



Full wwPDB EM Validation Report ⓘ

Jun 21, 2026 – 05:10 am BST

PDB ID : 6YSU / pdb_00006ysu
EMDB ID : EMD-10908
Title : Structure of the P+0 ArfB-ribosome complex in the post-hydrolysis state
Authors : Chan, K.-H.; Petrychenko, V.; Mueller, C.; Maracci, C.; Holtkamp, W.; Wilson, D.N.; Fischer, N.; Rodnina, M.V.
Deposited on : 2020-04-23
Resolution : 3.70 Å(reported)
Based on initial models : 5O2R, 5AFI, 4V95, 4RB7

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
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

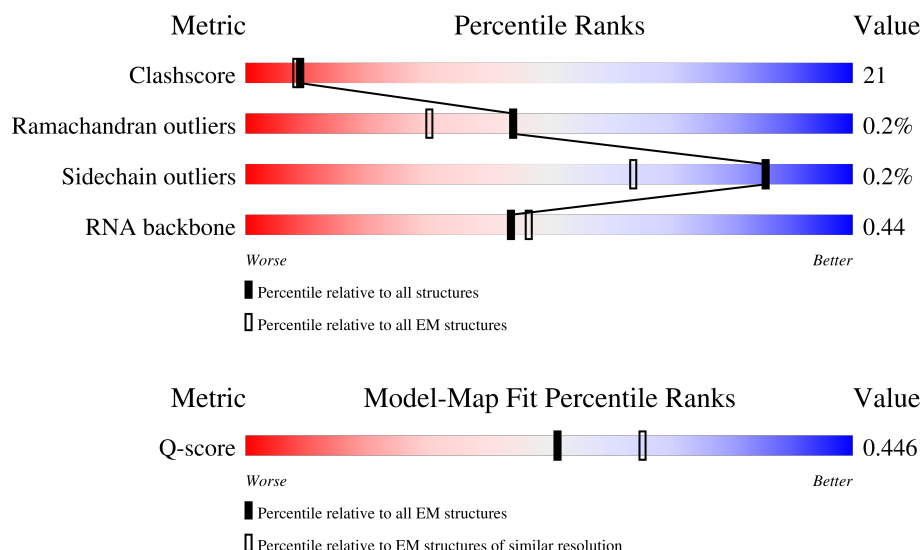
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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.



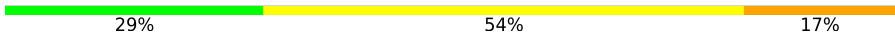
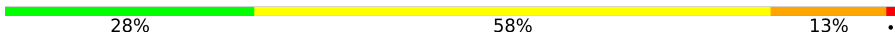
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11569 (3.20 - 4.20)

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

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

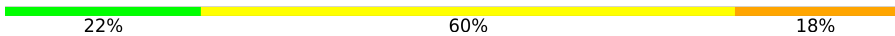
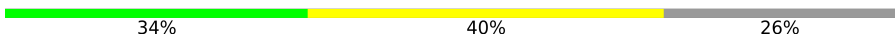
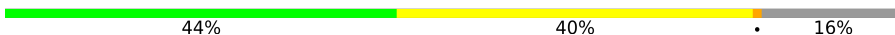
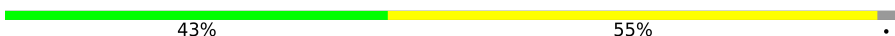
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Mol	Chain	Length	Quality of chain
4	3	65	
5	4	38	
6	5	165	
7	A	2903	
8	B	120	
9	C	273	
10	D	209	
11	E	201	
12	F	179	
13	G	177	
14	H	149	
15	I	142	
16	J	142	
17	K	123	
18	L	144	
19	M	136	
20	N	127	
21	O	117	
22	P	115	
23	Q	118	
24	R	103	
25	S	110	
26	T	100	
27	U	104	
28	V	94	

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Mol	Chain	Length	Quality of chain
29	W	85	
30	X	78	
31	Y	63	
32	Z	59	
33	a	1542	
34	b	240	
35	c	233	
36	d	206	
37	e	167	
38	f	135	
39	g	179	
40	h	130	
41	i	130	
42	j	103	
43	k	129	
44	l	124	
45	m	118	
46	n	102	
47	o	89	
48	p	82	
49	q	84	
50	r	75	
51	s	92	
52	t	87	
53	u	71	

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Mol	Chain	Length	Quality of chain
54	v	14	64% 36%
55	w	76	16% 49% 29% 7%
56	x	15	20% 20% 60%
57	y	140	62% 37% .

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 146398 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 50S ribosomal protein L32.

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

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

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

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

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

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

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

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

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

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

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

- Molecule 7 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A	2903	Total	C	N	O	P	0	0
			62336	27815	11468	20150	2903		

- Molecule 8 is a RNA chain called 5S ribosomal RNA.

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

- Molecule 9 is a protein called 50S ribosomal protein L2.

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

- Molecule 10 is a protein called 50S ribosomal protein L3.

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

- Molecule 11 is a protein called 50S ribosomal protein L4.

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

- Molecule 12 is a protein called 50S ribosomal protein L5.

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

- Molecule 13 is a protein called 50S ribosomal protein L6.

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

- Molecule 14 is a protein called 50S ribosomal protein L9.

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

- Molecule 15 is a protein called 50S ribosomal protein L11.

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

- Molecule 16 is a protein called 50S ribosomal protein L13.

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

- Molecule 17 is a protein called 50S ribosomal protein L14.

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

- Molecule 18 is a protein called 50S ribosomal protein L15.

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

- Molecule 19 is a protein called 50S ribosomal protein L16.

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

- Molecule 20 is a protein called 50S ribosomal protein L17.

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

- Molecule 21 is a protein called 50S ribosomal protein L18.

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

- Molecule 22 is a protein called 50S ribosomal protein L19.

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

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

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

- Molecule 24 is a protein called 50S ribosomal protein L21.

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

- Molecule 25 is a protein called 50S ribosomal protein L22.

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

- Molecule 26 is a protein called 50S ribosomal protein L23.

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

- Molecule 27 is a protein called 50S ribosomal protein L24.

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

- Molecule 28 is a protein called 50S ribosomal protein L25.

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

- Molecule 29 is a protein called 50S ribosomal protein L27.

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

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

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

- Molecule 31 is a protein called 50S ribosomal protein L29.

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

- Molecule 32 is a protein called 50S ribosomal protein L30.

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

- Molecule 33 is a RNA chain called 16S ribosomal RNA.

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

- Molecule 34 is a protein called 30S ribosomal protein S2.

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

- Molecule 35 is a protein called 30S ribosomal protein S3.

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

- Molecule 36 is a protein called 30S ribosomal protein S4.

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

- Molecule 37 is a protein called 30S ribosomal protein S5.

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

- Molecule 38 is a protein called 30S ribosomal protein S6.

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

- Molecule 39 is a protein called 30S ribosomal protein S7.

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

- Molecule 40 is a protein called 30S ribosomal protein S8.

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

- Molecule 41 is a protein called 30S ribosomal protein S9.

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

- Molecule 42 is a protein called 30S ribosomal protein S10.

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

- Molecule 43 is a protein called 30S ribosomal protein S11.

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

- Molecule 44 is a protein called 30S ribosomal protein S12.

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

- Molecule 45 is a protein called 30S ribosomal protein S13.

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

- Molecule 46 is a protein called 30S ribosomal protein S14.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 47 is a protein called 30S ribosomal protein S15.

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

- Molecule 48 is a protein called 30S ribosomal protein S16.

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

- Molecule 49 is a protein called 30S ribosomal protein S17.

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

- Molecule 50 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
50	r	56	Total	C	N	O	0	0
			464	293	88	83		

- Molecule 51 is a protein called 30S ribosomal protein S19.

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

- Molecule 52 is a protein called 30S ribosomal protein S20.

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

- Molecule 53 is a protein called 30S ribosomal protein S21.

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

- Molecule 54 is a protein called Api137.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	v	14	Total	C	N	O	0	0
			121	80	25	16		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	10	ARG	GLN	engineered mutation	UNP Q8WSY8

- Molecule 55 is a RNA chain called P-site tRNAPhe.

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

- Molecule 56 is a RNA chain called RNA (5'-R(P*AP*UP*GP*UP*UP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
56	x	6	Total	C	N	O	P	0	0
			125	56	19	44	6		

- Molecule 57 is a protein called Alternative stalled-ribosome rescue factor B.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	y	139	Total	C	N	O	S	0	0
			1078	666	215	195	2		

- Molecule 58 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
58	0	2	Total	Mg	0
			2	2	
58	3	1	Total	Mg	0
			1	1	
58	A	244	Total	Mg	0
			244	244	
58	B	5	Total	Mg	0
			5	5	
58	C	2	Total	Mg	0
			2	2	
58	D	2	Total	Mg	0
			2	2	
58	L	1	Total	Mg	0
			1	1	
58	X	1	Total	Mg	0
			1	1	
58	a	93	Total	Mg	0
			93	93	
58	m	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
58	w	4	Total	Mg	0
			4	4	

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

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

- Molecule 60 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		AltConf
60	A	1	Total	Na	0
			1	1	

3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

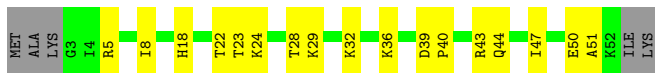
- Molecule 1: 50S ribosomal protein L32

Chain 0: 



- Molecule 2: 50S ribosomal protein L33

Chain 1: 



- Molecule 3: 50S ribosomal protein L34

Chain 2: 



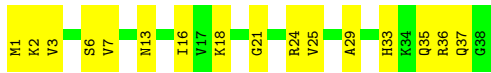
- Molecule 4: 50S ribosomal protein L35

Chain 3: 



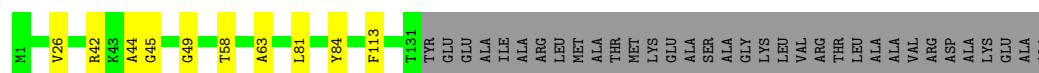
- Molecule 5: 50S ribosomal protein L36

Chain 4: 

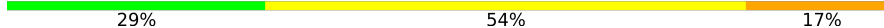


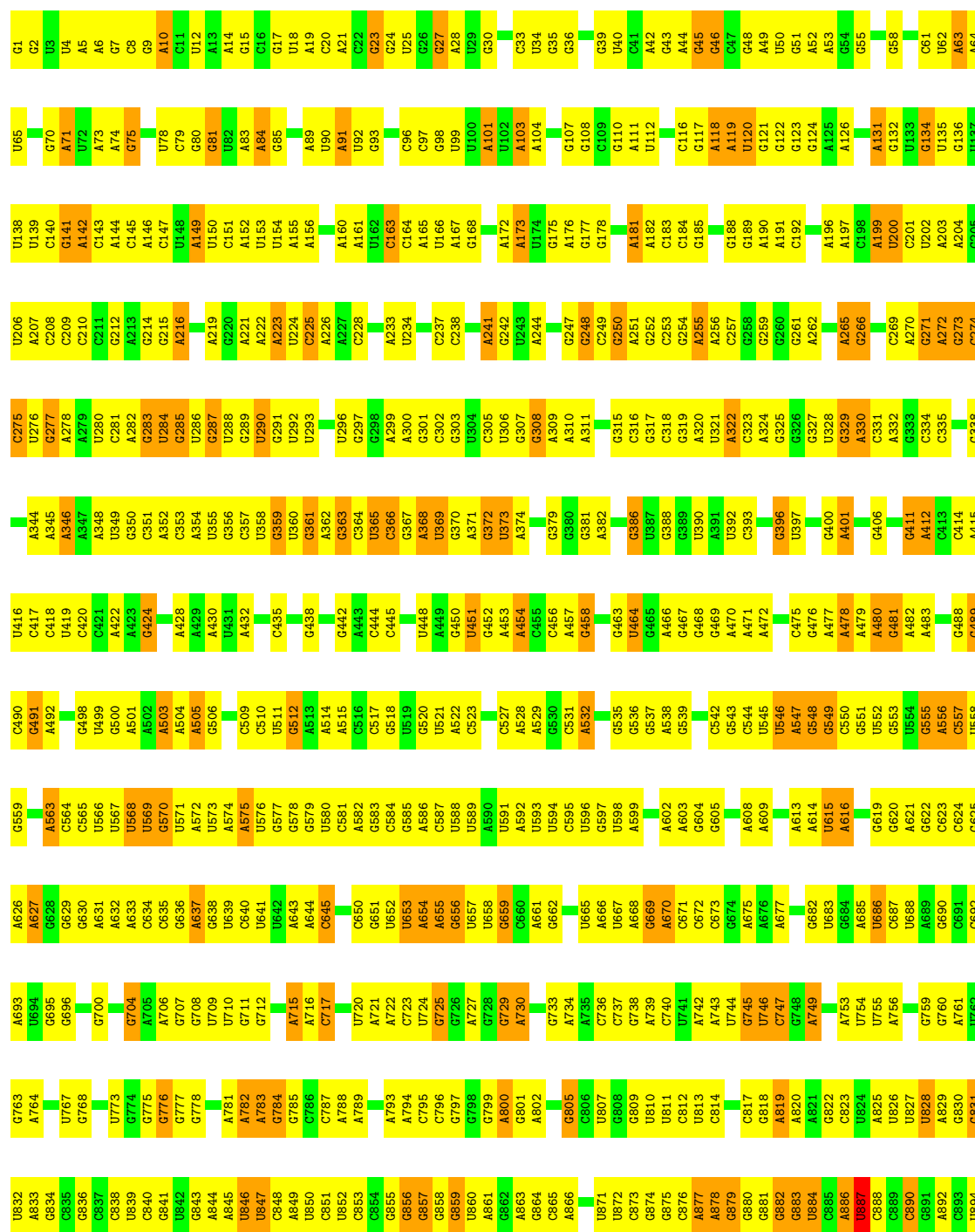
- Molecule 6: 50S ribosomal protein L10

Chain 5:  73% 6% 21%



● Molecule 7: 23S ribosomal RNA

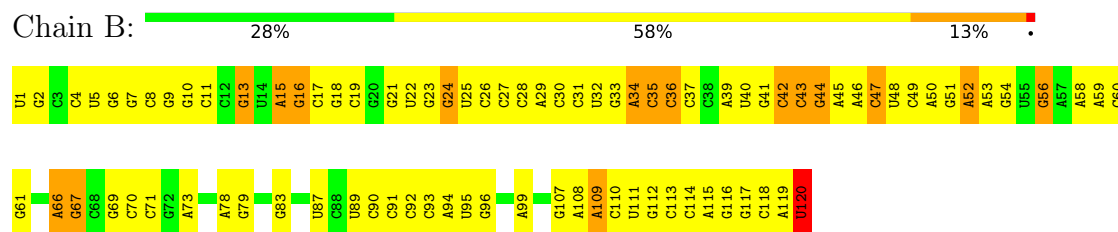
Chain A:  29% 54% 17%



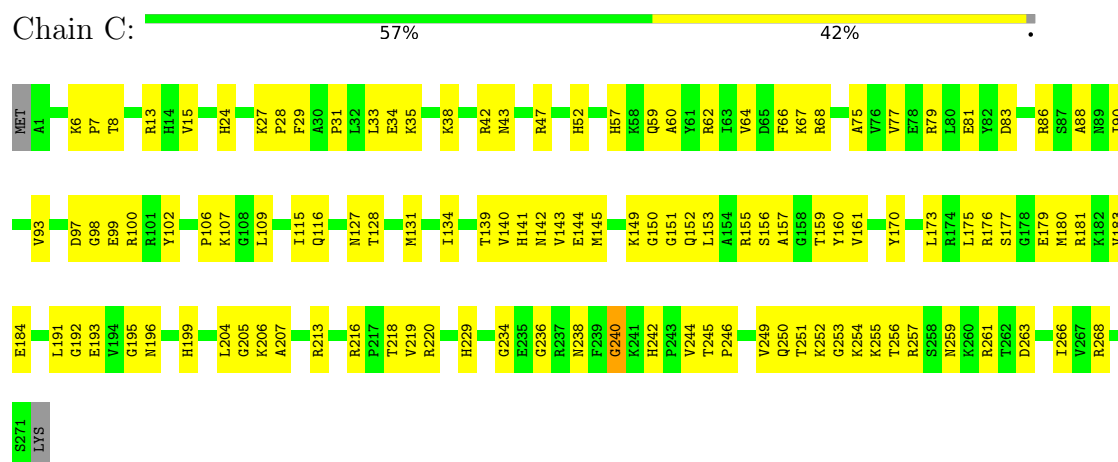
G1847	A1786	G1721	C1658	G1588	C1518	G1445	G1381	U1234	C1167	U1097	G1034	U895
A1849	A1787	A1722	G1659	U1589	G1519	C1446	G1382	A1308	G1168	A1098	U1035	A896
G1849	A1788	G1723	G1659	C1768	U1520	C1447	A1383	G1309	A1169	A0989	U1036	C897
G1724	A1789	G1724	G1663	A1591	G1521	G1448	A1384	G1310	C1170	C1100	G1037	C898
A1853	C1790		A1664	C1592	A1522	G1451	A1385	U1313	G1171	U1101	G1038	A900
A1854	A1791	U1729	A1665	U1593	U1523	G1452	C1386	G1314	C1172	C1102	A1039	C901
U1855		C1730	G1666	U1594	G1524	A1452	A1387	C1314	U1173	A1103	A1040	C902
U1856	A1794	G1731	G1667	C1595	A1528	A1453		C1315	U1174	C1104	G1041	C901
G1857	C1795	C1732	A1596	U1596	A1529	C1454	A1392	U1316	A1175	U1105	G1042	C901
A1858	U1796	G1733	A1668	A1597	G1529	C1454	A1393	G1317	U1176	A1106	G1042	C903
U1859	G1797	G1734	A1669	A1598	G1530	U1458	U1394	U1318	G1177	G1107		C904
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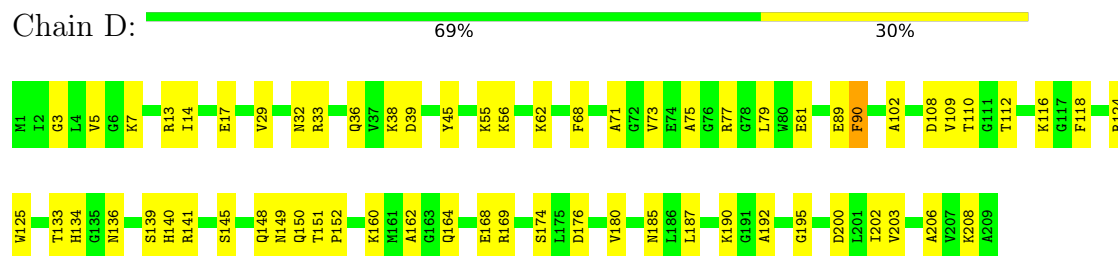
• Molecule 8: 5S ribosomal RNA



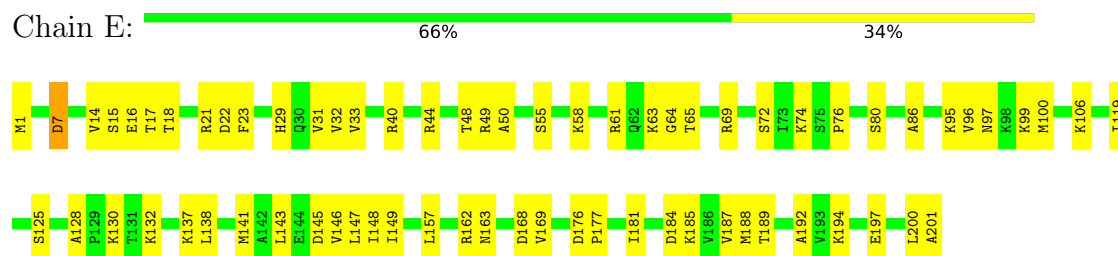
• Molecule 9: 50S ribosomal protein L2



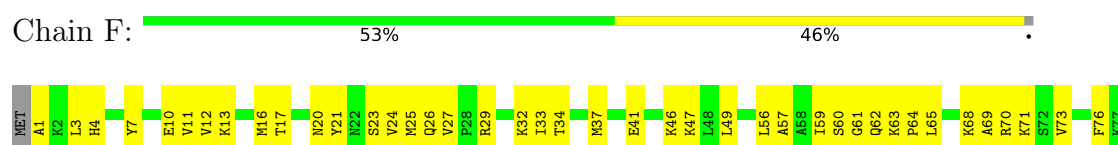
• Molecule 10: 50S ribosomal protein L3

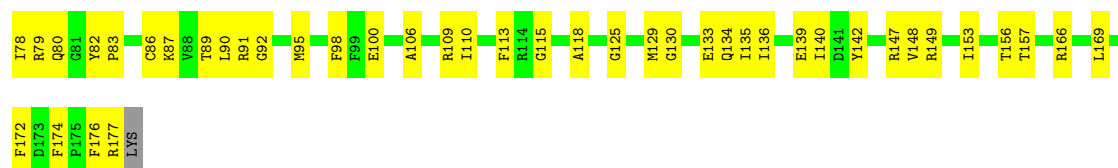


• Molecule 11: 50S ribosomal protein L4



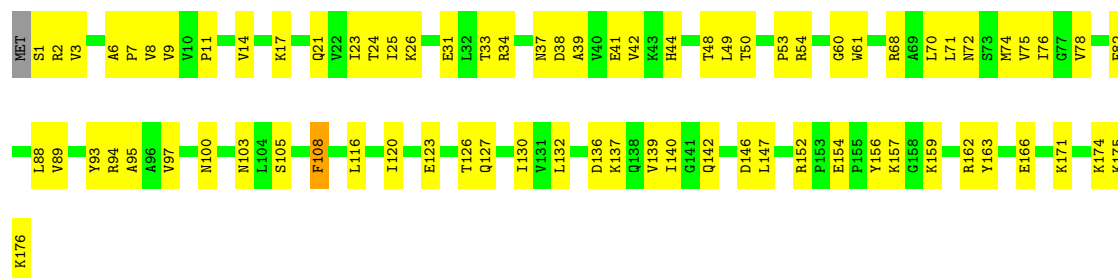
• Molecule 12: 50S ribosomal protein L5





• Molecule 13: 50S ribosomal protein L6

Chain G: 56% 42%



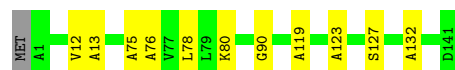
• Molecule 14: 50S ribosomal protein L9

Chain H: 48% 52%



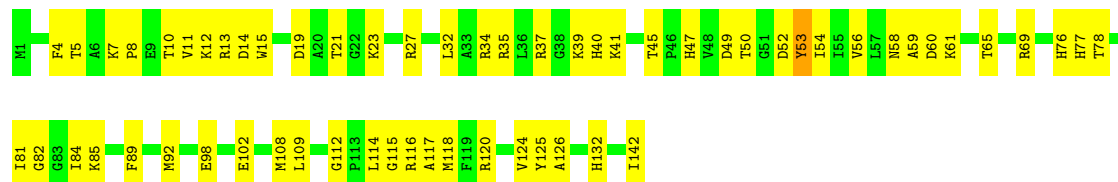
• Molecule 15: 50S ribosomal protein L11

Chain I: 92% 8%



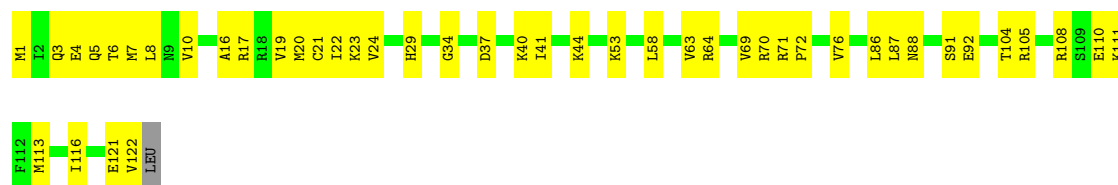
• Molecule 16: 50S ribosomal protein L13

Chain J: 58% 42%



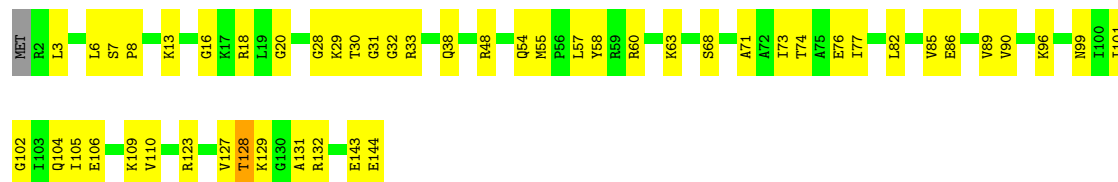
• Molecule 17: 50S ribosomal protein L14

Chain K: 63% 37%



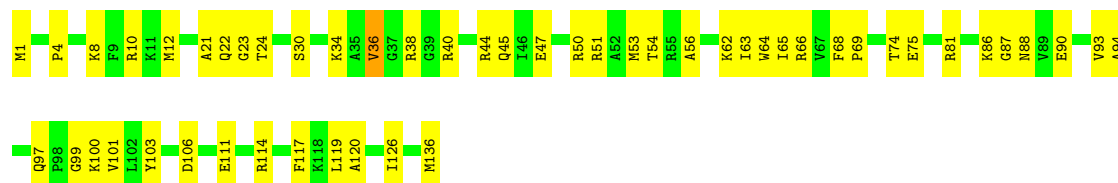
- Molecule 18: 50S ribosomal protein L15

Chain L: 65% 34% ..



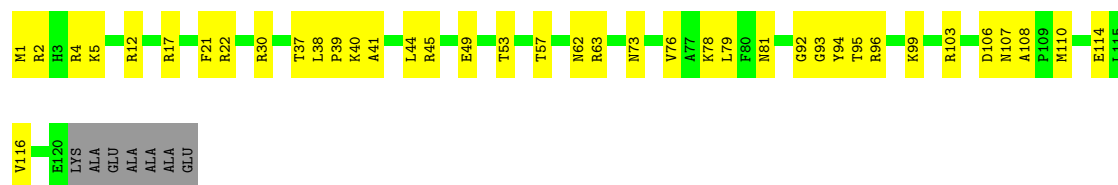
- Molecule 19: 50S ribosomal protein L16

Chain M: 63% 37% .



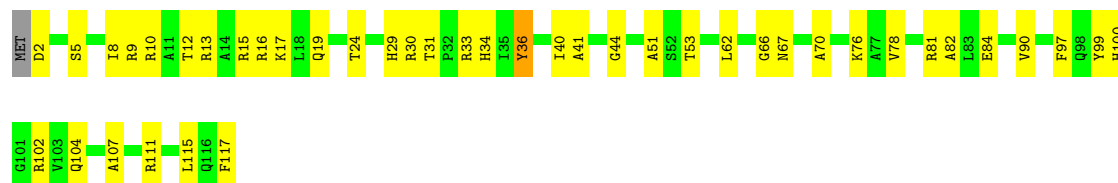
- Molecule 20: 50S ribosomal protein L17

Chain N: 64% 31% 6%



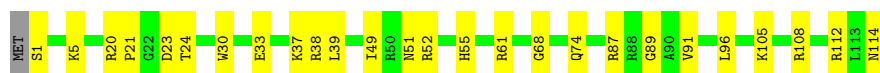
- Molecule 21: 50S ribosomal protein L18

Chain O: 63% 35% ..

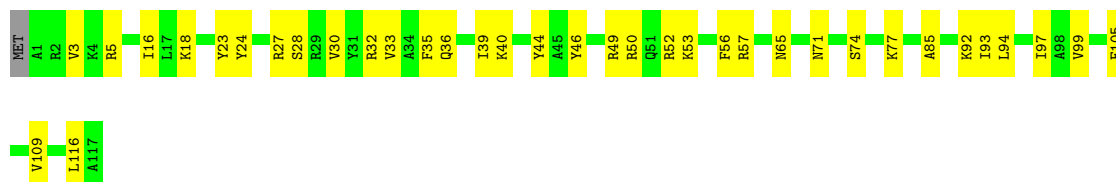


- Molecule 22: 50S ribosomal protein L19

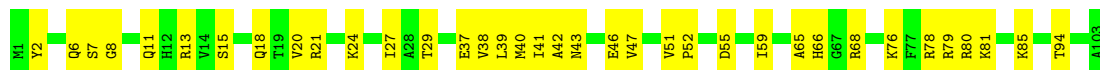
Chain P: 77% 23% .



- Molecule 23: 50S ribosomal protein L20



- Molecule 24: 50S ribosomal protein L21



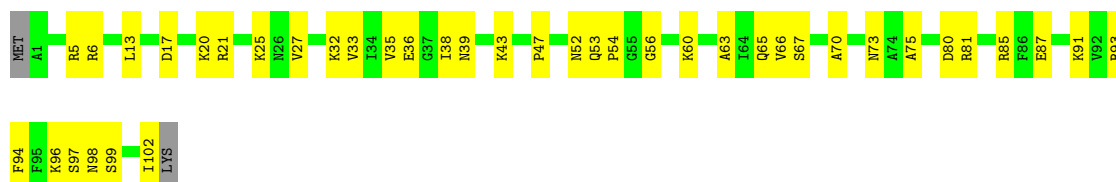
- Molecule 25: 50S ribosomal protein L22



- Molecule 26: 50S ribosomal protein L23

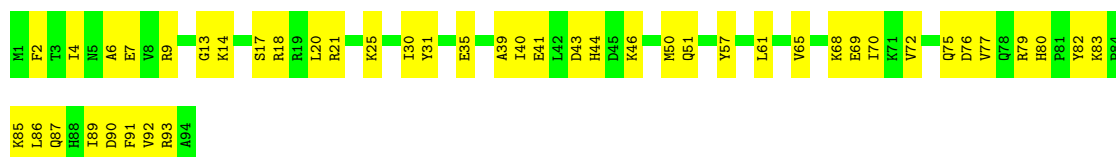


- Molecule 27: 50S ribosomal protein L24



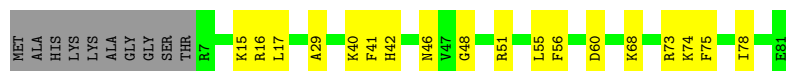
- Molecule 28: 50S ribosomal protein L25





- Molecule 29: 50S ribosomal protein L27

Chain W: 67% 21% 12%



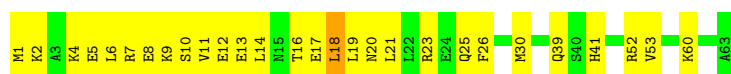
- Molecule 30: 50S ribosomal protein L28

Chain X: 62% 37% .



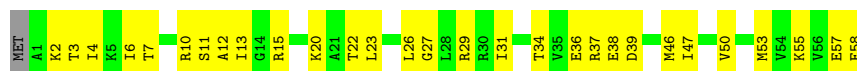
- Molecule 31: 50S ribosomal protein L29

Chain Y: 56% 43% .



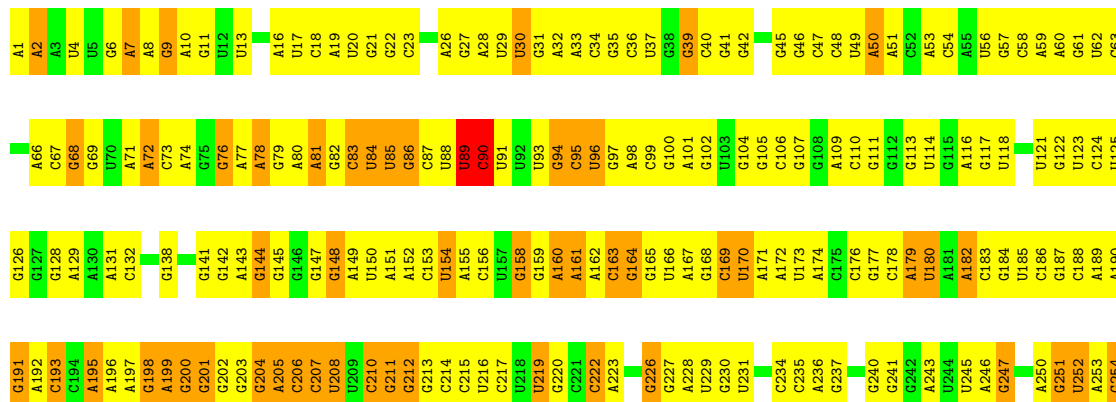
- Molecule 32: 50S ribosomal protein L30

Chain Z: 49% 49% .

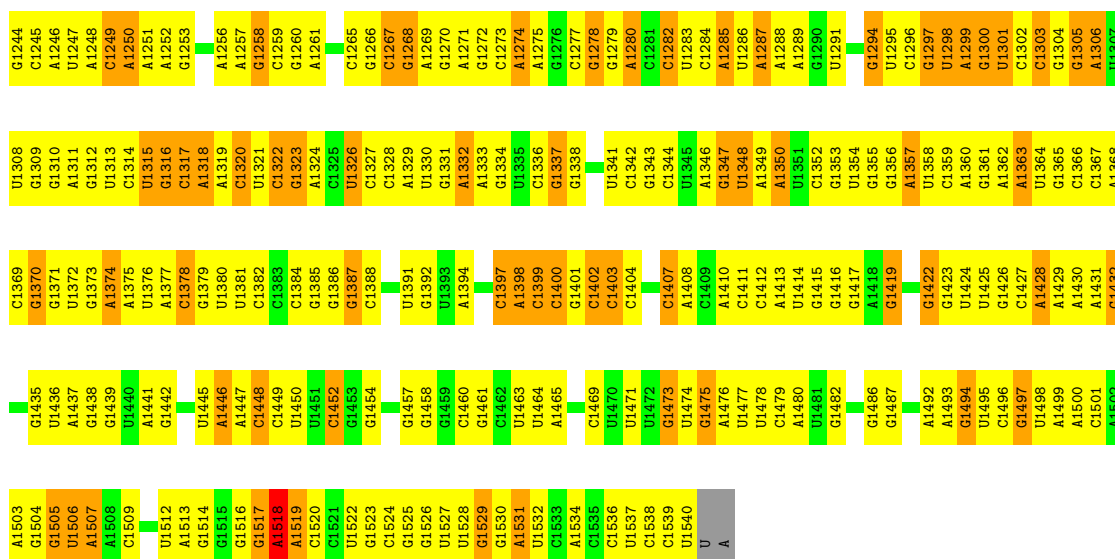


- Molecule 33: 16S ribosomal RNA

Chain a: 22% 60% 18%

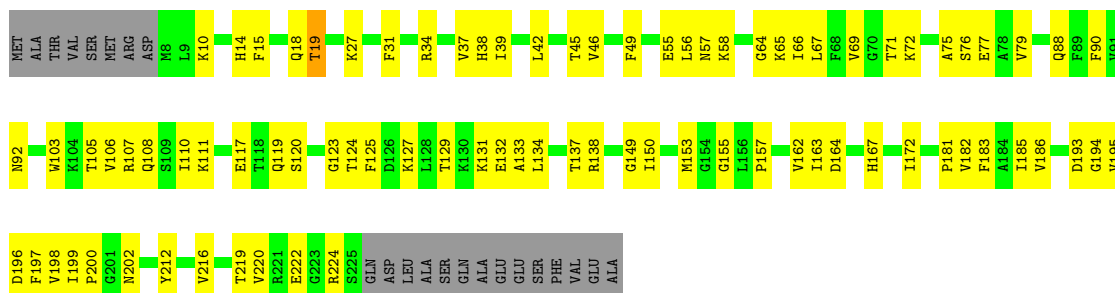


G178	A1179	A1180	G1181	G1182	G1183	G1184	G1185	G1186	G1187	A1188	A1189	G1190	A1191	C1192	G1193	A1196	A1197	G1198	A1199	C1200	A1204	U1205	G1206	G1207	A1212	A1213	C1214	G1215	A1216	C1217	A1218	A1219	G1220	G1221	G1222	C1223	U1224	A1225	G1226	A1227	C1228	A1229	C1230	G1231	U1232	G1233	C1234	U1235	A1236	C1237	A1238	A1239	U1240	G1241	A1242	C1243									
A1111	C1114	G1050	C1051	U1052	G1053	C1054	A1055	U1056	U1057	G1058	G1059	U1060	G1061	U1062	C1063	G1064	U1065	C1066	A1067	G1068	C1069	G1070	C1071	G1072	U1073	G1074	U1075	U1076	G1077	U1078	G1079	A1080	A1081	U1082	U1083	G1084	U1085	U1086	G1087	G1088	G1089	U1090	U1091	A1092	A1093	G1094	U1095	C1096	C1097	G1098	U1099	C1100	A1101	G1106	C1107	G1108	A1169	A1170	A1171	C1172	U1173	G1174	G1175	A1176	C1177
U981	U982	A983	C984	C985	U986	G987	G988	U991	U992	U993	G994	A994	C995	A996	G1002	G1003	A1004	A1005	G1006	U1007	U1008	U1009	U1010	C1011	A1012	G1013	A1014	G1015	A1016	U1017	G1018	A1019	G1020	A1021	A1022	U1023	G1024	U1025	G1026	C1027	U1030	C1031	G1032	G1033	G1034	A1035	A1036	C1037	C1038	G1039	U1040	A1041	A1042	G1043	A1044	G1045	A1046								
G912	A913	A914	G917	A918	U919	U920	U921	G922	U923	A923	G924	C925	G926	G927	C932	G933	C934	A935	C936	A937	A938	G939	G944	G945	A946	G947	U948	G949	U950	G951	G954	U955	A956	A959	U960	U961	C962	G963	A964	U965	G966	C967	A968	A969	C970	G971	C972	G973	A974	A975	G976	A977	A978	C979	C980										
U843	G844	A845	G846	G847	A848	G849	U850	G851	U854	U855	C856	C857	G858	G859	G861	A864	G867	C868	U869	A870	G871	C872	U873	C874	A875	C876	C877	C878	C879	C883	A884	G885	A889	G890	U891	G892	G893	A894	U895	G896	C897	A898	A900	A901	G902	G903	U904	U905	A906	A907	A908	A909	C910	C841	C990										
A780	A781	A782	C783	A784	G785	G786	A787	U788	U789	A790	G791	A792	U793	A794	C795	C796	C797	U798	G799	G800	A802	G803	U804	C805	C806	A807	C808	G809	C810	C811	G812	U813	A814	A815	A816	C817	G818	A819	U820	C821	U822	C823	G824	A825	C826	U827	U828	G829	U834	U835	G836	U837	G838	C839	C840	C910	U911								
C719	C720	G721	G722	U723	G724	G725	G726	G727	A728	A729	G731	G732	G733	G734	C735	G736	A737	C738	C739	G741	G742	A743	G744	G745	U746	A747	C748	A749	G750	U751	G752	A753	C754	G755	G756	U757	C758	A759	G760	G763	C764	G765	A766	A767	A768	G769	C770	G771	U772	G773	G774	G775	G776	A777	G778	C779									
U650	C651	U652	U653	G654	A655	G656	U657	C658	A663	G664	G669	U672	A673	G674	A675	A676	U677	U678	C679	C680	G681	G682	G683	U684	A687	G688	U689	A690	U691	C692	G693	A696	U697	G700	U701	A702	G703	A704	G705	A706	U707	G708	U709	G710	G711	A712	G713	G714	A715	A716	U717	G718													
G577	C578	A579	C580	G581	C582	G587	G588	U589	U590	G591	G592	U593	U594	A595	G530	U531	A532	U533	C534	A535	G538	A539	G540	G541	U542	U543	G544	C545	A546	A547	G550	U551	U552	A553	A554	U555	C556	G557	G558	A559	A560	U561	U562	A563	C564	U565	G566	G567	G570	U571	A572	A573	A574	U575	G576	A510	C576								
C322	U323	G324	A325	G326	G327	C328	A329	C330	A331	G332	U333	C334	C335	A336	G337	C338	C339	U340	C341	C342	U343	A344	C345	G346	C347	G348	A349	U350	G351	C352	A353	G354	C355	G357	U358	G359	G360	G361	G362	A363	U364	A365	A366	U367	C370	A371	C372	A373	U374	G375	G376	G377	G378	C379	G380	C381	A382								
G255	U256	G257	G258	G259	G260	U261	A262	G263	C264	G265	C266	C267	U268	C269	A270	C271	C272	U273	A274	G275	G276	C277	G278	A279	C280	G281	A282	U283	C284	C285	C286	U287	A288	G289	G293	U294	C295	U296	G297	A298	G299	A300	G301	G302	U304	A305	A306	C307	C308	A309	G310	C316	U317	G318	G319	A321									



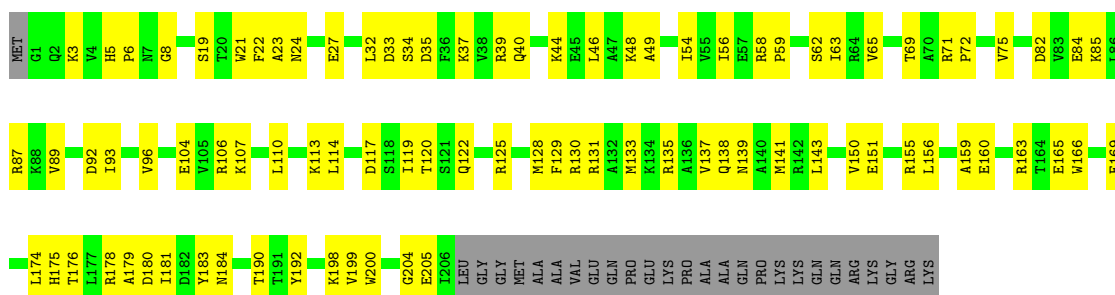
• Molecule 34: 30S ribosomal protein S2

Chain b: 56% 35% 9%



• Molecule 35: 30S ribosomal protein S3

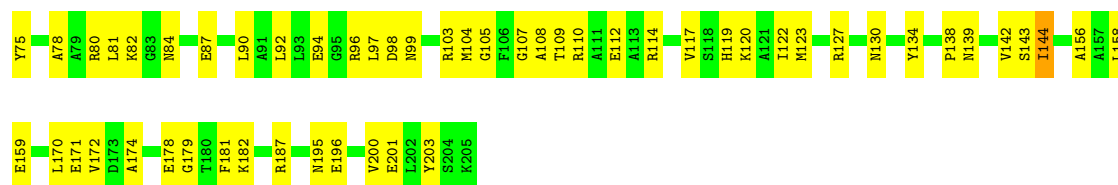
Chain c: 51% 38% 12%



• Molecule 36: 30S ribosomal protein S4

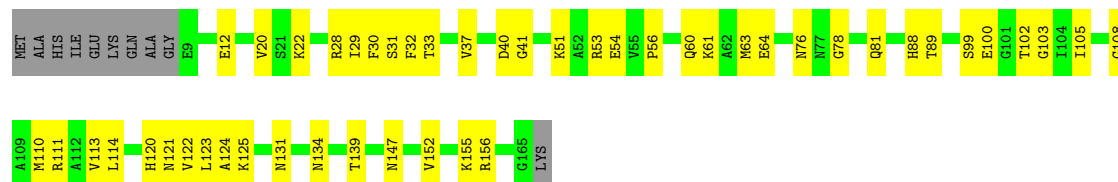
Chain d: 52% 46% 2%





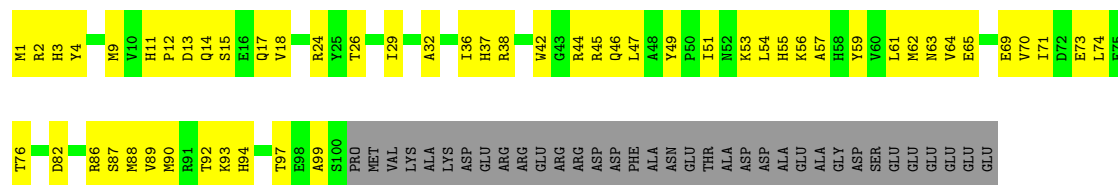
• Molecule 37: 30S ribosomal protein S5

Chain e: 65% 29% 6%



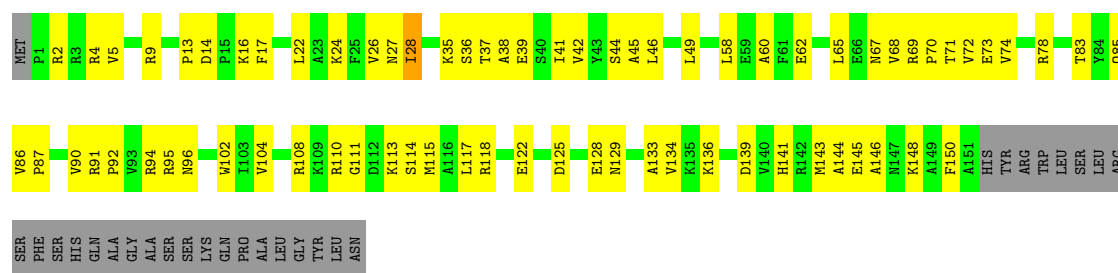
• Molecule 38: 30S ribosomal protein S6

Chain f: 34% 40% 26%



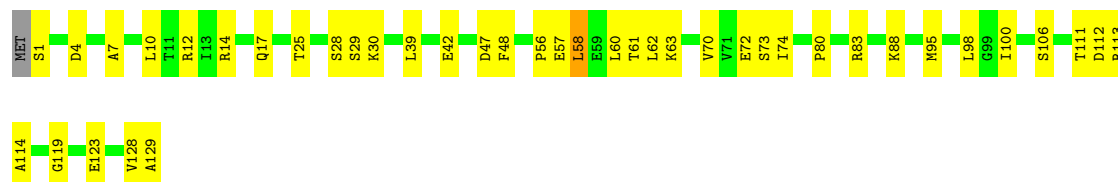
• Molecule 39: 30S ribosomal protein S7

Chain g: 44% 40% 16%

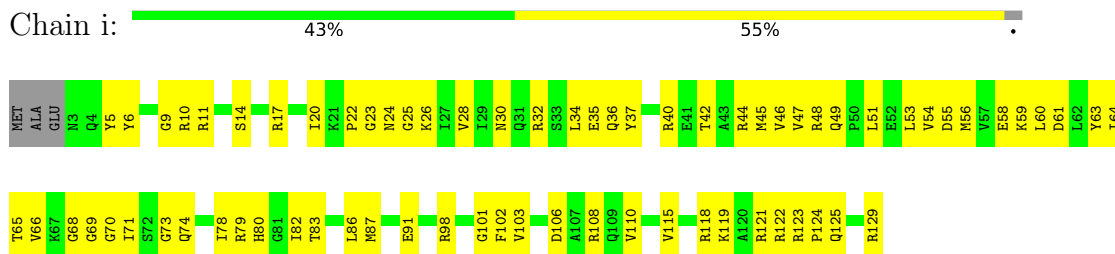


• Molecule 40: 30S ribosomal protein S8

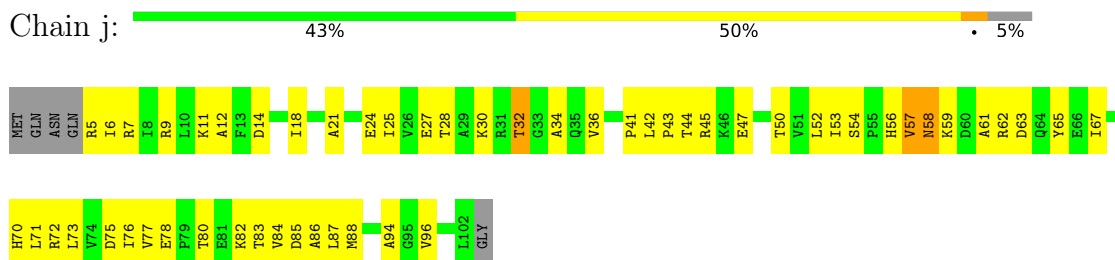
Chain h: 68% 31% 1%



- Molecule 41: 30S ribosomal protein S9



- Molecule 42: 30S ribosomal protein S10



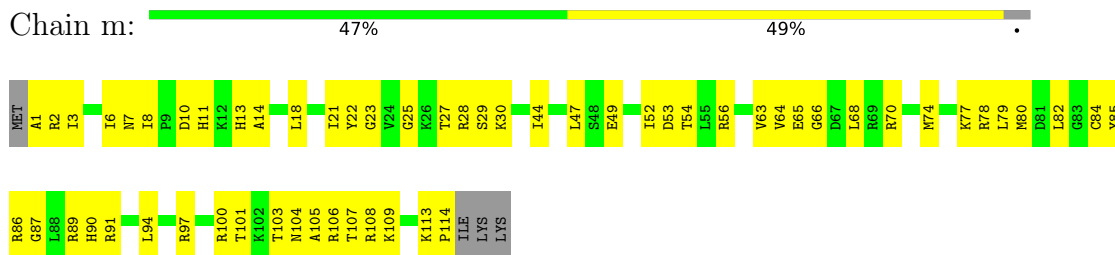
- Molecule 43: 30S ribosomal protein S11



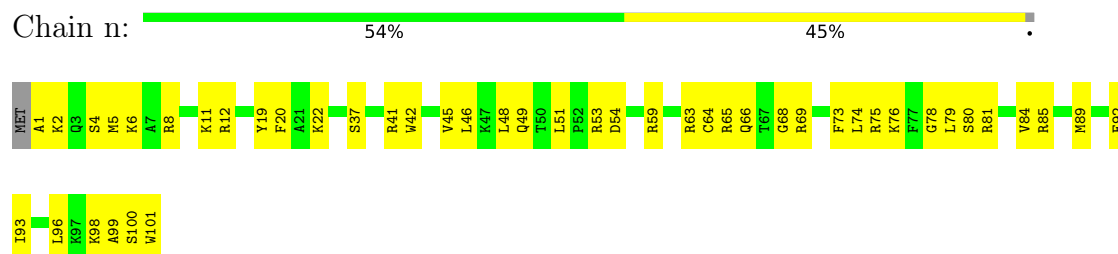
- Molecule 44: 30S ribosomal protein S12



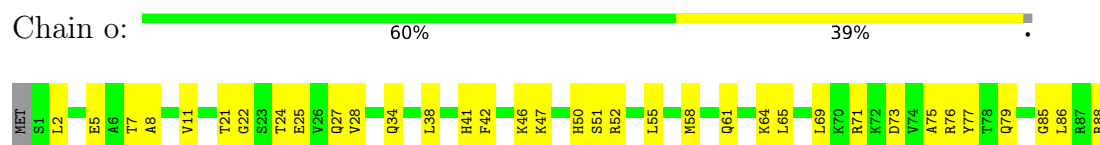
- Molecule 45: 30S ribosomal protein S13



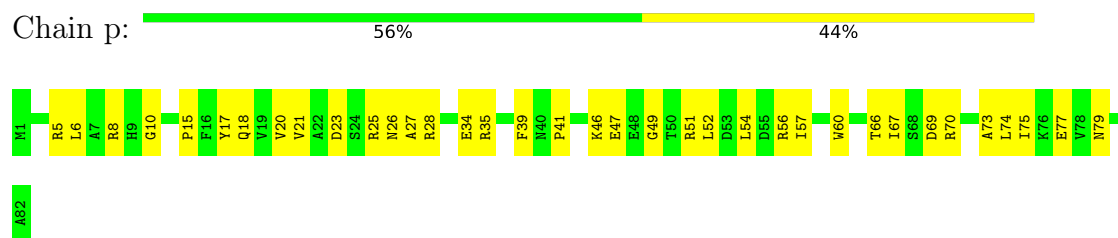
● Molecule 46: 30S ribosomal protein S14



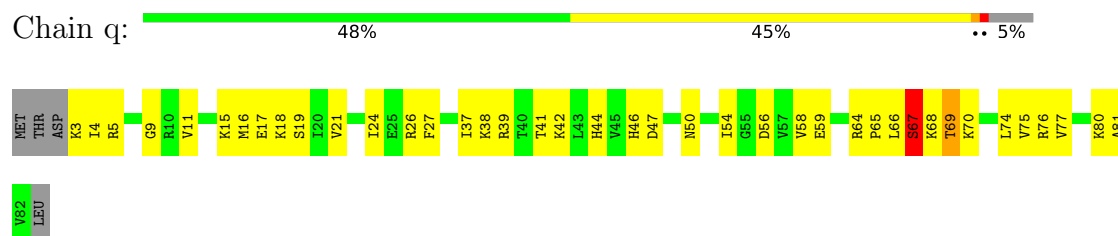
● Molecule 47: 30S ribosomal protein S15



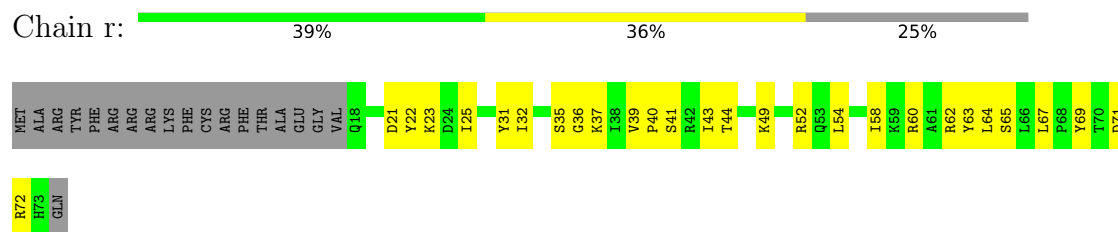
● Molecule 48: 30S ribosomal protein S16



● Molecule 49: 30S ribosomal protein S17



● Molecule 50: 30S ribosomal protein S18



● Molecule 51: 30S ribosomal protein S19





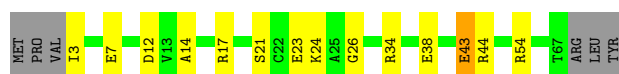
- Molecule 52: 30S ribosomal protein S20

Chain t: 68% 30% .



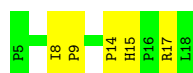
- Molecule 53: 30S ribosomal protein S21

Chain u: 72% 18% 8% .



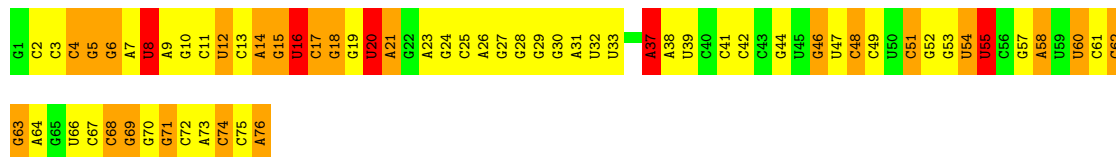
- Molecule 54: Api137

Chain v: 64% 36%



- Molecule 55: P-site tRNAPhe

Chain w: 16% 49% 29% 7%



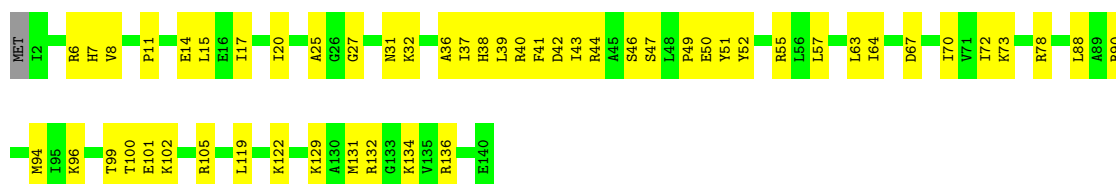
- Molecule 56: RNA (5'-R(P*AP*UP*GP*UP*UP*C)-3')

Chain x: 20% 20% 60%



- Molecule 57: Alternative stalled-ribosome rescue factor B

Chain y: 62% 37% .



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	60692	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	25	Depositor
Minimum defocus (nm)	1100	Depositor
Maximum defocus (nm)	2300	Depositor
Magnification	59000	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	14.417	Depositor
Minimum map value	-7.317	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	347.328, 347.328, 347.328	wwPDB
Map dimensions	324, 324, 324	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.072, 1.072, 1.072	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 6MZ, 5MC, MG, 3TD, ZN, 5MU, MIA, 4OC, UR3, MA6, 2MA, 1MG, G7M, PSU, OMC, OMU, NA, 4SU, 2MG, OMG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.38	0/450	0.66	2/599 (0.3%)
2	1	0.32	0/416	0.44	0/554
3	2	0.39	0/380	0.51	0/498
4	3	0.37	0/513	0.59	0/676
5	4	0.36	0/303	0.50	0/397
6	5	0.18	0/646	0.52	0/898
7	A	0.39	4/69263 (0.0%)	0.38	2/108050 (0.0%)
8	B	0.32	1/2873 (0.0%)	0.34	0/4478
9	C	0.40	0/2121	0.53	0/2852
10	D	0.38	0/1586	0.51	0/2134
11	E	0.34	0/1571	0.45	0/2113
12	F	0.22	0/1434	0.46	0/1926
13	G	0.28	0/1343	0.44	0/1816
14	H	0.29	0/1122	0.59	0/1515
15	I	0.17	0/692	0.53	0/960
16	J	0.37	0/1152	0.43	0/1551
17	K	0.38	0/947	0.51	0/1268
18	L	0.37	0/1054	0.53	0/1403
19	M	0.36	0/1093	0.50	1/1460 (0.1%)
20	N	0.37	0/973	0.52	0/1301
21	O	0.28	0/902	0.47	0/1209
22	P	0.34	0/929	0.43	0/1242
23	Q	0.42	0/960	0.49	0/1278
24	R	0.34	0/829	0.49	0/1107
25	S	0.37	0/864	0.47	0/1156
26	T	0.32	0/744	0.51	0/994
27	U	0.30	0/787	0.44	0/1051
28	V	0.32	0/766	0.46	0/1025
29	W	0.37	0/582	0.43	0/769
30	X	0.36	0/635	0.48	0/848
31	Y	0.36	0/510	0.63	1/677 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Z	0.38	0/453	0.49	0/605
33	a	0.32	1/36725 (0.0%)	0.36	2/57285 (0.0%)
34	b	0.25	0/1735	0.50	2/2338 (0.1%)
35	c	0.27	0/1651	0.42	0/2225
36	d	0.45	4/1665 (0.2%)	0.63	3/2227 (0.1%)
37	e	0.33	0/1154	0.47	0/1554
38	f	0.28	0/835	0.48	0/1128
39	g	0.25	0/1195	0.50	0/1602
40	h	0.30	0/989	0.43	0/1326
41	i	0.24	0/1034	0.48	0/1375
42	j	0.26	0/796	0.56	0/1077
43	k	0.27	0/885	0.42	0/1195
44	l	0.32	0/969	0.50	0/1300
45	m	0.23	0/892	0.46	0/1193
46	n	0.27	0/811	0.48	0/1081
47	o	0.28	0/722	0.43	0/964
48	p	0.29	0/659	0.46	0/884
49	q	0.38	1/657 (0.2%)	0.54	0/881
50	r	0.28	0/471	0.42	0/633
51	s	0.23	0/675	0.44	0/908
52	t	0.27	0/671	0.43	0/888
53	u	0.22	0/512	0.54	0/683
54	v	0.24	0/128	0.39	0/175
55	w	0.57	7/1650 (0.4%)	0.37	0/2569
56	x	0.31	0/138	0.35	0/212
57	y	0.23	0/1090	0.46	0/1461
All	All	0.36	18/157602 (0.0%)	0.41	13/235574 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
36	d	0	2

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	d	71	PHE	C-O	-7.80	1.14	1.24
55	w	16	U	C5-C6	7.58	1.49	1.34
55	w	20	U	C5-C6	7.53	1.49	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	w	20	U	N1-C2	7.40	1.53	1.38
55	w	16	U	N1-C2	7.32	1.53	1.38
7	A	2449	U	C5-C6	7.19	1.48	1.34
36	d	71	PHE	CA-C	-7.04	1.43	1.52
7	A	2449	U	N1-C2	6.44	1.51	1.38
55	w	20	U	C2-N3	6.04	1.49	1.37
55	w	16	U	C2-N3	5.88	1.49	1.37
36	d	71	PHE	C-N	-5.80	1.26	1.33
7	A	887	U	C1'-N1	5.77	1.56	1.47
49	q	67	SER	N-CA	5.53	1.53	1.46
7	A	2449	U	C2-N3	5.41	1.48	1.37
8	B	120	U	C1'-N1	5.40	1.56	1.48
36	d	70	GLN	C-N	-5.40	1.26	1.33
55	w	46	G7M	O3'-P	5.10	1.61	1.56
33	a	89	U	O3'-P	5.03	1.68	1.61

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	d	71	PHE	N-CA-C	-11.32	86.68	110.80
1	0	5	ASN	CA-C-N	-7.83	109.61	121.83
1	0	5	ASN	C-N-CA	-7.83	109.61	121.83
36	d	70	GLN	CA-C-N	-7.02	108.14	121.54
36	d	70	GLN	C-N-CA	-7.02	108.14	121.54
7	A	1052	C	C2'-C3'-O3'	6.91	124.06	113.70
7	A	1052	C	C3'-C2'-O2'	6.54	120.52	110.70
34	b	19	THR	CA-C-N	-6.49	111.88	122.65
34	b	19	THR	C-N-CA	-6.49	111.88	122.65
31	Y	18	LEU	N-CA-CB	6.38	121.27	110.49
33	a	89	U	P-O3'-C3'	6.17	129.46	120.20
33	a	90	C	C2'-C3'-O3'	-5.96	104.76	113.70
19	M	36	VAL	N-CA-C	-5.57	108.42	113.71

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
36	d	70	GLN	Mainchain
36	d	71	PHE	Mainchain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	444	0	461	19	0
2	1	409	0	440	15	0
3	2	377	0	418	17	0
4	3	504	0	574	24	0
5	4	302	0	340	12	0
6	5	647	0	336	8	0
7	A	62336	0	31366	1981	0
8	B	2570	0	1301	96	0
9	C	2082	0	2157	98	0
10	D	1565	0	1616	65	0
11	E	1552	0	1619	59	0
12	F	1410	0	1447	65	0
13	G	1323	0	1374	51	0
14	H	1111	0	1148	67	0
15	I	693	0	347	11	0
16	J	1129	0	1162	45	0
17	K	938	0	1012	35	0
18	L	1045	0	1117	45	0
19	M	1074	0	1156	42	0
20	N	960	0	1000	33	0
21	O	892	0	923	34	0
22	P	917	0	965	25	0
23	Q	947	0	1022	36	0
24	R	816	0	839	30	0
25	S	857	0	922	25	0
26	T	738	0	807	31	0
27	U	779	0	834	30	0
28	V	753	0	780	34	0
29	W	575	0	592	17	0
30	X	625	0	655	25	0
31	Y	509	0	543	27	0
32	Z	449	0	491	20	0
33	a	33050	0	16650	1396	0
34	b	1704	0	1732	57	0
35	c	1624	0	1699	66	0
36	d	1643	0	1710	94	0
37	e	1141	0	1170	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	f	817	0	808	48	0
39	g	1181	0	1240	68	0
40	h	979	0	1034	35	0
41	i	1022	0	1070	77	0
42	j	786	0	828	58	0
43	k	869	0	878	34	0
44	l	955	0	1019	53	0
45	m	883	0	944	56	0
46	n	799	0	841	42	0
47	o	714	0	737	28	0
48	p	649	0	666	34	0
49	q	648	0	691	36	0
50	r	464	0	486	27	0
51	s	658	0	685	30	0
52	t	665	0	714	29	0
53	u	506	0	502	11	0
54	v	121	0	128	7	0
55	w	1631	0	837	53	0
56	x	125	0	64	3	0
57	y	1078	0	1134	48	0
58	0	2	0	0	0	0
58	3	1	0	0	0	0
58	A	244	0	0	0	0
58	B	5	0	0	0	0
58	C	2	0	0	0	0
58	D	2	0	0	0	0
58	L	1	0	0	0	0
58	X	1	0	0	0	0
58	a	93	0	0	0	0
58	m	1	0	0	0	0
58	w	4	0	0	0	0
59	4	1	0	0	0	0
60	A	1	0	0	0	0
All	All	146398	0	98031	4936	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 21.

All (4936) 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)
36:d:61:ARG:HG3	36:d:71:PHE:CE2	1.47	1.48
33:a:153:C:C2	33:a:169:C:N4	1.83	1.44
36:d:61:ARG:CG	36:d:71:PHE:HE2	1.38	1.36
33:a:207:C:H1'	33:a:213:G:C6	1.70	1.25
36:d:61:ARG:CG	36:d:71:PHE:CE2	2.13	1.25
33:a:450:G:OP1	33:a:452:A:OP1	1.64	1.16
7:A:48:G:N2	7:A:177:G:OP2	1.81	1.13
7:A:1783:A:OP1	7:A:1784:A:OP2	1.71	1.08
33:a:150:U:O2	33:a:171:A:N6	1.87	1.07
33:a:207:C:H1'	33:a:213:G:O6	1.53	1.07
33:a:1348:U:H3	33:a:1374:A:N6	1.54	1.04
33:a:207:C:H4'	33:a:213:G:N2	1.73	1.04
33:a:1160:G:N1	33:a:1176:A:C2	2.30	0.99
33:a:453:G:O6	33:a:479:U:N3	1.95	0.99
7:A:364:C:H41	7:A:366:C:H41	1.06	0.98
33:a:153:C:O2	33:a:169:C:N4	1.95	0.97
33:a:1348:U:H3	33:a:1374:A:H62	0.99	0.97
33:a:1500:A:OP1	33:a:1505:G:OP1	1.83	0.97
33:a:153:C:O2	33:a:169:C:C4	2.19	0.96
26:T:4:GLU:HB3	31:Y:18:LEU:HD11	1.46	0.95
7:A:2448:A:OP2	7:A:2499:C:OP2	1.84	0.95
33:a:454:G:H1	33:a:478:A:H61	1.05	0.95
7:A:2638:G:HO2'	7:A:2639:A:H8	1.04	0.95
7:A:1664:A:H61	7:A:1996:C:N4	1.64	0.94
33:a:265:G:O2'	49:q:67:SER:O	1.86	0.94
33:a:1218:C:H2'	33:a:1219:A:H8	1.29	0.94
33:a:201:G:H1	33:a:216:U:H3	0.94	0.94
39:g:24:LYS:O	39:g:28:ILE:HG12	1.68	0.93
33:a:409:U:H3	33:a:433:G:H1	1.04	0.92
7:A:2099:U:H3	7:A:2190:G:H1	1.01	0.92
33:a:207:C:C1'	33:a:213:G:C6	2.54	0.91
39:g:65:LEU:O	39:g:69:ARG:HB3	1.68	0.91
33:a:454:G:H1	33:a:478:A:N6	1.68	0.91
7:A:1170:C:N4	7:A:1179:G:O6	2.04	0.90
13:G:163:TYR:HB2	13:G:166:GLU:HB2	1.54	0.90
33:a:412:A:N6	33:a:431:A:N1	2.19	0.89
33:a:198:G:H1	33:a:219:U:H3	1.20	0.89
7:A:48:G:H22	7:A:177:G:P	1.95	0.88
7:A:452:G:N2	7:A:458:G:N3	2.21	0.87
33:a:207:C:C1'	33:a:213:G:N1	2.37	0.87
7:A:272:A:N6	7:A:365:U:O4	2.08	0.87
7:A:1168:G:H1	7:A:1181:U:H3	1.21	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:51:ARG:HG2	14:H:55:GLU:HG2	1.56	0.87
7:A:1780:A:OP1	7:A:1782:U:OP1	1.93	0.87
14:H:101:ASP:HA	14:H:107:GLY:HA2	1.57	0.87
33:a:151:A:C8	33:a:171:A:N6	2.42	0.87
26:T:4:GLU:OE1	31:Y:18:LEU:HD11	1.75	0.86
4:3:30:HIS:O	4:3:32:LEU:N	2.09	0.86
7:A:90:U:H3'	7:A:91:A:H2'	1.57	0.86
33:a:1375:A:H5''	39:g:24:LYS:HE3	1.55	0.86
7:A:1064:C:O2'	7:A:1075:C:N4	2.08	0.86
33:a:254:G:N2	49:q:17:GLU:OE1	2.10	0.85
33:a:28:A:N1	33:a:555:U:C4	2.45	0.85
33:a:150:U:O4	33:a:171:A:N7	2.10	0.85
7:A:1487:U:O2	7:A:1502:A:N6	2.09	0.85
27:U:27:VAL:HG12	27:U:33:VAL:HG12	1.57	0.85
36:d:61:ARG:CG	36:d:71:PHE:CD2	2.61	0.84
33:a:759:A:OP1	33:a:760:G:OP2	1.95	0.84
33:a:1149:C:H2'	33:a:1150:A:H8	1.42	0.84
7:A:1668:A:H62	7:A:1991:U:H3	1.22	0.84
33:a:81:A:H5'	33:a:90:C:O2	1.78	0.84
33:a:501:C:OP1	44:l:113:ARG:NH2	2.11	0.84
33:a:153:C:N3	33:a:169:C:N4	2.25	0.83
55:w:75:C:OP2	57:y:78:ARG:NH1	2.11	0.83
51:s:18:VAL:HG21	51:s:43:MET:HG2	1.60	0.83
33:a:1006:G:N2	33:a:1023:U:O2	2.12	0.83
36:d:61:ARG:HG2	36:d:71:PHE:CE2	2.10	0.83
18:L:20:GLY:HA2	18:L:28:GLY:HA2	1.61	0.83
7:A:1827:U:OP2	9:C:220:ARG:NH1	2.12	0.82
33:a:775:G:N2	33:a:805:C:N3	2.26	0.82
26:T:4:GLU:HB3	31:Y:18:LEU:CD1	2.09	0.82
55:w:5:G:N1	55:w:68:C:N3	2.26	0.82
7:A:1796:U:H2'	7:A:1797:G:H8	1.45	0.82
33:a:207:C:H1'	33:a:213:G:N1	1.94	0.82
33:a:685:G:H21	33:a:706:A:H61	1.24	0.82
8:B:22:U:H3	8:B:61:G:H1	1.27	0.81
7:A:990:A:N1	24:R:78:ARG:NH1	2.28	0.81
7:A:2167:U:H2'	7:A:2170:A:H61	1.45	0.81
28:V:75:GLN:HB2	28:V:92:VAL:HG23	1.61	0.81
7:A:200:U:O2	7:A:386:G:N2	2.14	0.81
7:A:463:G:N2	7:A:466:A:OP2	2.13	0.81
7:A:1664:A:N6	7:A:1996:C:N4	2.29	0.81
14:H:48:GLU:HA	14:H:52:ALA:HB2	1.61	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1270:C:H5''	7:A:1271:G:H5'	1.63	0.81
33:a:945:G:H1	33:a:1236:A:H61	1.29	0.80
33:a:151:A:N7	33:a:171:A:N6	2.30	0.80
33:a:297:G:N2	33:a:300:A:OP2	2.14	0.80
33:a:673:A:H2'	33:a:674:G:C8	2.17	0.80
35:c:151:GLU:HG2	35:c:166:TRP:HB3	1.62	0.80
7:A:1172:C:C2	7:A:1176:U:N3	2.50	0.80
26:T:4:GLU:OE1	31:Y:18:LEU:CD1	2.30	0.79
33:a:150:U:C2	33:a:171:A:N6	2.41	0.79
8:B:52:A:N7	21:O:33:ARG:NH2	2.30	0.79
33:a:1238:A:OP2	33:a:1300:G:N2	2.15	0.79
11:E:106:LYS:HE2	11:E:200:LEU:HB3	1.63	0.79
48:p:6:LEU:HB3	48:p:17:TYR:HB3	1.65	0.79
33:a:153:C:C2	33:a:169:C:C4	2.69	0.78
33:a:1218:C:H2'	33:a:1219:A:C8	2.16	0.78
33:a:773:G:O6	33:a:807:A:N6	2.16	0.78
36:d:71:PHE:O	36:d:74:TYR:N	2.16	0.78
39:g:71:THR:HA	39:g:95:ARG:HH12	1.47	0.78
14:H:51:ARG:HG3	14:H:54:LEU:HB2	1.64	0.78
36:d:61:ARG:HG2	36:d:71:PHE:CD2	2.18	0.78
7:A:1106:G:H2'	7:A:1107:G:H8	1.48	0.78
7:A:2584:U:H3'	7:A:2585:U:H5''	1.65	0.78
7:A:645:C:N4	7:A:2349:G:N3	2.30	0.78
7:A:1529:G:H1	7:A:1542:U:H3	1.31	0.78
7:A:2142:A:OP2	7:A:2144:G:N2	2.15	0.78
7:A:2406:A:OP2	7:A:2411:A:N6	2.16	0.78
55:w:5:G:N2	55:w:68:C:O2	2.16	0.78
33:a:1191:A:H5''	35:c:3:LYS:HE3	1.66	0.78
14:H:94:ILE:HG12	14:H:122:LEU:HD12	1.63	0.78
4:3:1:PRO:HD2	7:A:591:U:H1'	1.66	0.78
14:H:9:VAL:H	14:H:13:GLY:HA3	1.47	0.78
33:a:950:U:H3'	45:m:100:ARG:HH22	1.47	0.78
38:f:38:ARG:O	38:f:62:MET:HA	1.82	0.77
3:2:37:LYS:NZ	7:A:468:G:OP2	2.17	0.77
39:g:24:LYS:O	39:g:28:ILE:CG1	2.32	0.77
33:a:490:C:H2'	33:a:491:G:H8	1.49	0.77
33:a:1304:G:N1	33:a:1332:A:OP2	2.12	0.77
39:g:78:ARG:HB3	39:g:83:THR:HA	1.65	0.77
52:t:34:VAL:HG21	52:t:53:MET:HG2	1.65	0.77
7:A:271:G:N2	7:A:368:A:N3	2.32	0.77
7:A:2127:G:H2'	7:A:2128:G:C8	2.20	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:178:C:H2'	33:a:179:A:H8	1.49	0.77
7:A:1568:G:N7	9:C:27:LYS:NZ	2.32	0.77
7:A:1709:U:O2	7:A:2859:G:N2	2.17	0.77
7:A:1478:G:H1	7:A:1513:U:H3	1.30	0.77
7:A:2773:C:OP1	10:D:169:ARG:NH2	2.18	0.77
33:a:1436:U:H2'	33:a:1437:A:H8	1.50	0.77
7:A:880:G:N2	7:A:897:C:O2	2.13	0.76
33:a:1074:G:H1	33:a:1083:U:H3	1.31	0.76
4:3:38:LYS:NZ	7:A:2365:G:N7	2.34	0.76
7:A:2032:G:N2	10:D:151:THR:OG1	2.18	0.76
7:A:2062:A:N6	54:v:15:HIS:O	2.18	0.76
38:f:9:MET:HE1	38:f:51:ILE:HD13	1.67	0.76
33:a:416:G:H2'	33:a:417:G:H8	1.49	0.76
7:A:479:A:H4'	7:A:480:A:H5'	1.65	0.76
33:a:1009:U:O2	33:a:1020:G:N2	2.18	0.76
7:A:1817:G:OP1	9:C:86:ARG:NH2	2.18	0.76
28:V:43:ASP:OD2	28:V:46:LYS:NZ	2.19	0.76
33:a:634:C:H2'	33:a:635:A:H8	1.50	0.76
7:A:2846:G:N1	7:A:2871:U:O2	2.19	0.76
33:a:495:A:H4'	33:a:496:A:H5'	1.68	0.76
33:a:836:G:OP2	50:r:49:LYS:NZ	2.16	0.76
7:A:1533:C:H2'	7:A:1535:A:H61	1.51	0.76
7:A:1857:G:O2'	7:A:1885:A:N6	2.19	0.76
31:Y:7:ARG:HH12	31:Y:8:GLU:HG3	1.50	0.76
50:r:36:GLY:O	50:r:62:ARG:NH2	2.18	0.76
33:a:207:C:H4'	33:a:213:G:C2	2.20	0.76
33:a:373:A:H61	33:a:391:G:H1'	1.51	0.76
35:c:69:THR:HG21	35:c:75:VAL:HG11	1.68	0.76
7:A:2328:A:H2'	7:A:2329:U:C6	2.21	0.75
33:a:1160:G:C6	33:a:1176:A:N1	2.54	0.75
28:V:2:PHE:HB2	28:V:61:LEU:HD22	1.67	0.75
33:a:677:U:H3	33:a:713:G:H22	1.31	0.75
33:a:683:G:N2	43:k:38:GLY:O	2.19	0.75
33:a:1379:G:N2	33:a:1381:U:O4	2.17	0.75
37:e:110:MET:HG3	37:e:139:THR:HG21	1.68	0.75
11:E:55:SER:O	11:E:74:LYS:NZ	2.20	0.75
41:i:25:GLY:N	41:i:61:ASP:OD1	2.17	0.75
33:a:202:G:H22	33:a:215:C:H41	1.31	0.75
33:a:405:U:OP2	36:d:2:ARG:NH1	2.19	0.75
7:A:1779:U:OP2	7:A:1784:A:N6	2.18	0.75
33:a:939:G:O2'	33:a:1375:A:O2'	2.04	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1275:A:OP2	7:A:1646:C:N4	2.20	0.75
33:a:1006:G:OP1	33:a:1037:C:O2'	2.05	0.75
8:B:22:U:O2	8:B:61:G:N2	2.18	0.75
33:a:890:G:O2'	33:a:906:A:N6	2.19	0.75
38:f:37:HIS:HB3	38:f:97:THR:HG22	1.67	0.74
7:A:1358:G:C8	7:A:1371:G:O6	2.39	0.74
7:A:2682:A:N1	7:A:2728:U:O2'	2.20	0.74
31:Y:9:LYS:HD2	31:Y:11:VAL:HG12	1.69	0.74
33:a:1175:G:H2'	33:a:1176:A:H8	1.51	0.74
35:c:178:ARG:HG3	35:c:205:GLU:HB3	1.69	0.74
7:A:2532:G:N2	7:A:2663:G:O2'	2.20	0.74
7:A:2830:C:OP1	10:D:56:LYS:NZ	2.21	0.74
8:B:13:G:N2	8:B:16:G:N3	2.35	0.74
33:a:28:A:N1	33:a:555:U:O4	2.20	0.74
7:A:1796:U:H2'	7:A:1797:G:C8	2.22	0.74
18:L:85:VAL:HG11	18:L:90:VAL:HG22	1.68	0.74
33:a:197:A:N1	33:a:220:G:O2'	2.21	0.74
33:a:11:G:OP1	57:y:134:LYS:NZ	2.20	0.74
35:c:39:ARG:NH1	35:c:54:ILE:O	2.20	0.74
7:A:2780:G:N1	16:J:102:GLU:OE1	2.20	0.74
7:A:1168:G:H2'	7:A:1169:A:H8	1.52	0.74
7:A:2808:G:O2'	7:A:2809:A:OP2	2.06	0.74
33:a:177:G:OP2	52:t:63:LYS:NZ	2.20	0.74
2:1:5:ARG:NH1	7:A:2285:C:OP2	2.21	0.73
7:A:1857:G:H22	7:A:1884:G:H2'	1.53	0.73
2:1:8:ILE:HD12	2:1:50:GLU:HG3	1.68	0.73
33:a:363:A:N6	44:l:26:CYS:SG	2.61	0.73
33:a:745:G:H2'	33:a:746:A:H8	1.53	0.73
7:A:1048:A:OP2	7:A:1110:G:N2	2.20	0.73
32:Z:15:ARG:O	32:Z:20:LYS:NZ	2.21	0.73
7:A:2291:U:H2'	7:A:2292:U:C6	2.23	0.73
33:a:1267:C:O2'	33:a:1268:G:O5'	2.06	0.73
36:d:78:ALA:HA	36:d:81:LEU:HB2	1.68	0.73
7:A:1724:G:O6	7:A:1737:G:N2	2.19	0.73
8:B:29:A:O2'	8:B:58:A:N1	2.20	0.73
7:A:1827:U:OP1	7:A:1971:U:O2'	2.05	0.73
33:a:1006:G:H1	33:a:1023:U:H3	1.35	0.73
7:A:450:G:N1	7:A:454:A:OP2	2.19	0.73
7:A:475:C:O2	7:A:479:A:N6	2.21	0.73
33:a:453:G:O6	33:a:479:U:C2	2.42	0.73
33:a:946:A:H2'	33:a:947:G:C8	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:t:8:LYS:HG2	52:t:12:GLN:HE21	1.54	0.73
16:J:11:VAL:HG21	16:J:50:THR:HG22	1.70	0.72
33:a:922:G:H2'	33:a:923:A:C8	2.24	0.72
4:3:39:ARG:NE	7:A:2362:C:OP1	2.22	0.72
33:a:875:U:O2'	40:h:14:ARG:NH1	2.22	0.72
33:a:147:G:H2'	33:a:148:G:C8	2.24	0.72
33:a:235:C:H2'	33:a:236:A:H8	1.54	0.72
33:a:407:U:O2'	36:d:112:GLU:OE1	2.06	0.72
33:a:1280:A:OP1	42:j:9:ARG:NH2	2.23	0.72
35:c:190:THR:HG23	35:c:192:TYR:H	1.55	0.72
7:A:521:U:H2'	7:A:522:A:H8	1.54	0.72
33:a:1382:C:H4'	39:g:78:ARG:HH21	1.52	0.72
4:3:8:GLY:O	4:3:12:ARG:NH2	2.23	0.72
7:A:272:A:H61	7:A:364:C:N4	1.88	0.72
7:A:848:C:H2'	7:A:849:A:H8	1.55	0.72
14:H:5:LEU:HD21	14:H:12:LEU:HD12	1.71	0.72
19:M:56:ALA:HB2	19:M:119:LEU:HD23	1.72	0.72
7:A:251:A:N6	7:A:386:G:O6	2.21	0.72
22:P:51:ASN:O	22:P:52:ARG:NH1	2.21	0.72
33:a:982:U:OP2	46:n:63:ARG:NH2	2.22	0.72
33:a:1348:U:N3	33:a:1374:A:N6	2.27	0.72
7:A:1022:G:H22	7:A:1142:A:H2	1.38	0.72
7:A:1629:U:O4	7:A:1630:A:N6	2.23	0.72
33:a:458:U:O2	33:a:474:G:N2	2.22	0.72
33:a:1233:G:OP1	41:i:118:ARG:NH1	2.22	0.72
33:a:1266:G:N2	33:a:1269:A:OP2	2.15	0.72
12:F:140:ILE:HG22	12:F:142:TYR:H	1.53	0.72
33:a:1071:C:OP1	37:e:53:ARG:NH2	2.22	0.72
9:C:153:LEU:HD13	9:C:175:LEU:HD21	1.72	0.72
33:a:1249:C:H4'	41:i:74:GLN:HE22	1.55	0.72
55:w:20:U:O2'	55:w:48:C:N4	2.21	0.72
7:A:154:U:H2'	7:A:155:A:H8	1.55	0.71
33:a:674:G:H2'	33:a:675:A:H8	1.55	0.71
7:A:1212:G:O2'	7:A:1236:G:N2	2.22	0.71
7:A:1651:G:OP1	20:N:40:LYS:NZ	2.23	0.71
1:0:4:GLN:O	1:0:5:ASN:ND2	2.22	0.71
33:a:796:C:O3'	43:k:126:ARG:NH2	2.23	0.71
33:a:1287:A:H2	33:a:1353:G:H1'	1.53	0.71
33:a:634:C:H2'	33:a:635:A:C8	2.25	0.71
33:a:861:G:HO2'	33:a:874:G:HO2'	1.37	0.71
7:A:291:G:N2	7:A:349:U:O2	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:133:THR:HG22	10:D:134:HIS:H	1.54	0.71
7:A:1681:G:OP2	7:A:1757:A:N6	2.23	0.71
14:H:45:GLU:O	14:H:49:ALA:HB3	1.90	0.71
33:a:85:U:O2'	33:a:86:G:O5'	2.08	0.71
33:a:730:G:O6	47:o:50:HIS:NE2	2.21	0.71
33:a:976:G:OP2	33:a:1358:U:O2'	2.09	0.71
7:A:1035:U:H3	7:A:1120:G:H1	1.38	0.71
35:c:150:VAL:HG13	35:c:199:VAL:HG22	1.73	0.71
37:e:152:VAL:HG21	40:h:98:LEU:HD13	1.71	0.71
7:A:818:G:N1	7:A:1188:U:OP2	2.20	0.71
7:A:1250:G:N7	18:L:18:ARG:NH2	2.33	0.71
12:F:92:GLY:H	12:F:95:MET:HE2	1.56	0.71
38:f:93:LYS:O	38:f:94:HIS:ND1	2.24	0.71
42:j:57:VAL:HG12	42:j:58:ASN:H	1.55	0.71
22:P:105:LYS:O	22:P:108:ARG:NH2	2.24	0.70
33:a:416:G:C6	33:a:428:G:O6	2.38	0.70
7:A:2576:G:O2'	7:A:2579:C:OP2	2.09	0.70
33:a:207:C:O2'	33:a:213:G:C6	2.44	0.70
7:A:814:C:H1'	7:A:1225:G:H21	1.57	0.70
7:A:2666:C:N4	13:G:108:PHE:O	2.25	0.70
7:A:2646:C:OP2	7:A:2732:G:O2'	2.09	0.70
28:V:17:SER:O	28:V:21:ARG:NH1	2.25	0.70
33:a:619:U:N3	36:d:130:ASN:OD1	2.25	0.70
7:A:309:A:N7	7:A:330:A:N6	2.38	0.70
33:a:455:G:H2'	33:a:456:A:H8	1.56	0.70
33:a:588:G:N2	33:a:653:U:O4	2.20	0.70
46:n:37:SER:HA	46:n:41:ARG:HB3	1.73	0.70
48:p:39:PHE:HB2	48:p:74:LEU:HD21	1.74	0.70
7:A:301:G:OP2	27:U:81:ARG:NH1	2.24	0.70
7:A:1589:U:H2'	7:A:1590:A:C8	2.27	0.70
33:a:150:U:H3	33:a:171:A:H62	1.38	0.70
7:A:910:A:H62	19:M:12:MET:HA	1.56	0.70
9:C:77:VAL:HG21	9:C:109:LEU:HD21	1.73	0.70
17:K:113:MET:HA	17:K:116:ILE:HG22	1.72	0.70
33:a:1169:A:O2'	34:b:138:ARG:NH2	2.23	0.70
7:A:1688:U:O2'	7:A:1700:A:N7	2.24	0.70
20:N:73:ASN:HA	20:N:76:VAL:HG12	1.72	0.70
52:t:28:ARG:HA	52:t:31:ILE:HD12	1.74	0.70
33:a:113:G:H1'	33:a:354:G:H5'	1.74	0.69
35:c:46:LEU:HB3	35:c:49:ALA:HB3	1.74	0.69
7:A:299:A:N3	7:A:319:G:O2'	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:596:A:OP2	33:a:597:G:OP2	2.10	0.69
33:a:1329:A:H5'	45:m:25:GLY:H	1.57	0.69
33:a:514:C:H2'	33:a:515:G:H8	1.57	0.69
49:q:75:VAL:HG12	49:q:76:ARG:HG2	1.74	0.69
33:a:564:C:OP1	44:l:11:ARG:NH1	2.26	0.69
33:a:977:A:O2'	33:a:979:C:OP2	2.08	0.69
33:a:1414:U:O2	33:a:1487:G:N2	2.26	0.69
33:a:1427:C:H2'	33:a:1428:A:C8	2.27	0.69
55:w:26:A:H2'	55:w:27:G:H8	1.57	0.69
1:0:12:ARG:NH2	7:A:517:C:OP1	2.26	0.69
7:A:1501:G:OP1	9:C:100:ARG:NH2	2.25	0.69
44:l:2:THR:O	44:l:5:GLN:N	2.26	0.69
14:H:66:ASN:HD22	14:H:135:HIS:HB2	1.57	0.69
21:O:16:ARG:NH1	21:O:19:GLN:OE1	2.24	0.69
24:R:20:VAL:HG12	24:R:21:ARG:H	1.58	0.69
33:a:251:G:H4'	33:a:252:U:H5'	1.73	0.69
33:a:481:G:O2'	33:a:483:C:N4	2.25	0.69
34:b:42:LEU:HA	34:b:45:THR:HG22	1.75	0.69
7:A:700:G:O2'	7:A:1632:A:N3	2.25	0.69
7:A:1602:U:OP2	26:T:64:LYS:NZ	2.19	0.69
7:A:2845:U:O3'	22:P:52:ARG:NH1	2.26	0.69
30:X:38:TRP:NE1	30:X:40:GLU:OE1	2.25	0.69
34:b:185:ILE:HA	34:b:199:ILE:HB	1.75	0.69
45:m:80:MET:HE3	45:m:91:ARG:HG2	1.75	0.69
7:A:881:G:N3	7:A:882:G:N1	2.41	0.69
43:k:100:ASN:ND2	53:u:12:ASP:OD1	2.25	0.69
7:A:300:A:OP2	27:U:96:LYS:NZ	2.26	0.69
7:A:1482:G:H2'	7:A:1483:G:H8	1.58	0.69
33:a:454:G:H2'	33:a:455:G:H8	1.57	0.69
33:a:455:G:H2'	33:a:456:A:C8	2.28	0.69
7:A:2327:A:H2'	7:A:2328:A:C8	2.28	0.68
17:K:34:GLY:N	17:K:37:ASP:OD2	2.26	0.68
23:Q:49:ARG:O	23:Q:53:LYS:NZ	2.26	0.68
7:A:381:G:OP1	30:X:15:ASN:ND2	2.26	0.68
8:B:5:U:OP1	8:B:61:G:O2'	2.10	0.68
33:a:811:C:O2'	33:a:901:A:N1	2.26	0.68
33:a:1040:U:H2'	33:a:1041:G:H8	1.58	0.68
33:a:1228:C:OP2	45:m:106:ARG:NH1	2.27	0.68
35:c:72:PRO:HG3	35:c:104:GLU:HG3	1.75	0.68
7:A:2334:U:H1'	21:O:13:ARG:HG2	1.74	0.68
34:b:119:GLN:HA	34:b:123:GLY:HA3	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2345:G:H4'	7:A:2346:A:H5'	1.74	0.68
7:A:2816:G:N3	7:A:2883:A:O2'	2.25	0.68
33:a:745:G:H2'	33:a:746:A:C8	2.28	0.68
43:k:35:ASP:OD1	43:k:38:GLY:N	2.26	0.68
43:k:66:ALA:HB2	43:k:95:THR:HG23	1.75	0.68
7:A:1047:G:HO2'	7:A:1110:G:H1	1.38	0.68
7:A:1093:G:N7	7:A:1099:G:N1	2.41	0.68
33:a:1160:G:N7	33:a:1182:G:N1	2.41	0.68
7:A:2748:A:N7	7:A:2753:A:N6	2.40	0.68
33:a:204:G:N2	33:a:465:A:H1'	2.08	0.68
33:a:1342:C:H1'	41:i:125:GLN:HE22	1.57	0.68
33:a:1414:U:H2'	33:a:1415:G:H8	1.59	0.68
45:m:23:GLY:O	45:m:28:ARG:NH1	2.27	0.68
7:A:189:G:OP2	30:X:25:LYS:NZ	2.27	0.68
14:H:38:PRO:O	14:H:43:ASN:ND2	2.27	0.68
33:a:1009:U:O2	33:a:1020:G:C2	2.46	0.68
7:A:880:G:N1	7:A:897:C:N3	2.32	0.68
7:A:1359:A:OP2	7:A:1371:G:N2	2.25	0.68
7:A:1794:A:H2'	7:A:1795:C:H6	1.59	0.68
33:a:150:U:C4	33:a:171:A:N7	2.61	0.68
41:i:30:ASN:HD21	41:i:66:VAL:H	1.41	0.68
42:j:45:ARG:NH2	42:j:47:GLU:OE2	2.26	0.68
32:Z:4:ILE:HG22	32:Z:58:GLU:HG2	1.75	0.68
33:a:207:C:O2'	33:a:213:G:C5	2.47	0.68
33:a:685:G:H21	33:a:706:A:N6	1.90	0.68
7:A:1794:A:H2'	7:A:1795:C:C6	2.29	0.68
32:Z:27:GLY:HA3	32:Z:37:ARG:HH21	1.58	0.68
7:A:414:C:H2'	7:A:415:A:H8	1.58	0.67
7:A:819:A:OP2	7:A:1187:G:N2	2.26	0.67
7:A:1715:G:N2	7:A:1744:A:OP2	2.26	0.67
33:a:742:G:H2'	33:a:743:A:H8	1.59	0.67
33:a:1071:C:H2'	33:a:1072:G:H8	1.58	0.67
35:c:130:ARG:HH22	37:e:54:GLU:HG2	1.59	0.67
9:C:144:GLU:HA	9:C:151:GLY:HA2	1.75	0.67
7:A:796:C:H2'	7:A:797:G:H8	1.59	0.67
7:A:1666:G:N3	17:K:3:GLN:NE2	2.42	0.67
33:a:1436:U:H2'	33:a:1437:A:C8	2.29	0.67
41:i:83:THR:HG21	41:i:102:PHE:HB3	1.76	0.67
33:a:126:G:OP1	33:a:605:U:O2'	2.08	0.67
33:a:328:C:H4'	33:a:329:A:H5'	1.77	0.67
33:a:686:U:O2'	33:a:687:A:O4'	2.13	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1166:G:O2'	33:a:1170:A:N6	2.27	0.67
14:H:78:VAL:O	14:H:145:ASN:ND2	2.27	0.67
7:A:1266:G:O2'	7:A:2012:G:O6	2.11	0.67
7:A:1538:G:H2'	7:A:1539:U:H6	1.60	0.67
7:A:1664:A:N6	7:A:1996:C:C4	2.62	0.67
14:H:81:ALA:HB1	14:H:149:GLU:HB2	1.77	0.67
33:a:264:C:O2'	49:q:65:PRO:O	2.12	0.67
33:a:490:C:H2'	33:a:491:G:C8	2.30	0.67
43:k:20:ALA:HB3	43:k:83:VAL:HG12	1.77	0.67
33:a:28:A:C6	33:a:555:U:O4	2.48	0.67
33:a:1237:C:O2'	33:a:1300:G:N2	2.28	0.67
43:k:112:VAL:HG23	50:r:72:ARG:HD3	1.75	0.67
7:A:511:U:H4'	7:A:1235:G:H4'	1.76	0.67
7:A:2059:A:C8	7:A:2503:2MA:HM22	2.30	0.67
33:a:736:C:OP1	50:r:60:ARG:NH2	2.28	0.67
7:A:1365:A:OP1	30:X:27:ARG:NH2	2.28	0.67
14:H:45:GLU:O	14:H:49:ALA:CB	2.43	0.67
33:a:54:C:OP1	33:a:351:G:N2	2.28	0.67
33:a:946:A:H2'	33:a:947:G:H8	1.58	0.67
7:A:781:A:OP1	9:C:216:ARG:NH2	2.28	0.67
7:A:1245:G:OP1	18:L:13:LYS:NZ	2.28	0.66
9:C:257:ARG:NH1	9:C:263:ASP:OD1	2.27	0.66
18:L:73:ILE:HD12	18:L:106:GLU:HB2	1.77	0.66
42:j:85:ASP:OD1	42:j:86:ALA:N	2.28	0.66
7:A:948:C:H2'	7:A:949:G:H8	1.59	0.66
7:A:2102:G:N2	7:A:2187:U:O2	2.27	0.66
7:A:2591:C:H2'	7:A:2592:G:H8	1.59	0.66
18:L:110:VAL:HB	18:L:127:VAL:HG12	1.77	0.66
33:a:198:G:H2'	33:a:199:A:H8	1.59	0.66
33:a:416:G:H2'	33:a:417:G:C8	2.28	0.66
33:a:979:C:O2	46:n:59:ARG:NH1	2.27	0.66
34:b:76:SER:HB2	34:b:92:ASN:HB2	1.77	0.66
49:q:58:VAL:HG12	49:q:77:VAL:HG13	1.76	0.66
1:0:49:ARG:HE	7:A:2884:U:H1'	1.60	0.66
7:A:372:G:O2'	7:A:400:G:O6	2.11	0.66
7:A:1013:C:H2'	7:A:1014:A:H8	1.61	0.66
14:H:116:ARG:HH11	14:H:133:GLN:HB2	1.60	0.66
44:l:45:ASN:ND2	44:l:88:ASP:OD2	2.28	0.66
7:A:767:U:H2'	7:A:768:G:H8	1.60	0.66
7:A:956:G:N2	7:A:960:A:OP2	2.24	0.66
14:H:93:SER:HA	14:H:122:LEU:HB3	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:58:LEU:HD11	17:K:86:LEU:HD13	1.77	0.66
33:a:6:G:O6	37:e:99:SER:N	2.28	0.66
36:d:61:ARG:HG3	36:d:71:PHE:HE2	0.55	0.66
36:d:201:GLU:OE2	37:e:111:ARG:NH1	2.29	0.66
7:A:1681:G:O2'	7:A:1762:A:N3	2.25	0.66
7:A:1847:G:H21	7:A:1848:A:H62	1.42	0.66
12:F:134:GLN:OE1	12:F:134:GLN:N	2.29	0.66
33:a:126:G:H5'	33:a:633:G:H22	1.60	0.66
33:a:299:G:H2'	33:a:300:A:C8	2.31	0.66
33:a:936:C:H1'	33:a:1382:C:H42	1.59	0.66
33:a:1124:G:O2'	33:a:1127:G:O6	2.14	0.66
57:y:44:ARG:HG2	57:y:57:LEU:HD11	1.78	0.66
1:0:53:VAL:HG23	1:0:54:ILE:HG12	1.77	0.66
7:A:2144:G:O2'	7:A:2147:A:N6	2.28	0.66
7:A:2863:C:H2'	7:A:2864:G:H8	1.61	0.66
8:B:27:C:H5''	21:O:34:HIS:CD2	2.31	0.66
9:C:28:PRO:HG3	9:C:62:ARG:HH21	1.60	0.66
10:D:5:VAL:H	10:D:32:ASN:HD21	1.44	0.66
41:i:5:TYR:HB2	41:i:20:ILE:HG12	1.77	0.66
30:X:31:ASN:OD1	30:X:33:HIS:NE2	2.29	0.66
33:a:1034:G:N2	33:a:1035:A:O4'	2.29	0.66
7:A:742:A:H2'	7:A:743:A:C8	2.31	0.66
16:J:32:LEU:HD22	16:J:54:ILE:HG21	1.76	0.66
33:a:337:G:H2'	33:a:338:A:H8	1.61	0.66
7:A:219:A:N3	7:A:234:U:O2'	2.27	0.66
7:A:1340:U:OP1	26:T:19:LYS:NZ	2.29	0.66
7:A:2573:C:N4	57:y:32:LYS:O	2.28	0.66
33:a:148:G:H1	33:a:174:A:H61	1.42	0.66
33:a:1356:G:H2'	33:a:1357:A:C8	2.31	0.66
36:d:36:ALA:HB3	36:d:41:GLY:HA2	1.77	0.66
7:A:2246:G:H2'	7:A:2247:A:H8	1.59	0.66
7:A:2313:C:H2'	7:A:2314:A:H8	1.59	0.66
33:a:18:C:OP1	37:e:131:ASN:ND2	2.19	0.66
33:a:81:A:C5'	33:a:90:C:O2	2.44	0.66
33:a:384:G:H2'	33:a:385:C:C6	2.31	0.66
7:A:365:U:H2'	7:A:366:C:C6	2.30	0.65
7:A:478:A:N7	7:A:480:A:N6	2.43	0.65
7:A:1186:G:H2'	7:A:1187:G:O4'	1.96	0.65
12:F:109:ARG:NH1	12:F:135:ILE:O	2.29	0.65
18:L:55:MET:O	18:L:60:ARG:NH1	2.28	0.65
33:a:376:G:H5''	48:p:5:ARG:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:d:94:GLU:HA	36:d:99:ASN:ND2	2.11	0.65
42:j:50:THR:HG22	42:j:62:ARG:HD3	1.76	0.65
7:A:444:C:OP1	11:E:40:ARG:NH2	2.27	0.65
7:A:693:A:O2'	7:A:1353:A:N3	2.28	0.65
7:A:1670:C:H2'	7:A:1671:U:O4'	1.96	0.65
26:T:61:LEU:HD11	26:T:82:LYS:HE2	1.77	0.65
7:A:581:C:H2'	7:A:582:A:H8	1.61	0.65
31:Y:8:GLU:O	31:Y:60:LYS:NZ	2.27	0.65
33:a:533:A:O2'	33:a:535:A:OP2	2.13	0.65
33:a:1437:A:H5''	52:t:28:ARG:HH12	1.60	0.65
7:A:84:A:H62	7:A:101:A:H2	1.43	0.65
8:B:48:U:H2'	8:B:49:C:C6	2.31	0.65
33:a:337:G:H2'	33:a:338:A:C8	2.31	0.65
38:f:49:TYR:OH	50:r:62:ARG:O	2.15	0.65
7:A:514:A:H2'	7:A:515:A:H8	1.60	0.65
7:A:630:G:N2	7:A:633:A:OP2	2.29	0.65
7:A:820:A:H4'	7:A:836:G:H22	1.60	0.65
7:A:1589:U:H2'	7:A:1590:A:H8	1.61	0.65
7:A:1597:A:H5''	7:A:1598:A:H5'	1.78	0.65
9:C:159:THR:HG22	9:C:176:ARG:HG2	1.78	0.65
28:V:44:HIS:HE1	28:V:85:LYS:HG2	1.60	0.65
33:a:9:G:OP2	37:e:125:LYS:NZ	2.22	0.65
33:a:581:G:OP1	47:o:64:LYS:NZ	2.20	0.65
38:f:44:ARG:HG2	38:f:56:LYS:HG2	1.79	0.65
38:f:47:LEU:HD21	38:f:57:ALA:HB3	1.78	0.65
7:A:1405:U:H2'	7:A:1406:U:C6	2.32	0.65
7:A:1416:G:H2'	7:A:1417:C:H6	1.62	0.65
42:j:70:HIS:HB3	42:j:72:ARG:HH12	1.62	0.65
3:2:39:ARG:NH1	7:A:469:G:O6	2.30	0.65
7:A:123:G:H4'	7:A:1376:C:H5'	1.77	0.65
13:G:174:LYS:HG3	13:G:176:LYS:H	1.61	0.65
14:H:125:THR:OG1	14:H:146:VAL:O	2.13	0.65
33:a:28:A:O2'	33:a:296:U:OP1	2.13	0.65
33:a:769:G:N1	33:a:811:C:O2	2.30	0.65
33:a:844:G:H8	33:a:845:A:H5''	1.61	0.65
44:l:67:GLY:O	44:l:98:ARG:NH1	2.29	0.65
7:A:1316:U:H2'	7:A:1317:G:H8	1.62	0.65
7:A:2328:A:H2'	7:A:2329:U:H6	1.61	0.65
22:P:23:ASP:HA	22:P:89:GLY:H	1.61	0.65
33:a:259:G:OP1	52:t:77:ASN:ND2	2.30	0.65
33:a:269:C:H2'	33:a:270:A:C8	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:44:ARG:NH2	7:A:2418:A:OP1	2.30	0.65
7:A:2484:G:OP2	19:M:44:ARG:NH2	2.30	0.65
27:U:80:ASP:OD2	27:U:97:SER:OG	2.15	0.65
33:a:898:G:N2	33:a:901:A:OP2	2.30	0.65
33:a:1347:G:O6	41:i:11:ARG:NH2	2.30	0.65
5:4:1:MET:N	7:A:2526:G:N3	2.45	0.65
7:A:372:G:N2	7:A:401:A:OP2	2.30	0.65
7:A:1341:G:OP1	7:A:1397:U:N3	2.30	0.65
7:A:1528:A:N6	7:A:1543:G:O2'	2.30	0.65
14:H:12:LEU:HD22	14:H:19:VAL:HG21	1.79	0.65
19:M:38:ARG:N	19:M:126:ILE:HD11	2.11	0.65
33:a:689:C:HO2'	33:a:705:G:HO2'	1.44	0.65
7:A:154:U:H2'	7:A:155:A:C8	2.32	0.64
7:A:242:G:N2	7:A:255:A:OP2	2.25	0.64
7:A:675:A:OP1	11:E:58:LYS:NZ	2.28	0.64
7:A:2147:A:H62	7:A:2148:G:H21	1.43	0.64
7:A:2822:G:OP1	10:D:164:GLN:NE2	2.23	0.64
44:l:37:TYR:HE1	44:l:53:ARG:HG2	1.62	0.64
55:w:5:G:O6	55:w:68:C:N4	2.29	0.64
7:A:580:U:H2'	7:A:581:C:H6	1.62	0.64
33:a:35:G:N3	44:l:114:SER:OG	2.30	0.64
39:g:70:PRO:O	39:g:95:ARG:NH1	2.30	0.64
4:3:7:ARG:NH2	7:A:244:A:OP2	2.28	0.64
7:A:500:G:N1	7:A:503:A:OP2	2.30	0.64
7:A:2117:A:N6	7:A:2171:A:N7	2.39	0.64
7:A:2443:C:H2'	7:A:2444:G:H8	1.62	0.64
7:A:2515:C:H2'	7:A:2516:A:H8	1.62	0.64
33:a:552:U:H2'	33:a:553:A:H8	1.61	0.64
13:G:142:GLN:NE2	13:G:146:ASP:OD1	2.31	0.64
7:A:2310:C:H2'	12:F:76:PHE:HE2	1.62	0.64
7:A:2448:A:OP2	7:A:2498:OMC:OP2	2.16	0.64
13:G:88:LEU:HD23	13:G:93:TYR:HB3	1.78	0.64
33:a:416:G:N2	33:a:427:U:O2	2.30	0.64
33:a:829:G:O6	33:a:858:G:N2	2.30	0.64
33:a:1095:U:OP1	33:a:1108:G:N2	2.26	0.64
33:a:1522:U:H2'	33:a:1523:G:H8	1.62	0.64
43:k:80:ASN:HD22	43:k:105:ARG:HB3	1.61	0.64
7:A:720:U:H2'	7:A:721:A:H8	1.63	0.64
7:A:796:C:H2'	7:A:797:G:C8	2.33	0.64
7:A:1167:C:H2'	7:A:1168:G:H8	1.61	0.64
7:A:2357:G:N2	7:A:2360:G:OP2	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:143:A:H5''	33:a:144:G:H5''	1.79	0.64
7:A:2503:2MA:O2'	7:A:2505:G:OP2	2.15	0.64
7:A:2530:A:N7	13:G:171:LYS:NZ	2.38	0.64
33:a:765:G:H1	33:a:812:G:HO2'	1.45	0.64
33:a:980:C:OP2	33:a:981:U:O4	2.15	0.64
48:p:5:ARG:NH2	48:p:27:ALA:O	2.31	0.64
7:A:669:G:O2'	7:A:670:A:OP1	2.15	0.64
7:A:1092:C:N4	7:A:1093:G:O6	2.31	0.64
33:a:149:A:H2'	33:a:150:U:H6	1.63	0.64
33:a:263:A:OP1	52:t:73:ARG:NH1	2.30	0.64
33:a:505:G:H2'	33:a:506:G:H8	1.62	0.64
7:A:1842:G:H2'	7:A:1843:C:H6	1.63	0.64
7:A:2591:C:H2'	7:A:2592:G:C8	2.32	0.64
10:D:13:ARG:HH11	22:P:55:HIS:HA	1.63	0.64
14:H:12:LEU:HD13	14:H:19:VAL:HG11	1.80	0.64
33:a:1403:C:N4	56:x:18:C:OP1	2.31	0.64
39:g:129:ASN:HA	39:g:134:VAL:HG21	1.80	0.64
44:l:53:ARG:HH21	44:l:61:GLU:HG3	1.63	0.64
7:A:1141:U:OP2	16:J:65:THR:OG1	2.14	0.64
7:A:1509:A:H2'	7:A:1510:G:C8	2.32	0.64
23:Q:46:TYR:O	23:Q:50:ARG:NH1	2.30	0.64
33:a:1006:G:H2'	33:a:1007:U:C6	2.32	0.64
7:A:1548:A:H2'	7:A:1549:A:H8	1.61	0.63
7:A:2329:U:H2'	7:A:2330:G:C8	2.33	0.63
7:A:2514:U:H2'	7:A:2515:C:C6	2.33	0.63
7:A:2547:A:H2'	7:A:2548:U:C6	2.33	0.63
20:N:37:THR:HG22	20:N:39:PRO:HD2	1.80	0.63
33:a:1040:U:H2'	33:a:1041:G:C8	2.33	0.63
55:w:27:G:H2'	55:w:28:G:H8	1.63	0.63
7:A:414:C:H2'	7:A:415:A:C8	2.33	0.63
7:A:1059:G:N2	15:I:127:SER:O	2.29	0.63
7:A:1443:U:H2'	7:A:1444:G:H8	1.63	0.63
18:L:96:LYS:HG3	18:L:101:ILE:HD11	1.80	0.63
36:d:99:ASN:OD1	36:d:110:ARG:NH2	2.26	0.63
7:A:2062:A:N7	54:v:14:PRO:HG2	2.13	0.63
7:A:2398:U:H2'	7:A:2399:G:H8	1.63	0.63
7:A:2572:A:N6	10:D:150:GLN:OE1	2.28	0.63
33:a:17:U:H2'	33:a:18:C:C6	2.33	0.63
33:a:1526:G:OP1	53:u:44:ARG:NH2	2.30	0.63
38:f:42:TRP:HB2	38:f:59:TYR:HB2	1.81	0.63
43:k:44:ALA:HB1	43:k:68:ARG:HE	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:s:2:ARG:NE	51:s:7:GLY:O	2.31	0.63
7:A:935:C:H2'	7:A:936:A:H8	1.64	0.63
7:A:2576:G:OP2	7:A:2576:G:N2	2.28	0.63
7:A:2794:C:H2'	7:A:2795:C:C6	2.33	0.63
33:a:152:A:N6	33:a:169:C:N4	2.46	0.63
47:o:25:GLU:OE2	47:o:76:ARG:NH1	2.30	0.63
7:A:927:A:H2'	7:A:928:A:C8	2.34	0.63
27:U:20:LYS:HD2	27:U:38:ILE:HD13	1.81	0.63
34:b:18:GLN:HA	34:b:37:VAL:HA	1.81	0.63
37:e:155:LYS:HB3	40:h:70:VAL:HG13	1.81	0.63
55:w:74:C:H3'	57:y:78:ARG:HH11	1.62	0.63
3:2:4:THR:HG21	7:A:789:A:H5'	1.80	0.63
7:A:335:C:O2	27:U:67:SER:OG	2.17	0.63
7:A:1026:G:H2'	7:A:1027:A:H8	1.61	0.63
7:A:1341:G:OP2	7:A:1394:U:O2'	2.11	0.63
7:A:1712:U:H3'	7:A:1713:A:C8	2.33	0.63
7:A:2165:C:H42	7:A:2171:A:H62	1.46	0.63
10:D:148:GLN:HB2	10:D:152:PRO:HG2	1.81	0.63
7:A:249:C:O2	18:L:63:LYS:NZ	2.31	0.63
7:A:1038:G:H2'	7:A:1039:A:C8	2.34	0.63
7:A:2791:G:H2'	7:A:2792:A:H8	1.62	0.63
8:B:48:U:OP2	21:O:30:ARG:NH2	2.32	0.63
33:a:204:G:O2'	33:a:205:A:O4'	2.16	0.63
33:a:546:A:H5''	36:d:67:LEU:HD23	1.80	0.63
33:a:674:G:H2'	33:a:675:A:C8	2.33	0.63
33:a:1241:G:H2'	33:a:1242:G:H8	1.64	0.63
33:a:1347:G:H5''	41:i:108:ARG:HB2	1.79	0.63
41:i:22:PRO:HA	41:i:60:LEU:HG	1.79	0.63
7:A:270:A:N1	7:A:369:U:O2'	2.32	0.63
7:A:1079:C:H4'	7:A:1080:A:C5	2.34	0.63
7:A:2187:U:O2'	7:A:2188:U:OP1	2.17	0.63
7:A:2229:U:H2'	7:A:2230:G:H8	1.63	0.63
7:A:2333:A:OP2	29:W:73:ARG:NH2	2.32	0.63
19:M:69:PRO:HA	19:M:94:ALA:HB2	1.81	0.63
33:a:1052:U:H3	33:a:1206:G:H1	1.44	0.63
33:a:1300:G:O2'	33:a:1301:U:O5'	2.16	0.63
7:A:1869:G:N2	7:A:1872:A:OP2	2.31	0.63
39:g:73:GLU:HG2	39:g:90:VAL:HG22	1.80	0.63
42:j:53:ILE:HG22	46:n:85:ARG:HD2	1.81	0.63
7:A:580:U:H2'	7:A:581:C:C6	2.33	0.62
7:A:1219:U:H2'	7:A:1220:G:H8	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:71:ALA:HB3	10:D:73:VAL:HG12	1.81	0.62
13:G:9:VAL:HA	13:G:48:THR:HG23	1.81	0.62
33:a:550:G:O2'	44:l:115:LYS:NZ	2.32	0.62
36:d:2:ARG:HE	36:d:114:ARG:HD3	1.63	0.62
7:A:452:G:H22	7:A:458:G:H1'	1.63	0.62
33:a:1298:U:H5	39:g:113:LYS:HD3	1.64	0.62
33:a:1313:U:H2'	33:a:1314:C:H6	1.64	0.62
33:a:1435:G:H2'	33:a:1436:U:C6	2.33	0.62
7:A:704:G:O2'	7:A:727:A:N6	2.32	0.62
7:A:1168:G:O6	7:A:1181:U:O4	2.16	0.62
7:A:2102:G:H1	7:A:2187:U:H3	1.48	0.62
17:K:108:ARG:HH12	22:P:33:GLU:HA	1.63	0.62
26:T:36:LYS:NZ	26:T:79:ASP:O	2.24	0.62
33:a:80:A:H4'	33:a:81:A:OP2	1.99	0.62
33:a:1175:G:H2'	33:a:1176:A:C8	2.34	0.62
33:a:1318:A:H5'	51:s:2:ARG:NH2	2.14	0.62
7:A:370:G:O2'	7:A:424:G:OP1	2.17	0.62
7:A:1495:A:O2'	7:A:1578:U:O2'	2.17	0.62
8:B:49:C:H2'	8:B:50:A:C8	2.35	0.62
14:H:88:GLY:HA2	14:H:125:THR:HG22	1.81	0.62
25:S:66:ILE:HA	25:S:69:LEU:HD12	1.81	0.62
33:a:715:A:H2'	33:a:716:A:C8	2.35	0.62
33:a:1374:A:H4'	39:g:27:ASN:CG	2.24	0.62
33:a:1412:C:H2'	33:a:1413:A:C8	2.34	0.62
34:b:66:ILE:N	34:b:88:GLN:OE1	2.28	0.62
51:s:2:ARG:HH22	51:s:9:PHE:HD2	1.46	0.62
7:A:2314:A:H2'	7:A:2315:G:H8	1.64	0.62
7:A:2574:G:H2'	7:A:2575:C:O4'	1.99	0.62
8:B:37:C:N3	8:B:48:U:O2'	2.32	0.62
33:a:323:U:H2'	33:a:324:G:O4'	2.00	0.62
57:y:96:LYS:O	57:y:100:THR:HG23	2.00	0.62
33:a:1054:C:O2	33:a:1196:A:N6	2.33	0.62
7:A:155:A:H2'	7:A:156:A:H8	1.64	0.62
7:A:1248:G:OP1	11:E:44:ARG:NH2	2.31	0.62
33:a:617:G:N2	33:a:624:C:C2	2.68	0.62
33:a:744:C:H2'	33:a:745:G:H8	1.63	0.62
33:a:1513:A:H2'	33:a:1514:G:H8	1.64	0.62
42:j:47:GLU:OE2	46:n:76:LYS:NZ	2.33	0.62
42:j:56:HIS:ND1	42:j:57:VAL:HG23	2.15	0.62
7:A:30:G:O2'	7:A:1214:A:N3	2.25	0.62
7:A:296:U:O3'	27:U:91:LYS:NZ	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:629:G:N3	7:A:639:U:O2'	2.33	0.62
7:A:1019:U:H3	7:A:1142:A:H62	1.47	0.62
7:A:1386:C:H2'	7:A:1387:A:C8	2.35	0.62
21:O:34:HIS:HA	21:O:53:THR:OG1	1.99	0.62
33:a:1031:C:O2'	33:a:1032:G:N2	2.33	0.62
36:d:104:MET:HG3	36:d:170:LEU:HD13	1.81	0.62
7:A:364:C:N4	7:A:366:C:H41	1.88	0.62
7:A:973:A:OP2	24:R:81:LYS:NZ	2.27	0.62
33:a:82:G:H8	33:a:83:C:H4'	1.64	0.62
33:a:207:C:O4'	33:a:213:G:N1	2.32	0.62
43:k:84:MET:SD	43:k:110:THR:OG1	2.55	0.62
4:3:51:LYS:NZ	7:A:937:C:OP2	2.32	0.62
7:A:175:G:H2'	7:A:176:A:H8	1.64	0.62
7:A:1682:G:OP2	7:A:1699:G:N2	2.21	0.62
33:a:151:A:C5	33:a:171:A:C6	2.88	0.62
33:a:1157:A:N7	33:a:1180:A:N6	2.48	0.62
35:c:21:TRP:CD1	35:c:58:ARG:HG3	2.35	0.62
5:4:25:VAL:HB	5:4:35:GLN:HB2	1.81	0.61
7:A:172:A:H2'	7:A:173:A:H8	1.65	0.61
7:A:489:G:N7	25:S:49:LYS:NZ	2.48	0.61
7:A:1336:A:OP2	26:T:68:LYS:NZ	2.24	0.61
7:A:1509:A:H2'	7:A:1510:G:H8	1.65	0.61
7:A:2788:C:H2'	7:A:2789:C:C6	2.35	0.61
33:a:207:C:H4'	33:a:213:G:H22	1.60	0.61
33:a:265:G:H4'	49:q:67:SER:O	2.00	0.61
7:A:1084:A:N3	7:A:1105:U:O2'	2.31	0.61
7:A:1223:G:OP1	24:R:68:ARG:NH2	2.29	0.61
33:a:202:G:N2	33:a:215:C:H41	1.96	0.61
33:a:460:A:H2'	33:a:461:A:C4	2.34	0.61
33:a:601:G:H2'	33:a:602:A:C8	2.35	0.61
33:a:1020:G:H2'	33:a:1021:A:C8	2.35	0.61
45:m:6:ILE:HG13	45:m:7:ASN:H	1.65	0.61
7:A:587:C:O2	18:L:33:ARG:NH1	2.34	0.61
11:E:148:ILE:HB	11:E:169:VAL:HG22	1.82	0.61
33:a:150:U:H3	33:a:171:A:N6	1.97	0.61
33:a:1126:U:H3	42:j:42:LEU:HD11	1.64	0.61
7:A:2204:G:H4'	9:C:149:LYS:HD3	1.81	0.61
7:A:2278:A:OP1	19:M:10:ARG:NH2	2.32	0.61
33:a:969:A:H2'	33:a:970:C:O4'	2.00	0.61
35:c:24:ASN:ND2	35:c:27:GLU:OE2	2.32	0.61
38:f:3:HIS:CD2	38:f:65:GLU:HB3	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:591:U:O4	7:A:592:A:N6	2.34	0.61
7:A:955:PSU:OP1	19:M:86:LYS:NZ	2.30	0.61
7:A:1563:U:H2'	7:A:1564:C:C6	2.35	0.61
24:R:6:GLN:N	24:R:37:GLU:OE2	2.33	0.61
33:a:184:G:H2'	33:a:185:U:C6	2.35	0.61
33:a:207:C:O2'	33:a:213:G:C4	2.53	0.61
33:a:1005:A:H62	33:a:1024:G:H1'	1.65	0.61
33:a:1137:C:O2'	33:a:1138:G:N2	2.34	0.61
33:a:1427:C:H2'	33:a:1428:A:H8	1.66	0.61
38:f:46:GLN:HA	38:f:56:LYS:HA	1.83	0.61
42:j:30:LYS:HE3	42:j:36:VAL:HG13	1.81	0.61
2:1:29:LYS:NZ	7:A:2287:A:OP1	2.25	0.61
7:A:873:C:HO2'	19:M:64:TRP:NE1	1.99	0.61
7:A:1528:A:OP2	7:A:1543:G:N2	2.34	0.61
33:a:1015:G:O2'	33:a:1016:A:O4'	2.18	0.61
7:A:592:A:H2'	7:A:593:U:H6	1.64	0.61
7:A:1568:G:OP1	9:C:62:ARG:NH1	2.23	0.61
7:A:1682:G:H2'	7:A:1683:U:C6	2.35	0.61
7:A:2141:G:O2'	7:A:2151:U:O2'	2.08	0.61
7:A:2705:A:O2'	7:A:2852:G:OP1	2.18	0.61
33:a:202:G:H1	33:a:215:C:N4	1.99	0.61
33:a:1513:A:H2'	33:a:1514:G:C8	2.36	0.61
47:o:2:LEU:HD22	47:o:34:GLN:HB2	1.82	0.61
7:A:742:A:H2'	7:A:743:A:H8	1.65	0.61
7:A:974:G:C4	7:A:1186:G:C2	2.88	0.61
9:C:7:PRO:HB3	9:C:13:ARG:HG3	1.81	0.61
25:S:83:LYS:O	25:S:84:ARG:NH2	2.28	0.61
7:A:272:A:N6	7:A:365:U:C4	2.69	0.61
7:A:581:C:H2'	7:A:582:A:C8	2.36	0.61
7:A:1028:A:H2'	7:A:1029:A:C8	2.36	0.61
7:A:1538:G:H2'	7:A:1539:U:C6	2.35	0.61
7:A:2155:U:O2'	7:A:2157:G:N7	2.31	0.61
19:M:1:MET:HE2	19:M:44:ARG:HG2	1.83	0.61
33:a:56:U:H2'	33:a:57:G:H8	1.65	0.61
33:a:664:G:H22	33:a:741:G:H1	1.47	0.61
33:a:1006:G:H2'	33:a:1007:U:H6	1.66	0.61
33:a:1279:G:O2'	33:a:1282:C:N4	2.34	0.61
14:H:104:THR:HG23	14:H:105:ALA:H	1.66	0.61
19:M:36:VAL:HG22	28:V:82:TYR:HB2	1.82	0.61
33:a:263:A:P	52:t:73:ARG:HH12	2.23	0.61
33:a:1342:C:H2'	33:a:1343:G:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:d:9:LYS:HG2	36:d:37:PRO:HB3	1.82	0.61
38:f:38:ARG:HH22	50:r:23:LYS:HE3	1.66	0.61
55:w:68:C:N4	55:w:69:G:O6	2.34	0.61
4:3:18:LYS:NZ	7:A:652:U:OP2	2.31	0.60
7:A:565:C:OP2	24:R:80:ARG:N	2.31	0.60
7:A:720:U:H2'	7:A:721:A:C8	2.36	0.60
7:A:970:U:H2'	7:A:971:G:H8	1.65	0.60
7:A:1495:A:HO2'	7:A:1578:U:HO2'	1.48	0.60
7:A:1594:U:H2'	7:A:1595:C:C6	2.36	0.60
33:a:774:G:N1	33:a:806:C:N3	2.49	0.60
33:a:1014:A:H2'	33:a:1015:G:C4	2.36	0.60
33:a:1118:U:H1'	33:a:1179:A:C4	2.35	0.60
33:a:1149:C:H2'	33:a:1150:A:C8	2.31	0.60
40:h:47:ASP:OD1	40:h:48:PHE:N	2.34	0.60
7:A:283:G:O2'	7:A:284:U:OP1	2.17	0.60
33:a:723:U:H5''	53:u:54:ARG:HH22	1.65	0.60
33:a:1137:C:H4'	33:a:1138:G:C4	2.36	0.60
38:f:12:PRO:HA	38:f:15:SER:HB2	1.82	0.60
57:y:8:VAL:HG22	57:y:49:PRO:HG2	1.81	0.60
7:A:18:U:O4	7:A:19:A:N6	2.34	0.60
7:A:27:G:O2'	7:A:28:A:OP2	2.19	0.60
7:A:172:A:H2'	7:A:173:A:C8	2.36	0.60
21:O:24:THR:HG22	21:O:90:VAL:HG13	1.83	0.60
33:a:948:C:H2'	33:a:949:A:H8	1.65	0.60
33:a:1270:G:H2'	33:a:1271:A:H8	1.66	0.60
7:A:1842:G:H2'	7:A:1843:C:C6	2.36	0.60
7:A:2558:C:OP1	57:y:40:ARG:NH1	2.33	0.60
7:A:2579:C:O2'	10:D:136:ASN:ND2	2.35	0.60
8:B:27:C:H5''	21:O:34:HIS:HD2	1.66	0.60
19:M:21:ALA:HB1	19:M:100:LYS:HE3	1.84	0.60
33:a:1287:A:H2'	33:a:1288:A:C8	2.36	0.60
7:A:1314:C:OP1	7:A:1315:C:OP2	2.18	0.60
7:A:2142:A:H2'	7:A:2143:C:H3'	1.83	0.60
11:E:21:ARG:HG2	11:E:22:ASP:H	1.66	0.60
11:E:119:ILE:HB	11:E:187:VAL:HG12	1.83	0.60
14:H:127:GLU:O	14:H:128:HIS:ND1	2.34	0.60
33:a:35:G:O2'	44:l:114:SER:O	2.18	0.60
33:a:207:C:C1'	33:a:213:G:H1	2.15	0.60
33:a:210:C:H4'	33:a:211:G:C5	2.35	0.60
33:a:713:G:H2'	33:a:714:G:C8	2.36	0.60
33:a:806:C:H2'	33:a:807:A:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1037:C:H2'	33:a:1038:C:H6	1.67	0.60
33:a:1086:U:H3	33:a:1099:G:H22	1.49	0.60
33:a:1373:G:H5'	39:g:35:LYS:HE3	1.82	0.60
35:c:27:GLU:N	35:c:27:GLU:OE1	2.35	0.60
48:p:34:GLU:OE1	48:p:56:ARG:NH2	2.35	0.60
7:A:353:C:H2'	7:A:354:A:C8	2.35	0.60
7:A:452:G:N2	7:A:458:G:C4	2.69	0.60
7:A:1565:C:O2	7:A:1566:A:O2'	2.15	0.60
7:A:1748:C:H2'	7:A:1749:A:H8	1.66	0.60
7:A:2165:C:N4	7:A:2170:A:N7	2.47	0.60
7:A:2290:G:H2'	7:A:2291:U:C6	2.36	0.60
7:A:2313:C:H2'	7:A:2314:A:C8	2.37	0.60
33:a:1412:C:H2'	33:a:1413:A:H8	1.66	0.60
7:A:2222:C:H2'	7:A:2223:G:H8	1.67	0.60
7:A:2698:U:H2'	7:A:2699:C:C6	2.36	0.60
13:G:14:VAL:HA	13:G:26:LYS:O	2.02	0.60
33:a:29:U:H3	33:a:554:A:N6	1.98	0.60
33:a:222:C:H2'	33:a:223:A:H8	1.66	0.60
7:A:2079:U:O2'	30:X:22:ASN:OD1	2.20	0.60
33:a:41:G:H2'	33:a:42:G:H8	1.67	0.60
33:a:376:G:H2'	33:a:377:G:H8	1.66	0.60
33:a:714:G:H2'	33:a:715:A:C8	2.37	0.60
55:w:23:A:H2'	55:w:24:G:C8	2.37	0.60
7:A:418:C:H2'	7:A:419:U:C6	2.37	0.60
7:A:871:U:H2'	7:A:872:U:C6	2.36	0.60
7:A:873:C:HO2'	19:M:64:TRP:HE1	1.50	0.60
7:A:2246:G:H2'	7:A:2247:A:C8	2.36	0.60
7:A:2314:A:H2'	7:A:2315:G:C8	2.37	0.60
7:A:2743:U:O2'	13:G:152:ARG:NH1	2.30	0.60
33:a:150:U:N3	33:a:171:A:N6	2.44	0.60
33:a:184:G:H2'	33:a:185:U:H6	1.67	0.60
33:a:601:G:H2'	33:a:602:A:H8	1.66	0.60
33:a:958:A:N6	51:s:76:THR:O	2.35	0.60
35:c:59:PRO:O	35:c:62:SER:OG	2.20	0.60
37:e:78:GLY:O	37:e:120:HIS:N	2.34	0.60
3:2:3:ARG:O	3:2:6:GLN:NE2	2.35	0.60
7:A:1172:C:N3	7:A:1176:U:O4	2.35	0.60
7:A:1183:U:H2'	7:A:1184:U:C6	2.37	0.60
7:A:1231:U:H2'	7:A:1232:G:H8	1.66	0.60
7:A:1485:U:H2'	7:A:1486:U:H6	1.67	0.60
7:A:2267:A:H5''	7:A:2268:A:H5'	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:235:C:H2'	33:a:236:A:C8	2.35	0.60
33:a:269:C:H2'	33:a:270:A:H8	1.66	0.60
34:b:49:PHE:HD1	34:b:199:ILE:HD12	1.65	0.60
55:w:20:U:O3'	55:w:21:A:O4'	2.20	0.60
33:a:938:A:N3	33:a:1376:U:O2'	2.32	0.59
33:a:1343:G:H2'	33:a:1344:C:H6	1.66	0.59
34:b:77:GLU:OE1	34:b:77:GLU:N	2.27	0.59
7:A:1062:G:P	7:A:1064:C:H42	2.24	0.59
7:A:1668:A:N6	7:A:1991:U:H3	1.97	0.59
7:A:2109:U:OP1	7:A:2143:C:N4	2.34	0.59
7:A:2874:C:H5''	20:N:4:ARG:HH11	1.67	0.59
33:a:1355:G:H2'	33:a:1356:G:H8	1.67	0.59
40:h:28:SER:HB3	40:h:56:PRO:HB2	1.83	0.59
52:t:24:ARG:O	52:t:28:ARG:HG2	2.02	0.59
7:A:2142:A:N1	7:A:2149:U:C4	2.70	0.59
7:A:2514:U:H2'	7:A:2515:C:H6	1.67	0.59
7:A:2749:A:OP1	13:G:1:SER:OG	2.20	0.59
33:a:613:C:H2'	33:a:614:C:C6	2.37	0.59
33:a:1013:G:O2'	33:a:1015:G:O6	2.19	0.59
7:A:2080:A:OP1	30:X:18:SER:OG	2.21	0.59
43:k:92:ARG:NH2	43:k:111:ASP:OD2	2.30	0.59
7:A:1080:A:N6	7:A:1088:A:O4'	2.35	0.59
7:A:1548:A:H2'	7:A:1549:A:C8	2.37	0.59
7:A:1733:G:H2'	7:A:1734:G:H8	1.67	0.59
8:B:36:C:H42	8:B:49:C:H1'	1.66	0.59
19:M:21:ALA:HB2	19:M:97:GLN:HB2	1.85	0.59
33:a:129:A:O2'	33:a:131:A:OP2	2.20	0.59
33:a:1227:A:O2'	33:a:1228:C:OP1	2.18	0.59
33:a:1343:G:H2'	33:a:1344:C:C6	2.38	0.59
38:f:90:MET:SD	50:r:60:ARG:NH1	2.75	0.59
7:A:1418:G:N1	7:A:1579:A:OP2	2.32	0.59
7:A:2108:A:O2'	7:A:2109:U:O4'	2.20	0.59
17:K:110:GLU:N	17:K:110:GLU:OE1	2.33	0.59
33:a:201:G:O6	33:a:216:U:O4	2.20	0.59
33:a:1349:A:OP2	41:i:119:LYS:NZ	2.28	0.59
33:a:1391:U:H2'	33:a:1392:G:C8	2.38	0.59
33:a:1512:U:H2'	33:a:1513:A:C8	2.38	0.59
45:m:22:TYR:N	45:m:65:GLU:OE2	2.36	0.59
7:A:514:A:H2'	7:A:515:A:C8	2.37	0.59
7:A:1039:A:H61	7:A:1116:G:H1	1.49	0.59
7:A:1926:U:O2'	7:A:1928:A:N7	2.26	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2070:A:H2'	7:A:2071:A:H8	1.66	0.59
7:A:2125:G:N2	7:A:2171:A:O2'	2.35	0.59
11:E:17:THR:HG23	11:E:18:THR:HG23	1.85	0.59
33:a:593:U:H2'	33:a:594:U:H6	1.68	0.59
7:A:1068:G:O2'	7:A:1096:A:OP1	2.20	0.59
7:A:1877:A:O2'	7:A:1878:G:OP1	2.17	0.59
7:A:2299:U:OP2	12:F:70:ARG:NH2	2.35	0.59
7:A:2820:A:OP2	20:N:2:ARG:NH1	2.36	0.59
7:A:2846:G:H2'	7:A:2847:U:C6	2.38	0.59
31:Y:21:LEU:HA	31:Y:25:GLN:HB3	1.85	0.59
33:a:154:U:O4	33:a:155:A:N6	2.36	0.59
33:a:984:C:N3	33:a:1222:G:N2	2.51	0.59
34:b:220:VAL:O	34:b:224:ARG:HG2	2.03	0.59
7:A:1278:C:H2'	7:A:1279:G:H8	1.68	0.59
33:a:45:G:H2'	33:a:46:G:H8	1.67	0.59
33:a:211:G:C4	33:a:212:G:H1'	2.38	0.59
33:a:521:G:OP2	44:l:50:LYS:NZ	2.26	0.59
33:a:810:C:H2'	33:a:811:C:O4'	2.01	0.59
57:y:17:ILE:HD11	57:y:39:LEU:HD12	1.85	0.59
4:3:29:ARG:O	7:A:2420:C:N4	2.29	0.59
7:A:78:U:H2'	7:A:79:C:C6	2.38	0.59
7:A:1683:U:H2'	7:A:1684:G:H8	1.68	0.59
7:A:2120:G:N2	7:A:2179:C:OP2	2.36	0.59
7:A:2258:C:O2'	7:A:2427:C:OP2	2.20	0.59
33:a:151:A:N7	33:a:171:A:C6	2.71	0.59
7:A:481:G:H1'	7:A:506:G:H21	1.67	0.58
7:A:546:U:O2'	7:A:547:A:O4'	2.20	0.58
7:A:974:G:O5'	24:R:78:ARG:NH2	2.37	0.58
7:A:1444:G:H2'	7:A:1445:G:H8	1.68	0.58
7:A:2485:G:OP1	19:M:45:GLN:NE2	2.28	0.58
25:S:29:VAL:HB	25:S:55:ILE:HD11	1.84	0.58
33:a:19:A:OP1	37:e:134:ASN:ND2	2.36	0.58
33:a:736:C:H2'	33:a:737:C:H6	1.68	0.58
33:a:1447:A:H62	52:t:23:ARG:HH22	1.51	0.58
54:v:8:ILE:HD12	54:v:9:PRO:HD2	1.83	0.58
7:A:274:C:O2'	7:A:275:C:O5'	2.21	0.58
7:A:300:A:OP2	27:U:81:ARG:NH2	2.36	0.58
7:A:948:C:H2'	7:A:949:G:C8	2.36	0.58
7:A:2748:A:H4'	13:G:3:VAL:HG21	1.83	0.58
9:C:83:ASP:OD2	9:C:86:ARG:NH1	2.34	0.58
11:E:125:SER:O	11:E:137:LYS:NZ	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:116:ARG:O	16:J:120:ARG:NH2	2.36	0.58
24:R:2:TYR:H	24:R:42:ALA:HB3	1.65	0.58
33:a:539:A:H2'	33:a:540:G:C8	2.38	0.58
35:c:48:LYS:O	35:c:71:ARG:NH1	2.36	0.58
35:c:129:PHE:HE2	35:c:165:GLU:HG3	1.68	0.58
41:i:35:GLU:OE2	41:i:48:ARG:NH1	2.36	0.58
7:A:1140:C:O3'	16:J:27:ARG:NH2	2.32	0.58
7:A:2557:G:H2'	7:A:2558:C:C6	2.38	0.58
33:a:152:A:N6	33:a:169:C:C4	2.71	0.58
33:a:390:U:O3'	48:p:28:ARG:NH1	2.30	0.58
33:a:1012:A:N6	33:a:1018:G:O6	2.36	0.58
33:a:1147:C:H2'	33:a:1148:U:H6	1.69	0.58
36:d:158:LEU:HD21	36:d:174:ALA:HA	1.85	0.58
44:l:81:ILE:HG23	44:l:94:TYR:HB3	1.84	0.58
46:n:66:GLN:HG3	46:n:79:LEU:HD22	1.85	0.58
57:y:15:LEU:HD11	57:y:39:LEU:HD11	1.84	0.58
57:y:20:ILE:HG13	57:y:36:ALA:HB3	1.84	0.58
7:A:1223:G:C6	7:A:1227:G:C6	2.92	0.58
18:L:29:LYS:O	18:L:30:THR:OG1	2.18	0.58
33:a:1315:U:H2'	33:a:1316:G:C8	2.38	0.58
41:i:106:ASP:OD1	41:i:108:ARG:NH1	2.36	0.58
55:w:37:MIA:H3'	55:w:38:A:H8	1.69	0.58
7:A:141:G:H4'	7:A:142:A:OP1	2.03	0.58
7:A:182:A:H2'	7:A:183:C:H6	1.69	0.58
7:A:291:G:H1	7:A:349:U:H3	1.52	0.58
7:A:715:A:H5''	47:o:88:ARG:NH2	2.18	0.58
7:A:721:A:H2'	7:A:722:A:C8	2.38	0.58
7:A:721:A:H2'	7:A:722:A:H8	1.69	0.58
7:A:1084:A:H2'	7:A:1085:A:C8	2.39	0.58
7:A:1454:C:O5'	20:N:63:ARG:NH1	2.37	0.58
7:A:2718:G:O2'	7:A:2847:U:OP1	2.20	0.58
33:a:911:U:OP2	44:l:93:ARG:NH2	2.35	0.58
33:a:1323:G:H2'	33:a:1324:A:C8	2.38	0.58
33:a:1375:A:C5'	39:g:24:LYS:HE3	2.30	0.58
33:a:1432:G:H21	33:a:1469:C:H41	1.49	0.58
7:A:75:G:H22	7:A:111:A:H2	1.49	0.58
7:A:1028:A:H2'	7:A:1029:A:H8	1.69	0.58
7:A:1219:U:H2'	7:A:1220:G:C8	2.39	0.58
12:F:57:ALA:HB2	12:F:64:PRO:HD3	1.84	0.58
33:a:198:G:H2'	33:a:199:A:C8	2.38	0.58
33:a:511:C:O2'	33:a:512:U:O5'	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:707:U:H2'	33:a:708:C:C6	2.39	0.58
33:a:858:G:H8	33:a:858:G:O5'	1.85	0.58
7:A:521:U:H2'	7:A:522:A:C8	2.37	0.58
7:A:1556:C:N3	7:A:1557:C:N4	2.52	0.58
7:A:1907:G:O6	7:A:1924:C:N4	2.37	0.58
7:A:2505:G:N2	7:A:2506:U:O4	2.33	0.58
7:A:2688:G:N1	7:A:2720:U:OP2	2.27	0.58
8:B:48:U:H4'	21:O:100:HIS:HD2	1.68	0.58
33:a:978:A:N7	33:a:1318:A:N6	2.51	0.58
35:c:34:SER:OG	35:c:58:ARG:NH1	2.37	0.58
7:A:1252:G:N2	23:Q:32:ARG:O	2.37	0.58
7:A:1361:G:H2'	7:A:1362:C:C6	2.39	0.58
7:A:1515:A:H3'	7:A:1516:G:H8	1.67	0.58
7:A:2081:U:H2'	7:A:2082:A:H8	1.69	0.58
28:V:4:ILE:HG12	28:V:50:MET:HE1	1.86	0.58
33:a:210:C:H4'	33:a:211:G:C4	2.39	0.58
33:a:222:C:H2'	33:a:223:A:C8	2.39	0.58
33:a:1068:G:OP1	33:a:1387:G:O2'	2.21	0.58
33:a:1313:U:H2'	33:a:1314:C:C6	2.39	0.58
33:a:1317:C:H5''	46:n:48:LEU:HD11	1.84	0.58
38:f:97:THR:O	38:f:97:THR:OG1	2.22	0.58
7:A:265:A:O2'	7:A:428:A:N6	2.32	0.58
7:A:1060:U:O2'	7:A:1071:G:OP1	2.13	0.58
7:A:1248:G:P	11:E:44:ARG:HH22	2.27	0.58
7:A:1712:U:H3'	7:A:1713:A:H8	1.67	0.58
10:D:5:VAL:HG12	10:D:202:ILE:HG13	1.84	0.58
33:a:207:C:O2	33:a:213:G:O6	2.20	0.58
33:a:462:G:H2'	33:a:463:U:C2	2.39	0.58
33:a:754:C:OP1	47:o:71:ARG:NH2	2.37	0.58
7:A:151:C:H2'	7:A:152:A:H8	1.69	0.58
7:A:155:A:H2'	7:A:156:A:C8	2.39	0.58
7:A:451:U:N3	7:A:453:A:N7	2.52	0.58
7:A:1816:C:N4	9:C:34:GLU:OE2	2.33	0.58
7:A:2245:U:H5''	7:A:2246:G:H5'	1.86	0.58
32:Z:15:ARG:HG3	32:Z:53:MET:HE1	1.85	0.58
33:a:254:G:O3'	49:q:70:LYS:NZ	2.36	0.58
33:a:398:U:H2'	33:a:399:G:H8	1.69	0.58
33:a:413:G:H1'	33:a:428:G:H21	1.69	0.58
33:a:950:U:H3'	45:m:100:ARG:NH2	2.18	0.58
33:a:978:A:H61	33:a:1316:G:H1'	1.68	0.58
33:a:1041:G:H2'	33:a:1042:A:H8	1.66	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:856:G:H2'	7:A:857:G:C8	2.38	0.57
7:A:1061:U:H3'	7:A:1062:G:C5'	2.34	0.57
7:A:1361:G:H2'	7:A:1362:C:H6	1.69	0.57
7:A:1843:C:H2'	7:A:1844:C:H6	1.69	0.57
7:A:2131:U:O2'	7:A:2133:G:N3	2.37	0.57
7:A:2377:A:O2'	21:O:117:PHE:OXT	2.17	0.57
9:C:97:ASP:OD1	9:C:97:ASP:N	2.37	0.57
33:a:1241:G:H2'	33:a:1242:G:C8	2.39	0.57
51:s:11:ASP:OD1	51:s:12:LEU:N	2.37	0.57
4:3:15:LYS:HE2	4:3:19:GLY:HA2	1.86	0.57
7:A:2251:OMG:OP2	19:M:81:ARG:NH1	2.37	0.57
14:H:100:ALA:HB2	14:H:115:VAL:HG21	1.84	0.57
33:a:509:A:OP1	36:d:48:SER:OG	2.22	0.57
33:a:632:U:H5'	33:a:633:G:H8	1.69	0.57
33:a:1233:G:H2'	33:a:1234:C:C6	2.39	0.57
33:a:1240:U:O4	39:g:108:ARG:NH1	2.22	0.57
36:d:17:ASP:OD1	36:d:18:LEU:N	2.37	0.57
40:h:28:SER:OG	40:h:29:SER:N	2.37	0.57
42:j:53:ILE:HG23	42:j:63:ASP:HB2	1.86	0.57
57:y:14:GLU:HG3	57:y:41:PHE:CE2	2.39	0.57
3:2:3:ARG:NE	7:A:1613:G:O2'	2.34	0.57
7:A:810:U:OP1	7:A:1253:A:N7	2.37	0.57
7:A:1064:C:HO2'	7:A:1075:C:N4	2.01	0.57
7:A:1416:G:H2'	7:A:1417:C:C6	2.39	0.57
7:A:2070:A:H2'	7:A:2071:A:C8	2.39	0.57
7:A:2291:U:OP1	7:A:2380:C:O2'	2.22	0.57
8:B:44:G:N2	8:B:48:U:C2	2.72	0.57
33:a:149:A:H2'	33:a:150:U:C6	2.39	0.57
33:a:153:C:O2	33:a:169:C:N3	2.38	0.57
33:a:977:A:N6	33:a:1224:U:O5'	2.36	0.57
33:a:1060:U:OP1	46:n:85:ARG:NH2	2.37	0.57
33:a:1081:A:OP2	37:e:51:LYS:NZ	2.37	0.57
48:p:21:VAL:HG21	48:p:60:TRP:CD1	2.39	0.57
7:A:45:G:H5'	7:A:46:G:OP1	2.05	0.57
7:A:577:G:O2'	7:A:1254:A:OP1	2.22	0.57
7:A:672:C:C2	7:A:809:G:N2	2.72	0.57
7:A:2522:U:O2'	7:A:2647:U:OP1	2.18	0.57
7:A:2791:G:H2'	7:A:2792:A:C8	2.39	0.57
32:Z:10:ARG:HB2	32:Z:53:MET:HB2	1.87	0.57
33:a:147:G:H2'	33:a:148:G:H8	1.70	0.57
33:a:444:G:H2'	33:a:445:G:O4'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1217:C:H2'	33:a:1218:C:C6	2.39	0.57
49:q:27:PHE:HE1	49:q:38:LYS:HG2	1.69	0.57
7:A:1196:C:C2	7:A:1197:G:C8	2.92	0.57
7:A:2233:U:H2'	7:A:2234:G:C8	2.38	0.57
7:A:2572:A:OP2	10:D:149:ASN:HB3	2.03	0.57
7:A:2676:C:O2	7:A:2732:G:N2	2.30	0.57
11:E:106:LYS:NZ	11:E:201:ALA:OXT	2.32	0.57
31:Y:19:LEU:HG	31:Y:23:ARG:HD3	1.85	0.57
33:a:204:G:H22	33:a:465:A:H1'	1.68	0.57
33:a:711:G:H2'	33:a:712:A:C8	2.40	0.57
33:a:1125:U:H2'	33:a:1126:U:H2'	1.85	0.57
33:a:1129:C:H4'	33:a:1130:A:OP1	2.04	0.57
33:a:1160:G:H8	33:a:1182:G:H22	1.47	0.57
45:m:10:ASP:OD1	45:m:10:ASP:N	2.33	0.57
7:A:571:U:C4	7:A:575:A:C5	2.93	0.57
7:A:579:G:H2'	7:A:580:U:C6	2.39	0.57
7:A:592:A:H2'	7:A:593:U:C6	2.39	0.57
7:A:1172:C:O2	7:A:1176:U:N3	2.36	0.57
7:A:1199:U:H2'	7:A:1200:C:H6	1.69	0.57
7:A:1332:G:N7	7:A:1609:A:O2'	2.32	0.57
7:A:2243:U:H2'	7:A:2244:U:C6	2.39	0.57
7:A:2329:U:H2'	7:A:2330:G:H8	1.69	0.57
19:M:86:LYS:HG2	19:M:87:GLY:H	1.70	0.57
33:a:160:A:H2'	33:a:161:A:C8	2.40	0.57
35:c:92:ASP:OD1	35:c:93:ILE:N	2.36	0.57
7:A:833:A:H2'	7:A:834:G:C8	2.40	0.57
7:A:2455:G:H2'	7:A:2456:C:C6	2.40	0.57
9:C:88:ALA:HB2	9:C:157:ALA:HA	1.85	0.57
13:G:21:GLN:NE2	13:G:37:ASN:O	2.37	0.57
33:a:1124:G:O6	33:a:1150:A:N6	2.38	0.57
47:o:69:LEU:HG	47:o:77:TYR:HB2	1.87	0.57
7:A:136:G:O6	7:A:144:A:N6	2.37	0.57
7:A:184:C:H2'	7:A:185:G:H8	1.70	0.57
7:A:208:C:H2'	7:A:209:C:H6	1.69	0.57
7:A:535:G:O3'	23:Q:52:ARG:NH1	2.38	0.57
7:A:1071:G:H2'	7:A:1072:C:C4	2.40	0.57
7:A:2047:C:H2'	7:A:2048:G:H8	1.68	0.57
7:A:2620:C:O2'	10:D:162:ALA:O	2.20	0.57
7:A:2857:G:N2	7:A:2860:A:OP2	2.33	0.57
11:E:7:ASP:OD1	11:E:7:ASP:N	2.38	0.57
18:L:128:THR:OG1	18:L:129:LYS:N	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:49:GLU:OE2	20:N:95:THR:OG1	2.23	0.57
55:w:14:A:H3'	55:w:15:G:C8	2.39	0.57
7:A:537:G:H22	7:A:555:G:H2'	1.69	0.57
7:A:1000:A:H2'	7:A:1001:A:C8	2.40	0.57
7:A:1746:A:H2'	7:A:1747:U:C6	2.40	0.57
7:A:2033:A:O2'	7:A:2035:G:OP2	2.22	0.57
7:A:2627:G:O2'	7:A:2781:A:N1	2.36	0.57
8:B:39:A:C2	8:B:44:G:C2	2.92	0.57
10:D:151:THR:HB	10:D:152:PRO:HD3	1.85	0.57
13:G:11:PRO:HD2	13:G:14:VAL:HG21	1.87	0.57
28:V:51:GLN:OE1	28:V:57:TYR:OH	2.22	0.57
33:a:691:G:O6	43:k:56:LYS:NZ	2.26	0.57
33:a:1368:A:H5''	46:n:101:TRP:HZ2	1.70	0.57
39:g:71:THR:HA	39:g:95:ARG:NH1	2.20	0.57
55:w:62:C:H2'	55:w:63:G:H8	1.69	0.57
7:A:191:A:H2'	7:A:192:C:H6	1.70	0.57
7:A:419:U:H2'	7:A:420:C:C6	2.40	0.57
7:A:511:U:O2'	7:A:1215:G:N2	2.37	0.57
7:A:639:U:H2'	7:A:640:C:C6	2.39	0.57
7:A:669:G:HO2'	7:A:670:A:P	2.28	0.57
7:A:1220:G:H2'	7:A:1221:C:H6	1.70	0.57
7:A:1529:G:O6	7:A:1542:U:O4	2.23	0.57
33:a:259:G:H2'	33:a:260:G:H8	1.68	0.57
33:a:1148:U:H2'	33:a:1149:C:O4'	2.05	0.57
33:a:1160:G:O6	33:a:1176:A:N1	2.38	0.57
33:a:1179:A:H2'	33:a:1180:A:C8	2.39	0.57
34:b:45:THR:OG1	34:b:200:PRO:O	2.16	0.57
36:d:54:LEU:O	36:d:58:GLN:HG2	2.05	0.57
38:f:14:GLN:OE1	38:f:14:GLN:N	2.37	0.57
7:A:310:A:O2'	7:A:311:A:H2'	2.04	0.56
7:A:743:A:O2'	7:A:1659:G:OP1	2.21	0.56
7:A:760:G:H2'	7:A:761:A:O4'	2.05	0.56
7:A:1106:G:H2'	7:A:1107:G:C8	2.37	0.56
7:A:1590:A:H2'	7:A:1591:A:H8	1.69	0.56
7:A:2354:C:H2'	7:A:2355:G:H8	1.70	0.56
7:A:2870:C:H2'	7:A:2871:U:O4'	2.05	0.56
9:C:79:ARG:NH1	9:C:81:GLU:OE2	2.38	0.56
11:E:31:VAL:HG22	11:E:96:VAL:HG21	1.87	0.56
31:Y:39:GLN:OE1	31:Y:39:GLN:N	2.38	0.56
32:Z:3:THR:HG22	32:Z:38:GLU:HA	1.87	0.56
33:a:142:G:H2'	33:a:143:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:323:U:OP1	52:t:24:ARG:NH2	2.34	0.56
33:a:642:A:C5	40:h:106:SER:HA	2.40	0.56
33:a:1217:C:OP1	46:n:8:ARG:NE	2.33	0.56
33:a:1222:G:OP1	33:a:1321:U:O2'	2.19	0.56
33:a:1224:U:O2'	33:a:1322:C:OP1	2.20	0.56
7:A:208:C:H2'	7:A:209:C:C6	2.39	0.56
7:A:1283:G:H22	7:A:1286:A:H5'	1.70	0.56
7:A:1656:C:H2'	7:A:1657:U:H6	1.69	0.56
7:A:1987:A:H2'	7:A:1988:G:H8	1.69	0.56
16:J:34:ARG:HG3	16:J:39:LYS:HB2	1.87	0.56
33:a:1021:A:O2'	33:a:1022:A:OP1	2.20	0.56
35:c:84:GLU:OE1	35:c:87:ARG:NH2	2.36	0.56
42:j:30:LYS:HD3	42:j:34:ALA:HA	1.87	0.56
48:p:18:GLN:OE1	48:p:35:ARG:NH2	2.37	0.56
4:3:4:LYS:NZ	7:A:253:C:OP2	2.33	0.56
7:A:974:G:H8	7:A:990:A:H62	1.54	0.56
7:A:1057:A:OP1	7:A:1071:G:N2	2.38	0.56
7:A:1746:A:H2'	7:A:1747:U:H6	1.69	0.56
7:A:1843:C:H2'	7:A:1844:C:C6	2.40	0.56
9:C:170:TYR:HD1	9:C:184:GLU:HA	1.71	0.56
10:D:55:LYS:HB2	10:D:75:ALA:HB1	1.87	0.56
10:D:110:THR:HG1	10:D:202:ILE:HB	1.70	0.56
13:G:8:VAL:HG13	13:G:49:LEU:HB2	1.86	0.56
27:U:33:VAL:HG13	27:U:66:VAL:HG12	1.87	0.56
27:U:93:ARG:HB3	27:U:102:ILE:HD12	1.87	0.56
28:V:35:GLU:OE1	28:V:93:ARG:NH1	2.38	0.56
33:a:27:G:H2'	33:a:28:A:C8	2.41	0.56
33:a:339:C:H2'	33:a:340:U:C6	2.40	0.56
33:a:711:G:H2'	33:a:712:A:H8	1.69	0.56
33:a:944:G:N1	33:a:1338:G:OP2	2.37	0.56
35:c:23:ALA:HB1	35:c:27:GLU:HG2	1.86	0.56
42:j:84:VAL:HB	42:j:88:MET:HE2	1.88	0.56
57:y:8:VAL:HG11	57:y:52:TYR:CE2	2.41	0.56
3:2:21:ARG:HG3	3:2:43:THR:HG21	1.86	0.56
5:4:2:LYS:NZ	7:A:2478:A:OP2	2.37	0.56
7:A:200:U:O4	7:A:250:G:N2	2.38	0.56
7:A:605:G:OP1	11:E:99:LYS:NZ	2.36	0.56
7:A:1779:U:H5	7:A:1784:A:N7	2.03	0.56
7:A:1870:C:H2'	7:A:1871:A:C8	2.40	0.56
7:A:2163:A:H4'	7:A:2171:A:H5''	1.86	0.56
7:A:2262:U:H2'	7:A:2263:C:H6	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2531:A:H61	7:A:2662:A:H61	1.52	0.56
20:N:96:ARG:NH2	20:N:114:GLU:OE2	2.37	0.56
33:a:21:G:H2'	33:a:22:G:C8	2.40	0.56
33:a:255:G:H2'	33:a:256:U:C6	2.41	0.56
33:a:1036:A:H2'	33:a:1037:C:C6	2.41	0.56
33:a:1147:C:H4'	41:i:6:TYR:CE2	2.41	0.56
38:f:47:LEU:HD13	38:f:51:ILE:HD12	1.86	0.56
48:p:23:ASP:HB3	48:p:26:ASN:ND2	2.20	0.56
7:A:288:U:H2'	7:A:289:G:C8	2.40	0.56
7:A:665:U:H2'	7:A:666:A:H8	1.70	0.56
7:A:843:G:H2'	7:A:844:A:C8	2.40	0.56
7:A:1936:A:H2	7:A:1943:U:H3	1.54	0.56
33:a:19:A:H2'	33:a:20:U:C6	2.40	0.56
33:a:82:G:H2'	33:a:83:C:H4'	1.87	0.56
33:a:518:C:OP2	33:a:530:G:O2'	2.23	0.56
33:a:1004:A:H3'	33:a:1005:A:H8	1.70	0.56
33:a:1129:C:N4	33:a:1139:G:O2'	2.38	0.56
42:j:65:TYR:HE2	46:n:89:MET:HE3	1.71	0.56
44:l:37:TYR:CE1	44:l:53:ARG:HG2	2.41	0.56
46:n:79:LEU:HB2	46:n:84:VAL:HG23	1.88	0.56
7:A:458:G:O2'	7:A:469:G:N1	2.36	0.56
7:A:878:A:H3'	7:A:879:G:C8	2.40	0.56
7:A:1086:A:O2'	7:A:1087:G:N2	2.36	0.56
7:A:1104:C:H2'	7:A:1105:U:C6	2.39	0.56
7:A:1363:C:O2'	7:A:1809:A:N3	2.33	0.56
7:A:1570:A:H2'	7:A:1571:A:C8	2.41	0.56
7:A:1667:G:N2	7:A:1992:G:OP2	2.38	0.56
8:B:37:C:O2	21:O:100:HIS:NE2	2.38	0.56
9:C:144:GLU:HG3	9:C:151:GLY:N	2.19	0.56
13:G:6:ALA:O	13:G:68:ARG:NE	2.38	0.56
33:a:201:G:H2'	33:a:202:G:C8	2.40	0.56
33:a:735:C:H2'	33:a:736:C:H6	1.71	0.56
33:a:781:A:OP1	43:k:124:LYS:NZ	2.37	0.56
33:a:1187:G:H2'	33:a:1188:A:C8	2.41	0.56
33:a:1236:A:H2'	33:a:1237:C:C6	2.40	0.56
33:a:1316:G:N1	33:a:1319:A:OP2	2.38	0.56
45:m:82:LEU:HD22	51:s:65:MET:HB3	1.86	0.56
4:3:53:ASP:HB3	18:L:57:LEU:HD22	1.87	0.56
7:A:861:A:N3	8:B:79:G:O2'	2.36	0.56
11:E:97:ASN:ND2	11:E:100:MET:SD	2.79	0.56
33:a:579:A:H2'	33:a:580:C:H6	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:j:6:ILE:O	42:j:75:ASP:HA	2.06	0.56
7:A:1646:C:H5''	7:A:1647:U:H5'	1.88	0.56
8:B:18:G:H2'	8:B:19:C:C6	2.41	0.56
30:X:7:THR:HG23	30:X:9:LYS:HG3	1.88	0.56
33:a:211:G:C5	33:a:212:G:H1'	2.40	0.56
33:a:401:C:H2'	33:a:402:G:H8	1.70	0.56
33:a:477:C:N4	33:a:478:A:H62	2.04	0.56
33:a:582:C:OP2	33:a:758:C:N4	2.35	0.56
33:a:624:C:H2'	33:a:625:U:C6	2.40	0.56
33:a:728:A:H2'	33:a:729:A:H8	1.70	0.56
33:a:746:A:H2'	33:a:747:A:C8	2.40	0.56
33:a:1237:C:O2'	33:a:1334:G:N2	2.38	0.56
33:a:1387:G:H2'	33:a:1388:C:C6	2.41	0.56
36:d:94:GLU:HA	36:d:99:ASN:HD22	1.69	0.56
39:g:69:ARG:NH2	39:g:96:ASN:OD1	2.39	0.56
50:r:43:ILE:HG22	50:r:44:THR:HG23	1.88	0.56
7:A:1057:A:OP2	7:A:1089:A:N6	2.38	0.56
7:A:1084:A:H2'	7:A:1085:A:H8	1.70	0.56
7:A:1323:C:N4	7:A:1324:G:O6	2.39	0.56
7:A:1400:U:H2'	7:A:1401:G:H8	1.70	0.56
7:A:2186:G:H8	7:A:2186:G:OP2	1.89	0.56
7:A:2720:U:C2	7:A:2721:A:C8	2.94	0.56
8:B:33:G:H2'	8:B:34:A:C8	2.41	0.56
9:C:140:VAL:HG12	9:C:191:LEU:HD23	1.88	0.56
35:c:22:PHE:CE2	42:j:11:LYS:HB3	2.40	0.56
36:d:187:ARG:NH1	36:d:187:ARG:O	2.38	0.56
7:A:692:C:H5''	9:C:38:LYS:HB2	1.88	0.56
7:A:992:C:OP1	23:Q:46:TYR:OH	2.15	0.56
7:A:1651:G:H4'	20:N:39:PRO:HG2	1.88	0.56
7:A:2500:U:O2'	7:A:2504:PSU:OP1	2.24	0.56
7:A:2684:U:H4'	17:K:76:VAL:HG21	1.87	0.56
9:C:141:HIS:CD2	9:C:142:ASN:HB2	2.41	0.56
33:a:20:U:H2'	33:a:21:G:O4'	2.06	0.56
33:a:56:U:H2'	33:a:57:G:C8	2.40	0.56
33:a:846:G:H2'	33:a:847:G:C8	2.41	0.56
33:a:1279:G:OP1	42:j:9:ARG:NH1	2.39	0.56
33:a:1291:U:OP1	39:g:36:SER:OG	2.20	0.56
35:c:32:LEU:HD21	46:n:93:ILE:HG13	1.88	0.56
38:f:49:TYR:HE2	38:f:86:ARG:HH22	1.54	0.56
57:y:27:GLY:O	57:y:31:ASN:ND2	2.38	0.56
1:0:40:HIS:NE2	7:A:2884:U:OP2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:111:U:H2'	8:B:112:G:H8	1.71	0.55
24:R:6:GLN:HB3	24:R:11:GLN:HG2	1.88	0.55
33:a:749:A:H2'	33:a:750:C:C6	2.42	0.55
33:a:1347:G:O2'	33:a:1348:U:O5'	2.25	0.55
33:a:1353:G:H2'	33:a:1354:U:C6	2.41	0.55
34:b:172:ILE:HD13	34:b:195:VAL:HG12	1.88	0.55
55:w:27:G:H2'	55:w:28:G:C8	2.40	0.55
55:w:76:A:H5'	57:y:27:GLY:HA3	1.88	0.55
7:A:722:A:H2'	7:A:723:C:C6	2.40	0.55
7:A:1009:A:N3	7:A:1153:C:O2'	2.37	0.55
7:A:2099:U:O4	7:A:2190:G:O6	2.24	0.55
26:T:2:ILE:HB	26:T:7:LEU:HD11	1.87	0.55
33:a:1006:G:N1	33:a:1023:U:N3	2.45	0.55
33:a:1070:U:H2'	33:a:1071:C:C6	2.41	0.55
33:a:1118:U:H2'	33:a:1119:C:H6	1.72	0.55
33:a:1215:G:C2	33:a:1216:A:C8	2.94	0.55
42:j:5:ARG:HD3	42:j:78:GLU:H	1.71	0.55
48:p:39:PHE:HA	48:p:49:GLY:O	2.07	0.55
7:A:116:C:O2'	7:A:126:A:H1'	2.07	0.55
7:A:291:G:H2'	7:A:292:U:C6	2.41	0.55
7:A:1278:C:H2'	7:A:1279:G:C8	2.42	0.55
7:A:2128:G:H2'	7:A:2129:C:C4'	2.36	0.55
14:H:7:ASP:OD1	14:H:8:LYS:N	2.36	0.55
33:a:187:G:N2	33:a:190:A:OP2	2.37	0.55
33:a:847:G:H2'	33:a:848:C:C6	2.42	0.55
33:a:867:G:H2'	33:a:868:C:C6	2.41	0.55
33:a:978:A:C2	33:a:1319:A:C4	2.94	0.55
33:a:1249:C:O2	33:a:1288:A:N6	2.39	0.55
33:a:1517:G:H2'	33:a:1518:MA6:C8	2.36	0.55
7:A:296:U:H2'	7:A:297:G:H8	1.71	0.55
7:A:1168:G:H2'	7:A:1169:A:C8	2.38	0.55
7:A:1518:C:H2'	7:A:1519:G:H8	1.71	0.55
7:A:1748:C:H2'	7:A:1749:A:C8	2.41	0.55
7:A:2117:A:N6	7:A:2163:A:OP1	2.39	0.55
7:A:2645:G:OP2	7:A:2645:G:N2	2.31	0.55
14:H:104:THR:HG21	14:H:109:GLU:HB2	1.88	0.55
33:a:375:U:H5''	48:p:70:ARG:HG3	1.88	0.55
33:a:599:C:H2'	33:a:600:A:H8	1.72	0.55
33:a:1268:G:O2'	33:a:1269:A:O4'	2.16	0.55
33:a:1298:U:O2	33:a:1299:A:N6	2.39	0.55
35:c:19:SER:HB3	35:c:21:TRP:NE1	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r:21:ASP:OD1	50:r:22:TYR:N	2.40	0.55
50:r:54:LEU:O	50:r:58:ILE:HG12	2.05	0.55
7:A:271:G:O2'	7:A:272:A:O5'	2.18	0.55
7:A:608:A:OP2	7:A:619:G:N1	2.30	0.55
7:A:927:A:H2'	7:A:928:A:H8	1.70	0.55
7:A:971:G:O2'	7:A:983:A:N3	2.37	0.55
7:A:989:G:H5''	32:Z:13:ILE:HD11	1.88	0.55
7:A:2809:A:H2'	7:A:2810:A:C8	2.41	0.55
7:A:2898:U:H2'	7:A:2899:A:H8	1.71	0.55
11:E:145:ASP:O	11:E:184:ASP:HB3	2.06	0.55
33:a:105:G:H2'	33:a:106:C:C6	2.41	0.55
41:i:54:VAL:HG23	41:i:55:ASP:H	1.71	0.55
41:i:115:VAL:HG11	42:j:62:ARG:HB2	1.89	0.55
44:l:33:CYS:HA	44:l:54:VAL:HG22	1.89	0.55
7:A:464:U:H1'	7:A:686:U:H5	1.71	0.55
7:A:1765:U:H2'	7:A:1766:G:H8	1.71	0.55
9:C:204:LEU:O	9:C:206:LYS:N	2.35	0.55
33:a:13:U:OP1	57:y:129:LYS:NZ	2.39	0.55
33:a:858:G:N2	33:a:870:U:OP2	2.37	0.55
33:a:876:C:H4'	40:h:14:ARG:HH22	1.72	0.55
33:a:918:A:H2'	33:a:919:A:C8	2.41	0.55
33:a:1297:G:N2	39:g:113:LYS:O	2.39	0.55
33:a:1338:G:N3	55:w:41:C:O2'	2.36	0.55
36:d:98:ASP:OD1	36:d:98:ASP:N	2.38	0.55
46:n:64:CYS:HA	46:n:73:PHE:HE1	1.71	0.55
7:A:352:A:H2'	7:A:353:C:C6	2.41	0.55
7:A:397:U:OP2	30:X:9:LYS:NZ	2.39	0.55
7:A:801:G:N7	11:E:50:ALA:HB2	2.22	0.55
7:A:850:U:H3	7:A:927:A:H61	1.53	0.55
7:A:1779:U:H5''	7:A:1780:A:H5''	1.89	0.55
8:B:116:G:H2'	8:B:117:G:C8	2.42	0.55
26:T:28:ASN:ND2	26:T:88:LYS:O	2.40	0.55
33:a:1140:C:H2'	33:a:1141:C:C6	2.42	0.55
33:a:1310:G:OP1	45:m:78:ARG:NH2	2.28	0.55
7:A:522:A:H2'	7:A:523:C:C6	2.42	0.55
7:A:631:A:N3	7:A:2415:G:O2'	2.37	0.55
7:A:850:U:O2'	32:Z:22:THR:HA	2.07	0.55
7:A:1914:C:O2'	7:A:1915:3TD:OP1	2.21	0.55
7:A:2025:C:H2'	7:A:2026:U:C6	2.41	0.55
7:A:2063:C:HO2'	55:w:76:A:HO3'	1.55	0.55
7:A:2136:G:H3'	7:A:2137:U:C5	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1071:C:H2'	33:a:1072:G:C8	2.40	0.55
38:f:87:SER:O	50:r:63:TYR:OH	2.21	0.55
39:g:39:GLU:OE2	41:i:40:ARG:NE	2.38	0.55
39:g:49:LEU:HD21	39:g:60:ALA:HB3	1.88	0.55
4:3:23:HIS:ND1	4:3:24:LYS:O	2.40	0.55
7:A:116:C:O2'	7:A:126:A:N3	2.40	0.55
7:A:328:U:H4'	27:U:65:GLN:HG3	1.88	0.55
7:A:1036:G:N7	7:A:1120:G:N1	2.55	0.55
7:A:1485:U:H2'	7:A:1486:U:C6	2.42	0.55
7:A:1844:C:C2	7:A:1897:G:N2	2.75	0.55
7:A:2731:G:O3'	10:D:208:LYS:NZ	2.40	0.55
8:B:66:A:H4'	8:B:67:G:C8	2.42	0.55
13:G:126:THR:HG22	13:G:127:GLN:H	1.72	0.55
14:H:78:VAL:HB	14:H:144:VAL:HG23	1.89	0.55
28:V:9:ARG:HD3	28:V:39:ALA:HB1	1.88	0.55
33:a:454:G:H2'	33:a:455:G:C8	2.40	0.55
33:a:954:G:H2'	33:a:955:U:C6	2.42	0.55
33:a:1130:A:H2'	33:a:1131:G:H8	1.72	0.55
7:A:49:A:N6	7:A:177:G:C4	2.75	0.55
7:A:273:G:H2'	7:A:274:C:C6	2.42	0.55
7:A:602:A:O2'	7:A:604:G:O2'	2.21	0.55
7:A:1299:G:N1	7:A:1640:A:OP2	2.31	0.55
7:A:1400:U:H2'	7:A:1401:G:C8	2.42	0.55
7:A:1607:C:N4	7:A:1622:G:OP2	2.28	0.55
7:A:1847:G:O2'	7:A:1848:A:O5'	2.25	0.55
7:A:2187:U:H2'	7:A:2188:U:C5	2.41	0.55
12:F:109:ARG:HH22	45:m:2:ARG:NE	2.03	0.55
33:a:151:A:C5	33:a:171:A:N1	2.75	0.55
33:a:714:G:H2'	33:a:715:A:H8	1.72	0.55
33:a:736:C:H2'	33:a:737:C:C6	2.41	0.55
33:a:809:G:OP2	47:o:47:LYS:NZ	2.32	0.55
33:a:1220:G:OP1	46:n:53:ARG:NH2	2.28	0.55
33:a:1423:G:H1	33:a:1477:U:H3	1.55	0.55
36:d:196:GLU:O	36:d:200:VAL:HG23	2.07	0.55
41:i:17:ARG:NE	41:i:65:THR:OG1	2.39	0.55
7:A:7:G:H4'	16:J:15:TRP:HH2	1.72	0.54
7:A:598:U:H2'	7:A:599:A:C8	2.41	0.54
7:A:832:U:H2'	7:A:833:A:C8	2.42	0.54
10:D:89:GLU:C	10:D:90:PHE:HD1	2.15	0.54
13:G:136:ASP:HB3	13:G:139:VAL:HG12	1.89	0.54
33:a:79:G:N2	33:a:80:A:O2'	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:579:A:H2'	33:a:580:C:C6	2.42	0.54
33:a:740:U:H2'	33:a:741:G:H8	1.72	0.54
33:a:778:G:H2'	33:a:779:C:C6	2.42	0.54
42:j:84:VAL:HA	42:j:87:LEU:HG	1.89	0.54
53:u:38:GLU:HB2	53:u:43:GLU:OE1	2.07	0.54
7:A:1138:G:N3	16:J:108:MET:HE2	2.22	0.54
7:A:2002:G:O6	7:A:2003:A:N6	2.40	0.54
7:A:2041:U:H2'	7:A:2042:A:H8	1.73	0.54
7:A:2679:A:H2'	7:A:2680:U:H6	1.72	0.54
8:B:66:A:O5'	8:B:108:A:N6	2.38	0.54
12:F:12:VAL:HG13	12:F:13:LYS:HD2	1.88	0.54
12:F:106:ALA:O	12:F:110:ILE:N	2.41	0.54
33:a:20:U:O2'	33:a:573:A:N6	2.40	0.54
33:a:26:A:H61	33:a:558:G:H1'	1.73	0.54
33:a:207:C:C4'	33:a:213:G:C2	2.90	0.54
33:a:322:C:H2'	33:a:323:U:C6	2.42	0.54
33:a:613:C:H2'	33:a:614:C:H6	1.72	0.54
43:k:28:ASN:OD1	43:k:29:THR:N	2.41	0.54
43:k:34:THR:OG1	43:k:35:ASP:N	2.41	0.54
51:s:54:ARG:HG3	51:s:55:GLN:HG3	1.88	0.54
7:A:296:U:H2'	7:A:297:G:C8	2.42	0.54
7:A:532:A:N7	7:A:2021:C:O2'	2.34	0.54
7:A:1632:A:H2'	7:A:1633:G:C8	2.42	0.54
8:B:42:C:N3	12:F:89:THR:OG1	2.39	0.54
12:F:60:SER:OG	12:F:61:GLY:N	2.40	0.54
12:F:133:GLU:HG2	12:F:136:ILE:HG12	1.88	0.54
13:G:48:THR:HG22	13:G:49:LEU:H	1.72	0.54
33:a:76:G:H2'	33:a:77:A:H8	1.71	0.54
33:a:251:G:N1	33:a:266:G:O6	2.40	0.54
33:a:681:A:H2'	33:a:682:G:O4'	2.06	0.54
33:a:878:A:H2'	33:a:879:C:C6	2.42	0.54
42:j:32:THR:O	42:j:80:THR:OG1	2.21	0.54
42:j:63:ASP:OD1	46:n:98:LYS:NZ	2.23	0.54
7:A:319:G:OP2	11:E:132:LYS:NZ	2.31	0.54
7:A:1045:C:O4'	7:A:1111:A:N6	2.40	0.54
7:A:1197:G:H2'	7:A:1198:U:C6	2.42	0.54
7:A:1316:U:H2'	7:A:1317:G:C8	2.42	0.54
7:A:2215:C:H2'	7:A:2216:G:H8	1.72	0.54
7:A:2684:U:H2'	7:A:2685:G:O4'	2.06	0.54
7:A:2723:C:H2'	7:A:2724:U:O4'	2.07	0.54
16:J:125:TYR:OH	16:J:132:HIS:NE2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:K:63:VAL:HG23	17:K:64:ARG:HG3	1.89	0.54
19:M:30:SER:OG	19:M:106:ASP:OD2	2.23	0.54
33:a:416:G:H1	33:a:427:U:H3	1.55	0.54
33:a:539:A:H2'	33:a:540:G:H8	1.71	0.54
33:a:598:U:H2'	33:a:599:C:C6	2.42	0.54
33:a:1147:C:H2'	33:a:1148:U:C6	2.42	0.54
34:b:133:ALA:O	34:b:137:THR:HG23	2.07	0.54
36:d:56:GLU:OE2	36:d:195:ASN:N	2.39	0.54
48:p:52:LEU:HD12	48:p:57:ILE:HD11	1.89	0.54
51:s:10:ILE:HG21	51:s:40:PHE:HE2	1.72	0.54
7:A:358:U:H2'	7:A:359:G:C8	2.42	0.54
7:A:787:C:OP1	7:A:1780:A:N6	2.39	0.54
7:A:998:C:OP2	23:Q:57:ARG:NH2	2.40	0.54
7:A:1941:C:N4	7:A:1965:C:O4'	2.40	0.54
7:A:2105:U:H5''	7:A:2106:U:H5	1.72	0.54
7:A:2185:U:H5''	7:A:2186:G:OP2	2.07	0.54
7:A:2247:A:H2'	7:A:2248:C:H6	1.71	0.54
7:A:2683:C:O2	17:K:70:ARG:NH2	2.40	0.54
7:A:2743:U:OP2	7:A:2755:C:N4	2.39	0.54
33:a:1078:U:O2'	33:a:1079:G:OP1	2.25	0.54
33:a:1204:A:H2'	33:a:1205:U:O4'	2.08	0.54
33:a:1250:A:H4'	41:i:68:GLY:HA2	1.89	0.54
34:b:14:HIS:HB2	34:b:202:ASN:H	1.71	0.54
34:b:71:THR:HA	34:b:92:ASN:O	2.07	0.54
39:g:71:THR:HG22	39:g:141:HIS:CE1	2.43	0.54
41:i:32:ARG:NH2	41:i:36:GLN:O	2.40	0.54
55:w:23:A:H2'	55:w:24:G:H8	1.73	0.54
7:A:42:A:N6	7:A:438:G:O6	2.41	0.54
7:A:181:A:H2'	7:A:182:A:H8	1.73	0.54
7:A:1220:G:H2'	7:A:1221:C:C6	2.42	0.54
7:A:1830:C:H2'	7:A:1831:G:H8	1.72	0.54
7:A:1913:A:N6	33:a:1492:A:O2'	2.40	0.54
7:A:2615:U:H2'	7:A:2616:C:H6	1.72	0.54
7:A:2659:G:N2	7:A:2662:A:OP2	2.38	0.54
8:B:42:C:O2	12:F:62:GLN:NE2	2.41	0.54
21:O:2:ASP:N	21:O:5:SER:HG	2.04	0.54
22:P:91:VAL:HG11	22:P:96:LEU:HD11	1.89	0.54
33:a:17:U:H2'	33:a:18:C:H6	1.71	0.54
33:a:246:A:C2	33:a:282:A:C5	2.96	0.54
33:a:544:G:OP1	36:d:55:ARG:NH2	2.36	0.54
33:a:1319:A:C8	33:a:1323:G:C6	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:d:120:LYS:HG2	36:d:130:ASN:HB3	1.90	0.54
39:g:110:ARG:NH1	39:g:122:GLU:OE1	2.41	0.54
40:h:48:PHE:HB2	40:h:60:LEU:HD23	1.90	0.54
7:A:1539:U:C2	7:A:1540:G:C8	2.96	0.54
7:A:1847:G:HO2'	7:A:1848:A:H8	1.55	0.54
7:A:2261:C:OP1	29:W:15:LYS:NZ	2.30	0.54
13:G:1:SER:OG	13:G:2:ARG:N	2.40	0.54
17:K:87:LEU:HD13	17:K:92:GLU:HB3	1.90	0.54
33:a:560:A:H4'	33:a:561:U:H5''	1.89	0.54
33:a:985:C:H2'	33:a:986:U:C6	2.43	0.54
39:g:38:ALA:O	39:g:42:VAL:HG23	2.08	0.54
7:A:481:G:H1'	7:A:506:G:N2	2.23	0.54
7:A:528:A:H2'	7:A:529:A:H5''	1.90	0.54
7:A:1013:C:H2'	7:A:1014:A:C8	2.40	0.54
7:A:1296:G:OP1	7:A:2709:G:O2'	2.20	0.54
7:A:1438:U:H2'	7:A:1439:A:H8	1.72	0.54
7:A:2074:U:H2'	7:A:2075:U:C6	2.42	0.54
7:A:2094:A:H2'	7:A:2095:A:C8	2.43	0.54
7:A:2230:G:H2'	7:A:2231:U:C6	2.43	0.54
8:B:45:A:O4'	12:F:91:ARG:NH2	2.41	0.54
9:C:77:VAL:HG22	9:C:93:VAL:HG12	1.89	0.54
22:P:112:ARG:HB3	22:P:114:ASN:OD1	2.07	0.54
33:a:358:U:H2'	33:a:359:G:C8	2.42	0.54
33:a:403:C:H2'	33:a:404:G:C8	2.43	0.54
33:a:1021:A:H2'	33:a:1022:A:C8	2.43	0.54
33:a:1160:G:O6	33:a:1176:A:C6	2.61	0.54
39:g:125:ASP:HA	39:g:128:GLU:HG2	1.90	0.54
41:i:24:ASN:HD22	41:i:26:LYS:NZ	2.06	0.54
7:A:574:A:N6	7:A:2034:U:OP1	2.40	0.54
7:A:828:U:H4'	7:A:831:G:C6	2.43	0.54
7:A:851:C:H2'	7:A:852:U:C6	2.43	0.54
7:A:1742:U:H2'	7:A:1743:G:C8	2.43	0.54
7:A:2314:A:OP1	12:F:87:LYS:NZ	2.41	0.54
7:A:2474:U:OP2	7:A:2475:C:N4	2.39	0.54
11:E:49:ARG:NH1	11:E:72:SER:OG	2.41	0.54
33:a:339:C:H2'	33:a:340:U:H6	1.73	0.54
33:a:593:U:H2'	33:a:594:U:C6	2.43	0.54
33:a:1150:A:C2	42:j:41:PRO:HG3	2.43	0.54
33:a:1268:G:H2'	33:a:1269:A:C8	2.43	0.54
7:A:566:U:H5''	18:L:29:LYS:HE3	1.89	0.54
7:A:874:G:OP1	19:M:62:LYS:NZ	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1433:A:H2'	7:A:1434:A:C8	2.42	0.54
7:A:1475:G:O2'	7:A:1732:C:N4	2.41	0.54
7:A:1637:A:H5'	7:A:1760:C:O2'	2.08	0.54
7:A:1669:A:O4'	17:K:5:GLN:HG3	2.08	0.54
7:A:2298:A:N1	7:A:2321:U:N3	2.55	0.54
7:A:2659:G:O2'	7:A:2661:G:O6	2.26	0.54
13:G:94:ARG:HG2	13:G:105:SER:OG	2.07	0.54
33:a:542:G:H2'	33:a:543:U:C6	2.43	0.54
33:a:1118:U:H2'	33:a:1119:C:C6	2.42	0.54
36:d:8:LEU:HD13	36:d:31:CYS:HB3	1.90	0.54
41:i:45:MET:HE2	41:i:49:GLN:NE2	2.23	0.54
42:j:59:LYS:HE2	42:j:62:ARG:HH22	1.73	0.54
45:m:11:HIS:ND1	45:m:11:HIS:O	2.41	0.54
3:2:34:ARG:NH1	7:A:466:A:OP1	2.40	0.53
4:3:4:LYS:O	18:L:48:ARG:NH1	2.28	0.53
7:A:608:A:H2'	7:A:609:A:C8	2.42	0.53
7:A:706:A:H2'	7:A:707:G:O4'	2.08	0.53
7:A:1942:C:O3'	57:y:90:ARG:NH2	2.41	0.53
9:C:28:PRO:HG3	9:C:62:ARG:NH2	2.23	0.53
28:V:25:LYS:HG2	28:V:43:ASP:HA	1.90	0.53
30:X:18:SER:OG	30:X:19:HIS:N	2.38	0.53
33:a:32:A:H2'	33:a:33:A:C8	2.42	0.53
33:a:475:C:H2'	33:a:476:U:C2	2.44	0.53
33:a:1306:A:H61	33:a:1331:G:H1'	1.73	0.53
39:g:145:GLU:HA	39:g:148:LYS:HB2	1.89	0.53
7:A:535:G:C6	7:A:559:G:C6	2.96	0.53
7:A:813:U:H2'	7:A:814:C:H6	1.73	0.53
7:A:1198:U:H2'	7:A:1199:U:C6	2.44	0.53
7:A:2125:G:H1'	7:A:2173:A:H61	1.72	0.53
7:A:2297:A:N6	7:A:2319:G:H1'	2.22	0.53
7:A:2398:U:H2'	7:A:2399:G:C8	2.41	0.53
33:a:96:U:H2'	33:a:97:G:C8	2.43	0.53
33:a:251:G:N2	33:a:254:G:O6	2.37	0.53
33:a:336:A:H2'	33:a:337:G:H8	1.73	0.53
33:a:962:C:C2	33:a:963:G:C8	2.97	0.53
45:m:74:MET:O	45:m:77:LYS:HG3	2.08	0.53
2:1:5:ARG:HG2	2:1:23:THR:HB	1.90	0.53
7:A:247:G:H4'	7:A:386:G:C5	2.43	0.53
7:A:542:C:H2'	7:A:543:G:C8	2.44	0.53
7:A:2128:G:C4	7:A:2129:C:H1'	2.43	0.53
7:A:2660:A:O2'	7:A:2661:G:OP1	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:459:A:H2'	33:a:460:A:C8	2.42	0.53
33:a:1013:G:N2	33:a:1016:A:OP2	2.40	0.53
35:c:130:ARG:NH1	37:e:54:GLU:OE1	2.38	0.53
39:g:113:LYS:HB3	39:g:117:LEU:HD13	1.90	0.53
44:l:109:ARG:HH21	44:l:112:ALA:HB3	1.72	0.53
7:A:197:A:H2	7:A:2434:A:H62	1.56	0.53
7:A:1614:A:C6	25:S:87:PRO:HB3	2.43	0.53
7:A:2135:A:O2'	7:A:2136:G:OP1	2.23	0.53
7:A:2591:C:C2	7:A:2592:G:N7	2.76	0.53
8:B:119:A:C2	8:B:120:U:H1'	2.43	0.53
14:H:57:LYS:O	14:H:61:VAL:HG23	2.07	0.53
33:a:522:C:H41	44:l:49:ARG:NH2	2.07	0.53
33:a:744:C:H2'	33:a:745:G:C8	2.43	0.53
33:a:980:C:O2'	46:n:12:ARG:NH2	2.41	0.53
33:a:1314:C:O2'	33:a:1315:U:H5'	2.09	0.53
33:a:1327:C:H2'	33:a:1328:C:C6	2.43	0.53
33:a:1353:G:H2'	33:a:1354:U:H6	1.74	0.53
35:c:107:LYS:HG2	35:c:143:LEU:HD21	1.91	0.53
40:h:83:ARG:NH1	40:h:123:GLU:OE2	2.38	0.53
46:n:54:ASP:HA	46:n:59:ARG:HD3	1.90	0.53
7:A:1199:U:H2'	7:A:1200:C:C6	2.43	0.53
7:A:1676:A:H1'	10:D:133:THR:HG21	1.90	0.53
7:A:1751:U:H2'	7:A:1752:C:C6	2.43	0.53
7:A:2720:U:H5''	22:P:52:ARG:HH21	1.74	0.53
23:Q:23:TYR:HB3	23:Q:27:ARG:HG2	1.91	0.53
33:a:169:C:H3'	33:a:170:U:C6	2.44	0.53
33:a:370:C:H2'	33:a:371:A:H8	1.74	0.53
33:a:405:U:OP1	33:a:406:G:O2'	2.10	0.53
33:a:1088:G:N2	33:a:1167:A:H61	2.05	0.53
33:a:1090:U:H2'	33:a:1091:U:C6	2.43	0.53
33:a:1160:G:C2	33:a:1161:C:C2	2.96	0.53
33:a:1227:A:HO2'	33:a:1228:C:P	2.31	0.53
36:d:104:MET:HE3	36:d:179:GLY:HA3	1.91	0.53
43:k:14:GLN:OE1	43:k:14:GLN:N	2.41	0.53
47:o:73:ASP:OD2	47:o:76:ARG:NE	2.33	0.53
7:A:843:G:H2'	7:A:844:A:H8	1.74	0.53
7:A:926:G:H2'	7:A:927:A:H8	1.73	0.53
7:A:1039:A:N1	7:A:1116:G:N2	2.52	0.53
7:A:1252:G:H21	23:Q:32:ARG:HG2	1.74	0.53
7:A:1327:A:H2'	7:A:1328:A:O4'	2.09	0.53
7:A:2095:A:H5''	14:H:11:ASN:ND2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2595:G:H1	9:C:238:ASN:HD22	1.56	0.53
8:B:28:C:H5''	21:O:31:THR:HG21	1.91	0.53
14:H:90:LEU:HB3	14:H:122:LEU:HD21	1.90	0.53
14:H:128:HIS:N	14:H:144:VAL:O	2.42	0.53
33:a:30:U:O4	33:a:32:A:N6	2.41	0.53
33:a:920:U:H2'	33:a:921:U:C6	2.44	0.53
33:a:1079:G:H2'	33:a:1080:A:C8	2.43	0.53
33:a:1238:A:H2	33:a:1241:G:N3	2.06	0.53
33:a:1258:G:H2'	33:a:1259:C:C6	2.44	0.53
37:e:114:LEU:HD13	37:e:122:VAL:HG11	1.91	0.53
57:y:42:ASP:OD1	57:y:43:ILE:N	2.41	0.53
2:1:36:LYS:HG2	2:1:47:ILE:HG13	1.91	0.53
7:A:283:G:HO2'	7:A:284:U:P	2.31	0.53
7:A:1052:C:H2'	7:A:1053:C:C5	2.44	0.53
7:A:1300:G:H4'	7:A:1301:A:H5'	1.90	0.53
7:A:1520:U:HO2'	7:A:1521:G:P	2.31	0.53
7:A:1558:C:H5'	7:A:1560:G:O4'	2.08	0.53
7:A:1753:G:N2	7:A:1756:G:OP2	2.41	0.53
7:A:2848:G:N2	7:A:2869:G:O6	2.41	0.53
9:C:145:MET:HE1	9:C:181:ARG:HH21	1.72	0.53
23:Q:92:LYS:NZ	24:R:11:GLN:O	2.42	0.53
33:a:81:A:OP2	33:a:81:A:H3'	2.07	0.53
33:a:240:G:H2'	33:a:241:G:H8	1.73	0.53
33:a:1249:C:O2'	41:i:69:GLY:O	2.24	0.53
6:5:26:VAL:HA	6:5:84:TYR:HA	1.90	0.53
7:A:134:G:H2'	7:A:135:U:C6	2.44	0.53
7:A:299:A:N6	7:A:322:A:O2'	2.39	0.53
7:A:886:A:H5'	7:A:890:C:O2	2.09	0.53
7:A:912:C:O5'	19:M:8:LYS:NZ	2.41	0.53
7:A:2720:U:H5''	22:P:52:ARG:NH2	2.24	0.53
7:A:2722:G:H4'	20:N:4:ARG:HB2	1.90	0.53
18:L:71:ALA:HA	18:L:74:THR:HG22	1.89	0.53
20:N:12:ARG:O	20:N:17:ARG:NH2	2.42	0.53
28:V:44:HIS:CE1	28:V:85:LYS:HG2	2.42	0.53
33:a:358:U:H2'	33:a:359:G:H8	1.73	0.53
33:a:501:C:H2'	33:a:502:A:C8	2.43	0.53
36:d:104:MET:HG2	36:d:172:VAL:HG22	1.90	0.53
46:n:2:LYS:HG3	46:n:5:MET:HB2	1.91	0.53
7:A:143:C:H2'	7:A:144:A:H8	1.73	0.53
7:A:301:G:C6	7:A:317:G:C6	2.97	0.53
7:A:2461:A:N1	7:A:2490:G:N2	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:102:ALA:HA	10:D:180:VAL:HG21	1.90	0.53
23:Q:35:PHE:O	23:Q:39:ILE:HG12	2.09	0.53
28:V:72:VAL:HB	28:V:91:PHE:HB3	1.91	0.53
33:a:45:G:H2'	33:a:46:G:C8	2.44	0.53
33:a:198:G:O6	33:a:219:U:O4	2.26	0.53
33:a:373:A:H1'	33:a:481:G:C8	2.43	0.53
33:a:563:A:H2'	33:a:567:G:C8	2.44	0.53
33:a:971:G:P	33:a:1231:G:H21	2.32	0.53
33:a:1181:G:H1'	33:a:1182:G:N9	2.23	0.53
38:f:29:ILE:HD13	38:f:64:VAL:HG21	1.91	0.53
41:i:34:LEU:HD11	41:i:44:ARG:HG2	1.90	0.53
7:A:1244:A:O2'	11:E:29:HIS:NE2	2.42	0.53
7:A:1443:U:H2'	7:A:1444:G:C8	2.44	0.53
7:A:1864:U:OP1	7:A:2410:G:O2'	2.20	0.53
7:A:1877:A:HO2'	7:A:1878:G:P	2.31	0.53
7:A:2029:G:N1	7:A:2033:A:OP2	2.41	0.53
7:A:2131:U:OP1	7:A:2133:G:O2'	2.18	0.53
7:A:2899:A:N1	7:A:2900:A:N6	2.57	0.53
12:F:3:LEU:HD22	12:F:100:GLU:HB3	1.91	0.53
33:a:73:C:H2'	33:a:74:A:H8	1.74	0.53
33:a:563:A:O2'	33:a:566:G:O3'	2.27	0.53
33:a:939:G:OP1	39:g:94:ARG:NH2	2.39	0.53
33:a:1020:G:H2'	33:a:1021:A:H8	1.73	0.53
33:a:1376:U:O4	39:g:9:ARG:NH1	2.42	0.53
37:e:88:HIS:ND1	37:e:89:THR:OG1	2.39	0.53
39:g:91:ARG:NE	39:g:92:PRO:HD2	2.24	0.53
41:i:6:TYR:HE1	41:i:17:ARG:HB2	1.74	0.53
42:j:54:SER:OG	42:j:56:HIS:O	2.26	0.53
50:r:32:ILE:HD13	50:r:67:LEU:HD13	1.91	0.53
7:A:829:A:N7	7:A:2248:C:H5'	2.24	0.52
7:A:1036:G:O6	7:A:1119:U:O2	2.26	0.52
10:D:110:THR:OG1	10:D:202:ILE:HB	2.09	0.52
12:F:25:MET:HA	12:F:29:ARG:HH22	1.74	0.52
33:a:191:G:H2'	33:a:192:A:C8	2.44	0.52
33:a:199:A:H2'	33:a:200:G:C8	2.43	0.52
33:a:505:G:H5'	33:a:534:U:H2'	1.91	0.52
33:a:784:A:H2'	33:a:785:G:H8	1.74	0.52
33:a:948:C:H2'	33:a:949:A:C8	2.43	0.52
7:A:364:C:H2'	7:A:365:U:H5'	1.92	0.52
7:A:1172:C:C2	7:A:1176:U:C4	2.97	0.52
7:A:1841:U:C2	7:A:1842:G:C8	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1912:A:HO2'	33:a:1494:G:HO2'	1.52	0.52
7:A:2692:G:OP1	7:A:2870:C:O2'	2.27	0.52
7:A:2756:U:H1'	7:A:2757:A:H5''	1.91	0.52
12:F:147:ARG:HG3	12:F:149:ARG:HD2	1.91	0.52
22:P:38:ARG:HG2	22:P:39:LEU:H	1.73	0.52
33:a:76:G:H2'	33:a:77:A:C8	2.45	0.52
36:d:35:GLN:HG3	36:d:41:GLY:HA3	1.91	0.52
7:A:121:G:H2'	7:A:122:G:H8	1.74	0.52
7:A:1245:G:H4'	11:E:33:VAL:HG21	1.90	0.52
7:A:1386:C:H2'	7:A:1387:A:H8	1.74	0.52
7:A:2521:C:C2	7:A:2545:G:N2	2.77	0.52
9:C:24:HIS:CD2	9:C:79:ARG:HH11	2.27	0.52
10:D:136:ASN:HD21	10:D:139:SER:HB3	1.74	0.52
33:a:142:G:H2'	33:a:143:A:H8	1.74	0.52
34:b:75:ALA:O	34:b:79:VAL:HG23	2.09	0.52
39:g:22:LEU:O	39:g:26:VAL:HG23	2.09	0.52
41:i:46:VAL:HA	41:i:49:GLN:CD	2.35	0.52
7:A:52:A:OP2	7:A:117:G:N1	2.38	0.52
7:A:84:A:OP1	27:U:5:ARG:NH2	2.42	0.52
7:A:119:A:H4'	7:A:120:U:H5'	1.92	0.52
7:A:290:U:H2'	7:A:291:G:C8	2.45	0.52
7:A:591:U:N3	7:A:592:A:N7	2.58	0.52
7:A:873:C:HO2'	19:M:64:TRP:CD1	2.28	0.52
7:A:1089:A:H61	7:A:1102:C:H42	1.56	0.52
7:A:2750:A:O2'	7:A:2752:C:N4	2.33	0.52
27:U:25:LYS:HG3	27:U:36:GLU:HG3	1.92	0.52
33:a:658:C:H1'	47:o:21:THR:HG21	1.91	0.52
33:a:945:G:H1	33:a:1236:A:N6	2.01	0.52
33:a:1305:G:H4'	33:a:1306:A:O5'	2.09	0.52
33:a:1355:G:H2'	33:a:1356:G:C8	2.44	0.52
34:b:15:PHE:HB3	34:b:39:ILE:HG22	1.89	0.52
43:k:88:PRO:HA	43:k:92:ARG:HD2	1.91	0.52
55:w:58:A:H1'	55:w:60:U:OP2	2.08	0.52
7:A:20:C:H2'	7:A:21:A:H8	1.73	0.52
7:A:571:U:N3	7:A:575:A:N7	2.56	0.52
7:A:1371:G:H8	7:A:1371:G:O5'	1.92	0.52
7:A:1857:G:N2	7:A:1884:G:H2'	2.21	0.52
7:A:2660:A:H2'	7:A:2661:G:C8	2.44	0.52
9:C:29:PHE:CD2	9:C:31:PRO:HD2	2.44	0.52
13:G:49:LEU:HD13	13:G:71:LEU:HD23	1.90	0.52
25:S:70:LYS:HD2	25:S:110:ARG:HD3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Y:7:ARG:NH1	31:Y:8:GLU:HG3	2.22	0.52
33:a:73:C:H2'	33:a:74:A:C8	2.44	0.52
33:a:160:A:H2'	33:a:161:A:H8	1.74	0.52
33:a:1036:A:H2'	33:a:1037:C:H6	1.75	0.52
37:e:40:ASP:OD1	37:e:41:GLY:N	2.42	0.52
39:g:104:VAL:O	39:g:108:ARG:HG3	2.09	0.52
45:m:87:GLY:O	45:m:91:ARG:HG3	2.09	0.52
2:1:43:ARG:HD2	7:A:643:A:C6	2.45	0.52
7:A:953:G:H2'	7:A:954:G:H8	1.75	0.52
7:A:1057:A:O5'	7:A:1087:G:N1	2.41	0.52
7:A:1074:G:H5'	7:A:1075:C:OP2	2.10	0.52
7:A:1539:U:H2'	7:A:1540:G:C8	2.44	0.52
8:B:9:G:C2	8:B:10:G:C8	2.97	0.52
8:B:18:G:H2'	8:B:19:C:H6	1.75	0.52
12:F:125:GLY:O	12:F:157:THR:OG1	2.27	0.52
33:a:176:C:H2'	33:a:177:G:N3	2.25	0.52
33:a:624:C:H4'	48:p:10:GLY:HA2	1.92	0.52
33:a:1147:C:HO2'	41:i:6:TYR:HH	1.54	0.52
33:a:1198:G:H2'	33:a:1199:U:C6	2.45	0.52
33:a:1347:G:H1'	33:a:1348:U:C5	2.45	0.52
34:b:77:GLU:H	34:b:77:GLU:CD	2.15	0.52
38:f:38:ARG:HH21	38:f:61:LEU:HD21	1.75	0.52
7:A:671:C:H2'	7:A:672:C:H6	1.74	0.52
7:A:1847:G:O2'	7:A:1848:A:H8	1.93	0.52
7:A:2187:U:H2'	7:A:2188:U:C6	2.44	0.52
7:A:2537:U:H2'	7:A:2538:C:H6	1.74	0.52
7:A:2678:C:H2'	7:A:2679:A:H8	1.75	0.52
14:H:96:THR:HG23	14:H:115:VAL:HB	1.92	0.52
33:a:324:G:N1	33:a:327:A:OP2	2.43	0.52
33:a:834:U:H2'	33:a:835:U:C6	2.45	0.52
33:a:978:A:C2	33:a:1316:G:N2	2.77	0.52
38:f:45:ARG:O	38:f:56:LYS:HA	2.10	0.52
4:3:3:ILE:HG21	4:3:62:PRO:HG2	1.91	0.52
7:A:175:G:H2'	7:A:176:A:C8	2.44	0.52
7:A:1033:U:O2'	7:A:2750:A:N6	2.43	0.52
7:A:1735:A:H2'	7:A:1736:U:C6	2.44	0.52
7:A:2714:G:H2'	7:A:2715:C:C6	2.45	0.52
7:A:2783:U:H2'	7:A:2784:U:C6	2.45	0.52
11:E:119:ILE:O	11:E:187:VAL:HA	2.10	0.52
17:K:70:ARG:HG2	17:K:76:VAL:HG22	1.91	0.52
33:a:207:C:C4'	33:a:213:G:N2	2.60	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:260:G:H2'	33:a:261:U:C6	2.45	0.52
33:a:664:G:N2	33:a:741:G:H1	2.07	0.52
33:a:958:A:C2	51:s:54:ARG:HB3	2.45	0.52
33:a:1256:A:O2'	33:a:1278:G:O6	2.24	0.52
33:a:1445:U:H3	33:a:1457:G:H1	1.57	0.52
36:d:64:TYR:HE2	36:d:99:ASN:ND2	2.08	0.52
41:i:25:GLY:HA3	41:i:58:GLU:OE1	2.10	0.52
7:A:1670:C:O5'	7:A:1670:C:H6	1.93	0.52
7:A:2314:A:H5'	12:F:34:THR:HG21	1.91	0.52
7:A:2852:G:H2'	7:A:2853:C:O4'	2.10	0.52
7:A:2880:C:H1'	20:N:92:GLY:O	2.09	0.52
8:B:48:U:H2'	8:B:49:C:H6	1.75	0.52
30:X:4:CYS:HB3	30:X:9:LYS:HB2	1.92	0.52
33:a:414:A:C4	33:a:415:A:C8	2.98	0.52
33:a:751:U:H2'	33:a:752:G:O4'	2.09	0.52
33:a:949:A:C6	33:a:1233:G:N1	2.78	0.52
33:a:1305:G:N3	33:a:1331:G:N2	2.57	0.52
33:a:1410:A:H2'	33:a:1411:C:H6	1.75	0.52
37:e:54:GLU:OE2	37:e:56:PRO:HD2	2.10	0.52
41:i:118:ARG:NH1	41:i:124:PRO:HA	2.24	0.52
42:j:87:LEU:HD12	42:j:88:MET:HG3	1.92	0.52
43:k:30:ILE:HG23	43:k:45:THR:HG22	1.92	0.52
47:o:46:LYS:HA	47:o:52:ARG:HH22	1.75	0.52
7:A:210:C:HO2'	7:A:1366:A:HO2'	1.55	0.52
7:A:846:U:O2'	7:A:847:U:H5''	2.10	0.52
7:A:1564:C:H2'	7:A:1565:C:C6	2.44	0.52
7:A:1721:G:N1	7:A:1738:G:N7	2.58	0.52
7:A:1837:C:C2	7:A:1904:G:N2	2.78	0.52
7:A:2188:U:H2'	7:A:2189:U:O4'	2.10	0.52
30:X:64:ASP:OD1	30:X:65:THR:N	2.43	0.52
33:a:150:U:O4	33:a:171:A:C8	2.63	0.52
33:a:212:G:H2'	33:a:213:G:H8	1.75	0.52
33:a:247:G:C6	33:a:278:G:C2	2.97	0.52
33:a:398:U:H2'	33:a:399:G:C8	2.45	0.52
33:a:602:A:H2'	33:a:603:U:O2	2.10	0.52
34:b:103:TRP:HA	34:b:106:VAL:HG12	1.91	0.52
42:j:7:ARG:HD3	42:j:73:LEU:HD11	1.91	0.52
45:m:27:THR:HA	45:m:30:LYS:HE2	1.90	0.52
7:A:1152:C:H2'	7:A:1153:C:H6	1.75	0.51
7:A:1447:C:O2'	7:A:1544:A:N3	2.37	0.51
9:C:64:VAL:HA	9:C:102:TYR:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:141:HIS:ND1	9:C:192:GLY:O	2.41	0.51
28:V:21:ARG:NH2	28:V:87:GLN:O	2.43	0.51
33:a:113:G:N3	33:a:353:A:O2'	2.43	0.51
33:a:205:A:N7	33:a:206:C:N4	2.58	0.51
33:a:950:U:O5'	45:m:100:ARG:NH2	2.43	0.51
33:a:1010:U:H2'	33:a:1011:C:H6	1.75	0.51
33:a:1120:C:H2'	33:a:1121:U:H6	1.74	0.51
33:a:1178:G:N2	33:a:1180:A:H3'	2.25	0.51
34:b:150:ILE:HA	34:b:153:MET:HB2	1.92	0.51
37:e:31:SER:OG	37:e:32:PHE:N	2.41	0.51
40:h:73:SER:H	40:h:129:ALA:HB3	1.74	0.51
40:h:88:LYS:HG3	40:h:119:GLY:C	2.35	0.51
42:j:36:VAL:HG12	42:j:76:ILE:HG13	1.92	0.51
45:m:66:GLY:O	45:m:70:ARG:NH1	2.42	0.51
47:o:22:GLY:O	47:o:27:GLN:NE2	2.43	0.51
49:q:9:GLY:HA3	49:q:24:ILE:HD13	1.92	0.51
7:A:62:U:H2'	7:A:63:A:N7	2.24	0.51
7:A:367:G:H2'	7:A:367:G:N3	2.25	0.51
7:A:576:U:H2'	7:A:577:G:C8	2.44	0.51
7:A:581:C:OP1	23:Q:32:ARG:HB2	2.11	0.51
7:A:586:A:N1	7:A:809:G:O2'	2.36	0.51
7:A:925:A:H2'	7:A:926:G:H8	1.76	0.51
7:A:947:A:C6	7:A:971:G:C6	2.98	0.51
7:A:1797:G:C6	7:A:1823:G:C6	2.98	0.51
7:A:2649:C:H2'	7:A:2650:U:C6	2.46	0.51
20:N:107:ASN:ND2	20:N:107:ASN:O	2.43	0.51
31:Y:2:LYS:HZ3	31:Y:6:LEU:HD22	1.75	0.51
33:a:275:G:H4'	49:q:15:LYS:O	2.10	0.51
33:a:1005:A:H5'	33:a:1036:A:H2	1.76	0.51
33:a:1095:U:P	33:a:1108:G:H1	2.33	0.51
55:w:72:C:H2'	55:w:73:A:C8	2.45	0.51
7:A:5:A:H2'	7:A:6:A:C8	2.46	0.51
7:A:522:A:H2'	7:A:523:C:H6	1.75	0.51
7:A:1113:U:H2'	7:A:1114:C:C6	2.46	0.51
7:A:1432:G:H2'	7:A:1433:A:C8	2.45	0.51
7:A:1534:U:H2'	7:A:1536:C:H1'	1.91	0.51
7:A:1585:C:H2'	7:A:1586:A:O4'	2.10	0.51
7:A:1826:G:O2'	7:A:1971:U:OP2	2.28	0.51
7:A:2305:U:H2'	7:A:2306:C:C6	2.45	0.51
7:A:2493:U:H2'	7:A:2494:G:O4'	2.09	0.51
7:A:2661:G:H2'	7:A:2662:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:68:PHE:HE1	10:D:79:LEU:HD21	1.75	0.51
12:F:24:VAL:O	12:F:27:VAL:HG12	2.10	0.51
14:H:87:GLU:OE1	38:f:17:GLN:HB2	2.10	0.51
20:N:103:ARG:HD3	20:N:110:MET:SD	2.51	0.51
33:a:126:G:H5'	33:a:633:G:N2	2.25	0.51
33:a:323:U:P	52:t:24:ARG:HH22	2.33	0.51
33:a:932:C:H2'	33:a:933:G:C8	2.45	0.51
33:a:1072:G:H2'	33:a:1073:U:C6	2.44	0.51
33:a:1251:A:H2'	33:a:1252:A:C8	2.44	0.51
33:a:1309:G:C6	33:a:1329:A:C6	2.99	0.51
33:a:1363:A:H2'	33:a:1365:G:N7	2.26	0.51
33:a:1387:G:H2'	33:a:1388:C:H6	1.75	0.51
35:c:113:LYS:HB2	35:c:184:ASN:ND2	2.25	0.51
40:h:111:THR:HG23	40:h:114:ALA:H	1.76	0.51
7:A:901:C:H2'	7:A:902:C:H6	1.75	0.51
7:A:957:C:O2'	7:A:958:U:H5'	2.10	0.51
7:A:1010:A:OP1	23:Q:65:ASN:ND2	2.39	0.51
7:A:1482:G:H2'	7:A:1483:G:C8	2.42	0.51
7:A:2023:C:H2'	7:A:2024:G:H8	1.74	0.51
7:A:2082:A:C4	7:A:2239:G:N2	2.78	0.51
8:B:66:A:O4'	8:B:108:A:N6	2.43	0.51
33:a:182:A:O2'	33:a:184:G:OP2	2.29	0.51
33:a:204:G:H2'	33:a:205:A:C8	2.46	0.51
33:a:718:A:H2	50:r:37:LYS:HG2	1.76	0.51
33:a:1430:A:C6	33:a:1431:A:C2	2.98	0.51
34:b:57:ASN:ND2	34:b:219:THR:O	2.43	0.51
34:b:124:THR:HA	34:b:127:LYS:HE2	1.91	0.51
49:q:3:LYS:HG2	49:q:4:ILE:H	1.75	0.51
51:s:49:ALA:HA	51:s:58:PRO:HA	1.92	0.51
6:5:58:THR:HA	6:5:63:ALA:HB2	1.92	0.51
7:A:199:A:O2'	7:A:200:U:H5'	2.10	0.51
7:A:271:G:H1	7:A:368:A:H2	1.58	0.51
7:A:419:U:H2'	7:A:420:C:H6	1.75	0.51
7:A:974:G:O2'	7:A:989:G:N2	2.39	0.51
7:A:2788:C:H2'	7:A:2789:C:H6	1.73	0.51
7:A:2812:G:H2'	7:A:2813:A:C8	2.46	0.51
8:B:22:U:H2'	8:B:23:G:C8	2.46	0.51
11:E:48:THR:HG23	11:E:86:ALA:HB3	1.91	0.51
19:M:97:GLN:OE1	19:M:97:GLN:N	2.44	0.51
31:Y:19:LEU:C	31:Y:21:LEU:H	2.19	0.51
33:a:405:U:O4	36:d:1:ALA:N	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:707:U:O2'	33:a:708:C:H5'	2.10	0.51
33:a:1070:U:H2'	33:a:1071:C:H6	1.75	0.51
57:y:44:ARG:NH1	57:y:67:ASP:O	2.43	0.51
7:A:44:A:H2'	7:A:45:G:O4'	2.10	0.51
7:A:251:A:C5	7:A:252:G:H1'	2.45	0.51
7:A:284:U:H2'	7:A:285:G:C8	2.46	0.51
7:A:451:U:C2	7:A:453:A:N7	2.78	0.51
7:A:528:A:H2	7:A:2043:C:H5'	1.76	0.51
7:A:1447:C:H2'	7:A:1448:G:C8	2.45	0.51
7:A:2121:G:O6	7:A:2177:C:N4	2.43	0.51
7:A:2650:U:C2	7:A:2671:G:N2	2.78	0.51
10:D:29:VAL:O	10:D:185:ASN:HB3	2.11	0.51
11:E:138:LEU:HD22	11:E:143:LEU:HB2	1.92	0.51
19:M:75:GLU:HB2	19:M:90:GLU:HG3	1.92	0.51
33:a:360:G:H2'	33:a:361:G:C8	2.45	0.51
33:a:868:C:H2'	33:a:869:G:O4'	2.10	0.51
33:a:1359:C:OP2	46:n:75:ARG:NE	2.43	0.51
55:w:18:G:O2'	55:w:57:G:N2	2.42	0.51
7:A:1341:G:H21	26:T:59:ASN:HD22	1.58	0.51
7:A:2024:G:C4	7:A:2040:G:N2	2.79	0.51
7:A:2443:C:H2'	7:A:2444:G:C8	2.42	0.51
16:J:49:ASP:OD1	16:J:49:ASP:N	2.42	0.51
33:a:449:G:H2'	33:a:450:G:C8	2.46	0.51
33:a:463:U:O2'	33:a:464:U:O4'	2.26	0.51
33:a:1041:G:C2	33:a:1042:A:C5	2.99	0.51
33:a:1043:G:H2'	33:a:1044:A:C8	2.46	0.51
33:a:1162:C:H2'	33:a:1163:A:C8	2.46	0.51
33:a:1320:C:H2'	33:a:1321:U:C6	2.46	0.51
33:a:1401:G:O6	33:a:1504:G:N2	2.43	0.51
33:a:1478:U:H2'	33:a:1479:C:C6	2.46	0.51
39:g:16:LYS:HE2	39:g:17:PHE:HE1	1.75	0.51
40:h:4:ASP:OD2	40:h:80:PRO:HD3	2.10	0.51
41:i:25:GLY:HA2	41:i:56:MET:HE1	1.92	0.51
7:A:657:U:H2'	7:A:658:U:C6	2.46	0.51
7:A:2011:U:OP2	25:S:16:LYS:NZ	2.27	0.51
7:A:2013:A:H2	25:S:88:ARG:HH12	1.58	0.51
7:A:2037:A:H2'	7:A:2038:G:C8	2.46	0.51
7:A:2305:U:H5''	12:F:130:GLY:HA3	1.92	0.51
7:A:2555:U:H3	57:y:20:ILE:HB	1.75	0.51
7:A:2649:C:H2'	7:A:2650:U:H6	1.76	0.51
33:a:259:G:H2'	33:a:260:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:265:G:O2'	33:a:267:C:OP1	2.29	0.51
33:a:683:G:C6	33:a:684:U:C4	2.99	0.51
33:a:837:U:H2'	33:a:838:G:C8	2.46	0.51
46:n:42:TRP:O	46:n:45:VAL:HG22	2.10	0.51
55:w:26:A:H2'	55:w:27:G:C8	2.41	0.51
7:A:43:G:H2'	7:A:44:A:C8	2.46	0.51
7:A:634:C:H2'	7:A:635:C:C6	2.46	0.51
7:A:708:G:H2'	7:A:709:U:C6	2.46	0.51
7:A:813:U:H2'	7:A:814:C:C6	2.46	0.51
7:A:1229:C:H2'	7:A:1230:A:C8	2.46	0.51
7:A:1283:G:N2	7:A:1286:A:H5'	2.26	0.51
7:A:1411:U:H2'	7:A:1412:U:C6	2.45	0.51
7:A:2095:A:N1	7:A:2194:U:H5	2.09	0.51
7:A:2143:C:O2'	7:A:2144:G:H5'	2.11	0.51
8:B:5:U:H2'	8:B:6:G:H8	1.76	0.51
33:a:552:U:H2'	33:a:553:A:C8	2.44	0.51
33:a:1092:A:N6	33:a:1183:U:H1'	2.25	0.51
36:d:105:GLY:C	36:d:107:GLY:H	2.18	0.51
39:g:91:ARG:O	39:g:94:ARG:N	2.43	0.51
44:l:3:VAL:O	44:l:7:VAL:HG23	2.10	0.51
7:A:20:C:H2'	7:A:21:A:C8	2.45	0.51
7:A:71:A:H5''	7:A:73:A:C8	2.46	0.51
7:A:594:U:H2'	7:A:595:C:C6	2.46	0.51
7:A:739:A:H1'	7:A:740:C:H5	1.76	0.51
7:A:864:G:H2'	7:A:865:C:C6	2.46	0.51
7:A:1704:C:H2'	7:A:1705:A:C8	2.46	0.51
7:A:1841:U:N3	7:A:1842:G:N7	2.59	0.51
7:A:2215:C:H2'	7:A:2216:G:C8	2.46	0.51
7:A:2850:A:OP2	7:A:2866:U:N3	2.44	0.51
13:G:154:GLU:HG2	13:G:156:TYR:H	1.76	0.51
33:a:26:A:N6	33:a:558:G:H1'	2.25	0.51
33:a:259:G:P	52:t:77:ASN:HD22	2.34	0.51
33:a:737:C:H2'	33:a:738:C:C6	2.46	0.51
33:a:1243:C:H2'	33:a:1244:G:C8	2.46	0.51
7:A:277:G:H4'	7:A:361:G:H1	1.75	0.50
7:A:290:U:H2'	7:A:291:G:H8	1.76	0.50
7:A:805:G:H5''	18:L:38:GLN:HG3	1.92	0.50
7:A:1399:C:C2	7:A:1400:U:C5	2.99	0.50
7:A:1809:A:H2'	7:A:1810:A:C8	2.46	0.50
7:A:2205:A:H2'	7:A:2206:C:C6	2.46	0.50
7:A:2813:A:H2'	7:A:2814:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:109:ARG:NH1	45:m:2:ARG:HH21	2.10	0.50
13:G:17:LYS:HB2	13:G:24:THR:OG1	2.11	0.50
13:G:44:HIS:HA	13:G:49:LEU:HD23	1.92	0.50
33:a:345:C:O2	33:a:346:G:N2	2.44	0.50
33:a:469:C:H2'	33:a:470:C:C6	2.45	0.50
33:a:718:A:OP2	33:a:720:C:N4	2.39	0.50
33:a:745:G:C2	33:a:746:A:C5	2.99	0.50
41:i:23:GLY:H	41:i:60:LEU:HA	1.75	0.50
7:A:181:A:H2'	7:A:182:A:C8	2.46	0.50
7:A:344:A:H2	7:A:345:A:H62	1.60	0.50
7:A:901:C:H2'	7:A:902:C:C6	2.46	0.50
7:A:1410:G:H2'	7:A:1411:U:C6	2.46	0.50
7:A:1539:U:H2'	7:A:1540:G:H8	1.75	0.50
7:A:2116:G:O6	7:A:2164:C:H5''	2.12	0.50
7:A:2406:A:O2'	7:A:2407:A:OP2	2.24	0.50
7:A:2677:G:H2'	7:A:2678:C:C6	2.47	0.50
7:A:2687:U:H3	7:A:2722:G:H1	1.59	0.50
8:B:116:G:H2'	8:B:117:G:H8	1.76	0.50
11:E:176:ASP:OD1	11:E:176:ASP:N	2.41	0.50
16:J:4:PHE:CD2	23:Q:99:VAL:HG11	2.46	0.50
24:R:29:THR:HG23	24:R:65:ALA:HA	1.92	0.50
33:a:34:C:H2'	33:a:35:G:H8	1.75	0.50
33:a:155:A:N6	33:a:167:A:H61	2.09	0.50
33:a:430:A:P	36:d:7:LYS:H	2.35	0.50
33:a:749:A:H2'	33:a:750:C:H6	1.77	0.50
33:a:775:G:N2	33:a:805:C:C4	2.80	0.50
35:c:63:ILE:HG12	35:c:96:VAL:HG23	1.92	0.50
36:d:49:ASP:OD1	36:d:50:TYR:N	2.44	0.50
38:f:69:GLU:CD	38:f:69:GLU:H	2.19	0.50
39:g:35:LYS:HB3	41:i:40:ARG:HH12	1.76	0.50
53:u:7:GLU:OE1	53:u:12:ASP:N	2.33	0.50
55:w:4:C:H3'	55:w:5:G:H8	1.76	0.50
7:A:143:C:H2'	7:A:144:A:C8	2.46	0.50
7:A:151:C:H2'	7:A:152:A:C8	2.47	0.50
7:A:1788:C:C2	7:A:1789:A:C8	3.00	0.50
7:A:2096:C:H2'	7:A:2097:A:H8	1.76	0.50
7:A:2292:U:H2'	7:A:2293:G:H8	1.76	0.50
7:A:2308:G:H1'	7:A:2309:A:OP1	2.12	0.50
7:A:2414:G:C2	7:A:2415:G:C8	2.99	0.50
7:A:2449:U:O2'	7:A:2501:C:N4	2.45	0.50
7:A:2636:C:O2'	10:D:45:TYR:OH	2.28	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2824:C:OP2	7:A:2825:G:N2	2.44	0.50
12:F:113:PHE:CZ	12:F:115:GLY:HA2	2.46	0.50
26:T:4:GLU:CB	31:Y:18:LEU:HD11	2.30	0.50
26:T:50:LEU:HD23	31:Y:26:PHE:CZ	2.46	0.50
27:U:32:LYS:HB3	27:U:63:ALA:HB1	1.92	0.50
33:a:370:C:H2'	33:a:371:A:C8	2.47	0.50
33:a:464:U:O2'	33:a:465:A:H3'	2.10	0.50
33:a:678:U:H2'	33:a:679:C:C6	2.47	0.50
33:a:1118:U:OP1	41:i:10:ARG:NH1	2.43	0.50
36:d:7:LYS:HB2	36:d:21:LYS:HD3	1.93	0.50
48:p:21:VAL:HG11	48:p:60:TRP:CD2	2.46	0.50
7:A:184:C:H2'	7:A:185:G:C8	2.46	0.50
7:A:265:A:C4	7:A:428:A:C6	3.00	0.50
7:A:300:A:H2'	7:A:334:C:H1'	1.94	0.50
7:A:372:G:H5'	30:X:57:VAL:HG22	1.92	0.50
7:A:579:G:H2'	7:A:580:U:H6	1.77	0.50
7:A:598:U:H2'	7:A:599:A:H8	1.77	0.50
7:A:643:A:H61	7:A:2370:G:H1'	1.75	0.50
7:A:1249:U:H4'	23:Q:3:VAL:HG11	1.94	0.50
8:B:44:G:H21	8:B:47:C:H5	1.59	0.50
33:a:663:A:O3'	50:r:52:ARG:NH2	2.44	0.50
33:a:1106:G:H2'	33:a:1107:C:C6	2.46	0.50
33:a:1152:A:OP1	42:j:70:HIS:ND1	2.45	0.50
33:a:1160:G:C2	33:a:1176:A:C2	2.98	0.50
2:1:43:ARG:O	2:1:44:GLN:NE2	2.45	0.50
7:A:165:A:H2'	7:A:166:U:O4'	2.12	0.50
7:A:543:G:C6	7:A:551:G:N1	2.80	0.50
7:A:1275:A:N1	7:A:1295:C:O2'	2.32	0.50
7:A:2032:G:O2'	10:D:150:GLN:NE2	2.45	0.50
7:A:2840:C:H2'	7:A:2841:C:C6	2.47	0.50
8:B:29:A:H2'	8:B:30:C:C6	2.46	0.50
8:B:52:A:O2'	8:B:53:A:H8	1.94	0.50
14:H:42:LYS:HB2	14:H:46:PHE:CE2	2.46	0.50
29:W:29:ALA:N	29:W:60:ASP:OD1	2.43	0.50
33:a:361:G:H2'	33:a:362:G:O4'	2.11	0.50
33:a:461:A:C5	33:a:462:G:N7	2.80	0.50
33:a:1075:U:H2'	33:a:1076:U:C6	2.47	0.50
35:c:19:SER:HB2	46:n:92:GLU:O	2.12	0.50
35:c:128:MET:N	35:c:128:MET:SD	2.85	0.50
36:d:97:LEU:HB2	36:d:134:TYR:HB3	1.94	0.50
36:d:117:VAL:HG22	36:d:122:ILE:HG13	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:g:108:ARG:O	39:g:118:ARG:NH1	2.44	0.50
55:w:53:G:O6	55:w:62:C:N4	2.44	0.50
1:0:3:GLN:HA	7:A:2615:U:C2	2.47	0.50
7:A:596:U:H2'	7:A:597:G:H8	1.76	0.50
7:A:615:U:H5''	7:A:616:A:H8	1.76	0.50
7:A:623:C:H2'	7:A:624:C:C6	2.47	0.50
7:A:716:A:H2'	7:A:717:C:O4'	2.12	0.50
7:A:1054:A:O5'	7:A:1054:A:H8	1.93	0.50
7:A:1056:G:C2	7:A:1102:C:C5	2.99	0.50
7:A:1451:C:O2'	7:A:1452:G:N2	2.45	0.50
7:A:1683:U:H2'	7:A:1684:G:C8	2.46	0.50
7:A:1734:G:C2	7:A:1735:A:C5	3.00	0.50
7:A:1883:U:H2'	7:A:1884:G:O4'	2.11	0.50
7:A:2247:A:H2'	7:A:2248:C:C6	2.45	0.50
7:A:2506:U:OP2	7:A:2576:G:N1	2.36	0.50
9:C:28:PRO:HG2	9:C:33:LEU:HD21	1.94	0.50
9:C:160:TYR:CG	9:C:193:GLU:HG2	2.46	0.50
11:E:22:ASP:OD1	11:E:23:PHE:N	2.43	0.50
33:a:258:G:H2'	33:a:259:G:H8	1.77	0.50
33:a:722:G:O6	33:a:733:G:N2	2.38	0.50
33:a:1523:G:H2'	33:a:1524:C:C6	2.47	0.50
7:A:39:G:H2'	7:A:40:U:C6	2.47	0.50
7:A:269:C:H2'	7:A:270:A:H8	1.76	0.50
7:A:565:C:H2'	7:A:566:U:C6	2.46	0.50
7:A:937:C:H2'	7:A:938:G:H8	1.76	0.50
7:A:1062:G:O5'	7:A:1064:C:N4	2.45	0.50
7:A:1765:U:H2'	7:A:1766:G:C8	2.46	0.50
7:A:2111:U:H5''	7:A:2118:U:O3'	2.11	0.50
13:G:97:VAL:HG21	13:G:123:GLU:HA	1.93	0.50
26:T:4:GLU:CD	31:Y:18:LEU:HD11	2.37	0.50
26:T:80:TRP:CD1	26:T:80:TRP:H	2.29	0.50
33:a:334:C:H2'	33:a:335:C:H6	1.77	0.50
33:a:1431:A:C6	33:a:1432:G:C2	3.00	0.50
33:a:1531:A:H2'	33:a:1532:U:C6	2.47	0.50
36:d:25:ARG:NH1	36:d:30:LYS:HG2	2.27	0.50
43:k:118:ASN:HA	53:u:34:ARG:NH1	2.26	0.50
1:0:39:ARG:NH2	7:A:2884:U:H5	2.10	0.50
7:A:1655:A:H3'	7:A:1656:C:H6	1.76	0.50
7:A:1770:G:C6	7:A:1983:G:C6	3.00	0.50
7:A:2641:G:H5''	16:J:78:THR:HB	1.93	0.50
20:N:38:LEU:HB3	20:N:39:PRO:HD3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:U:20:LYS:HG2	27:U:21:ARG:H	1.76	0.50
28:V:13:GLY:O	28:V:17:SER:HB3	2.12	0.50
31:Y:17:GLU:HB2	31:Y:53:VAL:HG11	1.92	0.50
33:a:204:G:N2	33:a:465:A:N3	2.55	0.50
33:a:237:G:H5''	49:q:26:ARG:NH2	2.27	0.50
33:a:264:C:H4'	49:q:64:ARG:HD2	1.93	0.50
33:a:607:A:H2'	33:a:608:A:C8	2.47	0.50
33:a:1099:G:H2'	33:a:1100:C:O4'	2.12	0.50
49:q:46:HIS:HA	49:q:70:LYS:HD2	1.94	0.50
57:y:63:LEU:HD13	57:y:72:ILE:HG12	1.94	0.50
7:A:70:G:H5''	7:A:112:U:O2	2.12	0.50
7:A:671:C:H2'	7:A:672:C:C6	2.47	0.50
7:A:994:C:OP2	23:Q:53:LYS:NZ	2.45	0.50
7:A:1563:U:H2'	7:A:1564:C:H6	1.77	0.50
7:A:1636:U:H2'	7:A:1637:A:C8	2.47	0.50
7:A:2679:A:H2'	7:A:2680:U:C6	2.47	0.50
13:G:25:ILE:HG21	13:G:75:VAL:HG12	1.93	0.50
17:K:69:VAL:HG11	17:K:104:THR:HG21	1.94	0.50
22:P:30:TRP:CD2	22:P:37:LYS:HE3	2.47	0.50
25:S:17:VAL:HG12	25:S:76:VAL:HG21	1.93	0.50
33:a:491:G:C6	33:a:492:C:C4	3.00	0.50
33:a:619:U:H4'	36:d:127:ARG:HH22	1.76	0.50
33:a:684:U:O4	33:a:685:G:N2	2.45	0.50
34:b:67:LEU:HD23	34:b:157:PRO:HB3	1.93	0.50
45:m:8:ILE:HG22	45:m:21:ILE:HD11	1.93	0.50
7:A:19:A:H2'	7:A:20:C:C6	2.47	0.49
7:A:570:G:C4	7:A:2030:6MZ:N7	2.80	0.49
7:A:639:U:C2	7:A:640:C:C5	3.00	0.49
7:A:900:A:H2'	7:A:901:C:O4'	2.11	0.49
7:A:1197:G:H2'	7:A:1198:U:H6	1.77	0.49
7:A:1355:G:H2'	7:A:1356:G:H8	1.76	0.49
7:A:1484:U:H2'	7:A:1485:U:C6	2.47	0.49
7:A:1915:3TD:H1'	57:y:105:ARG:HB2	1.94	0.49
7:A:1946:U:H2'	7:A:1947:C:C6	2.47	0.49
7:A:2700:A:H2'	7:A:2701:U:C6	2.46	0.49
10:D:3:GLY:HA3	10:D:203:VAL:O	2.12	0.49
33:a:2:A:H4'	36:d:82:LYS:HE2	1.94	0.49
33:a:464:U:H3	33:a:469:C:N4	2.09	0.49
33:a:542:G:H2'	33:a:543:U:H6	1.77	0.49
37:e:37:VAL:HG11	37:e:113:VAL:HA	1.94	0.49
7:A:361:G:O2'	7:A:362:A:H8	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:716:A:P	47:o:88:ARG:HH21	2.35	0.49
7:A:1593:A:H2'	7:A:1594:U:C6	2.47	0.49
7:A:1812:U:H2'	7:A:1813:G:H8	1.76	0.49
7:A:1914:C:OP1	7:A:1915:3TD:H10	2.12	0.49
7:A:1922:G:H2'	7:A:1923:U:O4'	2.12	0.49
7:A:2773:C:H2'	7:A:2774:C:H6	1.76	0.49
11:E:80:SER:O	11:E:80:SER:OG	2.27	0.49
16:J:56:VAL:HB	16:J:124:VAL:HA	1.94	0.49
17:K:4:GLU:HA	17:K:21:CYS:O	2.12	0.49
19:M:24:THR:HA	19:M:99:GLY:O	2.12	0.49
22:P:33:GLU:OE2	22:P:38:ARG:NH1	2.45	0.49
33:a:110:C:O2'	48:p:25:ARG:O	2.24	0.49
33:a:815:A:N7	33:a:1509:C:O2'	2.35	0.49
33:a:883:C:O2'	33:a:884:U:H5'	2.12	0.49
33:a:947:G:H2'	33:a:948:C:C6	2.47	0.49
45:m:3:ILE:O	45:m:6:ILE:HG22	2.12	0.49
7:A:415:A:H2'	7:A:416:U:C6	2.47	0.49
7:A:961:C:O2	7:A:2031:A:N6	2.44	0.49
7:A:1167:C:H2'	7:A:1168:G:C8	2.46	0.49
7:A:2048:G:C6	7:A:2621:G:N1	2.80	0.49
7:A:2229:U:H2'	7:A:2230:G:C8	2.44	0.49
10:D:116:LYS:HA	20:N:1:MET:SD	2.53	0.49
33:a:377:G:H2'	33:a:378:G:H8	1.77	0.49
33:a:391:G:O3'	48:p:8:ARG:NH2	2.45	0.49
33:a:517:G:H1	33:a:533:A:P	2.35	0.49
33:a:987:G:H2'	33:a:988:G:C8	2.47	0.49
33:a:1157:A:N3	33:a:1181:G:C2	2.80	0.49
33:a:1182:G:H5'	33:a:1183:U:OP1	2.12	0.49
33:a:1289:A:N1	33:a:1371:G:O2'	2.40	0.49
40:h:1:SER:O	40:h:1:SER:OG	2.26	0.49
49:q:56:ASP:OD1	49:q:81:ALA:N	2.46	0.49
2:1:22:THR:HG21	7:A:2286:G:O6	2.12	0.49
7:A:1:G:N2	7:A:2903:U:H1'	2.27	0.49
7:A:249:C:OP2	7:A:2394:C:O2'	2.21	0.49
7:A:547:A:H5'	7:A:548:G:C5	2.47	0.49
7:A:588:U:H2'	7:A:589:U:C6	2.47	0.49
7:A:1093:G:H2'	7:A:1093:G:N3	2.26	0.49
7:A:2312:U:H2'	7:A:2313:C:H5'	1.95	0.49
14:H:4:ILE:HA	14:H:17:ASP:O	2.12	0.49
25:S:37:THR:OG1	25:S:48:LYS:NZ	2.37	0.49
33:a:96:U:H2'	33:a:97:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:600:A:H2'	33:a:601:G:H8	1.77	0.49
33:a:696:A:H2'	33:a:697:U:H6	1.77	0.49
33:a:847:G:H2'	33:a:848:C:H6	1.78	0.49
33:a:894:G:H1	33:a:905:U:H3	1.61	0.49
33:a:1130:A:N6	33:a:1144:G:H1'	2.27	0.49
35:c:117:ASP:HA	35:c:120:THR:HG22	1.93	0.49
38:f:69:GLU:OE1	38:f:69:GLU:N	2.41	0.49
43:k:37:GLN:OE1	43:k:37:GLN:N	2.46	0.49
7:A:511:U:H2'	7:A:512:G:H5'	1.94	0.49
7:A:1190:G:H5''	18:L:32:GLY:HA2	1.94	0.49
7:A:1675:C:C4	10:D:134:HIS:CE1	3.01	0.49
7:A:1964:G:C6	7:A:1967:C:N4	2.80	0.49
7:A:2384:U:OP2	29:W:51:ARG:NH2	2.32	0.49
7:A:2494:G:C2	7:A:2495:G:C8	3.01	0.49
7:A:2786:U:H2'	7:A:2787:C:H6	1.78	0.49
12:F:169:LEU:HD12	12:F:174:PHE:CG	2.48	0.49
14:H:65:ALA:H	14:H:68:ARG:HB3	1.76	0.49
18:L:132:ARG:NH1	18:L:144:GLU:OE2	2.45	0.49
20:N:2:ARG:HA	20:N:5:LYS:HD2	1.94	0.49
26:T:78:SER:OG	26:T:79:ASP:N	2.45	0.49
27:U:13:LEU:HD21	27:U:70:ALA:HB3	1.94	0.49
27:U:17:ASP:OD2	27:U:39:ASN:ND2	2.46	0.49
33:a:255:G:H2'	33:a:256:U:H6	1.77	0.49
33:a:672:U:H2'	33:a:673:A:H8	1.77	0.49
33:a:709:U:C2	33:a:710:G:C8	3.01	0.49
33:a:715:A:H2'	33:a:716:A:H8	1.77	0.49
33:a:1235:U:H2'	33:a:1236:A:O4'	2.12	0.49
38:f:38:ARG:HB3	38:f:63:ASN:HD22	1.78	0.49
50:r:31:TYR:O	50:r:39:VAL:HG22	2.12	0.49
7:A:396:G:O2'	30:X:29:LEU:O	2.30	0.49
7:A:1011:G:C6	7:A:1151:A:C6	3.00	0.49
7:A:1520:U:C2	7:A:1521:G:C8	3.01	0.49
7:A:1549:A:H2'	7:A:1550:C:H6	1.76	0.49
7:A:1549:A:H2'	7:A:1550:C:C6	2.47	0.49
7:A:1710:G:H2'	7:A:1711:A:C8	2.47	0.49
7:A:1889:A:H2'	7:A:1890:A:H8	1.78	0.49
7:A:2294:G:H2'	7:A:2295:C:H6	1.77	0.49
7:A:2450:A:N6	7:A:2501:C:O2	2.45	0.49
8:B:95:U:H2'	8:B:96:G:H8	1.77	0.49
33:a:664:G:P	50:r:52:ARG:HH21	2.36	0.49
33:a:710:G:H2'	33:a:711:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1147:C:H1'	41:i:17:ARG:HH11	1.76	0.49
33:a:1359:C:O2'	33:a:1362:A:N6	2.41	0.49
7:A:308:G:C2	7:A:501:A:C5	3.01	0.49
7:A:619:G:OP2	7:A:620:G:N2	2.46	0.49
7:A:783:A:H2'	7:A:784:G:H4'	1.94	0.49
7:A:1062:G:N2	7:A:1063:G:O6	2.42	0.49
7:A:1131:G:C5	16:J:77:HIS:ND1	2.81	0.49
7:A:1356:G:H2'	7:A:1357:C:H6	1.76	0.49
7:A:1747:U:H2'	7:A:1748:C:H6	1.77	0.49
7:A:1918:A:O2'	7:A:1919:A:N7	2.39	0.49
7:A:2195:U:H2'	7:A:2196:C:H6	1.76	0.49
7:A:2342:C:O2'	7:A:2374:C:OP1	2.30	0.49
7:A:2480:C:H2'	7:A:2481:G:O4'	2.13	0.49
7:A:2519:U:C4	7:A:2542:A:C5	3.01	0.49
12:F:115:GLY:HA3	12:F:177:ARG:HG2	1.95	0.49
14:H:94:ILE:HG13	14:H:94:ILE:O	2.12	0.49
33:a:131:A:H2'	33:a:132:C:H6	1.76	0.49
33:a:565:U:OP2	33:a:566:G:O2'	2.29	0.49
33:a:838:G:C6	33:a:849:G:C6	3.01	0.49
33:a:876:C:H2'	33:a:877:G:H8	1.78	0.49
33:a:1359:C:O5'	46:n:75:ARG:NH2	2.42	0.49
7:A:4:U:H2'	7:A:5:A:C8	2.48	0.49
7:A:206:U:C2	7:A:207:A:C8	3.01	0.49
7:A:935:C:H2'	7:A:936:A:C8	2.45	0.49
7:A:970:U:H2'	7:A:971:G:C8	2.44	0.49
7:A:1663:G:O6	7:A:1998:A:N6	2.46	0.49
7:A:1952:A:OP1	17:K:44:LYS:NZ	2.44	0.49
16:J:40:HIS:NE2	16:J:52:ASP:OD2	2.43	0.49
32:Z:2:LYS:NZ	32:Z:39:ASP:OD2	2.37	0.49
33:a:9:G:H4'	37:e:108:GLY:H	1.77	0.49
33:a:82:G:O6	33:a:86:G:O2'	2.31	0.49
33:a:179:A:H2'	33:a:179:A:N3	2.27	0.49
33:a:374:A:H2'	33:a:375:U:H6	1.77	0.49
33:a:750:C:C2	33:a:751:U:C5	3.00	0.49
33:a:1019:A:H2'	33:a:1020:G:H5'	1.94	0.49
33:a:1081:A:H5'	37:e:22:LYS:HE2	1.93	0.49
33:a:1267:C:O2'	33:a:1268:G:C8	2.62	0.49
33:a:1300:G:O2'	33:a:1301:U:H6	1.96	0.49
33:a:1304:G:N2	33:a:1332:A:N7	2.61	0.49
35:c:129:PHE:CE2	35:c:165:GLU:HG3	2.47	0.49
7:A:254:G:O2'	7:A:255:A:O4'	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1434:A:H2'	7:A:1435:G:H8	1.78	0.49
7:A:2174:C:H2'	7:A:2175:C:H6	1.77	0.49
7:A:2812:G:H2'	7:A:2813:A:H8	1.76	0.49
7:A:2818:U:OP1	20:N:45:ARG:NH2	2.46	0.49
7:A:2901:C:N3	7:A:2902:C:N4	2.61	0.49
12:F:32:LYS:HG2	12:F:156:THR:HB	1.94	0.49
22:P:61:ARG:HH22	22:P:68:GLY:HA3	1.77	0.49
30:X:11:PRO:HB3	30:X:29:LEU:HD23	1.95	0.49
33:a:2:A:H1'	33:a:613:C:O2'	2.12	0.49
33:a:451:A:H2'	33:a:481:G:H1	1.76	0.49
33:a:773:G:C6	33:a:807:A:C6	3.01	0.49
33:a:1012:A:C6	33:a:1018:G:C6	3.00	0.49
33:a:1055:A:O2'	35:c:160:GLU:O	2.22	0.49
33:a:1147:C:H4'	41:i:6:TYR:CZ	2.48	0.49
33:a:1303:C:H2'	33:a:1304:G:O4'	2.12	0.49
34:b:107:ARG:HA	34:b:110:ILE:HD12	1.95	0.49
36:d:84:ASN:HB3	36:d:87:GLU:HG2	1.94	0.49
39:g:65:LEU:O	39:g:69:ARG:CB	2.54	0.49
40:h:4:ASP:OD1	40:h:7:ALA:N	2.25	0.49
7:A:124:G:N2	7:A:126:A:H4'	2.28	0.49
7:A:318:C:H2'	7:A:319:G:H8	1.77	0.49
7:A:543:G:C6	7:A:544:C:N4	2.81	0.49
7:A:624:C:O2'	7:A:657:U:OP1	2.29	0.49
7:A:1075:C:N3	15:I:90:GLY:HA2	2.27	0.49
7:A:1568:G:P	9:C:62:ARG:HH22	2.35	0.49
7:A:1590:A:H2'	7:A:1591:A:C8	2.47	0.49
7:A:1744:A:C2	7:A:1745:A:H1'	2.48	0.49
7:A:2259:U:H2'	7:A:2260:C:H6	1.78	0.49
14:H:5:LEU:HD22	14:H:13:GLY:HA2	1.94	0.49
14:H:46:PHE:HB3	14:H:50:ARG:NH2	2.28	0.49
14:H:101:ASP:OD1	14:H:102:ALA:N	2.42	0.49
32:Z:3:THR:OG1	32:Z:36:GLU:OE2	2.22	0.49
33:a:106:C:H2'	33:a:107:G:O4'	2.13	0.49
33:a:378:G:N1	33:a:386:C:N3	2.61	0.49
33:a:728:A:H2'	33:a:729:A:C8	2.48	0.49
33:a:1497:G:H1'	33:a:1518:MA6:H2	1.94	0.49
41:i:82:ILE:O	41:i:86:LEU:HG	2.13	0.49
48:p:8:ARG:HD3	48:p:17:TYR:CE2	2.48	0.49
4:3:31:ILE:O	4:3:33:THR:N	2.46	0.48
7:A:64:A:H2'	7:A:65:U:H6	1.78	0.48
7:A:177:G:H3'	7:A:178:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:251:A:OP1	18:L:58:TYR:OH	2.18	0.48
7:A:291:G:H2'	7:A:292:U:H6	1.77	0.48
7:A:563:A:C6	7:A:2018:G:C4	3.01	0.48
7:A:667:U:H2'	7:A:668:A:O4'	2.12	0.48
7:A:1385:A:C4	7:A:1403:A:C2	3.01	0.48
7:A:2537:U:H2'	7:A:2538:C:C6	2.48	0.48
28:V:69:GLU:OE1	28:V:69:GLU:N	2.35	0.48
33:a:27:G:H2'	33:a:28:A:H8	1.76	0.48
33:a:41:G:H2'	33:a:42:G:C8	2.47	0.48
33:a:382:A:H2'	33:a:383:A:C8	2.48	0.48
33:a:409:U:O2	33:a:433:G:N2	2.40	0.48
33:a:516:PSU:H2'	33:a:517:G:C8	2.48	0.48
33:a:693:G:OP1	43:k:126:ARG:NH1	2.46	0.48
33:a:767:A:H2'	33:a:768:A:H8	1.78	0.48
33:a:1096:C:H2'	33:a:1097:C:H6	1.78	0.48
35:c:114:LEU:HA	35:c:117:ASP:OD2	2.13	0.48
35:c:183:TYR:HE1	35:c:198:LYS:HD3	1.78	0.48
55:w:3:C:H2'	55:w:4:C:C6	2.48	0.48
5:4:18:LYS:HG2	5:4:21:GLY:HA2	1.94	0.48
7:A:418:C:H2'	7:A:419:U:H6	1.76	0.48
7:A:636:G:N1	18:L:76:GLU:OE2	2.31	0.48
7:A:903:C:H2'	7:A:904:G:C8	2.49	0.48
7:A:959:A:H1'	7:A:2457:PSU:O2'	2.13	0.48
7:A:1212:G:H1'	7:A:1237:A:N6	2.28	0.48
7:A:1797:G:C6	7:A:1798:U:C4	3.01	0.48
7:A:1802:A:H2'	7:A:1803:A:C8	2.47	0.48
7:A:2063:C:O2'	55:w:76:A:O3'	2.28	0.48
7:A:2128:G:H2'	7:A:2129:C:O4'	2.13	0.48
7:A:2185:U:H3'	7:A:2186:G:C8	2.48	0.48
7:A:2190:G:H2'	7:A:2191:A:C8	2.48	0.48
7:A:2228:G:H2'	7:A:2229:U:C6	2.48	0.48
7:A:2241:A:H2'	7:A:2242:G:C8	2.48	0.48
7:A:2747:G:N1	7:A:2754:U:O2	2.46	0.48
12:F:68:LYS:HG3	12:F:83:PRO:HA	1.94	0.48
14:H:114:GLU:OE1	14:H:114:GLU:N	2.46	0.48
24:R:51:VAL:HB	24:R:52:PRO:HD3	1.94	0.48
32:Z:26:LEU:O	32:Z:37:ARG:NE	2.42	0.48
33:a:113:G:H2'	33:a:114:U:C6	2.48	0.48
33:a:321:A:H2'	33:a:322:C:C6	2.48	0.48
33:a:676:A:H2'	33:a:677:U:H6	1.78	0.48
33:a:736:C:O2'	38:f:89:VAL:O	2.30	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:945:G:C2	33:a:946:A:C8	3.01	0.48
33:a:1150:A:H4'	42:j:43:PRO:HG3	1.94	0.48
33:a:1270:G:H2'	33:a:1271:A:C8	2.47	0.48
33:a:1415:G:C6	33:a:1486:G:C6	3.01	0.48
36:d:46:ARG:HH11	57:y:136:ARG:HA	1.77	0.48
39:g:114:SER:O	39:g:118:ARG:HG3	2.13	0.48
52:t:38:ILE:HD13	52:t:81:GLN:HG2	1.95	0.48
57:y:55:ARG:NH1	57:y:100:THR:O	2.46	0.48
7:A:182:A:H2'	7:A:183:C:C6	2.48	0.48
7:A:185:G:C6	7:A:212:G:N1	2.82	0.48
7:A:306:U:H2'	7:A:307:G:O4'	2.13	0.48
7:A:477:A:H2'	7:A:478:A:C8	2.48	0.48
7:A:858:G:N2	7:A:920:A:N1	2.61	0.48
7:A:1131:G:O2'	7:A:2025:C:O2'	2.27	0.48
7:A:1770:G:O2'	7:A:1938:A:OP1	2.22	0.48
7:A:1847:G:O2'	7:A:1848:A:C8	2.66	0.48
7:A:2136:G:H3'	7:A:2137:U:C6	2.48	0.48
7:A:2313:C:H5''	12:F:87:LYS:HD2	1.95	0.48
7:A:2469:A:C6	7:A:2482:A:C8	3.02	0.48
7:A:2687:U:H2'	7:A:2688:G:O4'	2.13	0.48
7:A:2813:A:C4	7:A:2814:A:C8	3.00	0.48
11:E:146:VAL:HA	11:E:185:LYS:O	2.13	0.48
16:J:98:GLU:OE1	16:J:98:GLU:N	2.46	0.48
16:J:112:GLY:O	16:J:115:GLY:N	2.46	0.48
33:a:32:A:H2'	33:a:33:A:H8	1.78	0.48
33:a:188:C:H2'	33:a:189:A:O4'	2.12	0.48
33:a:265:G:H4'	49:q:67:SER:CA	2.43	0.48
33:a:1271:A:C2	33:a:1272:G:C5	3.01	0.48
33:a:1528:U:H4'	33:a:1529:G:H5'	1.95	0.48
35:c:180:ASP:N	35:c:204:GLY:O	2.26	0.48
49:q:24:ILE:HB	49:q:41:THR:HB	1.95	0.48
2:l:39:ASP:O	2:l:43:ARG:N	2.38	0.48
7:A:141:G:H1'	7:A:142:A:O4'	2.13	0.48
7:A:546:U:O2'	7:A:547:A:O5'	2.32	0.48
7:A:881:G:N1	7:A:895:U:O2'	2.36	0.48
7:A:937:C:H2'	7:A:938:G:C8	2.48	0.48
7:A:1039:A:N6	7:A:1116:G:H1	2.10	0.48
7:A:1080:A:N3	7:A:1081:U:H5	2.10	0.48
7:A:1093:G:H1	7:A:1096:A:H5''	1.78	0.48
7:A:1286:A:H1'	7:A:1288:G:OP2	2.13	0.48
7:A:1715:G:O2'	7:A:1716:U:O5'	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1806:C:H1'	9:C:43:ASN:HD21	1.78	0.48
7:A:2560:A:H2'	7:A:2561:U:O4'	2.13	0.48
7:A:2901:C:H2'	7:A:2902:C:C5	2.48	0.48
13:G:72:ASN:O	13:G:76:ILE:HG12	2.14	0.48
28:V:21:ARG:HH21	28:V:87:GLN:HB3	1.77	0.48
33:a:59:A:H3'	33:a:331:G:H22	1.79	0.48
33:a:270:A:H2'	33:a:271:C:C6	2.49	0.48
33:a:302:G:N3	33:a:556:C:H4'	2.28	0.48
33:a:343:U:O2	33:a:347:G:C2	2.66	0.48
33:a:1129:C:H5'	41:i:17:ARG:NH2	2.28	0.48
33:a:1450:U:H2'	33:a:1452:C:C5	2.48	0.48
53:u:23:GLU:HA	53:u:26:GLY:HA2	1.95	0.48
7:A:309:A:N3	7:A:329:G:O2'	2.44	0.48
7:A:365:U:H2'	7:A:366:C:H6	1.74	0.48
7:A:392:U:H2'	7:A:393:C:C6	2.48	0.48
7:A:476:G:N2	7:A:479:A:C8	2.82	0.48
7:A:1198:U:H2'	7:A:1199:U:H6	1.76	0.48
7:A:1209:U:O2'	7:A:1237:A:N1	2.40	0.48
7:A:1658:C:OP2	10:D:140:HIS:HD2	1.97	0.48
7:A:1941:C:H3'	7:A:1942:C:C5	2.48	0.48
7:A:2586:U:OP1	7:A:2608:G:N1	2.28	0.48
7:A:2648:G:C4	7:A:2673:G:C2	3.01	0.48
24:R:2:TYR:HE1	24:R:40:MET:HE2	1.77	0.48
33:a:39:G:C2	33:a:404:G:C2	3.00	0.48
33:a:193:C:H1'	52:t:54:GLN:NE2	2.29	0.48
45:m:3:ILE:HD11	45:m:52:ILE:HG23	1.95	0.48
45:m:85:TYR:O	45:m:89:ARG:HG2	2.14	0.48
47:o:88:ARG:N	47:o:88:ARG:HD2	2.29	0.48
7:A:7:G:H2'	7:A:8:C:C6	2.49	0.48
7:A:273:G:H2'	7:A:274:C:C5	2.48	0.48
7:A:629:G:H5''	7:A:650:C:O2'	2.13	0.48
7:A:668:A:C5	7:A:670:A:C8	3.01	0.48
7:A:1417:C:C4	7:A:1418:G:C5	3.01	0.48
7:A:1667:G:H21	7:A:1994:C:N4	2.11	0.48
7:A:1889:A:H2'	7:A:1890:A:C8	2.48	0.48
7:A:2399:G:C6	7:A:2418:A:N1	2.82	0.48
7:A:2444:G:OP1	11:E:63:LYS:NZ	2.40	0.48
7:A:2454:G:C4	7:A:2455:G:C8	3.02	0.48
7:A:2455:G:H2'	7:A:2456:C:H6	1.78	0.48
7:A:2639:A:H1'	7:A:2778:A:C2	2.48	0.48
9:C:68:ARG:NH1	9:C:128:THR:OG1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:59:ILE:HD11	12:F:98:PHE:HE1	1.78	0.48
16:J:23:LYS:NZ	16:J:142:ILE:O	2.33	0.48
27:U:52:ASN:O	27:U:54:PRO:HD3	2.13	0.48
29:W:68:LYS:HE2	29:W:75:PHE:CD2	2.49	0.48
33:a:240:G:H2'	33:a:241:G:C8	2.47	0.48
33:a:570:G:H2'	33:a:571:U:C6	2.49	0.48
33:a:965:U:H1'	33:a:969:A:C2	2.48	0.48
33:a:1064:G:O2'	33:a:1190:G:N2	2.45	0.48
33:a:1303:C:C4	33:a:1304:G:C5	3.02	0.48
33:a:1342:C:H2'	33:a:1343:G:C8	2.48	0.48
33:a:1348:U:O2'	41:i:121:ARG:HG3	2.13	0.48
36:d:171:GLU:HB2	36:d:182:LYS:HZ3	1.79	0.48
46:n:20:PHE:C	46:n:22:LYS:H	2.21	0.48
1:0:51:ARG:O	1:0:53:VAL:HG13	2.13	0.48
7:A:309:A:N7	7:A:330:A:C6	2.82	0.48
7:A:552:U:H2'	7:A:553:G:H8	1.79	0.48
7:A:599:A:C6	7:A:659:G:C6	3.01	0.48
7:A:686:U:H2'	7:A:788:A:N1	2.29	0.48
7:A:722:A:H2'	7:A:723:C:H6	1.78	0.48
7:A:1028:A:N3	7:A:2486:C:O2'	2.42	0.48
7:A:1717:A:N6	7:A:1743:G:O2'	2.46	0.48
7:A:2349:G:O6	7:A:2369:A:N6	2.47	0.48
24:R:6:GLN:HG2	24:R:37:GLU:OE1	2.13	0.48
28:V:75:GLN:N	28:V:90:ASP:O	2.43	0.48
33:a:362:G:OP2	44:l:30:ARG:NH2	2.45	0.48
33:a:424:G:H2'	33:a:425:G:C8	2.49	0.48
33:a:491:G:H2'	33:a:492:C:C6	2.48	0.48
33:a:1037:C:H2'	33:a:1038:C:C6	2.46	0.48
33:a:1423:G:H2'	33:a:1424:U:C6	2.49	0.48
35:c:179:ALA:HA	35:c:205:GLU:HA	1.96	0.48
36:d:14:GLU:OE2	36:d:55:ARG:NH1	2.47	0.48
36:d:18:LEU:HD21	36:d:59:LYS:HG3	1.95	0.48
38:f:92:THR:O	38:f:93:LYS:HG2	2.13	0.48
52:t:19:HIS:O	52:t:23:ARG:HG2	2.14	0.48
5:4:36:ARG:NH1	5:4:37:GLN:OE1	2.46	0.48
7:A:366:C:O2'	7:A:367:G:O4'	2.18	0.48
7:A:392:U:H2'	7:A:393:C:H6	1.77	0.48
7:A:578:G:OP1	7:A:1255:U:O2'	2.30	0.48
7:A:874:G:H2'	7:A:875:G:H8	1.78	0.48
7:A:1075:C:H42	15:I:90:GLY:HA2	1.79	0.48
7:A:1160:G:H2'	7:A:1161:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1502:A:C6	7:A:1503:A:C5	3.02	0.48
7:A:1682:G:C4	7:A:1757:A:H1'	2.48	0.48
7:A:1709:U:H2'	7:A:1710:G:H8	1.78	0.48
7:A:1825:U:OP1	9:C:229:HIS:NE2	2.42	0.48
7:A:1844:C:H4'	9:C:255:LYS:HZ3	1.78	0.48
7:A:1923:U:H2'	7:A:1924:C:C6	2.49	0.48
7:A:2165:C:H3'	7:A:2167:U:O2	2.14	0.48
7:A:2838:G:C4	7:A:2839:G:C8	3.02	0.48
8:B:70:C:H2'	8:B:71:C:H6	1.78	0.48
19:M:53:MET:HG3	19:M:120:ALA:HB2	1.94	0.48
20:N:103:ARG:HB3	20:N:108:ALA:H	1.78	0.48
24:R:24:LYS:HA	24:R:94:THR:OG1	2.14	0.48
27:U:43:LYS:HB2	27:U:60:LYS:HE3	1.96	0.48
33:a:148:G:H1	33:a:174:A:N6	2.10	0.48
33:a:642:A:N7	40:h:106:SER:HA	2.29	0.48
33:a:742:G:H2'	33:a:743:A:C8	2.44	0.48
33:a:774:G:N1	33:a:775:G:N2	2.61	0.48
33:a:1525:G:H2'	33:a:1526:G:H8	1.79	0.48
42:j:53:ILE:CG2	42:j:63:ASP:HB2	2.44	0.48
57:y:64:ILE:HG22	57:y:70:ILE:HG12	1.94	0.48
7:A:192:C:O2'	7:A:802:A:N3	2.41	0.48
7:A:575:A:OP2	7:A:2499:C:O2'	2.31	0.48
7:A:960:A:H2	7:A:2495:G:N3	2.12	0.48
7:A:981:A:OP2	7:A:982:C:N4	2.46	0.48
7:A:1654:A:O2'	10:D:118:PHE:O	2.31	0.48
7:A:1747:U:H2'	7:A:1748:C:C6	2.49	0.48
7:A:1831:G:C6	7:A:1832:C:N4	2.82	0.48
7:A:2161:C:H5	7:A:2162:G:H1'	1.79	0.48
7:A:2415:G:H2'	7:A:2416:C:C6	2.49	0.48
7:A:2642:G:H2'	7:A:2643:G:H8	1.79	0.48
7:A:2854:G:C6	7:A:2864:G:O6	2.67	0.48
8:B:1:U:H2'	8:B:2:G:C8	2.48	0.48
8:B:4:C:H2'	8:B:5:U:C6	2.49	0.48
12:F:70:ARG:O	12:F:80:GLN:NE2	2.35	0.48
29:W:40:LYS:HZ3	29:W:74:LYS:HE3	1.78	0.48
33:a:505:G:H2'	33:a:506:G:C8	2.46	0.48
33:a:507:C:OP2	33:a:508:U:O2'	2.28	0.48
33:a:1034:G:H2'	33:a:1034:G:N3	2.29	0.48
33:a:1075:U:H2'	33:a:1076:U:H6	1.78	0.48
33:a:1518:MA6:OP2	33:a:1518:MA6:H8	2.14	0.48
47:o:5:GLU:OE1	47:o:5:GLU:N	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:145:C:H2'	7:A:146:A:H8	1.77	0.48
7:A:503:A:C5	7:A:506:G:C6	3.02	0.48
7:A:659:G:O2'	11:E:95:LYS:O	2.22	0.48
7:A:1078:U:O2'	7:A:1080:A:N7	2.47	0.48
7:A:1848:A:C4	7:A:1849:G:C8	3.02	0.48
7:A:2064:C:H2'	7:A:2065:C:C6	2.49	0.48
7:A:2680:U:H2'	7:A:2681:C:H6	1.78	0.48
8:B:112:G:H2'	8:B:113:C:C6	2.49	0.48
9:C:106:PRO:HG2	9:C:109:LEU:HB2	1.96	0.48
9:C:251:THR:OG1	9:C:252:LYS:N	2.46	0.48
18:L:77:ILE:HD11	18:L:101:ILE:CG2	2.44	0.48
23:Q:71:ASN:HD22	23:Q:109:VAL:HG21	1.77	0.48
25:S:35:ILE:O	25:S:39:THR:OG1	2.28	0.48
28:V:76:ASP:OD1	28:V:77:VAL:N	2.46	0.48
31:Y:10:SER:O	31:Y:14:LEU:HD13	2.14	0.48
33:a:775:G:H2'	33:a:776:G:O4'	2.13	0.48
33:a:921:U:H2'	33:a:922:G:O4'	2.13	0.48
33:a:1166:G:H22	33:a:1169:A:H5''	1.79	0.48
42:j:5:ARG:N	42:j:75:ASP:OD1	2.47	0.48
52:t:34:VAL:HG11	52:t:78:LEU:HD13	1.95	0.48
7:A:9:G:C2	7:A:2629:U:C4	3.02	0.47
7:A:138:U:O2'	7:A:141:G:O6	2.32	0.47
7:A:637:A:N1	7:A:651:G:O2'	2.45	0.47
7:A:746:PSU:HO2'	7:A:2611:C:HO2'	1.62	0.47
7:A:817:C:O2'	7:A:839:U:H5''	2.13	0.47
7:A:851:C:H2'	7:A:852:U:H6	1.78	0.47
7:A:863:A:H2'	7:A:864:G:H8	1.78	0.47
7:A:1171:G:N1	7:A:1179:G:N7	2.61	0.47
7:A:1301:A:H4'	7:A:1302:A:OP1	2.13	0.47
7:A:1444:G:C4	7:A:1445:G:C8	3.02	0.47
7:A:1447:C:H2'	7:A:1448:G:H8	1.79	0.47
7:A:1501:G:P	9:C:100:ARG:HH22	2.36	0.47
7:A:1735:A:C6	7:A:1736:U:C4	3.02	0.47
7:A:1812:U:H2'	7:A:1813:G:C8	2.49	0.47
7:A:2804:U:H2'	7:A:2805:C:C6	2.49	0.47
7:A:2840:C:H5''	20:N:53:THR:OG1	2.13	0.47
8:B:78:A:OP1	28:V:18:ARG:NH2	2.47	0.47
9:C:106:PRO:HD2	9:C:109:LEU:HD22	1.96	0.47
10:D:5:VAL:H	10:D:32:ASN:ND2	2.09	0.47
19:M:53:MET:HE1	19:M:103:TYR:CG	2.49	0.47
19:M:74:THR:HA	19:M:88:ASN:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:337:G:C2	33:a:338:A:C5	3.02	0.47
33:a:642:A:H2'	33:a:643:C:C6	2.49	0.47
33:a:1176:A:H2'	33:a:1177:G:C8	2.49	0.47
33:a:1460:C:C2	33:a:1461:G:C8	3.01	0.47
34:b:131:LYS:O	34:b:134:LEU:HG	2.13	0.47
36:d:94:GLU:OE2	36:d:103:ARG:NE	2.43	0.47
37:e:147:ASN:ND2	40:h:72:GLU:OE1	2.47	0.47
38:f:4:TYR:CE1	38:f:71:ILE:HG13	2.49	0.47
42:j:6:ILE:HB	42:j:76:ILE:HG22	1.97	0.47
48:p:47:GLU:HG3	48:p:51:ARG:HH21	1.78	0.47
57:y:51:TYR:OH	57:y:101:GLU:HG3	2.14	0.47
7:A:48:G:C2	7:A:177:G:OP2	2.61	0.47
7:A:247:G:OP2	7:A:249:C:N4	2.47	0.47
7:A:1495:A:O2'	7:A:1496:A:O4'	2.31	0.47
7:A:1630:A:N6	7:A:1637:A:H61	2.12	0.47
7:A:2737:G:H2'	7:A:2738:A:C8	2.49	0.47
7:A:2740:A:OP2	7:A:2763:G:N1	2.34	0.47
7:A:2881:U:C2	7:A:2882:A:C8	3.02	0.47
8:B:6:G:H2'	8:B:7:G:C8	2.49	0.47
17:K:7:MET:HA	17:K:19:VAL:O	2.14	0.47
21:O:51:ALA:HB3	21:O:78:VAL:HB	1.96	0.47
33:a:99:C:HO2'	33:a:100:G:H8	1.61	0.47
33:a:236:A:H2'	33:a:237:G:H8	1.79	0.47
33:a:424:G:H2'	33:a:425:G:H8	1.78	0.47
33:a:846:G:C2	33:a:847:G:C5	3.02	0.47
33:a:918:A:H2'	33:a:919:A:H8	1.77	0.47
33:a:947:G:O3'	45:m:107:THR:OG1	2.30	0.47
33:a:987:G:H21	33:a:1015:G:H21	1.59	0.47
35:c:151:GLU:HB2	35:c:200:TRP:HZ3	1.79	0.47
38:f:26:THR:HG22	38:f:36:ILE:HG12	1.95	0.47
39:g:14:ASP:OD1	39:g:16:LYS:N	2.47	0.47
39:g:74:VAL:HA	39:g:87:PRO:HA	1.96	0.47
41:i:32:ARG:HD3	41:i:37:TYR:CD1	2.49	0.47
45:m:44:ILE:HA	45:m:47:LEU:HD23	1.96	0.47
47:o:2:LEU:HG	47:o:7:THR:HG22	1.96	0.47
47:o:61:GLN:O	47:o:65:LEU:HG	2.14	0.47
7:A:176:A:O2'	7:A:177:G:H5'	2.15	0.47
7:A:303:G:C6	7:A:315:G:N1	2.82	0.47
7:A:349:U:H2'	7:A:350:G:C8	2.49	0.47
7:A:475:C:H2'	7:A:476:G:O4'	2.15	0.47
7:A:685:A:O2'	7:A:773:U:O4	2.21	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:711:G:C6	7:A:721:A:C6	3.02	0.47
7:A:738:G:N1	7:A:759:G:C6	2.83	0.47
7:A:1036:G:O6	7:A:1119:U:C2	2.67	0.47
7:A:1356:G:H2'	7:A:1357:C:C6	2.49	0.47
7:A:1372:U:H2'	7:A:1373:A:C8	2.49	0.47
7:A:1380:G:C2	7:A:1381:G:C8	3.02	0.47
7:A:1397:U:OP2	7:A:1398:C:N4	2.46	0.47
7:A:1424:G:H2'	7:A:1425:G:C8	2.49	0.47
7:A:1520:U:O2'	7:A:1521:G:OP1	2.24	0.47
7:A:1591:A:H2'	7:A:1592:C:C6	2.49	0.47
7:A:1999:C:O2	7:A:2687:U:O2'	2.26	0.47
14:H:117:LEU:HB3	14:H:120:GLY:O	2.14	0.47
14:H:122:LEU:HD11	14:H:146:VAL:HG11	1.96	0.47
16:J:76:HIS:CE1	16:J:85:LYS:HB2	2.49	0.47
19:M:40:ARG:HB3	19:M:93:VAL:HB	1.95	0.47
24:R:55:ASP:OD1	24:R:55:ASP:N	2.45	0.47
33:a:208:U:O2'	33:a:211:G:N1	2.47	0.47
33:a:374:A:H2'	33:a:375:U:C6	2.49	0.47
33:a:500:G:H2'	33:a:501:C:C6	2.50	0.47
33:a:1187:G:C6	33:a:1188:A:C6	3.02	0.47
33:a:1261:A:O2'	33:a:1283:U:H5''	2.13	0.47
33:a:1381:U:H2'	33:a:1382:C:O4'	2.15	0.47
35:c:131:ARG:HB3	35:c:135:ARG:HH21	1.79	0.47
42:j:42:LEU:HB3	42:j:71:LEU:HD23	1.96	0.47
7:A:12:U:O2	7:A:2626:C:H4'	2.14	0.47
7:A:272:A:N7	7:A:273:G:N7	2.62	0.47
7:A:578:G:O2'	7:A:580:U:OP2	2.26	0.47
7:A:1399:C:H2'	7:A:1400:U:H6	1.77	0.47
7:A:1843:C:O2'	9:C:253:GLY:O	2.28	0.47
7:A:2662:A:C8	7:A:2663:G:C8	3.02	0.47
7:A:2840:C:H2'	7:A:2841:C:H6	1.78	0.47
9:C:6:LYS:O	9:C:8:THR:N	2.43	0.47
11:E:130:LYS:HA	11:E:130:LYS:HD3	1.69	0.47
21:O:62:LEU:HD13	21:O:70:ALA:HA	1.96	0.47
25:S:22:ASP:OD1	25:S:25:ARG:NH2	2.46	0.47
30:X:3:VAL:HA	30:X:9:LYS:O	2.14	0.47
32:Z:11:SER:HB2	32:Z:31:ILE:HD11	1.96	0.47
33:a:1:A:O2'	33:a:2:A:OP1	2.29	0.47
33:a:82:G:H1'	33:a:84:U:H5	1.79	0.47
33:a:253:A:N6	33:a:274:A:N1	2.62	0.47
33:a:710:G:H2'	33:a:711:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:826:C:H5'	40:h:12:ARG:NH2	2.29	0.47
33:a:1429:A:H2'	33:a:1430:A:C8	2.50	0.47
33:a:1512:U:H2'	33:a:1513:A:H8	1.79	0.47
35:c:59:PRO:HB3	42:j:94:ALA:HA	1.95	0.47
48:p:69:ASP:OD1	48:p:69:ASP:N	2.46	0.47
48:p:73:ALA:O	48:p:77:GLU:HG2	2.15	0.47
2:l:8:ILE:HG12	2:l:22:THR:O	2.15	0.47
7:A:265:A:H4'	7:A:266:G:H5'	1.96	0.47
7:A:582:A:H2'	7:A:583:G:H8	1.79	0.47
7:A:729:G:O2'	7:A:763:G:H4'	2.14	0.47
7:A:838:C:C2	7:A:941:A:C6	3.03	0.47
7:A:2230:G:H5''	30:X:29:LEU:HD12	1.97	0.47
7:A:2364:C:H2'	7:A:2365:G:O4'	2.15	0.47
7:A:2794:C:H2'	7:A:2795:C:H6	1.80	0.47
8:B:60:C:H2'	8:B:61:G:C8	2.48	0.47
9:C:66:PHE:CE2	9:C:155:ARG:NH1	2.83	0.47
11:E:14:VAL:HG12	11:E:15:SER:H	1.78	0.47
32:Z:6:ILE:HD11	32:Z:47:ILE:HD11	1.97	0.47
33:a:33:A:H2'	33:a:34:C:C6	2.50	0.47
33:a:229:U:O2'	48:p:23:ASP:OD2	2.32	0.47
33:a:279:A:H5''	33:a:281:G:O4'	2.14	0.47
33:a:984:C:C2	33:a:1222:G:N2	2.83	0.47
33:a:1127:G:H22	33:a:1147:C:N4	2.12	0.47
33:a:1306:A:N6	33:a:1331:G:H1'	2.29	0.47
34:b:66:ILE:HB	34:b:88:GLN:HG3	1.97	0.47
34:b:183:PHE:CD1	34:b:197:PHE:HB2	2.49	0.47
35:c:156:LEU:HD12	35:c:163:ARG:HG3	1.96	0.47
39:g:17:PHE:CD2	39:g:58:LEU:HB2	2.50	0.47
40:h:72:GLU:HB3	40:h:129:ALA:HB3	1.97	0.47
43:k:44:ALA:O	43:k:65:ALA:HB1	2.13	0.47
57:y:50:GLU:O	57:y:51:TYR:HB3	2.14	0.47
7:A:64:A:H5'	26:T:77:ARG:HG2	1.95	0.47
7:A:639:U:H2'	7:A:640:C:H6	1.79	0.47
7:A:828:U:O2'	7:A:829:A:O4'	2.32	0.47
7:A:1075:C:H2'	7:A:1076:C:H5'	1.96	0.47
7:A:1697:G:H4'	7:A:1978:A:H5''	1.96	0.47
7:A:1752:C:H2'	7:A:1753:G:C8	2.50	0.47
7:A:1805:A:H2'	7:A:1806:C:C6	2.50	0.47
7:A:2154:A:H5'	7:A:2155:U:H3'	1.96	0.47
7:A:2349:G:C6	7:A:2369:A:C6	3.03	0.47
7:A:2531:A:N6	7:A:2662:A:H61	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2625:G:H2'	7:A:2626:C:C6	2.50	0.47
7:A:2745:C:H2'	7:A:2746:U:C6	2.49	0.47
7:A:2896:C:H2'	7:A:2897:U:C6	2.49	0.47
8:B:66:A:N1	8:B:107:G:H2'	2.29	0.47
13:G:17:LYS:HB2	13:G:24:THR:HG1	1.79	0.47
14:H:96:THR:HG22	14:H:112:LYS:HG3	1.97	0.47
22:P:24:THR:HB	22:P:87:ARG:HB3	1.97	0.47
33:a:35:G:H2'	33:a:36:C:C6	2.50	0.47
33:a:857:C:H2'	33:a:858:G:O4'	2.14	0.47
33:a:1220:G:N2	51:s:53:GLY:O	2.47	0.47
33:a:1411:C:H2'	33:a:1412:C:H6	1.80	0.47
33:a:1411:C:H2'	33:a:1412:C:C6	2.50	0.47
33:a:1448:C:O2	33:a:1448:C:H2'	2.14	0.47
38:f:70:VAL:O	38:f:74:LEU:HG	2.13	0.47
7:A:5:A:H2'	7:A:6:A:H8	1.79	0.47
7:A:301:G:H1'	7:A:302:C:C6	2.50	0.47
7:A:348:A:H2'	7:A:349:U:O4'	2.15	0.47
7:A:564:C:OP2	24:R:79:ARG:HD2	2.15	0.47
7:A:1024:G:P	7:A:1026:G:OP1	2.63	0.47
7:A:1258:U:H2'	7:A:1259:G:C8	2.50	0.47
7:A:1354:A:OP1	9:C:35:LYS:NZ	2.46	0.47
7:A:1663:G:O2'	7:A:1664:A:H8	1.97	0.47
7:A:1741:C:H2'	7:A:1742:U:C6	2.50	0.47
7:A:2131:U:OP2	7:A:2133:G:H4'	2.15	0.47
7:A:2364:C:OP1	29:W:51:ARG:HD3	2.14	0.47
7:A:2424:C:O2	7:A:2429:G:O2'	2.26	0.47
7:A:2529:G:H5''	7:A:2530:A:H5''	1.97	0.47
7:A:2654:A:N1	7:A:2665:A:H5''	2.30	0.47
7:A:2789:C:H3'	7:A:2893:A:H62	1.78	0.47
7:A:2846:G:P	22:P:52:ARG:HH12	2.38	0.47
7:A:2876:G:OP1	22:P:1:SER:N	2.48	0.47
8:B:60:C:H2'	8:B:61:G:H8	1.79	0.47
10:D:176:ASP:HB2	10:D:190:LYS:HB3	1.95	0.47
11:E:14:VAL:HG12	11:E:15:SER:N	2.30	0.47
11:E:61:ARG:NH1	11:E:64:GLY:HA3	2.28	0.47
12:F:1:ALA:HB3	12:F:4:HIS:HB2	1.96	0.47
13:G:24:THR:HG22	13:G:33:THR:HB	1.97	0.47
13:G:34:ARG:HE	13:G:74:MET:HE1	1.80	0.47
16:J:12:LYS:O	16:J:41:LYS:NZ	2.48	0.47
17:K:19:VAL:HB	17:K:41:ILE:HD12	1.96	0.47
19:M:47:GLU:OE1	19:M:51:ARG:NE	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:M:54:THR:HG22	19:M:63:ILE:HD12	1.96	0.47
23:Q:23:TYR:HB2	23:Q:28:SER:HB3	1.97	0.47
33:a:331:G:OP1	33:a:332:G:H8	1.97	0.47
33:a:335:C:C2	33:a:336:A:C8	3.03	0.47
33:a:554:A:H3'	33:a:555:U:H5''	1.96	0.47
33:a:598:U:H2'	33:a:599:C:H6	1.76	0.47
33:a:704:A:C5	33:a:705:G:C8	3.03	0.47
33:a:855:U:H2'	33:a:856:C:C6	2.50	0.47
33:a:1106:G:H2'	33:a:1107:C:H6	1.79	0.47
33:a:1323:G:C6	33:a:1324:A:C6	3.02	0.47
33:a:1413:A:H2'	33:a:1414:U:H6	1.80	0.47
35:c:35:ASP:OD1	35:c:58:ARG:NH2	2.48	0.47
37:e:156:ARG:HD2	40:h:42:GLU:O	2.15	0.47
38:f:38:ARG:HH11	38:f:99:ALA:H	1.61	0.47
41:i:14:SER:HB2	41:i:69:GLY:HA3	1.96	0.47
46:n:74:LEU:O	46:n:78:GLY:N	2.46	0.47
49:q:27:PHE:CE1	49:q:38:LYS:HG2	2.49	0.47
57:y:70:ILE:HD13	57:y:94:MET:SD	2.55	0.47
7:A:144:A:H2'	7:A:145:C:C6	2.49	0.47
7:A:947:A:H2'	7:A:948:C:C6	2.49	0.47
7:A:1141:U:H4'	7:A:1142:A:O4'	2.14	0.47
7:A:1291:C:H2'	7:A:1292:G:H8	1.79	0.47
7:A:1353:A:H2'	7:A:1354:A:H8	1.80	0.47
7:A:1831:G:C6	7:A:1975:G:N1	2.83	0.47
7:A:1866:A:N1	7:A:1876:A:C8	2.83	0.47
13:G:26:LYS:HB2	13:G:31:GLU:CD	2.40	0.47
33:a:104:G:N7	52:t:8:LYS:NZ	2.45	0.47
33:a:201:G:N2	33:a:216:U:O2	2.30	0.47
33:a:735:C:H2'	33:a:736:C:C6	2.50	0.47
33:a:844:G:C8	33:a:845:A:H5''	2.47	0.47
33:a:1072:G:H2'	33:a:1073:U:H6	1.78	0.47
33:a:1088:G:H2'	33:a:1089:G:O4'	2.14	0.47
33:a:1308:U:O3'	45:m:90:HIS:NE2	2.44	0.47
33:a:1474:U:H2'	33:a:1475:G:O4'	2.15	0.47
34:b:181:PRO:HA	34:b:196:ASP:OD2	2.14	0.47
41:i:59:LYS:HG2	41:i:60:LEU:HD12	1.97	0.47
43:k:86:LYS:HB2	43:k:86:LYS:HE2	1.68	0.47
45:m:18:LEU:HB2	45:m:29:SER:OG	2.15	0.47
55:w:20:U:HO2'	55:w:48:C:H41	1.59	0.47
7:A:103:A:H2'	7:A:104:A:O4'	2.15	0.47
7:A:690:G:O2'	9:C:42:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:894:U:H2'	7:A:895:U:H4'	1.97	0.47
7:A:1052:C:H2'	7:A:1053:C:C6	2.50	0.47
7:A:1442:U:H2'	7:A:1443:U:C6	2.50	0.47
7:A:1672:A:H5'	7:A:2554:U:OP1	2.15	0.47
7:A:1709:U:H2'	7:A:1710:G:C8	2.49	0.47
7:A:2096:C:H2'	7:A:2097:A:C8	2.49	0.47
7:A:2555:U:O4	57:y:20:ILE:HD12	2.15	0.47
8:B:83:G:C6	8:B:94:A:C6	3.02	0.47
12:F:41:GLU:OE1	12:F:41:GLU:N	2.48	0.47
14:H:69:ALA:C	14:H:71:LYS:H	2.21	0.47
23:Q:30:VAL:HB	23:Q:33:VAL:HG12	1.97	0.47
23:Q:97:ILE:HG22	23:Q:105:PHE:HB2	1.97	0.47
33:a:185:U:H2'	33:a:186:C:H6	1.79	0.47
33:a:376:G:H4'	48:p:5:ARG:HD2	1.96	0.47
33:a:974:A:OP1	46:n:69:ARG:NH2	2.34	0.47
33:a:1184:G:C2	33:a:1185:G:C8	3.02	0.47
33:a:1309:G:O6	33:a:1329:A:N6	2.48	0.47
33:a:1349:A:C6	33:a:1350:A:C4	3.02	0.47
33:a:1479:C:H2'	33:a:1480:A:C8	2.50	0.47
39:g:36:SER:O	39:g:39:GLU:HG2	2.15	0.47
41:i:44:ARG:HA	41:i:47:VAL:HG12	1.97	0.47
42:j:24:GLU:O	42:j:27:GLU:HG3	2.14	0.47
42:j:32:THR:HG23	42:j:83:THR:HG22	1.97	0.47
55:w:18:G:O2'	55:w:57:G:N1	2.43	0.47
7:A:733:G:N7	7:A:761:A:N7	2.62	0.47
7:A:910:A:N6	19:M:12:MET:HA	2.27	0.47
7:A:1495:A:H2'	7:A:1496:A:C4	2.50	0.47
7:A:1817:G:C6	7:A:1818:U:C5	3.02	0.47
7:A:2118:U:H5'	7:A:2148:G:H4'	1.97	0.47
7:A:2543:G:N1	7:A:2765:A:N7	2.63	0.47
7:A:2595:G:O6	9:C:238:ASN:ND2	2.48	0.47
8:B:28:C:H2'	8:B:29:A:H8	1.80	0.47
23:Q:40:LYS:HD2	23:Q:44:TYR:CZ	2.50	0.47
27:U:97:SER:O	27:U:98:ASN:HB3	2.15	0.47
33:a:66:A:O5'	33:a:66:A:H8	1.98	0.47
33:a:340:U:H2'	33:a:341:C:H6	1.80	0.47
33:a:417:G:H2'	33:a:418:C:C6	2.50	0.47
33:a:518:C:H42	57:y:122:LYS:HE2	1.79	0.47
33:a:747:A:H2'	33:a:748:G:C8	2.50	0.47
33:a:859:G:H2'	33:a:860:A:H8	1.79	0.47
33:a:1015:G:H2'	33:a:1016:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1127:G:H2'	33:a:1128:C:H6	1.80	0.47
33:a:1162:C:H2'	33:a:1163:A:H8	1.80	0.47
39:g:111:GLY:HA2	39:g:118:ARG:HD3	1.97	0.47
50:r:25:ILE:H	50:r:25:ILE:HD12	1.80	0.47
3:2:12:ARG:NH2	7:A:686:U:O4	2.45	0.46
7:A:52:A:H2'	7:A:53:A:H8	1.80	0.46
7:A:634:C:H2'	7:A:635:C:H6	1.80	0.46
7:A:882:G:C8	7:A:883:G:C8	3.03	0.46
7:A:1252:G:N2	23:Q:32:ARG:HG2	2.30	0.46
7:A:1658:C:OP1	10:D:140:HIS:NE2	2.48	0.46
7:A:1946:U:H2'	7:A:1947:C:H6	1.79	0.46
7:A:2236:U:H2'	7:A:2237:G:O4'	2.15	0.46
7:A:2623:G:H5'	7:A:2826:A:O2'	2.16	0.46
7:A:2652:C:H2'	7:A:2653:U:O4'	2.14	0.46
7:A:2783:U:H2'	7:A:2784:U:H6	1.78	0.46
7:A:2801:G:C2	7:A:2802:G:C4	3.03	0.46
7:A:2900:A:O5'	7:A:2900:A:H8	1.97	0.46
10:D:77:ARG:NH2	10:D:200:ASP:OD1	2.48	0.46
13:G:37:ASN:OD1	13:G:38:ASP:N	2.48	0.46
23:Q:85:ALA:O	24:R:51:VAL:HG13	2.15	0.46
31:Y:1:MET:HG2	31:Y:52:ARG:HH21	1.80	0.46
33:a:207:C:H2'	33:a:208:U:H5''	1.97	0.46
33:a:363:A:OP2	44:l:57:THR:HG21	2.15	0.46
33:a:685:G:N2	33:a:706:A:H61	2.03	0.46
33:a:715:A:OP1	33:a:805:C:O2'	2.34	0.46
33:a:951:G:C6	33:a:1231:G:C6	3.03	0.46
33:a:1188:A:H2'	33:a:1189:U:O4'	2.15	0.46
33:a:1268:G:O2'	33:a:1326:U:O2'	2.32	0.46
33:a:1402:4OC:HM23	33:a:1402:4OC:H1'	1.57	0.46
33:a:1506:U:O2'	33:a:1507:A:H5'	2.15	0.46
34:b:31:PHE:CG	34:b:31:PHE:O	2.68	0.46
48:p:46:LYS:HG3	48:p:47:GLU:O	2.15	0.46
50:r:62:ARG:HB3	50:r:69:TYR:CE1	2.50	0.46
2:1:50:GLU:HG2	2:1:51:ALA:N	2.29	0.46
7:A:241:A:N1	7:A:255:A:H5'	2.31	0.46
7:A:640:C:H2'	7:A:641:U:H6	1.80	0.46
7:A:776:G:N2	7:A:2241:A:OP1	2.43	0.46
7:A:817:C:H2'	7:A:818:G:O4'	2.15	0.46
7:A:974:G:C6	7:A:1186:G:C6	3.04	0.46
7:A:1095:A:H2'	7:A:1096:A:C4	2.50	0.46
7:A:1229:C:H2'	7:A:1230:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1464:G:H2'	7:A:1465:G:C8	2.49	0.46
7:A:1730:C:O2	7:A:1731:G:N1	2.47	0.46
7:A:1863:G:H2'	7:A:1864:U:C6	2.49	0.46
7:A:2032:G:O6	7:A:2453:A:O2'	2.28	0.46
8:B:25:U:H5	8:B:117:G:O2'	1.97	0.46
9:C:29:PHE:O	9:C:33:LEU:HD13	2.15	0.46
12:F:7:TYR:HD2	12:F:172:PHE:HZ	1.62	0.46
13:G:7:PRO:HB3	13:G:50:THR:HG22	1.97	0.46
14:H:4:ILE:HG23	14:H:39:ALA:HB2	1.97	0.46
19:M:111:GLU:O	19:M:114:ARG:N	2.48	0.46
33:a:168:G:H2'	33:a:169:C:H5''	1.96	0.46
33:a:463:U:H3'	33:a:463:U:OP2	2.15	0.46
33:a:592:G:H2'	33:a:593:U:H6	1.80	0.46
33:a:628:G:H2'	33:a:629:A:H8	1.80	0.46
33:a:958:A:O5'	51:s:54:ARG:NH1	2.48	0.46
33:a:958:A:H1'	33:a:985:C:O2'	2.14	0.46
33:a:1245:C:H2'	33:a:1246:A:C8	2.50	0.46
33:a:1410:A:H2'	33:a:1411:C:C6	2.50	0.46
33:a:1414:U:H2'	33:a:1415:G:C8	2.45	0.46
34:b:55:GLU:OE2	34:b:58:LYS:HE2	2.16	0.46
34:b:120:SER:HA	34:b:125:PHE:HD2	1.80	0.46
35:c:174:LEU:HD23	35:c:181:ILE:HD13	1.97	0.46
40:h:17:GLN:CD	40:h:62:LEU:HD13	2.40	0.46
40:h:112:ASP:OD1	40:h:113:ARG:N	2.47	0.46
7:A:673:C:H5''	11:E:76:PRO:HD2	1.97	0.46
7:A:852:U:H2'	7:A:853:C:C6	2.51	0.46
7:A:1037:G:H2'	7:A:1038:G:H8	1.80	0.46
7:A:1685:C:C2	7:A:1686:C:C5	3.03	0.46
7:A:1773:A:N7	7:A:1829:A:H1'	2.30	0.46
7:A:2073:C:C2	7:A:2437:G:N2	2.83	0.46
7:A:2111:U:H2'	7:A:2112:G:H4'	1.97	0.46
7:A:2333:A:OP1	29:W:73:ARG:NH1	2.48	0.46
7:A:2648:G:H2'	7:A:2649:C:C6	2.50	0.46
7:A:2660:A:HO2'	7:A:2661:G:P	2.35	0.46
8:B:42:C:O2'	12:F:63:LYS:O	2.23	0.46
12:F:60:SER:HG	12:F:90:LEU:HD21	1.81	0.46
12:F:148:VAL:HG12	12:F:148:VAL:O	2.16	0.46
13:G:23:ILE:HD11	13:G:42:VAL:HG11	1.97	0.46
14:H:8:LYS:NZ	14:H:9:VAL:O	2.42	0.46
16:J:37:ARG:HG3	16:J:118:MET:HE1	1.96	0.46
33:a:451:A:H61	33:a:481:G:H5''	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:757:U:OP1	33:a:822:U:O2'	2.33	0.46
33:a:1250:A:C5	33:a:1287:A:C5	3.04	0.46
33:a:1304:G:C6	33:a:1305:G:N1	2.84	0.46
33:a:1328:C:H5''	45:m:27:THR:HG21	1.97	0.46
35:c:133:MET:O	35:c:137:VAL:HG23	2.15	0.46
41:i:9:GLY:HA2	41:i:80:HIS:ND1	2.30	0.46
55:w:8:4SU:H1'	55:w:48:C:O2	2.16	0.46
5:4:7:VAL:HG12	5:4:35:GLN:HB3	1.97	0.46
7:A:118:A:H2'	7:A:120:U:O4	2.16	0.46
7:A:345:A:N3	7:A:346:A:N6	2.63	0.46
7:A:1089:A:N6	7:A:1102:C:H42	2.13	0.46
7:A:1233:C:C2	7:A:1234:U:C5	3.04	0.46
7:A:1292:G:H2'	7:A:1293:C:C6	2.50	0.46
7:A:1378:A:C4	7:A:1380:G:N7	2.83	0.46
7:A:1444:G:H2'	7:A:1445:G:C8	2.47	0.46
7:A:1519:G:C4	7:A:1520:U:C5	3.03	0.46
7:A:1775:U:O4	7:A:1789:A:H2	1.98	0.46
7:A:1847:G:N2	7:A:1848:A:H62	2.10	0.46
7:A:1853:A:H2'	7:A:1854:A:C8	2.51	0.46
7:A:2041:U:H2'	7:A:2042:A:C8	2.51	0.46
7:A:2635:A:O2'	10:D:81:GLU:OE1	2.26	0.46
7:A:2888:C:H2'	7:A:2889:C:H6	1.81	0.46
8:B:66:A:H61	8:B:107:G:H3'	1.79	0.46
9:C:42:ARG:HA	9:C:47:ARG:O	2.15	0.46
9:C:259:ASN:C	9:C:261:ARG:H	2.23	0.46
10:D:13:ARG:NH2	22:P:74:GLN:OE1	2.42	0.46
33:a:167:A:H2'	33:a:168:G:C8	2.51	0.46
33:a:1287:A:C6	33:a:1288:A:C6	3.03	0.46
33:a:1333:A:C4	33:a:1334:G:C8	3.02	0.46
33:a:1476:A:H2'	33:a:1477:U:C6	2.51	0.46
34:b:182:VAL:HG13	34:b:196:ASP:H	1.80	0.46
38:f:32:ALA:HB2	38:f:70:VAL:HG11	1.97	0.46
39:g:4:ARG:HD3	39:g:5:VAL:C	2.41	0.46
39:g:49:LEU:HD11	39:g:60:ALA:HB1	1.98	0.46
42:j:52:LEU:HB2	46:n:81:ARG:NH1	2.31	0.46
42:j:59:LYS:O	42:j:62:ARG:NH1	2.48	0.46
44:l:99:GLY:HA3	44:l:117:GLY:HA3	1.97	0.46
47:o:38:LEU:HD23	47:o:42:PHE:HE2	1.81	0.46
1:0:1:ALA:H3	7:A:2056:G:H21	1.61	0.46
3:2:29:GLN:NE2	7:A:210:C:OP1	2.48	0.46
3:2:34:ARG:NH1	3:2:42:LEU:O	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:190:A:H5''	7:A:204:A:H61	1.81	0.46
7:A:564:C:H2'	7:A:565:C:C6	2.50	0.46
7:A:877:A:H2	7:A:900:A:N7	2.14	0.46
7:A:1041:G:C2	7:A:1042:G:C8	3.04	0.46
7:A:1066:U:O2'	7:A:1068:G:OP2	2.23	0.46
7:A:1113:U:H2'	7:A:1114:C:H6	1.78	0.46
7:A:1171:G:O2'	7:A:1172:C:OP1	2.28	0.46
7:A:1244:A:OP1	18:L:7:SER:OG	2.16	0.46
7:A:1252:G:H22	23:Q:36:GLN:NE2	2.12	0.46
7:A:1586:A:C5	7:A:1587:G:C8	3.04	0.46
7:A:1637:A:H2'	7:A:1638:C:C6	2.51	0.46
7:A:2103:C:O2	7:A:2103:C:H2'	2.16	0.46
7:A:2287:A:O2'	7:A:2288:A:O5'	2.26	0.46
9:C:60:ALA:O	9:C:62:ARG:NH1	2.49	0.46
10:D:125:TRP:CD1	10:D:160:LYS:HB3	2.51	0.46
16:J:114:LEU:HG	16:J:118:MET:HE3	1.98	0.46
17:K:21:CYS:HA	17:K:41:ILE:HG22	1.97	0.46
22:P:108:ARG:HH11	33:a:1463:U:H5''	1.81	0.46
33:a:22:G:H2'	33:a:23:C:C6	2.51	0.46
33:a:482:A:O2'	33:a:483:C:OP1	2.30	0.46
33:a:563:A:H2	44:l:11:ARG:HH21	1.63	0.46
33:a:811:C:H5	33:a:812:G:C5	2.33	0.46
33:a:1477:U:H2'	33:a:1478:U:C6	2.51	0.46
36:d:138:PRO:HA	36:d:181:PHE:HD1	1.80	0.46
41:i:87:MET:O	41:i:91:GLU:HG3	2.15	0.46
1:0:54:ILE:HG22	1:0:56:LYS:H	1.81	0.46
3:2:25:LYS:HE3	3:2:25:LYS:HB3	1.75	0.46
7:A:594:U:H2'	7:A:595:C:H6	1.81	0.46
7:A:683:U:O5'	7:A:683:U:H6	1.99	0.46
7:A:1000:A:OP2	7:A:1154:G:N1	2.23	0.46
7:A:1230:A:H2'	7:A:1231:U:C6	2.51	0.46
7:A:1945:G:C6	7:A:1946:U:C4	3.04	0.46
7:A:2060:A:H62	11:E:69:ARG:NH1	2.14	0.46
7:A:2071:A:H2'	7:A:2072:C:C6	2.50	0.46
7:A:2205:A:H2'	7:A:2206:C:H6	1.81	0.46
8:B:66:A:H5''	8:B:67:G:OP1	2.15	0.46
8:B:112:G:H2'	8:B:113:C:H6	1.81	0.46
8:B:115:A:H2'	8:B:116:G:C8	2.51	0.46
28:V:70:ILE:HG22	28:V:72:VAL:HG13	1.98	0.46
29:W:42:HIS:HD2	29:W:73:ARG:HB3	1.81	0.46
33:a:34:C:H2'	33:a:35:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:335:C:H2'	33:a:336:A:H8	1.80	0.46
33:a:704:A:C4	33:a:705:G:C8	3.03	0.46
33:a:779:C:H2'	33:a:780:A:O4'	2.16	0.46
33:a:782:A:C6	33:a:801:U:C2	3.04	0.46
33:a:1014:A:C6	51:s:33:TRP:CE2	3.04	0.46
33:a:1221:G:OP1	33:a:1321:U:N3	2.32	0.46
33:a:1349:A:C2	33:a:1350:A:H1'	2.50	0.46
33:a:1517:G:O2'	33:a:1518:MA6:O5'	2.34	0.46
36:d:67:LEU:O	36:d:71:PHE:HB2	2.16	0.46
50:r:62:ARG:HD3	50:r:69:TYR:CD1	2.51	0.46
7:A:940:G:H2'	7:A:941:A:O4'	2.16	0.46
7:A:1839:G:C6	7:A:1840:G:C8	3.04	0.46
7:A:2635:A:N1	7:A:2783:U:H5	2.13	0.46
7:A:2848:G:H2'	7:A:2867:G:N2	2.31	0.46
10:D:33:ARG:HG3	10:D:73:VAL:HG23	1.98	0.46
10:D:112:THR:HA	10:D:168:GLU:O	2.15	0.46
12:F:115:GLY:HA3	12:F:177:ARG:CG	2.45	0.46
19:M:136:MET:O	28:V:79:ARG:NH1	2.45	0.46
20:N:94:TYR:O	20:N:116:VAL:HG22	2.16	0.46
21:O:34:HIS:HB3	21:O:36:TYR:HE1	1.79	0.46
29:W:17:LEU:HD23	29:W:17:LEU:HA	1.79	0.46
33:a:151:A:C6	33:a:171:A:N1	2.84	0.46
33:a:859:G:OP2	33:a:869:G:N1	2.47	0.46
33:a:1119:C:H2'	33:a:1120:C:C6	2.50	0.46
33:a:1172:C:H2'	33:a:1173:U:C6	2.50	0.46
33:a:1239:A:H4'	33:a:1240:U:H5''	1.98	0.46
33:a:1458:G:OP1	52:t:29:THR:OG1	2.19	0.46
42:j:21:ALA:O	42:j:25:ILE:HG13	2.16	0.46
45:m:74:MET:SD	45:m:77:LYS:HE2	2.56	0.46
7:A:214:G:O2'	7:A:216:A:O2'	2.30	0.46
7:A:354:A:H2'	7:A:355:U:O4'	2.16	0.46
7:A:499:U:H2'	7:A:500:G:O4'	2.16	0.46
7:A:777:G:C2	7:A:778:G:C8	3.04	0.46
7:A:881:G:N2	7:A:882:G:H1	2.13	0.46
7:A:1159:U:C2	7:A:1160:G:C8	3.04	0.46
7:A:1720:U:H2'	7:A:1721:G:O4'	2.16	0.46
7:A:1821:A:OP1	9:C:199:HIS:NE2	2.40	0.46
7:A:2093:G:N7	7:A:2225:A:H2'	2.31	0.46
11:E:138:LEU:HA	11:E:141:MET:HE3	1.96	0.46
12:F:139:GLU:OE1	12:F:139:GLU:N	2.49	0.46
16:J:7:LYS:HB2	16:J:10:THR:HG22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:X:32:LEU:HD23	30:X:32:LEU:HA	1.75	0.46
33:a:116:A:H2'	33:a:117:G:O4'	2.15	0.46
33:a:436:C:H2'	33:a:437:U:C6	2.50	0.46
33:a:763:G:H2'	33:a:764:C:H6	1.81	0.46
33:a:1005:A:C4	33:a:1006:G:H1'	2.50	0.46
33:a:1010:U:H2'	33:a:1011:C:C6	2.50	0.46
33:a:1138:G:O2'	33:a:1140:C:OP1	2.32	0.46
33:a:1266:G:N2	33:a:1268:G:H8	2.13	0.46
33:a:1380:U:C5	39:g:2:ARG:HA	2.50	0.46
34:b:105:THR:O	34:b:108:GLN:HG2	2.16	0.46
41:i:45:MET:HE2	41:i:49:GLN:HE21	1.80	0.46
45:m:14:ALA:O	45:m:18:LEU:HG	2.16	0.46
55:w:51:C:H2'	55:w:52:G:C8	2.50	0.46
55:w:60:U:OP1	55:w:61:C:N4	2.48	0.46
57:y:15:LEU:HD21	57:y:88:LEU:HD21	1.97	0.46
7:A:52:A:H2'	7:A:53:A:C8	2.51	0.46
7:A:832:U:H2'	7:A:833:A:H8	1.78	0.46
7:A:1107:G:H2'	7:A:1108:U:C6	2.51	0.46
7:A:1412:U:H2'	7:A:1413:A:C8	2.51	0.46
7:A:1532:A:H2'	7:A:1533:C:O4'	2.16	0.46
7:A:1656:C:H2'	7:A:1657:U:C6	2.50	0.46
7:A:1783:A:C2	7:A:2587:A:C4	3.04	0.46
7:A:2585:U:OP2	57:y:25:ALA:HB1	2.16	0.46
7:A:2814:A:H2'	7:A:2815:C:H6	1.80	0.46
7:A:2867:G:O3'	7:A:2868:A:H8	1.99	0.46
14:H:99:ILE:O	14:H:103:VAL:HB	2.15	0.46
33:a:144:G:H2'	33:a:145:G:O4'	2.16	0.46
33:a:195:A:O2'	33:a:196:A:O4'	2.22	0.46
33:a:824:G:H2'	33:a:825:A:H8	1.81	0.46
33:a:867:G:O2'	33:a:873:A:N1	2.41	0.46
33:a:1091:U:C2	33:a:1095:U:C4	3.04	0.46
33:a:1096:C:H2'	33:a:1097:C:C6	2.51	0.46
33:a:1147:C:H1'	41:i:17:ARG:NH1	2.31	0.46
33:a:1245:C:H2'	33:a:1246:A:H8	1.81	0.46
33:a:1495:U:H2'	33:a:1496:C:H6	1.81	0.46
36:d:108:ALA:H	36:d:112:GLU:HG2	1.81	0.46
47:o:5:GLU:H	47:o:5:GLU:CD	2.23	0.46
57:y:17:ILE:HG23	57:y:37:ILE:HG23	1.98	0.46
7:A:305:C:H2'	7:A:306:U:C6	2.51	0.46
7:A:315:G:H2'	7:A:316:C:C6	2.51	0.46
7:A:567:U:H2'	7:A:568:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:629:G:H4'	7:A:650:C:O2	2.16	0.46
7:A:730:A:OP1	7:A:1775:U:O2'	2.26	0.46
7:A:831:G:O2'	18:L:38:GLN:OE1	2.32	0.46
7:A:974:G:C4	7:A:989:G:C2	3.04	0.46
7:A:1040:A:H2'	7:A:1041:G:H8	1.81	0.46
7:A:1059:G:H3'	7:A:1060:U:H5'	1.97	0.46
7:A:1285:A:H2'	7:A:1286:A:H5''	1.98	0.46
7:A:1519:G:H2'	7:A:1520:U:C6	2.50	0.46
7:A:2599:G:N7	9:C:234:GLY:HA2	2.31	0.46
7:A:2802:G:H2'	7:A:2803:G:H8	1.81	0.46
8:B:28:C:H2'	8:B:29:A:C8	2.51	0.46
21:O:29:HIS:HA	21:O:97:PHE:HE2	1.81	0.46
33:a:464:U:C2'	33:a:465:A:H3'	2.46	0.46
33:a:1314:C:H2'	33:a:1315:U:C6	2.51	0.46
33:a:1317:C:O2	51:s:36:ARG:NH1	2.34	0.46
34:b:10:LYS:HD2	34:b:14:HIS:HE1	1.81	0.46
35:c:82:ASP:HA	35:c:85:LYS:HE2	1.98	0.46
35:c:141:MET:HG3	35:c:169:GLU:HG2	1.97	0.46
35:c:155:ARG:NH2	35:c:159:ALA:O	2.44	0.46
37:e:60:GLN:O	37:e:64:GLU:HG2	2.16	0.46
39:g:68:VAL:HG21	39:g:133:ALA:HB1	1.98	0.46
39:g:144:ALA:C	39:g:146:ALA:H	2.24	0.46
7:A:145:C:H2'	7:A:146:A:C8	2.50	0.45
7:A:225:C:C4	7:A:226:A:C8	3.04	0.45
7:A:320:A:N3	11:E:163:ASN:ND2	2.63	0.45
7:A:947:A:N6	7:A:971:G:O6	2.49	0.45
7:A:956:G:N2	7:A:959:A:H3'	2.31	0.45
7:A:1063:G:N2	15:I:132:ALA:O	2.49	0.45
7:A:1172:C:N3	7:A:1176:U:C4	2.84	0.45
7:A:1320:C:N3	7:A:1330:C:N4	2.63	0.45
7:A:1806:C:O2	9:C:43:ASN:ND2	2.49	0.45
7:A:1817:G:H2'	7:A:1817:G:N3	2.31	0.45
7:A:1982:U:H2'	7:A:1983:G:H8	1.81	0.45
7:A:2110:G:H3'	7:A:2110:G:N3	2.31	0.45
7:A:2621:G:OP1	10:D:124:ARG:NH2	2.33	0.45
7:A:2636:C:H2'	7:A:2637:U:C6	2.50	0.45
7:A:2868:A:C6	7:A:2869:G:C6	3.04	0.45
9:C:170:TYR:CD1	9:C:184:GLU:HA	2.50	0.45
12:F:69:ALA:HB1	12:F:71:LYS:O	2.16	0.45
14:H:20:ASN:OD1	14:H:20:ASN:N	2.49	0.45
19:M:65:ILE:HG12	19:M:103:TYR:CD2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:Q:24:TYR:O	23:Q:27:ARG:HB3	2.15	0.45
32:Z:55:LYS:NZ	32:Z:57:GLU:OE2	2.27	0.45
33:a:28:A:C2	33:a:555:U:C5	3.04	0.45
33:a:76:G:H1	33:a:93:U:H3	1.64	0.45
33:a:458:U:O2	33:a:474:G:C2	2.68	0.45
33:a:472:U:H2'	33:a:473:U:C6	2.51	0.45
33:a:477:C:H5''	33:a:478:A:OP2	2.17	0.45
33:a:801:U:O4	33:a:802:A:N6	2.49	0.45
33:a:1216:A:H5''	46:n:4:SER:HB2	1.98	0.45
36:d:17:ASP:O	36:d:18:LEU:HD23	2.16	0.45
36:d:123:MET:O	36:d:143:SER:HB3	2.16	0.45
39:g:44:SER:OG	39:g:45:ALA:N	2.49	0.45
42:j:14:ASP:OD1	42:j:14:ASP:N	2.45	0.45
51:s:33:TRP:CE2	51:s:56:HIS:CE1	3.03	0.45
7:A:367:G:OP2	7:A:368:A:N6	2.45	0.45
7:A:538:A:O2'	16:J:8:PRO:HD2	2.17	0.45
7:A:1152:C:H2'	7:A:1153:C:C6	2.51	0.45
7:A:1759:A:O2'	7:A:2714:G:O2'	2.31	0.45
7:A:1777:U:H2'	7:A:1778:U:H6	1.80	0.45
7:A:2636:C:H2'	7:A:2637:U:H6	1.81	0.45
8:B:32:U:C2	8:B:51:G:N2	2.83	0.45
9:C:179:GLU:OE2	9:C:266:ILE:HD12	2.17	0.45
19:M:23:GLY:O	19:M:101:VAL:HG12	2.17	0.45
24:R:41:ILE:HG22	24:R:43:ASN:HB2	1.98	0.45
26:T:80:TRP:CZ3	26:T:82:LYS:HB3	2.51	0.45
33:a:768:A:N3	33:a:1512:U:O2'	2.49	0.45
33:a:771:G:H2'	33:a:772:U:C6	2.50	0.45
33:a:900:A:H2'	33:a:901:A:C8	2.51	0.45
33:a:1032:G:N7	33:a:1033:G:H1'	2.31	0.45
33:a:1223:C:P	51:s:77:ARG:HH21	2.38	0.45
33:a:1244:G:H2'	33:a:1245:C:C6	2.51	0.45
36:d:8:LEU:HD22	36:d:31:CYS:SG	2.57	0.45
7:A:177:G:H3'	7:A:178:G:C8	2.51	0.45
7:A:538:A:H5''	16:J:7:LYS:HZ2	1.82	0.45
7:A:550:C:H2'	7:A:551:G:C8	2.52	0.45
7:A:575:A:H2'	7:A:576:U:H6	1.80	0.45
7:A:1058:U:O4	7:A:1081:U:N3	2.47	0.45
7:A:1274:A:N1	7:A:1644:C:O2'	2.44	0.45
7:A:2314:A:C2	7:A:2315:G:C5	3.05	0.45
7:A:2396:G:C2	7:A:2397:G:C8	3.04	0.45
7:A:2460:U:C2	7:A:2461:A:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:189:THR:HG23	11:E:192:ALA:H	1.80	0.45
20:N:41:ALA:O	20:N:44:LEU:N	2.49	0.45
33:a:7:A:O2'	37:e:124:ALA:O	2.33	0.45
33:a:90:C:C6	33:a:90:C:O5'	2.69	0.45
33:a:172:A:C5	33:a:174:A:C8	3.04	0.45
33:a:364:A:H2'	33:a:365:U:C5	2.51	0.45
33:a:494:G:H2'	33:a:496:A:H8	1.81	0.45
33:a:506:G:H2'	33:a:507:C:C6	2.51	0.45
33:a:784:A:H2'	33:a:785:G:C8	2.50	0.45
33:a:1397:C:OP2	37:e:28:ARG:NH2	2.49	0.45
37:e:76:ASN:HB2	37:e:81:GLN:NE2	2.31	0.45
39:g:13:PRO:O	41:i:45:MET:HE1	2.17	0.45
44:l:65:TYR:O	44:l:96:THR:HG23	2.16	0.45
46:n:64:CYS:SG	46:n:65:ARG:N	2.88	0.45
46:n:64:CYS:HB2	46:n:80:SER:OG	2.17	0.45
55:w:30:G:C2	55:w:31:A:C8	3.04	0.45
4:3:30:HIS:C	4:3:32:LEU:H	2.12	0.45
7:A:78:U:H2'	7:A:79:C:H6	1.80	0.45
7:A:224:U:O4	7:A:419:U:O2'	2.34	0.45
7:A:669:G:C2	7:A:801:G:N1	2.85	0.45
7:A:744:U:H2'	7:A:745:1MG:O4'	2.17	0.45
7:A:863:A:H2'	7:A:864:G:C8	2.51	0.45
7:A:925:A:H2'	7:A:926:G:C8	2.51	0.45
7:A:926:G:H2'	7:A:927:A:C8	2.51	0.45
7:A:927:A:C6	7:A:928:A:C6	3.04	0.45
7:A:1130:U:O2'	7:A:1131:G:H8	2.00	0.45
7:A:1317:G:H2'	7:A:1318:U:H6	1.81	0.45
7:A:1406:U:H2'	7:A:1407:G:H8	1.81	0.45
7:A:1846:G:H2'	7:A:1847:G:C4	2.52	0.45
7:A:1915:3TD:H6	57:y:102:LYS:HE2	1.98	0.45
7:A:2074:U:O2'	7:A:2597:G:H1'	2.16	0.45
8:B:34:A:O2'	8:B:35:C:O5'	2.27	0.45
12:F:118:ALA:HB1	12:F:166:ARG:HG3	1.98	0.45
16:J:19:ASP:OD1	16:J:58:ASN:ND2	2.50	0.45
20:N:38:LEU:HD13	20:N:99:LYS:HG2	1.97	0.45
27:U:85:ARG:NH2	27:U:87:GLU:OE2	2.47	0.45
33:a:62:U:H2'	33:a:63:C:C6	2.52	0.45
33:a:124:C:H2'	33:a:125:U:C6	2.51	0.45
33:a:243:A:N6	33:a:281:G:N3	2.65	0.45
33:a:317:U:N3	33:a:318:G:N7	2.65	0.45
33:a:399:G:H2'	33:a:400:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:707:U:H2'	33:a:708:C:H6	1.81	0.45
33:a:878:A:H2'	33:a:879:C:H6	1.80	0.45
34:b:212:TYR:O	34:b:216:VAL:HG23	2.16	0.45
35:c:33:ASP:OD2	46:n:65:ARG:HB3	2.15	0.45
45:m:64:VAL:HG22	45:m:65:GLU:H	1.81	0.45
52:t:2:ASN:CG	52:t:7:LYS:HG2	2.41	0.45
55:w:6:G:H22	55:w:66:U:H5	1.63	0.45
55:w:73:A:H5''	55:w:74:C:C6	2.51	0.45
7:A:75:G:N3	7:A:75:G:H2'	2.31	0.45
7:A:665:U:H2'	7:A:666:A:C8	2.52	0.45
7:A:1055:G:C5	7:A:1056:G:C5	3.05	0.45
7:A:1292:G:H2'	7:A:1293:C:H6	1.82	0.45
7:A:1533:C:H2'	7:A:1535:A:N6	2.25	0.45
7:A:1722:A:H2'	7:A:1723:G:H8	1.81	0.45
7:A:2011:U:H2'	7:A:2012:G:O4'	2.17	0.45
7:A:2186:G:H2'	7:A:2187:U:O4'	2.16	0.45
7:A:2437:G:H2'	7:A:2438:U:O4'	2.17	0.45
7:A:2854:G:H2'	7:A:2855:C:C6	2.51	0.45
8:B:42:C:C5	12:F:65:LEU:HD22	2.51	0.45
11:E:137:LYS:HG2	11:E:141:MET:HE2	1.98	0.45
12:F:129:MET:HE2	12:F:153:ILE:HD13	1.98	0.45
26:T:69:ARG:HH11	26:T:74:ILE:HD13	1.81	0.45
33:a:155:A:H2'	33:a:156:C:C6	2.52	0.45
33:a:425:G:H2'	33:a:426:U:C6	2.52	0.45
33:a:811:C:H5''	33:a:812:G:OP2	2.17	0.45
33:a:1223:C:OP2	51:s:77:ARG:NH2	2.42	0.45
33:a:1240:U:P	39:g:115:MET:H	2.39	0.45
33:a:1428:A:C6	33:a:1473:G:N1	2.84	0.45
34:b:14:HIS:HB2	34:b:202:ASN:N	2.31	0.45
34:b:129:THR:HG23	34:b:132:GLU:H	1.81	0.45
35:c:110:LEU:HG	35:c:143:LEU:HD22	1.99	0.45
36:d:109:THR:H	36:d:112:GLU:HB3	1.82	0.45
41:i:101:GLY:C	41:i:103:VAL:H	2.24	0.45
44:l:22:ALA:O	44:l:24:GLU:HG3	2.16	0.45
55:w:27:G:C2	55:w:28:G:C5	3.04	0.45
57:y:42:ASP:O	57:y:46:SER:OG	2.20	0.45
7:A:257:C:O2	18:L:104:GLN:NE2	2.45	0.45
7:A:608:A:H2'	7:A:609:A:H8	1.81	0.45
7:A:621:A:OP2	18:L:99:ASN:ND2	2.49	0.45
7:A:640:C:H2'	7:A:641:U:C6	2.52	0.45
7:A:931:U:H3	7:A:1167:C:H1'	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1059:G:H5''	7:A:1060:U:H3'	1.98	0.45
7:A:1177:G:H8	7:A:1178:C:H4'	1.82	0.45
7:A:2012:G:OP1	25:S:98:LYS:HA	2.17	0.45
7:A:2120:G:OP2	7:A:2169:A:N6	2.35	0.45
7:A:2591:C:N4	7:A:2592:G:O6	2.49	0.45
7:A:2686:G:H2'	7:A:2687:U:O4'	2.16	0.45
7:A:2697:G:C6	7:A:2711:A:N1	2.85	0.45
7:A:2722:G:H2'	7:A:2723:C:C6	2.52	0.45
8:B:6:G:H2'	8:B:7:G:H8	1.81	0.45
8:B:40:U:N3	8:B:44:G:OP2	2.49	0.45
13:G:89:VAL:O	13:G:159:LYS:HA	2.17	0.45
23:Q:74:SER:OG	23:Q:77:LYS:NZ	2.49	0.45
33:a:256:U:H2'	33:a:257:G:C8	2.51	0.45
33:a:267:C:OP2	49:q:68:LYS:HE2	2.17	0.45
33:a:348:G:N1	33:a:349:A:C5	2.84	0.45
33:a:580:C:H2'	33:a:581:G:C8	2.52	0.45
33:a:628:G:H2'	33:a:629:A:C8	2.52	0.45
33:a:737:C:H2'	33:a:738:C:H6	1.81	0.45
33:a:763:G:H2'	33:a:764:C:C6	2.51	0.45
33:a:842:U:H2'	33:a:844:G:H5''	1.98	0.45
41:i:42:THR:O	41:i:45:MET:HB3	2.15	0.45
7:A:379:G:N1	7:A:396:G:C6	2.85	0.45
7:A:848:C:H2'	7:A:849:A:C8	2.43	0.45
7:A:1187:G:O5'	7:A:1187:G:H8	2.00	0.45
7:A:1198:U:C2	7:A:1199:U:C5	3.05	0.45
7:A:1869:G:N1	7:A:1872:A:OP1	2.50	0.45
7:A:2552:OMU:C5	7:A:2554:U:H5'	2.47	0.45
33:a:60:A:N6	33:a:107:G:O2'	2.49	0.45
33:a:109:A:C6	33:a:326:G:C6	3.05	0.45
33:a:170:U:OP2	33:a:170:U:H6	1.99	0.45
33:a:191:G:H2'	33:a:192:A:H8	1.82	0.45
33:a:544:G:P	36:d:55:ARG:HH22	2.39	0.45
33:a:655:A:H2'	33:a:656:G:O4'	2.17	0.45
33:a:721:G:OP2	50:r:41:SER:N	2.29	0.45
33:a:1012:A:N6	33:a:1018:G:C6	2.85	0.45
33:a:1222:G:H8	33:a:1222:G:O5'	1.99	0.45
33:a:1341:U:H2'	33:a:1342:C:H6	1.81	0.45
33:a:1355:G:C6	33:a:1368:A:C6	3.05	0.45
33:a:1375:A:H2'	33:a:1376:U:C2	2.52	0.45
33:a:1425:U:H2'	33:a:1426:G:H8	1.81	0.45
39:g:133:ALA:HA	39:g:136:LYS:NZ	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:o:85:GLY:C	47:o:86:LEU:HD12	2.42	0.45
49:q:37:ILE:HD12	49:q:39:ARG:HH11	1.81	0.45
52:t:27:MET:HE1	52:t:66:ILE:HG21	1.97	0.45
53:u:14:ALA:HA	53:u:17:ARG:HG2	1.99	0.45
4:3:12:ARG:HH12	7:A:250:G:P	2.39	0.45
7:A:319:G:H2'	7:A:320:A:O4'	2.17	0.45
7:A:708:G:H2'	7:A:709:U:H6	1.82	0.45
7:A:794:A:H2'	7:A:795:C:C6	2.52	0.45
7:A:949:G:C4	7:A:969:G:N2	2.85	0.45
7:A:1582:C:H3'	7:A:1583:A:H5''	1.98	0.45
7:A:1678:A:C4	7:A:1679:A:C8	3.05	0.45
7:A:1754:A:N1	7:A:2716:C:O2'	2.45	0.45
7:A:2049:G:C6	7:A:2050:C:N4	2.84	0.45
7:A:2074:U:H2'	7:A:2075:U:H6	1.81	0.45
7:A:2163:A:H62	7:A:2164:C:H42	1.64	0.45
7:A:2345:G:C8	7:A:2347:C:C5	3.05	0.45
7:A:2354:C:H2'	7:A:2355:G:C8	2.50	0.45
11:E:1:MET:SD	11:E:16:GLU:HG2	2.57	0.45
17:K:53:LYS:HB2	17:K:53:LYS:HE2	1.80	0.45
21:O:99:TYR:CE1	21:O:104:GLN:HA	2.52	0.45
23:Q:16:ILE:HD13	23:Q:16:ILE:HA	1.86	0.45
33:a:100:G:H2'	33:a:101:A:O4'	2.16	0.45
33:a:437:U:HO2'	36:d:119:HIS:HD1	1.65	0.45
33:a:592:G:H2'	33:a:593:U:C6	2.52	0.45
33:a:676:A:H2'	33:a:677:U:C6	2.52	0.45
33:a:908:A:H2'	33:a:909:A:H8	1.81	0.45
33:a:926:G:N1	56:x:16:U:OP2	2.40	0.45
33:a:935:A:H61	39:g:2:ARG:HB2	1.82	0.45
33:a:993:G:H2'	33:a:995:C:H41	1.82	0.45
33:a:1171:A:H2'	33:a:1172:C:H6	1.82	0.45
33:a:1250:A:H2'	33:a:1251:A:C8	2.51	0.45
33:a:1319:A:C8	33:a:1323:G:C5	3.04	0.45
33:a:1486:G:H2'	33:a:1487:G:O4'	2.17	0.45
38:f:47:LEU:HD12	38:f:55:HIS:HA	1.99	0.45
45:m:103:THR:OG1	45:m:104:ASN:N	2.48	0.45
7:A:669:G:C6	7:A:801:G:C6	3.05	0.45
7:A:695:G:C6	7:A:768:G:C6	3.05	0.45
7:A:709:U:H2'	7:A:710:U:C6	2.52	0.45
7:A:896:A:H3'	7:A:897:C:H5'	1.99	0.45
7:A:2185:U:H3'	7:A:2186:G:N7	2.32	0.45
7:A:2282:G:H4'	7:A:2389:G:O2'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2418:A:H2'	7:A:2419:U:O4'	2.17	0.45
7:A:2455:G:C4	7:A:2456:C:C5	3.04	0.45
7:A:2864:G:C5	7:A:2865:U:C4	3.05	0.45
9:C:244:VAL:HG12	9:C:250:GLN:HA	1.99	0.45
10:D:108:ASP:OD1	10:D:206:ALA:HA	2.15	0.45
14:H:79:THR:HB	14:H:145:ASN:HD21	1.82	0.45
28:V:30:ILE:HD11	28:V:40:ILE:HD13	1.99	0.45
31:Y:20:ASN:C	31:Y:20:ASN:OD1	2.59	0.45
33:a:187:G:C2	33:a:191:G:C6	3.05	0.45
33:a:324:G:O2'	33:a:326:G:O6	2.33	0.45
33:a:340:U:H2'	33:a:341:C:C6	2.52	0.45
33:a:740:U:O2'	47:o:51:SER:OG	2.27	0.45
33:a:925:G:C6	33:a:1392:G:N1	2.85	0.45
33:a:987:G:H21	33:a:1015:G:N2	2.14	0.45
33:a:1074:G:O6	33:a:1083:U:O4	2.35	0.45
33:a:1130:A:H2'	33:a:1131:G:C8	2.52	0.45
33:a:1256:A:H62	33:a:1279:G:H21	1.63	0.45
35:c:6:PRO:HD2	35:c:183:TYR:CD2	2.52	0.45
36:d:74:TYR:HD1	36:d:92:LEU:HG	1.81	0.45
39:g:4:ARG:NH1	39:g:5:VAL:O	2.50	0.45
7:A:176:A:H3'	7:A:177:G:H21	1.81	0.45
7:A:442:G:C6	7:A:444:C:N4	2.85	0.45
7:A:538:A:H5''	16:J:7:LYS:NZ	2.32	0.45
7:A:627:A:O4'	7:A:637:A:N6	2.50	0.45
7:A:931:U:O2	7:A:1167:C:O2'	2.30	0.45
7:A:945:A:C5	7:A:2448:A:C2	3.05	0.45
7:A:960:A:C8	7:A:962:G:C8	3.06	0.45
7:A:1315:C:O2'	7:A:1392:A:H1'	2.17	0.45
7:A:1324:G:N3	7:A:1328:A:N6	2.65	0.45
7:A:1443:U:C2	7:A:1444:G:C8	3.04	0.45
7:A:1586:A:C2	7:A:1587:G:H1'	2.52	0.45
7:A:1858:A:H61	7:A:1884:G:H1'	1.82	0.45
7:A:2135:A:H5'	7:A:2156:G:N7	2.31	0.45
7:A:2143:C:O2'	7:A:2144:G:OP1	2.33	0.45
7:A:2571:U:O2'	10:D:152:PRO:HD3	2.16	0.45
7:A:2899:A:N3	7:A:2899:A:H2'	2.31	0.45
8:B:45:A:C4	8:B:46:A:C8	3.04	0.45
9:C:145:MET:HE1	9:C:181:ARG:NH2	2.31	0.45
16:J:81:ILE:HG23	16:J:82:GLY:H	1.82	0.45
26:T:80:TRP:HZ3	26:T:82:LYS:HB3	1.81	0.45
33:a:148:G:O2'	33:a:1446:A:H1'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:151:A:C2	33:a:152:A:H1'	2.52	0.45
33:a:170:U:C6	33:a:170:U:OP2	2.70	0.45
33:a:342:C:N3	33:a:348:G:C2	2.85	0.45
33:a:413:G:N2	33:a:428:G:O3'	2.49	0.45
33:a:1372:U:OP1	41:i:73:GLY:N	2.47	0.45
34:b:186:VAL:HB	34:b:198:VAL:HG13	1.98	0.45
39:g:67:ASN:HB3	39:g:129:ASN:OD1	2.17	0.45
42:j:67:ILE:HG13	46:n:96:LEU:HD13	1.98	0.45
47:o:22:GLY:HA2	47:o:27:GLN:HE21	1.82	0.45
53:u:21:SER:O	53:u:24:LYS:HB3	2.16	0.45
7:A:388:G:O6	7:A:390:U:O2'	2.20	0.44
7:A:749:A:N1	7:A:753:A:C8	2.85	0.44
7:A:825:A:H2'	7:A:826:U:C6	2.53	0.44
7:A:1149:G:H2'	7:A:1150:C:C6	2.51	0.44
7:A:1530:G:C2	7:A:1542:U:C2	3.05	0.44
7:A:1710:G:H2'	7:A:1711:A:H8	1.81	0.44
7:A:2037:A:H2'	7:A:2038:G:H8	1.82	0.44
7:A:2110:G:N2	7:A:2120:G:O5'	2.50	0.44
7:A:2392:A:O2'	18:L:60:ARG:O	2.30	0.44
7:A:2658:C:H5''	13:G:157:LYS:HE2	1.98	0.44
8:B:26:C:C4	8:B:27:C:C4	3.05	0.44
9:C:38:LYS:NZ	9:C:57:HIS:O	2.40	0.44
16:J:5:THR:OG1	16:J:45:THR:HG21	2.17	0.44
24:R:6:GLN:HA	24:R:11:GLN:HA	1.97	0.44
33:a:237:G:H5''	49:q:26:ARG:CZ	2.47	0.44
33:a:253:A:N6	33:a:274:A:C6	2.85	0.44
33:a:513:C:H2'	33:a:514:C:C6	2.52	0.44
33:a:672:U:H2'	33:a:673:A:C8	2.52	0.44
33:a:742:G:N3	33:a:743:A:C8	2.85	0.44
33:a:1014:A:C5	51:s:33:TRP:CE2	3.05	0.44
33:a:1430:A:C2	33:a:1471:U:C2	3.05	0.44
35:c:33:ASP:O	35:c:37:LYS:HG2	2.17	0.44
7:A:1658:C:OP2	10:D:140:HIS:CD2	2.70	0.44
7:A:2350:C:H2'	7:A:2351:G:O4'	2.17	0.44
7:A:2451:A:H1'	55:w:76:A:O2'	2.18	0.44
7:A:2456:C:N3	7:A:2457:PSU:N1	2.66	0.44
7:A:2590:A:H2'	7:A:2591:C:H6	1.81	0.44
8:B:11:C:O2'	8:B:15:A:N1	2.42	0.44
9:C:179:GLU:HG3	9:C:268:ARG:O	2.16	0.44
13:G:41:GLU:HB3	13:G:54:ARG:HE	1.83	0.44
18:L:28:GLY:H	18:L:31:GLY:HA2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:V:7:GLU:OE1	28:V:41:GLU:HG3	2.17	0.44
31:Y:1:MET:HE3	31:Y:5:GLU:OE2	2.17	0.44
33:a:512:U:H2'	33:a:513:C:C6	2.53	0.44
33:a:642:A:H2'	33:a:643:C:H6	1.81	0.44
33:a:746:A:C6	33:a:747:A:C6	3.04	0.44
33:a:924:C:H2'	33:a:925:G:H8	1.81	0.44
33:a:1060:U:H2'	33:a:1061:G:H8	1.82	0.44
33:a:1349:A:C4	33:a:1374:A:N1	2.85	0.44
40:h:47:ASP:O	40:h:61:THR:HG22	2.17	0.44
52:t:25:SER:O	52:t:29:THR:OG1	2.35	0.44
7:A:299:A:C6	7:A:322:A:C4	3.06	0.44
7:A:597:G:H2'	7:A:598:U:C6	2.53	0.44
7:A:997:G:C2	7:A:1159:U:C2	3.06	0.44
7:A:1168:G:N3	7:A:1169:A:C8	2.84	0.44
7:A:1244:A:HO2'	11:E:29:HIS:HE2	1.61	0.44
7:A:1410:G:C6	7:A:1593:A:C6	3.05	0.44
7:A:1769:U:O2'	7:A:1958:C:OP1	2.35	0.44
7:A:2174:C:H2'	7:A:2175:C:C6	2.52	0.44
7:A:2201:G:H2'	7:A:2202:U:C6	2.53	0.44
12:F:10:GLU:OE1	12:F:10:GLU:N	2.50	0.44
14:H:104:THR:OG1	14:H:109:GLU:OE1	2.22	0.44
23:Q:93:ILE:HD12	24:R:13:ARG:HB2	1.99	0.44
24:R:20:VAL:HG12	24:R:21:ARG:N	2.30	0.44
33:a:10:A:H2'	33:a:11:G:H8	1.82	0.44
33:a:105:G:H2'	33:a:106:C:H6	1.81	0.44
33:a:160:A:N6	33:a:346:G:O6	2.50	0.44
33:a:163:C:H2'	33:a:164:G:O4'	2.18	0.44
33:a:381:C:H2'	33:a:382:A:O4'	2.17	0.44
33:a:436:C:H2'	33:a:437:U:H6	1.82	0.44
33:a:859:G:H2'	33:a:860:A:C8	2.51	0.44
33:a:1309:G:N7	45:m:97:ARG:NH2	2.65	0.44
33:a:1318:A:H1'	51:s:36:ARG:HH11	1.82	0.44
33:a:1399:C:H4'	33:a:1400:C:O5'	2.17	0.44
37:e:152:VAL:HA	37:e:155:LYS:HE2	1.99	0.44
50:r:40:PRO:HD2	50:r:43:ILE:HD12	1.98	0.44
57:y:49:PRO:O	57:y:52:TYR:HB2	2.16	0.44
5:4:24:ARG:HH12	7:A:2742:G:P	2.40	0.44
6:5:45:GLY:HA2	6:5:49:GLY:C	2.43	0.44
7:A:662:G:H5''	18:L:16:GLY:HA2	1.98	0.44
7:A:971:G:OP1	7:A:974:G:O2'	2.24	0.44
7:A:974:G:H5''	7:A:1186:G:H21	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:988:A:H2'	7:A:989:G:H5''	1.97	0.44
7:A:1045:C:H4'	7:A:1046:A:H5''	1.99	0.44
7:A:1994:C:O2	7:A:1995:U:C5	2.71	0.44
7:A:2584:U:H3'	7:A:2585:U:C5'	2.42	0.44
7:A:2660:A:O2'	7:A:2661:G:P	2.75	0.44
7:A:2719:G:O2'	7:A:2720:U:H5'	2.17	0.44
12:F:109:ARG:HH12	45:m:2:ARG:HH21	1.63	0.44
12:F:166:ARG:HG2	12:F:176:PHE:CD2	2.53	0.44
13:G:175:LYS:HA	13:G:175:LYS:HD2	1.82	0.44
14:H:16:GLY:HA2	14:H:47:PHE:CE2	2.51	0.44
33:a:22:G:H2'	33:a:23:C:H6	1.82	0.44
33:a:707:U:C2	33:a:708:C:C5	3.05	0.44
33:a:872:A:C5	33:a:874:G:C8	3.05	0.44
33:a:1006:G:C2	33:a:1023:U:O2	2.71	0.44
33:a:1027:C:N4	33:a:1035:A:N7	2.65	0.44
33:a:1086:U:C2	33:a:1087:G:C8	3.06	0.44
33:a:1087:G:C6	33:a:1099:G:N1	2.85	0.44
33:a:1146:A:C5	33:a:1147:C:C5	3.05	0.44
33:a:1258:G:H2'	33:a:1259:C:H6	1.83	0.44
33:a:1402:4OC:H2'	33:a:1403:C:O4'	2.18	0.44
36:d:90:LEU:HD23	36:d:90:LEU:HA	1.78	0.44
37:e:20:VAL:HG23	37:e:31:SER:HB3	2.00	0.44
41:i:79:ARG:HD2	41:i:102:PHE:CD1	2.52	0.44
47:o:8:ALA:HA	47:o:11:VAL:HG12	1.98	0.44
5:4:13:ASN:HD22	5:4:29:ALA:HB2	1.82	0.44
7:A:21:A:C6	7:A:520:G:N1	2.86	0.44
7:A:131:A:H2'	7:A:132:G:C8	2.52	0.44
7:A:225:C:H2'	7:A:226:A:O4'	2.17	0.44
7:A:411:G:OP1	7:A:2407:A:OP1	2.35	0.44
7:A:1399:C:H2'	7:A:1400:U:C6	2.52	0.44
7:A:1687:G:C2	7:A:1702:G:C6	3.05	0.44
7:A:1790:C:O2'	9:C:207:ALA:HB2	2.18	0.44
7:A:1924:C:H2'	7:A:1925:C:C6	2.52	0.44
7:A:2080:A:H5'	30:X:18:SER:OG	2.17	0.44
7:A:2294:G:H2'	7:A:2295:C:C6	2.53	0.44
7:A:2295:C:P	21:O:10:ARG:HE	2.40	0.44
7:A:2399:G:C6	7:A:2418:A:C6	3.05	0.44
7:A:2473:U:O2	7:A:2473:U:H2'	2.17	0.44
7:A:2542:A:H4'	7:A:2543:G:C8	2.52	0.44
7:A:2811:G:OP1	10:D:62:LYS:HG2	2.16	0.44
7:A:2898:U:H2'	7:A:2899:A:C8	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:8:C:O2'	21:O:40:ILE:HD13	2.18	0.44
9:C:254:LYS:O	9:C:256:THR:HG23	2.17	0.44
12:F:79:ARG:H	12:F:82:TYR:HD2	1.64	0.44
33:a:193:C:H1'	52:t:54:GLN:HE21	1.82	0.44
33:a:373:A:O2'	33:a:451:A:N7	2.50	0.44
33:a:596:A:N6	33:a:645:G:C6	2.84	0.44
33:a:767:A:C4	33:a:768:A:C8	3.06	0.44
33:a:768:A:H4'	33:a:1523:G:H21	1.82	0.44
33:a:827:U:H2'	33:a:870:U:O4	2.18	0.44
33:a:1086:U:O4	33:a:1099:G:O6	2.36	0.44
33:a:1129:C:H5'	41:i:17:ARG:HH22	1.82	0.44
33:a:1130:A:C8	33:a:1146:A:C4	3.06	0.44
33:a:1229:A:H2'	33:a:1230:C:C6	2.53	0.44
33:a:1353:G:C2	33:a:1370:G:C2	3.05	0.44
45:m:84:CYS:SG	51:s:72:GLU:HB3	2.57	0.44
57:y:38:HIS:CE1	57:y:73:LYS:HD2	2.52	0.44
57:y:39:LEU:HB3	57:y:72:ILE:HB	2.00	0.44
7:A:24:G:O2'	25:S:78:GLU:O	2.35	0.44
7:A:287:G:H2'	7:A:288:U:C6	2.52	0.44
7:A:382:A:C2	7:A:393:C:C2	3.05	0.44
7:A:623:C:H2'	7:A:624:C:H6	1.82	0.44
7:A:1434:A:H2'	7:A:1435:G:C8	2.53	0.44
7:A:1545:A:H2'	7:A:1546:G:O4'	2.18	0.44
7:A:1930:G:H22	7:A:1969:A:P	2.40	0.44
7:A:2046:G:C5	7:A:2623:G:C2	3.05	0.44
7:A:2100:G:H2'	7:A:2100:G:N3	2.32	0.44
7:A:2192:U:H2'	7:A:2193:G:C8	2.52	0.44
7:A:2271:G:H5'	29:W:16:ARG:HD3	1.99	0.44
7:A:2333:A:H5'	7:A:2335:A:H1'	1.98	0.44
9:C:139:THR:O	9:C:139:THR:HG23	2.18	0.44
11:E:61:ARG:HH22	54:v:8:ILE:HG23	1.82	0.44
14:H:50:ARG:HG3	14:H:51:ARG:N	2.33	0.44
16:J:53:TYR:N	16:J:53:TYR:CD1	2.85	0.44
26:T:58:VAL:HG22	26:T:85:VAL:HG22	2.00	0.44
33:a:66:A:H4'	33:a:173:U:C5	2.52	0.44
33:a:178:C:H2'	33:a:179:A:C8	2.40	0.44
33:a:265:G:C4'	49:q:67:SER:O	2.66	0.44
33:a:374:A:C5	33:a:375:U:C4	3.06	0.44
33:a:464:U:HO2'	33:a:466:A:N6	2.16	0.44
33:a:1356:G:H2'	33:a:1357:A:H8	1.79	0.44
33:a:1422:G:C2	33:a:1423:G:C8	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1527:U:H2'	33:a:1528:U:C6	2.53	0.44
35:c:85:LYS:O	35:c:89:VAL:HG12	2.17	0.44
37:e:33:THR:HG22	37:e:51:LYS:HB2	1.99	0.44
41:i:28:VAL:HG13	41:i:63:TYR:HD1	1.83	0.44
44:l:43:LYS:HB3	44:l:44:PRO:HD3	2.00	0.44
48:p:8:ARG:CZ	48:p:15:PRO:HB3	2.48	0.44
1:0:37:HIS:ND1	1:0:38:LEU:O	2.51	0.44
7:A:300:A:H8	27:U:81:ARG:HH22	1.66	0.44
7:A:491:G:C6	7:A:492:A:C5	3.05	0.44
7:A:1519:G:C6	7:A:1520:U:C4	3.05	0.44
7:A:1707:G:C4	7:A:1756:G:C2	3.05	0.44
7:A:1708:C:H2'	7:A:1709:U:C6	2.52	0.44
7:A:2064:C:H2'	7:A:2065:C:H6	1.82	0.44
7:A:2412:A:H2'	7:A:2413:G:O4'	2.17	0.44
7:A:2745:C:C4	7:A:2746:U:C4	3.06	0.44
7:A:2769:U:C2	7:A:2770:G:C8	3.05	0.44
7:A:2806:C:H2'	7:A:2807:U:O4'	2.17	0.44
8:B:24:G:C6	8:B:56:G:C2	3.05	0.44
8:B:33:G:H2'	8:B:34:A:H8	1.82	0.44
11:E:65:THR:CG2	54:v:8:ILE:HG21	2.47	0.44
23:Q:94:LEU:HD23	23:Q:94:LEU:HA	1.77	0.44
25:S:24:ILE:HD13	25:S:36:LEU:HD11	1.99	0.44
25:S:88:ARG:HG3	25:S:94:ASP:OD2	2.18	0.44
33:a:94:G:H4'	33:a:95:C:O5'	2.18	0.44
33:a:252:U:H2'	33:a:253:A:H8	1.82	0.44
33:a:294:U:OP1	33:a:610:U:O2'	2.29	0.44
33:a:426:U:H2'	33:a:427:U:C6	2.53	0.44
33:a:448:A:C8	33:a:487:A:C6	3.06	0.44
33:a:691:G:P	43:k:27:ASN:HD22	2.40	0.44
33:a:878:A:H5''	40:h:80:PRO:HG2	2.00	0.44
33:a:945:G:C2	33:a:946:A:N7	2.86	0.44
33:a:987:G:H2'	33:a:988:G:H8	1.82	0.44
33:a:1041:G:H2'	33:a:1042:A:C8	2.50	0.44
33:a:1157:A:H4'	33:a:1158:C:O4'	2.18	0.44
33:a:1169:A:HO2'	34:b:138:ARG:NH2	2.14	0.44
33:a:1435:G:H2'	33:a:1436:U:H6	1.79	0.44
35:c:106:ARG:HD3	35:c:106:ARG:H	1.83	0.44
41:i:64:ILE:HG21	41:i:78:ILE:HG12	1.99	0.44
42:j:24:GLU:OE1	42:j:28:THR:OG1	2.34	0.44
4:3:18:LYS:HG3	7:A:651:G:H5'	2.00	0.44
4:3:25:HIS:HB3	4:3:43:LEU:HD22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:85:G:C6	7:A:98:G:N1	2.86	0.44
7:A:85:G:OP1	27:U:6:ARG:N	2.50	0.44
7:A:596:U:H2'	7:A:597:G:C8	2.53	0.44
7:A:653:U:H2'	7:A:654:A:H5'	2.00	0.44
7:A:711:G:O6	7:A:721:A:N6	2.51	0.44
7:A:947:A:N1	7:A:971:G:C6	2.86	0.44
7:A:1014:A:H2'	7:A:1015:U:C6	2.52	0.44
7:A:1429:G:H2'	7:A:1430:G:H8	1.83	0.44
7:A:1441:G:H2'	7:A:1442:U:C6	2.53	0.44
7:A:1630:A:N6	7:A:1637:A:N6	2.66	0.44
7:A:1715:G:O2'	7:A:1716:U:P	2.75	0.44
7:A:2315:G:H2'	7:A:2316:G:H8	1.82	0.44
7:A:2355:G:C6	7:A:2363:G:C6	3.06	0.44
7:A:2415:G:C4	7:A:2416:C:C5	3.06	0.44
7:A:2575:C:H5''	7:A:2576:G:OP2	2.18	0.44
7:A:2578:G:N7	10:D:145:SER:OG	2.50	0.44
7:A:2680:U:H1'	10:D:192:ALA:HB1	1.99	0.44
8:B:118:C:H2'	8:B:119:A:H8	1.82	0.44
33:a:273:U:O4	33:a:274:A:N6	2.50	0.44
33:a:893:C:C2	33:a:894:G:C8	3.06	0.44
33:a:1129:C:C2	33:a:1144:G:N2	2.86	0.44
33:a:1166:G:N2	33:a:1169:A:H5''	2.33	0.44
33:a:1181:G:H1'	33:a:1182:G:C8	2.53	0.44
35:c:40:GLN:O	35:c:44:LYS:HG2	2.18	0.44
39:g:92:PRO:O	39:g:95:ARG:HB3	2.18	0.44
41:i:79:ARG:HH11	41:i:102:PHE:HA	1.83	0.44
43:k:124:LYS:HG3	43:k:125:LYS:H	1.83	0.44
44:l:26:CYS:HB2	44:l:29:LYS:HE2	2.00	0.44
7:A:360:U:H2'	7:A:361:G:C8	2.53	0.44
7:A:417:C:H2'	7:A:418:C:C6	2.53	0.44
7:A:467:G:O2'	7:A:796:C:O2'	2.29	0.44
7:A:538:A:H2'	7:A:539:G:O4'	2.17	0.44
7:A:655:A:H4'	7:A:656:G:O5'	2.17	0.44
7:A:1206:G:H2'	7:A:1207:C:C6	2.53	0.44
7:A:1352:U:O2'	7:A:1353:A:H5'	2.18	0.44
7:A:1808:A:H3'	7:A:1809:A:C8	2.53	0.44
7:A:2655:G:H4'	7:A:2656:U:O5'	2.18	0.44
7:A:2820:A:O2'	7:A:2821:A:P	2.75	0.44
7:A:2888:C:H2'	7:A:2889:C:C6	2.53	0.44
8:B:59:A:H2'	8:B:60:C:O4'	2.18	0.44
9:C:90:ILE:HD12	9:C:102:TYR:CD1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:242:HIS:O	9:C:244:VAL:HG13	2.18	0.44
13:G:39:ALA:O	13:G:54:ARG:N	2.32	0.44
14:H:99:ILE:HG12	14:H:130:VAL:HG11	1.99	0.44
14:H:122:LEU:O	14:H:123:ARG:NE	2.51	0.44
33:a:19:A:H2'	33:a:20:U:H6	1.83	0.44
33:a:49:U:O2'	33:a:50:A:H2'	2.17	0.44
33:a:338:A:H2'	33:a:339:C:H6	1.83	0.44
33:a:703:G:H4'	33:a:704:A:O5'	2.18	0.44
33:a:1060:U:H5''	42:j:53:ILE:HD12	1.99	0.44
33:a:1120:C:H2'	33:a:1121:U:C6	2.52	0.44
33:a:1151:A:O2'	33:a:1152:A:H8	2.01	0.44
33:a:1225:A:H2'	33:a:1225:A:N3	2.32	0.44
33:a:1374:A:O2'	33:a:1375:A:H5'	2.18	0.44
33:a:1384:C:N4	33:a:1385:G:O6	2.50	0.44
33:a:1407:5MC:C2	33:a:1408:A:C8	3.05	0.44
33:a:1477:U:H2'	33:a:1478:U:H6	1.83	0.44
33:a:1495:U:H2'	33:a:1496:C:C6	2.53	0.44
40:h:25:THR:HB	40:h:57:GLU:OE1	2.18	0.44
46:n:1:ALA:HB1	46:n:6:LYS:NZ	2.33	0.44
51:s:39:ILE:HG21	51:s:65:MET:O	2.17	0.44
7:A:6:A:H2'	7:A:7:G:C8	2.53	0.43
7:A:63:A:H4'	26:T:77:ARG:HD3	2.00	0.43
7:A:285:G:H2'	7:A:286:U:C6	2.53	0.43
7:A:302:C:H2'	7:A:303:G:C8	2.53	0.43
7:A:549:G:H2'	7:A:550:C:H6	1.83	0.43
7:A:866:A:H61	7:A:913:U:H4'	1.83	0.43
7:A:1324:G:O2'	7:A:1326:U:OP2	2.19	0.43
7:A:1687:G:C2	7:A:1688:U:C2	3.05	0.43
7:A:2488:G:H2'	7:A:2489:U:C6	2.53	0.43
7:A:2576:G:H8	7:A:2581:G:O6	2.01	0.43
7:A:2834:G:H2'	7:A:2879:A:N6	2.33	0.43
10:D:39:ASP:N	10:D:39:ASP:OD1	2.47	0.43
14:H:89:LYS:HE2	38:f:82:ASP:OD1	2.17	0.43
18:L:73:ILE:O	18:L:105:ILE:HG23	2.18	0.43
22:P:21:PRO:HD3	22:P:49:ILE:HD12	1.99	0.43
33:a:303:A:H2'	33:a:304:U:O4'	2.18	0.43
33:a:309:A:H2'	33:a:310:G:H8	1.83	0.43
33:a:767:A:H2'	33:a:768:A:C8	2.53	0.43
33:a:768:A:H4'	33:a:1523:G:N2	2.32	0.43
33:a:923:A:H2'	33:a:924:C:C6	2.53	0.43
33:a:924:C:H2'	33:a:925:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1271:A:H2'	33:a:1272:G:C8	2.53	0.43
33:a:1352:C:H2'	33:a:1353:G:C8	2.52	0.43
34:b:19:THR:HA	34:b:38:HIS:CD2	2.53	0.43
35:c:8:GLY:HA3	46:n:89:MET:SD	2.58	0.43
36:d:187:ARG:HD2	36:d:187:ARG:HA	1.80	0.43
42:j:44:THR:OG1	42:j:45:ARG:N	2.51	0.43
48:p:17:TYR:HE1	48:p:41:PRO:HG3	1.83	0.43
54:v:15:HIS:O	54:v:17:ARG:N	2.51	0.43
55:w:29:G:N1	55:w:42:C:N3	2.66	0.43
57:y:52:TYR:CE2	57:y:99:THR:HG21	2.53	0.43
6:5:44:ALA:O	6:5:49:GLY:N	2.30	0.43
7:A:23:G:C6	7:A:518:G:C6	3.06	0.43
7:A:152:A:H2'	7:A:153:U:C6	2.53	0.43
7:A:1110:G:H4'	7:A:1111:A:OP1	2.18	0.43
7:A:1168:G:C6	7:A:1182:G:C6	3.06	0.43
7:A:1310:G:N2	7:A:1313:U:C4	2.86	0.43
7:A:1657:U:OP1	10:D:141:ARG:N	2.50	0.43
7:A:1786:A:N6	7:A:2606:C:O4'	2.47	0.43
7:A:2322:A:N6	7:A:2333:A:H62	2.17	0.43
7:A:2547:A:H5''	17:K:29:HIS:NE2	2.33	0.43
7:A:2623:G:OP1	7:A:2826:A:O2'	2.19	0.43
7:A:2653:U:H3'	7:A:2654:A:H8	1.82	0.43
7:A:2659:G:H2'	7:A:2660:A:H3'	2.00	0.43
7:A:2744:G:N7	7:A:2755:C:H1'	2.32	0.43
9:C:15:VAL:HG23	9:C:205:GLY:HA3	2.00	0.43
9:C:245:THR:CG2	9:C:249:VAL:HB	2.48	0.43
12:F:12:VAL:HG13	12:F:13:LYS:H	1.83	0.43
33:a:293:G:C5	33:a:305:G:C2	3.07	0.43
33:a:687:A:C2	33:a:704:A:C5	3.07	0.43
33:a:748:G:C2	33:a:749:A:C8	3.06	0.43
33:a:1081:A:H5'	37:e:22:LYS:HG3	2.00	0.43
33:a:1319:A:OP1	51:s:2:ARG:HB2	2.17	0.43
37:e:12:GLU:HB3	37:e:63:MET:SD	2.58	0.43
39:g:139:ASP:O	39:g:143:MET:HG2	2.18	0.43
41:i:5:TYR:HB2	41:i:20:ILE:CG1	2.47	0.43
44:l:78:VAL:O	44:l:102:ASP:HB3	2.18	0.43
47:o:38:LEU:O	47:o:41:HIS:N	2.51	0.43
2:1:8:ILE:HD13	2:1:24:LYS:HD2	1.99	0.43
7:A:248:G:O5'	7:A:249:C:H5''	2.19	0.43
7:A:300:A:O2'	7:A:318:C:O2	2.35	0.43
7:A:371:A:N3	30:X:60:LYS:NZ	2.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:417:C:H2'	7:A:418:C:H6	1.84	0.43
7:A:855:G:C6	7:A:923:G:C6	3.06	0.43
7:A:1022:G:N2	7:A:1142:A:H2	2.12	0.43
7:A:1297:C:OP1	7:A:2710:C:H4'	2.19	0.43
7:A:1314:C:N3	7:A:1339:G:N2	2.66	0.43
7:A:1463:C:H2'	7:A:1464:G:C8	2.53	0.43
7:A:2395:C:H2'	7:A:2396:G:O4'	2.19	0.43
7:A:2549:G:C2	7:A:2550:G:N7	2.86	0.43
7:A:2680:U:H2'	7:A:2681:C:C6	2.52	0.43
7:A:2822:G:O2'	7:A:2824:C:OP2	2.34	0.43
7:A:2869:G:N7	7:A:2870:C:N4	2.67	0.43
8:B:41:G:P	8:B:43:C:H41	2.41	0.43
10:D:36:GLN:OE1	10:D:38:LYS:NZ	2.51	0.43
13:G:75:VAL:HA	13:G:78:VAL:HG22	2.00	0.43
15:I:75:ALA:HB1	15:I:132:ALA:HB2	2.00	0.43
16:J:35:ARG:HB2	16:J:54:ILE:HD11	2.00	0.43
16:J:92:MET:HE2	16:J:92:MET:HB2	1.78	0.43
17:K:121:GLU:HG2	17:K:122:VAL:HG23	2.01	0.43
20:N:106:ASP:OD1	20:N:106:ASP:N	2.44	0.43
31:Y:9:LYS:HB3	31:Y:12:GLU:HG2	2.01	0.43
31:Y:13:GLU:HA	31:Y:16:THR:HG22	2.00	0.43
33:a:81:A:H1'	33:a:89:U:O2	2.18	0.43
33:a:207:C:H2'	33:a:212:G:H1	1.82	0.43
33:a:297:G:O2'	33:a:299:G:N7	2.38	0.43
33:a:421:U:H5'	33:a:422:C:C5	2.53	0.43
33:a:903:G:H2'	33:a:904:U:C6	2.53	0.43
33:a:978:A:C5	33:a:1318:A:N6	2.86	0.43
33:a:1287:A:C2	33:a:1353:G:H1'	2.43	0.43
34:b:90:PHE:O	34:b:149:GLY:HA3	2.18	0.43
36:d:74:TYR:CD1	36:d:92:LEU:HG	2.53	0.43
39:g:74:VAL:HG21	39:g:85:GLN:HB3	1.99	0.43
41:i:53:LEU:HD23	41:i:54:VAL:HG13	2.01	0.43
41:i:129:ARG:NH2	55:w:33:U:OP2	2.48	0.43
43:k:111:ASP:HB3	53:u:3:ILE:HG22	2.00	0.43
44:l:32:VAL:HG12	44:l:55:ARG:HB3	2.00	0.43
47:o:24:THR:O	47:o:28:VAL:HG23	2.18	0.43
51:s:68:HIS:ND1	51:s:72:GLU:OE1	2.51	0.43
55:w:11:C:H2'	55:w:12:U:C6	2.53	0.43
7:A:192:C:N4	7:A:203:A:H1'	2.34	0.43
7:A:528:A:C2	7:A:2043:C:H5'	2.54	0.43
7:A:640:C:C2	7:A:641:U:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:644:A:H2'	7:A:645:C:O4'	2.18	0.43
7:A:874:G:H2'	7:A:875:G:C8	2.54	0.43
7:A:1014:A:C6	7:A:1149:G:N1	2.87	0.43
7:A:1085:A:H2'	7:A:1086:A:C8	2.53	0.43
7:A:1637:A:C6	7:A:1638:C:N4	2.87	0.43
7:A:2494:G:N3	7:A:2495:G:C8	2.87	0.43
12:F:60:SER:HG	12:F:61:GLY:H	1.66	0.43
13:G:39:ALA:HB1	13:G:60:GLY:HA2	1.99	0.43
14:H:93:SER:OG	14:H:122:LEU:N	2.51	0.43
24:R:15:SER:O	24:R:18:GLN:HG2	2.19	0.43
33:a:39:G:C4	33:a:404:G:N2	2.87	0.43
33:a:118:U:O4	33:a:288:A:H2'	2.18	0.43
33:a:122:G:C6	33:a:123:U:C4	3.06	0.43
33:a:340:U:C2	33:a:350:G:N2	2.87	0.43
33:a:722:G:C6	33:a:724:G:C6	3.07	0.43
33:a:1228:C:H2'	33:a:1229:A:H8	1.83	0.43
33:a:1237:C:N4	33:a:1336:C:O2	2.51	0.43
33:a:1523:G:H2'	33:a:1524:C:H6	1.83	0.43
34:b:27:LYS:HE3	34:b:27:LYS:HB2	1.71	0.43
35:c:63:ILE:HG22	35:c:65:VAL:HG23	2.01	0.43
44:l:44:PRO:O	57:y:122:LYS:NZ	2.42	0.43
44:l:47:ALA:HB3	44:l:49:ARG:NH1	2.33	0.43
55:w:62:C:H2'	55:w:63:G:C8	2.52	0.43
1:0:28:SER:HB3	7:A:2885:G:O6	2.17	0.43
3:2:31:LEU:HD23	3:2:42:LEU:HD12	2.01	0.43
5:4:6:SER:HB3	7:A:2466:C:H5''	1.99	0.43
7:A:42:A:C6	7:A:438:G:C6	3.06	0.43
7:A:121:G:H4'	7:A:149:A:H5'	2.00	0.43
7:A:237:C:H2'	7:A:238:C:H6	1.83	0.43
7:A:463:G:C2	7:A:467:G:C6	3.07	0.43
7:A:471:A:H2'	7:A:472:A:O4'	2.19	0.43
7:A:556:A:O2'	7:A:557:C:OP1	2.35	0.43
7:A:638:G:H2'	7:A:639:U:C6	2.54	0.43
7:A:729:G:H5'	7:A:730:A:H5''	2.00	0.43
7:A:755:U:H2'	7:A:756:A:C8	2.53	0.43
7:A:833:A:H2'	7:A:834:G:H8	1.82	0.43
7:A:2341:G:H2'	7:A:2342:C:C6	2.53	0.43
7:A:2356:U:H2'	7:A:2357:G:O4'	2.19	0.43
7:A:2634:A:H2'	7:A:2635:A:C8	2.53	0.43
8:B:78:A:C2	8:B:99:A:C4	3.06	0.43
9:C:245:THR:OG1	9:C:246:PRO:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:109:VAL:HG22	10:D:203:VAL:HG22	2.01	0.43
11:E:149:ILE:HD12	11:E:188:MET:HE3	2.00	0.43
12:F:64:PRO:HB2	12:F:86:CYS:SG	2.57	0.43
14:H:82:SER:C	14:H:149:GLU:HB3	2.44	0.43
14:H:95:GLY:HA2	14:H:121:VAL:CG1	2.49	0.43
17:K:22:ILE:HG12	17:K:40:LYS:O	2.19	0.43
19:M:53:MET:HE2	19:M:117:PHE:CD1	2.53	0.43
25:S:24:ILE:HG13	25:S:24:ILE:O	2.17	0.43
33:a:53:A:N1	33:a:359:G:C6	2.87	0.43
33:a:384:G:H2'	33:a:385:C:H6	1.81	0.43
33:a:411:A:H4'	33:a:412:A:H5'	2.00	0.43
33:a:1266:G:C2	33:a:1270:G:C6	3.05	0.43
33:a:1284:C:H2'	33:a:1285:A:N7	2.34	0.43
33:a:1416:G:H2'	33:a:1417:G:O4'	2.18	0.43
36:d:117:VAL:O	36:d:130:ASN:HA	2.18	0.43
44:l:11:ARG:HD2	44:l:11:ARG:HA	1.82	0.43
51:s:31:ARG:HH11	51:s:33:TRP:HH2	1.65	0.43
7:A:96:C:H4'	31:Y:41:HIS:CD2	2.53	0.43
7:A:302:C:H2'	7:A:303:G:H8	1.83	0.43
7:A:308:G:H2'	7:A:309:A:O4'	2.18	0.43
7:A:597:G:C6	7:A:661:A:C6	3.06	0.43
7:A:724:U:O2'	7:A:725:G:H5'	2.19	0.43
7:A:822:G:H2'	7:A:823:C:H6	1.83	0.43
7:A:866:A:N7	7:A:914:G:C4	2.86	0.43
7:A:1128:G:C6	7:A:2518:A:C6	3.07	0.43
7:A:1186:G:O5'	7:A:1186:G:H8	2.01	0.43
7:A:1252:G:H22	23:Q:36:GLN:HE21	1.66	0.43
7:A:1853:A:N6	7:A:1889:A:C5	2.85	0.43
7:A:1999:C:H4'	7:A:2723:C:O2	2.18	0.43
7:A:2512:C:H2'	7:A:2513:A:O4'	2.18	0.43
7:A:2513:A:H2'	7:A:2514:U:C6	2.53	0.43
7:A:2531:A:C6	7:A:2532:G:C5	3.07	0.43
7:A:2758:A:C5	7:A:2759:G:C8	3.07	0.43
7:A:2837:A:H2'	7:A:2838:G:H8	1.83	0.43
7:A:2847:U:H2'	7:A:2848:G:O4'	2.19	0.43
10:D:124:ARG:HE	10:D:125:TRP:NE1	2.15	0.43
11:E:32:VAL:HG11	18:L:6:LEU:HD12	1.99	0.43
11:E:65:THR:HG22	54:v:8:ILE:HG21	1.99	0.43
13:G:120:ILE:HD11	13:G:139:VAL:HG13	2.01	0.43
14:H:4:ILE:HG12	14:H:39:ALA:HB2	1.99	0.43
33:a:321:A:H2'	33:a:322:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:325:A:H2'	33:a:326:G:C8	2.53	0.43
33:a:375:U:O2	48:p:28:ARG:NH2	2.38	0.43
33:a:380:G:N1	33:a:384:G:O6	2.52	0.43
33:a:674:G:P	38:f:86:ARG:HH21	2.42	0.43
33:a:701:U:O2	33:a:703:G:N1	2.52	0.43
33:a:811:C:H5	33:a:812:G:C4	2.37	0.43
33:a:920:U:H2'	33:a:921:U:H6	1.81	0.43
33:a:1463:U:H2'	33:a:1464:U:C6	2.53	0.43
34:b:193:ASP:OD1	34:b:194:GLY:N	2.44	0.43
36:d:32:LYS:HB2	36:d:32:LYS:HE3	1.73	0.43
39:g:71:THR:HG23	39:g:72:VAL:HG22	2.01	0.43
41:i:26:LYS:NZ	41:i:61:ASP:OD2	2.43	0.43
44:l:64:SER:HB2	44:l:94:TYR:HB2	2.00	0.43
49:q:16:MET:HG3	49:q:19:SER:HB3	1.99	0.43
4:3:4:LYS:HG2	7:A:242:G:C8	2.54	0.43
7:A:92:U:H2'	7:A:93:G:O4'	2.19	0.43
7:A:216:A:C8	7:A:432:A:N6	2.87	0.43
7:A:570:G:O2'	7:A:983:A:N6	2.52	0.43
7:A:715:A:H5''	47:o:88:ARG:HH22	1.82	0.43
7:A:818:G:C2	7:A:1190:G:C6	3.07	0.43
7:A:874:G:C6	7:A:904:G:C6	3.06	0.43
7:A:1231:U:H2'	7:A:1232:G:C8	2.51	0.43
7:A:1668:A:N7	7:A:1991:U:O4	2.51	0.43
7:A:1731:G:O2'	7:A:1732:C:H3'	2.18	0.43
7:A:1954:G:O2'	7:A:1956:U:O4	2.30	0.43
7:A:2295:C:H3'	21:O:9:ARG:HH22	1.84	0.43
7:A:2311:A:C2	12:F:76:PHE:HB3	2.53	0.43
7:A:2653:U:H3'	7:A:2654:A:C8	2.54	0.43
7:A:2655:G:N2	7:A:2664:G:C4	2.87	0.43
8:B:4:C:H2'	8:B:5:U:H6	1.84	0.43
9:C:173:LEU:O	9:C:180:MET:HA	2.19	0.43
11:E:29:HIS:HA	11:E:32:VAL:HG12	2.01	0.43
12:F:169:LEU:HD12	12:F:174:PHE:CD1	2.53	0.43
14:H:64:ALA:C	14:H:66:ASN:H	2.27	0.43
18:L:109:LYS:HE2	18:L:128:THR:HG22	2.00	0.43
21:O:34:HIS:ND1	21:O:53:THR:O	2.52	0.43
29:W:46:ASN:ND2	29:W:78:ILE:O	2.50	0.43
33:a:77:A:H3'	33:a:78:A:C8	2.54	0.43
33:a:89:U:H3'	33:a:89:U:H6	1.82	0.43
33:a:101:A:C5	33:a:102:G:N7	2.87	0.43
33:a:448:A:H3'	33:a:449:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:664:G:N2	33:a:741:G:H22	2.17	0.43
33:a:739:C:P	38:f:2:ARG:HH12	2.42	0.43
33:a:970:C:H5'	33:a:971:G:OP1	2.19	0.43
33:a:1111:A:N1	35:c:176:THR:HA	2.34	0.43
33:a:1219:A:H2'	33:a:1220:G:C8	2.53	0.43
33:a:1249:C:O2'	41:i:70:GLY:HA2	2.18	0.43
33:a:1261:A:O2'	33:a:1283:U:OP1	2.33	0.43
33:a:1429:A:H2'	33:a:1430:A:H8	1.83	0.43
33:a:1523:G:C4	33:a:1524:C:C5	3.07	0.43
36:d:2:ARG:NE	36:d:114:ARG:HD3	2.32	0.43
36:d:61:ARG:CD	36:d:71:PHE:CE2	2.92	0.43
36:d:105:GLY:O	36:d:107:GLY:N	2.50	0.43
41:i:24:ASN:HD22	41:i:26:LYS:HZ2	1.65	0.43
41:i:51:LEU:H	41:i:51:LEU:HD12	1.84	0.43
42:j:5:ARG:HB3	42:j:77:VAL:HA	2.01	0.43
44:l:80:LEU:HD13	44:l:101:LEU:HD23	2.00	0.43
48:p:75:ILE:O	48:p:79:ASN:ND2	2.51	0.43
55:w:18:G:C4	55:w:57:G:C6	3.06	0.43
7:A:396:G:OP2	30:X:9:LYS:NZ	2.51	0.43
7:A:542:C:H2'	7:A:543:G:H8	1.82	0.43
7:A:782:A:C8	9:C:219:VAL:HG21	2.53	0.43
7:A:1500:G:O2'	9:C:98:GLY:O	2.34	0.43
7:A:1741:C:H2'	7:A:1742:U:H6	1.82	0.43
7:A:2094:A:H2'	7:A:2095:A:H8	1.83	0.43
7:A:2406:A:O2'	7:A:2407:A:H5'	2.19	0.43
7:A:2880:C:O2	20:N:93:GLY:HA3	2.19	0.43
8:B:31:C:H1'	8:B:54:G:H22	1.83	0.43
11:E:143:LEU:HD22	11:E:185:LYS:HD2	2.01	0.43
12:F:23:SER:OG	12:F:26:GLN:HB2	2.18	0.43
14:H:82:SER:HB3	14:H:90:LEU:HD11	2.00	0.43
26:T:14:PRO:HD3	31:Y:30:MET:SD	2.59	0.43
33:a:199:A:H2'	33:a:200:G:H8	1.83	0.43
33:a:204:G:C2	33:a:465:A:H1'	2.54	0.43
33:a:207:C:C4'	33:a:213:G:N1	2.82	0.43
33:a:207:C:C2'	33:a:213:G:C6	3.02	0.43
33:a:380:G:N2	33:a:383:A:OP2	2.34	0.43
33:a:381:C:H2'	33:a:382:A:C8	2.53	0.43
33:a:1009:U:H2'	33:a:1010:U:C6	2.54	0.43
33:a:1143:G:H2'	33:a:1144:G:C8	2.53	0.43
33:a:1256:A:H2'	33:a:1278:G:N7	2.33	0.43
36:d:156:ALA:O	36:d:159:GLU:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:e:29:ILE:HD13	37:e:29:ILE:HA	1.88	0.43
41:i:28:VAL:HG13	41:i:63:TYR:CD1	2.54	0.43
45:m:89:ARG:HA	45:m:89:ARG:HD2	1.90	0.43
7:A:796:C:C2	7:A:797:G:C8	3.06	0.43
7:A:875:G:C2	7:A:903:C:C2	3.07	0.43
7:A:901:C:C4	7:A:902:C:C4	3.07	0.43
7:A:1168:G:C4	7:A:1169:A:N7	2.87	0.43
7:A:1420:A:O2'	7:A:1421:G:OP1	2.36	0.43
7:A:1684:G:H2'	7:A:1685:C:C6	2.54	0.43
7:A:2389:G:H5''	7:A:2390:U:O4'	2.19	0.43
7:A:2744:G:C6	7:A:2761:A:C6	3.07	0.43
19:M:126:ILE:HA	19:M:126:ILE:HD12	1.78	0.43
20:N:57:THR:OG1	20:N:62:ASN:OD1	2.36	0.43
23:Q:27:ARG:HA	23:Q:33:VAL:HG13	2.01	0.43
33:a:39:G:N3	33:a:404:G:N2	2.66	0.43
33:a:787:A:C6	33:a:788:U:C4	3.06	0.43
33:a:985:C:H2'	33:a:986:U:H6	1.82	0.43
33:a:1084:G:C5	33:a:1085:U:C4	3.07	0.43
33:a:1242:G:O6	33:a:1295:U:O2	2.37	0.43
33:a:1277:C:H2'	33:a:1279:G:H21	1.83	0.43
33:a:1365:G:C6	33:a:1366:C:C4	3.07	0.43
36:d:57:LYS:NZ	36:d:68:GLU:OE1	2.52	0.43
43:k:87:GLY:O	43:k:92:ARG:NH1	2.50	0.43
45:m:8:ILE:CG2	45:m:21:ILE:HD11	2.49	0.43
49:q:21:VAL:HG22	49:q:44:HIS:CD2	2.54	0.43
4:3:15:LYS:HG3	4:3:16:THR:N	2.34	0.43
6:5:26:VAL:H	6:5:113:PHE:CB	2.31	0.43
7:A:118:A:C8	7:A:119:A:C8	3.07	0.43
7:A:136:G:C6	7:A:144:A:C6	3.07	0.43
7:A:489:G:C5	7:A:491:G:C5	3.06	0.43
7:A:570:G:H2'	7:A:2030:6MZ:C8	2.48	0.43
7:A:582:A:C6	7:A:1259:G:N1	2.87	0.43
7:A:711:G:H1	7:A:720:U:H3	1.66	0.43
7:A:1060:U:H4'	7:A:1062:G:O4'	2.19	0.43
7:A:1440:U:H2'	7:A:1441:G:C8	2.53	0.43
7:A:2073:C:C2	7:A:2437:G:C2	3.06	0.43
7:A:2379:G:O3'	21:O:17:LYS:NZ	2.44	0.43
7:A:2507:C:C2	7:A:2583:G:C2	3.07	0.43
7:A:2543:G:C6	7:A:2765:A:C5	3.07	0.43
7:A:2748:A:H2'	7:A:2749:A:O4'	2.19	0.43
7:A:2803:G:H2'	7:A:2804:U:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:2836:U:H2'	7:A:2837:A:C8	2.53	0.43
9:C:52:HIS:CE1	9:C:218:THR:HG23	2.53	0.43
9:C:67:LYS:HG2	9:C:150:GLY:HA2	2.01	0.43
9:C:160:TYR:HB3	9:C:193:GLU:HG2	2.01	0.43
12:F:33:ILE:HG13	12:F:95:MET:HG3	2.00	0.43
27:U:47:PRO:HB2	27:U:53:GLN:HB3	2.00	0.43
29:W:41:PHE:O	29:W:55:LEU:HD11	2.19	0.43
33:a:128:G:H4'	49:q:5:ARG:HH22	1.82	0.43
33:a:160:A:H2'	33:a:161:A:O4'	2.19	0.43
33:a:278:G:OP2	49:q:42:LYS:NZ	2.32	0.43
33:a:389:A:H3'	33:a:390:U:H6	1.84	0.43
33:a:434:U:H2'	33:a:435:A:C8	2.54	0.43
33:a:502:A:N1	33:a:544:G:C6	2.87	0.43
33:a:737:C:C2	33:a:738:C:C5	3.07	0.43
33:a:920:U:O2'	33:a:1081:A:O2'	2.16	0.43
33:a:992:U:O2'	33:a:993:G:OP2	2.34	0.43
33:a:1130:A:C8	33:a:1146:A:C5	3.06	0.43
33:a:1323:G:H2'	33:a:1324:A:H8	1.83	0.43
33:a:1343:G:O2'	41:i:122:ARG:HD2	2.19	0.43
43:k:57:SER:O	43:k:90:PRO:HG3	2.19	0.43
44:l:7:VAL:HG11	49:q:37:ILE:HG21	2.00	0.43
45:m:84:CYS:SG	45:m:86:ARG:HG3	2.59	0.43
57:y:6:ARG:HD2	57:y:7:HIS:HB3	2.01	0.43
5:4:16:ILE:CD1	5:4:25:VAL:HG22	2.49	0.42
7:A:24:G:C6	7:A:25:U:C4	3.07	0.42
7:A:163:C:H2'	7:A:164:C:C6	2.54	0.42
7:A:176:A:H3'	7:A:177:G:N2	2.34	0.42
7:A:269:C:H2'	7:A:270:A:C8	2.52	0.42
7:A:794:A:H2'	7:A:795:C:H6	1.83	0.42
7:A:1070:A:N7	7:A:1095:A:O2'	2.52	0.42
7:A:1401:G:H2'	7:A:1402:U:C6	2.53	0.42
7:A:1633:G:H8	7:A:1633:G:OP2	2.02	0.42
7:A:1677:A:H2'	7:A:1678:A:H8	1.83	0.42
7:A:1826:G:C6	7:A:1827:U:C4	3.07	0.42
7:A:2031:A:N3	7:A:2455:G:O2'	2.36	0.42
7:A:2049:G:H2'	7:A:2050:C:C6	2.54	0.42
7:A:2152:G:H8	7:A:2153:C:C6	2.36	0.42
7:A:2287:A:N7	7:A:2289:G:C8	2.87	0.42
7:A:2552:OMU:HM23	7:A:2552:OMU:H1'	1.74	0.42
7:A:2655:G:H1'	7:A:2656:U:OP2	2.18	0.42
9:C:107:LYS:HA	9:C:195:GLY:HA2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:37:MET:HE1	12:F:149:ARG:HE	1.83	0.42
14:H:113:SER:O	14:H:116:ARG:NH2	2.29	0.42
16:J:13:ARG:HD2	16:J:53:TYR:HE1	1.84	0.42
17:K:8:LEU:HB2	17:K:19:VAL:HG23	2.01	0.42
18:L:110:VAL:O	18:L:128:THR:HG23	2.18	0.42
26:T:82:LYS:HE3	26:T:84:TYR:HE1	1.83	0.42
30:X:39:VAL:HG22	30:X:42:GLU:H	1.83	0.42
32:Z:23:LEU:HD23	32:Z:23:LEU:HA	1.66	0.42
33:a:184:G:C4	33:a:185:U:C5	3.07	0.42
33:a:342:C:N4	33:a:348:G:C6	2.87	0.42
33:a:363:A:H2'	33:a:364:A:O4'	2.19	0.42
33:a:604:G:H2'	33:a:605:U:O4'	2.19	0.42
33:a:725:G:H2'	33:a:726:C:C6	2.53	0.42
33:a:1057:G:H2'	33:a:1058:G:O4'	2.18	0.42
33:a:1282:C:H2'	33:a:1283:U:C6	2.54	0.42
34:b:56:LEU:HD12	34:b:56:LEU:HA	1.88	0.42
34:b:72:LYS:HE2	34:b:72:LYS:HB3	1.75	0.42
35:c:35:ASP:OD1	35:c:56:ILE:HG21	2.17	0.42
36:d:26:ALA:HB3	36:d:29:THR:OG1	2.18	0.42
36:d:171:GLU:HB2	36:d:182:LYS:HD3	2.00	0.42
55:w:16:U:H5	55:w:17:C:H1'	1.83	0.42
5:4:3:VAL:HG13	5:4:36:ARG:HD3	2.01	0.42
7:A:64:A:H2'	7:A:65:U:C6	2.54	0.42
7:A:134:G:H2'	7:A:135:U:H6	1.84	0.42
7:A:309:A:H1'	7:A:329:G:N3	2.34	0.42
7:A:476:G:C2	7:A:479:A:C8	3.07	0.42
7:A:608:A:C5	7:A:621:A:C6	3.07	0.42
7:A:615:U:H5''	7:A:616:A:C8	2.53	0.42
7:A:625:G:H2'	7:A:626:A:C8	2.54	0.42
7:A:1493:C:O2'	7:A:1494:A:H8	2.02	0.42
7:A:1664:A:H2	17:K:1:MET:HE1	1.84	0.42
7:A:1795:C:O2	9:C:252:LYS:NZ	2.33	0.42
7:A:1831:G:C4	7:A:1975:G:N2	2.87	0.42
7:A:1837:C:C2	7:A:1904:G:C2	3.07	0.42
7:A:1862:G:H2'	7:A:1863:G:H8	1.84	0.42
7:A:2308:G:C5	12:F:76:PHE:HE1	2.36	0.42
7:A:2700:A:H2'	7:A:2701:U:H6	1.82	0.42
7:A:2740:A:C5	7:A:2764:A:C5	3.08	0.42
7:A:2867:G:O6	22:P:20:ARG:NE	2.51	0.42
7:A:2895:G:H2'	7:A:2896:C:C6	2.54	0.42
8:B:8:C:OP1	21:O:15:ARG:NH2	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:23:G:H2'	8:B:24:G:N7	2.34	0.42
8:B:113:C:H2'	8:B:114:C:H6	1.84	0.42
17:K:71:ARG:HB3	17:K:72:PRO:HD2	2.00	0.42
17:K:92:GLU:HG3	17:K:111:LYS:NZ	2.34	0.42
19:M:4:PRO:HG3	19:M:68:PHE:HE1	1.84	0.42
20:N:30:ARG:O	20:N:78:LYS:NZ	2.52	0.42
21:O:82:ALA:HB3	21:O:115:LEU:HD11	2.01	0.42
24:R:76:LYS:HD2	24:R:85:LYS:HD2	2.00	0.42
33:a:453:G:H3'	33:a:454:G:H8	1.83	0.42
33:a:603:U:H5	33:a:635:A:C2	2.37	0.42
33:a:750:C:H2'	33:a:751:U:H6	1.83	0.42
33:a:771:G:C6	33:a:809:G:N1	2.87	0.42
33:a:1039:G:H2'	33:a:1040:U:C6	2.54	0.42
33:a:1234:C:H1'	33:a:1364:U:O2	2.18	0.42
33:a:1244:G:H2'	33:a:1245:C:H6	1.84	0.42
34:b:216:VAL:HA	34:b:219:THR:HG22	2.01	0.42
36:d:144:ILE:O	36:d:144:ILE:HG22	2.19	0.42
37:e:123:LEU:HD23	37:e:123:LEU:HA	1.81	0.42
38:f:1:MET:HE3	38:f:1:MET:HB2	1.80	0.42
38:f:15:SER:HA	38:f:18:VAL:HG23	2.01	0.42
44:l:51:VAL:HG22	44:l:63:THR:HG22	2.01	0.42
44:l:53:ARG:HD2	44:l:53:ARG:HA	1.86	0.42
45:m:79:LEU:HD13	45:m:86:ARG:HB2	2.00	0.42
48:p:51:ARG:C	48:p:52:LEU:HD22	2.44	0.42
49:q:47:ASP:OD2	49:q:50:ASN:HA	2.19	0.42
52:t:9:ARG:HA	52:t:9:ARG:HD2	1.73	0.42
3:2:44:VAL:HG23	3:2:44:VAL:O	2.19	0.42
7:A:107:G:H2'	7:A:108:G:H8	1.85	0.42
7:A:1016:G:C6	7:A:1147:A:C6	3.08	0.42
7:A:1220:G:C6	7:A:1230:A:C6	3.08	0.42
7:A:1733:G:H2'	7:A:1734:G:C8	2.51	0.42
7:A:1846:G:C2	7:A:1847:G:N2	2.88	0.42
7:A:2284:A:O2'	7:A:2288:A:N1	2.46	0.42
7:A:2320:U:H4'	7:A:2321:U:H6	1.84	0.42
7:A:2357:G:C2	7:A:2361:G:C5	3.07	0.42
7:A:2409:G:H2'	7:A:2410:G:O4'	2.19	0.42
7:A:2678:C:C2	7:A:2679:A:C8	3.08	0.42
9:C:38:LYS:HE2	9:C:59:GLN:HG2	2.01	0.42
13:G:70:LEU:HD23	13:G:70:LEU:HA	1.84	0.42
18:L:110:VAL:HG12	18:L:131:ALA:HB1	2.01	0.42
26:T:48:GLN:HG3	26:T:53:VAL:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:46:MET:O	32:Z:50:VAL:HG22	2.18	0.42
33:a:110:C:C2	33:a:111:G:C8	3.07	0.42
33:a:363:A:C2	44:l:27:PRO:HD2	2.54	0.42
33:a:538:G:H5'	44:l:110:LYS:HG2	2.01	0.42
33:a:544:G:OP1	36:d:58:GLN:HG3	2.20	0.42
33:a:579:A:C4	33:a:580:C:C5	3.07	0.42
33:a:686:U:H1'	43:k:43:TRP:HZ2	1.84	0.42
33:a:770:C:H1'	33:a:899:C:H41	1.84	0.42
33:a:1109:C:P	35:c:175:HIS:HD1	2.42	0.42
34:b:71:THR:OG1	34:b:167:HIS:ND1	2.53	0.42
36:d:203:TYR:HD1	36:d:203:TYR:HA	1.66	0.42
39:g:37:THR:O	39:g:41:ILE:HG12	2.19	0.42
45:m:94:LEU:C	45:m:108:ARG:HG2	2.44	0.42
50:r:64:LEU:HD23	50:r:64:LEU:HA	1.85	0.42
55:w:52:G:N1	55:w:63:G:C6	2.87	0.42
57:y:11:PRO:HG2	57:y:47:SER:OG	2.19	0.42
1:0:39:ARG:NH2	7:A:2886:A:C5	2.87	0.42
2:1:28:THR:HG22	2:1:29:LYS:HG2	2.00	0.42
7:A:58:G:O2'	7:A:73:A:N1	2.46	0.42
7:A:98:G:H2'	7:A:99:U:C6	2.55	0.42
7:A:1065:U:H3'	7:A:1066:U:C5'	2.49	0.42
7:A:1161:C:C2	7:A:1162:G:C8	3.07	0.42
7:A:1196:C:H2'	7:A:1197:G:H8	1.85	0.42
7:A:1298:C:C2	7:A:1643:G:N2	2.87	0.42
7:A:1405:U:O2'	7:A:1406:U:H5'	2.20	0.42
7:A:1663:G:C6	7:A:1998:A:C6	3.07	0.42
7:A:1667:G:H21	7:A:1994:C:H42	1.67	0.42
7:A:1709:U:C2	7:A:1750:G:N2	2.87	0.42
7:A:1827:U:H2'	7:A:1828:G:O4'	2.19	0.42
7:A:1855:U:O4	7:A:1887:C:N3	2.52	0.42
7:A:1858:A:H2'	7:A:1859:U:O4'	2.19	0.42
7:A:2521:C:H2'	7:A:2522:U:O4'	2.19	0.42
7:A:2801:G:H2'	7:A:2802:G:C8	2.54	0.42
8:B:118:C:H2'	8:B:119:A:C8	2.55	0.42
21:O:31:THR:HB	21:O:33:ARG:O	2.19	0.42
22:P:91:VAL:HG11	22:P:96:LEU:HD21	2.02	0.42
26:T:29:THR:HG23	26:T:85:VAL:O	2.19	0.42
26:T:33:LYS:HG2	26:T:80:TRP:CE3	2.54	0.42
33:a:258:G:H2'	33:a:259:G:C8	2.54	0.42
33:a:265:G:N2	33:a:267:C:H5'	2.34	0.42
33:a:405:U:H1'	33:a:498:A:C4	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:744:C:O2'	33:a:851:G:N2	2.50	0.42
33:a:784:A:N6	33:a:799:G:C6	2.87	0.42
33:a:842:U:O2'	33:a:846:G:O6	2.36	0.42
33:a:978:A:N6	33:a:1316:G:H1'	2.34	0.42
33:a:1062:U:H2'	33:a:1063:C:C6	2.55	0.42
33:a:1077:G:N1	33:a:1081:A:C6	2.87	0.42
33:a:1109:C:C2	33:a:1110:A:C8	3.07	0.42
33:a:1150:A:N3	42:j:41:PRO:HG3	2.34	0.42
33:a:1348:U:O2	33:a:1348:U:H2'	2.19	0.42
33:a:1413:A:H2'	33:a:1414:U:C6	2.55	0.42
36:d:96:ARG:NH2	36:d:114:ARG:HH12	2.18	0.42
36:d:178:GLU:OE2	36:d:179:GLY:N	2.53	0.42
44:l:99:GLY:N	44:l:103:CYS:O	2.53	0.42
45:m:53:ASP:OD1	45:m:54:THR:N	2.52	0.42
55:w:75:C:H2'	55:w:76:A:C4	2.54	0.42
7:A:71:A:OP1	7:A:112:U:O2'	2.29	0.42
7:A:319:G:H22	7:A:323:C:H5	1.67	0.42
7:A:638:G:C5	7:A:651:G:C2	3.07	0.42
7:A:675:A:N3	7:A:2443:C:O2'	2.49	0.42
7:A:794:A:C4	7:A:795:C:C5	3.08	0.42
7:A:866:A:H61	7:A:913:U:C4'	2.32	0.42
7:A:887:U:H2'	7:A:887:U:O2	2.18	0.42
7:A:1282:U:H2'	7:A:1283:G:O4'	2.20	0.42
7:A:1298:C:H2'	7:A:1299:G:O4'	2.19	0.42
7:A:1473:G:H2'	7:A:1474:U:C6	2.54	0.42
7:A:1799:G:O6	9:C:177:SER:HB3	2.20	0.42
7:A:2032:G:N2	10:D:151:THR:HG1	2.15	0.42
7:A:2646:C:O5'	7:A:2646:C:H6	2.02	0.42
8:B:83:G:O6	8:B:94:A:N6	2.53	0.42
9:C:245:THR:HG22	9:C:249:VAL:O	2.19	0.42
18:L:85:VAL:O	18:L:85:VAL:HG12	2.20	0.42
22:P:52:ARG:HA	22:P:52:ARG:HD3	1.78	0.42
24:R:38:VAL:HG22	24:R:59:ILE:HG13	2.02	0.42
33:a:33:A:H2'	33:a:34:C:H6	1.85	0.42
33:a:138:G:C6	33:a:226:G:C6	3.06	0.42
33:a:185:U:H2'	33:a:186:C:C6	2.54	0.42
33:a:333:U:H2'	33:a:334:C:H6	1.84	0.42
33:a:410:G:H2'	33:a:429:U:C5	2.55	0.42
33:a:412:A:H62	33:a:431:A:H61	1.67	0.42
33:a:557:G:H3'	33:a:558:G:C8	2.55	0.42
33:a:605:U:O2	33:a:633:G:O6	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:673:A:O3'	38:f:86:ARG:NH2	2.52	0.42
33:a:1419:G:C5	33:a:1482:G:C2	3.08	0.42
39:g:148:LYS:HD2	39:g:148:LYS:HA	1.84	0.42
41:i:45:MET:HG2	41:i:49:GLN:HE21	1.85	0.42
41:i:51:LEU:HD11	41:i:82:ILE:HD13	2.02	0.42
42:j:30:LYS:HA	42:j:34:ALA:HA	2.02	0.42
45:m:84:CYS:SG	45:m:85:TYR:N	2.92	0.42
47:o:75:ALA:O	47:o:79:GLN:HG2	2.19	0.42
49:q:18:LYS:HG2	49:q:47:ASP:O	2.20	0.42
6:5:45:GLY:HA3	15:I:119:ALA:HB1	2.01	0.42
7:A:6:A:H2'	7:A:7:G:H8	1.83	0.42
7:A:19:A:H2'	7:A:20:C:H6	1.84	0.42
7:A:80:G:C6	7:A:107:G:C6	3.08	0.42
7:A:364:C:H5	7:A:366:C:H5	1.68	0.42
7:A:799:G:C6	7:A:800:A:C6	3.08	0.42
7:A:822:G:H2'	7:A:823:C:C6	2.54	0.42
7:A:978:G:O4'	7:A:1001:A:H2	2.02	0.42
7:A:1364:G:N2	7:A:1367:A:OP2	2.43	0.42
7:A:1430:G:C6	7:A:1431:A:C5	3.07	0.42
7:A:1805:A:C6	7:A:1813:G:C6	3.08	0.42
7:A:2196:C:H2'	7:A:2197:U:C6	2.55	0.42
7:A:2270:A:H2'	7:A:2271:G:O4'	2.19	0.42
7:A:2820:A:HO2'	7:A:2821:A:P	2.42	0.42
7:A:2848:G:C4	7:A:2867:G:N2	2.87	0.42
7:A:2881:U:H2'	7:A:2882:A:C8	2.55	0.42
8:B:109:A:C6	8:B:110:C:C4	3.07	0.42
12:F:56:LEU:HA	12:F:59:ILE:HG22	2.01	0.42
15:I:78:LEU:C	15:I:80:LYS:H	2.28	0.42
17:K:86:LEU:O	17:K:87:LEU:HD23	2.20	0.42
17:K:88:ASN:HB3	17:K:91:SER:O	2.20	0.42
19:M:50:ARG:O	19:M:54:THR:HG23	2.19	0.42
21:O:8:ILE:O	21:O:12:THR:HG23	2.20	0.42
25:S:10:ALA:O	25:S:12:SER:N	2.52	0.42
26:T:6:ARG:NH2	26:T:37:ASP:HB2	2.34	0.42
28:V:68:LYS:HE3	28:V:68:LYS:HB3	1.90	0.42
33:a:35:G:H5'	44:l:100:ALA:HB2	2.01	0.42
33:a:77:A:O2'	33:a:78:A:OP1	2.36	0.42
33:a:124:C:H2'	33:a:125:U:H6	1.84	0.42
33:a:144:G:C6	33:a:145:G:C5	3.06	0.42
33:a:165:G:C2	33:a:166:U:C2	3.08	0.42
33:a:207:C:O2'	33:a:212:G:N2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:615:G:C6	33:a:626:G:C6	3.08	0.42
33:a:769:G:O2'	33:a:770:C:H5'	2.20	0.42
33:a:947:G:H2'	33:a:948:C:H6	1.83	0.42
33:a:1078:U:HO2'	33:a:1079:G:P	2.40	0.42
33:a:1151:A:H8	33:a:1151:A:OP2	2.02	0.42
33:a:1246:A:H2'	33:a:1247:U:O4'	2.19	0.42
33:a:1266:G:O2'	33:a:1268:G:O6	2.38	0.42
35:c:106:ARG:HD3	35:c:106:ARG:N	2.35	0.42
38:f:11:HIS:C	38:f:13:ASP:H	2.26	0.42
38:f:12:PRO:HD2	38:f:54:LEU:HD11	2.01	0.42
46:n:46:LEU:HA	46:n:49:GLN:HG2	2.02	0.42
47:o:55:LEU:HA	47:o:58:MET:HE3	2.02	0.42
7:A:63:A:H2	26:T:70:HIS:CG	2.37	0.42
7:A:360:U:C4	7:A:361:G:C6	3.08	0.42
7:A:985:C:C2	7:A:986:C:C5	3.08	0.42
7:A:1006:C:C2	7:A:1138:G:N2	2.88	0.42
7:A:1062:G:H2'	7:A:1063:G:N7	2.34	0.42
7:A:1064:C:N4	7:A:1069:A:OP1	2.53	0.42
7:A:1356:G:C6	7:A:1357:C:C4	3.07	0.42
7:A:1779:U:C2	7:A:1783:A:N7	2.88	0.42
7:A:1797:G:H4'	9:C:254:LYS:O	2.20	0.42
7:A:1914:C:HO2'	7:A:1915:3TD:P	2.42	0.42
7:A:1932:A:H2'	7:A:1933:G:O4'	2.19	0.42
7:A:2507:C:H2'	7:A:2508:G:O4'	2.18	0.42
7:A:2648:G:H2'	7:A:2649:C:H6	1.84	0.42
7:A:2748:A:C2	7:A:2757:A:C5	3.08	0.42
7:A:2813:A:H2'	7:A:2814:A:C8	2.54	0.42
7:A:2862:G:H2'	7:A:2863:C:C6	2.54	0.42
8:B:16:G:N2	8:B:69:G:H1'	2.34	0.42
16:J:69:ARG:O	16:J:89:PHE:HB3	2.20	0.42
19:M:74:THR:HG22	19:M:88:ASN:C	2.45	0.42
33:a:307:C:C4	33:a:308:C:C4	3.07	0.42
33:a:391:G:H2'	33:a:392:C:O4'	2.19	0.42
33:a:409:U:O4	33:a:433:G:O6	2.38	0.42
33:a:854:U:H2'	33:a:855:U:C6	2.55	0.42
33:a:922:G:N3	33:a:1398:A:H2	2.16	0.42
33:a:926:G:H22	56:x:16:U:P	2.43	0.42
33:a:995:C:H2'	33:a:996:A:H5''	2.02	0.42
33:a:1086:U:O4	33:a:1099:G:C6	2.72	0.42
33:a:1229:A:H2'	33:a:1230:C:H6	1.85	0.42
34:b:72:LYS:NZ	34:b:164:ASP:OD2	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:b:117:GLU:O	34:b:120:SER:OG	2.29	0.42
36:d:61:ARG:HH21	36:d:68:GLU:N	2.18	0.42
41:i:35:GLU:OE1	41:i:35:GLU:N	2.53	0.42
41:i:46:VAL:HG23	41:i:79:ARG:HE	1.85	0.42
42:j:12:ALA:HB3	42:j:18:ILE:HB	2.01	0.42
45:m:68:LEU:HD12	45:m:68:LEU:HA	1.79	0.42
49:q:11:VAL:HG12	49:q:54:ILE:HA	2.01	0.42
49:q:24:ILE:N	49:q:41:THR:O	2.36	0.42
49:q:68:LYS:HG2	49:q:69:THR:H	1.84	0.42
3:2:25:LYS:HE2	7:A:1367:A:O2'	2.19	0.42
7:A:146:A:H2'	7:A:147:C:C6	2.55	0.42
7:A:282:A:H2'	7:A:283:G:C8	2.55	0.42
7:A:318:C:H2'	7:A:319:G:C8	2.55	0.42
7:A:412:A:N7	7:A:2411:A:H2	2.17	0.42
7:A:570:G:H1'	7:A:983:A:N6	2.35	0.42
7:A:582:A:H2'	7:A:583:G:C8	2.55	0.42
7:A:622:G:H2'	7:A:623:C:H6	1.85	0.42
7:A:859:G:O2'	7:A:860:U:OP2	2.34	0.42
7:A:903:C:H2'	7:A:904:G:H8	1.85	0.42
7:A:1410:G:H2'	7:A:1411:U:H6	1.85	0.42
7:A:1646:C:H5''	7:A:1647:U:C5'	2.49	0.42
7:A:1684:G:H2'	7:A:1685:C:H6	1.84	0.42
7:A:1845:G:C6	7:A:1896:G:C6	3.08	0.42
7:A:2024:G:C6	7:A:2025:C:C4	3.08	0.42
7:A:2060:A:O2'	7:A:2061:G:OP2	2.36	0.42
7:A:2241:A:H2'	7:A:2242:G:H8	1.84	0.42
7:A:2320:U:O5'	7:A:2320:U:H6	2.02	0.42
7:A:2574:G:O5'	7:A:2574:G:H8	2.03	0.42
8:B:115:A:H2'	8:B:116:G:H8	1.84	0.42
10:D:5:VAL:HG23	10:D:5:VAL:O	2.20	0.42
10:D:68:PHE:CE1	10:D:79:LEU:HD21	2.54	0.42
13:G:95:ALA:HB1	13:G:130:ILE:HG12	2.01	0.42
25:S:33:LEU:HD23	25:S:33:LEU:HA	1.80	0.42
28:V:77:VAL:HG23	28:V:89:ILE:HG12	2.01	0.42
33:a:252:U:H2'	33:a:253:A:C8	2.55	0.42
33:a:283:U:H2'	33:a:284:C:H6	1.83	0.42
33:a:413:G:H21	33:a:428:G:H1'	1.84	0.42
33:a:425:G:C5	33:a:426:U:C4	3.08	0.42
33:a:512:U:H2'	33:a:513:C:H6	1.84	0.42
33:a:618:C:H5'	33:a:619:U:H5''	2.01	0.42
33:a:632:U:H5'	33:a:633:G:C8	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:786:G:C2	33:a:797:C:C2	3.08	0.42
33:a:892:A:C6	33:a:893:C:C4	3.07	0.42
33:a:1270:G:C6	33:a:1271:A:N6	2.88	0.42
33:a:1309:G:P	45:m:90:HIS:HE2	2.42	0.42
33:a:1321:U:H2'	33:a:1322:C:C5	2.53	0.42
33:a:1376:U:H2'	33:a:1377:A:C8	2.55	0.42
34:b:69:VAL:HG13	34:b:162:VAL:HA	2.02	0.42
35:c:5:HIS:HB3	46:n:89:MET:SD	2.60	0.42
36:d:104:MET:HE1	36:d:142:VAL:HB	2.02	0.42
39:g:86:VAL:HG23	39:g:150:PHE:O	2.19	0.42
41:i:79:ARG:NH1	41:i:102:PHE:HA	2.34	0.42
43:k:24:ALA:HA	43:k:29:THR:HA	2.01	0.42
45:m:1:ALA:HB3	45:m:8:ILE:HD11	2.02	0.42
52:t:2:ASN:OD1	52:t:3:ILE:N	2.53	0.42
55:w:24:G:H2'	55:w:25:C:H6	1.84	0.42
7:A:27:G:HO2'	7:A:28:A:P	2.42	0.42
7:A:265:A:H4'	7:A:266:G:OP1	2.19	0.42
7:A:332:A:O2'	7:A:334:C:OP2	2.31	0.42
7:A:535:G:C6	7:A:559:G:O6	2.73	0.42
7:A:841:G:C6	7:A:938:G:C6	3.08	0.42
7:A:1032:A:N1	7:A:1122:G:O6	2.53	0.42
7:A:1035:U:O2	7:A:1120:G:N2	2.42	0.42
7:A:1689:A:H2'	7:A:1690:A:C8	2.55	0.42
7:A:2290:G:H2'	7:A:2291:U:H6	1.82	0.42
7:A:2445:2MG:H5''	7:A:2445:2MG:H8	1.84	0.42
7:A:2548:U:O2	17:K:23:LYS:NZ	2.53	0.42
7:A:2870:C:C5	7:A:2871:U:N3	2.88	0.42
8:B:49:C:H2'	8:B:50:A:H8	1.82	0.42
13:G:100:ASN:O	13:G:116:LEU:HG	2.20	0.42
14:H:86:ASP:N	14:H:86:ASP:OD1	2.51	0.42
28:V:20:LEU:HD21	28:V:41:GLU:HB3	2.02	0.42
31:Y:2:LYS:O	31:Y:4:LYS:N	2.53	0.42
33:a:128:G:C2	33:a:234:C:C2	3.08	0.42
33:a:401:C:H2'	33:a:402:G:C8	2.54	0.42
33:a:684:U:C4	33:a:685:G:N2	2.88	0.42
33:a:775:G:H22	33:a:805:C:N4	2.18	0.42
33:a:872:A:C4	33:a:874:G:N7	2.88	0.42
33:a:958:A:O2'	33:a:959:A:O4'	2.23	0.42
33:a:1226:C:OP2	45:m:101:THR:HB	2.20	0.42
33:a:1314:C:C2'	33:a:1315:U:H5'	2.50	0.42
33:a:1374:A:O2'	39:g:27:ASN:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1384:C:H2'	33:a:1385:G:C8	2.55	0.42
34:b:219:THR:HA	34:b:222:GLU:HG2	2.01	0.42
35:c:122:GLN:HG2	35:c:125:ARG:HH21	1.85	0.42
39:g:102:TRP:CG	39:g:136:LYS:HE2	2.54	0.42
45:m:113:LYS:HB2	45:m:114:PRO:HD3	2.01	0.42
57:y:55:ARG:NH2	57:y:101:GLU:OE1	2.53	0.42
7:A:80:G:C2	7:A:81:G:C5	3.08	0.42
7:A:96:C:H2'	7:A:97:C:C6	2.54	0.42
7:A:452:G:C2	7:A:458:G:C4	3.08	0.42
7:A:584:C:C2	7:A:585:G:C8	3.08	0.42
7:A:1070:A:C6	7:A:1096:A:H1'	2.55	0.42
7:A:1120:G:H2'	7:A:1121:C:C6	2.54	0.42
7:A:1202:G:C6	7:A:1244:A:C6	3.08	0.42
7:A:1638:C:O2	7:A:2698:U:O2'	2.36	0.42
7:A:1721:G:O2'	7:A:1739:A:N6	2.53	0.42
7:A:1798:U:H2'	7:A:1819:A:N6	2.35	0.42
7:A:1890:A:H2'	7:A:1891:G:O4'	2.20	0.42
7:A:2327:A:N7	7:A:2388:A:N6	2.68	0.42
7:A:2456:C:C2	7:A:2457:PSU:C6	3.07	0.42
7:A:2549:G:C2	7:A:2550:G:C5	3.08	0.42
10:D:7:LYS:HE3	10:D:7:LYS:HB2	1.79	0.42
10:D:14:ILE:HD13	10:D:14:ILE:HA	1.84	0.42
10:D:149:ASN:OD1	10:D:150:GLN:N	2.49	0.42
10:D:180:VAL:HG12	10:D:187:LEU:HD13	2.01	0.42
11:E:194:LYS:O	11:E:197:GLU:HG3	2.19	0.42
13:G:53:PRO:HD3	13:G:61:TRP:CH2	2.55	0.42
16:J:14:ASP:N	16:J:52:ASP:OD1	2.44	0.42
17:K:105:ARG:HH21	17:K:122:VAL:HA	1.84	0.42
19:M:22:GLN:O	19:M:24:THR:N	2.52	0.42
25:S:86:MET:HA	25:S:87:PRO:HD3	1.91	0.42
29:W:40:LYS:NZ	29:W:74:LYS:HE3	2.34	0.42
31:Y:39:GLN:HB3	31:Y:41:HIS:CE1	2.55	0.42
33:a:6:G:N7	37:e:102:THR:HG21	2.34	0.42
33:a:36:C:H2'	33:a:37:U:O4'	2.19	0.42
33:a:357:G:OP1	33:a:367:U:H5''	2.20	0.42
33:a:1139:G:C2	33:a:1141:C:N4	2.88	0.42
33:a:1415:G:C2	33:a:1416:G:C8	3.08	0.42
35:c:119:ILE:HA	35:c:122:GLN:NE2	2.34	0.42
37:e:61:LYS:HA	37:e:64:GLU:HG2	2.02	0.42
41:i:71:ILE:H	41:i:71:ILE:HD12	1.84	0.42
48:p:39:PHE:CE2	48:p:41:PRO:HB3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:p:66:THR:OG1	48:p:67:ILE:N	2.52	0.42
49:q:77:VAL:HG11	49:q:80:LYS:NZ	2.35	0.42
52:t:23:ARG:HB2	52:t:65:LEU:HD22	2.02	0.42
3:2:21:ARG:NH1	7:A:466:A:H5'	2.35	0.41
7:A:500:G:H22	7:A:503:A:H5'	1.84	0.41
7:A:953:G:C2	7:A:954:G:C8	3.08	0.41
7:A:1432:G:O2'	7:A:1433:A:H5'	2.20	0.41
7:A:1692:U:O2'	7:A:1693:U:H2'	2.20	0.41
7:A:1871:A:H2'	7:A:1872:A:C2	2.54	0.41
7:A:2026:U:C2	7:A:2027:G:C8	3.08	0.41
7:A:2093:G:H21	7:A:2198:A:N6	2.18	0.41
7:A:2271:G:H2'	7:A:2272:U:C6	2.55	0.41
7:A:2379:G:H2'	7:A:2380:C:C6	2.55	0.41
7:A:2405:G:H2'	7:A:2411:A:H62	1.84	0.41
7:A:2677:G:H2'	7:A:2678:C:H6	1.85	0.41
7:A:2865:U:OP2	7:A:2866:U:O2'	2.30	0.41
9:C:134:ILE:HD13	9:C:140:VAL:HG11	2.02	0.41
11:E:147:LEU:HD12	11:E:168:ASP:O	2.20	0.41
20:N:57:THR:OG1	20:N:57:THR:O	2.37	0.41
21:O:81:ARG:HA	21:O:84:GLU:OE1	2.19	0.41
21:O:99:TYR:CZ	21:O:104:GLN:HG3	2.55	0.41
24:R:43:ASN:HB3	24:R:46:GLU:O	2.20	0.41
33:a:8:A:H8	37:e:105:ILE:HG23	1.85	0.41
33:a:86:G:H4'	33:a:87:C:C5	2.54	0.41
33:a:198:G:O2'	33:a:199:A:OP1	2.31	0.41
33:a:246:A:N1	33:a:278:G:O2'	2.49	0.41
33:a:444:G:C6	33:a:491:G:C6	3.08	0.41
33:a:560:A:OP2	33:a:566:G:N2	2.46	0.41
33:a:600:A:H2'	33:a:601:G:C8	2.54	0.41
33:a:626:G:C2	33:a:627:G:C4	3.08	0.41
33:a:706:A:C5	33:a:707:U:C5	3.07	0.41
33:a:792:A:H1'	33:a:794:A:N7	2.35	0.41
33:a:842:U:C2	33:a:844:G:H5''	2.55	0.41
33:a:982:U:H5''	46:n:5:MET:SD	2.59	0.41
33:a:1329:A:C6	33:a:1330:U:C4	3.07	0.41
41:i:122:ARG:NH1	41:i:123:ARG:O	2.53	0.41
48:p:47:GLU:O	48:p:49:GLY:N	2.53	0.41
48:p:54:LEU:HD23	48:p:57:ILE:HD12	2.02	0.41
7:A:223:A:C4	7:A:422:A:C8	3.08	0.41
7:A:262:A:N3	7:A:430:A:O2'	2.46	0.41
7:A:292:U:H2'	7:A:293:U:C6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:324:A:H2'	7:A:325:G:O4'	2.19	0.41
7:A:563:A:N6	7:A:2018:G:C5	2.88	0.41
7:A:688:U:H4'	7:A:1780:A:C2	2.55	0.41
7:A:724:U:H2'	7:A:725:G:C8	2.56	0.41
7:A:849:A:H2'	7:A:850:U:H6	1.84	0.41
7:A:1422:G:C6	7:A:1577:C:N3	2.88	0.41
7:A:1519:G:C6	7:A:1520:U:O4	2.73	0.41
7:A:1619:G:C2	7:A:1620:G:C8	3.08	0.41
7:A:1865:U:O2'	7:A:1866:A:H5''	2.19	0.41
7:A:2138:G:H2'	7:A:2139:U:O4'	2.20	0.41
7:A:2816:G:H2'	7:A:2817:U:C6	2.55	0.41
7:A:2881:U:H2'	7:A:2882:A:H8	1.85	0.41
8:B:50:A:OP2	21:O:67:ASN:HA	2.20	0.41
8:B:114:C:H2'	8:B:115:A:H8	1.85	0.41
9:C:52:HIS:NE2	9:C:218:THR:HG23	2.35	0.41
13:G:89:VAL:HG21	13:G:162:ARG:NE	2.35	0.41
16:J:59:ALA:HB3	16:J:126:ALA:HA	2.03	0.41
18:L:89:VAL:HG23	18:L:89:VAL:O	2.20	0.41
33:a:227:G:C4	33:a:228:A:C8	3.08	0.41
33:a:275:G:C2	33:a:276:G:C8	3.08	0.41
33:a:285:C:H2'	33:a:286:C:C6	2.55	0.41
33:a:432:A:H2'	33:a:433:G:O4'	2.21	0.41
33:a:613:C:OP1	36:d:80:ARG:HD3	2.20	0.41
33:a:718:A:C5	33:a:719:C:C5	3.08	0.41
33:a:1146:A:C6	33:a:1147:C:C4	3.08	0.41
33:a:1249:C:H4'	41:i:74:GLN:NE2	2.30	0.41
33:a:1385:G:C2	33:a:1386:G:C4	3.08	0.41
34:b:163:ILE:HD13	34:b:163:ILE:HA	1.89	0.41
36:d:9:LYS:HB3	36:d:9:LYS:HE2	1.77	0.41
38:f:36:ILE:H	38:f:36:ILE:HD12	1.83	0.41
40:h:95:MET:HE2	40:h:98:LEU:HD11	2.01	0.41
43:k:82:GLU:HG3	43:k:107:THR:OG1	2.20	0.41
44:l:98:ARG:HB2	44:l:116:TYR:HA	2.02	0.41
6:5:42:ARG:HA	15:I:119:ALA:HB2	2.03	0.41
6:5:81:LEU:N	7:A:1107:G:H4'	2.34	0.41
7:A:131:A:H2'	7:A:132:G:H8	1.85	0.41
7:A:366:C:H1'	7:A:367:G:C8	2.56	0.41
7:A:470:A:C6	7:A:471:A:C6	3.08	0.41
7:A:563:A:C6	7:A:564:C:C4	3.08	0.41
7:A:723:C:C4	7:A:724:U:C4	3.09	0.41
7:A:899:A:O3'	7:A:900:A:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:923:G:C2	7:A:924:G:C8	3.09	0.41
7:A:1222:U:H2'	7:A:1223:G:H8	1.84	0.41
7:A:1288:G:C2	7:A:1327:A:H2	2.38	0.41
7:A:1400:U:C2	7:A:1401:G:C8	3.08	0.41
7:A:2048:G:C6	7:A:2049:G:C5	3.08	0.41
7:A:2262:U:O2'	7:A:2263:C:H5'	2.20	0.41
7:A:2773:C:H2'	7:A:2774:C:C6	2.53	0.41
8:B:92:C:H2'	8:B:93:C:C6	2.55	0.41
8:B:113:C:H2'	8:B:114:C:C6	2.54	0.41
9:C:116:GLN:H	9:C:127:ASN:HD22	1.67	0.41
11:E:61:ARG:HH12	11:E:64:GLY:HA3	1.85	0.41
13:G:82:PHE:CE2	13:G:137:LYS:HB2	2.55	0.41
14:H:135:HIS:CD2	14:H:136:SER:H	2.37	0.41
18:L:3:LEU:HD12	18:L:3:LEU:HA	1.78	0.41
18:L:123:ARG:NE	18:L:143:GLU:OE2	2.53	0.41
20:N:44:LEU:HD12	20:N:44:LEU:HA	1.83	0.41
23:Q:18:LYS:HE3	23:Q:18:LYS:HB3	1.85	0.41
33:a:13:U:OP1	57:y:132:ARG:NH2	2.54	0.41
33:a:39:G:N3	33:a:404:G:C2	2.88	0.41
33:a:49:U:HO2'	33:a:50:A:H2'	1.85	0.41
33:a:149:A:HO2'	33:a:1446:A:H2	1.67	0.41
33:a:155:A:H2'	33:a:156:C:H6	1.84	0.41
33:a:189:A:H2'	33:a:190:A:C8	2.55	0.41
33:a:972:C:O2'	42:j:57:VAL:HG13	2.20	0.41
33:a:1296:C:H5'	45:m:13:HIS:CE1	2.55	0.41
33:a:1341:U:H2'	33:a:1342:C:C6	2.55	0.41
33:a:1372:U:C4	33:a:1373:G:C5	3.08	0.41
40:h:83:ARG:HA	40:h:83:ARG:HD3	1.85	0.41
41:i:9:GLY:HA2	41:i:80:HIS:CG	2.56	0.41
45:m:63:VAL:HG21	45:m:68:LEU:HD13	2.01	0.41
49:q:46:HIS:CD2	49:q:66:LEU:HD13	2.55	0.41
7:A:160:A:H2'	7:A:161:A:C8	2.55	0.41
7:A:167:A:C2	7:A:168:G:H1'	2.55	0.41
7:A:550:C:H2'	7:A:551:G:H8	1.85	0.41
7:A:579:G:C2	7:A:1262:A:C5	3.08	0.41
7:A:643:A:C6	7:A:644:A:N1	2.89	0.41
7:A:711:G:H2'	7:A:712:G:H8	1.84	0.41
7:A:947:A:C6	7:A:971:G:N1	2.89	0.41
7:A:1005:C:C2	7:A:1006:C:C5	3.08	0.41
7:A:1097:U:H5''	7:A:1098:A:N7	2.35	0.41
7:A:1168:G:C6	7:A:1182:G:N1	2.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1283:G:N2	7:A:1286:A:OP2	2.50	0.41
7:A:1308:A:H3'	7:A:1309:G:H8	1.86	0.41
7:A:1408:G:H2'	7:A:1409:U:C6	2.55	0.41
7:A:1473:G:C5	7:A:1474:U:C4	3.09	0.41
7:A:1602:U:H3'	7:A:1603:A:H5'	2.02	0.41
7:A:1636:U:H2'	7:A:1637:A:H8	1.85	0.41
7:A:1788:C:H2'	7:A:1789:A:O4'	2.21	0.41
7:A:1950:G:N1	7:A:1954:G:O2'	2.36	0.41
7:A:2194:U:H2'	7:A:2195:U:C6	2.56	0.41
7:A:2701:U:H3'	7:A:2702:G:H5''	2.02	0.41
7:A:2819:G:C6	7:A:2828:G:C6	3.08	0.41
9:C:143:VAL:HG21	9:C:161:VAL:HG21	2.03	0.41
10:D:108:ASP:OD2	10:D:174:SER:N	2.48	0.41
12:F:11:VAL:HG21	12:F:172:PHE:CE1	2.55	0.41
12:F:16:MET:HA	12:F:21:TYR:CD2	2.56	0.41
14:H:104:THR:CG2	14:H:109:GLU:HB2	2.50	0.41
16:J:60:ASP:OD1	16:J:61:LYS:HG3	2.20	0.41
17:K:10:VAL:HG11	17:K:16:ALA:O	2.19	0.41
29:W:68:LYS:HE2	29:W:75:PHE:CG	2.56	0.41
30:X:35:HIS:CD2	30:X:55:MET:HE1	2.55	0.41
33:a:158:G:H2'	33:a:159:G:O4'	2.20	0.41
33:a:505:G:C2	33:a:506:G:C5	3.08	0.41
33:a:678:U:H2'	33:a:679:C:H6	1.85	0.41
33:a:872:A:O2'	33:a:873:A:H3'	2.20	0.41
33:a:920:U:C2	33:a:921:U:C5	3.08	0.41
33:a:925:G:C2	33:a:927:G:C8	3.08	0.41
33:a:972:C:OP2	42:j:59:LYS:NZ	2.51	0.41
33:a:1127:G:N2	33:a:1147:C:H42	2.17	0.41
33:a:1226:C:OP2	33:a:1226:C:H2'	2.20	0.41
33:a:1309:G:O6	33:a:1329:A:C6	2.73	0.41
34:b:164:ASP:CG	34:b:167:HIS:H	2.29	0.41
35:c:44:LYS:HA	35:c:44:LYS:HD2	1.76	0.41
36:d:25:ARG:HH11	36:d:30:LYS:HG2	1.86	0.41
36:d:139:ASN:N	36:d:181:PHE:O	2.26	0.41
37:e:100:GLU:HA	37:e:121:ASN:ND2	2.36	0.41
38:f:24:ARG:CZ	38:f:24:ARG:HB2	2.49	0.41
42:j:59:LYS:CE	42:j:62:ARG:HH22	2.31	0.41
44:l:14:LYS:HE3	44:l:14:LYS:HB3	1.78	0.41
45:m:49:GLU:HA	45:m:52:ILE:HB	2.03	0.41
45:m:101:THR:O	45:m:101:THR:HG22	2.21	0.41
3:2:5:PHE:CE2	3:2:7:PRO:HB3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1:G:C2	7:A:2903:U:H1'	2.55	0.41
7:A:203:A:H8	7:A:203:A:O5'	2.02	0.41
7:A:237:C:H2'	7:A:238:C:C6	2.55	0.41
7:A:373:U:C2	7:A:374:A:C8	3.08	0.41
7:A:451:U:N3	7:A:453:A:C8	2.88	0.41
7:A:638:G:C5	7:A:651:G:N2	2.88	0.41
7:A:685:A:N1	7:A:787:C:H1'	2.36	0.41
7:A:860:U:C2	7:A:2268:A:C8	3.08	0.41
7:A:1046:A:H3'	7:A:1047:G:C5'	2.50	0.41
7:A:1071:G:H2'	7:A:1072:C:N3	2.35	0.41
7:A:2013:A:N6	7:A:2014:A:N1	2.68	0.41
7:A:2109:U:N3	7:A:2179:C:OP1	2.53	0.41
7:A:2202:U:O2'	7:A:2204:G:OP1	2.35	0.41
7:A:2261:C:H2'	7:A:2262:U:H6	1.85	0.41
7:A:2646:C:N4	7:A:2675:A:N1	2.68	0.41
7:A:2839:G:C4	7:A:2840:C:C5	3.08	0.41
16:J:117:ALA:HA	16:J:120:ARG:HH21	1.85	0.41
18:L:85:VAL:O	18:L:86:GLU:HG3	2.20	0.41
20:N:116:VAL:HG23	20:N:116:VAL:O	2.21	0.41
21:O:66:GLY:HA2	21:O:102:ARG:NH2	2.36	0.41
28:V:9:ARG:HG3	28:V:39:ALA:C	2.45	0.41
28:V:20:LEU:HD21	28:V:41:GLU:CB	2.50	0.41
33:a:123:U:H2'	33:a:124:C:H6	1.85	0.41
33:a:718:A:H5'	43:k:118:ASN:HB2	2.02	0.41
33:a:1077:G:C6	33:a:1081:A:C6	3.08	0.41
33:a:1198:G:H2'	33:a:1199:U:H6	1.86	0.41
33:a:1238:A:H2'	33:a:1238:A:N3	2.35	0.41
33:a:1252:A:H4'	33:a:1369:C:H4'	2.02	0.41
33:a:1328:C:H2'	33:a:1329:A:H8	1.84	0.41
35:c:19:SER:HB3	35:c:21:TRP:HE1	1.86	0.41
36:d:20:LEU:HD23	36:d:20:LEU:HA	1.85	0.41
41:i:55:ASP:HB2	41:i:59:LYS:HE3	2.02	0.41
55:w:27:G:C2	55:w:44:G:N2	2.88	0.41
2:1:32:LYS:HD3	2:1:50:GLU:OE1	2.21	0.41
7:A:110:G:C2	7:A:111:A:C8	3.09	0.41
7:A:396:G:C6	7:A:397:U:C4	3.08	0.41
7:A:638:G:H2'	7:A:639:U:H6	1.86	0.41
7:A:1081:U:H4'	15:I:123:ALA:HB1	2.02	0.41
7:A:1257:C:O5'	7:A:1257:C:H6	2.02	0.41
7:A:1322:A:N6	7:A:1333:G:H21	2.19	0.41
7:A:1411:U:H2'	7:A:1412:U:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1655:A:H1'	10:D:118:PHE:CD2	2.56	0.41
7:A:1686:C:N4	7:A:1687:G:C6	2.89	0.41
7:A:1707:G:H2'	7:A:1708:C:H6	1.85	0.41
7:A:1789:A:C5	7:A:1790:C:C4	3.08	0.41
7:A:1805:A:N1	7:A:1813:G:C6	2.89	0.41
7:A:1995:U:H3'	7:A:1996:C:H2'	2.03	0.41
7:A:2049:G:O2'	7:A:2050:C:H5'	2.21	0.41
7:A:2230:G:H2'	7:A:2231:U:H6	1.84	0.41
7:A:2262:U:H2'	7:A:2263:C:C6	2.52	0.41
7:A:2468:A:O5'	7:A:2476:A:N6	2.54	0.41
7:A:2543:G:O6	7:A:2765:A:N6	2.53	0.41
7:A:2597:G:H5''	9:C:240:GLY:HA3	2.02	0.41
7:A:2638:G:H2'	7:A:2775:G:H22	1.86	0.41
8:B:6:G:C6	8:B:115:A:C6	3.08	0.41
8:B:35:C:O2	8:B:35:C:H2'	2.21	0.41
9:C:131:MET:HE1	9:C:183:VAL:HG21	2.03	0.41
9:C:157:ALA:HB1	9:C:196:ASN:O	2.20	0.41
17:K:105:ARG:HH11	17:K:108:ARG:HH11	1.69	0.41
21:O:107:ALA:O	21:O:111:ARG:HD3	2.21	0.41
27:U:73:ASN:C	27:U:75:ALA:H	2.28	0.41
28:V:85:LYS:O	28:V:86:LEU:HD23	2.20	0.41
30:X:37:PHE:CE2	30:X:58:ILE:HG21	2.56	0.41
33:a:179:A:H3'	33:a:180:U:C6	2.55	0.41
33:a:338:A:H2'	33:a:339:C:C6	2.56	0.41
33:a:511:C:C2	33:a:512:U:C5	3.09	0.41
33:a:513:C:H2'	33:a:514:C:H6	1.85	0.41
33:a:590:U:OP1	40:h:30:LYS:N	2.51	0.41
33:a:669:G:N1	33:a:738:C:N3	2.68	0.41
33:a:718:A:H2	50:r:37:LYS:HE3	1.85	0.41
33:a:1047:G:O2'	33:a:1215:G:O2'	2.34	0.41
33:a:1088:G:H21	33:a:1167:A:H61	1.66	0.41
33:a:1114:C:H1'	46:n:100:SER:OG	2.20	0.41
33:a:1306:A:C2	33:a:1332:A:H1'	2.56	0.41
33:a:1366:C:H2'	33:a:1367:C:C6	2.55	0.41
39:g:58:LEU:O	39:g:62:GLU:HG2	2.21	0.41
42:j:12:ALA:HB2	42:j:96:VAL:HG13	2.02	0.41
42:j:53:ILE:HG12	42:j:61:ALA:O	2.20	0.41
2:1:18:HIS:ND1	2:1:40:PRO:HD2	2.36	0.41
5:4:33:HIS:CD2	5:4:33:HIS:N	2.89	0.41
7:A:202:U:H2'	7:A:203:A:C8	2.56	0.41
7:A:247:G:H4'	7:A:386:G:C4	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1322:A:C5	7:A:1323:C:C5	3.09	0.41
7:A:1555:G:C2	7:A:1556:C:C5	3.09	0.41
7:A:1795:C:H2'	7:A:1796:U:O4'	2.20	0.41
7:A:1819:A:H5''	9:C:156:SER:OG	2.21	0.41
7:A:1909:C:H2'	7:A:1910:G:H8	1.86	0.41
7:A:1995:U:O2'	7:A:1996:C:OP1	2.38	0.41
7:A:2073:C:O2'	7:A:2074:U:H5'	2.21	0.41
7:A:2184:A:H2'	7:A:2185:U:O4'	2.20	0.41
7:A:2291:U:H2'	7:A:2292:U:H6	1.78	0.41
7:A:2292:U:H2'	7:A:2293:G:C8	2.55	0.41
7:A:2478:A:C8	7:A:2529:G:N7	2.89	0.41
7:A:2558:C:H2'	7:A:2559:C:O4'	2.20	0.41
7:A:2894:G:H5''	7:A:2895:G:OP1	2.20	0.41
10:D:17:GLU:H	10:D:17:GLU:CD	2.27	0.41
14:H:93:SER:OG	14:H:121:VAL:HB	2.21	0.41
16:J:21:THR:OG1	16:J:58:ASN:ND2	2.52	0.41
17:K:23:LYS:HG3	17:K:24:VAL:N	2.36	0.41
27:U:94:PHE:HD2	27:U:99:SER:HB3	1.84	0.41
32:Z:6:ILE:O	32:Z:34:THR:HA	2.21	0.41
33:a:376:G:H2'	33:a:377:G:C8	2.51	0.41
33:a:451:A:H61	33:a:481:G:C5'	2.33	0.41
33:a:712:A:H2'	33:a:713:G:C8	2.55	0.41
33:a:723:U:H5''	53:u:54:ARG:NH2	2.34	0.41
33:a:1221:G:H2'	33:a:1222:G:C8	2.56	0.41
33:a:1438:G:C6	33:a:1439:G:C5	3.09	0.41
33:a:1460:C:H2'	33:a:1461:G:H8	1.86	0.41
33:a:1524:C:C2	33:a:1525:G:C8	3.09	0.41
41:i:98:ARG:HD2	41:i:103:VAL:HG11	2.03	0.41
51:s:35:ARG:NH2	51:s:71:GLY:O	2.53	0.41
52:t:20:ASN:OD1	52:t:65:LEU:HD13	2.21	0.41
52:t:24:ARG:HG3	52:t:65:LEU:HD11	2.02	0.41
1:0:15:ARG:NH1	7:A:1265:A:H3'	2.36	0.41
4:3:40:LYS:HE3	4:3:40:LYS:HB2	1.90	0.41
7:A:280:U:C4	7:A:361:G:N2	2.89	0.41
7:A:452:G:N2	7:A:458:G:C2	2.87	0.41
7:A:736:C:H2'	7:A:737:C:H6	1.86	0.41
7:A:858:G:H1	7:A:920:A:N6	2.19	0.41
7:A:901:C:C2	7:A:902:C:C6	3.08	0.41
7:A:933:A:H5''	7:A:934:U:OP2	2.21	0.41
7:A:953:G:N3	7:A:954:G:C8	2.89	0.41
7:A:1056:G:H2'	7:A:1102:C:N4	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:1168:G:C2	7:A:1169:A:N7	2.89	0.41
7:A:1538:G:C4	7:A:1539:U:C5	3.08	0.41
7:A:1721:G:H22	7:A:1738:G:H2'	1.86	0.41
7:A:1859:U:C2	7:A:1860:G:C8	3.09	0.41
7:A:2093:G:H1'	7:A:2198:A:C2	2.56	0.41
7:A:2118:U:C5	7:A:2148:G:H1'	2.56	0.41
7:A:2219:U:H2'	7:A:2220:U:O4'	2.20	0.41
7:A:2384:U:P	29:W:51:ARG:HH21	2.42	0.41
7:A:2597:G:C5'	9:C:240:GLY:HA3	2.51	0.41
7:A:2747:G:O6	7:A:2755:C:H5''	2.21	0.41
7:A:2808:G:O2'	7:A:2890:G:N1	2.50	0.41
8:B:1:U:H2'	8:B:2:G:H8	1.86	0.41
8:B:13:G:H2'	8:B:69:G:N2	2.36	0.41
8:B:24:G:C5	8:B:56:G:C4	3.09	0.41
8:B:78:A:OP2	28:V:14:LYS:NZ	2.54	0.41
9:C:204:LEU:HD21	9:C:213:ARG:HE	1.85	0.41
12:F:73:VAL:H	12:F:78:ILE:HG13	1.85	0.41
17:K:6:THR:O	17:K:20:MET:HA	2.21	0.41
19:M:66:ARG:HB2	19:M:101:VAL:O	2.21	0.41
33:a:10:A:H2'	33:a:11:G:C8	2.56	0.41
33:a:309:A:O2'	33:a:607:A:N1	2.46	0.41
33:a:357:G:O2'	33:a:358:U:H5'	2.21	0.41
33:a:363:A:C5'	44:l:30:ARG:HG3	2.51	0.41
33:a:384:G:C6	33:a:385:C:N4	2.89	0.41
33:a:407:U:H2'	33:a:408:A:C8	2.55	0.41
33:a:652:U:O4	33:a:752:G:O2'	2.19	0.41
33:a:688:G:C6	33:a:700:G:C2	3.09	0.41
33:a:718:A:C2	50:r:37:LYS:HG2	2.54	0.41
33:a:750:C:H2'	33:a:751:U:C6	2.56	0.41
33:a:932:C:H2'	33:a:933:G:H8	1.83	0.41
33:a:950:U:P	45:m:100:ARG:HH21	2.43	0.41
33:a:1055:A:C6	33:a:1206:G:C5	3.09	0.41
33:a:1177:G:H2'	33:a:1178:G:O4'	2.21	0.41
35:c:107:LYS:CG	35:c:143:LEU:HD21	2.51	0.41
36:d:3:TYR:CD2	36:d:10:LEU:HD11	2.56	0.41
38:f:49:TYR:CE1	50:r:65:SER:HA	2.56	0.41
40:h:10:LEU:HD22	40:h:74:ILE:HD11	2.02	0.41
40:h:39:LEU:HA	40:h:39:LEU:HD23	1.84	0.41
40:h:58:LEU:HD21	40:h:60:LEU:HD21	2.02	0.41
40:h:100:ILE:HG12	40:h:128:VAL:HB	2.02	0.41
44:l:109:ARG:HD2	44:l:109:ARG:HA	1.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:q:59:GLU:O	49:q:74:LEU:HD12	2.21	0.41
50:r:35:SER:HA	50:r:71:ASP:HB2	2.03	0.41
57:y:55:ARG:HD2	57:y:101:GLU:OE2	2.20	0.41
7:A:36:G:C6	7:A:445:C:N4	2.88	0.41
7:A:118:A:OP2	7:A:119:A:H8	2.04	0.41
7:A:175:G:C2	7:A:176:A:C5	3.09	0.41
7:A:300:A:O5'	27:U:81:ARG:NH1	2.41	0.41
7:A:310:A:C2	7:A:330:A:C5	3.08	0.41
7:A:321:U:OP2	11:E:130:LYS:HA	2.21	0.41
7:A:327:G:N2	27:U:67:SER:OG	2.54	0.41
7:A:464:U:C4	7:A:788:A:C5	3.09	0.41
7:A:543:G:H2'	7:A:544:C:C6	2.55	0.41
7:A:558:U:H2'	7:A:559:G:H8	1.86	0.41
7:A:613:A:N3	7:A:613:A:H2'	2.35	0.41
7:A:632:A:H4'	18:L:68:SER:HB3	2.03	0.41
7:A:709:U:H2'	7:A:710:U:H6	1.86	0.41
7:A:1016:G:C6	7:A:1147:A:N1	2.89	0.41
7:A:1016:G:O6	7:A:1147:A:N6	2.54	0.41
7:A:1055:G:C6	7:A:1056:G:C4	3.08	0.41
7:A:1065:U:H5''	7:A:1074:G:C2	2.56	0.41
7:A:1164:C:H2'	7:A:1165:A:H8	1.84	0.41
7:A:1173:U:H1'	7:A:1174:U:O4'	2.21	0.41
7:A:1251:C:OP2	23:Q:5:ARG:NH2	2.54	0.41
7:A:1316:U:C2	7:A:1317:G:N7	2.89	0.41
7:A:1318:U:H2'	7:A:1319:C:C6	2.56	0.41
7:A:1483:G:H2'	7:A:1484:U:C6	2.56	0.41
7:A:1496:A:H8	7:A:1498:C:N4	2.18	0.41
7:A:1590:A:C2	7:A:1591:A:C5	3.09	0.41
7:A:1707:G:C5	7:A:1756:G:C6	3.09	0.41
7:A:1715:G:H1'	7:A:1716:U:H5	1.86	0.41
7:A:1907:G:H2'	7:A:1908:C:C6	2.56	0.41
7:A:2070:A:C4	7:A:2071:A:C8	3.09	0.41
7:A:2112:G:H2'	7:A:2112:G:N3	2.36	0.41
7:A:2120:G:H1'	7:A:2121:G:N2	2.36	0.41
7:A:2163:A:N6	7:A:2164:C:H42	2.18	0.41
7:A:2233:U:H2'	7:A:2234:G:H8	1.85	0.41
7:A:2259:U:C2	7:A:2260:C:C5	3.08	0.41
7:A:2345:G:O6	7:A:2371:G:O6	2.39	0.41
7:A:2353:G:H2'	7:A:2354:C:O4'	2.20	0.41
7:A:2822:G:H2'	7:A:2823:A:H5''	2.03	0.41
7:A:2843:G:H2'	7:A:2844:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:4:C:N3	8:B:117:G:N1	2.69	0.41
9:C:145:MET:HG3	9:C:152:GLN:OE1	2.21	0.41
10:D:112:THR:O	10:D:195:GLY:HA2	2.21	0.41
14:H:115:VAL:HG22	14:H:132:PHE:CE2	2.55	0.41
16:J:84:ILE:HG23	16:J:84:ILE:O	2.21	0.41
18:L:82:LEU:HD23	18:L:82:LEU:HA	1.91	0.41
19:M:34:LYS:HA	19:M:101:VAL:HA	2.03	0.41
23:Q:116:LEU:HD23	23:Q:116:LEU:HA	1.85	0.41
24:R:7:SER:OG	24:R:8:GLY:N	2.54	0.41
24:R:27:ILE:O	24:R:66:HIS:NE2	2.50	0.41
24:R:37:GLU:O	24:R:39:LEU:HD12	2.21	0.41
24:R:42:ALA:HA	24:R:47:VAL:HG12	2.03	0.41
25:S:85:ILE:HD13	25:S:95:ARG:HA	2.02	0.41
28:V:6:ALA:O	28:V:65:VAL:HA	2.21	0.41
30:X:16:ASN:OD1	30:X:26:ARG:HD2	2.20	0.41
32:Z:7:THR:HG22	32:Z:34:THR:HB	2.03	0.41
32:Z:12:ALA:HA	32:Z:15:ARG:HG2	2.03	0.41
33:a:60:A:OP1	33:a:331:G:N1	2.54	0.41
33:a:71:A:C6	33:a:72:A:C8	3.08	0.41
33:a:93:U:H2'	33:a:95:C:C5	2.56	0.41
33:a:198:G:O2'	33:a:199:A:P	2.79	0.41
33:a:202:G:H2'	33:a:203:G:O4'	2.21	0.41
33:a:258:G:C4	33:a:259:G:C8	3.08	0.41
33:a:273:U:H1'	49:q:17:GLU:OE1	2.21	0.41
33:a:393:A:H2'	33:a:394:G:H8	1.86	0.41
33:a:409:U:H5''	36:d:24:VAL:HG11	2.03	0.41
33:a:464:U:O3'	33:a:465:A:C8	2.74	0.41
33:a:520:A:OP1	44:l:48:LEU:HB2	2.20	0.41
33:a:557:G:H3'	33:a:558:G:H8	1.86	0.41
33:a:596:A:C4	33:a:597:G:C8	3.09	0.41
33:a:652:U:HO2'	33:a:653:U:P	2.43	0.41
33:a:705:G:C5	33:a:706:A:C8	3.09	0.41
33:a:892:A:H2'	33:a:893:C:C6	2.56	0.41
33:a:904:U:C2	33:a:905:U:C5	3.09	0.41
33:a:917:G:H2'	33:a:918:A:C8	2.55	0.41
33:a:945:G:C6	33:a:1337:G:C6	3.09	0.41
33:a:1069:C:O2'	33:a:1192:C:H1'	2.21	0.41
33:a:1089:G:C6	33:a:1090:U:C4	3.09	0.41
33:a:1151:A:C2	33:a:1152:A:C5	3.08	0.41
33:a:1174:G:C2	33:a:1175:G:C8	3.09	0.41
33:a:1226:C:OP1	45:m:89:ARG:NH2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:1265:C:H2'	33:a:1266:G:O4'	2.21	0.41
33:a:1271:A:N1	33:a:1272:G:C6	2.89	0.41
33:a:1294:G:C6	33:a:1295:U:N3	2.89	0.41
33:a:1310:G:H2'	33:a:1311:A:H8	1.86	0.41
33:a:1478:U:H2'	33:a:1479:C:H6	1.83	0.41
34:b:65:LYS:HZ3	34:b:155:GLY:H	1.68	0.41
35:c:138:GLN:O	35:c:139:ASN:C	2.63	0.41
36:d:10:LEU:HD22	36:d:62:ARG:NH1	2.35	0.41
36:d:47:LEU:HD23	36:d:47:LEU:HA	1.86	0.41
36:d:71:PHE:O	36:d:72:ARG:C	2.64	0.41
37:e:30:PHE:CE2	57:y:131:MET:HG3	2.55	0.41
38:f:32:ALA:CB	38:f:70:VAL:HG11	2.51	0.41
39:g:71:THR:HG22	39:g:141:HIS:NE2	2.35	0.41
42:j:65:TYR:C	46:n:99:ALA:HB2	2.46	0.41
44:l:32:VAL:CG1	44:l:55:ARG:HB3	2.51	0.41
44:l:54:VAL:HG21	44:l:79:ILE:HD11	2.03	0.41
44:l:113:ARG:HH21	44:l:120:ARG:HB2	1.84	0.41
45:m:105:ALA:O	45:m:109:LYS:HB2	2.21	0.41
55:w:8:4SU:OP2	55:w:8:4SU:H6	2.21	0.41
3:2:15:SER:O	3:2:16:HIS:ND1	2.54	0.41
7:A:272:A:N6	7:A:364:C:N4	2.63	0.41
7:A:570:G:H5''	7:A:571:U:OP2	2.20	0.41
7:A:1473:G:C6	7:A:1519:G:C6	3.09	0.41
7:A:1491:G:O2'	9:C:99:GLU:HB2	2.21	0.41
7:A:1614:A:C2	25:S:93:ALA:HB2	2.56	0.41
7:A:1708:C:H2'	7:A:1709:U:H6	1.85	0.41
7:A:1878:G:H5''	7:A:1879:C:OP2	2.21	0.41
7:A:2508:G:H1	7:A:2580:PSU:HN3	1.68	0.41
7:A:2786:U:H2'	7:A:2787:C:C6	2.56	0.41
9:C:75:ALA:N	9:C:115:ILE:O	2.53	0.41
10:D:90:PHE:N	10:D:90:PHE:CD1	2.88	0.41
17:K:17:ARG:HD3	17:K:17:ARG:HA	1.90	0.41
33:a:464:U:H1'	33:a:466:A:H62	1.86	0.41
33:a:803:G:H2'	33:a:804:U:O4'	2.21	0.41
33:a:844:G:C8	33:a:845:A:C8	3.09	0.41
33:a:1035:A:H2'	33:a:1036:A:C8	2.56	0.41
33:a:1423:G:C6	33:a:1424:U:C4	3.08	0.41
36:d:61:ARG:CD	36:d:71:PHE:CD2	3.04	0.41
38:f:53:LYS:N	38:f:53:LYS:HD2	2.36	0.41
42:j:30:LYS:HE2	42:j:36:VAL:H	1.86	0.41
44:l:23:LEU:HG	44:l:94:TYR:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:l:81:ILE:HD13	44:l:81:ILE:HA	1.86	0.41
44:l:113:ARG:HG2	44:l:118:VAL:HB	2.02	0.41
46:n:63:ARG:NH1	46:n:68:GLY:O	2.50	0.41
51:s:35:ARG:HH21	51:s:74:ALA:HB3	1.85	0.41
51:s:51:HIS:HD2	51:s:55:GLN:O	2.03	0.41
55:w:14:A:N6	55:w:21:A:H2	2.19	0.41
55:w:71:G:H2'	55:w:72:C:C6	2.56	0.41
1:0:21:LEU:HD11	25:S:41:LYS:HE2	2.03	0.40
1:0:54:ILE:HG22	1:0:56:LYS:N	2.36	0.40
7:A:121:G:H2'	7:A:122:G:C8	2.54	0.40
7:A:150:U:H2'	7:A:151:C:C6	2.55	0.40
7:A:483:A:O2'	27:U:56:GLY:N	2.54	0.40
7:A:498:G:C2	7:A:499:U:C4	3.09	0.40
7:A:555:G:O2'	7:A:556:A:O5'	2.30	0.40
7:A:975:A:H1'	7:A:990:A:N1	2.35	0.40
7:A:1171:G:C2	7:A:1179:G:C5	3.08	0.40
7:A:1171:G:H3'	7:A:1172:C:C5	2.56	0.40
7:A:1196:C:H2'	7:A:1197:G:O4'	2.21	0.40
7:A:1604:C:H2'	7:A:1605:C:C6	2.55	0.40
7:A:1604:C:O2'	7:A:1610:A:N1	2.37	0.40
7:A:1685:C:H2'	7:A:1686:C:H6	1.86	0.40
7:A:2097:A:C6	7:A:2193:G:C6	3.10	0.40
7:A:2526:G:H2'	7:A:2527:C:C6	2.56	0.40
7:A:2663:G:C4	7:A:2664:G:C8	3.09	0.40
7:A:2744:G:C5	7:A:2761:A:C6	3.09	0.40
7:A:2854:G:H2'	7:A:2855:C:H6	1.86	0.40
9:C:144:GLU:OE2	9:C:150:GLY:N	2.39	0.40
11:E:29:HIS:CE1	18:L:8:PRO:HD3	2.57	0.40
11:E:128:ALA:O	11:E:130:LYS:N	2.51	0.40
13:G:132:LEU:O	13:G:140:ILE:HD11	2.21	0.40
15:I:12:VAL:O	15:I:13:ALA:C	2.64	0.40
16:J:60:ASP:OD1	16:J:61:LYS:N	2.53	0.40
21:O:76:LYS:HE2	21:O:76:LYS:HB2	1.78	0.40
22:P:5:LYS:HA	22:P:5:LYS:HD3	1.74	0.40
28:V:80:HIS:CE1	28:V:83:LYS:H	2.38	0.40
29:W:48:GLY:HA3	29:W:56:PHE:CE1	2.55	0.40
33:a:393:A:C2	33:a:394:G:C8	3.09	0.40
33:a:491:G:H2'	33:a:492:C:H6	1.85	0.40
33:a:587:G:C2	33:a:755:G:C5	3.09	0.40
33:a:599:C:H2'	33:a:600:A:C8	2.55	0.40
33:a:611:C:C4	33:a:612:C:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:674:G:H21	43:k:117:HIS:HB2	1.86	0.40
33:a:869:G:H5''	33:a:870:U:OP1	2.22	0.40
33:a:945:G:N1	33:a:1337:G:C6	2.89	0.40
33:a:1054:C:C2	33:a:1196:A:N7	2.88	0.40
33:a:1299:A:C5	33:a:1301:U:C2	3.08	0.40
33:a:1329:A:C5	33:a:1330:U:C5	3.09	0.40
33:a:1364:U:H6	33:a:1364:U:H2'	1.73	0.40
34:b:42:LEU:O	34:b:46:VAL:HG23	2.20	0.40
34:b:111:LYS:HB3	34:b:111:LYS:HE3	1.73	0.40
36:d:75:TYR:CE2	36:d:203:TYR:HB3	2.56	0.40
39:g:46:LEU:O	39:g:49:LEU:HB3	2.21	0.40
39:g:69:ARG:HG3	39:g:95:ARG:HG2	2.02	0.40
48:p:20:VAL:HA	48:p:35:ARG:HA	2.03	0.40
48:p:70:ARG:HA	48:p:70:ARG:HD2	1.79	0.40
1:0:41:HIS:HA	20:N:99:LYS:O	2.21	0.40
7:A:17:G:H4'	23:Q:24:TYR:CE2	2.57	0.40
7:A:363:G:C8	7:A:364:C:C2	3.10	0.40
7:A:536:G:H4'	23:Q:56:PHE:HZ	1.87	0.40
7:A:569:U:H2'	7:A:570:G:O4'	2.20	0.40
7:A:1102:C:O2	7:A:1102:C:H2'	2.20	0.40
7:A:1249:U:O4	18:L:18:ARG:HD2	2.20	0.40
7:A:1268:A:N3	7:A:2013:A:C6	2.90	0.40
7:A:1398:C:C2	7:A:1399:C:C5	3.09	0.40
7:A:1831:G:C6	7:A:1832:C:C4	3.09	0.40
7:A:1857:G:C6	7:A:1884:G:C6	3.10	0.40
7:A:1877:A:H2'	7:A:1878:G:H8	1.86	0.40
7:A:1880:U:H2'	7:A:1881:C:C6	2.57	0.40
7:A:1900:A:H1'	7:A:1970:A:H2'	2.02	0.40
7:A:2128:G:N1	7:A:2129:C:O2	2.55	0.40
7:A:2221:G:C6	7:A:2222:C:C4	3.09	0.40
7:A:2315:G:C2	7:A:2316:G:C5	3.10	0.40
7:A:2473:U:OP1	7:A:2475:C:N4	2.50	0.40
7:A:2585:U:OP1	7:A:2585:U:O4'	2.40	0.40
7:A:2747:G:O6	7:A:2754:U:H2'	2.21	0.40
11:E:157:LEU:HG	11:E:169:VAL:HG21	2.03	0.40
14:H:8:LYS:HD2	14:H:13:GLY:HA3	2.03	0.40
20:N:79:LEU:C	20:N:81:ASN:H	2.29	0.40
25:S:83:LYS:HG2	25:S:95:ARG:HD2	2.03	0.40
33:a:27:G:C6	33:a:557:G:C6	3.09	0.40
33:a:39:G:C6	33:a:40:C:C4	3.09	0.40
33:a:68:G:H2'	33:a:69:G:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:147:G:HO2'	33:a:148:G:P	2.44	0.40
33:a:230:G:H2'	33:a:231:U:O4'	2.20	0.40
33:a:344:A:H4'	33:a:345:C:OP2	2.22	0.40
33:a:450:G:P	33:a:451:A:H3'	2.61	0.40
33:a:514:C:C2	33:a:515:G:C8	3.09	0.40
33:a:530:G:C2	57:y:119:LEU:HD13	2.55	0.40
33:a:543:U:H2'	33:a:544:G:C8	2.56	0.40
33:a:765:G:C6	33:a:812:G:C4	3.09	0.40
33:a:1256:A:H5'	33:a:1258:G:H1'	2.03	0.40
33:a:1437:A:N1	33:a:1465:A:C6	2.89	0.40
33:a:1496:C:H2'	33:a:1497:G:O4'	2.21	0.40
36:d:28:ASP:OD1	36:d:28:ASP:N	2.54	0.40
44:l:2:THR:O	44:l:4:ASN:N	2.55	0.40
46:n:8:ARG:HA	46:n:11:LYS:HD3	2.02	0.40
55:w:25:C:H2'	55:w:26:A:O4'	2.21	0.40
7:A:322:A:P	11:E:162:ARG:HD2	2.61	0.40
7:A:359:G:H2'	7:A:360:U:H6	1.86	0.40
7:A:536:G:H21	16:J:47:HIS:CD2	2.39	0.40
7:A:545:U:N3	7:A:549:G:N1	2.69	0.40
7:A:777:G:N7	7:A:793:A:H2	2.19	0.40
7:A:848:C:C2	7:A:849:A:C8	3.09	0.40
7:A:930:G:H5''	32:Z:29:ARG:NH1	2.37	0.40
7:A:978:G:C6	7:A:979:A:N7	2.90	0.40
7:A:1315:C:H2'	7:A:1316:U:C6	2.56	0.40
7:A:1558:C:H4'	7:A:1559:U:H5''	2.02	0.40
7:A:1704:C:H2'	7:A:1705:A:H8	1.85	0.40
7:A:1858:A:N6	7:A:1884:G:O2'	2.54	0.40
7:A:2100:G:C2	7:A:2101:A:C8	3.08	0.40
7:A:2593:U:H2'	7:A:2594:C:C6	2.57	0.40
7:A:2604:PSU:H5'	7:A:2604:PSU:H6	1.86	0.40
12:F:13:LYS:HD2	12:F:13:LYS:H	1.85	0.40
13:G:147:LEU:HD23	13:G:147:LEU:HA	1.87	0.40
16:J:109:LEU:HD23	16:J:109:LEU:HA	1.87	0.40
26:T:10:VAL:HG13	26:T:11:LEU:N	2.36	0.40
33:a:53:A:C6	33:a:359:G:C6	3.09	0.40
33:a:79:G:HO2'	33:a:80:A:H8	1.66	0.40
33:a:93:U:H2'	33:a:95:C:H5	1.86	0.40
33:a:158:G:C6	33:a:159:G:C5	3.09	0.40
33:a:182:A:C4	33:a:184:G:N7	2.89	0.40
33:a:201:G:C2	33:a:217:C:C2	3.09	0.40
33:a:207:C:C4'	33:a:213:G:H22	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:236:A:H2'	33:a:237:G:C8	2.56	0.40
33:a:354:G:N1	33:a:355:C:C4	2.89	0.40
33:a:506:G:C6	33:a:507:C:N4	2.90	0.40
33:a:559:A:H4'	33:a:560:A:H3'	2.03	0.40
33:a:606:G:N2	33:a:631:C:H3'	2.37	0.40
33:a:903:G:H2'	33:a:904:U:H6	1.87	0.40
33:a:936:C:C4	33:a:937:A:N7	2.90	0.40
33:a:1320:C:C2	51:s:71:GLY:HA3	2.56	0.40
33:a:1348:U:O2	33:a:1349:A:C8	2.74	0.40
33:a:1377:A:H5''	33:a:1378:C:H5'	2.03	0.40
33:a:1384:C:H2'	33:a:1385:G:H8	1.86	0.40
33:a:1501:C:N4	33:a:1504:G:C2	2.90	0.40
37:e:103:GLY:O	37:e:121:ASN:HA	2.22	0.40
40:h:63:LYS:O	40:h:70:VAL:HG23	2.21	0.40
42:j:80:THR:C	42:j:82:LYS:H	2.30	0.40
57:y:50:GLU:C	57:y:52:TYR:H	2.30	0.40
1:0:10:SER:O	1:0:14:MET:HG3	2.22	0.40
1:0:47:TYR:CZ	1:0:52:LYS:HD3	2.57	0.40
7:A:89:A:C6	7:A:90:U:C4	3.09	0.40
7:A:305:C:H6	7:A:305:C:O5'	2.04	0.40
7:A:379:G:C6	7:A:396:G:O6	2.75	0.40
7:A:537:G:N1	7:A:555:G:C2	2.89	0.40
7:A:687:C:H2'	7:A:688:U:O4'	2.21	0.40
7:A:875:G:C5	7:A:876:C:C4	3.09	0.40
7:A:883:G:H1'	7:A:884:U:H3'	2.03	0.40
7:A:977:G:C6	7:A:978:G:N7	2.89	0.40
7:A:1062:G:H2'	7:A:1063:G:C8	2.57	0.40
7:A:1088:A:H61	15:I:76:ALA:HB1	1.85	0.40
7:A:1281:G:H2'	7:A:1282:U:C6	2.56	0.40
7:A:1587:G:C4	7:A:1588:G:C8	3.09	0.40
7:A:1907:G:H2'	7:A:1908:C:H6	1.87	0.40
7:A:2099:U:O2	7:A:2190:G:N2	2.42	0.40
7:A:2615:U:H2'	7:A:2616:C:C6	2.55	0.40
7:A:2814:A:H2'	7:A:2815:C:C6	2.56	0.40
7:A:2818:U:H2'	7:A:2819:G:H8	1.84	0.40
7:A:2897:U:H2'	7:A:2898:U:C6	2.55	0.40
8:B:39:A:H2'	8:B:40:U:C6	2.57	0.40
11:E:177:PRO:O	11:E:181:ILE:HG13	2.22	0.40
12:F:47:LYS:HA	12:F:47:LYS:HD2	1.92	0.40
18:L:101:ILE:HG13	18:L:102:GLY:N	2.36	0.40
21:O:41:ALA:O	21:O:44:GLY:N	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:a:95:C:O2'	33:a:96:U:H5'	2.22	0.40
33:a:143:A:H2	33:a:220:G:H1	1.68	0.40
33:a:769:G:H4'	33:a:1513:A:H4'	2.04	0.40
33:a:774:G:C6	33:a:775:G:N2	2.89	0.40
33:a:874:G:C6	33:a:875:U:C4	3.09	0.40
33:a:1238:A:C2	33:a:1241:G:N3	2.89	0.40
33:a:1240:U:H3'	33:a:1241:G:H8	1.86	0.40
33:a:1348:U:P	41:i:110:VAL:HA	2.62	0.40
33:a:1423:G:H2'	33:a:1424:U:H6	1.86	0.40
34:b:34:ARG:HG3	34:b:39:ILE:HD13	2.03	0.40
38:f:73:GLU:HA	38:f:76:THR:HG22	2.03	0.40
40:h:95:MET:HE2	40:h:95:MET:HB3	1.86	0.40
41:i:45:MET:HG2	41:i:49:GLN:NE2	2.37	0.40
45:m:6:ILE:HG21	45:m:21:ILE:HG13	2.03	0.40
51:s:11:ASP:OD2	51:s:13:HIS:HD2	2.04	0.40
55:w:18:G:C2	55:w:58:A:C5	3.10	0.40
55:w:55:PSU:H2'	55:w:57:G:OP2	2.21	0.40
7:A:10:A:C6	7:A:2800:A:C2	3.09	0.40
7:A:458:G:H22	7:A:469:G:H3'	1.87	0.40
7:A:503:A:C6	7:A:505:A:C6	3.08	0.40
7:A:711:G:C4	7:A:712:G:C8	3.09	0.40
7:A:1667:G:N2	7:A:1994:C:H42	2.19	0.40
7:A:1679:A:H2'	7:A:1680:U:H6	1.86	0.40
7:A:1841:U:C4	7:A:1842:G:N7	2.90	0.40
7:A:2010:G:H5''	25:S:42:LYS:HB2	2.02	0.40
7:A:2097:A:H2'	7:A:2098:U:C6	2.57	0.40
7:A:2259:U:H2'	7:A:2260:C:C6	2.57	0.40
7:A:2375:G:N2	7:A:2378:A:OP2	2.45	0.40
7:A:2428:G:N2	18:L:54:GLN:OE1	2.55	0.40
7:A:2464:G:H2'	7:A:2465:C:H6	1.86	0.40
7:A:2590:A:OP2	9:C:236:GLY:HA2	2.22	0.40
7:A:2685:G:H2'	7:A:2686:G:H8	1.87	0.40
7:A:2776:A:C6	7:A:2778:A:C6	3.10	0.40
12:F:17:THR:O	12:F:20:ASN:ND2	2.53	0.40
12:F:46:LYS:O	12:F:49:LEU:N	2.53	0.40
13:G:103:ASN:ND2	13:G:103:ASN:O	2.55	0.40
16:J:81:ILE:HG23	16:J:82:GLY:N	2.36	0.40
20:N:21:PHE:O	20:N:22:ARG:C	2.64	0.40
22:P:91:VAL:HG21	22:P:96:LEU:HD21	2.03	0.40
23:Q:92:LYS:HE3	23:Q:92:LYS:HB3	1.77	0.40
27:U:35:VAL:HG13	27:U:38:ILE:HB	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:V:31:TYR:O	28:V:92:VAL:HA	2.21	0.40
33:a:97:G:H2'	33:a:98:A:O4'	2.21	0.40
33:a:263:A:H2'	33:a:264:C:C6	2.55	0.40
33:a:334:C:H2'	33:a:335:C:C6	2.56	0.40
33:a:458:U:N3	33:a:474:G:N1	2.60	0.40
33:a:500:G:C6	33:a:546:A:C2	3.10	0.40
33:a:718:A:C2	50:r:37:LYS:HE3	2.57	0.40
33:a:1261:A:N1	33:a:1274:A:O2'	2.34	0.40
33:a:1349:A:C5	33:a:1374:A:N6	2.88	0.40
33:a:1513:A:C2	33:a:1514:G:C5	3.09	0.40
38:f:88:MET:HE2	38:f:90:MET:HE2	2.03	0.40
43:k:79:LYS:HD2	43:k:79:LYS:HA	1.77	0.40
45:m:52:ILE:O	45:m:56:ARG:HG3	2.22	0.40
46:n:19:TYR:HE2	46:n:51:LEU:HD22	1.86	0.40
52:t:78:LEU:HD23	52:t:78:LEU:HA	1.93	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	54/57 (95%)	47 (87%)	7 (13%)	0	100	100
2	1	48/55 (87%)	46 (96%)	2 (4%)	0	100	100
3	2	44/46 (96%)	41 (93%)	3 (7%)	0	100	100
4	3	62/65 (95%)	52 (84%)	8 (13%)	2 (3%)	3	25
5	4	36/38 (95%)	31 (86%)	5 (14%)	0	100	100
6	5	129/165 (78%)	104 (81%)	25 (19%)	0	100	100
9	C	269/273 (98%)	237 (88%)	31 (12%)	1 (0%)	30	60
10	D	207/209 (99%)	182 (88%)	25 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	E	199/201 (99%)	181 (91%)	18 (9%)	0	100	100
12	F	175/179 (98%)	152 (87%)	23 (13%)	0	100	100
13	G	174/177 (98%)	159 (91%)	14 (8%)	1 (1%)	21	52
14	H	147/149 (99%)	115 (78%)	32 (22%)	0	100	100
15	I	139/142 (98%)	110 (79%)	29 (21%)	0	100	100
16	J	140/142 (99%)	128 (91%)	12 (9%)	0	100	100
17	K	120/123 (98%)	102 (85%)	18 (15%)	0	100	100
18	L	141/144 (98%)	117 (83%)	23 (16%)	1 (1%)	18	50
19	M	134/136 (98%)	107 (80%)	27 (20%)	0	100	100
20	N	118/127 (93%)	106 (90%)	12 (10%)	0	100	100
21	O	114/117 (97%)	105 (92%)	9 (8%)	0	100	100
22	P	112/115 (97%)	100 (89%)	12 (11%)	0	100	100
23	Q	115/118 (98%)	112 (97%)	3 (3%)	0	100	100
24	R	101/103 (98%)	87 (86%)	14 (14%)	0	100	100
25	S	108/110 (98%)	99 (92%)	9 (8%)	0	100	100
26	T	91/100 (91%)	74 (81%)	17 (19%)	0	100	100
27	U	100/104 (96%)	87 (87%)	13 (13%)	0	100	100
28	V	92/94 (98%)	88 (96%)	4 (4%)	0	100	100
29	W	73/85 (86%)	69 (94%)	4 (6%)	0	100	100
30	X	75/78 (96%)	66 (88%)	9 (12%)	0	100	100
31	Y	61/63 (97%)	54 (88%)	7 (12%)	0	100	100
32	Z	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
34	b	216/240 (90%)	188 (87%)	27 (12%)	1 (0%)	24	56
35	c	204/233 (88%)	188 (92%)	16 (8%)	0	100	100
36	d	203/206 (98%)	170 (84%)	32 (16%)	1 (0%)	24	56
37	e	155/167 (93%)	141 (91%)	14 (9%)	0	100	100
38	f	98/135 (73%)	88 (90%)	10 (10%)	0	100	100
39	g	149/179 (83%)	138 (93%)	11 (7%)	0	100	100
40	h	127/130 (98%)	114 (90%)	13 (10%)	0	100	100
41	i	125/130 (96%)	105 (84%)	20 (16%)	0	100	100
42	j	96/103 (93%)	72 (75%)	22 (23%)	2 (2%)	5	31

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	k	114/129 (88%)	101 (89%)	13 (11%)	0	100	100
44	l	121/124 (98%)	95 (78%)	26 (22%)	0	100	100
45	m	112/118 (95%)	94 (84%)	18 (16%)	0	100	100
46	n	99/102 (97%)	87 (88%)	12 (12%)	0	100	100
47	o	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
48	p	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
49	q	78/84 (93%)	60 (77%)	16 (20%)	2 (3%)	4	28
50	r	54/75 (72%)	48 (89%)	6 (11%)	0	100	100
51	s	80/92 (87%)	73 (91%)	7 (9%)	0	100	100
52	t	83/87 (95%)	79 (95%)	4 (5%)	0	100	100
53	u	63/71 (89%)	53 (84%)	10 (16%)	0	100	100
54	v	12/14 (86%)	8 (67%)	4 (33%)	0	100	100
57	y	137/140 (98%)	132 (96%)	5 (4%)	0	100	100
All	All	5926/6304 (94%)	5198 (88%)	717 (12%)	11 (0%)	44	72

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	3	31	ILE
49	q	67	SER
4	3	32	LEU
18	L	128	THR
49	q	69	THR
13	G	108	PHE
42	j	58	ASN
36	d	144	ILE
9	C	240	GLY
34	b	64	GLY
42	j	57	VAL

5.3.2 Protein sidechains ⓘ

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

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	47/48 (98%)	47 (100%)	0	100	100
2	1	45/49 (92%)	45 (100%)	0	100	100
3	2	38/38 (100%)	38 (100%)	0	100	100
4	3	51/52 (98%)	51 (100%)	0	100	100
5	4	34/34 (100%)	34 (100%)	0	100	100
9	C	216/218 (99%)	216 (100%)	0	100	100
10	D	164/164 (100%)	163 (99%)	1 (1%)	78	79
11	E	165/165 (100%)	164 (99%)	1 (1%)	78	79
12	F	148/150 (99%)	148 (100%)	0	100	100
13	G	137/138 (99%)	137 (100%)	0	100	100
14	H	114/114 (100%)	114 (100%)	0	100	100
16	J	116/116 (100%)	115 (99%)	1 (1%)	70	75
17	K	103/104 (99%)	103 (100%)	0	100	100
18	L	102/103 (99%)	102 (100%)	0	100	100
19	M	109/109 (100%)	109 (100%)	0	100	100
20	N	100/103 (97%)	100 (100%)	0	100	100
21	O	86/87 (99%)	85 (99%)	1 (1%)	63	72
22	P	99/100 (99%)	99 (100%)	0	100	100
23	Q	89/90 (99%)	89 (100%)	0	100	100
24	R	84/84 (100%)	84 (100%)	0	100	100
25	S	93/93 (100%)	93 (100%)	0	100	100
26	T	80/84 (95%)	80 (100%)	0	100	100
27	U	83/85 (98%)	83 (100%)	0	100	100
28	V	78/78 (100%)	78 (100%)	0	100	100
29	W	57/63 (90%)	57 (100%)	0	100	100
30	X	67/68 (98%)	67 (100%)	0	100	100
31	Y	55/55 (100%)	55 (100%)	0	100	100
32	Z	48/49 (98%)	48 (100%)	0	100	100
34	b	180/198 (91%)	180 (100%)	0	100	100
35	c	170/190 (90%)	170 (100%)	0	100	100
36	d	172/173 (99%)	172 (100%)	0	100	100
37	e	114/126 (90%)	114 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	f	87/116 (75%)	87 (100%)	0	100	100
39	g	124/147 (84%)	123 (99%)	1 (1%)	73	76
40	h	104/105 (99%)	103 (99%)	1 (1%)	68	74
41	i	105/107 (98%)	105 (100%)	0	100	100
42	j	86/90 (96%)	85 (99%)	1 (1%)	63	72
43	k	89/99 (90%)	89 (100%)	0	100	100
44	l	103/104 (99%)	103 (100%)	0	100	100
45	m	92/96 (96%)	92 (100%)	0	100	100
46	n	79/84 (94%)	79 (100%)	0	100	100
47	o	76/77 (99%)	76 (100%)	0	100	100
48	p	65/65 (100%)	65 (100%)	0	100	100
49	q	74/78 (95%)	74 (100%)	0	100	100
50	r	49/65 (75%)	49 (100%)	0	100	100
51	s	72/79 (91%)	72 (100%)	0	100	100
52	t	65/66 (98%)	65 (100%)	0	100	100
53	u	46/61 (75%)	45 (98%)	1 (2%)	45	63
54	v	14/14 (100%)	14 (100%)	0	100	100
57	y	112/115 (97%)	112 (100%)	0	100	100
All	All	4686/4896 (96%)	4678 (100%)	8 (0%)	85	86

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
10	D	90	PHE
11	E	7	ASP
16	J	53	TYR
21	O	36	TYR
39	g	28	ILE
40	h	58	LEU
42	j	32	THR
53	u	43	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	44	GLN
4	3	25	HIS
4	3	27	ASN
5	4	13	ASN
9	C	24	HIS
9	C	52	HIS
9	C	127	ASN
9	C	196	ASN
9	C	238	ASN
10	D	32	ASN
10	D	136	ASN
10	D	148	GLN
10	D	185	ASN
11	E	92	HIS
12	F	20	ASN
12	F	22	ASN
13	G	29	ASN
13	G	103	ASN
14	H	11	ASN
14	H	28	ASN
14	H	33	GLN
14	H	66	ASN
14	H	73	ASN
14	H	135	HIS
14	H	145	ASN
16	J	58	ASN
17	K	93	GLN
18	L	35	HIS
19	M	13	HIS
19	M	60	GLN
20	N	13	ASN
21	O	38	GLN
22	P	55	HIS
22	P	65	ASN
23	Q	36	GLN
23	Q	70	GLN
23	Q	71	ASN
24	R	89	HIS
26	T	59	ASN
26	T	70	HIS
27	U	98	ASN
28	V	24	ASN
28	V	44	HIS

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Mol	Chain	Res	Type
34	b	176	ASN
35	c	122	GLN
36	d	58	GLN
36	d	73	ASN
36	d	135	GLN
36	d	139	ASN
36	d	195	ASN
37	e	42	ASN
37	e	60	GLN
37	e	121	ASN
37	e	134	ASN
38	f	63	ASN
41	i	24	ASN
41	i	30	ASN
41	i	49	GLN
41	i	74	GLN
41	i	125	GLN
42	j	20	GLN
42	j	64	GLN
43	k	27	ASN
43	k	80	ASN
45	m	13	HIS
46	n	71	HIS
47	o	27	GLN
47	o	34	GLN
47	o	61	GLN
48	p	26	ASN
49	q	46	HIS
51	s	56	HIS
52	t	12	GLN
52	t	60	GLN
54	v	15	HIS
57	y	28	GLN
57	y	29	HIS
57	y	38	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
33	a	1539/1542 (99%)	398 (25%)	0
55	w	75/76 (98%)	38 (50%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
56	x	5/15 (33%)	1 (20%)	0
7	A	2902/2903 (99%)	712 (24%)	49 (1%)
8	B	119/120 (99%)	23 (19%)	1 (0%)
All	All	4640/4656 (99%)	1172 (25%)	50 (1%)

All (1172) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	A	2	G
7	A	10	A
7	A	14	A
7	A	15	G
7	A	23	G
7	A	27	G
7	A	33	C
7	A	34	U
7	A	35	G
7	A	45	G
7	A	46	G
7	A	50	U
7	A	51	G
7	A	55	G
7	A	61	C
7	A	63	A
7	A	71	A
7	A	74	A
7	A	75	G
7	A	81	G
7	A	83	A
7	A	84	A
7	A	91	A
7	A	101	A
7	A	103	A
7	A	118	A
7	A	119	A
7	A	120	U
7	A	131	A
7	A	134	G
7	A	139	U
7	A	140	C
7	A	141	G
7	A	142	A

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Mol	Chain	Res	Type
7	A	149	A
7	A	163	C
7	A	173	A
7	A	181	A
7	A	188	G
7	A	196	A
7	A	199	A
7	A	200	U
7	A	201	C
7	A	215	G
7	A	216	A
7	A	221	A
7	A	222	A
7	A	223	A
7	A	225	C
7	A	228	C
7	A	233	A
7	A	241	A
7	A	248	G
7	A	250	G
7	A	255	A
7	A	256	A
7	A	259	G
7	A	261	G
7	A	265	A
7	A	266	G
7	A	271	G
7	A	272	A
7	A	273	G
7	A	274	C
7	A	275	C
7	A	276	U
7	A	277	G
7	A	278	A
7	A	281	C
7	A	284	U
7	A	285	G
7	A	287	G
7	A	290	U
7	A	308	G
7	A	322	A
7	A	329	G

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Mol	Chain	Res	Type
7	A	330	A
7	A	331	C
7	A	338	G
7	A	346	A
7	A	351	C
7	A	356	G
7	A	357	C
7	A	359	G
7	A	361	G
7	A	363	G
7	A	365	U
7	A	366	C
7	A	368	A
7	A	369	U
7	A	372	G
7	A	373	U
7	A	386	G
7	A	396	G
7	A	401	A
7	A	406	G
7	A	411	G
7	A	412	A
7	A	424	G
7	A	435	C
7	A	448	U
7	A	451	U
7	A	454	A
7	A	456	C
7	A	457	A
7	A	458	G
7	A	464	U
7	A	478	A
7	A	480	A
7	A	481	G
7	A	482	A
7	A	488	G
7	A	489	G
7	A	490	C
7	A	491	G
7	A	503	A
7	A	504	A
7	A	505	A

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Mol	Chain	Res	Type
7	A	509	C
7	A	510	C
7	A	512	G
7	A	527	C
7	A	531	C
7	A	532	A
7	A	546	U
7	A	547	A
7	A	548	G
7	A	549	G
7	A	556	A
7	A	557	C
7	A	563	A
7	A	568	U
7	A	569	U
7	A	570	G
7	A	572	A
7	A	573	U
7	A	575	A
7	A	603	A
7	A	614	A
7	A	615	U
7	A	616	A
7	A	627	A
7	A	637	A
7	A	645	C
7	A	653	U
7	A	654	A
7	A	655	A
7	A	656	G
7	A	659	G
7	A	670	A
7	A	677	A
7	A	682	G
7	A	686	U
7	A	696	G
7	A	704	G
7	A	715	A
7	A	717	C
7	A	725	G
7	A	729	G
7	A	730	A

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Mol	Chain	Res	Type
7	A	734	A
7	A	747	5MC
7	A	749	A
7	A	754	U
7	A	764	A
7	A	775	G
7	A	776	G
7	A	782	A
7	A	783	A
7	A	784	G
7	A	785	G
7	A	800	A
7	A	805	G
7	A	807	U
7	A	811	U
7	A	812	C
7	A	819	A
7	A	827	U
7	A	828	U
7	A	831	G
7	A	845	A
7	A	846	U
7	A	847	U
7	A	856	G
7	A	857	G
7	A	859	G
7	A	877	A
7	A	878	A
7	A	879	G
7	A	882	G
7	A	883	G
7	A	884	U
7	A	886	A
7	A	887	U
7	A	888	C
7	A	890	C
7	A	892	A
7	A	895	U
7	A	896	A
7	A	897	C
7	A	907	G
7	A	910	A

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Mol	Chain	Res	Type
7	A	920	A
7	A	923	G
7	A	933	A
7	A	941	A
7	A	946	C
7	A	957	C
7	A	958	U
7	A	961	C
7	A	973	A
7	A	974	G
7	A	983	A
7	A	984	A
7	A	989	G
7	A	996	A
7	A	999	U
7	A	1003	G
7	A	1005	C
7	A	1012	U
7	A	1013	C
7	A	1022	G
7	A	1023	U
7	A	1027	A
7	A	1033	U
7	A	1039	A
7	A	1045	C
7	A	1047	G
7	A	1052	C
7	A	1053	C
7	A	1054	A
7	A	1056	G
7	A	1057	A
7	A	1058	U
7	A	1060	U
7	A	1061	U
7	A	1062	G
7	A	1063	G
7	A	1064	C
7	A	1065	U
7	A	1066	U
7	A	1068	G
7	A	1070	A
7	A	1072	C

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Mol	Chain	Res	Type
7	A	1073	A
7	A	1075	C
7	A	1076	C
7	A	1077	A
7	A	1078	U
7	A	1079	C
7	A	1080	A
7	A	1081	U
7	A	1082	U
7	A	1083	U
7	A	1087	G
7	A	1088	A
7	A	1089	A
7	A	1090	A
7	A	1091	G
7	A	1094	U
7	A	1096	A
7	A	1098	A
7	A	1099	G
7	A	1101	U
7	A	1102	C
7	A	1103	A
7	A	1104	C
7	A	1110	G
7	A	1111	A
7	A	1112	G
7	A	1115	G
7	A	1119	U
7	A	1122	G
7	A	1130	U
7	A	1133	A
7	A	1135	C
7	A	1139	G
7	A	1142	A
7	A	1143	A
7	A	1151	A
7	A	1155	A
7	A	1171	G
7	A	1172	C
7	A	1173	U
7	A	1174	U
7	A	1175	A

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Mol	Chain	Res	Type
7	A	1178	C
7	A	1179	G
7	A	1180	U
7	A	1181	U
7	A	1204	A
7	A	1206	G
7	A	1212	G
7	A	1227	G
7	A	1236	G
7	A	1244	A
7	A	1246	A
7	A	1247	A
7	A	1248	G
7	A	1250	G
7	A	1253	A
7	A	1256	G
7	A	1265	A
7	A	1268	A
7	A	1271	G
7	A	1272	A
7	A	1273	U
7	A	1286	A
7	A	1300	G
7	A	1301	A
7	A	1321	A
7	A	1329	U
7	A	1330	C
7	A	1359	A
7	A	1365	A
7	A	1368	G
7	A	1378	A
7	A	1379	U
7	A	1383	A
7	A	1386	C
7	A	1392	A
7	A	1393	A
7	A	1395	A
7	A	1403	A
7	A	1406	U
7	A	1413	A
7	A	1415	U
7	A	1416	G

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Mol	Chain	Res	Type
7	A	1419	A
7	A	1420	A
7	A	1421	G
7	A	1428	C
7	A	1429	G
7	A	1437	C
7	A	1452	G
7	A	1453	A
7	A	1454	C
7	A	1458	U
7	A	1461	C
7	A	1467	U
7	A	1468	U
7	A	1475	G
7	A	1476	U
7	A	1482	G
7	A	1483	G
7	A	1485	U
7	A	1487	U
7	A	1490	A
7	A	1491	G
7	A	1493	C
7	A	1494	A
7	A	1495	A
7	A	1498	C
7	A	1502	A
7	A	1507	C
7	A	1508	A
7	A	1509	A
7	A	1515	A
7	A	1520	U
7	A	1521	G
7	A	1522	A
7	A	1523	U
7	A	1524	G
7	A	1532	A
7	A	1533	C
7	A	1534	U
7	A	1535	A
7	A	1536	C
7	A	1537	G
7	A	1542	U

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Mol	Chain	Res	Type
7	A	1554	U
7	A	1558	C
7	A	1560	G
7	A	1566	A
7	A	1567	G
7	A	1569	A
7	A	1578	U
7	A	1583	A
7	A	1584	U
7	A	1585	C
7	A	1592	C
7	A	1593	A
7	A	1603	A
7	A	1607	C
7	A	1608	A
7	A	1610	A
7	A	1626	A
7	A	1633	G
7	A	1634	A
7	A	1646	C
7	A	1647	U
7	A	1648	U
7	A	1649	G
7	A	1665	A
7	A	1669	A
7	A	1672	A
7	A	1674	G
7	A	1694	C
7	A	1695	G
7	A	1696	G
7	A	1698	A
7	A	1699	G
7	A	1702	G
7	A	1703	G
7	A	1712	U
7	A	1713	A
7	A	1714	U
7	A	1715	G
7	A	1716	U
7	A	1729	U
7	A	1730	C
7	A	1736	U

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Mol	Chain	Res	Type
7	A	1738	G
7	A	1744	A
7	A	1745	A
7	A	1756	G
7	A	1757	A
7	A	1758	U
7	A	1764	C
7	A	1773	A
7	A	1781	U
7	A	1791	A
7	A	1800	C
7	A	1801	A
7	A	1802	A
7	A	1808	A
7	A	1809	A
7	A	1815	A
7	A	1816	C
7	A	1829	A
7	A	1833	C
7	A	1835	2MG
7	A	1848	A
7	A	1857	G
7	A	1869	G
7	A	1871	A
7	A	1872	A
7	A	1873	G
7	A	1877	A
7	A	1878	G
7	A	1879	C
7	A	1884	G
7	A	1886	U
7	A	1900	A
7	A	1913	A
7	A	1914	C
7	A	1915	3TD
7	A	1918	A
7	A	1919	A
7	A	1927	A
7	A	1929	G
7	A	1930	G
7	A	1936	A
7	A	1938	A

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Mol	Chain	Res	Type
7	A	1939	5MU
7	A	1941	C
7	A	1942	C
7	A	1955	U
7	A	1964	G
7	A	1966	A
7	A	1967	C
7	A	1970	A
7	A	1971	U
7	A	1972	G
7	A	1982	U
7	A	1991	U
7	A	1992	G
7	A	1993	U
7	A	1996	C
7	A	1997	C
7	A	2002	G
7	A	2004	G
7	A	2022	U
7	A	2023	C
7	A	2030	6MZ
7	A	2031	A
7	A	2033	A
7	A	2043	C
7	A	2046	G
7	A	2052	A
7	A	2055	C
7	A	2056	G
7	A	2060	A
7	A	2061	G
7	A	2062	A
7	A	2069	G7M
7	A	2072	C
7	A	2076	U
7	A	2080	A
7	A	2093	G
7	A	2101	A
7	A	2103	C
7	A	2104	C
7	A	2105	U
7	A	2106	U
7	A	2107	G

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Mol	Chain	Res	Type
7	A	2108	A
7	A	2110	G
7	A	2111	U
7	A	2112	G
7	A	2113	U
7	A	2114	A
7	A	2115	G
7	A	2116	G
7	A	2118	U
7	A	2120	G
7	A	2121	G
7	A	2127	G
7	A	2128	G
7	A	2129	C
7	A	2130	U
7	A	2131	U
7	A	2132	U
7	A	2133	G
7	A	2134	A
7	A	2135	A
7	A	2136	G
7	A	2137	U
7	A	2140	G
7	A	2143	C
7	A	2144	G
7	A	2146	C
7	A	2147	A
7	A	2148	G
7	A	2151	U
7	A	2152	G
7	A	2153	C
7	A	2154	A
7	A	2155	U
7	A	2156	G
7	A	2157	G
7	A	2158	A
7	A	2162	G
7	A	2164	C
7	A	2165	C
7	A	2166	U
7	A	2167	U
7	A	2169	A

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Mol	Chain	Res	Type
7	A	2170	A
7	A	2171	A
7	A	2172	U
7	A	2173	A
7	A	2174	C
7	A	2176	A
7	A	2177	C
7	A	2179	C
7	A	2180	U
7	A	2181	U
7	A	2183	A
7	A	2184	A
7	A	2185	U
7	A	2186	G
7	A	2187	U
7	A	2188	U
7	A	2198	A
7	A	2199	A
7	A	2203	U
7	A	2204	G
7	A	2210	U
7	A	2211	A
7	A	2212	A
7	A	2213	U
7	A	2214	C
7	A	2220	U
7	A	2225	A
7	A	2238	G
7	A	2239	G
7	A	2266	A
7	A	2283	C
7	A	2287	A
7	A	2288	A
7	A	2305	U
7	A	2307	G
7	A	2308	G
7	A	2309	A
7	A	2312	U
7	A	2319	G
7	A	2320	U
7	A	2321	U
7	A	2322	A

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Mol	Chain	Res	Type
7	A	2325	G
7	A	2331	G
7	A	2333	A
7	A	2335	A
7	A	2336	A
7	A	2345	G
7	A	2346	A
7	A	2347	C
7	A	2350	C
7	A	2357	G
7	A	2361	G
7	A	2382	G
7	A	2383	G
7	A	2385	C
7	A	2388	A
7	A	2392	A
7	A	2396	G
7	A	2402	U
7	A	2406	A
7	A	2407	A
7	A	2410	G
7	A	2423	U
7	A	2425	A
7	A	2429	G
7	A	2430	A
7	A	2434	A
7	A	2441	U
7	A	2445	2MG
7	A	2447	G
7	A	2448	A
7	A	2449	U
7	A	2468	A
7	A	2473	U
7	A	2474	U
7	A	2475	C
7	A	2476	A
7	A	2484	G
7	A	2487	G
7	A	2492	U
7	A	2494	G
7	A	2498	OMC
7	A	2501	C

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Mol	Chain	Res	Type
7	A	2502	G
7	A	2503	2MA
7	A	2504	PSU
7	A	2505	G
7	A	2518	A
7	A	2519	U
7	A	2520	C
7	A	2529	G
7	A	2535	G
7	A	2543	G
7	A	2552	OMU
7	A	2554	U
7	A	2562	U
7	A	2564	A
7	A	2566	A
7	A	2567	G
7	A	2572	A
7	A	2573	C
7	A	2582	G
7	A	2585	U
7	A	2586	U
7	A	2596	U
7	A	2602	A
7	A	2604	PSU
7	A	2609	U
7	A	2610	C
7	A	2613	U
7	A	2614	A
7	A	2615	U
7	A	2623	G
7	A	2629	U
7	A	2630	G
7	A	2636	C
7	A	2646	C
7	A	2655	G
7	A	2656	U
7	A	2660	A
7	A	2661	G
7	A	2673	G
7	A	2682	A
7	A	2685	G
7	A	2689	U

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Mol	Chain	Res	Type
7	A	2690	U
7	A	2702	G
7	A	2713	U
7	A	2718	G
7	A	2720	U
7	A	2724	U
7	A	2726	A
7	A	2728	U
7	A	2733	A
7	A	2748	A
7	A	2757	A
7	A	2765	A
7	A	2778	A
7	A	2791	G
7	A	2793	C
7	A	2797	U
7	A	2798	U
7	A	2799	A
7	A	2800	A
7	A	2801	G
7	A	2809	A
7	A	2818	U
7	A	2820	A
7	A	2821	A
7	A	2832	U
7	A	2833	U
7	A	2834	G
7	A	2835	A
7	A	2836	U
7	A	2848	G
7	A	2849	U
7	A	2859	G
7	A	2861	U
7	A	2867	G
7	A	2868	A
7	A	2872	A
7	A	2873	A
7	A	2877	G
7	A	2880	C
7	A	2884	U
7	A	2886	A
7	A	2891	U

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Mol	Chain	Res	Type
7	A	2893	A
7	A	2894	G
7	A	2895	G
7	A	2899	A
7	A	2900	A
7	A	2902	C
8	B	13	G
8	B	15	A
8	B	16	G
8	B	17	C
8	B	21	G
8	B	24	G
8	B	35	C
8	B	36	C
8	B	42	C
8	B	43	C
8	B	44	G
8	B	47	C
8	B	52	A
8	B	56	G
8	B	66	A
8	B	67	G
8	B	73	A
8	B	87	U
8	B	89	U
8	B	90	C
8	B	91	C
8	B	109	A
8	B	120	U
33	a	2	A
33	a	4	U
33	a	7	A
33	a	9	G
33	a	16	A
33	a	30	U
33	a	31	G
33	a	39	G
33	a	47	C
33	a	48	C
33	a	50	A
33	a	51	A
33	a	58	C

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Mol	Chain	Res	Type
33	a	61	G
33	a	67	C
33	a	68	G
33	a	72	A
33	a	76	G
33	a	78	A
33	a	81	A
33	a	83	C
33	a	84	U
33	a	85	U
33	a	86	G
33	a	88	U
33	a	89	U
33	a	90	C
33	a	91	U
33	a	94	G
33	a	95	C
33	a	96	U
33	a	121	U
33	a	141	G
33	a	144	G
33	a	148	G
33	a	154	U
33	a	158	G
33	a	160	A
33	a	161	A
33	a	162	A
33	a	163	C
33	a	164	G
33	a	169	C
33	a	170	U
33	a	179	A
33	a	180	U
33	a	182	A
33	a	183	C
33	a	191	G
33	a	193	C
33	a	195	A
33	a	198	G
33	a	199	A
33	a	200	G
33	a	201	G

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Mol	Chain	Res	Type
33	a	204	G
33	a	205	A
33	a	206	C
33	a	207	C
33	a	208	U
33	a	210	C
33	a	211	G
33	a	212	G
33	a	214	C
33	a	219	U
33	a	222	C
33	a	226	G
33	a	245	U
33	a	247	G
33	a	250	A
33	a	251	G
33	a	252	U
33	a	254	G
33	a	262	A
33	a	266	G
33	a	267	C
33	a	279	A
33	a	280	C
33	a	289	G
33	a	293	G
33	a	298	A
33	a	301	G
33	a	306	A
33	a	316	C
33	a	321	A
33	a	328	C
33	a	330	C
33	a	344	A
33	a	347	G
33	a	348	G
33	a	351	G
33	a	352	C
33	a	354	G
33	a	355	C
33	a	359	G
33	a	367	U
33	a	372	C

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Mol	Chain	Res	Type
33	a	373	A
33	a	392	C
33	a	406	G
33	a	411	A
33	a	413	G
33	a	414	A
33	a	419	C
33	a	420	U
33	a	421	U
33	a	422	C
33	a	424	G
33	a	428	G
33	a	429	U
33	a	439	U
33	a	445	G
33	a	446	G
33	a	453	G
33	a	461	A
33	a	463	U
33	a	465	A
33	a	466	A
33	a	467	U
33	a	468	A
33	a	469	C
33	a	476	U
33	a	477	C
33	a	478	A
33	a	479	U
33	a	483	C
33	a	484	G
33	a	495	A
33	a	496	A
33	a	497	G
33	a	511	C
33	a	512	U
33	a	518	C
33	a	521	G
33	a	524	G
33	a	527	G7M
33	a	531	U
33	a	532	A
33	a	547	A

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Mol	Chain	Res	Type
33	a	555	U
33	a	557	G
33	a	558	G
33	a	559	A
33	a	562	U
33	a	564	C
33	a	572	A
33	a	573	A
33	a	575	G
33	a	576	C
33	a	577	G
33	a	587	G
33	a	588	G
33	a	596	A
33	a	615	G
33	a	628	G
33	a	632	U
33	a	633	G
33	a	635	A
33	a	636	U
33	a	642	A
33	a	650	G
33	a	653	U
33	a	682	G
33	a	687	A
33	a	688	G
33	a	704	A
33	a	705	G
33	a	708	C
33	a	720	C
33	a	721	G
33	a	723	U
33	a	724	G
33	a	731	G
33	a	748	G
33	a	750	C
33	a	755	G
33	a	777	A
33	a	779	C
33	a	781	A
33	a	787	A
33	a	790	A

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Mol	Chain	Res	Type
33	a	792	A
33	a	794	A
33	a	801	U
33	a	802	A
33	a	804	U
33	a	805	C
33	a	814	A
33	a	815	A
33	a	817	C
33	a	818	G
33	a	819	A
33	a	820	U
33	a	821	G
33	a	829	G
33	a	840	C
33	a	841	C
33	a	842	U
33	a	843	U
33	a	844	G
33	a	845	A
33	a	846	G
33	a	847	G
33	a	851	G
33	a	864	A
33	a	867	G
33	a	872	A
33	a	873	A
33	a	885	G
33	a	889	A
33	a	899	C
33	a	902	G
33	a	911	U
33	a	913	A
33	a	914	A
33	a	926	G
33	a	934	C
33	a	935	A
33	a	939	G
33	a	958	A
33	a	960	U
33	a	963	G
33	a	966	2MG

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Mol	Chain	Res	Type
33	a	967	5MC
33	a	968	A
33	a	969	A
33	a	971	G
33	a	975	A
33	a	976	G
33	a	977	A
33	a	981	U
33	a	982	U
33	a	991	U
33	a	992	U
33	a	993	G
33	a	996	A
33	a	1002	G
33	a	1004	A
33	a	1006	G
33	a	1008	U
33	a	1018	G
33	a	1019	A
33	a	1020	G
33	a	1021	A
33	a	1022	A
33	a	1024	G
33	a	1026	G
33	a	1030	U
33	a	1031	C
33	a	1033	G
33	a	1035	A
33	a	1036	A
33	a	1041	G
33	a	1045	C
33	a	1050	G
33	a	1064	G
33	a	1065	U
33	a	1066	C
33	a	1077	G
33	a	1078	U
33	a	1079	G
33	a	1085	U
33	a	1094	G
33	a	1101	A
33	a	1108	G

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Mol	Chain	Res	Type
33	a	1124	G
33	a	1126	U
33	a	1128	C
33	a	1129	C
33	a	1130	A
33	a	1134	G
33	a	1136	C
33	a	1137	C
33	a	1138	G
33	a	1139	G
33	a	1140	C
33	a	1141	C
33	a	1142	G
33	a	1145	A
33	a	1146	A
33	a	1151	A
33	a	1154	G
33	a	1157	A
33	a	1159	U
33	a	1160	G
33	a	1167	A
33	a	1168	U
33	a	1169	A
33	a	1179	A
33	a	1183	U
33	a	1184	G
33	a	1193	G
33	a	1196	A
33	a	1197	A
33	a	1200	C
33	a	1212	U
33	a	1213	A
33	a	1214	C
33	a	1224	U
33	a	1226	C
33	a	1227	A
33	a	1228	C
33	a	1236	A
33	a	1238	A
33	a	1240	U
33	a	1241	G
33	a	1248	A

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Mol	Chain	Res	Type
33	a	1249	C
33	a	1250	A
33	a	1253	G
33	a	1257	A
33	a	1258	G
33	a	1260	G
33	a	1267	C
33	a	1268	G
33	a	1273	C
33	a	1274	A
33	a	1275	A
33	a	1278	G
33	a	1280	A
33	a	1282	C
33	a	1285	A
33	a	1286	U
33	a	1287	A
33	a	1294	G
33	a	1297	G
33	a	1298	U
33	a	1299	A
33	a	1300	G
33	a	1301	U
33	a	1302	C
33	a	1303	C
33	a	1305	G
33	a	1306	A
33	a	1312	G
33	a	1315	U
33	a	1316	G
33	a	1317	C
33	a	1318	A
33	a	1320	C
33	a	1322	C
33	a	1323	G
33	a	1326	U
33	a	1332	A
33	a	1337	G
33	a	1346	A
33	a	1347	G
33	a	1348	U
33	a	1350	A

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Mol	Chain	Res	Type
33	a	1357	A
33	a	1360	A
33	a	1361	G
33	a	1363	A
33	a	1370	G
33	a	1374	A
33	a	1378	C
33	a	1387	G
33	a	1394	A
33	a	1397	C
33	a	1398	A
33	a	1399	C
33	a	1400	C
33	a	1403	C
33	a	1404	C
33	a	1419	G
33	a	1422	G
33	a	1428	A
33	a	1432	G
33	a	1441	A
33	a	1442	G
33	a	1446	A
33	a	1448	C
33	a	1449	C
33	a	1452	C
33	a	1454	G
33	a	1473	G
33	a	1475	G
33	a	1493	A
33	a	1494	G
33	a	1497	G
33	a	1499	A
33	a	1503	A
33	a	1505	G
33	a	1506	U
33	a	1507	A
33	a	1517	G
33	a	1518	MA6
33	a	1519	MA6
33	a	1520	C
33	a	1529	G
33	a	1530	G

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Mol	Chain	Res	Type
33	a	1531	A
33	a	1534	A
33	a	1536	C
33	a	1537	U
33	a	1538	C
33	a	1539	C
33	a	1540	U
55	w	2	C
55	w	4	C
55	w	5	G
55	w	6	G
55	w	7	A
55	w	8	4SU
55	w	9	A
55	w	10	G
55	w	12	U
55	w	13	C
55	w	14	A
55	w	15	G
55	w	16	U
55	w	17	C
55	w	18	G
55	w	19	G
55	w	20	U
55	w	21	A
55	w	37	MIA
55	w	46	G7M
55	w	47	U
55	w	48	C
55	w	49	C
55	w	51	C
55	w	54	5MU
55	w	55	PSU
55	w	58	A
55	w	60	U
55	w	62	C
55	w	63	G
55	w	64	A
55	w	67	C
55	w	68	C
55	w	69	G
55	w	70	G

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Mol	Chain	Res	Type
55	w	71	G
55	w	74	C
55	w	76	A
56	x	15	G

All (50) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
7	A	141	G
7	A	274	C
7	A	283	G
7	A	481	G
7	A	482	A
7	A	555	G
7	A	556	A
7	A	669	G
7	A	747	5MC
7	A	784	G
7	A	830	G
7	A	840	C
7	A	1021	A
7	A	1052	C
7	A	1078	U
7	A	1095	A
7	A	1110	G
7	A	1182	G
7	A	1300	G
7	A	1331	G
7	A	1358	G
7	A	1399	C
7	A	1420	A
7	A	1490	A
7	A	1520	U
7	A	1533	C
7	A	1715	G
7	A	1847	G
7	A	1877	A
7	A	1941	C
7	A	2003	A
7	A	2117	A
7	A	2128	G
7	A	2135	A

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Mol	Chain	Res	Type
7	A	2143	C
7	A	2185	U
7	A	2187	U
7	A	2287	A
7	A	2308	G
7	A	2324	U
7	A	2391	G
7	A	2406	A
7	A	2474	U
7	A	2655	G
7	A	2660	A
7	A	2756	U
7	A	2798	U
7	A	2808	G
7	A	2820	A
8	B	34	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	OMG	A	2251	55,58,7	23,26,27	2.39	9 (39%)	33,38,41	2.90	9 (27%)
7	6MZ	A	1618	7	22,25,26	2.34	6 (27%)	30,36,39	2.43	10 (33%)
7	1MG	A	745	7	22,26,27	2.61	7 (31%)	33,39,42	1.72	5 (15%)
7	PSU	A	2604	7	18,21,22	1.34	2 (11%)	22,30,33	1.94	4 (18%)
33	MA6	a	1518	33	23,26,27	1.57	2 (8%)	34,38,41	3.10	11 (32%)
7	3TD	A	1915	7	18,22,23	4.43	7 (38%)	22,32,35	1.74	4 (18%)
55	PSU	w	55	55	18,21,22	1.11	1 (5%)	22,30,33	1.82	5 (22%)
7	2MA	A	2503	58,7	22,25,26	3.73	8 (36%)	33,37,40	1.99	8 (24%)
33	UR3	a	1498	33	19,22,23	2.69	6 (31%)	26,32,35	1.59	4 (15%)
7	PSU	A	746	58,7	18,21,22	1.05	2 (11%)	22,30,33	1.70	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
55	MIA	w	37	55	28,31,32	2.58	7 (25%)	40,44,47	3.00	17 (42%)
33	2MG	a	1516	33	23,26,27	2.76	9 (39%)	32,38,41	2.17	11 (34%)
7	PSU	A	955	7	18,21,22	1.07	3 (16%)	22,30,33	1.67	4 (18%)
55	4SU	w	8	55	18,21,22	3.70	8 (44%)	26,30,33	2.20	4 (15%)
7	6MZ	A	2030	7	22,25,26	2.38	8 (36%)	30,36,39	2.49	12 (40%)
55	PSU	w	39	55	18,21,22	1.03	1 (5%)	22,30,33	1.70	2 (9%)
7	PSU	A	1917	7	18,21,22	1.08	1 (5%)	22,30,33	1.90	4 (18%)
33	5MC	a	1407	33	18,22,23	3.54	7 (38%)	26,32,35	1.06	2 (7%)
7	5MU	A	1939	58,7	19,22,23	4.59	7 (36%)	28,32,35	3.81	10 (35%)
7	PSU	A	2605	7	18,21,22	1.05	2 (11%)	22,30,33	1.87	5 (22%)
7	PSU	A	2457	7	18,21,22	0.98	2 (11%)	22,30,33	1.75	4 (18%)
33	5MC	a	967	33	18,22,23	3.52	7 (38%)	26,32,35	1.03	1 (3%)
7	5MC	A	747	7	18,22,23	3.40	7 (38%)	26,32,35	1.17	3 (11%)
7	PSU	A	2504	7	18,21,22	1.09	2 (11%)	22,30,33	1.80	4 (18%)
33	4OC	a	1402	33	20,23,24	3.17	8 (40%)	26,32,35	0.89	1 (3%)
33	MA6	a	1519	33	23,26,27	1.59	2 (8%)	34,38,41	3.23	11 (32%)
7	OMU	A	2552	58,7	19,22,23	2.85	7 (36%)	26,31,34	1.83	4 (15%)
7	OMC	A	2498	58,7	19,22,23	2.78	7 (36%)	26,31,34	0.93	2 (7%)
55	5MU	w	54	55	19,22,23	4.84	7 (36%)	28,32,35	3.64	8 (28%)
55	G7M	w	46	55	23,26,27	2.24	7 (30%)	35,39,42	3.18	10 (28%)
33	PSU	a	516	33,58	18,21,22	1.03	2 (11%)	22,30,33	1.71	5 (22%)
7	G7M	A	2069	7	23,26,27	3.39	10 (43%)	35,39,42	1.68	7 (20%)
33	2MG	a	1207	33	23,26,27	2.83	9 (39%)	32,38,41	2.25	11 (34%)
7	2MG	A	1835	7	23,26,27	2.74	7 (30%)	32,38,41	2.23	9 (28%)
7	PSU	A	2580	7	18,21,22	1.11	3 (16%)	22,30,33	1.93	6 (27%)
7	PSU	A	1911	7	18,21,22	1.05	1 (5%)	22,30,33	1.84	5 (22%)
55	PSU	w	32	55	18,21,22	1.47	3 (16%)	22,30,33	1.94	4 (18%)
7	5MC	A	1962	7	18,22,23	3.46	7 (38%)	26,32,35	1.12	1 (3%)
7	2MG	A	2445	7	23,26,27	2.73	9 (39%)	32,38,41	2.12	11 (34%)
33	2MG	a	966	33	23,26,27	2.76	9 (39%)	32,38,41	2.13	9 (28%)
33	G7M	a	527	33	23,26,27	3.52	11 (47%)	35,39,42	1.65	7 (20%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	OMG	A	2251	55,58,7	-	0/9/27/28	0/3/3/3
7	6MZ	A	1618	7	-	3/9/27/28	0/3/3/3
7	1MG	A	745	7	-	0/7/25/26	0/3/3/3
7	PSU	A	2604	7	-	2/7/25/26	0/2/2/2
33	MA6	a	1518	33	-	2/11/29/30	0/3/3/3
7	3TD	A	1915	7	-	2/7/25/26	0/2/2/2
55	PSU	w	55	55	-	5/7/25/26	0/2/2/2
7	2MA	A	2503	58,7	-	2/7/25/26	0/3/3/3
33	UR3	a	1498	33	-	4/7/25/26	0/2/2/2
7	PSU	A	746	58,7	-	3/7/25/26	0/2/2/2
55	MIA	w	37	55	-	4/15/33/34	0/3/3/3
33	2MG	a	1516	33	-	0/9/27/28	0/3/3/3
7	PSU	A	955	7	-	0/7/25/26	0/2/2/2
55	4SU	w	8	55	-	2/7/25/26	0/2/2/2
7	6MZ	A	2030	7	-	5/9/27/28	0/3/3/3
55	PSU	w	39	55	-	3/7/25/26	0/2/2/2
7	PSU	A	1917	7	-	0/7/25/26	0/2/2/2
33	5MC	a	1407	33	-	0/7/25/26	0/2/2/2
7	5MU	A	1939	58,7	-	2/7/25/26	0/2/2/2
7	PSU	A	2605	7	-	0/7/25/26	0/2/2/2
7	PSU	A	2457	7	-	0/7/25/26	0/2/2/2
33	5MC	a	967	33	-	2/7/25/26	0/2/2/2
7	5MC	A	747	7	-	3/7/25/26	0/2/2/2
7	PSU	A	2504	7	-	2/7/25/26	0/2/2/2
33	4OC	a	1402	33	-	1/9/29/30	0/2/2/2
33	MA6	a	1519	33	-	2/11/29/30	0/3/3/3
7	OMU	A	2552	58,7	-	5/9/27/28	0/2/2/2
7	OMC	A	2498	58,7	-	4/9/27/28	0/2/2/2
55	5MU	w	54	55	-	3/7/25/26	0/2/2/2
55	G7M	w	46	55	-	3/7/25/26	0/3/3/3
33	PSU	a	516	33,58	-	0/7/25/26	0/2/2/2
7	G7M	A	2069	7	-	1/7/25/26	0/3/3/3
33	2MG	a	1207	33	-	0/9/27/28	0/3/3/3
7	2MG	A	1835	7	-	2/9/27/28	0/3/3/3
7	PSU	A	2580	7	-	0/7/25/26	0/2/2/2
7	PSU	A	1911	7	-	0/7/25/26	0/2/2/2
55	PSU	w	32	55	-	2/7/25/26	0/2/2/2
7	5MC	A	1962	7	-	4/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	2MG	A	2445	7	-	2/9/27/28	0/3/3/3
33	2MG	a	966	33	-	0/9/27/28	0/3/3/3
33	G7M	a	527	33	-	3/7/25/26	0/3/3/3

All (230) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	1915	3TD	C6-C5	14.14	1.51	1.35
7	A	2503	2MA	C4-N3	11.31	1.48	1.34
55	w	54	5MU	C2-N1	11.21	1.56	1.38
55	w	54	5MU	C6-N1	10.36	1.55	1.38
55	w	54	5MU	C4-C5	10.11	1.61	1.44
33	a	527	G7M	C8-N7	10.05	1.51	1.33
7	A	2069	G7M	C8-N7	9.98	1.51	1.33
7	A	1939	5MU	C2-N1	9.82	1.54	1.38
7	A	1939	5MU	C6-N1	9.72	1.54	1.38
7	A	1939	5MU	C4-C5	9.48	1.60	1.44
33	a	1407	5MC	C6-C5	9.41	1.50	1.34
33	a	967	5MC	C6-C5	9.16	1.49	1.34
7	A	1962	5MC	C6-C5	8.90	1.49	1.34
7	A	747	5MC	C6-C5	8.83	1.49	1.34
7	A	1618	6MZ	C6-N6	8.58	1.43	1.34
7	A	1915	3TD	C2-N1	8.33	1.48	1.37
7	A	1939	5MU	C4-N3	-8.29	1.23	1.38
55	w	8	4SU	C4-N3	8.17	1.46	1.37
7	A	2030	6MZ	C6-N6	8.15	1.43	1.34
55	w	54	5MU	C4-N3	-7.84	1.24	1.38
7	A	2503	2MA	C2-N3	7.59	1.47	1.34
33	a	1207	2MG	C2-N3	7.50	1.46	1.31
33	a	966	2MG	C2-N3	7.32	1.45	1.31
55	w	37	MIA	C13-C14	7.31	1.53	1.32
33	a	1516	2MG	C2-N3	7.30	1.45	1.31
33	a	1498	UR3	C2-N1	7.16	1.48	1.38
33	a	1402	4OC	C4-N3	7.16	1.45	1.32
7	A	1835	2MG	C2-N3	7.16	1.45	1.31
7	A	2445	2MG	C2-N3	7.01	1.45	1.31
55	w	37	MIA	C2-S10	6.91	1.81	1.75
55	w	8	4SU	C2-N3	6.84	1.50	1.38
7	A	2552	OMU	C2-N1	6.70	1.49	1.38
55	w	37	MIA	C6-N6	6.58	1.44	1.34
55	w	46	G7M	C4-N3	6.45	1.49	1.34
7	A	2552	OMU	C2-N3	6.43	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	a	967	5MC	C4-N3	6.35	1.44	1.34
7	A	745	1MG	C2-N3	6.34	1.45	1.34
7	A	1962	5MC	C4-N3	6.28	1.44	1.34
55	w	8	4SU	C2-N1	6.24	1.48	1.38
33	a	1402	4OC	C6-C5	6.18	1.49	1.35
33	a	1207	2MG	C4-N3	6.17	1.48	1.34
7	A	1835	2MG	C4-N3	6.15	1.48	1.34
7	A	745	1MG	C4-N3	6.12	1.48	1.34
33	a	966	2MG	C4-N3	6.10	1.48	1.34
33	a	1407	5MC	C4-N3	6.09	1.44	1.34
7	A	1962	5MC	C2-N3	6.06	1.48	1.36
7	A	2251	OMG	C4-N3	6.03	1.48	1.34
33	a	1516	2MG	C4-N3	6.02	1.48	1.34
7	A	2552	OMU	C6-C5	6.01	1.49	1.35
33	a	1402	4OC	C2-N3	5.95	1.48	1.36
33	a	967	5MC	C2-N3	5.93	1.48	1.36
7	A	745	1MG	C2-N2	5.93	1.44	1.34
7	A	2445	2MG	C4-N3	5.90	1.48	1.34
33	a	1498	UR3	C6-C5	5.88	1.48	1.35
7	A	747	5MC	C2-N3	5.83	1.48	1.36
7	A	2503	2MA	C6-N1	5.76	1.43	1.35
33	a	1407	5MC	C2-N3	5.76	1.48	1.36
7	A	747	5MC	C4-N3	5.75	1.43	1.34
55	w	54	5MU	C6-C5	5.71	1.44	1.34
33	a	527	G7M	C2-N3	5.69	1.46	1.33
55	w	8	4SU	C6-C5	5.66	1.48	1.35
7	A	2503	2MA	C2-N1	5.66	1.44	1.34
7	A	1939	5MU	C6-C5	5.53	1.43	1.34
33	a	527	G7M	C8-N9	5.51	1.51	1.35
7	A	2069	G7M	C2-N3	5.50	1.46	1.33
7	A	2498	OMC	C6-C5	5.43	1.47	1.35
7	A	2498	OMC	C2-N3	5.43	1.47	1.36
7	A	2069	G7M	C8-N9	5.39	1.50	1.35
7	A	1915	3TD	C2-N3	5.39	1.50	1.38
33	a	1207	2MG	C2-N2	5.35	1.45	1.33
33	a	527	G7M	C4-N3	5.33	1.46	1.34
33	a	1402	4OC	C4-N4	5.27	1.46	1.35
33	a	1516	2MG	C2-N2	5.23	1.45	1.33
7	A	2251	OMG	C2-N3	5.21	1.45	1.33
7	A	2498	OMC	C4-N4	5.18	1.46	1.33
7	A	2069	G7M	C4-N3	5.15	1.46	1.34
7	A	1835	2MG	C2-N2	5.14	1.44	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	1915	3TD	C6-N1	5.14	1.44	1.36
33	a	966	2MG	C2-N2	5.13	1.44	1.33
7	A	2445	2MG	C2-N2	4.94	1.44	1.33
55	w	8	4SU	C4-S4	-4.92	1.59	1.68
7	A	2498	OMC	C4-N3	4.84	1.44	1.34
33	a	1207	2MG	C2-N1	4.75	1.44	1.36
33	a	1519	MA6	C6-N6	4.73	1.50	1.36
33	a	527	G7M	C2-N2	4.72	1.45	1.34
33	a	1407	5MC	C6-N1	4.68	1.46	1.38
33	a	1518	MA6	C6-N6	4.65	1.50	1.36
33	a	1498	UR3	C2-N3	4.65	1.48	1.39
7	A	2503	2MA	C5-C6	4.60	1.53	1.41
7	A	2251	OMG	C2-N2	4.57	1.45	1.34
33	a	1516	2MG	C2-N1	4.55	1.44	1.36
33	a	966	2MG	C2-N1	4.52	1.43	1.36
7	A	2069	G7M	C2-N2	4.50	1.44	1.34
7	A	2445	2MG	C2-N1	4.44	1.43	1.36
55	w	8	4SU	C5-C4	4.42	1.48	1.42
33	a	1407	5MC	C4-N4	4.32	1.45	1.34
33	a	527	G7M	C5-N7	4.30	1.44	1.39
7	A	1835	2MG	C2-N1	4.29	1.43	1.36
33	a	967	5MC	C4-N4	4.28	1.45	1.34
7	A	747	5MC	C4-N4	4.25	1.45	1.34
7	A	1962	5MC	C4-N4	4.23	1.45	1.34
33	a	967	5MC	C6-N1	4.16	1.45	1.38
7	A	747	5MC	C6-N1	4.14	1.45	1.38
7	A	747	5MC	C2-N1	4.12	1.48	1.40
7	A	1962	5MC	C6-N1	4.07	1.45	1.38
55	w	46	G7M	C2-N3	4.05	1.42	1.33
33	a	967	5MC	C2-N1	4.03	1.48	1.40
55	w	46	G7M	C2-N2	4.01	1.43	1.34
7	A	2498	OMC	C2-N1	3.93	1.48	1.40
33	a	1407	5MC	C2-N1	3.90	1.48	1.40
7	A	1962	5MC	C2-N1	3.85	1.48	1.40
55	w	46	G7M	C5-N7	-3.80	1.34	1.39
33	a	1402	4OC	C5-C4	3.73	1.48	1.40
7	A	2069	G7M	C5-N7	3.73	1.43	1.39
55	w	55	PSU	C6-C5	3.69	1.39	1.35
33	a	527	G7M	C2-N1	3.66	1.46	1.37
33	a	1402	4OC	C2-N1	3.66	1.47	1.40
7	A	2445	2MG	C5-N7	-3.62	1.32	1.39
7	A	2030	6MZ	C5-N7	-3.60	1.32	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	2552	OMU	C4-N3	3.56	1.44	1.38
7	A	745	1MG	C5-N7	-3.55	1.32	1.39
7	A	1835	2MG	C5-N7	-3.51	1.32	1.39
7	A	2251	OMG	C5-N7	-3.51	1.32	1.39
7	A	1618	6MZ	C5-N7	-3.40	1.32	1.39
33	a	966	2MG	C5-N7	-3.35	1.32	1.39
33	a	1519	MA6	C5-C4	-3.33	1.32	1.39
7	A	2069	G7M	C2-N1	3.32	1.45	1.37
55	w	37	MIA	C5-C4	-3.31	1.32	1.39
33	a	1518	MA6	C5-C4	-3.27	1.32	1.39
33	a	1516	2MG	C5-N7	-3.23	1.32	1.39
33	a	1207	2MG	C5-N7	-3.20	1.32	1.39
7	A	2030	6MZ	C5-C4	-3.19	1.33	1.39
7	A	2604	PSU	C6-C5	3.16	1.39	1.35
55	w	32	PSU	C6-C5	3.16	1.39	1.35
33	a	527	G7M	C5-C6	3.15	1.52	1.43
55	w	8	4SU	C6-N1	3.14	1.45	1.38
33	a	527	G7M	C6-N1	3.10	1.44	1.38
33	a	1402	4OC	C6-N1	3.10	1.45	1.38
7	A	1915	3TD	O2-C2	-3.10	1.17	1.23
33	a	1402	4OC	O2-C2	-3.03	1.18	1.23
7	A	1911	PSU	C6-C5	3.00	1.38	1.35
7	A	1917	PSU	C6-C5	2.99	1.38	1.35
55	w	39	PSU	C6-C5	2.96	1.38	1.35
7	A	2069	G7M	O6-C6	-2.91	1.18	1.23
7	A	1939	5MU	O4-C4	-2.90	1.18	1.23
7	A	2504	PSU	C6-C5	2.90	1.38	1.35
33	a	967	5MC	O2-C2	-2.88	1.18	1.23
7	A	1939	5MU	O2-C2	-2.87	1.17	1.23
55	w	32	PSU	C2'-C1'	-2.87	1.50	1.53
7	A	2503	2MA	C5-N7	-2.84	1.33	1.39
7	A	2503	2MA	C6-N6	-2.83	1.27	1.34
7	A	1962	5MC	O2-C2	-2.83	1.18	1.23
33	a	516	PSU	C6-C5	2.83	1.38	1.35
7	A	2069	G7M	C5-C6	2.82	1.51	1.43
33	a	1498	UR3	C6-N1	2.82	1.44	1.38
7	A	1618	6MZ	C5-C4	-2.79	1.33	1.39
7	A	2030	6MZ	C6-N1	-2.78	1.30	1.35
7	A	746	PSU	C6-C5	2.78	1.38	1.35
7	A	2069	G7M	C6-N1	2.77	1.44	1.38
55	w	37	MIA	C5-N7	-2.77	1.33	1.39
7	A	2498	OMC	C6-N1	2.77	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	2498	OMC	O2-C2	-2.76	1.18	1.23
7	A	2445	2MG	O6-C6	-2.76	1.18	1.23
55	w	46	G7M	C5-C6	2.76	1.51	1.43
7	A	2251	OMG	O6-C6	-2.75	1.18	1.23
7	A	1835	2MG	O6-C6	-2.75	1.18	1.23
33	a	1407	5MC	O2-C2	-2.75	1.18	1.23
7	A	747	5MC	O2-C2	-2.74	1.18	1.23
33	a	527	G7M	O6-C6	-2.71	1.18	1.23
33	a	1516	2MG	O6-C6	-2.70	1.18	1.23
33	a	966	2MG	O6-C6	-2.64	1.18	1.23
55	w	54	5MU	O4-C4	-2.64	1.18	1.23
7	A	1915	3TD	O4-C4	-2.64	1.17	1.23
33	a	1207	2MG	O6-C6	-2.63	1.18	1.23
7	A	955	PSU	C6-C5	2.63	1.38	1.35
7	A	2605	PSU	C6-C5	2.62	1.38	1.35
7	A	2604	PSU	C4-N3	-2.60	1.34	1.38
55	w	46	G7M	C6-N1	2.58	1.43	1.38
7	A	2030	6MZ	C8-N9	-2.57	1.32	1.37
55	w	32	PSU	C4-N3	-2.54	1.34	1.38
33	a	1498	UR3	O4-C4	-2.54	1.18	1.23
7	A	1618	6MZ	C6-N1	-2.53	1.31	1.35
7	A	2580	PSU	O4'-C1'	-2.53	1.40	1.43
55	w	8	4SU	O2-C2	-2.52	1.18	1.23
7	A	2580	PSU	C6-C5	2.52	1.38	1.35
7	A	2030	6MZ	C5-C6	-2.49	1.35	1.41
7	A	1915	3TD	C4-N3	2.48	1.45	1.40
7	A	2503	2MA	C8-N7	2.47	1.36	1.31
7	A	745	1MG	C5-C6	2.45	1.51	1.45
33	a	1207	2MG	C5-C6	2.45	1.53	1.44
33	a	1498	UR3	O2-C2	-2.42	1.18	1.22
7	A	2445	2MG	C4-N9	-2.42	1.31	1.38
7	A	2251	OMG	C2-N1	2.40	1.43	1.37
55	w	37	MIA	C8-N9	-2.40	1.33	1.37
7	A	745	1MG	O6-C6	-2.38	1.18	1.23
33	a	1207	2MG	C6-N1	2.37	1.43	1.38
7	A	2605	PSU	C4-C5	-2.35	1.37	1.44
33	a	1516	2MG	C5-C6	2.35	1.53	1.44
7	A	2552	OMU	C6-N1	2.34	1.43	1.38
7	A	1618	6MZ	C8-N9	-2.34	1.33	1.37
7	A	2251	OMG	C4-N9	-2.30	1.32	1.38
7	A	2580	PSU	C4-C5	-2.27	1.37	1.44
55	w	54	5MU	O2-C2	-2.26	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	a	966	2MG	C6-N1	2.24	1.43	1.38
7	A	1835	2MG	C5-C6	2.23	1.52	1.44
33	a	966	2MG	C5-C6	2.22	1.52	1.44
7	A	2445	2MG	C5-C6	2.21	1.52	1.44
55	w	46	G7M	C2-N1	2.20	1.43	1.37
33	a	966	2MG	C4-N9	-2.16	1.32	1.38
7	A	2030	6MZ	C4-N9	-2.16	1.32	1.37
7	A	2251	OMG	C5-C6	2.15	1.52	1.44
7	A	2457	PSU	C4-C5	-2.14	1.38	1.44
7	A	955	PSU	O4'-C1'	-2.14	1.40	1.43
7	A	2251	OMG	C6-N1	2.14	1.42	1.38
33	a	1516	2MG	C4-N9	-2.13	1.32	1.38
33	a	1516	2MG	C6-N1	2.12	1.42	1.38
7	A	746	PSU	C4-C5	-2.11	1.38	1.44
7	A	2030	6MZ	C9-N6	-2.11	1.41	1.45
55	w	37	MIA	C4-N9	-2.10	1.33	1.37
7	A	2457	PSU	O4'-C1'	-2.08	1.41	1.43
7	A	955	PSU	C4-C5	-2.08	1.38	1.44
33	a	516	PSU	O4'-C1'	-2.06	1.41	1.43
7	A	2552	OMU	C5-C4	2.04	1.48	1.43
7	A	745	1MG	C4-N9	-2.04	1.32	1.38
7	A	2552	OMU	O4-C4	-2.04	1.20	1.24
33	a	1207	2MG	C4-N9	-2.04	1.32	1.38
33	a	527	G7M	C4-N9	2.04	1.43	1.38
7	A	2504	PSU	O4'-C1'	-2.03	1.41	1.43
7	A	2445	2MG	C6-N1	2.02	1.42	1.38
7	A	1618	6MZ	C9-N6	-2.01	1.41	1.45

All (257) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	a	1519	MA6	N1-C6-N6	-12.62	103.29	117.08
7	A	1939	5MU	C5-C4-N3	12.43	125.92	115.31
55	w	54	5MU	C5-C4-N3	12.17	125.70	115.31
33	a	1518	MA6	N1-C6-N6	-12.06	103.89	117.08
7	A	1939	5MU	C5-C6-N1	-11.04	111.99	123.34
55	w	54	5MU	C5-C6-N1	-9.91	113.14	123.34
7	A	2251	OMG	C1'-N9-C8	-9.88	98.57	126.70
55	w	46	G7M	CN7-N7-C5	9.16	138.15	126.77
7	A	2251	OMG	C1'-N9-C4	9.02	153.29	126.50
55	w	37	MIA	C11-S10-C2	8.99	108.98	102.27
55	w	46	G7M	C1'-N9-C4	8.35	151.30	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	w	37	MIA	C12-C13-C14	-8.12	111.33	127.14
55	w	8	4SU	C4-N3-C2	-7.65	119.90	127.34
55	w	46	G7M	C1'-N9-C8	-7.65	100.92	126.74
55	w	46	G7M	CN7-N7-C8	-6.93	114.15	124.84
7	A	1835	2MG	C2-N3-C4	6.77	120.44	112.04
33	a	1207	2MG	C2-N3-C4	6.69	120.33	112.04
33	a	1519	MA6	C5-C6-N6	6.54	136.70	125.30
7	A	2503	2MA	C5-C4-N3	-6.39	120.00	127.19
33	a	1516	2MG	C2-N3-C4	6.35	119.92	112.04
33	a	1518	MA6	C5-C6-N6	6.24	136.17	125.30
55	w	32	PSU	N1-C2-N3	6.12	122.07	115.13
33	a	966	2MG	C2-N3-C4	6.11	119.62	112.04
7	A	2445	2MG	C2-N3-C4	6.02	119.50	112.04
7	A	2604	PSU	N1-C2-N3	5.98	121.91	115.13
7	A	1618	6MZ	C5-C4-N3	-5.96	118.97	126.75
55	w	37	MIA	C5-C4-N3	-5.90	120.56	127.19
7	A	2552	OMU	C4-N3-C2	-5.74	119.01	126.58
7	A	1915	3TD	N1-C2-N3	5.61	120.56	116.14
55	w	8	4SU	C5-C4-N3	5.60	119.88	114.69
7	A	1835	2MG	C5-C4-N3	-5.52	119.51	128.46
7	A	2030	6MZ	N1-C2-N3	-5.49	120.01	128.60
7	A	745	1MG	C5-C4-N3	-5.47	119.59	128.46
7	A	1618	6MZ	N1-C2-N3	-5.43	120.11	128.60
7	A	1939	5MU	C4-N3-C2	-5.39	120.38	127.35
33	a	1207	2MG	C5-C4-N3	-5.31	119.85	128.46
7	A	1939	5MU	O4-C4-C5	-5.28	118.78	124.90
33	a	1518	MA6	N1-C2-N3	-5.24	120.40	128.60
33	a	1519	MA6	N1-C2-N3	-5.21	120.45	128.60
33	a	1519	MA6	C5-C4-N3	-5.21	119.96	126.75
33	a	1516	2MG	C5-C4-N3	-5.15	120.11	128.46
7	A	2030	6MZ	C9-N6-C6	-4.99	118.57	122.87
33	a	966	2MG	C5-C4-N3	-4.99	120.37	128.46
7	A	2030	6MZ	N9-C8-N7	-4.98	107.11	113.91
7	A	1917	PSU	N1-C2-N3	4.93	120.72	115.13
7	A	2445	2MG	C5-C4-N3	-4.91	120.49	128.46
55	w	37	MIA	C15-C14-C13	-4.90	108.47	122.65
33	a	1207	2MG	C2-N1-C6	-4.87	118.87	124.48
7	A	1917	PSU	C4-N3-C2	-4.86	119.34	126.34
7	A	2605	PSU	C4-N3-C2	-4.84	119.36	126.34
55	w	39	PSU	C4-N3-C2	-4.74	119.51	126.34
7	A	2030	6MZ	C5-C4-N3	-4.73	120.58	126.75
7	A	2504	PSU	N1-C2-N3	4.72	120.48	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	w	37	MIA	N9-C8-N7	-4.72	107.46	113.91
7	A	2580	PSU	C4-N3-C2	-4.71	119.55	126.34
7	A	1911	PSU	C4-N3-C2	-4.70	119.56	126.34
7	A	746	PSU	C4-N3-C2	-4.70	119.57	126.34
7	A	1835	2MG	C2-N1-C6	-4.68	119.09	124.48
7	A	2457	PSU	C4-N3-C2	-4.68	119.59	126.34
7	A	2445	2MG	C2-N1-C6	-4.67	119.10	124.48
7	A	2251	OMG	C5-C4-N3	-4.66	120.90	128.46
7	A	2580	PSU	N1-C2-N3	4.64	120.39	115.13
33	a	1518	MA6	C5-C4-N3	-4.64	120.70	126.75
55	w	54	5MU	C5M-C5-C4	4.63	123.87	118.77
7	A	1911	PSU	N1-C2-N3	4.62	120.36	115.13
33	a	1516	2MG	C2-N1-C6	-4.61	119.18	124.48
7	A	1939	5MU	N3-C2-N1	4.60	120.99	114.89
33	a	1498	UR3	C4-N3-C2	-4.59	120.24	124.56
55	w	55	PSU	N1-C2-N3	4.57	120.30	115.13
55	w	54	5MU	C4-N3-C2	-4.56	121.45	127.35
33	a	1518	MA6	N9-C8-N7	-4.54	107.70	113.91
33	a	966	2MG	C2-N1-C6	-4.52	119.27	124.48
55	w	54	5MU	O4-C4-C5	-4.52	119.66	124.90
7	A	2504	PSU	C4-N3-C2	-4.48	119.89	126.34
7	A	2605	PSU	N1-C2-N3	4.47	120.20	115.13
55	w	54	5MU	C5M-C5-C6	-4.44	116.91	122.85
33	a	527	G7M	C2-N3-C4	4.37	120.08	112.30
55	w	46	G7M	C2-N3-C4	4.36	120.06	112.30
55	w	39	PSU	N1-C2-N3	4.36	120.06	115.13
55	w	55	PSU	C4-N3-C2	-4.34	120.08	126.34
33	a	1519	MA6	N9-C8-N7	-4.33	107.99	113.91
7	A	1618	6MZ	N9-C8-N7	-4.33	108.00	113.91
7	A	2503	2MA	N9-C8-N7	-4.29	108.04	113.91
7	A	1618	6MZ	C4-C5-C6	4.29	120.13	116.81
55	w	46	G7M	C5-C4-N3	-4.25	120.01	128.15
7	A	2069	G7M	C2-N3-C4	4.23	119.84	112.30
33	a	516	PSU	C4-N3-C2	-4.21	120.27	126.34
7	A	955	PSU	C4-N3-C2	-4.20	120.29	126.34
7	A	746	PSU	N1-C2-N3	4.16	119.85	115.13
7	A	2552	OMU	N3-C2-N1	4.14	120.39	114.89
7	A	955	PSU	N1-C2-N3	4.08	119.75	115.13
7	A	2251	OMG	C2-N3-C4	4.07	119.56	112.30
33	a	516	PSU	N1-C2-N3	4.07	119.74	115.13
55	w	37	MIA	C16-C14-C13	-4.06	110.91	122.65
7	A	2457	PSU	N1-C2-N3	4.05	119.71	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A	2069	G7M	C5-C4-N3	-4.00	120.47	128.15
7	A	2604	PSU	C4-N3-C2	-3.99	120.59	126.34
55	w	54	5MU	N3-C2-N1	3.98	120.18	114.89
33	a	1519	MA6	C4-C5-C6	3.97	120.32	115.88
33	a	527	G7M	C5-C4-N3	-3.96	120.56	128.15
7	A	2069	G7M	C5-C6-N1	3.93	120.00	111.79
33	a	1498	UR3	C1'-N1-C2	3.86	123.51	116.99
55	w	37	MIA	S10-C2-N1	3.84	129.31	116.01
7	A	1939	5MU	C5M-C5-C6	-3.84	117.72	122.85
7	A	2030	6MZ	C4-C5-C6	3.81	119.76	116.81
7	A	1962	5MC	C5-C6-N1	-3.80	119.43	123.34
7	A	1618	6MZ	N3-C4-N9	3.80	133.34	127.08
7	A	1618	6MZ	C2-N3-C4	3.79	120.71	111.75
33	a	527	G7M	C5-C6-N1	3.79	119.71	111.79
55	w	46	G7M	C5-C6-N1	3.78	119.69	111.79
7	A	2552	OMU	C5-C4-N3	3.73	120.42	114.84
7	A	2503	2MA	N3-C4-N9	3.71	132.13	126.99
55	w	32	PSU	C4-N3-C2	-3.67	121.05	126.34
33	a	1518	MA6	C4-C5-C6	3.62	119.93	115.88
7	A	1915	3TD	C4-N3-C2	-3.61	120.69	124.61
55	w	37	MIA	N3-C2-N1	-3.61	120.34	126.95
7	A	745	1MG	N9-C4-N3	3.60	133.16	125.94
55	w	37	MIA	C4-C5-C6	3.57	119.58	116.81
55	w	8	4SU	C5-C4-S4	-3.56	119.88	124.47
55	w	32	PSU	O2-C2-N1	-3.55	118.89	122.79
55	w	8	4SU	N3-C2-N1	3.53	119.57	114.89
7	A	745	1MG	C2-N3-C4	3.52	119.89	111.98
33	a	1518	MA6	C2-N1-C6	3.43	119.85	111.75
55	w	37	MIA	N3-C4-N9	3.42	131.74	126.99
7	A	1939	5MU	C5M-C5-C4	3.39	122.50	118.77
7	A	2069	G7M	O6-C6-C5	-3.38	120.43	128.06
55	w	46	G7M	O6-C6-C5	-3.38	120.43	128.06
7	A	2030	6MZ	C5-N7-C8	3.37	108.30	103.51
33	a	1519	MA6	C2-N3-C4	3.34	119.65	111.75
7	A	2604	PSU	O2-C2-N1	-3.34	119.11	122.79
33	a	1519	MA6	C2-N1-C6	3.32	119.60	111.75
7	A	1939	5MU	O2-C2-N1	-3.30	118.39	122.79
7	A	2030	6MZ	C4-N9-C1'	-3.30	118.72	126.59
33	a	1519	MA6	N3-C4-N9	3.28	132.49	127.08
7	A	1835	2MG	N9-C4-N3	3.28	132.52	125.94
33	a	527	G7M	O6-C6-C5	-3.25	120.73	128.06
33	a	967	5MC	C5-C6-N1	-3.24	120.01	123.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	a	1498	UR3	C6-N1-C2	-3.22	118.91	121.79
7	A	1618	6MZ	C5-N7-C8	3.21	108.06	103.51
7	A	2030	6MZ	C2-N3-C4	3.20	119.30	111.75
33	a	1518	MA6	C2-N3-C4	3.15	119.19	111.75
7	A	2445	2MG	CM2-N2-C2	-3.14	116.92	123.86
7	A	747	5MC	C5-C6-N1	-3.11	120.13	123.34
7	A	955	PSU	O2-C2-N1	-3.11	119.37	122.79
7	A	2251	OMG	C2-N1-C6	-3.10	119.45	125.10
55	w	37	MIA	C5-N7-C8	3.08	107.89	103.51
33	a	966	2MG	N9-C4-N3	3.08	132.12	125.94
7	A	2605	PSU	O2-C2-N1	-3.04	119.44	122.79
33	a	1207	2MG	N9-C4-N3	3.03	132.02	125.94
33	a	1407	5MC	C5-C6-N1	-3.02	120.23	123.34
7	A	1911	PSU	O2-C2-N1	-3.01	119.47	122.79
7	A	2069	G7M	C2-N1-C6	-3.01	119.61	125.10
33	a	1516	2MG	N9-C8-N7	-2.98	107.77	113.39
33	a	516	PSU	O2-C2-N1	-2.98	119.51	122.79
33	a	966	2MG	N9-C8-N7	-2.96	107.82	113.39
55	w	55	PSU	O2-C2-N1	-2.95	119.54	122.79
33	a	1207	2MG	N9-C8-N7	-2.95	107.83	113.39
7	A	2503	2MA	C5-N7-C8	2.94	107.68	103.51
7	A	745	1MG	N9-C8-N7	-2.90	107.93	113.39
55	w	46	G7M	N9-C4-N3	2.90	131.76	125.94
55	w	46	G7M	C2-N1-C6	-2.89	119.82	125.10
33	a	1518	MA6	N3-C4-N9	2.88	131.83	127.08
7	A	2251	OMG	N9-C8-N7	-2.87	107.98	113.39
7	A	2552	OMU	O4-C4-C5	-2.87	120.11	125.16
7	A	2030	6MZ	N3-C4-N9	2.87	131.81	127.08
7	A	2251	OMG	O6-C6-C5	-2.87	119.00	126.60
55	w	54	5MU	O4-C4-N3	-2.86	114.64	120.12
33	a	1207	2MG	C5-C6-N1	2.83	120.37	113.19
7	A	1618	6MZ	C9-N6-C6	-2.82	120.44	122.87
7	A	1835	2MG	C5-C6-N1	2.82	120.34	113.19
55	w	37	MIA	C16-C14-C15	-2.82	108.39	114.60
33	a	1516	2MG	N9-C4-N3	2.81	131.58	125.94
33	a	1519	MA6	C5-N7-C8	2.81	107.50	103.51
33	a	527	G7M	C2-N1-C6	-2.81	119.98	125.10
33	a	1518	MA6	C4-N9-C8	2.80	108.77	105.73
7	A	745	1MG	C5-C6-N1	2.80	120.31	114.91
7	A	2457	PSU	O2-C2-N1	-2.78	119.72	122.79
55	w	37	MIA	C2-N3-C4	2.78	119.66	112.35
7	A	2503	2MA	N3-C2-N1	-2.77	120.63	125.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	w	37	MIA	C4-N9-C8	2.76	108.72	105.73
7	A	2030	6MZ	C4-N9-C8	2.76	108.72	105.73
33	a	1518	MA6	C5-N7-C8	2.74	107.39	103.51
7	A	2251	OMG	C5-C6-N1	2.73	120.13	113.19
33	a	1498	UR3	O2-C2-N3	-2.71	117.52	121.34
7	A	2251	OMG	N9-C4-N3	2.71	131.37	125.94
7	A	1835	2MG	N9-C8-N7	-2.71	108.30	113.39
33	a	1516	2MG	C5-C6-N1	2.69	120.01	113.19
33	a	966	2MG	O6-C6-C5	-2.68	119.50	126.60
7	A	2580	PSU	O2-C2-N1	-2.67	119.85	122.79
33	a	966	2MG	C5-C6-N1	2.67	119.98	113.19
7	A	2445	2MG	C5-C6-N1	2.67	119.96	113.19
33	a	1207	2MG	O6-C6-C5	-2.64	119.59	126.60
7	A	1917	PSU	O2-C2-N1	-2.63	119.89	122.79
7	A	2580	PSU	O4'-C1'-C2'	2.60	108.81	105.14
7	A	1917	PSU	C6-N1-C2	-2.59	120.03	122.68
7	A	2445	2MG	N9-C4-N3	2.57	131.10	125.94
7	A	2445	2MG	O6-C6-C5	-2.56	119.81	126.60
7	A	2580	PSU	C6-N1-C2	-2.55	120.07	122.68
7	A	1835	2MG	O6-C6-C5	-2.53	119.88	126.60
33	a	1519	MA6	C4-N9-C8	2.53	108.47	105.73
7	A	2445	2MG	N9-C8-N7	-2.52	108.64	113.39
7	A	1939	5MU	O4-C4-N3	-2.51	115.30	120.12
7	A	955	PSU	C6-N1-C2	-2.51	120.12	122.68
7	A	1835	2MG	CM2-N2-C2	-2.50	118.34	123.86
33	a	966	2MG	CM2-N2-C2	-2.49	118.36	123.86
33	a	1516	2MG	O6-C6-C5	-2.48	120.03	126.60
7	A	1618	6MZ	C5-C6-N1	2.48	120.84	118.20
7	A	2504	PSU	C6-N1-C2	-2.44	120.19	122.68
33	a	516	PSU	C6-N1-C2	-2.43	120.20	122.68
7	A	746	PSU	O2-C2-N1	-2.42	120.13	122.79
55	w	55	PSU	C6-N1-C2	-2.41	120.22	122.68
33	a	516	PSU	O4'-C1'-C2'	2.41	108.54	105.14
7	A	2030	6MZ	C1'-N9-C8	2.40	132.56	127.14
7	A	2504	PSU	C6-C5-C4	2.40	119.88	118.20
7	A	1835	2MG	N1-C2-N3	-2.40	120.24	123.95
55	w	37	MIA	N6-C6-N1	2.38	121.54	118.50
55	w	55	PSU	C6-C5-C4	2.35	119.84	118.20
33	a	1516	2MG	CM2-N2-C2	-2.33	118.71	123.86
33	a	1207	2MG	N1-C2-N3	-2.33	120.35	123.95
7	A	2503	2MA	N6-C6-N1	2.30	120.29	117.03
33	a	527	G7M	N9-C8-N7	-2.28	106.57	112.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A	1915	3TD	C10-N3-C4	2.28	121.17	117.69
7	A	2503	2MA	C6-C5-C4	2.27	120.24	117.18
7	A	2503	2MA	C4-N9-C8	2.27	108.19	105.73
33	a	1402	4OC	C6-C5-C4	2.27	119.74	116.96
55	w	37	MIA	C5-C6-N6	-2.27	117.94	121.76
7	A	2498	OMC	O2-C2-N3	-2.26	118.65	122.33
7	A	2069	G7M	N9-C8-N7	-2.26	106.63	112.21
7	A	2445	2MG	C1'-N9-C4	-2.26	119.80	126.50
7	A	2605	PSU	C6-N1-C2	-2.24	120.39	122.68
33	a	1516	2MG	N1-C2-N3	-2.21	120.53	123.95
33	a	966	2MG	N1-C2-N3	-2.21	120.53	123.95
33	a	1207	2MG	C8-N7-C5	2.15	108.13	104.24
33	a	1516	2MG	C8-N7-C5	2.14	108.11	104.24
55	w	32	PSU	C3'-C2'-C1'	2.13	104.12	101.64
7	A	1911	PSU	C6-N1-C2	-2.13	120.50	122.68
7	A	2445	2MG	C1'-N9-C8	2.13	132.76	126.70
55	w	37	MIA	C1'-N9-C8	-2.12	122.35	127.14
7	A	2580	PSU	C6-C5-C4	2.12	119.68	118.20
33	a	527	G7M	C5-C4-N9	2.11	110.52	105.89
33	a	1207	2MG	CM2-N2-C2	-2.11	119.21	123.86
7	A	1939	5MU	C6-C5-C4	2.10	119.78	118.03
7	A	2498	OMC	C1'-N1-C2	2.10	123.10	118.42
7	A	1911	PSU	C6-C5-C4	2.09	119.66	118.20
7	A	2604	PSU	C5-C6-N1	-2.08	118.98	122.11
7	A	747	5MC	CM5-C5-C6	-2.08	120.07	122.85
33	a	1407	5MC	O2-C2-N3	-2.07	118.97	122.33
7	A	2030	6MZ	C5-C6-N1	2.05	120.39	118.20
7	A	1915	3TD	C6-C5-C4	2.05	119.64	118.22
7	A	2445	2MG	N1-C2-N3	-2.04	120.79	123.95
7	A	1618	6MZ	C4-N9-C8	2.04	107.94	105.73
7	A	2457	PSU	O4'-C1'-C2'	2.04	108.02	105.14
33	a	1207	2MG	C1'-N9-C4	-2.03	120.47	126.50
7	A	2605	PSU	O4-C4-C5	-2.03	118.74	124.05
7	A	747	5MC	O2-C2-N3	-2.03	119.03	122.33
33	a	1516	2MG	C1'-N9-C4	-2.01	120.52	126.50
7	A	2069	G7M	C5-C4-N9	2.01	110.29	105.89

There are no chirality outliers.

All (78) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A	746	PSU	C2'-C1'-C5-C6

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Mol	Chain	Res	Type	Atoms
7	A	747	5MC	C3'-C4'-C5'-O5'
7	A	1618	6MZ	N1-C6-N6-C9
7	A	1915	3TD	O4'-C1'-C5-C4
7	A	1915	3TD	O4'-C1'-C5-C6
7	A	1962	5MC	C2'-C1'-N1-C6
7	A	2030	6MZ	N1-C6-N6-C9
7	A	2030	6MZ	C3'-C4'-C5'-O5'
7	A	2445	2MG	C3'-C4'-C5'-O5'
7	A	2504	PSU	O4'-C4'-C5'-O5'
7	A	2604	PSU	C3'-C4'-C5'-O5'
33	a	527	G7M	C3'-C4'-C5'-O5'
33	a	967	5MC	O4'-C4'-C5'-O5'
33	a	967	5MC	C3'-C4'-C5'-O5'
33	a	1402	4OC	C1'-C2'-O2'-CM2
33	a	1498	UR3	O4'-C1'-N1-C6
33	a	1498	UR3	O4'-C1'-N1-C2
33	a	1518	MA6	O4'-C4'-C5'-O5'
33	a	1518	MA6	C3'-C4'-C5'-O5'
55	w	8	4SU	O4'-C4'-C5'-O5'
55	w	32	PSU	O4'-C1'-C5-C4
55	w	32	PSU	O4'-C1'-C5-C6
55	w	37	MIA	C5-C6-N6-C12
55	w	37	MIA	C12-C13-C14-C16
55	w	39	PSU	C2'-C1'-C5-C4
55	w	39	PSU	O4'-C1'-C5-C4
55	w	39	PSU	O4'-C1'-C5-C6
55	w	46	G7M	O4'-C4'-C5'-O5'
55	w	55	PSU	C2'-C1'-C5-C4
55	w	55	PSU	O4'-C1'-C5-C6
7	A	2552	OMU	O4'-C1'-N1-C2
7	A	1962	5MC	C2'-C1'-N1-C2
7	A	1939	5MU	C3'-C4'-C5'-O5'
7	A	1939	5MU	O4'-C4'-C5'-O5'
7	A	2498	OMC	O4'-C4'-C5'-O5'
7	A	2503	2MA	O4'-C4'-C5'-O5'
7	A	2504	PSU	C3'-C4'-C5'-O5'
55	w	8	4SU	C3'-C4'-C5'-O5'
55	w	46	G7M	C3'-C4'-C5'-O5'
55	w	54	5MU	C3'-C4'-C5'-O5'
7	A	747	5MC	O4'-C4'-C5'-O5'
7	A	1835	2MG	C3'-C4'-C5'-O5'
7	A	2445	2MG	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
7	A	2498	OMC	C3'-C4'-C5'-O5'
33	a	1498	UR3	O4'-C4'-C5'-O5'
55	w	54	5MU	O4'-C4'-C5'-O5'
7	A	2552	OMU	O4'-C1'-N1-C6
55	w	37	MIA	N1-C6-N6-C12
7	A	1835	2MG	O4'-C4'-C5'-O5'
7	A	2552	OMU	C3'-C4'-C5'-O5'
33	a	1498	UR3	C3'-C4'-C5'-O5'
7	A	2030	6MZ	O4'-C4'-C5'-O5'
7	A	2552	OMU	O4'-C4'-C5'-O5'
7	A	2604	PSU	O4'-C4'-C5'-O5'
33	a	527	G7M	O4'-C4'-C5'-O5'
55	w	55	PSU	O4'-C4'-C5'-O5'
55	w	55	PSU	C3'-C4'-C5'-O5'
33	a	1519	MA6	C5-C6-N6-C10
7	A	2030	6MZ	C4'-C5'-O5'-P
55	w	37	MIA	C4'-C5'-O5'-P
7	A	2503	2MA	C3'-C4'-C5'-O5'
7	A	2552	OMU	C1'-C2'-O2'-CM2
7	A	1962	5MC	O4'-C1'-N1-C2
55	w	46	G7M	C4'-C5'-O5'-P
33	a	527	G7M	C4'-C5'-O5'-P
33	a	1519	MA6	C4'-C5'-O5'-P
7	A	1962	5MC	O4'-C1'-N1-C6
7	A	747	5MC	C4'-C5'-O5'-P
55	w	54	5MU	C4'-C5'-O5'-P
7	A	746	PSU	O4'-C1'-C5-C4
55	w	55	PSU	O4'-C1'-C5-C4
7	A	1618	6MZ	C5-C6-N6-C9
7	A	2030	6MZ	C5-C6-N6-C9
7	A	746	PSU	O4'-C1'-C5-C6
7	A	2498	OMC	C2'-C1'-N1-C2
7	A	1618	6MZ	C3'-C4'-C5'-O5'
7	A	2069	G7M	O4'-C4'-C5'-O5'
7	A	2498	OMC	C2'-C1'-N1-C6

There are no ring outliers.

21 monomers are involved in 35 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	A	2251	OMG	1	0
7	A	745	1MG	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	A	2604	PSU	1	0
33	a	1518	MA6	4	0
7	A	1915	3TD	5	0
55	w	55	PSU	1	0
7	A	2503	2MA	2	0
7	A	746	PSU	1	0
55	w	37	MIA	1	0
7	A	955	PSU	1	0
55	w	8	4SU	2	0
7	A	2030	6MZ	2	0
33	a	1407	5MC	1	0
7	A	2457	PSU	3	0
7	A	2504	PSU	1	0
33	a	1402	4OC	2	0
7	A	2552	OMU	2	0
7	A	2498	OMC	1	0
33	a	516	PSU	1	0
7	A	2580	PSU	1	0
7	A	2445	2MG	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 358 ligands modelled in this entry, 358 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

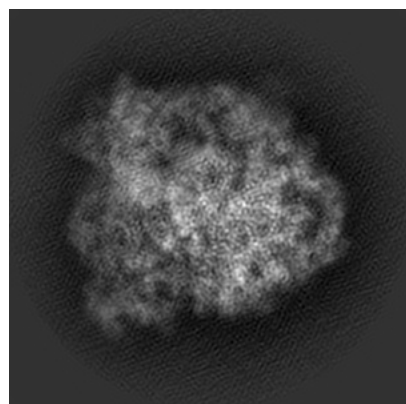
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10908. These allow visual inspection of the internal detail of the map and identification of artifacts.

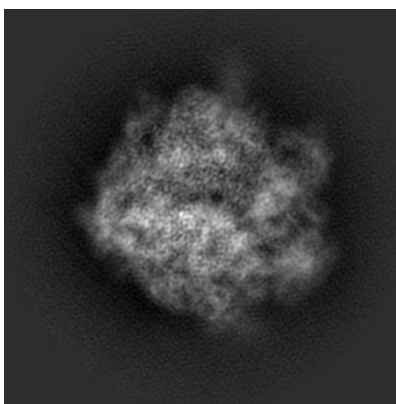
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

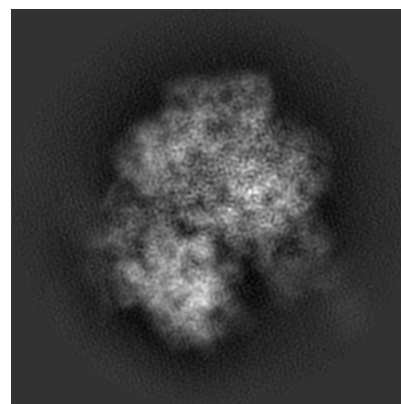
6.1.1 Primary map



X

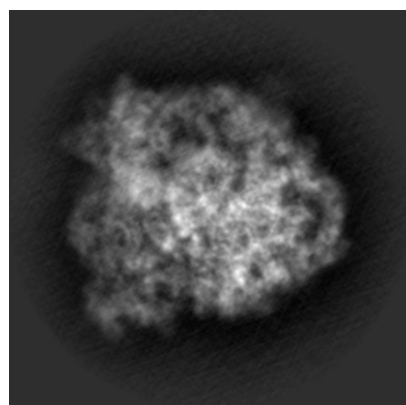


Y

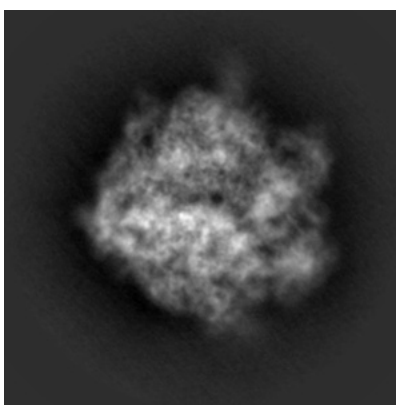


Z

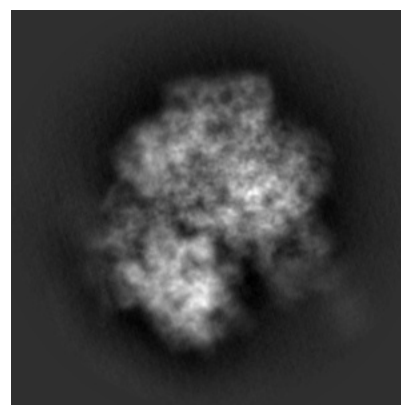
6.1.2 Raw map



X



Y

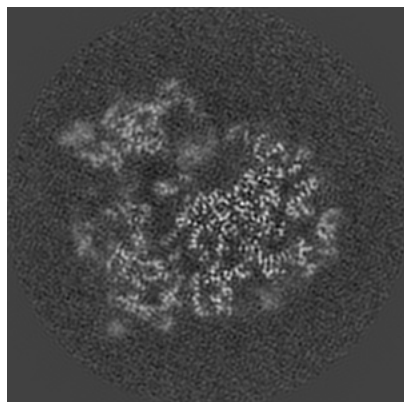


Z

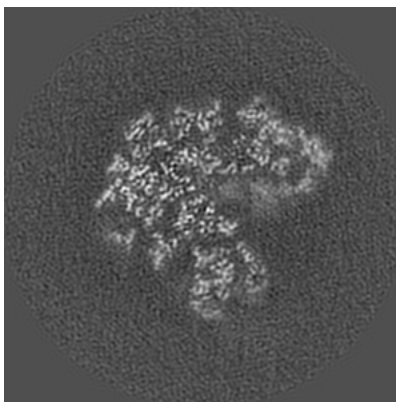
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

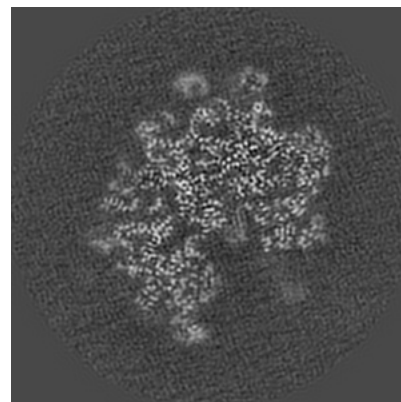
6.2.1 Primary map



X Index: 162

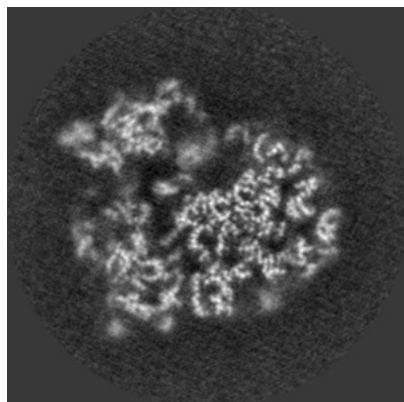


Y Index: 162

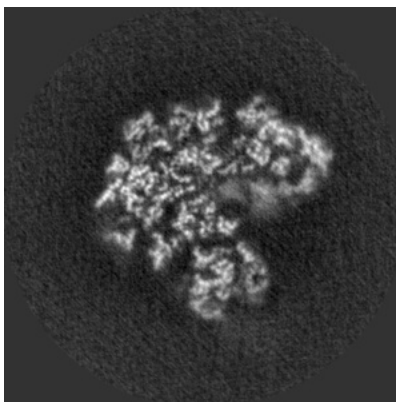


Z Index: 162

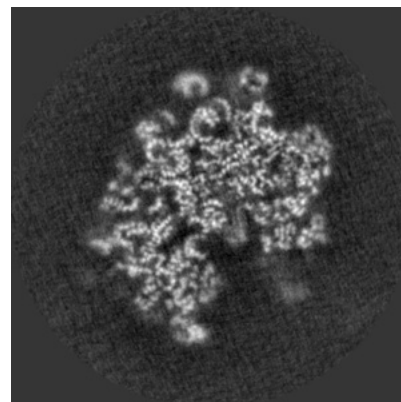
6.2.2 Raw map



X Index: 162



Y Index: 162

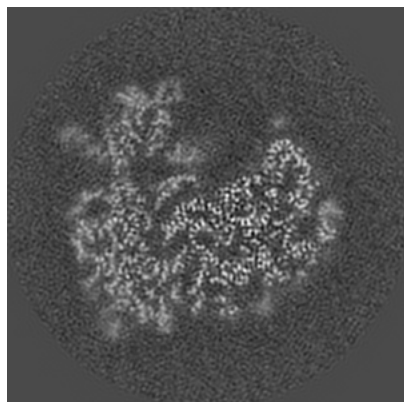


Z Index: 162

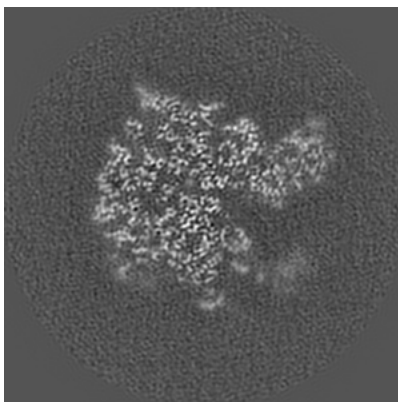
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

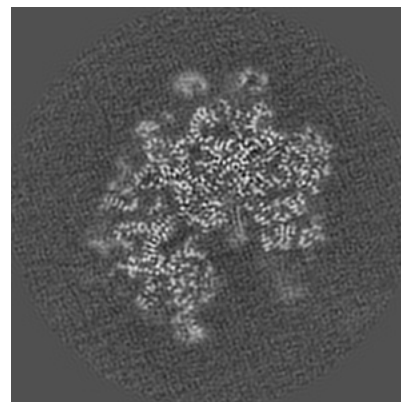
6.3.1 Primary map



X Index: 156

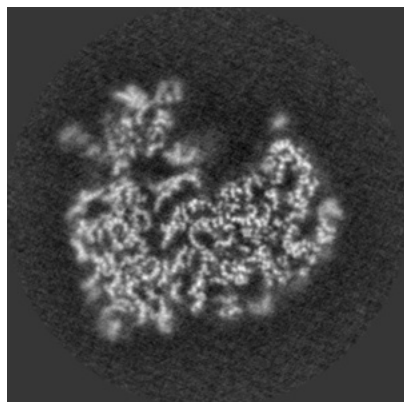


Y Index: 180

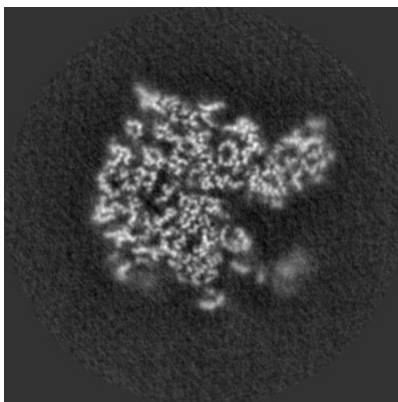


Z Index: 163

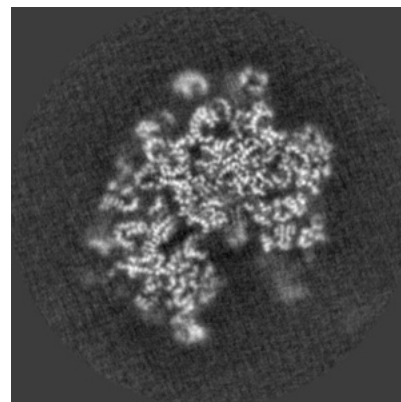
6.3.2 Raw map



X Index: 155



Y Index: 180

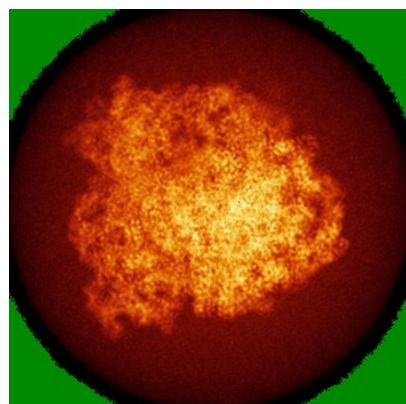


Z Index: 163

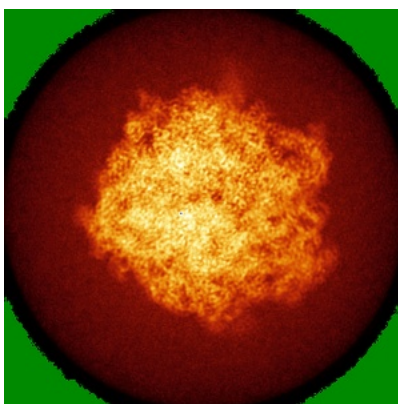
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

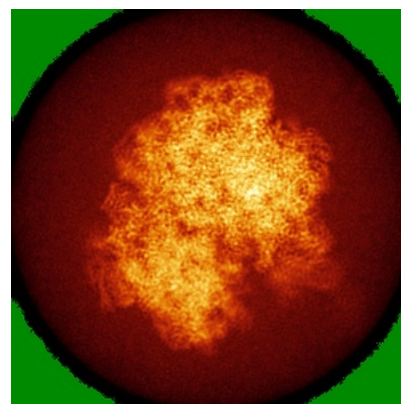
6.4.1 Primary map



X

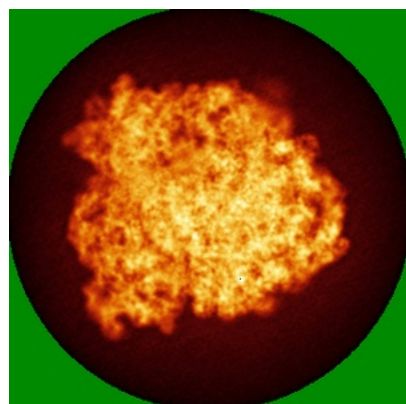


Y

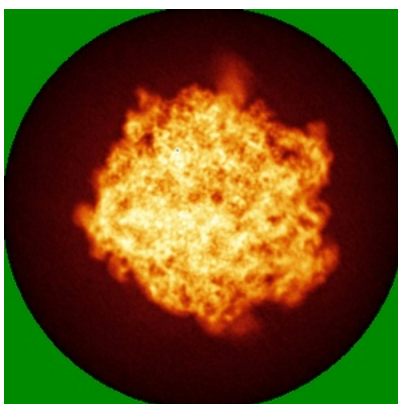


Z

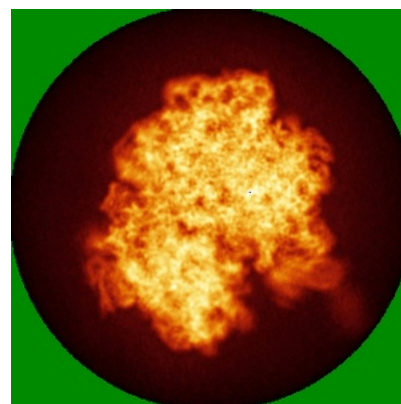
6.4.2 Raw map



X



Y

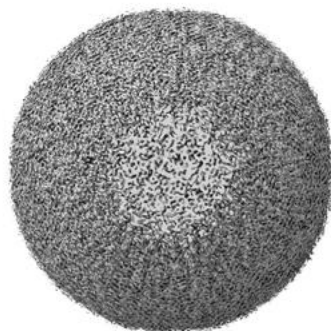


Z

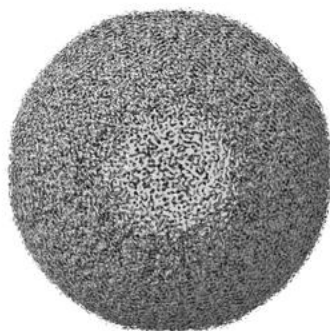
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

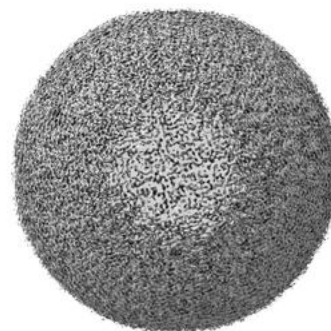
6.5.1 Primary map



X



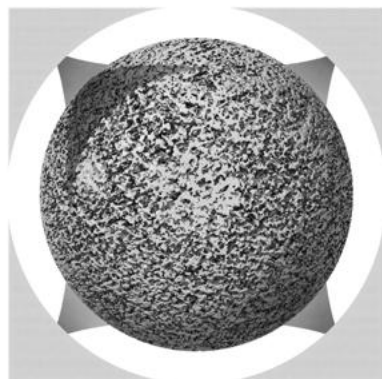
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

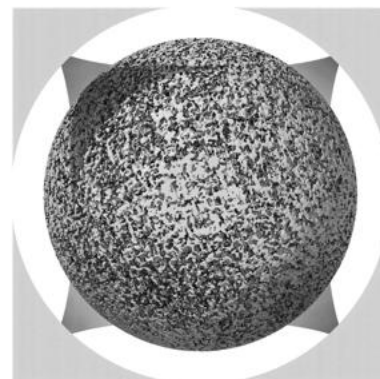
6.5.2 Raw map



X



Y



Z

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

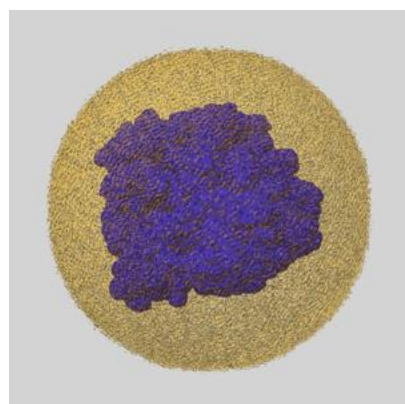
6.6 Mask visualisation [i](#)

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

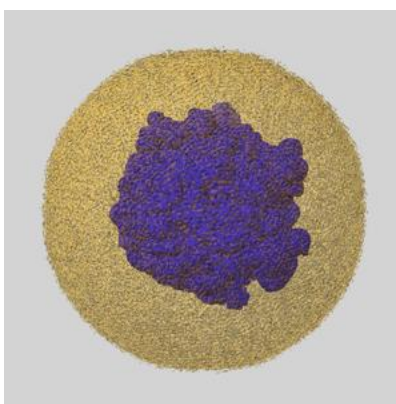
A mask typically either:

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

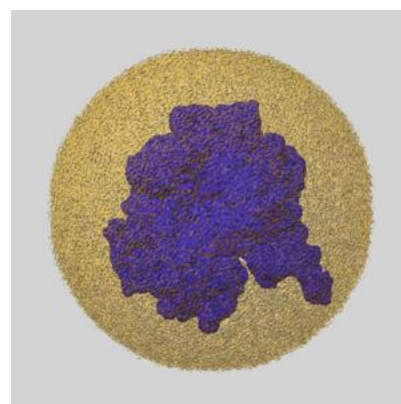
6.6.1 emd_10908_msk_1.map [i](#)



X



Y

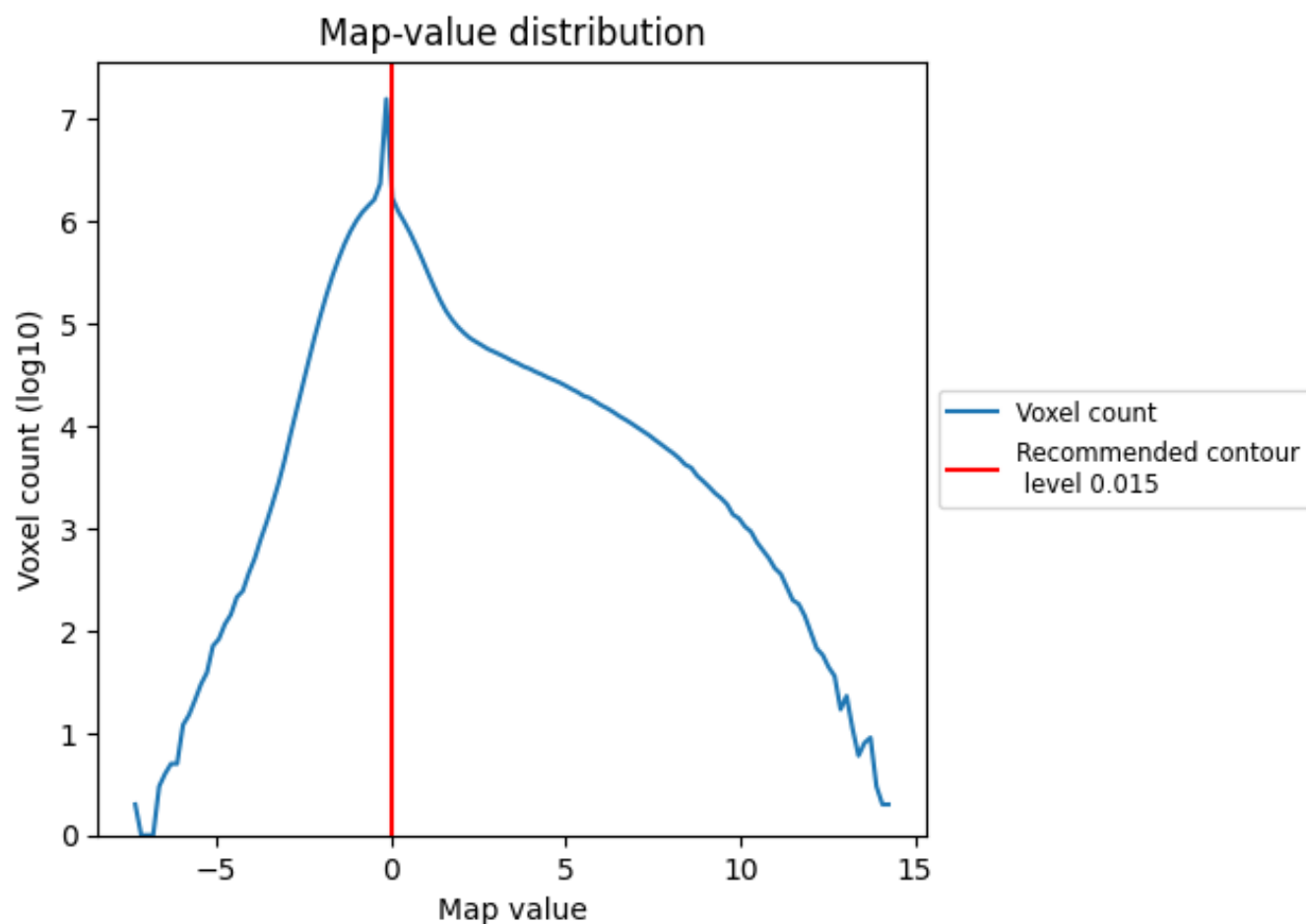


Z

7 Map analysis [i](#)

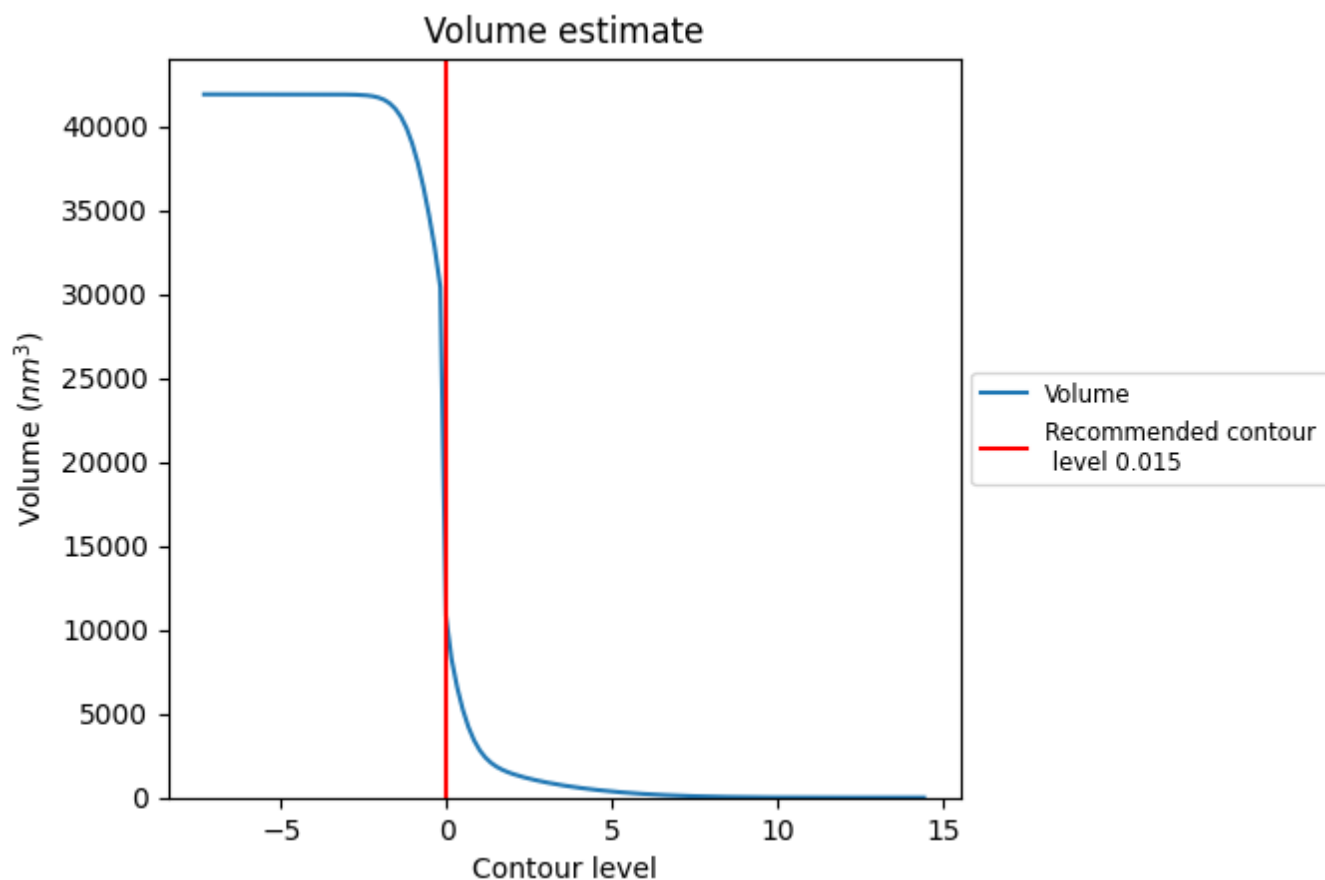
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

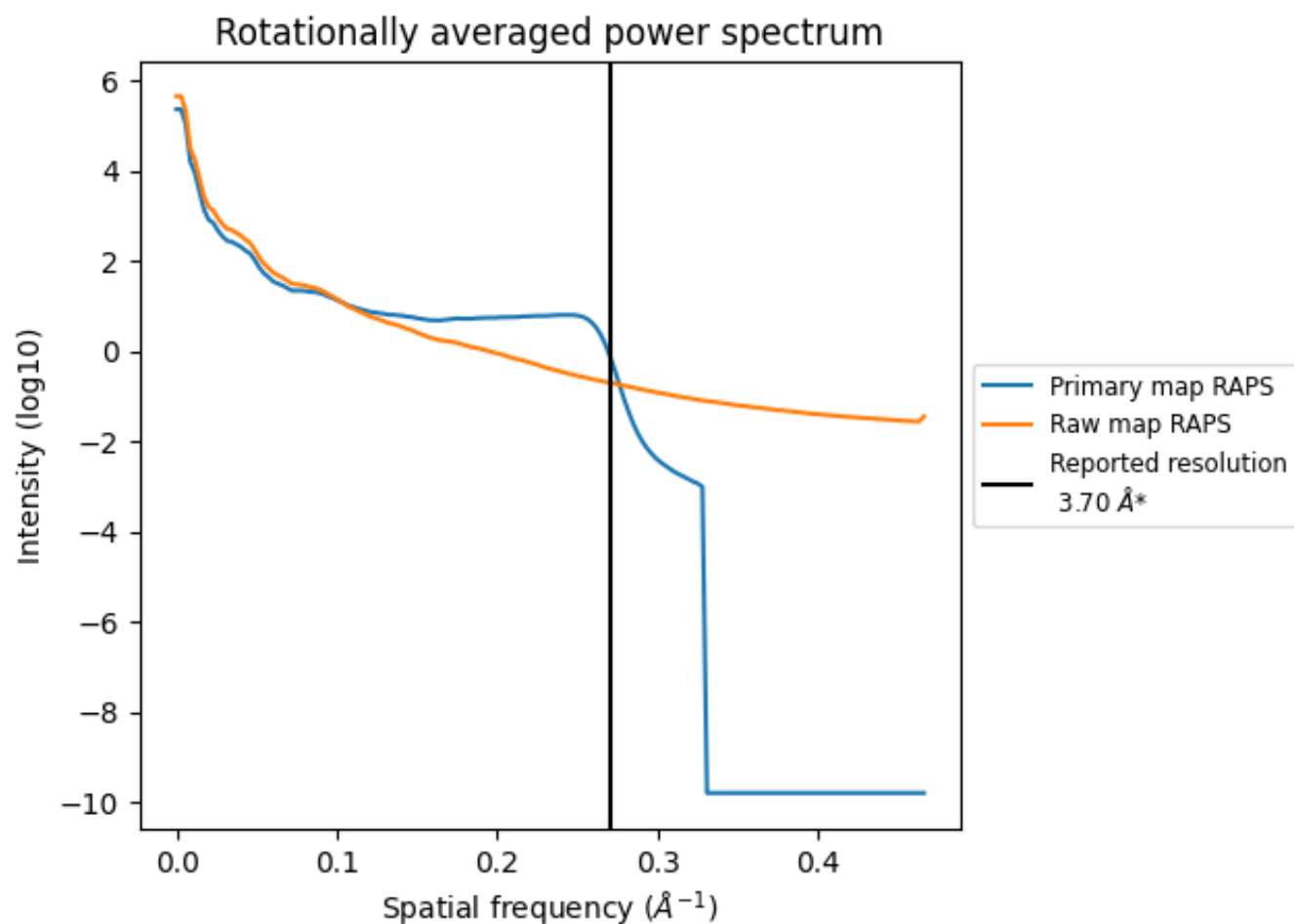
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 10367 nm^3 ; this corresponds to an approximate mass of 9365 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 ⓘ

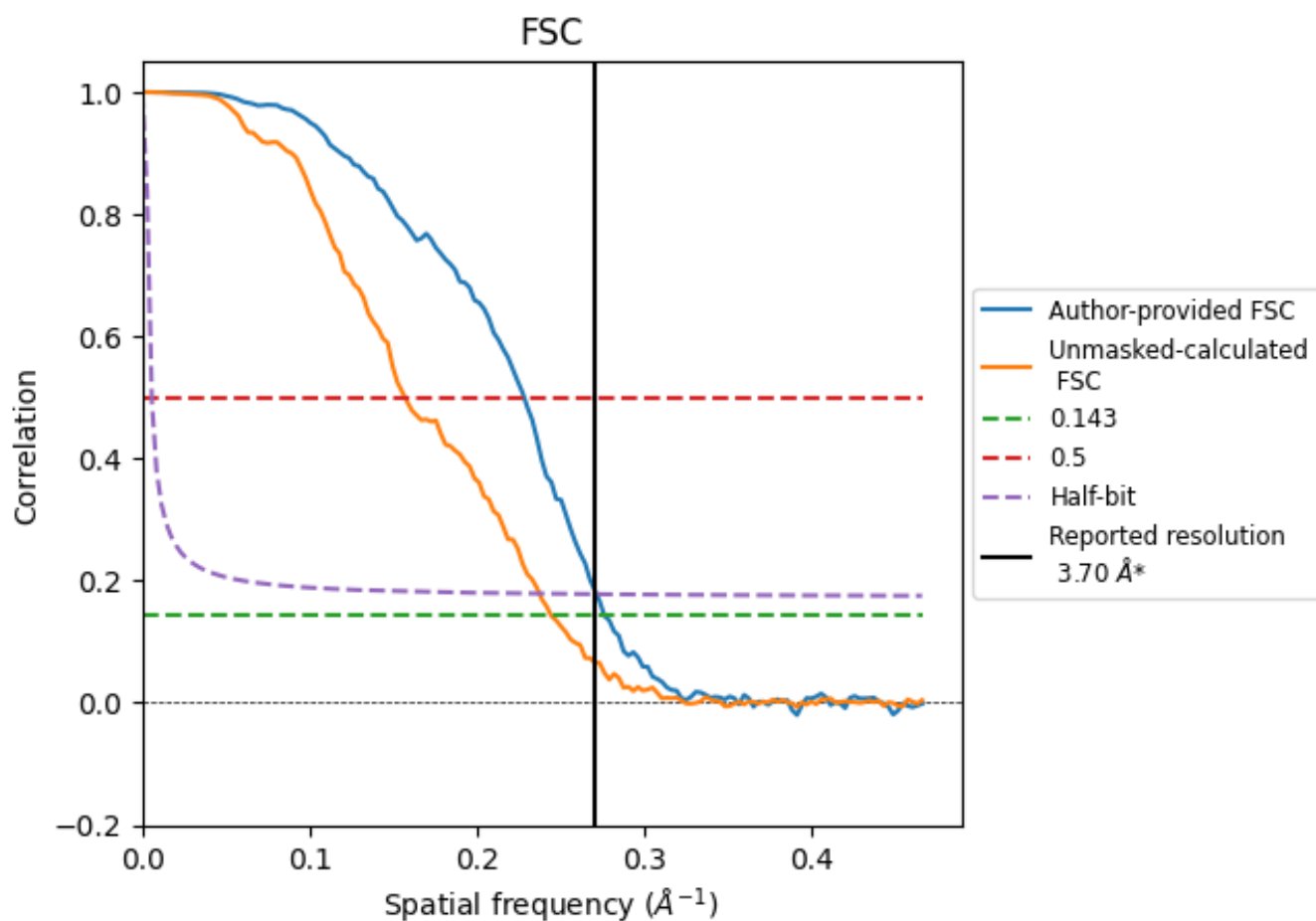


*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of $0.270 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

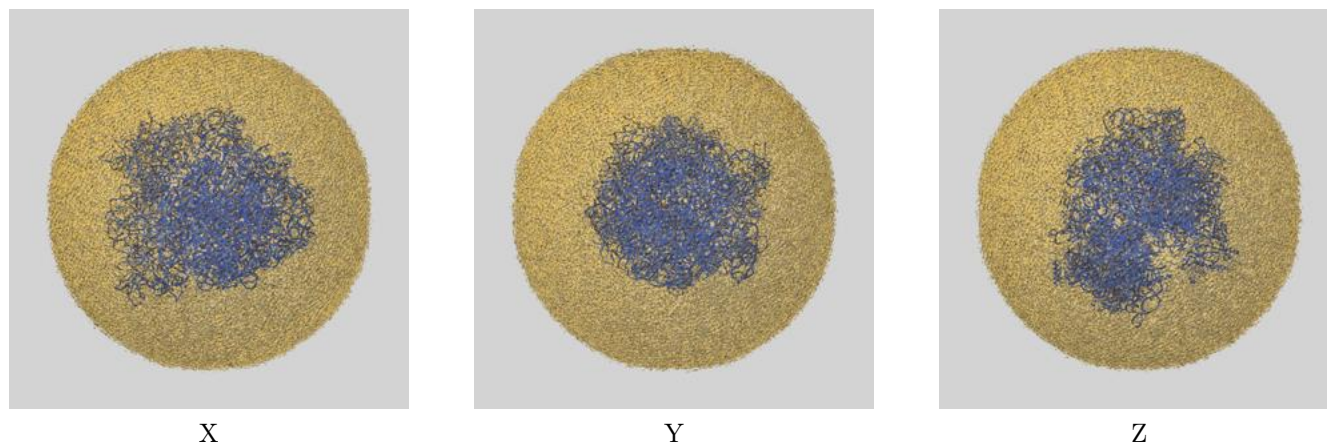
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.62	4.38	3.68
Unmasked-calculated*	4.09	6.37	4.21

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.09 differs from the reported value 3.7 by more than 10 %

9 Map-model fit [i](#)

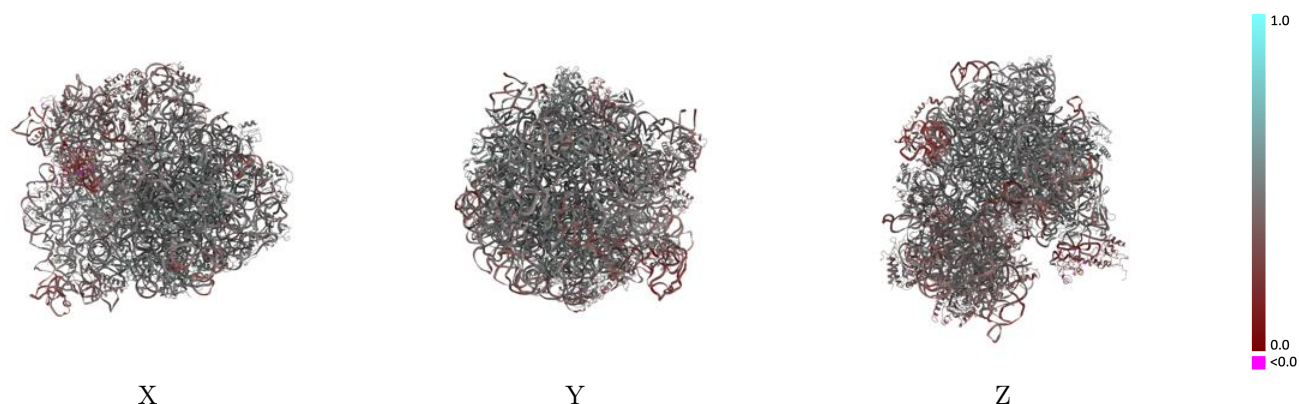
This section contains information regarding the fit between EMDB map EMD-10908 and PDB model 6YSU. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)



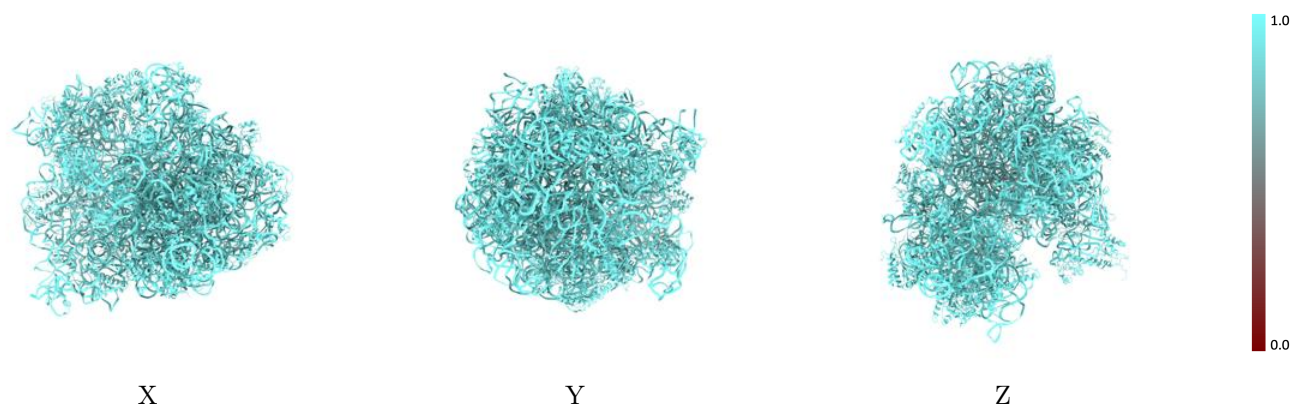
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



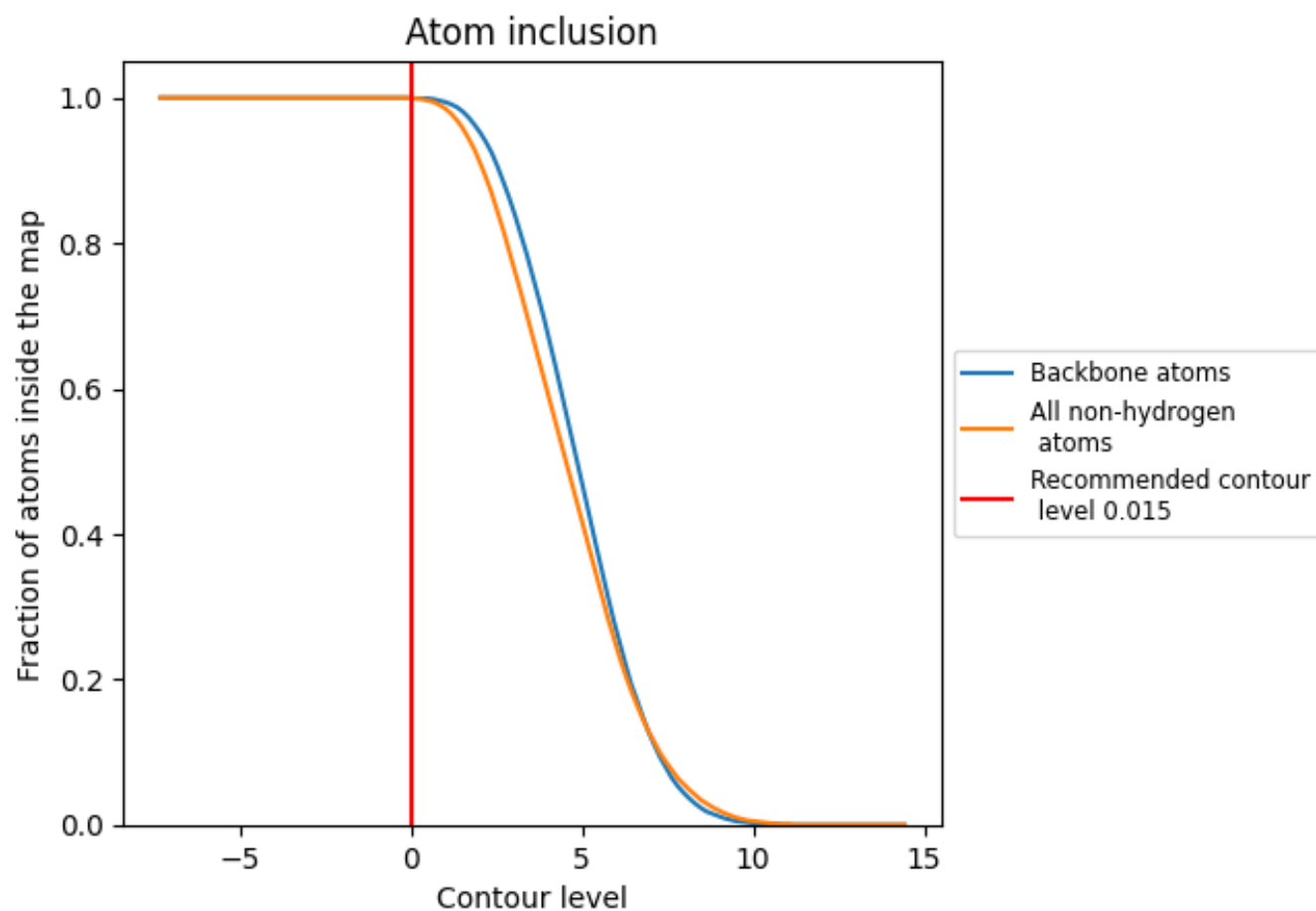
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.015).

9.4 Atom inclusion [i](#)



At the recommended contour level, 100% of all backbone atoms, 100% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9990	 0.4460
0	 1.0000	 0.5050
1	 0.9950	 0.4970
2	 0.9970	 0.5250
3	 0.9980	 0.5170
4	 1.0000	 0.5120
5	 1.0000	 0.2850
A	 1.0000	 0.4500
B	 1.0000	 0.4160
C	 0.9980	 0.5170
D	 0.9990	 0.5070
E	 1.0000	 0.4880
F	 1.0000	 0.3980
G	 1.0000	 0.4570
H	 0.9980	 0.3960
I	 0.9970	 0.2800
J	 0.9980	 0.5100
K	 0.9990	 0.5110
L	 0.9970	 0.4980
M	 0.9970	 0.5030
N	 0.9990	 0.5050
O	 1.0000	 0.4360
P	 1.0000	 0.5050
Q	 1.0000	 0.5010
R	 1.0000	 0.5000
S	 0.9980	 0.5050
T	 1.0000	 0.4930
U	 0.9990	 0.4640
V	 0.9990	 0.4740
W	 1.0000	 0.5200
X	 0.9950	 0.4990
Y	 1.0000	 0.4320
Z	 1.0000	 0.4980
a	 1.0000	 0.4270
b	 0.9960	 0.4300



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Chain	Atom inclusion	Q-score
c	 0.9980	 0.4500
d	 0.9990	 0.4480
e	 0.9980	 0.4820
f	 0.9990	 0.4410
g	 0.9990	 0.3910
h	 0.9990	 0.4810
i	 0.9980	 0.4130
j	 0.9960	 0.4000
k	 0.9980	 0.4630
l	 0.9980	 0.4920
m	 1.0000	 0.4030
n	 1.0000	 0.4340
o	 1.0000	 0.4570
p	 1.0000	 0.4610
q	 0.9980	 0.4560
r	 1.0000	 0.4780
s	 1.0000	 0.4230
t	 0.9990	 0.4400
u	 1.0000	 0.4180
v	 1.0000	 0.4260
w	 0.9950	 0.3300
x	 1.0000	 0.4530
y	 0.9880	 0.4320