6	N9-C8-N7	-3.96	108.50	113.91
34	a	1516	2MG	C2-N1-C6	-3.96	119.92	124.48
8	A	2504	PSU	C6-C5-C4	3.95	120.96	118.20
56	w	54	5MU	C5-C6-N1	-3.82	119.41	123.34
8	A	955	PSU	C4-N3-C2	-3.80	120.86	126.34
56	w	46	G7M	C2-N1-C6	-3.79	118.18	125.10
56	w	32	PSU	N1-C2-N3	3.78	119.41	115.13
34	a	516	PSU	N1-C2-N3	3.73	119.35	115.13
8	A	2445	2MG	N9-C4-N3	3.72	133.41	125.94
8	A	2552	OMU	C5-C4-N3	3.69	120.36	114.84
56	w	54	5MU	O4-C4-C5	-3.69	120.63	124.90
8	A	2552	OMU	N3-C2-N1	3.69	119.78	114.89
8	A	955	PSU	C6-C5-C4	3.68	120.77	118.20
34	a	1519	MA6	C2-N3-C4	3.67	120.42	111.75
34	a	966	2MG	N9-C8-N7	-3.66	106.50	113.39
34	a	1516	2MG	N9-C4-N3	3.66	133.28	125.94
8	A	2030	6MZ	C2-N3-C4	3.64	120.34	111.75
34	a	967	5MC	C5-C6-N1	-3.63	119.60	123.34
8	A	2503	2MA	C4-N9-C1'	-3.59	118.04	126.59
8	A	1618	6MZ	C1'-N9-C8	-3.59	119.03	127.14
8	A	2030	6MZ	C5-C4-N3	-3.56	122.11	126.75
34	a	1519	MA6	N3-C4-N9	3.55	132.94	127.08
34	a	966	2MG	C1'-N9-C4	-3.53	116.03	126.50
8	A	1835	2MG	N9-C8-N7	-3.52	106.75	113.39
8	A	745	1MG	C2-N3-C4	3.51	119.88	111.98
56	w	46	G7M	O6-C6-C5	-3.51	120.14	128.06
8	A	1618	6MZ	C2-N3-C4	3.51	120.04	111.75
8	A	2251	OMG	N9-C4-N3	3.50	132.98	125.94
56	w	55	PSU	C4-N3-C2	-3.50	121.29	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1519	MA6	C5-C6-N6	3.50	131.40	125.30
8	A	1618	6MZ	C5-C4-N3	-3.48	122.22	126.75
8	A	2552	OMU	O4-C4-C5	-3.47	119.06	125.16
8	A	2251	OMG	C2-N1-C6	-3.47	118.78	125.10
8	A	2069	G7M	C5-C4-N3	-3.45	121.53	128.15
56	w	55	PSU	O2-C2-N1	-3.40	119.04	122.79
34	a	527	G7M	C1'-N9-C4	-3.39	116.42	126.50
56	w	54	5MU	C3'-C2'-C1'	3.37	107.84	101.43
8	A	2552	OMU	C1'-N1-C2	3.37	123.66	117.57
8	A	2503	2MA	C5-N7-C8	3.36	108.28	103.51
8	A	1939	5MU	C5M-C5-C6	-3.36	118.36	122.85
34	a	527	G7M	O6-C6-C5	-3.34	120.52	128.06
34	a	1519	MA6	C4-C5-C6	3.34	119.61	115.88
8	A	2503	2MA	N3-C4-N9	3.33	131.61	126.99
34	a	966	2MG	N9-C4-N3	3.32	132.61	125.94
8	A	2030	6MZ	C4-C5-C6	-3.31	114.24	116.81
34	a	1518	MA6	C2-N3-C4	3.31	119.57	111.75
55	v	20	H2U	N3-C2-N1	3.29	120.13	116.65
8	A	745	1MG	N9-C8-N7	-3.28	107.20	113.39
56	w	46	G7M	C1'-N9-C8	3.28	137.80	126.74
8	A	2069	G7M	C2-N1-C6	-3.27	119.13	125.10
56	w	37	MIA	N3-C2-N1	-3.26	120.97	126.95
8	A	2030	6MZ	C1'-N9-C8	-3.22	119.86	127.14
56	w	8	4SU	N3-C2-N1	3.19	119.12	114.89
8	A	745	1MG	N9-C4-N3	3.19	132.34	125.94
56	w	37	MIA	C5-N7-C8	3.18	108.03	103.51
55	v	20	H2U	C5-C4-N3	3.15	120.19	116.65
56	w	37	MIA	C1'-N9-C8	-3.15	120.02	127.14
8	A	2069	G7M	O6-C6-C5	-3.15	120.96	128.06
8	A	2030	6MZ	C6-C5-N7	3.13	135.78	132.39
34	a	1407	5MC	C5-C6-N1	-3.12	120.12	123.34
8	A	2503	2MA	N3-C2-N1	-3.12	119.99	125.72
56	w	46	G7M	N9-C4-N3	3.11	132.18	125.94
34	a	1207	2MG	N9-C4-N3	3.10	132.16	125.94
34	a	1518	MA6	C2-N1-C6	3.08	119.03	111.75
8	A	2251	OMG	N9-C8-N7	-3.06	107.63	113.39
8	A	2445	2MG	C1'-N9-C4	-3.05	117.45	126.50
8	A	1962	5MC	CM5-C5-C6	-3.04	118.79	122.85
55	v	55	PSU	C6-N1-C2	-3.02	119.59	122.68
8	A	2445	2MG	N9-C8-N7	-3.01	107.72	113.39
8	A	1835	2MG	C5-C6-N1	2.98	120.77	113.19
34	a	966	2MG	C5-C6-N1	2.98	120.76	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1519	MA6	N9-C8-N7	-2.97	109.85	113.91
34	a	1516	2MG	N9-C8-N7	-2.96	107.81	113.39
8	A	1911	PSU	O2-C2-N1	-2.93	119.57	122.79
34	a	1519	MA6	C2-N1-C6	2.93	118.67	111.75
8	A	2251	OMG	O6-C6-C5	-2.92	118.84	126.60
8	A	955	PSU	O2-C2-N1	-2.92	119.57	122.79
56	w	55	PSU	O4-C4-C5	-2.92	116.40	124.05
8	A	1939	5MU	C6-C5-C4	2.91	120.47	118.03
8	A	2251	OMG	C5-C6-N1	2.91	120.59	113.19
55	v	8	4SU	N3-C2-N1	2.89	118.73	114.89
8	A	955	PSU	C6-N1-C2	-2.88	119.74	122.68
56	w	37	MIA	C2-N3-C4	2.87	119.92	112.35
8	A	1618	6MZ	C4-C5-C6	-2.87	114.58	116.81
34	a	1207	2MG	N9-C8-N7	-2.86	108.01	113.39
8	A	2503	2MA	CM2-C2-N1	2.81	121.53	117.15
34	a	1207	2MG	CM2-N2-C2	-2.81	117.67	123.86
8	A	1939	5MU	C6-N1-C2	-2.80	118.46	121.30
55	v	8	4SU	S4-C4-N3	2.79	122.96	120.21
8	A	2445	2MG	C5-C6-N1	2.79	120.28	113.19
8	A	2069	G7M	N9-C8-N7	-2.79	105.30	112.21
8	A	745	1MG	C5-C6-N1	2.79	120.31	114.91
8	A	2580	PSU	C5-C6-N1	-2.78	117.93	122.11
56	w	37	MIA	C4-N9-C8	2.76	108.72	105.73
56	w	39	PSU	C6-N1-C2	-2.74	119.88	122.68
56	w	55	PSU	C6-C5-C4	-2.74	116.28	118.20
34	a	1516	2MG	O6-C6-C5	-2.72	119.39	126.60
8	A	1917	PSU	C6-N1-C2	-2.72	119.91	122.68
34	a	1516	2MG	C5-C6-N1	2.71	120.08	113.19
55	v	20	H2U	O2-C2-N1	-2.70	119.71	123.11
34	a	1516	2MG	C1'-N9-C4	-2.70	118.49	126.50
8	A	1618	6MZ	C2'-C3'-C4'	2.69	107.88	102.64
8	A	747	5MC	CM5-C5-C6	-2.69	119.25	122.85
8	A	1835	2MG	C1'-N9-C4	-2.69	118.50	126.50
8	A	2503	2MA	N6-C6-N1	2.69	120.84	117.03
55	v	54	5MU	C6-N1-C2	-2.66	118.60	121.30
34	a	967	5MC	CM5-C5-C6	-2.64	119.32	122.85
8	A	746	PSU	O2-C2-N1	-2.64	119.89	122.79
55	v	54	5MU	O2-C2-N1	-2.64	119.28	122.79
8	A	2030	6MZ	C4-N9-C1'	-2.64	120.31	126.59
8	A	2498	OMC	O2-C2-N3	-2.62	118.07	122.33
8	A	1618	6MZ	C6-C5-N7	2.61	135.21	132.39
34	a	1407	5MC	O2-C2-N3	-2.59	118.13	122.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	966	2MG	O6-C6-C5	-2.58	119.77	126.60
8	A	1618	6MZ	C4-N9-C1'	-2.57	120.47	126.59
34	a	1207	2MG	C1'-N9-C4	-2.56	118.90	126.50
8	A	2445	2MG	O6-C6-C5	-2.56	119.82	126.60
55	v	8	4SU	C1'-N1-C2	2.55	122.18	117.57
8	A	2552	OMU	O2-C2-N1	-2.54	119.42	122.79
34	a	527	G7M	C1'-N9-C8	2.53	135.28	126.74
34	a	1516	2MG	N1-C2-N3	-2.52	120.05	123.95
8	A	2604	PSU	C5-C6-N1	-2.52	118.33	122.11
8	A	2445	2MG	C1'-N9-C8	2.51	133.84	126.70
8	A	1835	2MG	O6-C6-C5	-2.50	119.97	126.60
8	A	1917	PSU	O2-C2-N1	-2.50	120.04	122.79
34	a	1402	4OC	C6-C5-C4	2.49	120.01	116.96
34	a	1207	2MG	C5-C6-N1	2.49	119.51	113.19
34	a	966	2MG	C1'-N9-C8	2.48	133.75	126.70
34	a	1518	MA6	C6-C5-N7	-2.47	129.14	133.28
8	A	1618	6MZ	O3'-C3'-C2'	2.47	119.80	111.82
8	A	2504	PSU	C5-C6-N1	-2.46	118.42	122.11
8	A	1962	5MC	C1'-N1-C6	-2.45	117.05	121.12
34	a	1407	5MC	CM5-C5-C6	-2.42	119.61	122.85
34	a	1402	4OC	O2-C2-N3	-2.40	118.42	122.33
8	A	2580	PSU	O2-C2-N3	-2.40	117.29	121.82
34	a	1402	4OC	C1'-N1-C6	-2.40	115.61	120.84
56	w	54	5MU	O2-C2-N1	-2.38	119.62	122.79
8	A	2504	PSU	O2-C2-N1	-2.37	120.18	122.79
55	v	20	H2U	C5-C6-N1	2.37	119.43	111.61
55	v	54	5MU	O4-C4-N3	-2.37	115.57	120.12
34	a	966	2MG	N1-C2-N3	-2.34	120.34	123.95
8	A	2457	PSU	C5-C6-N1	-2.33	118.61	122.11
55	v	55	PSU	O2-C2-N1	-2.33	120.22	122.79
8	A	2069	G7M	N9-C4-N3	2.33	130.62	125.94
8	A	2580	PSU	O4'-C1'-C2'	2.33	108.43	105.14
56	w	32	PSU	O2-C2-N1	-2.31	120.25	122.79
34	a	1518	MA6	C4-N9-C8	2.30	108.22	105.73
56	w	37	MIA	C16-C14-C15	-2.28	109.56	114.60
34	a	1402	4OC	C1'-N1-C2	2.27	123.48	118.42
56	w	55	PSU	O4-C4-N3	2.26	124.45	120.12
8	A	1835	2MG	N1-C2-N3	-2.26	120.45	123.95
8	A	2605	PSU	C5-C4-N3	2.26	121.68	116.58
8	A	2604	PSU	C5-C4-N3	2.25	121.67	116.58
8	A	1835	2MG	C8-N7-C5	2.23	108.28	104.24
56	w	55	PSU	O3'-C3'-C4'	2.21	117.44	111.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	A	2604	PSU	O4'-C1'-C2'	2.20	108.25	105.14
34	a	1518	MA6	C5-N7-C8	2.19	106.62	103.51
34	a	966	2MG	C8-N9-C4	2.19	110.22	106.05
56	w	37	MIA	S10-C2-N1	2.19	123.58	116.01
8	A	1939	5MU	C1'-N1-C2	2.18	121.52	117.57
8	A	1939	5MU	C5M-C5-C4	2.18	121.17	118.77
8	A	2457	PSU	C5-C4-N3	2.18	121.51	116.58
8	A	1911	PSU	C6-N1-C2	-2.17	120.46	122.68
8	A	1939	5MU	O4-C4-N3	-2.17	115.96	120.12
8	A	2605	PSU	C5-C6-N1	-2.17	118.86	122.11
34	a	1207	2MG	O6-C6-C5	-2.17	120.86	126.60
34	a	516	PSU	O4'-C1'-C2'	2.15	108.17	105.14
8	A	2580	PSU	C3'-C2'-C1'	2.14	104.13	101.64
8	A	746	PSU	C6-N1-C2	-2.14	120.50	122.68
34	a	966	2MG	C8-N7-C5	2.13	108.10	104.24
55	v	54	5MU	C6-C5-C4	2.13	119.81	118.03
8	A	1939	5MU	O2-C2-N3	-2.12	117.54	121.50
34	a	1207	2MG	C1'-N9-C8	2.11	132.70	126.70
8	A	2251	OMG	C8-N7-C5	2.10	108.04	104.24
34	a	1516	2MG	C1'-N9-C8	2.10	132.67	126.70
8	A	2457	PSU	C6-C5-C4	2.10	119.66	118.20
34	a	967	5MC	C1'-N1-C6	-2.09	117.64	121.12
8	A	1962	5MC	C5-C4-N3	-2.08	119.43	121.67
34	a	1519	MA6	C5-N7-C8	2.08	106.47	103.51
8	A	745	1MG	C8-N7-C5	2.07	107.98	104.24
34	a	1402	4OC	C5-C4-N4	-2.05	118.43	122.61
56	w	32	PSU	O4'-C1'-C2'	2.03	108.00	105.14
8	A	1939	5MU	O2-C2-N1	-2.02	120.11	122.79
8	A	1835	2MG	C8-N9-C4	2.02	109.88	106.05
8	A	1911	PSU	C5-C6-N1	-2.01	119.10	122.11
56	w	32	PSU	C5-C4-N3	2.00	121.11	116.58

There are no chirality outliers.

All (92) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	v	20	H2U	O4'-C1'-N1-C6
55	v	20	H2U	C2'-C1'-N1-C2
55	v	20	H2U	C2'-C1'-N1-C6
8	A	747	5MC	C3'-C4'-C5'-O5'
8	A	1618	6MZ	C5-C6-N6-C9
8	A	1618	6MZ	N1-C6-N6-C9

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Mol	Chain	Res	Type	Atoms
8	A	2251	OMG	O4'-C4'-C5'-O5'
8	A	2251	OMG	C3'-C4'-C5'-O5'
8	A	2498	OMC	C1'-C2'-O2'-CM2
8	A	2503	2MA	O4'-C4'-C5'-O5'
8	A	2552	OMU	O4'-C1'-N1-C2
8	A	2552	OMU	O4'-C1'-N1-C6
8	A	2552	OMU	C1'-C2'-O2'-CM2
8	A	2580	PSU	C2'-C1'-C5-C4
34	a	1402	4OC	C1'-C2'-O2'-CM2
34	a	1498	UR3	O4'-C4'-C5'-O5'
34	a	1518	MA6	C5-C6-N6-C10
34	a	1518	MA6	N1-C6-N6-C10
34	a	1519	MA6	C5-C6-N6-C9
34	a	1519	MA6	C5-C6-N6-C10
56	w	32	PSU	O4'-C1'-C5-C4
56	w	32	PSU	O4'-C1'-C5-C6
56	w	37	MIA	C12-C13-C14-C15
56	w	37	MIA	C12-C13-C14-C16
56	w	39	PSU	O4'-C1'-C5-C4
56	w	39	PSU	C2'-C1'-C5-C6
56	w	39	PSU	O4'-C1'-C5-C6
56	w	46	G7M	C3'-C4'-C5'-O5'
56	w	54	5MU	O4'-C4'-C5'-O5'
57	y	101	FME	O1-CN-N-CA
57	y	101	FME	N-CA-CB-CG
57	y	101	FME	O-C-CA-CB
34	a	1519	MA6	C4'-C5'-O5'-P
8	A	1618	6MZ	O4'-C4'-C5'-O5'
8	A	1618	6MZ	C3'-C4'-C5'-O5'
8	A	1962	5MC	O4'-C4'-C5'-O5'
8	A	2069	G7M	O4'-C4'-C5'-O5'
8	A	2445	2MG	O4'-C4'-C5'-O5'
8	A	2445	2MG	C3'-C4'-C5'-O5'
8	A	2498	OMC	O4'-C4'-C5'-O5'
34	a	1498	UR3	C3'-C4'-C5'-O5'
34	a	1498	UR3	O4'-C1'-N1-C2
8	A	747	5MC	O4'-C4'-C5'-O5'
8	A	1835	2MG	C3'-C4'-C5'-O5'
8	A	1962	5MC	C3'-C4'-C5'-O5'
8	A	2069	G7M	C3'-C4'-C5'-O5'
8	A	2503	2MA	C3'-C4'-C5'-O5'
34	a	1402	4OC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
56	w	54	5MU	C3'-C4'-C5'-O5'
34	a	1519	MA6	N1-C6-N6-C9
34	a	1498	UR3	O4'-C1'-N1-C6
57	y	101	FME	CB-CG-SD-CE
55	v	55	PSU	C3'-C4'-C5'-O5'
8	A	1835	2MG	O4'-C4'-C5'-O5'
8	A	2498	OMC	C3'-C4'-C5'-O5'
34	a	1402	4OC	C3'-C4'-C5'-O5'
56	w	39	PSU	C3'-C4'-C5'-O5'
55	v	54	5MU	O4'-C4'-C5'-O5'
55	v	55	PSU	O4'-C4'-C5'-O5'
56	w	46	G7M	O4'-C4'-C5'-O5'
55	v	54	5MU	C3'-C4'-C5'-O5'
8	A	2552	OMU	O4'-C4'-C5'-O5'
8	A	2251	OMG	C4'-C5'-O5'-P
56	w	39	PSU	O4'-C4'-C5'-O5'
34	a	966	2MG	C4'-C5'-O5'-P
55	v	55	PSU	C4'-C5'-O5'-P
8	A	2552	OMU	C4'-C5'-O5'-P
34	a	527	G7M	C4'-C5'-O5'-P
8	A	1962	5MC	C4'-C5'-O5'-P
56	w	46	G7M	C4'-C5'-O5'-P
56	w	54	5MU	C4'-C5'-O5'-P
8	A	2030	6MZ	C3'-C4'-C5'-O5'
34	a	1518	MA6	C5-C6-N6-C9
57	y	101	FME	C-CA-CB-CG
8	A	1618	6MZ	C4'-C5'-O5'-P
8	A	2030	6MZ	C4'-C5'-O5'-P
8	A	2503	2MA	C4'-C5'-O5'-P
55	v	20	H2U	C4'-C5'-O5'-P
8	A	1939	5MU	O4'-C4'-C5'-O5'
34	a	967	5MC	C3'-C4'-C5'-O5'
56	w	8	4SU	C4'-C5'-O5'-P
8	A	2552	OMU	C3'-C4'-C5'-O5'
8	A	746	PSU	O4'-C1'-C5-C6
8	A	2580	PSU	O4'-C1'-C5-C6
56	w	8	4SU	O4'-C4'-C5'-O5'
56	w	55	PSU	O4'-C4'-C5'-O5'
55	v	20	H2U	O4'-C1'-N1-C2
56	w	37	MIA	N1-C2-S10-C11
34	a	516	PSU	C3'-C4'-C5'-O5'
8	A	1962	5MC	C2'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
57	y	101	FME	CB-CA-N-CN
8	A	1911	PSU	O4'-C4'-C5'-O5'

There are no ring outliers.

42 monomers are involved in 168 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	w	54	5MU	2	0
8	A	746	PSU	2	0
8	A	2457	PSU	4	0
56	w	46	G7M	1	0
56	w	8	4SU	6	0
57	y	101	FME	3	0
8	A	1962	5MC	3	0
8	A	955	PSU	4	0
34	a	516	PSU	8	0
56	w	32	PSU	3	0
34	a	1519	MA6	6	0
34	a	966	2MG	1	0
56	w	39	PSU	2	0
34	a	1498	UR3	3	0
55	v	20	H2U	4	0
8	A	1939	5MU	3	0
34	a	527	G7M	2	0
34	a	1402	4OC	4	0
34	a	1516	2MG	11	0
8	A	2605	PSU	1	0
8	A	1911	PSU	2	0
8	A	745	1MG	5	0
8	A	2503	2MA	3	0
8	A	2069	G7M	7	0
55	v	8	4SU	3	0
8	A	1917	PSU	6	0
8	A	2251	OMG	6	0
34	a	1207	2MG	9	0
8	A	1835	2MG	5	0
8	A	2580	PSU	5	0
56	w	37	MIA	4	0
34	a	1407	5MC	6	0
8	A	2498	OMC	2	0
55	v	55	PSU	3	0
8	A	2504	PSU	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	A	2552	OMU	4	0
56	w	55	PSU	5	0
34	a	967	5MC	4	0
8	A	747	5MC	4	0
34	a	1518	MA6	2	0
55	v	54	5MU	5	0
8	A	2445	2MG	9	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 3 ligands modelled in this entry, 2 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	$\#\|Z\| > 2$
60	AM2	a	2001	-	40,40,40	1.66	10 (25%)	53,60,60	1.71	11 (20%)

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
60	AM2	a	2001	-	-	8/12/84/84	0/4/4/4

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	a	2001	AM2	OA4-CA1	4.04	1.52	1.41
60	a	2001	AM2	CB3-CB4	-3.69	1.48	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	a	2001	AM2	OA5-CA8	3.20	1.50	1.41
60	a	2001	AM2	OA5-CA4	3.08	1.51	1.44
60	a	2001	AM2	OB1-CB1	2.89	1.49	1.41
60	a	2001	AM2	OA8-CA8	-2.63	1.34	1.41
60	a	2001	AM2	OA8-CB1	-2.58	1.34	1.41
60	a	2001	AM2	OA4-CA5	2.57	1.48	1.44
60	a	2001	AM2	OA1-CA1	-2.50	1.34	1.41
60	a	2001	AM2	CA7-NA7	-2.27	1.43	1.47

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	a	2001	AM2	CA1-OA1-CC1	-5.36	104.71	117.96
60	a	2001	AM2	CA8-CA7-NA7	-3.99	103.86	111.00
60	a	2001	AM2	CB1-OA8-CA8	-3.84	107.56	114.42
60	a	2001	AM2	CA9-NA7-CA7	-3.31	109.57	114.38
60	a	2001	AM2	OA1-CA1-CA2	3.21	113.61	108.23
60	a	2001	AM2	CA8-OA5-CA4	-2.69	108.41	113.69
60	a	2001	AM2	CB1-OB1-CB5	-2.46	108.87	113.69
60	a	2001	AM2	OA5-CA4-CA3	2.41	113.38	108.39
60	a	2001	AM2	OA8-CB1-OB1	-2.38	104.03	110.67
60	a	2001	AM2	OA8-CA8-CA7	-2.11	104.60	108.24
60	a	2001	AM2	CA6-CA5-CA4	2.01	115.53	110.93

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
60	a	2001	AM2	CA7-CA8-OA8-CB1
60	a	2001	AM2	OA5-CA8-OA8-CB1
60	a	2001	AM2	OB1-CB5-CB6-OB6
60	a	2001	AM2	CB4-CB5-CB6-OB6
60	a	2001	AM2	OB1-CB1-OA8-CA8
60	a	2001	AM2	CB2-CB1-OA8-CA8
60	a	2001	AM2	CA6-CA7-NA7-CA9
60	a	2001	AM2	OA4-CA1-OA1-CC1

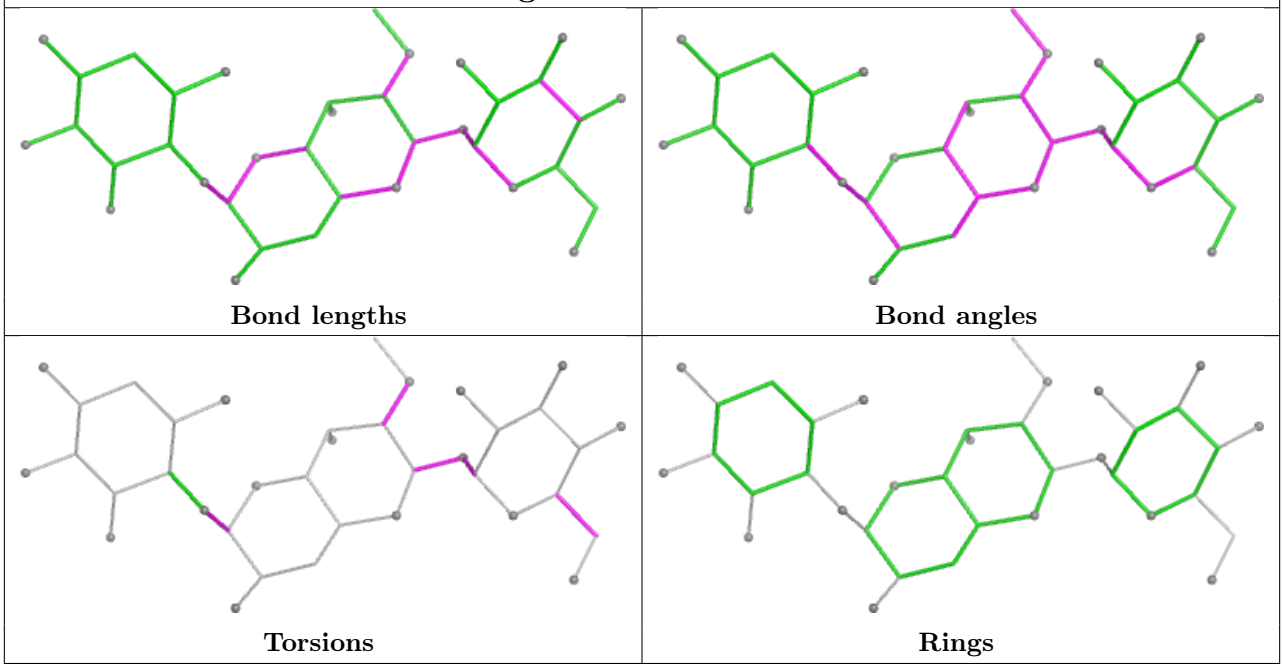
There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	a	2001	AM2	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand AM2 a 2001



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

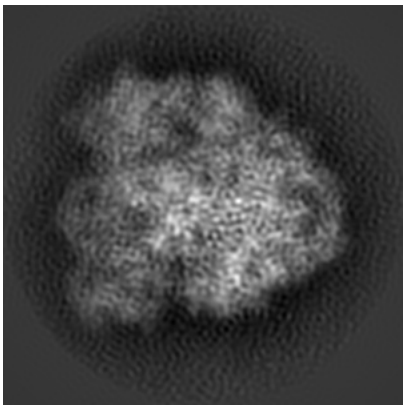
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-13459. These allow visual inspection of the internal detail of the map and identification of artifacts.

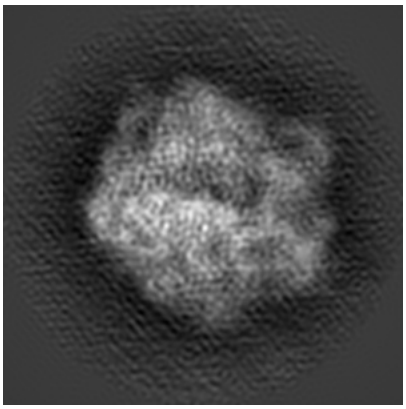
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

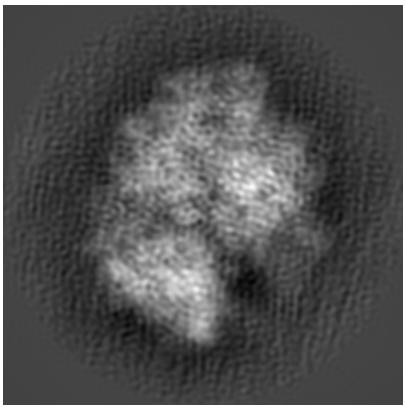
6.1.1 Primary map



X

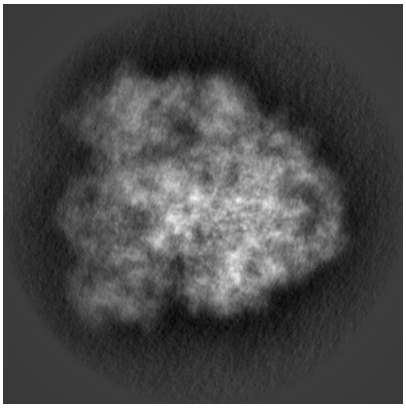


Y

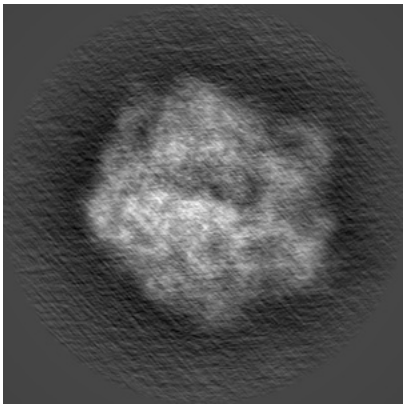


Z

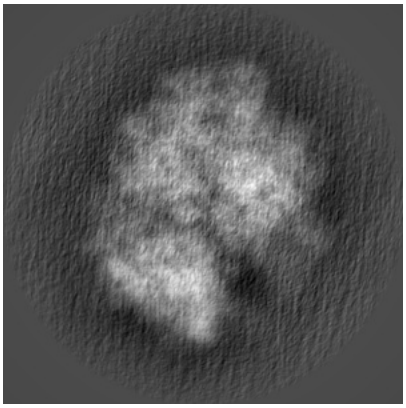
6.1.2 Raw map



X



Y

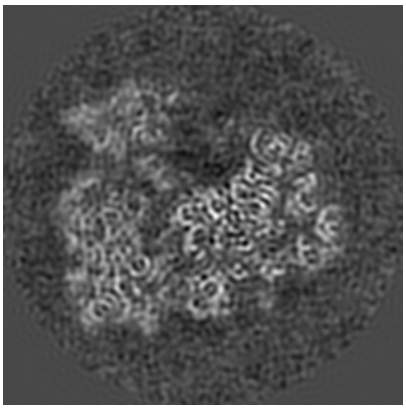


Z

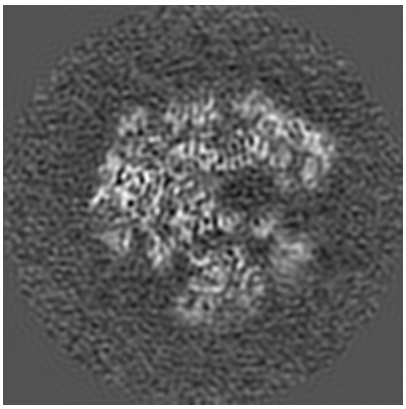
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

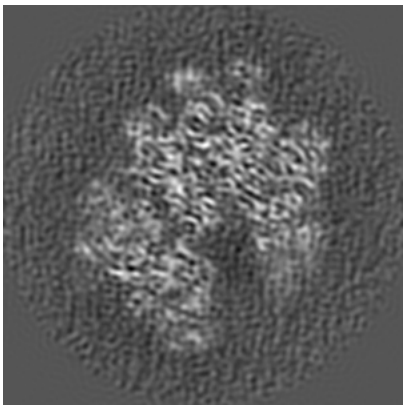
6.2.1 Primary map



X Index: 144

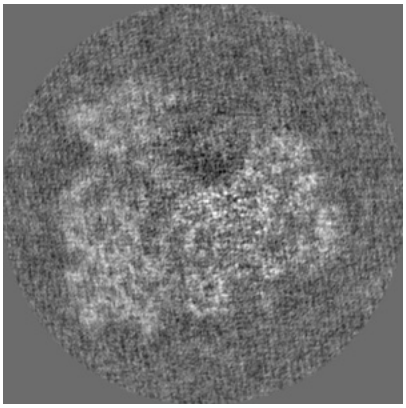


Y Index: 144

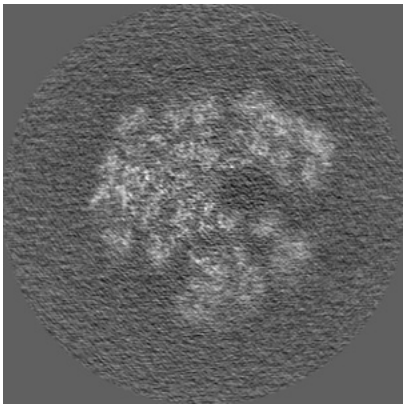


Z Index: 144

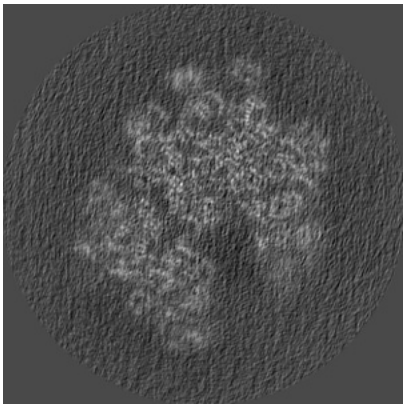
6.2.2 Raw map



X Index: 144



Y Index: 144

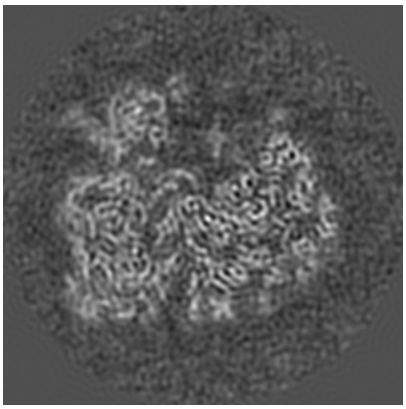


Z Index: 144

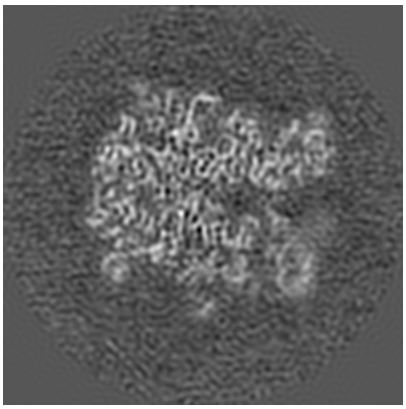
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

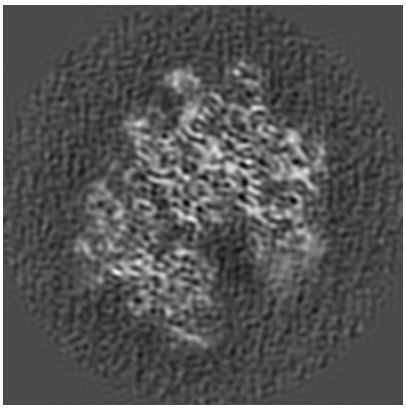
6.3.1 Primary map



X Index: 139

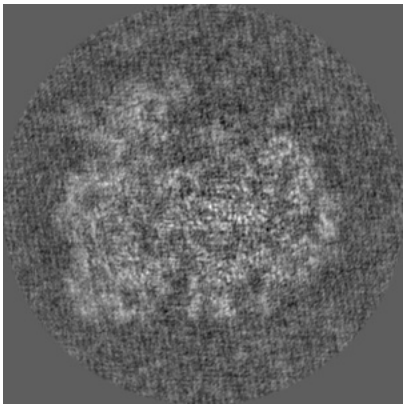


Y Index: 158

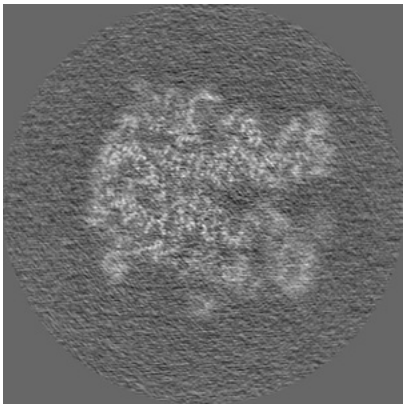


Z Index: 146

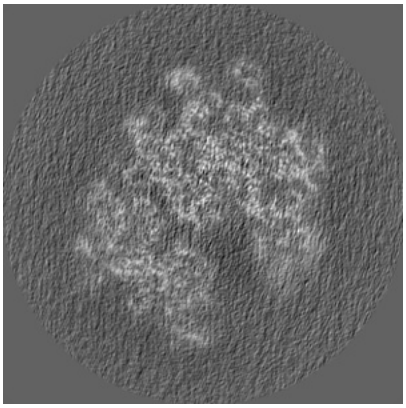
6.3.2 Raw map



X Index: 138



Y Index: 157

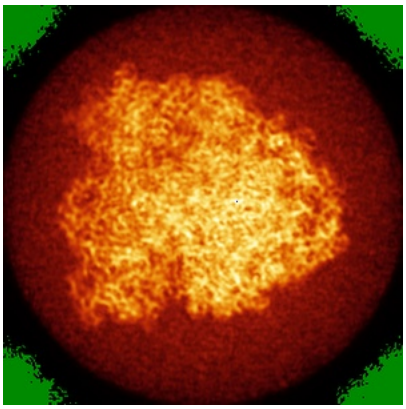


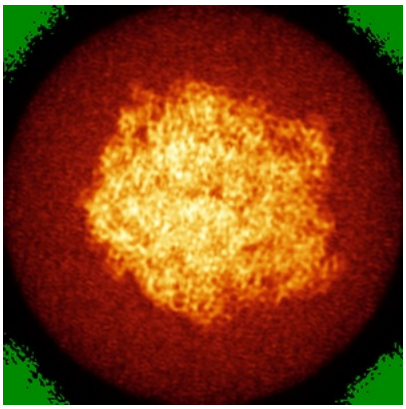
Z Index: 146

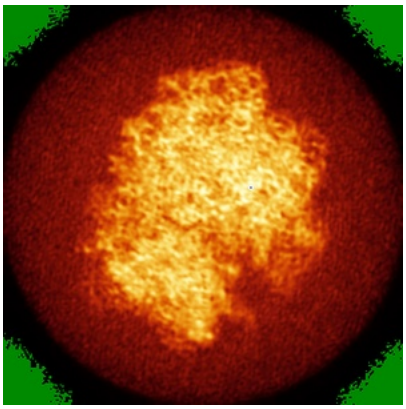
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

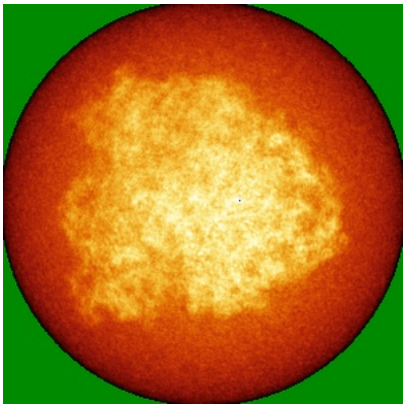
6.4.1 Primary map

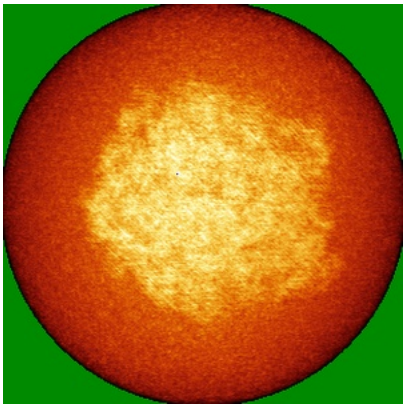

X

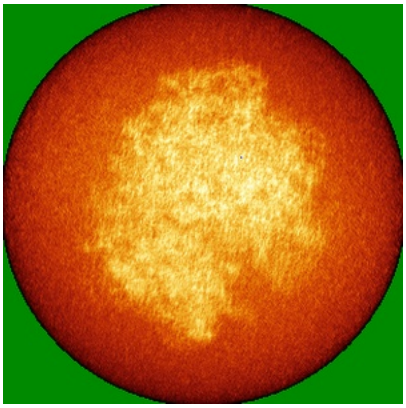

Y


Z

6.4.2 Raw map


X

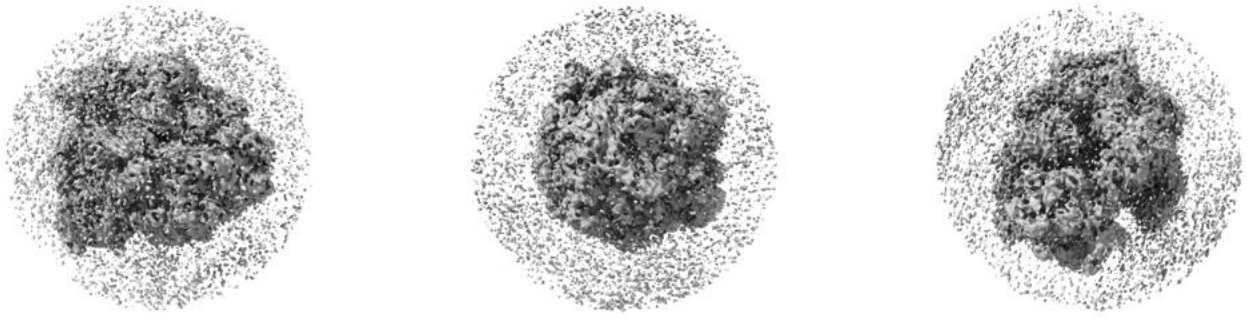

Y


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

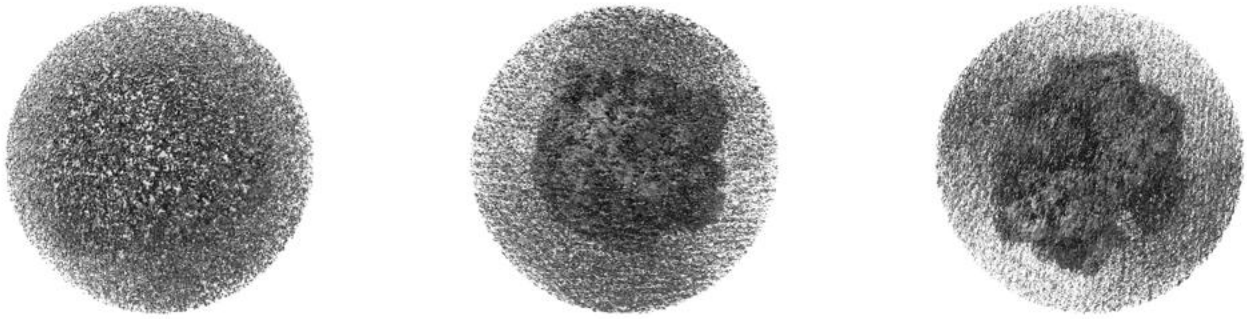
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 1.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

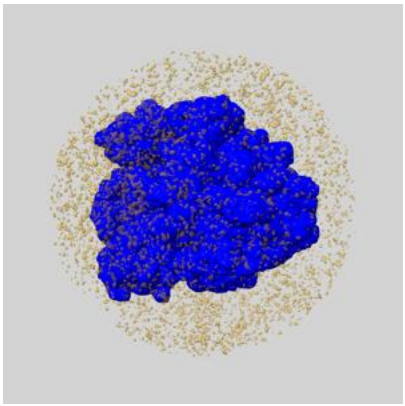
6.6 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

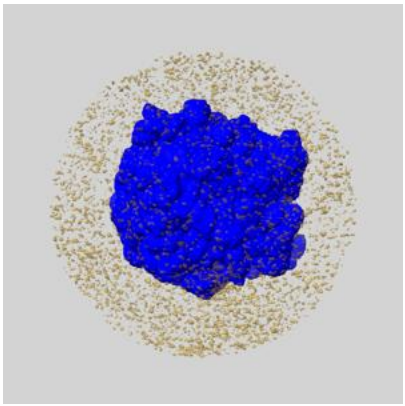
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

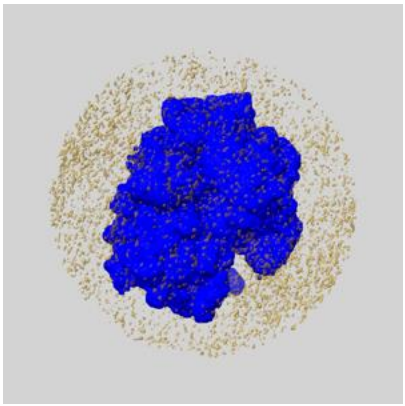
6.6.1 emd_13459_msk_1.map



X



Y

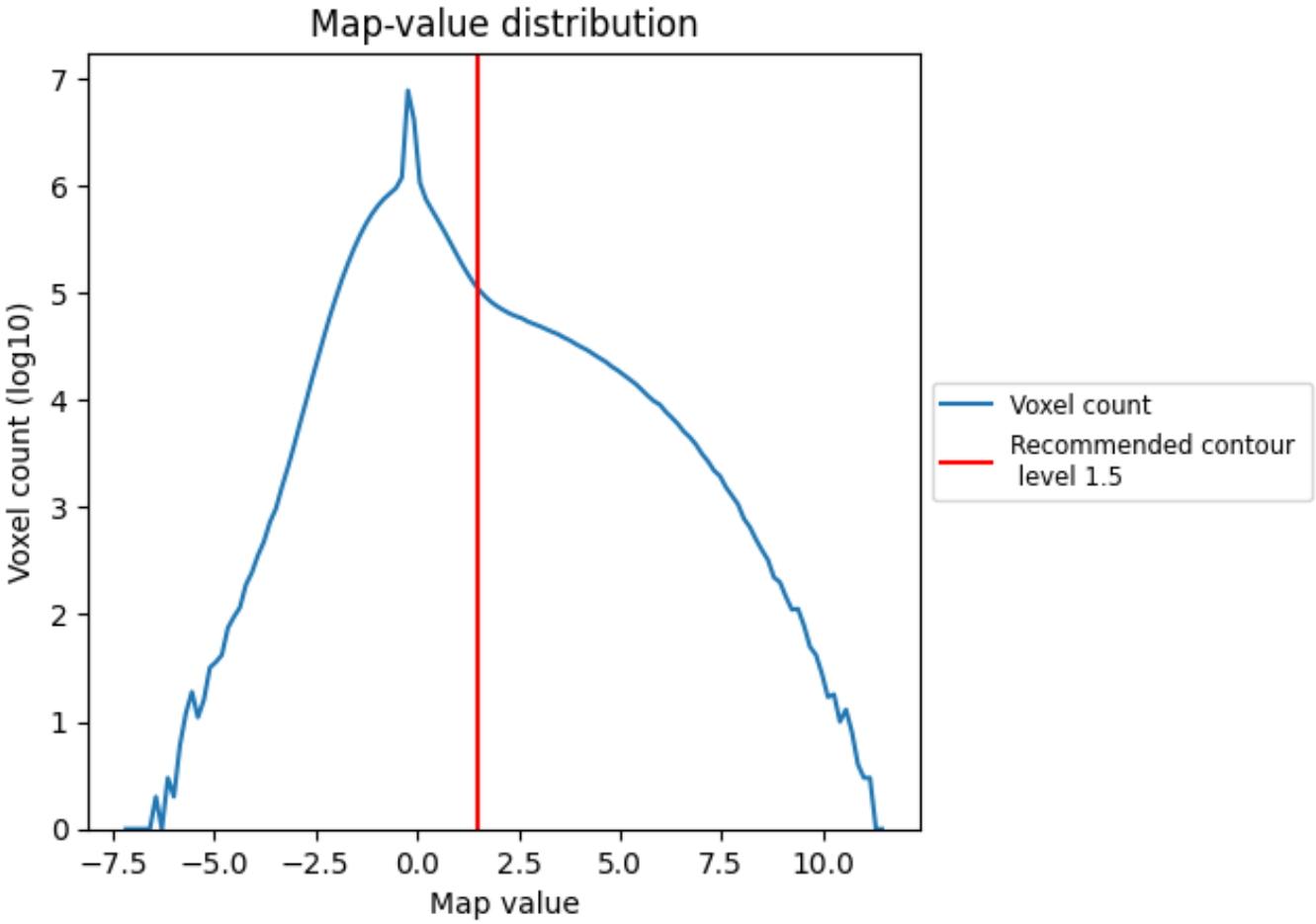


Z

7 Map analysis

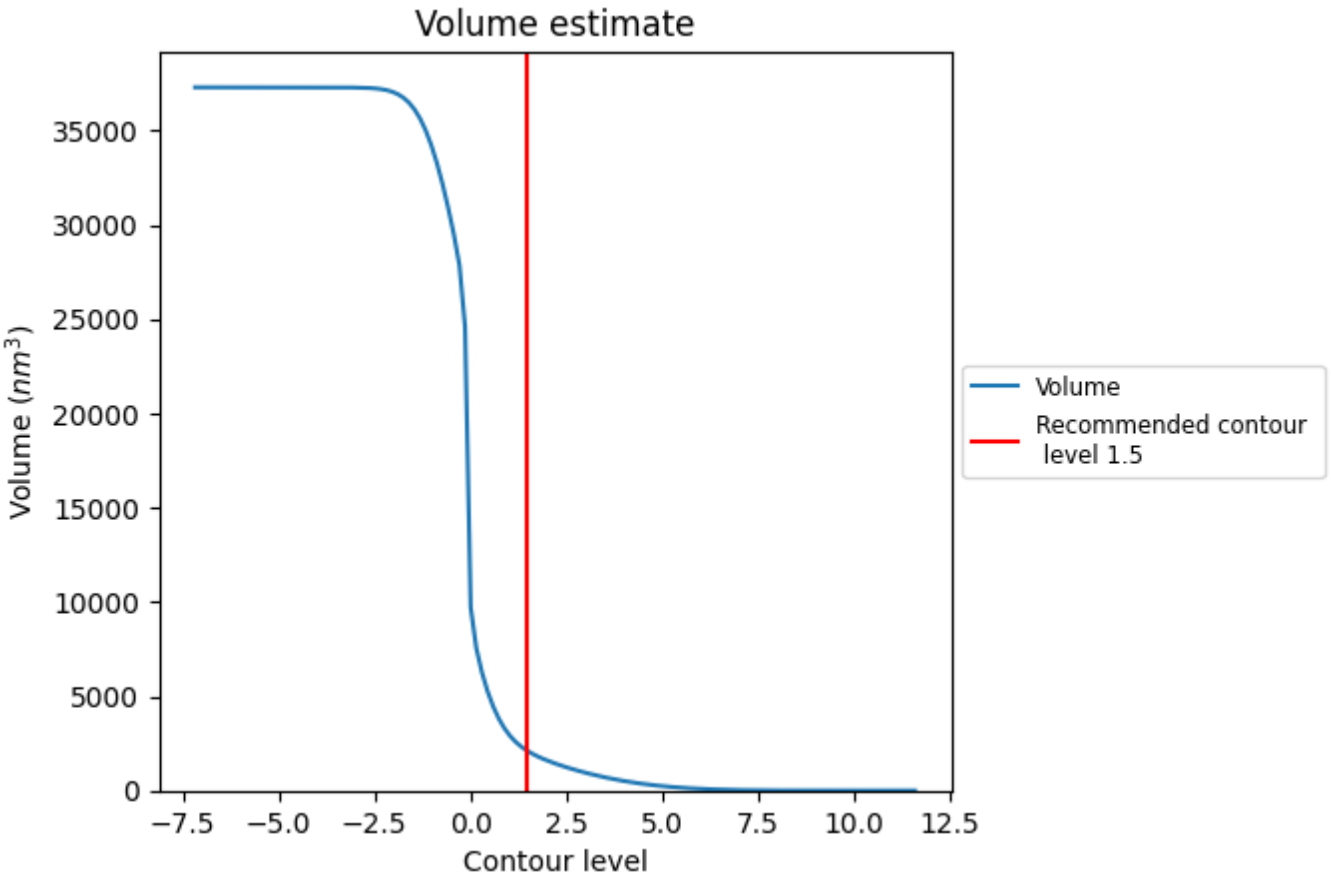
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

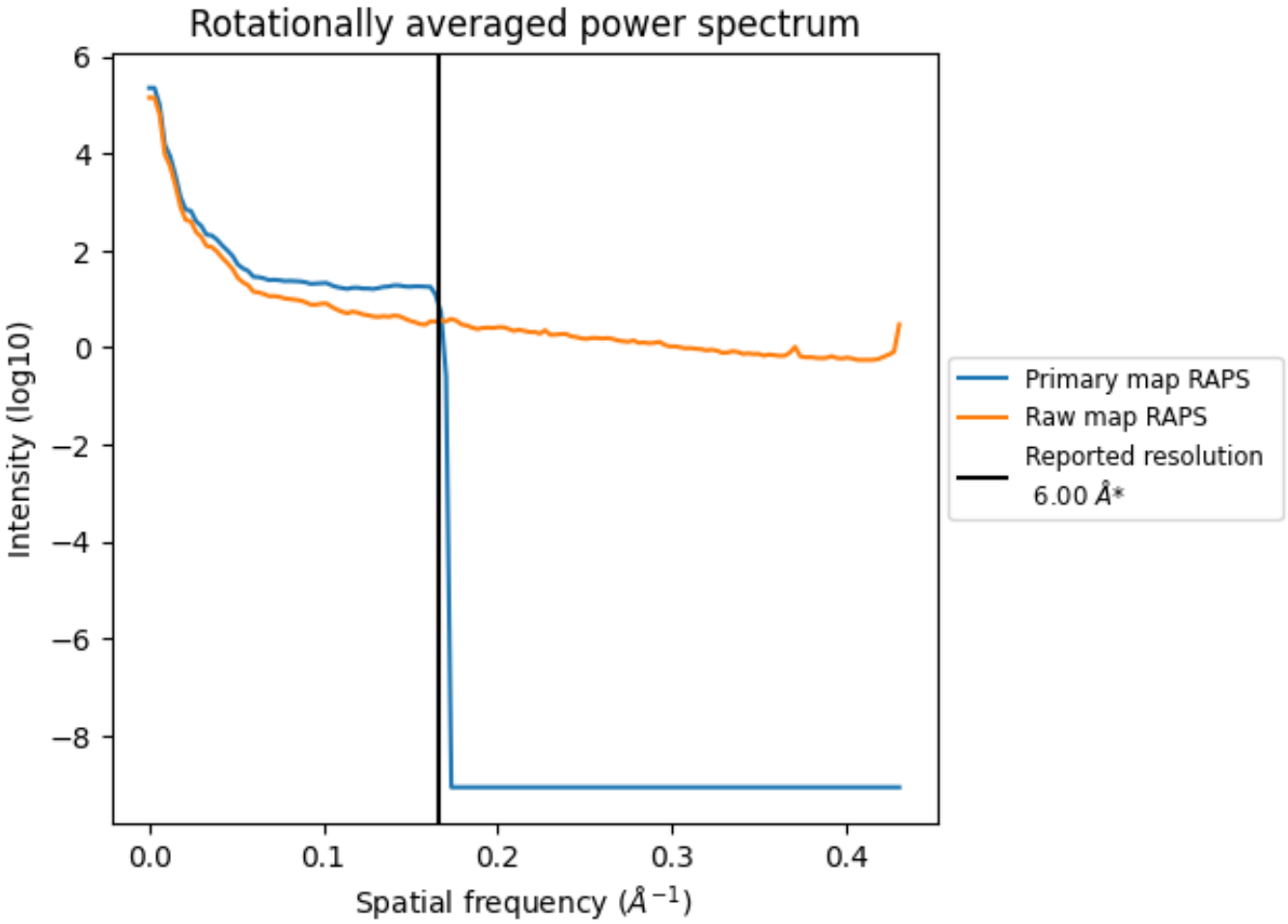
7.2 Volume estimate



The volume at the recommended contour level is 2098 nm^3; this corresponds to an approximate mass of 1895 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

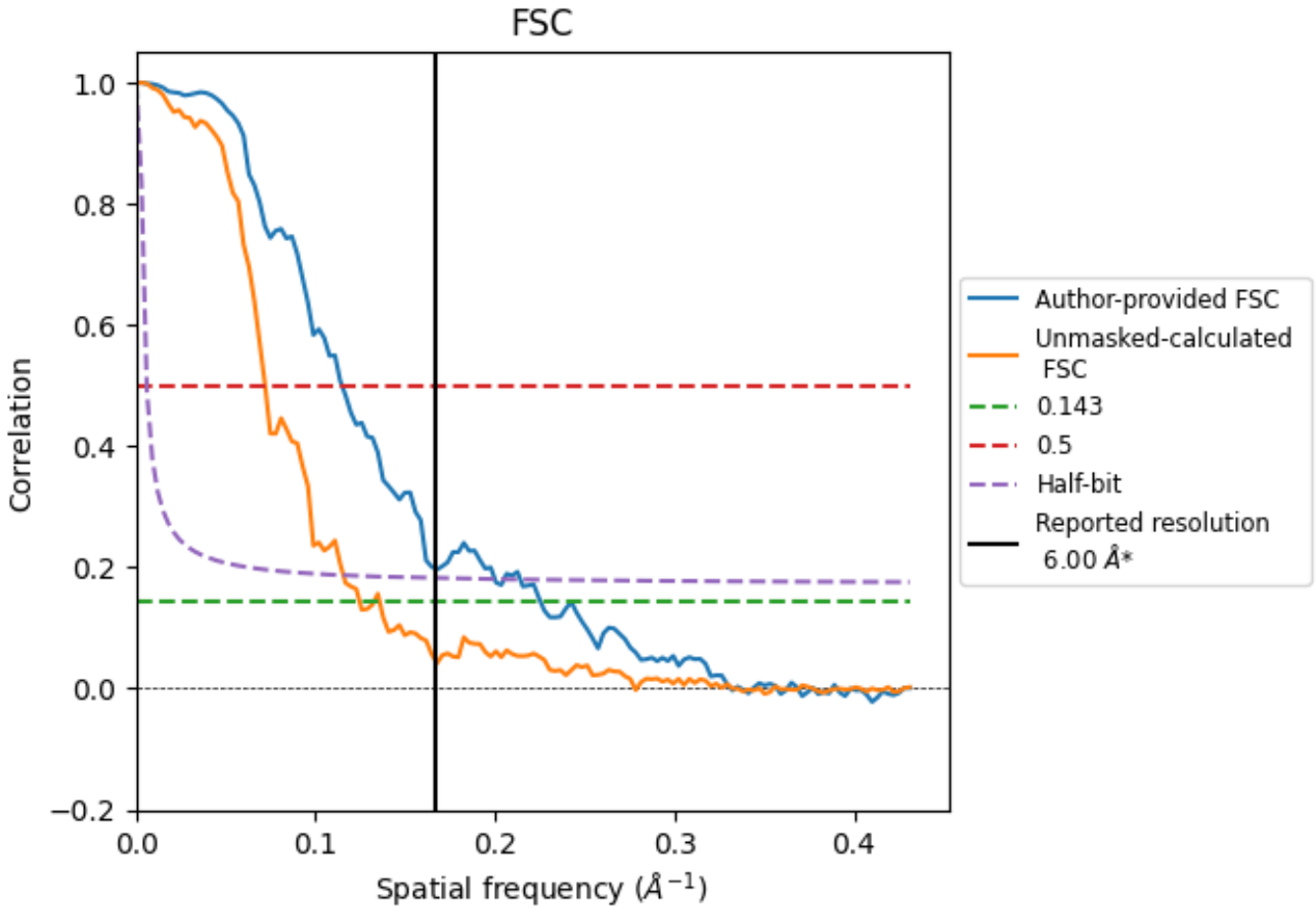


*Reported resolution corresponds to spatial frequency of 0.167 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.167 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	6.00	-	-
Author-provided FSC curve	4.44	8.72	5.00
Unmasked-calculated*	8.03	13.91	8.65

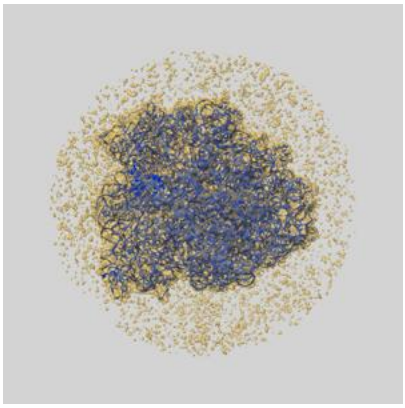
*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from author-provided FSC intersecting FSC 0.143 CUT-OFF 4.44 differs from the reported value 6.0 by more than 10 %

The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 8.03 differs from the reported value 6.0 by more than 10 %

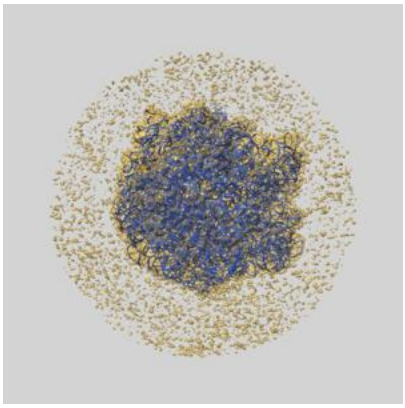
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-13459 and PDB model 7PJT. Per-residue inclusion information can be found in section 3 on page 16.

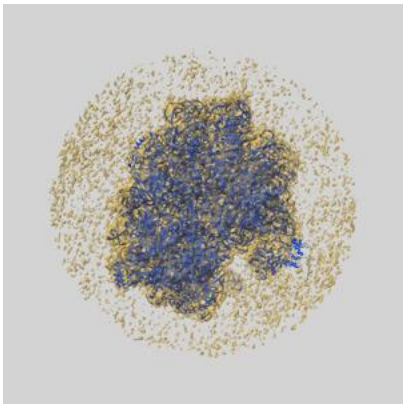
9.1 Map-model overlay



X



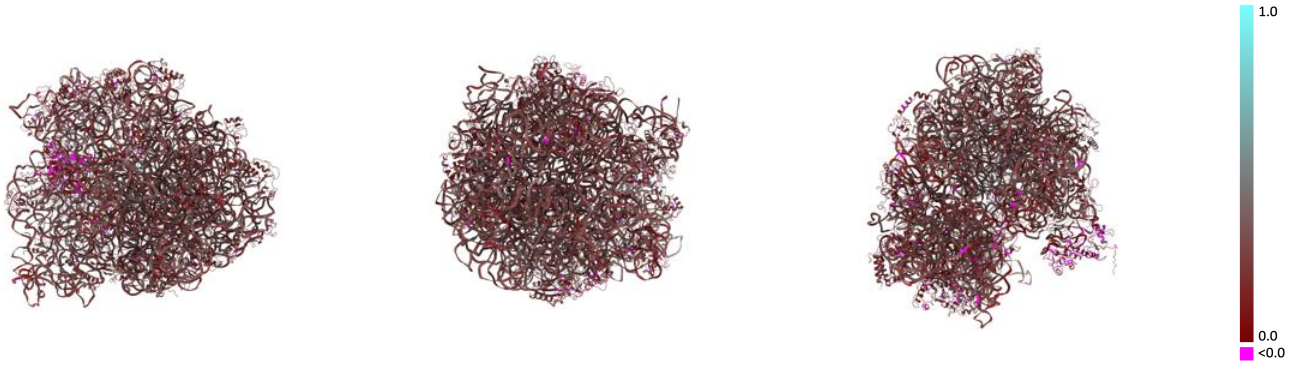
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

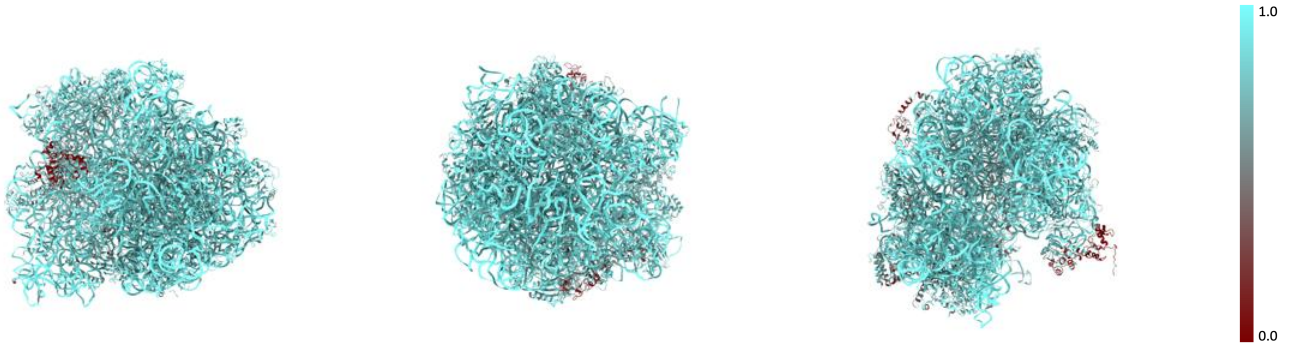
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

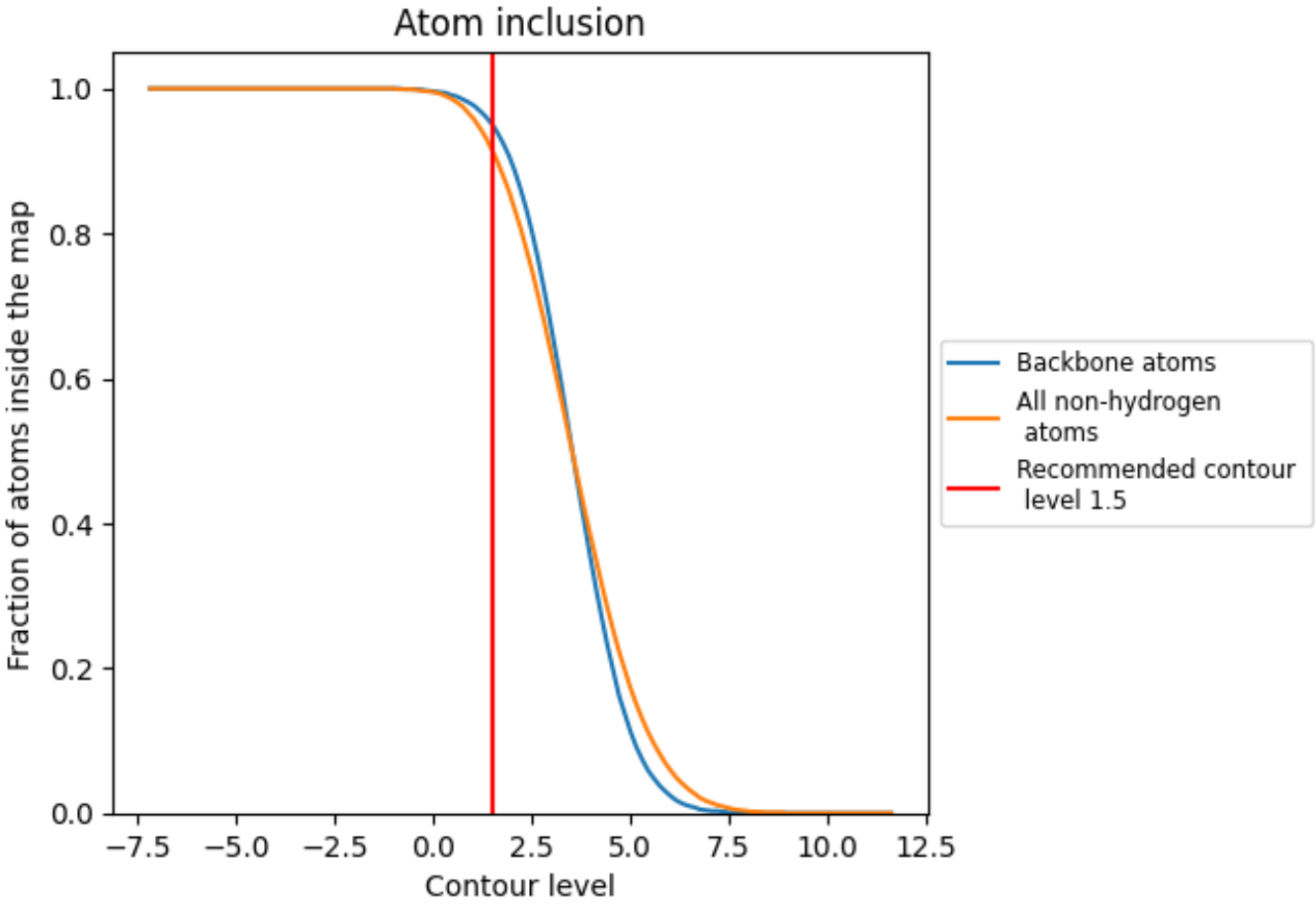
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (1.5).

9.4 Atom inclusion (i)



At the recommended contour level, 95% of all backbone atoms, 91% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (1.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9140	0.2680
0	0.8740	0.2860
1	0.8000	0.2510
2	0.8170	0.2680
3	0.7980	0.2530
4	0.8840	0.2660
5	0.1980	0.1440
6	0.7810	0.2320
A	0.9690	0.2830
B	0.9860	0.2740
C	0.8060	0.2680
D	0.8400	0.2660
E	0.8160	0.2690
F	0.8410	0.2300
G	0.8920	0.2470
H	0.4410	0.2090
I	0.4360	0.1290
J	0.8560	0.2750
K	0.7630	0.2690
L	0.8400	0.2730
M	0.8390	0.2830
N	0.8670	0.2420
O	0.9190	0.2380
P	0.8020	0.2660
Q	0.8260	0.2350
R	0.8520	0.2590
S	0.8170	0.2470
T	0.8620	0.2700
U	0.8970	0.2540
V	0.8580	0.2520
W	0.8960	0.2540
X	0.8450	0.2770
Y	0.8590	0.2100
Z	0.8510	0.2590
a	0.9670	0.2710

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Chain	Atom inclusion	Q-score
b	0.6200	0.2350
c	0.8220	0.2430
d	0.8110	0.2370
e	0.7900	0.2570
f	0.8480	0.2490
g	0.6680	0.2310
h	0.8290	0.2480
i	0.8430	0.2380
j	0.7540	0.2210
k	0.8320	0.2510
l	0.8210	0.2770
m	0.7720	0.2140
n	0.8670	0.2230
o	0.8800	0.2490
p	0.8520	0.2560
q	0.8420	0.2350
r	0.8600	0.2450
s	0.8380	0.2070
t	0.8420	0.2290
u	0.8060	0.2540
v	0.9090	0.2550
w	0.8710	0.2180
y	0.8090	0.2520
z	0.8960	0.2650