Full wwPDB EM Validation Report

Mar 25, 2026 – 05:27 PM UTC

PDB ID	:	3JBV / pdb_00003jbv
EMDB ID	:	EMD-6486
Title	:	Mechanisms of Ribosome Stalling by SecM at Multiple Elongation Steps
Authors	:	Zhang, J.; Pan, X.J.; Yan, K.G.; Sun, S.; Gao, N.; Sui, S.F.
Deposited on	:	2015-10-16
Resolution	:	3.32 Å(reported)
Based on initial model	:	4V7T

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 (i)) were used in the production of this report:

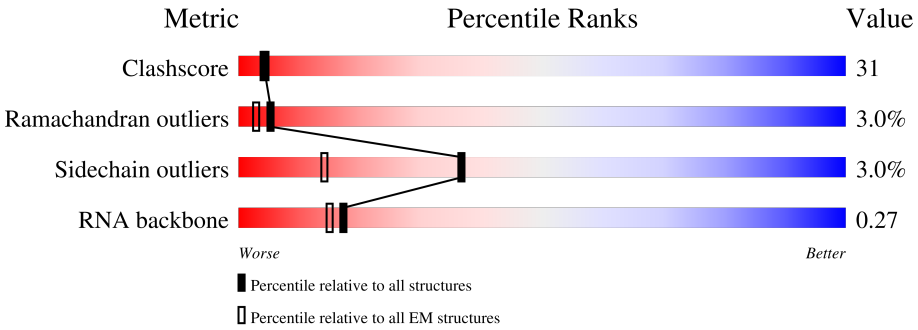
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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

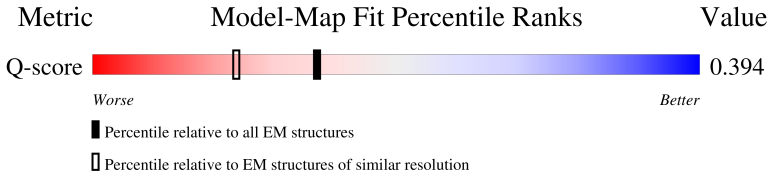
1 Overall quality at a glance

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

The reported resolution of this entry is 3.32 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	14518 (2.82 - 3.82)

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	A	1542	13% 42% 40% 17% ·
2	B	241	83% 56% 32% · 10%
3	C	233	67% 53% 33% · 12%

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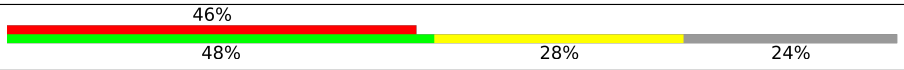
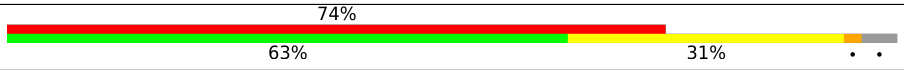
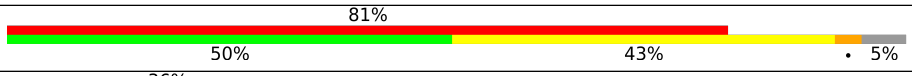
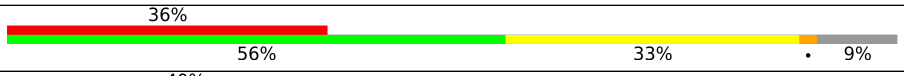
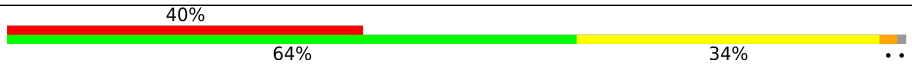
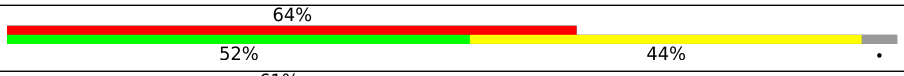
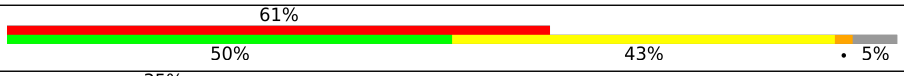
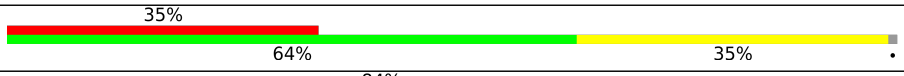
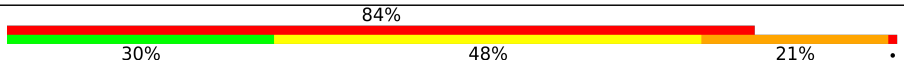
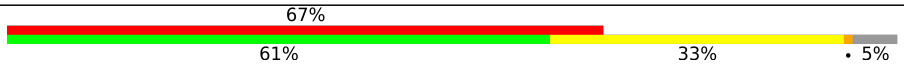
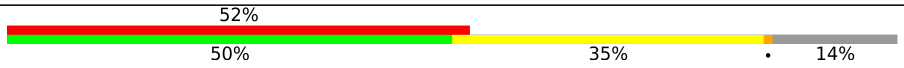
Mol	Chain	Length	Quality of chain
4	D	206	
5	E	167	
6	F	131	
7	G	156	
8	H	130	
9	I	130	
10	J	103	
11	K	129	
12	L	124	
13	M	118	
14	N	101	
15	O	89	
16	P	82	
17	Q	84	
18	R	75	
19	S	92	
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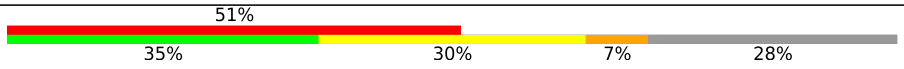
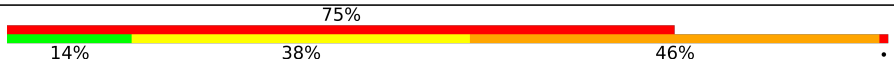
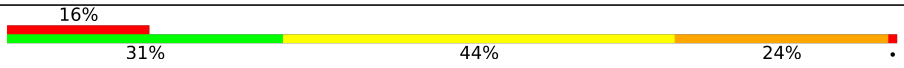
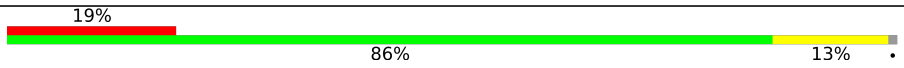
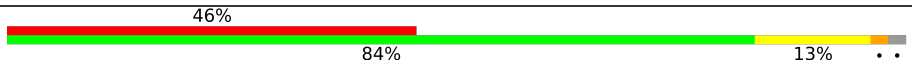
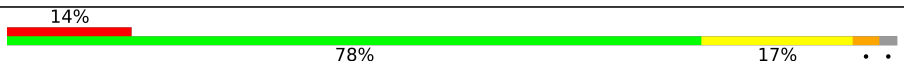
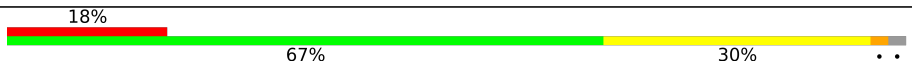
21	U	71	
22	V	76	
23	W	75	
24	X	11	
25	0	78	
26	1	63	
27	2	59	
28	3	57	

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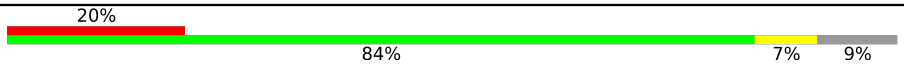
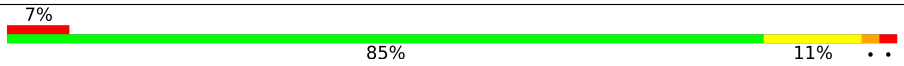
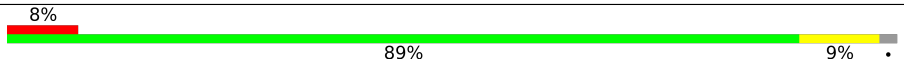
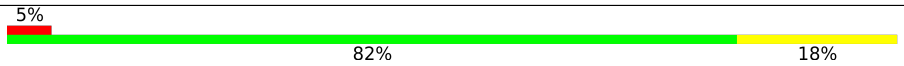
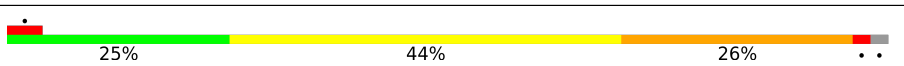
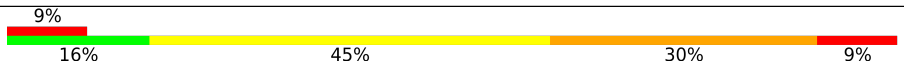
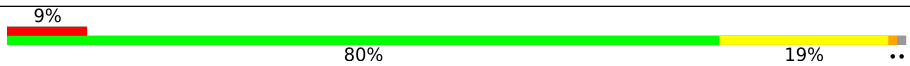
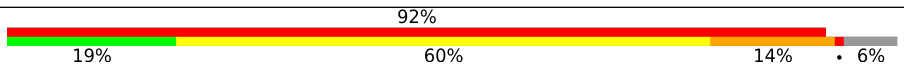
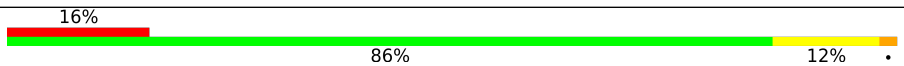
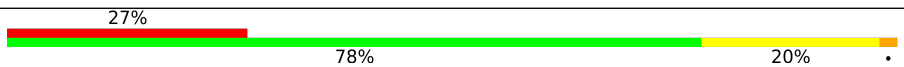
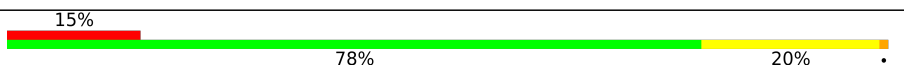
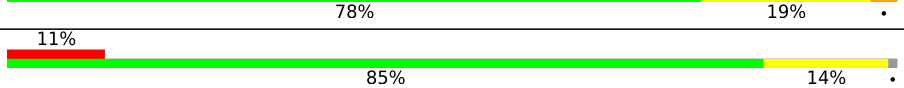
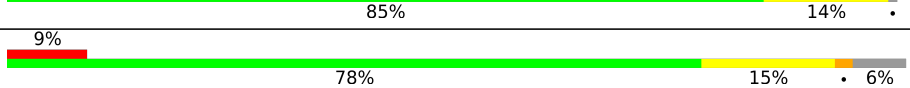
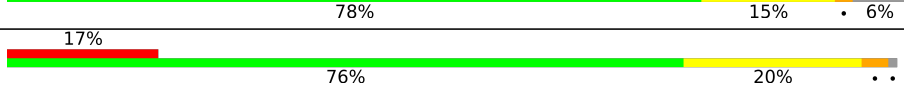
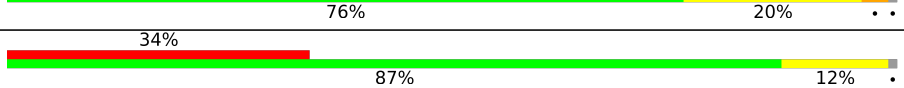
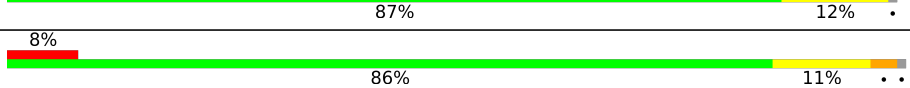
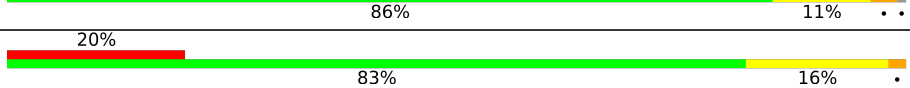
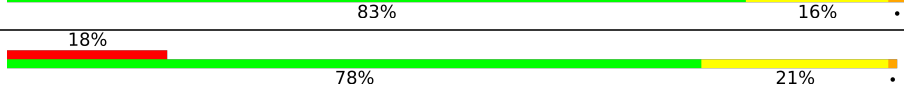
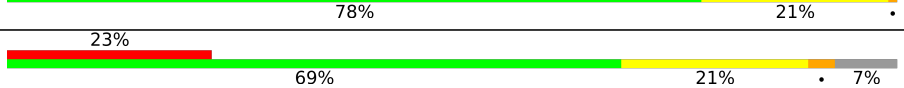
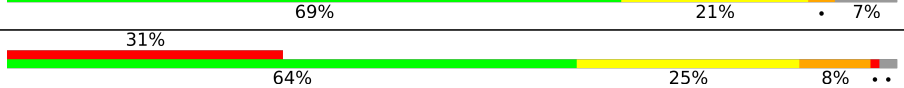
Mol	Chain	Length	Quality of chain
29	4	55	
30	6	46	
31	7	65	
32	8	38	
33	a	120	
34	b	2904	
35	c	273	
36	i	142	
37	d	209	
38	e	201	
39	f	179	
40	g	177	
41	h	149	
42	j	142	
43	k	123	
44	l	144	
45	m	136	
46	n	127	
47	o	117	
48	p	115	
49	q	118	
50	r	103	
51	s	110	
52	t	100	
53	u	104	

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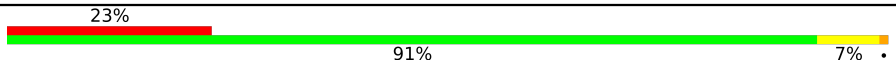
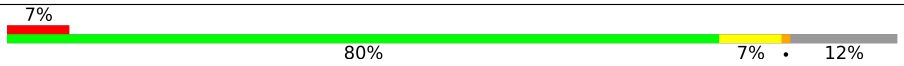
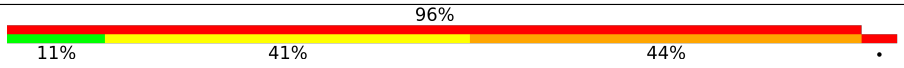
Mol	Chain	Length	Quality of chain
54	w	94	
55	y	85	
56	z	27	

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
57	CLM	b	9000	-	-	X	-

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 145911 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 RNA chain called RNA (1530-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	1530	32831	14642	6024	10635	1530	0	0

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	150	1105	687	211	201	6	0	0

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

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	125	ASP	GLU	conflict	UNP P02358

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	150	Total	C	N	O	S	0	0
			1174	730	226	214	4		

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	113	Total	C	N	O	S	0	0
			876	541	177	155	3		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	88	Total	C	N	O	S	0	0
			716	440	146	129	1		

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

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

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
18	R	55	Total	C	N	O	0	0
			455	288	86	81		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	51	Total	C	N	O	S	0	0
			425	265	86	73	1		

- Molecule 22 is a RNA chain called RNA (76-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	76	Total	C	N	O	P	0	0
			1620	723	290	532	75		

- Molecule 23 is a RNA chain called RNA (75-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	75	Total	C	N	O	P	0	0
			1599	713	287	525	74		

- Molecule 24 is a RNA chain called RNA (5'-R(P*CP*UP*GP*GP*CP*CP*CP*UP*CP*AP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	11	Total	C	N	O	P	0	0
			231	103	39	78	11		

- Molecule 25 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	0	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 26 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	1	62	Total	C	N	O	S	0	0
			501	308	98	94	1		

- Molecule 27 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	2	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	3	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 29 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	4	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 30 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	6	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	7	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 32 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	8	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 33 is a RNA chain called RNA (118-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
33	a	117	Total	C	N	O	P	0	0
			2506	1116	459	814	117		

- Molecule 34 is a RNA chain called RNA (2903-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
34	b	2903	Total	C	N	O	P	0	0
			62321	27801	11467	20150	2903		

- Molecule 35 is a protein called 50S ribosomal protein L2.

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

- Molecule 36 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	i	134	Total	C	N	O	S	0	0
			976	614	169	187	6		

- Molecule 37 is a protein called 50S ribosomal protein L3.

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

- Molecule 38 is a protein called 50S ribosomal protein L4.

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

- Molecule 39 is a protein called 50S ribosomal protein L5.

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

- Molecule 40 is a protein called 50S ribosomal protein L6.

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

- Molecule 41 is a protein called 50S ribosomal protein L9.

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

- Molecule 42 is a protein called 50S ribosomal protein L13.

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

- Molecule 43 is a protein called 50S ribosomal protein L14.

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

- Molecule 44 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	l	144	Total	C	N	O	S	0	0
			1053	654	207	190	2		

- Molecule 45 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	m	135	Total	C	N	O	S	0	0
			1063	680	201	176	6		

- Molecule 46 is a protein called 50S ribosomal protein L17.

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

- Molecule 47 is a protein called 50S ribosomal protein L18.

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

- Molecule 48 is a protein called 50S ribosomal protein L19.

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

- Molecule 49 is a protein called 50S ribosomal protein L20.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L22.

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

- Molecule 52 is a protein called 50S ribosomal protein L23.

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

- Molecule 53 is a protein called 50S ribosomal protein L24.

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

- Molecule 54 is a protein called 50S ribosomal protein L25.

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

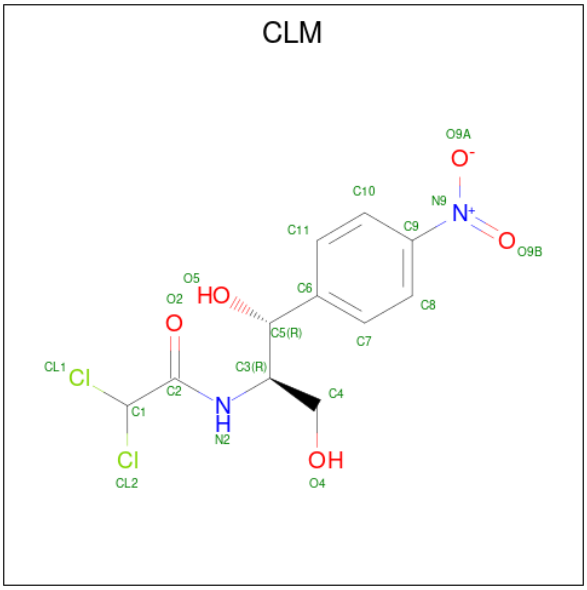
- Molecule 55 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	y	75	Total	C	N	O	S	0	0
			569	353	113	102	1		

- Molecule 56 is a protein called Secretion monitor.

Mol	Chain	Residues	Atoms				AltConf	Trace
56	z	27	Total	C	N	O	0	0
			211	134	35	42		

- Molecule 57 is CHLORAMPHENICOL (CCD ID: CLM) (formula: $C_{11}H_{12}Cl_2N_2O_5$).

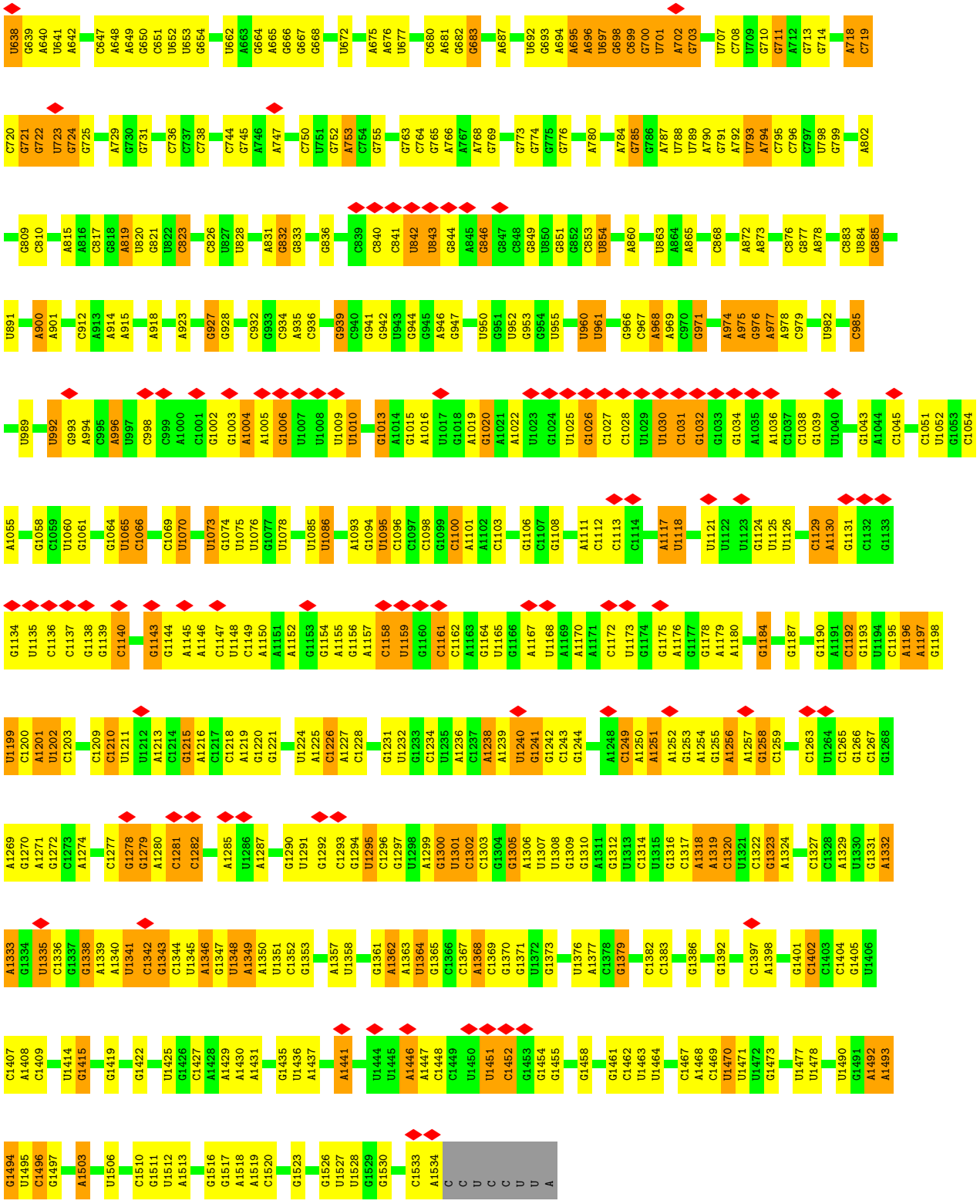


Mol	Chain	Residues	Atoms					AltConf
57	b	1	Total	C	Cl	N	O	0
			20	11	2	2	5	

3 Residue-property plots (i)

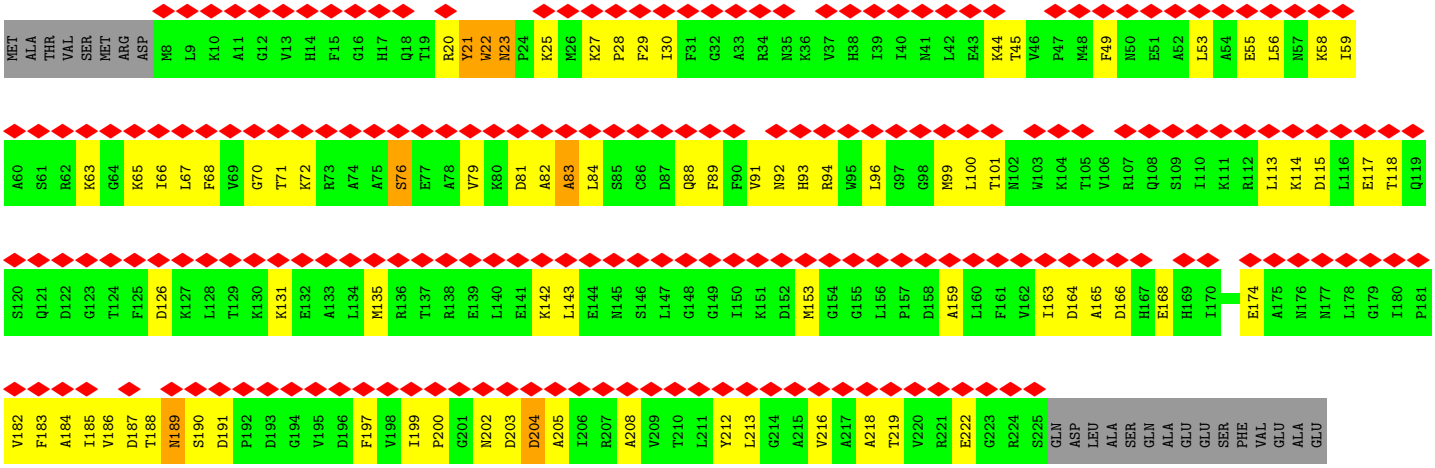
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: RNA (1530-MER)



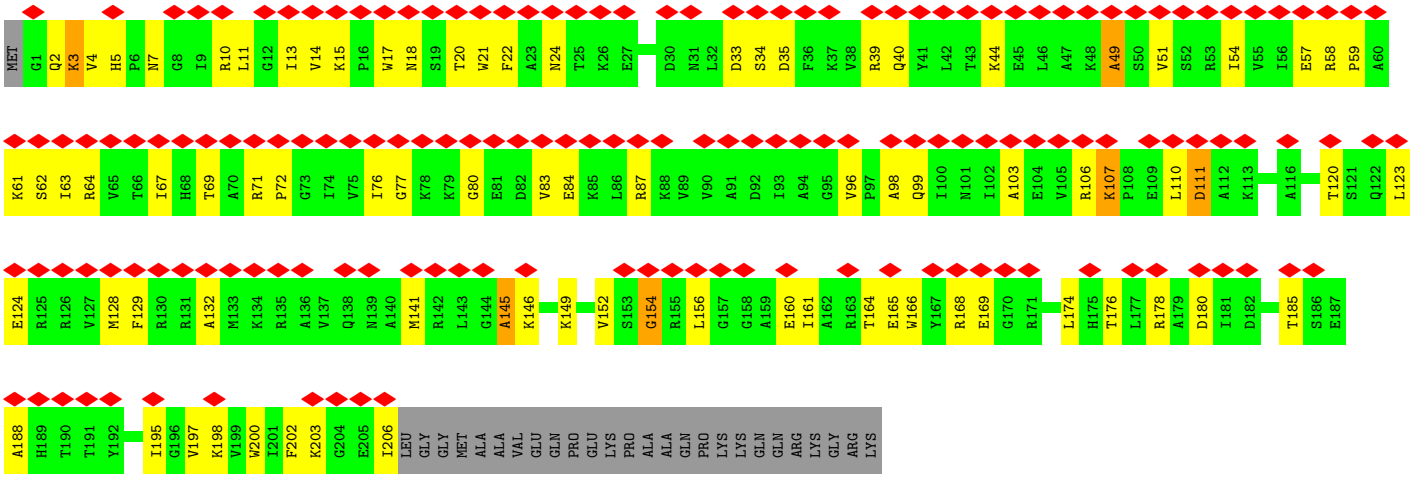
• Molecule 2: 30S ribosomal protein S2

Chain B:



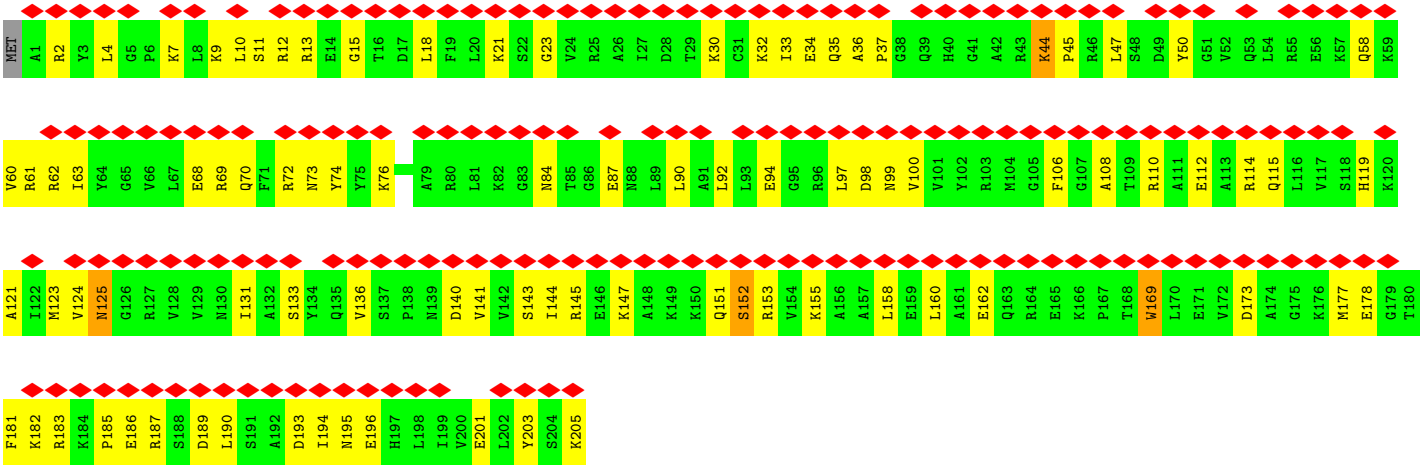
• Molecule 3: 30S ribosomal protein S3

Chain C:



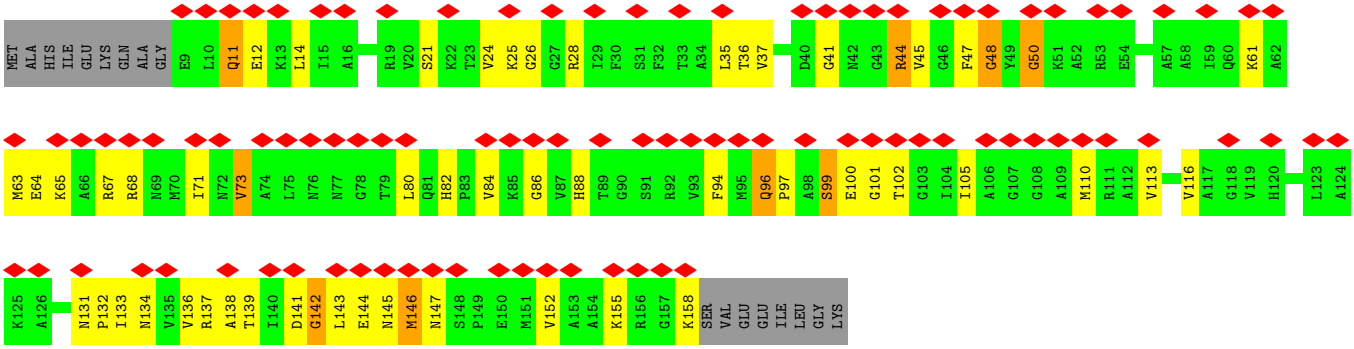
• Molecule 4: 30S ribosomal protein S4

Chain D:



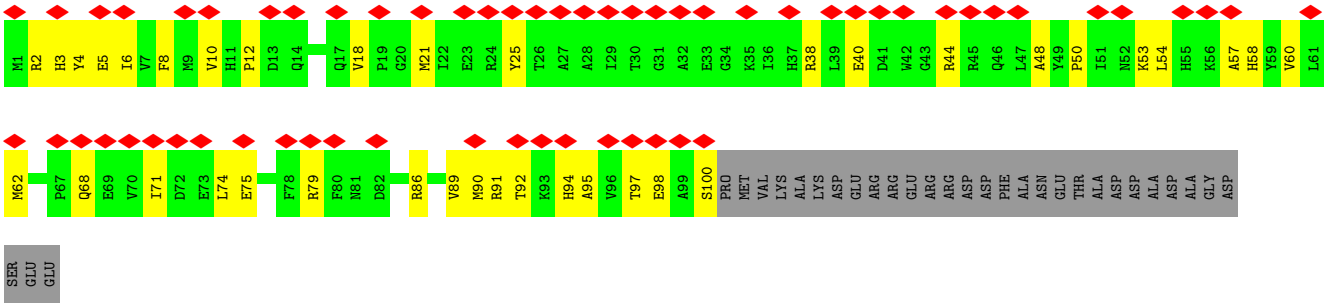
• Molecule 5: 30S ribosomal protein S5

Chain E:



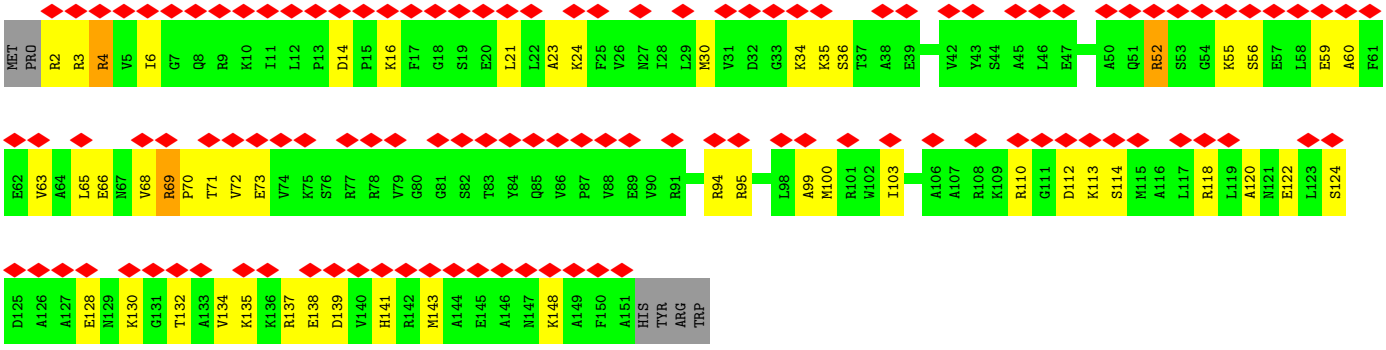
• Molecule 6: 30S ribosomal protein S6

Chain F:



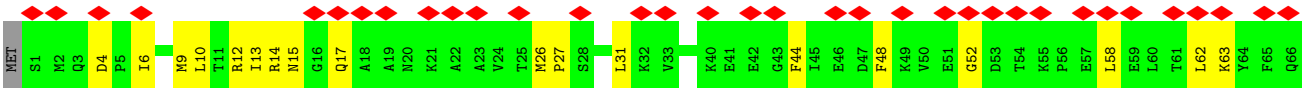
• Molecule 7: 30S ribosomal protein S7

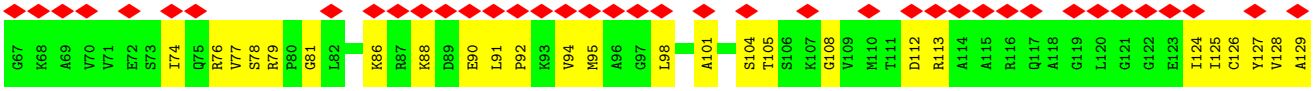
Chain G:



• Molecule 8: 30S ribosomal protein S8

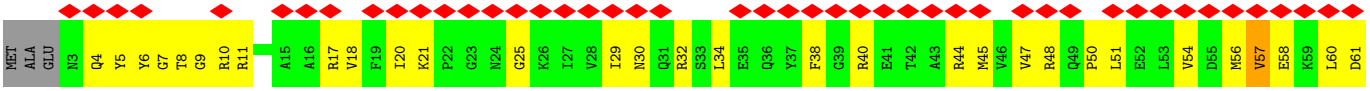
Chain H:

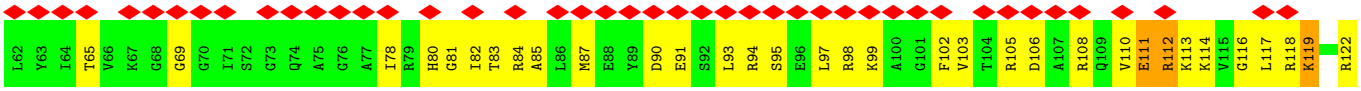


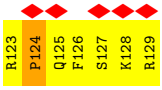


• Molecule 9: 30S ribosomal protein S9

Chain I:

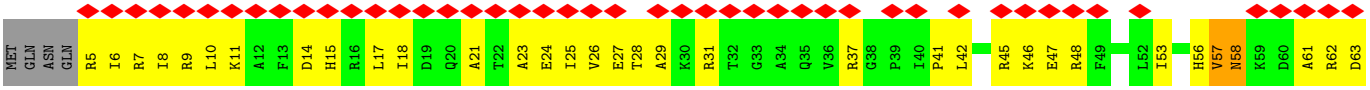


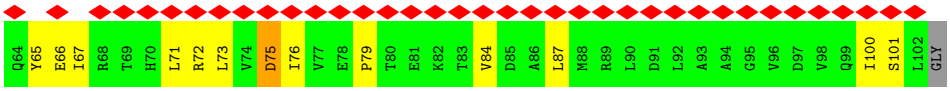




• Molecule 10: 30S ribosomal protein S10

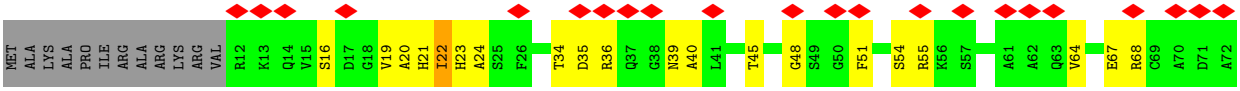
Chain J:

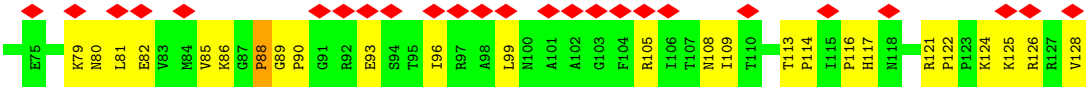




• Molecule 11: 30S ribosomal protein S11

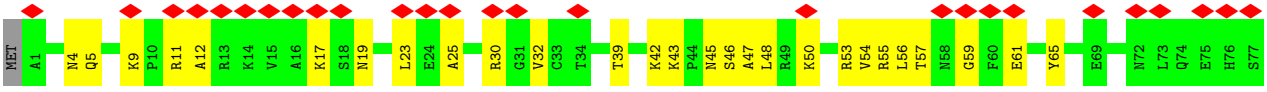
Chain K:

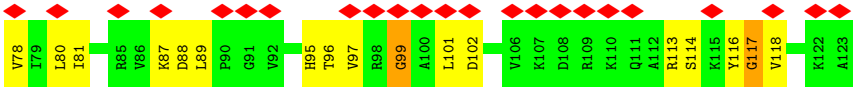




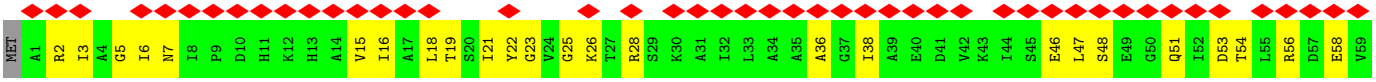
• Molecule 12: 30S ribosomal protein S12

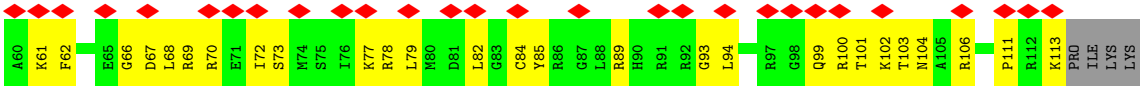
Chain L:



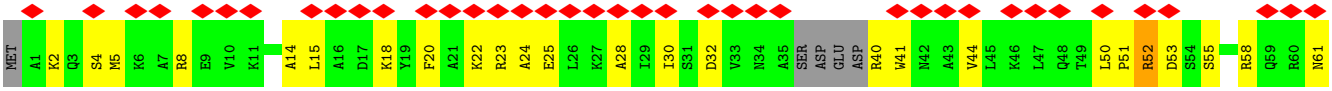


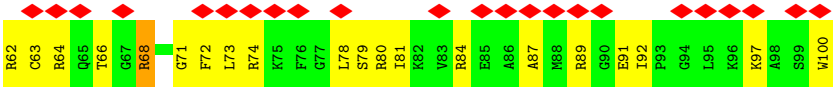
• Molecule 13: 30S ribosomal protein S13



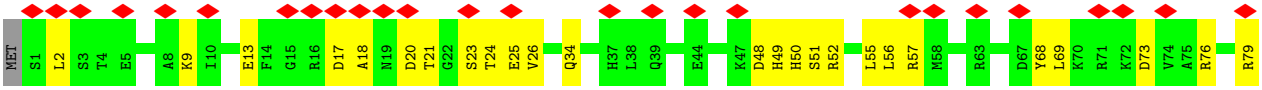


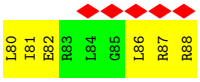
• Molecule 14: 30S ribosomal protein S14



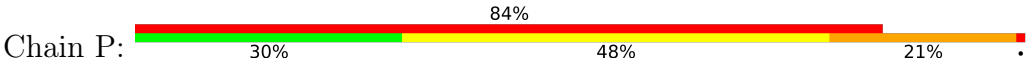


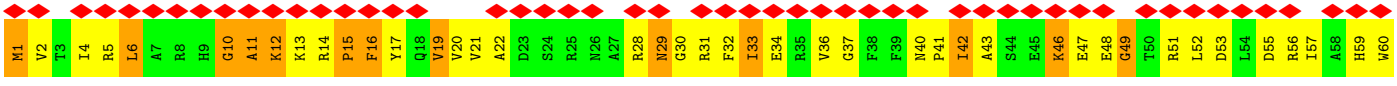
• Molecule 15: 30S ribosomal protein S15





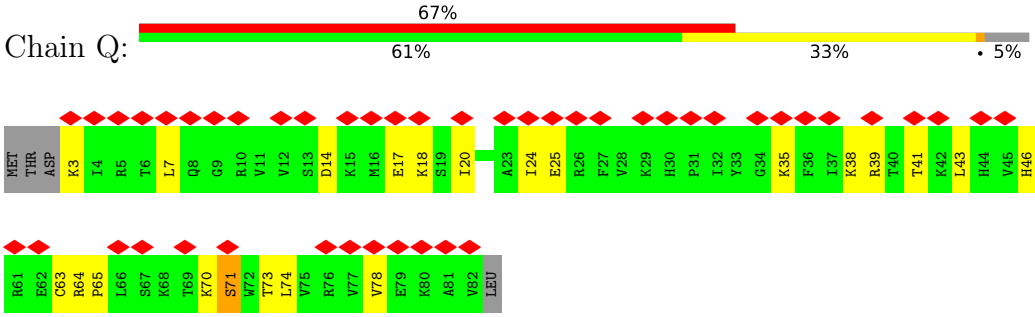
• Molecule 16: 30S ribosomal protein S16





• Molecule 17: 30S ribosomal protein S17

Chain Q:



• Molecule 18: 30S ribosomal protein S18

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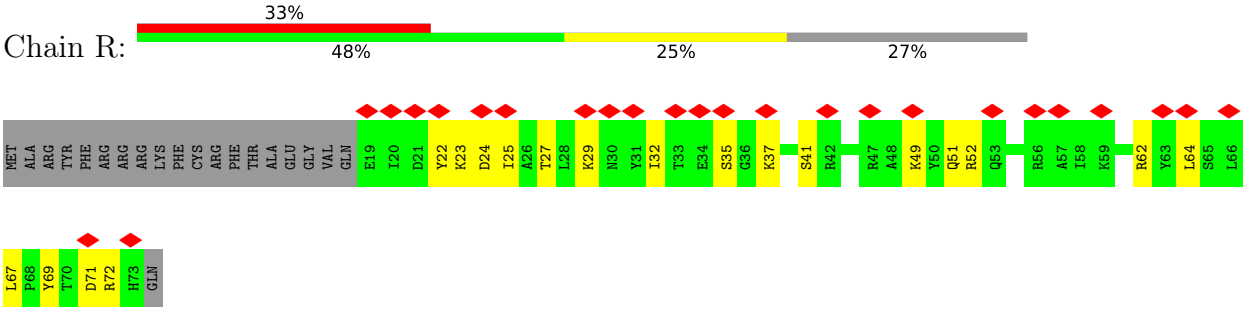
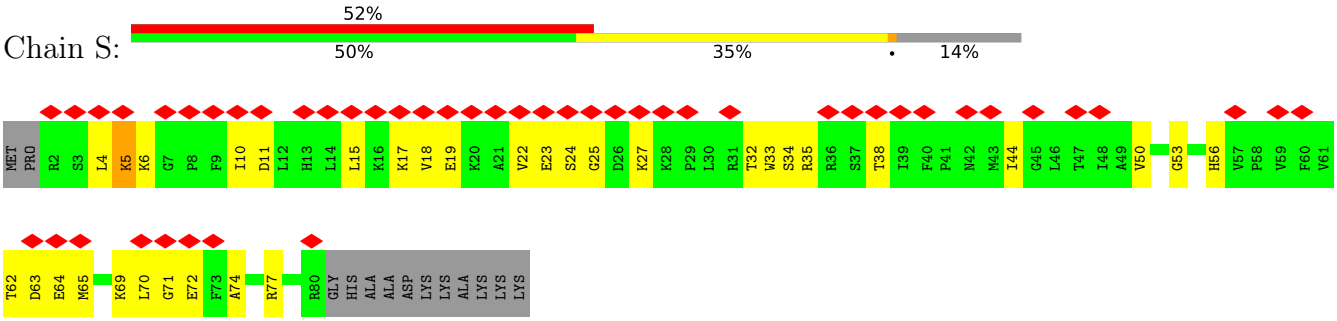


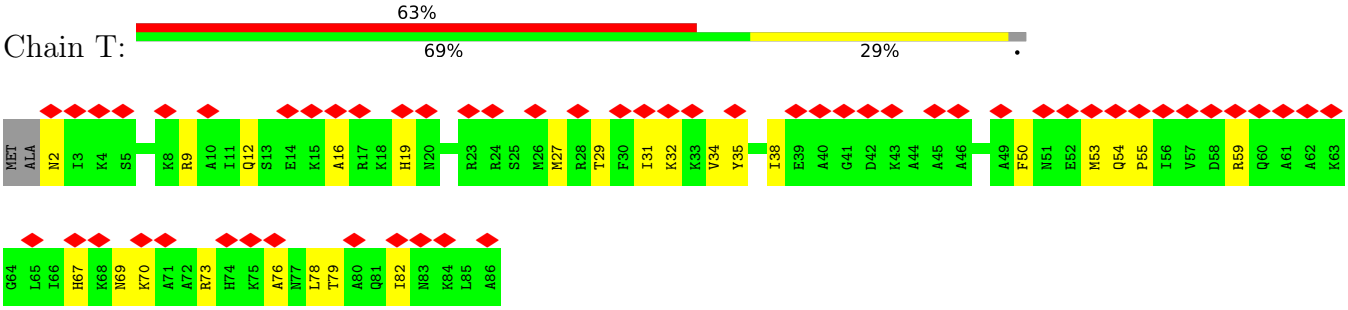
• Molecule 19: 30S ribosomal protein S19

Chain S:



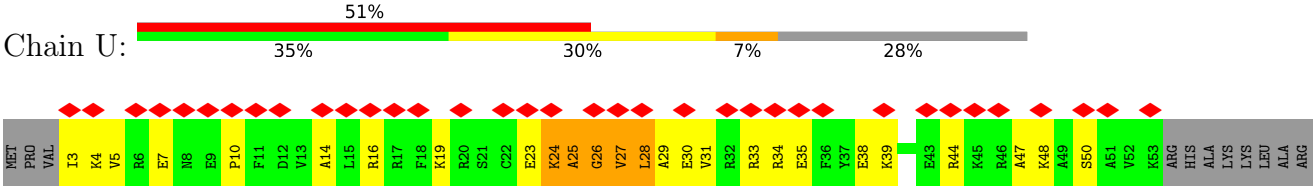
• Molecule 20: 30S ribosomal protein S20

Chain T:



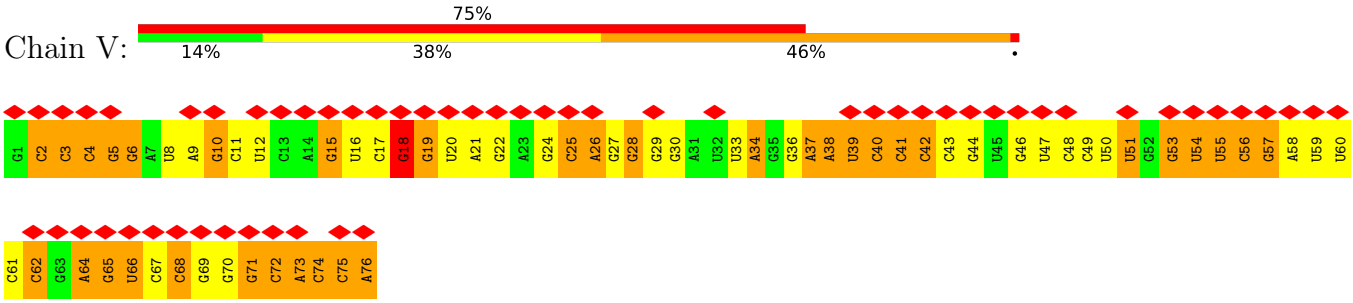
• Molecule 21: 30S ribosomal protein S21

Chain U:



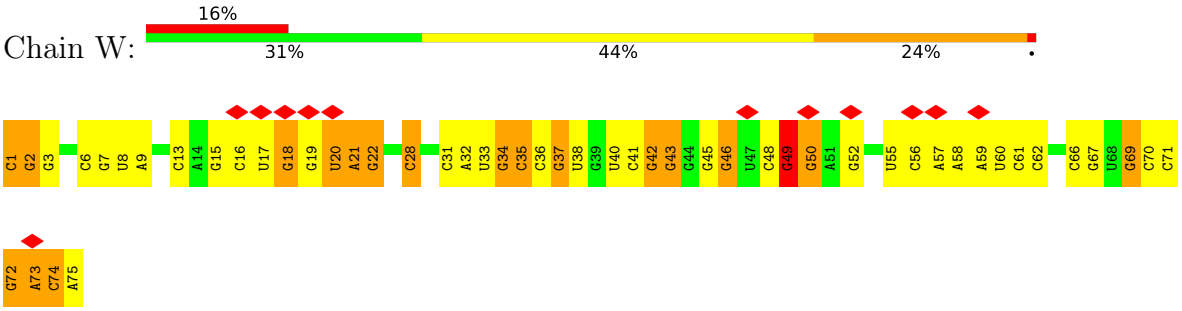
• Molecule 22: RNA (76-MER)

Chain V:



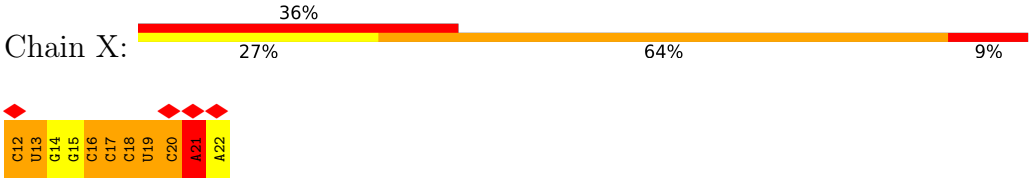
• Molecule 23: RNA (75-MER)

Chain W:



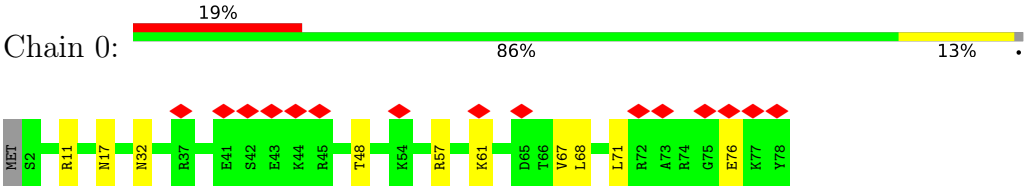
• Molecule 24: RNA (5'-R(P*CP*UP*GP*GP*CP*CP*CP*UP*CP*AP*A)-3')

Chain X:



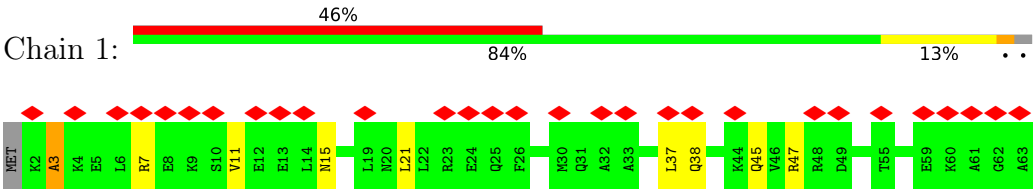
• Molecule 25: 50S ribosomal protein L28

Chain 0:



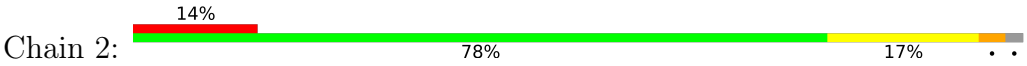
• Molecule 26: 50S ribosomal protein L29

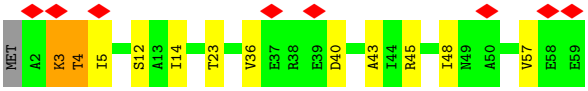
Chain 1:



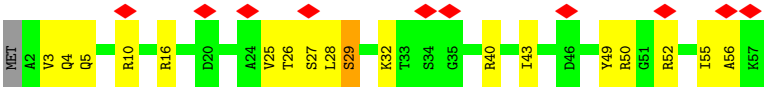
• Molecule 27: 50S ribosomal protein L30

Chain 2:

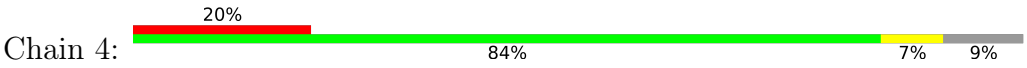


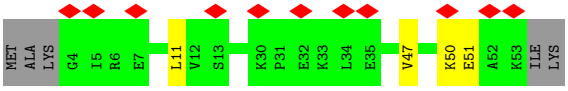


• Molecule 28: 50S ribosomal protein L32

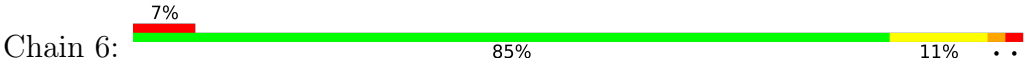


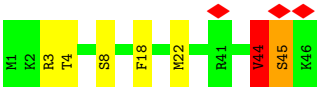
• Molecule 29: 50S ribosomal protein L33



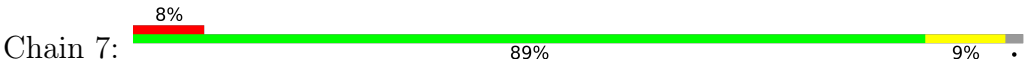


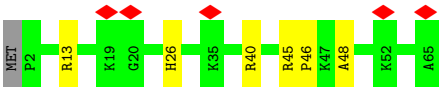
• Molecule 30: 50S ribosomal protein L34



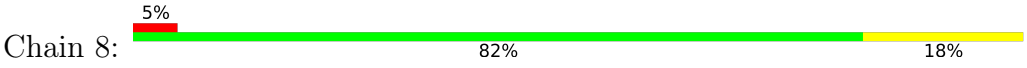


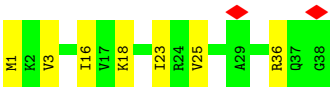
• Molecule 31: 50S ribosomal protein L35



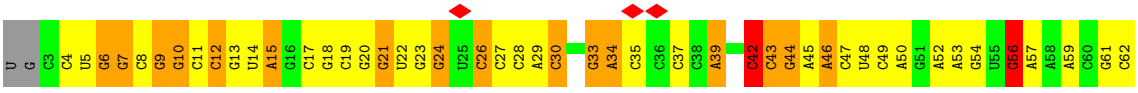


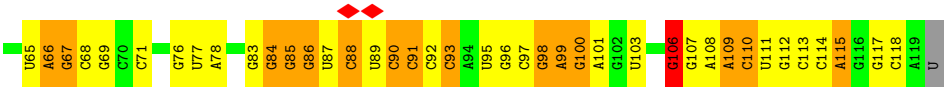
• Molecule 32: 50S ribosomal protein L36





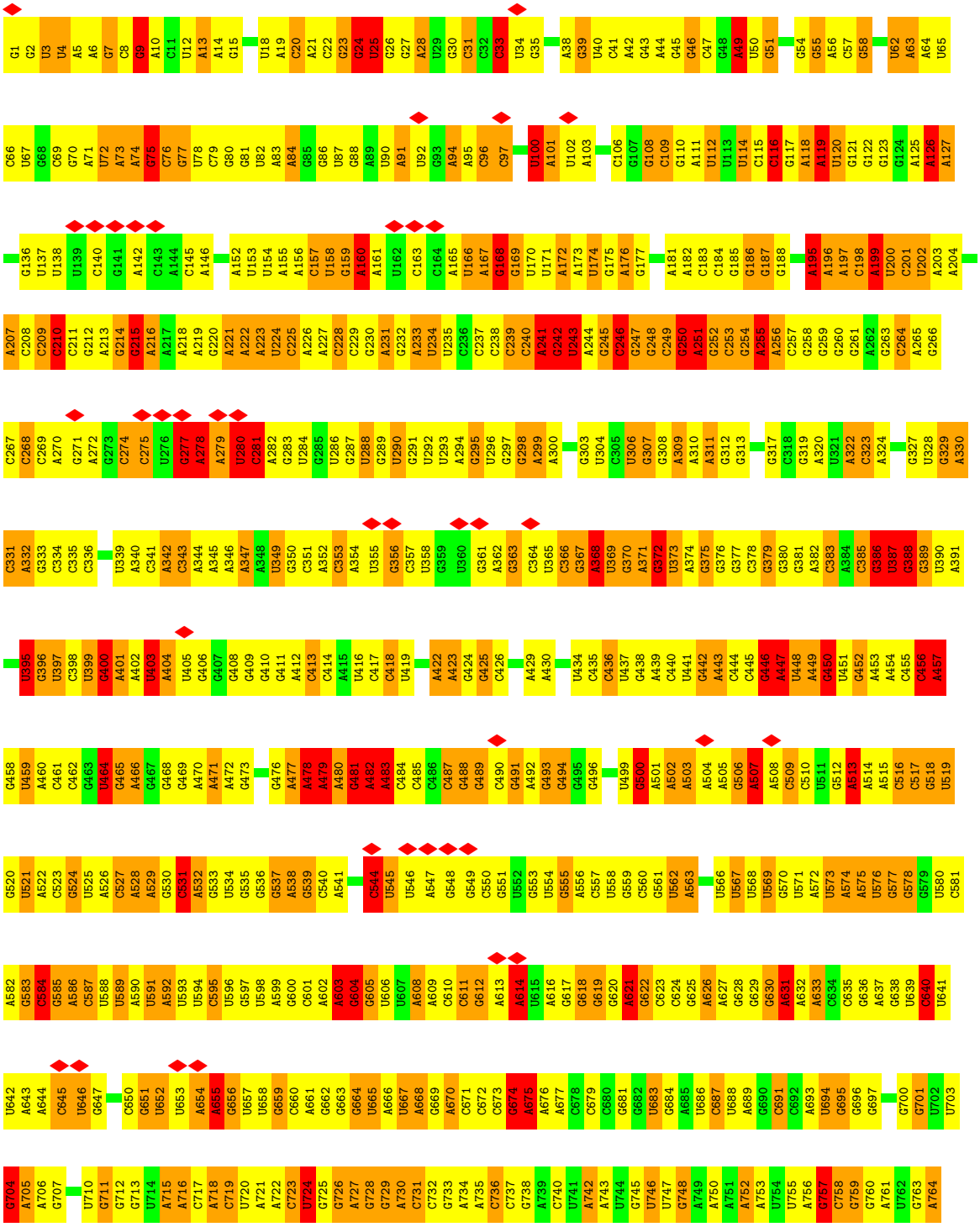
• Molecule 33: RNA (118-MER)

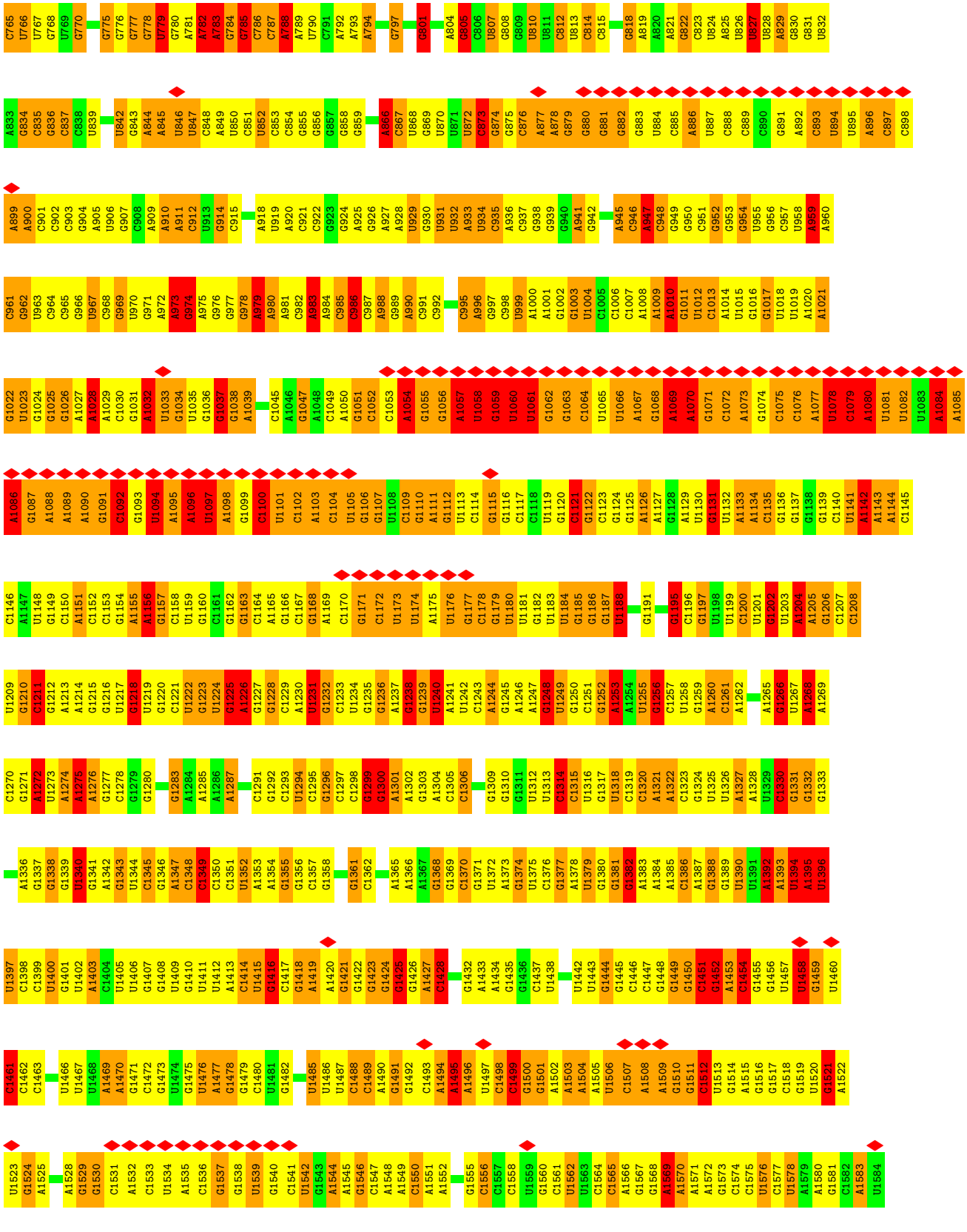


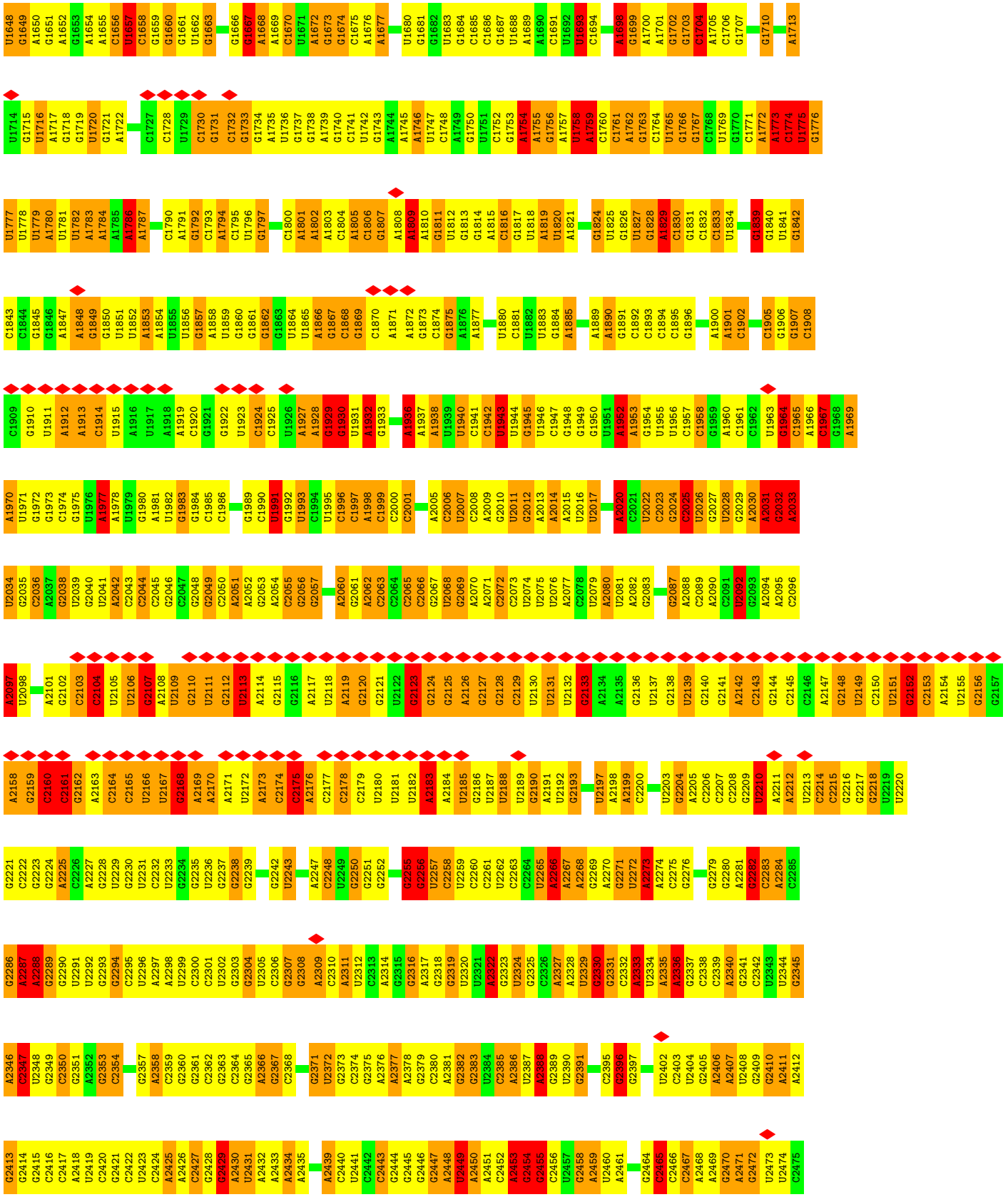


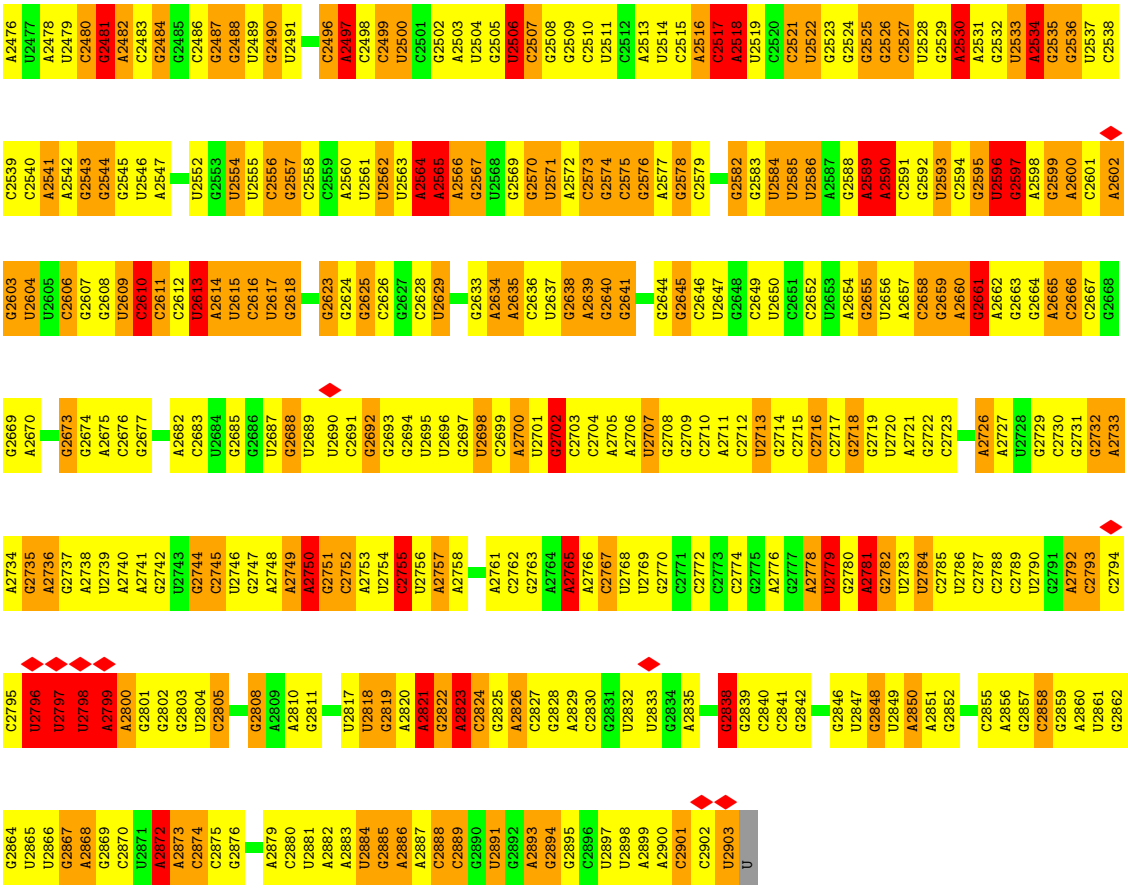
• Molecule 34: RNA (2903-MER)

Chain b:

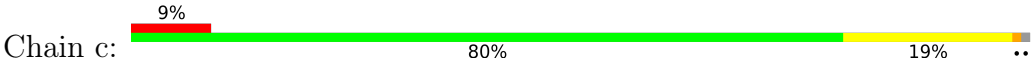


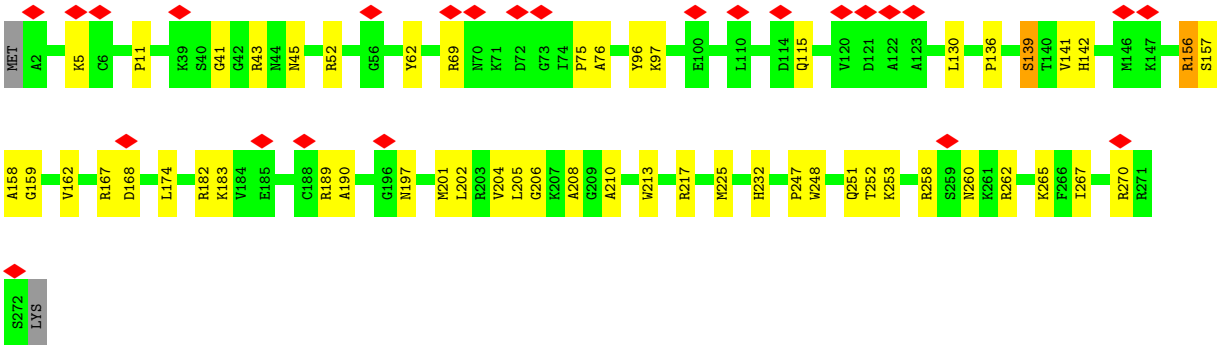




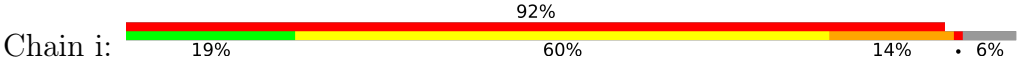


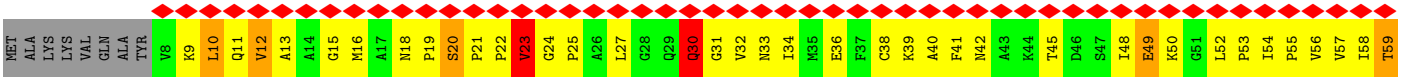
• Molecule 35: 50S ribosomal protein L2

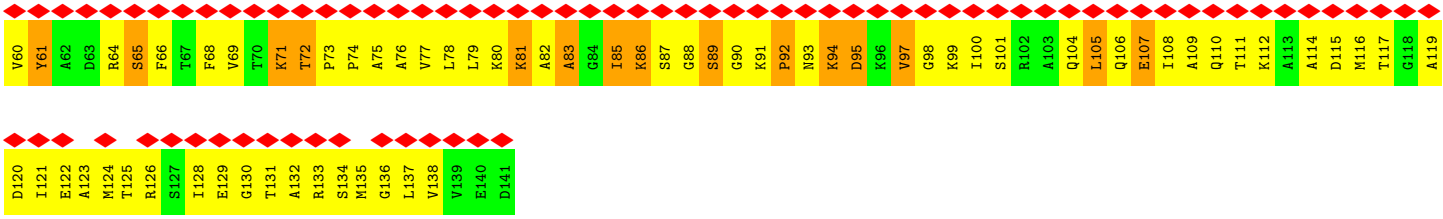




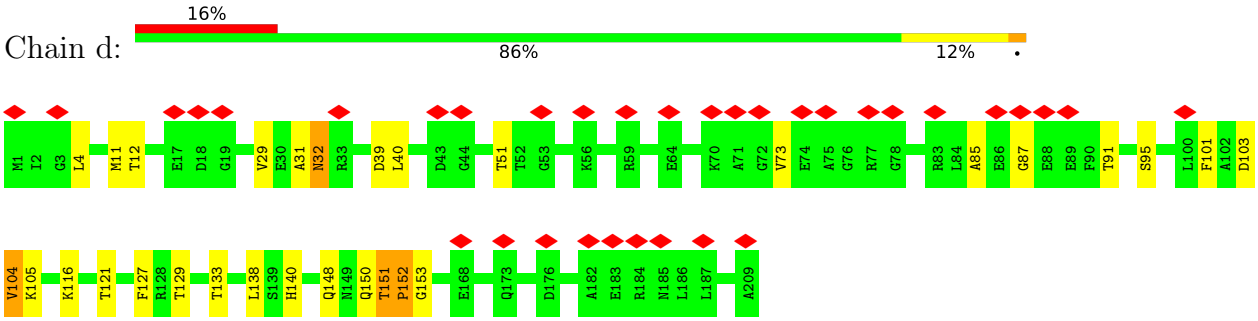
• Molecule 36: 50S ribosomal protein L11



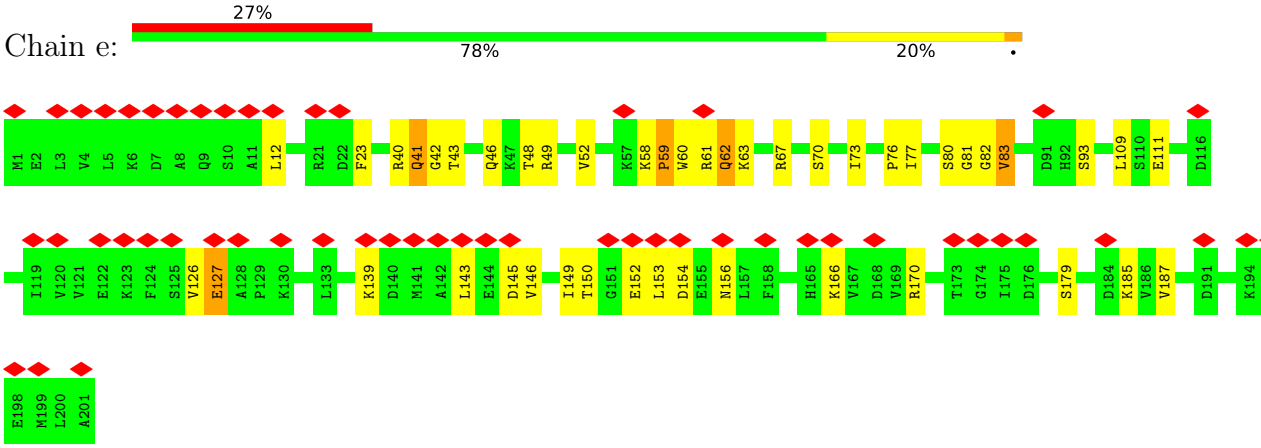




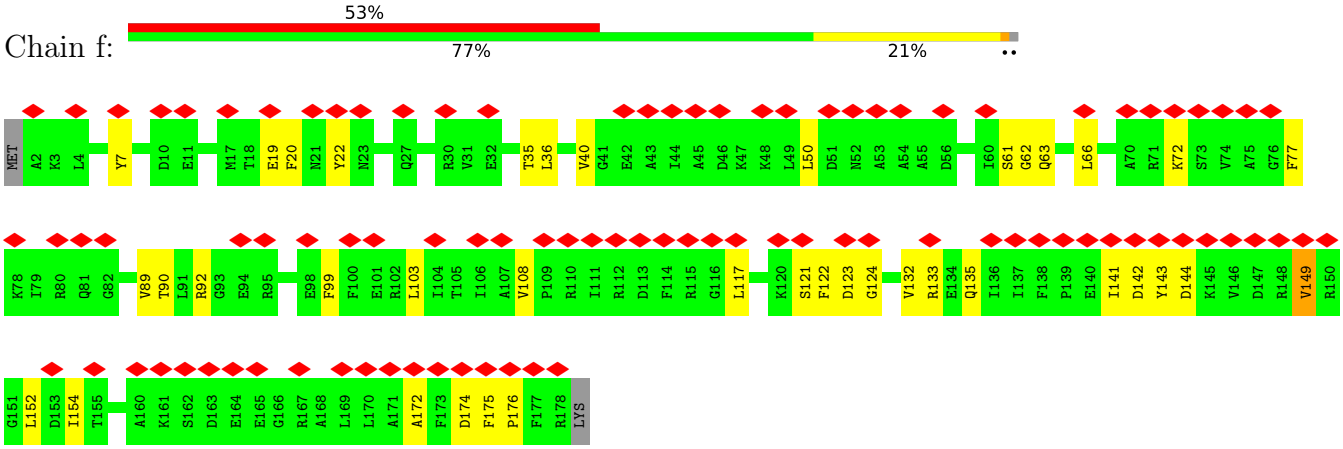
• Molecule 37: 50S ribosomal protein L3



• Molecule 38: 50S ribosomal protein L4

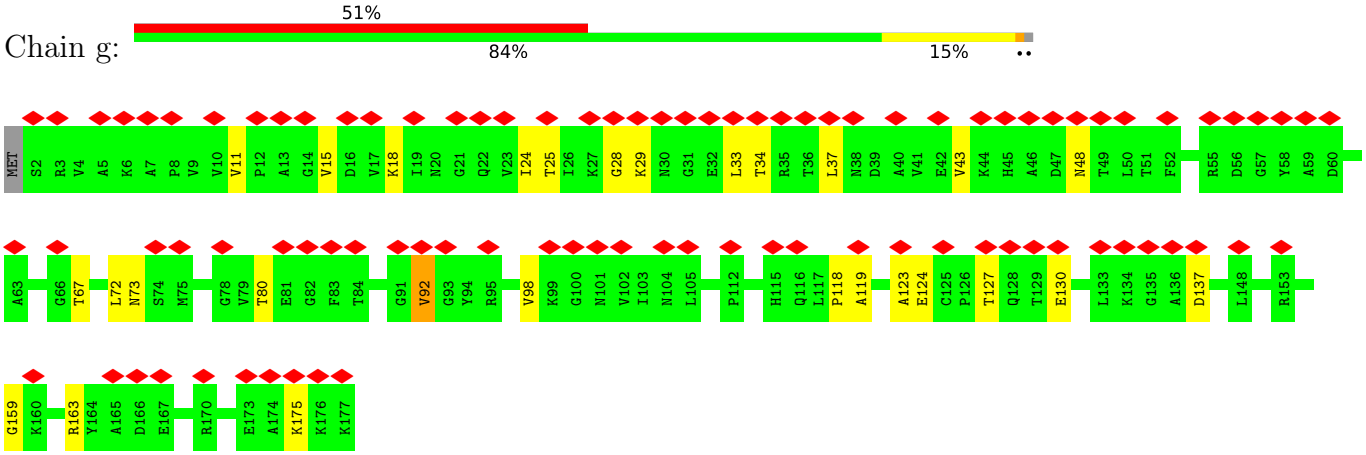


• Molecule 39: 50S ribosomal protein L5



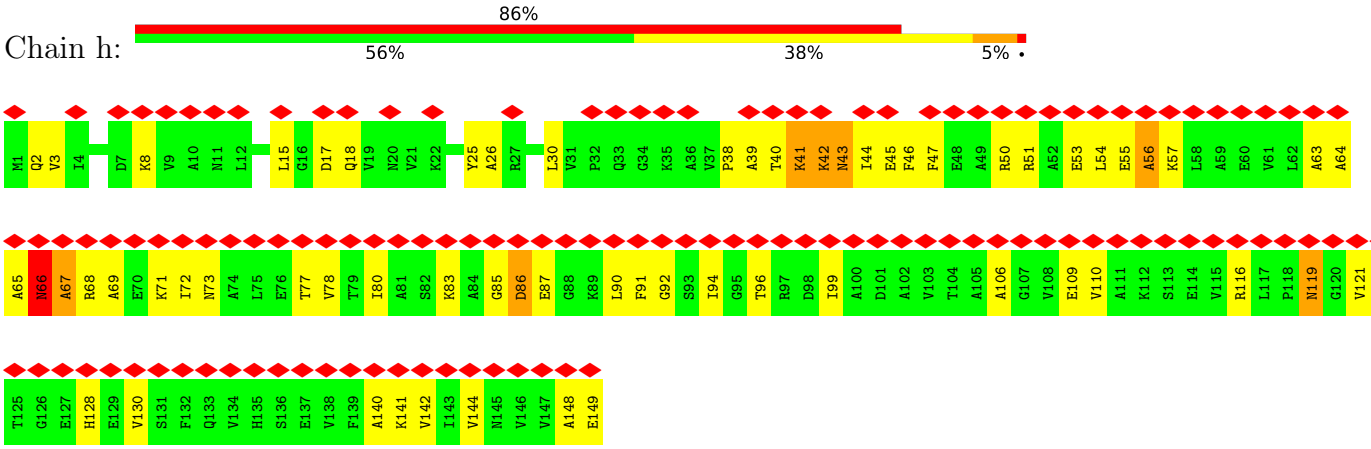
• Molecule 40: 50S ribosomal protein L6

Chain g:



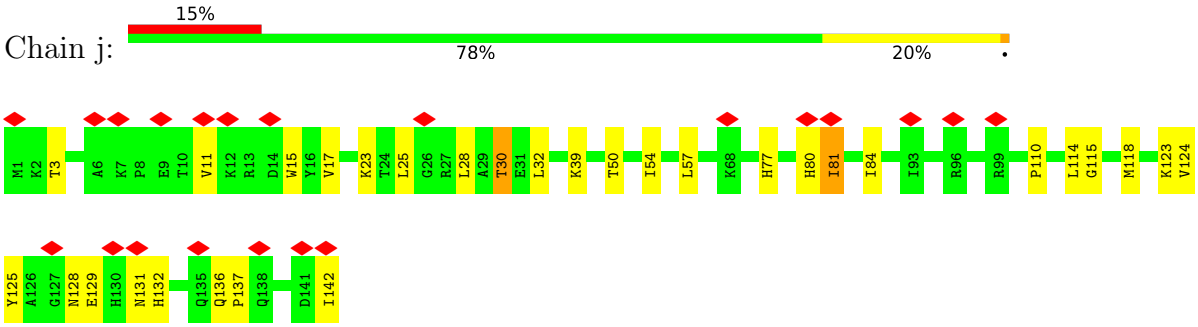
• Molecule 41: 50S ribosomal protein L9

Chain h:



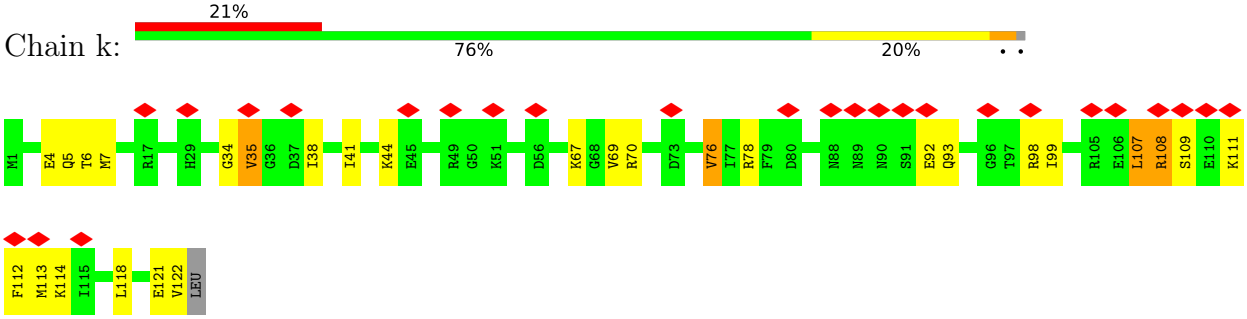
• Molecule 42: 50S ribosomal protein L13

Chain j:



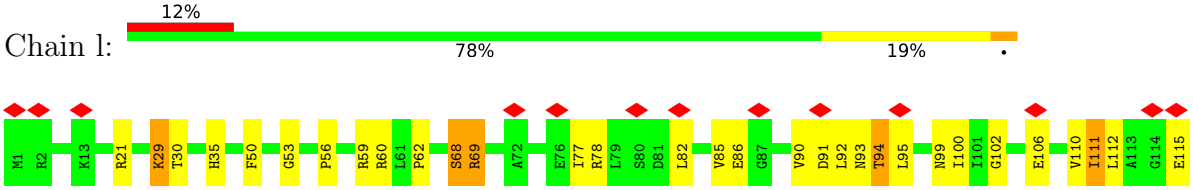
• Molecule 43: 50S ribosomal protein L14

Chain k:



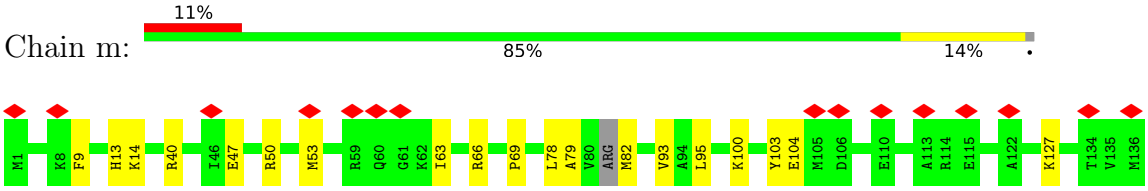
• Molecule 44: 50S ribosomal protein L15

Chain l:



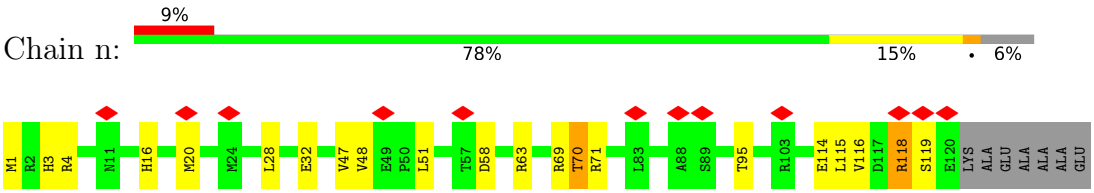
• Molecule 45: 50S ribosomal protein L16

Chain m:



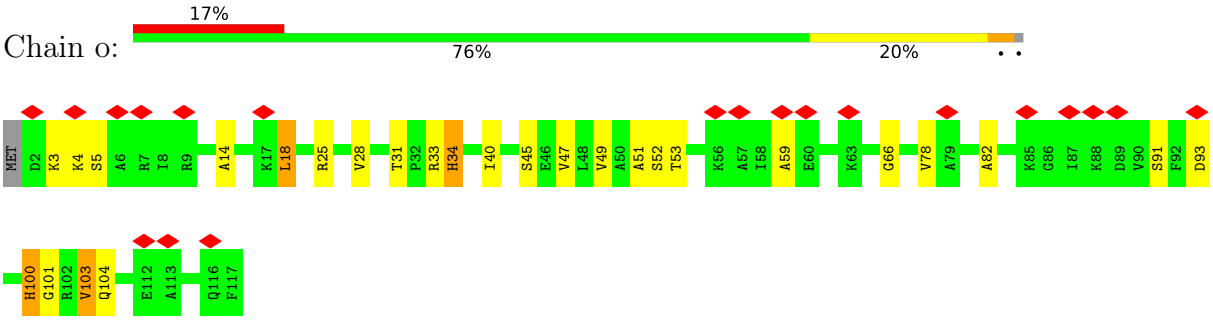
• Molecule 46: 50S ribosomal protein L17

Chain n:



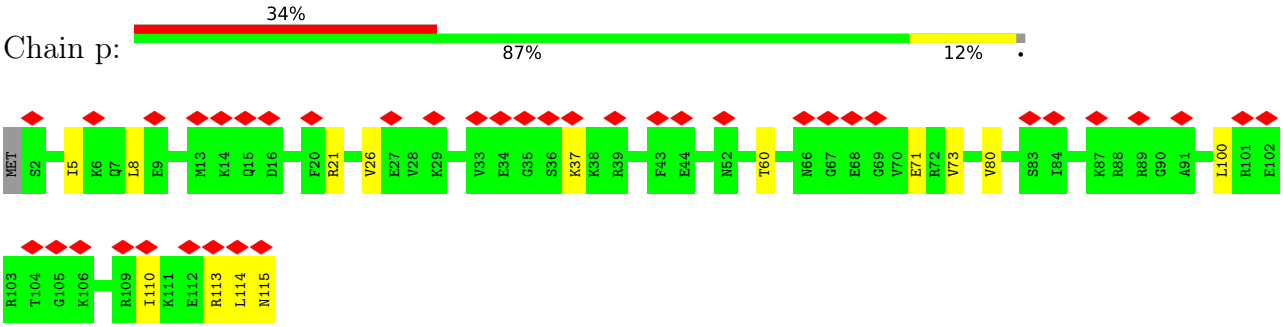
• Molecule 47: 50S ribosomal protein L18

Chain o:



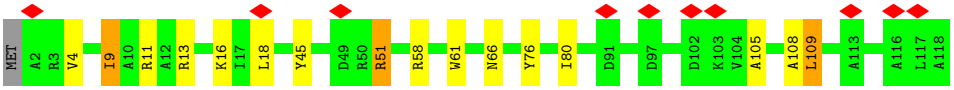
• Molecule 48: 50S ribosomal protein L19

Chain p:



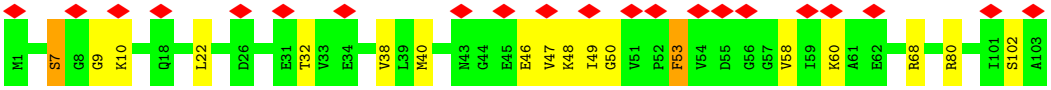
• Molecule 49: 50S ribosomal protein L20

Chain q:



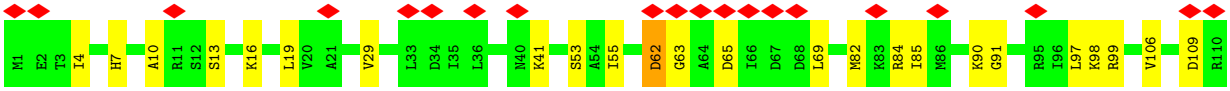
• Molecule 50: 50S ribosomal protein L21

Chain r:



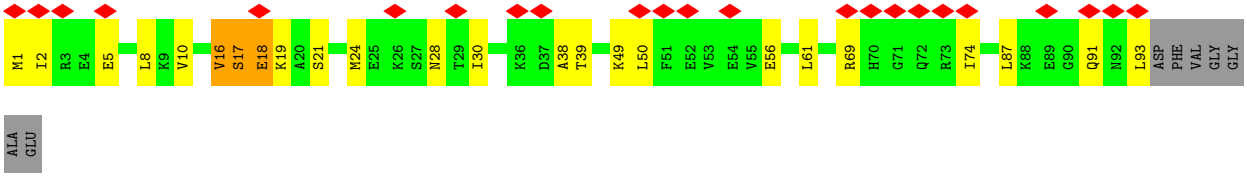
• Molecule 51: 50S ribosomal protein L22

Chain s:



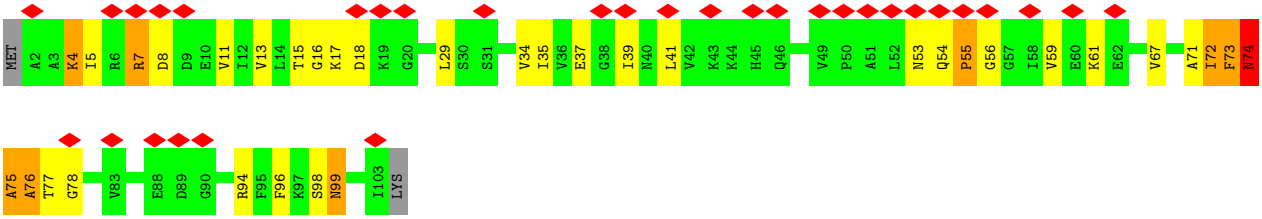
• Molecule 52: 50S ribosomal protein L23

Chain t:



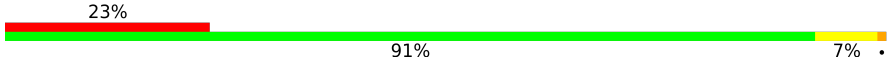
• Molecule 53: 50S ribosomal protein L24

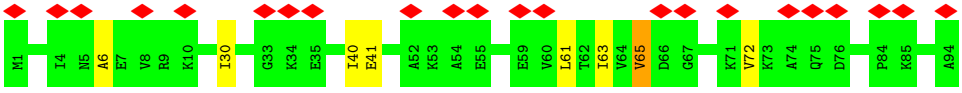
Chain u:



• Molecule 54: 50S ribosomal protein L25

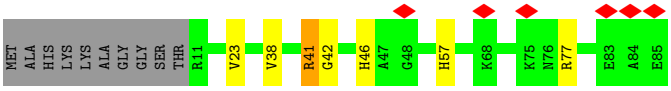
Chain w:





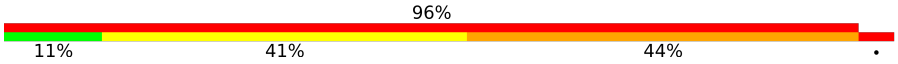
• Molecule 55: 50S ribosomal protein L27

Chain y:



• Molecule 56: Secretion monitor

Chain z:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	60354	Depositor
Resolution determination method	Not provided	
CTF correction method	CTFFIND	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	16	Depositor
Minimum defocus (nm)	3500	Depositor
Maximum defocus (nm)	1000	Depositor
Magnification	37878	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.187	Depositor
Minimum map value	-0.107	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	422.40002, 422.40002, 422.40002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.32, 1.32, 1.32	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.22	0/36762	0.29	0/57350
2	B	0.38	0/1735	0.83	2/2338 (0.1%)
3	C	0.42	0/1651	0.90	4/2225 (0.2%)
4	D	0.39	0/1665	0.85	6/2227 (0.3%)
5	E	0.43	0/1118	0.93	4/1504 (0.3%)
6	F	0.37	0/835	0.89	0/1128
7	G	0.37	0/1187	0.86	3/1591 (0.2%)
8	H	0.43	0/989	0.88	0/1326
9	I	0.43	0/1034	0.90	2/1375 (0.1%)
10	J	0.43	0/796	0.89	0/1077
11	K	0.40	0/893	0.91	1/1205 (0.1%)
12	L	0.42	0/969	0.93	2/1300 (0.2%)
13	M	0.37	0/884	0.79	0/1181
14	N	0.44	0/785	0.90	2/1043 (0.2%)
15	O	0.37	0/724	0.70	0/966
16	P	0.37	0/659	0.87	4/884 (0.5%)
17	Q	0.37	0/657	0.74	0/881
18	R	0.41	0/462	0.78	0/621
19	S	0.37	0/652	0.83	1/877 (0.1%)
20	T	0.43	0/671	0.81	0/888
21	U	0.40	0/430	1.02	2/570 (0.4%)
22	V	0.43	0/1810	0.87	7/2821 (0.2%)
23	W	0.44	0/1786	1.04	10/2784 (0.4%)
24	X	0.56	1/256 (0.4%)	0.71	0/394
25	0	0.55	0/635	0.86	0/848
26	1	0.46	0/502	0.85	0/667
27	2	0.53	0/453	0.81	0/605
28	3	0.55	0/450	0.84	0/599
29	4	0.50	0/416	0.71	0/554
30	6	0.59	0/380	0.98	0/498
31	7	0.56	0/513	0.84	0/676
32	8	0.57	0/303	0.78	0/397

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	a	0.48	0/2802	0.98	12/4369 (0.3%)
34	b	0.57	32/69800 (0.0%)	1.10	675/108892 (0.6%)
35	c	0.57	0/2121	0.82	3/2852 (0.1%)
36	i	0.36	0/989	0.89	3/1334 (0.2%)
37	d	0.54	0/1586	0.80	0/2134
38	e	0.53	0/1571	0.88	3/2113 (0.1%)
39	f	0.54	0/1434	0.84	0/1926
40	g	0.52	0/1343	0.73	0/1816
41	h	0.38	0/1122	0.93	4/1515 (0.3%)
42	j	0.52	0/1152	0.79	0/1551
43	k	0.52	0/947	0.76	0/1268
44	l	0.58	0/1062	0.90	1/1413 (0.1%)
45	m	0.55	0/1081	0.81	0/1443
46	n	0.56	0/973	0.88	0/1301
47	o	0.53	0/902	0.93	1/1209 (0.1%)
48	p	0.49	0/929	0.72	0/1242
49	q	0.54	0/960	0.87	1/1278 (0.1%)
50	r	0.54	0/829	0.75	0/1107
51	s	0.53	0/864	0.84	0/1156
52	t	0.59	0/744	0.81	0/994
53	u	0.52	0/787	0.83	1/1051 (0.1%)
54	w	0.48	0/766	0.72	0/1025
55	y	0.51	0/576	0.68	0/762
56	z	0.53	1/215 (0.5%)	1.12	3/291 (1.0%)
All	All	0.48	34/158617 (0.0%)	0.89	757/237442 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	I	0	1
27	2	0	1
34	b	0	64
35	c	0	1
37	d	0	1
43	k	0	1
44	l	0	1
50	r	0	1
All	All	0	71

All (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	b	2610	C	O3'-P	14.61	1.83	1.61
34	b	2504	U	O3'-P	13.56	1.81	1.61
34	b	2248	C	O3'-P	11.44	1.78	1.61
34	b	399	U	C5'-C4'	10.96	1.67	1.51
34	b	1323	C	O3'-P	10.59	1.77	1.61
34	b	1096	A	O3'-P	8.36	1.73	1.61
34	b	1097	U	O5'-C5'	7.38	1.53	1.42
34	b	979	A	O3'-P	7.32	1.72	1.61
34	b	2506	U	O3'-P	-7.12	1.50	1.61
34	b	2602	A	O3'-P	-6.59	1.51	1.61
34	b	1057	A	O3'-P	6.57	1.71	1.61
34	b	674	G	O3'-P	6.33	1.70	1.61
34	b	2123	G	C6-N1	6.16	1.51	1.39
34	b	2123	G	N3-C4	5.87	1.47	1.35
34	b	2446	G	O3'-P	5.87	1.70	1.61
34	b	2131	U	N1-C6	5.86	1.49	1.38
34	b	2575	C	O3'-P	5.78	1.69	1.61
34	b	1058	U	O5'-C5'	5.71	1.51	1.42
34	b	1079	C	O3'-P	5.70	1.69	1.61
34	b	778	G	O3'-P	5.64	1.69	1.61
34	b	399	U	O5'-C5'	5.62	1.50	1.42
34	b	2131	U	N3-C4	5.53	1.49	1.38
34	b	2161	C	O3'-P	5.52	1.69	1.61
56	z	29	PRO	N-CD	5.41	1.55	1.47
34	b	779	U	O3'-P	5.32	1.69	1.61
34	b	1382	G	C2-N2	-5.22	1.24	1.34
34	b	1058	U	O3'-P	5.17	1.69	1.61
34	b	1266	G	O3'-P	5.15	1.68	1.61
34	b	1773	A	O3'-P	5.15	1.68	1.61
24	X	21	A	C1'-N9	-5.13	1.40	1.48
34	b	1061	U	O3'-P	5.10	1.68	1.61
34	b	2123	G	N9-C8	5.10	1.48	1.37
34	b	583	G	O3'-P	5.09	1.68	1.61
34	b	2453	A	O3'-P	5.07	1.68	1.61

All (757) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	W	36	C	O3'-P-O5'	28.29	146.43	104.00
34	b	400	G	N9-C1'-C2'	13.93	132.89	112.00
34	b	2123	G	N9-C1'-C2'	13.19	131.78	112.00
34	b	1275	A	N9-C1'-C2'	13.07	133.61	114.00
34	b	1930	G	C2'-C3'-O3'	12.71	128.57	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	2161	C	C2'-C3'-O3'	12.55	132.53	113.70
34	b	2160	C	C2'-C3'-O3'	12.16	131.94	113.70
34	b	1667	G	C1'-C2'-O2'	12.15	126.63	108.40
34	b	2602	A	P-O3'-C3'	12.01	138.22	120.20
34	b	1300	G	N9-C1'-C2'	11.76	131.63	114.00
34	b	2597	G	N9-C1'-C2'	11.69	129.53	112.00
34	b	1096	A	N9-C1'-C2'	-11.32	95.02	112.00
34	b	2590	A	C1'-C2'-O2'	10.99	124.89	108.40
34	b	2518	A	C2'-C3'-O3'	10.90	125.85	109.50
34	b	959	A	N9-C1'-C2'	10.61	127.92	112.00
34	b	479	A	C2'-C3'-O3'	10.58	125.37	109.50
34	b	2248	C	O3'-P-O5'	-10.41	88.39	104.00
34	b	748	G	O3'-P-O5'	-10.39	88.42	104.00
34	b	1060	U	C4'-C3'-O3'	10.10	124.55	109.40
34	b	873	C	C2'-C3'-O3'	10.06	128.78	113.70
34	b	1079	C	C2'-C3'-O3'	-9.99	98.71	113.70
34	b	1058	U	C2'-C3'-O3'	-9.93	98.80	113.70
34	b	479	A	C4'-C3'-O3'	-9.92	94.52	109.40
3	C	107	LYS	CA-C-N	9.87	130.14	119.28
3	C	107	LYS	C-N-CA	9.87	130.14	119.28
34	b	2526	G	C1'-C2'-O2'	9.86	123.19	108.40
34	b	1096	A	C4'-C3'-O3'	9.78	127.67	113.00
34	b	2467	C	C1'-C2'-O2'	9.47	122.60	108.40
34	b	126	A	C1'-C2'-O2'	-9.46	97.60	111.80
34	b	2454	G	C1'-C2'-O2'	9.40	122.50	108.40
34	b	1774	C	C1'-C2'-O2'	9.34	122.41	108.40
34	b	1204	A	N9-C1'-C2'	9.34	128.00	114.00
34	b	986	C	N1-C1'-C2'	9.30	125.95	112.00
34	b	1078	U	C2'-C3'-O3'	9.25	123.38	109.50
34	b	983	A	N9-C1'-C2'	9.25	125.87	112.00
34	b	1759	A	C1'-C2'-O2'	9.20	122.20	108.40
34	b	2304	G	C2'-C3'-O3'	9.12	127.39	113.70
34	b	603	A	C2'-C3'-O3'	9.12	123.18	109.50
34	b	782	A	N9-C1'-C2'	9.11	127.66	114.00
34	b	2123	G	C4'-C3'-O3'	-9.08	99.38	113.00
34	b	2161	C	O4'-C4'-C3'	-8.95	95.05	104.00
34	b	704	G	C4'-C3'-O3'	8.93	126.39	113.00
34	b	195	A	C1'-C2'-O2'	8.90	121.75	108.40
34	b	2504	U	O3'-P-O5'	-8.88	90.69	104.00
34	b	2455	G	C4'-C3'-O3'	-8.87	99.69	113.00
23	W	33	U	O3'-P-O5'	8.87	117.30	104.00
34	b	1657	U	C5'-C4'-C3'	8.85	129.27	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	399	U	N1-C1'-C2'	8.84	125.25	112.00
34	b	2499	C	C4'-C3'-O3'	8.81	126.21	113.00
34	b	1205	A	N9-C1'-C2'	8.79	127.18	114.00
34	b	801	G	C2'-C3'-O3'	8.75	122.62	109.50
34	b	2504	U	P-O3'-C3'	8.74	133.31	120.20
34	b	246	C	N1-C1'-C2'	8.73	125.10	112.00
34	b	1056	G	C4'-C3'-O3'	8.70	122.44	109.40
22	V	18	G	C3'-C2'-O2'	-8.68	101.59	114.60
34	b	2161	C	C4'-C3'-O3'	8.63	125.94	113.00
34	b	959	A	C1'-C2'-O2'	-8.51	95.64	108.40
34	b	1225	G	N9-C1'-C2'	8.50	124.75	112.00
34	b	2055	C	C4'-C3'-O3'	-8.48	100.28	113.00
34	b	2449	U	C3'-C2'-O2'	8.44	123.36	110.70
34	b	2175	C	C4'-C3'-O3'	8.39	125.59	113.00
34	b	973	A	N9-C1'-C2'	8.37	126.56	114.00
34	b	947	A	C1'-C2'-O2'	8.35	120.92	108.40
34	b	2756	U	C4'-C3'-O3'	8.33	121.89	109.40
34	b	1096	A	C1'-C2'-O2'	8.32	120.88	108.40
34	b	49	A	N9-C1'-C2'	8.29	126.43	114.00
34	b	2324	U	C4'-C3'-O3'	8.22	125.33	113.00
33	a	66	A	C2'-C3'-O3'	8.21	121.81	109.50
34	b	1057	A	C2'-C3'-O3'	8.21	126.02	113.70
34	b	450	G	C1'-C2'-O2'	8.20	120.70	108.40
34	b	1967	C	N1-C1'-C2'	8.20	124.30	112.00
33	a	33	G	N9-C1'-C2'	-8.19	101.72	114.00
34	b	946	C	C2'-C3'-O3'	8.18	125.97	113.70
34	b	962	G	C1'-C2'-O2'	8.16	120.64	108.40
34	b	1704	C	C2'-C3'-O3'	8.16	125.94	113.70
34	b	1069	A	C3'-C2'-O2'	8.14	122.92	110.70
34	b	654	A	C2'-C3'-O3'	8.14	121.71	109.50
34	b	1952	A	N9-C1'-C2'	8.12	124.18	112.00
34	b	1238	G	C1'-C2'-O2'	8.09	120.53	108.40
23	W	36	C	OP2-P-O3'	-8.06	83.82	108.00
34	b	1058	U	N1-C1'-C2'	7.99	123.99	112.00
34	b	1211	C	C4'-C3'-O3'	-7.96	97.47	109.40
34	b	1936	A	C2'-C3'-O3'	-7.95	101.77	113.70
34	b	1098	A	C4'-C3'-O3'	7.94	124.91	113.00
34	b	2288	A	C2'-C3'-O3'	-7.88	101.88	113.70
34	b	25	U	N1-C1'-C2'	7.87	123.81	112.00
34	b	1057	A	C4'-C3'-O3'	7.87	124.81	113.00
34	b	979	A	N9-C1'-C2'	-7.83	100.26	112.00
34	b	464	U	N1-C1'-C2'	7.81	123.72	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	100	U	C3'-C2'-O2'	7.77	122.35	110.70
34	b	2779	U	N1-C1'-C2'	7.77	125.65	114.00
34	b	753	A	O3'-P-O5'	7.73	115.60	104.00
34	b	423	A	N9-C1'-C2'	7.72	123.59	112.00
34	b	167	A	N9-C1'-C2'	7.71	123.57	112.00
34	b	1142	A	C3'-C2'-O2'	7.71	122.26	110.70
34	b	1323	C	O3'-P-O5'	-7.69	92.47	104.00
34	b	1037	G	N9-C1'-C2'	-7.67	102.50	114.00
34	b	2449	U	N1-C1'-C2'	-7.65	100.53	112.00
34	b	1932	A	N9-C1'-C2'	7.64	123.47	112.00
34	b	782	A	C2'-C3'-O3'	7.62	120.94	109.50
34	b	1188	U	C4'-C3'-O3'	-7.60	101.59	113.00
34	b	1943	U	N1-C1'-C2'	7.58	125.37	114.00
34	b	1964	G	C2'-C3'-O3'	7.54	120.81	109.50
34	b	1266	G	O4'-C1'-C2'	-7.54	100.06	107.60
34	b	846	U	C4'-C3'-O3'	-7.53	101.70	113.00
34	b	1991	U	C1'-C2'-O2'	7.53	119.69	108.40
34	b	255	A	C1'-C2'-O2'	7.52	119.69	108.40
34	b	1097	U	O4'-C4'-C3'	-7.52	96.48	104.00
34	b	1773	A	C2'-C3'-O3'	7.52	124.98	113.70
23	W	36	C	P-O3'-C3'	7.48	131.42	120.20
34	b	1792	G	C1'-C2'-O2'	7.47	119.61	108.40
34	b	1396	U	C5'-C4'-C3'	7.43	126.34	115.20
34	b	576	U	N1-C1'-C2'	7.42	123.14	112.00
34	b	2589	A	C1'-C2'-O2'	7.41	119.51	108.40
34	b	368	A	C4'-C3'-O3'	7.40	120.50	109.40
34	b	2530	A	N9-C1'-C2'	7.39	123.08	112.00
34	b	1667	G	N9-C1'-C2'	-7.37	100.95	112.00
34	b	1349	C	O4'-C1'-C2'	-7.36	100.24	107.60
34	b	2072	C	C4'-C3'-O3'	-7.36	101.96	113.00
2	B	23	ASN	CA-C-N	7.34	127.35	119.28
2	B	23	ASN	C-N-CA	7.34	127.35	119.28
34	b	1098	A	O4'-C4'-C3'	-7.33	96.67	104.00
34	b	1079	C	O4'-C1'-N1	7.31	119.47	108.50
34	b	2161	C	C4'-C3'-C2'	-7.29	95.31	102.60
34	b	2454	G	N9-C1'-C2'	-7.29	101.07	112.00
56	z	28	GLY	C-N-CD	-7.27	95.21	125.00
34	b	1495	A	C1'-C2'-O2'	-7.26	100.91	111.80
34	b	2719	G	C3'-C2'-O2'	7.25	121.57	110.70
34	b	116	C	C3'-C2'-O2'	-7.24	99.85	110.70
41	h	86	ASP	N-CA-C	-7.24	103.39	111.28
34	b	2272	U	N1-C1'-C2'	7.23	122.84	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	277	G	O4'-C1'-C2'	-7.21	100.39	107.60
34	b	1667	G	O4'-C1'-C2'	-7.21	100.39	107.60
22	V	18	G	O4'-C4'-C3'	-7.16	98.94	106.10
34	b	1936	A	C4'-C3'-O3'	-7.13	102.30	113.00
34	b	1168	G	C2'-C3'-O3'	7.13	124.39	113.70
34	b	912	C	N1-C1'-C2'	7.12	122.69	112.00
34	b	1058	U	O4'-C1'-N1	7.12	119.19	108.50
34	b	2288	A	C4'-C3'-O3'	7.12	123.68	113.00
34	b	2687	U	C1'-C2'-O2'	7.11	119.06	108.40
34	b	202	U	N1-C1'-C2'	7.11	122.66	112.00
34	b	2340	A	N9-C1'-C2'	7.11	122.66	112.00
34	b	1754	A	N9-C1'-C2'	7.11	122.66	112.00
34	b	1945	G	C4'-C3'-O3'	-7.10	102.35	113.00
34	b	614	A	N9-C1'-C2'	7.09	124.63	114.00
34	b	1100	C	C4'-C3'-O3'	7.08	123.62	113.00
34	b	801	G	O4'-C4'-C3'	-7.06	99.04	106.10
34	b	1829	A	C1'-C2'-O2'	7.05	118.97	108.40
34	b	2017	U	C4'-C3'-O3'	-7.04	102.43	113.00
34	b	1569	A	N9-C1'-C2'	7.04	122.56	112.00
34	b	241	A	N9-C1'-C2'	7.04	124.55	114.00
34	b	9	G	C2'-C3'-O3'	7.03	124.25	113.70
5	E	96	GLN	CA-C-N	7.01	127.00	119.78
5	E	96	GLN	C-N-CA	7.01	127.00	119.78
34	b	1092	C	N1-C1'-C2'	6.99	122.48	112.00
34	b	786	C	C1'-C2'-O2'	-6.98	97.93	108.40
34	b	2266	A	N9-C1'-C2'	6.98	124.46	114.00
34	b	1970	A	N9-C1'-C2'	6.97	124.46	114.00
34	b	1031	G	C1'-C2'-O2'	6.97	118.85	108.40
34	b	482	A	C2'-C3'-O3'	-6.96	103.25	113.70
23	W	42	G	C2'-C3'-O3'	6.95	119.93	109.50
34	b	544	C	N1-C1'-C2'	6.95	124.42	114.00
34	b	2168	G	C4'-C3'-O3'	6.94	123.41	113.00
34	b	2097	A	C2'-C3'-O3'	6.94	124.11	113.70
34	b	2506	U	O3'-P-O5'	6.92	114.39	104.00
34	b	1616	A	C5'-C4'-C3'	6.90	125.55	115.20
34	b	608	A	N9-C1'-C2'	6.89	122.33	112.00
34	b	168	G	C2'-C3'-O3'	6.86	124.00	113.70
34	b	584	C	O4'-C1'-C2'	-6.86	100.74	107.60
34	b	1103	A	O4'-C4'-C3'	-6.86	97.14	104.00
7	G	69	ARG	CA-C-N	6.85	126.82	119.76
7	G	69	ARG	C-N-CA	6.85	126.82	119.76
34	b	1225	G	C1'-C2'-O2'	-6.85	98.12	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1097	U	C5'-C4'-C3'	6.85	126.27	116.00
33	a	33	G	C2'-C3'-O3'	6.84	119.77	109.50
34	b	2471	A	C4'-C3'-O3'	6.84	123.25	113.00
34	b	2574	G	C1'-C2'-O2'	6.81	118.62	108.40
34	b	778	G	C1'-C2'-O2'	6.80	118.60	108.40
34	b	2092	U	N1-C1'-C2'	6.78	124.16	114.00
34	b	1508	A	C2'-C3'-O3'	-6.77	99.34	109.50
34	b	2066	C	N1-C1'-C2'	6.77	122.15	112.00
34	b	2593	U	N1-C1'-C2'	6.76	122.14	112.00
34	b	1299	G	C4'-C3'-O3'	-6.76	102.86	113.00
34	b	1057	A	N9-C1'-C2'	-6.75	101.88	112.00
34	b	787	C	N1-C1'-C2'	6.73	122.09	112.00
34	b	2480	C	O4'-C1'-C2'	-6.73	100.87	107.60
34	b	2020	A	C1'-C2'-O2'	6.72	118.48	108.40
34	b	1773	A	C1'-C2'-O2'	6.71	118.46	108.40
34	b	783	A	C4'-C3'-O3'	6.70	123.06	113.00
34	b	487	C	C1'-C2'-O2'	6.70	118.45	108.40
34	b	1211	C	O4'-C4'-C3'	-6.70	99.40	106.10
34	b	409	G	C2'-C3'-O3'	6.69	123.73	113.70
34	b	1428	C	C4'-C3'-O3'	6.67	119.41	109.40
34	b	1069	A	C4'-C3'-O3'	6.67	123.00	113.00
34	b	2821	A	N9-C1'-C2'	6.66	121.99	112.00
34	b	1079	C	C3'-C2'-O2'	6.66	120.69	110.70
34	b	2698	U	C1'-C2'-O2'	6.65	118.37	108.40
34	b	655	A	C4'-C3'-O3'	-6.63	99.45	109.40
34	b	618	G	N9-C1'-C2'	6.63	121.94	112.00
34	b	1066	U	O4'-C1'-C2'	-6.59	101.01	107.60
34	b	386	G	C4'-C3'-O3'	6.58	119.27	109.40
34	b	2575	C	C4'-C3'-O3'	6.58	122.87	113.00
34	b	2799	A	C4'-C3'-O3'	6.57	119.26	109.40
34	b	2012	G	C4'-C3'-O3'	-6.57	103.14	113.00
34	b	753	A	P-O3'-C3'	-6.57	110.35	120.20
34	b	2051	A	N9-C1'-C2'	-6.56	104.15	114.00
34	b	2506	U	OP2-P-O3'	-6.56	88.33	108.00
34	b	2832	U	C4'-C3'-O3'	6.54	119.22	109.40
34	b	691	C	C3'-C2'-O2'	6.53	120.50	110.70
34	b	703	U	C2'-C3'-O3'	6.52	123.48	113.70
41	h	66	ASN	N-CA-C	6.52	124.69	110.80
34	b	2032	G	N9-C1'-C2'	6.51	123.77	114.00
34	b	2798	U	C2'-C3'-O3'	-6.48	103.98	113.70
34	b	2282	G	N9-C1'-C2'	-6.48	104.29	114.00
34	b	684	G	C3'-C2'-O2'	6.47	120.41	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1977	A	C1'-C2'-O2'	6.47	118.10	108.40
34	b	1084	A	C1'-C2'-O2'	-6.46	102.11	111.80
34	b	195	A	C4'-C3'-O3'	-6.46	103.31	113.00
34	b	1057	A	C4'-C3'-C2'	-6.46	96.14	102.60
34	b	2613	U	N1-C1'-C2'	6.46	123.69	114.00
5	E	48	GLY	N-CA-C	6.44	120.23	110.18
9	I	111	GLU	N-CA-C	6.44	118.38	111.36
34	b	158	U	N1-C1'-C2'	6.44	121.66	112.00
34	b	1983	G	C1'-C2'-O2'	6.44	118.06	108.40
34	b	742	A	C4'-C3'-O3'	-6.44	103.34	113.00
34	b	1999	C	C1'-C2'-O2'	6.44	118.06	108.40
34	b	199	A	C4'-C3'-O3'	6.43	119.05	109.40
34	b	1998	A	C1'-C2'-O2'	6.42	118.04	108.40
33	a	42	C	N1-C1'-C2'	6.42	121.63	112.00
34	b	2429	G	C4'-C3'-O3'	-6.42	103.37	113.00
34	b	1327	A	N9-C1'-C2'	6.41	121.61	112.00
34	b	1037	G	C4'-C3'-O3'	6.41	119.01	109.40
34	b	1830	C	O4'-C1'-C2'	-6.40	101.20	107.60
34	b	450	G	C2'-C3'-O3'	6.39	123.29	113.70
34	b	254	G	C1'-C2'-O2'	6.39	117.98	108.40
34	b	452	G	C1'-C2'-O2'	6.39	117.98	108.40
34	b	1839	G	O4'-C1'-C2'	-6.39	101.21	107.60
34	b	242	G	N9-C1'-C2'	-6.37	102.44	112.00
33	a	56	G	C2'-C3'-O3'	6.37	119.06	109.50
34	b	1102	C	N1-C1'-C2'	6.37	121.56	112.00
34	b	1943	U	C2'-C3'-O3'	6.37	119.06	109.50
34	b	1204	A	O4'-C4'-C3'	-6.36	99.74	106.10
34	b	253	C	C1'-C2'-O2'	6.36	117.94	108.40
34	b	2449	U	O4'-C1'-C2'	-6.36	101.24	107.60
34	b	2056	G	N9-C1'-C2'	6.36	121.53	112.00
34	b	2273	A	N9-C1'-C2'	6.35	121.53	112.00
34	b	1393	A	C4'-C3'-O3'	-6.35	103.48	113.00
36	i	94	LYS	N-CA-C	-6.35	105.29	114.12
22	V	56	C	C4'-C3'-O3'	6.34	118.91	109.40
34	b	675	A	C4'-C3'-O3'	-6.34	103.49	113.00
34	b	403	U	C2'-C3'-O3'	6.34	119.01	109.50
38	e	59	PRO	CA-C-N	6.31	134.34	123.05
38	e	59	PRO	C-N-CA	6.31	134.34	123.05
34	b	2571	U	C4'-C3'-O3'	-6.30	103.55	113.00
34	b	782	A	C4'-C3'-O3'	-6.29	99.97	109.40
34	b	2799	A	C2'-C3'-O3'	-6.28	100.08	109.50
34	b	640	C	N1-C1'-C2'	6.28	121.41	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1126	A	N9-C1'-C2'	6.28	123.41	114.00
34	b	1829	A	C4'-C3'-O3'	-6.27	103.59	113.00
34	b	2458	G	C1'-C2'-O2'	6.27	117.80	108.40
34	b	2271	G	N9-C1'-C2'	6.26	121.39	112.00
34	b	24	G	N9-C1'-C2'	6.26	121.39	112.00
34	b	2658	C	C2'-C3'-O3'	6.26	123.09	113.70
34	b	562	U	C4'-C3'-O3'	-6.25	103.63	113.00
34	b	946	C	C4'-C3'-O3'	-6.24	103.64	113.00
34	b	866	A	O4'-C1'-C2'	-6.23	101.37	107.60
34	b	503	A	C5'-C4'-C3'	6.23	124.54	115.20
34	b	477	A	C1'-C2'-O2'	-6.22	102.46	111.80
34	b	2104	C	C2'-C3'-O3'	6.22	123.04	113.70
9	I	116	GLY	N-CA-C	-6.22	104.19	114.76
34	b	100	U	O4'-C1'-C2'	-6.22	101.38	107.60
34	b	2576	G	P-O5'-C5'	6.22	130.23	120.90
23	W	49	G	C3'-C2'-O2'	6.22	120.03	110.70
34	b	2032	G	C2'-C3'-O3'	6.22	118.82	109.50
34	b	251	A	N9-C1'-C2'	6.20	121.30	112.00
34	b	1423	G	C3'-C2'-O2'	6.19	119.99	110.70
34	b	569	U	N1-C1'-C2'	6.19	121.29	112.00
34	b	671	C	C1'-C2'-O2'	6.19	117.68	108.40
34	b	1226	A	N9-C1'-C2'	6.19	121.28	112.00
34	b	228	C	C4'-C3'-O3'	6.18	118.68	109.40
22	V	18	G	C4'-C3'-O3'	-6.18	100.12	109.40
34	b	2396	G	O4'-C1'-C2'	-6.18	101.42	107.60
34	b	1231	U	C4'-C3'-O3'	6.18	118.67	109.40
34	b	1698	A	N9-C1'-C2'	6.18	123.27	114.00
34	b	500	G	C1'-C2'-O2'	6.17	117.66	108.40
34	b	2028	U	C3'-C2'-O2'	6.17	119.95	110.70
34	b	2616	C	C1'-C2'-O2'	6.15	117.62	108.40
34	b	645	C	C4'-C3'-O3'	6.15	118.62	109.40
34	b	2500	U	C1'-C2'-O2'	6.15	117.62	108.40
34	b	2383	G	C4'-C3'-O3'	-6.12	103.82	113.00
34	b	1067	A	C4'-C3'-O3'	6.12	122.18	113.00
34	b	1646	C	O4'-C1'-C2'	-6.11	101.50	107.60
34	b	1343	G	N9-C1'-C2'	6.10	121.15	112.00
34	b	788	A	N9-C1'-C2'	-6.10	102.85	112.00
41	h	43	ASN	N-CA-C	6.09	123.76	110.80
34	b	1103	A	C2'-C3'-O3'	6.08	122.83	113.70
34	b	372	G	O4'-C1'-C2'	-6.08	101.52	107.60
34	b	1096	A	O4'-C1'-C2'	-6.08	101.52	107.60
34	b	1272	A	N9-C1'-C2'	6.08	123.12	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1392	A	N9-C1'-C2'	6.08	123.12	114.00
34	b	2031	A	C4'-C3'-O3'	-6.07	100.29	109.40
38	e	58	LYS	O-C-N	-6.06	115.90	121.30
34	b	1600	C	N1-C1'-C2'	6.06	121.09	112.00
34	b	1361	G	C3'-C2'-O2'	6.06	119.78	110.70
34	b	978	G	C1'-C2'-O2'	6.05	117.48	108.40
34	b	1755	A	N9-C1'-C2'	6.05	121.08	112.00
34	b	2165	C	C4'-C3'-O3'	6.05	118.48	109.40
34	b	2175	C	N1-C1'-C2'	-6.05	102.92	112.00
34	b	559	G	C4'-C3'-O3'	-6.05	103.93	113.00
34	b	2838	G	C1'-C2'-O2'	6.04	117.46	108.40
34	b	726	G	C4'-C3'-O3'	-6.03	103.95	113.00
34	b	2057	G	N9-C1'-C2'	6.03	121.05	112.00
34	b	1133	A	C3'-C2'-O2'	6.03	119.74	110.70
34	b	1758	U	C4'-C3'-O3'	-6.02	100.37	109.40
34	b	1761	C	N1-C1'-C2'	6.02	121.03	112.00
34	b	483	A	C1'-C2'-O2'	6.02	117.43	108.40
34	b	2034	U	N1-C1'-C2'	6.02	121.03	112.00
34	b	2570	G	C1'-C2'-O2'	6.01	117.42	108.40
34	b	448	U	N1-C1'-C2'	-6.00	104.99	114.00
34	b	786	C	C3'-C2'-O2'	6.00	119.70	110.70
34	b	2210	U	N1-C1'-C2'	6.00	123.00	114.00
34	b	379	G	C1'-C2'-O2'	5.99	117.39	108.40
34	b	2564	A	C1'-C2'-O2'	-5.99	102.81	111.80
34	b	1452	G	C4'-C3'-O3'	5.99	118.38	109.40
34	b	1057	A	O4'-C1'-C2'	-5.99	101.61	107.60
19	S	18	VAL	N-CA-C	-5.98	105.92	112.80
34	b	621	A	N9-C1'-C2'	5.98	120.98	112.00
21	U	28	LEU	N-CA-C	-5.98	105.63	113.17
34	b	516	C	C2'-C3'-O3'	5.98	122.67	113.70
34	b	1097	U	C3'-C2'-O2'	5.98	119.67	110.70
34	b	1101	U	C4'-C3'-O3'	5.97	121.96	113.00
34	b	2596	U	C2'-C3'-O3'	-5.97	104.74	113.70
34	b	1205	A	C4'-C3'-O3'	-5.97	100.45	109.40
34	b	801	G	C4'-C3'-O3'	-5.97	100.45	109.40
34	b	834	G	C2'-C3'-O3'	5.97	122.65	113.70
34	b	465	G	N9-C1'-C2'	5.96	120.94	112.00
34	b	1454	C	N1-C1'-C2'	-5.96	103.06	112.00
34	b	1425	G	N9-C1'-C2'	5.96	120.94	112.00
4	D	44	LYS	CA-C-N	5.96	125.92	119.78
4	D	44	LYS	C-N-CA	5.96	125.92	119.78
34	b	1331	G	C4'-C3'-O3'	-5.96	104.07	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1069	A	N9-C1'-C2'	-5.95	103.07	112.00
34	b	2161	C	C5'-C4'-O4'	5.95	118.73	109.80
34	b	531	C	N1-C1'-C2'	5.95	122.93	114.00
16	P	40	ASN	CA-C-N	5.95	125.63	119.56
16	P	40	ASN	C-N-CA	5.95	125.63	119.56
34	b	1657	U	C5'-C4'-O4'	5.94	118.71	109.80
34	b	1814	G	N9-C1'-C2'	5.94	120.91	112.00
34	b	2565	A	C3'-C2'-O2'	5.93	119.60	110.70
53	u	74	ASN	CA-CB-CG	5.93	118.53	112.60
34	b	2797	U	O4'-C1'-C2'	-5.93	101.67	107.60
34	b	2151	U	O4'-C1'-C2'	-5.92	101.68	107.60
14	N	68	ARG	CA-C-N	5.92	125.79	119.28
14	N	68	ARG	C-N-CA	5.92	125.79	119.28
34	b	281	C	N1-C1'-C2'	5.92	120.88	112.00
34	b	1668	A	C4'-C3'-O3'	5.91	118.27	109.40
34	b	1210	G	C2'-C3'-O3'	5.91	118.36	109.50
34	b	126	A	C4'-C3'-O3'	5.91	118.26	109.40
34	b	1461	C	N1-C1'-C2'	5.90	120.85	112.00
34	b	1037	G	C5'-C4'-C3'	5.89	124.04	115.20
34	b	1095	A	C4'-C3'-O3'	5.89	118.24	109.40
34	b	1086	A	N9-C1'-C2'	5.88	120.83	112.00
34	b	1202	G	C4'-C3'-O3'	-5.88	104.17	113.00
34	b	1607	C	C2'-C3'-O3'	5.88	118.32	109.50
34	b	2055	C	C2'-C3'-O3'	5.88	122.52	113.70
34	b	2272	U	C2'-C3'-O3'	-5.87	104.89	113.70
34	b	1255	U	C1'-C2'-O2'	5.86	117.19	108.40
34	b	2606	C	C1'-C2'-O2'	5.86	117.19	108.40
34	b	1767	G	C1'-C2'-O2'	5.86	117.18	108.40
34	b	1943	U	O4'-C4'-C3'	-5.86	100.25	106.10
33	a	42	C	C4'-C3'-O3'	-5.85	104.22	113.00
34	b	779	U	O4'-C1'-C2'	-5.85	101.75	107.60
34	b	785	G	C4'-C3'-O3'	-5.85	104.22	113.00
34	b	909	A	C1'-C2'-O2'	5.84	117.16	108.40
34	b	1270	C	C2'-C3'-O3'	-5.84	104.94	113.70
34	b	837	C	C1'-C2'-O2'	5.83	117.15	108.40
34	b	2031	A	C2'-C3'-O3'	5.83	118.24	109.50
34	b	2448	A	C1'-C2'-O2'	-5.83	103.06	111.80
34	b	694	U	C1'-C2'-O2'	5.82	117.12	108.40
34	b	931	U	N1-C1'-C2'	5.82	122.73	114.00
34	b	2072	C	C1'-C2'-O2'	5.82	117.12	108.40
22	V	15	G	C4'-C3'-O3'	5.81	118.12	109.40
34	b	1797	G	C2'-C3'-O3'	-5.81	104.99	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	87	U	C2'-C3'-O3'	5.80	122.41	113.70
34	b	2467	C	N1-C1'-C2'	-5.80	103.29	112.00
34	b	1670	C	C2'-C3'-O3'	-5.80	105.00	113.70
4	D	72	ARG	N-CA-C	-5.80	104.96	111.28
34	b	1240	U	O4'-C1'-C2'	-5.80	101.80	107.60
34	b	1097	U	C4'-C3'-O3'	5.80	121.69	113.00
34	b	2798	U	N1-C1'-C2'	5.79	120.69	112.00
34	b	1287	A	N9-C1'-C2'	5.79	120.68	112.00
34	b	2560	A	C4'-C3'-O3'	-5.79	104.32	113.00
34	b	2522	U	C1'-C2'-O2'	5.78	117.08	108.40
34	b	1377	G	N9-C1'-C2'	5.77	120.66	112.00
34	b	1802	A	N9-C1'-C2'	5.77	120.66	112.00
34	b	395	U	C1'-C2'-O2'	5.77	117.05	108.40
34	b	835	C	C1'-C2'-O2'	5.76	117.04	108.40
34	b	372	G	C3'-C2'-O2'	5.76	119.33	110.70
34	b	1066	U	C4'-C3'-O3'	5.75	121.63	113.00
34	b	446	G	N9-C1'-C2'	-5.75	103.38	112.00
34	b	75	G	O4'-C1'-C2'	-5.74	101.86	107.60
34	b	1996	C	N1-C1'-C2'	5.74	122.61	114.00
34	b	2225	A	N9-C1'-C2'	-5.74	105.39	114.00
34	b	108	G	C1'-C2'-O2'	5.73	117.00	108.40
34	b	757	G	O4'-C1'-C2'	-5.73	101.87	107.60
34	b	1009	A	N9-C1'-C2'	5.73	120.59	112.00
34	b	399	U	C5'-C4'-C3'	5.72	124.59	116.00
34	b	779	U	C1'-C2'-O2'	5.72	116.98	108.40
34	b	1762	A	C2'-C3'-O3'	5.72	122.28	113.70
34	b	2516	A	C1'-C2'-O2'	5.71	116.97	108.40
34	b	481	G	O4'-C1'-C2'	-5.71	101.89	107.60
34	b	979	A	C4'-C3'-C2'	-5.71	96.89	102.60
34	b	84	A	N9-C1'-C2'	-5.70	105.45	114.00
34	b	306	U	C1'-C2'-O2'	5.70	116.95	108.40
34	b	1395	A	C1'-O4'-C4'	-5.69	104.21	109.90
34	b	1599	U	N1-C1'-C2'	5.69	120.54	112.00
34	b	2488	G	N9-C1'-C2'	5.69	120.53	112.00
34	b	1759	A	C3'-C2'-O2'	-5.69	102.17	110.70
34	b	537	G	N9-C1'-C2'	-5.69	103.47	112.00
34	b	1010	A	C4'-C3'-O3'	-5.68	104.47	113.00
34	b	2521	C	C1'-C2'-O2'	5.68	116.92	108.40
34	b	1451	C	C3'-C2'-O2'	5.68	119.22	110.70
34	b	1567	G	N9-C1'-C2'	5.68	122.52	114.00
34	b	2508	G	C1'-C2'-O2'	5.68	116.92	108.40
34	b	2161	C	P-O5'-C5'	5.68	129.41	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	176	A	N9-C1'-C2'	5.67	120.51	112.00
34	b	818	G	C1'-C2'-O2'	5.67	116.91	108.40
34	b	1096	A	C3'-C2'-C1'	5.67	106.97	101.30
34	b	2160	C	C4'-C3'-C2'	-5.67	96.93	102.60
34	b	2210	U	O4'-C4'-C3'	-5.67	100.43	106.10
33	a	33	G	C4'-C3'-O3'	5.67	117.90	109.40
34	b	2336	A	N9-C1'-C2'	5.67	122.50	114.00
34	b	2879	A	N9-C1'-C2'	5.66	122.50	114.00
34	b	278	A	O4'-C1'-C2'	-5.66	101.94	107.60
34	b	1268	A	C1'-C2'-O2'	5.66	116.88	108.40
34	b	1816	C	C4'-C3'-O3'	5.66	117.88	109.40
34	b	777	G	C1'-C2'-O2'	5.65	116.88	108.40
34	b	604	G	C2'-C3'-O3'	-5.65	105.23	113.70
3	C	15	LYS	CA-C-N	5.65	125.60	119.78
3	C	15	LYS	C-N-CA	5.65	125.60	119.78
34	b	1804	C	C1'-C2'-O2'	5.65	116.87	108.40
34	b	2247	A	C3'-C2'-O2'	5.64	119.16	110.70
34	b	681	G	C1'-C2'-O2'	5.63	116.85	108.40
34	b	2517	C	C3'-C2'-O2'	5.63	119.15	110.70
34	b	2702	G	C4'-C3'-O3'	-5.63	104.55	113.00
34	b	628	G	C3'-C2'-O2'	5.63	119.14	110.70
34	b	214	G	N9-C1'-C2'	5.62	120.43	112.00
34	b	2049	G	C1'-C2'-O2'	5.62	116.83	108.40
34	b	1037	G	C5'-C4'-O4'	5.62	117.53	109.10
12	L	101	LEU	CB-CA-C	-5.62	110.11	116.63
34	b	2183	A	O4'-C1'-C2'	-5.61	101.99	107.60
41	h	42	LYS	N-CA-C	-5.61	100.47	109.39
34	b	2107	G	O4'-C1'-C2'	-5.60	102.00	107.60
34	b	2822	G	N9-C1'-C2'	5.60	120.41	112.00
34	b	2781	A	N9-C1'-C2'	5.60	120.40	112.00
35	c	156	ARG	NE-CZ-NH2	-5.60	114.16	119.20
34	b	2443	C	N1-C1'-C2'	5.60	120.39	112.00
34	b	1204	A	C4'-C3'-O3'	-5.59	101.01	109.40
34	b	2309	A	O4'-C1'-C2'	-5.59	102.01	107.60
34	b	1028	A	N9-C1'-C2'	5.58	120.38	112.00
34	b	1512	C	N1-C1'-C2'	5.58	120.38	112.00
34	b	198	C	C1'-C2'-O2'	5.58	116.77	108.40
34	b	2025	C	C4'-C3'-O3'	-5.58	104.63	113.00
34	b	2330	G	O4'-C1'-C2'	-5.58	102.02	107.60
34	b	2025	C	N1-C1'-C2'	5.58	120.37	112.00
34	b	2645	G	N9-C1'-C2'	-5.57	103.64	112.00
34	b	395	U	N1-C1'-C2'	-5.57	103.64	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	786	C	N1-C1'-C2'	5.57	120.35	112.00
34	b	995	C	C4'-C3'-O3'	-5.57	101.05	109.40
34	b	805	G	N9-C1'-C2'	5.56	122.34	114.00
23	W	18	G	C4'-C3'-O3'	5.55	117.73	109.40
34	b	1103	A	C4'-C3'-O3'	5.55	121.33	113.00
34	b	1458	U	N1-C1'-C2'	5.55	122.33	114.00
34	b	783	A	C2'-C3'-O3'	5.55	122.03	113.70
34	b	1396	U	C5'-C4'-O4'	5.55	117.43	109.10
34	b	2287	A	C3'-C2'-O2'	5.55	122.92	114.60
34	b	2386	A	N9-C1'-C2'	5.55	120.33	112.00
34	b	1388	G	C2'-C3'-O3'	5.55	122.02	113.70
34	b	2541	A	C4'-C3'-O3'	-5.54	104.69	113.00
34	b	94	A	N9-C1'-C2'	5.54	120.31	112.00
34	b	2358	A	N9-C1'-C2'	5.54	120.31	112.00
34	b	2756	U	C2'-C3'-O3'	-5.54	101.19	109.50
23	W	36	C	OP1-P-O3'	-5.54	91.39	108.00
34	b	2152	G	O4'-C1'-C2'	-5.53	102.07	107.60
34	b	368	A	C2'-C3'-O3'	5.53	117.79	109.50
34	b	1121	C	O4'-C1'-C2'	-5.53	102.07	107.60
34	b	783	A	O4'-C4'-C3'	-5.52	98.48	104.00
34	b	972	A	C4'-C3'-O3'	-5.52	104.72	113.00
34	b	2481	G	O4'-C1'-C2'	-5.52	102.08	107.60
34	b	2576	G	N9-C1'-C2'	5.52	120.27	112.00
34	b	2188	U	N1-C1'-C2'	5.51	120.27	112.00
34	b	2796	U	N1-C1'-C2'	5.50	120.25	112.00
33	a	39	A	N9-C1'-C2'	5.50	120.25	112.00
34	b	157	C	N1-C1'-C2'	5.50	120.25	112.00
34	b	1693	U	N1-C1'-C2'	5.50	122.25	114.00
34	b	2333	A	N9-C1'-C2'	-5.50	105.75	114.00
34	b	1392	A	C1'-O4'-C4'	-5.50	104.20	109.70
34	b	759	G	C4'-C3'-O3'	-5.49	104.76	113.00
34	b	509	C	C2'-C3'-O3'	-5.49	105.47	113.70
34	b	2430	A	C4'-C3'-O3'	-5.49	104.76	113.00
34	b	1131	G	C2'-C3'-O3'	5.49	117.73	109.50
34	b	249	C	N1-C1'-C2'	-5.49	105.77	114.00
34	b	1054	A	C2'-C3'-O3'	-5.49	105.47	113.70
34	b	2001	C	N1-C1'-C2'	5.49	120.23	112.00
34	b	159	G	C2'-C3'-O3'	5.48	117.72	109.50
34	b	450	G	N9-C1'-C2'	-5.48	103.78	112.00
34	b	683	U	C2'-C3'-O3'	-5.48	105.48	113.70
34	b	2113	U	C4'-C3'-O3'	-5.48	104.78	113.00
34	b	2872	A	C4'-C3'-O3'	5.47	117.61	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1392	A	O4'-C4'-C3'	-5.47	100.63	106.10
34	b	1775	U	C1'-C2'-O2'	5.47	116.60	108.40
34	b	1794	A	C4'-C3'-O3'	-5.47	104.80	113.00
34	b	1772	A	C2'-C3'-O3'	5.47	121.90	113.70
34	b	2129	C	N1-C1'-C2'	5.46	122.20	114.00
34	b	2754	U	C1'-C2'-O2'	5.46	116.59	108.40
34	b	555	G	C2'-C3'-O3'	-5.46	105.51	113.70
23	W	49	G	C2'-C3'-O3'	5.46	121.89	113.70
34	b	2750	A	O4'-C4'-C3'	-5.46	100.64	106.10
34	b	2010	G	C1'-C2'-O2'	5.46	116.58	108.40
34	b	1208	C	N1-C1'-C2'	5.45	120.18	112.00
34	b	1773	A	N9-C1'-C2'	-5.45	103.83	112.00
34	b	797	G	C3'-C2'-O2'	5.45	118.87	110.70
34	b	447	A	N9-C1'-C2'	-5.44	105.84	114.00
34	b	2453	A	C1'-C2'-O2'	5.44	116.56	108.40
34	b	2874	C	O4'-C1'-C2'	-5.44	102.16	107.60
34	b	1394	U	C1'-C2'-O2'	5.44	116.55	108.40
34	b	112	U	N1-C1'-C2'	5.43	120.15	112.00
34	b	1779	U	C1'-C2'-O2'	5.43	116.55	108.40
34	b	948	C	O4'-C1'-C2'	-5.43	102.17	107.60
33	a	42	C	C1'-C2'-O2'	-5.43	100.26	108.40
34	b	478	A	N9-C1'-C2'	5.42	120.14	112.00
34	b	1777	U	C2'-C3'-O3'	-5.42	105.57	113.70
34	b	31	C	C1'-C2'-O2'	5.42	116.53	108.40
22	V	25	C	O4'-C1'-C2'	-5.42	102.19	107.60
33	a	33	G	C3'-C2'-O2'	5.41	122.71	114.60
34	b	1829	A	N9-C1'-C2'	-5.41	103.89	112.00
34	b	2518	A	O4'-C4'-C3'	-5.41	100.69	106.10
34	b	1101	U	O4'-C1'-C2'	-5.40	102.20	107.60
34	b	388	G	C1'-O4'-C4'	-5.40	104.50	109.90
34	b	2496	C	C3'-C2'-O2'	5.39	118.79	110.70
34	b	1032	A	C1'-C2'-O2'	5.39	116.48	108.40
34	b	724	U	N1-C1'-C2'	5.38	120.07	112.00
34	b	1315	C	C1'-C2'-O2'	5.38	116.47	108.40
34	b	1253	A	N9-C1'-C2'	5.38	122.06	114.00
34	b	1943	U	C4'-C3'-O3'	-5.38	101.33	109.40
34	b	770	G	C1'-C2'-O2'	5.37	116.46	108.40
34	b	1283	G	C1'-C2'-O2'	5.37	116.45	108.40
34	b	119	A	O4'-C4'-C3'	-5.37	100.73	106.10
34	b	207	A	N9-C1'-C2'	5.36	120.05	112.00
34	b	1824	G	C1'-C2'-O2'	5.36	116.45	108.40
34	b	160	A	C1'-C2'-O2'	-5.36	103.76	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1809	A	N9-C1'-C2'	5.36	120.04	112.00
34	b	2425	A	N9-C1'-C2'	5.36	122.04	114.00
34	b	2160	C	O5'-C5'-C4'	-5.36	103.46	111.50
34	b	2161	C	O4'-C1'-C2'	-5.36	102.24	107.60
34	b	1969	A	N9-C1'-C2'	5.36	120.03	112.00
34	b	2026	U	N1-C1'-C2'	5.36	120.03	112.00
34	b	759	G	C2'-C3'-O3'	5.35	121.73	113.70
34	b	1913	A	C2'-C3'-O3'	5.35	121.73	113.70
34	b	2543	G	O4'-C1'-C2'	-5.35	102.25	107.60
34	b	72	U	N1-C1'-C2'	5.35	122.02	114.00
34	b	577	G	C4'-C3'-O3'	-5.35	104.98	113.00
34	b	2273	A	C1'-C2'-O2'	-5.35	100.37	108.40
34	b	827	U	C4'-C3'-O3'	5.35	117.42	109.40
34	b	2330	G	C1'-C2'-O2'	5.35	116.42	108.40
34	b	2867	G	C3'-C2'-O2'	5.34	122.61	114.60
34	b	1069	A	O4'-C4'-C3'	-5.34	98.66	104.00
34	b	2823	A	N9-C1'-C2'	5.34	120.00	112.00
34	b	736	C	O4'-C1'-C2'	-5.33	102.27	107.60
34	b	2765	A	C2'-C3'-O3'	-5.33	105.70	113.70
34	b	2322	A	C1'-C2'-O2'	5.32	116.39	108.40
34	b	250	G	N9-C1'-C2'	5.32	121.98	114.00
34	b	675	A	C3'-C2'-O2'	5.32	118.68	110.70
34	b	2613	U	C4'-C3'-O3'	5.32	117.38	109.40
34	b	631	A	C2'-C3'-O3'	-5.32	105.73	113.70
34	b	1274	A	N9-C1'-C2'	5.31	119.97	112.00
34	b	2175	C	C4'-C3'-C2'	-5.31	97.29	102.60
34	b	507	A	C2'-C3'-O3'	-5.30	105.74	113.70
34	b	1927	A	C1'-C2'-O2'	-5.30	103.84	111.80
34	b	595	C	C1'-C2'-O2'	5.30	116.35	108.40
34	b	1070	A	P-O5'-C5'	5.30	128.85	120.90
34	b	1758	U	N1-C1'-C2'	5.30	121.95	114.00
34	b	1156	A	C2'-C3'-O3'	5.30	117.45	109.50
34	b	1602	U	N1-C1'-C2'	-5.30	106.05	114.00
34	b	1261	C	C3'-C2'-O2'	5.30	118.65	110.70
34	b	215	G	N9-C1'-C2'	5.29	121.94	114.00
34	b	1195	G	C1'-C2'-O2'	5.29	116.34	108.40
34	b	1775	U	O4'-C1'-C2'	-5.29	102.31	107.60
34	b	1801	A	N9-C1'-C2'	5.29	121.94	114.00
33	a	106	G	N9-C1'-C2'	5.29	119.94	112.00
34	b	1645	G	C2'-C3'-O3'	-5.29	105.76	113.70
49	q	51	ARG	CB-CA-C	5.29	120.38	110.70
34	b	1133	A	O4'-C1'-C2'	-5.29	102.31	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	a	6	G	C4'-C3'-O3'	-5.28	105.08	113.00
34	b	1249	U	N1-C1'-C2'	5.28	119.92	112.00
34	b	704	G	O4'-C1'-C2'	-5.28	102.32	107.60
34	b	1218	G	O4'-C1'-C2'	-5.28	102.32	107.60
34	b	2567	G	N9-C1'-C2'	5.28	119.92	112.00
34	b	280	U	N1-C1'-C2'	5.28	119.92	112.00
34	b	2465	C	O4'-C1'-C2'	-5.28	102.33	107.60
34	b	247	G	C4'-C3'-O3'	-5.27	105.09	113.00
34	b	973	A	C2'-C3'-O3'	5.27	117.41	109.50
34	b	2732	G	O4'-C1'-C2'	-5.27	100.53	105.80
34	b	2024	G	C1'-C2'-O2'	5.27	116.30	108.40
34	b	2391	G	O4'-C1'-C2'	-5.27	102.33	107.60
34	b	1786	A	C4'-C3'-O3'	-5.27	101.50	109.40
36	i	72	THR	CA-C-N	5.26	125.80	120.38
36	i	72	THR	C-N-CA	5.26	125.80	120.38
34	b	2178	C	O4'-C1'-C2'	-5.25	102.35	107.60
34	b	1349	C	N1-C1'-C2'	5.24	119.86	112.00
7	G	55	LYS	CB-CA-C	-5.24	109.55	115.79
34	b	2169	A	C2'-C3'-O3'	-5.24	105.84	113.70
34	b	896	A	O4'-C4'-C3'	-5.24	98.76	104.00
34	b	1454	C	C1'-C2'-O2'	5.24	116.26	108.40
5	E	41	GLY	N-CA-C	-5.24	108.09	115.32
34	b	2347	C	C2'-C3'-O3'	-5.24	105.85	113.70
34	b	91	A	N9-C1'-C2'	5.23	121.85	114.00
34	b	524	G	C1'-C2'-O2'	5.23	116.25	108.40
34	b	1521	G	N9-C1'-C2'	5.23	119.85	112.00
34	b	2439	A	N9-C1'-C2'	-5.23	104.15	112.00
23	W	20	U	C4'-C3'-O3'	5.22	117.24	109.40
34	b	33	C	N1-C1'-C2'	-5.22	106.16	114.00
34	b	2822	G	C4'-C3'-O3'	-5.22	105.16	113.00
4	D	152	SER	N-CA-C	-5.22	106.75	113.23
34	b	210	C	O4'-C1'-C2'	-5.22	102.38	107.60
34	b	1377	G	C4'-C3'-O3'	-5.22	105.17	113.00
34	b	1094	U	O4'-C1'-C2'	-5.22	102.38	107.60
34	b	84	A	C4'-C3'-O3'	5.22	117.23	109.40
34	b	2066	C	C2'-C3'-O3'	-5.21	105.88	113.70
47	o	18	LEU	CB-CA-C	5.21	120.68	110.67
34	b	1058	U	C1'-O4'-C4'	-5.21	104.69	109.90
34	b	250	G	O4'-C4'-C3'	-5.21	100.89	106.10
34	b	674	G	C1'-C2'-O2'	5.21	116.21	108.40
34	b	197	A	C3'-C2'-O2'	5.21	118.51	110.70
34	b	1779	U	C1'-O4'-C4'	-5.20	104.70	109.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	2282	G	O4'-C1'-C2'	-5.20	100.60	105.80
34	b	1786	A	C2'-C3'-O3'	-5.20	101.70	109.50
56	z	12	LEU	N-CA-C	-5.20	102.69	110.23
34	b	1228	G	C1'-C2'-O2'	5.20	116.19	108.40
34	b	631	A	N9-C1'-C2'	5.19	119.78	112.00
34	b	2534	A	O4'-C1'-C2'	-5.19	102.41	107.60
34	b	1546	G	C1'-C2'-O2'	5.18	116.17	108.40
34	b	2894	G	C4'-C3'-O3'	5.18	120.77	113.00
34	b	1248	G	C4'-C3'-O3'	5.17	117.16	109.40
34	b	2256	G	C2'-C3'-O3'	-5.17	105.94	113.70
34	b	2903	U	C4'-C3'-O3'	-5.17	105.24	113.00
34	b	810	U	C3'-C2'-O2'	5.17	118.45	110.70
34	b	1256	G	O4'-C1'-C2'	-5.17	102.43	107.60
34	b	2797	U	C4'-C3'-O3'	-5.17	105.25	113.00
34	b	1157	G	O4'-C1'-C2'	-5.17	102.43	107.60
34	b	1450	G	O4'-C1'-C2'	-5.17	102.43	107.60
34	b	2260	C	C3'-C2'-O2'	5.16	118.45	110.70
35	c	217	ARG	CA-C-N	5.16	125.17	119.90
35	c	217	ARG	C-N-CA	5.16	125.17	119.90
34	b	1929	G	N9-C1'-C2'	-5.16	104.26	112.00
34	b	246	C	C1'-C2'-O2'	-5.16	100.66	108.40
34	b	2644	G	C1'-C2'-O2'	5.16	116.14	108.40
34	b	2658	C	C4'-C3'-O3'	-5.15	105.27	113.00
34	b	2731	G	C4'-C3'-O3'	-5.15	105.27	113.00
34	b	1314	C	O4'-C1'-C2'	-5.15	102.45	107.60
34	b	2406	A	C3'-C2'-O2'	5.15	118.42	110.70
34	b	2033	A	C4'-C3'-O3'	5.15	117.12	109.40
34	b	764	A	C4'-C3'-O3'	5.15	117.12	109.40
34	b	2596	U	N1-C1'-C2'	5.15	119.72	112.00
34	b	58	G	N9-C1'-C2'	5.14	119.72	112.00
34	b	126	A	N9-C1'-C2'	5.14	121.72	114.00
34	b	1720	U	C1'-C2'-O2'	5.14	116.11	108.40
34	b	2848	G	C1'-C2'-O2'	5.14	116.11	108.40
4	D	125	ASN	CB-CA-C	-5.13	110.64	116.54
34	b	1076	C	N1-C1'-C2'	5.13	119.70	112.00
34	b	1382	G	N9-C1'-C2'	5.13	119.70	112.00
34	b	1616	A	C5'-C4'-O4'	5.13	116.80	109.10
34	b	1787	A	C1'-C2'-O2'	5.13	116.10	108.40
34	b	1544	A	N9-C1'-C2'	5.13	119.69	112.00
34	b	471	A	C4'-C3'-O3'	-5.12	105.31	113.00
34	b	397	U	C3'-C2'-O2'	5.12	118.39	110.70
34	b	1765	U	C1'-C2'-O2'	5.12	116.08	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	b	1419	A	C4'-C3'-O3'	-5.12	105.32	113.00
34	b	2346	A	C4'-C3'-O3'	-5.12	101.72	109.40
34	b	457	A	N9-C1'-C2'	5.12	121.68	114.00
34	b	2161	C	C3'-C2'-O2'	5.12	118.38	110.70
34	b	503	A	C5'-C4'-O4'	5.12	116.77	109.10
34	b	1330	C	N1-C1'-C2'	5.12	119.67	112.00
34	b	728	G	C4'-C3'-O3'	5.11	117.07	109.40
34	b	1834	U	N1-C1'-C2'	5.11	119.67	112.00
34	b	2487	G	N9-C1'-C2'	5.11	119.67	112.00
34	b	418	C	N1-C1'-C2'	5.11	119.66	112.00
34	b	330	A	C4'-C3'-O3'	5.11	117.06	109.40
34	b	2449	U	C1'-C2'-O2'	5.11	116.06	108.40
34	b	2755	C	O4'-C1'-C2'	-5.11	102.49	107.60
4	D	169	TRP	N-CA-C	-5.10	106.64	112.92
22	V	34	A	C4'-C3'-O3'	-5.10	105.34	113.00
34	b	945	A	C4'-C3'-O3'	5.10	117.05	109.40
34	b	582	A	C1'-C2'-O2'	5.10	116.05	108.40
34	b	935	C	O4'-C1'-C2'	-5.10	102.50	107.60
34	b	481	G	C3'-C2'-O2'	5.09	118.34	110.70
34	b	2613	U	C2'-C3'-O3'	-5.09	101.86	109.50
34	b	488	G	C1'-C2'-O2'	5.09	116.04	108.40
34	b	2589	A	N9-C1'-C2'	-5.09	104.36	112.00
34	b	974	G	O4'-C1'-C2'	-5.09	100.71	105.80
34	b	448	U	C4'-C3'-O3'	5.09	117.03	109.40
34	b	834	G	C1'-C2'-O2'	5.09	116.03	108.40
34	b	1675	C	N1-C1'-C2'	5.08	119.62	112.00
34	b	2447	G	C4'-C3'-O3'	-5.08	101.78	109.40
34	b	456	C	N1-C1'-C2'	5.08	121.62	114.00
34	b	674	G	O4'-C1'-C2'	-5.08	102.52	107.60
34	b	1340	U	C2'-C3'-O3'	5.08	117.12	109.50
34	b	805	G	C2'-C3'-O3'	5.08	117.12	109.50
34	b	2388	A	C4'-C3'-O3'	-5.08	105.38	113.00
34	b	513	A	C4'-C3'-O3'	-5.08	105.39	113.00
12	L	99	GLY	N-CA-C	-5.07	108.65	114.69
34	b	683	U	N1-C1'-C2'	5.07	119.61	112.00
34	b	1777	U	C3'-C2'-O2'	5.07	118.30	110.70
34	b	2330	G	C4'-C3'-C2'	-5.07	97.53	102.60
34	b	387	U	O4'-C4'-C3'	-5.07	101.03	106.10
34	b	2065	C	O3'-P-O5'	-5.06	96.41	104.00
34	b	2617	U	O4'-C1'-C2'	-5.06	102.54	107.60
34	b	1803	A	N9-C1'-C2'	5.06	119.59	112.00
34	b	2518	A	N9-C1'-C2'	5.06	121.59	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	P	14	ARG	CA-C-N	5.05	126.16	119.84
16	P	14	ARG	C-N-CA	5.05	126.16	119.84
34	b	97	C	N1-C1'-C2'	5.05	119.58	112.00
21	U	25	ALA	N-CA-C	-5.05	105.68	111.14
34	b	2533	U	C1'-C2'-O2'	5.05	115.97	108.40
34	b	603	A	N9-C1'-C2'	5.04	121.57	114.00
34	b	209	C	C4'-C3'-O3'	-5.04	105.43	113.00
34	b	1774	C	C4'-C3'-O3'	-5.04	105.44	113.00
56	z	20	SER	N-CA-C	5.04	118.97	108.53
34	b	1097	U	P-O5'-C5'	5.04	128.46	120.90
11	K	22	ILE	N-CA-C	5.04	115.22	108.17
34	b	1403	A	C3'-C2'-O2'	5.04	118.26	110.70
34	b	952	G	C1'-C2'-O2'	5.04	115.96	108.40
34	b	1774	C	N1-C1'-C2'	-5.04	104.44	112.00
34	b	2329	U	C1'-C2'-O2'	5.04	115.95	108.40
34	b	2359	C	N1-C1'-C2'	5.03	119.55	112.00
34	b	2726	A	C4'-C3'-O3'	5.03	116.95	109.40
34	b	1186	G	C1'-C2'-O2'	5.03	115.94	108.40
34	b	2499	C	C2'-C3'-O3'	-5.03	106.15	113.70
34	b	1658	C	C4'-C3'-O3'	-5.03	105.46	113.00
34	b	2133	G	N9-C1'-C2'	5.03	121.54	114.00
44	l	35	HIS	N-CA-C	5.02	116.60	108.41
34	b	2255	G	C2'-C3'-O3'	-5.02	106.17	113.70
34	b	2497	A	N9-C1'-C2'	-5.02	106.47	114.00
34	b	2665	A	C1'-C2'-O2'	5.02	115.93	108.40
34	b	422	A	N9-C1'-C2'	5.02	119.53	112.00
34	b	2889	C	N1-C1'-C2'	5.02	119.53	112.00
34	b	1266	G	C3'-C2'-O2'	5.02	118.23	110.70
34	b	2038	G	C4'-C3'-O3'	-5.02	105.47	113.00
34	b	243	U	O4'-C1'-C2'	-5.01	102.59	107.60
34	b	1224	U	C1'-C2'-O2'	-5.01	104.28	111.80
34	b	1416	G	C4'-C3'-O3'	5.01	116.91	109.40
34	b	1618	A	N9-C1'-C2'	5.01	121.51	114.00
34	b	2175	C	O4'-C4'-C3'	-5.01	98.99	104.00
34	b	1499	C	N1-C1'-C2'	-5.00	104.49	112.00
34	b	2661	G	N9-C1'-C2'	5.00	119.50	112.00
34	b	2750	A	C2'-C3'-O3'	5.00	117.00	109.50
34	b	2625	G	N9-C1'-C2'	5.00	119.50	112.00

There are no chirality outliers.

All (71) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
27	2	3	LYS	Peptide
9	I	124	PRO	Peptide
34	b	1057	A	Sidechain
34	b	1059	G	Sidechain
34	b	1079	C	Sidechain
34	b	1080	A	Sidechain
34	b	1096	A	Sidechain
34	b	1097	U	Sidechain
34	b	119	A	Sidechain
34	b	1204	A	Sidechain
34	b	1225	G	Sidechain
34	b	1238	G	Sidechain
34	b	1253	A	Sidechain
34	b	1266	G	Sidechain
34	b	1272	A	Sidechain
34	b	1275	A	Sidechain
34	b	1300	G	Sidechain
34	b	1349	C	Sidechain
34	b	1382	G	Sidechain
34	b	1392	A	Sidechain
34	b	1667	G	Sidechain
34	b	1693	U	Sidechain
34	b	1698	A	Sidechain
34	b	1759	A	Sidechain
34	b	1773	A	Sidechain
34	b	1774	C	Sidechain
34	b	1775	U	Sidechain
34	b	1829	A	Sidechain
34	b	1943	U	Sidechain
34	b	195	A	Sidechain
34	b	1967	C	Sidechain
34	b	2032	G	Sidechain
34	b	2092	U	Sidechain
34	b	2123	G	Sidechain
34	b	2266	A	Sidechain
34	b	2330	G	Sidechain
34	b	241	A	Sidechain
34	b	242	G	Sidechain
34	b	2449	U	Sidechain
34	b	2453	A	Sidechain
34	b	2454	G	Sidechain
34	b	246	C	Sidechain
34	b	25	U	Sidechain

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Mol	Chain	Res	Type	Group
34	b	250	G	Sidechain
34	b	2518	A	Sidechain
34	b	2564	A	Sidechain
34	b	2589	A	Sidechain
34	b	2590	A	Sidechain
34	b	2597	G	Sidechain
34	b	372	G	Sidechain
34	b	388	G	Sidechain
34	b	446	G	Sidechain
34	b	450	G	Sidechain
34	b	464	U	Sidechain
34	b	500	G	Sidechain
34	b	603	A	Sidechain
34	b	674	G	Sidechain
34	b	779	U	Sidechain
34	b	782	A	Sidechain
34	b	783	A	Sidechain
34	b	801	G	Sidechain
34	b	805	G	Sidechain
34	b	959	A	Sidechain
34	b	973	A	Sidechain
34	b	979	A	Sidechain
34	b	986	C	Sidechain
35	c	232	HIS	Peptide
37	d	151	THR	Peptide
43	k	34	GLY	Peptide
44	l	102	GLY	Peptide
50	r	50	GLY	Peptide

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	A	32831	0	16518	811	0
2	B	1704	0	1732	56	0
3	C	1624	0	1699	64	0
4	D	1643	0	1710	92	0
5	E	1105	0	1148	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	F	817	0	808	29	0
7	G	1174	0	1230	40	0
8	H	979	0	1034	36	0
9	I	1022	0	1070	118	0
10	J	786	0	828	45	0
11	K	877	0	887	54	0
12	L	955	0	1019	30	0
13	M	876	0	936	63	0
14	N	774	0	827	41	0
15	O	716	0	742	36	0
16	P	649	0	664	123	0
17	Q	648	0	691	23	0
18	R	455	0	478	13	0
19	S	637	0	665	33	0
20	T	665	0	714	22	0
21	U	425	0	449	59	0
22	V	1620	0	817	150	0
23	W	1599	0	813	31	0
24	X	231	0	120	32	0
25	0	625	0	652	6	0
26	1	501	0	531	3	0
27	2	449	0	488	14	0
28	3	444	0	458	26	0
29	4	409	0	440	2	0
30	6	377	0	418	9	0
31	7	504	0	572	5	0
32	8	302	0	343	7	0
33	a	2506	0	1270	167	0
34	b	62321	0	31311	5000	0
35	c	2082	0	2154	61	0
36	i	976	0	1008	590	0
37	d	1565	0	1616	29	0
38	e	1552	0	1619	48	0
39	f	1410	0	1444	50	0
40	g	1323	0	1371	21	0
41	h	1111	0	1148	102	0
42	j	1129	0	1162	37	0
43	k	938	0	1012	27	0
44	l	1053	0	1129	34	0
45	m	1063	0	1143	27	0
46	n	960	0	1000	31	0
47	o	892	0	923	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	p	917	0	961	9	0
49	q	947	0	1019	17	0
50	r	816	0	839	11	0
51	s	857	0	922	33	0
52	t	738	0	807	14	0
53	u	779	0	831	50	0
54	w	753	0	780	15	0
55	y	569	0	581	6	0
56	z	211	0	206	95	0
57	b	20	0	11	22	0
All	All	145911	0	97768	7516	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 31.

All (7516) 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)
34:b:1080:A:C6	36:i:109:ALA:CB	1.74	1.68
34:b:1063:G:C5	36:i:135:MET:CE	1.74	1.63
57:b:9000:CLM:CL2	56:z:28:GLY:HA3	1.33	1.63
34:b:1071:G:C6	34:b:1089:A:C8	1.82	1.61
34:b:1071:G:C2	34:b:1089:A:H3'	1.21	1.61
34:b:1079:C:H2'	36:i:129:GLU:CG	1.15	1.60
34:b:1059:G:H1	36:i:125:THR:CA	1.11	1.60
34:b:1068:G:H5"	36:i:12:VAL:CG1	1.19	1.58
34:b:1081:U:C3'	36:i:122:GLU:HB2	1.33	1.56
34:b:1067:A:H2	36:i:19:PRO:CB	1.02	1.56
34:b:1081:U:H3'	36:i:122:GLU:CB	1.07	1.55
34:b:1071:G:N2	34:b:1089:A:C3'	1.70	1.55
34:b:1080:A:C2'	36:i:106:GLN:HG3	1.17	1.55
34:b:1068:G:C5'	36:i:12:VAL:HG12	1.06	1.53
34:b:1104:C:C4	34:b:1105:U:H1'	1.40	1.51
34:b:1071:G:C2	34:b:1089:A:C3'	1.94	1.51
41:h:43:ASN:CG	41:h:46:PHE:CE2	1.89	1.49
34:b:1071:G:C6	34:b:1089:A:H8	1.21	1.49
34:b:1075:C:C6	36:i:92:PRO:HG3	1.30	1.49
41:h:43:ASN:CG	41:h:46:PHE:CD2	1.89	1.49
34:b:1081:U:H3'	36:i:122:GLU:CA	1.41	1.48
34:b:1067:A:C2	36:i:19:PRO:HB2	0.95	1.48
34:b:1063:G:C8	36:i:76:ALA:O	1.66	1.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:450:G:H21	16:P:13:LYS:NZ	1.05	1.47
34:b:1079:C:C2'	36:i:129:GLU:HG2	1.43	1.46
34:b:1079:C:N4	36:i:109:ALA:CB	1.78	1.46
34:b:1063:G:C5	36:i:135:MET:HE2	0.94	1.44
21:U:27:VAL:O	21:U:31:VAL:CG1	1.65	1.43
41:h:43:ASN:ND2	41:h:46:PHE:CD2	1.83	1.42
41:h:66:ASN:O	41:h:149:GLU:CG	1.64	1.42
15:O:56:LEU:CD2	34:b:715:A:H62	1.30	1.42
1:A:392:C:C5'	16:P:12:LYS:HD2	1.47	1.41
34:b:1079:C:C2'	36:i:129:GLU:CG	1.93	1.41
34:b:1063:G:C4	36:i:135:MET:HE2	1.53	1.41
34:b:1080:A:H1'	36:i:106:GLN:CA	1.46	1.41
34:b:1081:U:C3'	36:i:122:GLU:CB	1.89	1.40
1:A:375:U:H5'	16:P:6:LEU:CD2	1.50	1.39
34:b:1080:A:N1	36:i:109:ALA:CB	1.78	1.39
34:b:1063:G:C6	36:i:135:MET:CE	2.06	1.38
15:O:56:LEU:HD21	34:b:715:A:N6	1.14	1.38
34:b:1082:U:C5	36:i:123:ALA:HB2	1.57	1.37
34:b:1080:A:C1'	36:i:106:GLN:HA	1.54	1.37
34:b:1062:G:N2	36:i:137:LEU:CD1	1.88	1.36
34:b:1080:A:C6	36:i:109:ALA:HB3	1.37	1.36
34:b:1080:A:O2'	36:i:106:GLN:CG	1.74	1.36
9:I:112:ARG:NH2	9:I:114:LYS:HD2	1.39	1.36
34:b:1080:A:O2'	36:i:106:GLN:CD	1.66	1.36
15:O:56:LEU:CD2	34:b:715:A:N6	1.82	1.35
34:b:1063:G:C6	36:i:135:MET:HE3	1.58	1.35
34:b:1076:C:C2	36:i:137:LEU:HG	1.62	1.34
34:b:1068:G:O5'	36:i:12:VAL:HB	1.23	1.34
34:b:1071:G:C5	34:b:1089:A:C8	2.16	1.34
57:b:9000:CLM:C1	56:z:27:ALA:HB1	1.53	1.34
34:b:1063:G:N1	36:i:135:MET:CB	1.90	1.34
34:b:1081:U:C3'	36:i:122:GLU:CA	2.03	1.34
1:A:1408:A:O2'	34:b:1912:A:N1	1.58	1.33
1:A:774:G:OP1	35:c:201:MET:CE	1.74	1.33
1:A:450:G:N2	16:P:13:LYS:NZ	1.72	1.33
34:b:1081:U:C5'	36:i:122:GLU:OE1	1.77	1.32
21:U:27:VAL:O	21:U:31:VAL:HG11	1.15	1.32
34:b:1476:U:C4'	34:b:1732:C:O2	1.77	1.32
34:b:1207:C:O2	34:b:1208:C:C6	1.81	1.32
34:b:847:U:N3	34:b:933:A:N6	1.78	1.31
34:b:1079:C:O2'	36:i:125:THR:HG22	1.23	1.31

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1080:A:N1	36:i:109:ALA:HB1	1.34	1.31
34:b:1062:G:N1	36:i:137:LEU:HD11	1.46	1.30
34:b:1068:G:C5'	36:i:12:VAL:CG1	1.83	1.30
34:b:1081:U:C3'	36:i:122:GLU:N	1.89	1.30
34:b:1081:U:O2'	36:i:121:ILE:CB	1.79	1.30
13:M:70:ARG:CG	39:f:144:ASP:OD1	1.79	1.29
34:b:1071:G:O6	34:b:1089:A:H8	0.96	1.29
34:b:1080:A:C2'	36:i:106:GLN:CG	2.07	1.29
1:A:1348:U:OP2	9:I:111:GLU:HG2	1.21	1.29
34:b:1064:C:C5'	36:i:87:SER:C	1.87	1.29
34:b:1080:A:H1'	36:i:106:GLN:CB	1.60	1.29
34:b:234:U:O4	34:b:430:A:N1	1.65	1.28
34:b:1062:G:C2	36:i:137:LEU:HD11	1.67	1.28
9:I:112:ARG:NH1	9:I:114:LYS:HG2	1.47	1.28
13:M:70:ARG:HG2	39:f:144:ASP:OD1	1.24	1.28
34:b:1059:G:N1	36:i:125:THR:HA	0.97	1.28
34:b:1076:C:OP2	36:i:93:ASN:CA	1.65	1.28
34:b:1076:C:H3'	36:i:136:GLY:O	1.29	1.27
34:b:1081:U:C4	36:i:124:MET:N	1.98	1.27
34:b:1081:U:C5'	36:i:122:GLU:CD	2.08	1.27
57:b:9000:CLM:CL2	56:z:28:GLY:CA	2.19	1.27
34:b:1063:G:N1	36:i:135:MET:HB3	1.42	1.27
34:b:1080:A:C8	36:i:106:GLN:O	1.88	1.27
34:b:1064:C:C4'	36:i:85:ILE:HB	1.65	1.27
41:h:43:ASN:ND2	41:h:46:PHE:CE2	1.97	1.26
34:b:1081:U:H5'	36:i:122:GLU:CD	1.58	1.26
1:A:392:C:O5'	16:P:12:LYS:HD2	1.31	1.26
1:A:1348:U:P	9:I:111:GLU:HG2	1.74	1.26
34:b:1076:C:C3'	36:i:98:GLY:H	1.38	1.25
34:b:1063:G:C2	36:i:135:MET:HG3	1.71	1.25
34:b:1064:C:H4'	36:i:85:ILE:CB	1.65	1.25
46:n:114:GLU:OE2	46:n:118:ARG:NH2	1.70	1.25
34:b:1097:U:O4	36:i:9:LYS:HD2	1.13	1.25
1:A:1338:G:C8	23:W:41:C:O2'	1.90	1.25
1:A:1348:U:O5'	9:I:111:GLU:CD	1.78	1.25
9:I:112:ARG:NH1	9:I:114:LYS:CG	1.99	1.25
34:b:1062:G:C2	36:i:137:LEU:CD1	2.19	1.25
34:b:1067:A:C2	36:i:19:PRO:CB	1.85	1.25
34:b:1068:G:O5'	36:i:12:VAL:CB	1.84	1.25
34:b:1076:C:OP1	36:i:95:ASP:O	1.53	1.25
34:b:1064:C:O2	36:i:90:GLY:N	1.67	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1064:C:OP1	36:i:86:LYS:HA	1.33	1.24
34:b:1021:A:N6	34:b:1141:U:N3	1.83	1.24
34:b:2287:A:N1	34:b:2344:U:O4	1.71	1.24
1:A:722:G:OP2	21:U:44:ARG:NH1	1.68	1.23
34:b:1061:U:O4	36:i:55:PRO:HD2	1.36	1.23
34:b:1078:U:P	36:i:99:LYS:HA	1.79	1.23
34:b:1064:C:H5'	36:i:87:SER:O	1.30	1.22
34:b:1867:G:C5	34:b:1868:C:C5	2.26	1.22
34:b:1170:C:H5'	34:b:1171:G:OP2	1.36	1.22
34:b:1080:A:C5	36:i:109:ALA:HB3	1.73	1.21
34:b:1206:G:C2	34:b:1207:C:C5	2.27	1.21
34:b:2593:U:N3	34:b:2600:A:N1	1.86	1.21
34:b:1080:A:C1'	36:i:106:GLN:HG3	1.71	1.21
34:b:1156:A:N7	49:q:51:ARG:HD3	1.55	1.21
34:b:1064:C:C1'	36:i:88:GLY:O	1.87	1.20
28:3:29:SER:OG	28:3:40:ARG:HD2	1.37	1.20
34:b:1075:C:H6	36:i:92:PRO:CG	1.54	1.20
34:b:1079:C:O2'	36:i:125:THR:CG2	1.89	1.20
9:I:112:ARG:HH12	9:I:114:LYS:CG	1.54	1.20
34:b:2129:C:N3	34:b:2160:C:O2	1.74	1.20
34:b:1078:U:OP2	36:i:99:LYS:HB3	1.40	1.19
40:g:33:LEU:HD22	40:g:137:ASP:OD1	1.39	1.19
21:U:27:VAL:C	21:U:31:VAL:HG11	1.66	1.19
34:b:1081:U:C5	36:i:124:MET:N	2.04	1.19
1:A:450:G:N2	16:P:13:LYS:HZ2	1.35	1.19
34:b:1062:G:H22	36:i:137:LEU:CD1	1.47	1.18
34:b:1063:G:H8	36:i:76:ALA:O	0.94	1.18
34:b:1064:C:H1'	36:i:88:GLY:O	1.37	1.18
34:b:1064:C:C2	36:i:90:GLY:N	2.10	1.18
34:b:1079:C:N4	36:i:109:ALA:HB3	1.41	1.18
34:b:1076:C:C3'	36:i:136:GLY:O	1.91	1.18
51:s:84:ARG:NH1	56:z:7:ILE:CD1	2.07	1.18
34:b:1062:G:N1	36:i:137:LEU:CD1	2.04	1.17
38:e:60:TRP:HE3	38:e:70:SER:OG	1.25	1.17
1:A:392:C:OP1	16:P:12:LYS:CG	1.93	1.17
21:U:27:VAL:C	21:U:31:VAL:CG1	2.15	1.17
22:V:37:A:C2'	22:V:38:A:H5"	1.73	1.17
34:b:1060:U:C5	36:i:108:ILE:O	1.97	1.17
34:b:1061:U:O2'	36:i:73:PRO:HG2	1.44	1.17
34:b:1097:U:O4	36:i:9:LYS:CD	1.92	1.17
34:b:2183:A:N1	34:b:2184:A:C8	2.12	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:43:ASN:OD1	41:h:46:PHE:CE2	1.97	1.17
1:A:773:G:C5’	35:c:202:LEU:HD21	1.74	1.17
1:A:1408:A:O4’	34:b:1919:A:H1’	1.43	1.16
24:X:20:C:HO2’	24:X:21:A:C4’	1.58	1.16
34:b:1075:C:C6	36:i:92:PRO:CG	2.19	1.16
34:b:1081:U:H5”	36:i:122:GLU:OE1	1.31	1.16
34:b:1207:C:N3	34:b:1208:C:C5	2.13	1.16
34:b:1358:G:N2	34:b:1372:U:C5	2.13	1.16
34:b:1081:U:C4’	36:i:122:GLU:HA	1.75	1.16
41:h:40:THR:CB	41:h:42:LYS:NZ	2.07	1.16
22:V:33:U:O2’	22:V:34:A:H2	1.24	1.16
34:b:1081:U:C5’	36:i:122:GLU:HA	1.76	1.15
34:b:1081:U:N3	36:i:124:MET:HG3	1.61	1.15
34:b:1104:C:C5	34:b:1105:U:H1’	1.80	1.15
34:b:1079:C:H2’	36:i:129:GLU:HG3	1.17	1.15
44:l:95:LEU:HD22	44:l:100:ILE:HD11	1.24	1.15
1:A:1338:G:H8	23:W:41:C:O2’	1.24	1.14
34:b:1060:U:O2’	36:i:116:MET:HE3	1.48	1.14
34:b:1080:A:N6	36:i:109:ALA:C	2.06	1.14
34:b:1207:C:C2	34:b:1208:C:C5	2.36	1.14
34:b:1502:A:C2	34:b:1503:A:C8	2.36	1.13
34:b:1079:C:N4	36:i:109:ALA:HB2	1.51	1.13
34:b:1080:A:C2	36:i:109:ALA:CB	2.30	1.13
41:h:40:THR:CB	41:h:42:LYS:HZ3	1.58	1.13
22:V:38:A:H2’	22:V:39:U:C6	1.82	1.13
34:b:1076:C:H2’	36:i:137:LEU:CA	1.76	1.13
34:b:1063:G:C6	36:i:135:MET:HB3	1.83	1.12
41:h:40:THR:OG1	41:h:42:LYS:NZ	1.82	1.12
22:V:33:U:O2’	22:V:34:A:C2	1.97	1.12
34:b:1081:U:C4’	36:i:122:GLU:CA	2.28	1.12
34:b:1063:G:OP2	36:i:77:VAL:HG23	1.49	1.12
34:b:1080:A:OP2	36:i:125:THR:CG2	1.97	1.12
41:h:66:ASN:C	41:h:149:GLU:HG3	1.72	1.12
13:M:73:SER:CB	39:f:143:TYR:HE2	1.63	1.12
56:z:21:GLN:HB2	56:z:23:GLN:CB	1.80	1.12
34:b:1076:C:O2	36:i:137:LEU:CG	1.97	1.11
34:b:2454:G:N3	34:b:2454:G:H2’	1.63	1.11
1:A:375:U:H5’	16:P:6:LEU:HD23	1.16	1.11
34:b:1064:C:O2	36:i:89:SER:C	1.92	1.11
34:b:1076:C:O2	36:i:137:LEU:CD2	1.98	1.11
34:b:1063:G:C5’	36:i:79:LEU:H	1.34	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1059:G:N2	36:i:125:THR:HG23	1.66	1.11
34:b:1063:G:N7	36:i:135:MET:HE2	1.66	1.11
34:b:1064:C:C5'	36:i:87:SER:O	1.89	1.11
35:c:141:VAL:HG11	35:c:190:ALA:HB1	1.29	1.11
1:A:375:U:H5'	16:P:6:LEU:HD22	1.29	1.10
1:A:774:G:OP1	35:c:201:MET:HE1	1.44	1.10
1:A:1350:A:OP2	9:I:119:LYS:NZ	1.83	1.10
22:V:37:A:H2'	22:V:38:A:C5'	1.80	1.10
34:b:1059:G:H22	36:i:125:THR:HG23	1.05	1.10
34:b:1063:G:C2	36:i:135:MET:CG	2.35	1.10
34:b:1071:G:N2	34:b:1089:A:H3'	0.78	1.10
34:b:1476:U:O4'	34:b:1732:C:O2	1.66	1.10
34:b:1062:G:N2	36:i:137:LEU:HD11	1.51	1.10
34:b:1068:G:O5'	36:i:12:VAL:CG1	1.97	1.10
1:A:624:C:O2'	16:P:10:GLY:O	1.69	1.10
1:A:230:G:H5"	16:P:31:ARG:HH21	1.07	1.09
34:b:1062:G:N2	36:i:137:LEU:HD13	1.60	1.09
34:b:1063:G:C2	36:i:135:MET:CB	2.34	1.09
34:b:1867:G:C4	34:b:1868:C:C5	2.40	1.09
34:b:1058:U:O2'	34:b:1059:G:O5'	1.67	1.09
1:A:402:G:OP2	4:D:69:ARG:NH1	1.85	1.09
34:b:1080:A:OP2	36:i:129:GLU:OE2	1.67	1.09
34:b:2468:A:C2	34:b:2481:G:N2	2.20	1.09
46:n:115:LEU:O	46:n:118:ARG:HG3	1.51	1.09
1:A:392:C:H5'	16:P:12:LYS:HD2	1.24	1.09
34:b:1058:U:H2'	36:i:115:ASP:O	1.50	1.09
34:b:1061:U:OP2	36:i:115:ASP:OD2	1.70	1.09
34:b:1069:A:N6	34:b:1073:A:C8	2.21	1.09
34:b:1076:C:H2'	36:i:137:LEU:HA	1.25	1.09
34:b:1076:C:O2'	36:i:137:LEU:HD23	1.52	1.09
38:e:60:TRP:CE3	38:e:70:SER:OG	2.01	1.09
34:b:1080:A:H2'	36:i:106:GLN:HG3	1.18	1.09
34:b:2167:U:C5	34:b:2168:G:H1'	1.87	1.09
34:b:1076:C:O2	36:i:137:LEU:HD21	1.50	1.08
34:b:1079:C:O2'	34:b:1080:A:OP2	1.70	1.08
34:b:2885:G:N7	34:b:2886:A:H1'	1.67	1.08
34:b:234:U:O4	34:b:429:A:N1	1.85	1.08
34:b:234:U:C4	34:b:430:A:N1	2.21	1.08
34:b:2331:G:C2	34:b:2332:C:C6	2.40	1.08
1:A:255:G:OP1	17:Q:70:LYS:NZ	1.86	1.08
34:b:2885:G:C5	34:b:2886:A:H1'	1.88	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:427:U:OP2	4:D:32:LYS:NZ	1.87	1.07
25:0:68:LEU:HD23	25:0:71:LEU:HD12	1.37	1.07
34:b:1071:G:C2	34:b:1089:A:C2'	2.35	1.07
34:b:1786:A:N6	34:b:2606:C:O4'	1.86	1.07
34:b:1071:G:H1	34:b:1089:A:C5'	1.66	1.07
34:b:1081:U:O3'	36:i:122:GLU:HB2	1.51	1.07
1:A:375:U:C5'	16:P:6:LEU:HD23	1.82	1.07
34:b:1058:U:C2	36:i:124:MET:CG	2.37	1.07
34:b:1077:A:O2'	36:i:137:LEU:HB2	1.51	1.07
34:b:1080:A:C6	36:i:109:ALA:HB1	1.56	1.07
34:b:1104:C:N4	34:b:1105:U:H1'	1.68	1.07
34:b:1058:U:C2	36:i:124:MET:HG2	1.64	1.07
34:b:1060:U:C2'	36:i:115:ASP:O	2.03	1.07
34:b:1062:G:N7	36:i:76:ALA:HA	1.66	1.07
34:b:1104:C:C4	34:b:1105:U:C1'	2.37	1.07
34:b:2000:C:N3	34:b:2001:C:C5	2.22	1.07
34:b:2269:G:C2	34:b:2270:A:C8	2.43	1.07
34:b:75:G:N2	34:b:76:C:C6	2.22	1.06
34:b:1076:C:O3'	36:i:98:GLY:N	1.87	1.06
1:A:774:G:OP1	35:c:201:MET:HE3	1.50	1.06
34:b:1063:G:C6	36:i:135:MET:HE2	1.82	1.06
1:A:392:C:P	16:P:12:LYS:CD	2.44	1.06
8:H:4:ASP:OD1	8:H:76:ARG:NH1	1.88	1.06
34:b:1081:U:H5"	36:i:122:GLU:HA	1.29	1.06
51:s:85:ILE:HD11	56:z:11:ASP:HA	1.36	1.06
24:X:20:C:O2'	24:X:21:A:O4'	1.72	1.06
34:b:1059:G:C5	36:i:109:ALA:HB1	1.90	1.06
34:b:1830:C:N3	34:b:1831:G:N7	2.04	1.06
34:b:1064:C:O2	36:i:90:GLY:CA	2.02	1.06
34:b:1064:C:H5'	36:i:87:SER:C	1.52	1.06
34:b:2094:A:H5'	41:h:25:TYR:CD1	1.90	1.06
41:h:66:ASN:O	41:h:149:GLU:HG3	0.88	1.06
36:i:79:LEU:HA	36:i:83:ALA:HB3	1.34	1.05
42:j:57:LEU:HD23	42:j:125:TYR:HB2	1.36	1.05
34:b:2094:A:H5'	41:h:25:TYR:HD1	1.16	1.05
34:b:1063:G:N7	36:i:135:MET:CE	2.19	1.05
34:b:1064:C:C5'	36:i:85:ILE:HD13	1.87	1.05
34:b:1349:C:H2'	34:b:1350:C:C6	1.90	1.05
45:m:40:ARG:HG2	45:m:95:LEU:HD23	1.35	1.05
2:B:72:LYS:NZ	2:B:164:ASP:OD2	1.90	1.05
41:h:43:ASN:CB	41:h:46:PHE:CD2	2.39	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1060:U:H6	36:i:112:LYS:N	1.54	1.05
34:b:1782:U:O2	34:b:2608:G:O2'	1.75	1.04
41:h:40:THR:HB	41:h:42:LYS:HZ2	1.16	1.04
56:z:22:ALA:HB3	56:z:23:GLN:HA	1.34	1.04
34:b:155:A:C2	34:b:156:A:C8	2.46	1.04
34:b:1089:A:H4'	34:b:1090:A:H5'	1.06	1.04
34:b:2000:C:O2	34:b:2001:C:C6	2.09	1.04
28:3:29:SER:OG	28:3:40:ARG:CD	2.04	1.04
34:b:1999:C:N3	34:b:2000:C:C5	2.26	1.04
34:b:1054:A:C2	34:b:1105:U:C5	2.45	1.04
34:b:1076:C:C2	36:i:137:LEU:CG	2.41	1.03
34:b:2000:C:C2	34:b:2001:C:C5	2.45	1.03
56:z:21:GLN:CB	56:z:23:GLN:HB2	1.87	1.03
34:b:1071:G:O6	34:b:1089:A:C8	1.83	1.03
34:b:1156:A:C8	49:q:51:ARG:HD3	1.92	1.03
34:b:2468:A:C2	34:b:2481:G:C2	2.45	1.03
43:k:93:GLN:OE1	43:k:114:LYS:CE	2.07	1.03
24:X:20:C:O2'	24:X:21:A:C4'	2.04	1.03
34:b:1080:A:C2	36:i:109:ALA:HB3	1.91	1.03
38:e:149:ILE:CD1	38:e:170:ARG:HB2	1.87	1.03
1:A:392:C:OP1	16:P:12:LYS:CD	2.05	1.03
1:A:230:G:H5"	16:P:31:ARG:NH2	1.73	1.03
21:U:27:VAL:HG13	21:U:31:VAL:CG2	1.86	1.03
34:b:2013:A:N1	34:b:2613:U:O4	1.90	1.03
34:b:2256:G:O2'	34:b:2257:U:C5'	2.07	1.03
34:b:2451:A:C2	57:b:9000:CLM:H7	1.93	1.03
57:b:9000:CLM:C1	56:z:27:ALA:CB	2.37	1.02
44:l:95:LEU:CD2	44:l:100:ILE:HD11	1.88	1.02
34:b:1082:U:C4	36:i:123:ALA:HB2	1.93	1.02
34:b:1122:G:C2	34:b:1123:C:C6	2.48	1.02
34:b:1219:U:C2	34:b:1220:G:C8	2.47	1.02
34:b:2127:G:O6	34:b:2162:G:C8	2.12	1.02
46:n:16:HIS:HD2	46:n:20:MET:HG2	1.20	1.02
34:b:2396:G:C2	34:b:2397:G:C8	2.48	1.02
34:b:847:U:C2	34:b:933:A:N6	2.26	1.02
34:b:1082:U:C6	36:i:123:ALA:HB2	1.94	1.02
1:A:392:C:OP1	16:P:12:LYS:CB	2.07	1.02
34:b:1062:G:H1	36:i:137:LEU:CD1	1.65	1.02
34:b:1063:G:H2'	36:i:85:ILE:CD1	1.89	1.02
1:A:392:C:H5'	16:P:12:LYS:CD	1.90	1.01
34:b:1062:G:H8	36:i:75:ALA:O	1.42	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1071:G:H1	34:b:1089:A:H5'	0.90	1.01
34:b:2593:U:C2	34:b:2600:A:N1	2.27	1.01
34:b:1830:C:C2	34:b:1831:G:C8	2.48	1.01
1:A:392:C:C5'	16:P:12:LYS:CD	2.38	1.01
34:b:1051:G:C6	34:b:1052:C:C5	2.48	1.01
34:b:1076:C:C3'	36:i:98:GLY:N	2.22	1.01
38:e:149:ILE:HD13	38:e:170:ARG:HB2	1.37	1.01
1:A:1379:G:O6	7:G:2:ARG:NH1	1.91	1.01
21:U:27:VAL:HG13	21:U:31:VAL:HG21	1.03	1.01
34:b:1052:C:N3	34:b:1053:C:N4	2.06	1.01
34:b:1080:A:OP2	36:i:125:THR:HG21	1.60	1.01
56:z:28:GLY:N	56:z:29:PRO:HD3	1.75	1.01
1:A:693:G:OP1	11:K:126:ARG:NH1	1.92	1.00
34:b:1081:U:H3'	36:i:122:GLU:HB3	1.39	1.00
34:b:1943:U:C5	34:b:1945:G:O4'	2.14	1.00
35:c:75:PRO:HB2	35:c:97:LYS:HE3	1.43	1.00
9:I:112:ARG:HH12	9:I:114:LYS:HG2	0.88	1.00
24:X:19:U:O2	24:X:20:C:N4	1.94	1.00
34:b:1080:A:N9	36:i:106:GLN:HA	1.74	1.00
34:b:1170:C:C2	34:b:1172:C:C4	2.40	1.00
34:b:1219:U:N3	34:b:1220:G:N7	2.10	1.00
1:A:1348:U:O5'	9:I:111:GLU:OE2	1.80	1.00
34:b:1059:G:C2	36:i:125:THR:HA	1.97	1.00
34:b:603:A:N7	34:b:655:A:C2	2.29	1.00
34:b:1398:C:O2	34:b:1399:C:C5	2.15	1.00
41:h:40:THR:HB	41:h:42:LYS:NZ	1.71	0.99
34:b:1078:U:OP2	36:i:99:LYS:CB	2.09	0.99
34:b:1075:C:O3'	36:i:91:LYS:O	1.59	0.99
10:J:63:ASP:OD1	14:N:97:LYS:NZ	1.95	0.99
34:b:1304:A:C2	34:b:1305:C:C6	2.50	0.99
34:b:1071:G:N1	34:b:1089:A:H5'	1.76	0.99
34:b:2032:G:N7	34:b:2454:G:O2'	1.94	0.99
34:b:2544:G:C2	34:b:2545:G:C8	2.51	0.99
34:b:786:C:C2	34:b:787:C:C5	2.51	0.99
34:b:1060:U:C3'	36:i:115:ASP:O	2.11	0.99
34:b:1662:U:N3	34:b:1663:G:C8	2.30	0.99
34:b:1021:A:N6	34:b:1141:U:C4	2.30	0.99
34:b:1062:G:H1	36:i:137:LEU:HD11	1.06	0.99
41:h:40:THR:HG1	41:h:42:LYS:HD3	1.25	0.99
1:A:1348:U:OP2	9:I:111:GLU:CG	2.09	0.98
6:F:2:ARG:HH11	6:F:68:GLN:HE21	1.10	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1067:A:C8	36:i:22:PRO:HG3	1.54	0.98
34:b:1089:A:C4'	34:b:1090:A:H5'	1.93	0.98
34:b:1064:C:C2	36:i:89:SER:C	2.40	0.98
34:b:2538:C:C2	34:b:2539:C:C5	2.51	0.98
13:M:70:ARG:HG2	39:f:144:ASP:CG	1.88	0.98
34:b:1398:C:C2	34:b:1399:C:C5	2.50	0.98
34:b:1063:G:N1	36:i:135:MET:HB2	1.77	0.98
34:b:1093:G:H2'	34:b:1094:U:O4'	1.63	0.98
34:b:1207:C:N3	34:b:1208:C:H5	1.53	0.98
34:b:1059:G:C6	36:i:125:THR:HA	1.98	0.98
34:b:1062:G:H21	36:i:100:ILE:HD11	1.27	0.98
34:b:1079:C:C3'	36:i:129:GLU:HG2	1.92	0.98
34:b:1079:C:C5	34:b:1080:A:N3	2.08	0.98
34:b:1089:A:H4'	34:b:1090:A:C5'	1.94	0.98
34:b:1476:U:H4'	34:b:1732:C:O2	1.63	0.98
1:A:1340:A:O2'	23:W:31:C:O2'	1.80	0.98
34:b:1075:C:H1'	36:i:89:SER:C	1.88	0.98
34:b:1928:A:H2'	34:b:1929:G:O4'	1.62	0.98
41:h:63:ALA:HB3	41:h:86:ASP:O	1.62	0.98
34:b:2534:A:N1	34:b:2535:G:H1'	1.76	0.97
34:b:2887:A:C2	34:b:2888:C:C6	2.52	0.97
56:z:21:GLN:CB	56:z:23:GLN:CB	2.41	0.97
56:z:21:GLN:HB2	56:z:23:GLN:HB3	1.47	0.97
1:A:1348:U:P	9:I:111:GLU:CG	2.52	0.97
34:b:1867:G:C5	34:b:1868:C:H5	1.72	0.97
34:b:2152:G:C2	34:b:2153:C:H1'	1.98	0.97
34:b:1071:G:N3	34:b:1089:A:H2'	1.80	0.97
34:b:1080:A:OP2	36:i:125:THR:HG22	1.64	0.97
34:b:2419:U:O2	34:b:2420:C:C5	2.16	0.97
34:b:1207:C:O2	34:b:1208:C:H6	1.48	0.97
1:A:1408:A:O2'	34:b:1912:A:C6	2.17	0.97
34:b:1059:G:H1'	34:b:1080:A:N7	1.77	0.97
1:A:261:U:OP2	20:T:73:ARG:NH2	1.98	0.97
34:b:1051:G:C6	34:b:1052:C:C6	2.53	0.97
34:b:1080:A:H1'	36:i:106:GLN:HA	1.02	0.97
34:b:1504:A:C2	34:b:1505:A:C8	2.53	0.97
1:A:773:G:H4'	35:c:202:LEU:HD21	1.42	0.97
34:b:1079:C:HO2'	36:i:125:THR:HG22	1.29	0.96
34:b:1081:U:C4	36:i:124:MET:HG3	1.99	0.96
34:b:1080:A:C1'	36:i:106:GLN:CG	2.40	0.96
34:b:1849:G:C2	34:b:1850:G:N7	2.33	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1021:A:C6	34:b:1141:U:N3	2.32	0.96
1:A:1054:C:N4	22:V:34:A:C8	2.34	0.96
34:b:1206:G:C2	34:b:1207:C:C6	2.53	0.96
34:b:1663:G:C6	34:b:1992:G:C8	2.52	0.96
34:b:2468:A:N1	34:b:2481:G:C2	2.33	0.96
34:b:2537:U:C2	34:b:2538:C:C5	2.52	0.96
34:b:967:U:N3	34:b:968:C:C5	2.33	0.96
34:b:1773:A:N6	34:b:1774:C:H1'	1.81	0.96
1:A:392:C:OP1	16:P:12:LYS:HB2	1.65	0.96
34:b:866:A:C2	34:b:867:C:C6	2.54	0.96
34:b:1077:A:C4	36:i:136:GLY:N	2.22	0.96
34:b:1080:A:P	36:i:125:THR:HG21	2.05	0.96
34:b:1206:G:N2	34:b:1207:C:C6	2.32	0.96
34:b:1076:C:H2'	36:i:137:LEU:N	1.81	0.96
9:I:105:ARG:NH1	9:I:106:ASP:O	1.98	0.96
34:b:1061:U:O2'	36:i:73:PRO:CG	2.13	0.95
34:b:1062:G:C8	36:i:75:ALA:O	2.19	0.95
51:s:84:ARG:CZ	56:z:7:ILE:HD12	1.95	0.95
9:I:112:ARG:CZ	9:I:114:LYS:HD2	1.94	0.95
9:I:112:ARG:HH22	9:I:114:LYS:HD2	1.02	0.95
34:b:1170:C:C5'	34:b:1171:G:OP2	2.14	0.95
34:b:1839:G:C6	34:b:1840:G:C8	2.53	0.95
34:b:1064:C:C4'	36:i:85:ILE:HD13	1.96	0.95
34:b:1303:G:C2	34:b:1304:A:C8	2.54	0.95
1:A:392:C:O5'	16:P:12:LYS:CD	2.14	0.95
34:b:1063:G:C2	36:i:135:MET:HB2	2.00	0.95
34:b:1081:U:O4	36:i:124:MET:N	2.00	0.95
34:b:1518:C:N3	34:b:1519:G:C8	2.35	0.95
34:b:2161:C:O2	34:b:2161:C:C2'	2.13	0.95
34:b:2480:C:C4	34:b:2481:G:C8	2.55	0.95
34:b:2167:U:H5	34:b:2168:G:H1'	1.19	0.95
34:b:2183:A:C2	34:b:2184:A:C8	2.53	0.95
41:h:43:ASN:ND2	41:h:46:PHE:HD2	1.37	0.95
34:b:1081:U:H5"	36:i:122:GLU:CA	1.96	0.95
30:6:18:PHE:CD2	34:b:126:A:C2	2.55	0.94
34:b:1072:C:H1'	34:b:1089:A:C2	2.01	0.94
13:M:73:SER:HB2	39:f:143:TYR:HE2	1.31	0.94
21:U:25:ALA:O	21:U:27:VAL:N	2.00	0.94
32:8:3:VAL:HG21	32:8:36:ARG:NH1	1.82	0.94
34:b:1061:U:H2'	36:i:73:PRO:HD2	1.48	0.94
34:b:1064:C:OP1	36:i:86:LYS:CA	2.15	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:27:VAL:C	21:U:31:VAL:HG12	1.89	0.94
34:b:1064:C:C2	36:i:88:GLY:C	2.32	0.94
34:b:1071:G:C2	34:b:1089:A:H2'	2.01	0.94
34:b:1076:C:OP1	36:i:97:VAL:HG23	1.64	0.94
34:b:1207:C:C2	34:b:1208:C:C6	2.53	0.94
34:b:2848:G:O2'	34:b:2868:A:N6	1.99	0.94
1:A:773:G:C4'	35:c:202:LEU:HD21	1.96	0.94
34:b:1051:G:C5	34:b:1052:C:C5	2.55	0.94
34:b:1061:U:C2'	36:i:73:PRO:HD2	1.96	0.94
34:b:2534:A:N6	34:b:2535:G:C8	2.36	0.94
56:z:12:LEU:H	56:z:12:LEU:HD12	1.32	0.94
7:G:52:ARG:NH1	7:G:124:SER:OG	2.00	0.94
21:U:29:ALA:O	21:U:31:VAL:N	1.99	0.94
34:b:1791:A:N1	34:b:1829:A:H4'	1.81	0.94
34:b:234:U:C4	34:b:429:A:N1	2.35	0.94
34:b:388:G:C8	34:b:390:U:C5	2.55	0.94
34:b:1459:G:C2	34:b:1461:C:C4	2.56	0.94
35:c:141:VAL:CG1	35:c:190:ALA:HB1	1.97	0.94
34:b:847:U:N3	34:b:933:A:C6	2.36	0.94
36:i:23:VAL:HB	36:i:27:LEU:HB3	1.49	0.94
34:b:1078:U:P	36:i:99:LYS:CA	2.56	0.94
34:b:1218:G:C6	34:b:1219:U:C6	2.56	0.94
34:b:1501:G:C2	34:b:1502:A:C8	2.56	0.94
46:n:16:HIS:CD2	46:n:20:MET:HG2	2.03	0.94
22:V:37:A:H2'	22:V:38:A:H5"	0.94	0.93
34:b:1059:G:N2	34:b:1079:C:C4	2.23	0.93
1:A:1228:C:OP1	13:M:106:ARG:NH1	2.01	0.93
21:U:27:VAL:CG1	21:U:31:VAL:HG21	1.97	0.93
34:b:154:U:N3	34:b:155:A:C8	2.35	0.93
34:b:1064:C:H5"	36:i:85:ILE:HD13	1.51	0.93
34:b:1063:G:H2'	36:i:85:ILE:HD12	1.47	0.93
34:b:1064:C:N3	36:i:90:GLY:N	2.15	0.93
34:b:1065:U:OP1	36:i:86:LYS:HB2	1.67	0.93
34:b:979:A:C6	34:b:982:C:C5	2.57	0.93
34:b:1791:A:C2	34:b:1829:A:H4'	2.03	0.93
44:l:95:LEU:HD22	44:l:100:ILE:CD1	1.97	0.93
34:b:109:C:N3	34:b:110:G:C8	2.36	0.93
34:b:1078:U:O2'	36:i:133:ARG:NH1	2.00	0.93
36:i:15:GLY:HA2	36:i:50:LYS:HB3	1.47	0.93
11:K:116:PRO:HD2	21:U:27:VAL:HG21	1.51	0.93
34:b:1081:U:H3'	36:i:122:GLU:N	1.65	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2161:C:O2	34:b:2161:C:H2'	1.66	0.93
56:z:28:GLY:N	56:z:29:PRO:CD	2.31	0.93
13:M:73:SER:CB	39:f:143:TYR:CE2	2.51	0.93
34:b:866:A:N1	34:b:867:C:C6	2.37	0.93
1:A:362:G:N2	1:A:365:U:OP2	2.02	0.92
34:b:1058:U:OP2	36:i:117:THR:HA	1.69	0.92
13:M:73:SER:HB3	39:f:143:TYR:CE2	2.04	0.92
34:b:1076:C:H3'	36:i:136:GLY:C	1.94	0.92
34:b:1079:C:C5	36:i:105:LEU:O	2.22	0.92
34:b:2535:G:C2	34:b:2536:G:C8	2.57	0.92
41:h:83:LYS:O	41:h:86:ASP:OD1	1.86	0.92
6:F:2:ARG:NH1	6:F:68:GLN:HE21	1.66	0.92
34:b:1461:C:O2	34:b:1462:C:C5	2.22	0.92
34:b:1504:A:C2	34:b:1505:A:N7	2.37	0.92
34:b:1857:G:N2	34:b:1884:G:C2	2.37	0.92
34:b:1080:A:C1'	36:i:106:GLN:CB	2.46	0.92
43:k:93:GLN:OE1	43:k:114:LYS:CD	2.18	0.92
34:b:2129:C:N4	34:b:2160:C:N3	2.18	0.92
45:m:53:MET:HE1	45:m:103:TYR:CD1	2.05	0.92
28:3:29:SER:HG	28:3:40:ARG:HD2	1.33	0.92
34:b:1062:G:H22	36:i:137:LEU:HD11	1.15	0.92
34:b:1662:U:C2	34:b:1663:G:C8	2.57	0.92
1:A:104:G:OP2	20:T:12:GLN:NE2	2.03	0.92
34:b:1773:A:C6	34:b:1774:C:H1'	2.03	0.92
34:b:2887:A:C6	34:b:2888:C:C5	2.58	0.92
41:h:66:ASN:ND2	41:h:148:ALA:O	2.03	0.92
1:A:1408:A:C2'	34:b:1912:A:N1	2.33	0.92
9:I:118:ARG:HG2	9:I:124:PRO:HD3	1.50	0.92
34:b:948:C:C2	34:b:949:G:C8	2.58	0.92
34:b:1074:G:N3	36:i:90:GLY:O	1.80	0.92
14:N:63:CYS:HG	14:N:79:SER:HG	1.15	0.91
34:b:1081:U:C5'	36:i:122:GLU:CA	2.48	0.91
34:b:1106:G:C2	34:b:1107:G:H1'	2.04	0.91
34:b:1121:C:N3	34:b:1122:G:C8	2.38	0.91
34:b:2385:C:O2	34:b:2386:A:C8	2.23	0.91
1:A:375:U:C5'	16:P:6:LEU:CD2	2.42	0.91
43:k:93:GLN:OE1	43:k:114:LYS:HE3	1.66	0.91
13:M:70:ARG:CG	39:f:144:ASP:CG	2.43	0.91
34:b:1079:C:O2'	36:i:129:GLU:HG3	1.69	0.91
41:h:43:ASN:HB3	41:h:46:PHE:CD2	2.04	0.91
34:b:234:U:O4	34:b:430:A:C2	2.22	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1857:G:O2'	34:b:1885:A:N6	2.01	0.91
1:A:392:C:OP1	16:P:12:LYS:HD3	1.68	0.91
21:U:27:VAL:CG1	21:U:31:VAL:HG11	2.00	0.91
42:j:57:LEU:HD13	42:j:128:ASN:C	1.96	0.91
34:b:1081:U:O2'	36:i:121:ILE:HB	0.82	0.91
34:b:2166:U:H2'	34:b:2167:U:O4'	1.70	0.91
34:b:1061:U:H3'	36:i:112:LYS:HD2	1.51	0.91
34:b:2206:C:N3	34:b:2207:C:C5	2.39	0.91
34:b:1063:G:C5'	36:i:79:LEU:N	2.12	0.91
34:b:1500:G:N2	34:b:1501:G:H1'	1.84	0.91
34:b:783:A:N6	34:b:785:G:C4	2.39	0.91
34:b:1077:A:O2'	36:i:137:LEU:CB	2.11	0.90
34:b:1223:G:OP2	50:r:68:ARG:NH1	2.03	0.90
11:K:16:SER:OG	11:K:79:LYS:NZ	2.03	0.90
34:b:603:A:C5	34:b:655:A:C2	2.59	0.90
40:g:24:ILE:HD11	40:g:37:LEU:HD11	1.50	0.90
53:u:74:ASN:O	53:u:76:ALA:N	2.03	0.90
34:b:1219:U:O2	34:b:1220:G:C8	2.24	0.90
34:b:1849:G:N2	34:b:1850:G:C8	2.39	0.90
34:b:2708:G:C2	34:b:2709:G:C8	2.59	0.90
33:a:47:C:N3	33:a:48:U:C5	2.40	0.90
34:b:241:A:N6	34:b:255:A:C8	2.40	0.90
34:b:949:G:C2	34:b:950:G:C8	2.60	0.90
53:u:59:VAL:HG11	53:u:61:LYS:HE3	1.52	0.90
21:U:27:VAL:CA	21:U:31:VAL:HG11	2.02	0.90
34:b:1518:C:N3	34:b:1519:G:N7	2.20	0.90
34:b:1829:A:C6	34:b:1830:C:H1'	2.07	0.90
34:b:1080:A:N6	36:i:109:ALA:O	2.03	0.90
34:b:2152:G:C5	34:b:2153:C:C6	2.59	0.90
34:b:2886:A:C6	34:b:2887:A:C8	2.59	0.90
1:A:1173:U:OP1	7:G:4:ARG:NH1	2.04	0.90
34:b:227:A:C2	34:b:2407:A:H1'	2.07	0.90
34:b:2255:G:O2'	34:b:2256:G:H5'	1.72	0.90
34:b:1063:G:H1	36:i:135:MET:CB	1.79	0.90
34:b:1064:C:C2	36:i:89:SER:N	2.39	0.90
34:b:1500:G:C6	34:b:1501:G:C8	2.59	0.90
34:b:2127:G:C2	34:b:2160:C:C4	2.60	0.90
1:A:450:G:N2	16:P:13:LYS:HZ1	1.64	0.90
34:b:1078:U:OP1	36:i:99:LYS:HA	1.71	0.90
34:b:2127:G:N2	34:b:2160:C:C4	2.39	0.89
34:b:2287:A:N1	34:b:2344:U:C4	2.39	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:70:ARG:CZ	39:f:144:ASP:OD1	2.19	0.89
41:h:43:ASN:HD22	41:h:46:PHE:HD2	1.18	0.89
51:s:84:ARG:NH2	56:z:7:ILE:HD12	1.86	0.89
13:M:73:SER:HB3	39:f:143:TYR:HE2	1.33	0.89
1:A:1231:G:OP1	9:I:128:LYS:NZ	2.05	0.89
34:b:1063:G:H5"	36:i:79:LEU:H	1.35	0.89
34:b:2000:C:C2	34:b:2001:C:C6	2.59	0.89
9:I:112:ARG:HH22	9:I:114:LYS:CD	1.84	0.89
34:b:1059:G:N2	34:b:1079:C:C5	2.39	0.89
34:b:1144:A:C2	34:b:1145:C:C5	2.60	0.89
34:b:2032:G:O6	34:b:2454:G:H4'	1.72	0.89
34:b:225:C:C4	34:b:226:A:C8	2.61	0.89
1:A:575:G:O2'	1:A:821:G:OP2	1.90	0.89
34:b:1080:A:O2'	36:i:106:GLN:HG3	1.47	0.89
34:b:1104:C:C5	34:b:1105:U:C1'	2.55	0.89
35:c:141:VAL:HG11	35:c:190:ALA:CB	2.03	0.89
34:b:2330:G:C6	34:b:2331:G:C8	2.61	0.88
41:h:43:ASN:ND2	41:h:46:PHE:HE2	1.66	0.88
34:b:1059:G:O6	36:i:128:ILE:HG12	1.73	0.88
34:b:1076:C:C2'	36:i:137:LEU:HA	2.03	0.88
22:V:75:C:O2'	22:V:76:A:O4'	1.90	0.88
27:2:5:ILE:CD1	27:2:40:ASP:OD1	2.21	0.88
34:b:537:G:C2	34:b:555:G:N2	2.40	0.88
34:b:928:A:C2	34:b:929:U:C6	2.61	0.88
34:b:1145:C:N3	34:b:1146:C:C5	2.42	0.88
34:b:2125:G:C8	34:b:2126:A:C2	2.61	0.88
34:b:2591:C:N3	34:b:2592:G:N7	2.21	0.88
34:b:1082:U:C5	36:i:123:ALA:CB	2.53	0.88
34:b:2256:G:O2'	34:b:2257:U:O5'	1.91	0.88
34:b:967:U:C2	34:b:968:C:C6	2.62	0.88
34:b:1206:G:N1	34:b:1207:C:C4	2.42	0.88
34:b:1122:G:N1	34:b:1123:C:C5	2.41	0.88
34:b:1518:C:C2	34:b:1519:G:C8	2.62	0.88
53:u:18:ASP:OD2	53:u:39:ILE:HG23	1.73	0.88
34:b:1079:C:HO2'	34:b:1080:A:P	1.97	0.88
34:b:1081:U:H5"	36:i:122:GLU:CD	1.83	0.88
1:A:82:G:N2	1:A:88:U:OP1	2.07	0.88
10:J:9:ARG:HH11	10:J:71:LEU:HD21	1.37	0.88
34:b:209:C:C4	34:b:210:C:C5	2.62	0.88
34:b:1082:U:C4	36:i:123:ALA:CB	2.57	0.88
1:A:1013:G:N2	1:A:1016:A:OP2	2.07	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1019:U:C4	34:b:1142:A:N6	2.42	0.88
34:b:2507:C:H1'	34:b:2583:G:N2	1.89	0.88
34:b:1064:C:O4'	36:i:85:ILE:HD13	1.74	0.87
34:b:1398:C:O2	34:b:1399:C:C6	2.27	0.87
34:b:2127:G:N2	34:b:2160:C:C5	2.42	0.87
1:A:1054:C:N3	22:V:34:A:C8	2.42	0.87
24:X:19:U:H5'	24:X:19:U:H6	1.40	0.87
21:U:27:VAL:HA	21:U:31:VAL:HB	1.55	0.87
34:b:126:A:O2'	34:b:127:A:C8	2.27	0.87
34:b:1063:G:N3	36:i:135:MET:HG3	1.89	0.87
34:b:375:G:C2	34:b:376:G:C8	2.62	0.87
34:b:1058:U:C5	36:i:124:MET:O	2.02	0.87
57:b:9000:CLM:C2	56:z:27:ALA:HB1	2.03	0.87
44:l:68:SER:O	44:l:69:ARG:HG2	1.73	0.87
51:s:84:ARG:NH1	56:z:7:ILE:HD12	1.86	0.87
1:A:1266:G:N2	1:A:1269:A:OP2	2.06	0.87
34:b:1084:A:O2'	34:b:1085:A:N7	2.07	0.87
34:b:1122:G:C2	34:b:1123:C:C5	2.63	0.87
34:b:2013:A:N1	34:b:2613:U:C4	2.43	0.87
34:b:2591:C:C2	34:b:2592:G:C8	2.63	0.87
51:s:84:ARG:HH12	56:z:7:ILE:CD1	1.86	0.87
6:F:38:ARG:NH1	6:F:97:THR:O	2.08	0.87
34:b:1076:C:O2	36:i:137:LEU:HG	1.67	0.87
34:b:866:A:N1	34:b:867:C:C5	2.43	0.87
34:b:1077:A:OP2	36:i:95:ASP:O	1.91	0.87
34:b:2256:G:O2'	34:b:2257:U:H5'	1.73	0.86
34:b:977:G:N2	34:b:987:C:C2	2.43	0.86
34:b:1631:G:H21	34:b:1633:G:H8	1.21	0.86
34:b:2291:U:H2'	34:b:2292:U:C6	2.10	0.86
38:e:59:PRO:HB2	38:e:60:TRP:CE3	2.10	0.86
1:A:842:U:O2'	1:A:844:G:OP2	1.93	0.86
21:U:27:VAL:CA	21:U:31:VAL:CG1	2.54	0.86
33:a:42:C:N4	39:f:66:LEU:HD22	1.89	0.86
34:b:1786:A:N6	34:b:2606:C:C4'	2.38	0.86
34:b:2583:G:O2'	34:b:2584:U:OP1	1.92	0.86
37:d:39:ASP:OD1	37:d:40:LEU:N	2.07	0.86
34:b:1079:C:O2'	34:b:1080:A:P	2.33	0.86
34:b:1867:G:C4	34:b:1868:C:C6	2.63	0.86
34:b:967:U:C2	34:b:968:C:C5	2.64	0.86
34:b:1080:A:C4	36:i:109:ALA:HB3	2.10	0.86
34:b:1349:C:H2'	34:b:1350:C:H6	1.39	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:84:ARG:NH1	56:z:7:ILE:HD11	1.89	0.86
34:b:76:C:O2	34:b:77:G:H8	1.57	0.86
34:b:1058:U:H5	36:i:124:MET:O	1.49	0.86
4:D:182:LYS:NZ	4:D:183:ARG:NH1	2.24	0.86
34:b:1067:A:O2'	36:i:16:MET:SD	2.33	0.86
34:b:1071:G:N7	34:b:1089:A:N7	2.24	0.86
34:b:1381:G:O6	34:b:1382:G:N2	2.08	0.86
34:b:2331:G:N1	34:b:2332:C:C5	2.43	0.86
34:b:2590:A:C2	34:b:2591:C:C6	2.63	0.86
34:b:2828:G:C2	34:b:2829:A:C8	2.64	0.86
38:e:60:TRP:NE1	38:e:67:ARG:HD3	1.91	0.86
1:A:522:C:OP2	12:L:65:TYR:OH	1.94	0.86
34:b:662:G:C2	34:b:663:G:C8	2.64	0.86
34:b:1063:G:N2	36:i:135:MET:HB2	1.90	0.86
34:b:2282:G:O2'	34:b:2390:U:O4	1.94	0.86
34:b:1061:U:OP2	36:i:72:THR:OG1	1.83	0.85
34:b:1867:G:O2'	34:b:1868:C:O5'	1.93	0.85
8:H:6:ILE:HB	8:H:76:ARG:NH1	1.90	0.85
24:X:20:C:HO2'	24:X:21:A:C1'	1.89	0.85
34:b:1068:G:C5'	36:i:12:VAL:HG11	2.06	0.85
34:b:1069:A:O2'	34:b:1070:A:N1	2.07	0.85
42:j:57:LEU:HD13	42:j:129:GLU:N	1.91	0.85
1:A:392:C:P	16:P:12:LYS:HD3	2.15	0.85
34:b:1081:U:O4'	36:i:122:GLU:HA	1.74	0.85
34:b:1501:G:C6	34:b:1502:A:N7	2.44	0.85
34:b:1759:A:H1'	34:b:2696:U:O2	1.77	0.85
34:b:2451:A:C2	57:b:9000:CLM:C7	2.58	0.85
46:n:16:HIS:CD2	46:n:20:MET:CG	2.60	0.85
34:b:1054:A:H2	34:b:1105:U:C5	1.87	0.85
34:b:1072:C:H1'	34:b:1089:A:H2	1.38	0.85
34:b:1080:A:C6	36:i:109:ALA:CA	2.59	0.85
34:b:1172:C:C2	34:b:1173:U:H5	1.93	0.85
34:b:1267:U:C4	34:b:2012:G:N2	2.44	0.85
34:b:2885:G:N7	34:b:2886:A:C1'	2.39	0.85
54:w:61:LEU:HD11	54:w:72:VAL:CG2	2.06	0.85
34:b:948:C:O2	34:b:949:G:C8	2.30	0.85
34:b:1409:U:C2	34:b:1410:G:C8	2.64	0.85
34:b:1476:U:O4'	34:b:1732:C:C2	2.28	0.85
34:b:1517:G:C6	34:b:1518:C:C5	2.64	0.85
34:b:2127:G:C2	34:b:2160:C:N4	2.44	0.85
34:b:1080:A:N6	36:i:109:ALA:HB1	1.90	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1080:A:N6	36:i:109:ALA:CB	2.38	0.85
34:b:1398:C:C2	34:b:1399:C:H5	1.91	0.85
34:b:1965:C:OP1	34:b:1966:A:O2'	1.93	0.85
1:A:1305:G:N2	1:A:1332:A:OP2	2.08	0.85
34:b:2534:A:C6	34:b:2535:G:C8	2.65	0.85
51:s:84:ARG:CZ	56:z:7:ILE:CD1	2.53	0.85
1:A:1054:C:N4	22:V:34:A:N7	2.25	0.84
56:z:5:LYS:HD3	56:z:5:LYS:H	1.40	0.84
1:A:392:C:P	16:P:12:LYS:HD2	2.13	0.84
33:a:49:C:O2	33:a:50:A:C8	2.30	0.84
34:b:1058:U:O2'	34:b:1059:G:P	2.35	0.84
34:b:1080:A:C6	36:i:109:ALA:C	2.53	0.84
34:b:1857:G:C2	34:b:1884:G:C2	2.64	0.84
34:b:1080:A:H1'	36:i:106:GLN:CG	2.06	0.84
34:b:1064:C:O2	36:i:90:GLY:HA3	1.73	0.84
34:b:1071:G:H21	34:b:1089:A:H3'	1.38	0.84
34:b:948:C:N3	34:b:949:G:N7	2.25	0.84
34:b:1086:A:O2'	34:b:1087:G:H8	1.59	0.84
34:b:2129:C:C4	34:b:2160:C:O2	2.29	0.84
34:b:962:G:H21	34:b:2250:G:H1	1.24	0.84
34:b:1033:U:C2	34:b:2750:A:N6	2.46	0.84
34:b:1071:G:C4	34:b:1089:A:H2'	2.11	0.84
34:b:1097:U:C4	36:i:9:LYS:HD2	2.12	0.84
34:b:626:A:C2	44:l:78:ARG:HD3	2.12	0.84
34:b:1076:C:H2'	36:i:136:GLY:C	2.03	0.84
34:b:1091:G:C6	34:b:1092:C:C5	2.65	0.84
40:g:33:LEU:CD2	40:g:137:ASP:OD1	2.24	0.84
34:b:608:A:H2'	34:b:609:A:C8	2.12	0.84
34:b:929:U:C2	34:b:930:G:C8	2.66	0.84
34:b:1076:C:C4'	36:i:98:GLY:N	2.40	0.84
34:b:1079:C:C2'	36:i:129:GLU:HG3	1.82	0.84
34:b:2538:C:O2	34:b:2539:C:C6	2.30	0.84
16:P:28:ARG:HE	16:P:29:ASN:HD21	1.23	0.84
22:V:75:C:O2'	22:V:76:A:OP1	1.95	0.84
34:b:1499:C:C4	34:b:1500:G:C8	2.66	0.84
1:A:1367:C:H5'	10:J:62:ARG:NH1	1.93	0.83
34:b:1021:A:N6	34:b:1141:U:C2	2.46	0.83
34:b:2206:C:C2	34:b:2207:C:C6	2.66	0.83
34:b:1068:G:C4'	36:i:12:VAL:HG12	2.04	0.83
40:g:98:VAL:HG21	40:g:124:GLU:HA	1.60	0.83
34:b:1071:G:H5'	36:i:134:SER:HB3	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2287:A:C2	34:b:2344:U:O4	2.30	0.83
34:b:2534:A:C2	34:b:2535:G:H1'	2.12	0.83
34:b:2736:A:C2	34:b:2737:G:C8	2.67	0.83
41:h:40:THR:OG1	41:h:42:LYS:CE	2.25	0.83
44:l:29:LYS:O	44:l:30:THR:OG1	1.97	0.83
13:M:73:SER:HB2	39:f:143:TYR:CE2	2.13	0.83
51:s:85:ILE:HD13	56:z:13:PHE:HE2	1.43	0.83
1:A:1348:U:C5'	9:I:111:GLU:CD	2.51	0.83
22:V:56:C:H2'	22:V:56:C:O2	1.76	0.83
34:b:75:G:C2	34:b:76:C:C6	2.66	0.83
34:b:1059:G:N1	36:i:125:THR:CA	1.89	0.83
34:b:1475:G:H1'	34:b:1732:C:N4	1.94	0.83
34:b:160:A:N6	34:b:167:A:C2	2.46	0.83
34:b:1080:A:O2'	36:i:106:GLN:OE1	1.94	0.83
34:b:1539:U:O2	34:b:1540:G:C8	2.32	0.83
34:b:1806:C:C4	34:b:1807:G:C8	2.67	0.83
34:b:2534:A:N1	34:b:2535:G:C1'	2.41	0.83
56:z:7:ILE:HG22	56:z:9:GLU:H	1.42	0.83
1:A:1178:G:N7	9:I:98:ARG:NH1	2.27	0.83
34:b:696:G:C2	34:b:697:G:C8	2.67	0.83
34:b:1267:U:C5	34:b:2012:G:N2	2.46	0.83
43:k:76:VAL:HG13	48:p:73:VAL:CG2	2.09	0.83
54:w:6:ALA:HB1	54:w:40:ILE:CG2	2.09	0.83
13:M:28:ARG:HH21	13:M:62:PHE:HB2	1.41	0.83
34:b:18:U:C2	34:b:19:A:C8	2.67	0.83
34:b:876:C:O2'	34:b:877:A:O5'	1.95	0.83
34:b:1104:C:N4	34:b:1105:U:C1'	2.40	0.83
34:b:1272:A:C6	34:b:1618:A:C4	2.66	0.83
34:b:2537:U:N3	34:b:2538:C:C5	2.47	0.83
1:A:1032:G:OP2	1:A:1032:G:N2	2.11	0.82
1:A:1338:G:H8	23:W:41:C:HO2'	0.86	0.82
28:3:3:VAL:HG23	34:b:2015:A:C2	2.14	0.82
34:b:172:A:C2	34:b:173:A:C8	2.67	0.82
34:b:782:A:H2	35:c:225:MET:SD	2.02	0.82
34:b:782:A:C2	35:c:225:MET:HE2	2.14	0.82
34:b:1070:A:O5'	34:b:1070:A:N3	2.11	0.82
1:A:230:G:C5'	16:P:31:ARG:HH21	1.92	0.82
1:A:826:C:O2	8:H:15:ASN:ND2	2.13	0.82
34:b:1156:A:N7	49:q:51:ARG:CD	2.39	0.82
34:b:1476:U:C5'	34:b:1732:C:C2	2.62	0.82
34:b:1830:C:O2	34:b:1831:G:C8	2.32	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2269:G:N1	34:b:2270:A:C8	2.47	0.82
1:A:1350:A:OP1	9:I:122:ARG:NH1	2.12	0.82
21:U:27:VAL:O	21:U:31:VAL:HG12	1.77	0.82
34:b:1078:U:O4'	36:i:138:VAL:HA	1.79	0.82
34:b:1866:A:H2'	34:b:1867:G:H5'	1.61	0.82
34:b:1943:U:H5	34:b:1945:G:O4'	1.62	0.82
34:b:2152:G:N3	34:b:2153:C:H1'	1.95	0.82
38:e:60:TRP:HE1	38:e:67:ARG:HD3	1.42	0.82
34:b:779:U:N3	34:b:780:G:C8	2.48	0.82
34:b:1079:C:O2'	36:i:129:GLU:CG	2.25	0.82
34:b:1320:C:N4	34:b:1333:G:C6	2.47	0.82
44:l:92:LEU:HD11	44:l:106:GLU:C	2.04	0.82
9:I:21:LYS:HB2	9:I:61:ASP:HB2	1.62	0.82
34:b:22:C:N3	34:b:23:G:C8	2.48	0.82
34:b:210:C:N3	34:b:211:C:C5	2.46	0.82
34:b:1213:A:N3	34:b:1238:G:O2'	2.12	0.82
56:z:21:GLN:C	56:z:23:GLN:HB2	2.05	0.82
34:b:847:U:C4	34:b:933:A:N6	2.47	0.82
34:b:1055:G:H8	34:b:1055:G:H5"	1.45	0.82
34:b:1078:U:OP1	36:i:99:LYS:CA	2.26	0.82
46:n:115:LEU:O	46:n:118:ARG:CG	2.28	0.82
53:u:74:ASN:HA	53:u:96:PHE:CZ	2.14	0.82
34:b:26:G:H2'	34:b:27:G:C1'	2.09	0.82
34:b:1059:G:H22	36:i:125:THR:CG2	1.92	0.82
34:b:1475:G:C4'	34:b:1732:C:N4	2.43	0.82
34:b:1868:C:H2'	34:b:1869:G:H8	1.44	0.82
34:b:1061:U:HO2'	36:i:73:PRO:HG2	1.44	0.82
2:B:96:LEU:H	2:B:99:MET:HE3	1.45	0.82
34:b:996:A:O4'	50:r:10:LYS:HG2	1.80	0.82
34:b:1662:U:N3	34:b:1663:G:N7	2.27	0.82
24:X:20:C:O2'	24:X:21:A:H4'	1.77	0.82
34:b:22:C:C2	34:b:23:G:C8	2.68	0.82
34:b:1058:U:H2'	36:i:115:ASP:C	2.05	0.82
34:b:1061:U:O2	36:i:74:PRO:HA	1.80	0.82
34:b:1062:G:H5"	36:i:75:ALA:O	1.79	0.82
34:b:2311:A:C8	39:f:77:PHE:CE2	2.68	0.82
7:G:110:ARG:HD2	7:G:118:ARG:HA	1.60	0.81
34:b:75:G:C2	34:b:76:C:C5	2.68	0.81
34:b:1064:C:C5'	36:i:87:SER:N	2.36	0.81
34:b:1434:A:C8	34:b:1435:G:C8	2.68	0.81
34:b:2468:A:C6	34:b:2481:G:N1	2.48	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:e:143:LEU:HB3	38:e:146:VAL:HG11	1.62	0.81
34:b:1476:U:C5'	34:b:1732:C:O2	2.28	0.81
34:b:867:C:N3	34:b:868:U:C5	2.48	0.81
34:b:996:A:C2	34:b:997:G:C8	2.68	0.81
34:b:1595:C:C2	34:b:1596:A:C8	2.67	0.81
34:b:2152:G:C6	34:b:2153:C:C5	2.68	0.81
38:e:61:ARG:HH12	56:z:19:ILE:HG22	1.45	0.81
44:l:82:LEU:HD11	44:l:110:VAL:HG11	1.62	0.81
1:A:1441:A:H61	1:A:1462:C:H1'	1.46	0.81
34:b:443:A:N3	34:b:1201:U:H1'	1.96	0.81
34:b:1058:U:O2'	34:b:1058:U:O2	1.96	0.81
34:b:1076:C:C4'	36:i:98:GLY:H	1.94	0.81
34:b:1867:G:C6	34:b:1868:C:C5	2.68	0.81
37:d:12:THR:HG21	48:p:5:ILE:HG23	1.60	0.81
34:b:575:A:C2	34:b:576:U:C5	2.67	0.81
34:b:730:A:C2	34:b:731:C:C5	2.68	0.81
34:b:1019:U:N3	34:b:1142:A:N6	2.28	0.81
34:b:1059:G:C2'	36:i:109:ALA:O	2.28	0.81
34:b:1081:U:C5'	36:i:122:GLU:CB	2.58	0.81
1:A:177:G:N2	1:A:177:G:OP2	2.12	0.81
34:b:1518:C:C2	34:b:1519:G:H8	1.96	0.81
34:b:2873:A:O2'	46:n:4:ARG:O	1.98	0.81
24:X:12:C:H4'	24:X:13:U:OP1	1.80	0.81
34:b:736:C:N3	34:b:737:C:C5	2.49	0.81
34:b:1076:C:H41	36:i:134:SER:C	1.86	0.81
34:b:2152:G:C6	34:b:2153:C:C6	2.69	0.81
44:l:82:LEU:HD11	44:l:110:VAL:CG1	2.10	0.81
15:O:73:ASP:OD2	15:O:76:ARG:N	2.14	0.81
1:A:203:G:N1	1:A:214:C:N3	2.29	0.81
1:A:321:A:H61	1:A:332:G:H1	1.26	0.81
34:b:767:U:O2	34:b:768:G:C8	2.34	0.81
34:b:1067:A:C2	36:i:19:PRO:CG	2.63	0.81
1:A:1054:C:C4	22:V:34:A:C8	2.70	0.80
24:X:12:C:H3'	24:X:12:C:OP2	1.80	0.80
34:b:2538:C:N3	34:b:2539:C:C5	2.49	0.80
34:b:2637:U:H2'	34:b:2638:G:O4'	1.81	0.80
47:o:18:LEU:HB3	47:o:25:ARG:HH21	1.46	0.80
51:s:85:ILE:CD1	56:z:13:PHE:HE2	1.94	0.80
34:b:388:G:C5	34:b:390:U:C4	2.69	0.80
34:b:1616:A:H4'	34:b:1617:C:OP2	1.78	0.80
34:b:2185:U:C2	34:b:2186:G:C8	2.69	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1052:U:O2'	1:A:1055:A:OP2	1.97	0.80
27:2:5:ILE:HD11	27:2:40:ASP:OD1	1.79	0.80
34:b:41:C:N3	34:b:42:A:C8	2.49	0.80
34:b:780:G:C2	34:b:782:A:C6	2.69	0.80
34:b:1076:C:OP2	36:i:93:ASN:HA	0.99	0.80
34:b:1500:G:C6	34:b:1501:G:N7	2.48	0.80
34:b:2154:A:C2	34:b:2155:U:C6	2.70	0.80
1:A:773:G:H5'	35:c:202:LEU:HD21	1.62	0.80
33:a:23:G:H2'	33:a:24:G:C8	2.16	0.80
34:b:928:A:C6	34:b:929:U:C5	2.69	0.80
34:b:1071:G:N1	34:b:1089:A:C3'	2.43	0.80
34:b:1081:U:C4'	36:i:122:GLU:HB2	2.10	0.80
34:b:1849:G:C2	34:b:1850:G:C8	2.69	0.80
34:b:2537:U:O2	34:b:2538:C:C6	2.34	0.80
28:3:32:LYS:HB3	34:b:2885:G:N2	1.96	0.80
34:b:978:G:N2	34:b:986:C:C2	2.49	0.80
34:b:1060:U:O2'	36:i:115:ASP:O	1.98	0.80
34:b:1123:C:O2	34:b:1124:G:C8	2.34	0.80
34:b:2013:A:C2	34:b:2613:U:O4	2.35	0.80
41:h:64:ALA:HB2	41:h:86:ASP:CA	2.11	0.80
56:z:19:ILE:O	56:z:19:ILE:HD12	1.81	0.80
13:M:70:ARG:CD	39:f:144:ASP:OD1	2.29	0.80
34:b:1055:G:C6	34:b:1104:C:N4	2.50	0.80
34:b:1061:U:O3'	36:i:75:ALA:HB2	1.81	0.80
34:b:2564:A:O2'	34:b:2565:A:C8	2.34	0.80
49:q:105:ALA:O	50:r:48:LYS:NZ	2.14	0.80
11:K:126:ARG:HG2	11:K:128:VAL:H	1.46	0.80
33:a:48:U:C2	33:a:49:C:C6	2.70	0.80
34:b:398:C:N3	34:b:399:U:C5	2.49	0.80
34:b:1145:C:C2	34:b:1146:C:C6	2.70	0.80
34:b:2682:A:C2	34:b:2683:C:C6	2.70	0.80
33:a:46:A:C5	33:a:47:C:C5	2.70	0.80
34:b:1395:A:C5	34:b:1398:C:C6	2.70	0.80
34:b:1407:G:C2	34:b:1408:G:C8	2.70	0.80
41:h:64:ALA:HB2	41:h:86:ASP:HA	1.62	0.80
51:s:85:ILE:CD1	56:z:11:ASP:HA	2.12	0.80
34:b:1219:U:N3	34:b:1220:G:C8	2.48	0.80
34:b:1601:G:H2'	34:b:1602:U:O4'	1.80	0.80
34:b:2107:G:O6	34:b:2108:A:C8	2.35	0.80
16:P:28:ARG:NE	16:P:29:ASN:HD21	1.79	0.80
34:b:1243:C:N3	34:b:1244:A:C8	2.49	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1301:A:C2	34:b:1303:G:C5	2.69	0.80
34:b:1305:C:N3	34:b:1306:C:C6	2.50	0.80
45:m:53:MET:HG3	45:m:63:ILE:HD13	1.62	0.80
34:b:185:G:C6	34:b:186:G:N7	2.50	0.79
34:b:587:C:OP2	44:l:21:ARG:NH1	2.15	0.79
34:b:1475:G:C1'	34:b:1732:C:N4	2.45	0.79
1:A:230:G:O3'	16:P:31:ARG:NH2	2.14	0.79
1:A:460:A:N6	1:A:471:U:O4	2.13	0.79
1:A:773:G:H5"	35:c:202:LEU:HD21	1.64	0.79
4:D:10:LEU:HD13	4:D:62:ARG:HD2	1.63	0.79
22:V:38:A:H2'	22:V:39:U:H6	1.43	0.79
34:b:373:U:C4	34:b:400:G:N2	2.50	0.79
34:b:875:G:H2'	34:b:876:C:H5"	1.62	0.79
34:b:1079:C:C5	34:b:1080:A:C4	2.69	0.79
34:b:2184:A:C2	34:b:2185:U:C6	2.70	0.79
34:b:2287:A:N6	34:b:2344:U:H3	1.79	0.79
34:b:1053:C:C4	34:b:1107:G:C2	2.70	0.79
34:b:2766:A:C6	34:b:2767:C:C6	2.71	0.79
38:e:60:TRP:CZ2	38:e:67:ARG:HD3	2.17	0.79
1:A:376:G:OP1	16:P:5:ARG:HB2	1.81	0.79
24:X:12:C:C4'	24:X:13:U:OP1	2.30	0.79
34:b:223:A:C5	34:b:422:A:C8	2.70	0.79
34:b:979:A:N6	34:b:982:C:C5	2.51	0.79
36:i:53:PRO:HD2	36:i:77:VAL:HG21	1.64	0.79
22:V:56:C:O2	22:V:57:G:C5	2.35	0.79
34:b:51:G:C2	34:b:119:A:C2	2.70	0.79
34:b:375:G:N1	34:b:376:G:C8	2.51	0.79
34:b:1063:G:O6	36:i:135:MET:HE3	1.82	0.79
34:b:1598:A:C2	34:b:1599:U:C6	2.70	0.79
15:O:55:LEU:HD21	34:b:715:A:C2	2.17	0.79
34:b:1459:G:N2	34:b:1461:C:C2	2.51	0.79
34:b:2185:U:N3	34:b:2186:G:N7	2.31	0.79
34:b:2204:G:C2	34:b:2205:A:C8	2.70	0.79
34:b:2206:C:C2	34:b:2207:C:C5	2.70	0.79
46:n:47:VAL:O	46:n:51:LEU:HD13	1.82	0.79
56:z:22:ALA:N	56:z:23:GLN:HB2	1.98	0.79
22:V:18:G:O2'	22:V:19:G:C5	2.36	0.79
34:b:736:C:C2	34:b:737:C:C6	2.71	0.79
34:b:1080:A:N7	36:i:106:GLN:O	2.14	0.79
34:b:1830:C:N3	34:b:1831:G:C8	2.49	0.79
34:b:2269:G:N1	34:b:2270:A:N7	2.30	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:25:ALA:HA	21:U:29:ALA:HB3	1.65	0.79
34:b:786:C:N3	34:b:787:C:C5	2.51	0.79
34:b:1305:C:N3	34:b:1306:C:C5	2.50	0.79
34:b:1395:A:C5	34:b:1398:C:C5	2.71	0.79
34:b:1713:A:C6	34:b:1716:U:H1'	2.17	0.79
33:a:77:U:O4	33:a:98:G:N2	2.16	0.79
34:b:1067:A:N3	36:i:19:PRO:CB	2.45	0.79
34:b:1346:G:H2'	34:b:1347:A:O4'	1.83	0.79
34:b:1974:C:N3	34:b:1975:G:C8	2.51	0.79
34:b:2331:G:C2	34:b:2332:C:C5	2.71	0.79
34:b:1141:U:H4'	34:b:1142:A:O4'	1.81	0.79
1:A:944:G:N2	1:A:1339:A:OP2	2.15	0.78
34:b:209:C:N3	34:b:210:C:C5	2.51	0.78
34:b:967:U:O2	34:b:968:C:C6	2.36	0.78
22:V:33:U:C2'	22:V:34:A:H2	1.96	0.78
24:X:20:C:O2'	24:X:21:A:C1'	2.30	0.78
34:b:20:C:C2	34:b:21:A:C8	2.71	0.78
34:b:213:A:N1	34:b:214:G:C6	2.50	0.78
34:b:1091:G:C2	34:b:1092:C:C6	2.71	0.78
34:b:2286:G:H4'	34:b:2287:A:O4'	1.81	0.78
34:b:2483:C:C4	34:b:2484:G:C8	2.72	0.78
22:V:56:C:O2	22:V:57:G:C4	2.36	0.78
34:b:298:G:H4'	34:b:299:A:OP1	1.82	0.78
34:b:380:G:C2	34:b:381:G:C8	2.71	0.78
34:b:786:C:O2	34:b:787:C:C6	2.36	0.78
34:b:2161:C:O2	34:b:2161:C:C3'	2.30	0.78
53:u:5:ILE:HD12	53:u:67:VAL:HG12	1.65	0.78
9:I:112:ARG:NH2	9:I:114:LYS:CD	2.35	0.78
21:U:27:VAL:HG12	21:U:31:VAL:HG11	1.65	0.78
34:b:157:C:C2	34:b:158:U:C5	2.71	0.78
34:b:978:G:C2	34:b:986:C:N3	2.52	0.78
36:i:100:ILE:HG22	36:i:101:SER:H	1.47	0.78
34:b:2535:G:N2	34:b:2536:G:H1'	1.99	0.78
5:E:84:VAL:HG11	5:E:142:GLY:HA3	1.65	0.78
34:b:1062:G:N1	36:i:137:LEU:HD12	1.99	0.78
34:b:1295:C:C2	34:b:1296:G:C8	2.72	0.78
45:m:40:ARG:HG2	45:m:95:LEU:CD2	2.12	0.78
34:b:1248:G:N2	38:e:83:VAL:HG22	1.99	0.78
34:b:1531:C:N3	34:b:1532:A:C8	2.52	0.78
34:b:2826:A:C6	34:b:2827:C:C5	2.72	0.78
35:c:167:ARG:O	35:c:168:ASP:OD1	2.01	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:40:C:O2'	22:V:41:C:O5'	2.02	0.78
34:b:28:A:N3	49:q:11:ARG:NH2	2.32	0.78
34:b:1079:C:C5	34:b:1080:A:O4'	2.37	0.78
34:b:2023:C:O2	34:b:2024:G:C8	2.37	0.78
34:b:2307:G:N7	34:b:2311:A:N7	2.32	0.78
34:b:2407:A:C2	34:b:2408:U:C5	2.71	0.78
34:b:2663:G:C2	34:b:2664:G:H1'	2.17	0.78
1:A:136:C:C4'	16:P:1:MET:HG3	2.14	0.78
1:A:392:C:H5'	16:P:12:LYS:CE	2.13	0.78
34:b:42:A:C2	34:b:43:G:C8	2.72	0.78
34:b:234:U:O4	34:b:429:A:C2	2.36	0.78
34:b:1063:G:C2'	36:i:85:ILE:HD12	2.13	0.78
34:b:1076:C:C2'	36:i:137:LEU:HD23	2.13	0.78
34:b:1459:G:N3	34:b:1461:C:C5	2.52	0.78
1:A:1408:A:C4'	34:b:1919:A:H1'	2.13	0.78
15:O:56:LEU:CD2	34:b:715:A:C6	2.66	0.78
21:U:29:ALA:C	21:U:31:VAL:H	1.92	0.78
34:b:94:A:H2'	34:b:95:A:C8	2.19	0.78
34:b:250:G:C2	34:b:251:A:C2	2.72	0.78
34:b:1515:A:C5	34:b:1516:G:H1'	2.18	0.78
34:b:388:G:N7	34:b:390:U:C5	2.52	0.77
34:b:1063:G:C8	36:i:79:LEU:HD12	2.19	0.77
34:b:1067:A:N3	36:i:19:PRO:HB2	1.90	0.77
34:b:1358:G:N2	34:b:1372:U:C6	2.52	0.77
14:N:80:ARG:HE	14:N:81:ILE:HG23	1.49	0.77
34:b:1053:C:N3	34:b:1107:G:C2	2.52	0.77
34:b:1080:A:C8	36:i:106:GLN:C	2.60	0.77
34:b:2127:G:O6	34:b:2162:G:H8	1.66	0.77
38:e:60:TRP:CE2	38:e:67:ARG:HD3	2.19	0.77
34:b:154:U:C2	34:b:155:A:C8	2.72	0.77
34:b:1305:C:C2	34:b:1306:C:C6	2.72	0.77
34:b:1399:C:C2	34:b:1400:U:C5	2.72	0.77
35:c:258:ARG:NH1	35:c:270:ARG:HD3	2.00	0.77
34:b:201:C:O4'	34:b:386:G:N2	2.17	0.77
34:b:1061:U:H3'	36:i:112:LYS:CD	2.11	0.77
34:b:1063:G:N2	34:b:1076:C:C2	2.53	0.77
34:b:1076:C:C2'	36:i:136:GLY:C	2.57	0.77
53:u:5:ILE:HD12	53:u:67:VAL:CG1	2.14	0.77
34:b:1060:U:HO2'	36:i:116:MET:HE3	1.49	0.77
34:b:1476:U:O5'	34:b:1732:C:N3	2.18	0.77
34:b:1502:A:N1	34:b:1503:A:C8	2.53	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2405:G:O2'	34:b:2411:A:N6	2.18	0.77
34:b:1106:G:C6	34:b:1107:G:N9	2.53	0.77
34:b:1839:G:N1	34:b:1840:G:C8	2.53	0.77
46:n:114:GLU:OE2	46:n:118:ARG:CZ	2.32	0.77
34:b:243:U:H2'	34:b:243:U:O2	1.83	0.77
34:b:1501:G:N1	34:b:1502:A:C8	2.51	0.77
34:b:1829:A:N7	34:b:1830:C:C6	2.52	0.77
41:h:66:ASN:O	41:h:149:GLU:CD	2.26	0.77
54:w:6:ALA:HB1	54:w:40:ILE:HG21	1.67	0.77
22:V:27:G:N2	22:V:28:G:C5	2.53	0.77
34:b:1062:G:O3'	36:i:78:LEU:HD23	1.85	0.77
34:b:1475:G:H1'	34:b:1732:C:H42	1.46	0.77
34:b:1775:U:O2	34:b:1775:U:H2'	1.81	0.77
34:b:2593:U:O2	34:b:2600:A:N1	2.17	0.77
41:h:40:THR:OG1	41:h:42:LYS:HD3	1.85	0.77
43:k:76:VAL:HG13	48:p:73:VAL:HG21	1.66	0.77
24:X:18:C:C6	24:X:18:C:H5"	2.19	0.77
34:b:1502:A:N1	34:b:1503:A:N7	2.31	0.77
46:n:58:ASP:OD1	46:n:63:ARG:CZ	2.33	0.77
1:A:1118:U:OP2	9:I:105:ARG:NE	2.19	0.77
1:A:1348:U:H5"	9:I:111:GLU:OE1	1.85	0.77
9:I:112:ARG:NH1	9:I:114:LYS:HG3	1.99	0.77
12:L:78:VAL:N	12:L:102:ASP:OD2	2.17	0.77
34:b:51:G:N2	34:b:119:A:C2	2.53	0.77
36:i:33:ASN:HB3	36:i:36:GLU:HB2	1.66	0.77
34:b:1064:C:H5"	36:i:87:SER:O	1.83	0.76
34:b:1145:C:O2	34:b:1146:C:C6	2.39	0.76
34:b:1276:A:C2	34:b:1277:G:N7	2.53	0.76
34:b:779:U:C4	34:b:780:G:N7	2.53	0.76
34:b:991:C:N3	34:b:992:C:C5	2.53	0.76
34:b:1019:U:N3	34:b:1142:A:C6	2.53	0.76
34:b:1068:G:P	36:i:12:VAL:HB	2.24	0.76
34:b:1272:A:N6	34:b:1618:A:N3	2.33	0.76
34:b:2309:A:C2	34:b:2310:C:C6	2.74	0.76
34:b:594:U:C2	34:b:595:C:C5	2.73	0.76
34:b:2507:C:C1'	34:b:2583:G:N2	2.48	0.76
34:b:2536:G:C6	34:b:2537:U:C4	2.74	0.76
1:A:1319:A:H5'	19:S:69:LYS:HZ3	1.50	0.76
34:b:1304:A:N1	34:b:1305:C:C5	2.53	0.76
34:b:2886:A:C5	34:b:2887:A:C8	2.74	0.76
41:h:64:ALA:HB2	41:h:86:ASP:N	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:184:G:H5”	1:A:224:U:H4’	1.68	0.76
1:A:392:C:OP1	16:P:12:LYS:HG3	1.85	0.76
1:A:392:C:H5’	16:P:12:LYS:HE3	1.67	0.76
34:b:996:A:OP1	50:r:10:LYS:HD2	1.83	0.76
34:b:1076:C:C3’	36:i:136:GLY:C	2.56	0.76
34:b:1079:C:C5	36:i:105:LEU:C	2.63	0.76
34:b:1294:U:C4	34:b:1295:C:C5	2.74	0.76
34:b:1502:A:C6	34:b:1503:A:N7	2.54	0.76
47:o:100:HIS:O	47:o:104:GLN:HB3	1.85	0.76
32:8:3:VAL:HG21	32:8:36:ARG:HH12	1.50	0.76
34:b:171:U:C2	34:b:172:A:C8	2.74	0.76
34:b:227:A:C2	34:b:2407:A:C1’	2.68	0.76
34:b:2128:G:N1	34:b:2160:C:O2	2.19	0.76
36:i:104:GLN:O	36:i:105:LEU:HB2	1.84	0.76
42:j:57:LEU:HD21	42:j:129:GLU:O	1.85	0.76
1:A:18:C:OP1	5:E:131:ASN:ND2	2.19	0.76
16:P:22:ALA:HA	16:P:33:ILE:HG13	1.65	0.76
34:b:1662:U:C4	34:b:1663:G:N7	2.54	0.76
1:A:1027:C:N3	1:A:1034:G:N2	2.33	0.76
9:I:83:THR:HG21	9:I:102:PHE:HB3	1.67	0.76
34:b:157:C:N3	34:b:158:U:C5	2.54	0.76
34:b:1081:U:C4’	36:i:122:GLU:CB	2.58	0.76
34:b:1206:G:N1	34:b:1207:C:C5	2.53	0.76
11:K:51:PHE:HA	11:K:55:ARG:NH1	2.00	0.76
13:M:70:ARG:NH1	39:f:144:ASP:OD1	2.18	0.76
34:b:594:U:N3	34:b:595:C:C5	2.53	0.76
34:b:1172:C:C2	34:b:1173:U:C5	2.74	0.76
34:b:2149:U:H2’	34:b:2150:C:H6	1.48	0.76
34:b:2839:G:C2	34:b:2840:C:C6	2.74	0.76
41:h:43:ASN:HB3	41:h:46:PHE:CG	2.20	0.76
1:A:1307:U:OP1	13:M:99:GLN:NE2	2.19	0.76
26:1:3:ALA:O	26:1:7:ARG:HG3	1.85	0.76
34:b:1868:C:H2’	34:b:1869:G:C8	2.20	0.76
34:b:2340:A:H2’	34:b:2341:G:C8	2.21	0.76
34:b:2507:C:H1’	34:b:2583:G:H21	1.50	0.76
1:A:445:G:H1	1:A:489:C:H42	1.33	0.75
34:b:20:C:N3	34:b:21:A:N7	2.34	0.75
34:b:1276:A:C8	34:b:1645:G:N2	2.54	0.75
1:A:231:U:P	16:P:31:ARG:HH22	2.10	0.75
10:J:9:ARG:HB3	10:J:71:LEU:HD11	1.68	0.75
33:a:61:G:C5	33:a:62:C:C5	2.74	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1395:A:C6	34:b:1398:C:C6	2.74	0.75
1:A:5:U:H4'	1:A:6:G:H5'	1.68	0.75
34:b:209:C:C2	34:b:210:C:C6	2.74	0.75
34:b:439:A:C2	34:b:440:C:C6	2.74	0.75
34:b:1064:C:C5'	36:i:85:ILE:CD1	2.64	0.75
34:b:1079:C:H2'	36:i:129:GLU:HG2	0.75	0.75
34:b:1086:A:O2'	34:b:1087:G:C8	2.37	0.75
34:b:2536:G:C5	34:b:2537:U:C5	2.74	0.75
13:M:70:ARG:NE	39:f:144:ASP:OD1	2.19	0.75
33:a:45:A:O4'	39:f:92:ARG:CZ	2.35	0.75
34:b:1053:C:C4	34:b:1107:G:N1	2.54	0.75
34:b:1676:A:H2'	34:b:1677:A:O4'	1.85	0.75
34:b:1796:U:O2	34:b:1797:G:C8	2.39	0.75
34:b:2133:G:N2	34:b:2160:C:OP2	2.19	0.75
41:h:43:ASN:CG	41:h:46:PHE:HE2	1.86	0.75
34:b:18:U:N3	34:b:19:A:C8	2.55	0.75
34:b:155:A:C2	34:b:156:A:N7	2.54	0.75
34:b:1475:G:H4'	34:b:1732:C:N4	2.00	0.75
15:O:87:ARG:O	15:O:88:ARG:NH1	2.19	0.75
21:U:27:VAL:HA	21:U:31:VAL:CG1	2.16	0.75
34:b:398:C:C4	34:b:399:U:C5	2.74	0.75
34:b:1079:C:C2'	34:b:1079:C:O2	2.31	0.75
34:b:1893:C:C4	34:b:1894:C:C6	2.74	0.75
44:l:68:SER:O	44:l:69:ARG:CG	2.33	0.75
34:b:531:C:C5	34:b:2035:G:C2	2.75	0.75
34:b:1061:U:O2'	36:i:73:PRO:CD	2.35	0.75
34:b:1818:U:C5	35:c:156:ARG:NH2	2.55	0.75
36:i:115:ASP:O	36:i:116:MET:HG2	1.86	0.75
6:F:91:ARG:HG3	6:F:92:THR:HG23	1.68	0.75
34:b:1145:C:C2	34:b:1146:C:C5	2.75	0.75
34:b:2800:A:N7	34:b:2801:G:C8	2.54	0.75
21:U:27:VAL:HA	21:U:31:VAL:CB	2.17	0.75
34:b:966:G:H1'	34:b:2267:A:N1	2.02	0.75
34:b:1276:A:C2	34:b:1277:G:C8	2.75	0.75
34:b:1476:U:C4'	34:b:1732:C:C2	2.69	0.75
34:b:594:U:O2	34:b:595:C:C6	2.39	0.74
34:b:1053:C:C2	34:b:1107:G:N2	2.55	0.74
34:b:1060:U:H3'	36:i:115:ASP:O	1.86	0.74
34:b:1063:G:C8	36:i:135:MET:HE2	2.22	0.74
34:b:1079:C:O2	36:i:129:GLU:HG3	1.87	0.74
34:b:1122:G:N2	34:b:1123:C:C6	2.55	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1773:A:N7	34:b:1774:C:C6	2.55	0.74
34:b:1829:A:C5	34:b:1830:C:C6	2.75	0.74
34:b:2160:C:C5	34:b:2161:C:O2	2.40	0.74
34:b:757:G:C6	34:b:758:C:C6	2.75	0.74
34:b:1061:U:O2'	36:i:73:PRO:HD2	1.87	0.74
34:b:1078:U:P	36:i:99:LYS:CB	2.74	0.74
34:b:1315:C:O2'	34:b:1392:A:C8	2.38	0.74
34:b:2589:A:C6	34:b:2590:A:N7	2.56	0.74
36:i:126:ARG:HA	36:i:129:GLU:HB2	1.69	0.74
42:j:123:LYS:HD3	42:j:132:HIS:NE2	2.01	0.74
34:b:307:G:H22	34:b:309:A:H3'	1.51	0.74
34:b:1076:C:N4	36:i:134:SER:C	2.39	0.74
34:b:1443:U:C2	34:b:1444:G:C8	2.75	0.74
1:A:796:C:H5"	11:K:126:ARG:HG3	1.69	0.74
9:I:56:MET:HG2	9:I:57:VAL:HG23	1.70	0.74
33:a:29:A:C2	33:a:56:G:C2	2.75	0.74
34:b:866:A:C6	34:b:867:C:C5	2.76	0.74
3:C:160:GLU:HG3	3:C:161:ILE:HG12	1.67	0.74
7:G:137:ARG:HH11	7:G:141:HIS:CE1	2.03	0.74
34:b:242:G:C2	34:b:254:G:C6	2.76	0.74
34:b:2385:C:C2	34:b:2386:A:C8	2.75	0.74
34:b:2466:C:C2	34:b:2467:C:C6	2.76	0.74
34:b:1867:G:C6	34:b:1868:C:C4	2.75	0.74
34:b:2793:C:C2	34:b:2794:C:C5	2.75	0.74
1:A:136:C:O4'	16:P:1:MET:HG3	1.86	0.74
1:A:1494:G:H21	34:b:1919:A:H2	1.35	0.74
34:b:1071:G:N1	34:b:1089:A:C5'	2.44	0.74
34:b:1589:U:C2	34:b:1590:A:C8	2.76	0.74
34:b:2330:G:C5	34:b:2331:G:C8	2.76	0.74
34:b:2800:A:N6	34:b:2801:G:C5	2.55	0.74
34:b:801:G:O6	38:e:48:THR:HB	1.88	0.74
34:b:1964:G:C2	34:b:1967:C:C4	2.76	0.74
34:b:2818:U:O2	34:b:2819:G:C8	2.41	0.74
3:C:69:THR:H	3:C:103:ALA:HB1	1.52	0.74
4:D:152:SER:HA	4:D:155:LYS:NZ	2.02	0.74
34:b:935:C:O2	34:b:936:A:C8	2.41	0.74
34:b:987:C:H2'	34:b:988:A:O4'	1.87	0.74
34:b:1035:U:O2	34:b:1036:G:C8	2.40	0.74
34:b:1062:G:N7	36:i:76:ALA:CA	2.49	0.74
34:b:1406:U:C2	34:b:1407:G:C8	2.75	0.74
36:i:33:ASN:HD22	36:i:64:ARG:NH2	1.85	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1408:A:O2'	34:b:1912:A:C2	2.39	0.74
34:b:167:A:H2'	34:b:168:G:O4'	1.88	0.74
34:b:288:U:O2	34:b:289:G:C8	2.41	0.74
34:b:1059:G:C1'	34:b:1080:A:N7	2.51	0.74
34:b:1077:A:C5	36:i:136:GLY:N	2.52	0.74
34:b:1459:G:C6	34:b:1461:C:N4	2.55	0.74
34:b:1598:A:C6	34:b:1599:U:C5	2.76	0.74
56:z:4:GLN:N	56:z:4:GLN:HE21	1.84	0.74
1:A:1408:A:C2'	34:b:1912:A:C2	2.71	0.73
34:b:1408:G:C6	34:b:1409:U:C5	2.75	0.73
34:b:2048:G:C1'	34:b:2823:A:N6	2.51	0.73
34:b:2396:G:N1	34:b:2397:G:N7	2.35	0.73
34:b:2802:G:C2	34:b:2803:G:C8	2.76	0.73
34:b:991:C:C5	34:b:1185:G:C6	2.75	0.73
34:b:1063:G:OP2	36:i:77:VAL:CG2	2.30	0.73
34:b:2151:U:N3	34:b:2152:G:C8	2.56	0.73
34:b:2590:A:C2	34:b:2591:C:C5	2.75	0.73
39:f:36:LEU:HG	39:f:154:ILE:HD13	1.69	0.73
12:L:53:ARG:HH21	12:L:61:GLU:HG2	1.53	0.73
34:b:609:A:H2'	34:b:610:C:O4'	1.87	0.73
34:b:779:U:C2	34:b:780:G:C8	2.76	0.73
1:A:375:U:H1'	16:P:17:TYR:HE2	1.53	0.73
1:A:773:G:C5'	35:c:202:LEU:CD2	2.63	0.73
34:b:783:A:N6	34:b:785:G:C5	2.56	0.73
34:b:1472:C:N3	34:b:1473:G:C8	2.56	0.73
34:b:1839:G:C6	34:b:1840:G:N7	2.57	0.73
34:b:2257:U:O2'	34:b:2258:C:O5'	2.05	0.73
34:b:901:C:C4	34:b:902:C:C5	2.76	0.73
34:b:2827:C:C2	34:b:2828:G:C8	2.75	0.73
1:A:942:G:N2	9:I:126:PHE:O	2.21	0.73
27:2:5:ILE:HD11	27:2:45:ARG:NH1	2.04	0.73
34:b:171:U:N3	34:b:172:A:N7	2.36	0.73
34:b:801:G:C6	38:e:49:ARG:HG2	2.23	0.73
34:b:1077:A:H4'	36:i:98:GLY:O	1.87	0.73
34:b:2888:C:C2	34:b:2889:C:C5	2.76	0.73
46:n:58:ASP:OD2	46:n:63:ARG:NH1	2.21	0.73
34:b:20:C:O2	34:b:21:A:C8	2.41	0.73
34:b:153:U:N3	34:b:154:U:C5	2.56	0.73
34:b:248:G:C8	34:b:250:G:C6	2.77	0.73
34:b:877:A:O2'	34:b:878:A:O5'	2.07	0.73
4:D:182:LYS:HZ1	4:D:183:ARG:NH1	1.85	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:112:ARG:NH1	9:I:114:LYS:CD	2.51	0.73
22:V:37:A:C2'	22:V:38:A:C5'	2.53	0.73
34:b:186:G:C2	34:b:187:G:C8	2.77	0.73
34:b:1186:G:N2	34:b:1187:G:H1'	2.03	0.73
34:b:1849:G:N2	34:b:1850:G:C5	2.57	0.73
36:i:33:ASN:HD22	36:i:64:ARG:HH22	1.36	0.73
38:e:61:ARG:NH1	56:z:19:ILE:HA	2.04	0.73
1:A:1348:U:P	9:I:111:GLU:CD	2.71	0.73
34:b:81:G:H2'	34:b:82:U:O4'	1.88	0.73
34:b:1078:U:OP1	36:i:100:ILE:N	2.22	0.73
34:b:1082:U:O5'	36:i:120:ASP:OD1	1.96	0.73
34:b:2183:A:N1	34:b:2184:A:N7	2.37	0.73
34:b:2292:U:C2	34:b:2293:G:C8	2.76	0.73
53:u:59:VAL:HG11	53:u:61:LYS:CE	2.19	0.73
53:u:59:VAL:CG1	53:u:61:LYS:HE3	2.18	0.73
34:b:979:A:N6	34:b:982:C:C6	2.57	0.73
34:b:1139:G:C2	34:b:1140:C:C6	2.77	0.73
34:b:2332:C:O2	34:b:2335:A:H2	1.72	0.73
34:b:2533:U:C4	34:b:2534:A:C8	2.77	0.73
56:z:8:SER:C	56:z:9:GLU:HG2	2.11	0.73
1:A:81:A:N6	1:A:87:C:O2'	2.22	0.72
8:H:91:LEU:HD12	8:H:92:PRO:HD2	1.70	0.72
8:H:95:MET:HB2	8:H:129:ALA:HB1	1.71	0.72
15:O:56:LEU:HD23	34:b:715:A:N6	1.97	0.72
34:b:13:A:C2	34:b:526:A:N7	2.57	0.72
34:b:1080:A:P	36:i:125:THR:CG2	2.70	0.72
34:b:2471:A:O2'	34:b:2472:G:O5'	2.07	0.72
34:b:2710:C:C2	34:b:2711:A:C8	2.77	0.72
36:i:78:LEU:HD13	36:i:108:ILE:HG23	1.69	0.72
51:s:84:ARG:HH12	56:z:7:ILE:HD11	1.47	0.72
22:V:73:A:N3	22:V:73:A:H2'	2.04	0.72
34:b:234:U:O4	34:b:430:A:C6	2.42	0.72
34:b:1500:G:N1	34:b:1501:G:C8	2.56	0.72
34:b:2826:A:C5	34:b:2827:C:C5	2.77	0.72
37:d:12:THR:CG2	48:p:5:ILE:HG23	2.19	0.72
1:A:1350:A:P	9:I:122:ARG:HH11	2.12	0.72
4:D:141:VAL:HG13	4:D:178:GLU:HG3	1.71	0.72
34:b:1461:C:C2	34:b:1462:C:C5	2.78	0.72
34:b:1667:G:O2'	34:b:1991:U:O4	2.06	0.72
34:b:2151:U:N3	34:b:2152:G:N7	2.37	0.72
34:b:2266:A:N6	34:b:2272:U:H2'	2.05	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:38:A:O2'	22:V:39:U:O4'	2.06	0.72
33:a:19:C:C2	33:a:20:G:C8	2.76	0.72
34:b:1086:A:HO2'	34:b:1087:G:H8	0.77	0.72
34:b:2556:C:C4	34:b:2557:G:C8	2.76	0.72
1:A:1409:C:H5'	34:b:1912:A:H61	1.53	0.72
34:b:910:A:N6	45:m:13:HIS:CE1	2.57	0.72
34:b:1019:U:O2	34:b:1021:A:H2	1.73	0.72
34:b:1050:A:C6	34:b:1051:G:C5	2.77	0.72
34:b:1075:C:H6	36:i:92:PRO:HG3	0.92	0.72
34:b:2741:A:H2'	34:b:2742:G:O4'	1.88	0.72
1:A:1058:G:H1	1:A:1199:U:H3	1.36	0.72
34:b:1301:A:C5	34:b:1303:G:C8	2.77	0.72
34:b:2734:A:C2	34:b:2735:G:H1'	2.24	0.72
1:A:1038:C:H2'	1:A:1039:G:H8	1.54	0.72
3:C:129:PHE:HB3	3:C:156:LEU:HD23	1.71	0.72
3:C:188:ALA:HB3	3:C:195:ILE:HB	1.70	0.72
17:Q:57:VAL:HG23	17:Q:78:VAL:HB	1.72	0.72
34:b:201:C:C4'	34:b:386:G:N2	2.53	0.72
34:b:476:G:H22	34:b:478:A:H2'	1.54	0.72
34:b:822:G:C2	34:b:823:C:C5	2.78	0.72
34:b:959:A:H2'	34:b:960:A:C8	2.24	0.72
34:b:1432:G:H2'	34:b:1433:A:C8	2.25	0.72
41:h:40:THR:OG1	41:h:42:LYS:CD	2.37	0.72
7:G:128:GLU:HB2	7:G:130:LYS:HZ3	1.54	0.72
34:b:111:A:C6	34:b:112:U:C5	2.78	0.72
34:b:1057:A:N6	36:i:119:ALA:HB2	2.05	0.72
34:b:1605:C:H1'	34:b:1610:A:N7	2.05	0.72
34:b:1952:A:H2'	34:b:1953:A:C8	2.25	0.72
34:b:2014:A:H2'	34:b:2015:A:C8	2.24	0.72
34:b:2185:U:O2	34:b:2186:G:C8	2.42	0.72
34:b:2538:C:O2	34:b:2539:C:C5	2.43	0.72
34:b:2840:C:N3	34:b:2841:C:C5	2.58	0.72
54:w:40:ILE:HG22	54:w:41:GLU:N	2.03	0.72
1:A:927:G:O2'	1:A:1503:A:N7	2.21	0.72
1:A:976:G:H1	1:A:1362:A:HO2'	1.29	0.72
1:A:1130:A:N6	1:A:1144:G:N3	2.36	0.72
14:N:22:LYS:HE2	14:N:23:ARG:NH1	2.05	0.72
34:b:725:G:H2'	34:b:726:G:C1'	2.20	0.72
34:b:785:G:C4	34:b:786:C:C5	2.77	0.72
34:b:1502:A:C2	34:b:1503:A:N9	2.58	0.72
34:b:2396:G:C6	34:b:2397:G:N7	2.57	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:z:5:LYS:H	56:z:5:LYS:CD	2.02	0.72
6:F:6:ILE:HB	6:F:62:MET:HB2	1.71	0.72
34:b:1080:A:C5'	36:i:125:THR:HG21	2.20	0.72
34:b:2466:C:N3	34:b:2467:C:C5	2.58	0.72
56:z:24:GLY:O	56:z:26:ARG:NH1	2.20	0.72
1:A:1164:G:N2	1:A:1172:C:N3	2.36	0.71
34:b:521:U:O2	34:b:522:A:C8	2.42	0.71
34:b:621:A:H2'	34:b:622:G:O4'	1.90	0.71
34:b:829:A:N7	34:b:2248:C:H5'	2.05	0.71
34:b:1071:G:N7	34:b:1089:A:C8	2.58	0.71
34:b:1080:A:N1	36:i:109:ALA:HB3	1.66	0.71
34:b:1605:C:H1'	34:b:1610:A:C8	2.25	0.71
34:b:1866:A:C2'	34:b:1867:G:H5'	2.19	0.71
46:n:51:LEU:HD21	46:n:70:THR:HG23	1.72	0.71
2:B:185:ILE:HG22	2:B:199:ILE:HB	1.71	0.71
15:O:55:LEU:CD2	34:b:715:A:C2	2.73	0.71
22:V:56:C:C5	34:b:2309:A:C2	2.77	0.71
33:a:29:A:H4'	47:o:3:LYS:HE3	1.72	0.71
34:b:75:G:N1	34:b:76:C:C5	2.58	0.71
34:b:76:C:O2	34:b:76:C:H2'	1.89	0.71
34:b:440:C:N3	34:b:441:U:C5	2.58	0.71
34:b:937:C:C2	34:b:938:G:C8	2.77	0.71
34:b:1071:G:N1	34:b:1089:A:C4'	2.53	0.71
34:b:1207:C:O2	34:b:1208:C:C5	2.28	0.71
34:b:1408:G:C2	34:b:1409:U:C6	2.77	0.71
34:b:2153:C:O2	34:b:2153:C:H2'	1.88	0.71
34:b:523:C:C2	34:b:524:G:C8	2.78	0.71
34:b:785:G:C2	34:b:786:C:C5	2.77	0.71
34:b:1051:G:C5	34:b:1052:C:C6	2.76	0.71
34:b:1494:A:C2	34:b:1495:A:C5	2.77	0.71
34:b:1964:G:N2	34:b:1967:C:C2	2.58	0.71
34:b:2488:G:H2'	34:b:2489:U:C6	2.24	0.71
34:b:2766:A:C6	34:b:2767:C:C5	2.78	0.71
54:w:40:ILE:CG2	54:w:41:GLU:N	2.54	0.71
2:B:28:PRO:O	2:B:44:LYS:NZ	2.23	0.71
34:b:195:A:C6	34:b:198:C:C5	2.78	0.71
34:b:1061:U:OP2	36:i:115:ASP:CG	2.32	0.71
34:b:1062:G:N2	36:i:100:ILE:HD11	2.03	0.71
34:b:1319:C:H2'	34:b:1320:C:H5'	1.72	0.71
34:b:2419:U:O2	34:b:2420:C:C6	2.44	0.71
56:z:12:LEU:HD12	56:z:12:LEU:N	2.03	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:39:U:O2'	22:V:40:C:H5'	1.89	0.71
22:V:56:C:O2	22:V:56:C:C2'	2.37	0.71
33:a:48:U:N3	33:a:49:C:C5	2.58	0.71
33:a:61:G:C6	33:a:62:C:C4	2.78	0.71
34:b:26:G:H2'	34:b:27:G:H1'	1.69	0.71
34:b:537:G:N1	34:b:555:G:C2	2.58	0.71
34:b:822:G:N2	34:b:823:C:C2	2.58	0.71
34:b:1071:G:C5	34:b:1089:A:N7	2.58	0.71
34:b:2331:G:C6	34:b:2332:C:C5	2.78	0.71
34:b:2662:A:C5	34:b:2663:G:H1'	2.25	0.71
34:b:2841:C:C2	34:b:2842:G:C8	2.77	0.71
1:A:1131:G:H22	1:A:1144:G:H4'	1.55	0.71
5:E:80:LEU:HG	5:E:82:HIS:H	1.55	0.71
15:O:56:LEU:HD21	34:b:715:A:C6	2.18	0.71
15:O:56:LEU:CG	34:b:715:A:N6	2.54	0.71
27:2:43:ALA:O	34:b:851:C:O2'	2.08	0.71
34:b:1050:A:C6	34:b:1051:G:N7	2.58	0.71
34:b:1064:C:C4'	36:i:85:ILE:CD1	2.67	0.71
34:b:1459:G:C4	34:b:1461:C:C5	2.77	0.71
34:b:1999:C:C2	34:b:2000:C:C6	2.79	0.71
50:r:40:MET:SD	50:r:48:LYS:HG2	2.31	0.71
53:u:5:ILE:CD1	53:u:67:VAL:CG1	2.69	0.71
1:A:301:G:H2'	1:A:302:G:H8	1.54	0.71
34:b:172:A:N1	34:b:173:A:C5	2.59	0.71
34:b:341:C:N3	34:b:342:A:C8	2.59	0.71
34:b:782:A:C2	35:c:225:MET:SD	2.83	0.71
34:b:970:U:C2	34:b:971:G:C8	2.78	0.71
8:H:12:ARG:HH12	8:H:27:PRO:HD2	1.56	0.71
34:b:2166:U:H2'	34:b:2167:U:C1'	2.21	0.71
51:s:90:LYS:O	56:z:18:TRP:HD1	1.74	0.71
1:A:107:G:O6	20:T:9:ARG:NH1	2.24	0.71
1:A:974:A:OP2	14:N:68:ARG:NH2	2.23	0.71
22:V:40:C:H2'	22:V:41:C:H6	1.56	0.71
34:b:332:A:C6	34:b:335:C:C4	2.79	0.71
34:b:660:C:C2	34:b:661:A:C8	2.79	0.71
34:b:963:U:N3	34:b:964:C:C5	2.57	0.71
34:b:1516:G:C6	34:b:1517:G:C8	2.79	0.71
34:b:2610:C:O2'	34:b:2611:C:P	2.49	0.71
8:H:10:LEU:HD22	8:H:74:ILE:HD11	1.71	0.71
9:I:40:ARG:HA	9:I:44:ARG:HD2	1.72	0.71
34:b:201:C:C4	34:b:202:U:C5	2.79	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1337:G:N2	34:b:1338:G:H1'	2.06	0.71
34:b:1459:G:C2	34:b:1461:C:C5	2.79	0.71
53:u:72:ILE:HG22	53:u:73:PHE:N	2.06	0.71
16:P:51:ARG:NH2	16:P:53:ASP:HB2	2.06	0.70
34:b:109:C:N3	34:b:110:G:H8	1.89	0.70
34:b:1079:C:H5	36:i:106:GLN:HA	1.56	0.70
34:b:1123:C:C2	34:b:1124:G:C8	2.79	0.70
34:b:1229:C:N3	34:b:1230:A:C8	2.59	0.70
34:b:1759:A:N3	34:b:1759:A:H2'	2.06	0.70
34:b:1892:C:N4	34:b:1893:C:C5	2.59	0.70
34:b:2527:C:C4	34:b:2528:U:C5	2.79	0.70
1:A:1341:U:H2'	9:I:126:PHE:HB2	1.73	0.70
9:I:129:ARG:HA	23:W:32:A:OP1	1.91	0.70
34:b:1451:C:O2'	34:b:1452:G:N7	2.25	0.70
34:b:1790:C:C3'	34:b:1791:A:C8	2.74	0.70
37:d:116:LYS:HD2	46:n:1:MET:HE1	1.72	0.70
54:w:61:LEU:HD11	54:w:72:VAL:HG23	1.71	0.70
34:b:1059:G:N2	36:i:125:THR:CG2	2.51	0.70
34:b:1063:G:H1	36:i:135:MET:HB2	1.46	0.70
34:b:1080:A:C1'	36:i:106:GLN:CA	2.29	0.70
34:b:1304:A:C2	34:b:1305:C:C5	2.78	0.70
34:b:2183:A:C2	34:b:2184:A:H8	2.09	0.70
41:h:42:LYS:HD2	41:h:42:LYS:N	2.06	0.70
56:z:15:THR:OG1	56:z:16:PRO:HD3	1.91	0.70
1:A:227:G:O2'	16:P:63:GLN:HG3	1.92	0.70
1:A:1367:C:OP2	9:I:117:LEU:HB2	1.92	0.70
34:b:531:C:C5	34:b:2035:G:N2	2.59	0.70
34:b:2380:C:N3	34:b:2381:A:C8	2.59	0.70
34:b:2661:G:H2'	34:b:2662:A:C8	2.26	0.70
1:A:327:A:H1'	1:A:329:A:H1'	1.72	0.70
1:A:1342:C:H5'	9:I:126:PHE:HA	1.73	0.70
34:b:117:G:OP2	34:b:119:A:O2'	2.10	0.70
34:b:785:G:N1	34:b:786:C:C4	2.60	0.70
34:b:1051:G:O6	34:b:1052:C:C4	2.44	0.70
34:b:1077:A:O2'	36:i:133:ARG:HA	1.91	0.70
34:b:1170:C:N3	34:b:1172:C:N3	2.35	0.70
34:b:2173:A:H3'	34:b:2174:C:O4'	1.90	0.70
38:e:76:PRO:HA	38:e:82:GLY:HA2	1.72	0.70
1:A:106:C:O2'	1:A:379:C:OP1	2.09	0.70
34:b:626:A:C2	44:l:78:ARG:CD	2.75	0.70
34:b:974:G:C8	34:b:989:G:N2	2.59	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1049:C:C2	34:b:1050:A:C8	2.80	0.70
34:b:1062:G:H22	36:i:137:LEU:CD2	2.05	0.70
34:b:1812:U:N3	34:b:1813:G:N7	2.40	0.70
34:b:2152:G:N1	34:b:2153:C:C2	2.60	0.70
34:b:2161:C:O2	34:b:2161:C:H3'	1.92	0.70
9:I:112:ARG:HH12	9:I:114:LYS:CD	2.04	0.70
9:I:112:ARG:CZ	9:I:114:LYS:CD	2.69	0.70
34:b:154:U:N3	34:b:155:A:N7	2.40	0.70
34:b:930:G:N2	34:b:933:A:N3	2.40	0.70
34:b:936:A:C2	34:b:937:C:C6	2.80	0.70
34:b:1220:G:N2	34:b:1221:C:C2	2.59	0.70
34:b:2129:C:N4	34:b:2160:C:C2	2.60	0.70
34:b:2149:U:H2'	34:b:2150:C:C6	2.25	0.70
34:b:2427:C:H5'	34:b:2429:G:H5'	1.72	0.70
1:A:178:C:OP2	20:T:59:ARG:NH2	2.20	0.70
1:A:442:G:O6	1:A:492:C:N4	2.19	0.70
1:A:773:G:H4'	35:c:202:LEU:CD2	2.19	0.70
22:V:30:G:N1	22:V:40:C:N4	2.40	0.70
34:b:928:A:N1	34:b:929:U:C5	2.59	0.70
34:b:1066:U:O2	34:b:1068:G:OP2	2.10	0.70
34:b:1636:U:O2	34:b:1637:A:C8	2.44	0.70
34:b:1720:U:H2'	34:b:1721:G:O4'	1.90	0.70
1:A:979:C:O2'	14:N:52:ARG:NH2	2.25	0.70
1:A:1379:G:N7	7:G:2:ARG:NH2	2.40	0.70
16:P:4:ILE:HG12	16:P:21:VAL:HG22	1.73	0.70
34:b:1076:C:O2	36:i:137:LEU:CD1	2.39	0.70
34:b:1081:U:C4	36:i:123:ALA:HB3	2.27	0.70
36:i:20:SER:HB3	36:i:21:PRO:HD3	1.74	0.70
38:e:146:VAL:HG12	38:e:185:LYS:HB2	1.74	0.70
34:b:78:U:C2	34:b:79:C:C5	2.80	0.70
34:b:785:G:C2	34:b:786:C:C6	2.80	0.70
34:b:949:G:N3	34:b:950:G:C8	2.59	0.70
34:b:1060:U:H3	36:i:128:ILE:HG13	1.55	0.70
34:b:1061:U:O2	36:i:74:PRO:CA	2.36	0.70
34:b:1064:C:H4'	36:i:85:ILE:HB	0.78	0.70
34:b:1172:C:H2'	34:b:1173:U:H6	1.55	0.70
34:b:1301:A:C4	34:b:1303:G:C8	2.80	0.70
34:b:1812:U:C2	34:b:1813:G:C8	2.80	0.70
34:b:1857:G:C2	34:b:1884:G:N1	2.60	0.70
34:b:2309:A:N1	34:b:2310:C:C5	2.60	0.70
24:X:19:U:H6	24:X:19:U:C5'	2.04	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:201:C:H2'	34:b:201:C:O2	1.92	0.69
34:b:223:A:C6	34:b:422:A:N7	2.60	0.69
34:b:1060:U:H3'	36:i:115:ASP:N	1.97	0.69
34:b:1868:C:O2	34:b:1869:G:C8	2.45	0.69
34:b:2469:A:C2	34:b:2470:G:H1'	2.27	0.69
34:b:2801:G:C2	34:b:2802:G:C8	2.80	0.69
46:n:1:MET:SD	46:n:3:HIS:CE1	2.85	0.69
1:A:264:C:H4'	17:Q:64:ARG:HH21	1.56	0.69
23:W:72:G:H3'	23:W:73:A:H5'	1.72	0.69
34:b:171:U:O2	34:b:172:A:C8	2.44	0.69
34:b:279:A:C2	34:b:280:U:H1'	2.27	0.69
34:b:371:A:N3	34:b:372:G:N2	2.39	0.69
34:b:1026:G:H1'	34:b:1134:A:C2	2.27	0.69
34:b:1050:A:C5	34:b:1051:G:C8	2.80	0.69
34:b:1051:G:N1	34:b:1052:C:C6	2.60	0.69
34:b:1055:G:N1	34:b:1104:C:N4	2.40	0.69
34:b:1170:C:C2	34:b:1172:C:N3	2.60	0.69
4:D:58:GLN:HG3	4:D:62:ARG:NH1	2.08	0.69
34:b:1999:C:O2	34:b:1999:C:H2'	1.91	0.69
1:A:1117:A:N6	1:A:1184:G:O6	2.25	0.69
10:J:5:ARG:N	10:J:76:ILE:O	2.25	0.69
19:S:25:GLY:O	19:S:27:LYS:NZ	2.24	0.69
34:b:126:A:O2'	34:b:127:A:O5'	2.09	0.69
34:b:155:A:N1	34:b:156:A:C5	2.60	0.69
34:b:174:U:C2	34:b:175:G:C8	2.80	0.69
34:b:441:U:O2	38:e:41:GLN:NE2	2.26	0.69
34:b:910:A:O2'	34:b:911:A:C8	2.45	0.69
34:b:1082:U:O2'	36:i:120:ASP:N	2.22	0.69
34:b:1135:C:C6	34:b:1137:G:OP2	2.45	0.69
34:b:1218:G:C6	34:b:1219:U:C5	2.80	0.69
34:b:2152:G:C2	34:b:2153:C:C1'	2.72	0.69
34:b:2287:A:N6	34:b:2344:U:N3	2.40	0.69
34:b:2330:G:O6	34:b:2331:G:C5	2.44	0.69
53:u:74:ASN:HD21	53:u:99:ASN:HD21	1.40	0.69
34:b:76:C:N3	34:b:77:G:N7	2.39	0.69
34:b:1063:G:H1	36:i:89:SER:N	1.90	0.69
34:b:2330:G:C6	34:b:2331:G:N7	2.61	0.69
47:o:18:LEU:CB	47:o:25:ARG:HH21	2.06	0.69
3:C:57:GLU:HB3	3:C:64:ARG:HB2	1.73	0.69
21:U:24:LYS:O	21:U:28:LEU:HB2	1.92	0.69
34:b:118:A:H2'	34:b:120:U:O4	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1499:C:N4	34:b:1500:G:C5	2.61	0.69
34:b:1891:G:HO2'	34:b:2235:G:HO2'	1.35	0.69
16:P:73:ALA:O	16:P:77:GLU:HB2	1.93	0.69
34:b:41:C:N3	34:b:42:A:N7	2.41	0.69
34:b:603:A:H4'	34:b:604:G:O5'	1.90	0.69
34:b:1063:G:N7	36:i:135:MET:HE1	2.06	0.69
34:b:1080:A:H1'	36:i:106:GLN:HB2	1.69	0.69
34:b:2150:C:C2	34:b:2151:U:C5	2.80	0.69
34:b:2470:G:C2	34:b:2471:A:C8	2.80	0.69
13:M:22:TYR:O	13:M:69:ARG:NH2	2.26	0.69
27:2:5:ILE:HD12	27:2:40:ASP:OD1	1.92	0.69
34:b:66:C:O4'	34:b:456:C:N4	2.26	0.69
34:b:234:U:N3	34:b:429:A:N6	2.41	0.69
34:b:309:A:O4'	34:b:329:G:N2	2.26	0.69
34:b:376:G:C2	34:b:377:G:C8	2.81	0.69
34:b:962:G:C6	34:b:963:U:C5	2.81	0.69
34:b:1062:G:C2	36:i:137:LEU:HD13	2.10	0.69
34:b:1076:C:H4'	36:i:98:GLY:N	1.87	0.69
34:b:1106:G:C6	34:b:1107:G:C4	2.80	0.69
34:b:1165:A:C2	34:b:1166:G:C8	2.81	0.69
34:b:1304:A:C6	34:b:1305:C:C5	2.81	0.69
34:b:1394:U:C5	34:b:1395:A:C4	2.81	0.69
34:b:1733:G:C2	34:b:1734:G:C8	2.81	0.69
34:b:2206:C:O2	34:b:2207:C:C6	2.45	0.69
34:b:2380:C:C2	34:b:2381:A:C8	2.81	0.69
34:b:2385:C:N3	34:b:2386:A:N7	2.40	0.69
34:b:2533:U:C5	34:b:2534:A:C8	2.81	0.69
34:b:2707:U:C2	34:b:2708:G:C8	2.81	0.69
1:A:1054:C:N4	22:V:34:A:C5	2.60	0.69
1:A:1308:U:H2'	1:A:1309:G:H8	1.58	0.69
34:b:40:U:N3	34:b:41:C:C5	2.61	0.69
34:b:388:G:N7	34:b:390:U:C6	2.61	0.69
34:b:1050:A:C2	34:b:1051:G:N9	2.61	0.69
34:b:1299:G:H4'	34:b:1301:A:C8	2.27	0.69
44:l:82:LEU:HD22	44:l:90:VAL:HG11	1.74	0.69
46:n:58:ASP:CG	46:n:63:ARG:NH1	2.50	0.69
11:K:22:ILE:HG23	11:K:85:VAL:HA	1.75	0.69
24:X:18:C:H2'	24:X:19:U:H5"	1.74	0.69
34:b:57:C:C2	34:b:58:G:C8	2.81	0.69
34:b:1060:U:C4	36:i:108:ILE:O	2.32	0.69
34:b:1063:G:C2	36:i:88:GLY:C	2.70	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1063:G:N3	36:i:85:ILE:HD11	2.07	0.69
34:b:1206:G:H2'	34:b:1206:G:N3	2.08	0.69
34:b:1225:G:H2'	34:b:1226:A:C8	2.27	0.69
1:A:1267:C:N3	1:A:1327:C:O2'	2.25	0.68
34:b:593:U:C2	34:b:594:U:C5	2.81	0.68
34:b:1786:A:H61	34:b:2606:C:C4'	2.05	0.68
1:A:8:A:N6	4:D:201:GLU:O	2.26	0.68
1:A:580:C:H5"	15:O:57:ARG:NH1	2.08	0.68
4:D:10:LEU:HB3	4:D:62:ARG:HE	1.57	0.68
34:b:658:U:C2	34:b:659:G:C8	2.80	0.68
34:b:1079:C:C3'	36:i:129:GLU:CG	2.64	0.68
34:b:1144:A:C2	34:b:1145:C:C6	2.80	0.68
34:b:1790:C:O2'	35:c:208:ALA:HB2	1.92	0.68
38:e:60:TRP:CE3	38:e:70:SER:CB	2.76	0.68
6:F:12:PRO:O	6:F:44:ARG:NH2	2.26	0.68
34:b:930:G:C2	34:b:933:A:C2	2.81	0.68
34:b:1063:G:N7	36:i:76:ALA:O	2.25	0.68
34:b:1082:U:P	36:i:122:GLU:CB	2.81	0.68
34:b:2827:C:N3	34:b:2828:G:N7	2.42	0.68
1:A:710:G:OP1	6:F:53:LYS:NZ	2.26	0.68
1:A:773:G:H5"	35:c:202:LEU:HD11	1.76	0.68
1:A:1129:C:H42	1:A:1143:G:H1	1.42	0.68
6:F:98:GLU:HG3	6:F:100:SER:H	1.58	0.68
34:b:1075:C:H6	36:i:92:PRO:HG2	1.56	0.68
34:b:1206:G:C6	34:b:1207:C:N4	2.62	0.68
34:b:1218:G:C5	34:b:1219:U:C6	2.80	0.68
34:b:1296:G:C2	34:b:1297:C:C5	2.81	0.68
34:b:2397:G:H2'	34:b:2397:G:N3	2.08	0.68
34:b:2591:C:O2	34:b:2592:G:C8	2.46	0.68
34:b:2848:G:N2	34:b:2867:G:C8	2.61	0.68
34:b:2848:G:C2	34:b:2867:G:N7	2.61	0.68
1:A:1495:U:O2'	34:b:1920:C:O2'	1.68	0.68
4:D:73:ASN:HA	4:D:76:LYS:HE2	1.74	0.68
34:b:126:A:H2'	34:b:127:A:N7	2.08	0.68
34:b:1594:U:O2	34:b:1595:C:C6	2.46	0.68
34:b:2094:A:C5'	41:h:25:TYR:CD1	2.74	0.68
34:b:2537:U:C2	34:b:2538:C:C6	2.81	0.68
34:b:2822:G:H2'	34:b:2823:A:H5"	1.74	0.68
54:w:61:LEU:CD1	54:w:72:VAL:CG2	2.72	0.68
1:A:790:A:OP1	23:W:38:U:O2'	2.07	0.68
13:M:70:ARG:HG3	39:f:144:ASP:CG	2.17	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1301:A:C6	34:b:1303:G:N9	2.61	0.68
34:b:2395:C:C2	34:b:2396:G:C8	2.82	0.68
34:b:2660:A:H2'	34:b:2661:G:C8	2.27	0.68
1:A:1348:U:C5'	9:I:111:GLU:OE1	2.42	0.68
20:T:50:PHE:HA	20:T:53:MET:HG2	1.74	0.68
34:b:853:C:N3	34:b:854:C:C5	2.61	0.68
34:b:2013:A:N6	34:b:2613:U:N3	2.42	0.68
34:b:2331:G:N2	34:b:2332:C:N1	2.41	0.68
34:b:2715:C:C4	34:b:2716:C:C5	2.81	0.68
42:j:57:LEU:CD2	42:j:125:TYR:HB2	2.20	0.68
1:A:1302:C:H1'	13:M:16:ILE:HG13	1.76	0.68
4:D:152:SER:HA	4:D:155:LYS:HZ3	1.58	0.68
22:V:70:G:C2	22:V:71:G:C8	2.81	0.68
34:b:1050:A:C4	34:b:1051:G:C8	2.82	0.68
34:b:1082:U:P	36:i:122:GLU:HB2	2.33	0.68
34:b:1301:A:C2	34:b:1303:G:N7	2.62	0.68
34:b:1599:U:C2	34:b:1600:C:C5	2.82	0.68
34:b:1889:A:H2'	34:b:1890:A:O4'	1.93	0.68
36:i:74:PRO:O	36:i:77:VAL:HG22	1.93	0.68
19:S:50:VAL:HG11	19:S:70:LEU:HB3	1.76	0.68
34:b:155:A:N1	34:b:156:A:N7	2.42	0.68
34:b:157:C:C2	34:b:158:U:C6	2.82	0.68
34:b:160:A:C6	34:b:167:A:N1	2.62	0.68
34:b:949:G:C2	34:b:950:G:N7	2.62	0.68
34:b:1501:G:N2	34:b:1502:A:H1'	2.09	0.68
11:K:51:PHE:HA	11:K:55:ARG:HH12	1.56	0.68
22:V:18:G:O2'	22:V:19:G:C6	2.47	0.68
34:b:223:A:N6	34:b:422:A:C5	2.62	0.68
34:b:1078:U:OP2	36:i:99:LYS:CA	2.41	0.68
34:b:1859:U:C2	34:b:1860:G:C8	2.82	0.68
34:b:2887:A:N1	34:b:2888:C:C5	2.62	0.68
28:3:27:SER:O	28:3:40:ARG:HG2	1.93	0.67
34:b:822:G:N1	34:b:823:C:C4	2.62	0.67
34:b:1518:C:O2	34:b:1519:G:C8	2.47	0.67
34:b:1545:A:H2'	34:b:1546:G:O4'	1.94	0.67
34:b:2345:G:N7	34:b:2347:C:C5	2.62	0.67
52:t:69:ARG:HG2	52:t:74:ILE:HG22	1.76	0.67
1:A:1408:A:H5'	34:b:1919:A:O4'	1.92	0.67
22:V:37:A:C3'	22:V:38:A:C5'	2.71	0.67
34:b:111:A:C2	34:b:112:U:C6	2.82	0.67
34:b:213:A:C2	34:b:214:G:C6	2.83	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:381:G:C2	34:b:382:A:C8	2.82	0.67
34:b:964:C:O2	34:b:2273:A:H2	1.77	0.67
34:b:1451:C:N3	34:b:1458:U:C5	2.62	0.67
34:b:2137:U:N3	34:b:2138:G:C8	2.62	0.67
53:u:5:ILE:CD1	53:u:67:VAL:HG12	2.24	0.67
22:V:19:G:N2	22:V:57:G:N2	2.42	0.67
34:b:1049:C:N3	34:b:1050:A:C8	2.62	0.67
34:b:1067:A:C2	36:i:19:PRO:HB3	2.21	0.67
34:b:1326:U:O2	34:b:1326:U:H2'	1.94	0.67
34:b:1595:C:N3	34:b:1596:A:N7	2.41	0.67
34:b:2150:C:N3	34:b:2151:U:C5	2.63	0.67
34:b:2330:G:O2'	55:y:41:ARG:HB2	1.94	0.67
34:b:2699:C:N3	34:b:2700:A:C8	2.63	0.67
36:i:98:GLY:HA3	36:i:137:LEU:HD23	1.74	0.67
51:s:90:LYS:O	56:z:18:TRP:CD1	2.47	0.67
9:I:5:TYR:HB2	9:I:20:ILE:HB	1.74	0.67
34:b:160:A:C6	34:b:167:A:C2	2.82	0.67
34:b:903:C:C2	34:b:904:G:C8	2.83	0.67
34:b:977:G:C2	34:b:987:C:C2	2.82	0.67
34:b:1064:C:H5'	36:i:87:SER:N	2.07	0.67
34:b:1243:C:C2	34:b:1244:A:C8	2.83	0.67
34:b:1295:C:N3	34:b:1296:G:C8	2.62	0.67
34:b:1517:G:N2	34:b:1518:C:H1'	2.08	0.67
34:b:1774:C:O2	34:b:1774:C:H2'	1.93	0.67
34:b:1938:A:N1	34:b:2590:A:H1'	2.09	0.67
34:b:2284:A:O2'	34:b:2288:A:N6	2.28	0.67
34:b:2589:A:C6	34:b:2590:A:C8	2.83	0.67
34:b:2593:U:O2	34:b:2600:A:C2	2.47	0.67
34:b:2817:U:C4	34:b:2818:U:C6	2.82	0.67
39:f:36:LEU:HD11	39:f:99:PHE:CZ	2.30	0.67
48:p:100:LEU:HD11	48:p:110:ILE:HD11	1.77	0.67
1:A:1065:U:H1'	1:A:1066:C:OP2	1.93	0.67
33:a:34:A:C2	33:a:44:G:C6	2.83	0.67
34:b:783:A:N7	34:b:785:G:C8	2.62	0.67
34:b:1060:U:O2'	36:i:116:MET:CE	2.36	0.67
34:b:1076:C:P	36:i:95:ASP:O	2.52	0.67
34:b:2041:U:N3	34:b:2042:A:N7	2.42	0.67
34:b:2136:G:C6	34:b:2137:U:C6	2.83	0.67
34:b:2480:C:N4	34:b:2481:G:C5	2.63	0.67
34:b:2793:C:N3	34:b:2794:C:C5	2.63	0.67
57:b:9000:CLM:C1	56:z:28:GLY:CA	2.72	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:941:G:H1	9:I:125:GLN:CD	2.03	0.67
34:b:425:G:N1	34:b:426:C:C4	2.62	0.67
34:b:1077:A:C8	36:i:93:ASN:OD1	2.47	0.67
34:b:1907:G:C6	34:b:1908:C:C5	2.83	0.67
34:b:2107:G:C6	34:b:2108:A:C8	2.83	0.67
34:b:2564:A:C6	34:b:2647:U:H4'	2.30	0.67
34:b:2715:C:N4	34:b:2716:C:C5	2.63	0.67
41:h:51:ARG:HG3	41:h:55:GLU:HG3	1.77	0.67
47:o:18:LEU:CB	47:o:25:ARG:HD3	2.24	0.67
1:A:147:G:H2'	1:A:148:G:C8	2.29	0.67
34:b:170:U:N3	34:b:171:U:C5	2.63	0.67
34:b:443:A:C8	38:e:40:ARG:HD3	2.29	0.67
34:b:734:A:O2'	34:b:1635:A:H4'	1.94	0.67
34:b:1059:G:H3'	36:i:109:ALA:O	1.95	0.67
34:b:1068:G:C5'	36:i:12:VAL:CB	2.58	0.67
34:b:1231:U:O2	34:b:1232:G:N7	2.27	0.67
34:b:2534:A:C2	34:b:2535:G:C1'	2.77	0.67
16:P:59:HIS:CE1	16:P:63:GLN:HE22	2.13	0.67
34:b:27:G:O2'	34:b:513:A:N6	2.28	0.67
34:b:1061:U:O3'	36:i:75:ALA:CB	2.43	0.67
34:b:1150:C:N3	34:b:1151:A:C8	2.63	0.67
34:b:1516:G:C5	34:b:1517:G:C8	2.83	0.67
34:b:2227:A:C2	34:b:2228:G:H1'	2.30	0.67
44:l:92:LEU:CD1	44:l:106:GLU:O	2.42	0.67
56:z:22:ALA:CB	56:z:23:GLN:HA	2.10	0.67
34:b:822:G:C2	34:b:823:C:C6	2.82	0.67
34:b:1019:U:O2	34:b:1021:A:C2	2.47	0.67
34:b:1058:U:C2'	36:i:115:ASP:C	2.68	0.67
34:b:1079:C:C2'	36:i:129:GLU:CD	2.66	0.67
34:b:1207:C:C2	34:b:1208:C:H5	1.95	0.67
34:b:1459:G:N1	34:b:1461:C:C4	2.63	0.67
34:b:1469:A:C8	34:b:1521:G:N2	2.63	0.67
34:b:1830:C:C2	34:b:1831:G:H8	2.11	0.67
41:h:69:ALA:HA	41:h:72:ILE:HG12	1.77	0.67
5:E:64:GLU:OE1	5:E:67:ARG:NH2	2.28	0.67
32:8:3:VAL:HG22	32:8:36:ARG:HB3	1.77	0.67
34:b:375:G:C6	34:b:376:G:N7	2.62	0.67
34:b:519:U:C2	34:b:520:G:C8	2.83	0.67
34:b:704:G:C2	34:b:726:G:C2	2.82	0.67
34:b:1517:G:C5	34:b:1518:C:C5	2.82	0.67
34:b:2013:A:N6	34:b:2613:U:H3	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2468:A:N3	34:b:2481:G:N2	2.43	0.67
4:D:123:MET:N	4:D:143:SER:O	2.26	0.66
33:a:92:C:N3	33:a:93:C:C5	2.63	0.66
33:a:92:C:C2	33:a:93:C:C5	2.83	0.66
34:b:234:U:O4	34:b:429:A:C6	2.48	0.66
34:b:875:G:C2'	34:b:876:C:H5"	2.24	0.66
34:b:935:C:C2	34:b:936:A:C8	2.83	0.66
34:b:1064:C:O4'	36:i:85:ILE:CD1	2.43	0.66
34:b:1786:A:H62	34:b:2606:C:C1'	2.08	0.66
34:b:2106:U:O2	34:b:2107:G:C8	2.48	0.66
34:b:2593:U:C2	34:b:2594:C:C5	2.84	0.66
46:n:58:ASP:OD1	46:n:63:ARG:NH1	2.28	0.66
1:A:700:G:H5'	1:A:701:U:OP2	1.93	0.66
34:b:213:A:C2	34:b:214:G:C5	2.84	0.66
34:b:1081:U:O4	36:i:123:ALA:HB3	1.95	0.66
34:b:1314:C:N3	34:b:1315:C:C5	2.62	0.66
34:b:1475:G:O4'	34:b:1732:C:N4	2.28	0.66
34:b:2048:G:O4'	34:b:2823:A:N6	2.28	0.66
34:b:2451:A:H2	57:b:9000:CLM:H7	1.56	0.66
36:i:42:ASN:HA	36:i:45:THR:HB	1.78	0.66
41:h:43:ASN:O	41:h:46:PHE:N	2.27	0.66
56:z:21:GLN:HB3	56:z:23:GLN:HB2	1.75	0.66
1:A:374:A:H4'	1:A:452:A:H1'	1.77	0.66
1:A:820:U:H4'	1:A:821:G:OP2	1.93	0.66
4:D:131:ILE:HG22	4:D:133:SER:H	1.61	0.66
34:b:40:U:C2	34:b:41:C:C6	2.83	0.66
34:b:154:U:C2	34:b:155:A:H8	2.13	0.66
34:b:1052:C:C2	34:b:1053:C:N4	2.62	0.66
34:b:1078:U:OP2	36:i:98:GLY:O	2.12	0.66
34:b:1080:A:N9	36:i:106:GLN:CA	2.54	0.66
34:b:1220:G:N3	34:b:1221:C:C6	2.63	0.66
34:b:2385:C:C2	34:b:2386:A:N7	2.63	0.66
34:b:2827:C:N3	34:b:2828:G:C8	2.63	0.66
1:A:1193:G:O6	3:C:2:GLN:NE2	2.17	0.66
3:C:76:ILE:HG13	3:C:80:GLY:HA2	1.77	0.66
34:b:935:C:N3	34:b:936:A:N7	2.43	0.66
34:b:1219:U:C2	34:b:1220:G:H8	2.09	0.66
34:b:1221:C:N3	34:b:1222:U:C5	2.63	0.66
34:b:1398:C:N3	34:b:1399:C:C5	2.62	0.66
34:b:2309:A:C2	34:b:2310:C:H6	2.12	0.66
34:b:2536:G:C6	34:b:2537:U:C5	2.84	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:g:24:ILE:HG13	40:g:37:LEU:HG	1.76	0.66
42:j:57:LEU:CD2	42:j:129:GLU:O	2.42	0.66
51:s:85:ILE:CD1	56:z:13:PHE:CE2	2.77	0.66
2:B:25:LYS:HD2	2:B:191:ASP:OD2	1.95	0.66
6:F:2:ARG:HH11	6:F:68:GLN:NE2	1.87	0.66
13:M:70:ARG:NH2	39:f:142:ASP:OD1	2.14	0.66
24:X:17:C:H6	24:X:17:C:OP2	1.78	0.66
34:b:1033:U:N3	34:b:2750:A:N6	2.44	0.66
34:b:1272:A:N6	34:b:1618:A:C4	2.64	0.66
34:b:1517:G:C6	34:b:1518:C:C6	2.83	0.66
34:b:1759:A:C1’	34:b:2696:U:O2	2.43	0.66
34:b:2154:A:N1	34:b:2155:U:C5	2.64	0.66
34:b:2181:U:C4	34:b:2182:U:C5	2.83	0.66
34:b:2205:A:C5	34:b:2206:C:C5	2.84	0.66
34:b:2345:G:C8	34:b:2347:C:C6	2.84	0.66
34:b:2623:G:C2	34:b:2624:G:C8	2.83	0.66
1:A:230:G:C5’	16:P:31:ARG:NH2	2.55	0.66
34:b:962:G:C5	34:b:963:U:C5	2.83	0.66
34:b:1208:C:C4	34:b:1239:G:N1	2.63	0.66
34:b:1398:C:O2	34:b:1398:C:H2’	1.96	0.66
34:b:2345:G:C8	34:b:2347:C:C5	2.83	0.66
45:m:40:ARG:HE	45:m:95:LEU:HD21	1.60	0.66
1:A:720:C:H5”	1:A:721:G:OP2	1.96	0.66
14:N:52:ARG:HG2	14:N:58:ARG:NH1	2.11	0.66
34:b:949:G:N1	34:b:950:G:C5	2.63	0.66
34:b:1296:G:C2	34:b:1297:C:C6	2.84	0.66
34:b:1353:A:C8	34:b:1377:G:N2	2.64	0.66
34:b:2160:C:C6	34:b:2161:C:H2’	2.31	0.66
34:b:2269:G:C6	34:b:2270:A:N7	2.64	0.66
46:n:58:ASP:OD1	46:n:63:ARG:NE	2.29	0.66
20:T:79:THR:HA	20:T:82:ILE:HG12	1.76	0.66
34:b:23:G:C2	34:b:24:G:C8	2.84	0.66
34:b:210:C:C2	34:b:211:C:C6	2.84	0.66
34:b:1013:C:C2	34:b:1014:A:C8	2.84	0.66
34:b:1375:U:N3	34:b:1376:C:C5	2.64	0.66
34:b:2543:G:H5”	34:b:2543:G:C8	2.30	0.66
34:b:2796:U:O2	34:b:2800:A:N1	2.27	0.66
1:A:1134:G:H1	1:A:1140:C:H42	1.42	0.66
3:C:51:VAL:HA	3:C:69:THR:HG22	1.78	0.66
34:b:667:U:H2’	34:b:668:A:O4’	1.95	0.66
34:b:1500:G:C2	34:b:1501:G:N9	2.64	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2038:G:H2'	34:b:2039:U:O4'	1.95	0.66
34:b:2699:C:C2	34:b:2700:A:C8	2.84	0.66
38:e:61:ARG:HG3	38:e:63:LYS:O	1.96	0.66
2:B:202:ASN:HD22	2:B:205:ALA:H	1.43	0.66
13:M:70:ARG:HG3	39:f:144:ASP:OD2	1.96	0.66
22:V:24:G:C6	22:V:25:C:C4	2.84	0.66
22:V:25:C:N3	22:V:26:A:C8	2.64	0.66
34:b:1013:C:O2	34:b:1014:A:C8	2.49	0.66
34:b:1053:C:N4	34:b:1107:G:N1	2.44	0.66
34:b:1206:G:C2	34:b:1207:C:C4	2.83	0.66
34:b:1238:G:C6	34:b:1239:G:C8	2.84	0.66
34:b:1349:C:C2	34:b:1350:C:C5	2.84	0.66
34:b:1357:C:C4	34:b:1358:G:N7	2.64	0.66
34:b:1848:A:C6	34:b:1849:G:C8	2.84	0.66
1:A:944:G:N1	1:A:1338:G:OP2	2.29	0.65
10:J:48:ARG:HH12	14:N:100:TRP:CG	2.14	0.65
34:b:27:G:N1	34:b:512:G:C2	2.63	0.65
34:b:185:G:C2	34:b:186:G:C8	2.84	0.65
34:b:1049:C:C4	34:b:1050:A:N7	2.64	0.65
34:b:1905:C:HO2'	34:b:1929:G:HO2'	1.43	0.65
34:b:2167:U:H5	34:b:2168:G:C1'	2.05	0.65
34:b:2283:C:C4	34:b:2389:G:C6	2.84	0.65
34:b:2466:C:C4	34:b:2467:C:C5	2.84	0.65
35:c:75:PRO:HG2	35:c:97:LYS:NZ	2.11	0.65
53:u:18:ASP:OD2	53:u:39:ILE:CG2	2.42	0.65
1:A:580:C:H5"	15:O:57:ARG:HH11	1.61	0.65
30:6:18:PHE:CD2	34:b:126:A:N1	2.63	0.65
34:b:212:G:C2	34:b:213:A:C8	2.84	0.65
34:b:1075:C:OP1	36:i:94:LYS:HE2	1.97	0.65
34:b:1220:G:N1	34:b:1221:C:C4	2.65	0.65
1:A:1054:C:C2	22:V:34:A:O4'	2.49	0.65
4:D:12:ARG:HG2	4:D:33:ILE:HA	1.78	0.65
34:b:288:U:C2	34:b:289:G:C8	2.84	0.65
34:b:1080:A:H5"	36:i:125:THR:CG2	2.26	0.65
34:b:1144:A:C2	34:b:1145:C:C4	2.84	0.65
34:b:1256:G:C2	34:b:1257:C:C6	2.84	0.65
34:b:1275:A:N7	46:n:16:HIS:CG	2.63	0.65
34:b:1339:G:H21	34:b:1603:A:H1'	1.62	0.65
56:z:21:GLN:HB3	56:z:23:GLN:CB	2.26	0.65
1:A:292:G:O2'	1:A:609:A:N6	2.29	0.65
15:O:25:GLU:OE2	15:O:76:ARG:NH1	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:73:A:O2'	22:V:74:C:OP2	2.13	0.65
34:b:49:A:N7	34:b:120:U:O2	2.30	0.65
34:b:332:A:C6	34:b:335:C:C5	2.84	0.65
34:b:954:G:H4'	45:m:13:HIS:CE1	2.32	0.65
34:b:968:C:O2	34:b:968:C:H2'	1.97	0.65
34:b:1063:G:C2	34:b:1076:C:C2	2.84	0.65
34:b:1063:G:N2	36:i:88:GLY:C	2.55	0.65
34:b:1063:G:H22	36:i:135:MET:HB2	1.59	0.65
34:b:2419:U:C2	34:b:2420:C:H5	2.15	0.65
55:y:46:HIS:NE2	55:y:77:ARG:HD3	2.10	0.65
27:2:23:THR:HA	34:b:850:U:O2'	1.97	0.65
33:a:61:G:C4	33:a:62:C:C6	2.84	0.65
34:b:155:A:N3	34:b:156:A:C8	2.63	0.65
34:b:171:U:N3	34:b:172:A:C8	2.63	0.65
34:b:247:G:H5'	34:b:386:G:C8	2.32	0.65
34:b:822:G:N3	34:b:823:C:C6	2.64	0.65
34:b:991:C:C2	34:b:992:C:C5	2.84	0.65
34:b:1055:G:N1	34:b:1104:C:C4	2.65	0.65
34:b:1079:C:C4	36:i:105:LEU:O	2.48	0.65
34:b:2075:U:O2'	34:b:2596:U:N3	2.29	0.65
34:b:2536:G:C4	34:b:2537:U:C6	2.84	0.65
34:b:2590:A:C6	34:b:2591:C:C5	2.85	0.65
37:d:4:LEU:HD13	37:d:29:VAL:HG13	1.79	0.65
41:h:90:LEU:HD23	41:h:122:LEU:HA	1.79	0.65
1:A:230:G:C3'	16:P:31:ARG:HH22	2.08	0.65
15:O:88:ARG:HE	34:b:715:A:H5"	1.60	0.65
22:V:42:C:O2	22:V:42:C:H2'	1.94	0.65
34:b:1063:G:C6	34:b:1076:C:N4	2.64	0.65
34:b:1199:U:H1'	49:q:4:VAL:HG22	1.78	0.65
34:b:1622:G:C2	34:b:1623:G:C8	2.84	0.65
34:b:1663:G:O6	34:b:1992:G:C8	2.49	0.65
34:b:1892:C:N3	34:b:1893:C:C6	2.64	0.65
34:b:2452:C:H1'	57:b:9000:CLM:C10	2.27	0.65
41:h:63:ALA:HB1	41:h:87:GLU:HA	1.79	0.65
34:b:56:A:O4'	34:b:127:A:C2	2.49	0.65
34:b:223:A:C2	34:b:408:G:O4'	2.50	0.65
34:b:234:U:H3	34:b:429:A:N6	1.95	0.65
34:b:531:C:C6	34:b:2035:G:N2	2.64	0.65
34:b:584:C:N4	34:b:585:G:C6	2.64	0.65
34:b:766:U:N3	34:b:767:U:C5	2.64	0.65
34:b:785:G:C6	34:b:786:C:N4	2.65	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1629:U:N3	34:b:1630:A:C8	2.64	0.65
34:b:1791:A:N1	34:b:1829:A:C4'	2.57	0.65
34:b:1892:C:C4	34:b:1893:C:C5	2.84	0.65
34:b:1999:C:C4	34:b:2000:C:C5	2.84	0.65
34:b:2676:C:C2	34:b:2677:G:C8	2.84	0.65
21:U:16:ARG:HA	21:U:19:LYS:HZ2	1.61	0.65
34:b:209:C:N3	34:b:210:C:C6	2.65	0.65
34:b:1015:U:C2	34:b:1016:G:C8	2.84	0.65
34:b:1077:A:H2'	36:i:133:ARG:HG3	1.77	0.65
34:b:1501:G:N2	34:b:1502:A:C1'	2.59	0.65
34:b:1839:G:H2'	34:b:1839:G:N3	2.12	0.65
34:b:2168:G:C6	34:b:2170:A:OP2	2.50	0.65
34:b:2291:U:OP1	34:b:2380:C:O2'	2.13	0.65
41:h:50:ARG:O	41:h:54:LEU:N	2.30	0.65
2:B:71:THR:HG21	2:B:93:HIS:H	1.60	0.65
33:a:90:C:C2	33:a:91:C:C6	2.85	0.65
34:b:186:G:C2	34:b:187:G:N7	2.65	0.65
34:b:589:U:C2	34:b:590:A:C8	2.84	0.65
34:b:934:U:C2	34:b:935:C:C6	2.84	0.65
34:b:1144:A:N1	34:b:1145:C:C4	2.65	0.65
34:b:1409:U:N3	34:b:1410:G:N7	2.45	0.65
34:b:1451:C:N4	34:b:1458:U:C4	2.65	0.65
34:b:1503:A:C2	34:b:1504:A:C4	2.85	0.65
34:b:1518:C:O2	34:b:1519:G:H8	1.79	0.65
34:b:1946:U:C2	34:b:1947:C:C5	2.85	0.65
34:b:2419:U:C2	34:b:2420:C:C5	2.84	0.65
34:b:2603:G:C6	34:b:2604:U:C5	2.84	0.65
54:w:61:LEU:CD1	54:w:72:VAL:HG23	2.27	0.65
1:A:401:C:N4	1:A:402:G:O6	2.30	0.65
8:H:74:ILE:HG13	8:H:128:VAL:HG12	1.79	0.65
34:b:243:U:C4	34:b:254:G:N2	2.65	0.65
34:b:397:U:N3	34:b:398:C:C5	2.65	0.65
34:b:1178:C:H2'	34:b:1179:G:C8	2.30	0.65
34:b:1502:A:N1	34:b:1503:A:C5	2.65	0.65
34:b:2129:C:N3	34:b:2160:C:C2	2.63	0.65
34:b:2136:G:O6	34:b:2137:U:C6	2.50	0.65
34:b:2347:C:C2	34:b:2348:U:C5	2.85	0.65
34:b:2578:G:OP2	34:b:2578:G:H4'	1.96	0.65
34:b:2888:C:O2	34:b:2889:C:C6	2.50	0.65
1:A:375:U:H4'	16:P:6:LEU:CB	2.27	0.64
1:A:975:A:H1'	1:A:1358:U:H1'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:125:ASN:ND2	4:D:140:ASP:OD1	2.30	0.64
19:S:24:SER:HB3	19:S:27:LYS:HZ1	1.62	0.64
22:V:27:G:C2	22:V:28:G:N7	2.65	0.64
34:b:852:U:N3	34:b:853:C:C5	2.65	0.64
34:b:902:C:N3	34:b:903:C:C5	2.65	0.64
34:b:2655:G:C2	34:b:2664:G:C6	2.84	0.64
1:A:392:C:O2'	1:A:483:C:O2'	2.11	0.64
3:C:21:TRP:NE1	3:C:35:ASP:OD2	2.30	0.64
34:b:521:U:N3	34:b:522:A:N7	2.45	0.64
34:b:640:C:H2'	34:b:641:U:C6	2.32	0.64
34:b:1064:C:H5"	36:i:87:SER:C	2.10	0.64
34:b:1475:G:C1'	34:b:1732:C:H42	2.07	0.64
34:b:1927:A:O2'	34:b:1928:A:C8	2.44	0.64
34:b:1999:C:C2	34:b:2000:C:C5	2.86	0.64
34:b:2048:G:H1'	34:b:2823:A:N6	2.12	0.64
33:a:24:G:N2	33:a:28:C:N3	2.45	0.64
34:b:398:C:C2	34:b:399:U:C6	2.85	0.64
34:b:527:C:H4'	34:b:528:A:O4'	1.98	0.64
34:b:734:A:N7	34:b:761:A:C2	2.65	0.64
34:b:974:G:N7	34:b:989:G:C2	2.65	0.64
34:b:1059:G:N2	34:b:1079:C:N3	2.45	0.64
34:b:1063:G:C2	36:i:88:GLY:HA2	2.33	0.64
34:b:1076:C:C2'	36:i:136:GLY:O	2.46	0.64
34:b:1091:G:C2	34:b:1092:C:N1	2.66	0.64
34:b:1106:G:C6	34:b:1107:G:C8	2.86	0.64
34:b:1636:U:C2	34:b:1637:A:C8	2.85	0.64
34:b:1867:G:N3	34:b:1868:C:C6	2.66	0.64
34:b:2183:A:C6	34:b:2184:A:N7	2.65	0.64
34:b:2536:G:N3	34:b:2537:U:C6	2.66	0.64
41:h:80:ILE:H	41:h:96:THR:HG21	1.63	0.64
51:s:7:HIS:CD2	51:s:10:ALA:HB2	2.32	0.64
13:M:78:ARG:NH1	13:M:82:LEU:HD11	2.12	0.64
34:b:244:A:C2	34:b:245:G:H1'	2.32	0.64
34:b:1528:A:C8	34:b:1529:G:H1'	2.32	0.64
34:b:2182:U:O2	34:b:2183:A:C8	2.49	0.64
34:b:2838:G:C6	34:b:2839:G:C5	2.85	0.64
41:h:121:VAL:HG11	41:h:130:VAL:HG22	1.79	0.64
56:z:21:GLN:HB3	56:z:23:GLN:CG	2.28	0.64
1:A:94:G:N2	1:A:97:G:N7	2.45	0.64
34:b:201:C:H4'	34:b:386:G:N2	2.12	0.64
34:b:1310:G:H21	34:b:1610:A:H8	1.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1471:G:C5	34:b:1472:C:C5	2.86	0.64
34:b:1631:G:N2	34:b:1633:G:H8	1.93	0.64
34:b:1914:C:O2	34:b:1914:C:H2'	1.97	0.64
23:W:72:G:H3'	23:W:73:A:C5'	2.26	0.64
28:3:29:SER:OG	28:3:40:ARG:HD3	1.97	0.64
34:b:298:G:O2'	34:b:299:A:N7	2.31	0.64
34:b:398:C:N3	34:b:399:U:C6	2.65	0.64
34:b:926:G:C2	34:b:927:A:N7	2.66	0.64
34:b:961:C:C5	34:b:2031:A:C6	2.85	0.64
34:b:1079:C:H2'	34:b:1079:C:O2	1.98	0.64
34:b:1387:A:C2	34:b:1401:G:C2	2.85	0.64
34:b:1760:C:C4	34:b:1761:C:C5	2.86	0.64
34:b:2269:G:H2'	34:b:2269:G:N3	2.13	0.64
1:A:185:U:O4	1:A:186:C:N4	2.30	0.64
1:A:553:A:O2'	12:L:25:ALA:O	2.10	0.64
33:a:117:G:C4	33:a:118:C:C6	2.86	0.64
34:b:1462:C:HO2'	34:b:2702:G:HO2'	1.45	0.64
34:b:1592:C:C2	34:b:1593:A:C8	2.85	0.64
1:A:15:G:N2	5:E:21:SER:O	2.30	0.64
1:A:521:G:OP2	12:L:50:LYS:NZ	2.30	0.64
34:b:41:C:C2	34:b:42:A:C8	2.86	0.64
34:b:153:U:C2	34:b:154:U:C6	2.85	0.64
34:b:160:A:H2'	34:b:161:A:C8	2.33	0.64
34:b:650:C:C4	34:b:651:G:C8	2.86	0.64
34:b:695:G:C6	34:b:696:G:N7	2.66	0.64
34:b:842:U:N3	34:b:843:G:C8	2.66	0.64
34:b:949:G:N2	34:b:950:G:C4	2.65	0.64
34:b:1063:G:N1	36:i:89:SER:N	2.46	0.64
34:b:1081:U:H5'	36:i:122:GLU:OE2	1.97	0.64
34:b:1208:C:C2	34:b:1239:G:N2	2.66	0.64
34:b:1220:G:C2	34:b:1221:C:C6	2.85	0.64
34:b:1638:C:C4	34:b:1639:C:C5	2.86	0.64
34:b:1848:A:N1	34:b:1849:G:C8	2.66	0.64
34:b:2041:U:O2	34:b:2042:A:C8	2.51	0.64
34:b:2395:C:N3	34:b:2396:G:C8	2.66	0.64
34:b:2735:G:N2	34:b:2736:A:H1'	2.11	0.64
41:h:40:THR:O	41:h:42:LYS:N	2.24	0.64
11:K:122:PRO:HD2	21:U:34:ARG:HG2	1.80	0.64
11:K:125:LYS:HB3	21:U:33:ARG:HH11	1.63	0.64
34:b:767:U:O2	34:b:767:U:H2'	1.96	0.64
34:b:1775:U:C4	34:b:1776:G:C8	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1812:U:O2	34:b:1813:G:C8	2.51	0.64
34:b:2536:G:C2	34:b:2537:U:C6	2.85	0.64
34:b:2590:A:N3	34:b:2590:A:H2'	2.10	0.64
1:A:208:U:H3	1:A:211:G:H22	1.45	0.64
2:B:23:ASN:ND2	2:B:191:ASP:OD2	2.30	0.64
15:O:55:LEU:HD21	34:b:715:A:H2	1.60	0.64
17:Q:60:ILE:HG22	17:Q:74:LEU:HA	1.80	0.64
18:R:35:SER:HA	18:R:71:ASP:HB2	1.80	0.64
28:3:25:VAL:HG13	28:3:26:THR:N	2.12	0.64
34:b:18:U:C4	34:b:19:A:N7	2.66	0.64
34:b:226:A:C6	34:b:227:A:C5	2.85	0.64
34:b:286:U:C2	34:b:287:G:C8	2.85	0.64
34:b:290:U:O2	34:b:291:G:C8	2.51	0.64
34:b:962:G:C6	34:b:963:U:C4	2.86	0.64
34:b:1305:C:C4	34:b:1306:C:C5	2.85	0.64
34:b:1395:A:N7	34:b:1398:C:C5	2.66	0.64
34:b:1399:C:O2	34:b:1400:U:C5	2.51	0.64
34:b:1829:A:C6	34:b:1830:C:C1'	2.81	0.64
1:A:606:G:N2	1:A:632:U:OP1	2.30	0.63
3:C:123:LEU:HD13	3:C:195:ILE:HG21	1.79	0.63
22:V:74:C:O2'	22:V:75:C:OP1	2.12	0.63
33:a:48:U:C2	33:a:49:C:C5	2.85	0.63
34:b:210:C:C4	34:b:211:C:C5	2.86	0.63
34:b:835:C:N3	34:b:836:G:C8	2.66	0.63
34:b:1020:A:C2	34:b:1141:U:C2	2.85	0.63
34:b:1047:G:N3	34:b:1110:G:N1	2.47	0.63
34:b:1062:G:C6	36:i:132:ALA:HA	2.33	0.63
38:e:52:VAL:HG21	38:e:81:GLY:HA2	1.79	0.63
34:b:785:G:N3	34:b:786:C:C6	2.67	0.63
34:b:2839:G:C6	34:b:2840:C:C5	2.86	0.63
53:u:4:LYS:O	53:u:94:ARG:NH2	2.31	0.63
1:A:491:G:OP1	4:D:147:LYS:NZ	2.32	0.63
17:Q:46:HIS:HB3	17:Q:73:THR:HG22	1.79	0.63
34:b:20:C:O2	34:b:20:C:H2'	1.97	0.63
34:b:782:A:C2	35:c:225:MET:CE	2.81	0.63
34:b:1443:U:O2	34:b:1444:G:C8	2.51	0.63
11:K:34:THR:HG22	11:K:40:ALA:HA	1.79	0.63
34:b:2407:A:C2	34:b:2408:U:C4	2.86	0.63
34:b:2593:U:N3	34:b:2600:A:C6	2.23	0.63
34:b:2784:U:C2	34:b:2785:C:C5	2.86	0.63
34:b:2824:C:H2'	34:b:2825:G:O4'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2826:A:C2	34:b:2827:C:C6	2.85	0.63
40:g:11:VAL:HG13	40:g:15:VAL:HG11	1.80	0.63
1:A:6:G:H4'	1:A:298:A:H4'	1.80	0.63
15:O:56:LEU:HD23	34:b:715:A:C6	2.32	0.63
25:0:68:LEU:HD23	25:0:71:LEU:CD1	2.22	0.63
33:a:26:C:H2'	33:a:27:C:C6	2.33	0.63
34:b:2766:A:C5	34:b:2767:C:C5	2.87	0.63
1:A:1238:A:OP1	1:A:1335:U:O2'	2.15	0.63
34:b:200:U:C5	34:b:201:C:C6	2.86	0.63
34:b:561:G:O2'	49:q:45:TYR:OH	1.97	0.63
34:b:976:G:O6	34:b:988:A:C2	2.51	0.63
34:b:1081:U:H5"	36:i:122:GLU:CB	2.26	0.63
34:b:1500:G:C2	34:b:1501:G:C1'	2.82	0.63
34:b:1662:U:C2	34:b:1663:G:H8	2.14	0.63
34:b:2451:A:C2	57:b:9000:CLM:C8	2.81	0.63
34:b:2798:U:C6	34:b:2799:A:C2	2.86	0.63
38:e:61:ARG:HH12	56:z:19:ILE:HA	1.64	0.63
1:A:738:C:OP1	6:F:68:GLN:NE2	2.32	0.63
24:X:19:U:C2	24:X:20:C:N4	2.66	0.63
34:b:110:G:C2	34:b:111:A:C8	2.86	0.63
34:b:185:G:N1	34:b:186:G:C5	2.66	0.63
34:b:521:U:C2	34:b:522:A:C8	2.87	0.63
34:b:780:G:H2'	34:b:782:A:N7	2.13	0.63
34:b:801:G:C5	38:e:49:ARG:HG2	2.33	0.63
34:b:849:A:H61	34:b:928:A:H61	1.45	0.63
34:b:934:U:N3	34:b:935:C:C5	2.66	0.63
34:b:1238:G:C2	34:b:1239:G:H1'	2.34	0.63
34:b:1530:G:C6	34:b:1531:C:C5	2.87	0.63
34:b:2205:A:C6	34:b:2206:C:C4	2.87	0.63
34:b:2517:C:O2'	34:b:2518:A:H3'	1.98	0.63
34:b:2597:G:H2'	34:b:2598:A:C8	2.34	0.63
1:A:1228:C:H5"	13:M:106:ARG:HH22	1.63	0.63
2:B:115:ASP:O	2:B:118:THR:OG1	2.14	0.63
10:J:8:ILE:HG22	10:J:100:ILE:HA	1.81	0.63
16:P:59:HIS:HE1	16:P:63:GLN:HE22	1.45	0.63
33:a:92:C:O2	33:a:93:C:C6	2.51	0.63
34:b:22:C:C2	34:b:23:G:H8	2.17	0.63
34:b:201:C:C1'	34:b:386:G:H22	2.12	0.63
34:b:662:G:N2	34:b:663:G:C4	2.67	0.63
34:b:786:C:C2	34:b:787:C:C6	2.86	0.63
34:b:991:C:C2	34:b:992:C:C6	2.86	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1062:G:H5”	36:i:75:ALA:C	2.23	0.63
34:b:1172:C:H2’	34:b:1173:U:C6	2.34	0.63
34:b:1301:A:N1	34:b:1303:G:C4	2.67	0.63
34:b:1564:C:H2’	34:b:1565:C:O4’	1.99	0.63
34:b:2101:A:H2’	34:b:2102:G:O4’	1.99	0.63
34:b:2292:U:N3	34:b:2293:G:C8	2.67	0.63
33:a:92:C:C2	33:a:93:C:C6	2.87	0.63
34:b:901:C:N3	34:b:902:C:C6	2.67	0.63
34:b:2348:U:C5	34:b:2382:G:N2	2.67	0.63
34:b:2510:C:O2	34:b:2510:C:H2’	1.99	0.63
1:A:974:A:H8	1:A:974:A:OP1	1.82	0.62
1:A:1201:A:H1’	1:A:1202:U:OP2	1.99	0.62
34:b:196:A:C5	34:b:805:G:C6	2.87	0.62
34:b:603:A:C8	34:b:655:A:N1	2.67	0.62
34:b:1081:U:C2	36:i:124:MET:HG3	2.32	0.62
34:b:1252:G:O2’	34:b:1253:A:C8	2.50	0.62
34:b:1519:G:C6	34:b:1520:U:C4	2.87	0.62
34:b:2331:G:N3	34:b:2332:C:C6	2.66	0.62
34:b:2535:G:N2	34:b:2536:G:C1’	2.61	0.62
35:c:162:VAL:CG1	35:c:174:LEU:HD22	2.29	0.62
1:A:182:A:OP2	1:A:182:A:H2’	2.00	0.62
1:A:1243:C:H2’	1:A:1244:G:H8	1.63	0.62
19:S:5:LYS:HE2	19:S:6:LYS:HE2	1.81	0.62
33:a:33:G:O2’	33:a:34:A:O5’	2.16	0.62
34:b:108:G:O2’	34:b:347:A:N3	2.32	0.62
34:b:440:C:C2	34:b:441:U:C5	2.88	0.62
34:b:603:A:N7	34:b:655:A:N1	2.48	0.62
34:b:1106:G:O6	34:b:1107:G:C5	2.52	0.62
34:b:2330:G:C6	34:b:2331:G:C5	2.87	0.62
34:b:2330:G:N2	34:b:2331:G:H1’	2.14	0.62
34:b:2466:C:H2’	34:b:2467:C:O4’	1.99	0.62
34:b:2792:A:C2	34:b:2793:C:H1’	2.33	0.62
34:b:2846:G:H2’	34:b:2847:U:O4’	1.99	0.62
57:b:9000:CLM:C1	56:z:28:GLY:HA2	2.30	0.62
36:i:71:LYS:HG2	36:i:72:THR:H	1.63	0.62
36:i:116:MET:HA	36:i:116:MET:HE2	1.81	0.62
41:h:116:ARG:NH2	41:h:140:ALA:O	2.32	0.62
1:A:375:U:H1’	16:P:17:TYR:CE2	2.32	0.62
1:A:753:A:OP1	15:O:68:TYR:OH	2.17	0.62
1:A:1409:C:O4’	34:b:1912:A:N1	2.33	0.62
2:B:79:VAL:HA	2:B:213:LEU:HD21	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:978:G:C2	34:b:986:C:C4	2.88	0.62
34:b:1060:U:HO2'	36:i:116:MET:CE	2.11	0.62
34:b:1060:U:H2'	36:i:115:ASP:O	1.98	0.62
34:b:1075:C:H1'	36:i:89:SER:O	1.99	0.62
34:b:1179:G:C2	34:b:1180:U:C5	2.87	0.62
38:e:170:ARG:NH1	38:e:179:SER:OG	2.32	0.62
41:h:40:THR:C	41:h:42:LYS:H	2.07	0.62
44:l:29:LYS:C	44:l:30:THR:HG1	2.06	0.62
1:A:392:C:P	16:P:12:LYS:CG	2.85	0.62
3:C:84:GLU:OE1	3:C:87:ARG:NH2	2.31	0.62
6:F:6:ILE:HG12	6:F:89:VAL:HG23	1.80	0.62
8:H:81:GLY:O	17:Q:35:LYS:NZ	2.23	0.62
11:K:124:LYS:HB3	21:U:34:ARG:HH21	1.64	0.62
16:P:19:VAL:HG13	16:P:37:GLY:C	2.24	0.62
16:P:79:ASN:O	16:P:80:LYS:HB2	1.98	0.62
34:b:974:G:O2'	34:b:989:G:N2	2.33	0.62
34:b:1294:U:N3	34:b:1295:C:C6	2.67	0.62
34:b:1319:C:C2'	34:b:1320:C:H5'	2.29	0.62
34:b:1320:C:N4	34:b:1333:G:N1	2.47	0.62
41:h:109:GLU:HG3	41:h:110:VAL:HG23	1.80	0.62
1:A:405:U:OP1	1:A:406:G:O2'	2.16	0.62
1:A:1408:A:H5'	34:b:1919:A:C4'	2.30	0.62
4:D:90:LEU:HD11	4:D:196:GLU:OE2	1.98	0.62
8:H:101:ALA:HB3	8:H:112:ASP:HB3	1.81	0.62
9:I:111:GLU:O	9:I:112:ARG:HB3	1.99	0.62
16:P:77:GLU:C	16:P:79:ASN:H	2.07	0.62
34:b:76:C:N3	34:b:77:G:C8	2.67	0.62
34:b:368:A:O2'	34:b:369:U:H5"	1.99	0.62
34:b:1051:G:C6	34:b:1052:C:C4	2.88	0.62
34:b:1058:U:C2'	36:i:115:ASP:O	2.38	0.62
34:b:1316:U:O2	34:b:1317:G:C8	2.52	0.62
34:b:1866:A:C3'	34:b:1867:G:H5'	2.29	0.62
34:b:1985:C:N3	34:b:1986:C:C5	2.68	0.62
34:b:2160:C:H6	34:b:2161:C:H2'	1.62	0.62
34:b:2536:G:C4	34:b:2537:U:C5	2.88	0.62
34:b:2793:C:C2	34:b:2794:C:C6	2.87	0.62
1:A:184:G:O2'	1:A:185:U:O5'	2.13	0.62
18:R:23:LYS:NZ	18:R:64:LEU:HD12	2.15	0.62
22:V:75:C:H2'	22:V:76:A:C8	2.34	0.62
27:2:5:ILE:CG2	27:2:57:VAL:HG13	2.30	0.62
34:b:18:U:N3	34:b:19:A:N7	2.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:114:U:C2	34:b:115:C:C5	2.87	0.62
34:b:172:A:N3	34:b:173:A:C8	2.67	0.62
34:b:184:C:C2	34:b:185:G:C8	2.88	0.62
34:b:1058:U:C3'	36:i:115:ASP:C	2.72	0.62
34:b:1361:G:HO2'	34:b:2215:C:HO2'	1.47	0.62
34:b:1487:U:N3	34:b:1488:C:C5	2.67	0.62
34:b:2000:C:N3	34:b:2001:C:H5	1.87	0.62
34:b:2826:A:H2'	34:b:2826:A:N3	2.13	0.62
56:z:7:ILE:HG22	56:z:9:GLU:N	2.12	0.62
1:A:992:U:O2'	1:A:1043:G:O6	2.18	0.62
3:C:10:ARG:NH2	3:C:174:LEU:O	2.33	0.62
4:D:173:ASP:HB3	4:D:178:GLU:H	1.63	0.62
16:P:22:ALA:HB2	16:P:32:PHE:HA	1.80	0.62
24:X:12:C:H3'	24:X:12:C:P	2.40	0.62
33:a:114:C:C2	33:a:115:A:C8	2.88	0.62
34:b:242:G:C2	34:b:254:G:C5	2.88	0.62
34:b:439:A:C6	34:b:440:C:C5	2.87	0.62
34:b:1037:G:O2'	34:b:1038:G:O5'	2.16	0.62
34:b:1066:U:O2	34:b:1066:U:H2'	2.00	0.62
34:b:1072:C:C1'	34:b:1089:A:C2	2.79	0.62
34:b:1080:A:O5'	36:i:125:THR:HG21	2.00	0.62
34:b:1120:G:C5	34:b:1121:C:C5	2.88	0.62
34:b:1294:U:N3	34:b:1295:C:C5	2.68	0.62
34:b:2314:A:H5'	39:f:35:THR:HG21	1.82	0.62
34:b:2525:G:N2	34:b:2539:C:C2	2.68	0.62
28:3:25:VAL:HG13	28:3:26:THR:H	1.64	0.62
34:b:779:U:H2'	34:b:779:U:O2	1.97	0.62
34:b:949:G:C2	34:b:950:G:C5	2.88	0.62
34:b:956:G:H22	34:b:959:A:H3'	1.64	0.62
34:b:1053:C:N4	34:b:1107:G:C6	2.67	0.62
34:b:1539:U:N3	34:b:1540:G:N7	2.47	0.62
34:b:1752:C:H2'	34:b:1753:G:O4'	2.00	0.62
34:b:1795:C:C2	34:b:1796:U:C6	2.88	0.62
32:8:3:VAL:CG2	32:8:36:ARG:NH1	2.59	0.62
34:b:199:A:C5	34:b:2433:A:C2	2.88	0.62
34:b:465:G:H2'	34:b:466:A:C8	2.34	0.62
34:b:476:G:N2	34:b:478:A:H2'	2.15	0.62
34:b:584:C:C4	34:b:585:G:N7	2.68	0.62
34:b:611:C:C4	34:b:612:G:C8	2.87	0.62
34:b:730:A:C2	34:b:731:C:C6	2.87	0.62
34:b:1631:G:N2	34:b:1633:G:O5'	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2160:C:H5	34:b:2161:C:O2	1.81	0.62
34:b:2535:G:C6	34:b:2536:G:N7	2.68	0.62
34:b:2663:G:C5	34:b:2664:G:C8	2.88	0.62
34:b:2886:A:N6	34:b:2887:A:C4	2.68	0.62
1:A:123:U:OP1	1:A:311:C:O2'	2.16	0.62
10:J:48:ARG:HH12	14:N:100:TRP:CD1	2.18	0.62
13:M:48:SER:HB2	13:M:51:GLN:HB2	1.81	0.62
33:a:37:C:O2	33:a:37:C:H2'	1.99	0.62
34:b:457:A:N6	34:b:470:A:C8	2.68	0.62
34:b:783:A:C5	34:b:785:G:C8	2.87	0.62
34:b:852:U:C2	34:b:853:C:C6	2.87	0.62
34:b:1228:G:C5	34:b:1229:C:C5	2.88	0.62
34:b:1432:G:H2'	34:b:1433:A:H8	1.62	0.62
34:b:1501:G:C2	34:b:1502:A:N9	2.67	0.62
34:b:1528:A:C8	34:b:1529:G:C1'	2.83	0.62
34:b:1539:U:O2	34:b:1540:G:H8	1.82	0.62
34:b:2151:U:C4	34:b:2152:G:N7	2.67	0.62
34:b:2337:G:C2	34:b:2338:C:C6	2.88	0.62
1:A:592:G:O6	1:A:647:C:N4	2.33	0.61
9:I:113:LYS:HB3	9:I:117:LEU:HD21	1.81	0.61
9:I:122:ARG:HH21	9:I:124:PRO:HA	1.64	0.61
13:M:70:ARG:CG	39:f:144:ASP:OD2	2.48	0.61
16:P:57:ILE:O	16:P:61:VAL:HG23	2.00	0.61
21:U:27:VAL:O	21:U:31:VAL:HG13	1.92	0.61
34:b:115:C:C2	34:b:116:C:C6	2.87	0.61
34:b:937:C:O2	34:b:938:G:C8	2.53	0.61
34:b:1125:G:OP2	34:b:1126:A:O2'	2.17	0.61
34:b:1303:G:N1	34:b:1304:A:C5	2.68	0.61
34:b:1409:U:O2	34:b:1410:G:C8	2.52	0.61
34:b:2052:A:C2	34:b:2053:G:C8	2.87	0.61
34:b:2565:A:H2'	34:b:2566:A:H1'	1.81	0.61
56:z:27:ALA:C	56:z:29:PRO:HD3	2.25	0.61
1:A:468:A:H5'	1:A:469:C:OP2	1.99	0.61
33:a:47:C:C2	33:a:48:U:C6	2.88	0.61
34:b:1063:G:O5'	36:i:79:LEU:N	2.32	0.61
34:b:1082:U:P	36:i:122:GLU:HB3	2.40	0.61
34:b:1595:C:N3	34:b:1596:A:C8	2.69	0.61
34:b:2887:A:N1	34:b:2888:C:C6	2.69	0.61
35:c:258:ARG:HH11	35:c:270:ARG:HD3	1.65	0.61
37:d:4:LEU:CD2	37:d:29:VAL:HG11	2.30	0.61
41:h:43:ASN:HB3	41:h:46:PHE:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:U:C4'	16:P:6:LEU:HD23	2.29	0.61
34:b:388:G:C8	34:b:390:U:C6	2.89	0.61
34:b:1002:G:C2	34:b:1003:G:H1'	2.36	0.61
34:b:1051:G:H2'	34:b:1051:G:N3	2.15	0.61
34:b:1063:G:H1	36:i:135:MET:HB3	1.43	0.61
34:b:1077:A:H2	36:i:133:ARG:N	1.75	0.61
34:b:1220:G:C2	34:b:1221:C:C5	2.87	0.61
34:b:1811:G:C6	34:b:1812:U:C5	2.89	0.61
34:b:1857:G:C2	34:b:1884:G:N2	2.68	0.61
34:b:2281:A:H2'	34:b:2282:G:O4'	2.01	0.61
41:h:63:ALA:CB	41:h:87:GLU:HA	2.30	0.61
1:A:1148:U:H1'	9:I:17:ARG:NH1	2.15	0.61
1:A:1348:U:H2'	1:A:1349:A:H8	1.64	0.61
10:J:10:LEU:HB2	10:J:72:ARG:HB2	1.82	0.61
34:b:39:G:C2	34:b:40:U:C5	2.88	0.61
34:b:443:A:C4	34:b:1201:U:H1'	2.34	0.61
34:b:446:G:H4'	34:b:449:A:N3	2.16	0.61
34:b:948:C:C2	34:b:949:G:N7	2.68	0.61
34:b:1077:A:H8	36:i:93:ASN:OD1	1.82	0.61
34:b:1106:G:C5	34:b:1107:G:C8	2.87	0.61
34:b:2454:G:N3	34:b:2454:G:C2'	2.52	0.61
1:A:539:A:H8	1:A:539:A:OP2	1.83	0.61
33:a:85:G:C2	33:a:86:G:C8	2.89	0.61
34:b:210:C:O2'	34:b:1366:A:N3	2.28	0.61
34:b:1050:A:N1	34:b:1051:G:C4	2.69	0.61
34:b:1357:C:C2	34:b:1358:G:C8	2.88	0.61
34:b:2167:U:C5	34:b:2168:G:C1'	2.75	0.61
34:b:2396:G:C2	34:b:2397:G:N9	2.68	0.61
34:b:2535:G:N1	34:b:2536:G:C5	2.68	0.61
22:V:56:C:N3	22:V:57:G:C6	2.69	0.61
24:X:19:U:H5'	24:X:19:U:C6	2.30	0.61
34:b:836:G:H2'	34:b:836:G:N3	2.16	0.61
34:b:1091:G:C4	34:b:1092:C:C6	2.89	0.61
34:b:1121:C:N3	34:b:1122:G:H8	1.97	0.61
34:b:1589:U:N3	34:b:1590:A:C8	2.69	0.61
34:b:1760:C:C4	34:b:1761:C:C4	2.88	0.61
34:b:1865:U:C4	34:b:1875:G:C2	2.88	0.61
34:b:1907:G:C2	34:b:1908:C:C6	2.89	0.61
34:b:2184:A:C6	34:b:2185:U:C5	2.88	0.61
34:b:2269:G:N2	34:b:2270:A:C1'	2.63	0.61
34:b:2413:G:N2	34:b:2414:G:H1'	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2479:U:N3	34:b:2480:C:C6	2.69	0.61
1:A:520:A:OP2	12:L:47:ALA:HB1	2.00	0.61
1:A:1156:G:O2'	1:A:1180:A:N1	2.31	0.61
22:V:56:C:H5	34:b:2309:A:C2	2.17	0.61
22:V:74:C:H4'	22:V:75:C:OP1	1.99	0.61
24:X:21:A:H3'	24:X:22:A:C8	2.35	0.61
34:b:269:C:C2	34:b:424:G:C2	2.89	0.61
34:b:591:U:C2	34:b:592:A:C8	2.88	0.61
34:b:608:A:C6	34:b:621:A:C6	2.88	0.61
34:b:880:G:N2	34:b:897:C:C2	2.68	0.61
34:b:1057:A:N6	36:i:119:ALA:HA	2.15	0.61
34:b:1206:G:N2	34:b:1207:C:N1	2.49	0.61
34:b:1337:G:C2	34:b:1338:G:C8	2.89	0.61
34:b:1857:G:N1	34:b:1884:G:N1	2.48	0.61
34:b:1867:G:N7	34:b:1868:C:H5	1.98	0.61
34:b:1956:U:C4	34:b:1957:C:C5	2.88	0.61
34:b:2231:U:C4	34:b:2232:C:C5	2.88	0.61
43:k:93:GLN:OE1	43:k:114:LYS:CG	2.48	0.61
51:s:84:ARG:HH22	56:z:7:ILE:HD12	1.64	0.61
12:L:5:GLN:O	12:L:9:LYS:N	2.34	0.61
22:V:68:C:C2	22:V:69:G:C8	2.88	0.61
34:b:395:U:O2	34:b:396:G:N7	2.34	0.61
34:b:632:A:H2'	34:b:633:A:C8	2.35	0.61
34:b:1057:A:H62	36:i:119:ALA:CA	2.14	0.61
34:b:1064:C:P	36:i:86:LYS:HA	2.40	0.61
34:b:1068:G:C8	34:b:1070:A:N6	2.69	0.61
34:b:1595:C:O2	34:b:1596:A:C8	2.53	0.61
34:b:1829:A:N7	34:b:1830:C:C5	2.69	0.61
34:b:1841:U:N3	34:b:1842:G:C8	2.69	0.61
34:b:2048:G:O4'	34:b:2823:A:C6	2.54	0.61
34:b:2152:G:O6	34:b:2153:C:C4	2.53	0.61
34:b:2331:G:H21	34:b:2332:C:H1'	1.66	0.61
41:h:43:ASN:HD21	41:h:46:PHE:HE2	1.33	0.61
1:A:698:G:H5'	1:A:699:C:OP2	2.00	0.61
1:A:1003:G:N2	1:A:1004:A:O2'	2.34	0.61
1:A:1454:G:H2'	1:A:1455:G:H8	1.64	0.61
3:C:59:PRO:HB2	3:C:61:LYS:HZ3	1.66	0.61
33:a:97:C:C4	33:a:98:G:C8	2.89	0.61
34:b:173:A:C2	34:b:174:U:C5	2.89	0.61
34:b:537:G:C2	34:b:555:G:C2	2.88	0.61
34:b:783:A:C6	34:b:785:G:N9	2.69	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:812:C:H1'	34:b:1250:G:N2	2.16	0.61
34:b:1159:U:C2	34:b:1160:G:C8	2.89	0.61
34:b:1315:C:N3	34:b:1316:U:C5	2.69	0.61
34:b:1326:U:N3	34:b:1327:A:N7	2.49	0.61
34:b:1476:U:H5'	34:b:1732:C:C2	2.34	0.61
34:b:1575:C:C4	34:b:1576:U:C5	2.89	0.61
34:b:1755:A:H2'	34:b:1756:G:H5'	1.83	0.61
34:b:2263:C:H4'	34:b:2329:U:H4'	1.81	0.61
34:b:2329:U:N3	34:b:2330:G:C8	2.68	0.61
34:b:2818:U:C2	34:b:2819:G:C8	2.88	0.61
55:y:23:VAL:HG22	55:y:38:VAL:HG22	1.82	0.61
56:z:28:GLY:H	56:z:29:PRO:HD3	1.64	0.61
1:A:1060:U:O2'	10:J:58:ASN:ND2	2.34	0.61
1:A:1320:C:H5"	19:S:69:LYS:HD2	1.83	0.61
2:B:70:GLY:HA3	2:B:163:ILE:HG22	1.82	0.61
17:Q:53:GLY:N	17:Q:56:ASP:OD2	2.34	0.61
33:a:42:C:C4	39:f:66:LEU:HD22	2.36	0.61
34:b:8:C:C2	34:b:9:G:C8	2.88	0.61
34:b:650:C:N3	34:b:651:G:C8	2.69	0.61
34:b:651:G:C2	34:b:652:U:C6	2.89	0.61
34:b:786:C:H2'	34:b:787:C:O5'	2.01	0.61
34:b:807:U:C2	34:b:808:G:C8	2.89	0.61
34:b:950:G:C6	34:b:951:C:C4	2.89	0.61
34:b:1091:G:N2	34:b:1092:C:C2	2.68	0.61
34:b:1135:C:N4	34:b:1137:G:C8	2.69	0.61
34:b:1893:C:O2	34:b:1893:C:H2'	2.00	0.61
34:b:2460:U:C2	34:b:2461:A:C8	2.89	0.61
46:n:69:ARG:O	46:n:71:ARG:N	2.31	0.61
1:A:600:A:OP1	8:H:88:LYS:N	2.33	0.60
1:A:1408:A:H2'	34:b:1912:A:N1	2.15	0.60
2:B:187:ASP:OD2	2:B:203:ASP:HB3	2.01	0.60
4:D:182:LYS:NZ	4:D:183:ARG:HH11	1.99	0.60
16:P:37:GLY:HA2	16:P:51:ARG:NH1	2.16	0.60
34:b:77:G:C4	34:b:78:U:C5	2.89	0.60
34:b:278:A:C6	34:b:361:G:N2	2.69	0.60
34:b:1076:C:O2	36:i:137:LEU:HD11	2.00	0.60
34:b:1120:G:C6	34:b:1121:C:C5	2.89	0.60
34:b:1295:C:N3	34:b:1296:G:N7	2.49	0.60
34:b:1622:G:C2	34:b:1623:G:N9	2.69	0.60
34:b:2110:G:N2	34:b:2120:G:C8	2.69	0.60
36:i:120:ASP:HB3	36:i:123:ALA:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:652:U:O4	1:A:752:G:O2'	2.15	0.60
1:A:701:U:O2	1:A:703:G:N1	2.33	0.60
6:F:71:ILE:HA	6:F:74:LEU:HD12	1.82	0.60
16:P:67:ILE:CG2	16:P:72:ALA:HB2	2.31	0.60
34:b:630:G:N3	34:b:630:G:H2'	2.16	0.60
34:b:1058:U:O2	34:b:1059:G:C5'	2.49	0.60
34:b:1301:A:N1	34:b:1303:G:C5	2.69	0.60
34:b:2704:C:H2'	34:b:2705:A:O4'	2.01	0.60
34:b:2839:G:C6	34:b:2840:C:C4	2.89	0.60
34:b:212:G:C2	34:b:213:A:N7	2.68	0.60
34:b:479:A:C2	34:b:480:A:C5	2.89	0.60
34:b:1059:G:C3'	36:i:109:ALA:O	2.48	0.60
34:b:1068:G:N7	34:b:1070:A:N6	2.49	0.60
34:b:1358:G:C2	34:b:1372:U:C5	2.88	0.60
34:b:1540:G:C6	34:b:1541:C:C4	2.89	0.60
34:b:1684:G:C6	34:b:1685:C:C4	2.89	0.60
34:b:2183:A:C6	34:b:2184:A:C8	2.87	0.60
34:b:2471:A:O2'	34:b:2472:G:H8	1.84	0.60
1:A:1231:G:H5"	9:I:128:LYS:HD3	1.83	0.60
4:D:121:ALA:O	4:D:145:ARG:N	2.29	0.60
9:I:25:GLY:HA3	9:I:57:VAL:HG13	1.83	0.60
11:K:125:LYS:HG2	21:U:33:ARG:HD2	1.82	0.60
17:Q:63:CYS:O	17:Q:71:SER:OG	2.17	0.60
33:a:8:C:N3	33:a:9:G:C8	2.69	0.60
34:b:312:G:C2	34:b:313:G:N7	2.70	0.60
34:b:363:G:C6	34:b:364:C:C4	2.89	0.60
34:b:620:G:H4'	34:b:621:A:O5'	2.01	0.60
34:b:1062:G:H22	36:i:137:LEU:CG	2.11	0.60
34:b:1070:A:N3	34:b:1070:A:C5'	2.64	0.60
34:b:1080:A:H2'	36:i:106:GLN:CG	2.04	0.60
34:b:1080:A:H5"	36:i:125:THR:HG21	1.80	0.60
34:b:1208:C:C2	34:b:1239:G:C2	2.88	0.60
34:b:1315:C:O2'	34:b:1392:A:H8	1.84	0.60
34:b:1504:A:N3	34:b:1505:A:C8	2.68	0.60
34:b:2506:U:O2'	34:b:2507:C:P	2.58	0.60
34:b:2688:G:N2	34:b:2720:U:C5	2.69	0.60
42:j:15:TRP:HH2	42:j:123:LYS:HE3	1.66	0.60
53:u:71:ALA:O	53:u:72:ILE:O	2.19	0.60
17:Q:25:GLU:OE2	17:Q:38:LYS:HG2	2.01	0.60
18:R:22:TYR:CZ	18:R:23:LYS:HD3	2.37	0.60
34:b:26:G:H2'	34:b:27:G:O4'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:363:G:C5	34:b:364:C:C5	2.89	0.60
34:b:1276:A:N7	34:b:1645:G:C2	2.70	0.60
34:b:1906:G:C2	34:b:1907:G:C8	2.89	0.60
34:b:1907:G:C2	34:b:1924:C:C2	2.90	0.60
34:b:2888:C:O2	34:b:2889:C:C5	2.54	0.60
57:b:9000:CLM:C2	56:z:27:ALA:CB	2.77	0.60
1:A:1100:C:N4	1:A:1103:C:OP1	2.34	0.60
2:B:65:LYS:HD2	2:B:89:PHE:HE2	1.65	0.60
3:C:40:GLN:OE1	3:C:44:LYS:NZ	2.34	0.60
8:H:17:GLN:HE22	8:H:62:LEU:HD22	1.66	0.60
10:J:14:ASP:OD1	10:J:15:HIS:N	2.34	0.60
10:J:84:VAL:HA	10:J:87:LEU:HB2	1.83	0.60
34:b:22:C:N3	34:b:23:G:N7	2.50	0.60
34:b:170:U:C4	34:b:171:U:C5	2.89	0.60
34:b:174:U:N3	34:b:175:G:N7	2.50	0.60
34:b:622:G:C6	34:b:623:C:C4	2.89	0.60
34:b:785:G:C6	34:b:786:C:C4	2.89	0.60
34:b:812:C:OP1	49:q:13:ARG:NH2	2.35	0.60
34:b:882:G:H2'	34:b:883:G:O4'	2.00	0.60
34:b:962:G:H2'	34:b:962:G:N3	2.16	0.60
34:b:1057:A:N6	36:i:119:ALA:CB	2.65	0.60
34:b:1080:A:N7	36:i:110:GLN:N	2.49	0.60
34:b:1121:C:O2	34:b:1121:C:H2'	2.01	0.60
34:b:1350:C:C4	34:b:1351:C:C5	2.90	0.60
34:b:1492:G:C2	34:b:1499:C:O2	2.54	0.60
34:b:1492:G:N1	34:b:1499:C:C2	2.69	0.60
34:b:1773:A:C6	34:b:1774:C:C1'	2.81	0.60
34:b:2535:G:C2	34:b:2536:G:N9	2.69	0.60
34:b:2590:A:N1	34:b:2591:C:C5	2.70	0.60
38:e:61:ARG:O	38:e:63:LYS:N	2.34	0.60
56:z:21:GLN:CA	56:z:23:GLN:HB2	2.32	0.60
1:A:148:G:O2'	1:A:149:A:OP1	2.19	0.60
3:C:80:GLY:O	3:C:83:VAL:HG22	2.01	0.60
5:E:158:LYS:HB3	8:H:63:LYS:NZ	2.16	0.60
12:L:99:GLY:HA3	12:L:117:GLY:HA3	1.84	0.60
18:R:23:LYS:HZ3	18:R:64:LEU:HD12	1.67	0.60
28:3:3:VAL:CG2	34:b:2015:A:C2	2.84	0.60
33:a:90:C:N3	33:a:91:C:C5	2.70	0.60
33:a:96:G:C6	33:a:97:C:C4	2.90	0.60
34:b:1078:U:O2'	36:i:133:ARG:CZ	2.49	0.60
34:b:1081:U:C5'	36:i:122:GLU:CG	2.78	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1342:A:C2	34:b:1345:C:C5	2.90	0.60
34:b:1533:C:C4	34:b:1534:U:C5	2.90	0.60
34:b:2152:G:C5	34:b:2153:C:C5	2.90	0.60
57:b:9000:CLM:CL2	56:z:28:GLY:HA2	2.34	0.60
19:S:62:THR:HG22	19:S:64:GLU:H	1.65	0.60
33:a:14:U:O2	33:a:14:U:H2'	1.99	0.60
34:b:23:G:C2	34:b:24:G:N7	2.69	0.60
34:b:288:U:N3	34:b:289:G:N7	2.50	0.60
34:b:353:C:O2	34:b:354:A:C8	2.54	0.60
34:b:937:C:C2	34:b:938:G:N7	2.70	0.60
34:b:1071:G:C2	34:b:1089:A:C4'	2.83	0.60
34:b:1091:G:N1	34:b:1092:C:C4	2.69	0.60
34:b:1848:A:C2	34:b:1849:G:C8	2.89	0.60
34:b:1942:C:H3'	34:b:1943:U:O2	2.02	0.60
34:b:2265:U:OP2	34:b:2266:A:O2'	2.20	0.60
34:b:2793:C:O2	34:b:2794:C:C6	2.54	0.60
34:b:2826:A:C6	34:b:2827:C:C4	2.90	0.60
41:h:43:ASN:O	41:h:44:ILE:C	2.40	0.60
46:n:58:ASP:CG	46:n:63:ARG:HH11	2.09	0.60
56:z:7:ILE:O	56:z:9:GLU:HG2	2.02	0.60
56:z:12:LEU:H	56:z:12:LEU:CD1	2.02	0.60
1:A:521:G:P	12:L:50:LYS:HZ1	2.24	0.60
1:A:662:U:O2'	1:A:836:G:OP1	2.18	0.60
1:A:960:U:H4'	1:A:961:U:OP2	2.00	0.60
21:U:16:ARG:HA	21:U:19:LYS:NZ	2.17	0.60
34:b:40:U:C4	34:b:41:C:C5	2.90	0.60
34:b:583:G:C6	34:b:584:C:C5	2.90	0.60
34:b:1221:C:C2	34:b:1222:U:C6	2.90	0.60
34:b:1532:A:C6	34:b:1533:C:C5	2.90	0.60
34:b:2556:C:N4	34:b:2557:G:C5	2.70	0.60
34:b:2769:U:C2	34:b:2770:G:C8	2.90	0.60
38:e:60:TRP:HE1	38:e:67:ARG:CD	2.13	0.60
22:V:27:G:N2	22:V:28:G:C6	2.70	0.60
23:W:74:C:O2	34:b:2432:A:C8	2.55	0.60
34:b:240:C:OP2	34:b:241:A:O2'	2.17	0.60
34:b:875:G:C3'	34:b:876:C:H5"	2.31	0.60
34:b:1062:G:O3'	36:i:78:LEU:CD2	2.46	0.60
34:b:1585:C:H2'	34:b:1586:A:O4'	2.02	0.60
34:b:1786:A:O2'	34:b:1938:A:N6	2.35	0.60
34:b:1872:A:C6	34:b:1873:G:H1'	2.36	0.60
34:b:2372:U:O2	34:b:2373:G:C8	2.55	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2396:G:N3	34:b:2397:G:C8	2.70	0.60
34:b:2839:G:N3	34:b:2840:C:C6	2.69	0.60
56:z:21:GLN:HB3	56:z:23:GLN:HG2	1.84	0.60
1:A:947:G:O2'	1:A:1306:A:O2'	2.20	0.59
1:A:1265:C:H2'	1:A:1266:G:H8	1.67	0.59
3:C:59:PRO:HB2	3:C:61:LYS:NZ	2.17	0.59
5:E:88:HIS:CD2	5:E:137:ARG:HG3	2.36	0.59
18:R:25:ILE:HG12	18:R:29:LYS:HE3	1.84	0.59
28:3:25:VAL:O	28:3:26:THR:OG1	2.18	0.59
34:b:596:U:C2	34:b:597:G:C8	2.90	0.59
34:b:867:C:O2	34:b:867:C:H2'	2.01	0.59
34:b:1528:A:C2	34:b:1544:A:C6	2.91	0.59
34:b:1721:G:N1	34:b:1738:G:C2	2.70	0.59
34:b:1997:C:H2'	34:b:1997:C:O2	2.01	0.59
34:b:2702:G:C2	34:b:2703:C:C6	2.90	0.59
34:b:2714:G:C6	34:b:2715:C:C4	2.89	0.59
1:A:1397:C:OP2	5:E:28:ARG:NH2	2.35	0.59
30:6:3:ARG:NE	34:b:1613:G:O2'	2.34	0.59
34:b:115:C:N3	34:b:116:C:C5	2.70	0.59
34:b:425:G:N2	34:b:426:C:C2	2.70	0.59
34:b:519:U:N3	34:b:520:G:C8	2.70	0.59
34:b:822:G:C2	34:b:823:C:C4	2.90	0.59
34:b:921:C:H1'	34:b:2269:G:C8	2.37	0.59
34:b:981:A:H3'	34:b:982:C:O2	2.01	0.59
34:b:1082:U:C6	36:i:123:ALA:CB	2.76	0.59
34:b:1228:G:C4	34:b:1229:C:C6	2.90	0.59
34:b:1450:G:H1	34:b:1459:G:H22	1.49	0.59
34:b:1848:A:C6	34:b:1849:G:N7	2.70	0.59
34:b:2016:U:H2'	34:b:2017:U:C6	2.37	0.59
53:u:74:ASN:CA	53:u:96:PHE:CE2	2.85	0.59
56:z:3:GLU:OE2	56:z:5:LYS:HE2	2.02	0.59
56:z:23:GLN:O	56:z:23:GLN:HG3	2.02	0.59
1:A:434:U:H5'	1:A:435:A:OP2	2.02	0.59
1:A:437:U:OP1	4:D:151:GLN:NE2	2.35	0.59
1:A:450:G:H22	16:P:13:LYS:NZ	1.94	0.59
16:P:20:VAL:CG2	16:P:32:PHE:HB2	2.32	0.59
34:b:230:G:C2	34:b:231:A:C8	2.91	0.59
34:b:253:C:C4	34:b:254:G:C8	2.90	0.59
34:b:397:U:C2	34:b:398:C:C6	2.90	0.59
34:b:948:C:H1'	34:b:984:A:N3	2.18	0.59
34:b:1141:U:H4'	34:b:1142:A:C1'	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1499:C:C4	34:b:1500:G:N7	2.70	0.59
34:b:1516:G:C2	34:b:1517:G:H1'	2.38	0.59
34:b:1635:A:C5	34:b:1636:U:C6	2.90	0.59
34:b:1795:C:N3	34:b:1796:U:C5	2.71	0.59
34:b:2661:G:O2'	34:b:2662:A:O4'	2.18	0.59
34:b:2766:A:N6	34:b:2767:C:C4	2.71	0.59
36:i:123:ALA:C	36:i:125:THR:H	2.10	0.59
45:m:53:MET:HE1	45:m:103:TYR:CG	2.36	0.59
1:A:1332:A:O2'	1:A:1333:A:OP1	2.19	0.59
3:C:18:ASN:ND2	14:N:89:ARG:O	2.35	0.59
34:b:695:G:OP1	34:b:1380:G:O2'	2.20	0.59
34:b:938:G:C2	34:b:939:G:N7	2.70	0.59
34:b:950:G:C5	34:b:951:C:C5	2.90	0.59
34:b:959:A:O2'	34:b:960:A:H5'	2.02	0.59
34:b:1122:G:C6	34:b:1123:C:C5	2.91	0.59
34:b:1646:C:O2	34:b:1646:C:H2'	2.01	0.59
34:b:1667:G:H5'	43:k:6:THR:HA	1.82	0.59
34:b:2023:C:O2	34:b:2023:C:H2'	2.03	0.59
34:b:2506:U:O2'	34:b:2507:C:O5'	2.19	0.59
34:b:2702:G:C2	34:b:2703:C:C5	2.90	0.59
34:b:2803:G:C2	34:b:2804:U:C6	2.91	0.59
1:A:430:A:P	4:D:7:LYS:H	2.25	0.59
1:A:543:U:OP1	4:D:13:ARG:NE	2.36	0.59
13:M:36:ALA:HB3	13:M:38:ILE:HG12	1.83	0.59
13:M:70:ARG:HG3	39:f:144:ASP:OD1	1.93	0.59
15:O:48:ASP:OD2	15:O:51:SER:HB2	2.02	0.59
34:b:4:U:C2	34:b:5:A:C8	2.90	0.59
34:b:210:C:H2'	34:b:210:C:O2	2.02	0.59
34:b:263:G:N1	34:b:264:C:C2	2.71	0.59
34:b:500:G:H2'	34:b:500:G:N3	2.16	0.59
34:b:782:A:N3	35:c:225:MET:HG2	2.18	0.59
34:b:1063:G:C2	36:i:88:GLY:CA	2.86	0.59
34:b:1208:C:N3	34:b:1239:G:C2	2.70	0.59
34:b:1496:A:O2'	34:b:1498:C:C5	2.52	0.59
34:b:1649:G:C2	34:b:1650:A:C8	2.91	0.59
34:b:1683:U:C2	34:b:1684:G:C8	2.90	0.59
34:b:1985:C:C2	34:b:1986:C:C6	2.89	0.59
34:b:2415:G:C6	34:b:2416:C:C4	2.90	0.59
1:A:137:U:C1'	16:P:64:GLY:HA3	2.33	0.59
1:A:230:G:C3'	16:P:31:ARG:NH2	2.64	0.59
34:b:75:G:N2	34:b:76:C:C5	2.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:782:A:C2	35:c:225:MET:HG2	2.38	0.59
34:b:1074:G:N1	36:i:89:SER:HB2	2.16	0.59
34:b:1089:A:H5"	34:b:1090:A:H8	1.67	0.59
34:b:1865:U:O4	34:b:1875:G:C2	2.55	0.59
34:b:1893:C:C5	34:b:1894:C:C5	2.90	0.59
34:b:2127:G:N3	34:b:2160:C:N4	2.50	0.59
43:k:4:GLU:O	43:k:5:GLN:HB2	2.02	0.59
53:u:72:ILE:HG22	53:u:73:PHE:H	1.66	0.59
1:A:1341:U:O2'	9:I:128:LYS:N	2.36	0.59
9:I:106:ASP:OD2	9:I:108:ARG:HB2	2.03	0.59
24:X:19:U:C5'	24:X:19:U:C6	2.86	0.59
34:b:363:G:C4	34:b:364:C:C6	2.91	0.59
34:b:876:C:H4'	34:b:877:A:OP1	2.02	0.59
34:b:1139:G:C2	34:b:1140:C:C5	2.91	0.59
34:b:1144:A:N3	34:b:1145:C:C6	2.70	0.59
34:b:1315:C:C2	34:b:1316:U:C5	2.90	0.59
34:b:1356:G:C6	34:b:1357:C:C5	2.91	0.59
34:b:2025:C:H2'	34:b:2026:U:C6	2.37	0.59
34:b:2396:G:N1	34:b:2397:G:C8	2.70	0.59
34:b:2479:U:C4	34:b:2480:C:C5	2.91	0.59
36:i:10:LEU:HD13	36:i:27:LEU:HA	1.83	0.59
40:g:127:THR:OG1	40:g:130:GLU:HB2	2.01	0.59
1:A:528:C:H41	12:L:45:ASN:ND2	2.00	0.59
1:A:1397:C:N4	24:X:21:A:OP2	2.35	0.59
1:A:1405:G:H1	1:A:1496:C:H42	1.49	0.59
34:b:23:G:C2	34:b:24:G:C5	2.91	0.59
34:b:76:C:C2	34:b:77:G:H8	2.21	0.59
34:b:126:A:C2'	34:b:127:A:C8	2.85	0.59
34:b:225:C:N4	34:b:226:A:C5	2.71	0.59
34:b:982:C:O2	34:b:982:C:O4'	2.21	0.59
34:b:1057:A:N6	36:i:119:ALA:CA	2.66	0.59
34:b:1063:G:C2'	36:i:85:ILE:CD1	2.73	0.59
34:b:1120:G:C4	34:b:1121:C:C6	2.90	0.59
34:b:1375:U:O2	34:b:1376:C:C6	2.56	0.59
34:b:1504:A:C2	34:b:1505:A:C5	2.91	0.59
34:b:2159:G:H3'	34:b:2160:C:H5"	1.85	0.59
34:b:2293:G:N2	34:b:2294:G:H1'	2.17	0.59
34:b:2330:G:N3	34:b:2330:G:H2'	2.18	0.59
34:b:2591:C:C2	34:b:2592:G:N7	2.70	0.59
34:b:2708:G:C2	34:b:2709:G:N7	2.71	0.59
37:d:4:LEU:HD21	37:d:101:PHE:HE2	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:k:93:GLN:OE1	43:k:114:LYS:HD2	2.03	0.59
1:A:1329:A:H5"	13:M:25:GLY:H	1.67	0.59
34:b:1061:U:O4	36:i:55:PRO:CD	2.30	0.59
34:b:1091:G:C5	34:b:1092:C:C5	2.91	0.59
34:b:1142:A:C5	34:b:1144:A:C5	2.90	0.59
34:b:1500:G:C2	34:b:1501:G:C8	2.91	0.59
34:b:1892:C:C4	34:b:1893:C:C6	2.90	0.59
34:b:1964:G:C6	34:b:1967:C:N4	2.71	0.59
34:b:2557:G:C4	34:b:2558:C:C5	2.91	0.59
34:b:2610:C:O2'	34:b:2611:C:OP2	2.19	0.59
44:l:92:LEU:HD11	44:l:106:GLU:O	2.00	0.59
4:D:13:ARG:HA	4:D:37:PRO:HG3	1.83	0.59
9:I:34:LEU:O	9:I:38:PHE:N	2.36	0.59
34:b:77:G:C6	34:b:78:U:C4	2.90	0.59
34:b:116:C:HO2'	34:b:126:A:H8	1.50	0.59
34:b:377:G:C6	34:b:378:C:C5	2.90	0.59
34:b:1071:G:N2	34:b:1089:A:O3'	2.35	0.59
34:b:2152:G:C2	34:b:2153:C:N1	2.71	0.59
34:b:2269:G:N2	34:b:2270:A:C8	2.71	0.59
53:u:5:ILE:HD13	53:u:67:VAL:HG13	1.85	0.59
53:u:74:ASN:HA	53:u:96:PHE:CE2	2.38	0.59
30:6:18:PHE:CG	34:b:126:A:C2	2.91	0.58
33:a:29:A:H2'	33:a:30:C:O4'	2.03	0.58
33:a:117:G:C5	33:a:118:C:C5	2.91	0.58
34:b:114:U:N3	34:b:115:C:C5	2.71	0.58
34:b:243:U:O2	34:b:243:U:C2'	2.51	0.58
34:b:655:A:H1'	34:b:656:G:C8	2.38	0.58
34:b:822:G:C4	34:b:823:C:C5	2.91	0.58
34:b:978:G:N1	34:b:986:C:C4	2.70	0.58
34:b:1079:C:C6	34:b:1080:A:O4'	2.56	0.58
34:b:1082:U:OP2	36:i:122:GLU:CB	2.51	0.58
34:b:1314:C:C2	34:b:1315:C:C5	2.91	0.58
34:b:1337:G:C6	34:b:1338:G:N7	2.70	0.58
34:b:1501:G:C6	34:b:1502:A:C8	2.90	0.58
34:b:1520:U:C2	34:b:1521:G:C8	2.91	0.58
34:b:1604:C:C2	34:b:1605:C:C6	2.91	0.58
34:b:1759:A:C5	34:b:1760:C:C5	2.90	0.58
34:b:2309:A:N1	34:b:2310:C:C6	2.71	0.58
45:m:40:ARG:NE	45:m:95:LEU:HD21	2.17	0.58
53:u:74:ASN:HD21	53:u:99:ASN:ND2	2.01	0.58
1:A:430:A:OP2	4:D:7:LYS:N	2.23	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:469:C:H2'	1:A:470:C:O4'	2.04	0.58
24:X:13:U:OP2	24:X:13:U:H4'	2.03	0.58
33:a:100:G:N2	33:a:101:A:H1'	2.18	0.58
34:b:6:A:H2'	34:b:7:G:O4'	2.02	0.58
34:b:173:A:C2	34:b:174:U:C4	2.91	0.58
34:b:196:A:C4	34:b:805:G:O6	2.57	0.58
34:b:425:G:C2	34:b:426:C:C5	2.91	0.58
34:b:519:U:N3	34:b:520:G:N7	2.51	0.58
34:b:617:G:C2	34:b:618:G:C5	2.91	0.58
34:b:1050:A:C2	34:b:2751:G:C5	2.91	0.58
34:b:1091:G:N1	34:b:1092:C:C5	2.71	0.58
34:b:1503:A:C4	34:b:1504:A:C8	2.91	0.58
34:b:1996:C:O2	34:b:1997:C:H1'	2.02	0.58
34:b:1998:A:C6	34:b:1999:C:C5	2.91	0.58
34:b:2024:G:H2'	34:b:2025:C:H6	1.68	0.58
34:b:2532:G:N2	34:b:2663:G:O2'	2.36	0.58
41:h:66:ASN:ND2	41:h:148:ALA:C	2.61	0.58
1:A:776:G:N2	1:A:802:A:OP2	2.36	0.58
1:A:974:A:OP2	14:N:80:ARG:NH1	2.37	0.58
9:I:128:LYS:C	23:W:32:A:OP1	2.47	0.58
22:V:27:G:C2	22:V:28:G:C5	2.91	0.58
23:W:72:G:C3'	23:W:73:A:H5'	2.34	0.58
34:b:234:U:O2	34:b:234:U:H2'	2.03	0.58
34:b:1033:U:N3	34:b:2750:A:C6	2.72	0.58
34:b:1201:U:N3	34:b:1202:G:C8	2.71	0.58
34:b:1220:G:C4	34:b:1221:C:C5	2.91	0.58
34:b:1560:G:C5	34:b:1561:C:C5	2.92	0.58
34:b:1661:G:C6	34:b:1662:U:C5	2.91	0.58
34:b:1716:U:C4	34:b:1743:G:N2	2.71	0.58
34:b:2803:G:C2	34:b:2804:U:C5	2.92	0.58
1:A:998:C:N3	1:A:1043:G:N2	2.43	0.58
1:A:1161:C:H42	1:A:1175:G:H1	1.51	0.58
16:P:59:HIS:CE1	16:P:63:GLN:NE2	2.71	0.58
34:b:242:G:N2	34:b:254:G:C5	2.72	0.58
34:b:389:G:C5	34:b:390:U:C6	2.91	0.58
34:b:851:C:N3	34:b:852:U:C5	2.72	0.58
34:b:866:A:H1'	34:b:914:G:H1'	1.86	0.58
34:b:1062:G:C8	36:i:76:ALA:HA	2.37	0.58
34:b:1074:G:H1	36:i:89:SER:HB2	1.68	0.58
34:b:1123:C:N3	34:b:1124:G:N7	2.51	0.58
34:b:1361:G:O2'	34:b:2215:C:O2'	2.14	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1638:C:N3	34:b:1639:C:C6	2.71	0.58
34:b:2374:C:C4	34:b:2375:G:C8	2.92	0.58
34:b:2396:G:N1	34:b:2397:G:C5	2.72	0.58
34:b:2663:G:C6	34:b:2664:G:C4	2.92	0.58
53:u:16:GLY:O	53:u:18:ASP:N	2.36	0.58
1:A:1164:G:H1	1:A:1172:C:H42	1.51	0.58
1:A:1263:C:H42	1:A:1272:G:H1	1.51	0.58
7:G:110:ARG:O	7:G:118:ARG:NE	2.36	0.58
16:P:5:ARG:HA	16:P:68:SER:OG	2.04	0.58
21:U:27:VAL:O	21:U:27:VAL:HG12	2.03	0.58
34:b:425:G:N3	34:b:426:C:C6	2.72	0.58
34:b:834:G:C5	34:b:835:C:C5	2.92	0.58
34:b:1479:G:H2'	34:b:1480:C:O4'	2.03	0.58
34:b:1829:A:N1	34:b:1830:C:H1'	2.17	0.58
34:b:2041:U:C2	34:b:2042:A:C8	2.91	0.58
34:b:2582:G:C2'	34:b:2583:G:H5'	2.34	0.58
34:b:2827:C:C2	34:b:2828:G:H8	2.20	0.58
1:A:1125:U:H2'	1:A:1126:U:H2'	1.86	0.58
5:E:12:GLU:OE2	5:E:63:MET:HG2	2.03	0.58
22:V:25:C:C4	22:V:26:A:N7	2.70	0.58
34:b:389:G:C6	34:b:390:U:C6	2.91	0.58
34:b:523:C:N3	34:b:524:G:C8	2.72	0.58
34:b:963:U:C2	34:b:964:C:C6	2.91	0.58
34:b:1081:U:H5"	36:i:122:GLU:CG	2.32	0.58
34:b:1206:G:N3	34:b:1207:C:C5	2.69	0.58
34:b:1303:G:N1	34:b:1304:A:N7	2.52	0.58
34:b:1315:C:O2	34:b:1316:U:C6	2.56	0.58
34:b:1759:A:C6	34:b:1760:C:C4	2.92	0.58
34:b:2703:C:C2	34:b:2704:C:C5	2.91	0.58
45:m:50:ARG:HA	45:m:53:MET:HE3	1.86	0.58
5:E:47:PHE:HZ	5:E:137:ARG:NH1	2.01	0.58
9:I:112:ARG:CZ	9:I:114:LYS:CG	2.80	0.58
17:Q:20:ILE:HD12	17:Q:47:ASP:OD2	2.03	0.58
22:V:41:C:N3	22:V:42:C:C5	2.71	0.58
34:b:693:A:H2'	34:b:694:U:O4'	2.02	0.58
34:b:834:G:C6	34:b:835:C:C4	2.92	0.58
34:b:990:A:N6	34:b:1186:G:O2'	2.36	0.58
34:b:1080:A:C5'	36:i:125:THR:CG2	2.82	0.58
34:b:1539:U:C2	34:b:1540:G:C8	2.91	0.58
34:b:1730:C:O2	34:b:1730:C:O4'	2.22	0.58
34:b:1805:A:H2'	34:b:1805:A:N3	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1964:G:N1	34:b:1967:C:C4	2.72	0.58
34:b:2217:G:C6	34:b:2218:G:N7	2.71	0.58
39:f:36:LEU:HD23	39:f:152:LEU:HD12	1.86	0.58
1:A:450:G:H22	16:P:13:LYS:HZ1	1.51	0.58
1:A:1100:C:OP2	2:B:94:ARG:NE	2.37	0.58
2:B:29:PHE:HB3	2:B:44:LYS:HD2	1.85	0.58
2:B:131:LYS:HB3	2:B:135:MET:HE3	1.85	0.58
9:I:57:VAL:H	9:I:60:LEU:HD11	1.68	0.58
34:b:213:A:C6	34:b:214:G:O6	2.56	0.58
34:b:688:U:O4'	34:b:1780:A:N6	2.36	0.58
34:b:949:G:N1	34:b:950:G:N7	2.52	0.58
34:b:1063:G:C4	36:i:135:MET:CE	2.46	0.58
34:b:1471:G:C6	34:b:1472:C:C4	2.92	0.58
34:b:1498:C:C4	34:b:1499:C:C5	2.92	0.58
34:b:2480:C:C4	34:b:2481:G:N7	2.72	0.58
34:b:2827:C:O2	34:b:2828:G:C8	2.57	0.58
44:l:82:LEU:HD11	44:l:110:VAL:HG13	1.85	0.58
3:C:185:THR:HG22	3:C:198:LYS:HG2	1.86	0.58
6:F:21:MET:HB3	6:F:25:TYR:HE2	1.68	0.58
11:K:35:ASP:OD1	11:K:36:ARG:N	2.34	0.58
20:T:70:LYS:HG3	20:T:73:ARG:HH21	1.69	0.58
34:b:156:A:C6	34:b:157:C:C4	2.92	0.58
34:b:425:G:C4	34:b:426:C:C5	2.91	0.58
34:b:662:G:N3	34:b:663:G:C8	2.72	0.58
34:b:877:A:HO2'	34:b:878:A:P	2.26	0.58
34:b:906:U:N3	34:b:907:G:C8	2.72	0.58
34:b:928:A:C2	34:b:929:U:N1	2.70	0.58
34:b:1050:A:C2	34:b:1051:G:C4	2.92	0.58
34:b:1069:A:C6	34:b:1073:A:C8	2.91	0.58
34:b:1080:A:O5'	36:i:125:THR:CG2	2.52	0.58
34:b:1091:G:N3	34:b:1092:C:C6	2.71	0.58
34:b:1204:A:C5	34:b:1206:G:C5	2.92	0.58
34:b:1276:A:C2	34:b:1277:G:C5	2.91	0.58
34:b:1500:G:C5	34:b:1501:G:C8	2.91	0.58
34:b:1627:G:C2	34:b:1628:G:C8	2.92	0.58
34:b:1841:U:C2	34:b:1842:G:C8	2.92	0.58
34:b:2840:C:C2	34:b:2841:C:C5	2.92	0.58
34:b:2867:G:O2'	34:b:2868:A:OP2	2.14	0.58
57:b:9000:CLM:O2	56:z:27:ALA:HB1	2.02	0.58
56:z:15:THR:O	56:z:18:TRP:CZ3	2.57	0.58
1:A:254:G:H4'	1:A:255:G:OP1	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:570:G:O3'	1:A:819:A:O2'	2.21	0.58
1:A:1002:G:H2'	1:A:1003:G:H8	1.68	0.58
1:A:1309:G:H2'	1:A:1310:G:H8	1.69	0.58
1:A:1454:G:H2'	1:A:1455:G:C8	2.39	0.58
4:D:100:VAL:HG21	4:D:136:VAL:HG11	1.85	0.58
7:G:137:ARG:NH2	7:G:138:GLU:OE2	2.37	0.58
22:V:24:G:C5	22:V:25:C:C5	2.91	0.58
33:a:96:G:C6	33:a:97:C:C5	2.92	0.58
34:b:76:C:O2	34:b:77:G:C8	2.48	0.58
34:b:78:U:O2	34:b:79:C:C5	2.56	0.58
34:b:356:G:C6	34:b:357:C:C4	2.91	0.58
34:b:947:A:H2'	34:b:948:C:H6	1.69	0.58
34:b:1060:U:H5"	36:i:114:ALA:N	2.19	0.58
34:b:1316:U:C2	34:b:1317:G:C8	2.92	0.58
34:b:1684:G:C5	34:b:1685:C:C5	2.92	0.58
34:b:2409:G:H2'	34:b:2410:G:O4'	2.04	0.58
34:b:2714:G:C5	34:b:2715:C:C5	2.92	0.58
34:b:2766:A:H2'	34:b:2766:A:N3	2.19	0.58
34:b:2823:A:H2'	34:b:2824:C:O5'	2.04	0.58
1:A:474:G:C5	1:A:475:C:H1'	2.39	0.57
1:A:941:G:N1	9:I:125:GLN:OE1	2.36	0.57
34:b:234:U:C4	34:b:429:A:C6	2.92	0.57
34:b:414:C:O2'	34:b:1864:U:O2'	2.12	0.57
34:b:766:U:C2	34:b:767:U:C6	2.92	0.57
34:b:836:G:C5	34:b:837:C:C5	2.92	0.57
34:b:847:U:C4	34:b:848:C:C5	2.92	0.57
34:b:934:U:C2	34:b:935:C:C5	2.91	0.57
34:b:1094:U:C4	34:b:1096:A:OP2	2.57	0.57
34:b:1228:G:C6	34:b:1229:C:C4	2.92	0.57
34:b:1500:G:C2	34:b:1501:G:H1'	2.38	0.57
34:b:1999:C:O2	34:b:2000:C:C6	2.57	0.57
34:b:2524:G:N2	34:b:2540:C:C2	2.72	0.57
34:b:2583:G:O2'	34:b:2584:U:P	2.61	0.57
36:i:105:LEU:HA	36:i:108:ILE:HB	1.85	0.57
1:A:142:G:O2'	1:A:195:A:N6	2.37	0.57
3:C:178:ARG:HE	3:C:206:ILE:HB	1.70	0.57
4:D:182:LYS:NZ	4:D:183:ARG:HH12	2.00	0.57
33:a:45:A:C2	33:a:46:A:H1'	2.39	0.57
34:b:1304:A:N1	34:b:1305:C:C4	2.72	0.57
34:b:1471:G:C6	34:b:1472:C:C5	2.93	0.57
34:b:1666:G:O2'	43:k:6:THR:OG1	2.21	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2590:A:N1	34:b:2591:C:C4	2.72	0.57
41:h:83:LYS:HG2	41:h:92:GLY:HA2	1.85	0.57
53:u:11:VAL:HA	53:u:72:ILE:O	2.05	0.57
53:u:75:ALA:O	53:u:78:GLY:N	2.37	0.57
1:A:6:G:N1	5:E:99:SER:OG	2.37	0.57
1:A:876:C:OP1	8:H:14:ARG:NH1	2.37	0.57
13:M:89:ARG:HH11	13:M:94:LEU:HB2	1.68	0.57
22:V:29:G:C2	22:V:30:G:C8	2.92	0.57
34:b:30:G:C6	34:b:31:C:C4	2.92	0.57
34:b:172:A:C2	34:b:173:A:C5	2.91	0.57
34:b:734:A:N7	34:b:761:A:H2	2.02	0.57
34:b:780:G:C2	34:b:782:A:C5	2.92	0.57
34:b:786:C:O2	34:b:787:C:C5	2.54	0.57
34:b:1081:U:C3'	36:i:122:GLU:H	2.07	0.57
34:b:1511:G:H2'	34:b:1512:C:H6	1.68	0.57
34:b:1964:G:C2	34:b:1967:C:C5	2.92	0.57
1:A:136:C:H4'	16:P:1:MET:HG3	1.86	0.57
4:D:123:MET:HE3	4:D:145:ARG:HA	1.85	0.57
23:W:28:C:N3	23:W:43:G:N2	2.52	0.57
33:a:23:G:H2'	33:a:24:G:N7	2.18	0.57
33:a:39:A:C6	33:a:44:G:C2	2.92	0.57
34:b:19:A:C5	34:b:20:C:C5	2.92	0.57
34:b:268:C:C2	34:b:425:G:C2	2.92	0.57
34:b:947:A:H2'	34:b:948:C:C6	2.39	0.57
34:b:974:G:C8	34:b:989:G:C2	2.93	0.57
34:b:1022:G:C5	34:b:1140:C:C4	2.92	0.57
34:b:1086:A:H1'	34:b:1087:G:C8	2.39	0.57
34:b:1555:G:C4	34:b:1556:C:C5	2.93	0.57
34:b:1786:A:H62	34:b:2606:C:C4'	2.15	0.57
34:b:1964:G:H4'	34:b:1965:C:OP2	2.04	0.57
34:b:2152:G:C6	34:b:2153:C:C4	2.92	0.57
34:b:2525:G:C2	34:b:2539:C:N3	2.72	0.57
34:b:2839:G:C5	34:b:2840:C:C5	2.92	0.57
36:i:48:ILE:HG13	36:i:49:GLU:H	1.69	0.57
39:f:7:TYR:OH	39:f:172:ALA:O	2.23	0.57
42:j:3:THR:HG21	49:q:61:TRP:HE1	1.69	0.57
16:P:10:GLY:O	16:P:11:ALA:HB2	2.05	0.57
34:b:534:U:O2	34:b:535:G:C8	2.58	0.57
34:b:1228:G:C6	34:b:1229:C:C5	2.93	0.57
34:b:1555:G:N2	34:b:1556:C:C2	2.72	0.57
34:b:1973:G:C5	34:b:1974:C:C5	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2014:A:C2	34:b:2015:A:C5	2.92	0.57
34:b:2565:A:H2'	34:b:2566:A:C1'	2.34	0.57
41:h:90:LEU:HD21	41:h:128:HIS:HD2	1.70	0.57
1:A:123:U:H3	1:A:238:A:H61	1.53	0.57
1:A:900:A:H2'	1:A:901:A:C8	2.40	0.57
5:E:14:LEU:HA	5:E:36:THR:HA	1.86	0.57
10:J:28:THR:HG22	10:J:31:ARG:NH1	2.20	0.57
34:b:780:G:C5	34:b:782:A:N6	2.72	0.57
34:b:1186:G:H2'	34:b:1186:G:N3	2.19	0.57
34:b:1225:G:C2'	34:b:1226:A:C8	2.88	0.57
34:b:1501:G:N1	34:b:1502:A:N7	2.52	0.57
34:b:1530:G:C6	34:b:1531:C:C4	2.92	0.57
34:b:1638:C:N3	34:b:1639:C:C5	2.73	0.57
34:b:1721:G:O2'	34:b:1739:A:N6	2.36	0.57
34:b:1786:A:N6	34:b:2606:C:H4'	2.18	0.57
34:b:2517:C:C4	34:b:2542:A:C5	2.92	0.57
34:b:2544:G:N1	34:b:2545:G:N7	2.53	0.57
34:b:2715:C:N3	34:b:2716:C:C6	2.73	0.57
34:b:2828:G:N1	34:b:2829:A:N7	2.52	0.57
1:A:470:C:H2'	1:A:471:U:H6	1.68	0.57
1:A:1495:U:H1'	34:b:1919:A:C2	2.39	0.57
10:J:63:ASP:OD2	10:J:65:TYR:CZ	2.58	0.57
34:b:9:G:C2	34:b:2629:U:C4	2.92	0.57
34:b:42:A:C6	34:b:43:G:N7	2.73	0.57
34:b:935:C:C2	34:b:936:A:N7	2.73	0.57
34:b:1060:U:H3'	36:i:115:ASP:C	2.08	0.57
34:b:1079:C:O2'	36:i:129:GLU:OE2	2.19	0.57
34:b:1079:C:HO2'	36:i:125:THR:CG2	1.98	0.57
34:b:1082:U:H3	34:b:1086:A:H61	1.50	0.57
34:b:1181:U:C2	34:b:1182:G:C8	2.92	0.57
34:b:1504:A:N1	34:b:1505:A:N7	2.53	0.57
34:b:2013:A:C6	34:b:2613:U:O4	2.56	0.57
34:b:2152:G:C4	34:b:2153:C:C6	2.93	0.57
34:b:2544:G:C6	34:b:2545:G:N7	2.72	0.57
57:b:9000:CLM:O2	56:z:27:ALA:CB	2.52	0.57
1:A:640:A:N6	1:A:641:U:O4	2.38	0.57
1:A:667:G:H2'	1:A:668:G:H8	1.70	0.57
1:A:707:U:H5"	11:K:21:HIS:ND1	2.19	0.57
22:V:33:U:C2'	22:V:34:A:C2	2.80	0.57
33:a:33:G:C6	33:a:34:A:N7	2.72	0.57
34:b:170:U:C2	34:b:171:U:C6	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:425:G:C2	34:b:426:C:C4	2.92	0.57
34:b:725:G:H2'	34:b:726:G:O4'	2.03	0.57
34:b:1796:U:C2	34:b:1797:G:N7	2.73	0.57
34:b:2287:A:C6	34:b:2344:U:O4	2.55	0.57
52:t:28:ASN:ND2	52:t:91:GLN:OE1	2.38	0.57
56:z:21:GLN:HB2	56:z:23:GLN:HB2	1.56	0.57
1:A:885:G:H1	1:A:912:C:H42	1.53	0.57
5:E:110:MET:HA	5:E:113:VAL:HG22	1.87	0.57
7:G:14:ASP:HB2	7:G:23:ALA:HB2	1.87	0.57
34:b:49:A:C2	34:b:177:G:C5	2.93	0.57
34:b:926:G:C2	34:b:927:A:C8	2.93	0.57
34:b:1830:C:C4	34:b:1831:G:N7	2.73	0.57
42:j:57:LEU:CD1	42:j:129:GLU:HA	2.35	0.57
1:A:967:C:OP2	1:A:968:A:O2'	2.14	0.57
1:A:1362:A:H2'	1:A:1362:A:OP2	2.05	0.57
21:U:27:VAL:HG13	21:U:31:VAL:CB	2.35	0.57
27:2:14:ILE:HG12	34:b:989:G:C8	2.39	0.57
34:b:159:G:H4'	34:b:160:A:OP1	2.04	0.57
34:b:211:C:H2'	34:b:211:C:O2	2.05	0.57
34:b:214:G:N2	34:b:215:G:C2	2.72	0.57
34:b:363:G:H2'	34:b:364:C:O4'	2.04	0.57
34:b:371:A:N3	34:b:372:G:C2	2.73	0.57
34:b:577:G:H2'	34:b:578:G:C8	2.39	0.57
34:b:1629:U:C4	34:b:1630:A:N7	2.72	0.57
34:b:2538:C:C2	34:b:2539:C:C6	2.92	0.57
34:b:2623:G:C2	34:b:2624:G:N7	2.73	0.57
34:b:2755:C:O2	34:b:2755:C:H2'	2.03	0.57
1:A:1111:A:N1	3:C:176:THR:HG22	2.20	0.56
1:A:1309:G:H2'	1:A:1310:G:C8	2.41	0.56
1:A:1408:A:C4'	34:b:1919:A:C1'	2.82	0.56
6:F:5:GLU:HB2	6:F:90:MET:HB2	1.86	0.56
10:J:6:ILE:HB	10:J:76:ILE:HD11	1.87	0.56
19:S:35:ARG:HH12	19:S:74:ALA:HB3	1.69	0.56
34:b:75:G:H2'	34:b:75:G:N3	2.19	0.56
34:b:222:A:C2	34:b:233:A:H4'	2.40	0.56
34:b:263:G:C5	34:b:264:C:C6	2.93	0.56
34:b:437:U:C2	34:b:438:G:C8	2.93	0.56
34:b:1055:G:H5"	34:b:1055:G:C8	2.35	0.56
34:b:1064:C:C4'	36:i:85:ILE:CB	2.48	0.56
34:b:1081:U:O5'	36:i:122:GLU:OE1	2.23	0.56
34:b:1476:U:O4'	34:b:1732:C:N3	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1511:G:C4	34:b:1512:C:C5	2.93	0.56
34:b:1540:G:C2	34:b:1541:C:C2	2.93	0.56
34:b:1721:G:C6	34:b:1738:G:C2	2.93	0.56
34:b:1858:A:N6	34:b:1884:G:O2'	2.38	0.56
34:b:1867:G:C6	34:b:1868:C:N4	2.72	0.56
34:b:2072:C:N3	34:b:2073:C:C5	2.73	0.56
34:b:2103:C:C4	34:b:2104:C:C5	2.93	0.56
34:b:2189:U:C2	34:b:2190:G:C8	2.92	0.56
34:b:2231:U:C2	34:b:2232:C:C6	2.92	0.56
42:j:57:LEU:HD11	42:j:129:GLU:HA	1.85	0.56
1:A:224:U:H2'	1:A:225:C:C6	2.39	0.56
1:A:231:U:P	16:P:31:ARG:NH2	2.78	0.56
1:A:1078:U:H1'	5:E:134:ASN:HD21	1.71	0.56
1:A:1347:G:O6	9:I:11:ARG:NH2	2.37	0.56
7:G:134:VAL:O	7:G:138:GLU:HG2	2.04	0.56
11:K:116:PRO:CD	21:U:27:VAL:HG21	2.32	0.56
22:V:28:G:C6	22:V:29:G:N7	2.73	0.56
33:a:46:A:C6	33:a:47:C:C5	2.93	0.56
34:b:612:G:C5	34:b:614:A:C2	2.93	0.56
34:b:978:G:C2	34:b:986:C:C2	2.92	0.56
34:b:1106:G:N3	34:b:1107:G:H1'	2.20	0.56
34:b:1293:C:C4	34:b:1294:U:C5	2.93	0.56
34:b:1358:G:N2	34:b:1372:U:H5	1.93	0.56
34:b:1373:A:C6	34:b:1374:G:H1'	2.39	0.56
34:b:1395:A:C8	34:b:1398:C:C5	2.93	0.56
34:b:1459:G:N3	34:b:1461:C:C6	2.73	0.56
34:b:1806:C:N4	34:b:1807:G:N7	2.53	0.56
38:e:60:TRP:CZ3	38:e:70:SER:CB	2.88	0.56
41:h:116:ARG:HH22	41:h:141:LYS:HA	1.69	0.56
2:B:66:ILE:HB	2:B:88:GLN:HG2	1.86	0.56
5:E:35:LEU:HD11	5:E:133:ILE:HD13	1.87	0.56
15:O:79:ARG:HA	15:O:82:GLU:OE2	2.05	0.56
22:V:54:U:H2'	22:V:55:U:C2	2.39	0.56
27:2:14:ILE:HD11	34:b:989:G:O4'	2.04	0.56
34:b:342:A:C6	34:b:343:C:C5	2.93	0.56
34:b:440:C:O2	34:b:441:U:C6	2.58	0.56
34:b:489:G:H2'	34:b:491:G:C8	2.41	0.56
34:b:622:G:C5	34:b:623:C:C5	2.93	0.56
34:b:1022:G:C6	34:b:1140:C:C4	2.94	0.56
34:b:1050:A:N1	34:b:1051:G:C5	2.73	0.56
34:b:1063:G:O2'	36:i:85:ILE:HD12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1064:C:C4’	36:i:85:ILE:CG1	2.83	0.56
34:b:1067:A:N9	36:i:22:PRO:HG3	1.44	0.56
34:b:1091:G:C6	34:b:1092:C:C4	2.93	0.56
34:b:1235:G:H2’	34:b:1236:G:C1’	2.35	0.56
34:b:1303:G:C6	34:b:1304:A:N7	2.74	0.56
34:b:1461:C:C2	34:b:1462:C:H5	2.23	0.56
34:b:1516:G:N2	34:b:1517:G:H1’	2.20	0.56
34:b:1528:A:C2	34:b:1544:A:C5	2.93	0.56
34:b:1685:C:N3	34:b:1686:C:C5	2.73	0.56
34:b:1766:G:C2	34:b:1767:G:C8	2.93	0.56
34:b:1806:C:H2’	34:b:1806:C:O2	2.05	0.56
34:b:1956:U:O2	34:b:1956:U:H2’	2.05	0.56
34:b:1974:C:N4	34:b:1975:G:N7	2.53	0.56
34:b:2050:C:H2’	34:b:2051:A:O4’	2.04	0.56
34:b:2180:U:N3	34:b:2181:U:C5	2.73	0.56
34:b:2332:C:O2	34:b:2335:A:C2	2.57	0.56
34:b:2468:A:O2’	34:b:2482:A:N6	2.38	0.56
34:b:2682:A:N1	34:b:2683:C:C4	2.73	0.56
34:b:2767:C:N3	34:b:2768:U:C5	2.72	0.56
34:b:2782:G:C2	34:b:2783:U:C6	2.92	0.56
36:i:15:GLY:CA	36:i:50:LYS:HB3	2.28	0.56
41:h:71:LYS:O	41:h:77:THR:OG1	2.20	0.56
56:z:4:GLN:HE21	56:z:4:GLN:CA	2.18	0.56
1:A:1200:C:H5”	1:A:1201:A:H3’	1.86	0.56
6:F:4:TYR:HA	6:F:91:ARG:HA	1.88	0.56
34:b:156:A:C5	34:b:157:C:C5	2.93	0.56
34:b:866:A:C2	34:b:867:C:H6	2.17	0.56
34:b:873:C:N3	34:b:874:G:C8	2.73	0.56
34:b:1170:C:C4’	34:b:1171:G:OP2	2.53	0.56
34:b:1221:C:C2	34:b:1222:U:C5	2.92	0.56
34:b:1459:G:N1	34:b:1461:C:N4	2.54	0.56
34:b:1515:A:H2’	34:b:1516:G:O4’	2.06	0.56
34:b:1538:G:C6	34:b:1539:U:C5	2.93	0.56
34:b:1713:A:N6	34:b:1716:U:H1’	2.19	0.56
34:b:1737:G:H2’	34:b:1738:G:C1’	2.35	0.56
34:b:1865:U:C4	34:b:1875:G:N2	2.73	0.56
34:b:2283:C:C5	34:b:2389:G:C5	2.94	0.56
34:b:2480:C:O2	34:b:2480:C:H2’	2.04	0.56
34:b:2802:G:N3	34:b:2803:G:C8	2.74	0.56
34:b:2802:G:C4	34:b:2803:G:C8	2.94	0.56
44:l:29:LYS:HG2	44:l:30:THR:HG23	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:z:28:GLY:O	56:z:29:PRO:C	2.47	0.56
1:A:483:C:OP2	1:A:484:G:O2'	2.18	0.56
1:A:952:U:H2'	1:A:953:G:H8	1.71	0.56
1:A:1271:A:H2'	1:A:1272:G:H8	1.70	0.56
1:A:1342:C:C5'	9:I:126:PHE:HA	2.35	0.56
12:L:42:LYS:HG2	12:L:43:LYS:HG3	1.86	0.56
33:a:45:A:C5	33:a:46:A:C8	2.94	0.56
34:b:171:U:C2	34:b:172:A:H8	2.23	0.56
34:b:172:A:C2	34:b:173:A:N7	2.73	0.56
34:b:456:C:O2	34:b:456:C:O4'	2.23	0.56
34:b:1082:U:OP2	36:i:122:GLU:HB3	2.06	0.56
34:b:1127:A:C2	34:b:2518:A:C5	2.92	0.56
34:b:1357:C:N3	34:b:1358:G:C8	2.74	0.56
34:b:1416:G:C4	34:b:1417:C:C5	2.93	0.56
34:b:1790:C:H3'	34:b:1791:A:C8	2.40	0.56
34:b:1790:C:O3'	34:b:1791:A:H8	1.88	0.56
34:b:1946:U:N3	34:b:1947:C:C5	2.74	0.56
34:b:2164:C:O2	34:b:2164:C:O4'	2.23	0.56
34:b:2509:G:C6	34:b:2510:C:C5	2.94	0.56
34:b:2707:U:O2	34:b:2708:G:C8	2.59	0.56
42:j:15:TRP:HH2	42:j:123:LYS:CE	2.19	0.56
43:k:7:MET:HE1	43:k:44:LYS:HG3	1.86	0.56
45:m:53:MET:HE1	45:m:103:TYR:CE1	2.40	0.56
45:m:53:MET:CE	45:m:103:TYR:CD1	2.84	0.56
10:J:28:THR:HA	10:J:31:ARG:HH11	1.69	0.56
14:N:66:THR:HG23	14:N:68:ARG:H	1.70	0.56
28:3:16:ARG:NE	34:b:1266:G:OP1	2.35	0.56
33:a:29:A:N3	33:a:56:G:N2	2.54	0.56
34:b:464:U:C4	34:b:788:A:C5	2.94	0.56
34:b:1357:C:N4	34:b:1358:G:C6	2.73	0.56
34:b:1608:A:C5	34:b:1611:C:C5	2.93	0.56
34:b:2094:A:H4'	41:h:25:TYR:HE1	1.70	0.56
34:b:2136:G:O2'	34:b:2158:A:N6	2.37	0.56
34:b:2273:A:O2'	34:b:2274:A:H5'	2.05	0.56
34:b:2534:A:C6	34:b:2535:G:N9	2.73	0.56
34:b:2848:G:N2	34:b:2867:G:N7	2.53	0.56
36:i:53:PRO:O	36:i:74:PRO:HD2	2.04	0.56
1:A:59:A:H3'	1:A:331:G:H22	1.69	0.56
1:A:400:C:O2'	1:A:622:A:O2'	2.24	0.56
1:A:1348:U:H2'	1:A:1349:A:C8	2.40	0.56
4:D:18:LEU:HD22	4:D:63:ILE:HD13	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:5:LYS:HG2	19:S:6:LYS:HG2	1.86	0.56
34:b:371:A:C2	34:b:372:G:N2	2.74	0.56
34:b:603:A:C8	34:b:655:A:C2	2.93	0.56
34:b:1070:A:O2'	36:i:76:ALA:CB	2.54	0.56
34:b:1106:G:O6	34:b:1107:G:C4	2.58	0.56
34:b:1503:A:C6	34:b:1504:A:C5	2.93	0.56
34:b:1790:C:C5	34:b:1828:G:C2	2.93	0.56
34:b:2182:U:C2	34:b:2183:A:C8	2.93	0.56
34:b:2372:U:C2	34:b:2373:G:C8	2.94	0.56
34:b:2451:A:N1	57:b:9000:CLM:H7	2.17	0.56
34:b:2682:A:H2'	34:b:2682:A:N3	2.20	0.56
42:j:15:TRP:CH2	42:j:123:LYS:HE3	2.40	0.56
1:A:439:U:H5'	4:D:119:HIS:HD2	1.70	0.56
19:S:32:THR:HG22	19:S:34:SER:H	1.70	0.56
22:V:28:G:N1	22:V:29:G:C5	2.74	0.56
22:V:38:A:O2'	22:V:39:U:H5'	2.06	0.56
34:b:21:A:C6	34:b:22:C:C5	2.93	0.56
34:b:76:C:C2	34:b:77:G:C8	2.93	0.56
34:b:834:G:C5	34:b:835:C:C6	2.94	0.56
34:b:1060:U:O2	36:i:128:ILE:HD11	2.05	0.56
34:b:1120:G:C6	34:b:1121:C:C4	2.93	0.56
34:b:1181:U:O2	34:b:1182:G:C8	2.59	0.56
34:b:1395:A:N7	34:b:1398:C:C4	2.74	0.56
34:b:1964:G:N3	34:b:1967:C:C5	2.74	0.56
34:b:1973:G:C6	34:b:1974:C:C4	2.93	0.56
34:b:2112:G:H5"	34:b:2113:U:C4	2.39	0.56
34:b:2293:G:C6	34:b:2294:G:C8	2.94	0.56
34:b:2823:A:C2'	34:b:2824:C:O5'	2.54	0.56
1:A:109:A:H4'	1:A:110:C:OP2	2.04	0.56
11:K:125:LYS:HB3	21:U:33:ARG:NH1	2.20	0.56
14:N:55:SER:HB3	14:N:58:ARG:HG2	1.86	0.56
34:b:27:G:C6	34:b:512:G:C2	2.94	0.56
34:b:267:C:N3	34:b:268:C:C6	2.74	0.56
34:b:696:G:N1	34:b:697:G:C5	2.73	0.56
34:b:1032:A:N3	34:b:1032:A:H2'	2.20	0.56
34:b:1064:C:C2	36:i:89:SER:CA	2.89	0.56
34:b:1250:G:OP2	44:l:21:ARG:NH2	2.38	0.56
34:b:1663:G:C6	34:b:1992:G:N7	2.73	0.56
34:b:1760:C:C2	34:b:1761:C:C6	2.94	0.56
36:i:104:GLN:O	36:i:105:LEU:CB	2.54	0.56
1:A:1148:U:H1'	9:I:17:ARG:HH11	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:67:ILE:HG21	16:P:72:ALA:HB2	1.88	0.56
22:V:41:C:C2	22:V:42:C:C6	2.94	0.56
33:a:47:C:O2	33:a:48:U:C6	2.59	0.56
34:b:824:U:H2'	34:b:825:A:O4'	2.06	0.56
34:b:1080:A:N6	36:i:109:ALA:CA	2.67	0.56
34:b:1154:G:OP2	49:q:58:ARG:NH1	2.39	0.56
34:b:1180:U:C4	34:b:1181:U:C4	2.93	0.56
34:b:1477:A:H2'	34:b:1478:G:O4'	2.06	0.56
34:b:1538:G:N2	34:b:1539:U:H1'	2.21	0.56
34:b:1786:A:N6	34:b:2606:C:C1'	2.68	0.56
34:b:1907:G:C6	34:b:1908:C:C4	2.94	0.56
34:b:2419:U:H2'	34:b:2420:C:H6	1.71	0.56
34:b:2683:C:O2	43:k:70:ARG:NH2	2.26	0.56
34:b:2802:G:N1	34:b:2803:G:C5	2.74	0.56
34:b:2829:A:C6	34:b:2830:C:C4	2.94	0.56
35:c:75:PRO:CB	35:c:97:LYS:HE3	2.26	0.56
42:j:128:ASN:O	42:j:129:GLU:HG3	2.06	0.56
1:A:149:A:H2'	1:A:150:U:H6	1.70	0.55
1:A:181:A:O2'	1:A:194:C:N4	2.39	0.55
1:A:408:A:H61	1:A:434:U:H3	1.54	0.55
4:D:94:GLU:HA	4:D:99:ASN:ND2	2.22	0.55
9:I:9:GLY:HA2	9:I:80:HIS:HD2	1.71	0.55
15:O:25:GLU:OE2	15:O:76:ARG:HD2	2.06	0.55
28:3:10:ARG:NH1	34:b:516:C:O5'	2.39	0.55
34:b:49:A:C2	34:b:177:G:C6	2.95	0.55
34:b:200:U:C4	34:b:201:C:C6	2.94	0.55
34:b:608:A:C2	34:b:621:A:C2	2.95	0.55
34:b:785:G:N3	34:b:786:C:C5	2.74	0.55
34:b:1019:U:C4	34:b:1142:A:C6	2.94	0.55
34:b:1064:C:P	36:i:86:LYS:CA	2.93	0.55
34:b:1229:C:O2	34:b:1229:C:H2'	2.05	0.55
34:b:1947:C:C2	34:b:1948:G:C8	2.94	0.55
1:A:60:A:OP2	1:A:60:A:H8	1.90	0.55
1:A:333:U:OP1	20:T:2:ASN:ND2	2.36	0.55
1:A:1408:A:H5'	34:b:1919:A:C1'	2.36	0.55
7:G:110:ARG:HH21	7:G:122:GLU:HA	1.70	0.55
13:M:78:ARG:O	13:M:82:LEU:HG	2.06	0.55
22:V:18:G:O2'	22:V:19:G:C4	2.55	0.55
22:V:37:A:H3'	22:V:38:A:C5'	2.35	0.55
30:6:18:PHE:CE1	30:6:22:MET:HG3	2.41	0.55
34:b:201:C:N3	34:b:202:U:C5	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:296:U:C2	34:b:297:G:C8	2.94	0.55
34:b:1104:C:H3'	34:b:1105:U:H4'	1.88	0.55
34:b:1343:G:C2	34:b:1344:U:C4	2.94	0.55
34:b:1357:C:N4	34:b:1358:G:C5	2.74	0.55
34:b:1416:G:N3	34:b:1417:C:C6	2.74	0.55
34:b:1611:C:N3	34:b:1612:C:C5	2.74	0.55
34:b:1659:G:C6	34:b:1660:G:C8	2.94	0.55
34:b:1943:U:C4	34:b:1945:G:O4'	2.58	0.55
34:b:2082:A:C2	34:b:2083:G:H1'	2.41	0.55
34:b:2107:G:H2'	34:b:2107:G:N3	2.21	0.55
34:b:2556:C:N3	34:b:2557:G:C8	2.74	0.55
34:b:2666:C:C5	34:b:2667:C:C5	2.95	0.55
34:b:2802:G:C2	34:b:2803:G:N9	2.74	0.55
36:i:24:GLY:O	36:i:27:LEU:HG	2.07	0.55
36:i:58:ILE:O	36:i:60:VAL:HG23	2.06	0.55
41:h:69:ALA:HB1	41:h:73:ASN:HD21	1.71	0.55
1:A:1243:C:H2'	1:A:1244:G:C8	2.40	0.55
13:M:15:VAL:HG13	13:M:16:ILE:HG12	1.87	0.55
34:b:42:A:N1	34:b:43:G:C8	2.74	0.55
34:b:350:G:C5	34:b:351:C:C5	2.94	0.55
34:b:523:C:N3	34:b:524:G:N7	2.55	0.55
34:b:969:G:C6	34:b:970:U:C4	2.94	0.55
34:b:1167:C:C2	34:b:1168:G:C8	2.93	0.55
34:b:1459:G:C2	34:b:1461:C:N3	2.74	0.55
34:b:2616:C:N3	34:b:2617:U:C5	2.75	0.55
56:z:21:GLN:CB	56:z:23:GLN:CG	2.85	0.55
1:A:200:G:OP2	1:A:200:G:H8	1.89	0.55
1:A:1149:C:OP2	9:I:10:ARG:NH2	2.33	0.55
2:B:81:ASP:HA	2:B:84:LEU:HD12	1.89	0.55
6:F:8:PHE:CZ	6:F:60:VAL:HG11	2.41	0.55
33:a:9:G:C2	33:a:10:G:C8	2.94	0.55
33:a:47:C:N3	33:a:48:U:C6	2.74	0.55
34:b:28:A:N6	34:b:512:G:H1'	2.22	0.55
34:b:76:C:O2	34:b:76:C:C2'	2.55	0.55
34:b:371:A:C4	34:b:372:G:N2	2.74	0.55
34:b:539:G:C6	34:b:540:C:C4	2.94	0.55
34:b:584:C:N4	34:b:585:G:C5	2.75	0.55
34:b:901:C:C4	34:b:902:C:C6	2.95	0.55
34:b:1061:U:H4'	36:i:75:ALA:HB2	1.89	0.55
34:b:1069:A:C6	34:b:1073:A:N7	2.74	0.55
34:b:1080:A:O2'	36:i:106:GLN:CB	2.51	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1541:C:C2	34:b:1542:U:C5	2.94	0.55
34:b:2564:A:N6	34:b:2647:U:H4'	2.21	0.55
34:b:2792:A:C6	34:b:2793:C:C6	2.94	0.55
34:b:2802:G:C6	34:b:2803:G:N7	2.74	0.55
35:c:141:VAL:HG12	35:c:142:HIS:N	2.19	0.55
1:A:1124:G:O2'	1:A:1145:A:N6	2.39	0.55
28:3:3:VAL:HG23	34:b:2015:A:N1	2.21	0.55
34:b:126:A:C2'	34:b:127:A:N7	2.70	0.55
34:b:424:G:C2	34:b:425:G:C8	2.94	0.55
34:b:779:U:N3	34:b:780:G:N7	2.54	0.55
34:b:785:G:N2	34:b:786:C:C2	2.75	0.55
34:b:1232:G:C4	34:b:1233:C:C5	2.95	0.55
34:b:1773:A:C5	34:b:1774:C:C1'	2.90	0.55
34:b:2129:C:C4	34:b:2160:C:C2	2.94	0.55
34:b:2693:G:C2	34:b:2694:G:C8	2.95	0.55
34:b:2840:C:C2	34:b:2841:C:C6	2.94	0.55
34:b:2867:G:H1	48:p:21:ARG:HD3	1.72	0.55
38:e:150:THR:HG23	38:e:152:GLU:O	2.05	0.55
1:A:723:U:H3	21:U:48:LYS:HE2	1.72	0.55
1:A:1251:A:H1'	1:A:1370:G:H4'	1.88	0.55
1:A:1368:A:H5"	9:I:113:LYS:HB2	1.89	0.55
8:H:78:SER:OG	8:H:124:ILE:O	2.24	0.55
24:X:18:C:H2'	24:X:18:C:O2	2.07	0.55
34:b:736:C:C4	34:b:737:C:C5	2.95	0.55
34:b:970:U:N3	34:b:971:G:N7	2.55	0.55
34:b:1314:C:O2	34:b:1314:C:H2'	2.06	0.55
34:b:1437:C:H2'	34:b:1438:U:C6	2.42	0.55
34:b:2231:U:N3	34:b:2232:C:C5	2.74	0.55
34:b:2331:G:N1	34:b:2332:C:C4	2.74	0.55
34:b:2471:A:HO2'	34:b:2472:G:H8	1.52	0.55
34:b:2480:C:N3	34:b:2481:G:C8	2.74	0.55
34:b:2496:C:O2'	34:b:2497:A:O5'	2.22	0.55
34:b:2768:U:C4	34:b:2769:U:C5	2.95	0.55
35:c:69:ARG:O	35:c:189:ARG:NH2	2.36	0.55
53:u:72:ILE:O	53:u:73:PHE:HB2	2.06	0.55
1:A:950:U:H5"	13:M:100:ARG:HH21	1.72	0.55
4:D:12:ARG:HH12	4:D:37:PRO:HA	1.71	0.55
16:P:28:ARG:HE	16:P:29:ASN:ND2	2.01	0.55
22:V:30:G:H1	22:V:40:C:N4	2.02	0.55
34:b:185:G:C6	34:b:186:G:C5	2.94	0.55
34:b:185:G:C4	34:b:186:G:C8	2.95	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:936:A:C2	34:b:937:C:C5	2.94	0.55
34:b:1276:A:N3	34:b:1277:G:C8	2.75	0.55
34:b:1519:G:C5	34:b:1520:U:C5	2.95	0.55
34:b:2155:U:C4	34:b:2156:G:C5	2.95	0.55
34:b:2538:C:C2	34:b:2539:C:H5	2.18	0.55
34:b:2625:G:H2'	34:b:2626:C:O4'	2.05	0.55
1:A:939:G:H1	1:A:1344:C:H42	1.55	0.55
11:K:125:LYS:CB	21:U:33:ARG:HH11	2.20	0.55
34:b:157:C:O2	34:b:158:U:C6	2.60	0.55
34:b:210:C:N3	34:b:211:C:C6	2.75	0.55
34:b:902:C:C2	34:b:903:C:C5	2.95	0.55
34:b:936:A:C6	34:b:937:C:C5	2.95	0.55
34:b:1486:U:N3	34:b:1487:U:C5	2.75	0.55
34:b:1629:U:C2	34:b:1630:A:C8	2.95	0.55
34:b:2371:G:C6	34:b:2372:U:C5	2.95	0.55
34:b:2524:G:C2	34:b:2540:C:C2	2.95	0.55
41:h:42:LYS:O	41:h:43:ASN:HB2	2.07	0.55
43:k:35:VAL:HG22	43:k:69:VAL:HG12	1.89	0.55
46:n:16:HIS:CD2	46:n:20:MET:HG3	2.41	0.55
1:A:152:A:N6	1:A:170:U:O2	2.40	0.55
1:A:236:A:H2'	1:A:237:G:C8	2.42	0.55
1:A:978:A:H61	1:A:1316:G:H21	1.53	0.55
1:A:1318:A:H8	1:A:1318:A:OP2	1.90	0.55
8:H:12:ARG:HH12	8:H:27:PRO:CD	2.19	0.55
13:M:51:GLN:O	13:M:54:THR:OG1	2.14	0.55
16:P:51:ARG:O	16:P:52:LEU:HD12	2.06	0.55
34:b:924:G:C2	34:b:925:A:C8	2.95	0.55
34:b:925:A:C2	34:b:926:G:C8	2.95	0.55
34:b:926:G:C2	34:b:927:A:C5	2.95	0.55
34:b:1320:C:C4	34:b:1333:G:N1	2.75	0.55
34:b:1540:G:C5	34:b:1541:C:C5	2.94	0.55
34:b:1703:G:C4	34:b:1704:C:C5	2.95	0.55
34:b:1950:G:N2	34:b:1954:G:N7	2.55	0.55
34:b:2102:G:C6	34:b:2103:C:C5	2.95	0.55
34:b:2307:G:O4'	34:b:2308:G:C2	2.59	0.55
34:b:2555:U:C5	34:b:2556:C:C6	2.95	0.55
38:e:23:PHE:CD1	38:e:111:GLU:HG3	2.42	0.55
41:h:65:ALA:H	41:h:85:GLY:HA3	1.71	0.55
1:A:599:C:H2'	1:A:600:A:C8	2.42	0.55
11:K:45:THR:HG23	11:K:48:GLY:H	1.72	0.55
16:P:10:GLY:HA3	16:P:15:PRO:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:40:C:H2'	22:V:41:C:C6	2.41	0.55
34:b:109:C:O2	34:b:109:C:H2'	2.06	0.55
34:b:256:A:C2	34:b:257:C:C6	2.95	0.55
34:b:350:G:C6	34:b:351:C:C4	2.94	0.55
34:b:1068:G:H5"	36:i:12:VAL:HG11	1.59	0.55
34:b:1196:C:H1'	34:b:1226:A:N3	2.22	0.55
34:b:1301:A:C6	34:b:1303:G:C4	2.95	0.55
34:b:1674:G:O2'	34:b:1676:A:N6	2.39	0.55
34:b:1701:A:C6	34:b:1702:G:H1'	2.42	0.55
34:b:1905:C:H2'	34:b:1930:G:C8	2.42	0.55
34:b:2040:G:H3'	34:b:2041:U:H6	1.72	0.55
34:b:2351:G:C2	34:b:2365:G:C2	2.95	0.55
35:c:75:PRO:HB2	35:c:97:LYS:CE	2.28	0.55
36:i:23:VAL:HG23	36:i:24:GLY:H	1.71	0.55
37:d:4:LEU:HD13	37:d:29:VAL:CG1	2.37	0.55
52:t:30:ILE:HD11	52:t:93:LEU:O	2.06	0.55
53:u:16:GLY:C	53:u:18:ASP:N	2.64	0.55
1:A:1192:C:OP1	3:C:3:LYS:NZ	2.31	0.54
13:M:58:GLU:HA	13:M:61:LYS:HZ2	1.72	0.54
22:V:24:G:C4	22:V:25:C:C6	2.96	0.54
33:a:95:U:H2'	33:a:96:G:C8	2.43	0.54
34:b:155:A:C6	34:b:156:A:N7	2.75	0.54
34:b:226:A:C4	34:b:227:A:C8	2.95	0.54
34:b:695:G:C6	34:b:696:G:C8	2.95	0.54
34:b:715:A:H2'	34:b:716:A:C8	2.43	0.54
34:b:763:G:C5	34:b:765:C:C6	2.94	0.54
34:b:1220:G:C2	34:b:1221:C:C4	2.95	0.54
34:b:1272:A:H62	34:b:1618:A:H1'	1.72	0.54
34:b:1275:A:C8	46:n:16:HIS:ND1	2.75	0.54
34:b:2371:G:C2	34:b:2372:U:C6	2.95	0.54
34:b:2451:A:C2	57:b:9000:CLM:H8	2.41	0.54
36:i:19:PRO:HG2	36:i:23:VAL:CG2	2.37	0.54
1:A:301:G:H2'	1:A:302:G:C8	2.39	0.54
1:A:1054:C:N3	22:V:34:A:C1'	2.70	0.54
1:A:1263:C:N4	1:A:1272:G:H1	2.05	0.54
5:E:86:GLY:HA3	5:E:141:ASP:HB3	1.89	0.54
5:E:138:ALA:HA	5:E:141:ASP:HB2	1.88	0.54
8:H:92:PRO:HB2	8:H:94:VAL:HG13	1.89	0.54
10:J:10:LEU:O	10:J:71:LEU:HD12	2.07	0.54
13:M:19:THR:HG21	13:M:26:LYS:HD3	1.89	0.54
15:O:17:ASP:OD1	15:O:18:ALA:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:30:G:N1	22:V:40:C:C4	2.72	0.54
34:b:21:A:C6	34:b:22:C:C4	2.95	0.54
34:b:997:G:C2	34:b:998:C:C6	2.96	0.54
34:b:1004:U:O4'	34:b:1010:A:C2	2.60	0.54
34:b:1394:U:C4	34:b:1395:A:C2	2.95	0.54
34:b:1747:U:C2	34:b:1748:C:C5	2.95	0.54
34:b:1782:U:H1'	34:b:2609:U:H5"	1.89	0.54
34:b:1791:A:O2'	35:c:206:GLY:C	2.50	0.54
34:b:2330:G:C2	34:b:2331:G:H1'	2.43	0.54
34:b:2450:A:C2	34:b:2451:A:C8	2.95	0.54
34:b:2735:G:C2	34:b:2736:A:C8	2.95	0.54
34:b:2818:U:N3	34:b:2819:G:N7	2.54	0.54
37:d:4:LEU:HD21	37:d:101:PHE:CE2	2.41	0.54
37:d:4:LEU:HD22	37:d:29:VAL:HG11	1.88	0.54
38:e:149:ILE:CD1	38:e:170:ARG:CB	2.75	0.54
53:u:16:GLY:C	53:u:18:ASP:H	2.16	0.54
1:A:977:A:N6	1:A:1224:U:O5'	2.40	0.54
1:A:1314:C:OP2	19:S:5:LYS:HE3	2.07	0.54
1:A:1323:G:H2'	1:A:1324:A:C8	2.42	0.54
9:I:54:VAL:HG12	9:I:93:LEU:HD22	1.89	0.54
19:S:19:GLU:O	19:S:22:VAL:HG22	2.08	0.54
33:a:34:A:C6	33:a:44:G:C8	2.96	0.54
34:b:73:A:H4'	34:b:75:G:H1'	1.90	0.54
34:b:377:G:C5	34:b:378:C:C5	2.95	0.54
34:b:616:A:H2'	34:b:616:A:N3	2.22	0.54
34:b:662:G:N1	34:b:663:G:N7	2.55	0.54
34:b:1106:G:C4	34:b:1107:G:H1'	2.42	0.54
34:b:1275:A:H2	34:b:1295:C:O2	1.89	0.54
34:b:1348:C:C5	34:b:1349:C:C5	2.95	0.54
34:b:1569:A:H2'	34:b:1570:A:C8	2.41	0.54
34:b:2161:C:H3'	34:b:2161:C:C2	2.42	0.54
34:b:2828:G:C6	34:b:2829:A:N7	2.75	0.54
35:c:52:ARG:NH2	35:c:248:TRP:CH2	2.76	0.54
36:i:60:VAL:HG22	36:i:66:PHE:HB2	1.90	0.54
1:A:445:G:N2	1:A:489:C:N3	2.48	0.54
1:A:453:G:H8	1:A:453:G:OP2	1.91	0.54
1:A:601:G:N2	1:A:638:U:O2	2.40	0.54
1:A:707:U:P	11:K:86:LYS:HZ3	2.31	0.54
1:A:1069:C:H2'	1:A:1070:U:O4'	2.07	0.54
2:B:202:ASN:ND2	2:B:208:ALA:HB3	2.22	0.54
5:E:142:GLY:HA2	5:E:145:ASN:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:19:A:C6	34:b:20:C:C5	2.96	0.54
34:b:290:U:O2	34:b:291:G:H8	1.90	0.54
34:b:736:C:C2	34:b:737:C:C5	2.95	0.54
34:b:1064:C:O4'	36:i:85:ILE:CG1	2.55	0.54
34:b:1180:U:C2	34:b:1181:U:C6	2.95	0.54
34:b:1232:G:N2	34:b:1233:C:C2	2.75	0.54
34:b:2184:A:C6	34:b:2185:U:C4	2.95	0.54
1:A:996:A:N1	1:A:1045:C:O2'	2.39	0.54
1:A:1341:U:OP1	23:W:32:A:C5'	2.55	0.54
1:A:1408:A:H2'	34:b:1912:A:C2	2.43	0.54
7:G:68:VAL:HG21	7:G:103:ILE:HD11	1.89	0.54
7:G:139:ASP:O	7:G:143:MET:N	2.36	0.54
22:V:41:C:C4	22:V:42:C:C5	2.96	0.54
22:V:72:C:O2	22:V:73:A:N6	2.40	0.54
24:X:13:U:H5"	24:X:13:U:H6	1.73	0.54
33:a:19:C:N3	33:a:20:G:N7	2.55	0.54
34:b:219:A:H2	34:b:234:U:O2	1.90	0.54
34:b:225:C:N3	34:b:226:A:C8	2.76	0.54
34:b:375:G:N1	34:b:376:G:N7	2.55	0.54
34:b:481:G:O2'	34:b:507:A:N6	2.39	0.54
34:b:608:A:C5	34:b:621:A:C6	2.96	0.54
34:b:842:U:C4	34:b:843:G:N7	2.76	0.54
34:b:1351:C:H2'	34:b:1352:U:O4'	2.08	0.54
34:b:1496:A:H2'	34:b:1498:C:N4	2.22	0.54
34:b:2901:C:C2	34:b:2902:C:C5	2.95	0.54
36:i:27:LEU:C	36:i:27:LEU:HD12	2.32	0.54
41:h:2:GLN:HB3	41:h:39:ALA:HB3	1.90	0.54
3:C:21:TRP:HB3	3:C:58:ARG:HB3	1.90	0.54
3:C:180:ASP:OD2	3:C:203:LYS:HE2	2.07	0.54
4:D:87:GLU:OE1	4:D:187:ARG:NH2	2.40	0.54
7:G:70:PRO:HA	7:G:141:HIS:CE1	2.42	0.54
9:I:78:ILE:O	9:I:82:ILE:HG12	2.08	0.54
13:M:38:ILE:HG21	13:M:51:GLN:HE21	1.71	0.54
33:a:46:A:C4	33:a:47:C:C6	2.95	0.54
34:b:56:A:O4'	34:b:127:A:N3	2.41	0.54
34:b:283:G:H2'	34:b:284:U:O4'	2.08	0.54
34:b:375:G:N2	34:b:376:G:C1'	2.71	0.54
34:b:553:G:H2'	34:b:554:U:O4'	2.07	0.54
34:b:835:C:O2	34:b:835:C:H2'	2.07	0.54
34:b:985:C:C2	34:b:986:C:C5	2.96	0.54
34:b:991:C:O2	34:b:992:C:C6	2.61	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1086:A:O2'	34:b:1087:G:O4'	2.25	0.54
34:b:1313:U:H3'	34:b:1314:C:H5'	1.90	0.54
34:b:1492:G:C2	34:b:1499:C:C2	2.96	0.54
34:b:2103:C:C4	34:b:2104:C:C6	2.96	0.54
34:b:2119:A:C2	34:b:2170:A:C6	2.96	0.54
34:b:2153:C:O2	34:b:2153:C:C2'	2.55	0.54
34:b:2573:C:O2	34:b:2573:C:O4'	2.23	0.54
34:b:2582:G:O2'	34:b:2583:G:H5'	2.07	0.54
34:b:2582:G:H2'	34:b:2583:G:H5'	1.89	0.54
34:b:2887:A:C6	34:b:2888:C:C4	2.95	0.54
43:k:93:GLN:OE1	43:k:114:LYS:HG3	2.08	0.54
52:t:1:MET:C	52:t:2:ILE:HG13	2.33	0.54
1:A:218:U:H4'	1:A:219:U:OP1	2.06	0.54
1:A:429:U:H3	1:A:431:A:H62	1.56	0.54
1:A:1085:U:H3'	1:A:1086:U:C6	2.43	0.54
21:U:27:VAL:CG1	21:U:31:VAL:CG1	2.83	0.54
34:b:355:U:O2	34:b:356:G:C8	2.61	0.54
34:b:589:U:O2	34:b:590:A:C8	2.61	0.54
34:b:657:U:C2	34:b:658:U:C5	2.96	0.54
34:b:961:C:C6	34:b:2031:A:C6	2.95	0.54
34:b:1079:C:C3'	36:i:129:GLU:CD	2.81	0.54
34:b:1121:C:N4	34:b:1122:G:N7	2.56	0.54
34:b:1232:G:C6	34:b:1233:C:C4	2.95	0.54
34:b:1299:G:C4'	34:b:1301:A:C8	2.91	0.54
34:b:1663:G:N1	34:b:1992:G:C8	2.72	0.54
34:b:1974:C:C4	34:b:1975:G:N7	2.76	0.54
34:b:1999:C:N3	34:b:2000:C:C6	2.73	0.54
34:b:2341:G:C6	34:b:2342:C:C4	2.95	0.54
34:b:2396:G:N2	34:b:2397:G:N9	2.56	0.54
34:b:2527:C:N4	34:b:2528:U:C4	2.76	0.54
40:g:24:ILE:HD12	40:g:37:LEU:HD21	1.89	0.54
41:h:17:ASP:OD1	41:h:18:GLN:N	2.41	0.54
53:u:74:ASN:HB2	53:u:96:PHE:CD2	2.43	0.54
1:A:408:A:H5"	4:D:7:LYS:NZ	2.23	0.54
1:A:447:G:H21	1:A:487:A:H62	1.56	0.54
1:A:620:C:H5"	1:A:621:A:OP2	2.08	0.54
2:B:187:ASP:OD2	2:B:189:ASN:ND2	2.41	0.54
22:V:19:G:N2	22:V:57:G:H22	2.05	0.54
22:V:36:G:H2'	22:V:37:A:H8	1.71	0.54
33:a:117:G:C4	33:a:118:C:C5	2.95	0.54
34:b:174:U:O2	34:b:175:G:C8	2.61	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:353:C:N3	34:b:354:A:N7	2.55	0.54
34:b:377:G:C6	34:b:378:C:C4	2.95	0.54
34:b:585:G:N2	34:b:586:A:N6	2.55	0.54
34:b:893:C:H2'	34:b:894:U:O4'	2.08	0.54
34:b:1172:C:H5'	34:b:1174:U:O4	2.07	0.54
34:b:1301:A:C6	34:b:1303:G:C8	2.95	0.54
34:b:1351:C:O2'	34:b:1571:A:H1'	2.08	0.54
34:b:1819:A:H1'	34:b:1821:A:C6	2.43	0.54
34:b:2150:C:C2	34:b:2151:U:C6	2.96	0.54
34:b:2395:C:C4	34:b:2396:G:N7	2.76	0.54
34:b:2459:A:C5	34:b:2460:U:C5	2.96	0.54
34:b:2578:G:C2	34:b:2579:C:C6	2.95	0.54
34:b:2801:G:N1	34:b:2802:G:C5	2.76	0.54
41:h:83:LYS:HE3	41:h:91:PHE:HD1	1.72	0.54
47:o:3:LYS:HG3	47:o:4:LYS:N	2.22	0.54
1:A:1178:G:C5	9:I:98:ARG:NH1	2.76	0.54
11:K:36:ARG:NH1	11:K:82:GLU:OE1	2.41	0.54
34:b:77:G:C2	34:b:110:G:H1'	2.43	0.54
34:b:155:A:C2	34:b:156:A:C5	2.95	0.54
34:b:440:C:C2	34:b:441:U:C6	2.96	0.54
34:b:517:C:N3	34:b:518:G:C8	2.76	0.54
34:b:873:C:C2	34:b:874:G:C8	2.96	0.54
34:b:970:U:O2	34:b:971:G:C8	2.61	0.54
34:b:1071:G:C6	34:b:1089:A:N9	2.66	0.54
34:b:1401:G:H2'	34:b:1402:U:O4'	2.08	0.54
34:b:1442:U:C2	34:b:1443:U:C6	2.96	0.54
34:b:1598:A:C5	34:b:1599:U:C5	2.95	0.54
34:b:1865:U:N3	34:b:1875:G:N2	2.56	0.54
34:b:1932:A:C2	34:b:1969:A:C6	2.96	0.54
34:b:2022:U:O2	34:b:2616:C:O2'	2.25	0.54
34:b:2173:A:H5"	34:b:2174:C:H1'	1.89	0.54
34:b:2227:A:C5	34:b:2228:G:C8	2.96	0.54
34:b:2412:A:C2	34:b:2413:G:H1'	2.43	0.54
36:i:64:ARG:HG3	36:i:65:SER:N	2.22	0.54
38:e:61:ARG:HH12	56:z:19:ILE:CG2	2.16	0.54
1:A:113:G:H21	1:A:353:A:H8	1.55	0.54
1:A:386:C:H6	1:A:386:C:OP2	1.91	0.54
1:A:413:G:OP1	1:A:414:A:H5"	2.08	0.54
4:D:124:VAL:HB	4:D:140:ASP:OD2	2.08	0.54
21:U:26:GLY:O	21:U:27:VAL:HB	2.08	0.54
34:b:21:A:C5	34:b:22:C:C5	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:110:G:C6	34:b:111:A:N7	2.76	0.54
34:b:998:C:C2	34:b:999:U:C6	2.96	0.54
34:b:1267:U:O2	34:b:1267:U:H2'	2.07	0.54
34:b:1416:G:N2	34:b:1417:C:C2	2.76	0.54
34:b:1555:G:C6	34:b:1556:C:N4	2.76	0.54
34:b:1630:A:C5	34:b:1631:G:C8	2.96	0.54
34:b:1867:G:HO2'	34:b:1868:C:P	2.30	0.54
34:b:2161:C:C3'	34:b:2161:C:C2	2.89	0.54
34:b:2338:C:N3	34:b:2339:C:C5	2.76	0.54
34:b:2341:G:H2'	34:b:2342:C:O4'	2.08	0.54
34:b:2464:G:C6	34:b:2465:C:C5	2.96	0.54
34:b:2489:U:H2'	34:b:2490:G:C1'	2.37	0.54
34:b:2535:G:N3	34:b:2536:G:C8	2.75	0.54
36:i:126:ARG:HA	36:i:129:GLU:CB	2.36	0.54
56:z:22:ALA:HB3	56:z:24:GLY:HA3	1.89	0.54
1:A:680:C:H2'	1:A:681:A:H8	1.73	0.53
22:V:72:C:H4'	22:V:73:A:OP2	2.08	0.53
33:a:18:G:C5	33:a:19:C:C5	2.96	0.53
33:a:100:G:C4	33:a:101:A:C8	2.96	0.53
34:b:212:G:N2	34:b:213:A:C4	2.77	0.53
34:b:263:G:H2'	34:b:264:C:O4'	2.08	0.53
34:b:378:C:N3	34:b:379:G:C8	2.76	0.53
34:b:436:C:N3	34:b:437:U:C5	2.77	0.53
34:b:928:A:N1	34:b:929:U:C4	2.76	0.53
34:b:1793:C:N3	34:b:1794:A:C8	2.76	0.53
34:b:2186:G:C6	34:b:2187:U:C5	2.96	0.53
34:b:2217:G:C5	34:b:2218:G:C8	2.96	0.53
34:b:2269:G:N2	34:b:2270:A:N9	2.56	0.53
34:b:2331:G:N2	34:b:2332:C:C2	2.76	0.53
34:b:2415:G:C5	34:b:2416:C:C5	2.96	0.53
34:b:2555:U:N3	34:b:2556:C:H1'	2.23	0.53
36:i:126:ARG:HA	36:i:129:GLU:CG	2.39	0.53
47:o:14:ALA:O	47:o:18:LEU:HD12	2.08	0.53
1:A:971:G:O2'	1:A:1365:G:O2'	2.27	0.53
1:A:1341:U:OP1	23:W:32:A:H5'	2.08	0.53
4:D:84:ASN:ND2	4:D:187:ARG:HH22	2.05	0.53
6:F:12:PRO:HB3	6:F:57:ALA:HA	1.91	0.53
21:U:14:ALA:H	21:U:16:ARG:NH2	2.06	0.53
33:a:17:C:N3	33:a:18:G:C8	2.76	0.53
34:b:77:G:C5	34:b:110:G:C4	2.96	0.53
34:b:356:G:C5	34:b:357:C:C5	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:601:C:C2	34:b:602:A:C8	2.96	0.53
34:b:759:G:C2	34:b:760:G:C8	2.96	0.53
34:b:1204:A:O4'	34:b:1206:G:C8	2.61	0.53
34:b:1377:G:H8	34:b:1377:G:O5'	1.91	0.53
34:b:1500:G:N1	34:b:1501:G:N9	2.55	0.53
34:b:1856:U:C4	34:b:1857:G:C4	2.96	0.53
34:b:2331:G:O4'	55:y:42:GLY:HA3	2.09	0.53
34:b:2333:A:P	55:y:77:ARG:HH22	2.31	0.53
34:b:2407:A:N1	34:b:2408:U:C4	2.77	0.53
34:b:2557:G:N2	34:b:2558:C:C2	2.77	0.53
34:b:2708:G:N3	34:b:2709:G:C8	2.76	0.53
34:b:2839:G:N1	34:b:2840:C:C4	2.75	0.53
34:b:2899:A:C2	34:b:2900:A:C5	2.96	0.53
42:j:114:LEU:HG	42:j:118:MET:HE3	1.90	0.53
51:s:29:VAL:CG1	51:s:55:ILE:HD11	2.38	0.53
56:z:3:GLU:O	56:z:5:LYS:HD3	2.08	0.53
1:A:510:A:HO2'	1:A:542:G:HO2'	1.57	0.53
1:A:1113:C:H4'	3:C:13:ILE:HG21	1.90	0.53
1:A:1341:U:C2	9:I:126:PHE:HD1	2.26	0.53
1:A:1407:C:O2'	34:b:1919:A:O3'	2.27	0.53
4:D:11:SER:O	4:D:15:GLY:N	2.39	0.53
4:D:193:ASP:O	4:D:195:ASN:N	2.42	0.53
12:L:54:VAL:HG11	12:L:81:ILE:HD11	1.90	0.53
26:1:45:GLN:O	26:1:47:ARG:N	2.39	0.53
33:a:49:C:C2	33:a:50:A:C8	2.96	0.53
34:b:350:G:C6	34:b:351:C:C5	2.97	0.53
34:b:350:G:C4	34:b:351:C:C6	2.96	0.53
34:b:527:C:C6	34:b:2779:U:O2'	2.57	0.53
34:b:731:C:C2	34:b:732:C:C5	2.96	0.53
34:b:1303:G:N2	34:b:1304:A:N9	2.56	0.53
34:b:1560:G:C6	34:b:1561:C:C5	2.97	0.53
34:b:1713:A:C6	34:b:1716:U:C1'	2.91	0.53
34:b:1883:U:H2'	34:b:1884:G:O4'	2.08	0.53
34:b:2556:C:C4	34:b:2557:G:N7	2.76	0.53
34:b:2886:A:C6	34:b:2887:A:N9	2.75	0.53
37:d:31:ALA:HB1	37:d:95:SER:OG	2.08	0.53
41:h:43:ASN:HB3	41:h:46:PHE:CB	2.37	0.53
1:A:468:A:H5"	1:A:469:C:H5	1.74	0.53
1:A:1219:A:OP1	14:N:52:ARG:NH1	2.42	0.53
9:I:48:ARG:HH12	9:I:56:MET:HE1	1.74	0.53
12:L:113:ARG:HB2	12:L:118:VAL:HG13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:20:VAL:HG21	16:P:32:PHE:HB2	1.90	0.53
24:X:12:C:OP1	24:X:12:C:H2'	2.09	0.53
34:b:207:A:H2'	34:b:208:C:O4'	2.09	0.53
34:b:355:U:O2	34:b:355:U:H2'	2.09	0.53
34:b:901:C:N4	34:b:902:C:C5	2.77	0.53
34:b:1122:G:N2	34:b:1123:C:N1	2.57	0.53
34:b:1336:A:C6	34:b:1337:G:N7	2.76	0.53
34:b:1540:G:C4	34:b:1541:C:C6	2.96	0.53
34:b:1771:C:C2	34:b:1772:A:C8	2.96	0.53
34:b:1811:G:C2	34:b:1812:U:C6	2.97	0.53
34:b:1827:U:C2	34:b:1828:G:C8	2.97	0.53
34:b:2310:C:C4	39:f:77:PHE:CZ	2.97	0.53
34:b:2886:A:N1	34:b:2887:A:N7	2.57	0.53
56:z:7:ILE:HG22	56:z:8:SER:N	2.24	0.53
1:A:693:G:P	11:K:126:ARG:HH12	2.26	0.53
1:A:1221:G:OP1	1:A:1320:C:N4	2.39	0.53
10:J:26:VAL:HA	10:J:29:ALA:HB3	1.90	0.53
34:b:245:G:C2	34:b:246:C:C5	2.97	0.53
34:b:401:A:C2	34:b:402:A:C5	2.96	0.53
34:b:584:C:C4	34:b:585:G:C5	2.97	0.53
34:b:929:U:C4	34:b:930:G:N7	2.77	0.53
34:b:1050:A:C6	34:b:1051:G:C8	2.96	0.53
34:b:1064:C:H4'	36:i:85:ILE:C	2.33	0.53
34:b:1357:C:C4	34:b:1358:G:C5	2.96	0.53
34:b:1491:G:C2	34:b:1492:G:N7	2.76	0.53
34:b:2885:G:C6	34:b:2886:A:H1'	2.40	0.53
34:b:2887:A:C5	34:b:2888:C:C5	2.96	0.53
38:e:149:ILE:HD12	38:e:170:ARG:HB2	1.83	0.53
56:z:16:PRO:HB3	56:z:17:VAL:HG22	1.90	0.53
1:A:316:C:OP2	1:A:351:G:O2'	2.26	0.53
1:A:652:U:HO2'	1:A:752:G:N2	2.05	0.53
34:b:332:A:C5	34:b:335:C:N4	2.76	0.53
34:b:376:G:N1	34:b:377:G:C5	2.76	0.53
34:b:483:A:O2'	53:u:56:GLY:O	2.24	0.53
34:b:580:U:H2'	34:b:581:C:C6	2.43	0.53
34:b:603:A:C2	34:b:626:A:O4'	2.61	0.53
34:b:785:G:C2	34:b:786:C:C4	2.96	0.53
34:b:933:A:N7	34:b:934:U:C6	2.77	0.53
34:b:1348:C:O2	34:b:1348:C:H2'	2.08	0.53
34:b:1461:C:O2	34:b:1461:C:H2'	2.09	0.53
34:b:1659:G:C5	34:b:1660:G:C8	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1842:G:C6	34:b:1843:C:C4	2.97	0.53
34:b:2533:U:C4	34:b:2534:A:N9	2.77	0.53
34:b:2729:G:C5	34:b:2730:C:C5	2.96	0.53
34:b:2826:A:N6	34:b:2827:C:C4	2.77	0.53
34:b:2839:G:N2	34:b:2840:C:C2	2.76	0.53
1:A:1458:G:OP1	20:T:29:THR:OG1	2.25	0.53
5:E:152:VAL:HG11	8:H:98:LEU:HG	1.89	0.53
22:V:28:G:C6	22:V:29:G:C5	2.97	0.53
24:X:15:G:H2'	24:X:16:C:H5'	1.91	0.53
34:b:253:C:N4	34:b:254:G:C5	2.76	0.53
34:b:383:C:C4	34:b:385:C:H2'	2.43	0.53
34:b:521:U:C2	34:b:522:A:N7	2.77	0.53
34:b:650:C:N4	34:b:651:G:N7	2.57	0.53
34:b:716:A:H2'	34:b:717:C:O4'	2.08	0.53
34:b:730:A:N1	34:b:731:C:C4	2.76	0.53
34:b:979:A:C5	34:b:982:C:N4	2.76	0.53
34:b:1200:C:O2	34:b:1200:C:H2'	2.09	0.53
34:b:1425:G:H2'	34:b:1426:G:C8	2.44	0.53
34:b:1494:A:H2'	34:b:1494:A:N3	2.24	0.53
34:b:1611:C:C2	34:b:1612:C:C5	2.97	0.53
34:b:1839:G:O6	34:b:1840:G:N7	2.42	0.53
34:b:2041:U:O2	34:b:2041:U:H2'	2.08	0.53
34:b:2051:A:C6	34:b:2614:A:C5	2.97	0.53
34:b:2102:G:C2	34:b:2103:C:C6	2.97	0.53
34:b:2236:U:H2'	34:b:2237:G:O4'	2.09	0.53
34:b:2257:U:O2'	34:b:2258:C:C5'	2.56	0.53
34:b:2309:A:H2'	34:b:2309:A:N3	2.24	0.53
34:b:2744:G:C4	34:b:2745:C:C5	2.96	0.53
34:b:2829:A:C5	34:b:2830:C:C5	2.97	0.53
49:q:109:LEU:HG	50:r:48:LYS:CE	2.39	0.53
33:a:112:G:C6	33:a:113:C:C4	2.97	0.53
34:b:145:C:C2	34:b:146:A:C8	2.97	0.53
34:b:156:A:N3	34:b:157:C:C6	2.77	0.53
34:b:227:A:N1	34:b:2407:A:C8	2.77	0.53
34:b:280:U:H2'	34:b:281:C:C6	2.44	0.53
34:b:780:G:N1	34:b:782:A:N1	2.56	0.53
34:b:868:U:H2'	34:b:869:G:O4'	2.09	0.53
34:b:911:A:C8	45:m:9:PHE:CE2	2.96	0.53
34:b:987:C:H2'	34:b:988:A:O5'	2.08	0.53
34:b:1142:A:C6	34:b:1144:A:C5	2.97	0.53
34:b:1225:G:O2'	34:b:1226:A:C5'	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1413:A:H2'	34:b:1414:C:O4'	2.08	0.53
34:b:1488:C:N3	34:b:1489:C:C5	2.77	0.53
34:b:1594:U:C2	34:b:1595:C:C5	2.97	0.53
34:b:1598:A:C6	34:b:1599:U:C4	2.97	0.53
34:b:1722:A:H61	34:b:1738:G:H1'	1.73	0.53
34:b:1792:G:H5'	35:c:204:VAL:HG13	1.91	0.53
34:b:1795:C:C4	34:b:1796:U:C5	2.97	0.53
34:b:1825:U:C2	34:b:1826:G:C8	2.97	0.53
34:b:1907:G:C5	34:b:1908:C:C5	2.97	0.53
34:b:1966:A:C2	34:b:2593:U:H4'	2.44	0.53
34:b:2053:G:N2	34:b:2054:A:H1'	2.24	0.53
41:h:3:VAL:HG12	41:h:38:PRO:HA	1.91	0.53
51:s:82:MET:HE3	51:s:98:LYS:HB2	1.91	0.53
1:A:562:U:O2'	12:L:11:ARG:HB3	2.08	0.53
20:T:32:LYS:HA	20:T:35:TYR:HD2	1.73	0.53
22:V:37:A:H3'	22:V:38:A:H5'	1.91	0.53
34:b:115:C:O2	34:b:116:C:C6	2.62	0.53
34:b:165:A:H2'	34:b:166:U:C6	2.44	0.53
34:b:223:A:N7	34:b:422:A:C8	2.77	0.53
34:b:1321:A:H3'	34:b:1322:A:H8	1.74	0.53
34:b:1558:C:C6	34:b:1560:G:H1'	2.44	0.53
34:b:1825:U:N3	34:b:1826:G:C8	2.77	0.53
34:b:1873:G:C2	34:b:1874:C:C6	2.96	0.53
34:b:2192:U:C2	34:b:2193:G:C8	2.97	0.53
34:b:2310:C:N3	39:f:77:PHE:CZ	2.77	0.53
34:b:2535:G:C6	34:b:2536:G:C5	2.96	0.53
34:b:2711:A:C2	34:b:2714:G:H1'	2.44	0.53
34:b:2788:C:H2'	34:b:2789:C:C6	2.43	0.53
36:i:75:ALA:HB3	36:i:131:THR:HG21	1.91	0.53
42:j:57:LEU:CD1	42:j:129:GLU:CA	2.86	0.53
51:s:84:ARG:NH1	56:z:7:ILE:HD13	2.18	0.53
53:u:13:VAL:HG11	53:u:18:ASP:HB3	1.91	0.53
14:N:25:GLU:HB3	14:N:30:ILE:HG13	1.91	0.53
34:b:885:C:N4	34:b:886:A:C5	2.77	0.53
34:b:1375:U:C2	34:b:1376:C:C5	2.97	0.53
34:b:1806:C:N4	34:b:1807:G:C5	2.77	0.53
34:b:1812:U:O2	34:b:1812:U:H2'	2.09	0.53
34:b:2615:U:N3	34:b:2616:C:C5	2.77	0.53
34:b:2839:G:C2	34:b:2840:C:N1	2.77	0.53
36:i:105:LEU:HD23	36:i:108:ILE:HG21	1.91	0.53
1:A:137:U:H1'	16:P:64:GLY:HA3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:321:A:N6	1:A:332:G:H1	2.02	0.52
7:G:128:GLU:HB2	7:G:130:LYS:NZ	2.24	0.52
10:J:9:ARG:NH1	10:J:71:LEU:HD21	2.17	0.52
20:T:31:ILE:HG13	20:T:78:LEU:HD11	1.91	0.52
33:a:23:G:C2'	33:a:24:G:C8	2.90	0.52
33:a:100:G:C6	33:a:101:A:C5	2.97	0.52
34:b:156:A:C4	34:b:157:C:C6	2.97	0.52
34:b:333:G:C2	34:b:334:C:C5	2.97	0.52
34:b:397:U:C2	34:b:398:C:C5	2.97	0.52
34:b:593:U:H2'	34:b:594:U:C6	2.44	0.52
34:b:594:U:C2	34:b:595:C:C6	2.97	0.52
34:b:630:G:H22	34:b:632:A:H3'	1.74	0.52
34:b:765:C:C4	34:b:766:U:C5	2.97	0.52
34:b:997:G:C2	34:b:998:C:C5	2.97	0.52
34:b:1094:U:O4	34:b:1096:A:OP2	2.27	0.52
34:b:1395:A:N6	34:b:1398:C:H1'	2.23	0.52
34:b:1740:G:C6	34:b:1741:C:C4	2.97	0.52
34:b:2451:A:H2	57:b:9000:CLM:C7	2.14	0.52
34:b:2603:G:C6	34:b:2604:U:C6	2.97	0.52
1:A:151:A:O2'	1:A:152:A:H8	1.91	0.52
1:A:204:G:H3'	1:A:204:G:OP2	2.10	0.52
1:A:978:A:H61	1:A:1316:G:N2	2.07	0.52
1:A:1469:C:H5"	1:A:1470:U:OP2	2.08	0.52
2:B:56:LEU:HD23	2:B:59:ILE:HD11	1.90	0.52
3:C:49:ALA:O	3:C:71:ARG:NH2	2.42	0.52
3:C:166:TRP:HH2	3:C:168:ARG:NH1	2.07	0.52
16:P:2:VAL:HG23	16:P:65:ALA:HA	1.92	0.52
34:b:477:A:H2'	34:b:478:A:C8	2.44	0.52
34:b:665:U:C2	34:b:666:A:C8	2.97	0.52
34:b:668:A:C2	34:b:670:A:C6	2.97	0.52
34:b:930:G:N1	34:b:933:A:C2	2.77	0.52
34:b:1152:C:C2	34:b:1153:C:C5	2.97	0.52
34:b:1375:U:C2	34:b:1376:C:C6	2.98	0.52
34:b:1517:G:C5	34:b:1518:C:C6	2.96	0.52
34:b:1606:C:H4'	34:b:1608:A:C2	2.44	0.52
34:b:2024:G:C4	34:b:2025:C:C5	2.98	0.52
34:b:2152:G:N2	34:b:2153:C:H1'	2.22	0.52
34:b:2205:A:C4	34:b:2206:C:C6	2.97	0.52
34:b:2537:U:N3	34:b:2538:C:C4	2.77	0.52
1:A:462:G:H1	1:A:470:C:H42	1.55	0.52
19:S:23:GLU:HG2	19:S:24:SER:N	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:28:G:C4	22:V:29:G:C8	2.98	0.52
34:b:225:C:C4	34:b:226:A:N7	2.78	0.52
34:b:500:G:H22	34:b:502:A:H3'	1.74	0.52
34:b:617:G:N3	34:b:618:G:C8	2.77	0.52
34:b:730:A:C2	34:b:731:C:C4	2.97	0.52
34:b:905:A:C2	34:b:906:U:C6	2.98	0.52
34:b:991:C:C5	34:b:1185:G:C5	2.97	0.52
34:b:1111:A:N3	34:b:1112:G:H1'	2.24	0.52
34:b:1170:C:N1	34:b:1172:C:C4	2.77	0.52
34:b:1303:G:H2'	34:b:1303:G:N3	2.23	0.52
34:b:1358:G:C2	34:b:1372:U:H5	2.27	0.52
34:b:1570:A:H2'	34:b:1571:A:C8	2.44	0.52
34:b:2028:U:H2'	34:b:2029:G:O4'	2.09	0.52
34:b:2152:G:N1	34:b:2153:C:N1	2.58	0.52
34:b:2744:G:C6	34:b:2745:C:N4	2.77	0.52
34:b:2744:G:C6	34:b:2745:C:C4	2.98	0.52
36:i:78:LEU:HD23	36:i:81:LYS:HE3	1.90	0.52
1:A:197:A:H4'	1:A:198:G:OP1	2.10	0.52
1:A:382:A:H2'	1:A:383:A:H8	1.74	0.52
1:A:773:G:H5'	35:c:202:LEU:CD2	2.32	0.52
6:F:50:PRO:HB3	6:F:53:LYS:HA	1.91	0.52
13:M:66:GLY:O	13:M:70:ARG:HG3	2.10	0.52
33:a:77:U:C4	33:a:98:G:N2	2.76	0.52
34:b:185:G:C5	34:b:186:G:N7	2.77	0.52
34:b:351:C:N3	34:b:352:A:C8	2.78	0.52
34:b:380:G:C6	34:b:381:G:N7	2.77	0.52
34:b:380:G:N1	34:b:381:G:C5	2.78	0.52
34:b:712:G:C2	34:b:713:G:H1'	2.45	0.52
34:b:991:C:O2	34:b:991:C:H2'	2.09	0.52
34:b:1077:A:O5'	36:i:136:GLY:O	2.28	0.52
34:b:1157:G:C6	34:b:1158:C:C4	2.97	0.52
34:b:1355:G:C2	34:b:1356:G:C8	2.98	0.52
34:b:1406:U:N3	34:b:1407:G:N7	2.57	0.52
34:b:1684:G:C4	34:b:1685:C:C6	2.97	0.52
34:b:1790:C:C2'	34:b:1791:A:C8	2.92	0.52
34:b:1795:C:C2	34:b:1796:U:C5	2.97	0.52
34:b:2094:A:H5'	41:h:25:TYR:CE1	2.43	0.52
34:b:2585:U:O2'	34:b:2586:U:OP2	2.22	0.52
1:A:1002:G:N2	1:A:1038:C:N3	2.57	0.52
2:B:56:LEU:HD22	2:B:66:ILE:HD13	1.90	0.52
2:B:70:GLY:HA2	2:B:168:GLU:HG3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:110:ARG:HB3	7:G:118:ARG:HG2	1.91	0.52
33:a:47:C:N3	33:a:48:U:H5	1.99	0.52
33:a:48:U:C4	33:a:49:C:C5	2.97	0.52
33:a:96:G:C5	33:a:97:C:C5	2.96	0.52
34:b:742:A:H2'	34:b:743:A:C8	2.44	0.52
34:b:850:U:C4	34:b:851:C:C5	2.98	0.52
34:b:892:A:N7	34:b:893:C:C5	2.77	0.52
34:b:1013:C:N3	34:b:1014:A:N7	2.57	0.52
34:b:1120:G:C5	34:b:1121:C:C6	2.97	0.52
34:b:1218:G:C2	34:b:1219:U:H1'	2.44	0.52
34:b:1443:U:N3	34:b:1444:G:N7	2.57	0.52
34:b:1448:G:H2'	34:b:1449:G:O4'	2.10	0.52
34:b:1710:G:O2'	34:b:2858:C:N3	2.42	0.52
34:b:1910:G:O6	34:b:1920:C:N3	2.43	0.52
34:b:2140:G:C2	34:b:2141:G:H1'	2.43	0.52
34:b:2414:G:C2	34:b:2415:G:C8	2.97	0.52
34:b:2682:A:C2	34:b:2683:C:C5	2.97	0.52
53:u:59:VAL:HG12	53:u:61:LYS:HG3	1.92	0.52
1:A:39:G:N2	1:A:404:G:H1'	2.24	0.52
1:A:107:G:O6	20:T:9:ARG:HD2	2.10	0.52
1:A:202:G:C2	1:A:203:G:H1'	2.45	0.52
4:D:169:TRP:NE1	4:D:185:PRO:HG3	2.25	0.52
11:K:82:GLU:HG3	11:K:108:ASN:HB2	1.91	0.52
33:a:39:A:N1	33:a:44:G:C2	2.77	0.52
34:b:353:C:O2	34:b:353:C:H2'	2.09	0.52
34:b:674:G:C6	34:b:804:A:C5	2.97	0.52
34:b:766:U:H2'	34:b:766:U:O2	2.10	0.52
34:b:947:A:O2'	34:b:984:A:H2	1.93	0.52
34:b:1077:A:C2	36:i:135:MET:N	2.63	0.52
34:b:1139:G:N1	34:b:1140:C:C5	2.78	0.52
34:b:1392:A:H2'	34:b:1393:A:C8	2.45	0.52
34:b:1416:G:C6	34:b:1417:C:C4	2.98	0.52
34:b:2081:U:C4	34:b:2237:G:C2	2.97	0.52
34:b:2317:A:C2	34:b:2318:G:H1'	2.45	0.52
34:b:2729:G:C6	34:b:2730:C:C4	2.96	0.52
34:b:2862:G:C6	34:b:2863:C:C4	2.98	0.52
36:i:126:ARG:HA	36:i:129:GLU:CD	2.35	0.52
1:A:374:A:H3'	1:A:375:U:C6	2.45	0.52
1:A:1510:C:H2'	1:A:1511:G:C8	2.45	0.52
7:G:110:ARG:HD3	7:G:112:ASP:OD2	2.09	0.52
22:V:42:C:O2	22:V:42:C:C2'	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:49:C:N3	22:V:50:U:C5	2.78	0.52
34:b:425:G:C2	34:b:426:C:C6	2.98	0.52
34:b:622:G:C4	34:b:623:C:C6	2.97	0.52
34:b:1301:A:N6	34:b:1303:G:H1'	2.25	0.52
34:b:1476:U:O5'	34:b:1732:C:C2	2.63	0.52
34:b:1826:G:N2	34:b:1827:U:H1'	2.25	0.52
34:b:1998:A:C6	34:b:1999:C:C4	2.97	0.52
34:b:2024:G:N2	34:b:2025:C:C2	2.77	0.52
34:b:2184:A:C2	34:b:2185:U:C5	2.97	0.52
34:b:2340:A:H2'	34:b:2341:G:H8	1.72	0.52
34:b:2794:C:C2	34:b:2803:G:C2	2.98	0.52
34:b:2900:A:C2	34:b:2901:C:H1'	2.45	0.52
51:s:69:LEU:HD23	51:s:109:ASP:OD1	2.09	0.52
1:A:227:G:O2'	16:P:63:GLN:CG	2.58	0.52
1:A:470:C:H2'	1:A:471:U:C6	2.44	0.52
10:J:37:ARG:HB2	10:J:75:ASP:HB2	1.92	0.52
22:V:38:A:O2'	22:V:39:U:C5'	2.58	0.52
22:V:53:G:C2	22:V:62:C:C2	2.97	0.52
34:b:441:U:C2	34:b:442:G:C8	2.98	0.52
34:b:834:G:C6	34:b:835:C:C5	2.98	0.52
34:b:925:A:C6	34:b:926:G:N7	2.77	0.52
34:b:1002:G:C6	34:b:1003:G:C8	2.98	0.52
34:b:1037:G:C2	34:b:1038:G:C8	2.97	0.52
34:b:1177:G:C6	34:b:1178:C:H1'	2.44	0.52
34:b:1208:C:C4	34:b:1239:G:C2	2.98	0.52
34:b:1211:C:C6	34:b:1211:C:H5'	2.45	0.52
34:b:1240:U:O2	34:b:1240:U:H2'	2.09	0.52
34:b:1462:C:C2	34:b:1463:C:C5	2.98	0.52
34:b:1511:G:N2	34:b:1512:C:C2	2.77	0.52
34:b:1590:A:C2	34:b:1591:A:C8	2.98	0.52
34:b:1716:U:C5	34:b:1743:G:N2	2.78	0.52
34:b:1946:U:C2	34:b:1947:C:C6	2.98	0.52
34:b:2238:G:H2'	34:b:2238:G:N3	2.23	0.52
34:b:2652:C:C2	34:b:2669:G:C2	2.98	0.52
34:b:2801:G:N3	34:b:2802:G:C8	2.78	0.52
35:c:136:PRO:O	35:c:139:SER:OG	2.27	0.52
42:j:57:LEU:HD23	42:j:125:TYR:CB	2.23	0.52
1:A:1347:G:O3'	9:I:111:GLU:HG2	2.10	0.52
2:B:56:LEU:HD12	2:B:219:THR:HG21	1.90	0.52
3:C:141:MET:HG3	3:C:169:GLU:OE2	2.10	0.52
33:a:117:G:C2	33:a:118:C:C2	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:341:C:C2	34:b:342:A:C8	2.97	0.52
34:b:514:A:N3	34:b:581:C:O2'	2.35	0.52
34:b:536:G:C6	34:b:537:G:C4	2.98	0.52
34:b:1081:U:C4	36:i:124:MET:CG	2.84	0.52
34:b:1208:C:N4	34:b:1239:G:C6	2.77	0.52
34:b:1257:C:N3	34:b:1258:U:C5	2.78	0.52
34:b:1530:G:C5	34:b:1531:C:C5	2.97	0.52
34:b:1541:C:N3	34:b:1542:U:C5	2.77	0.52
34:b:1604:C:N3	34:b:1605:C:C5	2.77	0.52
34:b:1663:G:C2	34:b:1992:G:N7	2.78	0.52
34:b:1793:C:C2	34:b:1794:A:C8	2.98	0.52
34:b:1810:A:N7	34:b:1811:G:H1'	2.24	0.52
1:A:109:A:C6	1:A:326:G:C6	2.98	0.52
1:A:450:G:H21	16:P:13:LYS:HZ2	0.52	0.52
1:A:1252:A:H61	1:A:1285:A:H61	1.58	0.52
3:C:106:ARG:NH2	3:C:111:ASP:OD2	2.43	0.52
9:I:51:LEU:HD13	9:I:56:MET:HG3	1.92	0.52
9:I:84:ARG:HG3	9:I:87:MET:HE3	1.91	0.52
16:P:11:ALA:O	16:P:12:LYS:C	2.52	0.52
17:Q:14:ASP:OD2	17:Q:54:ILE:HG13	2.10	0.52
27:2:14:ILE:CD1	34:b:989:G:C8	2.93	0.52
33:a:19:C:N3	33:a:20:G:C8	2.77	0.52
34:b:23:G:N2	34:b:24:G:C4	2.78	0.52
34:b:223:A:N3	34:b:408:G:H1'	2.25	0.52
34:b:630:G:C6	34:b:632:A:OP2	2.63	0.52
34:b:731:C:N3	34:b:732:C:C5	2.78	0.52
34:b:834:G:C4	34:b:835:C:C6	2.97	0.52
34:b:1144:A:N3	34:b:1145:C:C5	2.77	0.52
34:b:1159:U:N3	34:b:1160:G:C8	2.78	0.52
34:b:1180:U:C4	34:b:1181:U:C5	2.98	0.52
34:b:1220:G:C6	34:b:1221:C:C4	2.98	0.52
34:b:1451:C:C4	34:b:1458:U:C4	2.97	0.52
34:b:1499:C:N3	34:b:1500:G:C8	2.77	0.52
34:b:1594:U:O2	34:b:1595:C:C5	2.63	0.52
34:b:1868:C:C2	34:b:1869:G:C8	2.97	0.52
34:b:1999:C:C4	34:b:2000:C:H5	2.25	0.52
34:b:2075:U:O2'	34:b:2596:U:C4	2.63	0.52
34:b:2160:C:H3'	34:b:2161:C:C3'	2.40	0.52
34:b:2735:G:C6	34:b:2736:A:N7	2.78	0.52
36:i:58:ILE:HG22	36:i:60:VAL:HG23	1.92	0.52
37:d:4:LEU:CD2	37:d:101:PHE:HE2	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:69:LEU:CD2	51:s:109:ASP:OD1	2.58	0.52
1:A:262:A:H4'	20:T:69:ASN:HB2	1.92	0.51
1:A:396:C:O2'	1:A:398:U:OP1	2.26	0.51
1:A:1054:C:C4	22:V:34:A:N9	2.78	0.51
1:A:1256:A:C6	1:A:1278:G:H2'	2.44	0.51
3:C:87:ARG:HG3	3:C:98:ALA:HB3	1.91	0.51
11:K:48:GLY:O	11:K:68:ARG:NH1	2.43	0.51
25:0:68:LEU:CD2	25:0:71:LEU:HD12	2.25	0.51
34:b:38:A:H2'	34:b:39:G:O4'	2.09	0.51
34:b:963:U:C2	34:b:964:C:C5	2.98	0.51
34:b:1219:U:O2	34:b:1220:G:H8	1.84	0.51
34:b:1589:U:C4	34:b:1590:A:N7	2.78	0.51
34:b:1632:A:H2'	34:b:1633:G:C8	2.44	0.51
34:b:2256:G:O2'	34:b:2257:U:P	2.68	0.51
34:b:2331:G:N2	34:b:2332:C:H1'	2.25	0.51
34:b:2588:G:C2	34:b:2589:A:H1'	2.45	0.51
34:b:2784:U:C2	34:b:2785:C:C6	2.98	0.51
37:d:151:THR:O	37:d:153:GLY:N	2.42	0.51
1:A:264:C:O2'	17:Q:65:PRO:O	2.25	0.51
1:A:375:U:H4'	16:P:6:LEU:HB2	1.91	0.51
1:A:941:G:H22	9:I:125:GLN:CD	2.18	0.51
1:A:1085:U:H3'	1:A:1086:U:H6	1.76	0.51
1:A:1251:A:O2'	1:A:1370:G:O5'	2.25	0.51
4:D:68:GLU:OE2	4:D:203:TYR:OH	2.19	0.51
7:G:71:THR:HG23	7:G:72:VAL:HG13	1.93	0.51
13:M:89:ARG:HH11	13:M:94:LEU:CB	2.23	0.51
14:N:87:ALA:HB2	14:N:92:ILE:HD12	1.91	0.51
22:V:2:C:H2'	22:V:2:C:O2	2.09	0.51
22:V:74:C:H3'	22:V:75:C:C5	2.45	0.51
33:a:46:A:C5	33:a:47:C:C6	2.98	0.51
33:a:71:C:C2	33:a:106:G:C2	2.99	0.51
34:b:19:A:C4	34:b:20:C:C6	2.98	0.51
34:b:535:G:C2	34:b:536:G:H1'	2.46	0.51
34:b:851:C:C2	34:b:852:U:C5	2.97	0.51
34:b:1035:U:O2	34:b:1036:G:H8	1.91	0.51
34:b:1412:U:C2	34:b:1413:A:C8	2.98	0.51
34:b:1452:G:O2'	34:b:1453:A:P	2.67	0.51
34:b:1454:C:O2	34:b:1454:C:O4'	2.24	0.51
34:b:1555:G:C2	34:b:1556:C:C4	2.98	0.51
34:b:1840:G:C6	34:b:1841:U:C4	2.98	0.51
34:b:2396:G:N2	34:b:2397:G:C4	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2715:C:C4	34:b:2716:C:C6	2.97	0.51
36:i:33:ASN:HB3	36:i:36:GLU:CB	2.38	0.51
36:i:107:GLU:O	36:i:111:THR:HG23	2.10	0.51
37:d:121:THR:HB	37:d:127:PHE:CD2	2.45	0.51
1:A:83:C:H5'	1:A:84:U:H5	1.75	0.51
1:A:96:U:H2'	1:A:97:G:C8	2.45	0.51
1:A:675:A:H1'	11:K:117:HIS:CE1	2.45	0.51
1:A:878:A:OP1	8:H:79:ARG:NH1	2.43	0.51
1:A:1404:C:O2	1:A:1519:A:O2'	2.28	0.51
12:L:53:ARG:HB3	12:L:61:GLU:OE2	2.10	0.51
16:P:48:GLU:CD	16:P:49:GLY:H	2.17	0.51
22:V:5:G:C2	22:V:6:G:C8	2.99	0.51
33:a:91:C:H2'	33:a:91:C:O2	2.09	0.51
34:b:62:U:H2'	34:b:63:A:C2	2.45	0.51
34:b:111:A:C5	34:b:112:U:C5	2.99	0.51
34:b:309:A:C1'	34:b:329:G:H21	2.23	0.51
34:b:532:A:H4'	34:b:533:G:H8	1.73	0.51
34:b:938:G:C2	34:b:939:G:C5	2.98	0.51
34:b:962:G:N2	34:b:2250:G:H1	1.99	0.51
34:b:1079:C:H5	34:b:1080:A:C1'	2.22	0.51
34:b:1157:G:C5	34:b:1158:C:C5	2.98	0.51
34:b:1326:U:O2	34:b:1327:A:C8	2.63	0.51
34:b:2767:C:O2	34:b:2767:C:H2'	2.10	0.51
34:b:2888:C:N3	34:b:2889:C:C5	2.79	0.51
1:A:392:C:P	16:P:12:LYS:HG3	2.49	0.51
1:A:932:C:O2	1:A:1386:G:N2	2.43	0.51
1:A:946:A:H2'	1:A:947:G:C8	2.44	0.51
1:A:1367:C:O5'	9:I:117:LEU:HD12	2.11	0.51
3:C:33:ASP:OD2	14:N:64:ARG:HD2	2.10	0.51
16:P:6:LEU:HG	16:P:17:TYR:CB	2.40	0.51
19:S:35:ARG:NH1	19:S:74:ALA:HB3	2.25	0.51
28:3:32:LYS:HB3	34:b:2885:G:H21	1.73	0.51
31:7:40:ARG:CZ	34:b:2362:C:OP1	2.59	0.51
33:a:117:G:C6	33:a:118:C:C4	2.98	0.51
34:b:934:U:O2	34:b:935:C:C6	2.63	0.51
34:b:979:A:C5	34:b:982:C:C4	2.98	0.51
34:b:1021:A:C6	34:b:1141:U:C4	2.91	0.51
34:b:1142:A:C4	34:b:1144:A:N7	2.79	0.51
34:b:1408:G:N1	34:b:1409:U:C6	2.79	0.51
34:b:1445:G:C6	34:b:1446:C:C4	2.98	0.51
34:b:1517:G:C6	34:b:1518:C:C4	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1790:C:H2'	34:b:1791:A:C8	2.46	0.51
34:b:1907:G:N1	34:b:1908:C:C4	2.79	0.51
36:i:89:SER:OG	36:i:135:MET:HA	2.11	0.51
1:A:201:G:N2	1:A:469:C:O2	2.43	0.51
1:A:1054:C:OP2	1:A:1197:A:OP2	2.28	0.51
1:A:1408:A:C5'	34:b:1919:A:O4'	2.59	0.51
3:C:20:THR:HB	3:C:57:GLU:HA	1.92	0.51
22:V:27:G:H2'	22:V:28:G:H8	1.75	0.51
22:V:73:A:N3	22:V:73:A:C2'	2.74	0.51
34:b:51:G:N2	34:b:119:A:N3	2.59	0.51
34:b:351:C:C2	34:b:352:A:C8	2.98	0.51
34:b:465:G:C2'	34:b:466:A:C8	2.93	0.51
34:b:570:G:O4'	34:b:983:A:N6	2.44	0.51
34:b:639:U:H2'	34:b:640:C:C6	2.45	0.51
34:b:652:U:O2	34:b:652:U:H2'	2.10	0.51
34:b:736:C:O2	34:b:737:C:C6	2.64	0.51
34:b:967:U:H2'	34:b:968:C:H6	1.74	0.51
34:b:991:C:N1	34:b:1185:G:C2	2.79	0.51
34:b:1459:G:N2	34:b:1461:C:N3	2.58	0.51
34:b:1517:G:N1	34:b:1518:C:C6	2.79	0.51
34:b:1656:C:C2	34:b:1657:U:C5	2.99	0.51
34:b:1769:U:O2'	34:b:1958:C:OP1	2.24	0.51
34:b:1796:U:C2	34:b:1797:G:C8	2.99	0.51
34:b:2575:C:O2	34:b:2575:C:H2'	2.10	0.51
34:b:2595:G:C6	34:b:2599:G:O6	2.63	0.51
42:j:57:LEU:HD13	42:j:129:GLU:CA	2.40	0.51
52:t:8:LEU:HD23	52:t:50:LEU:HD11	1.93	0.51
1:A:149:A:H2'	1:A:150:U:C6	2.46	0.51
1:A:329:A:N3	1:A:329:A:H2'	2.26	0.51
1:A:1240:U:H5"	1:A:1241:G:OP2	2.11	0.51
1:A:1510:C:H2'	1:A:1511:G:H8	1.75	0.51
9:I:21:LYS:O	9:I:60:LEU:HA	2.11	0.51
22:V:19:G:H21	22:V:57:G:N2	2.05	0.51
24:X:18:C:H5"	24:X:18:C:H6	1.73	0.51
34:b:379:G:C6	34:b:380:G:N7	2.79	0.51
34:b:593:U:H2'	34:b:594:U:H6	1.76	0.51
34:b:662:G:N1	34:b:663:G:C5	2.79	0.51
34:b:835:C:C4	34:b:836:G:C8	2.99	0.51
34:b:1219:U:C4	34:b:1220:G:N7	2.77	0.51
34:b:1361:G:C6	34:b:1362:C:C4	2.99	0.51
34:b:1434:A:N7	34:b:1435:G:N7	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1501:G:N1	34:b:1502:A:C5	2.79	0.51
34:b:1622:G:C6	34:b:1623:G:N7	2.78	0.51
34:b:1644:C:C2	34:b:1645:G:C8	2.98	0.51
34:b:1713:A:C2	34:b:1716:U:C6	2.98	0.51
34:b:2216:G:N1	34:b:2217:G:C5	2.78	0.51
34:b:2293:G:C2	34:b:2294:G:H1'	2.46	0.51
38:e:60:TRP:HZ2	38:e:67:ARG:CZ	2.24	0.51
47:o:18:LEU:HB2	47:o:25:ARG:HD3	1.93	0.51
1:A:228:A:O2'	16:P:60:TRP:HZ3	1.94	0.51
1:A:541:G:H5'	1:A:542:G:OP2	2.10	0.51
8:H:13:ILE:O	8:H:17:GLN:HG2	2.10	0.51
22:V:56:C:C6	34:b:2309:A:C2	2.99	0.51
34:b:153:U:C4	34:b:154:U:C5	2.99	0.51
34:b:186:G:C2	34:b:211:C:C2	2.99	0.51
34:b:332:A:N1	34:b:335:C:C5	2.79	0.51
34:b:356:G:C2	34:b:357:C:C2	2.99	0.51
34:b:658:U:N3	34:b:659:G:C8	2.79	0.51
34:b:964:C:N3	34:b:965:C:C5	2.78	0.51
34:b:1013:C:O2	34:b:1013:C:H2'	2.10	0.51
34:b:1051:G:N1	34:b:1052:C:N1	2.57	0.51
34:b:1257:C:C2	34:b:1258:U:C5	2.98	0.51
34:b:1294:U:C2	34:b:1295:C:C6	2.98	0.51
34:b:1355:G:C6	34:b:1356:G:N7	2.78	0.51
34:b:1496:A:O2'	34:b:1498:C:C4	2.53	0.51
34:b:1849:G:N2	34:b:1850:G:C4	2.79	0.51
34:b:2062:A:O2'	34:b:2063:C:OP1	2.26	0.51
34:b:2215:C:H6	34:b:2215:C:H5"	1.75	0.51
34:b:2341:G:C5	34:b:2342:C:C5	2.99	0.51
34:b:2407:A:N3	34:b:2408:U:C5	2.79	0.51
34:b:2544:G:N2	34:b:2545:G:N9	2.59	0.51
34:b:2708:G:N2	34:b:2709:G:C4	2.79	0.51
34:b:2748:A:C6	34:b:2749:A:C8	2.98	0.51
54:w:40:ILE:CG2	54:w:41:GLU:H	2.23	0.51
1:A:130:A:OP1	17:Q:64:ARG:HD2	2.11	0.51
1:A:219:U:H2'	1:A:220:G:H8	1.76	0.51
1:A:540:G:H8	1:A:540:G:OP2	1.93	0.51
1:A:652:U:O2'	1:A:752:G:N1	2.44	0.51
1:A:768:A:N3	1:A:1512:U:O2'	2.43	0.51
1:A:1054:C:N3	22:V:34:A:N9	2.58	0.51
1:A:1305:G:O2'	1:A:1306:A:O4'	2.27	0.51
10:J:21:ALA:O	10:J:25:ILE:HG12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:51:PRO:O	14:N:53:ASP:N	2.43	0.51
32:8:1:MET:HE1	32:8:36:ARG:HB2	1.93	0.51
34:b:311:A:C6	34:b:328:U:C4	2.99	0.51
34:b:979:A:C6	34:b:982:C:C4	2.99	0.51
34:b:1122:G:N1	34:b:1123:C:C4	2.79	0.51
34:b:1173:U:H3'	34:b:1174:U:H5"	1.93	0.51
34:b:1296:G:N1	34:b:1297:C:C4	2.79	0.51
34:b:1300:G:C6	34:b:1626:A:C5	2.99	0.51
34:b:1717:A:C2	34:b:1718:G:H1'	2.45	0.51
34:b:2139:U:O2	34:b:2139:U:H2'	2.11	0.51
34:b:2222:C:C2	34:b:2223:G:C8	2.99	0.51
34:b:2525:G:N1	34:b:2539:C:C4	2.79	0.51
34:b:2536:G:N1	34:b:2537:U:C4	2.78	0.51
34:b:2707:U:N3	34:b:2708:G:N7	2.59	0.51
41:h:42:LYS:CD	41:h:42:LYS:N	2.73	0.51
41:h:68:ARG:NH1	41:h:72:ILE:HD13	2.25	0.51
1:A:618:C:H5"	1:A:619:U:H5"	1.92	0.51
1:A:1098:C:OP2	2:B:142:LYS:HE3	2.10	0.51
1:A:1254:A:H2'	1:A:1255:G:C8	2.46	0.51
1:A:1338:G:N7	23:W:41:C:O2'	2.39	0.51
4:D:2:ARG:CZ	4:D:114:ARG:HD2	2.40	0.51
13:M:77:LYS:HG2	39:f:143:TYR:OH	2.10	0.51
14:N:52:ARG:HG2	14:N:58:ARG:HH12	1.76	0.51
33:a:43:C:O2	39:f:90:THR:HB	2.11	0.51
34:b:245:G:C2	34:b:246:C:C4	2.99	0.51
34:b:659:G:C6	34:b:660:C:C4	2.99	0.51
34:b:1079:C:C5	34:b:1080:A:C1'	2.94	0.51
34:b:1196:C:C2	34:b:1197:G:C8	2.99	0.51
34:b:1277:G:O4'	46:n:20:MET:CE	2.59	0.51
34:b:1451:C:C4	34:b:1458:U:C5	2.99	0.51
34:b:1842:G:C4	34:b:1843:C:C5	2.99	0.51
34:b:2302:U:C2	34:b:2303:G:C8	2.99	0.51
34:b:2716:C:N3	34:b:2717:C:C5	2.78	0.51
36:i:86:LYS:H	36:i:86:LYS:HD2	1.74	0.51
1:A:1096:C:O2	1:A:1170:A:O2'	2.28	0.51
1:A:1492:A:H4'	1:A:1493:A:OP1	2.11	0.51
8:H:104:SER:HB2	8:H:125:ILE:HD11	1.92	0.51
13:M:79:LEU:HD23	13:M:82:LEU:HD12	1.92	0.51
14:N:22:LYS:HE2	14:N:23:ARG:HH12	1.73	0.51
34:b:46:G:N2	34:b:47:C:C2	2.79	0.51
34:b:277:G:H2'	34:b:277:G:N3	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:309:A:C4'	34:b:329:G:N2	2.74	0.51
34:b:356:G:C4	34:b:357:C:C6	2.99	0.51
34:b:422:A:C2	34:b:423:A:C5	2.99	0.51
34:b:710:U:N3	34:b:711:G:C8	2.79	0.51
34:b:953:G:C2	34:b:954:G:C8	2.98	0.51
34:b:991:C:C4	34:b:1185:G:C6	2.99	0.51
34:b:1050:A:C5	34:b:1051:G:N7	2.79	0.51
34:b:1488:C:O2	34:b:1488:C:H2'	2.11	0.51
34:b:1703:G:N2	34:b:1704:C:C2	2.78	0.51
34:b:1736:U:H2'	34:b:1737:G:O4'	2.11	0.51
34:b:1907:G:C2	34:b:1908:C:N1	2.79	0.51
34:b:2217:G:C2	34:b:2218:G:N9	2.79	0.51
34:b:2464:G:C6	34:b:2465:C:C4	2.98	0.51
34:b:2535:G:N2	34:b:2536:G:N9	2.60	0.51
34:b:2838:G:N2	34:b:2839:G:H1'	2.26	0.51
37:d:4:LEU:CD2	37:d:101:PHE:CE2	2.94	0.51
40:g:11:VAL:O	40:g:48:ASN:ND2	2.44	0.51
1:A:1134:G:N2	1:A:1140:C:N3	2.58	0.50
1:A:1250:A:N3	1:A:1370:G:O2'	2.40	0.50
1:A:1495:U:O2'	34:b:1920:C:C2'	2.59	0.50
15:O:52:ARG:NH2	34:b:716:A:H2	2.09	0.50
16:P:20:VAL:HG23	16:P:34:GLU:O	2.10	0.50
16:P:75:ILE:C	16:P:77:GLU:H	2.18	0.50
22:V:74:C:O2	22:V:74:C:H2'	2.09	0.50
33:a:33:G:HO2'	33:a:34:A:C5'	2.24	0.50
34:b:267:C:C4	34:b:268:C:C5	2.98	0.50
34:b:535:G:N2	34:b:536:G:H1'	2.26	0.50
34:b:629:G:H5'	34:b:630:G:OP2	2.11	0.50
34:b:668:A:N6	34:b:670:A:O2'	2.39	0.50
34:b:775:G:C5	34:b:794:A:C8	2.99	0.50
34:b:1053:C:C4	34:b:1107:G:N2	2.79	0.50
34:b:1074:G:N3	36:i:92:PRO:HD3	2.26	0.50
34:b:1106:G:N1	34:b:1107:G:H1'	2.24	0.50
34:b:1218:G:N2	34:b:1219:U:H1'	2.26	0.50
34:b:1268:A:H1'	34:b:2613:U:H3	1.75	0.50
34:b:1349:C:H1'	34:b:1382:G:N7	2.26	0.50
34:b:1476:U:O2	34:b:1477:A:N7	2.44	0.50
34:b:1589:U:N3	34:b:1590:A:N7	2.60	0.50
34:b:1839:G:O6	34:b:1840:G:C5	2.64	0.50
34:b:2208:C:H2'	34:b:2209:G:H8	1.76	0.50
34:b:2432:A:C2	34:b:2433:A:C8	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2480:C:C5	34:b:2481:G:C8	2.99	0.50
34:b:2747:G:O2'	40:g:67:THR:HG23	2.11	0.50
34:b:2880:C:O2	34:b:2880:C:H2'	2.10	0.50
38:e:60:TRP:CZ3	38:e:70:SER:HB3	2.46	0.50
42:j:128:ASN:O	42:j:129:GLU:CG	2.58	0.50
1:A:508:U:H5"	4:D:50:TYR:HD2	1.75	0.50
1:A:1342:C:H5'	1:A:1343:G:OP2	2.11	0.50
3:C:64:ARG:HG2	3:C:99:GLN:HB3	1.93	0.50
33:a:42:C:H2'	33:a:43:C:C6	2.46	0.50
34:b:309:A:C1'	34:b:329:G:N2	2.74	0.50
34:b:735:A:C8	34:b:736:C:C5	2.99	0.50
34:b:852:U:C4	34:b:853:C:C5	3.00	0.50
34:b:936:A:N3	34:b:937:C:C6	2.79	0.50
34:b:1066:U:O2	34:b:1066:U:C2'	2.60	0.50
34:b:1276:A:N7	34:b:1645:G:N2	2.58	0.50
34:b:1309:G:H2'	34:b:1310:G:O4'	2.11	0.50
34:b:1373:A:C5	34:b:1374:G:H1'	2.46	0.50
34:b:1509:A:H4'	34:b:1510:G:OP2	2.10	0.50
34:b:1733:G:C2	34:b:1734:G:N7	2.79	0.50
34:b:1816:C:O2'	34:b:1817:G:P	2.69	0.50
34:b:2013:A:C6	34:b:2613:U:C4	2.99	0.50
34:b:2215:C:C2	34:b:2216:G:C8	2.99	0.50
34:b:2222:C:H2'	34:b:2223:G:O4'	2.11	0.50
34:b:2232:C:C4	34:b:2233:U:C5	3.00	0.50
34:b:2329:U:C2	34:b:2330:G:C8	2.99	0.50
34:b:2564:A:N6	34:b:2647:U:C4'	2.75	0.50
34:b:2635:A:C6	34:b:2636:C:C5	2.99	0.50
47:o:28:VAL:HG11	47:o:103:VAL:HG13	1.92	0.50
1:A:201:G:H21	1:A:469:C:H1'	1.76	0.50
1:A:1026:G:H2'	1:A:1027:C:O4'	2.12	0.50
2:B:100:LEU:HB2	2:B:174:GLU:OE2	2.11	0.50
5:E:24:VAL:HG12	5:E:26:GLY:H	1.76	0.50
34:b:153:U:C2	34:b:154:U:C5	3.00	0.50
34:b:248:G:O2'	34:b:2432:A:OP1	2.23	0.50
34:b:573:U:O2'	34:b:574:A:H3'	2.11	0.50
34:b:660:C:N3	34:b:661:A:N7	2.59	0.50
34:b:968:C:O2	34:b:968:C:C2'	2.60	0.50
34:b:996:A:C1'	50:r:10:LYS:HG2	2.41	0.50
34:b:1225:G:H2'	34:b:1226:A:N7	2.27	0.50
34:b:1502:A:N3	34:b:1503:A:C8	2.78	0.50
34:b:1867:G:C8	34:b:1868:C:H5	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1928:A:C2'	34:b:1929:G:O4'	2.49	0.50
34:b:1997:C:C2	34:b:1998:A:C8	3.00	0.50
34:b:2032:G:O6	34:b:2454:G:C4'	2.54	0.50
34:b:2205:A:C6	34:b:2206:C:C5	2.98	0.50
34:b:2208:C:H2'	34:b:2209:G:C8	2.45	0.50
34:b:2263:C:H5"	34:b:2329:U:O2'	2.12	0.50
34:b:2591:C:O2	34:b:2591:C:H2'	2.11	0.50
34:b:2682:A:N1	34:b:2683:C:C5	2.79	0.50
36:i:16:MET:O	36:i:19:PRO:HD3	2.12	0.50
45:m:53:MET:HG3	45:m:63:ILE:CD1	2.39	0.50
51:s:85:ILE:HD11	56:z:13:PHE:CE2	2.46	0.50
52:t:69:ARG:HG2	52:t:74:ILE:CG2	2.41	0.50
1:A:184:G:HO2'	1:A:185:U:P	2.34	0.50
1:A:455:G:OP2	1:A:455:G:H8	1.94	0.50
2:B:55:GLU:HA	2:B:58:LYS:HE3	1.94	0.50
2:B:101:THR:HG23	2:B:174:GLU:OE2	2.12	0.50
14:N:20:PHE:HA	14:N:24:ALA:HA	1.94	0.50
20:T:34:VAL:O	20:T:38:ILE:HG12	2.11	0.50
33:a:49:C:O2	33:a:50:A:H8	1.91	0.50
34:b:171:U:O2	34:b:171:U:H2'	2.11	0.50
34:b:462:C:C2	34:b:468:G:C2	3.00	0.50
34:b:853:C:C2	34:b:854:C:C5	2.98	0.50
34:b:947:A:O2'	34:b:984:A:C2	2.65	0.50
34:b:1001:A:H2'	34:b:1002:G:O4'	2.11	0.50
34:b:1078:U:HO2'	36:i:133:ARG:NH1	2.03	0.50
34:b:1092:C:H2'	34:b:1093:G:C8	2.46	0.50
34:b:1252:G:O2'	34:b:1253:A:N7	2.29	0.50
34:b:1427:A:H4'	34:b:1428:C:O4'	2.11	0.50
34:b:1765:U:C2	34:b:1766:G:C8	2.99	0.50
34:b:1859:U:O2	34:b:1860:G:C8	2.63	0.50
34:b:2065:C:N4	34:b:2066:C:H41	2.09	0.50
34:b:2417:C:C2	34:b:2418:A:C8	2.99	0.50
34:b:2623:G:N2	34:b:2624:G:C4	2.80	0.50
34:b:2708:G:N1	34:b:2709:G:N7	2.59	0.50
34:b:2757:A:N3	34:b:2757:A:H2'	2.25	0.50
34:b:2897:U:C2	34:b:2898:U:C6	3.00	0.50
35:c:210:ALA:HA	35:c:213:TRP:CE2	2.46	0.50
38:e:60:TRP:HZ2	38:e:67:ARG:NE	2.09	0.50
42:j:123:LYS:HD3	42:j:132:HIS:CE1	2.47	0.50
1:A:375:U:H4'	16:P:6:LEU:HD23	1.93	0.50
1:A:391:G:C5	1:A:392:C:C4	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:478:A:O2'	1:A:479:U:OP1	2.28	0.50
1:A:1343:G:O4'	9:I:125:GLN:HA	2.11	0.50
5:E:37:VAL:HG21	5:E:113:VAL:HG12	1.93	0.50
22:V:24:G:C2	22:V:25:C:C2	3.00	0.50
33:a:17:C:C2	33:a:18:G:C8	2.99	0.50
34:b:1:G:C2	34:b:2:G:C8	3.00	0.50
34:b:81:G:N2	34:b:106:C:C2	2.79	0.50
34:b:157:C:N3	34:b:158:U:C4	2.79	0.50
34:b:257:C:C4	34:b:258:G:C5	3.00	0.50
34:b:422:A:C2	34:b:423:A:C4	2.99	0.50
34:b:705:A:N6	34:b:726:G:O2'	2.44	0.50
34:b:719:C:C4	34:b:720:U:C5	2.99	0.50
34:b:978:G:H2'	34:b:979:A:O4'	2.12	0.50
34:b:1021:A:N7	34:b:1141:U:O4	2.44	0.50
34:b:1051:G:C2	34:b:1052:C:C6	2.99	0.50
34:b:1059:G:N1	36:i:125:THR:N	2.50	0.50
34:b:1167:C:O2	34:b:1168:G:C8	2.64	0.50
34:b:1315:C:C2	34:b:1316:U:C6	3.00	0.50
34:b:1396:U:H4'	34:b:1397:U:OP2	2.11	0.50
34:b:1506:U:C2	34:b:1507:C:C5	2.99	0.50
34:b:1517:G:O6	34:b:1518:C:C4	2.64	0.50
34:b:1529:G:H2'	34:b:1530:G:O4'	2.12	0.50
34:b:1790:C:O3'	34:b:1791:A:C8	2.64	0.50
34:b:1925:C:H42	34:b:1929:G:H22	1.60	0.50
34:b:2216:G:C2	34:b:2217:G:C8	2.98	0.50
34:b:2329:U:C4	34:b:2330:G:N7	2.80	0.50
34:b:2615:U:C2	34:b:2616:C:C6	3.00	0.50
34:b:2706:A:C2	34:b:2707:U:H1'	2.47	0.50
34:b:2848:G:C2	34:b:2867:G:C5	3.00	0.50
34:b:2869:G:C2	34:b:2870:C:C2	3.00	0.50
36:i:32:VAL:HG13	36:i:66:PHE:CE2	2.46	0.50
36:i:56:VAL:HG23	36:i:69:VAL:O	2.10	0.50
41:h:90:LEU:HD21	41:h:128:HIS:CD2	2.47	0.50
1:A:367:U:OP1	1:A:395:C:O2'	2.28	0.50
1:A:676:A:H5"	11:K:114:PRO:HB3	1.94	0.50
11:K:20:ALA:HB2	11:K:81:LEU:HD22	1.94	0.50
11:K:125:LYS:CG	21:U:33:ARG:HH11	2.25	0.50
15:O:17:ASP:HB3	15:O:20:ASP:OD1	2.12	0.50
22:V:30:G:C2	22:V:41:C:C2	3.00	0.50
27:2:3:LYS:O	27:2:4:THR:OG1	2.26	0.50
33:a:20:G:C6	33:a:21:G:N7	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:106:G:H2'	33:a:107:G:O4'	2.11	0.50
34:b:592:A:C6	34:b:593:U:C4	3.00	0.50
34:b:651:G:H2'	34:b:651:G:N3	2.27	0.50
34:b:910:A:O2'	34:b:911:A:N7	2.36	0.50
34:b:1060:U:C5'	36:i:114:ALA:H	2.25	0.50
34:b:1239:G:H2'	34:b:1239:G:N3	2.25	0.50
34:b:1317:G:C5	34:b:1318:U:C5	3.00	0.50
34:b:1408:G:N2	34:b:1409:U:H1'	2.26	0.50
34:b:1411:U:N3	34:b:1412:U:C5	2.80	0.50
34:b:1516:G:C2	34:b:1517:G:C1'	2.95	0.50
34:b:1637:A:C6	34:b:1638:C:C4	2.99	0.50
34:b:1659:G:H2'	34:b:1660:G:O4'	2.12	0.50
34:b:2013:A:H2'	34:b:2013:A:N3	2.25	0.50
34:b:2736:A:N1	34:b:2737:G:C5	2.79	0.50
34:b:2766:A:C5	34:b:2767:C:C6	3.00	0.50
40:g:24:ILE:HD13	40:g:72:LEU:HD21	1.93	0.50
41:h:66:ASN:O	41:h:149:GLU:OE2	2.29	0.50
54:w:61:LEU:CD1	54:w:63:ILE:HG13	2.42	0.50
56:z:21:GLN:CB	56:z:23:GLN:HG2	2.42	0.50
7:G:137:ARG:NH1	7:G:141:HIS:CE1	2.76	0.50
11:K:23:HIS:CD2	11:K:24:ALA:H	2.29	0.50
13:M:73:SER:HB3	39:f:143:TYR:CZ	2.45	0.50
14:N:25:GLU:HA	14:N:28:ALA:HB3	1.93	0.50
16:P:22:ALA:CB	16:P:32:PHE:HA	2.41	0.50
18:R:24:ASP:OD2	18:R:27:THR:HG23	2.11	0.50
34:b:33:C:N4	34:b:446:G:O2'	2.45	0.50
34:b:250:G:O2'	34:b:251:A:C8	2.62	0.50
34:b:462:C:C2	34:b:468:G:N2	2.80	0.50
34:b:880:G:C2	34:b:897:C:N3	2.80	0.50
34:b:1017:G:C2	34:b:1146:C:C2	3.00	0.50
34:b:1499:C:C5	34:b:1500:G:C8	3.00	0.50
34:b:1511:G:H2'	34:b:1512:C:C6	2.45	0.50
34:b:1517:G:C2	34:b:1518:C:C6	3.00	0.50
34:b:1537:G:C6	34:b:1538:G:C8	3.00	0.50
34:b:1550:C:O2	34:b:1551:A:C8	2.65	0.50
34:b:2268:A:O5'	34:b:2268:A:H8	1.93	0.50
34:b:2300:C:N3	34:b:2301:C:C5	2.79	0.50
34:b:2545:G:C6	34:b:2546:U:C4	2.99	0.50
34:b:2623:G:N3	34:b:2624:G:C8	2.80	0.50
34:b:2784:U:N3	34:b:2785:C:C5	2.79	0.50
39:f:122:PHE:O	39:f:124:GLY:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:43:ASN:OD1	41:h:46:PHE:CZ	2.60	0.50
1:A:108:G:H5'	1:A:109:A:H2	1.76	0.50
1:A:116:A:OP2	1:A:289:G:OP2	2.30	0.50
1:A:1210:C:H2'	1:A:1211:U:C6	2.47	0.50
4:D:169:TRP:CE2	4:D:185:PRO:HG3	2.47	0.50
16:P:78:VAL:O	16:P:78:VAL:HG22	2.12	0.50
17:Q:7:LEU:HD21	17:Q:24:ILE:HD13	1.94	0.50
22:V:53:G:H2'	22:V:53:G:N3	2.26	0.50
23:W:69:G:O2'	34:b:1893:C:O2'	2.29	0.50
34:b:21:A:C2	34:b:22:C:C6	3.00	0.50
34:b:156:A:C2	34:b:157:C:C2	3.00	0.50
34:b:186:G:N1	34:b:187:G:C5	2.80	0.50
34:b:186:G:N3	34:b:186:G:H2'	2.27	0.50
34:b:482:A:C6	34:b:506:G:C5	3.00	0.50
34:b:854:C:C2	34:b:855:G:C8	3.00	0.50
34:b:985:C:O2	34:b:986:C:C5	2.64	0.50
34:b:1228:G:H2'	34:b:1229:C:O4'	2.12	0.50
34:b:1258:U:C2	34:b:1259:G:C8	2.99	0.50
34:b:1326:U:C2	34:b:1327:A:C8	3.00	0.50
34:b:1638:C:C2	34:b:1639:C:C6	2.99	0.50
34:b:1773:A:H1'	34:b:1829:A:C8	2.47	0.50
34:b:1874:C:C2	34:b:1875:G:C8	2.99	0.50
34:b:1974:C:C4	34:b:1975:G:C8	2.99	0.50
34:b:2128:G:C8	34:b:2128:G:O5'	2.65	0.50
34:b:2733:A:C2	34:b:2734:A:H1'	2.46	0.50
34:b:2875:C:C2	34:b:2876:G:C8	3.00	0.50
41:h:77:THR:HG22	41:h:142:VAL:HB	1.93	0.50
9:I:4:GLN:HE22	9:I:21:LYS:HE3	1.77	0.50
11:K:113:THR:HG21	21:U:28:LEU:HD11	1.93	0.50
16:P:12:LYS:HG2	16:P:13:LYS:HG2	1.94	0.50
22:V:40:C:H2'	22:V:40:C:O2	2.12	0.50
28:3:5:GLN:HG3	34:b:2054:A:C2	2.47	0.50
33:a:62:C:O2	33:a:62:C:H2'	2.11	0.50
34:b:25:U:H2'	34:b:26:G:C8	2.47	0.50
34:b:110:G:C2	34:b:111:A:N9	2.80	0.50
34:b:286:U:N3	34:b:287:G:N7	2.60	0.50
34:b:780:G:N1	34:b:782:A:C6	2.80	0.50
34:b:937:C:N3	34:b:938:G:N7	2.58	0.50
34:b:961:C:C6	34:b:2031:A:N6	2.80	0.50
34:b:998:C:N3	34:b:999:U:C5	2.80	0.50
34:b:1057:A:H3'	34:b:1057:A:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1063:G:H5”	36:i:77:VAL:HA	1.89	0.50
34:b:1076:C:C2	36:i:137:LEU:CD1	2.92	0.50
34:b:1078:U:OP1	36:i:99:LYS:C	2.55	0.50
34:b:1097:U:O4	36:i:9:LYS:HD3	2.04	0.50
34:b:1172:C:H3’	34:b:1174:U:H5	1.77	0.50
34:b:1303:G:C2	34:b:1304:A:N7	2.79	0.50
34:b:1338:G:C2	34:b:1339:G:C4	3.00	0.50
34:b:1597:A:H5”	34:b:1598:A:H5’	1.94	0.50
34:b:2032:G:C8	34:b:2454:G:O2’	2.63	0.50
34:b:2283:C:C4	34:b:2284:A:C8	3.00	0.50
34:b:2544:G:N1	34:b:2545:G:C8	2.80	0.50
34:b:2604:U:O2	34:b:2604:U:H2’	2.11	0.50
34:b:2825:G:C5	34:b:2826:A:H1’	2.47	0.50
47:o:51:ALA:HB3	47:o:78:VAL:CG2	2.42	0.50
1:A:701:U:O2’	1:A:702:A:OP2	2.21	0.49
1:A:718:A:C8	11:K:117:HIS:CD2	3.00	0.49
1:A:1349:A:OP2	9:I:119:LYS:HD2	2.11	0.49
4:D:23:GLY:HA2	4:D:160:LEU:HD23	1.93	0.49
6:F:18:VAL:HG21	6:F:58:HIS:CD2	2.47	0.49
16:P:20:VAL:HG21	16:P:32:PHE:CG	2.47	0.49
22:V:25:C:N4	22:V:26:A:N7	2.60	0.49
33:a:34:A:C6	33:a:44:G:C5	2.99	0.49
34:b:175:G:H2’	34:b:176:A:C8	2.47	0.49
34:b:186:G:C2	34:b:187:G:C5	3.00	0.49
34:b:479:A:C2	34:b:480:A:C6	2.99	0.49
34:b:572:A:OP2	50:r:80:ARG:NH2	2.45	0.49
34:b:611:C:C5	34:b:612:G:C8	2.99	0.49
34:b:662:G:C2	34:b:663:G:N7	2.80	0.49
34:b:722:A:C6	34:b:723:C:C4	3.00	0.49
34:b:964:C:O2	34:b:2273:A:C2	2.62	0.49
34:b:977:G:C2	34:b:987:C:N3	2.80	0.49
34:b:1021:A:C8	34:b:1022:G:H4’	2.47	0.49
34:b:1356:G:C5	34:b:1357:C:C5	3.00	0.49
34:b:1408:G:N1	34:b:1409:U:C5	2.80	0.49
34:b:1485:U:C2	34:b:1486:U:C6	3.00	0.49
34:b:1580:A:C6	34:b:1581:G:H1’	2.47	0.49
34:b:1593:A:C5	34:b:1594:U:C5	2.99	0.49
34:b:1637:A:C5	34:b:1638:C:C5	3.00	0.49
34:b:1840:G:C4	34:b:1841:U:C5	2.99	0.49
34:b:2020:A:C6	34:b:2022:U:C6	3.00	0.49
54:w:6:ALA:CB	54:w:40:ILE:HG21	2.40	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:843:U:P	1:A:846:G:H1	2.34	0.49
1:A:1371:G:H5"	9:I:69:GLY:HA2	1.93	0.49
3:C:110:LEU:HD21	3:C:145:ALA:HB2	1.93	0.49
34:b:39:G:C2	34:b:40:U:C6	3.01	0.49
34:b:356:G:H2'	34:b:357:C:O4'	2.13	0.49
34:b:839:U:O2'	34:b:1191:G:N3	2.45	0.49
34:b:963:U:O2	34:b:964:C:C6	2.65	0.49
34:b:983:A:H2'	34:b:984:A:C8	2.46	0.49
34:b:1021:A:H2'	34:b:1023:U:H5'	1.94	0.49
34:b:1024:G:C6	34:b:1025:G:C5	3.00	0.49
34:b:1074:G:C2	36:i:92:PRO:HD3	2.47	0.49
34:b:1208:C:N1	34:b:1239:G:N2	2.60	0.49
34:b:1218:G:C2	34:b:1219:U:C1'	2.95	0.49
34:b:1349:C:C6	34:b:1349:C:C4'	2.95	0.49
34:b:1629:U:C4	34:b:1630:A:C8	3.00	0.49
34:b:1810:A:C5	34:b:1811:G:H1'	2.47	0.49
34:b:1946:U:O2	34:b:1947:C:C6	2.65	0.49
34:b:2151:U:O2	34:b:2151:U:H2'	2.11	0.49
34:b:2294:G:C6	34:b:2295:C:C5	2.99	0.49
34:b:2331:G:C2	34:b:2332:C:N1	2.78	0.49
34:b:2776:A:C6	34:b:2782:G:H1'	2.46	0.49
34:b:2786:U:C2	34:b:2787:C:C5	3.01	0.49
34:b:2801:G:C2	34:b:2802:G:N9	2.81	0.49
36:i:72:THR:HB	36:i:112:LYS:NZ	2.26	0.49
41:h:116:ARG:HH21	41:h:130:VAL:C	2.19	0.49
48:p:113:ARG:O	48:p:115:ASN:N	2.45	0.49
53:u:73:PHE:O	53:u:75:ALA:N	2.45	0.49
56:z:4:GLN:HE21	56:z:4:GLN:C	2.20	0.49
1:A:374:A:H1'	1:A:451:A:OP2	2.13	0.49
1:A:588:G:O2'	1:A:589:U:O5'	2.28	0.49
4:D:98:ASP:OD1	4:D:99:ASN:N	2.45	0.49
7:G:73:GLU:OE1	7:G:94:ARG:NE	2.33	0.49
13:M:111:PRO:HD2	13:M:113:LYS:NZ	2.27	0.49
16:P:12:LYS:O	16:P:13:LYS:HB2	2.10	0.49
16:P:20:VAL:HG21	16:P:32:PHE:CB	2.41	0.49
22:V:64:A:C2	22:V:65:G:C8	3.00	0.49
23:W:37:G:H22	24:X:13:U:H3	1.60	0.49
33:a:46:A:C6	33:a:47:C:C4	3.00	0.49
34:b:201:C:N4	34:b:202:U:C4	2.80	0.49
34:b:254:G:H2'	34:b:254:G:N3	2.27	0.49
34:b:996:A:C6	34:b:997:G:N7	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1114:C:H2'	34:b:1115:G:C8	2.47	0.49
34:b:1131:G:C8	42:j:77:HIS:NE2	2.80	0.49
34:b:1216:G:N2	34:b:1234:U:C2	2.80	0.49
34:b:1791:A:C2	34:b:1829:A:C4'	2.87	0.49
34:b:1973:G:C4	34:b:1974:C:C6	3.00	0.49
34:b:2388:A:H2'	34:b:2389:G:O4'	2.12	0.49
34:b:2533:U:C2	34:b:2534:A:H1'	2.48	0.49
34:b:2692:G:N3	34:b:2847:U:O2'	2.45	0.49
34:b:2810:A:H2'	34:b:2811:G:O4'	2.11	0.49
1:A:598:U:H2'	1:A:599:C:C6	2.47	0.49
1:A:1030:U:H5'	1:A:1031:C:C5	2.47	0.49
2:B:71:THR:HG23	2:B:76:SER:HA	1.94	0.49
3:C:34:SER:OG	3:C:58:ARG:NH1	2.34	0.49
7:G:99:ALA:O	7:G:103:ILE:HG12	2.11	0.49
22:V:68:C:N3	22:V:69:G:N7	2.60	0.49
28:3:50:ARG:HG2	34:b:2884:U:O2	2.11	0.49
34:b:19:A:C6	34:b:20:C:C4	2.99	0.49
34:b:322:A:O4'	34:b:340:A:H1'	2.13	0.49
34:b:1183:U:O2	34:b:1184:U:C6	2.66	0.49
34:b:1593:A:C6	34:b:1594:U:C4	3.00	0.49
34:b:1686:C:C2	34:b:1687:G:C8	3.00	0.49
34:b:1923:U:H2'	34:b:1924:C:O4'	2.11	0.49
34:b:2148:G:H3'	34:b:2149:U:H4'	1.95	0.49
34:b:2204:G:C6	34:b:2205:A:N7	2.81	0.49
34:b:2543:G:C6	34:b:2544:G:C5	3.01	0.49
34:b:2583:G:H8	34:b:2583:G:O5'	1.95	0.49
34:b:2636:C:O2	34:b:2636:C:H2'	2.12	0.49
41:h:63:ALA:HB1	41:h:87:GLU:CA	2.43	0.49
1:A:189:A:H2'	1:A:190:A:O4'	2.13	0.49
1:A:297:G:N2	1:A:300:A:OP2	2.45	0.49
1:A:560:A:H61	5:E:94:PHE:HE2	1.61	0.49
1:A:667:G:H4'	15:O:50:HIS:HD2	1.78	0.49
1:A:1154:G:H2'	1:A:1155:A:H8	1.77	0.49
3:C:22:PHE:CZ	10:J:11:LYS:HG2	2.48	0.49
7:G:30:MET:HE2	7:G:35:LYS:HA	1.95	0.49
16:P:61:VAL:HA	16:P:65:ALA:H	1.76	0.49
19:S:24:SER:HB3	19:S:27:LYS:NZ	2.28	0.49
33:a:77:U:N3	33:a:78:A:C8	2.80	0.49
34:b:23:G:N1	34:b:24:G:C5	2.81	0.49
34:b:248:G:N7	34:b:250:G:C2	2.81	0.49
34:b:540:C:C2	34:b:541:A:C8	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:763:G:C6	34:b:765:C:C4	3.01	0.49
34:b:834:G:N1	34:b:835:C:C2	2.81	0.49
34:b:1062:G:O2'	36:i:82:ALA:HB3	2.12	0.49
34:b:1063:G:N2	36:i:88:GLY:O	2.45	0.49
34:b:1150:C:O2	34:b:1150:C:H2'	2.12	0.49
34:b:1327:A:H2'	34:b:1328:A:O4'	2.11	0.49
34:b:1387:A:H2'	34:b:1388:G:O4'	2.12	0.49
34:b:1515:A:C6	34:b:1516:G:H1'	2.46	0.49
34:b:1608:A:N7	34:b:1611:C:N4	2.60	0.49
34:b:1826:G:C5	34:b:1827:U:C5	3.00	0.49
34:b:2044:C:C2	34:b:2045:C:C6	3.01	0.49
34:b:2269:G:N2	34:b:2270:A:H1'	2.26	0.49
34:b:2466:C:N3	34:b:2467:C:C6	2.81	0.49
34:b:2676:C:N3	34:b:2677:G:C8	2.81	0.49
34:b:2691:C:C2	34:b:2692:G:C8	3.01	0.49
36:i:61:TYR:CD2	36:i:61:TYR:N	2.80	0.49
45:m:78:LEU:HD23	45:m:79:ALA:CB	2.41	0.49
1:A:381:C:H3'	1:A:382:A:C8	2.48	0.49
1:A:1129:C:N4	1:A:1143:G:H1	2.07	0.49
1:A:1234:C:H1'	1:A:1364:U:H6	1.76	0.49
1:A:1306:A:N6	1:A:1331:G:O2'	2.46	0.49
34:b:1063:G:H5'	36:i:80:LYS:HG3	1.94	0.49
34:b:1268:A:C2	34:b:1269:A:H1'	2.47	0.49
34:b:1623:G:N3	34:b:1623:G:H2'	2.27	0.49
34:b:2125:G:N7	34:b:2126:A:C2	2.80	0.49
34:b:2188:U:C2	34:b:2189:U:C6	3.01	0.49
34:b:2292:U:N3	34:b:2293:G:N7	2.60	0.49
34:b:2736:A:C6	34:b:2737:G:N7	2.81	0.49
34:b:2869:G:C6	34:b:2870:C:C4	3.01	0.49
35:c:162:VAL:HG12	35:c:174:LEU:HD22	1.93	0.49
36:i:90:GLY:O	36:i:92:PRO:HD3	2.12	0.49
1:A:186:C:O2'	20:T:76:ALA:HA	2.12	0.49
1:A:542:G:OP1	4:D:9:LYS:NZ	2.39	0.49
1:A:664:G:O2'	1:A:666:G:OP2	2.29	0.49
1:A:982:U:H5"	14:N:5:MET:HE2	1.94	0.49
1:A:1228:C:P	13:M:106:ARG:HH12	2.30	0.49
2:B:114:LYS:O	2:B:118:THR:HG23	2.12	0.49
13:M:89:ARG:O	13:M:93:GLY:N	2.41	0.49
28:3:3:VAL:HB	34:b:2015:A:H2	1.77	0.49
33:a:46:A:C2	33:a:47:C:C6	2.99	0.49
33:a:85:G:C2	33:a:86:G:N9	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:117:G:H2'	33:a:118:C:O4'	2.11	0.49
34:b:41:C:O2	34:b:41:C:H2'	2.12	0.49
34:b:100:U:O2'	34:b:101:A:P	2.71	0.49
34:b:116:C:O2	34:b:116:C:H2'	2.13	0.49
34:b:160:A:C2'	34:b:161:A:C8	2.96	0.49
34:b:277:G:N3	34:b:277:G:C2'	2.75	0.49
34:b:487:C:O2'	51:s:53:SER:HA	2.13	0.49
34:b:910:A:C5	45:m:13:HIS:CD2	3.00	0.49
34:b:976:G:H2'	34:b:977:G:O5'	2.13	0.49
34:b:1054:A:C2	34:b:1105:U:H5	2.21	0.49
34:b:1433:A:C4	34:b:1434:A:C2	3.00	0.49
34:b:1502:A:C6	34:b:1503:A:C8	3.01	0.49
34:b:1528:A:N7	34:b:1529:G:H1'	2.28	0.49
34:b:1555:G:N1	34:b:1556:C:C4	2.81	0.49
34:b:1571:A:H2'	34:b:1572:A:C8	2.47	0.49
34:b:1590:A:C6	34:b:1591:A:N7	2.80	0.49
34:b:2749:A:C8	34:b:2750:A:H2'	2.47	0.49
34:b:2839:G:C4	34:b:2840:C:C6	3.00	0.49
41:h:63:ALA:HB3	41:h:86:ASP:C	2.37	0.49
41:h:65:ALA:O	41:h:67:ALA:N	2.41	0.49
56:z:4:GLN:HE21	56:z:4:GLN:H	1.57	0.49
1:A:8:A:N6	4:D:205:LYS:HB2	2.28	0.49
1:A:109:A:H5'	1:A:110:C:C5	2.48	0.49
1:A:618:C:H42	1:A:623:C:H42	1.61	0.49
1:A:1138:G:H2'	1:A:1140:C:C2	2.48	0.49
6:F:2:ARG:NH1	6:F:68:GLN:HB2	2.28	0.49
13:M:18:LEU:O	13:M:21:ILE:HG12	2.13	0.49
22:V:28:G:C2	22:V:29:G:C4	3.01	0.49
23:W:1:C:N3	23:W:2:G:N1	2.61	0.49
33:a:61:G:C4	33:a:62:C:C5	3.00	0.49
34:b:23:G:N3	34:b:24:G:C8	2.80	0.49
34:b:54:G:C6	34:b:55:G:C8	3.01	0.49
34:b:588:U:C2	34:b:589:U:C5	3.00	0.49
34:b:687:C:O2	34:b:687:C:H2'	2.12	0.49
34:b:905:A:C6	34:b:906:U:C5	3.01	0.49
34:b:921:C:C2	34:b:922:C:C6	3.01	0.49
34:b:930:G:N2	34:b:933:A:C2	2.80	0.49
34:b:1025:G:C2	34:b:1135:C:C1'	2.95	0.49
34:b:1091:G:C2	34:b:1092:C:C2	3.01	0.49
34:b:1148:U:N3	34:b:1149:G:C8	2.81	0.49
34:b:1252:G:C4	34:b:1253:A:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1299:G:N2	34:b:1640:A:C8	2.81	0.49
34:b:1409:U:N3	34:b:1410:G:C8	2.81	0.49
34:b:1511:G:C2	34:b:1512:C:C2	3.01	0.49
34:b:1655:A:H2'	34:b:1655:A:N3	2.28	0.49
34:b:1687:G:C2	34:b:1688:U:C5	3.01	0.49
34:b:1907:G:C4	34:b:1908:C:C6	3.01	0.49
34:b:1956:U:H1'	34:b:2552:U:OP1	2.13	0.49
34:b:2295:C:N3	34:b:2296:U:C5	2.81	0.49
34:b:2330:G:N1	34:b:2331:G:N9	2.60	0.49
34:b:2367:G:C2	34:b:2368:C:C5	3.01	0.49
34:b:2574:G:O2'	37:d:148:GLN:HB3	2.12	0.49
34:b:2711:A:N6	34:b:2714:G:C8	2.81	0.49
36:i:21:PRO:HB2	36:i:22:PRO:HD3	1.94	0.49
38:e:60:TRP:HZ2	38:e:67:ARG:CD	2.25	0.49
41:h:71:LYS:HE3	41:h:144:VAL:HB	1.95	0.49
42:j:57:LEU:CD1	42:j:129:GLU:N	2.70	0.49
44:l:93:ASN:OD1	44:l:94:THR:N	2.45	0.49
53:u:5:ILE:CD1	53:u:67:VAL:HG13	2.41	0.49
1:A:269:C:H2'	1:A:270:A:C8	2.48	0.49
1:A:382:A:H2'	1:A:383:A:C8	2.47	0.49
1:A:465:A:H4'	1:A:466:A:C6	2.48	0.49
1:A:590:U:O2'	1:A:591:U:H5"	2.12	0.49
1:A:1054:C:C2	22:V:34:A:C1'	2.95	0.49
21:U:27:VAL:CB	21:U:31:VAL:HG11	2.43	0.49
22:V:67:C:C4	22:V:68:C:C5	3.01	0.49
34:b:116:C:O2'	34:b:126:A:H8	1.96	0.49
34:b:250:G:C4	34:b:251:A:C6	3.01	0.49
34:b:256:A:C6	34:b:257:C:C5	3.00	0.49
34:b:695:G:N2	34:b:696:G:H1'	2.27	0.49
34:b:845:A:H3'	34:b:845:A:C8	2.48	0.49
34:b:1075:C:O5'	36:i:92:PRO:HB2	2.11	0.49
34:b:1150:C:C2	34:b:1151:A:C8	3.00	0.49
34:b:1277:G:O4'	46:n:20:MET:HE2	2.13	0.49
34:b:1587:G:C2	34:b:1588:G:C8	3.01	0.49
34:b:1636:U:N3	34:b:1637:A:N7	2.60	0.49
34:b:1824:G:C6	34:b:1825:U:C4	3.01	0.49
34:b:2300:C:C2	34:b:2301:C:C5	3.01	0.49
34:b:2584:U:H5"	34:b:2585:U:OP2	2.12	0.49
36:i:32:VAL:HG22	36:i:66:PHE:CG	2.47	0.49
40:g:159:GLY:O	40:g:163:ARG:NH1	2.42	0.49
42:j:57:LEU:HD21	42:j:129:GLU:C	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:7:A:H5'	1:A:298:A:O4'	2.12	0.49
1:A:445:G:H2'	1:A:446:G:H8	1.78	0.49
1:A:1370:G:H5"	9:I:110:VAL:HG21	1.95	0.49
10:J:23:ALA:O	10:J:27:GLU:HG2	2.12	0.49
16:P:6:LEU:HG	16:P:17:TYR:HB3	1.94	0.49
19:S:25:GLY:N	19:S:27:LYS:NZ	2.60	0.49
19:S:35:ARG:NH2	19:S:71:GLY:O	2.46	0.49
33:a:112:G:C4	33:a:113:C:C5	3.01	0.49
34:b:184:C:N3	34:b:185:G:N7	2.61	0.49
34:b:290:U:O2	34:b:290:U:H2'	2.11	0.49
34:b:603:A:C8	34:b:603:A:H5"	2.48	0.49
34:b:780:G:N2	34:b:782:A:C4	2.81	0.49
34:b:847:U:C2	34:b:848:C:C6	3.01	0.49
34:b:1053:C:C6	34:b:1107:G:N2	2.81	0.49
34:b:1080:A:C5	36:i:110:GLN:N	2.80	0.49
34:b:1303:G:N3	34:b:1304:A:C8	2.80	0.49
34:b:1349:C:C4'	34:b:1349:C:H6	2.24	0.49
34:b:1503:A:C6	34:b:1504:A:C6	3.01	0.49
34:b:1719:G:H2'	34:b:1720:U:O4'	2.13	0.49
34:b:1759:A:O2'	34:b:2711:A:C2	2.59	0.49
34:b:2110:G:C2	34:b:2120:G:C8	3.01	0.49
34:b:2128:G:O6	34:b:2160:C:N3	2.45	0.49
34:b:2206:C:C4	34:b:2207:C:C5	3.01	0.49
34:b:2306:C:C2	34:b:2307:G:N2	2.80	0.49
34:b:2468:A:N6	34:b:2481:G:C6	2.81	0.49
34:b:2676:C:N3	34:b:2677:G:N7	2.61	0.49
34:b:2838:G:H2'	34:b:2838:G:N3	2.26	0.49
37:d:103:ASP:O	37:d:105:LYS:N	2.41	0.49
53:u:73:PHE:C	53:u:75:ALA:H	2.21	0.49
53:u:75:ALA:O	53:u:77:THR:N	2.45	0.49
56:z:18:TRP:CE3	56:z:18:TRP:HA	2.47	0.49
1:A:725:G:OP1	1:A:833:G:N2	2.44	0.48
1:A:1190:G:OP1	3:C:4:VAL:N	2.42	0.48
2:B:186:VAL:O	2:B:200:PRO:HA	2.13	0.48
10:J:84:VAL:HA	10:J:87:LEU:CB	2.43	0.48
34:b:225:C:N4	34:b:226:A:N7	2.61	0.48
34:b:268:C:O2	34:b:425:G:C2	2.66	0.48
34:b:374:A:C2	34:b:401:A:C5	3.01	0.48
34:b:532:A:N3	34:b:532:A:H2'	2.27	0.48
34:b:661:A:C2	34:b:662:G:C8	3.01	0.48
34:b:996:A:N1	34:b:997:G:C5	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1326:U:O2	34:b:1326:U:C2'	2.61	0.48
34:b:1336:A:C6	34:b:1337:G:C5	3.00	0.48
34:b:1669:A:N3	34:b:1669:A:H2'	2.28	0.48
34:b:1791:A:N1	34:b:1829:A:C5'	2.75	0.48
34:b:1936:A:O4'	34:b:1940:U:N3	2.46	0.48
34:b:1964:G:C4	34:b:1967:C:C5	3.01	0.48
34:b:1998:A:C5	34:b:1999:C:C5	3.00	0.48
1:A:460:A:O2'	1:A:461:A:H2'	2.13	0.48
1:A:573:A:H2'	1:A:574:A:C8	2.48	0.48
1:A:1054:C:O2	1:A:1196:A:N6	2.46	0.48
1:A:1527:U:OP2	21:U:38:GLU:HG3	2.12	0.48
4:D:58:GLN:O	4:D:62:ARG:HG2	2.13	0.48
5:E:155:LYS:HA	5:E:158:LYS:HB2	1.94	0.48
8:H:17:GLN:NE2	8:H:62:LEU:HD22	2.28	0.48
33:a:88:C:O2	33:a:88:C:H2'	2.12	0.48
34:b:77:G:C5	34:b:78:U:C5	3.01	0.48
34:b:274:C:H2'	34:b:275:C:C6	2.47	0.48
34:b:539:G:C5	34:b:540:C:C5	3.00	0.48
34:b:601:C:N3	34:b:602:A:C8	2.81	0.48
34:b:694:U:N3	34:b:695:G:C8	2.81	0.48
34:b:783:A:C6	34:b:785:G:H1'	2.48	0.48
34:b:910:A:N6	45:m:13:HIS:ND1	2.61	0.48
34:b:1062:G:OP1	36:i:108:ILE:HG23	2.13	0.48
34:b:1079:C:C4'	36:i:129:GLU:HG2	2.43	0.48
34:b:1176:U:H2'	34:b:1177:G:O4'	2.13	0.48
34:b:1217:U:N3	34:b:1218:G:C8	2.81	0.48
34:b:1232:G:N3	34:b:1233:C:C6	2.81	0.48
34:b:2106:U:O2	34:b:2107:G:N7	2.46	0.48
34:b:2184:A:N1	34:b:2185:U:C4	2.81	0.48
34:b:2197:U:C5	34:b:2224:G:C6	3.01	0.48
34:b:2323:G:O2'	34:b:2337:G:O2'	2.28	0.48
34:b:2386:A:C4	34:b:2387:U:C5	3.01	0.48
36:i:12:VAL:HG23	36:i:13:ALA:H	1.78	0.48
36:i:19:PRO:HG2	36:i:23:VAL:HG22	1.95	0.48
49:q:9:ILE:C	49:q:9:ILE:HD12	2.38	0.48
51:s:4:ILE:HG12	51:s:106:VAL:HG22	1.94	0.48
1:A:192:A:H8	1:A:192:A:OP2	1.95	0.48
1:A:719:C:H5"	1:A:720:C:OP2	2.13	0.48
2:B:182:VAL:HG12	2:B:184:ALA:H	1.77	0.48
33:a:106:G:H2'	33:a:107:G:C8	2.48	0.48
34:b:30:G:C5	34:b:31:C:C5	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:156:A:N1	34:b:157:C:C4	2.81	0.48
34:b:926:G:N2	34:b:927:A:C4	2.81	0.48
34:b:962:G:O6	34:b:963:U:C4	2.67	0.48
34:b:1061:U:O4	36:i:54:ILE:HA	2.14	0.48
34:b:1158:C:N3	34:b:1159:U:C5	2.81	0.48
34:b:1300:G:C6	34:b:1626:A:C6	3.01	0.48
34:b:1316:U:N3	34:b:1317:G:N7	2.61	0.48
34:b:1382:G:O4'	34:b:1382:G:N3	2.46	0.48
34:b:1475:G:H4'	34:b:1732:C:C4	2.47	0.48
34:b:1505:A:C2	34:b:1506:U:C2	3.01	0.48
34:b:1655:A:C2	34:b:1656:C:H1'	2.49	0.48
34:b:2347:C:N3	34:b:2348:U:C5	2.82	0.48
34:b:2364:C:C4	34:b:2365:G:C8	3.01	0.48
34:b:2396:G:C4	34:b:2397:G:C8	3.01	0.48
34:b:2591:C:C4	34:b:2592:G:N7	2.80	0.48
34:b:2898:U:C2	34:b:2899:A:C8	3.01	0.48
48:p:60:THR:HG23	48:p:73:VAL:HG12	1.96	0.48
1:A:932:C:H5'	7:G:3:ARG:HB2	1.96	0.48
3:C:149:LYS:NZ	3:C:200:TRP:NE1	2.62	0.48
9:I:111:GLU:O	9:I:112:ARG:CB	2.61	0.48
12:L:80:LEU:O	12:L:97:VAL:HG12	2.13	0.48
22:V:25:C:C4	22:V:26:A:C8	3.02	0.48
22:V:56:C:C2	22:V:57:G:C5	3.01	0.48
34:b:353:C:O2	34:b:354:A:H8	1.95	0.48
34:b:519:U:O2	34:b:519:U:H2'	2.12	0.48
34:b:521:U:O2	34:b:521:U:H2'	2.13	0.48
34:b:1079:C:O2'	36:i:129:GLU:CD	2.57	0.48
34:b:1086:A:O2'	34:b:1087:G:H5"	2.13	0.48
34:b:1151:A:C6	34:b:1152:C:C4	3.01	0.48
34:b:1152:C:O2	34:b:1153:C:C6	2.67	0.48
34:b:1173:U:O2'	34:b:1176:U:O4	2.27	0.48
34:b:1537:G:C6	34:b:1538:G:N9	2.82	0.48
34:b:1574:C:N3	34:b:1575:C:C5	2.82	0.48
34:b:1604:C:O2'	34:b:1610:A:N6	2.46	0.48
34:b:2013:A:C2	34:b:2014:A:H1'	2.48	0.48
34:b:2217:G:C6	34:b:2218:G:C8	3.02	0.48
34:b:2610:C:O2'	34:b:2611:C:O5'	2.32	0.48
43:k:38:ILE:HD11	43:k:112:PHE:CZ	2.48	0.48
44:l:95:LEU:HB3	44:l:100:ILE:HD11	1.95	0.48
50:r:7:SER:OG	50:r:22:LEU:HD13	2.13	0.48
54:w:6:ALA:HB1	54:w:40:ILE:HG23	1.90	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:72:PRO:O	3:C:76:ILE:HG22	2.14	0.48
9:I:94:ARG:HA	9:I:97:LEU:HD12	1.95	0.48
13:M:68:LEU:CD2	13:M:69:ARG:HH12	2.26	0.48
20:T:12:GLN:O	20:T:16:ALA:N	2.47	0.48
33:a:20:G:C2	33:a:21:G:C8	3.02	0.48
34:b:156:A:C4	34:b:157:C:C5	3.01	0.48
34:b:226:A:N6	34:b:227:A:C6	2.81	0.48
34:b:374:A:C2	34:b:401:A:C4	3.01	0.48
34:b:414:C:HO2'	34:b:1864:U:C2'	2.21	0.48
34:b:437:U:N3	34:b:438:G:C8	2.81	0.48
34:b:439:A:N1	34:b:440:C:C5	2.82	0.48
34:b:616:A:C6	34:b:617:G:C8	3.01	0.48
34:b:719:C:C2	34:b:720:U:C6	3.01	0.48
34:b:728:G:N2	34:b:730:A:H1'	2.27	0.48
34:b:834:G:H2'	34:b:835:C:O4'	2.14	0.48
34:b:938:G:C2	34:b:939:G:C8	3.01	0.48
34:b:1059:G:N7	36:i:109:ALA:HB1	2.26	0.48
34:b:1076:C:N1	36:i:137:LEU:HG	2.21	0.48
34:b:1120:G:C2	34:b:1121:C:N1	2.82	0.48
34:b:1142:A:N3	34:b:1144:A:C8	2.82	0.48
34:b:1530:G:C2	34:b:1531:C:C6	3.01	0.48
34:b:1595:C:C2	34:b:1596:A:H8	2.30	0.48
34:b:1759:A:C6	34:b:1760:C:C5	3.01	0.48
34:b:1759:A:N1	34:b:1760:C:C2	2.82	0.48
34:b:1792:G:H2'	34:b:1792:G:N3	2.28	0.48
34:b:1914:C:O2	34:b:1914:C:C2'	2.62	0.48
34:b:2590:A:N3	34:b:2591:C:C6	2.81	0.48
35:c:141:VAL:CG1	35:c:142:HIS:N	2.77	0.48
1:A:139:A:H2'	1:A:140:U:O4'	2.14	0.48
1:A:562:U:O2'	12:L:11:ARG:HD3	2.13	0.48
1:A:1430:A:H2'	1:A:1431:A:O4'	2.14	0.48
1:A:1441:A:H62	1:A:1461:G:N2	2.11	0.48
7:G:120:ALA:O	7:G:124:SER:OG	2.24	0.48
9:I:113:LYS:NZ	9:I:117:LEU:HD22	2.29	0.48
10:J:48:ARG:NH1	14:N:100:TRP:CG	2.80	0.48
22:V:25:C:O2	22:V:25:C:H2'	2.11	0.48
33:a:49:C:N3	33:a:50:A:N7	2.61	0.48
34:b:212:G:C2	34:b:213:A:C5	3.01	0.48
34:b:1064:C:O2	36:i:89:SER:O	2.28	0.48
34:b:1104:C:N4	34:b:1105:U:C6	2.82	0.48
34:b:1356:G:N2	34:b:1357:C:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1475:G:C1’	34:b:1732:C:H41	2.24	0.48
34:b:1635:A:C6	34:b:1636:U:C6	3.02	0.48
34:b:1685:C:C2	34:b:1686:C:C6	3.02	0.48
34:b:1703:G:C6	34:b:1704:C:C4	3.01	0.48
34:b:1722:A:N6	34:b:1738:G:H1’	2.29	0.48
34:b:1891:G:C5	34:b:1892:C:C6	3.02	0.48
34:b:2011:U:C4	34:b:2012:G:C5	3.02	0.48
34:b:2067:G:C2	34:b:2444:G:C2	3.02	0.48
34:b:2182:U:H2’	34:b:2183:A:C8	2.48	0.48
34:b:2183:A:H2’	34:b:2183:A:N3	2.28	0.48
34:b:2222:C:N3	34:b:2223:G:C8	2.81	0.48
34:b:2345:G:C5	34:b:2347:C:C5	3.01	0.48
34:b:2432:A:N3	34:b:2433:A:C8	2.81	0.48
34:b:2464:G:C5	34:b:2465:C:C5	3.01	0.48
34:b:2468:A:N3	34:b:2468:A:H2’	2.28	0.48
1:A:212:G:H8	1:A:212:G:OP2	1.96	0.48
1:A:580:C:H2’	1:A:581:G:O4’	2.14	0.48
1:A:975:A:O2’	14:N:71:GLY:HA2	2.12	0.48
1:A:1291:U:OP1	7:G:36:SER:OG	2.20	0.48
7:G:68:VAL:HG12	7:G:134:VAL:HG12	1.96	0.48
14:N:2:LYS:HE2	14:N:5:MET:HE3	1.95	0.48
22:V:33:U:HO2’	22:V:34:A:H2	0.53	0.48
25:0:67:VAL:O	25:0:71:LEU:HG	2.13	0.48
34:b:243:U:N3	34:b:244:A:N7	2.62	0.48
34:b:621:A:OP2	44:l:99:ASN:ND2	2.46	0.48
34:b:892:A:C8	34:b:893:C:C5	3.02	0.48
34:b:902:C:C2	34:b:903:C:C6	3.02	0.48
34:b:1011:G:OP2	49:q:66:ASN:ND2	2.44	0.48
34:b:1206:G:N1	34:b:1207:C:N4	2.62	0.48
34:b:1268:A:N3	34:b:1268:A:H2’	2.28	0.48
34:b:1336:A:C2	34:b:1337:G:N9	2.82	0.48
34:b:1401:G:H2’	34:b:1402:U:C6	2.49	0.48
34:b:1406:U:N3	34:b:1407:G:C8	2.81	0.48
34:b:1540:G:H2’	34:b:1541:C:O4’	2.13	0.48
34:b:1631:G:N2	34:b:1633:G:H3’	2.29	0.48
34:b:1740:G:C5	34:b:1741:C:C5	3.02	0.48
34:b:1923:U:O2	34:b:1924:C:C6	2.67	0.48
34:b:2154:A:C6	34:b:2155:U:C5	3.02	0.48
34:b:2160:C:H6	34:b:2161:C:C2’	2.26	0.48
34:b:2377:A:H2’	34:b:2378:A:C8	2.48	0.48
34:b:2467:C:H3’	34:b:2468:A:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2675:A:C6	34:b:2676:C:C5	3.01	0.48
37:d:85:ALA:O	37:d:87:GLY:N	2.47	0.48
1:A:93:U:H2'	1:A:95:C:C5	2.49	0.48
1:A:429:U:O2'	4:D:21:LYS:NZ	2.41	0.48
1:A:928:G:O2'	1:A:1533:C:H5'	2.14	0.48
1:A:1301:U:O2'	1:A:1302:C:O5'	2.30	0.48
1:A:1463:U:H2'	1:A:1464:U:C6	2.49	0.48
2:B:89:PHE:CZ	2:B:153:MET:HA	2.49	0.48
14:N:73:LEU:HB2	14:N:78:LEU:HB2	1.96	0.48
34:b:66:C:C2	34:b:67:U:C6	3.02	0.48
34:b:238:C:C2	34:b:260:G:C2	3.02	0.48
34:b:268:C:N3	34:b:425:G:C6	2.82	0.48
34:b:296:U:N3	34:b:297:G:N7	2.62	0.48
34:b:538:A:C2	34:b:539:G:H1'	2.49	0.48
34:b:1228:G:C2	34:b:1229:C:N1	2.82	0.48
34:b:1238:G:C2	34:b:1239:G:C1'	2.97	0.48
34:b:1945:G:C2	34:b:1946:U:C6	3.02	0.48
34:b:2623:G:C2	34:b:2624:G:C5	3.01	0.48
34:b:2714:G:C4	34:b:2715:C:C6	3.01	0.48
57:b:9000:CLM:CL2	57:b:9000:CLM:C7	2.98	0.48
47:o:18:LEU:CB	47:o:25:ARG:NH2	2.75	0.48
1:A:59:A:H5"	1:A:387:U:H4'	1.96	0.48
1:A:417:G:N2	1:A:427:U:O2	2.47	0.48
1:A:462:G:O2'	1:A:463:U:H5"	2.13	0.48
1:A:572:A:H4'	1:A:573:A:OP2	2.13	0.48
1:A:1322:C:P	19:S:77:ARG:HH12	2.37	0.48
13:M:85:TYR:OH	13:M:89:ARG:NE	2.42	0.48
20:T:54:GLN:HB3	20:T:55:PRO:HD3	1.95	0.48
24:X:12:C:P	24:X:12:C:C3'	3.01	0.48
27:2:48:ILE:HG21	27:2:57:VAL:HG21	1.95	0.48
28:3:10:ARG:NH1	34:b:516:C:P	2.87	0.48
34:b:42:A:C2	34:b:43:G:N9	2.82	0.48
34:b:199:A:H61	34:b:2433:A:H2'	1.78	0.48
34:b:269:C:H2'	34:b:269:C:O2	2.13	0.48
34:b:520:G:C2	34:b:521:U:C6	3.02	0.48
34:b:785:G:N3	34:b:785:G:H2'	2.28	0.48
34:b:925:A:N1	34:b:926:G:C5	2.81	0.48
34:b:957:C:N4	34:b:2459:A:C8	2.81	0.48
34:b:991:C:C6	34:b:1185:G:C4	3.02	0.48
34:b:1059:G:N3	36:i:109:ALA:HB3	2.26	0.48
34:b:1063:G:N1	36:i:88:GLY:C	2.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1068:G:O5'	36:i:12:VAL:HG11	2.07	0.48
34:b:1075:C:N3	36:i:135:MET:HA	2.28	0.48
34:b:1079:C:H5'	36:i:129:GLU:HG2	1.96	0.48
34:b:1343:G:H1'	34:b:1597:A:C4	2.49	0.48
34:b:1343:G:N3	34:b:1343:G:H2'	2.29	0.48
34:b:1688:U:H2'	34:b:1698:A:H61	1.79	0.48
34:b:2040:G:C6	34:b:2041:U:C4	3.02	0.48
43:k:99:ILE:HD13	43:k:118:LEU:HB2	1.96	0.48
1:A:559:A:H4'	1:A:560:A:H3'	1.94	0.48
1:A:877:G:H2'	1:A:878:A:H8	1.79	0.48
2:B:166:ASP:HA	2:B:190:SER:OG	2.14	0.48
3:C:146:LYS:HB3	3:C:202:PHE:HD2	1.79	0.48
11:K:51:PHE:CD1	11:K:55:ARG:NH1	2.81	0.48
16:P:42:ILE:HG22	16:P:43:ALA:N	2.28	0.48
25:0:61:LYS:NZ	34:b:371:A:N3	2.60	0.48
34:b:65:U:N3	34:b:66:C:C5	2.82	0.48
34:b:168:G:C5	34:b:169:G:C8	3.02	0.48
34:b:200:U:C5	34:b:201:C:C5	3.02	0.48
34:b:299:A:N6	34:b:339:U:H3	2.12	0.48
34:b:306:U:O2'	34:b:1211:C:N4	2.46	0.48
34:b:327:G:N2	34:b:336:C:C2	2.82	0.48
34:b:388:G:N7	34:b:390:U:C4	2.77	0.48
34:b:757:G:H2'	34:b:757:G:N3	2.29	0.48
34:b:826:U:O2'	44:l:53:GLY:HA3	2.13	0.48
34:b:926:G:N2	34:b:927:A:C5	2.82	0.48
34:b:1050:A:H1'	34:b:2751:G:N2	2.29	0.48
34:b:1073:A:C4	34:b:1074:G:C8	3.02	0.48
34:b:1080:A:C8	36:i:106:GLN:CA	2.97	0.48
34:b:1090:A:H3'	34:b:1090:A:OP2	2.14	0.48
34:b:1400:U:O2'	34:b:1401:G:H5'	2.14	0.48
34:b:1515:A:C5	34:b:1516:G:C1'	2.93	0.48
34:b:1560:G:C6	34:b:1561:C:C4	3.01	0.48
34:b:2024:G:N3	34:b:2025:C:C6	2.82	0.48
34:b:2214:C:C5	34:b:2215:C:C6	3.01	0.48
34:b:2266:A:H4'	34:b:2267:A:C8	2.49	0.48
34:b:2710:C:C4	34:b:2711:A:N7	2.82	0.48
34:b:2838:G:C5	34:b:2839:G:N7	2.82	0.48
36:i:91:LYS:O	36:i:97:VAL:HG21	2.14	0.48
39:f:35:THR:HG23	39:f:35:THR:O	2.12	0.48
41:h:40:THR:CG2	41:h:42:LYS:HZ3	2.20	0.48
42:j:110:PRO:O	42:j:115:GLY:HA3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:13:SER:OG	51:s:16:LYS:HD2	2.12	0.48
56:z:10:GLU:C	56:z:12:LEU:HD12	2.39	0.48
1:A:6:G:H2'	1:A:6:G:OP2	2.14	0.47
1:A:80:A:N7	1:A:87:C:N4	2.62	0.47
1:A:256:U:H5'	1:A:257:G:OP2	2.13	0.47
1:A:831:A:H2'	1:A:832:G:O4'	2.14	0.47
1:A:1348:U:P	9:I:111:GLU:OE2	2.69	0.47
1:A:1516:G:N2	1:A:1519:A:OP2	2.35	0.47
4:D:94:GLU:OE2	4:D:190:LEU:HD11	2.13	0.47
9:I:47:VAL:O	9:I:50:PRO:HD2	2.14	0.47
22:V:36:G:H2'	22:V:37:A:C8	2.49	0.47
33:a:20:G:N2	33:a:21:G:H1'	2.29	0.47
33:a:42:C:C5	39:f:66:LEU:HD13	2.49	0.47
34:b:201:C:C2	34:b:202:U:C6	3.02	0.47
34:b:363:G:C2	34:b:364:C:C2	3.01	0.47
34:b:380:G:C2	34:b:381:G:N9	2.82	0.47
34:b:558:U:O2	34:b:558:U:O4'	2.29	0.47
34:b:584:C:C2	34:b:585:G:C8	3.02	0.47
34:b:662:G:C2	34:b:663:G:N9	2.81	0.47
34:b:721:A:C2	34:b:722:A:C5	3.01	0.47
34:b:929:U:N3	34:b:930:G:N7	2.61	0.47
34:b:1218:G:C5	34:b:1219:U:C5	3.02	0.47
34:b:1416:G:N1	34:b:1417:C:C4	2.82	0.47
34:b:1810:A:C8	34:b:1811:G:C1'	2.97	0.47
34:b:2024:G:H2'	34:b:2025:C:C6	2.48	0.47
34:b:2040:G:C5	34:b:2041:U:C5	3.02	0.47
34:b:2214:C:C5	34:b:2215:C:C5	3.02	0.47
34:b:2353:G:C6	34:b:2354:C:C4	3.01	0.47
34:b:2408:U:C2	34:b:2409:G:C8	3.01	0.47
34:b:2804:U:C2	34:b:2805:C:C6	3.01	0.47
34:b:2869:G:H2'	34:b:2870:C:H6	1.78	0.47
34:b:2881:U:C2	34:b:2882:A:C8	3.02	0.47
47:o:25:ARG:HD2	47:o:93:ASP:HB2	1.95	0.47
1:A:86:G:N2	1:A:87:C:O2	2.48	0.47
1:A:299:G:N2	1:A:565:U:O2	2.47	0.47
1:A:321:A:HO2'	1:A:1435:G:HO2'	1.58	0.47
1:A:374:A:C2	16:P:17:TYR:OH	2.65	0.47
1:A:1117:A:H4'	1:A:1118:U:OP2	2.13	0.47
2:B:71:THR:OG1	2:B:92:ASN:HA	2.14	0.47
34:b:26:G:C2'	34:b:27:G:O4'	2.62	0.47
34:b:77:G:C8	34:b:110:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:353:C:C2	34:b:354:A:C8	3.02	0.47
34:b:377:G:C4	34:b:378:C:C6	3.02	0.47
34:b:387:U:O4'	34:b:388:G:O4'	2.32	0.47
34:b:763:G:C2	34:b:765:C:C2	3.02	0.47
34:b:950:G:C4	34:b:951:C:C6	3.02	0.47
34:b:956:G:O6	45:m:14:LYS:NZ	2.40	0.47
34:b:1069:A:C5	34:b:1073:A:N7	2.82	0.47
34:b:1080:A:N7	36:i:110:GLN:HB2	2.29	0.47
34:b:1150:C:N3	34:b:1151:A:N7	2.62	0.47
34:b:1173:U:C4	34:b:1178:C:N4	2.82	0.47
34:b:1398:C:O2	34:b:1398:C:C2'	2.62	0.47
34:b:1445:G:C4	34:b:1446:C:C5	3.02	0.47
34:b:1684:G:C2	34:b:1685:C:C2	3.02	0.47
34:b:2220:U:C2	34:b:2221:G:C8	3.03	0.47
34:b:2291:U:H2'	34:b:2292:U:H6	1.74	0.47
34:b:2498:C:C2	34:b:2499:C:C5	3.02	0.47
36:i:85:ILE:HD13	36:i:88:GLY:HA2	1.96	0.47
36:i:100:ILE:HG22	36:i:101:SER:N	2.23	0.47
52:t:16:VAL:O	52:t:17:SER:HB3	2.13	0.47
1:A:137:U:O4'	16:P:64:GLY:HA3	2.15	0.47
1:A:407:U:H2'	1:A:408:A:C8	2.49	0.47
1:A:1195:C:H5"	1:A:1196:A:OP2	2.14	0.47
1:A:1271:A:H2'	1:A:1272:G:C8	2.48	0.47
1:A:1358:U:OP1	14:N:74:ARG:N	2.47	0.47
4:D:112:GLU:OE2	4:D:153:ARG:NE	2.48	0.47
6:F:10:VAL:HG11	6:F:18:VAL:HG22	1.96	0.47
8:H:76:ARG:HG3	8:H:126:CYS:HB3	1.96	0.47
19:S:10:ILE:HG21	19:S:15:LEU:HD22	1.96	0.47
33:a:45:A:H1'	39:f:92:ARG:NH2	2.30	0.47
33:a:46:A:C6	33:a:47:C:C6	3.02	0.47
33:a:113:C:H1'	47:o:45:SER:O	2.14	0.47
34:b:77:G:N3	34:b:78:U:C6	2.81	0.47
34:b:158:U:H2'	34:b:159:G:C8	2.49	0.47
34:b:464:U:C5	34:b:788:A:C5	3.02	0.47
34:b:850:U:O2	34:b:850:U:H2'	2.15	0.47
34:b:877:A:O2'	34:b:878:A:P	2.71	0.47
34:b:938:G:N2	34:b:939:G:C4	2.83	0.47
34:b:1070:A:O5'	34:b:1070:A:C2	2.67	0.47
34:b:1374:G:C6	34:b:1375:U:C4	3.02	0.47
34:b:1421:G:C2	34:b:1422:G:C8	3.01	0.47
34:b:1478:G:O6	34:b:1514:G:N3	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1486:U:C2	34:b:1487:U:C6	3.02	0.47
34:b:1598:A:H2'	34:b:1598:A:N3	2.30	0.47
34:b:1824:G:C6	34:b:1825:U:C5	3.03	0.47
34:b:1829:A:C8	34:b:1830:C:C6	3.02	0.47
34:b:1928:A:H2'	34:b:1929:G:C1'	2.42	0.47
34:b:2159:G:H3'	34:b:2160:C:C5'	2.44	0.47
34:b:2287:A:C6	34:b:2289:G:C5	3.02	0.47
34:b:2338:C:C2	34:b:2339:C:C5	3.03	0.47
34:b:2415:G:C4	34:b:2416:C:C5	3.02	0.47
34:b:2467:C:C4	34:b:2468:A:C4	3.02	0.47
34:b:2859:G:H2'	34:b:2860:A:C8	2.50	0.47
45:m:40:ARG:CG	45:m:95:LEU:CD2	2.88	0.47
1:A:59:A:OP1	1:A:387:U:H5'	2.14	0.47
1:A:264:C:H4'	17:Q:64:ARG:NH2	2.28	0.47
1:A:408:A:H5"	4:D:7:LYS:HZ1	1.78	0.47
1:A:677:U:H3	1:A:713:G:H22	1.62	0.47
1:A:1258:G:O6	1:A:1277:C:N4	2.47	0.47
8:H:9:MET:HG3	8:H:26:MET:HE1	1.96	0.47
9:I:29:ILE:HG12	9:I:30:ASN:HD22	1.80	0.47
14:N:25:GLU:HB3	14:N:30:ILE:H	1.79	0.47
21:U:23:GLU:O	21:U:24:LYS:HB3	2.14	0.47
33:a:85:G:N1	33:a:86:G:C5	2.82	0.47
34:b:13:A:O2'	34:b:15:G:N7	2.46	0.47
34:b:43:G:C6	34:b:44:A:C6	3.03	0.47
34:b:196:A:C2	44:l:50:PHE:HZ	2.32	0.47
34:b:251:A:H2'	34:b:252:G:C4'	2.45	0.47
34:b:253:C:C5	34:b:254:G:C8	3.02	0.47
34:b:617:G:N2	34:b:618:G:C4	2.83	0.47
34:b:704:G:O2'	34:b:727:A:N6	2.47	0.47
34:b:755:U:H2'	34:b:756:A:O4'	2.13	0.47
34:b:925:A:C2	34:b:926:G:N9	2.82	0.47
34:b:1053:C:N1	34:b:1107:G:N2	2.63	0.47
34:b:1157:G:C2	34:b:1158:C:C6	3.02	0.47
34:b:1332:G:C6	34:b:1609:A:C5	3.02	0.47
34:b:1348:C:C4	34:b:1349:C:C6	3.02	0.47
34:b:1350:C:N4	34:b:1351:C:C5	2.83	0.47
34:b:1374:G:C5	34:b:1375:U:C5	3.03	0.47
34:b:1487:U:C2	34:b:1488:C:C6	3.02	0.47
34:b:1494:A:C2	34:b:1495:A:N7	2.82	0.47
34:b:1663:G:N1	34:b:1992:G:C5	2.82	0.47
34:b:2544:G:N3	34:b:2545:G:C8	2.81	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:m:78:LEU:HD23	45:m:79:ALA:HB2	1.96	0.47
1:A:1376:U:H2'	1:A:1377:A:C8	2.50	0.47
1:A:1436:U:H2'	1:A:1437:A:C8	2.50	0.47
3:C:11:LEU:HD13	3:C:17:TRP:NE1	2.30	0.47
4:D:131:ILE:HG22	4:D:133:SER:N	2.28	0.47
12:L:17:LYS:NZ	12:L:19:ASN:ND2	2.62	0.47
22:V:30:G:C6	22:V:40:C:N4	2.83	0.47
22:V:73:A:C2'	22:V:74:C:OP2	2.61	0.47
34:b:121:G:C2	34:b:122:G:C8	3.03	0.47
34:b:171:U:O2	34:b:172:A:H8	1.93	0.47
34:b:222:A:H1'	34:b:224:U:O4'	2.14	0.47
34:b:226:A:C2	34:b:227:A:C4	3.03	0.47
34:b:593:U:N3	34:b:594:U:C5	2.83	0.47
34:b:650:C:O2	34:b:650:C:H2'	2.13	0.47
34:b:689:A:N3	34:b:779:U:O2'	2.47	0.47
34:b:763:G:N3	34:b:765:C:H1'	2.28	0.47
34:b:785:G:C5	34:b:786:C:C5	3.01	0.47
34:b:875:G:H3'	34:b:876:C:H5"	1.95	0.47
34:b:929:U:N3	34:b:930:G:C8	2.83	0.47
34:b:949:G:C6	34:b:950:G:N7	2.82	0.47
34:b:1313:U:H3'	34:b:1314:C:C5'	2.44	0.47
34:b:1456:G:H2'	34:b:1457:U:O4'	2.14	0.47
34:b:1577:C:H2'	34:b:1578:U:C1'	2.44	0.47
34:b:1662:U:O2	34:b:1662:U:H2'	2.14	0.47
34:b:1868:C:O2'	34:b:1869:G:C5'	2.63	0.47
34:b:2133:G:N2	34:b:2160:C:P	2.88	0.47
34:b:2341:G:C4	34:b:2342:C:C6	3.01	0.47
34:b:2366:A:C5	34:b:2367:G:C8	3.02	0.47
34:b:2395:C:H2'	34:b:2396:G:O4'	2.14	0.47
34:b:2407:A:C2	34:b:2408:U:C6	3.02	0.47
34:b:2517:C:C5	34:b:2542:A:C8	3.02	0.47
38:e:41:GLN:O	38:e:43:THR:N	2.40	0.47
43:k:107:LEU:O	43:k:109:SER:N	2.48	0.47
1:A:789:U:H2'	1:A:791:G:OP2	2.14	0.47
1:A:1414:U:H2'	1:A:1415:G:H8	1.79	0.47
4:D:97:LEU:HA	4:D:100:VAL:HG22	1.97	0.47
22:V:10:G:H2'	22:V:10:G:N3	2.30	0.47
33:a:14:U:O2	33:a:14:U:C2'	2.63	0.47
33:a:99:A:C6	33:a:100:G:C5	3.03	0.47
34:b:7:G:C6	34:b:8:C:C4	3.02	0.47
34:b:115:C:C2	34:b:116:C:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:242:G:N3	34:b:254:G:C6	2.83	0.47
34:b:251:A:H2'	34:b:252:G:O4'	2.15	0.47
34:b:780:G:C4	34:b:782:A:N6	2.82	0.47
34:b:783:A:C6	34:b:785:G:C4	3.03	0.47
34:b:936:A:N1	34:b:937:C:C4	2.82	0.47
34:b:1053:C:C2	34:b:1107:G:C2	3.02	0.47
34:b:1075:C:O2	36:i:135:MET:O	2.32	0.47
34:b:1164:C:N3	34:b:1165:A:C8	2.83	0.47
34:b:1759:A:N6	34:b:1760:C:C4	2.83	0.47
34:b:1773:A:C2	34:b:1829:A:N3	2.83	0.47
34:b:1826:G:C6	34:b:1827:U:C4	3.03	0.47
34:b:2367:G:C2	34:b:2368:C:C6	3.02	0.47
34:b:2418:A:C2	34:b:2419:U:H1'	2.50	0.47
34:b:2536:G:C2	34:b:2537:U:C2	3.03	0.47
36:i:56:VAL:HG22	36:i:57:VAL:N	2.29	0.47
38:e:60:TRP:CZ2	38:e:67:ARG:CD	2.93	0.47
1:A:516:U:H5"	1:A:517:G:OP2	2.14	0.47
1:A:520:A:OP1	12:L:48:LEU:HB2	2.13	0.47
1:A:570:G:O6	1:A:865:A:N6	2.47	0.47
1:A:649:A:H2'	1:A:650:G:O4'	2.14	0.47
1:A:1347:G:O2'	1:A:1373:G:O6	2.24	0.47
3:C:24:ASN:HD21	10:J:11:LYS:HZ2	1.62	0.47
4:D:181:PHE:CZ	4:D:185:PRO:HD3	2.49	0.47
5:E:73:VAL:HG21	5:E:143:LEU:HG	1.96	0.47
7:G:24:LYS:HB3	7:G:100:MET:HE1	1.95	0.47
16:P:67:ILE:HG13	16:P:71:VAL:HG12	1.97	0.47
22:V:29:G:C2	22:V:42:C:C2	3.02	0.47
33:a:34:A:C5	33:a:44:G:N7	2.83	0.47
34:b:40:U:N3	34:b:41:C:C6	2.83	0.47
34:b:54:G:C2	34:b:55:G:H1'	2.50	0.47
34:b:172:A:C2	34:b:173:A:C4	3.03	0.47
34:b:299:A:C5	34:b:322:A:C2	3.03	0.47
34:b:425:G:C6	34:b:426:C:N4	2.83	0.47
34:b:445:C:H4'	34:b:1248:G:O6	2.14	0.47
34:b:465:G:H2'	34:b:466:A:N7	2.29	0.47
34:b:493:G:H2'	34:b:494:G:O4'	2.15	0.47
34:b:675:A:H2'	34:b:676:A:C8	2.50	0.47
34:b:928:A:N3	34:b:929:U:C6	2.83	0.47
34:b:1019:U:C2	34:b:1142:A:N6	2.82	0.47
34:b:1061:U:O3'	36:i:75:ALA:CA	2.63	0.47
34:b:1079:C:HO2'	36:i:129:GLU:CD	2.19	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1183:U:N3	34:b:1184:U:C5	2.82	0.47
34:b:1373:A:O4'	34:b:2212:A:C8	2.68	0.47
34:b:1511:G:C6	34:b:1512:C:N4	2.83	0.47
34:b:1550:C:C2	34:b:1551:A:C8	3.03	0.47
34:b:1560:G:H2'	34:b:1560:G:N3	2.29	0.47
34:b:1824:G:O2'	35:c:252:THR:HG21	2.15	0.47
34:b:1853:A:C6	34:b:1854:A:C6	3.03	0.47
34:b:1893:C:C5	34:b:1894:C:C6	3.02	0.47
34:b:1932:A:H2'	34:b:1933:G:O4'	2.14	0.47
34:b:1996:C:H4'	34:b:1997:C:OP1	2.15	0.47
34:b:2020:A:C6	34:b:2022:U:C5	3.01	0.47
34:b:2067:G:O2'	34:b:2069:G:H5"	2.15	0.47
34:b:2125:G:C8	34:b:2126:A:H2	2.26	0.47
34:b:2159:G:H2'	34:b:2160:C:O5'	2.15	0.47
34:b:2227:A:C6	34:b:2228:G:C4	3.03	0.47
34:b:2469:A:N1	34:b:2470:G:H1'	2.28	0.47
34:b:2533:U:N3	34:b:2534:A:H1'	2.30	0.47
34:b:2589:A:C5	34:b:2590:A:C8	3.02	0.47
34:b:2699:C:N3	34:b:2700:A:N7	2.63	0.47
34:b:2885:G:C8	34:b:2886:A:O4'	2.68	0.47
34:b:2887:A:C2	34:b:2888:C:N1	2.82	0.47
38:e:59:PRO:HB2	38:e:60:TRP:CZ3	2.49	0.47
41:h:78:VAL:HG13	41:h:106:ALA:HB1	1.97	0.47
56:z:4:GLN:C	56:z:4:GLN:NE2	2.73	0.47
1:A:292:G:H21	1:A:609:A:H2	1.62	0.47
1:A:375:U:OP2	1:A:375:U:H6	1.98	0.47
1:A:1154:G:H2'	1:A:1155:A:C8	2.50	0.47
22:V:75:C:H6	22:V:75:C:H3'	1.79	0.47
33:a:47:C:O2	33:a:48:U:H6	1.98	0.47
33:a:111:U:O2	33:a:112:G:C8	2.68	0.47
34:b:214:G:C2	34:b:215:G:N1	2.83	0.47
34:b:595:C:O2	34:b:595:C:H2'	2.15	0.47
34:b:734:A:N6	34:b:735:A:C5	2.82	0.47
34:b:1028:A:H2'	34:b:1029:A:C8	2.50	0.47
34:b:1064:C:N3	36:i:89:SER:N	2.61	0.47
34:b:1152:C:N3	34:b:1153:C:C5	2.83	0.47
34:b:1244:A:C2	34:b:1245:G:C8	3.03	0.47
34:b:1296:G:N3	34:b:1297:C:C6	2.83	0.47
34:b:1306:C:C2	34:b:1623:G:C2	3.03	0.47
34:b:1320:C:N3	34:b:1333:G:C2	2.82	0.47
34:b:1328:A:H2'	34:b:1330:C:C5	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1416:G:C2	34:b:1417:C:C2	3.03	0.47
34:b:1721:G:C6	34:b:1738:G:N1	2.82	0.47
34:b:2155:U:C2	34:b:2156:G:C8	3.02	0.47
34:b:2231:U:N3	34:b:2232:C:C6	2.83	0.47
34:b:2270:A:C2	34:b:2271:G:H1'	2.50	0.47
34:b:2527:C:C4	34:b:2528:U:C6	3.02	0.47
34:b:2535:G:N1	34:b:2536:G:C8	2.82	0.47
34:b:2557:G:N3	34:b:2558:C:C6	2.83	0.47
34:b:2828:G:N1	34:b:2829:A:C5	2.83	0.47
36:i:40:ALA:HB3	36:i:68:PHE:CE1	2.50	0.47
38:e:52:VAL:HG21	38:e:81:GLY:CA	2.43	0.47
41:h:40:THR:HG1	41:h:42:LYS:CD	2.04	0.47
45:m:40:ARG:HE	45:m:95:LEU:CD2	2.28	0.47
1:A:129:A:H8	1:A:129:A:OP2	1.98	0.47
1:A:205:A:P	1:A:205:A:H8	2.38	0.47
1:A:586:C:H2'	1:A:587:G:H5"	1.97	0.47
1:A:1070:U:O2	1:A:1106:G:N2	2.48	0.47
1:A:1175:G:H2'	1:A:1176:A:C8	2.49	0.47
1:A:1409:C:O4'	34:b:1912:A:C2	2.68	0.47
1:A:1441:A:N6	1:A:1462:C:H1'	2.23	0.47
1:A:1492:A:H8	24:X:18:C:HO2'	1.62	0.47
7:G:132:THR:HA	7:G:135:LYS:HG2	1.97	0.47
18:R:41:SER:OG	18:R:51:GLN:OE1	2.31	0.47
21:U:14:ALA:H	21:U:16:ARG:HH22	1.62	0.47
23:W:21:A:N6	23:W:22:G:O6	2.47	0.47
33:a:34:A:N1	33:a:44:G:C5	2.83	0.47
34:b:170:U:N3	34:b:171:U:C6	2.83	0.47
34:b:603:A:H2	34:b:626:A:O4'	1.98	0.47
34:b:822:G:N3	34:b:823:C:C5	2.83	0.47
34:b:967:U:N3	34:b:968:C:H5	2.07	0.47
34:b:973:A:O4'	34:b:1188:U:C6	2.68	0.47
34:b:1416:G:C5	34:b:1417:C:C5	3.02	0.47
34:b:1433:A:H2'	34:b:1434:A:N3	2.30	0.47
34:b:1538:G:C2	34:b:1539:U:C6	3.03	0.47
34:b:1774:C:C4	34:b:1775:U:C5	3.03	0.47
34:b:1809:A:H2'	34:b:1810:A:C8	2.50	0.47
34:b:1842:G:C5	34:b:1843:C:C5	3.03	0.47
34:b:2309:A:H2	34:b:2310:C:C6	2.28	0.47
34:b:2341:G:C2	34:b:2342:C:C2	3.03	0.47
34:b:2364:C:H2'	34:b:2365:G:O4'	2.15	0.47
34:b:2649:C:C2	34:b:2650:U:C5	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2713:U:O2'	34:b:2715:C:OP2	2.28	0.47
36:i:18:ASN:ND2	36:i:38:CYS:HB3	2.29	0.47
40:g:24:ILE:CD1	40:g:72:LEU:HD21	2.45	0.47
41:h:43:ASN:O	41:h:45:GLU:N	2.48	0.47
52:t:1:MET:HG3	52:t:2:ILE:HG13	1.96	0.47
1:A:8:A:H62	4:D:205:LYS:HB2	1.80	0.47
1:A:71:A:H5"	1:A:72:A:OP2	2.15	0.47
1:A:149:A:H5'	1:A:1446:A:H1'	1.97	0.47
1:A:211:G:H3'	1:A:211:G:N3	2.30	0.47
1:A:484:G:H1'	1:A:485:U:OP2	2.15	0.47
1:A:1351:U:H2'	1:A:1352:C:C6	2.50	0.47
2:B:202:ASN:ND2	2:B:205:ALA:H	2.10	0.47
4:D:169:TRP:CZ3	4:D:189:ASP:HB3	2.49	0.47
34:b:22:C:O2	34:b:23:G:C8	2.68	0.47
34:b:212:G:N2	34:b:213:A:C5	2.83	0.47
34:b:279:A:H2'	34:b:279:A:N3	2.29	0.47
34:b:417:C:C2	34:b:418:C:C5	3.03	0.47
34:b:465:G:O2'	34:b:466:A:O5'	2.31	0.47
34:b:534:U:C2	34:b:535:G:C8	3.03	0.47
34:b:593:U:O2	34:b:594:U:C6	2.68	0.47
34:b:729:G:C2	34:b:1775:U:H1'	2.50	0.47
34:b:729:G:N2	35:c:11:PRO:O	2.48	0.47
34:b:1037:G:O2'	34:b:1038:G:C5'	2.63	0.47
34:b:1055:G:N2	34:b:1104:C:N3	2.63	0.47
34:b:1357:C:O2	34:b:1357:C:H2'	2.13	0.47
34:b:1681:G:H21	34:b:1762:A:H3'	1.79	0.47
34:b:2340:A:C2	34:b:2341:G:C6	3.03	0.47
34:b:2516:A:H2'	34:b:2517:C:O4'	2.15	0.47
34:b:2536:G:C2	34:b:2537:U:N1	2.83	0.47
34:b:2562:U:N3	34:b:2563:U:C5	2.83	0.47
34:b:2666:C:C4	34:b:2667:C:C6	3.03	0.47
34:b:2858:C:H2'	34:b:2859:G:C8	2.50	0.47
44:l:77:ILE:O	44:l:110:VAL:O	2.33	0.47
1:A:6:G:H22	5:E:99:SER:HB2	1.79	0.46
1:A:64:G:H4'	1:A:65:A:H5"	1.97	0.46
1:A:280:C:O2'	17:Q:39:ARG:NH1	2.48	0.46
1:A:373:A:N3	1:A:373:A:H2'	2.30	0.46
1:A:445:G:H2'	1:A:446:G:C8	2.50	0.46
1:A:672:U:O2'	6:F:86:ARG:NH1	2.47	0.46
1:A:769:G:H4'	1:A:1513:A:H4'	1.97	0.46
1:A:952:U:H2'	1:A:953:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1242:G:H1	1:A:1295:U:H3	1.62	0.46
1:A:1265:C:H2'	1:A:1266:G:C8	2.48	0.46
1:A:1332:A:HO2'	1:A:1333:A:P	2.38	0.46
1:A:1494:G:N2	34:b:1919:A:C2	2.58	0.46
2:B:202:ASN:HD22	2:B:205:ALA:HB3	1.79	0.46
4:D:182:LYS:HZ3	4:D:183:ARG:HH12	1.61	0.46
10:J:14:ASP:HB3	10:J:17:LEU:HB3	1.97	0.46
11:K:109:ILE:HG22	21:U:19:LYS:HE2	1.97	0.46
22:V:3:C:N3	22:V:4:C:C5	2.82	0.46
33:a:48:U:O2	33:a:49:C:C6	2.68	0.46
34:b:263:G:O6	34:b:264:C:C4	2.68	0.46
34:b:279:A:H62	34:b:361:G:H1'	1.80	0.46
34:b:376:G:N3	34:b:377:G:C8	2.83	0.46
34:b:449:A:H2'	34:b:450:G:O4'	2.15	0.46
34:b:464:U:H2'	34:b:465:G:O5'	2.16	0.46
34:b:974:G:C5	34:b:989:G:N1	2.83	0.46
34:b:1071:G:N1	34:b:1089:A:C2'	2.74	0.46
34:b:1078:U:OP1	36:i:99:LYS:CB	2.63	0.46
34:b:1225:G:O2'	34:b:1226:A:O5'	2.33	0.46
34:b:1233:C:N3	34:b:1234:U:C5	2.82	0.46
34:b:1244:A:C6	34:b:1245:G:N7	2.83	0.46
34:b:1442:U:N3	34:b:1443:U:C5	2.83	0.46
34:b:1500:G:N2	34:b:1501:G:C1'	2.66	0.46
34:b:1631:G:H22	34:b:1633:G:H3'	1.80	0.46
34:b:1703:G:C6	34:b:1704:C:N4	2.83	0.46
34:b:2075:U:OP2	34:b:2238:G:O2'	2.32	0.46
34:b:2185:U:C2	34:b:2186:G:N7	2.80	0.46
34:b:2306:C:C4	34:b:2307:G:C2	3.03	0.46
34:b:2673:G:C2	34:b:2674:G:C8	3.02	0.46
34:b:2733:A:C6	34:b:2734:A:C8	3.03	0.46
34:b:2744:G:N2	34:b:2745:C:C2	2.83	0.46
56:z:15:THR:O	56:z:18:TRP:CE3	2.69	0.46
1:A:218:U:H2'	1:A:218:U:OP2	2.16	0.46
1:A:375:U:H5"	16:P:70:ARG:HB3	1.57	0.46
1:A:377:G:O2'	1:A:378:G:H8	1.98	0.46
1:A:407:U:H2'	1:A:408:A:H8	1.79	0.46
1:A:484:G:H4'	1:A:485:U:O5'	2.15	0.46
1:A:667:G:H2'	1:A:668:G:C8	2.48	0.46
9:I:91:GLU:OE2	9:I:94:ARG:HD3	2.16	0.46
34:b:202:U:H2'	34:b:203:A:C8	2.49	0.46
34:b:592:A:C5	34:b:593:U:C5	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:786:C:H2'	34:b:787:C:C5'	2.44	0.46
34:b:837:C:H42	34:b:941:A:N6	2.13	0.46
34:b:874:G:C2	34:b:875:G:C8	3.03	0.46
34:b:1000:A:H2'	34:b:1001:A:C8	2.50	0.46
34:b:1157:G:C6	34:b:1158:C:C5	3.04	0.46
34:b:1186:G:C6	34:b:1187:G:C5	3.03	0.46
34:b:1220:G:C5	34:b:1221:C:C5	3.03	0.46
34:b:1243:C:N3	34:b:1244:A:N7	2.62	0.46
34:b:1256:G:C2	34:b:1257:C:C5	3.03	0.46
34:b:1519:G:C4	34:b:1520:U:C5	3.04	0.46
34:b:1667:G:C2	34:b:1991:U:C4	3.03	0.46
34:b:1812:U:C2	34:b:1813:G:N7	2.83	0.46
34:b:1857:G:N2	34:b:1884:G:N2	2.63	0.46
34:b:2067:G:C4	34:b:2444:G:N2	2.83	0.46
34:b:2166:U:C2'	34:b:2167:U:O4'	2.53	0.46
34:b:2454:G:H5"	34:b:2455:G:OP2	2.15	0.46
34:b:2557:G:C2	34:b:2558:C:C2	3.03	0.46
34:b:2674:G:C4	34:b:2675:A:C8	3.03	0.46
34:b:2682:A:C6	34:b:2683:C:C5	3.02	0.46
34:b:2769:U:C4	34:b:2770:G:N7	2.83	0.46
34:b:2862:G:N1	34:b:2863:C:C4	2.83	0.46
35:c:76:ALA:HB2	35:c:96:TYR:CD1	2.51	0.46
1:A:550:G:H2'	1:A:551:U:C6	2.51	0.46
1:A:1130:A:H61	1:A:1144:G:H1'	1.80	0.46
1:A:1409:C:H5'	34:b:1912:A:N6	2.24	0.46
5:E:139:THR:O	5:E:144:GLU:N	2.42	0.46
33:a:113:C:N3	33:a:114:C:C5	2.84	0.46
34:b:122:G:H2'	34:b:123:G:O4'	2.15	0.46
34:b:226:A:C6	34:b:227:A:C6	3.03	0.46
34:b:375:G:C6	34:b:376:G:C8	3.02	0.46
34:b:662:G:N2	34:b:663:G:N9	2.63	0.46
34:b:932:U:H4'	34:b:933:A:O4'	2.15	0.46
34:b:996:A:C2	34:b:997:G:N9	2.83	0.46
34:b:1062:G:N7	36:i:76:ALA:C	2.73	0.46
34:b:1062:G:C5'	36:i:75:ALA:HA	2.46	0.46
34:b:1079:C:C5'	36:i:129:GLU:HG2	2.46	0.46
34:b:1089:A:C5'	34:b:1090:A:H5'	2.42	0.46
34:b:1204:A:N3	34:b:1204:A:H5'	2.31	0.46
34:b:1416:G:C4	34:b:1417:C:C6	3.03	0.46
34:b:1422:G:C5	34:b:1423:G:C8	3.03	0.46
34:b:1466:U:O3'	34:b:1546:G:O2'	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1575:C:N3	34:b:1576:U:C5	2.84	0.46
34:b:2188:U:C4	34:b:2189:U:C4	3.03	0.46
34:b:2299:U:C2	34:b:2300:C:C6	3.03	0.46
34:b:2345:G:C2	34:b:2381:A:C5	3.03	0.46
34:b:2395:C:C4	34:b:2396:G:C8	3.03	0.46
34:b:2482:A:H2'	34:b:2482:A:N3	2.31	0.46
34:b:2534:A:C6	34:b:2535:G:C1'	2.97	0.46
34:b:2802:G:C2	34:b:2803:G:C4	3.04	0.46
41:h:42:LYS:HD2	41:h:42:LYS:H	1.78	0.46
44:l:85:VAL:HG11	44:l:95:LEU:HD23	1.96	0.46
47:o:18:LEU:CD2	47:o:91:SER:HB2	2.45	0.46
53:u:73:PHE:C	53:u:75:ALA:N	2.73	0.46
53:u:74:ASN:ND2	53:u:96:PHE:CG	2.83	0.46
1:A:40:C:H42	1:A:403:C:H42	1.63	0.46
1:A:111:G:O2'	1:A:389:A:N3	2.30	0.46
1:A:484:G:H4'	1:A:485:U:H3'	1.96	0.46
1:A:1009:U:H2'	1:A:1010:U:C6	2.50	0.46
5:E:100:GLU:OE1	5:E:100:GLU:N	2.48	0.46
11:K:121:ARG:NE	21:U:34:ARG:HH11	2.14	0.46
18:R:49:LYS:O	18:R:52:ARG:HB2	2.15	0.46
22:V:34:A:H3'	22:V:34:A:N3	2.30	0.46
33:a:42:C:O2'	33:a:43:C:O5'	2.34	0.46
34:b:242:G:O2'	34:b:243:U:OP2	2.33	0.46
34:b:380:G:N2	34:b:381:G:H1'	2.30	0.46
34:b:459:U:C2	34:b:460:A:C8	3.03	0.46
34:b:484:C:C2	34:b:485:C:C6	3.04	0.46
34:b:523:C:O2	34:b:523:C:H2'	2.14	0.46
34:b:696:G:N1	34:b:697:G:N7	2.63	0.46
34:b:978:G:C6	34:b:986:C:N4	2.83	0.46
34:b:992:C:C2	34:b:1163:G:C2	3.04	0.46
34:b:1059:G:N2	34:b:1079:C:C6	2.81	0.46
34:b:1195:G:C2	34:b:1196:C:C6	3.03	0.46
34:b:2032:G:O2'	37:d:150:GLN:NE2	2.48	0.46
34:b:2544:G:C2	34:b:2545:G:N9	2.83	0.46
34:b:2700:A:C2	34:b:2701:U:C6	3.03	0.46
41:h:69:ALA:HB1	41:h:73:ASN:ND2	2.30	0.46
1:A:682:G:H5'	35:c:168:ASP:OD2	2.16	0.46
5:E:67:ARG:HH21	5:E:68:ARG:HH12	1.63	0.46
14:N:5:MET:HG2	14:N:8:ARG:HH21	1.79	0.46
19:S:25:GLY:N	19:S:27:LYS:HZ1	2.12	0.46
22:V:50:U:H2'	22:V:51:U:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:66:C:N3	34:b:67:U:C5	2.83	0.46
34:b:109:C:C2	34:b:110:G:H8	2.33	0.46
34:b:173:A:N1	34:b:174:U:C4	2.84	0.46
34:b:226:A:C5	34:b:227:A:N7	2.83	0.46
34:b:234:U:O2	34:b:234:U:C2'	2.63	0.46
34:b:484:C:N3	34:b:485:C:C5	2.83	0.46
34:b:731:C:C2	34:b:732:C:C6	3.04	0.46
34:b:782:A:C2	35:c:225:MET:CG	2.99	0.46
34:b:853:C:C2	34:b:854:C:C6	3.03	0.46
34:b:978:G:N1	34:b:986:C:N4	2.64	0.46
34:b:1025:G:N2	34:b:1135:C:C6	2.84	0.46
34:b:1075:C:O2	36:i:135:MET:HB2	2.15	0.46
34:b:1232:G:N1	34:b:1233:C:C4	2.83	0.46
34:b:1331:G:C2'	34:b:1332:G:H5'	2.45	0.46
34:b:1356:G:C6	34:b:1357:C:C4	3.03	0.46
34:b:1412:U:O2	34:b:1413:A:C8	2.69	0.46
34:b:1599:U:O2	34:b:1599:U:H2'	2.15	0.46
34:b:1716:U:O2	34:b:1716:U:H2'	2.16	0.46
34:b:1815:A:C5	34:b:1817:G:C6	3.03	0.46
34:b:1830:C:O2	34:b:1831:G:H8	1.91	0.46
34:b:2175:C:H3'	34:b:2175:C:C6	2.51	0.46
34:b:2625:G:C2	34:b:2626:C:C2	3.03	0.46
34:b:2702:G:N1	34:b:2703:C:C4	2.84	0.46
34:b:2839:G:N2	34:b:2840:C:H1'	2.31	0.46
1:A:167:A:H2'	1:A:168:G:C8	2.50	0.46
1:A:236:A:H2'	1:A:237:G:H8	1.79	0.46
1:A:1030:U:H5'	1:A:1031:C:C4	2.50	0.46
1:A:1075:U:H2'	1:A:1076:U:H6	1.81	0.46
10:J:21:ALA:HA	10:J:24:GLU:HG2	1.98	0.46
10:J:63:ASP:OD2	10:J:65:TYR:CE2	2.69	0.46
13:M:69:ARG:HA	13:M:72:ILE:HG22	1.96	0.46
19:S:62:THR:HB	19:S:65:MET:HG3	1.97	0.46
21:U:27:VAL:HG13	21:U:31:VAL:HG11	1.94	0.46
33:a:96:G:N1	33:a:97:C:C2	2.84	0.46
34:b:13:A:C6	34:b:525:U:C4	3.04	0.46
34:b:57:C:N3	34:b:58:G:C8	2.83	0.46
34:b:108:G:C5	34:b:109:C:C6	3.03	0.46
34:b:226:A:C2	34:b:227:A:N9	2.84	0.46
34:b:544:C:C2	34:b:545:U:C5	3.03	0.46
34:b:645:C:H4'	34:b:646:U:OP2	2.15	0.46
34:b:866:A:N3	34:b:866:A:H2'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:927:A:C6	34:b:928:A:C5	3.04	0.46
34:b:956:G:N2	34:b:959:A:H3'	2.29	0.46
34:b:1092:C:C4	34:b:1093:G:C6	3.03	0.46
34:b:1104:C:N4	34:b:1105:U:N1	2.63	0.46
34:b:1184:U:C2	34:b:1185:G:C8	3.03	0.46
34:b:1206:G:N3	34:b:1206:G:C2'	2.76	0.46
34:b:1303:G:C2	34:b:1304:A:N9	2.83	0.46
34:b:1532:A:C5	34:b:1533:C:C5	3.04	0.46
34:b:1656:C:N3	34:b:1657:U:C5	2.83	0.46
34:b:1938:A:C2	34:b:2590:A:H1'	2.51	0.46
34:b:1949:G:H2'	34:b:1950:G:O4'	2.16	0.46
34:b:2460:U:H2'	34:b:2461:A:O4'	2.16	0.46
34:b:2557:G:C6	34:b:2558:C:C4	3.03	0.46
41:h:121:VAL:HG11	41:h:130:VAL:CG2	2.45	0.46
1:A:736:C:H5"	6:F:90:MET:SD	2.55	0.46
1:A:1279:G:H2'	1:A:1279:G:N3	2.30	0.46
3:C:22:PHE:HZ	10:J:11:LYS:HZ3	1.56	0.46
4:D:58:GLN:HA	4:D:61:ARG:HG2	1.97	0.46
4:D:74:TYR:HD1	4:D:92:LEU:HB3	1.80	0.46
11:K:88:PRO:HB3	21:U:28:LEU:HD23	1.97	0.46
16:P:42:ILE:O	16:P:43:ALA:HB3	2.16	0.46
22:V:56:C:C5	34:b:2309:A:N1	2.84	0.46
31:7:26:HIS:NE2	31:7:48:ALA:HB2	2.31	0.46
33:a:84:G:C2	33:a:93:C:C2	3.04	0.46
33:a:85:G:C6	33:a:86:G:N7	2.83	0.46
34:b:156:A:C6	34:b:157:C:C5	3.04	0.46
34:b:223:A:C6	34:b:422:A:C5	3.04	0.46
34:b:246:C:H2'	34:b:247:G:O5'	2.14	0.46
34:b:372:G:O2'	34:b:373:U:OP2	2.28	0.46
34:b:575:A:C2	34:b:576:U:C6	3.01	0.46
34:b:598:U:C2	34:b:599:A:C8	3.04	0.46
34:b:622:G:C2	34:b:623:C:C2	3.03	0.46
34:b:639:U:C2	34:b:640:C:C5	3.04	0.46
34:b:827:U:H2'	34:b:2068:U:N3	2.30	0.46
34:b:904:G:C4	34:b:905:A:C8	3.03	0.46
34:b:1021:A:C8	34:b:1021:A:H3'	2.51	0.46
34:b:1063:G:N1	36:i:135:MET:CG	2.59	0.46
34:b:1063:G:H2'	36:i:85:ILE:HD11	1.92	0.46
34:b:1077:A:H2	36:i:133:ARG:H	1.59	0.46
34:b:1142:A:C6	34:b:1144:A:C4	3.03	0.46
34:b:1381:G:O6	34:b:1382:G:C2	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1547:C:C2	34:b:1548:A:C8	3.04	0.46
34:b:1598:A:N3	34:b:1599:U:C6	2.84	0.46
34:b:1637:A:C6	34:b:1638:C:C5	3.03	0.46
34:b:1716:U:N3	34:b:1717:A:C8	2.84	0.46
34:b:1815:A:C6	34:b:1817:G:O6	2.69	0.46
34:b:1997:C:N3	34:b:1998:A:C8	2.84	0.46
34:b:2290:G:H2'	34:b:2291:U:O4'	2.15	0.46
34:b:2324:U:O2	34:b:2324:U:H2'	2.14	0.46
34:b:2327:A:H2'	34:b:2328:A:O4'	2.15	0.46
34:b:2733:A:C5	34:b:2734:A:C8	3.03	0.46
1:A:796:C:OP1	11:K:126:ARG:HA	2.16	0.46
1:A:1095:U:H2'	1:A:1096:C:C6	2.50	0.46
1:A:1447:A:H5'	1:A:1448:C:H5	1.81	0.46
7:G:70:PRO:O	7:G:95:ARG:HG2	2.15	0.46
10:J:53:ILE:HG22	10:J:61:ALA:O	2.16	0.46
13:M:111:PRO:HD2	13:M:113:LYS:HZ1	1.81	0.46
34:b:186:G:N3	34:b:187:G:C8	2.84	0.46
34:b:201:C:H4'	34:b:386:G:C2	2.51	0.46
34:b:514:A:H2'	34:b:515:A:C8	2.51	0.46
34:b:555:G:H2'	34:b:555:G:N3	2.29	0.46
34:b:566:U:H2'	34:b:567:U:O4'	2.15	0.46
34:b:575:A:C2	34:b:576:U:C4	3.04	0.46
34:b:661:A:N1	34:b:662:G:C5	2.84	0.46
34:b:879:G:H2'	34:b:880:G:O4'	2.15	0.46
34:b:991:C:C6	34:b:1185:G:C5	3.04	0.46
34:b:1113:U:H2'	34:b:1114:C:C6	2.51	0.46
34:b:1229:C:C2	34:b:1230:A:C8	3.02	0.46
34:b:1355:G:N3	34:b:1355:G:H2'	2.30	0.46
34:b:1408:G:N2	34:b:1409:U:C1'	2.79	0.46
34:b:1422:G:N2	34:b:1423:G:H1'	2.30	0.46
34:b:1495:A:O2'	34:b:1496:A:O4'	2.32	0.46
34:b:1646:C:O2	34:b:1646:C:C2'	2.64	0.46
34:b:1759:A:C2	34:b:1760:C:H1'	2.51	0.46
34:b:2081:U:C4	34:b:2237:G:N1	2.84	0.46
34:b:2128:G:C2	34:b:2129:C:C2	3.03	0.46
34:b:2262:U:N3	34:b:2263:C:C5	2.84	0.46
34:b:2293:G:C5	34:b:2294:G:C8	3.04	0.46
34:b:2373:G:C2	34:b:2374:C:C2	3.04	0.46
34:b:2419:U:H2'	34:b:2420:C:C6	2.50	0.46
34:b:2603:G:N2	34:b:2604:U:H1'	2.31	0.46
36:i:60:VAL:HG22	36:i:66:PHE:CB	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:i:79:LEU:HD11	36:i:132:ALA:HA	1.97	0.46
1:A:75:G:H2'	1:A:76:G:H8	1.81	0.46
1:A:80:A:H2'	1:A:81:A:C8	2.51	0.46
1:A:375:U:H4'	16:P:6:LEU:HB3	1.98	0.46
1:A:793:U:H3'	1:A:794:A:H5"	1.96	0.46
1:A:1254:A:H2'	1:A:1255:G:H8	1.81	0.46
1:A:1495:U:O2'	34:b:1920:C:C1'	2.63	0.46
2:B:203:ASP:OD1	2:B:204:ASP:N	2.48	0.46
3:C:54:ILE:HD13	3:C:67:ILE:HD13	1.97	0.46
15:O:9:LYS:O	15:O:13:GLU:HG3	2.15	0.46
22:V:10:G:C2	22:V:11:C:C5	3.04	0.46
22:V:56:C:C6	34:b:2309:A:C4	3.04	0.46
33:a:8:C:C4	33:a:9:G:C8	3.04	0.46
33:a:45:A:C1'	39:f:92:ARG:NH2	2.79	0.46
34:b:333:G:C2	34:b:334:C:C4	3.04	0.46
34:b:464:U:C6	34:b:788:A:N1	2.83	0.46
34:b:725:G:C2'	34:b:726:G:O4'	2.64	0.46
34:b:949:G:N2	34:b:950:G:N9	2.64	0.46
34:b:1060:U:H2'	36:i:116:MET:HG2	1.98	0.46
34:b:1157:G:C4	34:b:1158:C:C6	3.04	0.46
34:b:1305:C:C2	34:b:1306:C:H6	2.31	0.46
34:b:1428:C:C5	34:b:1569:A:H5'	2.51	0.46
34:b:1901:A:C2	34:b:1902:C:C5	3.03	0.46
34:b:2152:G:C8	34:b:2152:G:C5'	2.98	0.46
34:b:2738:A:C6	34:b:2739:U:C5	3.03	0.46
35:c:158:ALA:HB1	35:c:197:ASN:HB3	1.97	0.46
43:k:6:THR:HG22	43:k:7:MET:N	2.31	0.46
1:A:275:G:C2	1:A:276:G:C4	3.03	0.46
1:A:1073:U:C4	1:A:1074:G:N7	2.84	0.46
2:B:212:TYR:O	2:B:216:VAL:HG23	2.15	0.46
3:C:39:ARG:NH2	14:N:91:GLU:OE2	2.49	0.46
3:C:180:ASP:OD2	3:C:203:LYS:HB3	2.17	0.46
9:I:90:ASP:OD2	9:I:93:LEU:HG	2.16	0.46
9:I:91:GLU:CD	9:I:94:ARG:HD3	2.41	0.46
9:I:129:ARG:CA	23:W:32:A:OP1	2.62	0.46
14:N:14:ALA:O	14:N:18:LYS:HG3	2.16	0.46
22:V:68:C:N3	22:V:69:G:C8	2.84	0.46
33:a:117:G:N3	33:a:118:C:C6	2.84	0.46
34:b:154:U:O2	34:b:155:A:C8	2.69	0.46
34:b:485:C:C2	34:b:496:G:C2	3.04	0.46
34:b:723:C:C2	34:b:724:U:C6	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1079:C:O2	36:i:129:GLU:CG	2.62	0.46
34:b:1089:A:HO2'	34:b:1090:A:P	2.39	0.46
34:b:1218:G:N1	34:b:1219:U:N1	2.64	0.46
34:b:1218:G:O6	34:b:1219:U:C5	2.69	0.46
34:b:1219:U:O2	34:b:1219:U:H2'	2.15	0.46
34:b:1533:C:C2	34:b:1534:U:C6	3.04	0.46
34:b:1537:G:N1	34:b:1538:G:C8	2.84	0.46
34:b:1586:A:C2	34:b:1587:G:H1'	2.51	0.46
34:b:1760:C:H2'	34:b:1760:C:O2	2.16	0.46
34:b:1773:A:C5	34:b:1829:A:H1'	2.50	0.46
34:b:2544:G:N2	34:b:2545:G:C1'	2.79	0.46
34:b:2698:U:C2	34:b:2699:C:C5	3.04	0.46
34:b:2735:G:N1	34:b:2736:A:C8	2.84	0.46
34:b:2769:U:N3	34:b:2770:G:C8	2.84	0.46
34:b:2800:A:N6	34:b:2801:G:C4	2.84	0.46
39:f:20:PHE:HB2	39:f:22:TYR:CE1	2.51	0.46
41:h:83:LYS:O	41:h:86:ASP:CG	2.59	0.46
43:k:121:GLU:HG2	43:k:122:VAL:HG23	1.96	0.46
45:m:53:MET:CE	45:m:103:TYR:CE1	2.99	0.46
1:A:378:G:N2	1:A:386:C:O2	2.49	0.45
1:A:438:U:H4'	4:D:119:HIS:CD2	2.51	0.45
1:A:457:G:H21	1:A:476:U:H2'	1.79	0.45
1:A:641:U:O2'	1:A:642:A:OP2	2.28	0.45
2:B:45:THR:HB	2:B:49:PHE:HE2	1.80	0.45
4:D:84:ASN:HD22	4:D:87:GLU:HB2	1.80	0.45
22:V:27:G:N3	22:V:28:G:N7	2.64	0.45
22:V:40:C:O2	22:V:41:C:C5	2.69	0.45
33:a:96:G:C5	33:a:97:C:C6	3.04	0.45
34:b:82:U:H2'	34:b:83:A:O4'	2.15	0.45
34:b:156:A:C2	34:b:157:C:C6	3.04	0.45
34:b:173:A:N3	34:b:174:U:C6	2.85	0.45
34:b:287:G:C6	34:b:288:U:C4	3.04	0.45
34:b:438:G:C6	34:b:439:A:N7	2.84	0.45
34:b:468:G:H2'	34:b:469:G:O4'	2.16	0.45
34:b:532:A:H4'	34:b:533:G:C8	2.50	0.45
34:b:778:G:N2	34:b:787:C:C2	2.84	0.45
34:b:822:G:C6	34:b:823:C:N4	2.84	0.45
34:b:885:C:N4	34:b:886:A:C4	2.84	0.45
34:b:966:G:H1'	34:b:2267:A:C2	2.51	0.45
34:b:1011:G:C4	34:b:1013:C:C6	3.04	0.45
34:b:1220:G:C2	34:b:1221:C:C2	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1451:C:O2	34:b:1451:C:H2'	2.16	0.45
34:b:1539:U:O2	34:b:1539:U:H2'	2.16	0.45
34:b:1773:A:N3	34:b:1829:A:C4	2.84	0.45
34:b:1832:C:C4	34:b:1833:C:C6	3.05	0.45
34:b:1998:A:C2	34:b:1999:C:C6	3.04	0.45
34:b:2184:A:N3	34:b:2185:U:C6	2.83	0.45
34:b:2385:C:O2	34:b:2385:C:H2'	2.14	0.45
34:b:2405:G:O2'	34:b:2412:A:N6	2.49	0.45
34:b:2825:G:C2	34:b:2826:A:C8	3.05	0.45
36:i:56:VAL:HG11	36:i:68:PHE:HD2	1.80	0.45
36:i:105:LEU:HA	36:i:108:ILE:HD12	1.97	0.45
42:j:23:LYS:HG3	42:j:28:LEU:CD1	2.45	0.45
44:l:95:LEU:O	44:l:100:ILE:HG12	2.15	0.45
52:t:18:GLU:O	52:t:19:LYS:C	2.58	0.45
53:u:5:ILE:HD13	53:u:67:VAL:CG1	2.41	0.45
1:A:339:C:C5	43:k:98:ARG:NH2	2.85	0.45
1:A:944:G:H2'	1:A:1338:G:H22	1.81	0.45
1:A:1149:C:H2'	1:A:1150:A:C8	2.52	0.45
3:C:35:ASP:OD1	3:C:58:ARG:NH1	2.49	0.45
3:C:156:LEU:HD22	3:C:165:GLU:OE2	2.16	0.45
17:Q:17:GLU:OE2	17:Q:18:LYS:NZ	2.49	0.45
20:T:27:MET:O	20:T:31:ILE:HG22	2.16	0.45
22:V:2:C:C2	22:V:3:C:C5	3.05	0.45
28:3:25:VAL:CG1	28:3:26:THR:N	2.80	0.45
34:b:297:G:H2'	34:b:298:G:H5"	1.98	0.45
34:b:350:G:C2	34:b:351:C:N1	2.85	0.45
34:b:574:A:H2	37:d:150:GLN:HE22	1.64	0.45
34:b:885:C:H1'	34:b:892:A:N6	2.32	0.45
34:b:921:C:N3	34:b:922:C:C5	2.84	0.45
34:b:976:G:O6	34:b:988:A:H2	1.98	0.45
34:b:1071:G:N2	34:b:1089:A:C4'	2.68	0.45
34:b:1245:G:C2	34:b:1246:A:C8	3.04	0.45
34:b:1317:G:C6	34:b:1318:U:C4	3.04	0.45
34:b:1326:U:C6	34:b:1648:U:H1'	2.51	0.45
34:b:1485:U:N3	34:b:1486:U:C5	2.84	0.45
34:b:1598:A:N1	34:b:1599:U:C5	2.85	0.45
34:b:1758:U:O2	34:b:1758:U:H2'	2.16	0.45
34:b:1790:C:C6	34:b:1828:G:N2	2.84	0.45
34:b:1848:A:N3	34:b:1848:A:H2'	2.31	0.45
34:b:1874:C:C4	34:b:1875:G:C5	3.04	0.45
34:b:2000:C:H2'	34:b:2001:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2316:G:C2	34:b:2317:A:C8	3.04	0.45
34:b:2330:G:C2	34:b:2331:G:C1'	2.99	0.45
34:b:2694:G:C5	34:b:2695:U:C5	3.05	0.45
36:i:107:GLU:HA	36:i:110:GLN:HB3	1.98	0.45
43:k:93:GLN:NE2	43:k:111:LYS:O	2.48	0.45
50:r:49:ILE:HG22	50:r:53:PHE:C	2.41	0.45
1:A:1019:A:H5"	1:A:1020:G:OP2	2.16	0.45
11:K:80:ASN:OD1	11:K:105:ARG:NH2	2.50	0.45
13:M:67:ASP:HA	13:M:70:ARG:HD2	1.98	0.45
21:U:3:ILE:HG13	21:U:5:VAL:HG23	1.98	0.45
22:V:41:C:N3	22:V:42:C:C6	2.85	0.45
30:6:44:VAL:HG13	30:6:45:SER:H	1.81	0.45
33:a:112:G:C2	33:a:113:C:C2	3.03	0.45
34:b:20:C:N3	34:b:21:A:C8	2.80	0.45
34:b:152:A:H2'	34:b:153:U:O4'	2.17	0.45
34:b:195:A:N1	34:b:198:C:C4	2.85	0.45
34:b:248:G:C2	34:b:2431:U:H4'	2.50	0.45
34:b:327:G:H2'	34:b:328:U:O4'	2.16	0.45
34:b:783:A:C6	34:b:785:G:C8	3.05	0.45
34:b:836:G:C5	34:b:837:C:C6	3.05	0.45
34:b:964:C:O2'	34:b:2273:A:H1'	2.16	0.45
34:b:999:U:O2	34:b:999:U:H2'	2.14	0.45
34:b:1172:C:N3	34:b:1173:U:H5	2.11	0.45
34:b:1179:G:C2	34:b:1180:U:C4	3.04	0.45
34:b:1260:A:H2'	34:b:1261:C:O4'	2.16	0.45
34:b:1501:G:N2	34:b:1502:A:N9	2.64	0.45
34:b:1608:A:N7	34:b:1611:C:C4	2.84	0.45
34:b:1680:U:H2'	34:b:1681:G:O4'	2.16	0.45
34:b:1747:U:N3	34:b:1748:C:C5	2.85	0.45
34:b:1754:A:H2'	34:b:1755:A:C8	2.51	0.45
34:b:1859:U:N3	34:b:1860:G:N7	2.64	0.45
34:b:1974:C:C2	34:b:1975:G:C8	3.04	0.45
34:b:2682:A:C2	34:b:2683:C:N1	2.84	0.45
34:b:2708:G:N2	34:b:2709:G:N9	2.64	0.45
34:b:2716:C:C2	34:b:2717:C:C5	3.05	0.45
34:b:2857:G:H22	34:b:2859:G:H3'	1.80	0.45
1:A:100:G:H3'	1:A:100:G:N3	2.31	0.45
3:C:154:GLY:H	3:C:164:THR:H	1.63	0.45
4:D:112:GLU:O	4:D:115:GLN:HB3	2.16	0.45
5:E:71:ILE:HD13	5:E:144:GLU:HB2	1.98	0.45
34:b:77:G:C2	34:b:78:U:C2	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:114:U:C2	34:b:115:C:C6	3.04	0.45
34:b:243:U:O2	34:b:244:A:C8	2.70	0.45
34:b:398:C:O2	34:b:398:C:H2'	2.17	0.45
34:b:410:G:N2	34:b:2407:A:C5	2.84	0.45
34:b:443:A:C8	38:e:40:ARG:CD	2.99	0.45
34:b:583:G:N3	34:b:583:G:H2'	2.31	0.45
34:b:665:U:N3	34:b:666:A:N7	2.64	0.45
34:b:752:A:N6	34:b:2609:U:H3	2.14	0.45
34:b:852:U:C2	34:b:853:C:C5	3.05	0.45
34:b:926:G:N3	34:b:927:A:C8	2.84	0.45
34:b:995:C:O2	42:j:3:THR:HG23	2.16	0.45
34:b:1065:U:H5	34:b:1066:U:H1'	1.81	0.45
34:b:1067:A:N1	36:i:23:VAL:N	2.59	0.45
34:b:1159:U:N3	34:b:1160:G:N7	2.65	0.45
34:b:1400:U:H2'	34:b:1401:G:O5'	2.16	0.45
34:b:2514:U:C2	34:b:2515:C:C5	3.05	0.45
34:b:2636:C:C2	34:b:2637:U:C5	3.04	0.45
35:c:75:PRO:HG2	35:c:97:LYS:HZ2	1.79	0.45
35:c:205:LEU:HB3	35:c:210:ALA:HB3	1.98	0.45
1:A:707:U:P	11:K:86:LYS:NZ	2.89	0.45
1:A:932:C:P	7:G:3:ARG:HH21	2.39	0.45
1:A:1348:U:OP2	9:I:111:GLU:CB	2.65	0.45
8:H:105:THR:OG1	8:H:108:GLY:O	2.32	0.45
13:M:68:LEU:HG	13:M:69:ARG:NH1	2.32	0.45
16:P:10:GLY:O	16:P:11:ALA:CB	2.64	0.45
22:V:75:C:O2'	22:V:76:A:P	2.75	0.45
23:W:72:G:C3'	23:W:73:A:C5'	2.91	0.45
24:X:17:C:O2	24:X:17:C:H2'	2.16	0.45
33:a:8:C:O2'	47:o:40:ILE:HD13	2.17	0.45
34:b:210:C:H5'	34:b:211:C:OP2	2.17	0.45
34:b:332:A:N6	34:b:335:C:C4	2.85	0.45
34:b:588:U:H2'	34:b:588:U:O2	2.16	0.45
34:b:601:C:C4	34:b:602:A:N7	2.84	0.45
34:b:608:A:H2'	34:b:609:A:H8	1.77	0.45
34:b:695:G:N1	34:b:696:G:C8	2.84	0.45
34:b:807:U:O2	34:b:807:U:H2'	2.16	0.45
34:b:910:A:C6	45:m:13:HIS:CE1	3.05	0.45
34:b:925:A:C6	34:b:926:G:C5	3.04	0.45
34:b:938:G:N2	34:b:939:G:C5	2.84	0.45
34:b:978:G:C6	34:b:979:A:C4	3.04	0.45
34:b:1222:U:O2	34:b:1223:G:C8	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1528:A:C5	34:b:1529:G:H1’	2.50	0.45
34:b:1528:A:C4	34:b:1544:A:N6	2.85	0.45
34:b:1532:A:N6	34:b:1533:C:C4	2.84	0.45
34:b:1991:U:O2	34:b:1991:U:H2’	2.16	0.45
34:b:2187:U:C2	34:b:2188:U:C5	3.04	0.45
34:b:2563:U:H2’	34:b:2564:A:H2’	1.99	0.45
34:b:2688:G:N2	34:b:2720:U:C6	2.85	0.45
34:b:2790:U:O4’	34:b:2893:A:N7	2.49	0.45
34:b:2862:G:N2	34:b:2863:C:C2	2.85	0.45
38:e:150:THR:CG2	38:e:152:GLU:O	2.64	0.45
1:A:860:A:H61	1:A:872:A:H62	1.65	0.45
1:A:1319:A:H5’	19:S:69:LYS:NZ	2.26	0.45
5:E:50:GLY:HA3	5:E:61:LYS:HB2	1.99	0.45
8:H:86:LYS:HD2	8:H:90:GLU:HB3	1.99	0.45
34:b:176:A:H3’	34:b:177:G:H21	1.81	0.45
34:b:263:G:N3	34:b:264:C:H1’	2.31	0.45
34:b:306:U:N3	34:b:307:G:H1’	2.31	0.45
34:b:429:A:O2’	34:b:430:A:O4’	2.32	0.45
34:b:980:A:C6	34:b:981:A:C6	3.04	0.45
34:b:1011:G:C5	34:b:1013:C:C5	3.05	0.45
34:b:1135:C:C5	34:b:1137:G:OP2	2.69	0.45
34:b:1216:G:H2’	34:b:1217:U:O4’	2.16	0.45
34:b:1243:C:C2	34:b:1244:A:H8	2.35	0.45
34:b:1635:A:C5	34:b:1636:U:C5	3.04	0.45
34:b:1639:C:H2’	34:b:1639:C:O2	2.15	0.45
34:b:1641:A:H2’	34:b:1642:G:O4’	2.17	0.45
34:b:1790:C:C3’	34:b:1791:A:H8	2.27	0.45
34:b:1990:C:H2’	34:b:1991:U:O4’	2.16	0.45
34:b:2415:G:C4	34:b:2416:C:C6	3.04	0.45
34:b:2583:G:HO2’	34:b:2584:U:P	2.39	0.45
34:b:2693:G:C2	34:b:2694:G:N7	2.85	0.45
36:i:123:ALA:HA	36:i:126:ARG:CZ	2.46	0.45
1:A:773:G:H5”	35:c:202:LEU:CD2	2.39	0.45
1:A:1013:G:P	19:S:17:LYS:NZ	2.90	0.45
2:B:165:ALA:HB3	2:B:186:VAL:HG12	1.97	0.45
3:C:141:MET:HG3	3:C:169:GLU:CD	2.42	0.45
4:D:12:ARG:NH2	4:D:36:ALA:H	2.14	0.45
5:E:82:HIS:HE1	8:H:95:MET:HG3	1.82	0.45
27:2:5:ILE:HG21	27:2:57:VAL:HG13	1.99	0.45
32:8:23:ILE:HG21	34:b:1032:A:O2’	2.16	0.45
33:a:18:G:N2	33:a:19:C:H1’	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:110:C:C4	33:a:111:U:C5	3.05	0.45
34:b:41:C:C4	34:b:42:A:N7	2.84	0.45
34:b:75:G:N1	34:b:76:C:H5	2.14	0.45
34:b:219:A:C6	34:b:220:G:C6	3.04	0.45
34:b:425:G:C6	34:b:426:C:C4	3.05	0.45
34:b:658:U:N3	34:b:659:G:N7	2.65	0.45
34:b:664:G:N2	34:b:665:U:H1'	2.32	0.45
34:b:734:A:C6	34:b:735:A:C8	3.05	0.45
34:b:767:U:O2	34:b:768:G:H8	1.94	0.45
34:b:955:U:C4	34:b:956:G:N7	2.84	0.45
34:b:1051:G:O2'	34:b:2752:C:O4'	2.34	0.45
34:b:1181:U:N3	34:b:1182:G:N7	2.65	0.45
34:b:1297:C:C2	34:b:1298:C:C5	3.05	0.45
34:b:1376:C:C4	34:b:1377:G:C6	3.03	0.45
34:b:1575:C:N4	34:b:1576:U:C4	2.85	0.45
34:b:1635:A:N3	34:b:1635:A:H2'	2.32	0.45
34:b:1660:G:H2'	34:b:1660:G:N3	2.31	0.45
34:b:2102:G:N2	34:b:2103:C:H1'	2.32	0.45
34:b:2216:G:C2	34:b:2217:G:C4	3.05	0.45
34:b:2229:U:O2	34:b:2229:U:H2'	2.16	0.45
34:b:2734:A:C5	34:b:2735:G:C8	3.05	0.45
34:b:2739:U:O2	34:b:2740:A:C8	2.70	0.45
47:o:51:ALA:HB3	47:o:78:VAL:HG22	1.98	0.45
1:A:386:C:H3'	1:A:387:U:C6	2.51	0.45
1:A:526:C:OP2	12:L:87:LYS:HE3	2.17	0.45
1:A:923:A:OP1	5:E:25:LYS:HE2	2.17	0.45
1:A:1234:C:H1'	1:A:1364:U:C6	2.52	0.45
1:A:1314:C:OP2	19:S:5:LYS:HG3	2.17	0.45
1:A:1427:C:H42	1:A:1473:G:H1	1.63	0.45
1:A:1436:U:H2'	1:A:1437:A:H8	1.80	0.45
5:E:96:GLN:HA	5:E:97:PRO:HD3	1.81	0.45
13:M:84:CYS:SG	19:S:72:GLU:OE2	2.75	0.45
16:P:16:PHE:CD1	16:P:16:PHE:O	2.70	0.45
33:a:71:C:C2	33:a:106:G:N2	2.85	0.45
34:b:176:A:H3'	34:b:177:G:N2	2.32	0.45
34:b:199:A:C6	34:b:2433:A:C2	3.04	0.45
34:b:242:G:N2	34:b:254:G:C4	2.85	0.45
34:b:370:G:O2'	34:b:423:A:H2'	2.17	0.45
34:b:397:U:O2	34:b:398:C:C6	2.70	0.45
34:b:510:C:O2	34:b:510:C:H2'	2.17	0.45
34:b:659:G:C5	34:b:660:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:711:G:C2	34:b:712:G:C8	3.05	0.45
34:b:867:C:C4	34:b:868:U:C5	3.05	0.45
34:b:936:A:N1	34:b:937:C:C5	2.85	0.45
34:b:1079:C:O2'	36:i:125:THR:HG23	2.03	0.45
34:b:1186:G:C4	34:b:1187:G:C8	3.04	0.45
34:b:1540:G:C4	34:b:1541:C:C5	3.05	0.45
34:b:1652:A:C2	34:b:2005:A:N6	2.85	0.45
34:b:1905:C:O2'	34:b:1929:G:O2'	2.21	0.45
34:b:1923:U:H2'	34:b:1924:C:H6	1.82	0.45
34:b:2089:C:N3	34:b:2090:A:C8	2.85	0.45
34:b:2257:U:H2'	34:b:2258:C:C6	2.51	0.45
34:b:2592:G:C2	34:b:2593:U:H1'	2.52	0.45
34:b:2838:G:C4	34:b:2839:G:C8	3.05	0.45
34:b:2869:G:H2'	34:b:2870:C:C6	2.51	0.45
56:z:22:ALA:CB	56:z:24:GLY:HA3	2.47	0.45
1:A:75:G:H2'	1:A:76:G:C8	2.52	0.45
1:A:1118:U:OP2	9:I:105:ARG:CZ	2.65	0.45
1:A:1202:U:C2	14:N:81:ILE:HD11	2.52	0.45
1:A:1202:U:H2'	1:A:1203:C:O4'	2.15	0.45
2:B:53:LEU:HA	2:B:219:THR:HG23	1.99	0.45
3:C:166:TRP:CH2	3:C:168:ARG:NH1	2.85	0.45
12:L:56:LEU:HB2	12:L:59:GLY:O	2.17	0.45
19:S:38:THR:HA	19:S:69:LYS:HA	1.99	0.45
22:V:26:A:C6	22:V:27:G:C5	3.04	0.45
22:V:28:G:C2	22:V:29:G:N9	2.85	0.45
30:6:18:PHE:CE2	34:b:126:A:N1	2.85	0.45
33:a:96:G:C4	33:a:97:C:C6	3.05	0.45
34:b:41:C:C2	34:b:42:A:H8	2.33	0.45
34:b:42:A:N1	34:b:43:G:N7	2.64	0.45
34:b:253:C:N4	34:b:254:G:C4	2.85	0.45
34:b:822:G:C6	34:b:823:C:C4	3.04	0.45
34:b:844:A:C2	34:b:845:A:N3	2.84	0.45
34:b:933:A:C8	34:b:934:U:C6	3.05	0.45
34:b:949:G:C2	34:b:950:G:C4	3.05	0.45
34:b:1180:U:C5	34:b:1181:U:C5	3.05	0.45
34:b:1340:U:H5'	52:t:61:LEU:HD22	1.98	0.45
34:b:1650:A:C6	34:b:1651:G:C5	3.05	0.45
34:b:1667:G:C2	34:b:1991:U:C5	3.05	0.45
34:b:1786:A:H1'	34:b:1938:A:H62	1.82	0.45
34:b:1907:G:N3	34:b:1908:C:C6	2.85	0.45
34:b:2152:G:O6	34:b:2153:C:C5	2.68	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2373:G:C6	34:b:2374:C:C4	3.05	0.45
34:b:2564:A:C4	34:b:2565:A:C6	3.05	0.45
34:b:2797:U:C6	34:b:2797:U:H5'	2.52	0.45
34:b:2840:C:O2	34:b:2841:C:C6	2.70	0.45
34:b:2872:A:O2'	34:b:2873:A:O4'	2.32	0.45
41:h:116:ARG:NH2	41:h:141:LYS:HA	2.31	0.45
1:A:45:G:H2'	1:A:46:G:C8	2.52	0.45
1:A:683:G:H21	11:K:39:ASN:ND2	2.14	0.45
1:A:1339:A:C2	23:W:41:C:O2	2.69	0.45
4:D:106:PHE:HD1	4:D:158:LEU:HD21	1.82	0.45
8:H:12:ARG:HH11	8:H:26:MET:CB	2.30	0.45
10:J:42:LEU:HD11	10:J:73:LEU:HD13	1.99	0.45
17:Q:14:ASP:OD2	17:Q:54:ILE:N	2.50	0.45
21:U:7:GLU:HG3	21:U:10:PRO:HA	1.99	0.45
22:V:18:G:H5"	22:V:18:G:C8	2.51	0.45
28:3:4:GLN:HB3	34:b:2615:U:H1'	1.99	0.45
33:a:84:G:N2	33:a:93:C:C2	2.85	0.45
33:a:112:G:C5	33:a:113:C:C5	3.05	0.45
34:b:81:G:C2	34:b:106:C:C2	3.05	0.45
34:b:172:A:C6	34:b:173:A:N7	2.85	0.45
34:b:252:G:H2'	34:b:253:C:O4'	2.16	0.45
34:b:1034:G:C6	34:b:1035:U:C4	3.05	0.45
34:b:1060:U:C6	36:i:112:LYS:N	2.45	0.45
34:b:1162:G:C6	34:b:1163:G:N7	2.85	0.45
34:b:1314:C:O2	34:b:1315:C:C6	2.70	0.45
34:b:1422:G:C2	34:b:1423:G:H1'	2.52	0.45
34:b:1449:G:N2	34:b:1450:G:H1'	2.32	0.45
34:b:1636:U:C2	34:b:1637:A:N7	2.85	0.45
34:b:1775:U:C5	34:b:1776:G:C8	3.04	0.45
34:b:1794:A:C6	34:b:1795:C:C4	3.05	0.45
34:b:1816:C:H2'	35:c:62:TYR:CZ	2.52	0.45
34:b:2152:G:N3	34:b:2153:C:C1'	2.74	0.45
34:b:2351:G:N1	34:b:2365:G:C6	2.85	0.45
34:b:2647:U:O2	34:b:2647:U:H2'	2.17	0.45
34:b:2654:A:N6	34:b:2665:A:C8	2.85	0.45
34:b:2656:U:O2	34:b:2656:U:H2'	2.17	0.45
34:b:2736:A:N3	34:b:2737:G:C8	2.85	0.45
53:u:75:ALA:C	53:u:77:THR:N	2.73	0.45
1:A:188:C:H2'	1:A:188:C:O2	2.17	0.44
1:A:508:U:H5"	4:D:50:TYR:CD2	2.52	0.44
1:A:1319:A:C5'	19:S:69:LYS:HZ3	2.26	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1526:G:C6	1:A:1527:U:O4	2.70	0.44
4:D:60:VAL:HA	4:D:63:ILE:HG22	1.99	0.44
18:R:62:ARG:HD2	18:R:69:TYR:HA	1.98	0.44
19:S:44:ILE:HG21	19:S:63:ASP:OD1	2.17	0.44
34:b:372:G:O2'	34:b:373:U:P	2.75	0.44
34:b:537:G:N1	34:b:555:G:N2	2.60	0.44
34:b:662:G:C6	34:b:663:G:N7	2.85	0.44
34:b:949:G:C4	34:b:950:G:C8	3.06	0.44
34:b:967:U:H2'	34:b:968:C:C6	2.52	0.44
34:b:1049:C:N3	34:b:1050:A:N7	2.64	0.44
34:b:1060:U:C5'	36:i:114:ALA:N	2.80	0.44
34:b:1113:U:H2'	34:b:1114:C:H6	1.81	0.44
34:b:1166:G:C5	34:b:1167:C:C5	3.05	0.44
34:b:1184:U:H2'	34:b:1185:G:H5"	1.98	0.44
34:b:1295:C:O2	34:b:1296:G:C8	2.70	0.44
34:b:1368:G:N3	34:b:1369:G:C8	2.85	0.44
34:b:1395:A:C4	34:b:1398:C:C5	3.05	0.44
34:b:1434:A:C5	34:b:1435:G:N7	2.85	0.44
34:b:1820:U:H4'	34:b:1821:A:OP2	2.17	0.44
34:b:1867:G:O6	34:b:1868:C:N4	2.50	0.44
34:b:1873:G:C6	34:b:1874:C:C5	3.06	0.44
34:b:1883:U:H3'	34:b:1884:G:H8	1.82	0.44
34:b:1894:C:N3	34:b:1895:C:C5	2.85	0.44
34:b:2053:G:C2	34:b:2054:A:C8	3.05	0.44
34:b:2136:G:H2'	34:b:2136:G:N3	2.32	0.44
34:b:2152:G:C5'	34:b:2152:G:H8	2.30	0.44
34:b:2350:C:C4	34:b:2351:G:C5	3.05	0.44
34:b:2545:G:C2	34:b:2546:U:C2	3.05	0.44
34:b:2722:G:C6	34:b:2723:C:C4	3.05	0.44
34:b:2748:A:O2'	40:g:67:THR:OG1	2.20	0.44
34:b:2748:A:C5	34:b:2749:A:C8	3.05	0.44
36:i:24:GLY:O	36:i:34:ILE:HD12	2.16	0.44
36:i:115:ASP:C	36:i:115:ASP:OD1	2.59	0.44
41:h:43:ASN:C	41:h:45:GLU:N	2.73	0.44
47:o:49:VAL:HG21	47:o:82:ALA:HA	1.99	0.44
56:z:7:ILE:CG2	56:z:8:SER:N	2.80	0.44
1:A:130:A:H1'	1:A:264:C:O4'	2.18	0.44
1:A:148:G:HO2'	1:A:149:A:P	2.37	0.44
1:A:695:A:O2'	1:A:696:A:H8	2.01	0.44
1:A:707:U:OP1	11:K:86:LYS:NZ	2.42	0.44
1:A:1004:A:H2'	1:A:1005:A:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1138:G:H3'	1:A:1138:G:N3	2.33	0.44
1:A:1187:G:H4'	9:I:114:LYS:HZ3	1.81	0.44
1:A:1382:C:H2'	1:A:1383:C:H6	1.82	0.44
15:O:24:THR:HG21	15:O:69:LEU:HD21	1.98	0.44
34:b:287:G:C5	34:b:288:U:C5	3.06	0.44
34:b:307:G:N3	34:b:307:G:H2'	2.32	0.44
34:b:372:G:HO2'	34:b:373:U:P	2.39	0.44
34:b:539:G:C4	34:b:540:C:C5	3.05	0.44
34:b:608:A:O2'	34:b:609:A:O4'	2.31	0.44
34:b:919:U:C2	34:b:920:A:C8	3.05	0.44
34:b:933:A:C8	34:b:934:U:H6	2.35	0.44
34:b:1011:G:C6	34:b:1013:C:C5	3.05	0.44
34:b:1063:G:N2	34:b:1076:C:N1	2.64	0.44
34:b:1067:A:N3	36:i:19:PRO:HB3	2.25	0.44
34:b:1081:U:C5'	36:i:122:GLU:HB2	2.35	0.44
34:b:1298:C:H2'	34:b:1299:G:O4'	2.16	0.44
34:b:1318:U:C2	34:b:1319:C:C5	3.05	0.44
34:b:1342:A:C6	34:b:1345:C:C4	3.04	0.44
34:b:1416:G:C2	34:b:1417:C:C6	3.05	0.44
34:b:1424:G:C6	34:b:1425:G:C5	3.04	0.44
34:b:1806:C:N4	34:b:1807:G:C8	2.85	0.44
34:b:2345:G:C4	34:b:2381:A:C2	3.05	0.44
34:b:2469:A:C5	34:b:2470:G:C8	3.05	0.44
34:b:2483:C:N4	34:b:2484:G:C5	2.85	0.44
34:b:2717:C:C2	34:b:2718:G:C8	3.04	0.44
34:b:2821:A:H2'	34:b:2822:G:O5'	2.18	0.44
34:b:2850:A:C2	34:b:2851:A:C4	3.04	0.44
34:b:2880:C:O2	34:b:2881:U:C5	2.71	0.44
1:A:97:G:H3'	1:A:98:A:H8	1.83	0.44
1:A:236:A:H5'	17:Q:43:LEU:HD12	1.99	0.44
1:A:1401:G:C6	1:A:1402:C:C2	3.05	0.44
3:C:106:ARG:HH21	3:C:111:ASP:HB3	1.83	0.44
4:D:100:VAL:HG11	4:D:136:VAL:HG21	1.98	0.44
11:K:121:ARG:HE	21:U:34:ARG:HH11	1.64	0.44
14:N:41:TRP:O	14:N:44:VAL:HG12	2.18	0.44
16:P:37:GLY:HA2	16:P:51:ARG:HH11	1.82	0.44
22:V:75:C:H2'	22:V:76:A:N9	2.33	0.44
34:b:6:A:C4	34:b:7:G:C8	3.05	0.44
34:b:6:A:C2	34:b:7:G:C4	3.05	0.44
34:b:18:U:O2	34:b:18:U:H2'	2.18	0.44
34:b:30:G:O2'	34:b:1214:A:N3	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:110:G:N2	34:b:111:A:H1'	2.31	0.44
34:b:182:A:H2'	34:b:183:C:O4'	2.18	0.44
34:b:223:A:N6	34:b:422:A:C6	2.85	0.44
34:b:312:G:C2	34:b:313:G:C5	3.05	0.44
34:b:350:G:C2	34:b:351:C:C2	3.05	0.44
34:b:925:A:C4	34:b:926:G:C8	3.04	0.44
34:b:950:G:C4	34:b:951:C:C5	3.05	0.44
34:b:1061:U:O3'	36:i:75:ALA:HA	2.18	0.44
34:b:1151:A:C5	34:b:1152:C:C5	3.05	0.44
34:b:1266:G:O6	51:s:16:LYS:NZ	2.45	0.44
34:b:1588:G:C2	34:b:1589:U:C5	3.05	0.44
34:b:1783:A:OP1	34:b:1784:A:OP2	2.36	0.44
34:b:1922:G:H2'	34:b:1923:U:O4'	2.16	0.44
34:b:2250:G:C6	45:m:82:MET:HB3	2.53	0.44
34:b:2287:A:O2'	34:b:2288:A:C5'	2.65	0.44
34:b:2351:G:C2	34:b:2365:G:N1	2.85	0.44
34:b:2371:G:N1	34:b:2372:U:C5	2.86	0.44
34:b:2464:G:C4	34:b:2465:C:C6	3.05	0.44
34:b:2839:G:C4	34:b:2840:C:C5	3.06	0.44
1:A:301:G:H4'	1:A:302:G:OP1	2.16	0.44
1:A:694:A:H2'	1:A:695:A:H5'	2.00	0.44
9:I:87:MET:HB2	9:I:94:ARG:HD2	2.00	0.44
22:V:3:C:C2	22:V:4:C:C5	3.06	0.44
22:V:49:C:O2	22:V:49:C:H2'	2.16	0.44
34:b:96:C:C2	34:b:97:C:C5	3.05	0.44
34:b:292:U:C2	34:b:293:U:C6	3.05	0.44
34:b:429:A:H2'	34:b:430:A:O4'	2.17	0.44
34:b:696:G:C6	34:b:697:G:N7	2.85	0.44
34:b:704:G:C2	34:b:726:G:N1	2.85	0.44
34:b:767:U:O2	34:b:768:G:N7	2.49	0.44
34:b:1064:C:C5'	36:i:86:LYS:C	2.90	0.44
34:b:1064:C:H5'	36:i:86:LYS:C	2.43	0.44
34:b:1069:A:O2'	34:b:1070:A:C6	2.66	0.44
34:b:1076:C:H2'	36:i:136:GLY:O	2.16	0.44
34:b:1077:A:P	36:i:136:GLY:O	2.75	0.44
34:b:1283:G:H22	34:b:1285:A:H3'	1.82	0.44
34:b:1317:G:C4	34:b:1318:U:C6	3.05	0.44
34:b:1332:G:C8	34:b:1610:A:C2	3.06	0.44
34:b:1368:G:C2	34:b:1369:G:C5	3.05	0.44
34:b:1577:C:H2'	34:b:1578:U:O4'	2.17	0.44
34:b:1849:G:H2'	34:b:1849:G:N3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2023:C:O2	34:b:2024:G:H8	1.96	0.44
34:b:2079:U:N3	34:b:2080:A:C8	2.85	0.44
34:b:2166:U:H2'	34:b:2167:U:H1'	1.98	0.44
34:b:2184:A:N1	34:b:2185:U:C5	2.85	0.44
34:b:2217:G:C6	34:b:2218:G:C5	3.05	0.44
34:b:2243:U:O2	34:b:2434:A:H2	2.01	0.44
34:b:2486:C:C2	34:b:2487:G:C8	3.05	0.44
34:b:2522:U:O2	34:b:2522:U:H2'	2.18	0.44
34:b:2590:A:C6	34:b:2591:C:C4	3.05	0.44
46:n:114:GLU:CD	46:n:118:ARG:HH21	2.22	0.44
53:u:75:ALA:O	53:u:76:ALA:C	2.60	0.44
1:A:366:A:H1'	1:A:395:C:O2	2.17	0.44
1:A:823:C:H42	1:A:877:G:H1	1.64	0.44
18:R:25:ILE:O	18:R:29:LYS:HG2	2.17	0.44
28:3:4:GLN:CB	34:b:2615:U:H1'	2.47	0.44
31:7:13:ARG:HG2	44:l:62:PRO:O	2.17	0.44
34:b:187:G:C2	34:b:210:C:C2	3.05	0.44
34:b:333:G:H2'	34:b:333:G:N3	2.32	0.44
34:b:377:G:C2	34:b:378:C:C6	3.05	0.44
34:b:390:U:O2	34:b:390:U:H2'	2.17	0.44
34:b:457:A:H61	34:b:470:A:H5"	1.82	0.44
34:b:720:U:O2	34:b:721:A:C8	2.71	0.44
34:b:1016:G:C6	34:b:1017:G:N7	2.86	0.44
34:b:1415:U:H2'	34:b:1416:G:H4'	2.00	0.44
34:b:1444:G:C6	34:b:1445:G:C5	3.06	0.44
34:b:1604:C:C2	34:b:1605:C:C5	3.05	0.44
34:b:1857:G:N1	34:b:1884:G:C6	2.86	0.44
34:b:1862:G:C2	34:b:1881:C:C2	3.05	0.44
34:b:1867:G:C4	34:b:1868:C:H5	2.03	0.44
34:b:1891:G:C2	34:b:1892:C:H1'	2.52	0.44
34:b:2509:G:N3	34:b:2509:G:H2'	2.33	0.44
34:b:2700:A:C2	34:b:2701:U:C5	3.05	0.44
34:b:2839:G:N2	34:b:2840:C:N1	2.65	0.44
34:b:2888:C:C2	34:b:2889:C:H5	2.33	0.44
36:i:52:LEU:HD12	36:i:52:LEU:N	2.32	0.44
37:d:39:ASP:CG	37:d:40:LEU:N	2.73	0.44
41:h:53:GLU:HB3	41:h:57:LYS:HE3	1.99	0.44
45:m:40:ARG:HD3	45:m:93:VAL:HG21	2.00	0.44
52:t:30:ILE:HD12	52:t:87:LEU:HD11	1.99	0.44
56:z:4:GLN:H	56:z:4:GLN:NE2	2.15	0.44
1:A:35:G:H2'	1:A:36:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:443:C:H2'	1:A:444:G:H8	1.82	0.44
1:A:784:A:H2'	1:A:785:G:O4'	2.18	0.44
1:A:1232:U:OP2	9:I:128:LYS:HE3	2.18	0.44
1:A:1281:C:H5"	1:A:1282:C:H5	1.83	0.44
4:D:74:TYR:CD1	4:D:92:LEU:HB3	2.53	0.44
9:I:8:THR:O	9:I:81:GLY:HA2	2.18	0.44
9:I:128:LYS:O	23:W:32:A:OP1	2.36	0.44
34:b:126:A:H2'	34:b:127:A:C8	2.52	0.44
34:b:195:A:C2	34:b:198:C:C4	3.05	0.44
34:b:237:C:C2	34:b:261:G:C2	3.06	0.44
34:b:413:C:C2	34:b:414:C:C5	3.06	0.44
34:b:438:G:N1	34:b:439:A:C5	2.85	0.44
34:b:639:U:H2'	34:b:640:C:C5	2.53	0.44
34:b:687:C:C2	34:b:688:U:C6	3.06	0.44
34:b:718:A:C6	34:b:719:C:H1'	2.51	0.44
34:b:821:A:H5"	34:b:822:G:H5"	2.00	0.44
34:b:979:A:N6	34:b:982:C:C4	2.86	0.44
34:b:1070:A:O4'	34:b:1070:A:OP1	2.35	0.44
34:b:1172:C:O2	34:b:1173:U:C5	2.71	0.44
34:b:1232:G:C2	34:b:1233:C:C2	3.05	0.44
34:b:1256:G:C6	34:b:1257:C:C5	3.06	0.44
34:b:1351:C:H2'	34:b:1352:U:C6	2.53	0.44
34:b:1479:G:N2	34:b:1513:U:C2	2.86	0.44
34:b:1702:G:C2	34:b:1703:G:C8	3.04	0.44
34:b:1997:C:N3	34:b:1998:A:N7	2.66	0.44
34:b:1999:C:N3	34:b:2000:C:H5	2.01	0.44
34:b:2062:A:HO2'	34:b:2063:C:P	2.41	0.44
34:b:2217:G:C4	34:b:2218:G:C8	3.05	0.44
34:b:2250:G:H8	34:b:2250:G:OP2	1.99	0.44
34:b:2346:A:H3'	34:b:2347:C:H5"	1.99	0.44
34:b:2408:U:H2'	34:b:2409:G:C8	2.53	0.44
34:b:2525:G:C2	34:b:2539:C:C2	3.04	0.44
34:b:2544:G:N2	34:b:2545:G:H1'	2.33	0.44
34:b:2740:A:C8	34:b:2763:G:N2	2.86	0.44
34:b:2838:G:C5	34:b:2839:G:C8	3.06	0.44
37:d:151:THR:HG22	37:d:152:PRO:N	2.33	0.44
43:k:78:ARG:NH1	48:p:71:GLU:OE2	2.50	0.44
43:k:108:ARG:HD3	43:k:113:MET:HE1	1.98	0.44
53:u:34:VAL:HG13	53:u:67:VAL:HG22	1.99	0.44
1:A:377:G:OP2	1:A:377:G:H4'	2.18	0.44
1:A:475:C:H2'	1:A:476:U:C5	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1152:A:P	10:J:72:ARG:HH22	2.41	0.44
1:A:1164:G:H2'	1:A:1165:U:C6	2.53	0.44
1:A:1219:A:H2'	1:A:1220:G:H8	1.82	0.44
12:L:95:HIS:HB3	12:L:96:THR:H	1.67	0.44
15:O:23:SER:HB2	15:O:26:VAL:HG23	2.00	0.44
16:P:10:GLY:HA3	16:P:15:PRO:C	2.42	0.44
28:3:29:SER:HG	28:3:40:ARG:CD	2.10	0.44
33:a:6:G:C2	33:a:7:G:C8	3.06	0.44
34:b:185:G:N1	34:b:186:G:N7	2.65	0.44
34:b:366:C:N4	34:b:367:G:C8	2.86	0.44
34:b:425:G:N3	34:b:426:C:C5	2.86	0.44
34:b:534:U:C2	34:b:535:G:N7	2.85	0.44
34:b:763:G:N1	34:b:765:C:C2	2.86	0.44
34:b:842:U:C4	34:b:843:G:C8	3.06	0.44
34:b:845:A:H3'	34:b:845:A:H8	1.83	0.44
34:b:851:C:C2	34:b:852:U:C6	3.05	0.44
34:b:853:C:O2	34:b:854:C:C6	2.71	0.44
34:b:1228:G:C2	34:b:1229:C:C2	3.06	0.44
34:b:1443:U:N3	34:b:1444:G:C8	2.86	0.44
34:b:1740:G:C4	34:b:1741:C:C6	3.05	0.44
34:b:1841:U:N3	34:b:1842:G:N7	2.65	0.44
34:b:1868:C:C2'	34:b:1869:G:H8	2.24	0.44
34:b:1992:G:N2	34:b:1995:U:H5	2.16	0.44
34:b:2152:G:H8	34:b:2152:G:H5"	1.83	0.44
34:b:2181:U:C2	34:b:2182:U:C6	3.06	0.44
34:b:2189:U:O2	34:b:2190:G:C8	2.71	0.44
34:b:2307:G:O4'	34:b:2308:G:N2	2.50	0.44
34:b:2330:G:N1	34:b:2331:G:C8	2.85	0.44
34:b:2391:G:O2'	34:b:2424:C:N4	2.41	0.44
34:b:2470:G:C2	34:b:2471:A:N7	2.85	0.44
34:b:2480:C:N4	34:b:2481:G:N7	2.66	0.44
34:b:2533:U:OP1	34:b:2665:A:O2'	2.31	0.44
34:b:2544:G:N1	34:b:2545:G:C5	2.85	0.44
34:b:2589:A:N6	34:b:2590:A:N7	2.65	0.44
34:b:2801:G:C6	34:b:2802:G:N7	2.85	0.44
41:h:65:ALA:N	41:h:85:GLY:HA3	2.33	0.44
1:A:773:G:H5"	35:c:202:LEU:CD1	2.47	0.44
1:A:1216:A:H5"	14:N:4:SER:OG	2.18	0.44
1:A:1293:C:H2'	1:A:1294:G:H8	1.83	0.44
2:B:113:LEU:HD13	2:B:143:LEU:HB3	1.98	0.44
11:K:51:PHE:HD1	11:K:55:ARG:HB3	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:30:GLY:O	16:P:31:ARG:C	2.60	0.44
26:1:11:VAL:O	26:1:15:ASN:ND2	2.51	0.44
34:b:55:G:N2	34:b:116:C:C2	2.86	0.44
34:b:65:U:C4	34:b:66:C:C5	3.06	0.44
34:b:118:A:C8	34:b:120:U:C4	3.05	0.44
34:b:257:C:C2	34:b:258:G:C8	3.06	0.44
34:b:438:G:C2	34:b:439:A:C8	3.05	0.44
34:b:593:U:C2	34:b:594:U:C6	3.05	0.44
34:b:608:A:C6	34:b:621:A:C5	3.06	0.44
34:b:662:G:C2	34:b:663:G:C5	3.06	0.44
34:b:691:C:H2'	34:b:691:C:O2	2.17	0.44
34:b:730:A:N3	34:b:731:C:C6	2.86	0.44
34:b:746:U:O4'	34:b:748:G:N2	2.51	0.44
34:b:867:C:C2	34:b:868:U:C5	3.05	0.44
34:b:872:U:N3	34:b:873:C:C5	2.85	0.44
34:b:1142:A:O2'	34:b:1143:A:C2'	2.66	0.44
34:b:1299:G:N2	34:b:1640:A:N7	2.66	0.44
34:b:1300:G:C5	34:b:1626:A:C2	3.06	0.44
34:b:1368:G:N2	34:b:1369:G:C4	2.86	0.44
34:b:1407:G:N1	34:b:1408:G:C5	2.86	0.44
34:b:1599:U:O2	34:b:1600:C:C5	2.70	0.44
34:b:1759:A:C2	34:b:1760:C:N1	2.86	0.44
34:b:1794:A:C4	34:b:1795:C:C5	3.06	0.44
34:b:1806:C:N3	34:b:1807:G:C8	2.86	0.44
34:b:1906:G:C8	34:b:1929:G:C5	3.06	0.44
34:b:2215:C:C4	34:b:2216:G:N7	2.85	0.44
34:b:2232:C:N3	34:b:2233:U:C5	2.86	0.44
34:b:2526:G:C6	34:b:2527:C:C6	3.05	0.44
36:i:49:GLU:C	36:i:50:LYS:HD3	2.43	0.44
39:f:40:VAL:HG11	39:f:50:LEU:HD13	2.00	0.44
40:g:24:ILE:HD11	40:g:37:LEU:CD1	2.35	0.44
47:o:33:ARG:O	47:o:34:HIS:HB2	2.17	0.44
56:z:15:THR:OG1	56:z:16:PRO:CD	2.63	0.44
1:A:713:G:H2'	1:A:714:G:C8	2.53	0.44
2:B:183:PHE:CD1	2:B:197:PHE:HD2	2.36	0.44
7:G:30:MET:HG3	7:G:34:LYS:O	2.18	0.44
10:J:21:ALA:HA	10:J:24:GLU:OE2	2.18	0.44
12:L:30:ARG:O	12:L:57:THR:HG23	2.17	0.44
16:P:10:GLY:HA2	16:P:16:PHE:HB3	2.00	0.44
21:U:28:LEU:HD12	21:U:28:LEU:N	2.32	0.44
33:a:22:U:O2	33:a:23:G:N7	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:97:C:O2	33:a:97:C:H2'	2.17	0.44
34:b:21:A:C4	34:b:22:C:C6	3.05	0.44
34:b:323:C:N3	34:b:333:G:C8	2.86	0.44
34:b:626:A:C2	44:l:78:ARG:HD2	2.50	0.44
34:b:651:G:N1	34:b:652:U:C5	2.86	0.44
34:b:704:G:N2	34:b:726:G:C2	2.86	0.44
34:b:901:C:N4	34:b:902:C:C4	2.86	0.44
34:b:1079:C:O2'	34:b:1079:C:O2	2.35	0.44
34:b:1092:C:C2	34:b:1093:G:C5	3.06	0.44
34:b:1164:C:O2	34:b:1164:C:H2'	2.18	0.44
34:b:1547:C:O2	34:b:1547:C:H2'	2.16	0.44
34:b:1746:A:C4	34:b:1747:U:C5	3.06	0.44
34:b:1760:C:N4	34:b:1761:C:C4	2.86	0.44
34:b:1773:A:C5	34:b:1774:C:O4'	2.70	0.44
34:b:1807:G:H22	34:b:1809:A:H3'	1.83	0.44
34:b:1839:G:N3	34:b:1839:G:C2'	2.80	0.44
34:b:2287:A:N7	34:b:2289:G:C8	2.86	0.44
34:b:2397:G:C2	34:b:2420:C:C2	3.06	0.44
35:c:52:ARG:HH22	35:c:247:PRO:HG2	1.83	0.44
36:i:49:GLU:HG2	36:i:50:LYS:H	1.83	0.44
36:i:126:ARG:CA	36:i:129:GLU:HB2	2.43	0.44
46:n:114:GLU:CD	46:n:118:ARG:HD2	2.43	0.44
52:t:24:MET:SD	52:t:30:ILE:HG12	2.58	0.44
1:A:444:G:C6	1:A:491:G:C6	3.06	0.43
1:A:680:C:H2'	1:A:681:A:C8	2.53	0.43
1:A:946:A:H2'	1:A:947:G:H8	1.83	0.43
1:A:1252:A:H61	1:A:1285:A:N6	2.14	0.43
1:A:1341:U:OP1	23:W:32:A:H5"	2.18	0.43
2:B:113:LEU:HD13	2:B:143:LEU:CB	2.48	0.43
4:D:44:LYS:HD2	4:D:45:PRO:HD2	1.99	0.43
13:M:111:PRO:O	13:M:113:LYS:HG3	2.18	0.43
18:R:32:ILE:HD13	18:R:67:LEU:HD13	1.99	0.43
22:V:53:G:N2	22:V:62:C:C2	2.85	0.43
34:b:7:G:C5	34:b:8:C:C5	3.06	0.43
34:b:70:G:C2	34:b:114:U:C4	3.05	0.43
34:b:213:A:N1	34:b:214:G:O6	2.50	0.43
34:b:226:A:N3	34:b:227:A:C8	2.86	0.43
34:b:268:C:C2	34:b:425:G:N1	2.86	0.43
34:b:618:G:H2'	34:b:619:G:C8	2.53	0.43
34:b:629:G:C2	34:b:630:G:H1'	2.53	0.43
34:b:661:A:C4	34:b:662:G:C8	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:700:G:H2'	34:b:701:G:O4'	2.17	0.43
34:b:706:A:H2'	34:b:707:G:O4'	2.17	0.43
34:b:903:C:O2	34:b:904:G:C8	2.71	0.43
34:b:960:A:H5"	34:b:961:C:OP2	2.18	0.43
34:b:1082:U:C4	36:i:123:ALA:HB1	2.49	0.43
34:b:1218:G:O6	34:b:1219:U:C4	2.71	0.43
34:b:1539:U:C2	34:b:1540:G:N7	2.86	0.43
34:b:1573:G:C6	34:b:1574:C:H1'	2.54	0.43
34:b:1760:C:C5	34:b:1761:C:C5	3.06	0.43
34:b:2045:C:O2	34:b:2045:C:H2'	2.18	0.43
34:b:2073:C:N3	34:b:2074:U:C5	2.86	0.43
34:b:2150:C:N3	34:b:2151:U:C4	2.86	0.43
34:b:2307:G:O6	34:b:2311:A:N6	2.50	0.43
34:b:2317:A:C6	34:b:2318:G:C4	3.06	0.43
34:b:2332:C:O2	34:b:2332:C:H2'	2.17	0.43
34:b:2514:U:N3	34:b:2515:C:C5	2.85	0.43
34:b:2657:A:N1	34:b:2658:C:H1'	2.32	0.43
34:b:2703:C:N3	34:b:2704:C:C5	2.86	0.43
34:b:2839:G:H21	34:b:2840:C:H1'	1.82	0.43
35:c:182:ARG:NH2	35:c:183:LYS:O	2.50	0.43
36:i:59:THR:HG22	36:i:61:TYR:CE2	2.53	0.43
1:A:6:G:H21	5:E:102:THR:HG21	1.83	0.43
1:A:367:U:O4'	1:A:394:G:N2	2.51	0.43
1:A:723:U:H5'	1:A:724:G:H5"	1.99	0.43
1:A:1249:C:OP1	9:I:32:ARG:NH2	2.51	0.43
1:A:1300:G:O2'	1:A:1301:U:P	2.76	0.43
3:C:149:LYS:NZ	3:C:200:TRP:CE2	2.86	0.43
4:D:12:ARG:NH1	4:D:37:PRO:HA	2.32	0.43
5:E:145:ASN:O	5:E:146:MET:HG2	2.18	0.43
16:P:17:TYR:CD1	16:P:17:TYR:N	2.86	0.43
22:V:19:G:C2	22:V:57:G:N2	2.85	0.43
22:V:40:C:C2	22:V:41:C:C5	3.06	0.43
22:V:56:C:N3	22:V:57:G:N1	2.65	0.43
22:V:56:C:H6	34:b:2309:A:N3	2.16	0.43
24:X:15:G:H2'	24:X:16:C:C5'	2.48	0.43
33:a:42:C:C2'	33:a:43:C:O5'	2.67	0.43
34:b:309:A:H1'	34:b:329:G:H21	1.84	0.43
34:b:416:U:C4	34:b:417:C:C5	3.06	0.43
34:b:438:G:C6	34:b:439:A:C5	3.06	0.43
34:b:482:A:N6	34:b:506:G:O2'	2.51	0.43
34:b:661:A:C2	34:b:662:G:N9	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:883:G:H2'	34:b:884:U:O4'	2.18	0.43
34:b:961:C:O2	34:b:961:C:O4'	2.35	0.43
34:b:1060:U:O2	36:i:128:ILE:CD1	2.66	0.43
34:b:1216:G:C2	34:b:1234:U:C2	3.06	0.43
34:b:1297:C:N3	34:b:1298:C:C5	2.85	0.43
34:b:1393:A:O2'	34:b:1394:U:H5'	2.18	0.43
34:b:1442:U:C4	34:b:1443:U:C5	3.06	0.43
34:b:1604:C:H2'	34:b:1605:C:H6	1.82	0.43
34:b:1861:G:C2	34:b:1862:G:C8	3.06	0.43
34:b:2024:G:C6	34:b:2025:C:C4	3.06	0.43
34:b:2065:C:C4	34:b:2066:C:C5	3.06	0.43
34:b:2149:U:C2	34:b:2150:C:C5	3.06	0.43
34:b:2216:G:N3	34:b:2217:G:C8	2.86	0.43
34:b:2259:U:H1'	34:b:2427:C:C2	2.53	0.43
34:b:2407:A:N3	34:b:2408:U:C6	2.85	0.43
34:b:2507:C:N1	34:b:2583:G:N2	2.66	0.43
34:b:2564:A:O2'	34:b:2565:A:O5'	2.35	0.43
34:b:2589:A:N1	34:b:2590:A:C8	2.86	0.43
36:i:30:GLN:NE2	36:i:32:VAL:HB	2.32	0.43
37:d:129:THR:HG23	37:d:140:HIS:O	2.18	0.43
47:o:100:HIS:O	47:o:104:GLN:CB	2.62	0.43
52:t:18:GLU:O	52:t:21:SER:N	2.51	0.43
56:z:19:ILE:HD12	56:z:19:ILE:C	2.42	0.43
1:A:219:U:H2'	1:A:220:G:C8	2.52	0.43
1:A:387:U:O5'	1:A:387:U:H6	2.01	0.43
1:A:628:G:H2'	1:A:629:A:C8	2.52	0.43
1:A:1002:G:H1	1:A:1038:C:H42	1.65	0.43
1:A:1451:U:OP2	1:A:1452:C:C5	2.71	0.43
2:B:159:ALA:HB1	2:B:183:PHE:HE2	1.83	0.43
5:E:139:THR:HA	5:E:143:LEU:HB2	1.99	0.43
16:P:67:ILE:HG23	16:P:72:ALA:HB2	1.99	0.43
21:U:35:GLU:HB3	21:U:39:LYS:HB2	2.00	0.43
33:a:97:C:O2	34:b:918:A:H4'	2.18	0.43
34:b:3:U:C2	34:b:4:U:C6	3.05	0.43
34:b:167:A:C2'	34:b:168:G:O4'	2.62	0.43
34:b:185:G:N3	34:b:186:G:C8	2.86	0.43
34:b:186:G:N1	34:b:187:G:N7	2.65	0.43
34:b:234:U:C4	34:b:430:A:C6	3.01	0.43
34:b:243:U:C2	34:b:244:A:C8	3.06	0.43
34:b:246:C:H2'	34:b:247:G:C5'	2.48	0.43
34:b:350:G:H2'	34:b:351:C:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:557:C:H3'	34:b:558:U:O2	2.18	0.43
34:b:818:G:C5	34:b:1187:G:C2	3.07	0.43
34:b:867:C:C2	34:b:868:U:C6	3.07	0.43
34:b:1089:A:O2'	34:b:1090:A:P	2.76	0.43
34:b:1183:U:C2	34:b:1184:U:C5	3.05	0.43
34:b:1291:C:H2'	34:b:1292:G:O4'	2.19	0.43
34:b:1368:G:C2	34:b:1369:G:N7	2.86	0.43
34:b:1437:C:H2'	34:b:1438:U:H6	1.82	0.43
34:b:1773:A:C8	34:b:1773:A:H3'	2.53	0.43
34:b:2137:U:O2	34:b:2137:U:H2'	2.18	0.43
34:b:2161:C:O5'	34:b:2162:G:OP2	2.35	0.43
34:b:2199:A:N3	34:b:2199:A:H2'	2.34	0.43
34:b:2351:G:N2	34:b:2365:G:C2	2.87	0.43
34:b:2451:A:H2	57:b:9000:CLM:C8	2.30	0.43
34:b:2480:C:O2	34:b:2480:C:C2'	2.67	0.43
34:b:2481:G:H2'	34:b:2481:G:N3	2.33	0.43
34:b:2744:G:N1	34:b:2745:C:C4	2.86	0.43
39:f:61:SER:O	39:f:63:GLN:N	2.51	0.43
1:A:163:C:H2'	1:A:164:G:O4'	2.17	0.43
1:A:315:A:H4'	1:A:353:A:H62	1.83	0.43
1:A:374:A:C8	1:A:375:U:C4	3.07	0.43
1:A:573:A:N3	1:A:883:C:O2'	2.52	0.43
1:A:863:U:H2'	1:A:865:A:OP2	2.18	0.43
1:A:1178:G:C8	9:I:98:ARG:NH1	2.77	0.43
1:A:1292:G:H5"	9:I:40:ARG:NH1	2.33	0.43
23:W:34:G:O2'	23:W:35:C:C6	2.68	0.43
33:a:34:A:C2	33:a:44:G:C5	3.07	0.43
33:a:96:G:C2	33:a:97:C:N1	2.87	0.43
33:a:114:C:N3	33:a:115:A:C8	2.86	0.43
34:b:214:G:C2	34:b:215:G:C2	3.07	0.43
34:b:238:C:O2'	34:b:608:A:N3	2.46	0.43
34:b:239:C:C2	34:b:259:G:N1	2.86	0.43
34:b:452:G:N3	34:b:452:G:H2'	2.33	0.43
34:b:536:G:C5	34:b:537:G:C8	3.07	0.43
34:b:723:C:H2'	34:b:724:U:O4'	2.18	0.43
34:b:1000:A:C5	34:b:1155:A:C6	3.06	0.43
34:b:1035:U:C2	34:b:1036:G:C8	3.05	0.43
34:b:1142:A:C2	34:b:1144:A:C8	3.06	0.43
34:b:1257:C:O2	34:b:1257:C:H2'	2.18	0.43
34:b:1462:C:O2	34:b:1463:C:C5	2.71	0.43
34:b:1548:A:C2	34:b:1549:A:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1703:G:N3	34:b:1704:C:C6	2.86	0.43
34:b:1716:U:C2	34:b:1717:A:C8	3.06	0.43
34:b:1943:U:H4'	34:b:1944:U:O5'	2.18	0.43
34:b:1956:U:N3	34:b:1957:C:C6	2.86	0.43
34:b:1993:U:H4'	37:d:133:THR:HG22	1.99	0.43
34:b:2094:A:C5'	41:h:25:TYR:CE1	3.01	0.43
34:b:2204:G:N1	34:b:2205:A:C5	2.86	0.43
34:b:2469:A:N6	34:b:2481:G:H2'	2.33	0.43
34:b:2515:C:C2	34:b:2570:G:C2	3.06	0.43
34:b:2656:U:C4	34:b:2657:A:C8	3.06	0.43
34:b:2729:G:C4	34:b:2730:C:C6	3.07	0.43
34:b:2826:A:C6	34:b:2827:C:C6	3.07	0.43
36:i:79:LEU:HD21	36:i:132:ALA:HB1	2.01	0.43
56:z:18:TRP:CE3	56:z:18:TRP:CA	3.00	0.43
1:A:83:C:O2'	1:A:85:U:OP2	2.37	0.43
1:A:373:A:H62	1:A:481:G:C4'	2.31	0.43
1:A:787:A:H2'	1:A:788:U:C6	2.53	0.43
1:A:1477:U:H2'	1:A:1478:U:C6	2.53	0.43
2:B:67:LEU:HD11	2:B:91:VAL:HG23	1.99	0.43
2:B:187:ASP:CG	2:B:203:ASP:HB3	2.42	0.43
16:P:46:LYS:HB2	16:P:47:GLU:H	1.60	0.43
23:W:49:G:H3'	23:W:50:G:C8	2.53	0.43
34:b:27:G:C2	34:b:512:G:N2	2.86	0.43
34:b:157:C:O2	34:b:157:C:H2'	2.17	0.43
34:b:263:G:C2	34:b:264:C:C2	3.06	0.43
34:b:312:G:C2	34:b:313:G:C8	3.07	0.43
34:b:378:C:C2	34:b:379:G:C8	3.06	0.43
34:b:812:C:C5	34:b:1250:G:C6	3.06	0.43
34:b:983:A:C5	34:b:984:A:C6	3.07	0.43
34:b:1050:A:C2	34:b:1051:G:H1'	2.53	0.43
34:b:1063:G:C5'	36:i:80:LYS:HG3	2.46	0.43
34:b:1144:A:C4	34:b:1145:C:C5	3.06	0.43
34:b:1444:G:N1	34:b:1445:G:C5	2.87	0.43
34:b:2185:U:N3	34:b:2186:G:C8	2.83	0.43
34:b:2205:A:C2	34:b:2206:C:C6	3.07	0.43
34:b:2557:G:C6	34:b:2558:C:N4	2.86	0.43
34:b:2616:C:C2	34:b:2617:U:C6	3.07	0.43
34:b:2749:A:C6	34:b:2750:A:C4	3.06	0.43
56:z:22:ALA:N	56:z:23:GLN:CB	2.74	0.43
1:A:85:U:H4'	1:A:86:G:O4'	2.18	0.43
1:A:447:G:N2	1:A:487:A:H62	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1130:A:N6	1:A:1144:G:H1'	2.33	0.43
7:G:69:ARG:HB2	7:G:95:ARG:HB3	2.01	0.43
10:J:5:ARG:NH1	10:J:79:PRO:HD2	2.33	0.43
10:J:15:HIS:HA	10:J:18:ILE:HG22	2.00	0.43
19:S:44:ILE:HD13	19:S:63:ASP:OD1	2.19	0.43
22:V:75:C:H4'	22:V:76:A:OP1	2.18	0.43
33:a:47:C:C2	33:a:48:U:H6	2.34	0.43
34:b:111:A:C6	34:b:112:U:C4	3.06	0.43
34:b:152:A:H61	34:b:173:A:H61	1.67	0.43
34:b:160:A:C5	34:b:167:A:N1	2.86	0.43
34:b:323:C:O2	34:b:323:C:O4'	2.34	0.43
34:b:529:A:C4	34:b:2023:C:C5	3.07	0.43
34:b:672:C:H2'	34:b:673:C:O4'	2.18	0.43
34:b:807:U:O2'	34:b:2060:A:N1	2.48	0.43
34:b:835:C:N4	34:b:836:G:N7	2.67	0.43
34:b:1015:U:N3	34:b:1016:G:N7	2.66	0.43
34:b:1029:A:H2'	34:b:1030:C:O4'	2.18	0.43
34:b:1063:G:H3'	36:i:80:LYS:HG3	0.77	0.43
34:b:1079:C:H3'	36:i:129:GLU:CD	2.43	0.43
34:b:1262:A:OP2	51:s:99:ARG:NH2	2.51	0.43
34:b:1385:A:C5	34:b:1403:A:C2	3.05	0.43
34:b:1593:A:C4	34:b:1594:U:C6	3.06	0.43
34:b:1608:A:C6	34:b:1611:C:C5	3.06	0.43
34:b:1703:G:N1	34:b:1704:C:C4	2.86	0.43
34:b:1767:G:N3	34:b:1767:G:H2'	2.32	0.43
34:b:1791:A:H8	34:b:1791:A:P	2.42	0.43
34:b:1820:U:N3	35:c:159:GLY:HA3	2.34	0.43
34:b:2217:G:N2	34:b:2218:G:H1'	2.33	0.43
34:b:2464:G:C5	34:b:2465:C:C6	3.07	0.43
34:b:2708:G:O4'	46:n:71:ARG:NH1	2.51	0.43
34:b:2748:A:C2	34:b:2749:A:H1'	2.53	0.43
34:b:2798:U:C5	34:b:2799:A:N1	2.86	0.43
34:b:2800:A:C5	34:b:2801:G:C8	3.06	0.43
35:c:41:GLY:O	35:c:43:ARG:NH1	2.51	0.43
42:j:23:LYS:HE3	42:j:28:LEU:HD12	1.99	0.43
47:o:18:LEU:HD22	47:o:25:ARG:HG2	2.00	0.43
51:s:62:ASP:N	51:s:62:ASP:OD1	2.51	0.43
2:B:22:TRP:HA	2:B:188:THR:HG22	2.00	0.43
3:C:24:ASN:ND2	10:J:11:LYS:NZ	2.66	0.43
3:C:40:GLN:O	3:C:44:LYS:HG2	2.19	0.43
3:C:149:LYS:HD2	3:C:166:TRP:HE1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:84:ASN:OD1	5:E:101:GLY:HA3	2.19	0.43
6:F:75:GLU:OE2	6:F:79:ARG:NE	2.51	0.43
15:O:81:ILE:HG23	15:O:86:LEU:O	2.19	0.43
22:V:58:A:O2'	22:V:61:C:N4	2.52	0.43
28:3:25:VAL:CG1	28:3:26:THR:H	2.31	0.43
34:b:154:U:C4	34:b:155:A:N7	2.87	0.43
34:b:248:G:C8	34:b:250:G:C5	3.07	0.43
34:b:291:G:C2	34:b:292:U:C6	3.07	0.43
34:b:299:A:N6	34:b:339:U:N3	2.66	0.43
34:b:395:U:O2'	34:b:396:G:N7	2.42	0.43
34:b:499:U:H2'	34:b:500:G:O4'	2.18	0.43
34:b:661:A:C6	34:b:662:G:N7	2.87	0.43
34:b:730:A:N3	34:b:731:C:C5	2.86	0.43
34:b:869:G:C5	34:b:870:U:C5	3.07	0.43
34:b:927:A:C2	34:b:928:A:C4	3.06	0.43
34:b:996:A:N1	34:b:997:G:N7	2.66	0.43
34:b:1013:C:C2	34:b:1014:A:N7	2.86	0.43
34:b:1059:G:C6	36:i:125:THR:CA	2.70	0.43
34:b:1071:G:N2	34:b:1089:A:C5'	2.81	0.43
34:b:1225:G:O2'	34:b:1226:A:H5'	2.17	0.43
34:b:1476:U:H5'	34:b:1732:C:O2	2.15	0.43
34:b:1501:G:N3	34:b:1501:G:H2'	2.32	0.43
34:b:1611:C:O2	34:b:1611:C:H2'	2.19	0.43
34:b:1721:G:N2	34:b:1738:G:O2'	2.52	0.43
34:b:1747:U:C2	34:b:1748:C:C6	3.07	0.43
34:b:2137:U:C2	34:b:2138:G:H8	2.36	0.43
34:b:2531:A:OP2	40:g:175:LYS:HB2	2.19	0.43
34:b:2862:G:C4	34:b:2863:C:C5	3.07	0.43
36:i:56:VAL:CG2	36:i:68:PHE:HB2	2.49	0.43
38:e:62:GLN:HG3	38:e:63:LYS:HG3	1.99	0.43
1:A:26:A:N6	1:A:558:G:H1'	2.34	0.43
1:A:377:G:H2'	1:A:378:G:H5"	2.01	0.43
1:A:710:G:H2'	1:A:711:G:C8	2.54	0.43
1:A:787:A:H2'	1:A:788:U:H6	1.83	0.43
1:A:1239:A:N6	1:A:1299:A:H62	2.16	0.43
1:A:1257:A:C2	14:N:20:PHE:HE2	2.36	0.43
3:C:149:LYS:HZ1	3:C:200:TRP:NE1	2.16	0.43
5:E:11:GLN:HE21	5:E:116:VAL:HG12	1.84	0.43
9:I:122:ARG:HG2	9:I:123:ARG:N	2.32	0.43
16:P:33:ILE:O	16:P:34:GLU:HB3	2.18	0.43
33:a:34:A:C5	33:a:44:G:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:49:A:C5	34:b:120:U:O2	2.71	0.43
34:b:459:U:O2	34:b:460:A:C8	2.72	0.43
34:b:635:C:C2	34:b:636:G:C8	3.06	0.43
34:b:668:A:C5	34:b:670:A:C8	3.07	0.43
34:b:734:A:N3	34:b:734:A:H2'	2.33	0.43
34:b:784:G:N3	34:b:784:G:O4'	2.51	0.43
34:b:903:C:N3	34:b:904:G:N7	2.66	0.43
34:b:990:A:N6	34:b:1186:G:HO2'	2.16	0.43
34:b:990:A:H62	34:b:1186:G:H1'	1.83	0.43
34:b:1025:G:C2	34:b:1135:C:N1	2.87	0.43
34:b:1063:G:C8	36:i:79:LEU:CD1	2.98	0.43
34:b:1076:C:O3'	36:i:136:GLY:O	2.32	0.43
34:b:1220:G:C6	34:b:1221:C:N4	2.86	0.43
34:b:1272:A:C6	34:b:1618:A:N3	2.80	0.43
34:b:1491:G:C2	34:b:1492:G:C5	3.06	0.43
34:b:1494:A:N3	34:b:1495:A:N7	2.67	0.43
34:b:1518:C:C4	34:b:1519:G:N7	2.86	0.43
34:b:2270:A:C2	34:b:2271:G:C4	3.07	0.43
34:b:2287:A:C6	34:b:2344:U:C4	3.05	0.43
34:b:2293:G:C2	34:b:2294:G:C1'	3.02	0.43
34:b:2330:G:C6	34:b:2331:G:C4	3.07	0.43
34:b:2353:G:C5	34:b:2354:C:C5	3.06	0.43
34:b:2453:A:O2'	34:b:2572:A:N3	2.52	0.43
34:b:2483:C:C5	34:b:2484:G:C8	3.06	0.43
34:b:2819:G:C5	34:b:2821:A:C6	3.06	0.43
34:b:2886:A:C6	34:b:2887:A:N7	2.86	0.43
56:z:15:THR:N	56:z:16:PRO:CD	2.82	0.43
1:A:96:U:H2'	1:A:97:G:H8	1.82	0.43
1:A:248:C:H4'	1:A:283:U:O2'	2.19	0.43
1:A:357:G:OP1	1:A:367:U:H2'	2.19	0.43
1:A:1296:C:N4	1:A:1297:G:O6	2.51	0.43
10:J:45:ARG:HG3	10:J:47:GLU:OE2	2.19	0.43
17:Q:51:GLU:OE1	17:Q:51:GLU:N	2.51	0.43
20:T:70:LYS:HG3	20:T:73:ARG:NH2	2.31	0.43
23:W:49:G:O2'	23:W:50:G:OP1	2.31	0.43
33:a:17:C:H2'	33:a:18:G:O4'	2.19	0.43
34:b:27:G:N2	34:b:512:G:O2'	2.52	0.43
34:b:201:C:C4	34:b:202:U:C4	3.07	0.43
34:b:387:U:H5'	34:b:387:U:C6	2.54	0.43
34:b:544:C:O2	34:b:544:C:O2'	2.30	0.43
34:b:571:U:C2	34:b:2030:A:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:589:U:N3	34:b:590:A:N7	2.67	0.43
34:b:604:G:H2'	34:b:605:G:O5'	2.18	0.43
34:b:664:G:C6	34:b:665:U:C5	3.07	0.43
34:b:924:G:N1	34:b:925:A:C5	2.87	0.43
34:b:1021:A:H8	34:b:1022:G:H4'	1.83	0.43
34:b:1142:A:C5	34:b:1144:A:C6	3.07	0.43
34:b:1165:A:C2	34:b:1166:G:N7	2.87	0.43
34:b:1173:U:H2'	34:b:1174:U:O4'	2.18	0.43
34:b:1197:G:H2'	34:b:1197:G:N3	2.34	0.43
34:b:1296:G:N2	34:b:1297:C:C2	2.87	0.43
34:b:1328:A:H2'	34:b:1330:C:C4	2.54	0.43
34:b:1446:C:H2'	34:b:1447:C:C6	2.54	0.43
34:b:1476:U:H5'	34:b:1732:C:H2'	2.01	0.43
34:b:1499:C:C5	34:b:1500:G:N7	2.87	0.43
34:b:1500:G:O6	34:b:1501:G:N7	2.49	0.43
34:b:1504:A:N1	34:b:1505:A:C5	2.87	0.43
34:b:1657:U:H5"	37:d:138:LEU:O	2.19	0.43
34:b:1745:A:C6	34:b:1746:A:N7	2.87	0.43
34:b:1794:A:N1	34:b:1795:C:C4	2.87	0.43
34:b:1807:G:N2	34:b:1809:A:H3'	2.33	0.43
34:b:2033:A:C5	34:b:2036:C:C4	3.07	0.43
34:b:2153:C:N3	34:b:2154:A:C8	2.87	0.43
34:b:2317:A:C2	34:b:2318:G:C1'	3.02	0.43
34:b:2482:A:C5	34:b:2483:C:C5	3.06	0.43
34:b:2839:G:C2	34:b:2840:C:C5	3.06	0.43
34:b:2848:G:N2	34:b:2867:G:C5	2.87	0.43
34:b:2899:A:H2'	34:b:2900:A:H8	1.83	0.43
41:h:66:ASN:HD22	41:h:148:ALA:C	2.27	0.43
42:j:17:VAL:HG23	42:j:137:PRO:HB2	2.01	0.43
1:A:28:A:O2'	1:A:296:U:OP1	2.32	0.43
1:A:151:A:O2'	1:A:152:A:O5'	2.36	0.43
1:A:235:C:H2'	1:A:236:A:C8	2.54	0.43
1:A:411:A:H2'	4:D:30:LYS:HD3	2.01	0.43
1:A:439:U:H5'	4:D:119:HIS:CD2	2.53	0.43
1:A:942:G:C5	9:I:125:GLN:NE2	2.87	0.43
1:A:1252:A:O2'	1:A:1369:C:H4'	2.19	0.43
1:A:1308:U:H2'	1:A:1309:G:C8	2.44	0.43
3:C:152:VAL:HG22	3:C:197:VAL:HG22	2.00	0.43
5:E:44:ARG:HA	5:E:71:ILE:O	2.19	0.43
8:H:112:ASP:OD1	8:H:113:ARG:N	2.51	0.43
11:K:93:GLU:OE1	11:K:93:GLU:N	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:23:GLU:HG2	19:S:24:SER:H	1.83	0.43
28:3:43:ILE:HG22	28:3:49:TYR:HB2	2.01	0.43
34:b:215:G:H4'	34:b:216:A:OP1	2.18	0.43
34:b:251:A:C8	34:b:252:G:C1'	3.02	0.43
34:b:622:G:C4	34:b:623:C:C5	3.07	0.43
34:b:658:U:O2	34:b:659:G:C8	2.71	0.43
34:b:759:G:N1	34:b:760:G:C5	2.87	0.43
34:b:831:G:H2'	34:b:832:U:O4'	2.19	0.43
34:b:881:G:O6	34:b:897:C:H1'	2.19	0.43
34:b:906:U:C2	34:b:907:G:C8	3.07	0.43
34:b:1239:G:H5"	34:b:1240:U:P	2.59	0.43
34:b:1368:G:C2	34:b:1369:G:C8	3.07	0.43
34:b:1434:A:N7	34:b:1435:G:C5	2.86	0.43
34:b:1517:G:C2	34:b:1518:C:C1'	3.02	0.43
34:b:1805:A:C6	34:b:1806:C:C5	3.07	0.43
34:b:2014:A:H2'	34:b:2015:A:H8	1.81	0.43
34:b:2199:A:H5"	34:b:2200:C:OP2	2.19	0.43
34:b:2521:C:O2'	34:b:2564:A:N3	2.46	0.43
34:b:2675:A:C5	34:b:2676:C:C5	3.06	0.43
34:b:2801:G:C4	34:b:2802:G:C8	3.06	0.43
40:g:37:LEU:HD11	40:g:43:VAL:HG11	2.00	0.43
42:j:80:HIS:O	42:j:81:ILE:C	2.62	0.43
53:u:7:ARG:NH2	53:u:8:ASP:OD1	2.48	0.43
1:A:159:G:N2	1:A:162:A:N7	2.67	0.42
1:A:426:U:OP1	4:D:35:GLN:NE2	2.51	0.42
1:A:1348:U:O5'	9:I:111:GLU:CG	2.47	0.42
2:B:114:LYS:O	2:B:117:GLU:HB3	2.19	0.42
3:C:146:LYS:HB3	3:C:202:PHE:CD2	2.54	0.42
16:P:71:VAL:O	16:P:75:ILE:HG13	2.18	0.42
18:R:72:ARG:HG2	21:U:4:LYS:HD3	2.00	0.42
20:T:34:VAL:HG21	20:T:53:MET:SD	2.58	0.42
30:6:18:PHE:HB2	34:b:126:A:C2	2.53	0.42
33:a:5:U:C2	33:a:6:G:C8	3.07	0.42
34:b:175:G:H2'	34:b:176:A:H8	1.84	0.42
34:b:267:C:N4	34:b:268:C:C5	2.87	0.42
34:b:306:U:C5	34:b:307:G:C8	3.07	0.42
34:b:464:U:C5	34:b:788:A:C6	3.06	0.42
34:b:539:G:C2	34:b:540:C:C2	3.08	0.42
34:b:691:C:O2	34:b:691:C:C2'	2.66	0.42
34:b:987:C:C2'	34:b:988:A:O5'	2.67	0.42
34:b:1026:G:C8	34:b:1134:A:C4	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1157:G:C2	34:b:1158:C:N1	2.87	0.42
34:b:1328:A:H2'	34:b:1330:C:N4	2.33	0.42
34:b:1590:A:C2	34:b:1591:A:N9	2.86	0.42
34:b:1684:G:C4	34:b:1685:C:C5	3.07	0.42
34:b:1812:U:O2'	35:c:45:ASN:N	2.50	0.42
34:b:1867:G:C2	34:b:1868:C:C6	3.06	0.42
34:b:1983:G:H2'	34:b:1983:G:N3	2.33	0.42
34:b:2527:C:C5	34:b:2528:U:C5	3.07	0.42
34:b:2535:G:N1	34:b:2536:G:N7	2.67	0.42
34:b:2589:A:C2	34:b:2590:A:C8	3.07	0.42
34:b:2714:G:C6	34:b:2715:C:C5	3.07	0.42
34:b:2901:C:N3	34:b:2902:C:C5	2.87	0.42
36:i:53:PRO:HB2	36:i:74:PRO:CG	2.49	0.42
36:i:130:GLY:HA2	36:i:133:ARG:HB3	2.01	0.42
38:e:127:GLU:O	38:e:156:ASN:ND2	2.51	0.42
39:f:108:VAL:HG11	39:f:176:PRO:HG2	2.01	0.42
41:h:26:ALA:HB2	41:h:30:LEU:HD12	2.00	0.42
41:h:94:ILE:HD12	41:h:99:ILE:HG21	2.00	0.42
54:w:30:ILE:HD12	54:w:40:ILE:CD1	2.48	0.42
54:w:61:LEU:C	54:w:61:LEU:HD12	2.43	0.42
1:A:42:G:N2	1:A:401:C:O2	2.52	0.42
1:A:329:A:N7	1:A:332:G:N1	2.67	0.42
1:A:618:C:N4	1:A:623:C:H42	2.17	0.42
1:A:1161:C:N4	1:A:1175:G:H1	2.15	0.42
4:D:158:LEU:O	4:D:162:GLU:HG3	2.19	0.42
8:H:48:PHE:HB2	8:H:58:LEU:HD11	2.00	0.42
10:J:56:HIS:CE1	10:J:57:VAL:HG13	2.55	0.42
12:L:32:VAL:HB	12:L:55:ARG:HB3	2.01	0.42
33:a:29:A:C4'	47:o:3:LYS:HE3	2.45	0.42
33:a:46:A:C2	33:a:47:C:C1'	3.02	0.42
33:a:109:A:C2	33:a:110:C:H1'	2.54	0.42
34:b:108:G:C2	34:b:109:C:H1'	2.55	0.42
34:b:214:G:N2	34:b:215:G:N2	2.67	0.42
34:b:288:U:C2	34:b:289:G:N7	2.87	0.42
34:b:488:G:O2'	34:b:492:A:N6	2.52	0.42
34:b:522:A:C5	34:b:523:C:C5	3.07	0.42
34:b:660:C:O2	34:b:661:A:C8	2.71	0.42
34:b:674:G:C6	34:b:804:A:C6	3.07	0.42
34:b:701:G:C2	34:b:732:C:C2	3.06	0.42
34:b:1037:G:HO2'	34:b:1038:G:C5'	2.32	0.42
34:b:1051:G:C4	34:b:1052:C:C6	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1082:U:N3	36:i:123:ALA:CB	2.81	0.42
34:b:1444:G:C4	34:b:1445:G:C8	3.08	0.42
34:b:1687:G:N1	34:b:1688:U:C4	2.87	0.42
34:b:2210:U:C4	34:b:2212:A:C2	3.07	0.42
34:b:2292:U:C4	34:b:2293:G:N7	2.86	0.42
34:b:2309:A:N3	34:b:2309:A:C2'	2.82	0.42
34:b:2585:U:HO2'	34:b:2586:U:P	2.41	0.42
34:b:2589:A:C2	34:b:2590:A:N9	2.88	0.42
34:b:2698:U:H2'	34:b:2699:C:H6	1.83	0.42
34:b:2792:A:C6	34:b:2793:C:C5	3.07	0.42
34:b:2901:C:C2	34:b:2902:C:C6	3.07	0.42
41:h:66:ASN:O	41:h:67:ALA:HB2	2.19	0.42
47:o:28:VAL:HG11	47:o:103:VAL:CG1	2.49	0.42
49:q:76:TYR:CZ	49:q:80:ILE:HG13	2.53	0.42
51:s:84:ARG:CZ	56:z:7:ILE:HD13	2.46	0.42
1:A:79:G:O6	1:A:91:U:H1'	2.19	0.42
1:A:409:U:H2'	1:A:410:G:O4'	2.18	0.42
1:A:562:U:H2'	12:L:12:ALA:O	2.18	0.42
1:A:683:G:H21	11:K:39:ASN:HD22	1.65	0.42
1:A:1031:C:H4'	1:A:1032:G:C4	2.55	0.42
1:A:1408:A:H5'	34:b:1919:A:H4'	1.98	0.42
4:D:106:PHE:CD1	4:D:158:LEU:HD21	2.54	0.42
6:F:3:HIS:CE1	6:F:95:ALA:HA	2.54	0.42
9:I:95:SER:O	9:I:99:LYS:HG3	2.19	0.42
15:O:55:LEU:HD23	34:b:715:A:N1	2.33	0.42
31:7:40:ARG:NE	34:b:2362:C:OP1	2.53	0.42
31:7:45:ARG:N	31:7:46:PRO:HD2	2.34	0.42
33:a:45:A:O4'	39:f:92:ARG:NH2	2.52	0.42
33:a:76:G:N2	33:a:77:U:H1'	2.34	0.42
34:b:201:C:N3	34:b:202:U:C6	2.87	0.42
34:b:226:A:N1	34:b:227:A:C4	2.87	0.42
34:b:439:A:C2	34:b:440:C:C5	3.07	0.42
34:b:538:A:N6	34:b:555:G:O2'	2.52	0.42
34:b:616:A:N6	34:b:617:G:C5	2.87	0.42
34:b:675:A:N3	34:b:2443:C:O2'	2.45	0.42
34:b:722:A:C5	34:b:723:C:C5	3.07	0.42
34:b:736:C:N3	34:b:737:C:C6	2.82	0.42
34:b:752:A:H62	34:b:2609:U:H3	1.68	0.42
34:b:786:C:N3	34:b:787:C:C4	2.87	0.42
34:b:878:A:N3	34:b:878:A:H2'	2.34	0.42
34:b:1057:A:C8	34:b:1057:A:C3'	3.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1061:U:H1'	36:i:74:PRO:C	2.45	0.42
34:b:1063:G:N2	36:i:135:MET:CB	2.63	0.42
34:b:1064:C:O4'	36:i:88:GLY:O	2.33	0.42
34:b:1078:U:H1'	36:i:133:ARG:HD3	2.00	0.42
34:b:1080:A:C8	36:i:106:GLN:CG	3.02	0.42
34:b:1158:C:O2	34:b:1158:C:H2'	2.19	0.42
34:b:1164:C:C2	34:b:1165:A:C8	3.07	0.42
34:b:1228:G:C5	34:b:1229:C:C6	3.07	0.42
34:b:1437:C:H4'	34:b:1516:G:O2'	2.19	0.42
34:b:1519:G:C4	34:b:1520:U:C6	3.08	0.42
34:b:1555:G:N3	34:b:1556:C:C6	2.87	0.42
34:b:1651:G:N1	34:b:1652:A:C5	2.87	0.42
34:b:1769:U:O2	34:b:1769:U:H2'	2.19	0.42
34:b:1779:U:H5	34:b:1784:A:N7	2.17	0.42
34:b:1794:A:C2	34:b:1795:C:C6	3.08	0.42
34:b:1840:G:N3	34:b:1841:U:C6	2.87	0.42
34:b:1883:U:C4	34:b:1884:G:C5	3.07	0.42
34:b:2096:C:C2	34:b:2097:A:C8	3.07	0.42
34:b:2338:C:O2	34:b:2338:C:H2'	2.20	0.42
34:b:2348:U:H2'	34:b:2349:G:O4'	2.19	0.42
34:b:2362:C:H2'	34:b:2363:G:O4'	2.20	0.42
34:b:2588:G:H2'	34:b:2589:A:O4'	2.19	0.42
34:b:2633:G:C6	34:b:2634:A:C5	3.07	0.42
43:k:98:ARG:C	43:k:99:ILE:HD12	2.44	0.42
53:u:54:GLN:N	53:u:55:PRO:CD	2.83	0.42
1:A:60:A:N6	1:A:110:C:H42	2.17	0.42
1:A:415:A:H3'	1:A:416:G:H8	1.84	0.42
1:A:1429:A:H61	1:A:1471:U:H3	1.67	0.42
5:E:133:ILE:O	5:E:136:VAL:HG22	2.19	0.42
7:G:66:GLU:HG2	7:G:69:ARG:NH2	2.33	0.42
9:I:98:ARG:HE	9:I:103:VAL:CG1	2.32	0.42
11:K:19:VAL:HG13	11:K:82:GLU:O	2.20	0.42
11:K:45:THR:HG23	11:K:48:GLY:N	2.33	0.42
11:K:125:LYS:HG2	21:U:33:ARG:HH11	1.85	0.42
14:N:72:PHE:CE2	14:N:74:ARG:HA	2.55	0.42
16:P:77:GLU:C	16:P:79:ASN:N	2.73	0.42
19:S:25:GLY:C	19:S:27:LYS:NZ	2.78	0.42
33:a:14:U:H3'	33:a:15:A:H5'	2.02	0.42
33:a:18:G:C6	33:a:19:C:C4	3.07	0.42
34:b:78:U:O2	34:b:79:C:C6	2.71	0.42
34:b:223:A:C6	34:b:422:A:C8	3.06	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:341:C:O2	34:b:341:C:H2'	2.19	0.42
34:b:403:U:O2'	34:b:404:A:P	2.78	0.42
34:b:464:U:C2	34:b:788:A:N6	2.88	0.42
34:b:673:C:C4	34:b:674:G:C8	3.06	0.42
34:b:1082:U:C4'	36:i:121:ILE:H	2.32	0.42
34:b:1093:G:H2'	34:b:1094:U:C1'	2.48	0.42
34:b:1121:C:C2	34:b:1122:G:H8	2.37	0.42
34:b:1206:G:C6	34:b:1207:C:C4	3.04	0.42
34:b:1232:G:C6	34:b:1233:C:N4	2.88	0.42
34:b:1444:G:C2	34:b:1445:G:C4	3.08	0.42
34:b:1529:G:C5	34:b:1530:G:C8	3.07	0.42
34:b:1811:G:C5	34:b:1812:U:C5	3.07	0.42
34:b:2065:C:N4	34:b:2066:C:N4	2.66	0.42
34:b:2072:C:C2	34:b:2073:C:C6	3.08	0.42
34:b:2207:C:C2	34:b:2218:G:C2	3.07	0.42
34:b:2657:A:C5	34:b:2658:C:C6	3.06	0.42
34:b:2766:A:N1	34:b:2767:C:C6	2.87	0.42
34:b:2792:A:C5	34:b:2793:C:C6	3.07	0.42
34:b:2821:A:C2	34:b:2822:G:C4	3.07	0.42
41:h:42:LYS:CD	41:h:42:LYS:H	2.31	0.42
42:j:32:LEU:HD22	42:j:54:ILE:HG21	2.01	0.42
1:A:1118:U:H1'	1:A:1179:A:C4	2.54	0.42
1:A:1467:C:H2'	1:A:1468:A:H8	1.85	0.42
2:B:218:ALA:O	2:B:222:GLU:HG2	2.19	0.42
11:K:96:ILE:HA	11:K:99:LEU:HD12	2.02	0.42
33:a:66:A:O2'	33:a:67:G:OP2	2.31	0.42
34:b:46:G:C6	34:b:47:C:C4	3.07	0.42
34:b:239:C:O2	34:b:259:G:C2	2.72	0.42
34:b:398:C:C4	34:b:399:U:H5	2.33	0.42
34:b:441:U:O2	34:b:442:G:C8	2.72	0.42
34:b:464:U:H2'	34:b:465:G:C8	2.55	0.42
34:b:687:C:C4	34:b:688:U:C4	3.07	0.42
34:b:813:U:H2'	34:b:814:C:H6	1.84	0.42
34:b:1036:G:C2	34:b:1037:G:C8	3.07	0.42
34:b:1038:G:H2'	34:b:1039:A:H8	1.84	0.42
34:b:1062:G:P	36:i:75:ALA:HA	2.60	0.42
34:b:1157:G:N3	34:b:1158:C:C6	2.88	0.42
34:b:2217:G:C2	34:b:2218:G:H1'	2.54	0.42
34:b:2300:C:C2	34:b:2301:C:C6	3.07	0.42
34:b:2336:A:N6	55:y:57:HIS:CE1	2.87	0.42
34:b:2616:C:C2	34:b:2617:U:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2858:C:H2'	34:b:2859:G:N7	2.34	0.42
49:q:108:ALA:HB3	50:r:48:LYS:NZ	2.33	0.42
1:A:109:A:C6	1:A:327:A:C6	3.08	0.42
1:A:744:C:H2'	1:A:745:G:C8	2.55	0.42
1:A:1408:A:N3	34:b:1912:A:C2	2.88	0.42
13:M:58:GLU:CD	13:M:61:LYS:HZ3	2.28	0.42
16:P:20:VAL:HG22	16:P:32:PHE:HB2	2.01	0.42
34:b:172:A:N1	34:b:173:A:N7	2.67	0.42
34:b:312:G:N2	34:b:313:G:C5	2.87	0.42
34:b:343:C:O2	34:b:343:C:H2'	2.19	0.42
34:b:587:C:H4'	34:b:588:U:H6	1.85	0.42
34:b:759:G:C6	34:b:760:G:N7	2.88	0.42
34:b:814:C:N3	34:b:815:C:C5	2.88	0.42
34:b:952:G:C6	34:b:953:G:C8	3.07	0.42
34:b:962:G:O2'	34:b:2496:C:H4'	2.20	0.42
34:b:1025:G:C4	34:b:1135:C:H1'	2.55	0.42
34:b:1074:G:C6	34:b:1075:C:C5	3.08	0.42
34:b:1384:A:H1'	34:b:1405:U:H1'	2.00	0.42
34:b:1385:A:H4'	34:b:1386:C:OP1	2.19	0.42
34:b:1548:A:N1	34:b:1549:A:C5	2.88	0.42
34:b:1766:G:C6	34:b:1767:G:N7	2.88	0.42
34:b:1901:A:C2	34:b:1902:C:C6	3.07	0.42
34:b:2128:G:C6	34:b:2160:C:O2	2.73	0.42
34:b:2292:U:H2'	34:b:2293:G:O4'	2.19	0.42
34:b:2295:C:C2	34:b:2296:U:C6	3.08	0.42
34:b:2415:G:C2	34:b:2416:C:C2	3.08	0.42
34:b:2578:G:N3	34:b:2578:G:H2'	2.34	0.42
34:b:2589:A:N3	34:b:2589:A:H2'	2.31	0.42
34:b:2839:G:N1	34:b:2840:C:C5	2.88	0.42
37:d:11:MET:O	37:d:12:THR:HG23	2.19	0.42
41:h:50:ARG:HA	41:h:53:GLU:HB2	2.00	0.42
1:A:950:U:O4	13:M:103:THR:HG21	2.19	0.42
1:A:952:U:C4	13:M:102:LYS:HE3	2.55	0.42
1:A:1149:C:H2'	1:A:1150:A:H8	1.85	0.42
1:A:1347:G:O3'	9:I:111:GLU:CG	2.68	0.42
1:A:1492:A:H2'	1:A:1492:A:N3	2.35	0.42
4:D:33:ILE:HG12	4:D:34:GLU:H	1.84	0.42
10:J:7:ARG:O	10:J:101:SER:N	2.50	0.42
15:O:25:GLU:HA	15:O:80:LEU:HD21	2.01	0.42
16:P:48:GLU:CG	16:P:49:GLY:N	2.82	0.42
22:V:66:U:N3	22:V:67:C:C5	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:4:11:LEU:HA	29:4:50:LYS:O	2.20	0.42
30:6:4:THR:HG22	34:b:687:C:H1'	2.00	0.42
33:a:39:A:C2	33:a:44:G:C2	3.08	0.42
34:b:27:G:C6	34:b:512:G:N1	2.88	0.42
34:b:46:G:N1	34:b:47:C:C4	2.88	0.42
34:b:483:A:HO2'	53:u:56:GLY:C	2.26	0.42
34:b:529:A:C5	34:b:2023:C:C5	3.08	0.42
34:b:903:C:N3	34:b:904:G:C8	2.88	0.42
34:b:924:G:C6	34:b:925:A:N7	2.88	0.42
34:b:1061:U:N3	36:i:74:PRO:CD	2.80	0.42
34:b:1166:G:C6	34:b:1167:C:C4	3.07	0.42
34:b:1337:G:N1	34:b:1338:G:C8	2.88	0.42
34:b:1388:G:C6	34:b:1389:G:C8	3.08	0.42
34:b:1524:G:C2	34:b:1525:A:C8	3.07	0.42
34:b:1555:G:C6	34:b:1556:C:C4	3.08	0.42
34:b:1755:A:C2'	34:b:1756:G:H5'	2.48	0.42
34:b:1796:U:H2'	34:b:1797:G:H8	1.85	0.42
34:b:1811:G:C6	34:b:1812:U:C4	3.08	0.42
34:b:1815:A:C6	34:b:1817:G:C6	3.08	0.42
34:b:1891:G:C6	34:b:1892:C:C6	3.08	0.42
34:b:2006:C:N3	34:b:2007:U:C5	2.87	0.42
34:b:2024:G:N1	34:b:2025:C:C4	2.87	0.42
34:b:2032:G:H21	37:d:150:GLN:HG2	1.82	0.42
34:b:2108:A:C5	34:b:2109:U:C5	3.07	0.42
34:b:2721:A:C2	34:b:2722:G:H1'	2.55	0.42
34:b:2750:A:H5'	34:b:2750:A:C8	2.54	0.42
34:b:2784:U:O2	34:b:2785:C:C6	2.72	0.42
34:b:2804:U:N3	34:b:2805:C:C5	2.88	0.42
37:d:151:THR:C	37:d:153:GLY:N	2.78	0.42
53:u:39:ILE:HG22	53:u:39:ILE:O	2.20	0.42
56:z:21:GLN:O	56:z:22:ALA:C	2.62	0.42
1:A:35:G:H21	12:L:114:SER:HB3	1.85	0.42
1:A:402:G:H2'	1:A:403:C:C6	2.55	0.42
3:C:10:ARG:HB3	3:C:14:VAL:HG23	2.01	0.42
3:C:39:ARG:NE	14:N:91:GLU:OE2	2.52	0.42
6:F:21:MET:HB3	6:F:25:TYR:CE2	2.52	0.42
8:H:77:VAL:HG21	8:H:127:TYR:CD2	2.55	0.42
9:I:17:ARG:HB2	9:I:65:THR:OG1	2.20	0.42
13:M:58:GLU:CD	13:M:61:LYS:NZ	2.77	0.42
22:V:40:C:O2'	22:V:41:C:O4'	2.28	0.42
33:a:83:G:C6	33:a:84:G:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:77:G:N2	34:b:78:U:C2	2.88	0.42
34:b:137:U:H2'	34:b:138:U:O4'	2.19	0.42
34:b:212:G:N3	34:b:213:A:C8	2.87	0.42
34:b:377:G:C2	34:b:378:C:N1	2.87	0.42
34:b:380:G:N1	34:b:381:G:N7	2.67	0.42
34:b:471:A:C2	34:b:472:A:H1'	2.54	0.42
34:b:661:A:C2	34:b:662:G:C4	3.08	0.42
34:b:782:A:H2	35:c:225:MET:CG	2.33	0.42
34:b:786:C:O2'	34:b:787:C:H5'	2.20	0.42
34:b:867:C:O2	34:b:867:C:C2'	2.67	0.42
34:b:930:G:C2	34:b:933:A:N3	2.87	0.42
34:b:1081:U:H1'	36:i:121:ILE:HG22	1.41	0.42
34:b:1148:U:C2	34:b:1149:G:C8	3.08	0.42
34:b:1203:U:H5"	34:b:1204:A:H2'	2.02	0.42
34:b:1672:A:C2	34:b:1673:G:C4	3.07	0.42
34:b:1794:A:N3	34:b:1795:C:C6	2.88	0.42
34:b:2186:G:C2	34:b:2187:U:C6	3.08	0.42
34:b:2331:G:N2	34:b:2332:C:C1'	2.83	0.42
34:b:2470:G:N2	34:b:2471:A:C8	2.88	0.42
34:b:2498:C:H2'	34:b:2499:C:H6	1.85	0.42
34:b:2535:G:C4	34:b:2536:G:C8	3.08	0.42
34:b:2536:G:N2	34:b:2537:U:C2	2.88	0.42
41:h:40:THR:C	41:h:42:LYS:N	2.74	0.42
47:o:52:SER:OG	47:o:53:THR:N	2.50	0.42
56:z:4:GLN:CA	56:z:4:GLN:NE2	2.82	0.42
1:A:750:C:O2'	15:O:20:ASP:O	2.37	0.42
1:A:1226:C:H2'	13:M:101:THR:HB	2.02	0.42
3:C:62:SER:HA	3:C:96:VAL:HB	2.02	0.42
4:D:98:ASP:OD2	4:D:110:ARG:NH1	2.51	0.42
9:I:48:ARG:NH1	9:I:56:MET:HE1	2.34	0.42
29:4:50:LYS:O	29:4:51:GLU:HB3	2.19	0.42
33:a:15:A:O4'	33:a:109:A:C8	2.73	0.42
34:b:109:C:N4	34:b:110:G:N7	2.68	0.42
34:b:255:A:C2	34:b:256:A:H1'	2.54	0.42
34:b:312:G:H4'	34:b:331:C:N3	2.34	0.42
34:b:381:G:C2	34:b:382:A:N7	2.87	0.42
34:b:605:G:C2	34:b:624:C:C2	3.07	0.42
34:b:616:A:C6	34:b:617:G:C5	3.08	0.42
34:b:639:U:O2	34:b:640:C:C5	2.73	0.42
34:b:1444:G:C2	34:b:1445:G:C8	3.08	0.42
34:b:1596:A:C2	34:b:1597:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1740:G:C2	34:b:1741:C:C2	3.07	0.42
34:b:1760:C:N3	34:b:1761:C:C6	2.88	0.42
34:b:1891:G:N2	34:b:1892:C:H1'	2.34	0.42
34:b:1907:G:N2	34:b:1908:C:C2	2.88	0.42
34:b:2510:C:O2	34:b:2510:C:C2'	2.62	0.42
34:b:2510:C:C2	34:b:2511:U:C6	3.08	0.42
34:b:2578:G:C2	34:b:2579:C:C5	3.08	0.42
34:b:2636:C:O2	34:b:2637:U:C6	2.73	0.42
34:b:2776:A:C2	34:b:2778:A:C4	3.07	0.42
34:b:2803:G:N1	34:b:2804:U:C5	2.88	0.42
36:i:56:VAL:CG2	36:i:57:VAL:N	2.82	0.42
40:g:18:LYS:HB2	40:g:25:THR:OG1	2.20	0.42
53:u:13:VAL:HG11	53:u:18:ASP:CB	2.50	0.42
1:A:160:A:H2'	1:A:161:A:O4'	2.19	0.42
1:A:186:C:H42	1:A:191:G:H1	1.66	0.42
1:A:299:G:C6	1:A:300:A:C6	3.08	0.42
1:A:407:U:O4	1:A:408:A:N6	2.53	0.42
1:A:446:G:C5	1:A:447:G:C5	3.08	0.42
1:A:468:A:H5"	1:A:469:C:C5	2.54	0.42
1:A:621:A:N6	1:A:622:A:N1	2.68	0.42
1:A:692:U:H2'	1:A:694:A:OP2	2.19	0.42
1:A:1213:A:N7	1:A:1215:G:C6	2.88	0.42
1:A:1258:G:H2'	1:A:1259:C:C6	2.55	0.42
7:G:21:LEU:HD13	7:G:65:LEU:HD23	2.00	0.42
25:0:32:ASN:OD1	34:b:2230:G:H1'	2.20	0.42
33:a:21:G:C6	33:a:22:U:C4	3.07	0.42
34:b:55:G:C2	34:b:116:C:C2	3.08	0.42
34:b:74:A:H5"	34:b:74:A:N3	2.35	0.42
34:b:212:G:N1	34:b:213:A:N7	2.68	0.42
34:b:263:G:C6	34:b:264:C:C5	3.08	0.42
34:b:446:G:H4'	34:b:449:A:C2	2.55	0.42
34:b:535:G:C5	34:b:536:G:C8	3.08	0.42
34:b:571:U:O4'	34:b:2030:A:N7	2.53	0.42
34:b:779:U:C4	34:b:780:G:C5	3.08	0.42
34:b:834:G:C2	34:b:835:C:N1	2.88	0.42
34:b:949:G:C2	34:b:950:G:N9	2.87	0.42
34:b:1062:G:H22	36:i:137:LEU:HD21	1.81	0.42
34:b:1211:C:C6	34:b:1211:C:C5'	3.03	0.42
34:b:1336:A:N1	34:b:1337:G:C5	2.88	0.42
34:b:1337:G:C2	34:b:1338:G:N9	2.88	0.42
34:b:1338:G:C2	34:b:1339:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1583:A:H4'	34:b:1585:C:N4	2.35	0.42
34:b:1842:G:C2	34:b:1843:C:C2	3.07	0.42
34:b:1893:C:C4	34:b:1894:C:C5	3.08	0.42
34:b:2044:C:N3	34:b:2045:C:C5	2.88	0.42
34:b:2360:G:H1'	44:l:60:ARG:HD3	2.02	0.42
34:b:2594:C:H2'	34:b:2595:G:O4'	2.19	0.42
34:b:2658:C:H3'	34:b:2659:G:H5"	2.02	0.42
34:b:2749:A:C8	34:b:2750:A:C2'	3.03	0.42
34:b:2829:A:C4	34:b:2830:C:C6	3.08	0.42
34:b:2838:G:C6	34:b:2839:G:N7	2.88	0.42
44:l:111:ILE:HG22	44:l:112:LEU:N	2.34	0.42
53:u:74:ASN:CB	53:u:96:PHE:CE2	3.03	0.42
1:A:5:U:C4'	1:A:6:G:OP2	2.67	0.41
1:A:187:G:H3'	1:A:189:A:OP2	2.20	0.41
1:A:482:A:H2'	1:A:482:A:N3	2.35	0.41
1:A:1002:G:H1'	1:A:1039:G:N2	2.35	0.41
1:A:1146:A:C6	1:A:1147:C:C2	3.08	0.41
1:A:1158:C:H5"	1:A:1159:U:OP2	2.20	0.41
9:I:80:HIS:CE1	9:I:84:ARG:HH21	2.38	0.41
10:J:53:ILE:HG13	14:N:84:ARG:NE	2.35	0.41
14:N:32:ASP:O	14:N:40:ARG:HD3	2.20	0.41
16:P:70:ARG:HG3	16:P:70:ARG:O	2.20	0.41
21:U:25:ALA:C	21:U:27:VAL:N	2.76	0.41
22:V:24:G:N1	22:V:25:C:C2	2.88	0.41
34:b:220:G:O2'	34:b:221:A:C8	2.73	0.41
34:b:299:A:C4	34:b:322:A:C6	3.07	0.41
34:b:307:G:N2	34:b:309:A:C8	2.88	0.41
34:b:388:G:C6	34:b:390:U:N3	2.88	0.41
34:b:413:C:N3	34:b:414:C:C5	2.88	0.41
34:b:588:U:O2	34:b:589:U:C6	2.73	0.41
34:b:600:G:C5	34:b:601:C:C5	3.07	0.41
34:b:844:A:C2	34:b:845:A:C2	3.08	0.41
34:b:900:A:C5	34:b:901:C:C5	3.08	0.41
34:b:1051:G:N3	34:b:1051:G:C2'	2.83	0.41
34:b:1608:A:C8	34:b:1611:C:N4	2.88	0.41
34:b:1622:G:N1	34:b:1623:G:C8	2.88	0.41
34:b:1794:A:O4'	34:b:1900:A:H2	2.03	0.41
34:b:1811:G:N3	34:b:1811:G:H2'	2.35	0.41
34:b:2497:A:H1'	34:b:2498:C:H5	1.85	0.41
34:b:2545:G:O2'	34:b:2546:U:H5'	2.19	0.41
34:b:2554:U:C2	34:b:2555:U:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2661:G:O2'	34:b:2662:A:O5'	2.38	0.41
34:b:2855:C:C2	34:b:2856:A:C8	3.08	0.41
39:f:135:GLN:OE1	39:f:135:GLN:N	2.53	0.41
42:j:57:LEU:HD11	42:j:129:GLU:CA	2.49	0.41
43:k:108:ARG:CD	43:k:113:MET:HE1	2.49	0.41
51:s:29:VAL:HG11	51:s:55:ILE:HG12	2.02	0.41
1:A:374:A:N3	1:A:451:A:OP2	2.53	0.41
1:A:1073:U:N3	1:A:1074:G:N7	2.68	0.41
1:A:1346:A:H4'	1:A:1348:U:OP1	2.20	0.41
5:E:48:GLY:HA3	5:E:65:LYS:HB2	2.02	0.41
6:F:38:ARG:HD2	6:F:40:GLU:OE2	2.20	0.41
9:I:56:MET:C	9:I:58:GLU:H	2.28	0.41
12:L:39:THR:HG23	12:L:89:LEU:HD22	2.02	0.41
15:O:55:LEU:HD23	34:b:715:A:C2	2.52	0.41
22:V:37:A:C2	22:V:38:A:O4'	2.73	0.41
33:a:34:A:C6	33:a:44:G:C4	3.07	0.41
33:a:85:G:N2	33:a:86:G:C4	2.88	0.41
34:b:231:A:H2'	34:b:232:G:C8	2.55	0.41
34:b:287:G:C6	34:b:288:U:C5	3.09	0.41
34:b:332:A:C5	34:b:335:C:C4	3.07	0.41
34:b:876:C:O2'	34:b:877:A:P	2.78	0.41
34:b:902:C:O2	34:b:903:C:C6	2.73	0.41
34:b:997:G:N1	34:b:998:C:C4	2.89	0.41
34:b:1084:A:O2'	34:b:1085:A:C5	2.71	0.41
34:b:1100:C:H2'	34:b:1101:U:O5'	2.21	0.41
34:b:1238:G:C5	34:b:1239:G:C8	3.08	0.41
34:b:1407:G:N2	34:b:1408:G:N9	2.68	0.41
34:b:1494:A:C2	34:b:1495:A:C6	3.08	0.41
34:b:1511:G:C6	34:b:1512:C:C4	3.08	0.41
34:b:1659:G:C6	34:b:1660:G:N7	2.88	0.41
34:b:1699:G:C8	34:b:1763:G:C2	3.07	0.41
34:b:1906:G:C6	34:b:1929:G:C2	3.08	0.41
34:b:2123:G:O2'	34:b:2124:G:OP1	2.37	0.41
34:b:2128:G:H2'	34:b:2129:C:O4'	2.20	0.41
34:b:2292:U:N3	34:b:2340:A:C2	2.89	0.41
34:b:2641:G:C2	34:b:2774:C:C2	3.08	0.41
34:b:2696:U:C2	34:b:2697:G:C8	3.08	0.41
34:b:2711:A:C6	34:b:2714:G:N9	2.87	0.41
34:b:2887:A:N3	34:b:2888:C:C6	2.88	0.41
36:i:95:ASP:O	36:i:97:VAL:N	2.46	0.41
38:e:145:ASP:HA	38:e:166:LYS:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:h:41:LYS:C	41:h:43:ASN:N	2.76	0.41
42:j:3:THR:CG2	49:q:61:TRP:HE1	2.31	0.41
1:A:255:G:N2	1:A:272:C:C2	2.88	0.41
1:A:1061:G:H5'	10:J:61:ALA:HB2	2.02	0.41
1:A:1146:A:H2'	1:A:1147:C:O4'	2.20	0.41
4:D:70:GLN:O	4:D:74:TYR:HD2	2.04	0.41
33:a:19:C:O2	33:a:20:G:C8	2.72	0.41
34:b:3:U:H2'	34:b:4:U:O4'	2.20	0.41
34:b:263:G:C6	34:b:264:C:C6	3.09	0.41
34:b:299:A:C2	34:b:322:A:C5	3.08	0.41
34:b:396:G:C6	34:b:397:U:C4	3.08	0.41
34:b:413:C:C2	34:b:414:C:C6	3.08	0.41
34:b:477:A:C2'	34:b:478:A:C8	3.02	0.41
34:b:480:A:H3'	34:b:481:G:H5"	2.01	0.41
34:b:523:C:C2'	34:b:554:U:O2'	2.68	0.41
34:b:701:G:N2	34:b:732:C:C2	2.88	0.41
34:b:1060:U:H5'	36:i:114:ALA:H	1.83	0.41
34:b:1060:U:N3	36:i:128:ILE:HG13	2.29	0.41
34:b:1347:A:C2	34:b:1348:C:H1'	2.54	0.41
34:b:1433:A:C2	34:b:1434:A:C6	3.09	0.41
34:b:1491:G:C6	34:b:1500:G:N3	2.88	0.41
34:b:1495:A:H2'	34:b:1496:A:C8	2.54	0.41
34:b:1549:A:H2'	34:b:1550:C:C6	2.55	0.41
34:b:1637:A:C4	34:b:1638:C:C6	3.08	0.41
34:b:1829:A:N6	34:b:1830:C:H1'	2.35	0.41
34:b:2311:A:C8	39:f:77:PHE:CD2	3.08	0.41
34:b:2327:A:H2'	34:b:2328:A:C8	2.56	0.41
34:b:2339:C:C2	34:b:2340:A:C8	3.07	0.41
34:b:2649:C:H2'	34:b:2650:U:H6	1.85	0.41
34:b:2661:G:C2'	34:b:2662:A:C8	3.01	0.41
34:b:2685:G:OP1	43:k:78:ARG:NH2	2.52	0.41
34:b:2808:G:C2	34:b:2891:U:C4	3.08	0.41
34:b:2826:A:N1	34:b:2827:C:C6	2.88	0.41
41:h:54:LEU:C	41:h:56:ALA:H	2.29	0.41
46:n:28:LEU:HD23	46:n:48:VAL:HG21	2.00	0.41
54:w:63:ILE:HG22	54:w:65:VAL:HG12	2.01	0.41
1:A:94:G:O2'	1:A:95:C:O5'	2.38	0.41
1:A:119:A:O2'	1:A:240:G:N7	2.45	0.41
1:A:136:C:O4'	16:P:1:MET:CG	2.61	0.41
1:A:263:A:OP1	20:T:73:ARG:HD3	2.20	0.41
1:A:276:G:C6	1:A:277:C:N4	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:450:G:N2	16:P:13:LYS:HZ3	1.98	0.41
1:A:562:U:H5"	1:A:563:A:OP1	2.20	0.41
1:A:976:G:N1	1:A:1362:A:O2'	2.22	0.41
1:A:985:C:H6	1:A:985:C:OP2	2.04	0.41
2:B:81:ASP:OD1	2:B:82:ALA:N	2.53	0.41
6:F:2:ARG:HG3	6:F:91:ARG:HH21	1.84	0.41
7:G:59:GLU:O	7:G:63:VAL:HG23	2.21	0.41
7:G:69:ARG:HB3	7:G:99:ALA:HB2	2.02	0.41
8:H:94:VAL:HG11	8:H:127:TYR:CD2	2.55	0.41
9:I:127:SER:C	9:I:128:LYS:HG3	2.46	0.41
17:Q:24:ILE:HG13	17:Q:41:THR:HB	2.01	0.41
20:T:16:ALA:O	20:T:19:HIS:HB3	2.19	0.41
22:V:38:A:C2'	22:V:39:U:H6	2.22	0.41
23:W:3:G:N2	23:W:70:C:C2	2.88	0.41
34:b:213:A:H2'	34:b:214:G:C8	2.55	0.41
34:b:343:C:N3	34:b:344:A:N7	2.69	0.41
34:b:904:G:C6	34:b:905:A:C5	3.09	0.41
34:b:954:G:C6	34:b:955:U:C4	3.09	0.41
34:b:1063:G:C5'	36:i:77:VAL:CA	2.76	0.41
34:b:1064:C:C4	36:i:89:SER:N	2.88	0.41
34:b:1086:A:C2'	34:b:1087:G:H8	2.32	0.41
34:b:1122:G:N3	34:b:1122:G:H2'	2.35	0.41
34:b:1129:A:H2	34:b:2569:G:N3	2.18	0.41
34:b:1301:A:N3	34:b:1303:G:N7	2.68	0.41
34:b:1338:G:N3	34:b:1339:G:C8	2.88	0.41
34:b:1511:G:C2	34:b:1512:C:C4	3.09	0.41
34:b:1512:C:H2'	34:b:1513:U:C6	2.56	0.41
34:b:1561:C:C2	34:b:1562:U:C6	3.08	0.41
34:b:1630:A:N1	34:b:1631:G:H1'	2.36	0.41
34:b:1805:A:C6	34:b:1806:C:C4	3.09	0.41
34:b:1816:C:H2'	35:c:62:TYR:CE1	2.55	0.41
34:b:1945:G:C6	34:b:1946:U:C4	3.09	0.41
34:b:2227:A:C4	34:b:2228:G:C8	3.07	0.41
34:b:2308:G:O6	39:f:77:PHE:CE1	2.73	0.41
34:b:2330:G:C5	34:b:2331:G:N7	2.85	0.41
34:b:2459:A:C4	34:b:2460:U:C6	3.08	0.41
34:b:2471:A:O2'	34:b:2472:G:P	2.78	0.41
34:b:2527:C:N3	34:b:2528:U:C6	2.88	0.41
34:b:2711:A:C6	34:b:2714:G:C8	3.08	0.41
34:b:2851:A:C4	34:b:2852:G:C8	3.07	0.41
40:g:123:ALA:O	40:g:124:GLU:CG	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:91:GLY:HA3	56:z:18:TRP:HE1	1.86	0.41
1:A:764:C:H5"	15:O:49:HIS:CE1	2.55	0.41
2:B:27:LYS:N	2:B:28:PRO:HD2	2.35	0.41
4:D:2:ARG:NH2	4:D:114:ARG:HD2	2.36	0.41
4:D:84:ASN:HD22	4:D:187:ARG:HH22	1.68	0.41
9:I:18:VAL:HG11	9:I:82:ILE:HD13	2.03	0.41
11:K:16:SER:O	11:K:79:LYS:N	2.46	0.41
12:L:4:ASN:HD21	17:Q:35:LYS:HE2	1.84	0.41
15:O:2:LEU:HB2	15:O:34:GLN:NE2	2.36	0.41
33:a:39:A:C4	33:a:44:G:N2	2.88	0.41
33:a:45:A:C6	33:a:46:A:C8	3.09	0.41
34:b:277:G:H4'	34:b:361:G:H1	1.85	0.41
34:b:296:U:N3	34:b:297:G:C8	2.88	0.41
34:b:379:G:C6	34:b:380:G:C5	3.08	0.41
34:b:387:U:H4'	34:b:388:G:OP1	2.20	0.41
34:b:539:G:C4	34:b:540:C:C6	3.08	0.41
34:b:868:U:C4	34:b:869:G:N7	2.88	0.41
34:b:1053:C:N3	34:b:1107:G:N2	2.62	0.41
34:b:1251:C:H5"	49:q:13:ARG:HH22	1.85	0.41
34:b:1829:A:N3	34:b:1829:A:H2'	2.34	0.41
34:b:2138:G:C2	34:b:2139:U:C6	3.08	0.41
34:b:2269:G:N1	34:b:2270:A:C5	2.89	0.41
34:b:2322:A:C2	34:b:2323:G:H1'	2.55	0.41
34:b:2510:C:C4	34:b:2511:U:C5	3.08	0.41
34:b:2583:G:H2'	34:b:2584:U:O5'	2.20	0.41
36:i:58:ILE:HG22	36:i:60:VAL:CG2	2.50	0.41
38:e:152:GLU:O	38:e:154:ASP:N	2.54	0.41
44:l:95:LEU:CB	44:l:100:ILE:HD11	2.49	0.41
46:n:28:LEU:O	46:n:32:GLU:N	2.50	0.41
1:A:1219:A:H2'	1:A:1220:G:C8	2.56	0.41
5:E:132:PRO:O	5:E:136:VAL:HG13	2.20	0.41
9:I:60:LEU:HD12	9:I:60:LEU:O	2.20	0.41
33:a:118:C:O2	33:a:118:C:H2'	2.21	0.41
34:b:157:C:C4	34:b:158:U:C5	3.09	0.41
34:b:173:A:C4	34:b:174:U:C5	3.08	0.41
34:b:173:A:N3	34:b:174:U:C5	2.88	0.41
34:b:223:A:C2	34:b:408:G:C1'	3.03	0.41
34:b:256:A:H2'	34:b:256:A:N3	2.35	0.41
34:b:447:A:C5	34:b:473:G:C5	3.08	0.41
34:b:562:U:O2'	34:b:563:A:O5'	2.33	0.41
34:b:575:A:N1	34:b:576:U:C4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:618:G:C2’	34:b:619:G:O5’	2.69	0.41
34:b:621:A:H2’	34:b:622:G:C4’	2.50	0.41
34:b:876:C:O2’	34:b:877:A:H3’	2.21	0.41
34:b:966:G:C5	34:b:967:U:C5	3.08	0.41
34:b:1016:G:C2	34:b:1017:G:N9	2.89	0.41
34:b:1060:U:H3’	36:i:115:ASP:H	1.79	0.41
34:b:1061:U:P	36:i:115:ASP:OD2	2.65	0.41
34:b:1091:G:N2	34:b:1092:C:H1’	2.36	0.41
34:b:1202:G:C6	34:b:1203:U:C4	3.09	0.41
34:b:1220:G:C4	34:b:1221:C:C6	3.07	0.41
34:b:1293:C:N3	34:b:1294:U:C6	2.88	0.41
34:b:1370:C:H2’	34:b:1371:G:O4’	2.19	0.41
34:b:1407:G:N1	34:b:1408:G:N7	2.68	0.41
34:b:1660:G:C6	34:b:1661:G:N7	2.88	0.41
34:b:1662:U:O2	34:b:1663:G:C8	2.71	0.41
34:b:1839:G:H1’	34:b:1927:A:C8	2.56	0.41
34:b:1906:G:C5	34:b:1929:G:N1	2.88	0.41
34:b:1973:G:H2’	34:b:1974:C:O4’	2.21	0.41
34:b:2072:C:C4	34:b:2073:C:C5	3.08	0.41
34:b:2075:U:O2’	34:b:2596:U:O4	2.38	0.41
34:b:2079:U:H2’	34:b:2080:A:O4’	2.20	0.41
34:b:2087:G:C2	34:b:2088:A:C8	3.09	0.41
34:b:2166:U:C2’	34:b:2167:U:C1’	2.96	0.41
34:b:2166:U:C2’	34:b:2167:U:H1’	2.50	0.41
34:b:2174:C:N4	34:b:2176:A:C8	2.87	0.41
34:b:2257:U:O2’	34:b:2258:C:P	2.79	0.41
34:b:2329:U:H2’	34:b:2330:G:O4’	2.20	0.41
34:b:2337:G:H2’	34:b:2337:G:N3	2.34	0.41
34:b:2506:U:HO2’	34:b:2507:C:C5’	2.33	0.41
34:b:2582:G:H2’	34:b:2582:G:N3	2.35	0.41
34:b:2617:U:O2	34:b:2617:U:H2’	2.19	0.41
34:b:2803:G:H2’	34:b:2803:G:N3	2.36	0.41
34:b:2864:G:H2’	34:b:2865:U:O4’	2.20	0.41
34:b:2867:G:HO2’	34:b:2868:A:P	2.37	0.41
37:d:32:ASN:N	37:d:32:ASN:HD22	2.18	0.41
41:h:119:ASN:ND2	41:h:123:ARG:NH1	2.68	0.41
52:t:30:ILE:CD1	52:t:93:LEU:O	2.69	0.41
53:u:18:ASP:OD2	53:u:39:ILE:O	2.38	0.41
53:u:72:ILE:CG2	53:u:73:PHE:N	2.75	0.41
1:A:445:G:H1	1:A:489:C:N4	2.09	0.41
1:A:530:G:H2’	1:A:530:G:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:637:C:OP2	17:Q:3:LYS:HD3	2.19	0.41
1:A:651:C:N4	1:A:752:G:O2'	2.53	0.41
1:A:707:U:H2'	1:A:708:C:C6	2.55	0.41
1:A:944:G:C6	1:A:1338:G:OP2	2.74	0.41
1:A:1377:A:C6	7:G:6:ILE:HD13	2.56	0.41
4:D:123:MET:CE	4:D:145:ARG:HA	2.50	0.41
9:I:7:GLY:HA3	9:I:85:ALA:HB2	2.01	0.41
10:J:46:LYS:HE2	10:J:66:GLU:OE1	2.20	0.41
22:V:56:C:H6	34:b:2309:A:C4	2.39	0.41
33:a:9:G:C6	33:a:10:G:N7	2.89	0.41
33:a:39:A:C6	33:a:44:G:N1	2.89	0.41
33:a:76:G:C6	33:a:77:U:C5	3.09	0.41
33:a:113:C:C2	33:a:114:C:C6	3.09	0.41
34:b:286:U:N3	34:b:287:G:C8	2.89	0.41
34:b:349:U:O2	34:b:349:U:H2'	2.20	0.41
34:b:376:G:C6	34:b:377:G:N7	2.89	0.41
34:b:651:G:C6	34:b:652:U:C5	3.08	0.41
34:b:677:A:O2'	34:b:2071:A:H5'	2.20	0.41
34:b:704:G:N1	34:b:726:G:C6	2.89	0.41
34:b:929:U:O2	34:b:929:U:H2'	2.21	0.41
34:b:966:G:C5	34:b:967:U:C4	3.08	0.41
34:b:1009:A:H2'	34:b:1010:A:C8	2.56	0.41
34:b:1068:G:P	36:i:12:VAL:CB	2.96	0.41
34:b:1163:G:N3	34:b:1163:G:H2'	2.34	0.41
34:b:1204:A:C6	34:b:1206:G:C4	3.08	0.41
34:b:1232:G:C2	34:b:1233:C:C6	3.08	0.41
34:b:1423:G:C2	34:b:1424:G:C8	3.08	0.41
34:b:1470:A:C6	34:b:1471:G:H1'	2.56	0.41
34:b:1500:G:N1	34:b:1501:G:C4	2.88	0.41
34:b:1773:A:C1'	34:b:1829:A:C8	3.04	0.41
34:b:1839:G:C5	34:b:1840:G:C8	3.07	0.41
34:b:1840:G:C2	34:b:1841:U:C6	3.09	0.41
34:b:1906:G:C2	34:b:1907:G:N9	2.89	0.41
34:b:1950:G:N2	34:b:1954:G:C5	2.88	0.41
34:b:1983:G:C6	34:b:1984:G:N7	2.89	0.41
34:b:2040:G:C4	34:b:2041:U:C6	3.08	0.41
34:b:2205:A:C4	34:b:2206:C:C5	3.09	0.41
34:b:2318:G:H2'	34:b:2319:G:O4'	2.21	0.41
34:b:2528:U:C4	34:b:2530:A:C8	3.09	0.41
36:i:49:GLU:HG2	36:i:50:LYS:N	2.35	0.41
36:i:50:LYS:HE2	36:i:50:LYS:HB2	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:i:56:VAL:HG22	36:i:68:PHE:HB2	2.03	0.41
39:f:103:LEU:O	39:f:108:VAL:HG23	2.21	0.41
1:A:157:U:H1'	1:A:165:G:N2	2.35	0.41
1:A:381:C:H5'	1:A:382:A:OP2	2.20	0.41
1:A:630:A:H2'	1:A:631:C:C6	2.55	0.41
1:A:1005:A:C5	1:A:1006:G:H1'	2.56	0.41
1:A:1367:C:H5'	10:J:62:ARG:HH12	1.80	0.41
3:C:185:THR:HA	3:C:197:VAL:O	2.21	0.41
6:F:21:MET:O	6:F:25:TYR:HD2	2.03	0.41
13:M:77:LYS:CG	39:f:143:TYR:OH	2.68	0.41
22:V:65:G:C2	22:V:66:U:C6	3.08	0.41
27:2:12:SER:HB3	34:b:988:A:P	2.61	0.41
34:b:65:U:C2	34:b:66:C:C6	3.09	0.41
34:b:79:C:C2	34:b:80:G:C8	3.08	0.41
34:b:340:A:C8	34:b:341:C:C6	3.09	0.41
34:b:631:A:H2'	34:b:632:A:O4'	2.21	0.41
34:b:866:A:C8	34:b:914:G:C8	3.08	0.41
34:b:868:U:C2	34:b:869:G:C8	3.09	0.41
34:b:899:A:O2'	34:b:900:A:O5'	2.37	0.41
34:b:941:A:C6	34:b:942:G:C5	3.09	0.41
34:b:1235:G:H2'	34:b:1236:G:O4'	2.20	0.41
34:b:1417:C:H2'	34:b:1418:G:C8	2.55	0.41
34:b:1487:U:N3	34:b:1488:C:C6	2.89	0.41
34:b:1495:A:C2'	34:b:1496:A:C8	3.03	0.41
34:b:1512:C:H2'	34:b:1513:U:O4'	2.20	0.41
34:b:1537:G:C2	34:b:1538:G:C8	3.08	0.41
34:b:1703:G:C2	34:b:1704:C:C2	3.09	0.41
34:b:1741:C:H2'	34:b:1742:U:O4'	2.21	0.41
34:b:1774:C:N4	34:b:1775:U:C5	2.88	0.41
34:b:1806:C:C4	34:b:1807:G:N7	2.87	0.41
34:b:1831:G:O6	34:b:1973:G:O6	2.39	0.41
34:b:2057:G:C2	34:b:2612:C:C2	3.08	0.41
34:b:2111:U:O2	34:b:2111:U:O4'	2.38	0.41
34:b:2204:G:N1	34:b:2205:A:N7	2.69	0.41
34:b:2331:G:N3	34:b:2331:G:H2'	2.35	0.41
34:b:2419:U:O2	34:b:2419:U:H2'	2.21	0.41
34:b:2523:G:C6	34:b:2541:A:C2	3.09	0.41
34:b:2557:G:N1	34:b:2558:C:C4	2.88	0.41
34:b:2591:C:N3	34:b:2592:G:C8	2.74	0.41
34:b:2765:A:H2	34:b:2766:A:O4'	2.04	0.41
40:g:24:ILE:HD12	40:g:72:LEU:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:G:N3	1:A:67:C:N4	2.69	0.41
1:A:230:G:H3'	16:P:31:ARG:HH22	1.85	0.41
1:A:236:A:H8	1:A:236:A:OP2	2.03	0.41
1:A:309:A:N6	1:A:310:G:O6	2.54	0.41
1:A:363:A:OP2	12:L:57:THR:HG21	2.21	0.41
1:A:456:A:N6	1:A:457:G:O6	2.54	0.41
1:A:563:A:H5'	1:A:566:G:N2	2.36	0.41
1:A:719:C:O2'	18:R:37:LYS:HB3	2.21	0.41
1:A:923:A:N6	1:A:1392:G:O6	2.54	0.41
1:A:1220:G:N2	19:S:53:GLY:O	2.52	0.41
2:B:20:ARG:HH21	2:B:21:TYR:HE1	1.68	0.41
3:C:128:MET:HB2	3:C:132:ALA:HB2	2.03	0.41
7:G:56:SER:O	7:G:60:ALA:HB2	2.21	0.41
8:H:6:ILE:HD11	8:H:31:LEU:HD23	2.02	0.41
9:I:112:ARG:HG2	9:I:113:LYS:N	2.36	0.41
11:K:89:GLY:HA2	11:K:90:PRO:HD3	1.90	0.41
19:S:33:TRP:CE2	19:S:56:HIS:HE1	2.39	0.41
21:U:47:ALA:O	21:U:50:SER:HB2	2.20	0.41
22:V:39:U:O2'	22:V:40:C:P	2.79	0.41
22:V:40:C:C2	22:V:41:C:C6	3.09	0.41
22:V:74:C:O2'	22:V:75:C:P	2.78	0.41
22:V:74:C:O2'	22:V:75:C:H5'	2.21	0.41
22:V:75:C:C3'	22:V:75:C:C6	3.03	0.41
23:W:9:A:C2	23:W:45:G:C6	3.08	0.41
33:a:42:C:O2'	33:a:43:C:C5'	2.69	0.41
34:b:9:G:C6	34:b:2629:U:C5	3.08	0.41
34:b:75:G:N3	34:b:75:G:C2'	2.82	0.41
34:b:96:C:O2	34:b:97:C:C6	2.73	0.41
34:b:234:U:H3	34:b:430:A:N6	2.18	0.41
34:b:279:A:N6	34:b:361:G:H1'	2.35	0.41
34:b:286:U:O2	34:b:287:G:C8	2.73	0.41
34:b:288:U:O2	34:b:288:U:H2'	2.21	0.41
34:b:375:G:N2	34:b:376:G:H1'	2.35	0.41
34:b:399:U:H2'	34:b:399:U:O2	2.21	0.41
34:b:554:U:C4	34:b:555:G:C5	3.09	0.41
34:b:603:A:H5"	34:b:655:A:N1	2.35	0.41
34:b:609:A:H2'	34:b:610:C:C4'	2.50	0.41
34:b:610:C:H2'	34:b:611:C:O4'	2.21	0.41
34:b:664:G:N3	34:b:664:G:H2'	2.35	0.41
34:b:731:C:O2	34:b:732:C:C6	2.74	0.41
34:b:735:A:C5	34:b:736:C:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:780:G:C2	34:b:782:A:N1	2.88	0.41
34:b:842:U:C2	34:b:843:G:C8	3.08	0.41
34:b:845:A:C8	34:b:845:A:C3'	3.03	0.41
34:b:964:C:C2	34:b:965:C:C5	3.08	0.41
34:b:1026:G:C8	34:b:1134:A:C5	3.09	0.41
34:b:1050:A:C2	34:b:1051:G:C8	3.08	0.41
34:b:1058:U:H2'	34:b:1060:U:H2'	2.03	0.41
34:b:1058:U:O2	34:b:1059:G:O5'	2.38	0.41
34:b:1087:G:O2'	34:b:1088:A:P	2.79	0.41
34:b:1123:C:C2	34:b:1124:G:N7	2.88	0.41
34:b:1432:G:C2	34:b:1433:A:C5	3.08	0.41
34:b:1486:U:N3	34:b:1487:U:C6	2.89	0.41
34:b:1516:G:O6	34:b:1517:G:C5	2.74	0.41
34:b:1528:A:N3	34:b:1544:A:C6	2.89	0.41
34:b:1587:G:C6	34:b:1588:G:N7	2.89	0.41
34:b:1650:A:C2	34:b:1651:G:N9	2.89	0.41
34:b:1680:U:O2	34:b:1763:G:H8	2.04	0.41
34:b:1745:A:C2	34:b:1746:A:C8	3.09	0.41
34:b:1794:A:H4'	34:b:1900:A:C2	2.55	0.41
34:b:1827:U:C4	34:b:1828:G:C5	3.09	0.41
34:b:1851:U:C2	34:b:1852:U:C5	3.09	0.41
34:b:1868:C:O2'	34:b:1869:G:O5'	2.39	0.41
34:b:1947:C:N3	34:b:1948:G:C8	2.88	0.41
34:b:1977:A:C2	34:b:1978:A:H1'	2.56	0.41
34:b:2137:U:N3	34:b:2138:G:N7	2.68	0.41
34:b:2175:C:C6	34:b:2175:C:C3'	3.04	0.41
34:b:2271:G:H2'	34:b:2272:U:C6	2.56	0.41
34:b:2283:C:C4	34:b:2389:G:C5	3.08	0.41
34:b:2310:C:N4	39:f:77:PHE:CE1	2.89	0.41
34:b:2329:U:C4	34:b:2330:G:C8	3.08	0.41
34:b:2452:C:H1'	57:b:9000:CLM:C11	2.50	0.41
34:b:2467:C:H2'	34:b:2468:A:O4'	2.21	0.41
34:b:2518:A:C4	34:b:2518:A:H5'	2.56	0.41
34:b:2656:U:H5	34:b:2664:G:H22	1.67	0.41
34:b:2779:U:O4'	34:b:2781:A:N7	2.54	0.41
34:b:2801:G:C2	34:b:2802:G:C4	3.08	0.41
34:b:2802:G:N2	34:b:2803:G:C4	2.89	0.41
41:h:47:PHE:N	41:h:50:ARG:HH21	2.19	0.41
42:j:84:ILE:HG23	42:j:84:ILE:O	2.20	0.41
42:j:128:ASN:C	42:j:129:GLU:HG3	2.46	0.41
44:l:56:PRO:HG2	44:l:59:ARG:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:84:ARG:HH12	56:z:7:ILE:HD12	1.64	0.41
1:A:71:A:C6	1:A:100:G:N7	2.89	0.41
1:A:268:U:H2'	1:A:269:C:C6	2.56	0.41
1:A:389:A:H8	1:A:390:U:C6	2.39	0.41
1:A:486:U:OP2	1:A:486:U:C6	2.73	0.41
1:A:1073:U:OP1	5:E:61:LYS:HE2	2.21	0.41
1:A:1145:A:H4'	1:A:1146:A:H5"	2.03	0.41
1:A:1258:G:H2'	1:A:1259:C:H6	1.86	0.41
3:C:120:THR:O	3:C:124:GLU:HG3	2.21	0.41
4:D:12:ARG:HE	4:D:32:LYS:HG3	1.86	0.41
4:D:60:VAL:O	4:D:63:ILE:HG22	2.21	0.41
4:D:182:LYS:HZ3	4:D:183:ARG:NH1	2.14	0.41
4:D:186:GLU:HB2	4:D:189:ASP:OD2	2.21	0.41
8:H:76:ARG:HA	8:H:126:CYS:CB	2.51	0.41
9:I:6:TYR:CE2	9:I:8:THR:HG23	2.56	0.41
13:M:2:ARG:HB3	13:M:6:ILE:HA	2.02	0.41
15:O:2:LEU:HD12	15:O:34:GLN:HE22	1.85	0.41
16:P:15:PRO:HG2	16:P:41:PRO:HG3	2.02	0.41
22:V:55:U:O2	22:V:55:U:O4'	2.39	0.41
33:a:61:G:C5	33:a:62:C:C4	3.07	0.41
33:a:68:C:C2	33:a:69:G:C8	3.09	0.41
34:b:234:U:H3	34:b:430:A:H61	1.69	0.41
34:b:248:G:O4'	34:b:250:G:O6	2.39	0.41
34:b:375:G:H2'	34:b:375:G:N3	2.36	0.41
34:b:522:A:C4	34:b:523:C:C6	3.09	0.41
34:b:576:U:O2'	34:b:577:G:H5'	2.21	0.41
34:b:665:U:O2	34:b:665:U:H2'	2.20	0.41
34:b:757:G:C6	34:b:758:C:C5	3.08	0.41
34:b:1070:A:H5'	34:b:1075:C:H41	1.86	0.41
34:b:1080:A:N7	36:i:110:GLN:CA	2.84	0.41
34:b:1082:U:O2'	36:i:119:ALA:C	2.63	0.41
34:b:1142:A:O2'	34:b:1143:A:O2'	2.35	0.41
34:b:1173:U:H3'	34:b:1174:U:C5'	2.51	0.41
34:b:1500:G:C6	34:b:1501:G:C5	3.08	0.41
34:b:1596:A:N3	34:b:1597:A:C8	2.89	0.41
34:b:1977:A:C5	34:b:1978:A:C8	3.09	0.41
34:b:2142:A:H2'	34:b:2143:C:O4'	2.21	0.41
34:b:2269:G:N3	34:b:2269:G:C2'	2.84	0.41
34:b:2408:U:H2'	34:b:2409:G:H8	1.85	0.41
34:b:2459:A:C2	34:b:2460:U:C1'	3.04	0.41
34:b:2556:C:O2	34:b:2556:C:H2'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2639:A:H2'	34:b:2640:G:O4'	2.21	0.41
34:b:2798:U:O2'	34:b:2800:A:H2	2.04	0.41
34:b:2821:A:O2'	34:b:2822:G:H5'	2.21	0.41
34:b:2847:U:H3'	34:b:2848:G:H8	1.86	0.41
35:c:260:ASN:O	35:c:262:ARG:N	2.49	0.41
43:k:38:ILE:HD11	43:k:112:PHE:HZ	1.85	0.41
53:u:74:ASN:C	53:u:76:ALA:N	2.76	0.41
56:z:16:PRO:HA	56:z:17:VAL:HA	1.56	0.41
1:A:675:A:H1'	11:K:117:HIS:ND1	2.37	0.40
1:A:1161:C:H5'	1:A:1162:C:OP2	2.21	0.40
4:D:44:LYS:HA	4:D:45:PRO:HD2	1.77	0.40
9:I:93:LEU:O	9:I:97:LEU:HG	2.21	0.40
9:I:112:ARG:CG	9:I:113:LYS:N	2.85	0.40
10:J:76:ILE:O	10:J:76:ILE:HG13	2.22	0.40
11:K:64:VAL:O	11:K:67:GLU:HB3	2.21	0.40
32:8:16:ILE:HD13	32:8:25:VAL:HG22	2.02	0.40
34:b:56:A:C1'	34:b:127:A:N3	2.84	0.40
34:b:250:G:C5	34:b:251:A:C6	3.08	0.40
34:b:278:A:N6	34:b:361:G:C2	2.89	0.40
34:b:295:G:C6	34:b:296:U:C5	3.09	0.40
34:b:626:A:C6	44:l:78:ARG:HD2	2.56	0.40
34:b:813:U:C2	34:b:814:C:C5	3.10	0.40
34:b:821:A:C5'	34:b:822:G:H5"	2.50	0.40
34:b:978:G:N2	34:b:986:C:N3	2.64	0.40
34:b:1012:U:O4	42:j:30:THR:HG21	2.20	0.40
34:b:1059:G:N2	34:b:1079:C:C2	2.89	0.40
34:b:1063:G:C8	36:i:135:MET:CE	2.90	0.40
34:b:1063:G:N9	36:i:79:LEU:CD1	2.85	0.40
34:b:1080:A:N9	36:i:106:GLN:O	2.47	0.40
34:b:1109:C:C4	34:b:1110:G:H1'	2.56	0.40
34:b:1188:U:O2	34:b:1188:U:H2'	2.20	0.40
34:b:1315:C:H2'	34:b:1316:U:H6	1.87	0.40
34:b:1338:G:N1	34:b:1339:G:C5	2.89	0.40
34:b:1361:G:H2'	34:b:1362:C:C6	2.56	0.40
34:b:1538:G:C5	34:b:1539:U:C5	3.10	0.40
34:b:1777:U:O5'	34:b:1777:U:H6	2.04	0.40
34:b:1810:A:C8	34:b:1811:G:H1'	2.56	0.40
34:b:1842:G:C4	34:b:1843:C:C6	3.09	0.40
34:b:1848:A:C2	34:b:1849:G:N9	2.89	0.40
34:b:1867:G:O2'	34:b:1868:C:P	2.79	0.40
34:b:2025:C:C2	34:b:2026:U:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:2181:U:N3	34:b:2182:U:C6	2.89	0.40
34:b:2561:U:O2	34:b:2561:U:H2'	2.21	0.40
34:b:2562:U:C2	34:b:2563:U:C6	3.09	0.40
34:b:2744:G:H2'	34:b:2745:C:C6	2.57	0.40
34:b:2862:G:C6	34:b:2863:C:N4	2.89	0.40
35:c:162:VAL:HG11	35:c:174:LEU:HD22	2.02	0.40
36:i:57:VAL:HG12	36:i:58:ILE:N	2.35	0.40
36:i:123:ALA:C	36:i:125:THR:N	2.72	0.40
38:e:46:GLN:CB	38:e:83:VAL:HG11	2.51	0.40
41:h:8:LYS:HB3	41:h:15:LEU:HB2	2.02	0.40
42:j:11:VAL:HG11	42:j:50:THR:HA	2.03	0.40
1:A:147:G:H2'	1:A:148:G:H8	1.81	0.40
1:A:437:U:H3	1:A:495:A:H62	1.69	0.40
1:A:853:C:H2'	1:A:854:U:O4'	2.22	0.40
1:A:1156:G:O2'	1:A:1179:A:N6	2.54	0.40
2:B:68:PHE:HD2	2:B:83:ALA:HB2	1.85	0.40
4:D:143:SER:OG	4:D:178:GLU:HA	2.22	0.40
12:L:53:ARG:NH2	12:L:61:GLU:HG2	2.29	0.40
22:V:11:C:C2	22:V:12:U:C5	3.09	0.40
33:a:11:C:H2'	33:a:12:C:O4'	2.21	0.40
33:a:83:G:H2'	33:a:84:G:O4'	2.22	0.40
34:b:19:A:C2	34:b:20:C:N1	2.89	0.40
34:b:42:A:C6	34:b:43:G:C8	3.09	0.40
34:b:209:C:C4	34:b:210:C:H5	2.26	0.40
34:b:341:C:N3	34:b:342:A:N7	2.69	0.40
34:b:378:C:C4	34:b:379:G:N7	2.89	0.40
34:b:439:A:N1	34:b:440:C:C4	2.89	0.40
34:b:455:C:O2'	34:b:456:C:H5'	2.21	0.40
34:b:603:A:N3	34:b:626:A:H1'	2.36	0.40
34:b:617:G:C2	34:b:618:G:C8	3.09	0.40
34:b:760:G:H5'	34:b:761:A:OP2	2.22	0.40
34:b:779:U:O4	34:b:780:G:C5	2.75	0.40
34:b:961:C:C5	34:b:2031:A:C5	3.09	0.40
34:b:1068:G:P	36:i:12:VAL:CG1	3.07	0.40
34:b:1119:U:O2	34:b:1119:U:H2'	2.20	0.40
34:b:1162:G:C6	34:b:1163:G:C8	3.09	0.40
34:b:1336:A:C4	34:b:1337:G:C8	3.08	0.40
34:b:1390:U:H2'	34:b:1390:U:O2	2.21	0.40
34:b:1394:U:C5	34:b:1395:A:N3	2.89	0.40
34:b:1434:A:N7	34:b:1435:G:C8	2.89	0.40
34:b:1469:A:H2'	34:b:1470:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1731:G:C4	34:b:1733:G:C8	3.09	0.40
34:b:2008:C:C2	34:b:2009:A:C8	3.10	0.40
34:b:2013:A:C6	34:b:2613:U:N3	2.89	0.40
34:b:2141:G:C2	34:b:2142:A:O4'	2.75	0.40
34:b:2155:U:N3	34:b:2156:G:C8	2.89	0.40
34:b:2270:A:H2'	34:b:2271:G:C8	2.56	0.40
34:b:2418:A:C5	34:b:2419:U:C6	3.10	0.40
34:b:2545:G:C4	34:b:2546:U:C5	3.09	0.40
34:b:2610:C:C2'	34:b:2611:C:OP2	2.69	0.40
34:b:2692:G:C2'	34:b:2847:U:O2'	2.69	0.40
34:b:2900:A:C5	34:b:2901:C:C6	3.09	0.40
36:i:41:PHE:N	36:i:68:PHE:HZ	2.20	0.40
36:i:52:LEU:HD11	36:i:81:LYS:HE2	2.04	0.40
45:m:66:ARG:NH1	45:m:104:GLU:OE1	2.52	0.40
45:m:78:LEU:HD23	45:m:79:ALA:N	2.36	0.40
53:u:74:ASN:CB	53:u:96:PHE:CD2	3.05	0.40
1:A:55:A:H2'	1:A:55:A:N3	2.35	0.40
1:A:155:A:H61	1:A:166:U:H3	1.69	0.40
1:A:243:A:H4'	1:A:244:U:O5'	2.21	0.40
1:A:379:C:H2'	1:A:380:G:C8	2.56	0.40
1:A:399:G:C6	1:A:400:C:C4	3.09	0.40
1:A:457:G:OP2	1:A:457:G:H8	2.04	0.40
1:A:501:C:O2	1:A:549:C:O2'	2.37	0.40
1:A:620:C:O2	4:D:131:ILE:HG12	2.21	0.40
1:A:942:G:C6	9:I:125:GLN:NE2	2.90	0.40
1:A:1407:C:O2'	34:b:1919:A:H4'	2.22	0.40
2:B:163:ILE:HD12	2:B:213:LEU:HD13	2.03	0.40
7:G:16:LYS:NZ	9:I:45:MET:HE1	2.37	0.40
8:H:10:LEU:HD12	8:H:76:ARG:HB2	2.03	0.40
11:K:116:PRO:HD2	21:U:27:VAL:CG2	2.36	0.40
13:M:53:ASP:HA	13:M:56:ARG:HG2	2.04	0.40
23:W:46:G:N3	23:W:46:G:C2'	2.84	0.40
23:W:74:C:O2	23:W:74:C:C2'	2.68	0.40
28:3:10:ARG:CZ	34:b:517:C:OP2	2.69	0.40
33:a:33:G:O2'	33:a:34:A:C5'	2.68	0.40
33:a:33:G:C2	33:a:34:A:C8	3.09	0.40
33:a:92:C:H2'	33:a:93:C:H6	1.86	0.40
34:b:492:A:H2'	34:b:493:G:O4'	2.21	0.40
34:b:594:U:N3	34:b:595:C:H5	2.15	0.40
34:b:612:G:C4	34:b:614:A:C2	3.10	0.40
34:b:662:G:C4	34:b:663:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:695:G:C2	34:b:696:G:C8	3.09	0.40
34:b:780:G:N2	34:b:782:A:C2	2.89	0.40
34:b:836:G:C6	34:b:837:C:C6	3.10	0.40
34:b:921:C:C1'	34:b:2269:G:C8	3.03	0.40
34:b:1059:G:H2'	36:i:109:ALA:O	1.65	0.40
34:b:1061:U:C3'	36:i:112:LYS:HD2	2.30	0.40
34:b:1082:U:H4'	36:i:121:ILE:H	1.87	0.40
34:b:1153:C:H2'	34:b:1154:G:O4'	2.22	0.40
34:b:1170:C:H3'	34:b:1172:C:C6	2.56	0.40
34:b:1218:G:H2'	34:b:1218:G:N3	2.37	0.40
34:b:1491:G:N2	34:b:1492:G:C5	2.89	0.40
34:b:1587:G:N2	34:b:1588:G:H1'	2.36	0.40
34:b:1732:C:O2	34:b:1732:C:C2'	2.69	0.40
34:b:1766:G:C2	34:b:1767:G:N9	2.89	0.40
34:b:1840:G:C5	34:b:1841:U:C5	3.10	0.40
34:b:2136:G:O6	34:b:2137:U:N1	2.54	0.40
34:b:2186:G:C6	34:b:2187:U:C4	3.09	0.40
34:b:2205:A:N3	34:b:2206:C:C6	2.89	0.40
34:b:2220:U:O2	34:b:2221:G:C8	2.75	0.40
34:b:2242:G:H2'	34:b:2243:U:O4'	2.22	0.40
34:b:2534:A:N6	34:b:2535:G:N9	2.69	0.40
34:b:2537:U:O2	34:b:2537:U:H2'	2.21	0.40
34:b:2639:A:H1'	34:b:2778:A:C2	2.57	0.40
34:b:2794:C:O2	34:b:2794:C:H2'	2.21	0.40
40:g:98:VAL:HG21	40:g:124:GLU:CA	2.42	0.40
46:n:51:LEU:CD2	46:n:70:THR:HG23	2.46	0.40
1:A:273:U:H2'	1:A:274:A:H5'	2.03	0.40
1:A:318:G:H1	1:A:335:C:H42	1.69	0.40
1:A:402:G:H2'	1:A:403:C:H6	1.86	0.40
1:A:499:A:C6	1:A:547:A:C8	3.09	0.40
1:A:696:A:H2'	1:A:697:U:C6	2.56	0.40
1:A:1350:A:P	9:I:119:LYS:NZ	2.91	0.40
8:H:76:ARG:HA	8:H:126:CYS:HB2	2.04	0.40
14:N:15:LEU:HD23	14:N:18:LYS:HD2	2.02	0.40
16:P:56:ARG:HA	16:P:56:ARG:HD2	1.82	0.40
22:V:28:G:C2	22:V:29:G:C8	3.09	0.40
33:a:67:G:C2	33:a:68:C:C6	3.09	0.40
34:b:33:C:C5	34:b:446:G:N2	2.89	0.40
34:b:110:G:N1	34:b:111:A:C5	2.90	0.40
34:b:966:G:C4	34:b:967:U:C5	3.09	0.40
34:b:1173:U:O2'	34:b:1174:U:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:1218:G:N1	34:b:1219:U:C6	2.88	0.40
34:b:1238:G:N2	34:b:1239:G:H1'	2.35	0.40
34:b:1277:G:C6	34:b:1278:C:C4	3.09	0.40
34:b:1293:C:C2	34:b:1294:U:C6	3.10	0.40
34:b:1492:G:C6	34:b:1499:C:N3	2.90	0.40
34:b:1761:C:H2'	34:b:1762:A:C8	2.56	0.40
34:b:1773:A:C8	34:b:1829:A:H1'	2.57	0.40
34:b:1773:A:C4	34:b:1829:A:H1'	2.56	0.40
34:b:1936:A:O4'	34:b:1940:U:C2	2.74	0.40
34:b:1942:C:OP2	34:b:1943:U:O2'	2.24	0.40
34:b:1998:A:N3	34:b:1998:A:H2'	2.36	0.40
34:b:2353:G:C6	34:b:2354:C:C5	3.10	0.40
34:b:2353:G:C4	34:b:2354:C:C6	3.09	0.40
34:b:2496:C:C2'	34:b:2497:A:O5'	2.69	0.40
34:b:2526:G:C6	34:b:2527:C:C5	3.09	0.40
34:b:2616:C:O2	34:b:2617:U:C6	2.74	0.40
34:b:2617:U:C4	34:b:2618:G:C8	3.09	0.40
34:b:2699:C:C4	34:b:2700:A:N7	2.89	0.40
35:c:75:PRO:HD2	35:c:97:LYS:HD2	2.04	0.40
36:i:24:GLY:HA3	36:i:25:PRO:HD3	1.93	0.40
36:i:41:PHE:CE2	36:i:45:THR:HG21	2.56	0.40
1:A:61:G:H4'	1:A:386:C:O2'	2.21	0.40
1:A:91:U:H2'	1:A:92:U:C6	2.56	0.40
1:A:182:A:N6	1:A:194:C:O2	2.54	0.40
1:A:247:G:C6	1:A:248:C:C4	3.09	0.40
1:A:694:A:OP1	11:K:54:SER:OG	2.36	0.40
1:A:798:U:C4	1:A:799:G:N7	2.90	0.40
1:A:1015:G:C6	1:A:1016:A:C6	3.10	0.40
1:A:1256:A:H1'	1:A:1278:G:N2	2.37	0.40
1:A:1269:A:H5"	1:A:1270:G:OP2	2.22	0.40
4:D:144:ILE:HG13	4:D:177:MET:SD	2.61	0.40
5:E:143:LEU:O	5:E:146:MET:HE2	2.21	0.40
13:M:73:SER:HB3	39:f:143:TYR:OH	2.22	0.40
16:P:10:GLY:HA3	16:P:15:PRO:CA	2.49	0.40
16:P:56:ARG:NH1	16:P:59:HIS:CD2	2.90	0.40
22:V:29:G:N1	22:V:30:G:C5	2.90	0.40
22:V:62:C:O2	22:V:62:C:H2'	2.21	0.40
22:V:66:U:C2	22:V:67:C:C5	3.09	0.40
22:V:69:G:C2	22:V:70:G:C8	3.10	0.40
33:a:49:C:C2	33:a:50:A:N7	2.90	0.40
34:b:4:U:N3	34:b:5:A:C8	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:21:A:C2	34:b:22:C:N1	2.90	0.40
34:b:184:C:C4	34:b:185:G:N7	2.90	0.40
34:b:319:G:C6	34:b:320:A:C5	3.10	0.40
34:b:535:G:C6	34:b:536:G:N7	2.89	0.40
34:b:584:C:N3	34:b:585:G:C8	2.89	0.40
34:b:591:U:N3	34:b:592:A:N7	2.70	0.40
34:b:768:G:H22	34:b:1379:U:H1'	1.86	0.40
34:b:953:G:N3	34:b:953:G:H2'	2.37	0.40
34:b:1071:G:N7	34:b:1089:A:C5	2.88	0.40
34:b:1106:G:C5	34:b:1107:G:N9	2.88	0.40
34:b:1202:G:C5	34:b:1203:U:C5	3.09	0.40
34:b:1204:A:H5"	34:b:1206:G:C8	2.56	0.40
34:b:1215:G:H2'	34:b:1216:G:O4'	2.21	0.40
34:b:1276:A:C8	34:b:1645:G:C2	3.09	0.40
34:b:1316:U:C2	34:b:1317:G:N7	2.88	0.40
34:b:1407:G:N3	34:b:1408:G:C8	2.89	0.40
34:b:1434:A:C8	34:b:1435:G:N7	2.89	0.40
34:b:1461:C:O2	34:b:1462:C:C6	2.73	0.40
34:b:1503:A:C5	34:b:1504:A:N7	2.89	0.40
34:b:1868:C:O2	34:b:1868:C:C2'	2.69	0.40
34:b:1880:U:N3	34:b:1881:C:C5	2.89	0.40
34:b:2150:C:O2	34:b:2151:U:C6	2.74	0.40
34:b:2180:U:O2	34:b:2180:U:H2'	2.20	0.40
34:b:2271:G:C5	34:b:2272:U:C4	3.10	0.40
34:b:2766:A:N6	34:b:2767:C:C5	2.89	0.40
34:b:2817:U:O4	34:b:2818:U:C5	2.75	0.40
34:b:2897:U:C4	34:b:2898:U:C5	3.10	0.40
36:i:90:GLY:C	36:i:92:PRO:HD3	2.46	0.40
36:i:92:PRO:HB2	36:i:93:ASN:H	1.65	0.40
42:j:80:HIS:HB3	42:j:81:ILE:HG22	2.02	0.40
46:n:16:HIS:O	46:n:20:MET:HG2	2.22	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
2	B	216/241 (90%)	188 (87%)	19 (9%)	9 (4%)	2 15
3	C	204/233 (88%)	171 (84%)	23 (11%)	10 (5%)	1 12
4	D	203/206 (98%)	190 (94%)	9 (4%)	4 (2%)	6 28
5	E	148/167 (89%)	131 (88%)	7 (5%)	10 (7%)	1 7
6	F	98/131 (75%)	81 (83%)	14 (14%)	3 (3%)	3 21
7	G	148/156 (95%)	135 (91%)	8 (5%)	5 (3%)	3 19
8	H	127/130 (98%)	110 (87%)	15 (12%)	2 (2%)	7 32
9	I	125/130 (96%)	106 (85%)	16 (13%)	3 (2%)	4 25
10	J	96/103 (93%)	84 (88%)	7 (7%)	5 (5%)	1 11
11	K	115/129 (89%)	104 (90%)	10 (9%)	1 (1%)	14 43
12	L	121/124 (98%)	94 (78%)	22 (18%)	5 (4%)	2 15
13	M	111/118 (94%)	99 (89%)	5 (4%)	7 (6%)	1 8
14	N	92/101 (91%)	80 (87%)	8 (9%)	4 (4%)	2 15
15	O	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	10 37
16	P	80/82 (98%)	56 (70%)	15 (19%)	9 (11%)	0 2
17	Q	78/84 (93%)	66 (85%)	11 (14%)	1 (1%)	9 35
18	R	53/75 (71%)	51 (96%)	2 (4%)	0	100 100
19	S	77/92 (84%)	69 (90%)	5 (6%)	3 (4%)	2 16
20	T	83/87 (95%)	77 (93%)	5 (6%)	1 (1%)	10 37
21	U	49/71 (69%)	40 (82%)	5 (10%)	4 (8%)	0 5
25	0	75/78 (96%)	74 (99%)	1 (1%)	0	100 100
26	1	60/63 (95%)	53 (88%)	5 (8%)	2 (3%)	3 19
27	2	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6 30
28	3	54/57 (95%)	49 (91%)	3 (6%)	2 (4%)	2 17
29	4	48/55 (87%)	39 (81%)	9 (19%)	0	100 100
30	6	44/46 (96%)	40 (91%)	2 (4%)	2 (4%)	2 14
31	7	62/65 (95%)	60 (97%)	2 (3%)	0	100 100
32	8	36/38 (95%)	35 (97%)	1 (3%)	0	100 100
35	c	269/273 (98%)	251 (93%)	17 (6%)	1 (0%)	30 60
36	i	132/142 (93%)	83 (63%)	38 (29%)	11 (8%)	0 5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
37	d	207/209 (99%)	194 (94%)	11 (5%)	2 (1%)	12 41
38	e	199/201 (99%)	186 (94%)	7 (4%)	6 (3%)	3 21
39	f	175/179 (98%)	157 (90%)	12 (7%)	6 (3%)	3 19
40	g	174/177 (98%)	139 (80%)	31 (18%)	4 (2%)	5 26
41	h	147/149 (99%)	122 (83%)	20 (14%)	5 (3%)	3 19
42	j	140/142 (99%)	128 (91%)	10 (7%)	2 (1%)	9 34
43	k	120/123 (98%)	112 (93%)	6 (5%)	2 (2%)	7 31
44	l	142/144 (99%)	126 (89%)	10 (7%)	6 (4%)	2 15
45	m	131/136 (96%)	123 (94%)	7 (5%)	1 (1%)	16 45
46	n	118/127 (93%)	111 (94%)	4 (3%)	3 (2%)	4 24
47	o	114/117 (97%)	104 (91%)	5 (4%)	5 (4%)	2 14
48	p	112/115 (97%)	106 (95%)	5 (4%)	1 (1%)	14 43
49	q	115/118 (98%)	114 (99%)	1 (1%)	0	100 100
50	r	101/103 (98%)	91 (90%)	7 (7%)	3 (3%)	3 21
51	s	108/110 (98%)	103 (95%)	2 (2%)	3 (3%)	4 22
52	t	91/100 (91%)	80 (88%)	8 (9%)	3 (3%)	3 19
53	u	100/104 (96%)	77 (77%)	12 (12%)	11 (11%)	0 2
54	w	92/94 (98%)	91 (99%)	1 (1%)	0	100 100
55	y	73/85 (86%)	71 (97%)	2 (3%)	0	100 100
56	z	25/27 (93%)	20 (80%)	5 (20%)	0	100 100
All	All	5630/5985 (94%)	5003 (89%)	458 (8%)	169 (3%)	5 21

All (169) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	7	ASN
5	E	99	SER
8	H	44	PHE
9	I	57	VAL
12	L	88	ASP
16	P	11	ALA
16	P	80	LYS
19	S	4	LEU
20	T	67	HIS
21	U	26	GLY

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Mol	Chain	Res	Type
21	U	27	VAL
21	U	30	GLU
26	1	3	ALA
28	3	56	ALA
30	6	44	VAL
36	i	65	SER
36	i	92	PRO
37	d	152	PRO
38	e	153	LEU
39	f	62	GLY
39	f	123	ASP
40	g	119	ALA
41	h	41	LYS
41	h	66	ASN
41	h	67	ALA
42	j	81	ILE
44	l	29	LYS
44	l	68	SER
44	l	111	ILE
44	l	115	GLU
46	n	70	THR
46	n	119	SER
48	p	114	LEU
50	r	7	SER
51	s	65	ASP
52	t	17	SER
53	u	7	ARG
53	u	17	LYS
53	u	72	ILE
53	u	73	PHE
53	u	75	ALA
2	B	22	TRP
2	B	83	ALA
3	C	49	ALA
3	C	154	GLY
5	E	44	ARG
5	E	45	VAL
5	E	73	VAL
6	F	48	ALA
6	F	94	HIS
7	G	148	LYS
9	I	119	LYS

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Mol	Chain	Res	Type
10	J	57	VAL
10	J	58	ASN
10	J	67	ILE
12	L	23	LEU
13	M	3	ILE
13	M	46	GLU
13	M	104	ASN
14	N	50	LEU
15	O	21	THR
16	P	10	GLY
16	P	16	PHE
16	P	36	VAL
17	Q	71	SER
19	S	5	LYS
28	3	55	ILE
36	i	30	GLN
36	i	105	LEU
40	g	92	VAL
41	h	119	ASN
43	k	35	VAL
44	l	69	ARG
47	o	59	ALA
47	o	101	GLY
51	s	62	ASP
51	s	63	GLY
52	t	38	ALA
53	u	74	ASN
53	u	76	ALA
53	u	99	ASN
2	B	21	TYR
2	B	189	ASN
2	B	204	ASP
3	C	77	GLY
3	C	111	ASP
3	C	145	ALA
4	D	4	LEU
4	D	47	LEU
4	D	108	ALA
5	E	146	MET
6	F	54	LEU
7	G	114	SER
10	J	41	PRO

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Mol	Chain	Res	Type
12	L	46	SER
13	M	5	GLY
13	M	7	ASN
13	M	23	GLY
14	N	62	ARG
16	P	49	GLY
16	P	78	VAL
21	U	24	LYS
35	c	253	LYS
36	i	59	THR
39	f	175	PHE
42	j	25	LEU
43	k	108	ARG
44	l	86	GLU
45	m	69	PRO
47	o	34	HIS
47	o	66	GLY
53	u	4	LYS
3	C	3	LYS
3	C	5	HIS
5	E	11	GLN
7	G	4	ARG
9	I	112	ARG
11	K	88	PRO
13	M	47	LEU
26	1	37	LEU
27	2	4	THR
36	i	83	ALA
36	i	89	SER
38	e	62	GLN
38	e	127	GLU
39	f	121	SER
39	f	174	ASP
46	n	118	ARG
47	o	100	HIS
53	u	98	SER
2	B	63	LYS
2	B	76	SER
2	B	126	ASP
4	D	194	ILE
5	E	147	ASN
7	G	52	ARG

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Mol	Chain	Res	Type
7	G	113	LYS
10	J	75	ASP
12	L	116	TYR
14	N	52	ARG
14	N	61	ASN
19	S	11	ASP
36	i	20	SER
38	e	80	SER
40	g	118	PRO
41	h	56	ALA
50	r	53	PHE
52	t	18	GLU
2	B	30	ILE
8	H	52	GLY
30	6	45	SER
37	d	104	VAL
3	C	63	ILE
16	P	42	ILE
36	i	97	VAL
38	e	42	GLY
38	e	83	VAL
39	f	149	VAL
40	g	28	GLY
53	u	55	PRO
5	E	105	ILE
12	L	117	GLY
5	E	50	GLY
36	i	23	VAL
3	C	107	LYS
5	E	142	GLY
16	P	15	PRO
36	i	31	GLY
50	r	9	GLY

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
2	B	180/199 (90%)	180 (100%)	0	100 100
3	C	170/190 (90%)	170 (100%)	0	100 100
4	D	172/173 (99%)	172 (100%)	0	100 100
5	E	113/126 (90%)	113 (100%)	0	100 100
6	F	87/112 (78%)	87 (100%)	0	100 100
7	G	123/129 (95%)	123 (100%)	0	100 100
8	H	104/105 (99%)	104 (100%)	0	100 100
9	I	105/107 (98%)	105 (100%)	0	100 100
10	J	86/90 (96%)	86 (100%)	0	100 100
11	K	90/99 (91%)	90 (100%)	0	100 100
12	L	103/104 (99%)	103 (100%)	0	100 100
13	M	91/96 (95%)	91 (100%)	0	100 100
14	N	79/84 (94%)	79 (100%)	0	100 100
15	O	76/77 (99%)	76 (100%)	0	100 100
16	P	65/65 (100%)	53 (82%)	12 (18%)	1 8
17	Q	74/78 (95%)	74 (100%)	0	100 100
18	R	48/65 (74%)	48 (100%)	0	100 100
19	S	70/79 (89%)	70 (100%)	0	100 100
20	T	65/66 (98%)	65 (100%)	0	100 100
21	U	44/61 (72%)	44 (100%)	0	100 100
25	0	67/68 (98%)	62 (92%)	5 (8%)	12 38
26	1	54/55 (98%)	52 (96%)	2 (4%)	30 58
27	2	48/49 (98%)	47 (98%)	1 (2%)	47 66
28	3	47/48 (98%)	44 (94%)	3 (6%)	16 44
29	4	45/49 (92%)	44 (98%)	1 (2%)	45 66
30	6	38/38 (100%)	36 (95%)	2 (5%)	20 49
31	7	51/52 (98%)	51 (100%)	0	100 100
32	8	34/34 (100%)	33 (97%)	1 (3%)	37 62
35	c	216/218 (99%)	208 (96%)	8 (4%)	30 58
36	i	104/110 (94%)	90 (86%)	14 (14%)	4 16
37	d	164/164 (100%)	159 (97%)	5 (3%)	36 61
38	e	165/165 (100%)	156 (94%)	9 (6%)	19 47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
39	f	148/150 (99%)	140 (95%)	8 (5%)	20 48
40	g	137/138 (99%)	132 (96%)	5 (4%)	31 58
41	h	114/114 (100%)	114 (100%)	0	100 100
42	j	116/116 (100%)	110 (95%)	6 (5%)	21 49
43	k	103/104 (99%)	98 (95%)	5 (5%)	22 51
44	l	103/103 (100%)	100 (97%)	3 (3%)	37 62
45	m	108/109 (99%)	105 (97%)	3 (3%)	38 63
46	n	100/103 (97%)	98 (98%)	2 (2%)	48 67
47	o	86/87 (99%)	82 (95%)	4 (5%)	23 52
48	p	99/100 (99%)	95 (96%)	4 (4%)	28 56
49	q	89/90 (99%)	85 (96%)	4 (4%)	24 53
50	r	84/84 (100%)	77 (92%)	7 (8%)	10 35
51	s	93/93 (100%)	90 (97%)	3 (3%)	34 60
52	t	80/84 (95%)	74 (92%)	6 (8%)	12 38
53	u	83/85 (98%)	77 (93%)	6 (7%)	13 40
54	w	78/78 (100%)	77 (99%)	1 (1%)	61 73
55	y	56/63 (89%)	55 (98%)	1 (2%)	51 69
56	z	23/23 (100%)	12 (52%)	11 (48%)	0 0
All	All	4678/4879 (96%)	4536 (97%)	142 (3%)	37 61

All (142) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
16	P	1	MET
16	P	6	LEU
16	P	12	LYS
16	P	19	VAL
16	P	29	ASN
16	P	33	ILE
16	P	46	LYS
16	P	55	ASP
16	P	67	ILE
16	P	68	SER
16	P	71	VAL
16	P	80	LYS
25	0	11	ARG

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Mol	Chain	Res	Type
25	0	17	ASN
25	0	48	THR
25	0	57	ARG
25	0	76	GLU
26	1	21	LEU
26	1	38	GLN
27	2	36	VAL
28	3	28	LEU
28	3	29	SER
28	3	52	ARG
29	4	47	VAL
30	6	8	SER
30	6	44	VAL
32	8	18	LYS
35	c	5	LYS
35	c	115	GLN
35	c	130	LEU
35	c	139	SER
35	c	157	SER
35	c	251	GLN
35	c	265	LYS
35	c	267	ILE
36	i	10	LEU
36	i	11	GLN
36	i	12	VAL
36	i	23	VAL
36	i	30	GLN
36	i	39	LYS
36	i	49	GLU
36	i	61	TYR
36	i	71	LYS
36	i	81	LYS
36	i	85	ILE
36	i	86	LYS
36	i	95	ASP
36	i	107	GLU
37	d	32	ASN
37	d	51	THR
37	d	73	VAL
37	d	91	THR
37	d	104	VAL
38	e	12	LEU

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Mol	Chain	Res	Type
38	e	41	GLN
38	e	73	ILE
38	e	77	ILE
38	e	93	SER
38	e	109	LEU
38	e	126	VAL
38	e	139	LYS
38	e	187	VAL
39	f	19	GLU
39	f	72	LYS
39	f	89	VAL
39	f	117	LEU
39	f	132	VAL
39	f	133	ARG
39	f	141	ILE
39	f	149	VAL
40	g	29	LYS
40	g	34	THR
40	g	73	ASN
40	g	80	THR
40	g	92	VAL
42	j	30	THR
42	j	39	LYS
42	j	124	VAL
42	j	131	ASN
42	j	136	GLN
42	j	142	ILE
43	k	41	ILE
43	k	67	LYS
43	k	76	VAL
43	k	92	GLU
43	k	107	LEU
44	l	91	ASP
44	l	94	THR
44	l	118	THR
45	m	47	GLU
45	m	100	LYS
45	m	127	LYS
46	n	95	THR
46	n	116	VAL
47	o	5	SER
47	o	31	THR

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Mol	Chain	Res	Type
47	o	47	VAL
47	o	103	VAL
48	p	8	LEU
48	p	26	VAL
48	p	37	LYS
48	p	80	VAL
49	q	9	ILE
49	q	16	LYS
49	q	18	LEU
49	q	109	LEU
50	r	32	THR
50	r	38	VAL
50	r	46	GLU
50	r	47	VAL
50	r	58	VAL
50	r	60	LYS
50	r	102	SER
51	s	19	LEU
51	s	41	LYS
51	s	97	LEU
52	t	5	GLU
52	t	10	VAL
52	t	16	VAL
52	t	39	THR
52	t	49	LYS
52	t	56	GLU
53	u	15	THR
53	u	29	LEU
53	u	35	ILE
53	u	37	GLU
53	u	41	LEU
53	u	53	ASN
54	w	65	VAL
55	y	41	ARG
56	z	3	GLU
56	z	4	GLN
56	z	5	LYS
56	z	9	GLU
56	z	10	GLU
56	z	12	LEU
56	z	15	THR
56	z	18	TRP

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Mol	Chain	Res	Type
56	z	20	SER
56	z	21	GLN
56	z	26	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (103) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	92	ASN
2	B	177	ASN
2	B	202	ASN
3	C	24	ASN
3	C	101	ASN
4	D	35	GLN
4	D	39	GLN
4	D	40	HIS
4	D	84	ASN
4	D	115	GLN
4	D	119	HIS
4	D	125	ASN
4	D	130	ASN
4	D	139	ASN
4	D	151	GLN
4	D	195	ASN
5	E	11	GLN
5	E	77	ASN
5	E	82	HIS
5	E	88	HIS
5	E	134	ASN
6	F	37	HIS
6	F	46	GLN
6	F	68	GLN
7	G	96	ASN
7	G	141	HIS
7	G	147	ASN
8	H	3	GLN
8	H	15	ASN
8	H	37	ASN
9	I	3	ASN
9	I	30	ASN
11	K	23	HIS
11	K	39	ASN
11	K	117	HIS

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Mol	Chain	Res	Type
11	K	118	ASN
12	L	4	ASN
12	L	19	ASN
12	L	45	ASN
12	L	58	ASN
13	M	99	GLN
14	N	34	ASN
14	N	70	HIS
15	O	34	GLN
15	O	37	HIS
15	O	39	GLN
15	O	41	HIS
15	O	49	HIS
15	O	50	HIS
16	P	26	ASN
16	P	29	ASN
16	P	59	HIS
16	P	63	GLN
17	Q	30	HIS
17	Q	44	HIS
17	Q	49	ASN
17	Q	50	ASN
19	S	51	HIS
19	S	56	HIS
19	S	68	HIS
20	T	20	ASN
20	T	54	GLN
20	T	67	HIS
20	T	69	ASN
20	T	74	HIS
20	T	77	ASN
25	0	16	ASN
25	0	20	HIS
26	1	36	GLN
26	1	41	HIS
27	2	20	HIS
30	6	29	GLN
32	8	37	GLN
35	c	46	ASN
35	c	53	HIS
35	c	90	ASN
35	c	134	ASN

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Mol	Chain	Res	Type
35	c	251	GLN
36	i	30	GLN
36	i	110	GLN
37	d	36	GLN
37	d	49	GLN
37	d	150	GLN
39	f	37	ASN
41	h	28	ASN
41	h	73	ASN
41	h	119	ASN
41	h	128	HIS
41	h	135	HIS
43	k	88	ASN
47	o	38	GLN
47	o	61	GLN
48	p	15	GLN
48	p	41	GLN
49	q	37	GLN
50	r	87	GLN
51	s	31	GLN
53	u	74	ASN
54	w	5	ASN
54	w	12	GLN
54	w	24	ASN
56	z	4	GLN
56	z	21	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1530/1542 (99%)	422 (27%)	30 (1%)
22	V	75/76 (98%)	47 (62%)	9 (12%)
23	W	75/75 (100%)	40 (53%)	10 (13%)
24	X	11/11 (100%)	8 (72%)	3 (27%)
33	a	116/120 (96%)	43 (37%)	0
34	b	2902/2904 (99%)	1241 (42%)	0
All	All	4709/4728 (99%)	1801 (38%)	52 (1%)

All (1801) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	8	A
1	A	9	G
1	A	13	U
1	A	22	G
1	A	39	G
1	A	44	A
1	A	46	G
1	A	47	C
1	A	48	C
1	A	50	A
1	A	51	A
1	A	52	C
1	A	54	C
1	A	62	U
1	A	64	G
1	A	65	A
1	A	66	A
1	A	71	A
1	A	75	G
1	A	78	A
1	A	80	A
1	A	83	C
1	A	84	U
1	A	86	G
1	A	87	C
1	A	89	U
1	A	93	U
1	A	94	G
1	A	95	C
1	A	97	G
1	A	98	A
1	A	99	C
1	A	100	G
1	A	102	G
1	A	108	G
1	A	110	C
1	A	111	G
1	A	116	A
1	A	120	A
1	A	121	U
1	A	122	G
1	A	125	U

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Mol	Chain	Res	Type
1	A	126	G
1	A	129	A
1	A	130	A
1	A	131	A
1	A	133	U
1	A	141	G
1	A	144	G
1	A	145	G
1	A	146	G
1	A	149	A
1	A	152	A
1	A	157	U
1	A	160	A
1	A	163	C
1	A	179	A
1	A	182	A
1	A	183	C
1	A	184	G
1	A	185	U
1	A	186	C
1	A	187	G
1	A	188	C
1	A	192	A
1	A	196	A
1	A	197	A
1	A	198	G
1	A	200	G
1	A	201	G
1	A	203	G
1	A	204	G
1	A	205	A
1	A	210	C
1	A	211	G
1	A	215	C
1	A	217	C
1	A	218	U
1	A	219	U
1	A	226	G
1	A	229	U
1	A	230	G
1	A	231	U
1	A	236	A

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Mol	Chain	Res	Type
1	A	238	A
1	A	239	U
1	A	240	G
1	A	244	U
1	A	245	U
1	A	247	G
1	A	251	G
1	A	255	G
1	A	256	U
1	A	257	G
1	A	258	G
1	A	266	G
1	A	267	C
1	A	275	G
1	A	277	C
1	A	280	C
1	A	281	G
1	A	289	G
1	A	302	G
1	A	309	A
1	A	314	C
1	A	320	A
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	342	C
1	A	343	U
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	368	U
1	A	369	G
1	A	372	C
1	A	373	A
1	A	374	A
1	A	375	U
1	A	377	G
1	A	381	C
1	A	386	C

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Mol	Chain	Res	Type
1	A	387	U
1	A	388	G
1	A	389	A
1	A	390	U
1	A	391	G
1	A	397	A
1	A	398	U
1	A	399	G
1	A	401	C
1	A	404	G
1	A	406	G
1	A	408	A
1	A	411	A
1	A	413	G
1	A	414	A
1	A	416	G
1	A	429	U
1	A	430	A
1	A	435	A
1	A	437	U
1	A	439	U
1	A	448	A
1	A	451	A
1	A	452	A
1	A	455	G
1	A	456	A
1	A	457	G
1	A	461	A
1	A	462	G
1	A	463	U
1	A	464	U
1	A	466	A
1	A	468	A
1	A	469	C
1	A	475	C
1	A	476	U
1	A	479	U
1	A	481	G
1	A	483	C
1	A	484	G
1	A	485	U
1	A	486	U

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Mol	Chain	Res	Type
1	A	492	C
1	A	497	G
1	A	499	A
1	A	501	C
1	A	511	C
1	A	517	G
1	A	518	C
1	A	527	G
1	A	532	A
1	A	533	A
1	A	540	G
1	A	541	G
1	A	542	G
1	A	543	U
1	A	547	A
1	A	548	G
1	A	549	C
1	A	557	G
1	A	563	A
1	A	564	C
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	C
1	A	577	G
1	A	579	A
1	A	588	G
1	A	589	U
1	A	591	U
1	A	592	G
1	A	593	U
1	A	598	U
1	A	607	A
1	A	608	A
1	A	614	C
1	A	615	G
1	A	618	C
1	A	619	U
1	A	621	A
1	A	632	U
1	A	633	G
1	A	636	U

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Mol	Chain	Res	Type
1	A	637	C
1	A	638	U
1	A	639	G
1	A	648	A
1	A	653	U
1	A	654	G
1	A	665	A
1	A	683	G
1	A	687	A
1	A	696	A
1	A	697	U
1	A	698	G
1	A	699	C
1	A	700	G
1	A	701	U
1	A	702	A
1	A	703	G
1	A	711	G
1	A	718	A
1	A	719	C
1	A	721	G
1	A	723	U
1	A	724	G
1	A	729	A
1	A	731	G
1	A	747	A
1	A	753	A
1	A	755	G
1	A	763	G
1	A	765	G
1	A	766	A
1	A	780	A
1	A	785	G
1	A	792	A
1	A	793	U
1	A	794	A
1	A	795	C
1	A	809	G
1	A	810	C
1	A	815	A
1	A	817	C
1	A	819	A

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Mol	Chain	Res	Type
1	A	823	C
1	A	828	U
1	A	832	G
1	A	840	C
1	A	841	C
1	A	842	U
1	A	843	U
1	A	846	G
1	A	849	G
1	A	851	G
1	A	854	U
1	A	868	C
1	A	873	A
1	A	884	U
1	A	885	G
1	A	891	U
1	A	900	A
1	A	914	A
1	A	915	A
1	A	918	A
1	A	927	G
1	A	934	C
1	A	935	A
1	A	936	C
1	A	939	G
1	A	955	U
1	A	960	U
1	A	961	U
1	A	966	G
1	A	968	A
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	985	C
1	A	989	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	996	A

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Mol	Chain	Res	Type
1	A	1004	A
1	A	1006	G
1	A	1010	U
1	A	1013	G
1	A	1020	G
1	A	1022	A
1	A	1025	U
1	A	1026	G
1	A	1028	C
1	A	1030	U
1	A	1031	C
1	A	1032	G
1	A	1036	A
1	A	1051	C
1	A	1064	G
1	A	1065	U
1	A	1066	C
1	A	1070	U
1	A	1073	U
1	A	1086	U
1	A	1093	A
1	A	1094	G
1	A	1095	U
1	A	1100	C
1	A	1101	A
1	A	1108	G
1	A	1112	C
1	A	1118	U
1	A	1121	U
1	A	1130	A
1	A	1135	U
1	A	1136	C
1	A	1137	C
1	A	1139	G
1	A	1140	C
1	A	1143	G
1	A	1158	C
1	A	1159	U
1	A	1161	C
1	A	1167	A
1	A	1168	U
1	A	1184	G

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Mol	Chain	Res	Type
1	A	1192	C
1	A	1196	A
1	A	1197	A
1	A	1198	G
1	A	1199	U
1	A	1202	U
1	A	1209	C
1	A	1210	C
1	A	1215	G
1	A	1218	C
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1236	A
1	A	1238	A
1	A	1240	U
1	A	1241	G
1	A	1249	C
1	A	1251	A
1	A	1253	G
1	A	1256	A
1	A	1258	G
1	A	1274	A
1	A	1278	G
1	A	1279	G
1	A	1280	A
1	A	1281	C
1	A	1282	C
1	A	1287	A
1	A	1290	G
1	A	1295	U
1	A	1300	G
1	A	1301	U
1	A	1302	C
1	A	1303	C
1	A	1305	G
1	A	1312	G
1	A	1317	C
1	A	1318	A
1	A	1319	A
1	A	1320	C
1	A	1323	G

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Mol	Chain	Res	Type
1	A	1333	A
1	A	1335	U
1	A	1336	C
1	A	1338	G
1	A	1341	U
1	A	1342	C
1	A	1343	G
1	A	1345	U
1	A	1346	A
1	A	1349	A
1	A	1353	G
1	A	1357	A
1	A	1361	G
1	A	1362	A
1	A	1363	A
1	A	1364	U
1	A	1368	A
1	A	1379	G
1	A	1398	A
1	A	1402	C
1	A	1415	G
1	A	1419	G
1	A	1422	G
1	A	1425	U
1	A	1441	A
1	A	1446	A
1	A	1451	U
1	A	1452	C
1	A	1470	U
1	A	1490	U
1	A	1493	A
1	A	1494	G
1	A	1496	C
1	A	1497	G
1	A	1503	A
1	A	1506	U
1	A	1517	G
1	A	1518	A
1	A	1520	C
1	A	1523	G
1	A	1528	U
1	A	1530	G

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Mol	Chain	Res	Type
1	A	1534	A
22	V	2	C
22	V	3	C
22	V	4	C
22	V	5	G
22	V	6	G
22	V	8	U
22	V	9	A
22	V	10	G
22	V	15	G
22	V	16	U
22	V	17	C
22	V	18	G
22	V	19	G
22	V	20	U
22	V	21	A
22	V	22	G
22	V	26	A
22	V	28	G
22	V	37	A
22	V	38	A
22	V	39	U
22	V	40	C
22	V	41	C
22	V	42	C
22	V	43	C
22	V	44	G
22	V	46	G
22	V	47	U
22	V	48	C
22	V	51	U
22	V	53	G
22	V	54	U
22	V	55	U
22	V	57	G
22	V	59	U
22	V	60	U
22	V	62	C
22	V	64	A
22	V	65	G
22	V	66	U
22	V	68	C

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Mol	Chain	Res	Type
22	V	71	G
22	V	72	C
22	V	73	A
22	V	74	C
22	V	75	C
22	V	76	A
23	W	2	G
23	W	6	C
23	W	8	U
23	W	13	C
23	W	15	G
23	W	16	C
23	W	17	U
23	W	18	G
23	W	19	G
23	W	20	U
23	W	21	A
23	W	22	G
23	W	28	C
23	W	34	G
23	W	35	C
23	W	37	G
23	W	40	U
23	W	42	G
23	W	43	G
23	W	46	G
23	W	48	C
23	W	49	G
23	W	50	G
23	W	52	G
23	W	55	U
23	W	56	C
23	W	57	A
23	W	58	A
23	W	59	A
23	W	60	U
23	W	61	C
23	W	62	C
23	W	66	C
23	W	67	G
23	W	69	G
23	W	71	C

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Mol	Chain	Res	Type
23	W	72	G
23	W	73	A
23	W	74	C
23	W	75	A
24	X	13	U
24	X	14	G
24	X	16	C
24	X	17	C
24	X	18	C
24	X	19	U
24	X	20	C
24	X	21	A
33	a	4	C
33	a	7	G
33	a	9	G
33	a	10	G
33	a	12	C
33	a	13	G
33	a	15	A
33	a	21	G
33	a	24	G
33	a	26	C
33	a	30	C
33	a	34	A
33	a	35	C
33	a	42	C
33	a	43	C
33	a	44	G
33	a	46	A
33	a	52	A
33	a	53	A
33	a	54	G
33	a	56	G
33	a	57	A
33	a	59	A
33	a	65	U
33	a	67	G
33	a	84	G
33	a	85	G
33	a	86	G
33	a	87	U
33	a	88	C

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Mol	Chain	Res	Type
33	a	89	U
33	a	90	C
33	a	91	C
33	a	93	C
33	a	98	G
33	a	99	A
33	a	100	G
33	a	103	U
33	a	106	G
33	a	108	A
33	a	109	A
33	a	110	C
33	a	115	A
34	b	3	U
34	b	4	U
34	b	7	G
34	b	9	G
34	b	10	A
34	b	12	U
34	b	13	A
34	b	14	A
34	b	20	C
34	b	23	G
34	b	24	G
34	b	28	A
34	b	33	C
34	b	34	U
34	b	35	G
34	b	39	G
34	b	45	G
34	b	46	G
34	b	49	A
34	b	50	U
34	b	51	G
34	b	55	G
34	b	62	U
34	b	63	A
34	b	64	A
34	b	69	C
34	b	71	A
34	b	72	U
34	b	73	A

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Mol	Chain	Res	Type
34	b	74	A
34	b	75	G
34	b	76	C
34	b	77	G
34	b	84	A
34	b	86	G
34	b	88	G
34	b	90	U
34	b	91	A
34	b	92	U
34	b	96	C
34	b	100	U
34	b	101	A
34	b	102	U
34	b	103	A
34	b	109	C
34	b	114	U
34	b	116	C
34	b	118	A
34	b	119	A
34	b	120	U
34	b	125	A
34	b	126	A
34	b	127	A
34	b	136	G
34	b	140	C
34	b	142	A
34	b	160	A
34	b	163	C
34	b	166	U
34	b	168	G
34	b	169	G
34	b	172	A
34	b	174	U
34	b	181	A
34	b	186	G
34	b	187	G
34	b	188	G
34	b	195	A
34	b	196	A
34	b	197	A
34	b	199	A

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Mol	Chain	Res	Type
34	b	200	U
34	b	201	C
34	b	204	A
34	b	210	C
34	b	215	G
34	b	216	A
34	b	218	A
34	b	221	A
34	b	222	A
34	b	223	A
34	b	224	U
34	b	225	C
34	b	228	C
34	b	229	C
34	b	231	A
34	b	233	A
34	b	234	U
34	b	235	U
34	b	239	C
34	b	240	C
34	b	241	A
34	b	242	G
34	b	243	U
34	b	245	G
34	b	248	G
34	b	249	C
34	b	250	G
34	b	251	A
34	b	252	G
34	b	255	A
34	b	256	A
34	b	264	C
34	b	265	A
34	b	266	G
34	b	268	C
34	b	270	A
34	b	271	G
34	b	272	A
34	b	274	C
34	b	275	C
34	b	277	G
34	b	278	A

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Mol	Chain	Res	Type
34	b	279	A
34	b	280	U
34	b	281	C
34	b	282	A
34	b	288	U
34	b	290	U
34	b	294	A
34	b	295	G
34	b	298	G
34	b	299	A
34	b	300	A
34	b	303	G
34	b	304	U
34	b	307	G
34	b	308	G
34	b	309	A
34	b	310	A
34	b	311	A
34	b	317	G
34	b	322	A
34	b	323	C
34	b	324	A
34	b	329	G
34	b	330	A
34	b	331	C
34	b	332	A
34	b	342	A
34	b	343	C
34	b	345	A
34	b	346	A
34	b	347	A
34	b	349	U
34	b	353	C
34	b	356	G
34	b	358	U
34	b	362	A
34	b	363	G
34	b	365	U
34	b	366	C
34	b	367	G
34	b	368	A
34	b	369	U

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Mol	Chain	Res	Type
34	b	370	G
34	b	371	A
34	b	372	G
34	b	373	U
34	b	375	G
34	b	383	C
34	b	385	C
34	b	386	G
34	b	387	U
34	b	388	G
34	b	389	G
34	b	391	A
34	b	395	U
34	b	396	G
34	b	400	G
34	b	401	A
34	b	403	U
34	b	404	A
34	b	405	U
34	b	406	G
34	b	411	G
34	b	412	A
34	b	413	C
34	b	419	U
34	b	425	G
34	b	434	U
34	b	435	C
34	b	436	C
34	b	442	G
34	b	443	A
34	b	444	C
34	b	446	G
34	b	447	A
34	b	448	U
34	b	449	A
34	b	451	U
34	b	453	A
34	b	454	A
34	b	456	C
34	b	457	A
34	b	458	G
34	b	459	U

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Mol	Chain	Res	Type
34	b	461	C
34	b	464	U
34	b	466	A
34	b	478	A
34	b	479	A
34	b	480	A
34	b	481	G
34	b	482	A
34	b	483	A
34	b	489	G
34	b	490	C
34	b	491	G
34	b	493	G
34	b	494	G
34	b	501	A
34	b	502	A
34	b	503	A
34	b	504	A
34	b	505	A
34	b	506	G
34	b	507	A
34	b	508	A
34	b	509	C
34	b	513	A
34	b	517	C
34	b	518	G
34	b	519	U
34	b	521	U
34	b	527	C
34	b	528	A
34	b	529	A
34	b	530	G
34	b	531	C
34	b	532	A
34	b	538	A
34	b	539	G
34	b	544	C
34	b	545	U
34	b	546	U
34	b	547	A
34	b	548	G
34	b	549	G

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Mol	Chain	Res	Type
34	b	550	C
34	b	551	G
34	b	556	A
34	b	560	C
34	b	563	A
34	b	567	U
34	b	568	U
34	b	569	U
34	b	573	U
34	b	574	A
34	b	575	A
34	b	578	G
34	b	584	C
34	b	585	G
34	b	586	A
34	b	587	C
34	b	589	U
34	b	591	U
34	b	592	A
34	b	603	A
34	b	604	G
34	b	605	G
34	b	606	U
34	b	611	C
34	b	612	G
34	b	613	A
34	b	614	A
34	b	619	G
34	b	621	A
34	b	622	G
34	b	625	G
34	b	626	A
34	b	627	A
34	b	630	G
34	b	631	A
34	b	633	A
34	b	637	A
34	b	638	G
34	b	640	C
34	b	642	U
34	b	643	A
34	b	644	A

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Mol	Chain	Res	Type
34	b	646	U
34	b	647	G
34	b	651	G
34	b	652	U
34	b	653	U
34	b	654	A
34	b	655	A
34	b	656	G
34	b	659	G
34	b	664	G
34	b	665	U
34	b	667	U
34	b	668	A
34	b	669	G
34	b	670	A
34	b	675	A
34	b	679	C
34	b	683	U
34	b	686	U
34	b	687	C
34	b	695	G
34	b	701	G
34	b	704	G
34	b	705	A
34	b	711	G
34	b	715	A
34	b	716	A
34	b	718	A
34	b	719	C
34	b	723	C
34	b	724	U
34	b	727	A
34	b	729	G
34	b	730	A
34	b	731	C
34	b	733	G
34	b	738	G
34	b	740	C
34	b	745	G
34	b	746	U
34	b	747	U
34	b	750	A

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Mol	Chain	Res	Type
34	b	752	A
34	b	757	G
34	b	758	C
34	b	764	A
34	b	765	C
34	b	766	U
34	b	770	G
34	b	775	G
34	b	776	G
34	b	777	G
34	b	781	A
34	b	782	A
34	b	783	A
34	b	784	G
34	b	785	G
34	b	788	A
34	b	789	A
34	b	790	U
34	b	792	A
34	b	793	A
34	b	794	A
34	b	797	G
34	b	801	G
34	b	805	G
34	b	807	U
34	b	810	U
34	b	812	C
34	b	814	C
34	b	819	A
34	b	822	G
34	b	827	U
34	b	828	U
34	b	829	A
34	b	830	G
34	b	836	G
34	b	842	U
34	b	844	A
34	b	845	A
34	b	846	U
34	b	847	U
34	b	852	U
34	b	856	G

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Mol	Chain	Res	Type
34	b	858	G
34	b	859	G
34	b	866	A
34	b	867	C
34	b	872	U
34	b	873	C
34	b	874	G
34	b	876	C
34	b	877	A
34	b	878	A
34	b	879	G
34	b	880	G
34	b	881	G
34	b	882	G
34	b	886	A
34	b	887	U
34	b	888	C
34	b	889	C
34	b	891	G
34	b	893	C
34	b	894	U
34	b	895	U
34	b	896	A
34	b	897	C
34	b	898	C
34	b	899	A
34	b	900	A
34	b	910	A
34	b	911	A
34	b	912	C
34	b	914	G
34	b	915	C
34	b	929	U
34	b	931	U
34	b	932	U
34	b	933	A
34	b	934	U
34	b	941	A
34	b	945	A
34	b	946	C
34	b	947	A
34	b	954	G

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Mol	Chain	Res	Type
34	b	958	U
34	b	959	A
34	b	961	C
34	b	967	U
34	b	969	G
34	b	973	A
34	b	974	G
34	b	975	A
34	b	979	A
34	b	980	A
34	b	983	A
34	b	985	C
34	b	986	C
34	b	988	A
34	b	990	A
34	b	996	A
34	b	999	U
34	b	1003	G
34	b	1004	U
34	b	1006	C
34	b	1007	C
34	b	1008	A
34	b	1010	A
34	b	1011	G
34	b	1012	U
34	b	1013	C
34	b	1017	G
34	b	1018	U
34	b	1021	A
34	b	1022	G
34	b	1023	U
34	b	1025	G
34	b	1026	G
34	b	1027	A
34	b	1028	A
34	b	1032	A
34	b	1033	U
34	b	1034	G
34	b	1037	G
34	b	1038	G
34	b	1039	A
34	b	1045	C

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Mol	Chain	Res	Type
34	b	1047	G
34	b	1051	G
34	b	1052	C
34	b	1054	A
34	b	1055	G
34	b	1056	G
34	b	1057	A
34	b	1058	U
34	b	1059	G
34	b	1060	U
34	b	1061	U
34	b	1062	G
34	b	1063	G
34	b	1064	C
34	b	1068	G
34	b	1069	A
34	b	1070	A
34	b	1071	G
34	b	1072	C
34	b	1073	A
34	b	1075	C
34	b	1077	A
34	b	1078	U
34	b	1079	C
34	b	1080	A
34	b	1081	U
34	b	1082	U
34	b	1084	A
34	b	1085	A
34	b	1086	A
34	b	1087	G
34	b	1088	A
34	b	1089	A
34	b	1090	A
34	b	1091	G
34	b	1092	C
34	b	1094	U
34	b	1095	A
34	b	1096	A
34	b	1097	U
34	b	1098	A
34	b	1099	G

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Mol	Chain	Res	Type
34	b	1100	C
34	b	1102	C
34	b	1103	A
34	b	1104	C
34	b	1105	U
34	b	1106	G
34	b	1107	G
34	b	1109	C
34	b	1110	G
34	b	1111	A
34	b	1112	G
34	b	1115	G
34	b	1116	G
34	b	1117	C
34	b	1121	C
34	b	1122	G
34	b	1130	U
34	b	1131	G
34	b	1132	U
34	b	1133	A
34	b	1134	A
34	b	1135	C
34	b	1136	G
34	b	1141	U
34	b	1142	A
34	b	1143	A
34	b	1144	A
34	b	1151	A
34	b	1155	A
34	b	1156	A
34	b	1163	G
34	b	1169	A
34	b	1171	G
34	b	1172	C
34	b	1173	U
34	b	1174	U
34	b	1175	A
34	b	1176	U
34	b	1177	G
34	b	1178	C
34	b	1179	G
34	b	1180	U

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Mol	Chain	Res	Type
34	b	1184	U
34	b	1185	G
34	b	1187	G
34	b	1188	U
34	b	1195	G
34	b	1197	G
34	b	1200	C
34	b	1202	G
34	b	1204	A
34	b	1205	A
34	b	1206	G
34	b	1209	U
34	b	1210	G
34	b	1211	C
34	b	1212	G
34	b	1218	G
34	b	1222	U
34	b	1223	G
34	b	1224	U
34	b	1225	G
34	b	1226	A
34	b	1227	G
34	b	1231	U
34	b	1232	G
34	b	1236	G
34	b	1237	A
34	b	1238	G
34	b	1239	G
34	b	1240	U
34	b	1241	A
34	b	1242	U
34	b	1244	A
34	b	1247	A
34	b	1248	G
34	b	1249	U
34	b	1252	G
34	b	1253	A
34	b	1255	U
34	b	1256	G
34	b	1260	A
34	b	1265	A
34	b	1266	G

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Mol	Chain	Res	Type
34	b	1268	A
34	b	1271	G
34	b	1272	A
34	b	1273	U
34	b	1274	A
34	b	1275	A
34	b	1276	A
34	b	1280	G
34	b	1287	A
34	b	1294	U
34	b	1296	G
34	b	1299	G
34	b	1300	G
34	b	1301	A
34	b	1302	A
34	b	1306	C
34	b	1312	U
34	b	1314	C
34	b	1318	U
34	b	1320	C
34	b	1321	A
34	b	1322	A
34	b	1324	G
34	b	1325	U
34	b	1330	C
34	b	1332	G
34	b	1338	G
34	b	1340	U
34	b	1341	G
34	b	1345	C
34	b	1347	A
34	b	1348	C
34	b	1349	C
34	b	1352	U
34	b	1354	A
34	b	1355	G
34	b	1365	A
34	b	1368	G
34	b	1370	C
34	b	1374	G
34	b	1378	A
34	b	1379	U

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Mol	Chain	Res	Type
34	b	1381	G
34	b	1382	G
34	b	1383	A
34	b	1386	C
34	b	1390	U
34	b	1392	A
34	b	1394	U
34	b	1395	A
34	b	1396	U
34	b	1397	U
34	b	1400	U
34	b	1414	C
34	b	1415	U
34	b	1416	G
34	b	1418	G
34	b	1419	A
34	b	1420	A
34	b	1421	G
34	b	1424	G
34	b	1425	G
34	b	1427	A
34	b	1428	C
34	b	1444	G
34	b	1449	G
34	b	1451	C
34	b	1452	G
34	b	1453	A
34	b	1454	C
34	b	1455	G
34	b	1458	U
34	b	1459	G
34	b	1460	U
34	b	1461	C
34	b	1467	U
34	b	1469	A
34	b	1470	A
34	b	1476	U
34	b	1477	A
34	b	1478	G
34	b	1482	G
34	b	1485	U
34	b	1488	C

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Mol	Chain	Res	Type
34	b	1489	C
34	b	1490	A
34	b	1491	G
34	b	1493	C
34	b	1494	A
34	b	1495	A
34	b	1496	A
34	b	1497	U
34	b	1498	C
34	b	1499	C
34	b	1500	G
34	b	1501	G
34	b	1503	A
34	b	1504	A
34	b	1506	U
34	b	1507	C
34	b	1508	A
34	b	1509	A
34	b	1510	G
34	b	1511	G
34	b	1512	C
34	b	1521	G
34	b	1522	A
34	b	1523	U
34	b	1524	G
34	b	1529	G
34	b	1530	G
34	b	1535	A
34	b	1536	C
34	b	1537	G
34	b	1539	U
34	b	1542	U
34	b	1550	C
34	b	1552	A
34	b	1556	C
34	b	1562	U
34	b	1565	C
34	b	1566	A
34	b	1568	G
34	b	1569	A
34	b	1570	A
34	b	1576	U

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Mol	Chain	Res	Type
34	b	1578	U
34	b	1583	A
34	b	1585	C
34	b	1587	G
34	b	1600	C
34	b	1602	U
34	b	1603	A
34	b	1607	C
34	b	1608	A
34	b	1609	A
34	b	1610	A
34	b	1613	G
34	b	1614	A
34	b	1616	A
34	b	1617	C
34	b	1618	A
34	b	1627	G
34	b	1631	G
34	b	1632	A
34	b	1633	G
34	b	1634	A
34	b	1637	A
34	b	1644	C
34	b	1646	C
34	b	1647	U
34	b	1648	U
34	b	1649	G
34	b	1654	A
34	b	1656	C
34	b	1657	U
34	b	1658	C
34	b	1660	G
34	b	1663	G
34	b	1667	G
34	b	1668	A
34	b	1670	C
34	b	1672	A
34	b	1673	G
34	b	1674	G
34	b	1677	A
34	b	1689	A
34	b	1691	C

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Mol	Chain	Res	Type
34	b	1693	U
34	b	1694	C
34	b	1698	A
34	b	1699	G
34	b	1700	A
34	b	1702	G
34	b	1703	G
34	b	1704	C
34	b	1705	A
34	b	1706	C
34	b	1707	G
34	b	1710	G
34	b	1713	A
34	b	1715	G
34	b	1716	U
34	b	1728	C
34	b	1730	C
34	b	1731	G
34	b	1732	C
34	b	1733	G
34	b	1735	A
34	b	1746	A
34	b	1750	G
34	b	1754	A
34	b	1756	G
34	b	1757	A
34	b	1758	U
34	b	1763	G
34	b	1764	C
34	b	1766	G
34	b	1773	A
34	b	1774	C
34	b	1775	U
34	b	1776	G
34	b	1778	U
34	b	1780	A
34	b	1781	U
34	b	1782	U
34	b	1783	A
34	b	1784	A
34	b	1786	A
34	b	1787	A

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Mol	Chain	Res	Type
34	b	1800	C
34	b	1801	A
34	b	1802	A
34	b	1805	A
34	b	1806	C
34	b	1807	G
34	b	1808	A
34	b	1809	A
34	b	1811	G
34	b	1819	A
34	b	1820	U
34	b	1827	U
34	b	1828	G
34	b	1829	A
34	b	1833	C
34	b	1839	G
34	b	1842	G
34	b	1845	G
34	b	1847	A
34	b	1848	A
34	b	1849	G
34	b	1853	A
34	b	1857	G
34	b	1862	G
34	b	1866	A
34	b	1867	G
34	b	1868	C
34	b	1869	G
34	b	1870	C
34	b	1871	A
34	b	1875	G
34	b	1877	A
34	b	1885	A
34	b	1890	A
34	b	1896	G
34	b	1901	A
34	b	1902	C
34	b	1905	C
34	b	1907	G
34	b	1908	C
34	b	1911	U
34	b	1912	A

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Mol	Chain	Res	Type
34	b	1913	A
34	b	1914	C
34	b	1915	U
34	b	1924	C
34	b	1928	A
34	b	1929	G
34	b	1930	G
34	b	1931	U
34	b	1932	A
34	b	1936	A
34	b	1937	A
34	b	1938	A
34	b	1940	U
34	b	1941	C
34	b	1942	C
34	b	1943	U
34	b	1952	A
34	b	1953	A
34	b	1955	U
34	b	1958	C
34	b	1960	A
34	b	1961	C
34	b	1963	U
34	b	1964	G
34	b	1965	C
34	b	1967	C
34	b	1970	A
34	b	1971	U
34	b	1972	G
34	b	1977	A
34	b	1980	G
34	b	1981	A
34	b	1982	U
34	b	1989	G
34	b	1991	U
34	b	1993	U
34	b	1997	C
34	b	2006	C
34	b	2007	U
34	b	2011	U
34	b	2014	A
34	b	2020	A

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Mol	Chain	Res	Type
34	b	2022	U
34	b	2023	C
34	b	2025	C
34	b	2027	G
34	b	2030	A
34	b	2031	A
34	b	2032	G
34	b	2033	A
34	b	2034	U
34	b	2036	C
34	b	2042	A
34	b	2043	C
34	b	2044	C
34	b	2046	G
34	b	2049	G
34	b	2055	C
34	b	2056	G
34	b	2060	A
34	b	2061	G
34	b	2062	A
34	b	2063	C
34	b	2068	U
34	b	2069	G
34	b	2070	A
34	b	2076	U
34	b	2077	A
34	b	2080	A
34	b	2087	G
34	b	2092	U
34	b	2095	A
34	b	2097	A
34	b	2098	U
34	b	2103	C
34	b	2104	C
34	b	2105	U
34	b	2106	U
34	b	2107	G
34	b	2109	U
34	b	2110	G
34	b	2111	U
34	b	2112	G
34	b	2113	U

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Mol	Chain	Res	Type
34	b	2114	A
34	b	2115	G
34	b	2117	A
34	b	2118	U
34	b	2119	A
34	b	2120	G
34	b	2121	G
34	b	2123	G
34	b	2124	G
34	b	2125	G
34	b	2126	A
34	b	2127	G
34	b	2128	G
34	b	2130	U
34	b	2131	U
34	b	2132	U
34	b	2133	G
34	b	2139	U
34	b	2142	A
34	b	2143	C
34	b	2144	G
34	b	2145	C
34	b	2147	A
34	b	2148	G
34	b	2149	U
34	b	2152	G
34	b	2153	C
34	b	2156	G
34	b	2158	A
34	b	2159	G
34	b	2160	C
34	b	2161	C
34	b	2162	G
34	b	2163	A
34	b	2164	C
34	b	2165	C
34	b	2166	U
34	b	2167	U
34	b	2168	G
34	b	2169	A
34	b	2170	A
34	b	2171	A

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Mol	Chain	Res	Type
34	b	2172	U
34	b	2173	A
34	b	2174	C
34	b	2175	C
34	b	2176	A
34	b	2177	C
34	b	2178	C
34	b	2179	C
34	b	2183	A
34	b	2185	U
34	b	2190	G
34	b	2191	A
34	b	2193	G
34	b	2197	U
34	b	2198	A
34	b	2199	A
34	b	2203	U
34	b	2204	G
34	b	2210	U
34	b	2211	A
34	b	2212	A
34	b	2213	U
34	b	2214	C
34	b	2215	C
34	b	2218	G
34	b	2225	A
34	b	2238	G
34	b	2239	G
34	b	2243	U
34	b	2250	G
34	b	2251	G
34	b	2252	G
34	b	2255	G
34	b	2256	G
34	b	2257	U
34	b	2258	C
34	b	2261	C
34	b	2265	U
34	b	2267	A
34	b	2268	A
34	b	2273	A
34	b	2275	C

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Mol	Chain	Res	Type
34	b	2276	G
34	b	2279	G
34	b	2280	G
34	b	2282	G
34	b	2283	C
34	b	2284	A
34	b	2286	G
34	b	2287	A
34	b	2288	A
34	b	2289	G
34	b	2294	G
34	b	2297	A
34	b	2298	A
34	b	2304	G
34	b	2305	U
34	b	2307	G
34	b	2308	G
34	b	2311	A
34	b	2312	U
34	b	2316	G
34	b	2319	G
34	b	2320	U
34	b	2322	A
34	b	2325	G
34	b	2327	A
34	b	2330	G
34	b	2331	G
34	b	2333	A
34	b	2334	U
34	b	2335	A
34	b	2336	A
34	b	2345	G
34	b	2347	C
34	b	2350	C
34	b	2353	G
34	b	2354	C
34	b	2357	G
34	b	2358	A
34	b	2361	G
34	b	2366	A
34	b	2367	G
34	b	2371	G

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Mol	Chain	Res	Type
34	b	2372	U
34	b	2376	A
34	b	2377	A
34	b	2379	G
34	b	2382	G
34	b	2383	G
34	b	2385	C
34	b	2388	A
34	b	2396	G
34	b	2402	U
34	b	2403	C
34	b	2404	U
34	b	2406	A
34	b	2407	A
34	b	2410	G
34	b	2411	A
34	b	2413	G
34	b	2421	G
34	b	2422	C
34	b	2423	U
34	b	2425	A
34	b	2426	A
34	b	2427	C
34	b	2428	G
34	b	2429	G
34	b	2430	A
34	b	2431	U
34	b	2434	A
34	b	2435	A
34	b	2439	A
34	b	2440	C
34	b	2441	U
34	b	2445	G
34	b	2447	G
34	b	2448	A
34	b	2449	U
34	b	2450	A
34	b	2455	G
34	b	2456	C
34	b	2458	G
34	b	2459	A
34	b	2465	C

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Mol	Chain	Res	Type
34	b	2470	G
34	b	2472	G
34	b	2473	U
34	b	2474	U
34	b	2476	A
34	b	2478	A
34	b	2481	G
34	b	2482	A
34	b	2484	G
34	b	2490	G
34	b	2491	U
34	b	2497	A
34	b	2500	U
34	b	2502	G
34	b	2503	A
34	b	2505	G
34	b	2506	U
34	b	2507	C
34	b	2513	A
34	b	2517	C
34	b	2518	A
34	b	2519	U
34	b	2525	G
34	b	2527	C
34	b	2529	G
34	b	2530	A
34	b	2534	A
34	b	2535	G
34	b	2536	G
34	b	2544	G
34	b	2547	A
34	b	2554	U
34	b	2556	C
34	b	2557	G
34	b	2562	U
34	b	2564	A
34	b	2565	A
34	b	2566	A
34	b	2567	G
34	b	2571	U
34	b	2573	C
34	b	2576	G

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Mol	Chain	Res	Type
34	b	2577	A
34	b	2578	G
34	b	2582	G
34	b	2584	U
34	b	2585	U
34	b	2586	U
34	b	2590	A
34	b	2595	G
34	b	2596	U
34	b	2599	G
34	b	2600	A
34	b	2601	C
34	b	2602	A
34	b	2603	G
34	b	2604	U
34	b	2607	G
34	b	2609	U
34	b	2610	C
34	b	2611	C
34	b	2613	U
34	b	2614	A
34	b	2615	U
34	b	2618	G
34	b	2623	G
34	b	2628	C
34	b	2629	U
34	b	2634	A
34	b	2635	A
34	b	2638	G
34	b	2639	A
34	b	2640	G
34	b	2641	G
34	b	2645	G
34	b	2646	C
34	b	2655	G
34	b	2659	G
34	b	2660	A
34	b	2661	G
34	b	2666	C
34	b	2670	A
34	b	2673	G
34	b	2688	G

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Mol	Chain	Res	Type
34	b	2689	U
34	b	2690	U
34	b	2692	G
34	b	2700	A
34	b	2702	G
34	b	2707	U
34	b	2712	C
34	b	2713	U
34	b	2716	C
34	b	2718	G
34	b	2726	A
34	b	2727	A
34	b	2732	G
34	b	2733	A
34	b	2735	G
34	b	2736	A
34	b	2744	G
34	b	2745	C
34	b	2746	U
34	b	2749	A
34	b	2750	A
34	b	2751	G
34	b	2752	C
34	b	2753	A
34	b	2755	C
34	b	2757	A
34	b	2758	A
34	b	2761	A
34	b	2762	C
34	b	2765	A
34	b	2767	C
34	b	2772	C
34	b	2778	A
34	b	2779	U
34	b	2780	G
34	b	2781	A
34	b	2782	G
34	b	2784	U
34	b	2792	A
34	b	2793	C
34	b	2795	C
34	b	2796	U

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Mol	Chain	Res	Type
34	b	2797	U
34	b	2798	U
34	b	2799	A
34	b	2800	A
34	b	2805	C
34	b	2808	G
34	b	2818	U
34	b	2819	G
34	b	2820	A
34	b	2821	A
34	b	2823	A
34	b	2824	C
34	b	2826	A
34	b	2833	U
34	b	2835	A
34	b	2838	G
34	b	2849	U
34	b	2850	A
34	b	2858	C
34	b	2861	U
34	b	2866	U
34	b	2868	A
34	b	2872	A
34	b	2873	A
34	b	2874	C
34	b	2883	A
34	b	2884	U
34	b	2885	G
34	b	2886	A
34	b	2888	C
34	b	2891	U
34	b	2893	A
34	b	2894	G
34	b	2895	G
34	b	2901	C
34	b	2903	U

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	51	A

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Mol	Chain	Res	Type
1	A	66	A
1	A	94	G
1	A	109	A
1	A	125	U
1	A	148	G
1	A	218	U
1	A	243	A
1	A	254	G
1	A	301	G
1	A	429	U
1	A	447	G
1	A	478	A
1	A	484	G
1	A	572	A
1	A	695	A
1	A	701	U
1	A	722	G
1	A	960	U
1	A	1065	U
1	A	1117	A
1	A	1129	C
1	A	1157	A
1	A	1201	A
1	A	1226	C
1	A	1300	G
1	A	1332	A
1	A	1348	U
1	A	1492	A
22	V	9	A
22	V	15	G
22	V	18	G
22	V	38	A
22	V	39	U
22	V	40	C
22	V	48	C
22	V	74	C
22	V	75	C
23	W	1	C
23	W	7	G
23	W	18	G
23	W	20	U
23	W	42	G

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Mol	Chain	Res	Type
23	W	49	G
23	W	57	A
23	W	60	U
23	W	73	A
23	W	74	C
24	X	12	C
24	X	18	C
24	X	19	U

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is 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	$\#\|Z\| > 2$
57	CLM	b	9000	-	20,20,20	0.88	1 (5%)	23,27,27	0.81	0

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
57	CLM	b	9000	-	-	10/20/22/22	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	b	9000	CLM	C9-N9	-2.13	1.40	1.45

There are no bond angle outliers.

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
57	b	9000	CLM	N2-C3-C5-O5
57	b	9000	CLM	N2-C3-C5-C6
57	b	9000	CLM	C4-C3-C5-O5
57	b	9000	CLM	O2-C2-N2-C3
57	b	9000	CLM	C1-C2-N2-C3
57	b	9000	CLM	N2-C3-C4-O4
57	b	9000	CLM	C4-C3-C5-C6
57	b	9000	CLM	C5-C3-C4-O4
57	b	9000	CLM	CL1-C1-C2-O2
57	b	9000	CLM	CL1-C1-C2-N2

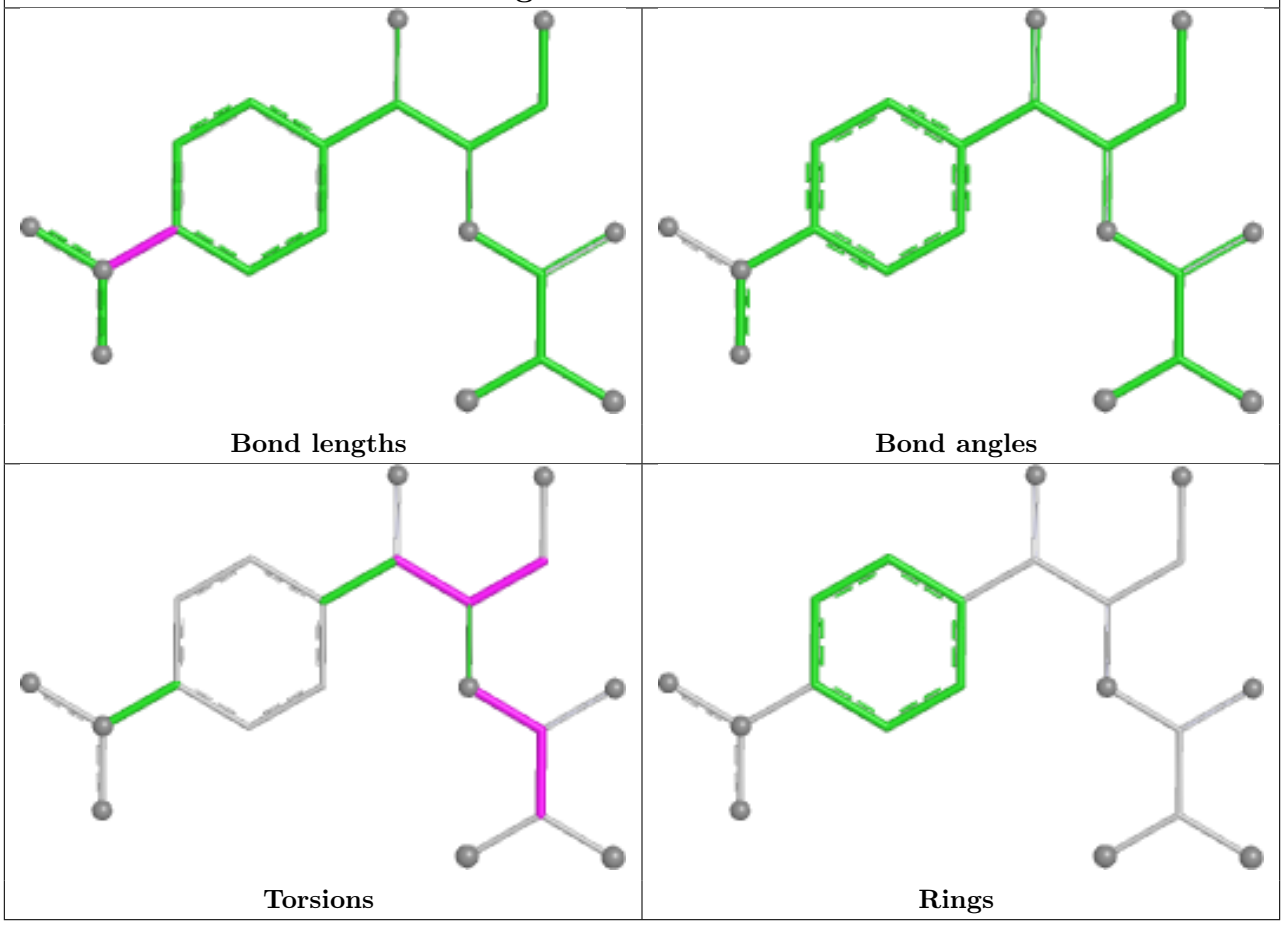
There are no ring outliers.

1 monomer is involved in 22 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	b	9000	CLM	22	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 CLM b 9000



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
34	b	4

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	b	2610:C	O3'	2611:C	P	1.83
1	b	2504:U	O3'	2505:G	P	1.81
1	b	2248:C	O3'	2249:U	P	1.78
1	b	1323:C	O3'	1324:G	P	1.77

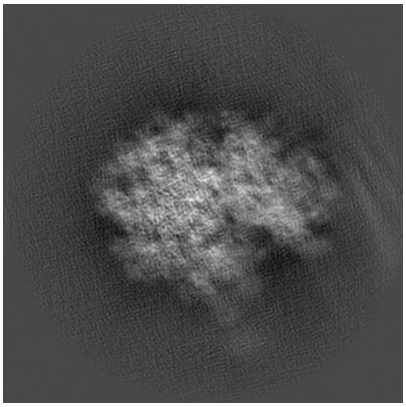
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-6486. These allow visual inspection of the internal detail of the map and identification of artifacts.

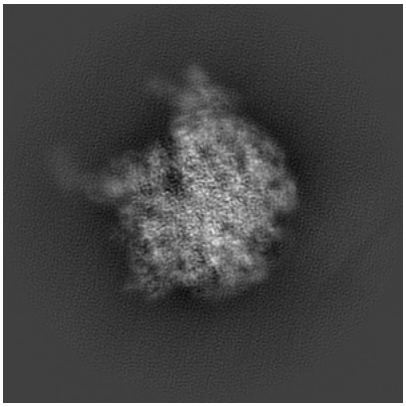
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

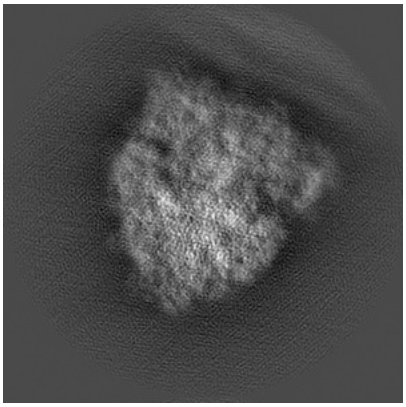
6.1.1 Primary map



X



Y

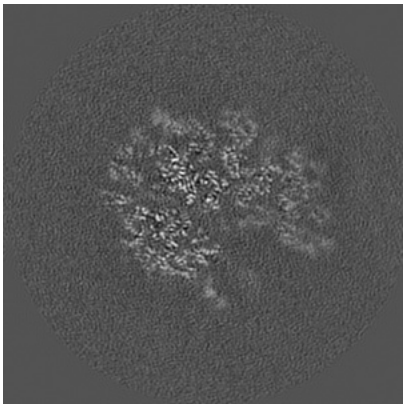


Z

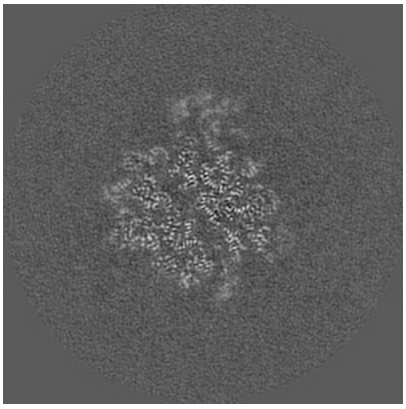
The images above show the map projected in three orthogonal directions.

6.2 Central slices

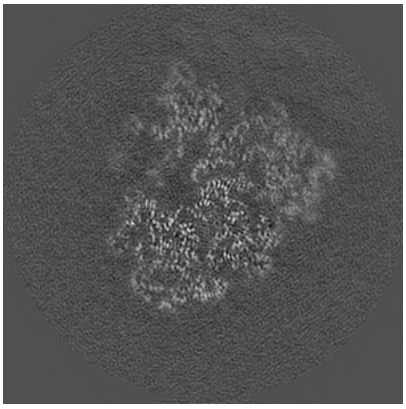
6.2.1 Primary map



X Index: 160



Y Index: 160

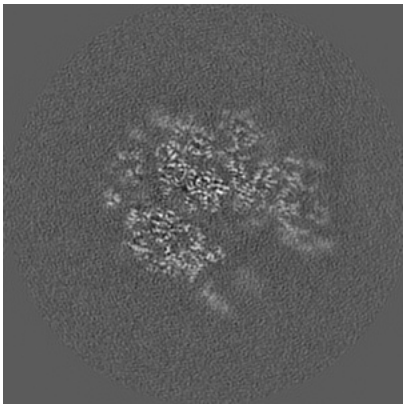


Z Index: 160

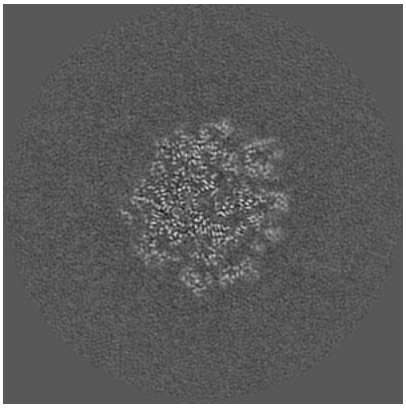
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

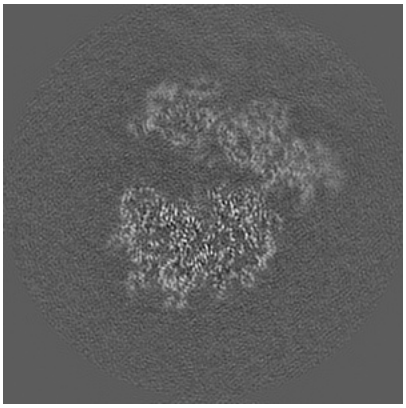
6.3.1 Primary map



X Index: 162



Y Index: 136

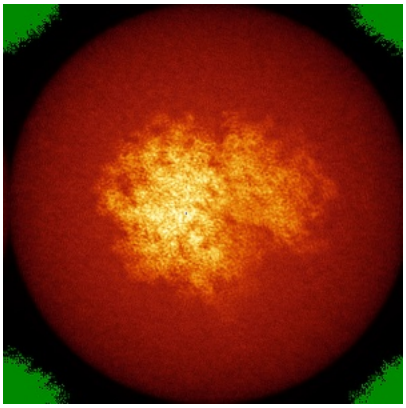


Z Index: 151

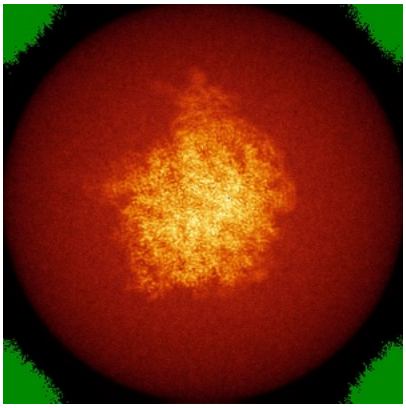
The images above show the largest variance slices of the map in three orthogonal directions.

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

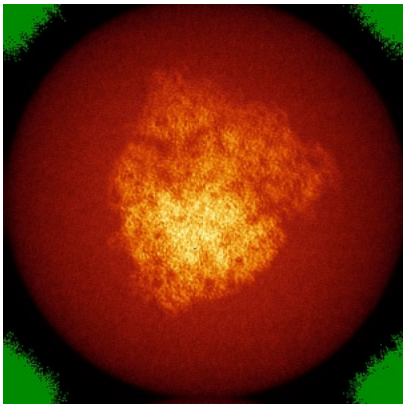
6.4.1 Primary map



X



Y

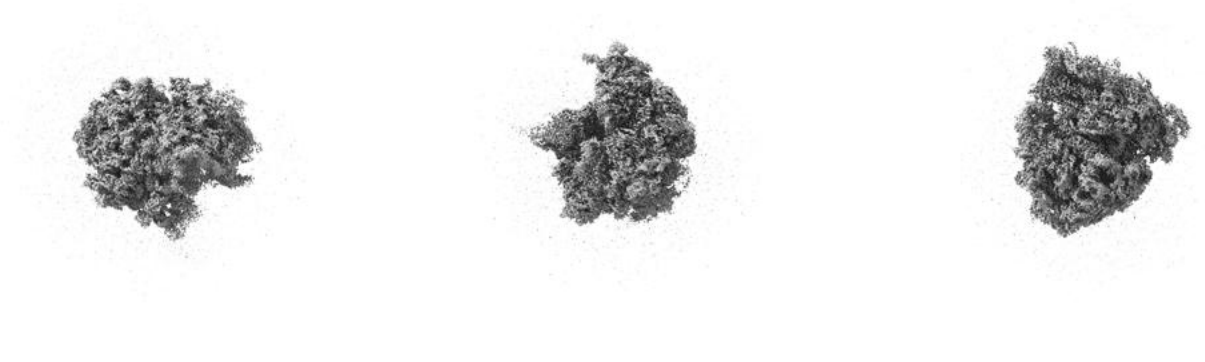


Z

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 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

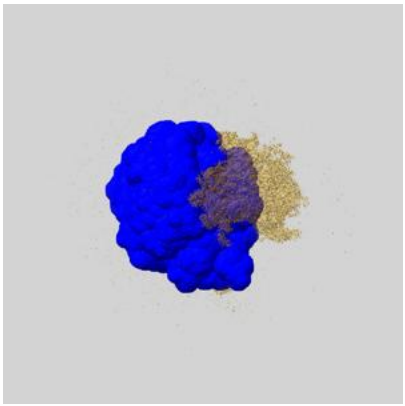
6.6 Mask visualisation

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

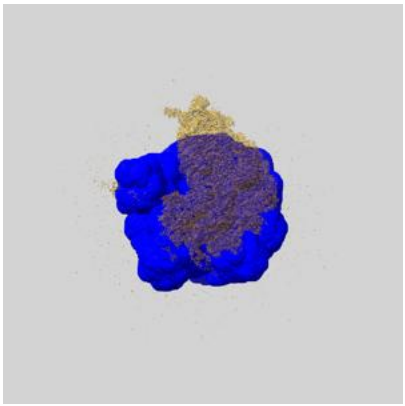
A mask typically either:

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

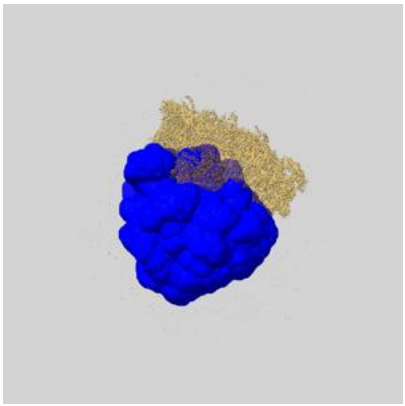
6.6.1 emd_6486_msk_1.map



X



Y

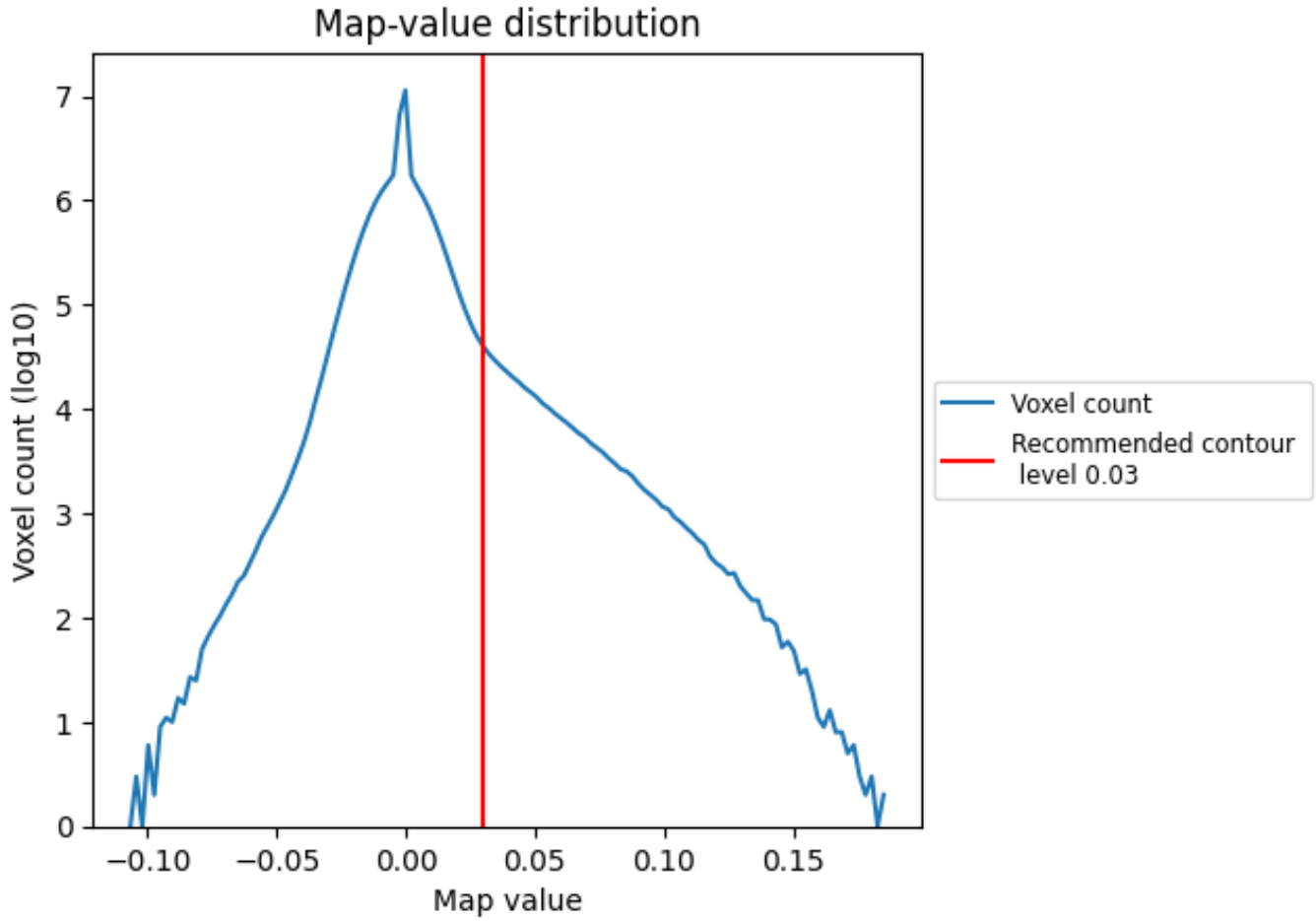


Z

7 Map analysis

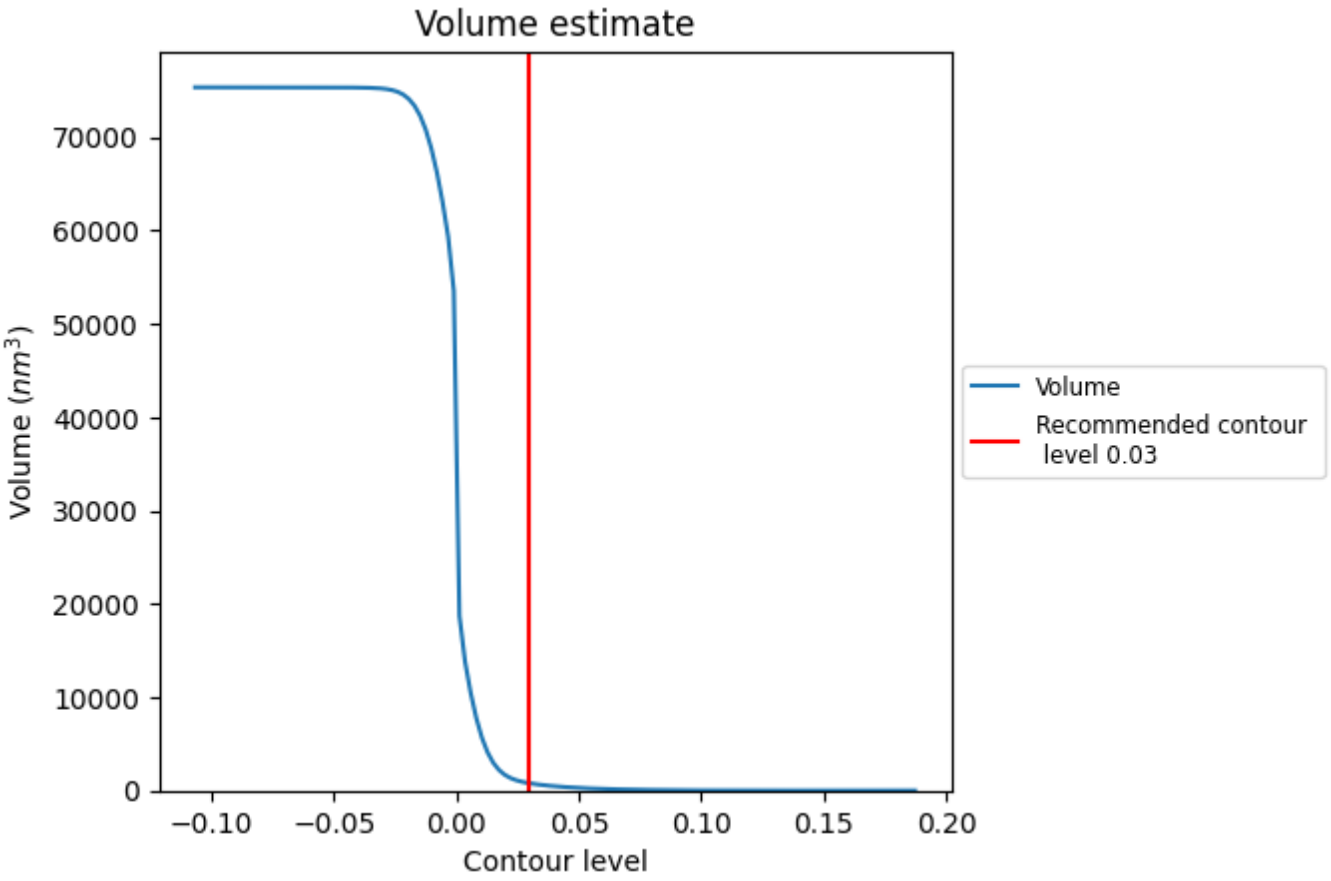
This section contains the results of statistical analysis of the map.

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.

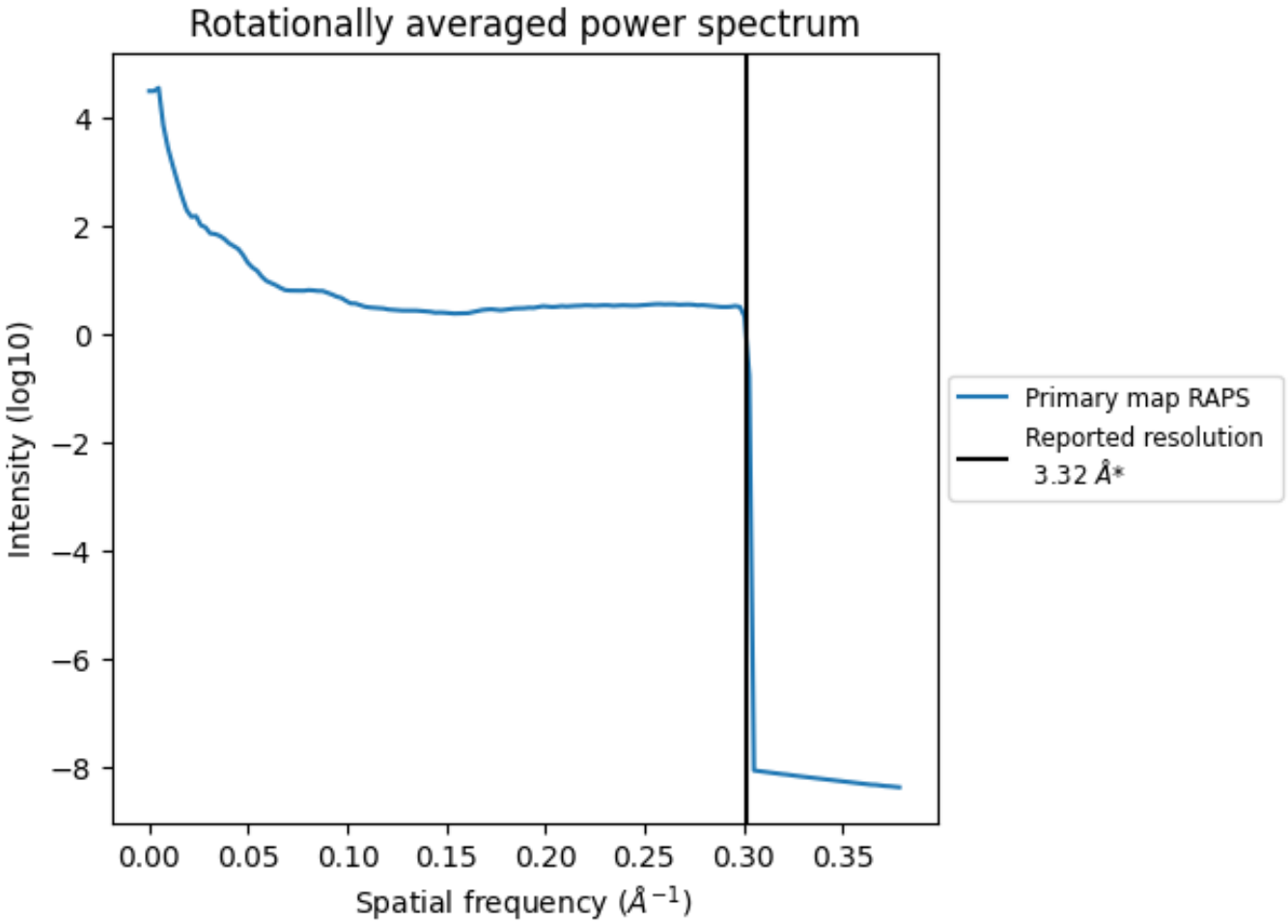
7.2 Volume estimate



The volume at the recommended contour level is 781 nm^3; this corresponds to an approximate mass of 706 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)

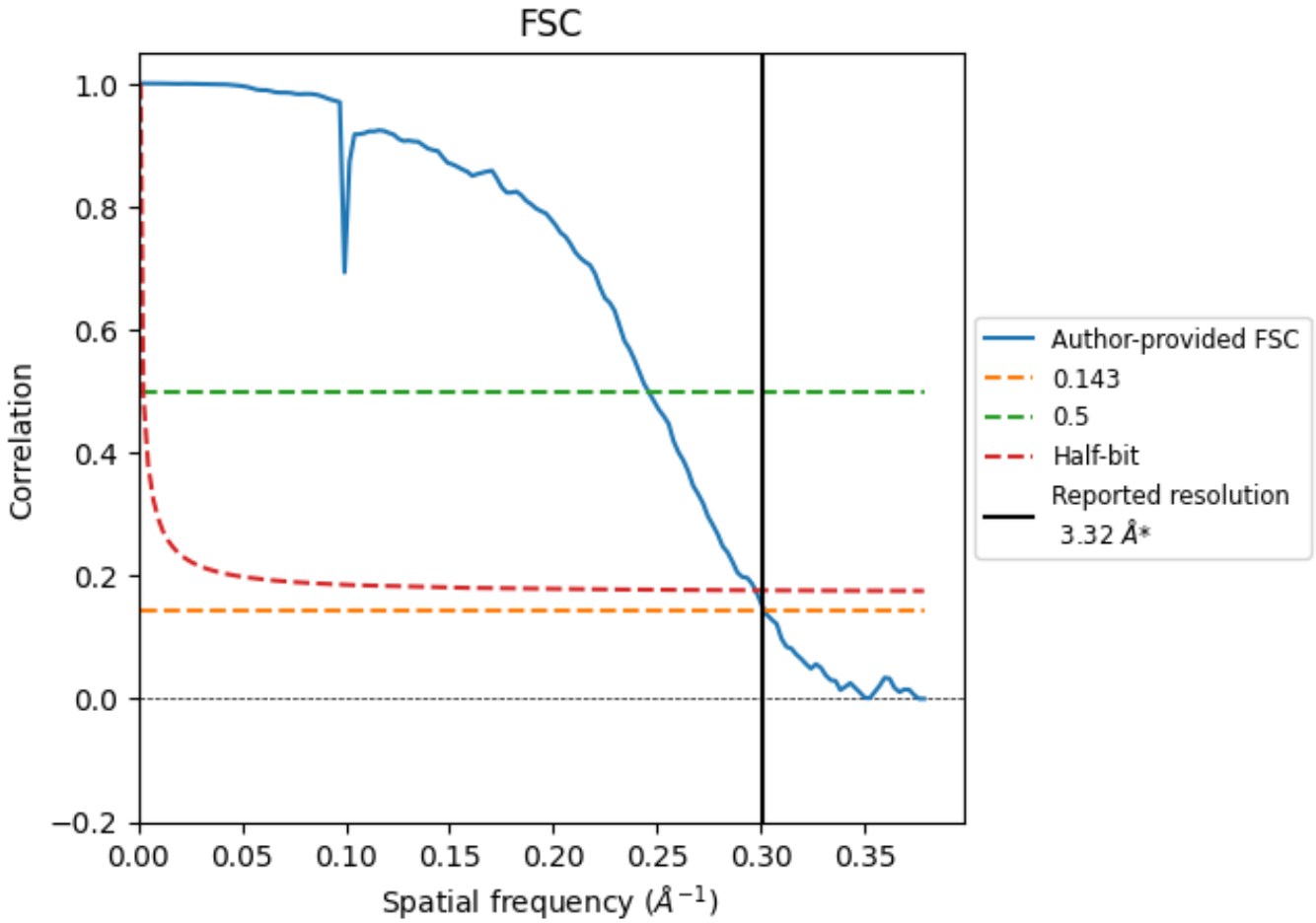


*Reported resolution corresponds to spatial frequency of 0.301 Å^{-1}

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 0.301 Å^{-1}

8.2 Resolution estimates (i)

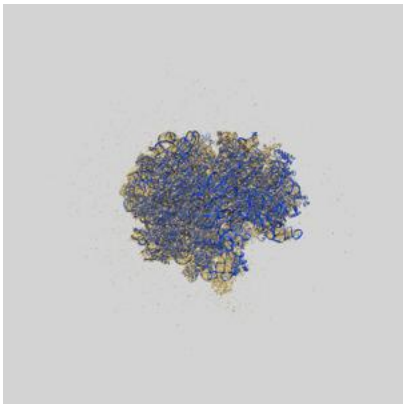
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	-	-	-
Author-provided FSC curve	3.31	4.07	3.36
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

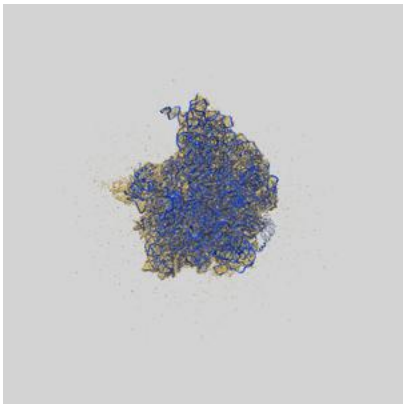
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-6486 and PDB model 3JBV. Per-residue inclusion information can be found in section 3 on page 15.

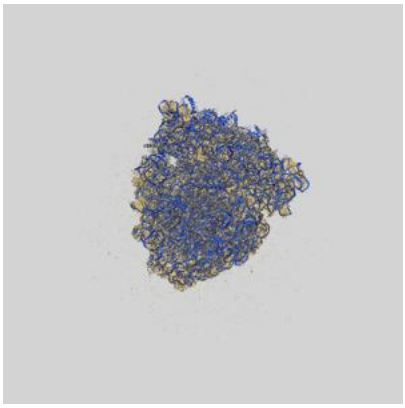
9.1 Map-model overlay



X



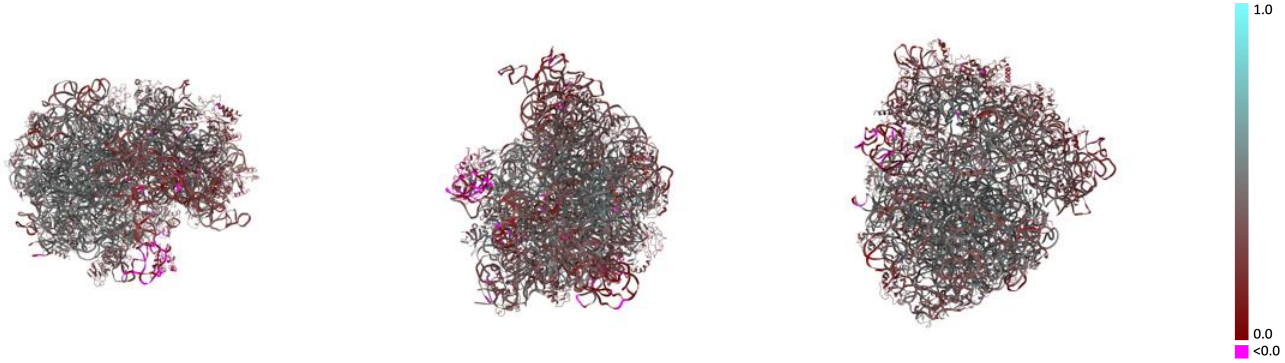
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 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.

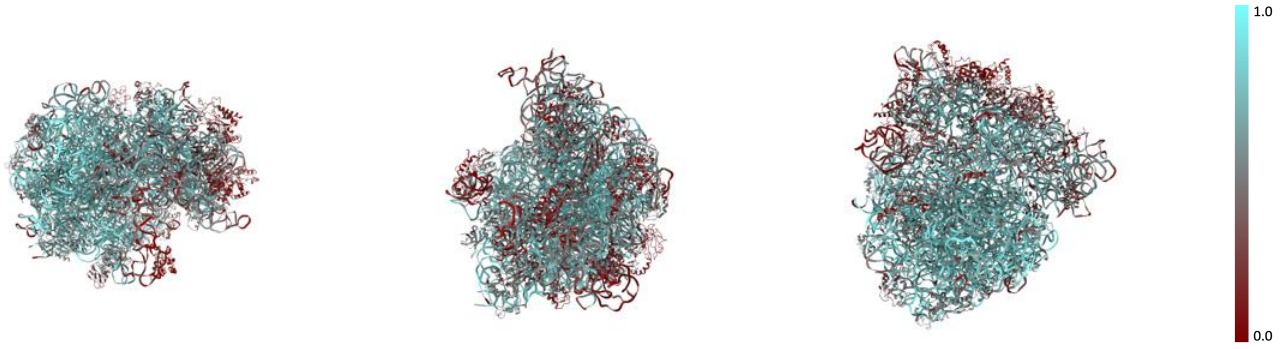
9.2 Q-score mapped to coordinate model



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.

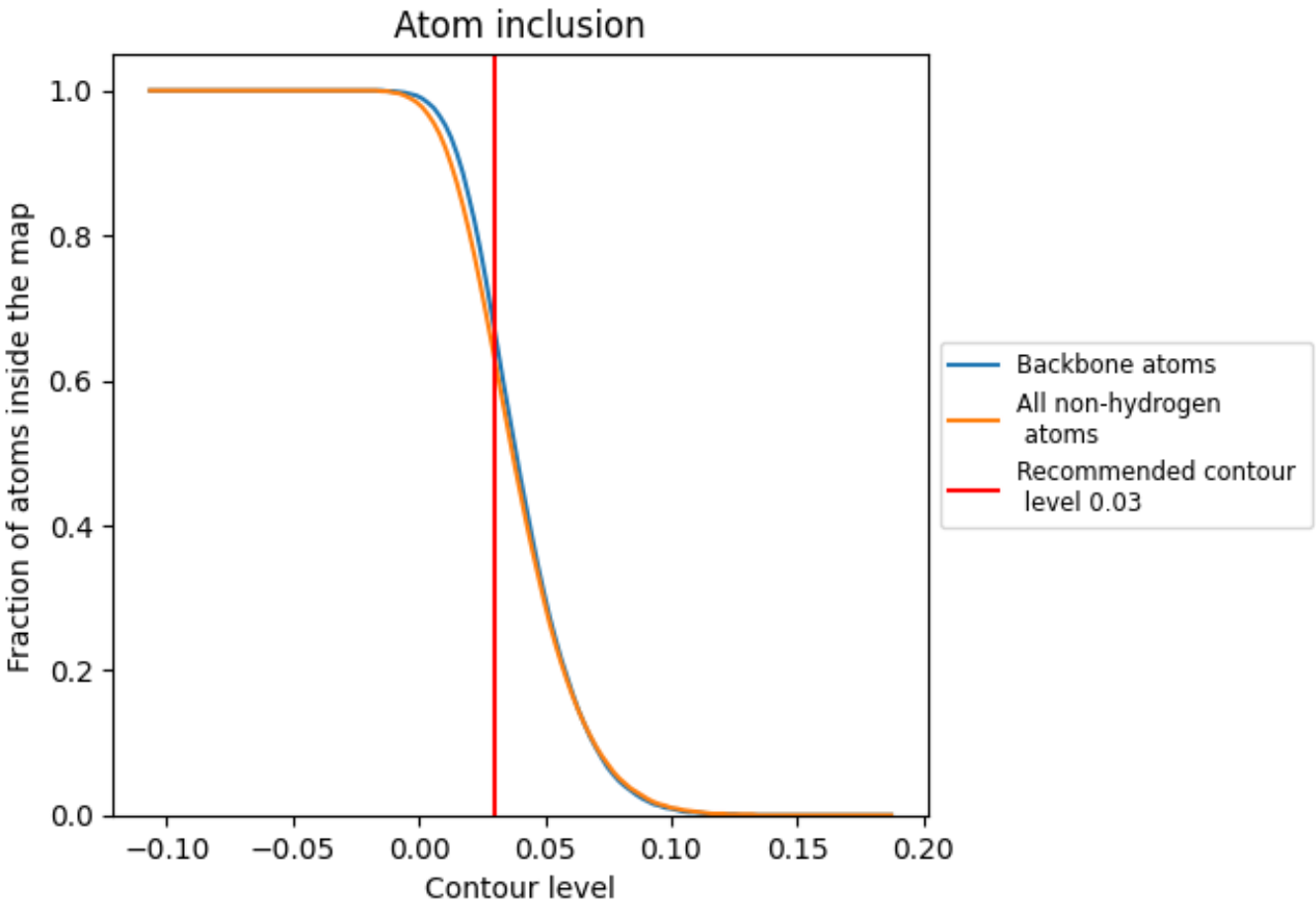
9.3 Atom inclusion mapped to coordinate model



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 (0.03).

9.4 Atom inclusion (i)



At the recommended contour level, 67% of all backbone atoms, 63% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6300	0.3940
0	0.5870	0.4320
1	0.4560	0.3300
2	0.6020	0.4520
3	0.6400	0.4360
4	0.5540	0.3990
6	0.7210	0.4850
7	0.6990	0.5070
8	0.6540	0.4600
A	0.6510	0.3950
B	0.1570	0.2650
C	0.2480	0.3040
D	0.1840	0.2520
E	0.3200	0.3460
F	0.3680	0.3420
G	0.2420	0.2950
H	0.3740	0.3520
I	0.2720	0.2630
J	0.2100	0.2600
K	0.4710	0.3920
L	0.4360	0.3790
M	0.3160	0.3130
N	0.3260	0.3420
O	0.5000	0.3860
P	0.2060	0.1160
Q	0.3420	0.3360
R	0.4450	0.3770
S	0.3690	0.3650
T	0.3350	0.2890
U	0.3150	0.3170
V	0.2700	0.2560
W	0.6120	0.3470
X	0.5370	0.3990
a	0.7500	0.3890
b	0.7590	0.4220

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
c	0.6770	0.4680
d	0.6030	0.4520
e	0.5470	0.3900
f	0.3860	0.2860
g	0.4130	0.3360
h	0.1500	0.2440
i	0.0620	0.0360
j	0.6230	0.4430
k	0.5610	0.4450
l	0.6280	0.4350
m	0.6140	0.4560
n	0.6430	0.4500
o	0.5700	0.3650
p	0.5170	0.4020
q	0.6730	0.4670
r	0.5820	0.4160
s	0.5910	0.4500
t	0.5280	0.3770
u	0.5060	0.3570
w	0.5530	0.4050
y	0.6680	0.4770
z	0.0620	0.3120