Full wwPDB EM Validation Report ⓘ

Jul 3, 2025 – 03:25 am BST

PDB ID	:	6HD7 / pdb_00006hd7
EMDB ID	:	EMD-0202
Title	:	Cryo-EM structure of the ribosome-NatA complex
Authors	:	Knorr, A.G.; Becker, T.; Beckmann, R.
Deposited on	:	2018-08-17
Resolution	:	3.40 Å(reported)

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:

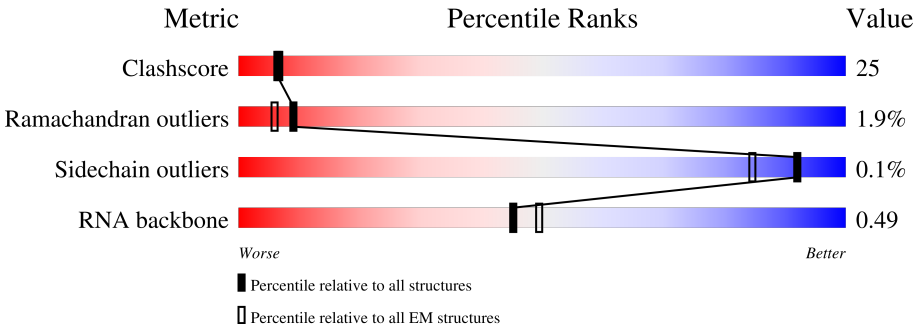
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

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 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	1	3396	37% 48% 13%
2	3	121	40% 47% 12%
3	4	158	39% 49% 12%
4	A	76	42% 39% 18%
5	B	77	35% 52% 13%
6	C	106	75% 25%
7	D	92	76% 23%

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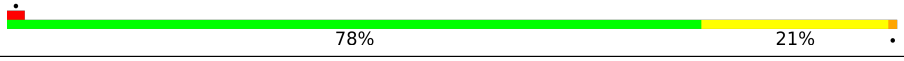
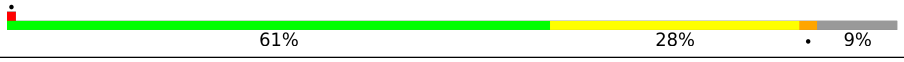
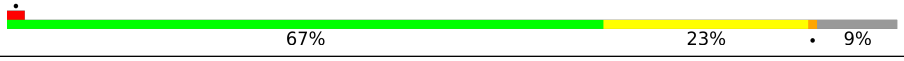
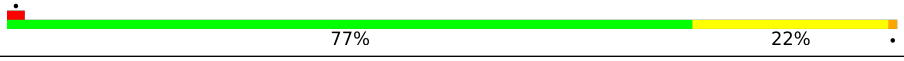
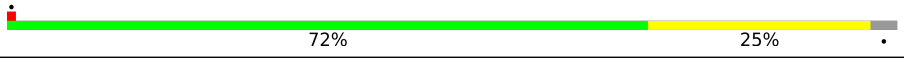
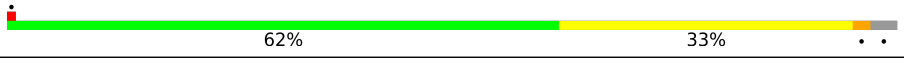
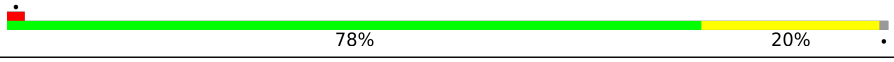
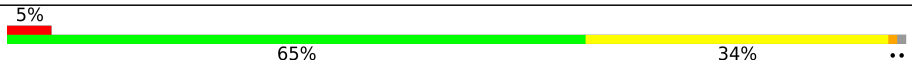
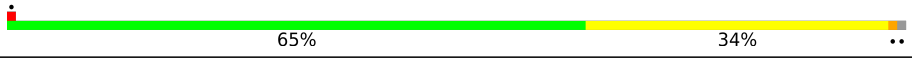
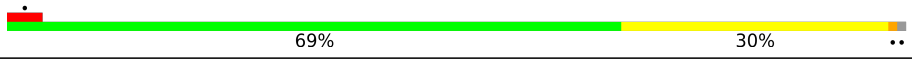
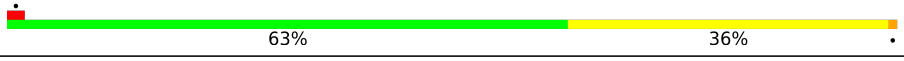
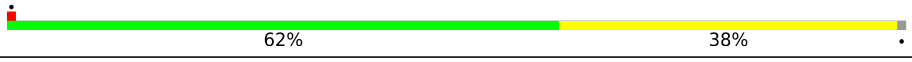
Mol	Chain	Length	Quality of chain
8	E	254	
9	F	387	
10	G	362	
11	H	297	
12	I	176	
13	J	244	
14	K	256	
15	L	191	
16	M	174	
17	N	199	
18	O	138	
19	P	204	
20	Q	199	
21	R	184	
22	S	186	
23	T	189	
24	U	172	
25	V	160	
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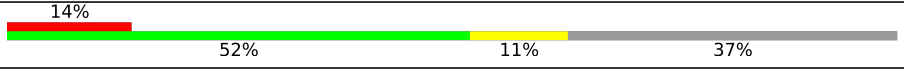
27	X	137	
28	Y	155	
29	Z	142	
30	a	127	
31	b	136	
32	c	149	

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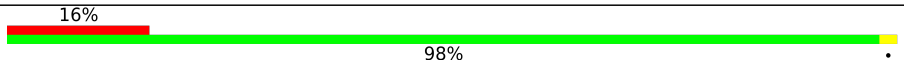
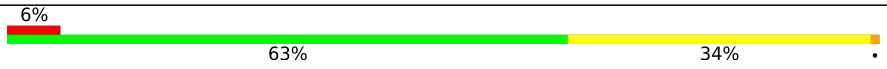
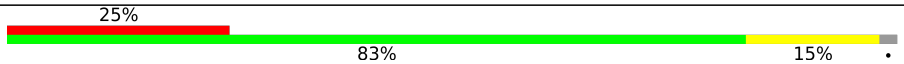
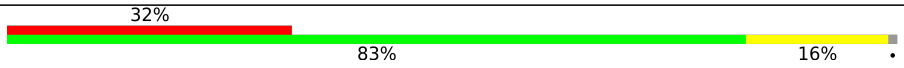
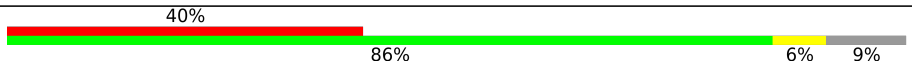
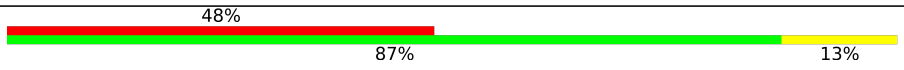
Mol	Chain	Length	Quality of chain
33	d	59	
34	e	105	
35	f	109	
36	g	130	
37	h	107	
38	i	121	
39	j	120	
40	k	100	
41	l	88	
42	m	78	
43	n	51	
44	o	128	
45	p	25	
46	r	210	
47	s	221	
48	t	854	
49	u	238	
50	v	176	
51	z	23	

2 Entry composition

There are 52 unique types of molecules in this entry. The entry contains 141153 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called Saccharomyces cerevisiae S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	3335	71309	31846	12813	23315	3335	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	3	121	2579	1152	461	845	121	0	0

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	4	158	3353	1500	586	1109	158	0	0

- Molecule 4 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	A	76	1611	721	281	534	75	0	0

- Molecule 5 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	B	77	1644	731	290	546	77	0	0

- Molecule 6 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	105	847	534	170	138	5	0	0

- Molecule 7 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 8 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	252	Total	C	N	O	S	0	0
			1914	1191	388	334	1		

- Molecule 9 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 10 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 11 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 12 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 13 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 14 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 15 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 16 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	M	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 17 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	N	193	Total	C	N	O	0	0
			1543	962	315	266		

- Molecule 18 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	O	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 19 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	P	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 20 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Q	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 21 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	R	183	Total	C	N	O	0	0
			1420	882	281	257		

- Molecule 22 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 23 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	T	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 24 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	U	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 25 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	V	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 26 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	W	100	Total	C	N	O	0	0
			796	516	131	149		

- Molecule 27 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	X	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 28 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Y	98	Total	C	N	O	S	0	0
			699	443	137	118	1		

- Molecule 29 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Z	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 30 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	a	126	Total	C	N	O	0	0
			993	625	192	176		

- Molecule 31 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	b	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 32 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	c	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 33 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	d	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 34 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	e	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 35 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	f	109	Total 876	C 556	N 167	O 152	S 1	0	0

- Molecule 36 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	g	127	Total 1020	C 647	N 205	O 167	S 1	0	0

- Molecule 37 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	h	106	Total 850	C 540	N 165	O 144	S 1	0	0

- Molecule 38 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	i	112	Total 880	C 545	N 179	O 152	S 4	0	0

- Molecule 39 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	j	119	Total 969	C 615	N 186	O 167	S 1	0	0

- Molecule 40 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	k	99	Total 771	C 481	N 156	O 132	S 2	0	0

- Molecule 41 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	l	87	Total 681	C 414	N 148	O 114	S 5	0	0

- Molecule 42 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	m	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 43 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	n	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 44 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	o	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 45 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	p	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 46 is a protein called ribosomal protein RPL1.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	r	210	Total	C	N	O	0	0
			1050	630	210	210		

- Molecule 47 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	s	220	Total	C	N	O	S	0	0
			1770	1121	335	307	7		

- Molecule 48 is a protein called N-terminal acetyltransferase A complex subunit NAT1.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	t	838	Total	C	N	O	S	1	0
			6650	4265	1117	1246	22		

- Molecule 49 is a protein called N-terminal acetyltransferase A complex catalytic subunit ARD1.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	u	235	Total	C	N	O	S	0	0
			1798	1128	316	343	11		

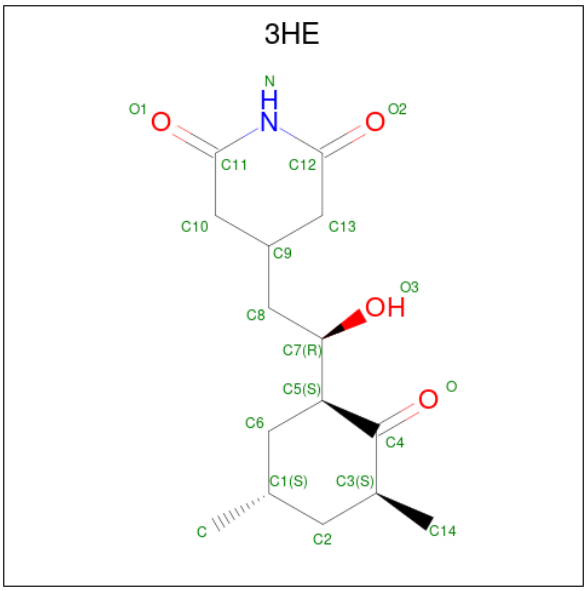
- Molecule 50 is a protein called N-alpha-acetyltransferase NAT5.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	v	161	Total	C	N	O	S	0	0
			1259	816	210	228	5		

- Molecule 51 is a protein called nascent polypeptide chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	z	23	Total	C	N	O	0	0
			115	69	23	23		

- Molecule 52 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (CCD ID: 3HE) (formula: $C_{15}H_{23}NO_4$).



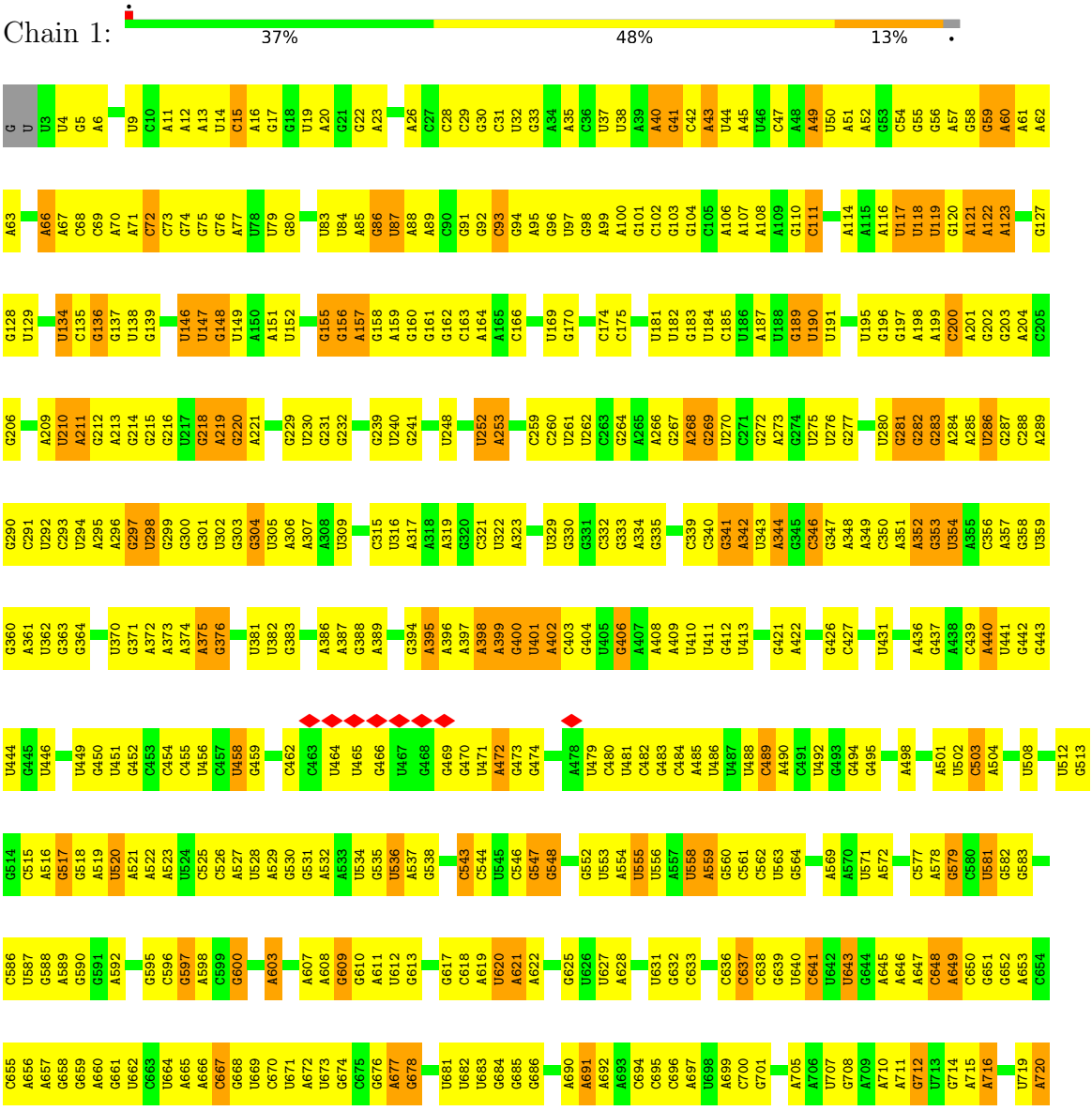
Mol	Chain	Residues	Atoms				AltConf
52	1	1	Total	C	N	O	0
			20	15	1	4	

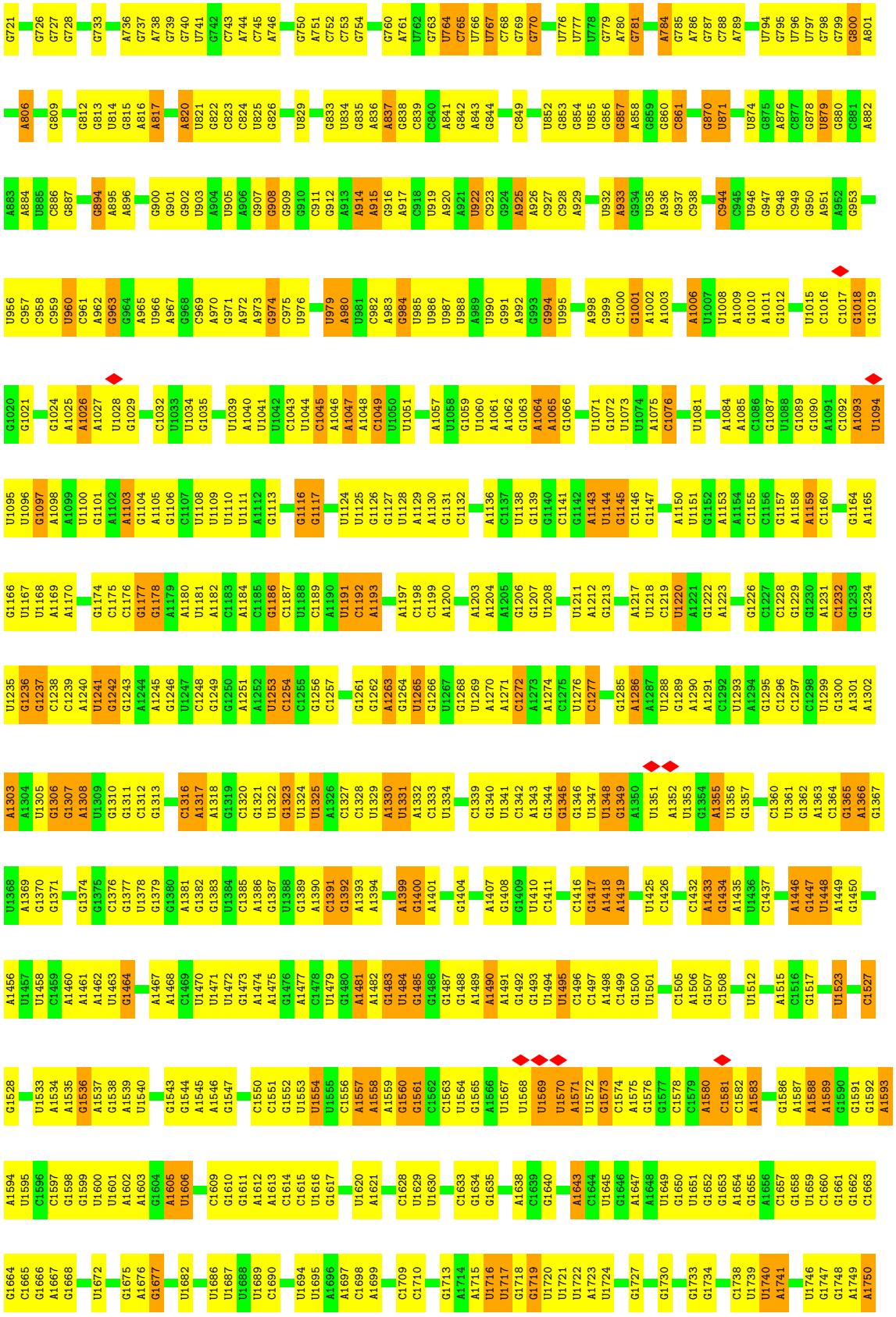
3 Residue-property plots (i)

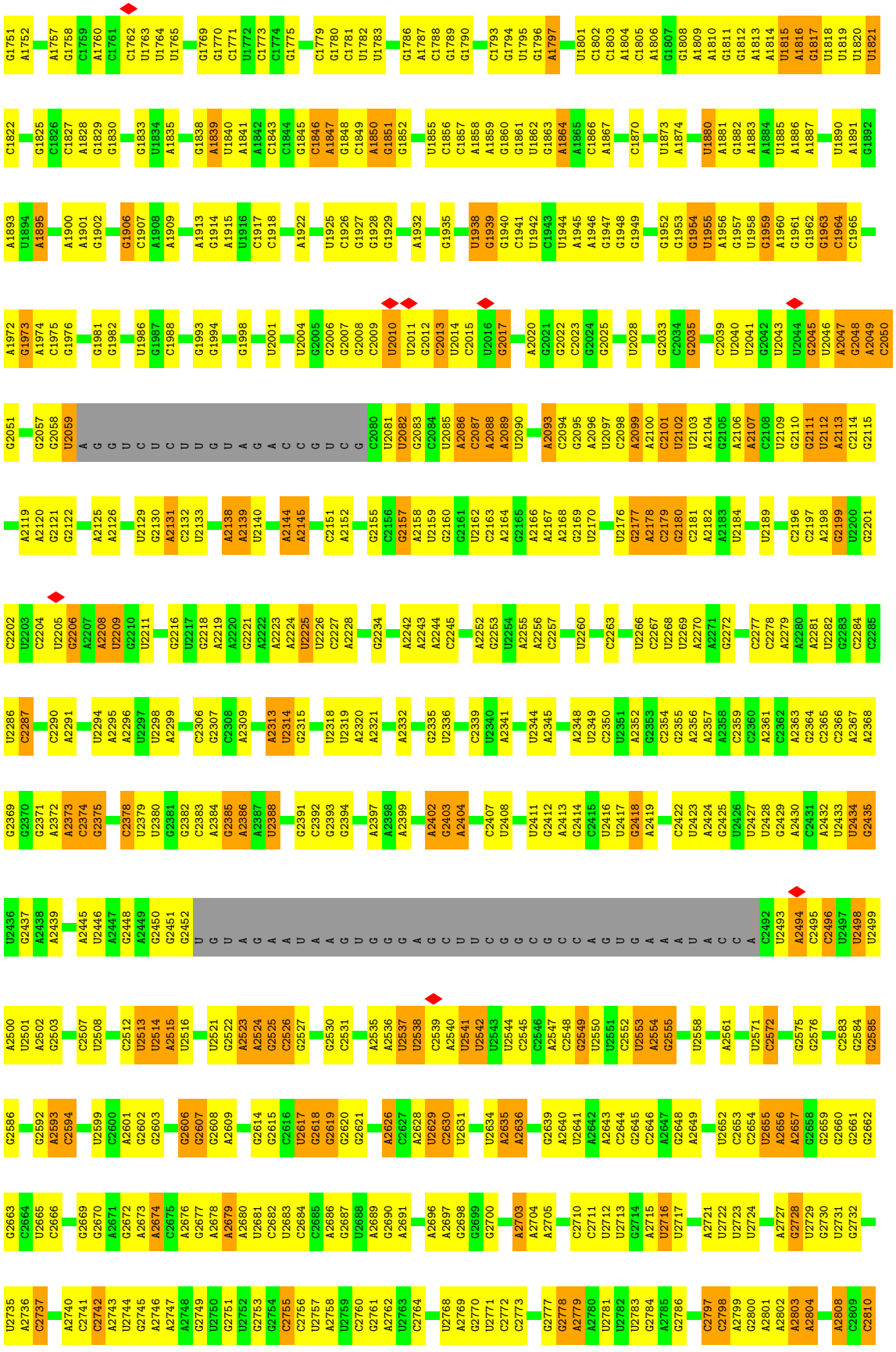
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

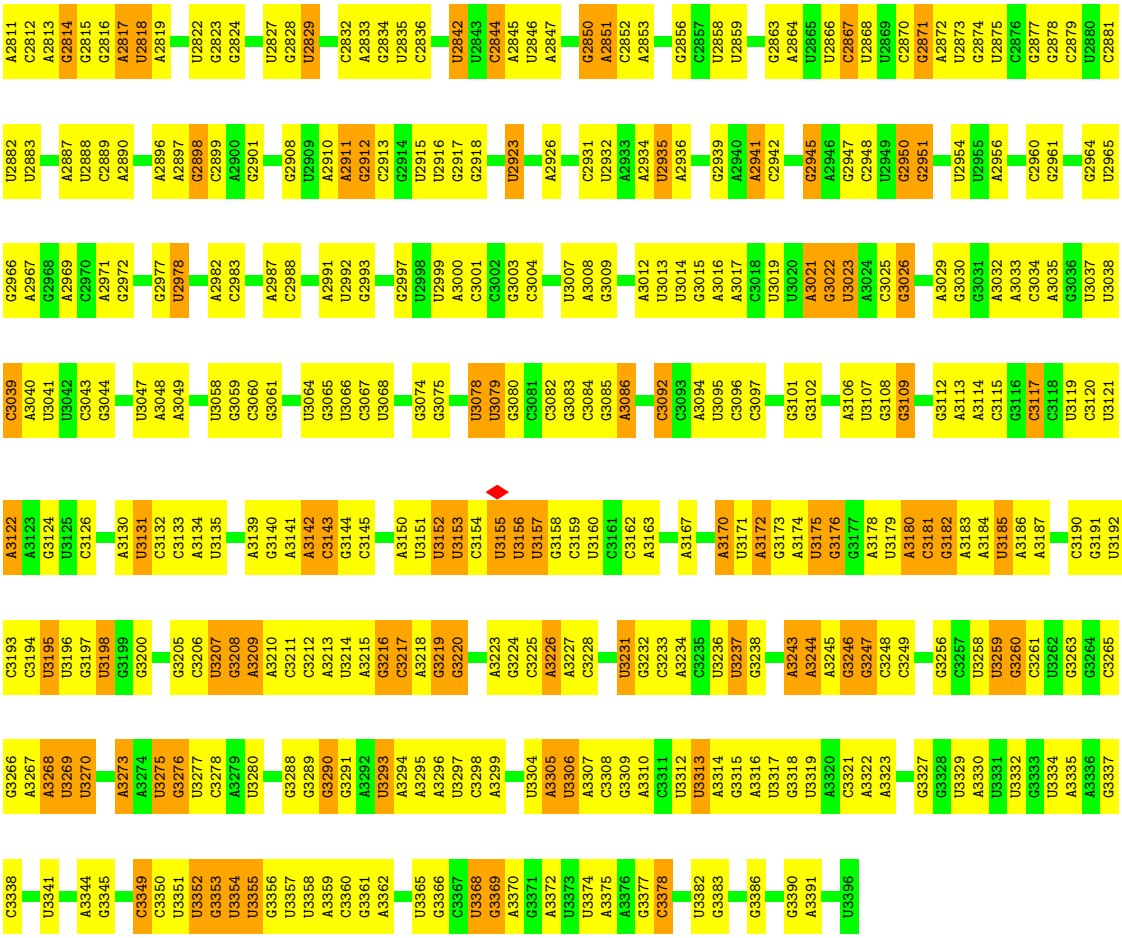
• Molecule 1: Saccharomyces cerevisiae S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA

Chain 1:



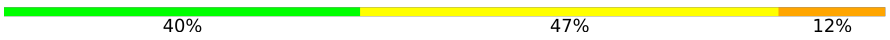


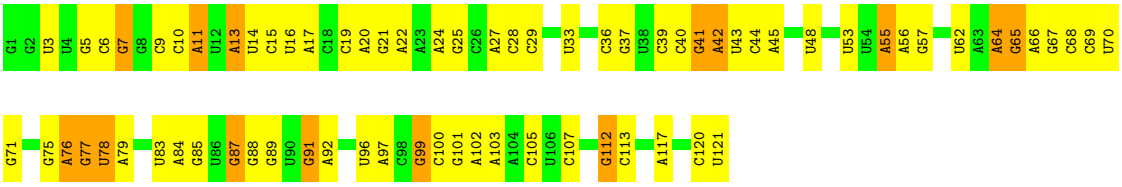




• Molecule 2: 5S rRNA

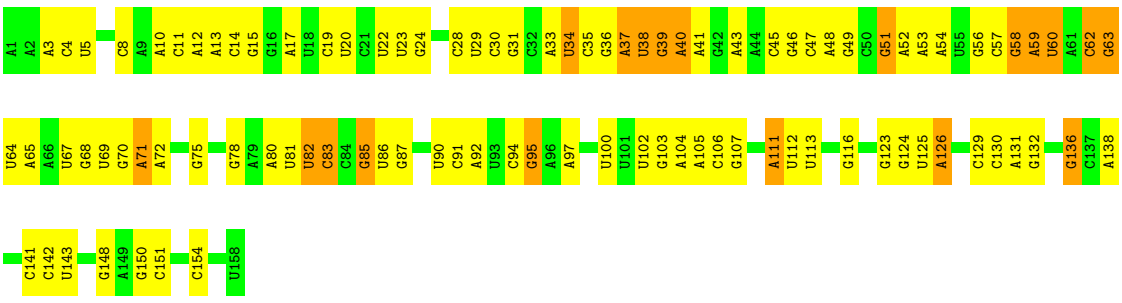
Chain 3:





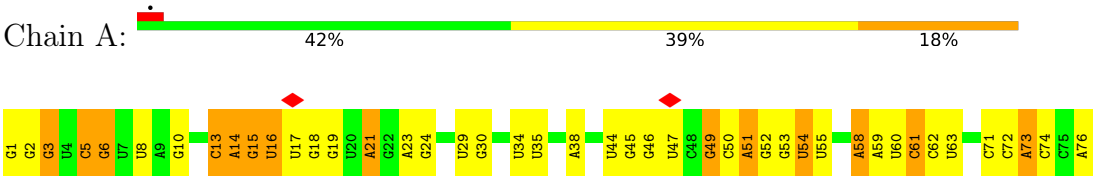
• Molecule 3: 5.8S rRNA

Chain 4:



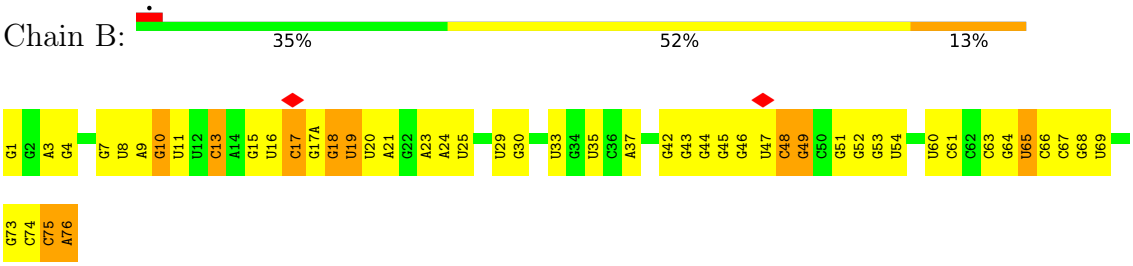
• Molecule 4: tRNA

Chain A:



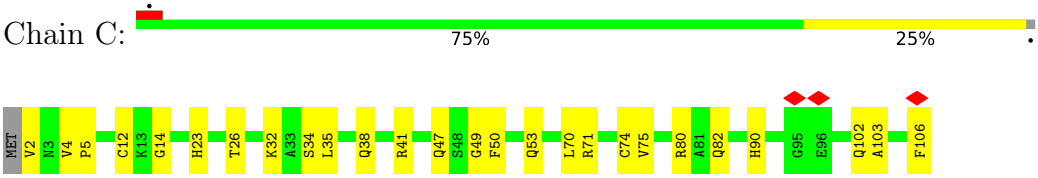
• Molecule 5: P-site tRNA

Chain B:



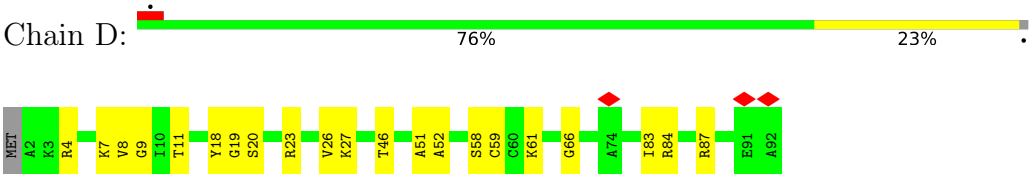
• Molecule 6: 60S ribosomal protein L42-A

Chain C:



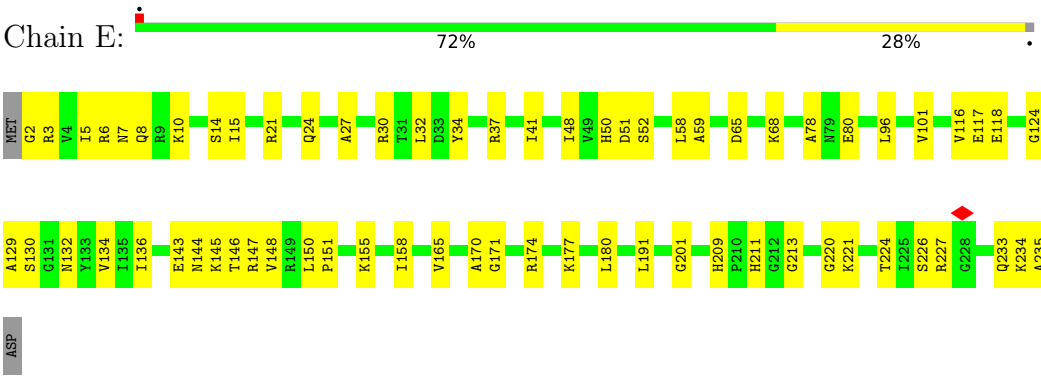
• Molecule 7: 60S ribosomal protein L43-A

Chain D:



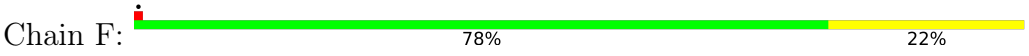
• Molecule 8: 60S ribosomal protein L2-A

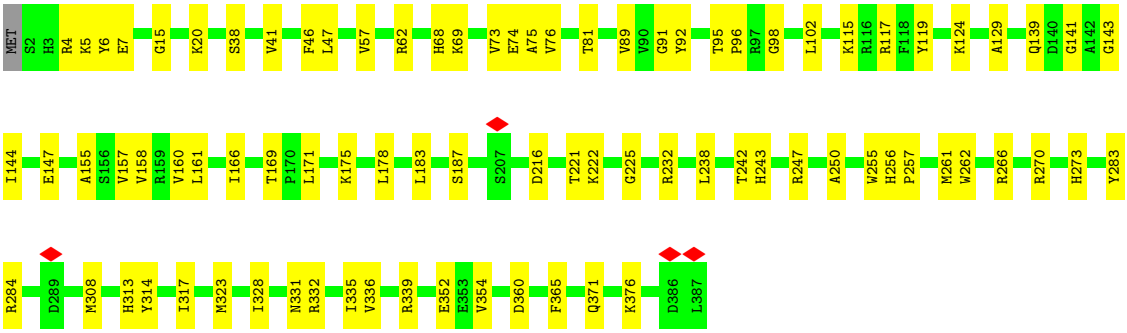
Chain E:



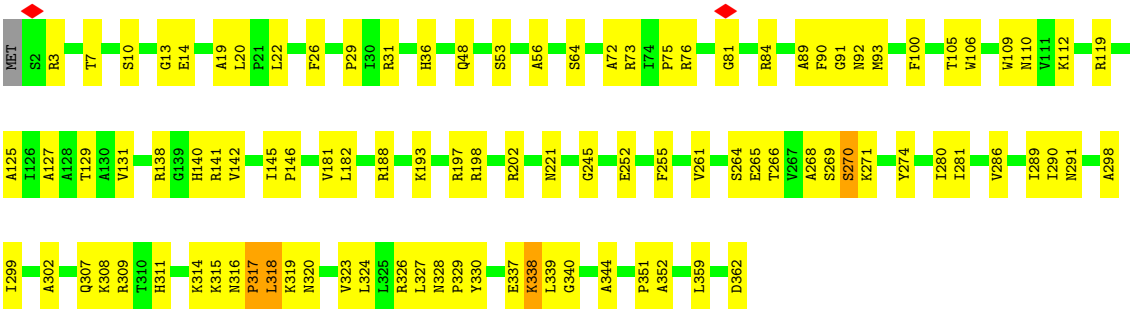
• Molecule 9: 60S ribosomal protein L3

Chain F:

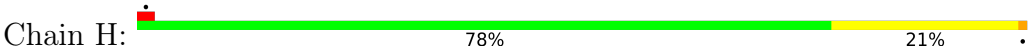


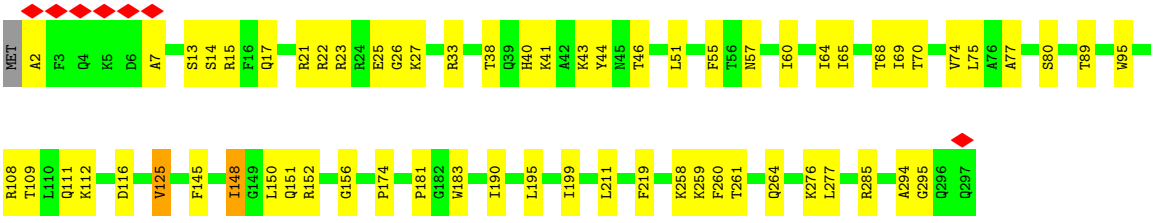


• Molecule 10: 60S ribosomal protein L4-A

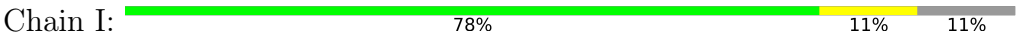


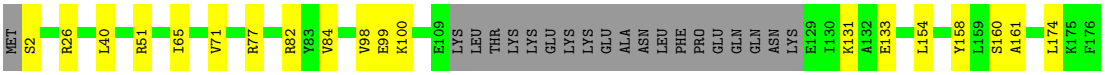
• Molecule 11: 60S ribosomal protein L5



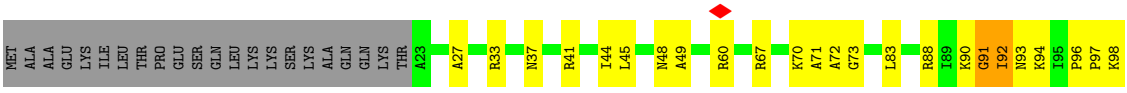


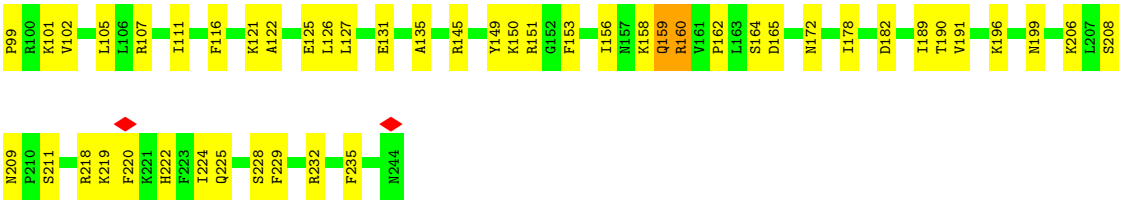
• Molecule 12: 60S ribosomal protein L6-A



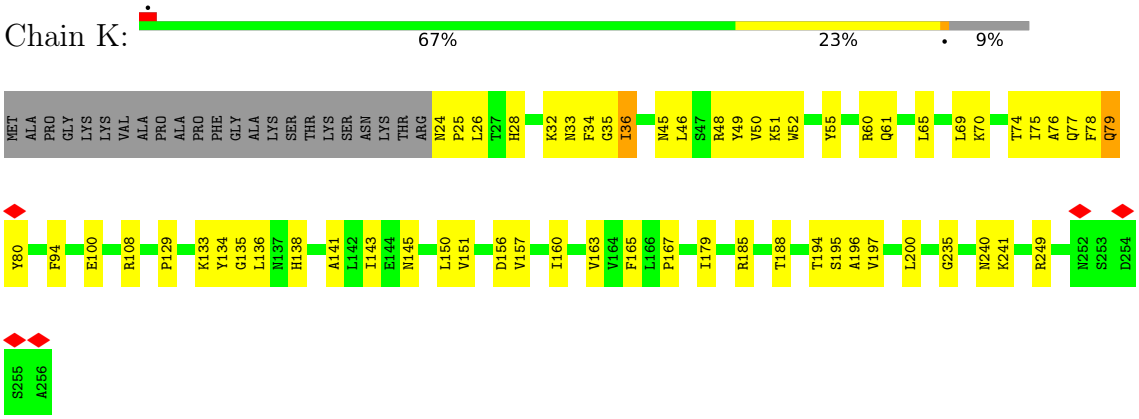


• Molecule 13: 60S ribosomal protein L7-A

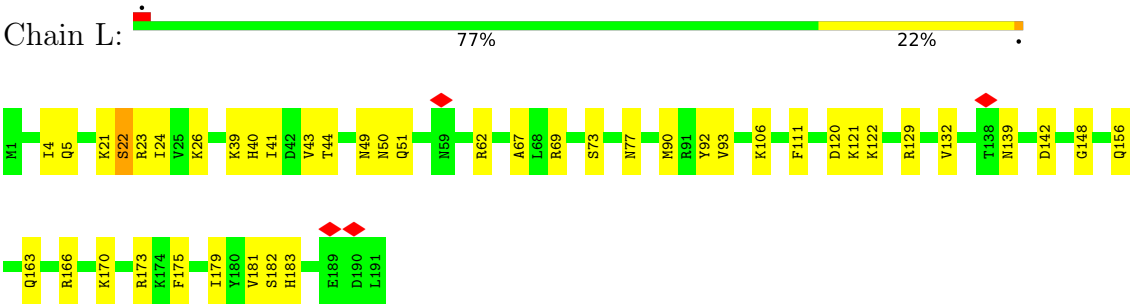




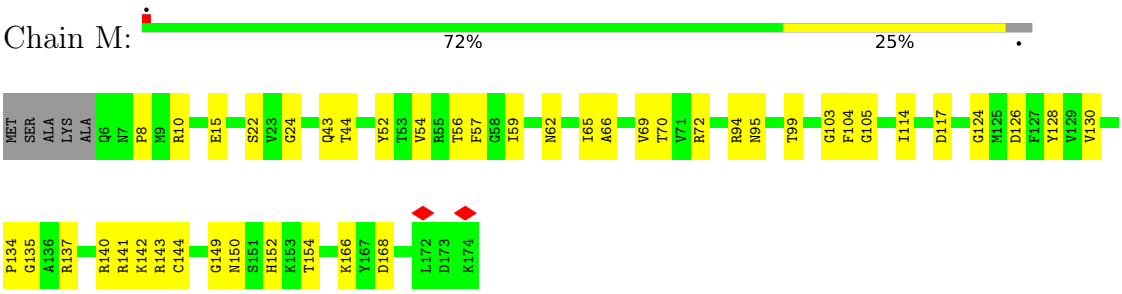
• Molecule 14: 60S ribosomal protein L8-A



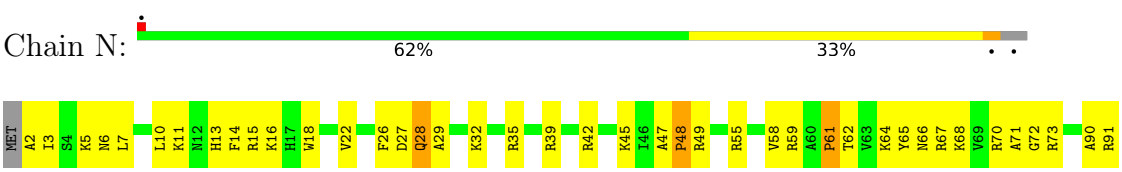
• Molecule 15: 60S ribosomal protein L9-A

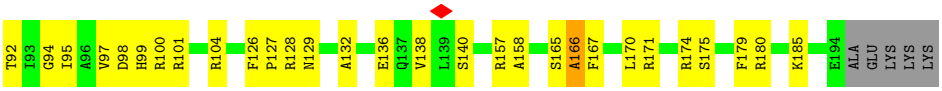


• Molecule 16: 60S ribosomal protein L11-A



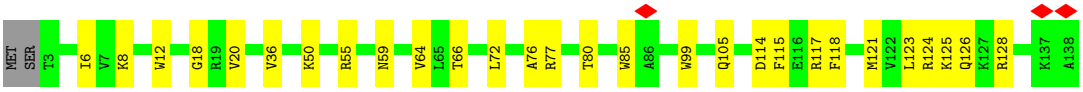
• Molecule 17: 60S ribosomal protein L13-A





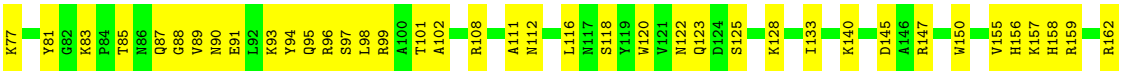
• Molecule 18: 60S ribosomal protein L14-A

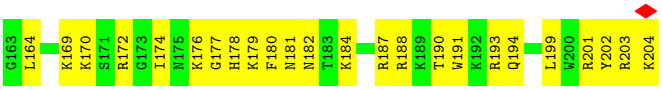
Chain O:



• Molecule 19: 60S ribosomal protein L15-A

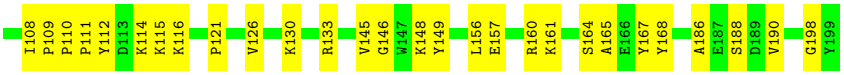
Chain P:





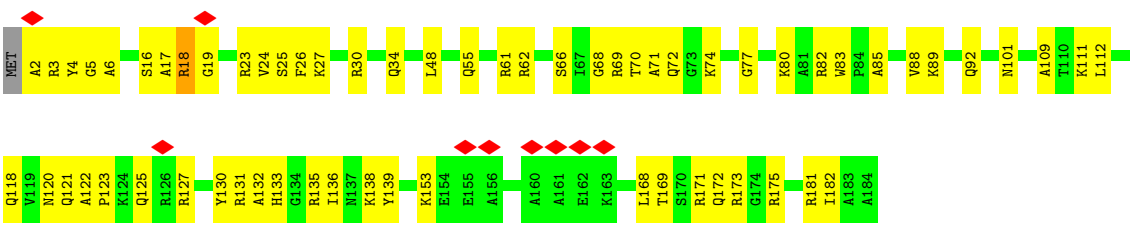
• Molecule 20: 60S ribosomal protein L16-A

Chain Q:



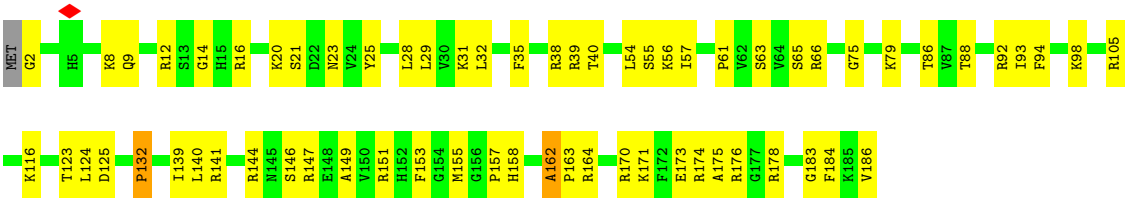
• Molecule 21: 60S ribosomal protein L17-A

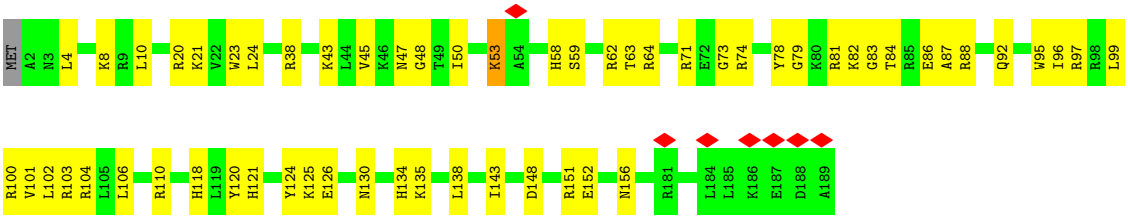
Chain R:



• Molecule 22: 60S ribosomal protein L18-A

Chain S:



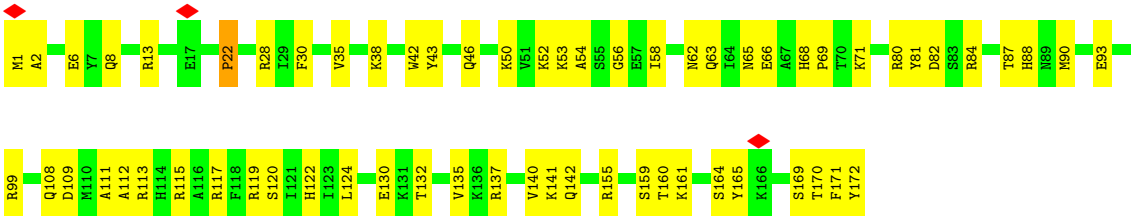


• Molecule 23: 60S ribosomal protein L19-A

Chain T:

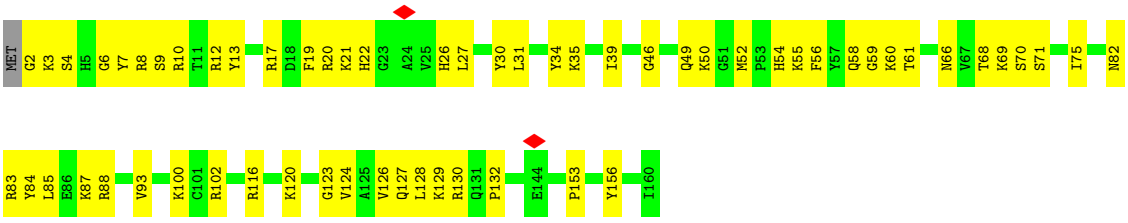
• Molecule 24: 60S ribosomal protein L20-A

Chain U:



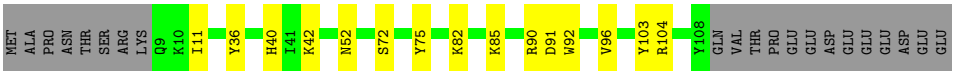
• Molecule 25: 60S ribosomal protein L21-A

Chain V:



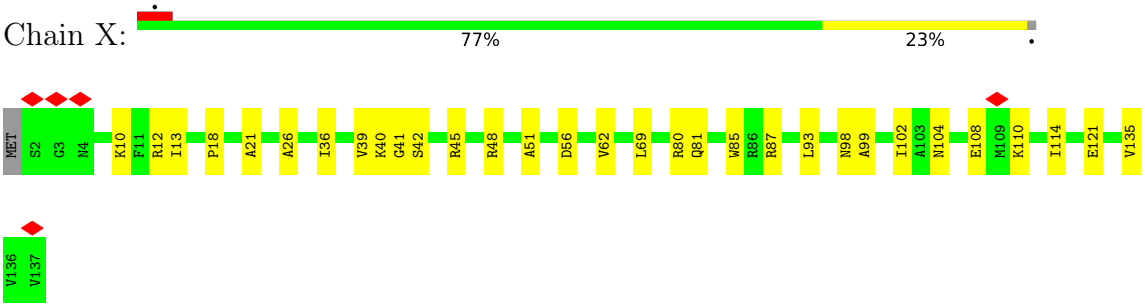
• Molecule 26: 60S ribosomal protein L22-A

Chain W:



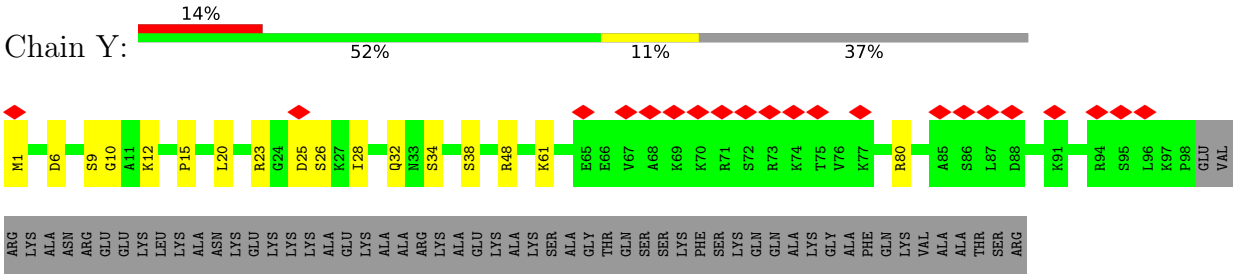
• Molecule 27: 60S ribosomal protein L23-A

Chain X:



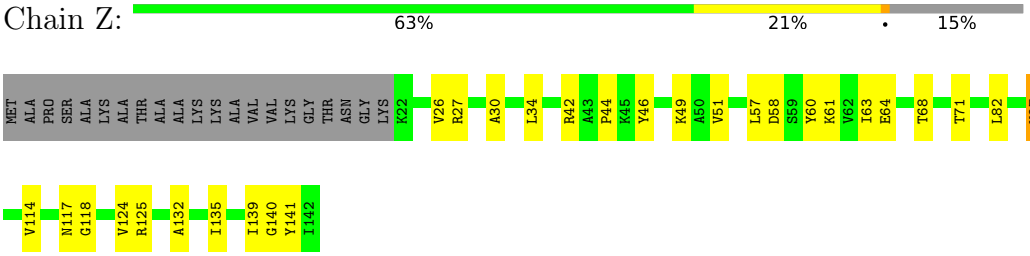
• Molecule 28: 60S ribosomal protein L24-A

Chain Y:



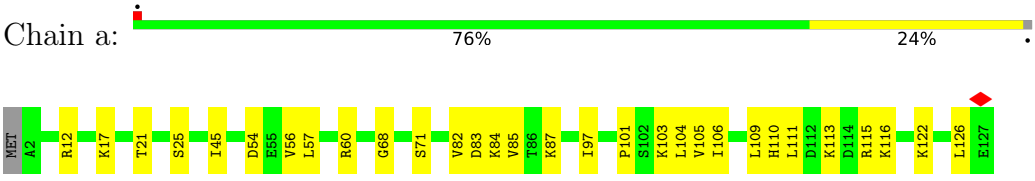
• Molecule 29: 60S ribosomal protein L25

Chain Z:



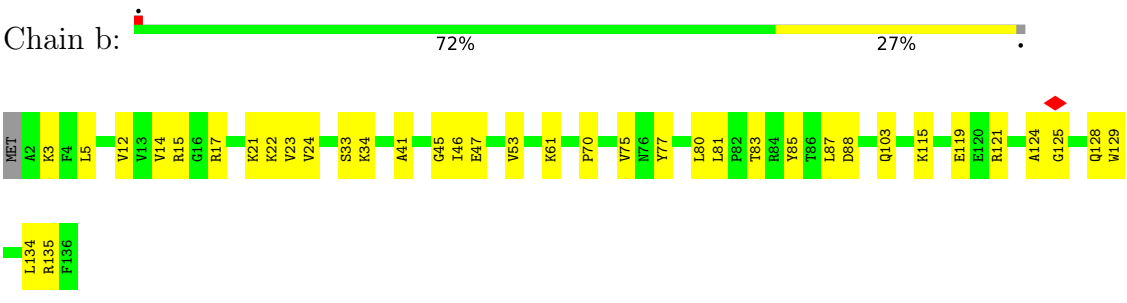
• Molecule 30: 60S ribosomal protein L26-A

Chain a:



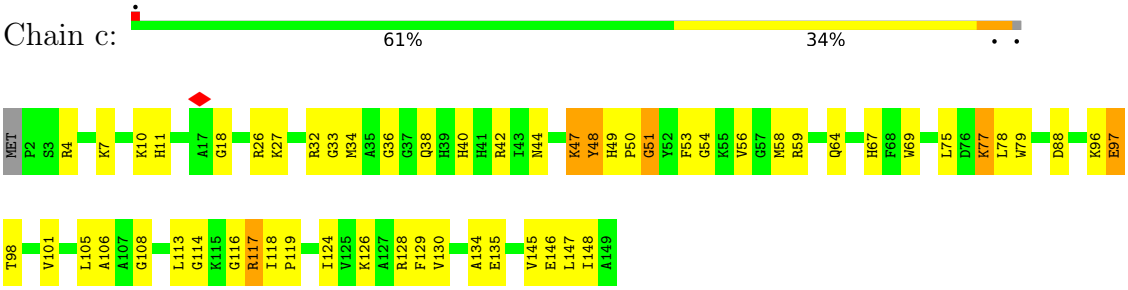
• Molecule 31: 60S ribosomal protein L27-A

Chain b:



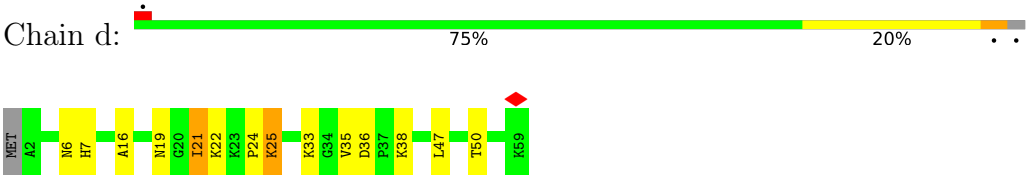
• Molecule 32: 60S ribosomal protein L28

Chain c:



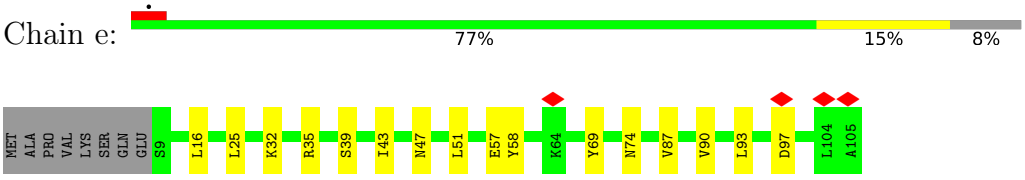
• Molecule 33: 60S ribosomal protein L29

Chain d:



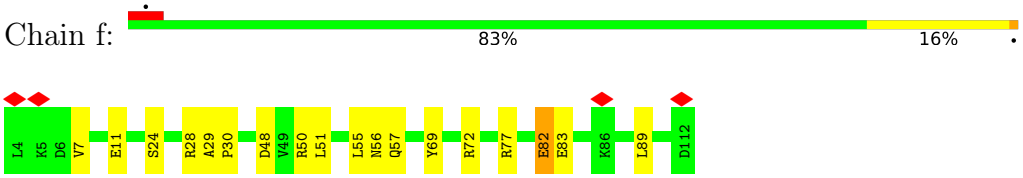
• Molecule 34: 60S ribosomal protein L30

Chain e:



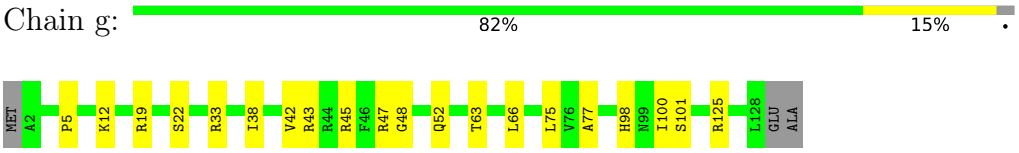
• Molecule 35: 60S ribosomal protein L31-A

Chain f:



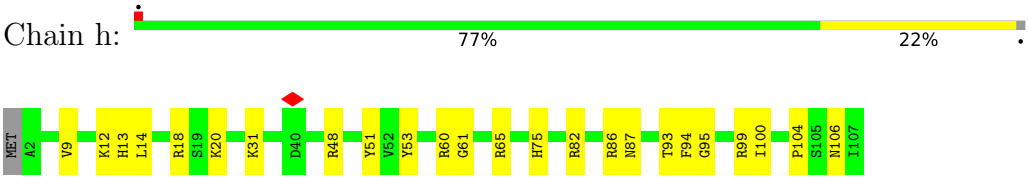
• Molecule 36: 60S ribosomal protein L32

Chain g:



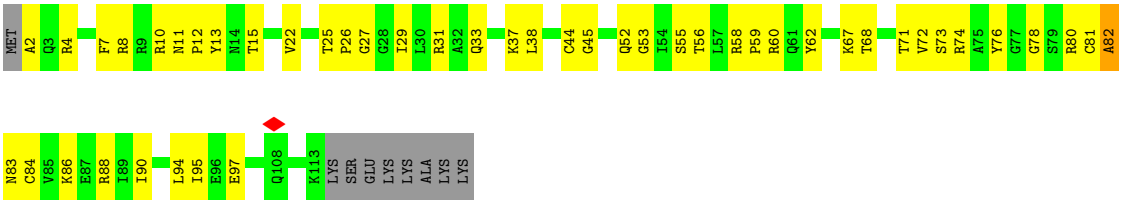
• Molecule 37: 60S ribosomal protein L33-A

Chain h:

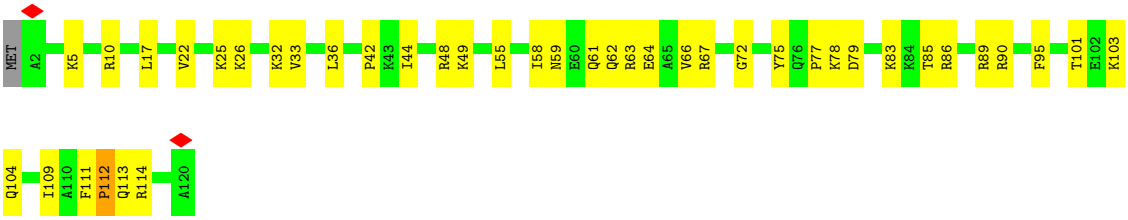


• Molecule 38: 60S ribosomal protein L34-A

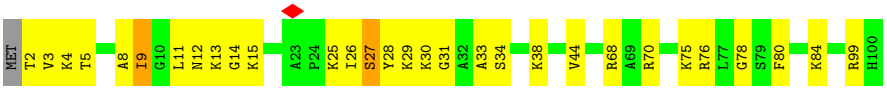
Chain i:



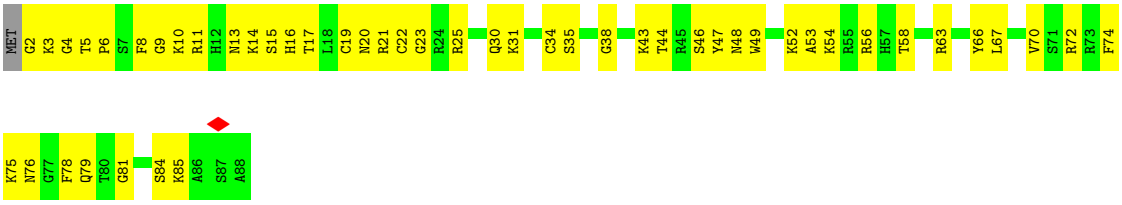
• Molecule 39: 60S ribosomal protein L35-A



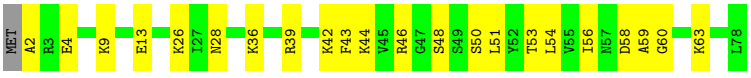
• Molecule 40: 60S ribosomal protein L36-A



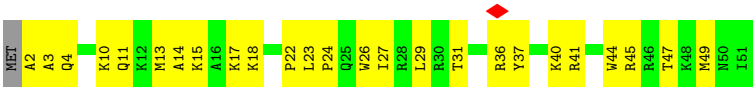
• Molecule 41: 60S ribosomal protein L37-A



• Molecule 42: 60S ribosomal protein L38

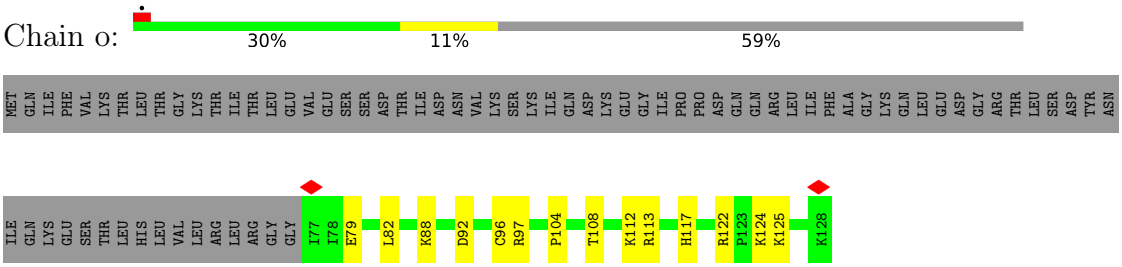


• Molecule 43: 60S ribosomal protein L39



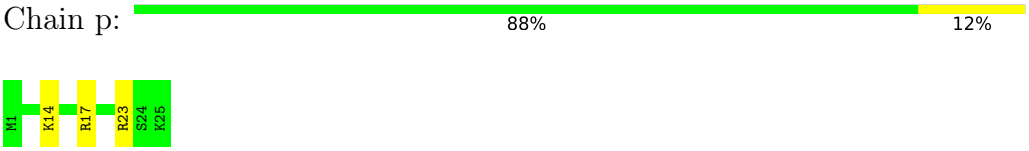
• Molecule 44: Ubiquitin-60S ribosomal protein L40

Chain o:



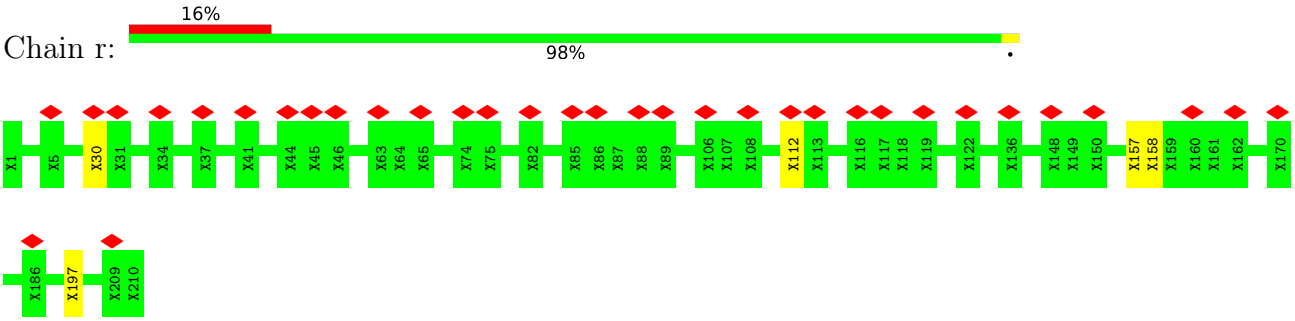
• Molecule 45: 60S ribosomal protein L41-A

Chain p:



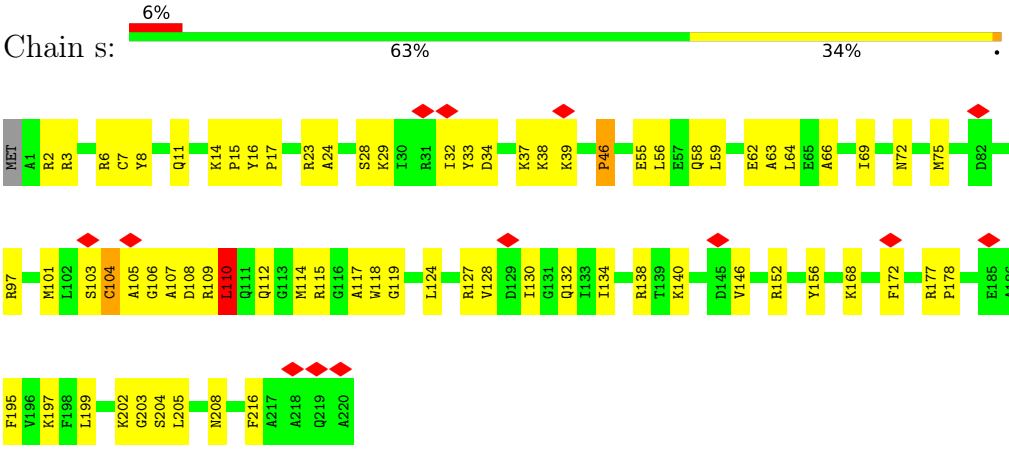
• Molecule 46: ribosomal protein RPL1

Chain r:



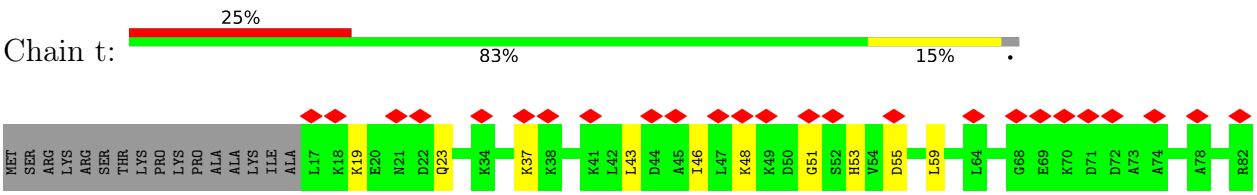
• Molecule 47: 60S ribosomal protein L10

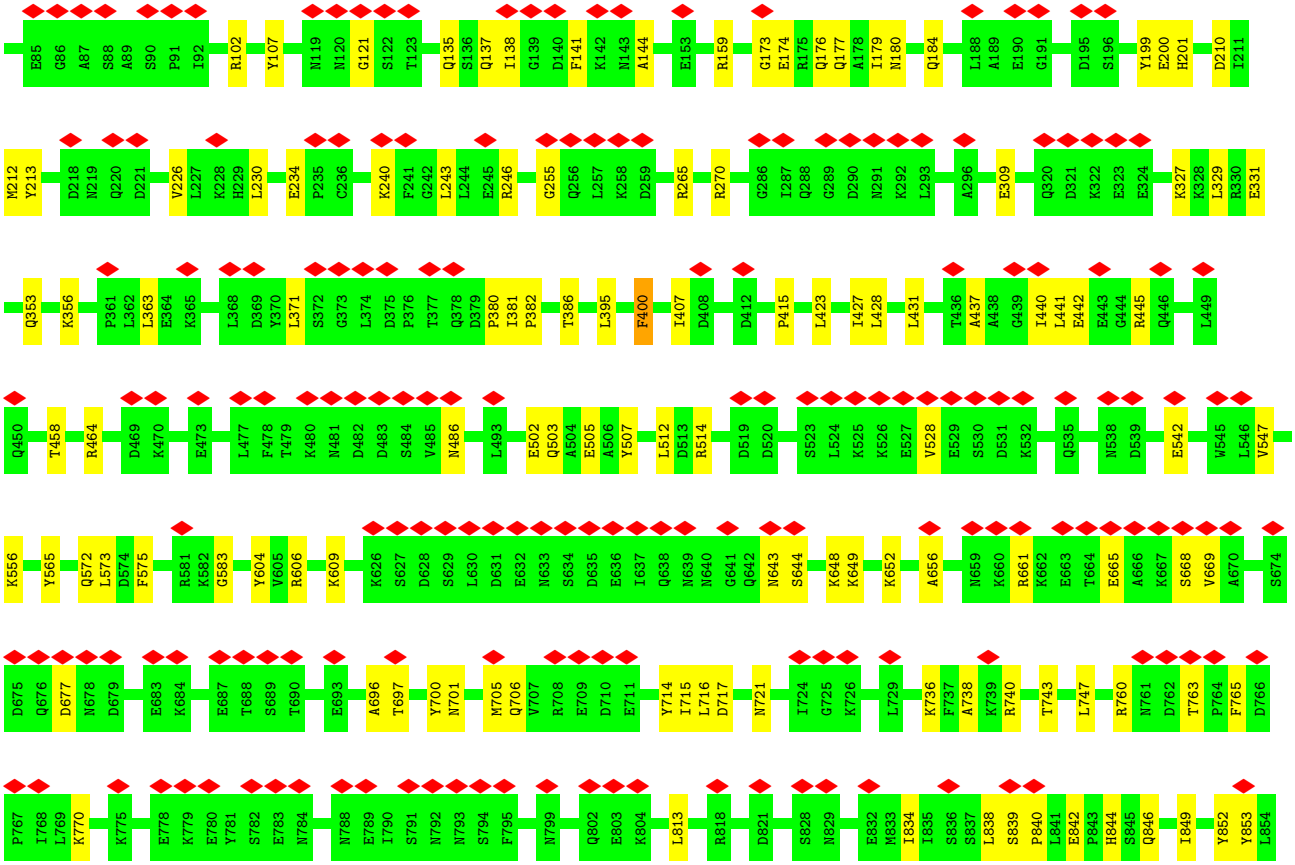
Chain s:



• Molecule 48: N-terminal acetyltransferase A complex subunit NAT1

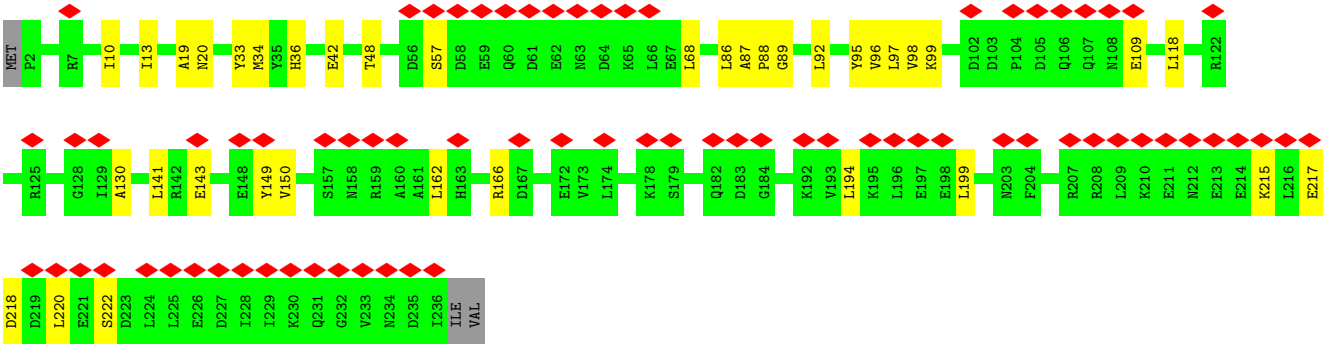
Chain t:





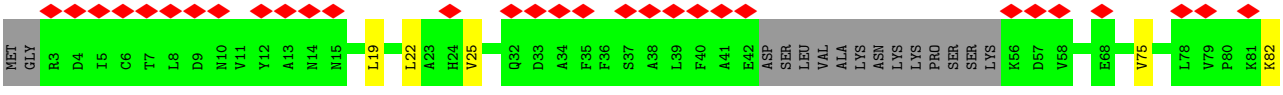
• Molecule 49: N-terminal acetyltransferase A complex catalytic subunit ARD1

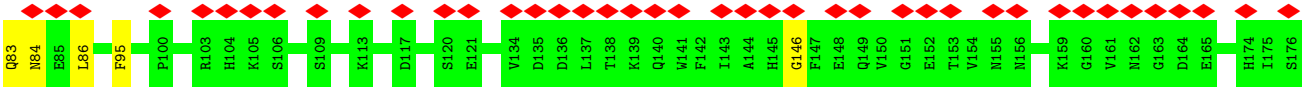
Chain u:



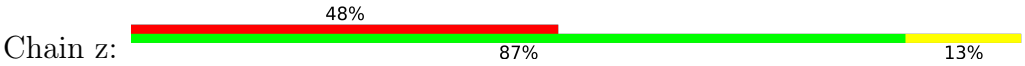
• Molecule 50: N-alpha-acetyltransferase NAT5

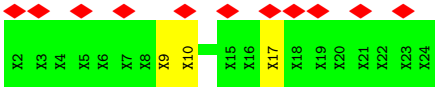
Chain v:





• Molecule 51: nascent polypeptide chain





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	262507	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	2.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.226	Depositor
Minimum map value	-0.098	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.0126	Depositor
Map size (Å)	455.28, 455.28, 455.28	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.084, 1.084, 1.084	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 3HE

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	1	0.08	0/79803	0.22	0/124411
2	3	0.07	0/2883	0.18	0/4491
3	4	0.06	0/3746	0.16	0/5832
4	A	0.08	0/1799	0.22	0/2801
5	B	0.07	0/1835	0.22	0/2858
6	C	0.08	0/860	0.26	0/1136
7	D	0.09	0/701	0.28	0/934
8	E	0.09	0/1948	0.28	0/2617
9	F	0.10	0/3146	0.26	0/4228
10	G	0.08	0/2800	0.26	0/3790
11	H	0.08	0/2425	0.25	0/3271
12	I	0.09	0/1260	0.25	0/1694
13	J	0.09	0/1821	0.25	0/2451
14	K	0.10	0/1836	0.26	0/2481
15	L	0.08	0/1539	0.25	0/2073
16	M	0.10	0/1374	0.28	0/1842
17	N	0.10	0/1568	0.30	0/2106
18	O	0.09	0/1068	0.25	0/1438
19	P	0.10	0/1757	0.30	0/2354
20	Q	0.09	0/1585	0.24	0/2128
21	R	0.10	0/1443	0.29	0/1944
22	S	0.08	0/1465	0.27	0/1965
23	T	0.08	0/1538	0.26	0/2050
24	U	0.08	0/1481	0.27	0/1990
25	V	0.09	0/1300	0.26	0/1743
26	W	0.11	0/812	0.28	0/1099
27	X	0.10	0/1018	0.26	0/1369
28	Y	0.08	0/712	0.26	0/958
29	Z	0.07	0/979	0.22	0/1321
30	a	0.08	0/1004	0.26	0/1341
31	b	0.08	0/1118	0.24	0/1497
32	c	0.11	0/1204	0.33	0/1612

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	d	0.08	0/473	0.25	0/629
34	e	0.08	0/751	0.20	0/1008
35	f	0.09	0/890	0.27	0/1196
36	g	0.08	0/1041	0.24	0/1394
37	h	0.10	0/868	0.29	0/1168
38	i	0.08	0/890	0.24	0/1189
39	j	0.08	0/978	0.24	0/1301
40	k	0.10	0/778	0.30	0/1034
41	l	0.11	0/696	0.31	0/923
42	m	0.08	0/618	0.22	0/826
43	n	0.09	0/443	0.29	0/588
44	o	0.10	0/423	0.31	0/562
45	p	0.11	0/234	0.34	0/300
47	s	0.09	0/1807	0.29	0/2425
48	t	0.09	0/6792	0.24	1/9180 (0.0%)
49	u	0.10	0/1830	0.28	0/2484
50	v	0.09	0/1287	0.22	0/1742
All	All	0.08	0/150627	0.23	1/221774 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	t	643	ASN	CB-CA-C	-5.03	110.39	117.23

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	71309	0	35795	4310	0
2	3	2579	0	1304	181	0
3	4	3353	0	1695	301	0
4	A	1611	0	816	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	B	1644	0	830	52	0
6	C	847	0	918	41	0
7	D	694	0	738	17	0
8	E	1914	0	1981	52	0
9	F	3075	0	3142	58	0
10	G	2748	0	2859	233	0
11	H	2375	0	2325	128	0
12	I	1239	0	1326	40	0
13	J	1784	0	1858	274	0
14	K	1804	0	1873	162	0
15	L	1518	0	1585	116	0
16	M	1353	0	1380	205	0
17	N	1543	0	1603	302	0
18	O	1053	0	1143	110	0
19	P	1720	0	1765	392	0
20	Q	1555	0	1655	284	0
21	R	1420	0	1432	311	0
22	S	1441	0	1533	316	0
23	T	1521	0	1612	205	0
24	U	1445	0	1480	191	0
25	V	1276	0	1318	246	0
26	W	796	0	811	62	0
27	X	1003	0	1048	21	0
28	Y	699	0	640	12	0
29	Z	964	0	1025	98	0
30	a	993	0	1081	17	0
31	b	1092	0	1155	39	0
32	c	1173	0	1215	152	0
33	d	462	0	491	33	0
34	e	743	0	797	17	0
35	f	876	0	912	15	0
36	g	1020	0	1090	15	0
37	h	850	0	880	41	0
38	i	880	0	939	168	0
39	j	969	0	1077	148	0
40	k	771	0	842	119	0
41	l	681	0	679	215	0
42	m	612	0	680	73	0
43	n	436	0	472	159	0
44	o	417	0	455	25	0
45	p	233	0	284	6	0
46	r	1050	0	225	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
47	s	1770	0	1800	223	0
48	t	6650	0	6416	165	0
49	u	1798	0	1669	23	0
50	v	1259	0	1235	10	0
51	z	115	0	34	10	0
52	1	20	0	23	0	0
All	All	141153	0	101941	6020	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 25.

All (6020) 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)
1:1:2355:G:H4'	21:R:139:TYR:CE1	1.22	1.66
10:G:286:VAL:CG2	22:S:28:LEU:HD22	1.22	1.66
1:1:2515:A:H5"	19:P:28:TRP:CE2	1.19	1.63
10:G:109:TRP:HD1	17:N:26:PHE:CE1	1.17	1.61
1:1:1157:G:C5'	13:J:220:PHE:CZ	1.83	1.61
1:1:3243:A:C8	20:Q:110:PRO:HG3	1.35	1.60
1:1:266:A:C6	40:k:30:LYS:HG3	1.28	1.60
1:1:2674:A:C6	16:M:124:GLY:HA3	1.26	1.60
1:1:1975:C:C1'	42:m:59:ALA:HB1	1.31	1.60
1:1:1169:A:C4'	13:J:219:LYS:HD3	1.27	1.59
1:1:1975:C:H1'	42:m:59:ALA:CB	1.30	1.59
1:1:682:U:C2	19:P:202:TYR:HE2	1.18	1.59
1:1:1588:A:C6	43:n:4:GLN:HG2	1.38	1.58
1:1:269:G:H5'	19:P:120:TRP:CE3	1.14	1.58
1:1:784:A:C8	22:S:65:SER:HB2	1.37	1.58
3:4:52:A:C2	43:n:23:LEU:CD2	1.75	1.57
6:C:50:PHE:CE1	19:P:88:GLY:HA3	1.07	1.57
1:1:2013:C:C1'	48:t:176:GLN:HG3	1.09	1.56
1:1:3186:A:H4'	18:O:12:TRP:CH2	1.39	1.56
3:4:52:A:C6	43:n:23:LEU:HD22	1.38	1.56
29:Z:140:GLY:HA3	39:j:33:VAL:CG1	1.31	1.56
1:1:1062:A:C1'	25:V:130:ARG:HH22	1.06	1.55
6:C:50:PHE:CZ	19:P:88:GLY:HA3	1.38	1.55
10:G:31:ARG:CZ	22:S:23:ASN:CG	1.78	1.55
10:G:344:ALA:CB	13:J:60:ARG:HH22	1.11	1.55
1:1:1109:U:H4'	22:S:153:PHE:CD1	1.04	1.55
1:1:1757:A:C5'	26:W:96:VAL:HG11	1.30	1.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:109:TRP:CD1	17:N:26:PHE:CE1	1.91	1.54
11:H:15:ARG:CA	25:V:20:ARG:HD3	1.13	1.54
29:Z:68:THR:CG2	39:j:36:LEU:HD22	1.17	1.54
1:1:1109:U:C4'	22:S:153:PHE:CD1	1.92	1.53
1:1:929:A:H1'	41:l:49:TRP:CE3	1.01	1.53
11:H:15:ARG:HA	25:V:20:ARG:CD	1.30	1.53
1:1:1109:U:H4'	22:S:153:PHE:CE1	1.40	1.53
1:1:3180:A:N6	20:Q:167:TYR:CD1	1.76	1.53
6:C:50:PHE:CE1	19:P:88:GLY:CA	1.88	1.53
1:1:1695:U:C1'	38:i:26:PRO:HG3	1.40	1.52
10:G:330:TYR:CE1	13:J:49:ALA:HB2	1.44	1.51
1:1:49:A:C6	19:P:187:ARG:NH1	1.75	1.51
1:1:1169:A:H4'	13:J:219:LYS:CD	1.39	1.51
1:1:3186:A:H4'	18:O:12:TRP:CZ2	1.43	1.51
1:1:1695:U:H1'	38:i:26:PRO:CG	1.39	1.51
1:1:2680:A:C8	16:M:57:PHE:CE2	1.98	1.51
1:1:682:U:N3	19:P:202:TYR:CE2	1.75	1.50
1:1:2681:U:C4'	16:M:66:ALA:CB	1.85	1.50
1:1:618:C:H5'	21:R:169:THR:CG2	1.37	1.50
1:1:1348:U:C5'	22:S:35:PHE:HE1	1.23	1.50
1:1:1493:G:N7	43:n:13:MET:HE1	1.20	1.50
1:1:1157:G:C5'	13:J:220:PHE:HZ	1.17	1.49
1:1:2352:A:H4'	21:R:85:ALA:CB	1.40	1.49
1:1:2355:G:H4'	21:R:139:TYR:CZ	1.46	1.49
1:1:929:A:C1'	41:l:49:TRP:CE3	1.93	1.49
1:1:2674:A:C6	16:M:124:GLY:CA	1.95	1.49
1:1:3206:C:H1'	24:U:155:ARG:NH1	1.15	1.48
1:1:2681:U:H4'	16:M:66:ALA:CB	1.01	1.48
1:1:96:G:C5'	17:N:15:ARG:HE	1.28	1.47
1:1:2093:A:P	23:T:143:ILE:HD13	1.54	1.47
1:1:3183:A:P	20:Q:12:LYS:HE3	1.53	1.47
1:1:3186:A:C4'	18:O:12:TRP:CH2	1.97	1.47
1:1:2355:G:C4'	21:R:139:TYR:CE1	1.97	1.46
1:1:2355:G:C4'	21:R:139:TYR:CZ	1.97	1.45
1:1:1493:G:C8	43:n:13:MET:HE1	1.51	1.45
1:1:1169:A:C5'	13:J:219:LYS:HD2	1.45	1.45
1:1:2515:A:H5"	19:P:28:TRP:NE1	1.30	1.45
1:1:268:A:N7	19:P:12:ARG:HG2	1.33	1.44
1:1:269:G:H5'	19:P:120:TRP:CZ3	1.53	1.44
1:1:618:C:C5'	21:R:169:THR:HG22	1.47	1.44
1:1:1846:C:H42	51:z:10:UNK:CB	1.30	1.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1062:A:H1'	25:V:130:ARG:NH2	1.20	1.43
1:1:1125:U:C5'	47:s:14:LYS:NZ	1.80	1.43
1:1:3243:A:C8	20:Q:110:PRO:CG	2.02	1.43
1:1:2674:A:N1	16:M:124:GLY:HA3	1.15	1.43
17:N:66:ASN:ND2	32:c:128:ARG:HH22	1.03	1.43
1:1:49:A:N1	19:P:187:ARG:NH1	1.67	1.42
1:1:155:G:C4'	40:k:26:ILE:HD11	1.45	1.42
1:1:269:G:N3	19:P:14:LYS:HD2	1.32	1.42
3:4:94:C:H5"	41:l:76:ASN:ND2	1.33	1.42
1:1:1158:A:C5	13:J:93:ASN:ND2	1.80	1.42
29:Z:68:THR:CG2	39:j:36:LEU:CD2	1.96	1.42
1:1:1174:G:N2	20:Q:87:MET:CE	1.80	1.42
1:1:3206:C:C1'	24:U:155:ARG:HH12	1.30	1.42
29:Z:60:TYR:CD2	39:j:25:LYS:CB	2.03	1.42
2:3:40:C:C4'	16:M:43:GLN:NE2	1.80	1.41
3:4:34:U:O5'	41:l:74:PHE:CE1	1.72	1.41
1:1:75:G:OP1	17:N:58:VAL:CG2	1.67	1.41
25:V:66:ASN:HD22	33:d:35:VAL:CA	1.34	1.41
29:Z:114:VAL:CG1	43:n:10:LYS:HZ2	1.30	1.40
20:Q:29:ASN:OD1	37:h:14:LEU:CD2	1.67	1.40
1:1:812:G:O2'	41:l:47:TYR:CD1	1.75	1.40
1:1:2514:U:H1'	14:K:69:LEU:CD1	1.48	1.40
1:1:3243:A:N7	20:Q:110:PRO:HG3	1.34	1.40
1:1:562:C:H4'	24:U:71:LYS:NZ	1.07	1.39
1:1:1041:U:O2'	47:s:195:PHE:CE2	1.73	1.39
1:1:1493:G:C4	43:n:13:MET:HE2	1.56	1.39
3:4:52:A:N1	43:n:23:LEU:HD21	1.29	1.39
10:G:344:ALA:HB1	13:J:60:ARG:NH2	1.30	1.39
12:I:174:LEU:HD22	18:O:117:ARG:NH1	1.34	1.39
1:1:2515:A:C5'	19:P:28:TRP:CE2	2.04	1.39
1:1:1103:A:N6	22:S:9:GLN:HE22	1.20	1.39
1:1:1125:U:H5'	47:s:14:LYS:NZ	1.25	1.39
1:1:1191:U:OP2	20:Q:49:ARG:CD	1.68	1.39
25:V:66:ASN:ND2	33:d:35:VAL:CA	1.85	1.39
11:H:69:ILE:HG23	25:V:31:LEU:CB	1.53	1.38
1:1:1306:G:O2'	20:Q:60:LYS:CA	1.70	1.38
1:1:1363:A:OP1	13:J:160:ARG:CD	1.70	1.38
17:N:66:ASN:HD21	32:c:128:ARG:NH2	1.18	1.38
1:1:1588:A:N1	43:n:4:GLN:CG	1.83	1.38
1:1:1749:A:H3'	42:m:44:LYS:NZ	1.34	1.38
10:G:286:VAL:HG21	22:S:28:LEU:CD2	1.52	1.38

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:74:G:O2'	17:N:61:PRO:CG	1.72	1.38
1:1:1048:A:N6	47:s:16:TYR:HE1	1.17	1.38
1:1:2365:C:H1'	20:Q:68:ARG:NH2	1.33	1.38
32:c:129:PHE:CZ	40:k:9:ILE:CG2	2.06	1.38
1:1:1192:C:OP1	44:o:113:ARG:NH2	1.57	1.37
1:1:3184:A:O3'	15:L:23:ARG:NH1	1.57	1.37
1:1:269:G:C5'	19:P:120:TRP:CE3	2.06	1.37
25:V:66:ASN:ND2	33:d:35:VAL:HA	1.06	1.37
1:1:3186:A:C4'	18:O:12:TRP:CZ2	2.06	1.36
17:N:165:SER:C	32:c:135:GLU:OE2	1.68	1.36
1:1:1213:G:O2'	24:U:90:MET:HG2	1.21	1.36
1:1:676:G:N2	22:S:61:PRO:HG3	1.38	1.36
1:1:682:U:C2	19:P:202:TYR:CE2	2.10	1.36
1:1:784:A:N1	22:S:93:ILE:HG22	1.38	1.36
1:1:1757:A:C5'	26:W:96:VAL:CG1	2.04	1.36
29:Z:68:THR:HG21	39:j:36:LEU:CG	1.55	1.36
1:1:1588:A:C2	43:n:4:GLN:CG	1.97	1.36
11:H:69:ILE:CG2	25:V:31:LEU:HB2	1.53	1.36
1:1:3212:C:OP2	18:O:124:ARG:NH2	1.57	1.36
3:4:52:A:C6	43:n:23:LEU:CD2	2.06	1.36
1:1:1157:G:H5"	13:J:220:PHE:CZ	1.49	1.35
1:1:73:C:P	40:k:14:GLY:HA2	1.66	1.35
1:1:289:A:C2	19:P:93:LYS:HD2	1.61	1.35
1:1:3185:U:C6	20:Q:126:VAL:CG2	1.98	1.35
3:4:53:A:O3'	43:n:40:LYS:NZ	1.58	1.35
1:1:784:A:O2'	22:S:92:ARG:NH1	1.59	1.35
1:1:2013:C:O2'	48:t:177:GLN:CA	1.73	1.35
1:1:1191:U:P	20:Q:49:ARG:HD3	1.67	1.34
1:1:2555:G:O6	38:i:95:ILE:CG2	1.76	1.34
1:1:3267:A:H5"	21:R:181:ARG:NH1	1.41	1.34
17:N:3:ILE:HG22	32:c:44:ASN:ND2	1.41	1.34
1:1:812:G:O2'	41:l:47:TYR:CE1	1.70	1.34
1:1:1493:G:C8	43:n:13:MET:CE	2.09	1.34
1:1:2100:A:C5'	23:T:71:ARG:NH1	1.89	1.34
1:1:3217:C:N4	21:R:182:ILE:HG23	1.41	1.34
1:1:96:G:P	17:N:15:ARG:HH21	1.51	1.34
1:1:147:U:O2	19:P:41:ARG:CD	1.73	1.34
1:1:1158:A:N7	13:J:93:ASN:ND2	1.70	1.34
1:1:2515:A:OP1	14:K:65:LEU:HD12	1.21	1.34
1:1:2618:G:N7	47:s:114:MET:HB3	1.41	1.34
1:1:3198:U:O4	15:L:26:LYS:HE3	1.22	1.34

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:100:C:H5”	24:U:52:LYS:NZ	1.36	1.34
1:1:73:C:OP2	40:k:14:GLY:CA	1.75	1.34
1:1:974:G:OP1	22:S:16:ARG:NE	1.59	1.34
10:G:31:ARG:NH1	22:S:23:ASN:ND2	1.74	1.33
1:1:76:G:C6	17:N:100:ARG:O	1.79	1.33
1:1:1062:A:C2’	25:V:130:ARG:NH2	1.91	1.33
1:1:1170:A:OP1	13:J:218:ARG:HA	1.27	1.33
3:4:52:A:N1	43:n:23:LEU:CD2	1.79	1.33
1:1:3172:A:O2’	20:Q:101:ARG:NH1	1.59	1.33
1:1:597:G:OP2	13:J:37:ASN:CB	1.77	1.33
1:1:1128:U:C4’	47:s:7:CYS:HB3	1.24	1.33
2:3:40:C:C4’	16:M:43:GLN:CD	1.98	1.33
2:3:40:C:H4’	16:M:43:GLN:CD	1.50	1.33
29:Z:114:VAL:HG12	43:n:10:LYS:NZ	1.38	1.33
1:1:1363:A:OP1	13:J:160:ARG:HD3	1.17	1.32
1:1:1174:G:H22	20:Q:87:MET:CE	1.38	1.32
1:1:2093:A:C5’	23:T:143:ILE:CD1	2.07	1.32
1:1:74:G:C2’	17:N:61:PRO:HG3	1.60	1.32
1:1:2674:A:N6	16:M:124:GLY:O	1.62	1.32
1:1:2681:U:C4’	16:M:66:ALA:HB2	1.53	1.32
22:S:174:ARG:O	32:c:56:VAL:HG12	1.17	1.32
1:1:1169:A:C5’	13:J:219:LYS:CD	2.07	1.32
1:1:2013:C:C1’	48:t:176:GLN:CG	2.06	1.32
1:1:3207:U:OP1	18:O:99:TRP:CH2	1.83	1.32
17:N:67:ARG:CD	32:c:105:LEU:O	1.76	1.32
2:3:39:C:H4’	16:M:44:THR:OG1	1.23	1.31
1:1:3260:G:O2’	18:O:126:GLN:NE2	1.62	1.31
1:1:309:U:OP1	40:k:84:LYS:NZ	1.64	1.31
1:1:1010:G:OP1	47:s:38:LYS:HD2	1.29	1.31
1:1:929:A:H1’	41:l:49:TRP:CZ3	1.65	1.31
1:1:972:A:OP1	22:S:12:ARG:NH2	1.60	1.31
1:1:3198:U:H5	15:L:26:LYS:NZ	1.26	1.31
10:G:280:ILE:HD11	22:S:25:TYR:CB	1.61	1.31
10:G:311:HIS:CE1	13:J:162:PRO:HG3	1.65	1.31
29:Z:60:TYR:CD2	39:j:25:LYS:HB3	1.63	1.31
1:1:1588:A:N1	43:n:4:GLN:HG2	0.97	1.30
2:3:17:A:P	16:M:150:ASN:HD21	1.52	1.30
1:1:1062:A:C1’	25:V:130:ARG:NH2	1.78	1.30
1:1:1348:U:C5’	22:S:35:PHE:CE1	2.14	1.30
1:1:2014:U:O4’	48:t:180:ASN:HB3	1.29	1.30
1:1:2700:G:H4’	25:V:46:GLY:O	1.28	1.30

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:289:A:H2	19:P:93:LYS:CD	1.44	1.30
1:1:2100:A:H5'	23:T:71:ARG:NH1	1.46	1.30
1:1:3183:A:OP1	20:Q:12:LYS:CE	1.80	1.30
1:1:32:U:H5'	19:P:94:TYR:CE1	1.65	1.29
1:1:2527:G:O4'	14:K:241:LYS:HE3	1.15	1.29
1:1:3183:A:OP1	20:Q:12:LYS:HE3	1.19	1.29
3:4:52:A:C2	43:n:23:LEU:HD21	0.78	1.29
10:G:330:TYR:CE1	13:J:49:ALA:CB	2.16	1.29
1:1:289:A:C2	19:P:93:LYS:CD	2.16	1.29
1:1:3217:C:C5	21:R:182:ILE:HG12	1.65	1.29
17:N:64:LYS:HG3	32:c:69:TRP:CD2	1.67	1.29
1:1:1324:U:OP1	24:U:2:ALA:HB2	1.28	1.29
1:1:1938:U:O2'	23:T:79:GLY:N	1.65	1.29
2:3:99:G:OP1	24:U:53:LYS:CD	1.80	1.28
29:Z:114:VAL:CG1	43:n:10:LYS:NZ	1.93	1.28
1:1:2672:G:O3'	16:M:95:ASN:HA	1.18	1.28
1:1:2013:C:O4'	48:t:176:GLN:CG	1.81	1.28
1:1:2673:A:C4'	16:M:103:GLY:O	1.82	1.28
1:1:73:C:OP2	40:k:14:GLY:HA2	1.23	1.28
1:1:682:U:N3	19:P:202:TYR:HE2	1.11	1.28
1:1:73:C:N3	17:N:59:ARG:NH1	1.81	1.28
1:1:1128:U:C4'	47:s:7:CYS:CB	2.12	1.28
1:1:389:A:H1'	21:R:101:ASN:OD1	1.33	1.27
1:1:743:C:O2	22:S:140:LEU:HA	1.26	1.27
1:1:2618:G:C5	47:s:114:MET:HB3	1.69	1.27
3:4:5:U:OP1	21:R:62:ARG:HG3	1.29	1.27
3:4:52:A:N3	43:n:23:LEU:HD21	1.47	1.27
1:1:96:G:O5'	17:N:15:ARG:NH2	1.67	1.27
1:1:1493:G:C5	43:n:13:MET:CE	2.16	1.27
1:1:3267:A:C5'	21:R:181:ARG:NH1	1.96	1.27
22:S:173:GLU:CA	32:c:51:GLY:O	1.80	1.27
1:1:2618:G:N7	47:s:114:MET:CB	1.96	1.27
17:N:165:SER:O	32:c:135:GLU:CD	1.78	1.27
1:1:1048:A:N6	47:s:16:TYR:CE1	2.02	1.27
1:1:1682:U:O4	26:W:90:ARG:NH1	1.68	1.27
1:1:1856:C:H1'	38:i:7:PHE:CZ	1.68	1.27
1:1:1975:C:C5'	42:m:63:LYS:HD2	1.64	1.27
3:4:10:A:C2	21:R:6:ALA:HB2	1.70	1.27
1:1:76:G:O6	17:N:101:ARG:HA	1.13	1.26
1:1:1493:G:C5	43:n:13:MET:HE1	1.70	1.26
1:1:2093:A:O5'	23:T:143:ILE:CD1	1.83	1.26

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:86:G:O2'	17:N:11:LYS:HB2	1.33	1.26
1:1:134:U:N3	39:j:72:GLY:HA2	1.50	1.26
1:1:3181:C:H1'	20:Q:164:SER:O	1.22	1.26
1:1:3198:U:C4	15:L:26:LYS:HE3	1.68	1.26
1:1:121:A:C2	14:K:100:GLU:OE2	1.87	1.26
1:1:2013:C:O4'	48:t:176:GLN:HG3	1.31	1.26
1:1:3173:G:P	20:Q:101:ARG:HE	1.58	1.26
1:1:388:G:C5'	21:R:18:ARG:HB3	1.64	1.26
1:1:1543:G:P	19:P:35:VAL:HG23	1.75	1.26
1:1:2673:A:H4'	16:M:103:GLY:O	1.10	1.26
2:3:17:A:P	16:M:150:ASN:ND2	2.07	1.26
5:B:64:G:O3'	47:s:24:ALA:CB	1.81	1.26
1:1:1362:G:O3'	13:J:160:ARG:HB3	1.32	1.26
1:1:2524:A:C5	14:K:46:LEU:CD1	2.11	1.26
11:H:17:GLN:NE2	25:V:22:HIS:O	1.67	1.26
11:H:69:ILE:CG2	25:V:31:LEU:CB	2.08	1.26
29:Z:68:THR:HG21	39:j:36:LEU:CD1	1.64	1.26
1:1:147:U:O2	19:P:41:ARG:HD3	1.13	1.25
1:1:2093:A:O5'	23:T:143:ILE:HD13	1.13	1.25
1:1:268:A:C5	19:P:12:ARG:HG2	1.30	1.25
1:1:1592:G:OP1	38:i:58:ARG:NH2	1.66	1.25
1:1:3298:C:O3'	21:R:72:GLN:HG2	1.35	1.25
3:4:14:C:O2	21:R:121:GLN:OE1	1.54	1.25
1:1:598:A:OP1	13:J:41:ARG:CZ	1.84	1.25
1:1:2728:G:O6	25:V:87:LYS:HD3	1.08	1.25
1:1:1915:A:H5"	23:T:84:THR:CG2	1.64	1.25
1:1:3172:A:O2'	20:Q:101:ARG:CZ	1.85	1.25
1:1:3180:A:N7	20:Q:167:TYR:CE2	2.05	1.25
1:1:1491:A:OP1	41:l:14:LYS:HG3	1.31	1.25
1:1:1689:U:O2'	23:T:59:SER:HB3	1.34	1.25
1:1:2846:U:C6	44:o:97:ARG:NH1	2.02	1.25
29:Z:58:ASP:OD2	39:j:25:LYS:NZ	1.70	1.25
31:b:14:VAL:CG2	38:i:86:LYS:HG3	1.67	1.25
1:1:1362:G:H4'	13:J:160:ARG:N	1.51	1.24
3:4:154:C:O2'	14:K:185:ARG:HD2	1.13	1.24
1:1:3126:C:O2'	15:L:156:GLN:NE2	1.70	1.24
1:1:3298:C:O2	21:R:55:GLN:NE2	1.69	1.24
1:1:1169:A:C4'	13:J:219:LYS:CD	2.03	1.24
1:1:1846:C:N4	51:z:10:UNK:CB	1.99	1.24
1:1:2555:G:O6	38:i:95:ILE:HG21	1.23	1.24
22:S:175:ALA:HB1	32:c:53:PHE:O	1.33	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Z:140:GLY:CA	39:j:33:VAL:HG11	1.67	1.24
1:1:266:A:C6	40:k:30:LYS:CG	2.19	1.24
11:H:294:ALA:HB1	47:s:216:PHE:CB	1.29	1.24
10:G:302:ALA:HB2	22:S:39:ARG:NH1	1.53	1.24
1:1:1362:G:H4'	13:J:160:ARG:CA	1.66	1.23
1:1:2680:A:C8	16:M:57:PHE:CD2	2.25	1.23
1:1:3187:A:C2	24:U:171:PHE:HB3	1.74	1.23
3:4:52:A:C4	43:n:23:LEU:CD2	2.20	1.23
10:G:31:ARG:NE	22:S:23:ASN:OD1	1.71	1.23
1:1:1321:G:N3	24:U:111:ALA:O	1.71	1.23
1:1:1362:G:O3'	13:J:160:ARG:CB	1.86	1.23
1:1:1493:G:C3'	43:n:49:MET:HE1	1.66	1.23
1:1:2515:A:O3'	19:P:28:TRP:CD1	1.89	1.23
3:4:75:G:C2	43:n:26:TRP:HB2	1.72	1.23
1:1:364:G:O6	41:l:56:ARG:NH2	1.68	1.23
1:1:412:G:H21	21:R:118:GLN:CD	1.46	1.23
1:1:1668:G:O2'	38:i:22:VAL:HG11	1.36	1.23
2:3:92:A:C2	47:s:55:GLU:HG2	1.73	1.23
1:1:1010:G:H1'	47:s:194:ALA:CB	1.67	1.23
1:1:1186:G:O2'	24:U:113:ARG:CZ	1.85	1.23
1:1:119:U:O2'	14:K:133:LYS:NZ	1.71	1.23
1:1:128:G:OP1	39:j:75:TYR:OH	1.53	1.23
1:1:360:G:H5'	41:l:16:HIS:NE2	1.50	1.23
1:1:841:A:OP1	23:T:125:LYS:HB3	1.33	1.23
1:1:1613:A:OP1	42:m:50:SER:C	1.80	1.23
1:1:3185:U:C6	20:Q:126:VAL:HG21	1.05	1.22
1:1:2635:A:N1	25:V:10:ARG:NH2	1.88	1.22
29:Z:117:ASN:O	43:n:14:ALA:HB1	1.31	1.22
1:1:1757:A:H5'	26:W:96:VAL:CG1	1.67	1.22
1:1:2014:U:O4'	48:t:180:ASN:CB	1.88	1.22
1:1:2618:G:O6	47:s:114:MET:CG	1.88	1.22
1:1:241:G:C1'	17:N:45:LYS:HZ2	1.51	1.22
1:1:562:C:C4'	24:U:71:LYS:HZ3	1.50	1.22
12:I:174:LEU:CD2	18:O:117:ARG:HH22	1.51	1.22
20:Q:29:ASN:OD1	37:h:14:LEU:HD21	1.07	1.22
1:1:268:A:C5	19:P:12:ARG:CG	2.22	1.22
1:1:2515:A:H4'	19:P:28:TRP:CD1	1.75	1.22
1:1:3172:A:C1'	20:Q:101:ARG:HH22	1.43	1.22
1:1:49:A:N7	19:P:187:ARG:HD2	1.51	1.21
1:1:562:C:C4'	24:U:71:LYS:NZ	2.02	1.21
3:4:94:C:C5'	41:l:76:ASN:HD21	1.51	1.21

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:40:C:C4’	16:M:43:GLN:HE22	1.46	1.21
3:4:67:U:OP1	41:l:85:LYS:CE	1.89	1.21
3:4:154:C:O2’	14:K:185:ARG:CD	1.87	1.21
17:N:3:ILE:HD11	32:c:34:MET:SD	1.81	1.21
32:c:129:PHE:CZ	40:k:9:ILE:HG23	1.68	1.21
1:1:121:A:N7	14:K:108:ARG:NH2	1.88	1.21
1:1:671:U:OP2	22:S:57:ILE:HD12	1.39	1.21
1:1:1597:C:OP1	38:i:31:ARG:HD2	1.35	1.21
21:R:171:ARG:NH2	37:h:60:ARG:NH1	1.86	1.21
1:1:1128:U:OP1	47:s:3:ARG:NH2	1.73	1.21
3:4:46:G:H5’	43:n:18:LYS:NZ	1.51	1.21
3:4:97:A:OP1	39:j:63:ARG:NH2	1.73	1.21
29:Z:68:THR:HG21	39:j:36:LEU:CD2	1.59	1.21
1:1:2555:G:O6	38:i:95:ILE:CB	1.88	1.21
1:1:108:A:C5’	17:N:42:ARG:HH12	1.54	1.20
1:1:3217:C:C5	21:R:182:ILE:CG1	2.23	1.20
1:1:1157:G:OP1	13:J:90:LYS:NZ	1.75	1.20
1:1:3134:A:H4’	20:Q:148:LYS:CE	1.70	1.20
1:1:241:G:C1’	17:N:45:LYS:NZ	2.03	1.20
1:1:1677:G:OP2	26:W:103:TYR:OH	1.57	1.20
1:1:3181:C:O2	20:Q:164:SER:O	1.58	1.20
1:1:3243:A:N3	20:Q:156:LEU:HD13	1.55	1.20
10:G:286:VAL:CG2	22:S:28:LEU:CD2	2.13	1.20
1:1:86:G:C8	17:N:11:LYS:O	1.94	1.20
1:1:266:A:N3	40:k:30:LYS:HE3	1.55	1.20
10:G:328:ASN:OD1	13:J:48:ASN:ND2	1.71	1.20
17:N:67:ARG:HD3	32:c:105:LEU:O	1.33	1.20
1:1:2013:C:O2’	48:t:177:GLN:HA	1.07	1.20
2:3:40:C:C5’	16:M:43:GLN:CD	2.14	1.20
17:N:67:ARG:NH1	32:c:69:TRP:HH2	1.35	1.19
17:N:165:SER:O	32:c:135:GLU:OE1	1.58	1.19
1:1:268:A:H5’	19:P:47:LYS:NZ	1.56	1.19
1:1:1588:A:C2	43:n:4:GLN:HG2	1.62	1.19
1:1:3310:A:OP1	21:R:74:LYS:NZ	1.74	1.19
3:4:52:A:C5	43:n:23:LEU:HD22	1.76	1.19
5:B:64:G:C3’	47:s:24:ALA:HB2	1.71	1.19
1:1:2013:C:H5’	48:t:177:GLN:NE2	1.55	1.19
1:1:2013:C:C5’	48:t:177:GLN:HE21	1.54	1.19
1:1:2352:A:OP1	21:R:83:TRP:O	1.58	1.19
1:1:2515:A:C5’	19:P:28:TRP:NE1	2.04	1.19
1:1:1062:A:O2’	25:V:130:ARG:NH2	1.71	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1493:G:C4	43:n:13:MET:CE	2.25	1.19
1:1:2555:G:C5	38:i:95:ILE:HD12	1.78	1.19
3:4:52:A:C5	43:n:23:LEU:CD2	2.26	1.19
1:1:269:G:C5'	19:P:120:TRP:HE3	1.46	1.19
3:4:41:A:H4'	41:l:67:LEU:CD1	1.73	1.19
1:1:665:A:OP1	19:P:203:ARG:NH1	1.75	1.18
1:1:929:A:O2'	41:l:49:TRP:O	1.59	1.18
1:1:2524:A:O2'	14:K:49:TYR:CG	1.95	1.18
1:1:3198:U:C1'	15:L:21:LYS:HD2	1.73	1.18
31:b:14:VAL:HG21	38:i:86:LYS:HG3	1.23	1.18
1:1:19:U:OP1	39:j:90:ARG:CZ	1.91	1.18
1:1:699:A:OP1	17:N:68:LYS:NZ	1.73	1.18
1:1:1687:U:OP2	26:W:42:LYS:CE	1.91	1.18
1:1:3126:C:H1'	15:L:156:GLN:NE2	1.55	1.18
1:1:19:U:OP1	39:j:90:ARG:NH2	1.76	1.18
1:1:1974:A:N3	42:m:60:GLY:N	1.89	1.18
1:1:3213:A:OP1	18:O:128:ARG:CD	1.90	1.18
2:3:40:C:C4'	16:M:43:GLN:OE1	1.91	1.18
2:3:40:C:H4'	16:M:43:GLN:NE2	0.85	1.18
1:1:3134:A:C4'	20:Q:148:LYS:HE3	1.64	1.18
1:1:1668:G:H4'	38:i:22:VAL:HG12	1.23	1.17
1:1:2555:G:N7	38:i:95:ILE:HD12	1.59	1.17
1:1:1318:A:N6	20:Q:18:ARG:HG2	1.57	1.17
2:3:17:A:OP2	16:M:150:ASN:ND2	1.77	1.17
1:1:1597:C:P	38:i:31:ARG:HH11	1.67	1.17
1:1:3298:C:H2'	21:R:55:GLN:NE2	1.58	1.17
17:N:64:LYS:HE3	32:c:69:TRP:CD1	1.78	1.17
29:Z:140:GLY:CA	39:j:33:VAL:CG1	2.20	1.17
1:1:299:G:N7	40:k:31:GLY:HA3	1.59	1.17
1:1:976:U:H5'	22:S:144:ARG:HH12	1.06	1.17
1:1:986:U:O2'	13:J:122:ALA:HA	1.43	1.17
1:1:1348:U:H3'	22:S:35:PHE:CE1	1.80	1.17
1:1:1493:G:O5'	43:n:49:MET:HE3	1.41	1.17
10:G:311:HIS:CE1	13:J:162:PRO:CG	2.28	1.17
1:1:1157:G:H5"	13:J:220:PHE:CE1	1.80	1.17
1:1:3217:C:C4	21:R:182:ILE:HG23	1.80	1.17
1:1:1543:G:OP1	19:P:35:VAL:CG2	1.93	1.16
1:1:2674:A:N1	16:M:124:GLY:CA	2.01	1.16
1:1:2681:U:H5'	16:M:65:ILE:HG23	1.26	1.16
1:1:929:A:C1'	41:l:49:TRP:CZ3	2.21	1.16
1:1:1361:U:O2	13:J:159:GLN:OE1	1.64	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3217:C:N4	21:R:182:ILE:CG2	2.06	1.16
1:1:266:A:C5	40:k:30:LYS:HG3	1.80	1.16
1:1:1362:G:C5'	13:J:160:ARG:O	1.92	1.16
1:1:1974:A:C2	42:m:60:GLY:N	2.13	1.16
1:1:2729:U:OP1	22:S:157:PRO:CG	1.94	1.16
3:4:94:C:H3'	41:l:72:ARG:NH1	1.59	1.16
10:G:351:PRO:CA	13:J:71:ALA:HA	1.76	1.16
32:c:129:PHE:HZ	40:k:9:ILE:CG2	1.48	1.16
1:1:1687:U:O4'	26:W:75:TYR:CE1	1.99	1.16
1:1:1856:C:C1'	38:i:7:PHE:CZ	2.28	1.16
1:1:1975:C:H5"	42:m:63:LYS:CD	1.74	1.16
1:1:2683:U:H1'	16:M:128:TYR:CE2	1.81	1.16
1:1:127:G:OP1	19:P:140:LYS:HG3	1.44	1.16
1:1:562:C:H5'	24:U:71:LYS:HD3	1.23	1.16
1:1:1125:U:OP1	47:s:14:LYS:HG3	1.44	1.16
1:1:1295:G:H1'	24:U:113:ARG:O	1.44	1.16
1:1:1343:A:H2	13:J:159:GLN:NE2	1.44	1.16
1:1:1543:G:OP1	19:P:35:VAL:HG23	0.98	1.16
1:1:3113:A:O2'	15:L:69:ARG:CG	1.92	1.16
10:G:31:ARG:CZ	22:S:23:ASN:ND2	2.04	1.16
1:1:121:A:C5	14:K:108:ARG:NH2	2.13	1.15
1:1:744:A:O4'	22:S:141:ARG:HB2	1.41	1.15
1:1:1318:A:H62	20:Q:18:ARG:CG	1.56	1.15
1:1:2093:A:C5'	23:T:143:ILE:HD13	1.71	1.15
1:1:2674:A:C6	16:M:124:GLY:C	2.24	1.15
1:1:2674:A:C6	16:M:124:GLY:O	1.99	1.15
1:1:3178:A:H2'	20:Q:115:LYS:CG	1.76	1.15
17:N:64:LYS:HG3	32:c:69:TRP:CE3	1.80	1.15
32:c:129:PHE:CE1	40:k:9:ILE:HG21	1.81	1.15
1:1:241:G:H1'	17:N:45:LYS:NZ	1.57	1.15
1:1:360:G:H5'	41:l:16:HIS:CE1	1.79	1.15
1:1:1157:G:H5'	13:J:220:PHE:CZ	1.62	1.15
1:1:1347:U:H5	22:S:38:ARG:HD2	1.10	1.15
1:1:1847:A:O4'	21:R:130:TYR:OH	1.63	1.15
1:1:121:A:H2	14:K:100:GLU:OE2	1.20	1.15
1:1:299:G:C8	40:k:31:GLY:HA3	1.81	1.15
1:1:1184:A:H5"	18:O:59:ASN:HD22	1.05	1.15
1:1:1493:G:N9	43:n:13:MET:HE2	1.62	1.15
1:1:1722:U:H5"	23:T:99:LEU:HD22	1.19	1.15
1:1:2014:U:C1'	48:t:180:ASN:HB3	1.77	1.15
1:1:2352:A:H5"	21:R:83:TRP:O	1.41	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2527:G:H1'	14:K:241:LYS:CG	1.76	1.15
1:1:780:A:O4'	22:S:162:ALA:HB2	1.46	1.15
1:1:1643:A:OP1	38:i:68:THR:HG21	1.47	1.15
1:1:96:G:C5'	17:N:15:ARG:NE	2.10	1.15
1:1:786:A:N6	22:S:88:THR:CB	2.10	1.15
1:1:3007:U:OP1	20:Q:73:PHE:HA	1.45	1.15
2:3:40:C:O4'	16:M:43:GLN:OE1	1.65	1.15
10:G:109:TRP:CD1	17:N:26:PHE:HE1	1.40	1.15
1:1:269:G:C4	19:P:14:LYS:HD2	1.82	1.14
11:H:294:ALA:CB	47:s:216:PHE:CB	2.18	1.14
1:1:743:C:H1'	22:S:140:LEU:CD2	1.77	1.14
1:1:364:G:OP2	41:l:52:LYS:HE3	1.44	1.14
1:1:598:A:OP1	13:J:41:ARG:NH1	1.77	1.14
1:1:1856:C:H1'	38:i:7:PHE:CE2	1.81	1.14
1:1:86:G:O2'	17:N:11:LYS:HD3	1.45	1.14
1:1:241:G:O2'	17:N:45:LYS:HG3	1.46	1.14
1:1:666:A:N3	17:N:10:LEU:HD13	1.62	1.14
1:1:1347:U:OP2	22:S:38:ARG:HG2	1.44	1.14
1:1:1535:A:H62	1:1:1586:G:N2	1.46	1.14
1:1:389:A:C5'	21:R:16:SER:O	1.96	1.14
1:1:1764:U:OP1	23:T:43:LYS:HD2	1.45	1.14
1:1:2514:U:C1'	14:K:69:LEU:CD1	2.24	1.14
10:G:351:PRO:HA	13:J:71:ALA:CA	1.78	1.14
1:1:1103:A:N6	22:S:9:GLN:NE2	1.95	1.13
22:S:175:ALA:CB	32:c:53:PHE:O	1.96	1.13
1:1:1167:U:O2	13:J:209:ASN:ND2	1.80	1.13
1:1:3172:A:C1'	20:Q:101:ARG:NH2	2.11	1.13
1:1:2524:A:O2'	14:K:49:TYR:CD2	2.01	1.13
3:4:34:U:O5'	41:l:74:PHE:CD1	2.01	1.13
10:G:344:ALA:CB	13:J:60:ARG:NH2	1.96	1.13
1:1:86:G:O2'	17:N:11:LYS:CB	1.96	1.13
1:1:282:G:O6	19:P:181:ASN:HB2	1.46	1.13
2:3:97:A:O2'	13:J:222:HIS:CE1	2.01	1.13
3:4:36:G:N3	39:j:86:ARG:NH1	1.96	1.13
1:1:1847:A:C1'	21:R:130:TYR:OH	1.96	1.13
1:1:1947:G:H5"	23:T:134:HIS:HB2	1.19	1.13
1:1:2093:A:C5'	23:T:143:ILE:HD11	1.73	1.13
2:3:107:C:OP2	47:s:202:LYS:NZ	1.79	1.13
1:1:388:G:H5"	21:R:18:ARG:HB3	1.15	1.12
1:1:3213:A:H62	18:O:124:ARG:NH2	1.46	1.12
3:4:57:C:C4	41:l:63:ARG:NH1	2.17	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:40:HIS:CE1	25:V:69:LYS:HG3	1.82	1.12
1:1:1128:U:H4'	47:s:7:CYS:CB	1.72	1.12
1:1:1947:G:H5"	23:T:134:HIS:CB	1.79	1.12
1:1:3180:A:N6	20:Q:167:TYR:CE1	2.01	1.12
5:B:64:G:O3'	47:s:24:ALA:HB1	1.40	1.12
9:F:96:PRO:O	20:Q:149:TYR:CD2	2.01	1.12
1:1:169:U:P	17:N:128:ARG:HD2	1.89	1.12
1:1:784:A:C2	22:S:93:ILE:HG22	1.83	1.12
1:1:1347:U:C5	22:S:38:ARG:HD2	1.83	1.12
1:1:2703:A:H1'	16:M:142:LYS:NZ	1.62	1.12
1:1:3034:C:O2'	15:L:122:LYS:CB	1.97	1.12
1:1:3172:A:H1'	20:Q:101:ARG:NH2	1.64	1.12
2:3:100:C:C5'	24:U:52:LYS:NZ	2.10	1.12
22:S:163:PRO:HG3	32:c:50:PRO:HD2	1.31	1.12
29:Z:60:TYR:HD2	39:j:25:LYS:CD	1.61	1.12
1:1:1306:G:C2'	20:Q:60:LYS:HA	1.77	1.12
1:1:1687:U:O4'	26:W:75:TYR:CD1	2.01	1.12
1:1:1157:G:C4'	13:J:220:PHE:HZ	1.61	1.12
1:1:1174:G:N2	20:Q:87:MET:HE2	1.49	1.12
1:1:2515:A:C4'	19:P:28:TRP:CD1	2.31	1.12
1:1:3180:A:N6	20:Q:167:TYR:CG	2.17	1.12
1:1:3181:C:H1'	20:Q:164:SER:C	1.75	1.12
3:4:41:A:H4'	41:l:67:LEU:HD11	1.16	1.12
29:Z:60:TYR:CE2	39:j:25:LYS:HB2	1.84	1.12
1:1:1613:A:OP1	42:m:51:LEU:N	1.82	1.11
1:1:1915:A:H5"	23:T:84:THR:HG23	1.28	1.11
1:1:2524:A:O2'	14:K:49:TYR:CD1	2.02	1.11
1:1:2681:U:C4'	16:M:66:ALA:HB3	1.62	1.11
1:1:3217:C:C6	21:R:182:ILE:CD1	2.32	1.11
3:4:67:U:OP1	41:l:85:LYS:NZ	1.82	1.11
1:1:2514:U:H1'	14:K:69:LEU:HD12	1.28	1.11
5:B:63:C:O2'	47:s:23:ARG:NE	1.83	1.11
1:1:784:A:C8	22:S:65:SER:CB	2.32	1.11
1:1:986:U:O2	13:J:122:ALA:CB	1.98	1.11
1:1:1323:G:H5'	24:U:1:MET:HA	1.29	1.11
1:1:302:U:H5"	19:P:179:LYS:CE	1.80	1.11
1:1:316:U:O4	40:k:30:LYS:CB	1.97	1.11
2:3:97:A:O3'	13:J:224:ILE:CD1	1.98	1.11
1:1:148:G:O3'	19:P:55:ALA:HB2	1.49	1.11
1:1:598:A:OP1	13:J:41:ARG:NH2	1.81	1.11
1:1:665:A:P	19:P:203:ARG:NH1	2.24	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3157:U:O4	48:t:656:ALA:HB2	1.48	1.11
3:4:36:G:C2	39:j:86:ARG:NH1	2.19	1.11
11:H:17:GLN:NE2	25:V:22:HIS:N	1.98	1.11
1:1:79:U:OP1	19:P:184:LYS:HE3	1.51	1.10
1:1:134:U:O2	39:j:72:GLY:O	1.67	1.10
1:1:269:G:C4	19:P:14:LYS:CD	2.33	1.10
1:1:879:U:H2'	21:R:131:ARG:NH2	1.64	1.10
1:1:1348:U:H5'	22:S:35:PHE:HE1	1.01	1.10
1:1:1687:U:P	26:W:42:LYS:HE3	1.89	1.10
1:1:2093:A:H5"	23:T:143:ILE:HD11	1.15	1.10
1:1:2555:G:N7	38:i:95:ILE:CD1	2.12	1.10
2:3:40:C:H5'	16:M:43:GLN:CD	1.76	1.10
29:Z:51:VAL:HG21	39:j:62:GLN:O	1.47	1.10
1:1:76:G:N1	17:N:100:ARG:O	1.81	1.10
3:4:34:U:C6	41:l:74:PHE:CD2	2.39	1.10
1:1:266:A:C2	40:k:30:LYS:HE3	1.84	1.10
1:1:1535:A:N6	1:1:1586:G:H21	1.48	1.10
11:H:15:ARG:C	25:V:20:ARG:HD3	1.75	1.10
17:N:67:ARG:HD2	32:c:105:LEU:O	1.51	1.10
1:1:1447:G:O6	21:R:25:SER:OG	1.66	1.10
1:1:2100:A:C5'	23:T:71:ARG:HH11	1.55	1.10
29:Z:60:TYR:CD2	39:j:25:LYS:HB2	1.78	1.10
1:1:1687:U:OP1	26:W:42:LYS:CD	2.00	1.10
1:1:3213:A:N7	18:O:128:ARG:NH2	1.98	1.10
1:1:3217:C:C4	21:R:182:ILE:CG2	2.35	1.10
29:Z:117:ASN:C	43:n:14:ALA:HB1	1.76	1.10
32:c:129:PHE:CZ	40:k:9:ILE:HG21	1.82	1.10
1:1:1191:U:OP2	20:Q:49:ARG:HD3	0.93	1.09
1:1:2515:A:H5"	19:P:28:TRP:CZ2	1.87	1.09
1:1:3217:C:C5	21:R:182:ILE:CG2	2.34	1.09
3:4:141:C:H1'	19:P:112:ASN:HD21	1.12	1.09
11:H:17:GLN:HE22	25:V:22:HIS:C	1.60	1.09
1:1:76:G:C6	17:N:101:ARG:HA	1.73	1.09
1:1:2167:A:OP1	19:P:72:LYS:NZ	1.85	1.09
10:G:112:LYS:NZ	19:P:204:LYS:HG2	1.68	1.09
1:1:196:G:N2	1:1:219:A:H61	1.50	1.09
1:1:1109:U:C5'	22:S:153:PHE:CD1	2.34	1.09
1:1:1493:G:H3'	43:n:49:MET:CE	1.83	1.09
1:1:1588:A:C6	43:n:4:GLN:CG	2.27	1.09
1:1:1589:A:O2'	38:i:15:THR:HG21	1.47	1.09
1:1:3181:C:C4'	20:Q:164:SER:OG	2.01	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:97:A:O3'	13:J:224:ILE:HD12	1.51	1.09
22:S:174:ARG:C	32:c:56:VAL:CG1	2.25	1.09
1:1:617:G:O3'	21:R:169:THR:HB	1.52	1.09
1:1:2015:C:H1'	48:t:184:GLN:CD	1.76	1.09
1:1:2352:A:C4'	21:R:85:ALA:CB	2.31	1.09
1:1:2639:G:O2'	25:V:56:PHE:CD1	2.04	1.09
12:I:174:LEU:HD23	18:O:117:ARG:NH2	1.68	1.09
1:1:68:C:O3'	19:P:177:GLY:HA2	1.50	1.08
1:1:798:G:N3	17:N:14:PHE:HD2	1.50	1.08
1:1:1362:G:H5"	13:J:160:ARG:O	1.50	1.08
1:1:2352:A:H4'	21:R:85:ALA:HB3	1.27	1.08
1:1:3033:A:C2	15:L:120:ASP:OD1	2.05	1.08
10:G:352:ALA:HB3	13:J:73:GLY:CA	1.82	1.08
22:S:174:ARG:O	32:c:56:VAL:CG1	2.01	1.08
1:1:103:G:H5'	17:N:65:TYR:CD2	1.88	1.08
1:1:1873:U:OP1	23:T:21:LYS:NZ	1.86	1.08
1:1:2526:C:O2'	14:K:241:LYS:NZ	1.86	1.08
1:1:2527:G:C1'	14:K:241:LYS:HG2	1.82	1.08
1:1:2674:A:C2	16:M:124:GLY:HA3	1.88	1.08
4:A:53:G:H4'	47:s:69:ILE:HG12	1.28	1.08
11:H:69:ILE:HG22	25:V:31:LEU:HB2	1.14	1.08
12:I:174:LEU:HD22	18:O:117:ARG:CZ	1.83	1.08
1:1:903:U:P	41:l:30:GLN:HG2	1.91	1.08
1:1:929:A:C1'	41:l:49:TRP:HE3	1.41	1.08
1:1:3183:A:P	20:Q:12:LYS:CE	2.41	1.08
1:1:3243:A:C2	20:Q:156:LEU:HD13	1.87	1.08
1:1:3267:A:H4'	21:R:181:ARG:NH1	1.68	1.08
3:4:10:A:H2	21:R:6:ALA:HB2	0.97	1.08
3:4:41:A:C4'	41:l:67:LEU:HD11	1.82	1.08
1:1:268:A:N7	19:P:12:ARG:CG	2.13	1.08
1:1:412:G:H21	21:R:118:GLN:NE2	1.50	1.08
1:1:597:G:OP2	13:J:37:ASN:HB3	0.90	1.08
1:1:1348:U:H5'	22:S:35:PHE:CE1	1.84	1.08
1:1:1589:A:H1'	38:i:13:TYR:HB2	1.35	1.08
6:C:103:ALA:HA	16:M:62:ASN:HB2	1.36	1.08
29:Z:68:THR:HG21	39:j:36:LEU:HD13	1.34	1.08
1:1:119:U:C6	14:K:138:HIS:CE1	2.42	1.08
1:1:3113:A:O2'	15:L:69:ARG:HG2	1.52	1.08
1:1:682:U:C4	19:P:202:TYR:CE2	2.41	1.07
1:1:1306:G:H1'	20:Q:61:ALA:H	0.99	1.07
1:1:2846:U:C5	44:o:97:ARG:NH1	2.16	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:52:A:N3	43:n:23:LEU:CD2	2.08	1.07
10:G:31:ARG:NH2	22:S:23:ASN:HB2	1.68	1.07
10:G:280:ILE:CD1	22:S:25:TYR:HB3	1.83	1.07
1:1:57:A:H4'	19:P:157:LYS:HB2	1.08	1.07
1:1:1059:G:O2'	25:V:61:THR:N	1.88	1.07
1:1:1158:A:C6	13:J:93:ASN:ND2	2.21	1.07
1:1:1593:A:O4'	38:i:60:ARG:CZ	2.02	1.07
1:1:2729:U:OP1	22:S:157:PRO:HG2	1.54	1.07
12:I:174:LEU:CD2	18:O:117:ARG:HH12	1.64	1.07
29:Z:60:TYR:OH	39:j:22:VAL:HG13	1.50	1.07
1:1:364:G:O6	41:l:56:ARG:NE	1.87	1.07
1:1:676:G:H22	22:S:61:PRO:CG	1.67	1.07
1:1:813:G:C5'	41:l:47:TYR:HH	1.65	1.07
1:1:1040:A:N3	47:s:197:LYS:NZ	2.01	1.07
1:1:1915:A:H4'	23:T:84:THR:HA	1.35	1.07
1:1:2013:C:H1'	48:t:176:GLN:HG3	1.17	1.07
1:1:2703:A:H1'	16:M:142:LYS:HZ1	0.97	1.07
1:1:2703:A:C1'	16:M:142:LYS:HZ1	1.65	1.07
29:Z:114:VAL:HG11	43:n:10:LYS:HZ2	1.12	1.07
1:1:266:A:N6	40:k:30:LYS:HA	1.66	1.07
1:1:364:G:O6	41:l:56:ARG:CZ	2.01	1.07
1:1:1169:A:H5'	13:J:219:LYS:HD2	1.12	1.07
1:1:2599:U:H5"	19:P:70:ASN:ND2	1.69	1.07
2:3:97:A:H4'	13:J:224:ILE:HB	1.32	1.07
10:G:110:ASN:HD22	19:P:201:ARG:HB3	0.92	1.07
1:1:1186:G:O2'	24:U:113:ARG:NH1	1.88	1.07
1:1:1473:G:H5'	23:T:24:LEU:O	1.52	1.07
1:1:2355:G:H4'	21:R:139:TYR:CD1	1.88	1.07
3:4:5:U:OP1	21:R:62:ARG:CG	2.01	1.07
1:1:49:A:C2	19:P:187:ARG:NH1	2.22	1.06
1:1:1348:U:H5"	22:S:35:PHE:CE1	1.86	1.06
3:4:34:U:C5'	41:l:74:PHE:CD1	2.38	1.06
3:4:41:A:C5'	41:l:67:LEU:CD1	2.32	1.06
3:4:57:C:C5	41:l:63:ARG:NH1	2.22	1.06
1:1:96:G:H5'	17:N:15:ARG:HE	1.08	1.06
1:1:856:G:OP1	23:T:92:GLN:HG3	1.53	1.06
1:1:1306:G:O2'	20:Q:60:LYS:HA	0.89	1.06
1:1:1601:U:H5"	23:T:38:ARG:HD3	1.17	1.06
1:1:2683:U:H1'	16:M:128:TYR:CZ	1.89	1.06
1:1:3198:U:H1'	15:L:21:LYS:CD	1.85	1.06
10:G:286:VAL:HG22	22:S:28:LEU:HD22	1.29	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:712:G:OP1	17:N:174:ARG:NH1	1.89	1.06
1:1:1306:G:C4	20:Q:61:ALA:O	2.08	1.06
1:1:1323:G:C5'	24:U:1:MET:HA	1.71	1.06
1:1:1589:A:O2'	38:i:15:THR:CG2	2.03	1.06
1:1:2355:G:O4'	21:R:139:TYR:OH	1.73	1.06
1:1:3213:A:C8	18:O:128:ARG:NH1	2.24	1.06
11:H:15:ARG:O	25:V:20:ARG:HG2	1.54	1.06
1:1:669:U:OP1	22:S:149:ALA:HB1	1.52	1.06
1:1:1040:A:H1'	47:s:197:LYS:NZ	1.70	1.06
1:1:1517:G:H5"	43:n:22:PRO:HG2	1.32	1.06
1:1:3207:U:OP1	18:O:99:TRP:CZ2	2.07	1.06
17:N:64:LYS:HE3	32:c:69:TRP:NE1	1.71	1.06
17:N:66:ASN:ND2	32:c:128:ARG:NH2	1.84	1.06
1:1:2494:A:H5'	46:r:30:UNK:CB	1.85	1.06
1:1:2584:G:H1'	14:K:240:ASN:HD22	1.11	1.06
1:1:2643:A:OP2	25:V:3:LYS:CE	2.03	1.06
14:K:28:HIS:CE1	31:b:128:GLN:HG3	1.91	1.06
1:1:2013:C:C5'	48:t:177:GLN:NE2	2.16	1.05
1:1:3113:A:O2'	15:L:69:ARG:CB	2.04	1.05
11:H:40:HIS:CE1	25:V:69:LYS:HA	1.89	1.05
1:1:169:U:O5'	17:N:128:ARG:HD2	1.56	1.05
1:1:74:G:O2'	17:N:61:PRO:HG3	0.87	1.05
1:1:134:U:H3	39:j:72:GLY:CA	1.69	1.05
1:1:744:A:H1'	22:S:141:ARG:HD2	1.38	1.05
1:1:1493:G:H3'	43:n:49:MET:HE1	1.08	1.05
1:1:2100:A:H5'	23:T:71:ARG:HH11	0.88	1.05
1:1:2631:U:OP2	25:V:4:SER:OG	1.75	1.05
12:I:174:LEU:CD2	18:O:117:ARG:NH2	2.16	1.05
1:1:269:G:N3	19:P:14:LYS:CD	2.18	1.05
1:1:691:A:O2'	17:N:29:ALA:HB3	1.55	1.05
10:G:329:PRO:O	13:J:45:LEU:HD12	1.55	1.05
29:Z:51:VAL:HG11	39:j:62:GLN:HB3	1.37	1.05
1:1:57:A:H4'	19:P:157:LYS:CB	1.85	1.05
1:1:2673:A:H4'	16:M:103:GLY:C	1.81	1.05
1:1:3267:A:C4'	21:R:181:ARG:NH1	2.19	1.05
1:1:282:G:C6	19:P:181:ASN:HB2	1.92	1.04
1:1:669:U:OP1	22:S:149:ALA:CB	2.04	1.04
1:1:727:G:N2	22:S:139:ILE:HB	1.72	1.04
1:1:798:G:N2	17:N:14:PHE:CD2	2.25	1.04
1:1:1125:U:C5'	47:s:14:LYS:HZ3	1.54	1.04
1:1:2015:C:C1'	48:t:184:GLN:CD	2.30	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2100:A:O5'	23:T:71:ARG:NH1	1.89	1.04
1:1:86:G:O2'	17:N:11:LYS:CD	2.05	1.04
1:1:364:G:C6	41:l:56:ARG:NH2	2.17	1.04
1:1:562:C:H4'	24:U:71:LYS:CE	1.87	1.04
1:1:798:G:C2	17:N:14:PHE:CD2	2.45	1.04
1:1:986:U:O2	13:J:122:ALA:HB1	1.55	1.04
1:1:1321:G:O4'	24:U:115:ARG:NH1	1.88	1.04
1:1:2728:G:O6	25:V:87:LYS:CD	2.04	1.04
1:1:2853:A:OP1	47:s:62:GLU:HG2	1.56	1.04
25:V:84:TYR:CE2	33:d:21:ILE:HG22	1.92	1.04
1:1:56:G:O3'	19:P:158:HIS:CD2	2.11	1.04
1:1:155:G:C4'	40:k:26:ILE:CD1	2.35	1.04
1:1:402:A:OP2	43:n:36:ARG:NH1	1.89	1.04
1:1:784:A:C6	22:S:93:ILE:CG2	2.41	1.04
1:1:813:G:O5'	41:l:47:TYR:OH	1.74	1.04
1:1:2844:C:H42	1:1:2898:G:N2	1.55	1.04
12:I:174:LEU:HD23	18:O:117:ARG:HH22	0.89	1.04
1:1:677:A:OP2	22:S:88:THR:HB	1.54	1.04
1:1:2015:C:H1'	48:t:184:GLN:OE1	1.57	1.04
1:1:2516:U:H5'	19:P:31:ARG:NH2	1.73	1.04
10:G:351:PRO:CB	13:J:70:LYS:O	2.06	1.04
22:S:174:ARG:C	32:c:56:VAL:HG12	1.83	1.04
1:1:74:G:H1'	17:N:61:PRO:HB3	1.35	1.04
1:1:3034:C:C2'	15:L:122:LYS:HB2	1.88	1.04
11:H:15:ARG:CA	25:V:20:ARG:CD	2.05	1.04
1:1:9:U:H5"	19:P:40:ALA:CB	1.87	1.03
1:1:75:G:OP1	17:N:58:VAL:HG21	1.58	1.03
1:1:119:U:C5	14:K:138:HIS:CG	2.46	1.03
1:1:784:A:H2'	22:S:65:SER:OG	1.58	1.03
1:1:3126:C:C1'	15:L:156:GLN:NE2	2.22	1.03
2:3:99:G:OP1	24:U:53:LYS:HD3	0.88	1.03
3:4:38:U:P	39:j:78:LYS:NZ	2.31	1.03
11:H:38:THR:CG2	25:V:30:TYR:CD1	2.41	1.03
1:1:1109:U:C4'	22:S:153:PHE:CE1	2.27	1.03
1:1:1348:U:H5"	22:S:35:PHE:HE1	1.18	1.03
1:1:1689:U:O2'	23:T:59:SER:CB	2.06	1.03
10:G:280:ILE:HD11	22:S:25:TYR:HB3	1.06	1.03
1:1:1010:G:H1'	47:s:194:ALA:HB3	1.34	1.03
1:1:2672:G:O3'	16:M:95:ASN:CA	2.06	1.03
1:1:3126:C:H1'	15:L:156:GLN:HE22	1.14	1.03
1:1:3157:U:O4	48:t:656:ALA:CB	2.05	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:f:83:GLU:OE1	48:t:48:LYS:O	1.76	1.03
1:1:1062:A:C2'	25:V:130:ARG:HH21	1.62	1.03
1:1:1975:C:C1'	42:m:59:ALA:CB	2.06	1.03
1:1:2494:A:C4'	46:r:30:UNK:CB	2.36	1.03
3:4:14:C:H5"	21:R:123:PRO:HG3	1.40	1.03
29:Z:51:VAL:CG2	39:j:62:GLN:O	2.06	1.03
1:1:1846:C:H42	51:z:10:UNK:CA	1.71	1.03
1:1:2618:G:O6	47:s:114:MET:HG3	1.53	1.03
1:1:2674:A:N6	16:M:124:GLY:C	2.14	1.03
1:1:3183:A:OP1	20:Q:12:LYS:CD	2.05	1.03
11:H:294:ALA:HB1	47:s:216:PHE:HB2	1.40	1.03
17:N:2:ALA:HB1	32:c:33:GLY:O	1.56	1.03
25:V:66:ASN:HD21	33:d:36:ASP:N	1.56	1.03
1:1:266:A:C4	40:k:30:LYS:HE3	1.93	1.02
1:1:289:A:C2	19:P:93:LYS:HD3	1.94	1.02
1:1:743:C:H1'	22:S:140:LEU:HD23	1.39	1.02
1:1:841:A:OP1	23:T:125:LYS:HE3	1.58	1.02
1:1:1311:G:H21	20:Q:87:MET:HA	1.24	1.02
1:1:1448:U:OP1	21:R:66:SER:O	1.77	1.02
12:I:158:TYR:CE1	18:O:115:PHE:HA	1.94	1.02
1:1:75:G:OP1	17:N:58:VAL:HG23	1.54	1.02
1:1:108:A:H5'	17:N:42:ARG:HH12	1.17	1.02
1:1:155:G:H4'	40:k:26:ILE:CD1	1.89	1.02
1:1:786:A:N6	22:S:88:THR:OG1	1.88	1.02
1:1:3034:C:O2'	15:L:122:LYS:HB2	1.59	1.02
3:4:53:A:H4'	43:n:40:LYS:HD2	1.41	1.02
10:G:112:LYS:NZ	19:P:204:LYS:CG	2.22	1.02
10:G:112:LYS:HZ3	19:P:204:LYS:HG2	1.19	1.02
1:1:1010:G:OP1	47:s:38:LYS:CD	2.07	1.02
1:1:1311:G:N2	20:Q:87:MET:HA	1.75	1.02
1:1:1348:U:H5"	22:S:38:ARG:NH2	1.72	1.02
1:1:1689:U:H4'	23:T:59:SER:HB2	1.33	1.02
1:1:2013:C:N1	48:t:176:GLN:HG3	1.73	1.02
1:1:2014:U:C6	48:t:180:ASN:HB3	1.94	1.02
1:1:2618:G:O6	47:s:114:MET:HG2	1.52	1.02
1:1:3207:U:OP1	18:O:99:TRP:HH2	1.40	1.02
1:1:119:U:C5	14:K:138:HIS:ND1	2.28	1.02
1:1:136:G:H4'	39:j:95:PHE:CE2	1.94	1.02
1:1:2836:C:O4'	47:s:156:TYR:HD2	1.43	1.02
1:1:994:G:OP1	25:V:13:TYR:O	1.75	1.02
1:1:1348:U:C3'	22:S:35:PHE:CE1	2.43	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1847:A:N1	21:R:130:TYR:HB2	1.70	1.02
1:1:2352:A:OP1	21:R:83:TRP:C	2.02	1.02
1:1:2494:A:C5'	46:r:30:UNK:CB	2.37	1.02
1:1:2829:U:O2'	47:s:103:SER:CB	2.08	1.02
1:1:2829:U:O2'	47:s:103:SER:HB3	1.58	1.02
1:1:1447:G:O6	21:R:25:SER:CB	2.08	1.01
1:1:2555:G:O6	38:i:95:ILE:CD1	2.08	1.01
3:4:34:U:P	41:l:74:PHE:CE1	2.52	1.01
5:B:64:G:C4'	47:s:24:ALA:HB2	1.89	1.01
1:1:57:A:C4'	19:P:157:LYS:HB2	1.91	1.01
1:1:302:U:H5"	19:P:179:LYS:HE3	1.38	1.01
1:1:363:G:P	41:l:52:LYS:HD2	1.98	1.01
1:1:2093:A:P	23:T:143:ILE:CD1	2.45	1.01
1:1:2514:U:C1'	14:K:69:LEU:HD11	1.89	1.01
11:H:15:ARG:C	25:V:20:ARG:CD	2.29	1.01
1:1:160:G:H1	1:1:261:U:H3	1.08	1.01
1:1:781:G:OP2	22:S:151:ARG:HD2	1.59	1.01
1:1:986:U:O2'	13:J:122:ALA:CA	2.08	1.01
1:1:1191:U:O2'	20:Q:48:PHE:CZ	2.00	1.01
1:1:1749:A:C3'	42:m:44:LYS:HZ1	1.71	1.01
1:1:2013:C:H1'	48:t:176:GLN:O	1.60	1.01
1:1:2352:A:H4'	21:R:85:ALA:HB2	1.05	1.01
1:1:2723:U:OP1	25:V:87:LYS:CE	2.08	1.01
1:1:3113:A:O2'	15:L:69:ARG:HB3	1.56	1.01
1:1:3267:A:H5"	21:R:181:ARG:HH12	0.89	1.01
10:G:110:ASN:ND2	19:P:201:ARG:HB3	1.73	1.01
11:H:150:LEU:HD13	16:M:143:ARG:CG	1.89	1.01
32:c:129:PHE:CE1	40:k:9:ILE:CG2	2.39	1.01
1:1:76:G:C6	17:N:101:ARG:CA	2.44	1.01
1:1:96:G:P	17:N:15:ARG:NH2	2.31	1.01
1:1:3178:A:C8	20:Q:6:VAL:HB	1.95	1.01
3:4:12:A:O4'	21:R:4:TYR:O	1.77	1.01
22:S:173:GLU:HA	32:c:51:GLY:O	0.84	1.01
1:1:287:G:H4'	19:P:180:PHE:CE1	1.95	1.01
1:1:316:U:O4	40:k:30:LYS:HB2	1.59	1.01
1:1:1856:C:C1'	38:i:7:PHE:CE2	2.42	1.01
1:1:3183:A:O5'	20:Q:12:LYS:HE3	1.61	1.01
1:1:3187:A:N1	24:U:171:PHE:CB	2.24	1.01
10:G:299:ILE:HG21	22:S:39:ARG:HE	1.24	1.01
10:G:344:ALA:HB1	13:J:60:ARG:CZ	1.90	1.01
1:1:49:A:C5	19:P:187:ARG:HD2	1.94	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:76:G:O6	17:N:101:ARG:CA	2.08	1.00
1:1:196:G:H21	1:1:219:A:N6	1.57	1.00
1:1:268:A:C5'	19:P:47:LYS:NZ	2.24	1.00
1:1:1010:G:P	47:s:38:LYS:CD	2.48	1.00
1:1:1318:A:N6	20:Q:18:ARG:CG	2.16	1.00
1:1:2365:C:C1'	20:Q:68:ARG:HH22	1.73	1.00
1:1:3217:C:C5	21:R:182:ILE:HG23	1.91	1.00
1:1:3276:G:O2'	21:R:175:ARG:HD3	1.60	1.00
1:1:1125:U:C5'	47:s:14:LYS:HZ2	1.50	1.00
11:H:38:THR:HG21	25:V:30:TYR:CD1	1.96	1.00
1:1:1348:U:C5'	22:S:38:ARG:NH2	2.25	1.00
1:1:1493:G:O2'	43:n:13:MET:HG2	1.62	1.00
1:1:1543:G:P	19:P:35:VAL:CG2	2.48	1.00
1:1:1757:A:C4'	26:W:96:VAL:HG11	1.90	1.00
1:1:3298:C:O2'	21:R:55:GLN:O	1.77	1.00
3:4:141:C:O2	19:P:112:ASN:ND2	1.93	1.00
10:G:112:LYS:HZ1	19:P:204:LYS:CG	1.74	1.00
14:K:50:VAL:HG12	29:Z:30:ALA:HA	1.42	1.00
25:V:66:ASN:HD21	33:d:36:ASP:H	1.02	1.00
1:1:879:U:C1'	21:R:135:ARG:HH22	1.75	1.00
10:G:31:ARG:CD	22:S:23:ASN:OD1	2.08	1.00
1:1:73:C:OP2	40:k:14:GLY:HA3	1.61	1.00
1:1:146:U:O2'	14:K:135:GLY:HA2	1.62	1.00
1:1:1687:U:OP2	26:W:42:LYS:HE3	1.55	1.00
1:1:3187:A:N1	24:U:171:PHE:HB2	1.77	1.00
29:Z:51:VAL:HG21	39:j:62:GLN:C	1.86	1.00
1:1:107:A:OP1	17:N:39:ARG:HD3	1.58	1.00
1:1:2432:A:N3	19:P:125:SER:CB	2.24	1.00
1:1:2673:A:C5'	16:M:103:GLY:O	2.09	1.00
10:G:31:ARG:NH2	22:S:23:ASN:CG	2.19	1.00
17:N:3:ILE:CD1	32:c:34:MET:SD	2.49	1.00
1:1:389:A:C1'	21:R:101:ASN:OD1	2.10	1.00
1:1:666:A:C2	17:N:10:LEU:CD1	2.45	1.00
1:1:784:A:C6	22:S:93:ILE:HG22	1.96	0.99
1:1:1873:U:OP1	23:T:21:LYS:CE	2.10	0.99
1:1:1947:G:C5'	23:T:134:HIS:CG	2.44	0.99
1:1:2631:U:OP2	25:V:9:SER:HB2	1.62	0.99
1:1:76:G:C8	17:N:101:ARG:HD2	1.95	0.99
1:1:1109:U:C5'	22:S:153:PHE:HD1	1.74	0.99
1:1:1125:U:H5"	47:s:14:LYS:HZ2	1.22	0.99
1:1:103:G:O4'	17:N:65:TYR:CE2	2.15	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1363:A:OP1	13:J:160:ARG:HD2	1.57	0.99
1:1:1915:A:H5"	23:T:84:THR:HG22	1.41	0.99
11:H:150:LEU:HD13	16:M:143:ARG:HG3	1.41	0.99
1:1:666:A:N3	17:N:10:LEU:CD1	2.23	0.99
3:4:52:A:C4	43:n:23:LEU:HD23	1.94	0.99
1:1:1045:C:H1'	47:s:93:PHE:CD2	1.97	0.99
1:1:1362:G:C4'	13:J:160:ARG:N	2.26	0.99
1:1:1687:U:P	26:W:42:LYS:HD2	2.01	0.99
1:1:57:A:H5'	19:P:157:LYS:HD3	1.44	0.99
1:1:268:A:H5'	19:P:47:LYS:HZ3	1.21	0.99
1:1:1167:U:H4'	13:J:211:SER:HA	1.40	0.99
1:1:1847:A:C8	21:R:130:TYR:CZ	2.43	0.99
1:1:2015:C:C1'	48:t:184:GLN:OE1	2.11	0.99
1:1:3186:A:O4'	18:O:12:TRP:CH2	2.16	0.99
1:1:3213:A:OP1	18:O:128:ARG:HD3	0.95	0.99
1:1:3217:C:H41	21:R:182:ILE:HG23	0.95	0.99
11:H:40:HIS:HE1	25:V:69:LYS:HG3	1.28	0.99
1:1:1757:A:H5'	26:W:96:VAL:HG13	1.38	0.99
2:3:92:A:H2	47:s:55:GLU:HG2	1.25	0.99
1:1:359:U:H4'	41:l:25:ARG:HH12	1.28	0.98
1:1:743:C:O2	22:S:140:LEU:CA	2.11	0.98
1:1:1306:G:H1'	20:Q:61:ALA:N	1.78	0.98
1:1:1347:U:H5	22:S:38:ARG:CD	1.76	0.98
1:1:3180:A:C5	20:Q:167:TYR:CE2	2.51	0.98
22:S:178:ARG:NH1	32:c:50:PRO:HG2	1.77	0.98
1:1:269:G:C5'	19:P:120:TRP:CZ3	2.32	0.98
1:1:1041:U:O2'	47:s:195:PHE:CD2	1.95	0.98
1:1:2013:C:O2'	48:t:176:GLN:O	1.80	0.98
1:1:3178:A:H2'	20:Q:115:LYS:HG2	1.42	0.98
1:1:986:U:H5'	13:J:126:LEU:CD2	1.91	0.98
1:1:1062:A:H1'	25:V:130:ARG:CZ	1.91	0.98
1:1:2527:G:O4'	14:K:241:LYS:CE	2.11	0.98
11:H:38:THR:HG22	25:V:30:TYR:HB3	1.46	0.98
11:H:294:ALA:CB	47:s:216:PHE:HB2	1.91	0.98
1:1:1347:U:C5	22:S:38:ARG:CD	2.47	0.98
1:1:2216:G:P	40:k:75:LYS:NZ	2.36	0.98
1:1:2757:U:O4'	25:V:8:ARG:HD3	1.63	0.98
3:4:34:U:H5'	41:l:78:PHE:CE2	1.99	0.98
1:1:87:U:H3	1:1:99:A:N6	1.60	0.98
1:1:1493:G:N7	43:n:13:MET:CE	2.12	0.98
1:1:1687:U:P	26:W:42:LYS:CD	2.52	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1757:A:H5"	26:W:96:VAL:HG11	1.00	0.98
1:1:3217:C:H5	21:R:182:ILE:CG1	1.64	0.98
1:1:134:U:H3	39:j:72:GLY:HA2	0.82	0.98
1:1:815:G:OP2	41:l:31:LYS:NZ	1.97	0.98
1:1:3198:U:C5	15:L:26:LYS:CE	2.46	0.98
1:1:1321:G:H5"	24:U:117:ARG:NH1	1.79	0.98
3:4:34:U:C6	41:l:74:PHE:CG	2.52	0.98
12:I:51:ARG:CZ	18:O:114:ASP:OD2	2.12	0.98
1:1:727:G:H22	22:S:139:ILE:HB	1.21	0.98
1:1:2549:G:C8	14:K:33:ASN:OD1	2.17	0.98
1:1:2722:U:H4'	25:V:88:ARG:HB2	1.44	0.98
10:G:31:ARG:NH2	22:S:23:ASN:CB	2.25	0.98
1:1:1491:A:OP1	41:l:14:LYS:CG	2.11	0.98
1:1:2101:C:OP1	23:T:71:ARG:CZ	2.12	0.98
1:1:2427:U:H3	1:1:2602:G:H1	1.00	0.98
1:1:1494:U:O2'	43:n:17:LYS:NZ	1.96	0.98
1:1:1716:U:H2'	23:T:118:HIS:NE2	1.78	0.98
1:1:520:U:OP1	13:J:70:LYS:HE2	1.63	0.97
1:1:2756:C:C2'	25:V:8:ARG:HH21	1.76	0.97
1:1:297:G:H1	19:P:12:ARG:HH12	1.03	0.97
3:4:51:G:C4	43:n:26:TRP:HZ2	1.81	0.97
1:1:784:A:N1	22:S:93:ILE:CG2	2.27	0.97
1:1:903:U:OP2	41:l:30:GLN:HG2	1.63	0.97
1:1:1347:U:C5	22:S:38:ARG:NH1	2.31	0.97
1:1:1668:G:H4'	38:i:22:VAL:CG1	1.93	0.97
1:1:1852:G:N3	41:l:9:GLY:HA3	1.79	0.97
1:1:2432:A:N3	19:P:125:SER:HB2	1.79	0.97
1:1:3173:G:P	20:Q:101:ARG:NE	2.34	0.97
1:1:57:A:H5'	19:P:157:LYS:CD	1.93	0.97
1:1:241:G:O4'	17:N:45:LYS:NZ	1.97	0.97
1:1:1010:G:P	47:s:38:LYS:HD3	2.04	0.97
1:1:1174:G:N2	20:Q:87:MET:SD	2.36	0.97
1:1:2216:G:P	40:k:75:LYS:HZ3	1.87	0.97
3:4:34:U:C5	41:l:74:PHE:CD2	2.52	0.97
10:G:31:ARG:NH1	22:S:23:ASN:HD21	1.48	0.97
32:c:129:PHE:HE1	40:k:9:ILE:HD13	1.27	0.97
1:1:976:U:H5'	22:S:144:ARG:NH1	1.80	0.97
1:1:3113:A:O3'	15:L:69:ARG:HG2	1.64	0.97
31:b:14:VAL:HG11	38:i:86:LYS:HE3	1.44	0.97
1:1:1169:A:H5"	13:J:219:LYS:HD2	1.46	0.97
1:1:1493:G:N9	43:n:13:MET:CE	2.20	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3206:C:C1’	24:U:155:ARG:NH1	2.01	0.97
1:1:266:A:N6	40:k:30:LYS:HG3	1.80	0.97
1:1:30:G:OP1	19:P:172:ARG:NE	1.74	0.97
1:1:96:G:O5’	17:N:15:ARG:CZ	2.11	0.97
1:1:1472:U:C4’	23:T:4:LEU:CD1	2.43	0.97
1:1:2352:A:C4’	21:R:85:ALA:HB3	1.89	0.97
1:1:2166:A:O4’	19:P:74:PRO:HA	1.65	0.96
1:1:2524:A:O2’	14:K:49:TYR:CE1	2.18	0.96
1:1:3198:U:H1’	15:L:21:LYS:HD2	0.97	0.96
17:N:166:ALA:HB3	32:c:135:GLU:CD	1.89	0.96
1:1:20:A:O2’	19:P:111:ALA:CB	2.14	0.96
1:1:1059:G:H1’	25:V:59:GLY:O	1.65	0.96
1:1:1174:G:N2	20:Q:87:MET:HE1	1.80	0.96
1:1:1305:U:O2’	20:Q:63:ALA:HB2	1.64	0.96
2:3:96:U:O2’	24:U:119:ARG:CD	2.13	0.96
10:G:289:ILE:HD13	22:S:125:ASP:HB2	1.45	0.96
1:1:1825:G:OP1	42:m:48:SER:HB2	1.63	0.96
1:1:1947:G:H5”	23:T:134:HIS:CG	1.99	0.96
10:G:330:TYR:CZ	13:J:49:ALA:HA	1.99	0.96
1:1:1317:A:O2’	20:Q:18:ARG:NH2	1.97	0.96
1:1:2100:A:C5’	23:T:71:ARG:HH12	1.74	0.96
1:1:316:U:O4	40:k:30:LYS:HB3	1.62	0.96
1:1:1167:U:O2	13:J:209:ASN:HB2	1.65	0.96
1:1:3157:U:O2’	48:t:649:LYS:CB	2.14	0.96
1:1:813:G:C5’	41:l:47:TYR:OH	2.12	0.96
1:1:2365:C:C1’	20:Q:68:ARG:NH2	2.28	0.96
1:1:2515:A:O3’	19:P:28:TRP:HD1	1.49	0.96
1:1:3034:C:O2’	15:L:122:LYS:CD	2.14	0.96
10:G:352:ALA:HB2	13:J:73:GLY:N	1.80	0.96
1:1:1362:G:H1’	13:J:159:GLN:HA	1.47	0.96
1:1:1687:U:P	26:W:42:LYS:CE	2.52	0.96
1:1:2524:A:O2’	14:K:49:TYR:CE2	2.16	0.96
11:H:69:ILE:HG23	25:V:31:LEU:HB3	0.96	0.96
35:f:83:GLU:HB2	48:t:48:LYS:O	1.66	0.96
1:1:1184:A:H5”	18:O:59:ASN:ND2	1.78	0.96
1:1:1321:G:H5”	24:U:117:ARG:HH12	1.26	0.96
1:1:1321:G:H4’	24:U:117:ARG:HH22	1.30	0.96
1:1:1856:C:O4’	38:i:7:PHE:HZ	1.49	0.96
1:1:388:G:H5”	21:R:18:ARG:CB	1.95	0.96
1:1:2352:A:C4’	21:R:85:ALA:HB2	1.95	0.96
1:1:2674:A:C5	16:M:124:GLY:O	2.19	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3007:U:H5'	20:Q:73:PHE:CD1	2.00	0.96
1:1:149:U:H5'	19:P:54:LYS:HE3	1.46	0.96
1:1:2527:G:H1'	14:K:241:LYS:HG2	0.96	0.96
11:H:17:GLN:HE22	25:V:22:HIS:N	1.58	0.96
17:N:67:ARG:HD2	32:c:106:ALA:HA	1.48	0.96
1:1:987:U:H4'	13:J:121:LYS:HG3	1.48	0.95
1:1:1040:A:N3	47:s:197:LYS:CE	2.28	0.95
1:1:2013:C:H5'	48:t:177:GLN:HE21	1.09	0.95
1:1:3181:C:C2	20:Q:165:ALA:HA	1.99	0.95
10:G:110:ASN:HB2	19:P:201:ARG:O	1.66	0.95
10:G:352:ALA:CB	13:J:73:GLY:N	2.28	0.95
1:1:1010:G:H1'	47:s:194:ALA:HB2	1.43	0.95
1:1:1547:G:OP1	19:P:108:ARG:NH2	1.99	0.95
1:1:3217:C:C6	21:R:182:ILE:HD13	1.98	0.95
29:Z:68:THR:CG2	39:j:36:LEU:HD13	1.95	0.95
1:1:1974:A:N3	42:m:60:GLY:CA	2.29	0.95
1:1:3231:U:H3	1:1:3256:G:H1	0.96	0.95
3:4:36:G:C4	39:j:86:ARG:NH1	2.31	0.95
3:4:46:G:C5'	43:n:18:LYS:NZ	2.29	0.95
3:4:95:G:O2'	41:l:81:GLY:O	1.82	0.95
1:1:1472:U:H4'	23:T:4:LEU:HD13	1.48	0.95
1:1:3126:C:H1'	15:L:156:GLN:CD	1.91	0.95
3:4:75:G:C2	43:n:26:TRP:CB	2.49	0.95
1:1:508:U:OP1	13:J:211:SER:OG	1.84	0.95
1:1:3217:C:H41	21:R:182:ILE:CG2	1.70	0.95
3:4:41:A:C4'	41:l:67:LEU:CD1	2.43	0.95
1:1:2674:A:H5"	16:M:105:GLY:CA	1.97	0.94
3:4:46:G:H5'	43:n:18:LYS:HZ2	1.15	0.94
1:1:1485:G:N2	38:i:4:ARG:HD2	1.81	0.94
1:1:1493:G:C5'	43:n:49:MET:HE3	1.97	0.94
1:1:780:A:C4'	22:S:162:ALA:HB2	1.98	0.94
1:1:3186:A:H4'	18:O:12:TRP:HZ2	1.28	0.94
1:1:3267:A:C5'	21:R:181:ARG:HH11	1.70	0.94
1:1:269:G:C4	19:P:14:LYS:HD3	2.03	0.94
1:1:1009:A:H5"	47:s:34:ASP:HB2	1.50	0.94
1:1:1040:A:C1'	47:s:197:LYS:NZ	2.30	0.94
1:1:2524:A:N3	14:K:46:LEU:CD2	2.15	0.94
1:1:3172:A:H1'	20:Q:101:ARG:HH22	0.79	0.94
3:4:10:A:H2	21:R:6:ALA:CB	1.80	0.94
1:1:108:A:H5'	17:N:42:ARG:NH1	1.81	0.94
1:1:562:C:H4'	24:U:71:LYS:HZ1	1.19	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1318:A:H62	20:Q:18:ARG:HG2	0.77	0.94
1:1:3185:U:H3	24:U:169:SER:HA	1.32	0.94
1:1:3213:A:H62	18:O:124:ARG:HH22	1.11	0.94
3:4:41:A:H5'	41:l:67:LEU:HG	1.49	0.94
10:G:31:ARG:CZ	22:S:23:ASN:OD1	2.05	0.94
11:H:38:THR:HG22	25:V:30:TYR:CG	2.01	0.94
1:1:855:U:H4'	23:T:95:TRP:CD1	2.02	0.94
1:1:2515:A:C4'	19:P:28:TRP:NE1	2.29	0.94
1:1:2555:G:C5	38:i:95:ILE:CD1	2.51	0.94
1:1:2555:G:C6	38:i:95:ILE:CD1	2.51	0.94
1:1:3243:A:H8	20:Q:110:PRO:CG	1.72	0.94
1:1:76:G:C2'	17:N:100:ARG:HH11	1.81	0.94
1:1:798:G:C2	17:N:14:PHE:HD2	1.84	0.94
1:1:1564:U:H3	1:1:1576:G:H1	1.05	0.94
1:1:1672:U:OP1	23:T:64:ARG:NE	2.00	0.94
1:1:3112:G:H21	1:1:3122:A:H62	1.03	0.94
10:G:31:ARG:NE	22:S:23:ASN:CG	2.21	0.94
12:I:174:LEU:CD2	18:O:117:ARG:NH1	2.26	0.94
1:1:786:A:C8	22:S:61:PRO:HG2	2.03	0.94
1:1:1493:G:P	43:n:49:MET:HG2	2.08	0.94
17:N:67:ARG:NH1	32:c:69:TRP:CH2	2.19	0.94
1:1:56:G:O3'	19:P:158:HIS:HD2	1.51	0.94
1:1:2555:G:C6	38:i:95:ILE:HD12	2.02	0.94
3:4:34:U:C5	41:l:74:PHE:CE2	2.56	0.94
1:1:798:G:N3	17:N:14:PHE:CD2	2.34	0.93
1:1:1324:U:OP1	24:U:2:ALA:CB	2.16	0.93
1:1:3260:G:HO2'	18:O:126:GLN:HE22	1.14	0.93
2:3:39:C:O4'	16:M:44:THR:O	1.86	0.93
11:H:294:ALA:HB1	47:s:216:PHE:HB3	1.50	0.93
1:1:2756:C:O2'	25:V:8:ARG:HD2	1.68	0.93
1:1:3113:A:C3'	15:L:69:ARG:HG2	1.99	0.93
29:Z:60:TYR:CD2	39:j:25:LYS:CD	2.51	0.93
1:1:1167:U:O2	13:J:209:ASN:CB	2.15	0.93
1:1:2723:U:OP1	25:V:87:LYS:HE3	1.67	0.93
1:1:3178:A:N3	20:Q:115:LYS:HG2	1.83	0.93
3:4:97:A:H5'	39:j:63:ARG:CZ	1.98	0.93
5:B:64:G:H4'	47:s:24:ALA:CB	1.98	0.93
1:1:1749:A:C3'	42:m:44:LYS:NZ	2.28	0.93
1:1:2101:C:OP1	23:T:71:ARG:NH1	2.01	0.93
1:1:2639:G:O2'	25:V:56:PHE:HD1	1.47	0.93
1:1:3180:A:C6	20:Q:167:TYR:CG	2.57	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:107:C:OP2	47:s:202:LYS:CE	2.17	0.93
10:G:299:ILE:CG2	22:S:39:ARG:HE	1.81	0.93
17:N:3:ILE:HD11	32:c:34:MET:CE	1.97	0.93
1:1:1295:G:C1'	24:U:113:ARG:O	2.16	0.93
1:1:1687:U:OP1	26:W:42:LYS:HD3	1.66	0.93
1:1:1947:G:C5'	23:T:134:HIS:CB	2.47	0.93
1:1:3198:U:C5	15:L:26:LYS:HE3	2.03	0.93
17:N:3:ILE:CG2	32:c:44:ASN:ND2	2.30	0.93
1:1:1343:A:C2	13:J:159:GLN:NE2	2.29	0.93
21:R:171:ARG:CZ	37:h:60:ARG:HH12	1.82	0.93
31:b:14:VAL:HG22	38:i:86:LYS:HG3	1.50	0.93
1:1:103:G:H5'	17:N:65:TYR:HD2	1.23	0.93
1:1:364:G:C5	41:l:56:ARG:NH2	2.34	0.93
1:1:412:G:N2	21:R:118:GLN:OE1	1.99	0.93
1:1:1668:G:HO2'	38:i:22:VAL:HG11	1.17	0.93
1:1:1720:U:C4	23:T:124:TYR:CE2	2.57	0.93
1:1:1915:A:H4'	23:T:84:THR:CA	1.98	0.93
1:1:2828:G:N2	47:s:101:MET:HB3	1.82	0.93
2:3:39:C:C4'	16:M:44:THR:OG1	2.17	0.93
3:4:141:C:H1'	19:P:112:ASN:ND2	1.81	0.93
1:1:110:G:H5'	17:N:91:ARG:NH1	1.82	0.93
1:1:309:U:OP1	40:k:84:LYS:CE	2.17	0.93
1:1:596:C:OP1	13:J:33:ARG:NE	2.02	0.93
1:1:1472:U:H5'	23:T:4:LEU:CD1	1.99	0.93
1:1:3213:A:C8	18:O:128:ARG:NH2	2.37	0.93
1:1:3217:C:C5	21:R:182:ILE:CD1	2.51	0.93
3:4:41:A:C5'	41:l:67:LEU:HG	1.97	0.93
29:Z:68:THR:HG23	39:j:36:LEU:HD22	0.93	0.93
1:1:561:C:OP1	18:O:77:ARG:HG3	1.69	0.93
1:1:2352:A:C5'	21:R:83:TRP:O	2.16	0.93
1:1:2516:U:P	19:P:31:ARG:HH21	1.92	0.93
1:1:3181:C:H4'	20:Q:164:SER:OG	1.67	0.93
3:4:41:A:H5"	41:l:67:LEU:CD1	1.99	0.93
1:1:1321:G:N2	24:U:112:ALA:HB2	1.83	0.93
1:1:3181:C:C1'	20:Q:164:SER:O	2.14	0.93
5:B:73:G:O2'	47:s:109:ARG:HD2	1.67	0.93
10:G:302:ALA:HB2	22:S:39:ARG:HH12	1.22	0.93
22:S:116:LYS:NZ	32:c:88:ASP:OD2	2.00	0.93
1:1:155:G:O4'	40:k:26:ILE:CD1	2.16	0.92
1:1:744:A:H5'	22:S:141:ARG:O	1.68	0.92
1:1:1213:G:O2'	24:U:90:MET:CG	2.15	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1347:U:OP2	22:S:38:ARG:CG	2.17	0.92
1:1:2683:U:O2	16:M:128:TYR:OH	1.86	0.92
4:A:53:G:H5"	47:s:69:ILE:HG23	1.51	0.92
10:G:112:LYS:HE2	19:P:202:TYR:HB3	1.51	0.92
10:G:344:ALA:CA	13:J:60:ARG:HH22	1.81	0.92
31:b:17:ARG:HG3	38:i:73:SER:O	1.68	0.92
1:1:856:G:OP1	23:T:92:GLN:CG	2.17	0.92
1:1:2515:A:C3'	19:P:28:TRP:CD1	2.51	0.92
25:V:84:TYR:CE2	33:d:21:ILE:CG2	2.52	0.92
1:1:155:G:H4'	40:k:26:ILE:HD11	0.94	0.92
1:1:1312:C:O2	20:Q:87:MET:HE2	1.69	0.92
1:1:2756:C:H2'	25:V:8:ARG:HH21	1.33	0.92
3:4:75:G:N2	43:n:26:TRP:CB	2.33	0.92
1:1:146:U:C2'	14:K:135:GLY:HA2	1.99	0.92
1:1:1975:C:O4'	42:m:59:ALA:HB1	1.69	0.92
1:1:2013:C:C4'	48:t:177:GLN:NE2	2.21	0.92
3:4:51:G:C5	43:n:26:TRP:CH2	2.57	0.92
1:1:49:A:C5	19:P:187:ARG:NH1	2.37	0.92
1:1:76:G:C4	17:N:100:ARG:HG3	2.04	0.92
1:1:1139:G:O2'	13:J:94:LYS:HG2	1.70	0.92
1:1:1362:G:O3'	13:J:160:ARG:HB2	1.68	0.92
10:G:329:PRO:HD2	13:J:44:ILE:HG22	1.49	0.92
17:N:3:ILE:HG22	32:c:44:ASN:HD21	1.18	0.92
1:1:264:G:P	40:k:34:SER:HB2	2.10	0.92
1:1:266:A:C2	40:k:30:LYS:CE	2.52	0.92
1:1:617:G:O3'	21:R:169:THR:CB	2.18	0.92
1:1:1184:A:H2	24:U:108:GLN:NE2	1.66	0.92
1:1:1312:C:O2'	20:Q:83:ALA:O	1.88	0.92
6:C:50:PHE:CD1	19:P:88:GLY:N	2.37	0.92
1:1:1103:A:H62	22:S:9:GLN:HE22	1.09	0.92
1:1:1947:G:OP1	23:T:134:HIS:ND1	2.03	0.92
1:1:2631:U:OP2	25:V:9:SER:CB	2.17	0.92
1:1:3186:A:C4'	18:O:12:TRP:HH2	1.58	0.92
3:4:94:C:H3'	41:l:72:ARG:HH12	1.34	0.92
2:3:39:C:C1'	16:M:44:THR:O	2.18	0.92
29:Z:140:GLY:HA3	39:j:33:VAL:HG13	1.52	0.92
1:1:2681:U:O4'	16:M:66:ALA:HB2	1.69	0.92
1:1:2899:C:N3	15:L:173:ARG:NH1	2.16	0.92
1:1:3198:U:O4	15:L:26:LYS:HB2	1.70	0.92
3:4:34:U:H5'	41:l:74:PHE:HD1	1.35	0.92
21:R:171:ARG:NH2	37:h:60:ARG:HH12	1.65	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:389:A:H5”	21:R:16:SER:O	1.68	0.91
1:1:2515:A:O3’	19:P:28:TRP:NE1	2.03	0.91
1:1:2674:A:O4’	16:M:105:GLY:O	1.86	0.91
1:1:685:G:OP2	17:N:32:LYS:HG3	1.68	0.91
1:1:1588:A:C2	43:n:4:GLN:HG3	2.05	0.91
1:1:2356:A:N3	21:R:131:ARG:NH1	2.18	0.91
1:1:2681:U:H4’	16:M:66:ALA:HB2	1.18	0.91
3:4:34:U:O4’	41:l:74:PHE:HB2	1.70	0.91
1:1:1044:U:O2	47:s:93:PHE:CZ	2.23	0.91
1:1:1385:C:HO2’	12:I:2:SER:N	1.67	0.91
1:1:1600:U:H3	1:1:1605:A:H62	1.11	0.91
1:1:1947:G:C5’	23:T:134:HIS:HB2	2.00	0.91
10:G:110:ASN:HD21	19:P:201:ARG:HE	0.93	0.91
10:G:352:ALA:CB	13:J:73:GLY:CA	2.49	0.91
1:1:49:A:N6	19:P:187:ARG:HH11	1.66	0.91
1:1:2674:A:C5	16:M:124:GLY:HA3	2.06	0.91
1:1:3181:C:C1’	20:Q:164:SER:OG	2.15	0.91
1:1:151:A:P	19:P:147:ARG:HH22	1.93	0.91
1:1:838:G:H1	1:1:855:U:H3	1.11	0.91
1:1:2216:G:OP1	40:k:75:LYS:NZ	2.01	0.91
1:1:2516:U:C5’	19:P:31:ARG:NH2	2.33	0.91
1:1:1109:U:C4’	22:S:153:PHE:HD1	1.60	0.91
1:1:2756:C:C1’	25:V:8:ARG:NH2	2.31	0.91
1:1:364:G:N7	41:l:56:ARG:NH2	2.18	0.91
1:1:3243:A:C8	20:Q:110:PRO:HG2	2.06	0.91
10:G:330:TYR:HA	13:J:45:LEU:HG	1.50	0.91
1:1:508:U:OP1	13:J:211:SER:CB	2.18	0.91
1:1:1687:U:C4’	26:W:75:TYR:CD1	2.53	0.91
1:1:2853:A:OP1	47:s:62:GLU:CG	2.18	0.91
5:B:64:G:C3’	47:s:24:ALA:CB	2.43	0.91
1:1:1312:C:O2	20:Q:87:MET:HG2	1.71	0.91
1:1:2355:G:C5’	21:R:139:TYR:CZ	2.54	0.91
1:1:2512:C:C5’	14:K:249:ARG:HH12	1.84	0.91
2:3:76:A:N3	24:U:50:LYS:NZ	2.18	0.91
1:1:32:U:OP1	19:P:95:GLN:HG2	1.70	0.90
1:1:87:U:H3	1:1:99:A:H62	0.97	0.90
10:G:110:ASN:HD22	19:P:201:ARG:CB	1.84	0.90
1:1:76:G:H8	17:N:101:ARG:HD2	1.30	0.90
1:1:880:G:O6	21:R:133:HIS:N	2.03	0.90
1:1:1517:G:H5”	43:n:22:PRO:CG	2.01	0.90
1:1:1738:C:H1’	38:i:52:GLN:OE1	1.70	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2609:A:H5”	19:P:81:TYR:HE1	1.34	0.90
10:G:110:ASN:ND2	19:P:201:ARG:HE	1.68	0.90
1:1:86:G:HO2’	17:N:11:LYS:HD3	1.33	0.90
1:1:2524:A:O2’	14:K:49:TYR:CZ	2.24	0.90
17:N:165:SER:O	32:c:135:GLU:OE2	1.78	0.90
29:Z:114:VAL:HG12	43:n:10:LYS:HZ1	1.21	0.90
1:1:1716:U:C2	23:T:118:HIS:CE1	2.58	0.90
1:1:2618:G:C6	47:s:114:MET:CG	2.53	0.90
2:3:100:C:H5”	24:U:52:LYS:HZ1	0.80	0.90
3:4:45:C:OP1	43:n:15:LYS:HD3	1.72	0.90
1:1:241:G:O2’	17:N:45:LYS:CG	2.18	0.90
1:1:562:C:C5’	24:U:71:LYS:HD3	2.01	0.90
1:1:2618:G:N7	47:s:114:MET:HB2	1.86	0.90
1:1:3134:A:O5’	20:Q:146:GLY:HA2	1.72	0.90
2:3:100:C:C5’	24:U:52:LYS:HZ1	1.76	0.90
1:1:148:G:O3’	19:P:55:ALA:CB	2.20	0.90
1:1:266:A:H62	40:k:30:LYS:HA	1.29	0.90
1:1:1362:G:C3’	13:J:160:ARG:HB3	2.00	0.90
1:1:1864:A:OP1	23:T:83:GLY:N	2.04	0.90
1:1:2356:A:H2	21:R:131:ARG:HH22	1.14	0.90
34:e:58:TYR:CE1	38:i:97:GLU:HG2	2.05	0.90
1:1:87:U:N3	1:1:99:A:N6	2.19	0.90
5:B:64:G:H4’	47:s:24:ALA:HB2	1.51	0.90
1:1:744:A:H1’	22:S:141:ARG:CD	2.00	0.90
1:1:1044:U:O2	47:s:93:PHE:CE2	2.24	0.90
1:1:1493:G:C2’	43:n:49:MET:HE1	2.02	0.90
1:1:1947:G:H5’	23:T:134:HIS:CG	2.07	0.90
1:1:3187:A:C2	24:U:171:PHE:CB	2.54	0.90
1:1:3198:U:C4	15:L:26:LYS:CE	2.54	0.90
1:1:32:U:C5’	19:P:94:TYR:CE1	2.54	0.90
1:1:769:G:OP1	17:N:179:PHE:HE2	1.52	0.90
1:1:3133:C:O3’	20:Q:145:VAL:O	1.89	0.90
10:G:302:ALA:CB	22:S:39:ARG:HH12	1.84	0.90
10:G:311:HIS:HE1	13:J:162:PRO:HG3	1.21	0.90
1:1:241:G:H1’	17:N:45:LYS:HZ3	1.37	0.89
1:1:388:G:C4’	21:R:18:ARG:HB3	2.02	0.89
6:C:50:PHE:CZ	19:P:88:GLY:CA	2.31	0.89
11:H:17:GLN:NE2	25:V:21:LYS:C	2.30	0.89
29:Z:68:THR:CG2	39:j:36:LEU:CD1	2.49	0.89
1:1:2524:A:N3	14:K:46:LEU:HD22	1.86	0.89
1:1:2584:G:H1’	14:K:240:ASN:ND2	1.85	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3299:A:P	21:R:72:GLN:HG2	2.11	0.89
1:1:136:G:H5'	39:j:95:PHE:CD2	2.06	0.89
1:1:3186:A:C2'	15:L:44:THR:HG1	1.85	0.89
9:F:96:PRO:O	20:Q:149:TYR:CE2	2.25	0.89
1:1:96:G:H4'	17:N:15:ARG:NE	1.86	0.89
1:1:1472:U:OP1	23:T:8:LYS:HE3	1.72	0.89
1:1:3186:A:C5'	18:O:12:TRP:HZ2	1.84	0.89
1:1:3206:C:H3'	18:O:99:TRP:HH2	1.37	0.89
1:1:682:U:N3	19:P:202:TYR:CZ	2.40	0.89
1:1:3034:C:H2'	15:L:122:LYS:HB2	1.50	0.89
1:1:3178:A:H2'	20:Q:115:LYS:HG3	1.54	0.89
10:G:110:ASN:HD21	19:P:201:ARG:NE	1.71	0.89
11:H:38:THR:HG22	25:V:30:TYR:CB	2.01	0.89
1:1:412:G:N2	21:R:118:GLN:NE2	2.20	0.89
1:1:561:C:OP1	18:O:77:ARG:N	2.04	0.89
1:1:1097:G:H4'	25:V:129:LYS:HG2	1.55	0.89
1:1:1321:G:O3'	24:U:117:ARG:CZ	2.20	0.89
1:1:1613:A:OP1	42:m:50:SER:CA	2.20	0.89
1:1:2844:C:H42	1:1:2898:G:H22	1.16	0.89
1:1:2844:C:N4	1:1:2898:G:H22	1.70	0.89
1:1:3217:C:H5	21:R:182:ILE:HG12	0.99	0.89
10:G:106:TRP:CZ3	17:N:22:VAL:HG21	2.08	0.89
1:1:134:U:C2	39:j:72:GLY:HA2	2.07	0.89
1:1:784:A:C6	22:S:93:ILE:HG21	2.07	0.89
1:1:1355:A:O2'	22:S:31:LYS:HE3	1.73	0.89
1:1:2555:G:O6	38:i:95:ILE:HB	1.71	0.89
1:1:2724:U:H4'	25:V:54:HIS:CD2	2.08	0.89
1:1:3178:A:N9	20:Q:6:VAL:HB	1.88	0.89
29:Z:46:TYR:CE2	39:j:77:PRO:HA	2.07	0.89
29:Z:68:THR:HG22	39:j:36:LEU:HD22	1.54	0.89
1:1:266:A:N6	40:k:30:LYS:CA	2.35	0.89
1:1:412:G:N2	21:R:118:GLN:CD	2.30	0.89
1:1:1716:U:H2'	23:T:118:HIS:CD2	2.08	0.89
3:4:38:U:OP1	39:j:78:LYS:NZ	2.03	0.89
1:1:32:U:H5'	19:P:94:TYR:HE1	1.10	0.89
1:1:289:A:H2	19:P:93:LYS:HD2	0.73	0.89
1:1:2853:A:O5'	47:s:62:GLU:HB3	1.71	0.89
10:G:330:TYR:CE1	13:J:49:ALA:CA	2.55	0.89
1:1:1947:G:OP1	23:T:134:HIS:CE1	2.26	0.89
1:1:3180:A:C6	20:Q:167:TYR:CD2	2.61	0.89
11:H:69:ILE:CG2	25:V:31:LEU:HB3	1.86	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:169:U:O5'	17:N:128:ARG:CD	2.21	0.88
1:1:879:U:H1'	21:R:135:ARG:HH22	1.34	0.88
1:1:1362:G:H4'	13:J:160:ARG:C	1.98	0.88
1:1:3034:C:C2	15:L:121:LYS:N	2.39	0.88
3:4:14:C:C2	21:R:121:GLN:OE1	2.26	0.88
10:G:112:LYS:CE	19:P:202:TYR:HB3	2.02	0.88
1:1:96:G:O5'	17:N:15:ARG:NE	2.05	0.88
1:1:597:G:P	13:J:37:ASN:HB3	2.12	0.88
1:1:1010:G:C1'	47:s:194:ALA:HB2	2.04	0.88
1:1:1589:A:C4	38:i:13:TYR:CG	2.61	0.88
1:1:1915:A:C5'	23:T:84:THR:CG2	2.50	0.88
1:1:676:G:N2	22:S:61:PRO:CG	2.32	0.88
1:1:743:C:H1'	22:S:140:LEU:HD22	1.56	0.88
1:1:1040:A:H1'	47:s:197:LYS:HZ3	1.29	0.88
1:1:1159:A:OP1	22:S:2:GLY:N	2.04	0.88
1:1:2680:A:H8	16:M:57:PHE:CE2	1.66	0.88
1:1:3198:U:O4	15:L:26:LYS:CE	2.16	0.88
22:S:174:ARG:HB2	32:c:56:VAL:HG11	1.55	0.88
1:1:1097:G:O2'	25:V:128:LEU:HD12	1.72	0.88
1:1:2681:U:C5'	16:M:65:ILE:HG23	2.02	0.88
2:3:97:A:H4'	13:J:224:ILE:CB	2.04	0.88
1:1:108:A:C5'	17:N:42:ARG:NH1	2.34	0.88
1:1:561:C:OP1	18:O:77:ARG:CB	2.21	0.88
1:1:1010:G:P	47:s:38:LYS:HD2	2.12	0.88
2:3:77:G:H3'	24:U:46:GLN:O	1.73	0.88
3:4:10:A:C2	21:R:6:ALA:CB	2.54	0.88
1:1:2015:C:O4'	48:t:184:GLN:CD	2.16	0.88
1:1:3107:U:OP2	44:o:112:LYS:NZ	2.07	0.88
1:1:3243:A:H8	20:Q:110:PRO:HG2	1.37	0.88
2:3:92:A:C2	47:s:55:GLU:CG	2.57	0.88
1:1:9:U:OP1	19:P:40:ALA:HB1	1.73	0.88
1:1:2007:G:H1	1:1:2014:U:H3	0.88	0.88
10:G:29:PRO:HA	22:S:25:TYR:OH	1.74	0.88
1:1:450:G:O3'	50:v:83:GLN:N	1.98	0.88
1:1:728:G:H1	1:1:741:U:H3	1.16	0.88
1:1:1597:C:OP1	38:i:31:ARG:CD	2.21	0.88
1:1:1720:U:O4	23:T:124:TYR:CE2	2.27	0.88
1:1:3181:C:O2	20:Q:168:TYR:N	2.00	0.88
3:4:45:C:P	43:n:15:LYS:HD3	2.13	0.88
1:1:879:U:H2'	21:R:131:ARG:HH21	1.32	0.87
1:1:1189:C:C4	20:Q:133:ARG:CZ	2.57	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1612:A:H4'	42:m:51:LEU:HD22	1.55	0.87
3:4:57:C:N4	41:l:63:ARG:NH1	2.20	0.87
1:1:76:G:OP2	17:N:101:ARG:HD2	1.73	0.87
1:1:1757:A:H4'	26:W:96:VAL:CG1	2.04	0.87
1:1:1856:C:C1'	38:i:7:PHE:HZ	1.77	0.87
3:4:14:C:H5'	21:R:123:PRO:HD3	1.55	0.87
29:Z:49:LYS:C	39:j:79:ASP:OD2	2.17	0.87
1:1:1306:G:N9	20:Q:61:ALA:O	2.07	0.87
1:1:3198:U:C5	15:L:26:LYS:NZ	2.13	0.87
1:1:268:A:C5'	19:P:47:LYS:HZ3	1.83	0.87
1:1:1174:G:H22	20:Q:87:MET:HE2	0.71	0.87
1:1:1174:G:O2'	20:Q:21:SER:OG	1.90	0.87
1:1:1597:C:P	38:i:31:ARG:NH1	2.46	0.87
1:1:1856:C:N1	38:i:7:PHE:HE2	1.72	0.87
6:C:50:PHE:CD1	19:P:88:GLY:CA	2.57	0.87
1:1:2448:G:H1	1:1:2498:U:H3	0.87	0.87
1:1:2635:A:C2	25:V:10:ARG:NH1	2.42	0.87
11:H:17:GLN:HE22	25:V:22:HIS:CA	1.86	0.87
1:1:1722:U:OP1	23:T:100:ARG:CZ	2.22	0.87
1:1:411:U:O2'	21:R:26:PHE:CE2	2.27	0.87
1:1:1174:G:H21	20:Q:87:MET:CE	1.80	0.87
10:G:280:ILE:HD11	22:S:25:TYR:HB2	1.55	0.87
1:1:786:A:H61	22:S:88:THR:HB	1.39	0.87
1:1:1321:G:C1'	24:U:115:ARG:HH11	1.88	0.87
1:1:1485:G:N2	38:i:4:ARG:CD	2.38	0.87
1:1:1748:G:H4'	42:m:51:LEU:HD23	1.55	0.87
1:1:1043:C:O2'	47:s:89:ARG:HA	1.74	0.87
1:1:2703:A:C1'	16:M:142:LYS:NZ	2.31	0.87
3:4:34:U:H5'	41:l:78:PHE:HE2	1.34	0.87
1:1:2357:A:OP1	21:R:138:LYS:HE3	1.73	0.86
1:1:3126:C:C2'	15:L:156:GLN:NE2	2.38	0.86
5:B:64:G:O2'	47:s:24:ALA:HB2	1.73	0.86
1:1:2435:G:H4'	19:P:24:ARG:HH12	1.40	0.86
1:1:2631:U:P	25:V:9:SER:HB2	2.14	0.86
11:H:15:ARG:HB3	25:V:19:PHE:CZ	2.09	0.86
1:1:665:A:P	19:P:203:ARG:HH11	1.93	0.86
1:1:1295:G:O2'	24:U:113:ARG:O	1.92	0.86
1:1:1589:A:C4	38:i:13:TYR:CD2	2.63	0.86
11:H:38:THR:CG2	25:V:30:TYR:CG	2.58	0.86
1:1:1321:G:C2	24:U:112:ALA:HB2	2.09	0.86
1:1:2352:A:OP1	21:R:83:TRP:N	2.07	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:64:G:C2'	47:s:24:ALA:HB2	2.04	0.86
10:G:330:TYR:CD1	13:J:49:ALA:HB2	2.10	0.86
1:1:1306:G:H21	20:Q:70:PRO:HG2	1.41	0.86
1:1:2836:C:O4'	47:s:156:TYR:CD2	2.28	0.86
1:1:3185:U:OP1	15:L:23:ARG:NH2	2.09	0.86
2:3:96:U:O2'	24:U:119:ARG:HD2	1.72	0.86
3:4:141:C:C1'	19:P:112:ASN:HD21	1.89	0.86
1:1:317:A:OP2	40:k:30:LYS:NZ	2.08	0.86
1:1:412:G:OP1	21:R:62:ARG:NH1	2.07	0.86
1:1:833:G:OP1	23:T:86:GLU:CD	2.19	0.86
1:1:1472:U:H5'	23:T:4:LEU:HD12	1.55	0.86
1:1:1852:G:N3	41:l:9:GLY:CA	2.38	0.86
1:1:2512:C:H5'	14:K:249:ARG:HH12	1.39	0.86
1:1:2674:A:C8	16:M:126:ASP:OD1	2.28	0.86
1:1:3183:A:O5'	20:Q:12:LYS:CE	2.24	0.86
3:4:43:A:H4'	41:l:22:CYS:O	1.75	0.86
1:1:2138:A:C5	41:l:3:LYS:HB3	2.11	0.86
1:1:3260:G:HO2'	18:O:126:GLN:NE2	1.67	0.86
3:4:54:A:P	43:n:40:LYS:NZ	2.49	0.86
1:1:561:C:OP1	18:O:77:ARG:CG	2.23	0.86
1:1:976:U:C5'	22:S:144:ARG:HH12	1.86	0.86
1:1:1493:G:P	43:n:49:MET:HE3	2.15	0.86
1:1:1643:A:OP1	38:i:68:THR:CG2	2.23	0.86
1:1:1757:A:H5"	26:W:96:VAL:CG1	1.89	0.86
1:1:1847:A:C6	21:R:130:TYR:CG	2.52	0.86
1:1:1856:C:C2	38:i:7:PHE:HE2	1.94	0.86
1:1:2679:A:H4'	16:M:52:TYR:OH	1.76	0.86
1:1:3206:C:H1'	24:U:155:ARG:HH11	1.41	0.86
1:1:2626:A:H4'	25:V:2:GLY:HA2	1.57	0.85
1:1:76:G:C5	17:N:100:ARG:O	2.28	0.85
1:1:1125:U:H5"	47:s:14:LYS:NZ	1.80	0.85
1:1:1305:U:O2'	20:Q:63:ALA:CB	2.23	0.85
2:3:39:C:H4'	16:M:44:THR:HG1	1.36	0.85
3:4:53:A:C3'	43:n:40:LYS:HZ1	1.89	0.85
1:1:74:G:H1'	17:N:61:PRO:CB	2.07	0.85
1:1:1125:U:H5'	47:s:14:LYS:HZ3	0.75	0.85
1:1:1538:G:N2	1:1:1583:A:H62	1.74	0.85
1:1:1547:G:H5"	19:P:108:ARG:CZ	2.07	0.85
1:1:1974:A:H2	42:m:60:GLY:H	1.17	0.85
1:1:103:G:O4'	17:N:65:TYR:HE2	1.60	0.85
1:1:2013:C:O2'	48:t:176:GLN:C	2.18	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:N:3:ILE:CD1	32:c:34:MET:CE	2.54	0.85
22:S:174:ARG:CB	32:c:56:VAL:HG11	2.06	0.85
1:1:102:C:O2'	17:N:62:THR:HG21	1.75	0.85
1:1:299:G:N7	40:k:31:GLY:CA	2.40	0.85
1:1:1061:A:H5'	25:V:39:ILE:CD1	2.07	0.85
1:1:1213:G:H1'	24:U:90:MET:HE2	1.56	0.85
1:1:1975:C:H5"	42:m:63:LYS:HD2	0.88	0.85
1:1:3109:G:N2	15:L:156:GLN:OE1	2.09	0.85
1:1:3217:C:C4	21:R:182:ILE:HG21	2.11	0.85
2:3:100:C:OP1	24:U:54:ALA:HB2	1.76	0.85
1:1:388:G:O2'	21:R:17:ALA:CB	2.24	0.85
1:1:388:G:O2'	21:R:17:ALA:HB1	1.76	0.85
1:1:817:A:N1	41:l:13:ASN:O	2.09	0.85
1:1:1059:G:O2'	25:V:60:LYS:C	2.19	0.85
1:1:1864:A:H1'	23:T:87:ALA:HB1	1.56	0.85
1:1:2012:G:O6	48:t:179:ILE:HB	1.75	0.85
1:1:3112:G:N2	1:1:3122:A:H62	1.74	0.85
1:1:3134:A:C4'	20:Q:148:LYS:CE	2.33	0.85
1:1:3213:A:C8	18:O:128:ARG:CZ	2.58	0.85
3:4:41:A:C5'	41:l:67:LEU:CG	2.54	0.85
22:S:163:PRO:HB3	32:c:48:TYR:O	1.77	0.85
1:1:360:G:C5'	41:l:16:HIS:NE2	2.38	0.85
1:1:1746:U:O2'	42:m:4:GLU:OE1	1.95	0.85
1:1:2585:G:O6	14:K:60:ARG:NH2	2.09	0.85
1:1:3113:A:HO2'	15:L:69:ARG:HB3	1.41	0.85
10:G:329:PRO:O	13:J:45:LEU:CD1	2.24	0.85
17:N:67:ARG:HD2	32:c:106:ALA:CA	2.06	0.85
3:4:38:U:OP2	39:j:78:LYS:NZ	2.06	0.85
3:4:51:G:C4	43:n:26:TRP:CZ2	2.65	0.85
1:1:1757:A:C4'	26:W:96:VAL:CG1	2.50	0.85
1:1:2674:A:N6	16:M:124:GLY:CA	2.37	0.85
11:H:38:THR:HG22	25:V:30:TYR:CD1	2.08	0.85
1:1:119:U:C6	14:K:138:HIS:ND1	2.44	0.85
1:1:1463:U:H3	1:1:1467:A:H62	1.22	0.85
1:1:2729:U:OP1	22:S:157:PRO:CD	2.24	0.85
1:1:3180:A:C5	20:Q:167:TYR:CD2	2.65	0.85
29:Z:60:TYR:CG	39:j:25:LYS:HB3	2.11	0.85
1:1:786:A:N6	22:S:88:THR:HG21	1.92	0.84
1:1:2013:C:H1'	48:t:176:GLN:C	2.00	0.84
1:1:2618:G:C5	47:s:114:MET:CB	2.51	0.84
1:1:1169:A:H5"	13:J:219:LYS:CD	1.98	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1975:C:O2'	42:m:39:ARG:NH1	2.09	0.84
1:1:86:G:HO2'	17:N:11:LYS:HB2	1.37	0.84
1:1:985:U:O2'	13:J:102:VAL:HG22	1.77	0.84
1:1:2515:A:H62	1:1:2592:G:H21	1.23	0.84
1:1:3308:C:O2	21:R:69:ARG:HG2	1.77	0.84
2:3:40:C:C5'	16:M:43:GLN:OE1	2.20	0.84
2:3:96:U:O2'	13:J:225:GLN:NE2	2.10	0.84
10:G:311:HIS:CE1	13:J:162:PRO:HG2	2.12	0.84
1:1:2635:A:H2	25:V:10:ARG:NH1	1.74	0.84
1:1:3034:C:O2	15:L:121:LYS:N	2.10	0.84
1:1:3107:U:P	44:o:112:LYS:NZ	2.51	0.84
1:1:3276:G:O6	21:R:171:ARG:NE	2.10	0.84
10:G:109:TRP:CD1	17:N:26:PHE:CZ	2.66	0.84
1:1:110:G:H5'	17:N:91:ARG:HH12	1.39	0.84
1:1:1170:A:OP1	13:J:218:ARG:CA	2.20	0.84
1:1:1348:U:O5'	22:S:38:ARG:NH2	2.10	0.84
1:1:3183:A:OP1	20:Q:12:LYS:HD2	1.78	0.84
10:G:31:ARG:HH12	22:S:23:ASN:ND2	1.74	0.84
1:1:534:U:OP1	24:U:132:THR:OG1	1.95	0.84
1:1:1847:A:N1	21:R:130:TYR:CB	2.25	0.84
1:1:3206:C:H3'	18:O:99:TRP:CH2	2.13	0.84
3:4:75:G:N3	43:n:26:TRP:HB2	1.92	0.84
10:G:344:ALA:HB1	13:J:60:ARG:HH22	0.68	0.84
1:1:9:U:H5"	19:P:40:ALA:HB2	1.59	0.84
1:1:1975:C:O2'	42:m:39:ARG:CZ	2.26	0.84
1:1:3217:C:C6	21:R:182:ILE:HG12	2.13	0.84
1:1:2422:C:O2	19:P:87:GLN:NE2	2.11	0.84
1:1:1491:A:N7	43:n:2:ALA:HB3	1.92	0.84
1:1:1847:A:C1'	21:R:130:TYR:HH	1.86	0.84
6:C:50:PHE:HE1	19:P:88:GLY:CA	1.91	0.84
1:1:520:U:OP1	13:J:70:LYS:CE	2.24	0.83
1:1:1103:A:H61	22:S:9:GLN:HE22	1.22	0.83
1:1:1157:G:H4'	13:J:220:PHE:HZ	1.41	0.83
1:1:316:U:C4	40:k:30:LYS:CB	2.61	0.83
1:1:3112:G:H5'	15:L:77:ASN:HD21	1.43	0.83
1:1:833:G:OP1	23:T:86:GLU:OE1	1.96	0.83
1:1:1547:G:C5'	19:P:108:ARG:CZ	2.57	0.83
1:1:2729:U:OP1	22:S:157:PRO:CB	2.26	0.83
1:1:75:G:OP1	17:N:58:VAL:HG22	1.77	0.83
1:1:389:A:H5'	21:R:17:ALA:HA	1.59	0.83
1:1:780:A:O4'	22:S:162:ALA:CB	2.26	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2013:C:C6	48:t:176:GLN:CG	2.61	0.83
3:4:41:A:H5”	41:l:67:LEU:HD12	1.58	0.83
3:4:94:C:C3’	41:l:72:ARG:NH1	2.42	0.83
1:1:786:A:N6	22:S:88:THR:CG2	2.40	0.83
1:1:2585:G:C6	14:K:60:ARG:NH2	2.47	0.83
17:N:64:LYS:CE	32:c:69:TRP:CD1	2.61	0.83
1:1:1538:G:H21	1:1:1583:A:N6	1.76	0.83
1:1:3213:A:N6	18:O:124:ARG:NH2	2.27	0.83
1:1:3217:C:C5	21:R:182:ILE:HD13	2.11	0.83
1:1:986:U:H5’	13:J:126:LEU:HD23	1.58	0.83
1:1:1009:A:C5’	47:s:34:ASP:HB2	2.09	0.83
1:1:1975:C:H1’	42:m:59:ALA:HB2	1.52	0.83
1:1:2829:U:HO2’	47:s:103:SER:CB	1.84	0.83
1:1:561:C:H5’	18:O:76:ALA:HA	1.60	0.83
1:1:3180:A:N7	20:Q:167:TYR:CZ	2.47	0.83
1:1:3206:C:O2	18:O:64:VAL:HG21	1.78	0.83
3:4:11:C:O2’	21:R:4:TYR:O	1.96	0.83
10:G:352:ALA:HB3	13:J:73:GLY:HA2	1.59	0.83
1:1:880:G:C5	21:R:132:ALA:HB1	2.13	0.83
1:1:1097:G:H1’	25:V:128:LEU:HD11	1.61	0.83
1:1:1128:U:H4’	47:s:7:CYS:HB3	0.84	0.83
1:1:3187:A:N1	24:U:171:PHE:HB3	1.92	0.83
1:1:136:G:C4’	39:j:95:PHE:CE2	2.61	0.83
1:1:1362:G:H4’	13:J:160:ARG:CB	2.09	0.83
1:1:1472:U:C4’	23:T:4:LEU:HD12	2.09	0.83
1:1:1472:U:C5’	23:T:4:LEU:CD1	2.56	0.83
1:1:1915:A:C5’	23:T:84:THR:HG22	2.07	0.83
1:1:2635:A:H2	25:V:10:ARG:HH12	1.27	0.83
1:1:136:G:C5’	39:j:95:PHE:CD2	2.61	0.82
1:1:268:A:H5’	19:P:47:LYS:HZ2	1.42	0.82
1:1:950:G:H21	1:1:1369:A:H62	1.27	0.82
1:1:1157:G:H4’	13:J:220:PHE:CZ	2.14	0.82
1:1:1324:U:P	24:U:2:ALA:HB2	2.19	0.82
3:4:34:U:P	41:l:74:PHE:HE1	2.01	0.82
11:H:40:HIS:HE1	25:V:69:LYS:CG	1.92	0.82
1:1:96:G:C4’	17:N:15:ARG:NE	2.43	0.82
1:1:1938:U:H1’	23:T:78:TYR:HB2	1.58	0.82
1:1:855:U:H4’	23:T:95:TRP:CG	2.14	0.82
1:1:841:A:H5’	23:T:125:LYS:O	1.79	0.82
1:1:3213:A:N6	18:O:124:ARG:HH22	1.76	0.82
3:4:38:U:P	39:j:78:LYS:HZ3	2.00	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:50:PHE:HE1	19:P:88:GLY:HA3	1.40	0.82
1:1:96:G:H4'	17:N:15:ARG:CD	2.10	0.82
1:1:1447:G:O6	21:R:25:SER:HB2	1.78	0.82
1:1:1493:G:OP2	43:n:49:MET:HG2	1.77	0.82
1:1:3186:A:C5'	18:O:12:TRP:CZ2	2.59	0.82
1:1:1472:U:C4'	23:T:4:LEU:HD13	2.08	0.82
1:1:2014:U:C6	48:t:180:ASN:CB	2.61	0.82
1:1:2555:G:O6	38:i:95:ILE:HD13	1.77	0.82
3:4:5:U:OP1	21:R:62:ARG:CD	2.27	0.82
29:Z:60:TYR:HD2	39:j:25:LYS:CG	1.93	0.82
32:c:129:PHE:CE1	40:k:9:ILE:HD13	2.13	0.82
1:1:1109:U:H5"	22:S:153:PHE:HD1	1.42	0.82
1:1:1191:U:HO2'	20:Q:48:PHE:HZ	0.85	0.82
1:1:155:G:O4'	40:k:26:ILE:HD12	1.80	0.82
1:1:1974:A:N3	42:m:60:GLY:HA3	1.93	0.82
1:1:2829:U:O2'	47:s:103:SER:OG	1.95	0.82
3:4:13:A:H1'	21:R:120:ASN:ND2	1.94	0.82
3:4:46:G:C5'	43:n:18:LYS:HZ1	1.90	0.82
1:1:282:G:O6	19:P:181:ASN:CB	2.27	0.82
1:1:1322:U:O2	24:U:108:GLN:NE2	2.12	0.82
1:1:2014:U:N1	48:t:180:ASN:HB3	1.95	0.82
1:1:3205:G:C6	24:U:171:PHE:CD2	2.67	0.82
1:1:412:G:N2	21:R:118:GLN:HE22	1.77	0.82
1:1:841:A:OP1	23:T:125:LYS:CB	2.23	0.82
1:1:3309:G:C8	21:R:69:ARG:HD2	2.15	0.82
3:4:154:C:HO2'	14:K:185:ARG:HD2	1.42	0.82
4:A:1:G:N2	4:A:72:C:O2	2.13	0.82
11:H:40:HIS:CE1	25:V:69:LYS:CG	2.63	0.82
1:1:136:G:H4'	39:j:95:PHE:CD2	2.14	0.81
1:1:744:A:C5'	22:S:141:ARG:O	2.27	0.81
1:1:1009:A:O3'	47:s:38:LYS:HD3	1.79	0.81
1:1:3113:A:C2'	15:L:69:ARG:HG2	2.09	0.81
2:3:40:C:H5'	16:M:43:GLN:OE1	1.78	0.81
10:G:286:VAL:HG21	22:S:28:LEU:HD22	0.82	0.81
1:1:1189:C:N4	20:Q:133:ARG:NH2	2.27	0.81
1:1:1506:A:OP1	21:R:127:ARG:NH2	2.13	0.81
1:1:1672:U:OP1	23:T:64:ARG:NH2	2.13	0.81
1:1:2013:C:H1'	48:t:176:GLN:CG	1.94	0.81
10:G:351:PRO:HB3	13:J:70:LYS:O	1.77	0.81
1:1:786:A:H62	22:S:88:THR:HG1	1.25	0.81
1:1:1010:G:O2'	47:s:193:GLY:C	2.23	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1343:A:H2	13:J:159:GLN:HE22	0.84	0.81
1:1:1488:G:O2'	38:i:10:ARG:O	1.97	0.81
1:1:2515:A:H4'	19:P:28:TRP:CG	2.15	0.81
4:A:53:G:C5'	47:s:69:ILE:HG23	2.11	0.81
1:1:1949:G:P	23:T:104:ARG:NH2	2.44	0.81
1:1:3298:C:C2'	21:R:55:GLN:NE2	2.42	0.81
1:1:268:A:C5'	19:P:47:LYS:HZ2	1.91	0.81
1:1:796:U:H1'	17:N:7:LEU:HD13	1.62	0.81
3:4:51:G:C5	43:n:26:TRP:CZ2	2.68	0.81
1:1:266:A:N6	40:k:30:LYS:CB	2.44	0.81
1:1:784:A:C2	22:S:93:ILE:CG2	2.63	0.81
1:1:833:G:OP1	23:T:86:GLU:HB3	1.79	0.81
1:1:1293:U:O2'	24:U:88:HIS:NE2	2.13	0.81
1:1:2514:U:C1'	14:K:69:LEU:HD12	1.96	0.81
1:1:3172:A:C2'	20:Q:101:ARG:CZ	2.52	0.81
22:S:174:ARG:C	32:c:56:VAL:HG11	2.02	0.81
1:1:20:A:O2'	19:P:111:ALA:HB1	1.79	0.81
1:1:20:A:O2'	19:P:111:ALA:HB3	1.79	0.81
1:1:151:A:P	19:P:147:ARG:NH2	2.54	0.81
1:1:1348:U:H3'	22:S:35:PHE:CZ	2.16	0.81
1:1:1362:G:C4'	13:J:160:ARG:HB3	2.10	0.81
1:1:2683:U:C1'	16:M:128:TYR:CE2	2.64	0.81
3:4:75:G:N2	43:n:26:TRP:HB3	1.95	0.81
25:V:66:ASN:ND2	33:d:35:VAL:CG1	2.44	0.81
1:1:388:G:H5'	21:R:19:GLY:H	1.46	0.81
1:1:1613:A:OP1	42:m:50:SER:HA	1.81	0.81
10:G:329:PRO:C	13:J:45:LEU:HD12	2.04	0.81
1:1:986:U:H5'	13:J:126:LEU:HD21	1.58	0.81
1:1:1362:G:H5'	13:J:160:ARG:O	1.80	0.81
1:1:2355:G:O4'	21:R:139:TYR:CZ	2.20	0.81
10:G:329:PRO:HG3	13:J:41:ARG:O	1.80	0.81
1:1:66:A:O2'	19:P:176:LYS:HD2	1.82	0.81
1:1:2586:G:O2'	14:K:48:ARG:NH2	2.14	0.81
1:1:2679:A:O2'	16:M:52:TYR:OH	1.98	0.81
1:1:2681:U:H5'	16:M:65:ILE:CG2	2.08	0.81
3:4:51:G:C5	43:n:26:TRP:HH2	1.96	0.81
10:G:329:PRO:HD2	13:J:44:ILE:CG2	2.09	0.81
1:1:302:U:C5'	19:P:179:LYS:HE3	2.09	0.80
1:1:879:U:C2'	21:R:131:ARG:NH2	2.45	0.80
1:1:1472:U:H4'	23:T:4:LEU:CD1	2.08	0.80
1:1:2515:A:C3'	19:P:28:TRP:NE1	2.44	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:67:U:P	41:l:85:LYS:NZ	2.54	0.80
11:H:27:LYS:HG2	16:M:144:CYS:SG	2.20	0.80
1:1:2680:A:N7	16:M:57:PHE:CE2	2.49	0.80
1:1:3217:C:C6	21:R:182:ILE:CG1	2.64	0.80
3:4:34:U:O2'	41:l:70:VAL:HG13	1.81	0.80
31:b:14:VAL:HG21	38:i:86:LYS:CG	2.10	0.80
1:1:264:G:OP2	40:k:34:SER:HB2	1.81	0.80
1:1:289:A:H5"	19:P:97:SER:HB3	1.61	0.80
25:V:84:TYR:HE2	33:d:21:ILE:HG22	1.45	0.80
1:1:294:U:OP1	19:P:15:GLN:OE1	1.99	0.80
1:1:2356:A:H2	21:R:131:ARG:NH2	1.80	0.80
10:G:299:ILE:HG21	22:S:39:ARG:NE	1.95	0.80
17:N:64:LYS:CG	32:c:69:TRP:CD2	2.59	0.80
1:1:136:G:H5'	39:j:95:PHE:CE2	2.15	0.80
1:1:146:U:H2'	14:K:135:GLY:HA2	1.62	0.80
1:1:1323:G:H5'	24:U:1:MET:CA	2.11	0.80
1:1:2643:A:OP2	25:V:3:LYS:HE2	1.80	0.80
3:4:34:U:H5'	41:l:74:PHE:CD1	2.12	0.80
9:F:96:PRO:O	20:Q:149:TYR:HD2	1.64	0.80
1:1:351:A:N6	43:n:37:TYR:O	2.14	0.80
1:1:784:A:H2'	22:S:65:SER:HG	1.44	0.80
1:1:854:G:O2'	23:T:95:TRP:CZ3	2.35	0.80
1:1:2355:G:H5'	21:R:139:TYR:CE2	2.17	0.80
1:1:356:C:OP1	43:n:47:THR:HG21	1.82	0.80
1:1:812:G:O2'	41:l:47:TYR:HE1	1.61	0.80
1:1:880:G:C5	21:R:132:ALA:CB	2.65	0.80
1:1:2609:A:H5"	19:P:81:TYR:CE1	2.16	0.80
1:1:2756:C:C2'	25:V:8:ARG:NH2	2.45	0.80
4:A:54:U:OP1	47:s:72:ASN:ND2	2.15	0.80
1:1:69:C:OP1	19:P:178:HIS:N	2.13	0.80
1:1:155:G:O4'	40:k:26:ILE:HD11	1.79	0.80
1:1:1044:U:H5'	47:s:89:ARG:O	1.82	0.80
1:1:2013:C:O4'	48:t:176:GLN:CB	2.29	0.80
11:H:69:ILE:N	25:V:31:LEU:HD13	1.97	0.80
1:1:784:A:N9	22:S:65:SER:HB2	1.95	0.80
10:G:352:ALA:HB2	13:J:72:ALA:C	2.07	0.80
11:H:150:LEU:CD1	16:M:143:ARG:HG3	2.11	0.80
1:1:508:U:OP1	13:J:211:SER:HB2	1.81	0.79
1:1:666:A:C2	17:N:10:LEU:HD11	2.16	0.79
1:1:691:A:O2'	17:N:29:ALA:CB	2.28	0.79
1:1:1191:U:OP2	20:Q:49:ARG:NE	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1321:G:C5'	24:U:117:ARG:HH12	1.94	0.79
1:1:1332:A:H2	13:J:209:ASN:HD21	1.23	0.79
1:1:1472:U:C5'	23:T:4:LEU:HD12	2.12	0.79
1:1:3198:U:C1'	15:L:21:LYS:CD	2.53	0.79
1:1:3309:G:H1'	21:R:69:ARG:CD	2.11	0.79
2:3:97:A:O2'	13:J:222:HIS:ND1	2.08	0.79
3:4:38:U:P	39:j:78:LYS:HZ2	1.98	0.79
6:C:50:PHE:CD1	19:P:88:GLY:HA3	2.08	0.79
1:1:40:A:N6	1:1:963:G:H21	1.79	0.79
1:1:69:C:OP1	19:P:178:HIS:ND1	2.14	0.79
1:1:170:G:H1	1:1:248:U:H3	1.29	0.79
3:4:154:C:HO2'	14:K:185:ARG:CD	1.95	0.79
11:H:68:THR:C	25:V:31:LEU:HD13	2.06	0.79
1:1:86:G:N7	17:N:11:LYS:O	2.14	0.79
1:1:1306:G:N2	20:Q:70:PRO:HG2	1.97	0.79
3:4:41:A:H5'	41:l:67:LEU:CG	2.11	0.79
25:V:66:ASN:ND2	33:d:35:VAL:HG13	1.97	0.79
1:1:157:A:H8	40:k:26:ILE:HG21	1.45	0.79
1:1:1045:C:H1'	47:s:93:PHE:CE2	2.17	0.79
1:1:2384:A:N1	20:Q:96:LYS:CE	2.45	0.79
22:S:163:PRO:HG3	32:c:50:PRO:CD	2.10	0.79
1:1:96:G:H5'	17:N:15:ARG:NE	1.88	0.79
1:1:162:G:N2	1:1:259:C:O2	2.16	0.79
1:1:1321:G:H4'	24:U:117:ARG:NH2	1.97	0.79
1:1:2549:G:N7	14:K:34:PHE:C	2.41	0.79
22:S:173:GLU:HA	32:c:51:GLY:C	2.01	0.79
1:1:55:G:OP1	41:l:43:LYS:NZ	2.15	0.79
1:1:413:U:OP1	21:R:30:ARG:NH2	2.16	0.79
2:3:79:A:H62	2:3:101:G:H21	1.29	0.79
9:F:262:TRP:NE1	20:Q:66:LYS:HG2	1.98	0.79
25:V:84:TYR:HD2	33:d:22:LYS:O	1.66	0.79
1:1:1687:U:C4'	26:W:75:TYR:HD1	1.95	0.79
1:1:3298:C:H2'	21:R:55:GLN:HE21	1.48	0.79
1:1:3309:G:H1'	21:R:69:ARG:HD3	1.64	0.79
11:H:150:LEU:HD13	16:M:143:ARG:CD	2.12	0.79
1:1:1687:U:OP2	26:W:42:LYS:HE2	1.80	0.79
1:1:2014:U:C6	48:t:180:ASN:CG	2.61	0.79
1:1:2014:U:H1'	48:t:180:ASN:O	1.82	0.79
1:1:2639:G:H1'	25:V:56:PHE:HE1	1.48	0.79
1:1:2700:G:C4'	25:V:46:GLY:O	2.22	0.79
1:1:3208:G:C8	24:U:165:TYR:CD2	2.62	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:241:G:H1'	17:N:45:LYS:HZ2	1.22	0.79
1:1:293:C:O2'	40:k:76:ARG:CD	2.30	0.79
1:1:389:A:H5'	21:R:16:SER:O	1.81	0.79
1:1:413:U:H5"	21:R:34:GLN:OE1	1.82	0.79
1:1:1958:U:O2	1:1:2083:G:O6	2.00	0.79
1:1:3212:C:P	18:O:124:ARG:NH2	2.55	0.79
1:1:96:G:C4'	17:N:15:ARG:HE	1.95	0.79
1:1:119:U:H2'	14:K:138:HIS:CE1	2.18	0.79
1:1:280:U:O2'	19:P:182:ASN:OD1	2.01	0.79
1:1:1312:C:O2	20:Q:87:MET:CE	2.31	0.79
1:1:1348:U:C5'	22:S:38:ARG:HH21	1.96	0.79
1:1:1864:A:OP1	23:T:82:LYS:N	2.16	0.79
10:G:351:PRO:HB2	13:J:70:LYS:O	1.81	0.79
12:I:174:LEU:HD22	18:O:117:ARG:NH2	1.91	0.79
1:1:79:U:OP1	19:P:184:LYS:CE	2.29	0.78
1:1:388:G:H4'	21:R:18:ARG:HB3	1.66	0.78
1:1:1322:U:O4'	24:U:111:ALA:HB1	1.83	0.78
1:1:1547:G:C5'	19:P:108:ARG:NH2	2.46	0.78
1:1:1687:U:OP1	26:W:42:LYS:HD2	1.81	0.78
1:1:3113:A:H4'	15:L:69:ARG:HG3	1.65	0.78
1:1:3157:U:O2	48:t:652:LYS:N	2.00	0.78
17:N:3:ILE:CG1	32:c:34:MET:SD	2.71	0.78
1:1:986:U:C1'	13:J:122:ALA:HB1	2.12	0.78
1:1:1126:G:O2'	47:s:117:ALA:O	1.99	0.78
1:1:1593:A:O4'	38:i:60:ARG:NH1	2.16	0.78
1:1:1612:A:OP1	42:m:46:ARG:HD3	1.83	0.78
1:1:1689:U:C4'	23:T:59:SER:HB2	2.13	0.78
1:1:2013:C:C2'	48:t:177:GLN:HA	2.13	0.78
2:3:96:U:O2'	24:U:119:ARG:HD3	1.82	0.78
2:3:97:A:O3'	13:J:224:ILE:HD13	1.80	0.78
5:B:63:C:O2'	47:s:23:ARG:CZ	2.31	0.78
10:G:112:LYS:NZ	19:P:204:LYS:HA	1.98	0.78
1:1:319:A:H4'	19:P:51:LEU:CD2	2.13	0.78
1:1:1493:G:C3'	43:n:49:MET:CE	2.49	0.78
11:H:40:HIS:CE1	25:V:69:LYS:CA	2.67	0.78
1:1:23:A:OP1	41:l:44:THR:HB	1.83	0.78
1:1:149:U:OP1	19:P:54:LYS:HA	1.82	0.78
1:1:1167:U:O2	13:J:209:ASN:CG	2.27	0.78
1:1:2013:C:O2'	48:t:177:GLN:N	2.15	0.78
1:1:3267:A:H4'	21:R:181:ARG:HH11	1.43	0.78
3:4:67:U:OP1	41:l:85:LYS:HE2	1.81	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:94:C:C3'	41:l:72:ARG:HH12	1.95	0.78
6:C:50:PHE:CE1	19:P:88:GLY:N	2.51	0.78
1:1:1485:G:N3	38:i:4:ARG:NH2	2.25	0.78
1:1:1677:G:OP1	26:W:103:TYR:HE1	1.66	0.78
1:1:2673:A:O3'	16:M:104:PHE:HA	1.82	0.78
1:1:3133:C:H4'	20:Q:145:VAL:HA	1.62	0.78
10:G:106:TRP:HE3	17:N:22:VAL:HG11	1.48	0.78
12:I:174:LEU:CD2	18:O:117:ARG:CZ	2.54	0.78
1:1:1447:G:C6	21:R:25:SER:OG	2.26	0.78
1:1:2004:U:H3	1:1:2017:G:H1	0.84	0.78
2:3:75:G:N3	2:3:105:C:N4	2.32	0.78
1:1:2013:C:C1'	48:t:176:GLN:O	2.32	0.78
1:1:2978:U:C4	51:z:17:UNK:CB	2.58	0.78
1:1:3276:G:O6	21:R:171:ARG:HG3	1.82	0.78
3:4:34:U:O2'	41:l:70:VAL:CG1	2.32	0.78
1:1:1040:A:C1'	47:s:197:LYS:HZ3	1.91	0.78
1:1:1687:U:C4'	26:W:75:TYR:CE1	2.66	0.78
3:4:5:U:P	21:R:62:ARG:HE	2.06	0.78
3:4:45:C:OP2	43:n:15:LYS:HE2	1.84	0.78
10:G:330:TYR:HE1	13:J:49:ALA:CB	1.70	0.78
29:Z:46:TYR:HB3	39:j:75:TYR:O	1.84	0.78
1:1:289:A:O2'	19:P:93:LYS:O	2.02	0.78
1:1:665:A:OP1	19:P:203:ARG:HD2	1.84	0.78
1:1:785:G:N2	22:S:63:SER:HB3	1.98	0.78
1:1:2015:C:H1'	48:t:184:GLN:NE2	1.98	0.78
1:1:2631:U:OP1	25:V:9:SER:CA	2.32	0.78
1:1:1593:A:O5'	38:i:60:ARG:CD	2.31	0.77
1:1:2698:G:N2	25:V:8:ARG:NH1	2.32	0.77
1:1:156:G:H5'	40:k:25:LYS:NZ	1.98	0.77
1:1:291:C:OP1	19:P:68:ARG:NH1	2.17	0.77
1:1:903:U:OP2	41:l:30:GLN:CG	2.32	0.77
1:1:3007:U:OP1	20:Q:73:PHE:CA	2.30	0.77
1:1:3299:A:P	21:R:72:GLN:CG	2.71	0.77
3:4:94:C:C5	41:l:72:ARG:HD2	2.18	0.77
4:A:53:G:H4'	47:s:69:ILE:CG1	2.12	0.77
1:1:74:G:O2'	17:N:61:PRO:CD	2.32	0.77
1:1:671:U:OP2	22:S:57:ILE:CD1	2.29	0.77
1:1:986:U:C5'	13:J:126:LEU:HD21	2.13	0.77
1:1:2352:A:C3'	21:R:85:ALA:HB3	2.13	0.77
1:1:3186:A:H5'	18:O:12:TRP:HZ2	1.49	0.77
1:1:49:A:C5	19:P:187:ARG:CD	2.67	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:57:A:C4'	19:P:157:LYS:HD2	2.14	0.77
1:1:1312:C:O2	20:Q:87:MET:CG	2.31	0.77
1:1:3107:U:P	44:o:112:LYS:HZ2	2.07	0.77
1:1:3157:U:O4	48:t:656:ALA:N	2.18	0.77
1:1:3198:U:H4'	15:L:21:LYS:NZ	1.98	0.77
1:1:3213:A:H8	18:O:128:ARG:NH1	1.82	0.77
11:H:17:GLN:CD	25:V:22:HIS:N	2.43	0.77
12:I:174:LEU:HD22	18:O:117:ARG:HH12	0.79	0.77
32:c:129:PHE:HE1	40:k:9:ILE:HG21	1.44	0.77
1:1:97:U:OP2	17:N:13:HIS:CD2	2.37	0.77
1:1:387:A:O2'	21:R:19:GLY:HA2	1.85	0.77
1:1:817:A:C2	41:l:13:ASN:O	2.37	0.77
1:1:929:A:N9	41:l:49:TRP:CE3	2.52	0.77
1:1:1948:G:O3'	23:T:101:VAL:HG13	1.85	0.77
1:1:3243:A:N7	20:Q:110:PRO:CG	2.30	0.77
12:I:158:TYR:CD1	18:O:115:PHE:HD1	2.03	0.77
1:1:40:A:H61	1:1:963:G:N2	1.81	0.77
1:1:3126:C:C1'	15:L:156:GLN:HE22	1.87	0.77
1:1:169:U:OP1	17:N:128:ARG:HD2	1.85	0.77
1:1:269:G:N9	19:P:14:LYS:CD	2.36	0.77
1:1:306:A:N6	1:1:2784:G:C2	2.53	0.77
1:1:641:C:H42	1:1:645:A:H62	1.33	0.77
1:1:1348:U:C4'	22:S:35:PHE:CE1	2.67	0.77
1:1:2008:G:N2	48:t:180:ASN:OD1	2.11	0.77
1:1:2514:U:C2'	14:K:69:LEU:HD11	2.15	0.77
1:1:3007:U:H5'	20:Q:73:PHE:CE1	2.20	0.77
1:1:3214:U:O4	18:O:124:ARG:NH1	2.17	0.77
2:3:89:G:H5'	24:U:84:ARG:NH2	2.00	0.77
2:3:107:C:OP2	47:s:202:LYS:HE3	1.84	0.77
25:V:66:ASN:ND2	33:d:36:ASP:N	2.33	0.77
1:1:321:C:H4'	19:P:150:TRP:CD2	2.20	0.77
1:1:1362:G:C4'	13:J:160:ARG:H	1.95	0.77
1:1:2527:G:C1'	14:K:241:LYS:HE3	2.15	0.77
1:1:3180:A:H4'	20:Q:116:LYS:HA	1.67	0.77
2:3:91:G:O6	47:s:55:GLU:OE2	2.03	0.77
3:4:97:A:O2'	39:j:59:ASN:ND2	2.18	0.77
1:1:76:G:C6	17:N:100:ARG:C	2.63	0.77
1:1:196:G:H21	1:1:219:A:H61	0.79	0.77
1:1:1355:A:O2'	22:S:31:LYS:CE	2.33	0.77
1:1:1852:G:HO2'	41:l:10:LYS:HG3	1.50	0.77
1:1:1861:G:H5'	23:T:63:THR:HG21	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2352:A:OP2	21:R:82:ARG:CG	2.33	0.77
1:1:2384:A:N1	20:Q:96:LYS:HE2	1.98	0.77
1:1:3034:C:O2'	15:L:122:LYS:HB3	1.83	0.77
21:R:171:ARG:CZ	37:h:60:ARG:NH1	2.44	0.77
1:1:1757:A:H4'	26:W:96:VAL:HG11	1.65	0.77
1:1:2724:U:H4'	25:V:54:HIS:NE2	2.00	0.77
1:1:2828:G:H22	47:s:101:MET:HB3	1.50	0.77
1:1:2166:A:C1'	19:P:74:PRO:HA	2.15	0.76
1:1:2729:U:OP1	22:S:157:PRO:HD2	1.84	0.76
1:1:2896:A:H5'	44:o:124:LYS:NZ	1.99	0.76
3:4:36:G:OP2	39:j:85:THR:OG1	2.02	0.76
10:G:112:LYS:HZ1	19:P:204:LYS:HG3	1.49	0.76
1:1:786:A:H62	22:S:88:THR:CB	1.82	0.76
1:1:1558:A:OP2	14:K:51:LYS:HE2	1.85	0.76
3:4:52:A:C2	43:n:23:LEU:CG	2.68	0.76
3:4:94:C:C5'	41:l:76:ASN:ND2	2.23	0.76
1:1:817:A:C2	41:l:13:ASN:N	2.53	0.76
1:1:1157:G:C5'	13:J:220:PHE:CE1	2.53	0.76
1:1:2514:U:HO2'	14:K:65:LEU:HD12	1.48	0.76
2:3:91:G:H1	47:s:55:GLU:CD	1.92	0.76
3:4:41:A:C5'	41:l:67:LEU:HD11	2.09	0.76
1:1:6:A:O2'	14:K:188:THR:CG2	2.33	0.76
1:1:3214:U:C3'	18:O:121:MET:CE	2.59	0.76
1:1:50:U:H5'	19:P:191:TRP:CZ3	2.21	0.76
1:1:986:U:H1'	13:J:122:ALA:HB1	1.65	0.76
1:1:1747:G:H21	42:m:2:ALA:HA	1.51	0.76
1:1:1803:C:H4'	38:i:62:TYR:HB3	1.68	0.76
1:1:2673:A:P	16:M:95:ASN:HA	2.25	0.76
1:1:3157:U:C4	48:t:656:ALA:HB2	2.21	0.76
5:B:63:C:O2'	47:s:23:ARG:CD	2.32	0.76
1:1:786:A:H61	22:S:88:THR:CB	1.88	0.76
1:1:1749:A:H3'	42:m:44:LYS:HZ2	1.42	0.76
4:A:1:G:N1	4:A:72:C:N3	2.33	0.76
1:1:20:A:P	39:j:86:ARG:HH21	2.08	0.76
1:1:1589:A:C5	38:i:13:TYR:CE2	2.74	0.76
1:1:1686:U:H5"	26:W:42:LYS:HE3	1.66	0.76
29:Z:60:TYR:OH	39:j:22:VAL:CG1	2.33	0.76
1:1:68:C:O3'	19:P:177:GLY:CA	2.33	0.76
1:1:880:G:C6	21:R:132:ALA:HB1	2.20	0.76
1:1:1489:A:OP1	43:n:3:ALA:HB1	1.86	0.76
1:1:3181:C:C1'	20:Q:164:SER:C	2.56	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3244:A:O2'	20:Q:111:PRO:HG2	1.86	0.76
2:3:39:C:C4'	16:M:44:THR:O	2.33	0.76
6:C:103:ALA:HA	16:M:62:ASN:CB	2.15	0.76
10:G:330:TYR:HE1	13:J:49:ALA:HB2	0.97	0.76
1:1:798:G:N2	17:N:14:PHE:CE2	2.53	0.76
1:1:1061:A:H5'	25:V:39:ILE:HD13	1.67	0.76
1:1:1847:A:C5	21:R:130:TYR:CG	2.62	0.76
1:1:3267:A:C4'	21:R:181:ARG:HH11	1.92	0.76
1:1:3291:G:OP1	48:t:644:SER:CB	2.34	0.76
1:1:31:C:H41	19:P:188:ARG:HH22	1.34	0.76
1:1:128:G:OP1	39:j:75:TYR:CZ	2.39	0.76
1:1:302:U:C5'	19:P:179:LYS:CE	2.61	0.76
1:1:1125:U:P	47:s:14:LYS:NZ	2.59	0.76
1:1:2618:G:C6	47:s:114:MET:HG2	2.18	0.76
1:1:3134:A:H4'	20:Q:148:LYS:HE3	0.80	0.76
17:N:157:ARG:NE	32:c:101:VAL:HG21	2.01	0.76
1:1:157:A:C8	40:k:26:ILE:HG21	2.21	0.75
1:1:986:U:C5'	13:J:126:LEU:CD2	2.63	0.75
1:1:1040:A:C1'	47:s:197:LYS:HZ1	1.97	0.75
1:1:2555:G:O6	38:i:95:ILE:CG1	2.33	0.75
1:1:316:U:C4	40:k:30:LYS:HB2	2.21	0.75
1:1:1362:G:C1'	13:J:159:GLN:HA	2.17	0.75
1:1:1805:C:OP1	38:i:71:THR:HG21	1.85	0.75
1:1:2093:A:OP1	23:T:143:ILE:HD13	1.85	0.75
1:1:3112:G:H21	1:1:3122:A:N6	1.83	0.75
1:1:3178:A:C4	20:Q:115:LYS:HG2	2.21	0.75
1:1:103:G:C5'	17:N:65:TYR:CD2	2.67	0.75
1:1:282:G:N1	19:P:181:ASN:HB2	2.00	0.75
1:1:785:G:C8	22:S:92:ARG:CZ	2.70	0.75
1:1:1186:G:N3	24:U:112:ALA:HB1	2.01	0.75
1:1:1332:A:H2	13:J:209:ASN:ND2	1.84	0.75
1:1:1485:G:H21	38:i:4:ARG:CD	1.99	0.75
1:1:1640:G:O6	38:i:73:SER:OG	2.02	0.75
1:1:121:A:C5	14:K:108:ARG:CZ	2.70	0.75
1:1:1588:A:C5	43:n:4:GLN:HG2	2.16	0.75
1:1:2015:C:O4'	48:t:184:GLN:HG2	1.85	0.75
1:1:86:G:O2'	17:N:11:LYS:CG	2.35	0.75
1:1:269:G:C5'	19:P:120:TRP:HZ3	1.99	0.75
1:1:1493:G:O5'	43:n:49:MET:CE	2.27	0.75
1:1:2013:C:C1'	48:t:176:GLN:C	2.59	0.75
1:1:2352:A:OP1	21:R:83:TRP:CA	2.34	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2515:A:OP1	14:K:65:LEU:CD1	2.18	0.75
1:1:2365:C:H1'	20:Q:68:ARG:HH22	0.94	0.75
1:1:2629:U:HO2'	1:1:2758:A:HO2'	1.35	0.75
1:1:3187:A:OP2	15:L:23:ARG:HG3	1.85	0.75
10:G:112:LYS:HZ2	19:P:204:LYS:HA	1.52	0.75
1:1:181:U:O2'	41:l:75:LYS:NZ	2.20	0.75
1:1:1348:U:C5'	22:S:38:ARG:HH22	1.97	0.75
1:1:1852:G:C4	41:l:9:GLY:HA3	2.22	0.75
3:4:34:U:H5	41:l:74:PHE:CE2	2.01	0.75
10:G:105:THR:O	17:N:26:PHE:CZ	2.40	0.75
25:V:66:ASN:CG	33:d:35:VAL:HG13	2.11	0.75
1:1:1448:U:H4'	21:R:66:SER:HB3	1.68	0.75
1:1:2435:G:H4'	19:P:24:ARG:NH1	2.01	0.75
1:1:3217:C:C6	21:R:182:ILE:HD11	2.21	0.75
1:1:76:G:C2	17:N:100:ARG:O	2.39	0.75
1:1:781:G:OP2	22:S:151:ARG:CD	2.34	0.75
1:1:1062:A:H1'	25:V:130:ARG:HH22	0.62	0.75
1:1:1207:G:H4'	44:o:117:HIS:O	1.86	0.75
1:1:1589:A:C2'	38:i:15:THR:HG21	2.16	0.75
1:1:266:A:N6	40:k:30:LYS:CG	2.46	0.74
1:1:1321:G:C1'	24:U:115:ARG:NH1	2.47	0.74
1:1:1687:U:H4'	26:W:75:TYR:HD1	1.51	0.74
1:1:1687:U:C1'	26:W:75:TYR:CD1	2.69	0.74
3:4:5:U:P	21:R:62:ARG:HG3	2.27	0.74
3:4:75:G:O4'	43:n:29:LEU:O	2.04	0.74
1:1:1491:A:N6	43:n:2:ALA:HB1	2.02	0.74
1:1:1764:U:OP1	23:T:43:LYS:CD	2.31	0.74
1:1:2355:G:C5'	21:R:139:TYR:CE2	2.70	0.74
1:1:73:C:P	40:k:14:GLY:CA	2.56	0.74
1:1:1347:U:C6	22:S:38:ARG:NH1	2.55	0.74
1:1:1955:U:O4	1:1:1956:A:N6	2.20	0.74
1:1:2639:G:H1'	25:V:56:PHE:CE1	2.22	0.74
1:1:19:U:P	39:j:90:ARG:NH2	2.60	0.74
1:1:1851:G:O2'	41:l:6:PRO:HB3	1.88	0.74
1:1:2216:G:OP1	40:k:75:LYS:CE	2.34	0.74
1:1:2356:A:C2	21:R:131:ARG:NH1	2.54	0.74
1:1:2514:U:O2'	14:K:65:LEU:CD1	2.35	0.74
1:1:3185:U:H2'	24:U:170:THR:OG1	1.86	0.74
3:4:41:A:H5"	41:l:67:LEU:CG	2.16	0.74
1:1:241:G:C2'	17:N:45:LYS:HZ2	2.00	0.74
1:1:1176:C:O4'	20:Q:87:MET:O	2.04	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1321:G:O3'	24:U:117:ARG:NH2	2.21	0.74
1:1:3310:A:OP1	21:R:74:LYS:CE	2.34	0.74
3:4:75:G:C6	43:n:26:TRP:CE3	2.75	0.74
17:N:2:ALA:CB	32:c:33:GLY:O	2.36	0.74
1:1:674:G:O6	22:S:56:LYS:NZ	2.20	0.74
1:1:1047:A:N6	47:s:16:TYR:CE1	2.56	0.74
1:1:1697:A:H5"	38:i:33:GLN:HE22	1.50	0.74
1:1:2599:U:H5"	19:P:70:ASN:HD22	1.52	0.74
1:1:3186:A:C1'	18:O:12:TRP:CH2	2.71	0.74
11:H:15:ARG:HA	25:V:20:ARG:NE	2.03	0.74
25:V:66:ASN:ND2	33:d:35:VAL:CB	2.51	0.74
1:1:299:G:C5	40:k:31:GLY:HA3	2.23	0.74
1:1:786:A:OP1	22:S:146:SER:HB3	1.88	0.74
1:1:1257:C:N4	1:1:1261:G:N2	2.36	0.74
1:1:2013:C:C4'	48:t:177:GLN:HE21	1.94	0.74
1:1:2383:C:H5'	20:Q:71:PHE:CE2	2.23	0.74
1:1:2515:A:H5'	19:P:28:TRP:CE2	2.22	0.74
1:1:147:U:H5	14:K:194:THR:HB	1.52	0.74
1:1:316:U:C4	40:k:30:LYS:HB3	2.19	0.74
1:1:666:A:H2	17:N:10:LEU:CD1	2.01	0.74
1:1:727:G:N2	22:S:139:ILE:CB	2.50	0.74
1:1:1672:U:P	23:T:64:ARG:HH21	2.10	0.74
1:1:1686:U:H5	26:W:82:LYS:NZ	1.85	0.74
1:1:1915:A:O3'	23:T:84:THR:HG22	1.88	0.74
1:1:2168:A:C5'	19:P:67:ARG:HH12	2.01	0.74
1:1:2635:A:C2	25:V:10:ARG:CZ	2.71	0.74
3:4:38:U:P	39:j:78:LYS:HD3	2.27	0.74
1:1:1547:G:H5"	19:P:108:ARG:NH2	2.02	0.74
1:1:1740:U:OP1	38:i:55:SER:OG	2.05	0.74
1:1:2680:A:N9	16:M:57:PHE:CD2	2.54	0.74
1:1:3034:C:O2'	15:L:122:LYS:HD3	1.86	0.74
2:3:96:U:C1'	24:U:119:ARG:HD2	2.18	0.74
3:4:41:A:C5'	41:l:67:LEU:HD12	2.16	0.74
3:4:97:A:C5'	39:j:63:ARG:CZ	2.65	0.74
10:G:112:LYS:HZ1	19:P:204:LYS:CA	2.01	0.74
25:V:66:ASN:ND2	33:d:36:ASP:H	1.83	0.74
29:Z:60:TYR:HH	39:j:22:VAL:HG13	1.52	0.74
29:Z:117:ASN:C	43:n:14:ALA:CB	2.58	0.74
1:1:57:A:H5'	19:P:157:LYS:HD2	1.70	0.74
1:1:99:A:H5"	19:P:194:GLN:OE1	1.86	0.74
1:1:929:A:C1'	41:l:49:TRP:HZ3	1.96	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:929:A:N9	41:l:49:TRP:CZ3	2.56	0.74
1:1:1347:U:C4	22:S:38:ARG:NH1	2.54	0.74
2:3:55:A:N3	16:M:10:ARG:HB2	2.03	0.74
2:3:97:A:HO2'	13:J:222:HIS:CE1	1.99	0.74
3:4:13:A:C1'	21:R:120:ASN:ND2	2.50	0.74
3:4:14:C:C5'	21:R:123:PRO:HD3	2.18	0.74
17:N:64:LYS:HE3	32:c:69:TRP:CE2	2.22	0.74
29:Z:60:TYR:CD2	39:j:25:LYS:HD3	2.23	0.74
1:1:784:A:H2'	22:S:65:SER:CB	2.18	0.73
1:1:3115:C:OP2	15:L:62:ARG:NH1	2.18	0.73
3:4:34:U:OP1	41:l:74:PHE:HE1	1.71	0.73
3:4:34:U:H6	41:l:74:PHE:CG	2.06	0.73
31:b:81:LEU:HD11	38:i:90:ILE:HD13	1.68	0.73
35:f:83:GLU:CB	48:t:48:LYS:O	2.36	0.73
1:1:618:C:H5'	21:R:169:THR:HG23	1.62	0.73
1:1:1047:A:N6	47:s:16:TYR:CD1	2.56	0.73
1:1:2139:A:N7	41:l:3:LYS:HG2	2.02	0.73
1:1:3157:U:O2	48:t:649:LYS:O	2.06	0.73
2:3:10:C:O2'	2:3:13:A:N6	2.21	0.73
1:1:388:G:O2'	21:R:17:ALA:HA	1.88	0.73
1:1:665:A:P	19:P:203:ARG:HH12	2.11	0.73
1:1:879:U:C1'	21:R:135:ARG:NH2	2.51	0.73
1:1:884:A:OP1	41:l:5:THR:HG22	1.89	0.73
1:1:1602:A:C5'	23:T:10:LEU:HD21	2.18	0.73
1:1:1846:C:N3	51:z:9:UNK:O	2.20	0.73
1:1:2355:G:H4'	21:R:139:TYR:CE2	2.20	0.73
1:1:2514:U:H1'	14:K:69:LEU:HD13	1.66	0.73
1:1:3207:U:O4	24:U:159:SER:OG	2.02	0.73
10:G:299:ILE:CG2	22:S:39:ARG:HB3	2.17	0.73
1:1:269:G:N9	19:P:14:LYS:HD3	2.00	0.73
1:1:293:C:H4'	40:k:76:ARG:HH11	1.53	0.73
1:1:2014:U:O4'	48:t:180:ASN:HB2	1.85	0.73
1:1:2674:A:C5	16:M:124:GLY:CA	2.69	0.73
29:Z:140:GLY:HA3	39:j:33:VAL:HG11	0.74	0.73
1:1:1804:A:O2'	38:i:78:GLY:HA3	1.88	0.73
1:1:1856:C:O4'	38:i:7:PHE:CZ	2.33	0.73
1:1:2680:A:H8	16:M:57:PHE:HE2	1.28	0.73
1:1:2737:C:OP1	25:V:70:SER:N	2.19	0.73
3:4:46:G:C5'	43:n:18:LYS:HZ2	1.96	0.73
1:1:1485:G:H22	38:i:4:ARG:HD2	1.51	0.73
1:1:1493:G:O2'	43:n:13:MET:CG	2.36	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1672:U:OP1	23:T:64:ARG:CZ	2.36	0.73
1:1:2216:G:P	40:k:75:LYS:HZ1	2.12	0.73
1:1:2549:G:N7	14:K:33:ASN:OD1	2.20	0.73
1:1:2674:A:C5	16:M:124:GLY:C	2.63	0.73
1:1:744:A:O4'	22:S:141:ARG:CB	2.31	0.73
1:1:985:U:HO2'	13:J:102:VAL:HG22	1.52	0.73
1:1:1738:C:H1'	38:i:52:GLN:CD	2.13	0.73
1:1:1975:C:H1'	42:m:59:ALA:HB1	0.81	0.73
1:1:2494:A:H4'	46:r:30:UNK:CB	2.17	0.73
1:1:2660:G:N3	1:1:2744:U:O2'	2.22	0.73
1:1:2729:U:OP1	22:S:157:PRO:HB2	1.87	0.73
2:3:92:A:H2	47:s:55:GLU:CG	1.96	0.73
1:1:880:G:OP2	21:R:131:ARG:NE	2.15	0.73
1:1:1044:U:C4'	47:s:89:ARG:O	2.37	0.73
1:1:1852:G:O2'	41:l:10:LYS:HG3	1.89	0.73
1:1:2365:C:H1'	20:Q:68:ARG:HH21	1.45	0.73
1:1:2683:U:H1'	16:M:128:TYR:OH	1.89	0.73
25:V:66:ASN:ND2	33:d:35:VAL:C	2.47	0.73
1:1:785:G:O4'	22:S:92:ARG:NH1	2.22	0.73
1:1:1472:U:O4'	23:T:4:LEU:HD12	1.89	0.73
1:1:2015:C:O4'	48:t:184:GLN:CG	2.37	0.73
2:3:40:C:C5'	16:M:43:GLN:NE2	2.43	0.73
10:G:330:TYR:HB2	13:J:48:ASN:HB2	1.69	0.73
1:1:121:A:N6	14:K:108:ARG:HH21	1.87	0.73
1:1:727:G:H22	22:S:139:ILE:CB	2.00	0.73
1:1:1682:U:C4	26:W:85:LYS:HB2	2.24	0.73
1:1:3134:A:P	20:Q:146:GLY:HA2	2.29	0.73
1:1:1928:G:N2	1:1:2320:A:O2'	2.22	0.72
3:4:14:C:H5"	21:R:123:PRO:CG	2.19	0.72
1:1:1757:A:H4'	26:W:96:VAL:HG12	1.71	0.72
1:1:1915:A:C5'	23:T:84:THR:HG23	2.12	0.72
1:1:1975:C:C5'	42:m:63:LYS:CD	2.47	0.72
1:1:2013:C:C6	48:t:176:GLN:HG2	2.25	0.72
1:1:2515:A:H5'	14:K:65:LEU:CD1	2.19	0.72
29:Z:68:THR:HG23	39:j:36:LEU:CD2	1.89	0.72
1:1:884:A:OP2	41:l:4:GLY:HA3	1.89	0.72
1:1:1306:G:N2	20:Q:70:PRO:CG	2.53	0.72
1:1:1175:C:O2	20:Q:87:MET:HB3	1.89	0.72
1:1:1721:U:P	23:T:103:ARG:HD3	2.30	0.72
1:1:2856:G:N7	47:s:6:ARG:NH2	2.37	0.72
1:1:3178:A:C5	20:Q:115:LYS:HE2	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3185:U:O2	24:U:169:SER:OG	2.07	0.72
11:H:15:ARG:CA	25:V:20:ARG:CG	2.67	0.72
1:1:47:C:OP1	17:N:16:LYS:CE	2.38	0.72
1:1:57:A:O3'	19:P:157:LYS:HD2	1.90	0.72
1:1:1111:U:C5'	17:N:5:LYS:HE3	2.18	0.72
1:1:3243:A:C2	20:Q:156:LEU:CD1	2.70	0.72
1:1:3260:G:O2'	18:O:126:GLN:CD	2.33	0.72
1:1:388:G:H4'	21:R:18:ARG:N	2.05	0.72
1:1:3298:C:C2'	21:R:55:GLN:HE21	2.03	0.72
5:B:64:G:O5'	47:s:23:ARG:NE	2.22	0.72
17:N:3:ILE:HG12	32:c:34:MET:SD	2.30	0.72
1:1:47:C:OP1	17:N:16:LYS:HE2	1.90	0.72
1:1:156:G:C5	17:N:99:HIS:CE1	2.77	0.72
1:1:269:G:C2	19:P:14:LYS:HB2	2.24	0.72
1:1:269:G:H3'	19:P:120:TRP:CE3	2.25	0.72
1:1:388:G:O2'	21:R:17:ALA:CA	2.37	0.72
1:1:1491:A:C5	43:n:2:ALA:CB	2.72	0.72
1:1:2698:G:H22	25:V:8:ARG:NH1	1.86	0.72
1:1:129:U:H3	1:1:139:G:H1	1.36	0.72
1:1:561:C:OP1	18:O:77:ARG:HB2	1.89	0.72
1:1:1126:G:O2'	47:s:117:ALA:HB1	1.89	0.72
1:1:2515:A:C5'	19:P:28:TRP:CZ2	2.59	0.72
10:G:344:ALA:CA	13:J:60:ARG:NH2	2.44	0.72
22:S:175:ALA:HB3	32:c:53:PHE:O	1.89	0.72
1:1:321:C:H5"	19:P:150:TRP:CZ3	2.25	0.72
10:G:299:ILE:HG23	22:S:39:ARG:HB3	1.70	0.72
10:G:344:ALA:HB1	13:J:60:ARG:NH1	2.04	0.72
1:1:1668:G:O2'	38:i:22:VAL:CG1	2.29	0.72
1:1:2355:G:H5'	21:R:139:TYR:CZ	2.25	0.72
1:1:2705:A:C2	25:V:49:GLN:NE2	2.58	0.72
1:1:2751:G:OP1	25:V:50:LYS:HE3	1.90	0.72
1:1:3034:C:O2	15:L:122:LYS:N	2.22	0.72
1:1:3047:U:C4	1:1:3094:A:N1	2.58	0.72
11:H:15:ARG:C	25:V:20:ARG:CG	2.63	0.72
1:1:413:U:P	21:R:30:ARG:HH21	2.13	0.71
1:1:1303:A:N6	1:1:2858:U:O2'	2.22	0.71
1:1:1363:A:P	13:J:160:ARG:HD3	2.29	0.71
1:1:2524:A:C5	14:K:46:LEU:HD12	2.23	0.71
1:1:3213:A:H62	18:O:124:ARG:CZ	2.04	0.71
1:1:73:C:C4	17:N:59:ARG:NH1	2.58	0.71
1:1:2844:C:N4	1:1:2898:G:N2	2.31	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3186:A:C3'	18:O:12:TRP:HH2	2.01	0.71
1:1:3208:G:C8	24:U:165:TYR:HD2	2.06	0.71
1:1:1695:U:C2	38:i:26:PRO:HB3	2.25	0.71
1:1:2216:G:OP1	40:k:75:LYS:HE2	1.90	0.71
1:1:2494:A:O4'	46:r:30:UNK:CB	2.38	0.71
1:1:2673:A:H5'	16:M:103:GLY:O	1.89	0.71
1:1:2728:G:C6	25:V:87:LYS:HD3	2.16	0.71
1:1:3183:A:O5'	20:Q:12:LYS:NZ	2.22	0.71
1:1:3185:U:H6	20:Q:126:VAL:HG21	0.89	0.71
1:1:1306:G:O2'	20:Q:60:LYS:CB	2.38	0.71
1:1:1687:U:H4'	26:W:75:TYR:CD1	2.25	0.71
1:1:1749:A:H3'	42:m:44:LYS:HZ1	0.80	0.71
10:G:109:TRP:NE1	17:N:26:PHE:CE1	2.55	0.71
14:K:28:HIS:ND1	31:b:128:GLN:NE2	2.37	0.71
1:1:23:A:OP1	41:l:44:THR:N	2.22	0.71
1:1:291:C:OP1	19:P:68:ARG:CZ	2.39	0.71
1:1:908:G:N3	1:1:925:A:N6	2.38	0.71
1:1:1720:U:O4	23:T:124:TYR:CD2	2.43	0.71
1:1:3008:A:H4'	20:Q:66:LYS:O	1.88	0.71
1:1:3205:G:C5	24:U:171:PHE:CE2	2.79	0.71
12:I:158:TYR:CE1	18:O:115:PHE:CA	2.72	0.71
1:1:147:U:OP1	14:K:194:THR:O	2.09	0.71
1:1:162:G:N1	1:1:259:C:N3	2.30	0.71
1:1:297:G:H2'	40:k:31:GLY:O	1.90	0.71
3:4:38:U:OP2	39:j:78:LYS:CD	2.38	0.71
3:4:94:C:C6	41:l:72:ARG:NH1	2.59	0.71
22:S:178:ARG:HH12	32:c:50:PRO:HG2	1.52	0.71
1:1:76:G:OP2	17:N:101:ARG:CD	2.38	0.71
1:1:900:G:N3	1:1:1589:A:N6	2.39	0.71
1:1:1125:U:OP1	47:s:14:LYS:CG	2.34	0.71
1:1:1348:U:H5"	22:S:38:ARG:HH21	1.51	0.71
3:4:34:U:OP1	41:l:74:PHE:CE1	2.44	0.71
1:1:1318:A:H61	20:Q:18:ARG:CA	2.04	0.71
1:1:1547:G:H5'	19:P:108:ARG:CZ	2.21	0.71
1:1:1938:U:O2'	23:T:78:TYR:C	2.32	0.71
1:1:2631:U:OP1	25:V:9:SER:HA	1.90	0.71
1:1:2723:U:OP1	25:V:87:LYS:NZ	2.23	0.71
1:1:2756:C:H1'	25:V:8:ARG:NH2	2.04	0.71
1:1:3173:G:OP2	20:Q:101:ARG:NE	2.21	0.71
3:4:97:A:H5'	39:j:63:ARG:NH1	2.04	0.71
1:1:149:U:OP1	19:P:55:ALA:N	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1145:G:N2	1:1:1331:U:O2'	2.24	0.71
1:1:1169:A:H5'	13:J:219:LYS:CD	1.98	0.71
1:1:1184:A:C2	24:U:108:GLN:NE2	2.55	0.71
1:1:1856:C:C2	38:i:7:PHE:CE2	2.78	0.71
1:1:1938:U:H1'	23:T:78:TYR:CB	2.20	0.71
1:1:3309:G:H5'	21:R:71:ALA:HB2	1.72	0.71
3:4:51:G:N7	43:n:26:TRP:CH2	2.58	0.71
29:Z:114:VAL:CB	43:n:10:LYS:HZ2	2.03	0.71
34:e:51:LEU:HD12	38:i:94:LEU:HD12	1.72	0.71
1:1:73:C:OP1	40:k:14:GLY:HA2	1.91	0.71
1:1:1348:U:C3'	22:S:35:PHE:CZ	2.72	0.71
1:1:2643:A:OP2	25:V:3:LYS:NZ	2.23	0.71
1:1:3186:A:H5'	18:O:12:TRP:CZ2	2.26	0.71
1:1:3217:C:C5	21:R:182:ILE:HG21	2.24	0.71
1:1:3267:A:C5'	21:R:181:ARG:HH12	1.74	0.71
3:4:34:U:O5'	41:l:74:PHE:HE1	1.62	0.71
1:1:151:A:OP1	19:P:147:ARG:NH2	2.24	0.70
1:1:389:A:C4'	21:R:16:SER:O	2.38	0.70
1:1:1717:U:H3	1:1:1727:G:H1	1.38	0.70
1:1:1738:C:O2'	38:i:53:GLY:N	2.24	0.70
1:1:1846:C:H42	51:z:10:UNK:HA	1.53	0.70
1:1:3186:A:H2'	15:L:44:THR:OG1	1.91	0.70
3:4:52:A:N1	43:n:23:LEU:CD1	2.53	0.70
6:C:50:PHE:CE1	19:P:88:GLY:HA2	2.15	0.70
11:H:15:ARG:C	25:V:20:ARG:HG2	2.15	0.70
1:1:148:G:O2'	19:P:55:ALA:HB3	1.91	0.70
1:1:309:U:P	40:k:84:LYS:HZ1	2.12	0.70
1:1:744:A:C4'	22:S:141:ARG:HB2	2.22	0.70
1:1:1856:C:N1	38:i:7:PHE:CE2	2.55	0.70
3:4:57:C:N4	41:l:63:ARG:CZ	2.54	0.70
29:Z:60:TYR:HB2	39:j:25:LYS:HD3	1.72	0.70
1:1:780:A:C1'	22:S:162:ALA:HB2	2.20	0.70
1:1:1606:U:C6	38:i:8:ARG:NH2	2.59	0.70
1:1:2352:A:OP2	21:R:82:ARG:HG3	1.91	0.70
1:1:2897:A:H5"	44:o:125:LYS:HD2	1.71	0.70
1:1:3126:C:C1'	15:L:156:GLN:CD	2.58	0.70
1:1:3198:U:H4'	15:L:21:LYS:HZ1	1.56	0.70
2:3:39:C:O2'	16:M:43:GLN:HB3	1.91	0.70
5:B:74:C:C5	47:s:108:ASP:OD2	2.44	0.70
1:1:300:G:H2'	1:1:301:G:H8	1.55	0.70
1:1:1059:G:O2'	25:V:60:LYS:HA	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1189:C:C4	20:Q:133:ARG:NH2	2.58	0.70
1:1:2584:G:C1'	14:K:240:ASN:HD22	1.97	0.70
1:1:2853:A:P	47:s:62:GLU:HB3	2.32	0.70
1:1:2864:A:O2'	47:s:114:MET:CE	2.40	0.70
5:B:64:G:C4'	47:s:24:ALA:CB	2.59	0.70
1:1:287:G:H4'	19:P:180:PHE:CD1	2.26	0.70
1:1:389:A:H4'	21:R:16:SER:O	1.90	0.70
1:1:525:C:OP1	18:O:77:ARG:HB3	1.91	0.70
1:1:1125:U:P	47:s:14:LYS:HZ2	2.14	0.70
1:1:2015:C:C4'	48:t:184:GLN:HG2	2.21	0.70
1:1:2674:A:H5"	16:M:105:GLY:HA3	1.72	0.70
2:3:75:G:H1'	2:3:105:C:H42	1.56	0.70
3:4:67:U:OP1	41:l:85:LYS:HE3	1.88	0.70
12:I:154:LEU:O	18:O:115:PHE:CE1	2.45	0.70
1:1:149:U:P	19:P:55:ALA:H	2.15	0.70
1:1:986:U:C4'	13:J:126:LEU:CD2	2.70	0.70
1:1:1103:A:C6	22:S:9:GLN:OE1	2.44	0.70
1:1:3109:G:C1'	15:L:163:GLN:HE22	2.05	0.70
1:1:9:U:H5"	19:P:40:ALA:HB3	1.73	0.70
1:1:1062:A:C2'	25:V:130:ARG:HH22	1.73	0.70
1:1:1124:U:O3'	47:s:14:LYS:NZ	2.24	0.70
1:1:1676:A:OP2	26:W:72:SER:HB2	1.90	0.70
1:1:2674:A:C4'	16:M:105:GLY:O	2.40	0.70
1:1:119:U:C4	14:K:138:HIS:ND1	2.59	0.70
1:1:321:C:H5"	19:P:150:TRP:CE3	2.26	0.70
1:1:3109:G:H1'	15:L:163:GLN:HE22	1.55	0.70
1:1:3181:C:C2	20:Q:164:SER:O	2.43	0.70
17:N:3:ILE:HG22	32:c:44:ASN:CG	2.17	0.70
29:Z:68:THR:HG21	39:j:36:LEU:CB	2.22	0.70
1:1:376:G:O2'	1:1:400:G:N2	2.24	0.70
1:1:1126:G:O2'	47:s:117:ALA:CB	2.40	0.70
1:1:2382:G:O2'	20:Q:70:PRO:HG3	1.92	0.70
2:3:97:A:C3'	13:J:224:ILE:HD12	2.22	0.70
17:N:166:ALA:N	32:c:135:GLU:OE2	2.22	0.70
20:Q:94:ARG:HD2	37:h:94:PHE:HD2	1.57	0.70
1:1:388:G:H4'	21:R:18:ARG:CB	2.22	0.70
1:1:1485:G:H21	38:i:4:ARG:NE	1.48	0.70
1:1:2432:A:C2	19:P:125:SER:HB2	2.27	0.70
1:1:3183:A:C5'	20:Q:12:LYS:HE3	2.21	0.70
12:I:158:TYR:CG	18:O:115:PHE:HD1	2.08	0.70
1:1:86:G:HO2'	17:N:11:LYS:CD	1.95	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:97:U:P	17:N:13:HIS:CD2	2.85	0.69
1:1:363:G:OP2	41:l:52:LYS:HD2	1.91	0.69
1:1:879:U:O4'	21:R:135:ARG:NH2	2.24	0.69
1:1:1686:U:H5"	26:W:42:LYS:CE	2.22	0.69
3:4:53:A:H4'	43:n:40:LYS:CD	2.19	0.69
1:1:1493:G:C8	43:n:13:MET:SD	2.84	0.69
1:1:1600:U:O4	1:1:1605:A:N7	2.25	0.69
1:1:1695:U:O2	38:i:26:PRO:CG	2.40	0.69
1:1:2277:C:H5"	45:p:23:ARG:NH2	2.07	0.69
29:Z:141:TYR:HB3	39:j:36:LEU:HD21	1.74	0.69
1:1:57:A:C5'	19:P:157:LYS:CD	2.68	0.69
1:1:1111:U:H5"	17:N:5:LYS:HE3	1.73	0.69
1:1:1324:U:H5'	24:U:2:ALA:HA	1.74	0.69
1:1:2626:A:H4'	25:V:2:GLY:CA	2.22	0.69
3:4:41:A:H4'	41:l:67:LEU:HD12	1.69	0.69
1:1:72:C:C5'	40:k:13:LYS:HE3	1.75	0.69
1:1:291:C:H5"	19:P:68:ARG:NH2	2.07	0.69
1:1:1157:G:C4'	13:J:220:PHE:CZ	2.51	0.69
1:1:1601:U:C5'	23:T:38:ARG:HD3	2.11	0.69
1:1:3206:C:OP2	18:O:99:TRP:HZ3	1.75	0.69
1:1:3244:A:O2'	20:Q:111:PRO:CG	2.39	0.69
29:Z:60:TYR:HD2	39:j:25:LYS:HD2	1.52	0.69
1:1:136:G:C5'	39:j:95:PHE:CE2	2.76	0.69
1:1:2514:U:HO2'	14:K:65:LEU:CD1	2.04	0.69
3:4:45:C:P	43:n:15:LYS:CD	2.81	0.69
1:1:907:G:N2	1:1:925:A:O2'	2.26	0.69
1:1:929:A:O4'	41:l:49:TRP:HZ3	1.76	0.69
1:1:1517:G:OP1	43:n:41:ARG:NH2	2.25	0.69
1:1:1589:A:C8	38:i:13:TYR:CD2	2.81	0.69
1:1:2915:U:H5'	1:1:2916:U:H5'	1.73	0.69
1:1:3186:A:C2'	15:L:44:THR:OG1	2.39	0.69
1:1:3186:A:C2'	18:O:12:TRP:HH2	2.06	0.69
1:1:3187:A:C6	24:U:171:PHE:HB2	2.26	0.69
1:1:3198:U:C4'	15:L:21:LYS:HZ2	2.05	0.69
1:1:1176:C:C1'	20:Q:87:MET:O	2.40	0.69
1:1:1463:U:O4	1:1:1467:A:N7	2.26	0.69
1:1:2549:G:N7	14:K:35:GLY:N	2.41	0.69
20:Q:29:ASN:OD1	37:h:14:LEU:HD23	1.86	0.69
1:1:266:A:N1	40:k:30:LYS:CD	2.56	0.69
1:1:674:G:OP1	22:S:105:ARG:NH2	2.25	0.69
1:1:813:G:H4'	41:l:47:TYR:OH	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1040:A:C2'	47:s:197:LYS:HZ3	2.06	0.69
1:1:1318:A:N6	20:Q:18:ARG:HA	2.06	0.69
1:1:1320:C:H2'	24:U:115:ARG:HH12	1.56	0.69
1:1:1472:U:OP1	23:T:8:LYS:CE	2.41	0.69
1:1:1589:A:N9	38:i:13:TYR:CD2	2.61	0.69
1:1:1697:A:H5"	38:i:33:GLN:NE2	2.07	0.69
1:1:1847:A:C1'	21:R:130:TYR:CZ	2.35	0.69
1:1:1915:A:C4'	23:T:84:THR:HG22	2.23	0.69
1:1:2723:U:H5"	25:V:87:LYS:HE3	1.73	0.69
1:1:3183:A:C5'	20:Q:12:LYS:CE	2.71	0.69
1:1:3186:A:O2'	18:O:12:TRP:CH2	2.45	0.69
1:1:3217:C:C5	21:R:182:ILE:CB	2.75	0.69
3:4:34:U:H4'	41:l:78:PHE:HZ	1.56	0.69
5:B:64:G:O2'	47:s:24:ALA:CB	2.41	0.69
21:R:172:GLN:HE22	37:h:61:GLY:CA	2.06	0.69
1:1:269:G:P	19:P:44:ARG:NH1	2.52	0.69
1:1:880:G:N7	21:R:132:ALA:HA	2.08	0.69
1:1:1189:C:C4	20:Q:133:ARG:NH1	2.61	0.69
1:1:1829:G:H5"	1:1:1830:G:H5'	1.73	0.69
1:1:1974:A:C2	42:m:59:ALA:N	2.61	0.69
3:4:94:C:OP2	41:l:72:ARG:HG3	1.93	0.69
1:1:74:G:C1'	17:N:61:PRO:HG3	2.23	0.69
1:1:75:G:P	17:N:101:ARG:HH21	2.16	0.69
1:1:2013:C:H4'	48:t:177:GLN:HG2	1.74	0.69
1:1:3186:A:HO2'	18:O:12:TRP:HH2	1.18	0.69
5:B:63:C:C2'	47:s:23:ARG:NE	2.56	0.69
10:G:31:ARG:CZ	22:S:23:ASN:CB	2.64	0.69
1:1:1588:A:C5	43:n:4:GLN:CG	2.74	0.68
1:1:1589:A:O2'	38:i:15:THR:HG23	1.92	0.68
1:1:1948:G:OP2	23:T:135:LYS:HB2	1.92	0.68
1:1:2100:A:C4'	23:T:71:ARG:HH12	2.05	0.68
1:1:2835:U:O2'	47:s:156:TYR:CD2	2.45	0.68
10:G:31:ARG:HH21	22:S:23:ASN:HB2	1.53	0.68
10:G:299:ILE:HA	22:S:40:THR:HG22	1.74	0.68
34:e:51:LEU:CD1	38:i:94:LEU:HD12	2.23	0.68
1:1:600:G:N2	1:1:603:A:OP2	2.26	0.68
1:1:992:A:O2'	25:V:58:GLN:NE2	2.25	0.68
1:1:1472:U:C5'	23:T:4:LEU:HD13	2.21	0.68
1:1:2423:U:H2'	1:1:2424:A:H8	1.58	0.68
1:1:2674:A:H8	16:M:126:ASP:OD1	1.76	0.68
1:1:3178:A:C4	20:Q:6:VAL:HB	2.28	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:94:C:H3'	41:l:72:ARG:HH11	1.52	0.68
1:1:1318:A:H61	20:Q:18:ARG:HA	1.57	0.68
1:1:1915:A:C3'	23:T:84:THR:HG22	2.23	0.68
1:1:2639:G:O2'	25:V:56:PHE:CE1	2.37	0.68
6:C:103:ALA:CA	16:M:62:ASN:HB2	2.17	0.68
1:1:127:G:P	19:P:140:LYS:HG3	2.32	0.68
1:1:359:U:H1'	41:l:15:SER:HB2	1.74	0.68
1:1:1975:C:C1'	42:m:59:ALA:HB3	2.19	0.68
1:1:2635:A:N1	25:V:10:ARG:CZ	2.56	0.68
1:1:3185:U:P	15:L:23:ARG:NH1	2.66	0.68
2:3:96:U:C2'	13:J:225:GLN:HE21	2.07	0.68
3:4:34:U:C5'	41:l:74:PHE:CE1	2.71	0.68
3:4:94:C:C6	41:l:72:ARG:HD2	2.28	0.68
1:1:413:U:C5'	21:R:34:GLN:OE1	2.41	0.68
1:1:985:U:O2'	13:J:126:LEU:CD2	2.41	0.68
1:1:1806:A:H4'	38:i:76:TYR:OH	1.92	0.68
1:1:2100:A:H4'	23:T:71:ARG:HH12	1.59	0.68
1:1:2679:A:C4'	16:M:52:TYR:OH	2.40	0.68
1:1:3157:U:O2'	48:t:649:LYS:CA	2.41	0.68
11:H:15:ARG:O	25:V:20:ARG:CG	2.38	0.68
1:1:1348:U:O3'	22:S:35:PHE:CZ	2.47	0.68
1:1:1682:U:C5	26:W:85:LYS:HG2	2.28	0.68
1:1:1975:C:C5'	42:m:63:LYS:HB2	2.22	0.68
1:1:2168:A:H4'	19:P:67:ARG:HH22	1.57	0.68
1:1:3181:C:O4'	20:Q:164:SER:OG	2.10	0.68
1:1:3207:U:O4	24:U:160:THR:N	2.26	0.68
10:G:352:ALA:CB	13:J:73:GLY:HA3	2.24	0.68
1:1:74:G:C2'	17:N:61:PRO:CG	2.53	0.68
1:1:412:G:C2	21:R:118:GLN:OE1	2.46	0.68
1:1:769:G:OP1	17:N:179:PHE:CE2	2.43	0.68
1:1:841:A:H4'	23:T:126:GLU:HG2	1.75	0.68
1:1:1320:C:O2'	24:U:115:ARG:CZ	2.42	0.68
1:1:3216:G:H22	1:1:3258:U:H5"	1.58	0.68
3:4:41:A:H5"	41:l:67:LEU:HG	1.70	0.68
1:1:96:G:H4'	17:N:15:ARG:HD2	1.74	0.68
1:1:813:G:C4'	41:l:47:TYR:OH	2.42	0.68
1:1:1040:A:C2'	47:s:197:LYS:NZ	2.57	0.68
1:1:1059:G:O2'	25:V:60:LYS:CA	2.42	0.68
1:1:1746:U:HO2'	42:m:4:GLU:CD	2.00	0.68
1:1:1938:U:C1'	23:T:78:TYR:HB2	2.24	0.68
1:1:2515:A:C5'	19:P:28:TRP:CD2	2.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:34:U:C6	41:l:74:PHE:CE2	2.82	0.68
36:g:63:THR:HA	36:g:66:LEU:HD12	1.76	0.68
1:1:2681:U:H4'	16:M:66:ALA:HB3	0.68	0.68
1:1:452:G:N2	1:1:454:C:OP1	2.27	0.68
1:1:1010:G:C1'	47:s:194:ALA:CB	2.56	0.68
1:1:1697:A:C5'	38:i:33:GLN:HE22	2.06	0.68
3:4:52:A:N3	43:n:23:LEU:HD23	1.98	0.68
1:1:1109:U:H5'	22:S:153:PHE:HB3	1.76	0.67
1:1:1348:U:H5"	22:S:35:PHE:CD1	2.29	0.67
1:1:1738:C:O2'	38:i:52:GLN:HB2	1.94	0.67
1:1:2516:U:P	19:P:28:TRP:HE1	2.17	0.67
1:1:3243:A:C8	20:Q:110:PRO:CD	2.76	0.67
10:G:31:ARG:HD3	22:S:23:ASN:OD1	1.93	0.67
25:V:66:ASN:HD21	33:d:35:VAL:C	2.00	0.67
29:Z:60:TYR:HE2	39:j:22:VAL:HA	1.59	0.67
1:1:40:A:N6	1:1:963:G:N2	2.41	0.67
1:1:672:A:O3'	22:S:21:SER:OG	2.12	0.67
1:1:961:C:N4	1:1:2615:G:O2'	2.27	0.67
1:1:3181:C:O2	20:Q:165:ALA:C	2.37	0.67
1:1:3185:U:N3	24:U:169:SER:HA	2.05	0.67
2:3:100:C:OP1	24:U:54:ALA:CB	2.41	0.67
3:4:34:U:C5'	41:l:74:PHE:HD1	1.87	0.67
6:C:50:PHE:CZ	19:P:91:GLU:HB2	2.29	0.67
9:F:4:ARG:HD2	9:F:7:GLU:HA	1.76	0.67
10:G:327:LEU:HD21	13:J:164:SER:O	1.94	0.67
10:G:330:TYR:CB	13:J:48:ASN:HB2	2.25	0.67
1:1:269:G:P	19:P:44:ARG:HH12	1.96	0.67
1:1:812:G:O2'	41:l:47:TYR:HD1	1.69	0.67
1:1:1307:G:H5'	20:Q:60:LYS:NZ	2.08	0.67
1:1:1914:G:N2	23:T:81:ARG:O	2.24	0.67
1:1:3107:U:OP1	44:o:112:LYS:HE3	1.95	0.67
1:1:3244:A:O2'	20:Q:111:PRO:CD	2.43	0.67
2:3:96:U:H1'	24:U:119:ARG:HD2	1.76	0.67
29:Z:64:GLU:HA	39:j:32:LYS:HZ1	1.60	0.67
1:1:2516:U:C5'	19:P:31:ARG:HH21	2.04	0.67
1:1:266:A:N1	40:k:30:LYS:CG	2.57	0.67
1:1:617:G:O3'	21:R:169:THR:CG2	2.43	0.67
1:1:1306:G:C4	20:Q:61:ALA:C	2.73	0.67
2:3:17:A:OP1	16:M:150:ASN:CG	2.37	0.67
11:H:40:HIS:HE1	25:V:69:LYS:CB	2.07	0.67
1:1:266:A:C2	40:k:30:LYS:CD	2.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:519:A:OP1	24:U:63:GLN:O	2.13	0.67
1:1:919:U:H5"	1:1:920:A:H5'	1.75	0.67
1:1:1257:C:N3	1:1:1261:G:N1	2.41	0.67
1:1:1974:A:H2'	42:m:60:GLY:HA2	1.76	0.67
1:1:3178:A:C2	20:Q:115:LYS:HD3	2.30	0.67
3:4:67:U:P	41:l:85:LYS:HZ1	2.15	0.67
10:G:330:TYR:CZ	13:J:49:ALA:CA	2.74	0.67
14:K:28:HIS:CE1	31:b:128:GLN:CG	2.75	0.67
1:1:929:A:C2'	41:l:49:TRP:HE3	2.06	0.67
1:1:1103:A:N6	22:S:9:GLN:CD	2.52	0.67
1:1:1158:A:N6	13:J:93:ASN:ND2	2.43	0.67
1:1:3181:C:O2	20:Q:165:ALA:CA	2.42	0.67
6:C:102:GLN:C	16:M:62:ASN:HB3	2.19	0.67
20:Q:109:PRO:HG2	20:Q:112:TYR:HB2	1.77	0.67
1:1:672:A:OP2	22:S:55:SER:HB2	1.95	0.67
1:1:2705:A:H2	25:V:49:GLN:NE2	1.93	0.67
29:Z:60:TYR:HD2	39:j:25:LYS:HD3	1.53	0.67
1:1:56:G:O2'	19:P:158:HIS:HB2	1.94	0.67
1:1:121:A:C6	14:K:108:ARG:NH2	2.56	0.67
1:1:784:A:O2'	22:S:92:ARG:CZ	2.41	0.67
1:1:1158:A:N6	13:J:93:ASN:HD22	1.92	0.67
1:1:1257:C:H42	1:1:1261:G:N2	1.93	0.67
1:1:2354:C:H2'	21:R:139:TYR:OH	1.94	0.67
1:1:2681:U:OP1	16:M:65:ILE:HG21	1.93	0.67
1:1:2703:A:C4	16:M:142:LYS:HE3	2.30	0.67
3:4:29:U:C5'	17:N:27:ASP:HB3	2.25	0.67
10:G:299:ILE:CG2	22:S:39:ARG:NE	2.56	0.67
10:G:330:TYR:CA	13:J:45:LEU:HG	2.25	0.67
1:1:86:G:H8	17:N:11:LYS:O	1.71	0.67
1:1:266:A:N1	40:k:30:LYS:HD2	2.10	0.67
1:1:2355:G:O2'	21:R:139:TYR:HE1	1.77	0.67
1:1:2527:G:C4'	14:K:241:LYS:HE3	2.22	0.67
1:1:3214:U:H3'	18:O:121:MET:CE	2.23	0.67
3:4:63:G:O6	3:4:97:A:N1	2.28	0.67
3:4:154:C:O2'	14:K:185:ARG:HD3	1.92	0.67
5:B:64:G:H4'	47:s:24:ALA:HB3	1.75	0.67
29:Z:117:ASN:O	43:n:14:ALA:CB	2.27	0.67
1:1:32:U:C5'	19:P:94:TYR:HE1	1.98	0.66
1:1:200:C:N4	1:1:218:G:OP1	2.28	0.66
1:1:1100:U:OP2	13:J:196:LYS:HD2	1.95	0.66
1:1:1543:G:O2'	1:1:2168:A:O2'	2.12	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2139:A:N7	41:l:3:LYS:CG	2.58	0.66
2:3:9:C:OP1	25:V:26:HIS:HB2	1.95	0.66
3:4:52:A:C4	43:n:23:LEU:HD21	2.03	0.66
1:1:68:C:OP2	1:1:301:G:N2	2.28	0.66
1:1:97:U:P	17:N:13:HIS:HD2	2.18	0.66
1:1:517:G:OP1	13:J:67:ARG:NH2	2.28	0.66
1:1:1305:U:HO2'	20:Q:63:ALA:HB2	1.58	0.66
1:1:1589:A:C5	38:i:13:TYR:CD2	2.83	0.66
2:3:17:A:OP1	16:M:150:ASN:OD1	2.13	0.66
1:1:362:U:OP1	41:l:53:ALA:HB2	1.94	0.66
1:1:459:G:H1	1:1:471:U:H3	1.41	0.66
1:1:685:G:OP1	17:N:35:ARG:NE	2.24	0.66
1:1:1716:U:O2	23:T:118:HIS:CE1	2.47	0.66
1:1:2013:C:C2	48:t:176:GLN:NE2	2.52	0.66
1:1:2356:A:C2	21:R:131:ARG:NH2	2.63	0.66
1:1:3298:C:O3'	21:R:72:GLN:CG	2.28	0.66
20:Q:94:ARG:HE	37:h:94:PHE:CB	2.08	0.66
1:1:1191:U:P	20:Q:49:ARG:CD	2.62	0.66
1:1:1347:U:OP2	22:S:38:ARG:CD	2.43	0.66
1:1:2013:C:O4'	48:t:176:GLN:HG2	1.90	0.66
1:1:2674:A:N7	16:M:124:GLY:O	2.28	0.66
1:1:2676:A:N6	16:M:22:SER:HB3	2.10	0.66
1:1:3113:A:H4'	15:L:69:ARG:CG	2.26	0.66
1:1:3152:U:N3	1:1:3155:U:O4	2.29	0.66
2:3:40:C:O2	16:M:72:ARG:HG3	1.95	0.66
2:3:97:A:H5"	13:J:224:ILE:HG21	1.78	0.66
12:I:158:TYR:HE1	18:O:115:PHE:HA	1.58	0.66
1:1:86:G:HO2'	17:N:11:LYS:CG	2.08	0.66
1:1:371:G:N1	1:1:374:A:OP2	2.26	0.66
1:1:389:A:C1'	21:R:101:ASN:CG	2.69	0.66
1:1:992:A:O2'	25:V:58:GLN:HG3	1.96	0.66
1:1:1010:G:O2'	47:s:194:ALA:N	2.28	0.66
1:1:3034:C:H1'	15:L:120:ASP:HB3	1.76	0.66
1:1:3198:U:H5	15:L:26:LYS:CE	1.96	0.66
10:G:112:LYS:NZ	19:P:204:LYS:CA	2.57	0.66
17:N:64:LYS:HA	32:c:69:TRP:CE3	2.31	0.66
29:Z:68:THR:HG22	39:j:36:LEU:CD2	2.16	0.66
10:G:112:LYS:HE3	19:P:202:TYR:C	2.21	0.66
1:1:76:G:C5	17:N:100:ARG:C	2.74	0.66
1:1:833:G:OP1	23:T:86:GLU:CG	2.44	0.66
10:G:330:TYR:CE1	13:J:49:ALA:HA	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:351:A:N1	43:n:37:TYR:O	2.29	0.66
1:1:1109:U:O2'	22:S:153:PHE:HE1	1.77	0.66
1:1:3119:U:H4'	44:o:104:PRO:HG2	1.78	0.66
12:I:158:TYR:OH	18:O:114:ASP:HB3	1.95	0.66
1:1:198:A:O2'	1:1:218:G:N7	2.26	0.66
1:1:699:A:P	17:N:68:LYS:HZ3	2.11	0.66
1:1:2139:A:OP1	41:l:2:GLY:N	2.29	0.66
1:1:2450:G:N2	1:1:2496:C:O2	2.18	0.66
1:1:3092:C:H2'	27:X:12:ARG:HH21	1.61	0.66
1:1:617:G:C3'	21:R:169:THR:HB	2.26	0.66
1:1:880:G:N7	21:R:132:ALA:CB	2.59	0.66
1:1:1332:A:C2	13:J:209:ASN:ND2	2.62	0.66
1:1:2085:U:H2'	1:1:2086:A:C8	2.31	0.66
1:1:2138:A:N7	41:l:3:LYS:HD2	2.11	0.66
1:1:2630:C:H5'	25:V:6:GLY:CA	2.25	0.66
1:1:3180:A:N7	20:Q:167:TYR:HE2	1.90	0.66
1:1:156:G:H5'	40:k:25:LYS:CE	2.26	0.65
1:1:1493:G:H2'	43:n:49:MET:HE1	1.77	0.65
11:H:17:GLN:CD	25:V:22:HIS:H	2.03	0.65
22:S:175:ALA:HB2	32:c:54:GLY:O	1.96	0.65
1:1:655:C:H2'	1:1:656:A:H8	1.61	0.65
1:1:1600:U:H3	1:1:1605:A:N6	1.91	0.65
1:1:1687:U:OP2	26:W:42:LYS:CD	2.41	0.65
1:1:2384:A:N1	20:Q:96:LYS:HE3	2.10	0.65
1:1:2512:C:H5"	14:K:249:ARG:HH12	1.60	0.65
1:1:2584:G:C1'	14:K:240:ASN:ND2	2.58	0.65
1:1:3305:A:O2'	1:1:3310:A:N1	2.28	0.65
6:C:103:ALA:N	16:M:62:ASN:HB3	2.11	0.65
20:Q:29:ASN:CG	37:h:14:LEU:HD21	2.10	0.65
27:X:10:LYS:NZ	27:X:56:ASP:OD1	2.29	0.65
1:1:71:A:H61	1:1:303:G:H21	1.42	0.65
1:1:268:A:O5'	19:P:47:LYS:NZ	2.30	0.65
1:1:290:G:N3	19:P:93:LYS:HE3	2.11	0.65
1:1:544:C:H2'	1:1:547:G:H1	1.62	0.65
1:1:857:G:O2'	1:1:858:A:O4'	2.14	0.65
1:1:986:U:C2'	13:J:122:ALA:HB1	2.25	0.65
1:1:987:U:H5'	13:J:125:GLU:HG3	1.77	0.65
1:1:2991:A:H2	21:R:69:ARG:HH22	1.44	0.65
1:1:282:G:N1	19:P:181:ASN:ND2	2.43	0.65
1:1:598:A:P	13:J:41:ARG:CZ	2.84	0.65
1:1:986:U:C2	13:J:122:ALA:HB1	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1668:G:C4’	38:i:22:VAL:CG1	2.72	0.65
1:1:1974:A:C2’	42:m:60:GLY:HA2	2.26	0.65
1:1:2352:A:O2’	21:R:85:ALA:HB3	1.96	0.65
1:1:2555:G:C6	38:i:95:ILE:HD13	2.29	0.65
1:1:2679:A:O2’	16:M:52:TYR:CZ	2.50	0.65
8:E:34:TYR:HE2	14:K:36:ILE:HD13	1.61	0.65
10:G:281:ILE:HG22	22:S:25:TYR:HD1	1.61	0.65
1:1:1914:G:N2	23:T:78:TYR:O	2.29	0.65
1:1:2631:U:OP2	25:V:9:SER:OG	2.13	0.65
1:1:3178:A:H1’	20:Q:6:VAL:O	1.96	0.65
1:1:3213:A:H8	18:O:128:ARG:CZ	2.07	0.65
19:P:42:PRO:HG3	19:P:61:ILE:HG13	1.79	0.65
1:1:32:U:OP1	19:P:95:GLN:CG	2.43	0.65
1:1:156:G:C5’	40:k:25:LYS:NZ	2.60	0.65
1:1:389:A:H1’	21:R:101:ASN:CG	2.18	0.65
1:1:833:G:OP1	23:T:86:GLU:CB	2.44	0.65
1:1:1184:A:H2	24:U:108:GLN:HE21	1.40	0.65
1:1:1191:U:O2’	20:Q:48:PHE:HZ	1.45	0.65
1:1:2631:U:P	25:V:9:SER:CB	2.83	0.65
1:1:3178:A:N3	20:Q:115:LYS:CG	2.59	0.65
1:1:3178:A:C6	20:Q:115:LYS:HE2	2.32	0.65
3:4:41:A:C4’	41:l:67:LEU:HD12	2.26	0.65
15:L:92:TYR:HB2	15:L:142:ASP:HB3	1.78	0.65
17:N:7:LEU:O	32:c:49:HIS:NE2	2.30	0.65
1:1:22:G:OP1	41:l:43:LYS:HE2	1.96	0.65
1:1:362:U:OP1	41:l:53:ALA:CB	2.45	0.65
1:1:821:U:H2’	1:1:822:G:H8	1.62	0.65
1:1:1008:U:H4’	47:s:33:TYR:HD2	1.61	0.65
1:1:1097:G:H1’	25:V:128:LEU:CD1	2.27	0.65
1:1:1186:G:HO2’	24:U:113:ARG:NH1	1.93	0.65
1:1:1362:G:C2’	13:J:160:ARG:H	2.09	0.65
1:1:1389:G:H5”	36:g:101:SER:HB3	1.77	0.65
1:1:2355:G:O2’	21:R:139:TYR:CE1	2.50	0.65
1:1:2643:A:OP2	25:V:3:LYS:HE3	1.92	0.65
1:1:2674:A:H5”	16:M:105:GLY:O	1.97	0.65
1:1:2736:A:O2’	25:V:68:THR:HG21	1.96	0.65
1:1:3026:G:N2	1:1:3029:A:OP2	2.30	0.65
1:1:3172:A:O2’	20:Q:101:ARG:NH2	2.22	0.65
1:1:3187:A:H2	1:1:3205:G:H1	1.43	0.65
3:4:14:C:C5’	21:R:123:PRO:HG3	2.23	0.65
1:1:86:G:C2’	17:N:11:LYS:HB2	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:744:A:C1'	22:S:141:ARG:HD2	2.19	0.65
1:1:985:U:O2'	13:J:126:LEU:HD22	1.97	0.65
1:1:1318:A:N6	20:Q:18:ARG:CA	2.60	0.65
1:1:2355:G:O4'	21:R:139:TYR:CE1	2.42	0.65
1:1:3032:A:H2	15:L:170:LYS:HE2	1.62	0.65
10:G:329:PRO:HG2	13:J:45:LEU:HB2	1.78	0.65
10:G:329:PRO:CG	13:J:41:ARG:O	2.44	0.65
1:1:147:U:O2	19:P:41:ARG:NE	2.15	0.65
1:1:596:C:H5"	13:J:37:ASN:ND2	2.12	0.65
1:1:2045:G:H2'	1:1:2046:U:C6	2.32	0.65
2:3:17:A:P	16:M:150:ASN:CG	2.80	0.65
3:4:60:U:O4'	39:j:55:LEU:HD12	1.96	0.65
10:G:290:ILE:CG2	22:S:35:PHE:CE2	2.80	0.65
10:G:302:ALA:CB	22:S:39:ARG:NH1	2.40	0.65
20:Q:94:ARG:HE	37:h:94:PHE:HB3	1.62	0.65
1:1:784:A:H8	22:S:65:SER:HB2	1.49	0.65
1:1:787:G:OP2	22:S:147:ARG:HA	1.96	0.65
1:1:812:G:C2'	41:l:47:TYR:CE1	2.79	0.65
1:1:1257:C:N4	1:1:1261:G:H22	1.93	0.65
1:1:1362:G:C4'	13:J:160:ARG:CB	2.71	0.65
1:1:1491:A:C6	43:n:2:ALA:CB	2.80	0.65
1:1:1493:G:OP2	43:n:49:MET:CG	2.44	0.65
1:1:1847:A:C6	21:R:130:TYR:CB	2.79	0.65
1:1:2352:A:P	21:R:83:TRP:O	2.55	0.65
1:1:2402:A:N7	10:G:73:ARG:NH2	2.44	0.65
3:4:11:C:H1'	21:R:5:GLY:C	2.21	0.65
3:4:34:U:O4'	41:l:74:PHE:CB	2.43	0.65
1:1:974:G:H5"	22:S:14:GLY:O	1.97	0.64
1:1:2680:A:O4'	16:M:57:PHE:HD2	1.81	0.64
1:1:3214:U:O2	18:O:125:LYS:HE2	1.97	0.64
1:1:3243:A:C2	20:Q:156:LEU:HB3	2.32	0.64
1:1:3310:A:H5"	21:R:74:LYS:HZ3	1.61	0.64
2:3:29:C:OP2	16:M:137:ARG:HD2	1.97	0.64
2:3:39:C:H1'	16:M:44:THR:O	1.97	0.64
1:1:853:G:N3	23:T:130:ASN:ND2	2.44	0.64
1:1:1589:A:C2	38:i:13:TYR:CD1	2.84	0.64
3:4:34:U:O4'	41:l:74:PHE:CD1	2.50	0.64
17:N:170:LEU:HD21	32:c:147:LEU:HD13	1.78	0.64
29:Z:68:THR:CB	39:j:36:LEU:HD13	2.26	0.64
29:Z:114:VAL:CB	43:n:10:LYS:NZ	2.60	0.64
34:e:58:TYR:HE1	38:i:97:GLU:HG2	1.60	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:785:G:C1’	22:S:92:ARG:NH1	2.59	0.64
1:1:1861:G:C5’	23:T:63:THR:CG2	2.75	0.64
1:1:2129:U:H2’	1:1:2130:G:H8	1.62	0.64
11:H:27:LYS:CG	16:M:144:CYS:SG	2.85	0.64
1:1:1043:C:H5”	47:s:89:ARG:NH2	2.13	0.64
1:1:1846:C:N4	51:z:10:UNK:HA	2.12	0.64
1:1:1915:A:C4’	23:T:84:THR:HA	2.21	0.64
1:1:1940:G:H21	1:1:3362:A:H8	1.45	0.64
1:1:2046:U:H2’	1:1:2047:A:C4	2.32	0.64
1:1:163:C:H2’	1:1:164:A:C8	2.32	0.64
1:1:838:G:O6	1:1:855:U:O4	2.15	0.64
1:1:1394:A:OP1	36:g:98:HIS:NE2	2.31	0.64
1:1:1580:A:OP1	8:E:68:LYS:NZ	2.30	0.64
1:1:1847:A:C5	21:R:130:TYR:CD1	2.85	0.64
1:1:2515:A:H62	1:1:2592:G:N2	1.95	0.64
1:1:2931:C:H5”	27:X:40:LYS:HD2	1.78	0.64
1:1:3113:A:O3’	15:L:69:ARG:CG	2.44	0.64
1:1:3162:C:H2’	1:1:3163:A:H8	1.63	0.64
10:G:280:ILE:CG1	22:S:25:TYR:HB3	2.27	0.64
48:t:842:GLU:OE1	48:t:844:HIS:NE2	2.29	0.64
1:1:627:U:O2’	1:1:1399:A:N3	2.30	0.64
1:1:1158:A:N7	13:J:93:ASN:CG	2.55	0.64
1:1:1295:G:O2’	24:U:115:ARG:HG2	1.98	0.64
1:1:1362:G:C3’	13:J:160:ARG:CB	2.70	0.64
1:1:1697:A:C5’	38:i:33:GLN:NE2	2.61	0.64
1:1:2013:C:C2’	48:t:176:GLN:O	2.46	0.64
1:1:2674:A:O4’	16:M:105:GLY:C	2.40	0.64
2:3:107:C:P	47:s:202:LYS:HE3	2.38	0.64
3:4:45:C:O5’	43:n:15:LYS:CD	2.46	0.64
10:G:109:TRP:NE1	17:N:26:PHE:CZ	2.66	0.64
25:V:84:TYR:CD2	33:d:22:LYS:O	2.50	0.64
1:1:562:C:H4’	24:U:71:LYS:HZ3	0.82	0.64
1:1:562:C:C5’	24:U:71:LYS:CD	2.75	0.64
1:1:836:A:H5”	7:D:4:ARG:HB3	1.80	0.64
1:1:1044:U:C5’	47:s:89:ARG:O	2.44	0.64
1:1:1538:G:N2	1:1:1583:A:N6	2.36	0.64
1:1:1682:U:C6	26:W:85:LYS:HG2	2.33	0.64
11:H:64:ILE:HD13	11:H:109:THR:HG21	1.79	0.64
1:1:156:G:H5’	40:k:25:LYS:HZ1	1.60	0.64
1:1:269:G:C4’	19:P:120:TRP:CE3	2.81	0.64
1:1:412:G:H5”	21:R:30:ARG:HG3	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1334:U:OP1	13:J:206:LYS:NZ	2.31	0.64
1:1:1491:A:N7	43:n:2:ALA:CB	2.61	0.64
1:1:1793:C:H1'	8:E:174:ARG:HH11	1.63	0.64
1:1:3185:U:H6	20:Q:126:VAL:CG2	1.70	0.64
10:G:352:ALA:HB3	13:J:73:GLY:N	2.00	0.64
17:N:64:LYS:HE3	32:c:69:TRP:CG	2.31	0.64
1:1:102:C:H2'	17:N:65:TYR:CD2	2.32	0.64
1:1:617:G:H1'	21:R:171:ARG:HH12	1.63	0.64
1:1:1306:G:O2'	20:Q:60:LYS:CG	2.46	0.64
1:1:1323:G:O3'	24:U:2:ALA:CA	2.46	0.64
1:1:1425:U:O2'	10:G:36:HIS:NE2	2.30	0.64
1:1:2013:C:N1	48:t:176:GLN:CG	2.44	0.64
1:1:2674:A:H5"	16:M:105:GLY:N	2.13	0.64
1:1:3178:A:C4	20:Q:115:LYS:HE2	2.33	0.64
2:3:39:C:O2	16:M:70:THR:N	2.25	0.64
3:4:94:C:H5"	41:l:76:ASN:HD22	1.54	0.64
4:A:58:A:O2'	4:A:61:C:N4	2.31	0.64
1:1:303:G:H5"	1:1:304:G:H5"	1.80	0.64
1:1:1045:C:H1'	47:s:93:PHE:HD2	1.58	0.64
1:1:2555:G:C6	38:i:95:ILE:HB	2.32	0.64
1:1:2899:C:C4	15:L:173:ARG:NH1	2.61	0.64
1:1:3034:C:O2'	15:L:122:LYS:HD2	1.95	0.64
1:1:3198:U:C4'	15:L:21:LYS:NZ	2.60	0.64
2:3:66:A:OP1	47:s:203:GLY:HA2	1.98	0.64
11:H:294:ALA:HB3	47:s:216:PHE:HB2	1.79	0.64
17:N:64:LYS:CG	32:c:69:TRP:CE3	2.69	0.64
20:Q:94:ARG:CD	37:h:94:PHE:HD2	2.10	0.64
21:R:172:GLN:HE22	37:h:61:GLY:HA3	1.62	0.64
1:1:76:G:OP1	17:N:73:ARG:N	2.30	0.63
1:1:562:C:H5'	24:U:71:LYS:CD	2.14	0.63
1:1:986:U:O4'	13:J:126:LEU:HD21	1.98	0.63
1:1:1318:A:N6	20:Q:18:ARG:HG3	2.11	0.63
1:1:2836:C:C1'	47:s:156:TYR:HD2	2.11	0.63
1:1:3126:C:H1'	15:L:156:GLN:OE1	1.97	0.63
1:1:119:U:C2'	14:K:138:HIS:HE1	2.11	0.63
1:1:292:U:OP2	19:P:68:ARG:NH2	2.31	0.63
1:1:1097:G:C1'	25:V:128:LEU:HD11	2.27	0.63
1:1:1288:U:H2'	1:1:1289:G:H8	1.62	0.63
1:1:1546:A:H4'	19:P:101:THR:HG23	1.80	0.63
1:1:2151:C:H2'	1:1:2152:A:C8	2.32	0.63
1:1:2674:A:H5"	16:M:105:GLY:C	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:34:TYR:CE2	14:K:36:ILE:HD13	2.33	0.63
10:G:106:TRP:CE3	17:N:22:VAL:HG11	2.30	0.63
1:1:854:G:O2'	23:T:95:TRP:CH2	2.52	0.63
1:1:923:C:O2	1:1:925:A:O2'	2.17	0.63
1:1:2168:A:H5"	19:P:67:ARG:HH12	1.62	0.63
4:A:29:U:H2'	4:A:30:G:H8	1.63	0.63
20:Q:29:ASN:O	37:h:12:LYS:CE	2.46	0.63
1:1:57:A:C5'	19:P:157:LYS:HD2	2.26	0.63
1:1:785:G:N9	22:S:92:ARG:NH1	2.46	0.63
1:1:987:U:C5'	13:J:125:GLU:HG3	2.29	0.63
1:1:1318:A:N7	20:Q:18:ARG:NH1	2.46	0.63
1:1:1949:G:H1	1:1:2097:U:H3	1.46	0.63
1:1:2846:U:N1	44:o:97:ARG:NH1	2.44	0.63
1:1:2863:G:O2'	47:s:101:MET:SD	2.56	0.63
1:1:3178:A:C1'	20:Q:6:VAL:O	2.46	0.63
8:E:147:ARG:HH21	8:E:155:LYS:HE3	1.63	0.63
1:1:35:A:O2'	1:1:809:G:N3	2.32	0.63
1:1:76:G:H2'	17:N:100:ARG:HH11	1.61	0.63
1:1:103:G:OP1	17:N:70:ARG:HD3	1.98	0.63
1:1:643:U:O2'	1:1:1117:G:N2	2.30	0.63
1:1:984:G:O2'	13:J:101:LYS:HB2	1.98	0.63
1:1:1044:U:H5"	47:s:132:GLN:HE21	1.62	0.63
1:1:1474:A:O2'	35:f:57:GLN:NE2	2.31	0.63
1:1:2674:A:N1	16:M:124:GLY:N	2.46	0.63
1:1:2736:A:H4'	25:V:71:SER:CB	2.29	0.63
1:1:3308:C:C2	21:R:69:ARG:HG2	2.34	0.63
2:3:6:C:OP2	11:H:22:ARG:NH1	2.31	0.63
2:3:7:G:OP1	11:H:33:ARG:NH1	2.32	0.63
10:G:351:PRO:HA	13:J:71:ALA:HA	0.83	0.63
12:I:158:TYR:CD1	18:O:115:PHE:CD1	2.87	0.63
1:1:618:C:OP1	21:R:169:THR:HA	1.99	0.63
1:1:1109:U:C5'	22:S:153:PHE:HB3	2.28	0.63
1:1:1597:C:N4	1:1:1598:G:O6	2.32	0.63
1:1:1974:A:C2	42:m:58:ASP:CG	2.77	0.63
1:1:2013:C:O2'	48:t:177:GLN:C	2.42	0.63
1:1:2450:G:N1	1:1:2496:C:N3	2.31	0.63
1:1:2908:G:H21	1:1:3106:A:H1'	1.64	0.63
3:4:94:C:H5"	41:l:76:ASN:HD21	0.85	0.63
10:G:281:ILE:HG13	22:S:125:ASP:OD2	1.97	0.63
1:1:19:U:H5"	39:j:90:ARG:NE	2.13	0.63
1:1:617:G:C1'	21:R:171:ARG:HH12	2.11	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1479:U:O2'	1:1:1483:G:O2'	2.16	0.63
1:1:1757:A:O2'	26:W:104:ARG:NH2	2.32	0.63
1:1:2359:C:H4'	1:1:2399:A:H4'	1.79	0.63
1:1:2514:U:H1'	14:K:69:LEU:HD11	1.48	0.63
1:1:3186:A:O2'	18:O:12:TRP:HH2	1.80	0.63
1:1:3276:G:O6	21:R:171:ARG:CG	2.47	0.63
10:G:289:ILE:HD13	22:S:125:ASP:CB	2.22	0.63
27:X:21:ALA:HB3	27:X:36:ILE:HD12	1.81	0.63
1:1:436:A:OP2	1:1:621:A:N6	2.31	0.63
1:1:1009:A:OP1	47:s:32:ILE:HG23	1.98	0.63
1:1:1554:U:O4	1:1:1557:A:N6	2.32	0.63
1:1:1593:A:C5'	38:i:60:ARG:HD3	2.28	0.63
1:1:2618:G:C6	47:s:114:MET:HG3	2.28	0.63
1:1:2656:A:H2'	1:1:2657:A:H2'	1.81	0.63
1:1:99:A:C5'	19:P:194:GLN:OE1	2.46	0.63
1:1:101:G:N2	1:1:101:G:OP2	2.32	0.63
1:1:753:C:H2'	1:1:754:G:H8	1.64	0.63
1:1:1084:A:H2'	1:1:1085:A:C8	2.34	0.63
1:1:2355:G:C4'	21:R:139:TYR:OH	2.38	0.63
1:1:3205:G:C6	24:U:171:PHE:CG	2.86	0.63
3:4:51:G:N9	43:n:26:TRP:HZ2	1.96	0.63
3:4:67:U:C5'	41:l:85:LYS:HZ3	2.12	0.63
3:4:97:A:P	39:j:63:ARG:NH2	2.71	0.63
21:R:172:GLN:NE2	37:h:61:GLY:HA3	2.13	0.63
29:Z:60:TYR:HD2	39:j:25:LYS:CB	1.69	0.63
49:u:118:LEU:HD21	49:u:130:ALA:HB1	1.80	0.63
1:1:119:U:C2'	14:K:138:HIS:CE1	2.82	0.62
1:1:290:G:C4	19:P:93:LYS:CE	2.81	0.62
1:1:1109:U:H5"	22:S:153:PHE:CD1	2.19	0.62
1:1:1169:A:H5"	13:J:219:LYS:CG	2.28	0.62
1:1:1323:G:O3'	24:U:2:ALA:HA	1.99	0.62
1:1:1497:C:H2'	1:1:1498:A:H8	1.64	0.62
1:1:2448:G:O6	1:1:2498:U:O4	2.17	0.62
1:1:3209:A:OP2	24:U:161:LYS:HD2	1.99	0.62
3:4:12:A:C5'	21:R:3:ARG:HB2	2.29	0.62
3:4:38:U:P	39:j:78:LYS:CD	2.86	0.62
17:N:67:ARG:HD2	32:c:105:LEU:C	2.24	0.62
1:1:370:U:H4'	1:1:404:G:H5'	1.80	0.62
1:1:1493:G:HO2'	43:n:13:MET:CG	2.11	0.62
1:1:1852:G:N2	41:l:9:GLY:O	2.31	0.62
1:1:2119:A:C2	23:T:82:LYS:NZ	2.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3186:A:O4'	18:O:12:TRP:CZ2	2.44	0.62
1:1:3217:C:H5	21:R:182:ILE:CB	2.09	0.62
3:4:111:A:O4'	41:l:17:THR:HG21	1.99	0.62
14:K:78:PHE:O	14:K:80:TYR:N	2.32	0.62
22:S:174:ARG:CA	32:c:56:VAL:HG11	2.29	0.62
1:1:286:U:O2'	19:P:179:LYS:O	2.16	0.62
1:1:669:U:H4'	22:S:153:PHE:HZ	1.64	0.62
1:1:909:G:OP1	19:P:77:LYS:CE	2.43	0.62
1:1:2799:A:O2'	32:c:42:ARG:NH1	2.32	0.62
1:1:3015:G:H2'	1:1:3016:A:C8	2.34	0.62
1:1:3214:U:H3'	18:O:121:MET:HE2	1.81	0.62
3:4:46:G:OP1	43:n:18:LYS:CE	2.47	0.62
3:4:54:A:P	43:n:40:LYS:HZ1	2.08	0.62
29:Z:140:GLY:C	39:j:33:VAL:CG1	2.72	0.62
1:1:146:U:H2'	14:K:135:GLY:CA	2.28	0.62
1:1:293:C:O2'	40:k:76:ARG:HD3	1.99	0.62
1:1:388:G:C5'	21:R:19:GLY:H	2.12	0.62
1:1:676:G:C2	22:S:61:PRO:HG3	2.28	0.62
1:1:707:U:O2'	1:1:754:G:N3	2.32	0.62
1:1:971:G:OP1	22:S:8:LYS:NZ	2.29	0.62
1:1:1722:U:O4'	23:T:96:ILE:HG12	1.99	0.62
1:1:1947:G:C5'	23:T:134:HIS:ND1	2.62	0.62
1:1:2109:U:H2'	1:1:2110:G:H8	1.65	0.62
3:4:51:G:C8	43:n:27:ILE:HD11	2.34	0.62
10:G:31:ARG:NH2	22:S:23:ASN:ND2	2.44	0.62
11:H:41:LYS:HE2	25:V:93:VAL:CG1	2.29	0.62
29:Z:49:LYS:O	39:j:79:ASP:OD2	2.17	0.62
1:1:74:G:H8	17:N:104:ARG:NH2	1.97	0.62
1:1:76:G:OP1	17:N:72:GLY:CA	2.48	0.62
1:1:363:G:OP1	41:l:52:LYS:HD2	1.98	0.62
1:1:929:A:C4	41:l:49:TRP:CE3	2.87	0.62
1:1:1348:U:H5"	22:S:38:ARG:HH22	1.55	0.62
1:1:1915:A:H4'	23:T:84:THR:N	2.14	0.62
1:1:3298:C:H2'	21:R:55:GLN:HE22	1.62	0.62
11:H:69:ILE:HA	25:V:31:LEU:CD1	2.29	0.62
1:1:1948:G:O3'	23:T:101:VAL:CG1	2.47	0.62
1:1:2631:U:OP1	25:V:9:SER:N	2.32	0.62
1:1:3306:U:H5"	9:F:225:GLY:HA2	1.82	0.62
6:C:106:PHE:HZ	46:r:112:UNK:CB	2.11	0.62
28:Y:6:ASP:HB3	28:Y:10:GLY:H	1.65	0.62
1:1:282:G:H1	19:P:181:ASN:HB2	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:520:U:OP2	13:J:70:LYS:NZ	2.32	0.62
1:1:655:C:H2'	1:1:656:A:C8	2.35	0.62
1:1:1306:G:C1'	20:Q:61:ALA:H	1.93	0.62
1:1:1915:A:H4'	23:T:83:GLY:C	2.23	0.62
1:1:3187:A:OP1	15:L:23:ARG:HD3	2.00	0.62
12:I:51:ARG:NH2	18:O:114:ASP:OD1	2.33	0.62
29:Z:60:TYR:CE2	39:j:25:LYS:CB	2.58	0.62
1:1:796:U:H1'	17:N:7:LEU:CD1	2.29	0.62
1:1:1589:A:N3	38:i:13:TYR:CG	2.67	0.62
1:1:2515:A:C5'	19:P:28:TRP:CD1	2.73	0.62
1:1:2673:A:O3'	16:M:105:GLY:N	2.32	0.62
1:1:2673:A:P	16:M:95:ASN:CA	2.86	0.62
3:4:14:C:H4'	21:R:123:PRO:N	2.14	0.62
20:Q:29:ASN:O	37:h:12:LYS:HE3	2.00	0.62
22:S:163:PRO:CG	32:c:50:PRO:HD2	2.19	0.62
1:1:561:C:H5'	18:O:76:ALA:CA	2.28	0.62
1:1:1175:C:O2	20:Q:87:MET:CB	2.47	0.62
1:1:1458:U:O2	35:f:56:ASN:ND2	2.30	0.62
3:4:57:C:H5	41:l:63:ARG:HH11	1.37	0.62
11:H:15:ARG:HA	25:V:20:ARG:CG	2.24	0.62
1:1:75:G:H5"	17:N:58:VAL:CG2	2.29	0.62
1:1:297:G:H22	19:P:12:ARG:NH1	1.97	0.62
1:1:691:A:HO2'	17:N:29:ALA:HB3	1.64	0.62
1:1:1814:A:H5'	1:1:1815:U:H5'	1.82	0.62
1:1:2662:G:H2'	1:1:2663:G:H8	1.65	0.62
1:1:3181:C:O2	20:Q:165:ALA:HA	1.99	0.62
1:1:946:U:H2'	1:1:947:G:H8	1.65	0.61
1:1:1047:A:N7	47:s:16:TYR:HD1	1.97	0.61
1:1:309:U:P	40:k:84:LYS:NZ	2.70	0.61
1:1:1176:C:H1'	20:Q:87:MET:O	1.99	0.61
1:1:3009:G:N2	9:F:15:GLY:O	2.32	0.61
1:1:3015:G:H2'	1:1:3016:A:H8	1.66	0.61
1:1:3178:A:C2'	20:Q:115:LYS:HG2	2.23	0.61
2:3:13:A:OP1	2:3:67:G:N2	2.31	0.61
2:3:87:G:H1'	24:U:119:ARG:HH21	1.65	0.61
3:4:40:A:O3'	41:l:66:TYR:HB3	2.00	0.61
3:4:51:G:N7	43:n:26:TRP:HH2	1.95	0.61
17:N:166:ALA:HB3	32:c:135:GLU:OE2	1.99	0.61
1:1:69:C:O2'	1:1:101:G:O2'	2.17	0.61
1:1:102:C:H2'	17:N:65:TYR:HD2	1.65	0.61
1:1:563:U:OP2	24:U:68:HIS:CD2	2.53	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1363:A:P	13:J:160:ARG:CD	2.85	0.61
1:1:3206:C:H1'	24:U:155:ARG:HH12	0.63	0.61
17:N:67:ARG:CD	32:c:106:ALA:HA	2.28	0.61
1:1:63:A:H5"	19:P:174:ILE:HG21	1.83	0.61
1:1:76:G:N9	17:N:100:ARG:HG3	2.15	0.61
1:1:103:G:C4'	17:N:65:TYR:CE2	2.83	0.61
1:1:266:A:C5	40:k:30:LYS:CG	2.70	0.61
1:1:266:A:N1	40:k:30:LYS:HG3	2.00	0.61
1:1:388:G:H4'	21:R:18:ARG:CA	2.30	0.61
1:1:431:U:OP1	37:h:65:ARG:NH1	2.34	0.61
1:1:677:A:OP2	22:S:88:THR:CB	2.42	0.61
1:1:813:G:O5'	41:l:47:TYR:CZ	2.52	0.61
1:1:984:G:O2'	13:J:101:LYS:CB	2.48	0.61
1:1:1334:U:H5"	13:J:206:LYS:HB3	1.82	0.61
3:4:94:C:C2'	41:l:72:ARG:HH12	2.13	0.61
32:c:47:LYS:O	32:c:49:HIS:N	2.33	0.61
1:1:157:A:H8	40:k:26:ILE:CG2	2.14	0.61
1:1:797:U:H5"	17:N:2:ALA:HA	1.82	0.61
1:1:1125:U:H5'	47:s:14:LYS:HZ1	1.56	0.61
1:1:1189:C:C5	20:Q:133:ARG:NH1	2.68	0.61
1:1:1489:A:OP1	43:n:3:ALA:CB	2.47	0.61
1:1:1547:G:H5'	19:P:108:ARG:NH1	2.14	0.61
1:1:2013:C:N1	48:t:176:GLN:NE2	2.46	0.61
1:1:2680:A:N7	16:M:57:PHE:CZ	2.68	0.61
10:G:31:ARG:NH1	22:S:23:ASN:CG	2.26	0.61
10:G:317:PRO:HD2	13:J:149:TYR:O	2.00	0.61
1:1:103:G:OP1	17:N:70:ARG:NE	2.34	0.61
1:1:1322:U:O4'	24:U:111:ALA:CB	2.48	0.61
1:1:1426:C:OP2	32:c:4:ARG:NH2	2.32	0.61
1:1:1543:G:OP1	19:P:35:VAL:N	2.34	0.61
1:1:1804:A:O3'	38:i:71:THR:OG1	2.17	0.61
1:1:86:G:HO2'	17:N:11:LYS:CB	1.99	0.61
1:1:1213:G:C2'	24:U:90:MET:HG2	2.25	0.61
1:1:1295:G:C2'	24:U:113:ARG:O	2.48	0.61
1:1:1393:A:OP1	36:g:125:ARG:NH2	2.34	0.61
1:1:2093:A:H5"	23:T:143:ILE:CD1	1.89	0.61
1:1:2355:G:C3'	21:R:139:TYR:CE1	2.80	0.61
29:Z:46:TYR:HE2	39:j:77:PRO:HA	1.62	0.61
1:1:160:G:O6	1:1:261:U:O4	2.18	0.61
1:1:785:G:H1'	22:S:92:ARG:HH22	1.66	0.61
1:1:1095:U:C1'	25:V:129:LYS:HE3	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1136:A:O4'	1:1:2636:A:N6	2.33	0.61
1:1:1254:C:N4	1:1:1263:A:OP1	2.33	0.61
1:1:1593:A:P	38:i:60:ARG:HD2	2.40	0.61
3:4:5:U:OP2	21:R:62:ARG:NE	2.28	0.61
5:B:23:A:H2'	5:B:24:A:C8	2.36	0.61
11:H:15:ARG:HB3	25:V:19:PHE:HZ	1.64	0.61
12:I:154:LEU:O	18:O:115:PHE:HE1	1.83	0.61
1:1:57:A:P	19:P:158:HIS:HD2	2.22	0.61
1:1:562:C:C4'	24:U:71:LYS:CE	2.70	0.61
1:1:903:U:OP1	41:l:30:GLN:HA	2.01	0.61
1:1:1613:A:P	42:m:46:ARG:HH12	2.23	0.61
1:1:1721:U:OP1	23:T:103:ARG:HD3	2.00	0.61
1:1:3159:C:H2'	1:1:3160:U:H6	1.65	0.61
16:M:59:ILE:HG21	16:M:65:ILE:HD12	1.81	0.61
40:k:5:THR:HG23	40:k:12:ASN:HB2	1.83	0.61
1:1:31:C:H5"	19:P:96:ARG:HG3	1.82	0.61
1:1:449:U:O3'	50:v:84:ASN:HA	2.01	0.61
1:1:647:A:OP1	1:1:649:A:N6	2.34	0.61
1:1:1044:U:O2	47:s:93:PHE:HZ	1.84	0.61
1:1:1307:G:C5'	20:Q:60:LYS:NZ	2.64	0.61
1:1:1320:C:O2'	24:U:115:ARG:NH2	2.33	0.61
1:1:1597:C:OP2	38:i:31:ARG:NH1	2.33	0.61
1:1:1750:A:OP1	42:m:44:LYS:NZ	2.25	0.61
1:1:2402:A:N6	1:1:2814:G:OP1	2.33	0.61
11:H:41:LYS:HE2	25:V:93:VAL:HG11	1.83	0.61
1:1:57:A:H4'	19:P:157:LYS:HD2	1.81	0.60
1:1:1191:U:H4'	20:Q:52:LEU:HD11	1.84	0.60
1:1:1493:G:C5'	43:n:49:MET:CE	2.76	0.60
1:1:1947:G:H5"	23:T:134:HIS:ND1	2.15	0.60
1:1:2635:A:C2	25:V:10:ARG:NH2	2.67	0.60
1:1:3133:C:O3'	20:Q:145:VAL:C	2.44	0.60
17:N:90:ALA:HB1	17:N:95:ILE:HB	1.83	0.60
31:b:22:LYS:NZ	31:b:129:TRP:O	2.34	0.60
1:1:23:A:OP1	41:l:44:THR:CB	2.49	0.60
1:1:838:G:N2	1:1:1723:A:O3'	2.34	0.60
1:1:1146:C:H2'	1:1:1147:G:H8	1.65	0.60
1:1:1947:G:H4'	23:T:134:HIS:HB3	1.83	0.60
1:1:3298:C:C2	21:R:55:GLN:NE2	2.65	0.60
8:E:130:SER:HB2	8:E:171:GLY:HA3	1.83	0.60
48:t:19:LYS:O	48:t:23:GLN:NE2	2.35	0.60
1:1:74:G:H1'	17:N:61:PRO:CG	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:121:A:C2	14:K:100:GLU:CD	2.78	0.60
1:1:669:U:H5”	22:S:153:PHE:CZ	2.36	0.60
1:1:685:G:OP2	17:N:32:LYS:HE3	2.01	0.60
1:1:1589:A:C1’	38:i:13:TYR:HB2	2.23	0.60
1:1:2013:C:C6	48:t:176:GLN:HG3	2.28	0.60
1:1:2617:U:O2’	1:1:2644:C:N4	2.34	0.60
1:1:2852:C:H2’	47:s:66:ALA:HB2	1.83	0.60
5:B:23:A:H2’	5:B:24:A:H8	1.67	0.60
1:1:119:U:O2’	14:K:133:LYS:CE	2.49	0.60
1:1:1101:G:H4’	13:J:107:ARG:HG3	1.83	0.60
1:1:1495:U:H1’	43:n:44:TRP:CE2	2.36	0.60
1:1:2374:C:H42	1:1:2941:A:H1’	1.67	0.60
1:1:2554:A:N6	7:D:61:LYS:O	2.33	0.60
10:G:105:THR:O	17:N:26:PHE:HZ	1.83	0.60
17:N:3:ILE:HD13	32:c:34:MET:HE1	1.83	0.60
1:1:119:U:N1	14:K:138:HIS:CE1	2.69	0.60
1:1:647:A:H2	1:1:2371:G:H21	1.48	0.60
1:1:986:U:C4’	13:J:126:LEU:HD21	2.31	0.60
1:1:1716:U:C2	23:T:118:HIS:NE2	2.69	0.60
1:1:3034:C:O2’	15:L:122:LYS:CG	2.48	0.60
1:1:3034:C:O2	15:L:121:LYS:C	2.44	0.60
3:4:34:U:O4’	41:l:74:PHE:CG	2.54	0.60
3:4:34:U:H1’	41:l:70:VAL:HG12	1.83	0.60
1:1:412:G:H4’	21:R:30:ARG:HG3	1.84	0.60
1:1:590:G:O2’	10:G:309:ARG:NH1	2.35	0.60
1:1:770:G:OP1	17:N:171:ARG:NH1	2.32	0.60
1:1:928:C:O2	41:l:49:TRP:CH2	2.54	0.60
1:1:1034:U:H2’	1:1:1035:G:H8	1.65	0.60
2:3:40:C:C3’	16:M:43:GLN:HE22	2.12	0.60
3:4:51:G:C8	43:n:26:TRP:CZ2	2.90	0.60
1:1:74:G:C8	17:N:104:ARG:NH2	2.70	0.60
1:1:269:G:C3’	19:P:120:TRP:CE3	2.84	0.60
1:1:712:G:P	17:N:174:ARG:NH1	2.74	0.60
1:1:763:G:O6	1:1:769:G:N2	2.35	0.60
1:1:974:G:OP1	22:S:16:ARG:CZ	2.46	0.60
1:1:1127:G:O2’	1:1:1129:A:N6	2.32	0.60
1:1:1177:G:O2’	1:1:1178:G:O5’	2.18	0.60
1:1:1334:U:O4’	13:J:208:SER:HB2	2.02	0.60
1:1:1348:U:H3’	22:S:35:PHE:CD1	2.36	0.60
1:1:1545:A:OP1	19:P:67:ARG:HB3	2.00	0.60
1:1:2014:U:H6	48:t:180:ASN:CB	2.13	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2383:C:H5'	20:Q:71:PHE:CD2	2.36	0.60
1:1:3183:A:H5"	20:Q:12:LYS:CE	2.31	0.60
1:1:3267:A:H4'	21:R:181:ARG:CZ	2.30	0.60
2:3:96:U:C2'	13:J:225:GLN:NE2	2.64	0.60
3:4:141:C:O3'	19:P:62:TYR:OH	2.18	0.60
11:H:150:LEU:HD13	16:M:143:ARG:HD2	1.82	0.60
1:1:1306:G:O2'	20:Q:60:LYS:HG2	2.02	0.60
1:1:2572:C:O2'	31:b:61:LYS:NZ	2.34	0.60
1:1:2618:G:C8	47:s:114:MET:HB3	2.29	0.60
9:F:313:HIS:HB2	9:F:332:ARG:HD2	1.83	0.60
10:G:110:ASN:ND2	19:P:201:ARG:NE	2.39	0.60
27:X:62:VAL:HG21	27:X:69:LEU:HB3	1.82	0.60
1:1:618:C:C5'	21:R:169:THR:CG2	2.33	0.60
1:1:972:A:P	22:S:12:ARG:NH2	2.73	0.60
1:1:2742:C:H2'	1:1:2743:A:H8	1.67	0.60
1:1:3186:A:C2'	18:O:12:TRP:CH2	2.82	0.60
21:R:111:LYS:HB3	21:R:153:LYS:HG2	1.82	0.60
22:S:163:PRO:CB	32:c:48:TYR:O	2.48	0.60
1:1:1186:G:O2'	24:U:113:ARG:NE	2.35	0.60
1:1:1485:G:H1'	38:i:4:ARG:HH22	1.65	0.60
1:1:1593:A:O5'	38:i:60:ARG:HD3	2.00	0.60
1:1:1602:A:H5"	23:T:10:LEU:HD21	1.84	0.60
1:1:2728:G:C5	25:V:85:LEU:HD13	2.37	0.60
1:1:117:U:O4	14:K:145:ASN:ND2	2.35	0.59
1:1:151:A:OP1	19:P:147:ARG:NH1	2.34	0.59
1:1:532:A:H61	1:1:560:G:H1	1.50	0.59
1:1:911:C:H42	8:E:3:ARG:HD3	1.67	0.59
1:1:1109:U:C3'	22:S:153:PHE:CE1	2.84	0.59
1:1:1169:A:H4'	13:J:219:LYS:CG	2.25	0.59
1:1:2008:G:N2	48:t:180:ASN:HA	2.17	0.59
1:1:2204:C:N3	1:1:2206:G:N2	2.50	0.59
1:1:2769:A:H4'	6:C:80:ARG:HB2	1.83	0.59
1:1:3297:U:O4	9:F:124:LYS:NZ	2.35	0.59
1:1:56:G:H21	19:P:162:ARG:HD3	1.67	0.59
1:1:879:U:H1'	21:R:135:ARG:NH2	2.12	0.59
1:1:2549:G:O6	14:K:34:PHE:HB2	2.02	0.59
1:1:2681:U:C5'	16:M:65:ILE:CG2	2.76	0.59
1:1:3233:C:H2'	1:1:3234:A:H8	1.67	0.59
2:3:17:A:OP1	11:H:2:ALA:N	2.35	0.59
17:N:3:ILE:HD11	32:c:34:MET:HE3	1.82	0.59
1:1:1184:A:H2	24:U:108:GLN:HE22	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1861:G:C5’	23:T:63:THR:HG21	2.31	0.59
2:3:40:C:H5’	16:M:43:GLN:CG	2.32	0.59
7:D:7:LYS:O	7:D:27:LYS:NZ	2.35	0.59
1:1:1045:C:C1’	47:s:93:PHE:CD2	2.80	0.59
1:1:1494:U:O2’	43:n:17:LYS:CE	2.50	0.59
1:1:2341:A:OP2	9:F:247:ARG:NH1	2.33	0.59
1:1:2680:A:C8	16:M:57:PHE:CZ	2.80	0.59
1:1:2852:C:O2	47:s:66:ALA:HB1	2.01	0.59
1:1:3180:A:O4’	20:Q:114:LYS:O	2.20	0.59
1:1:3208:G:O6	20:Q:116:LYS:HE3	2.02	0.59
5:B:15:G:N2	5:B:48:C:O2	2.36	0.59
10:G:92:ASN:HD22	10:G:100:PHE:HB2	1.67	0.59
22:S:175:ALA:CB	32:c:53:PHE:C	2.73	0.59
1:1:170:G:N2	1:1:248:U:O2	2.30	0.59
1:1:321:C:H4’	19:P:150:TRP:CG	2.37	0.59
1:1:786:A:N7	22:S:61:PRO:HG2	2.17	0.59
1:1:1481:A:H61	38:i:2:ALA:N	2.01	0.59
1:1:1612:A:OP1	42:m:46:ARG:CD	2.49	0.59
1:1:2768:U:O2	6:C:82:GLN:NE2	2.36	0.59
2:3:87:G:H1’	24:U:119:ARG:NH2	2.16	0.59
5:B:10:G:N2	5:B:25:U:O2	2.34	0.59
5:B:67:C:H2’	5:B:68:G:H8	1.67	0.59
9:F:91:GLY:HA2	9:F:158:VAL:HA	1.85	0.59
11:H:38:THR:HG21	25:V:30:TYR:CE1	2.38	0.59
1:1:986:U:O2’	13:J:122:ALA:C	2.45	0.59
1:1:1419:A:OP1	3:4:20:U:O2’	2.16	0.59
1:1:1660:C:N4	1:1:1661:G:O6	2.36	0.59
1:1:1850:A:O2’	1:1:1851:G:OP1	2.20	0.59
3:4:63:G:H1	3:4:97:A:H2	1.50	0.59
3:4:67:U:P	41:l:85:LYS:HZ3	2.26	0.59
10:G:106:TRP:HB2	19:P:199:LEU:CD1	2.32	0.59
28:Y:12:LYS:O	28:Y:32:GLN:NE2	2.36	0.59
1:1:727:G:N2	22:S:139:ILE:CG2	2.66	0.59
1:1:876:A:H4’	1:1:1890:U:H4’	1.85	0.59
1:1:992:A:O2’	25:V:58:GLN:CG	2.50	0.59
1:1:1213:G:H1’	24:U:90:MET:CE	2.32	0.59
1:1:2832:C:H2’	1:1:2833:A:H8	1.68	0.59
1:1:3134:A:OP1	20:Q:146:GLY:HA3	2.02	0.59
1:1:3192:U:H3	1:1:3200:G:H1	1.50	0.59
3:4:4:C:H5’	21:R:61:ARG:HB3	1.83	0.59
22:S:175:ALA:HB1	32:c:53:PHE:C	2.21	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:89:A:OP1	22:S:170:ARG:NH1	2.33	0.59
1:1:97:U:O5'	17:N:13:HIS:HD2	1.86	0.59
1:1:289:A:N3	19:P:93:LYS:CD	2.65	0.59
1:1:685:G:OP2	17:N:32:LYS:CG	2.46	0.59
1:1:3208:G:N9	24:U:165:TYR:CD2	2.39	0.59
2:3:39:C:O2	16:M:69:VAL:HG23	2.03	0.59
2:3:97:A:O2'	13:J:222:HIS:CG	2.55	0.59
5:B:43:G:H2'	5:B:44:G:C8	2.37	0.59
1:1:459:G:O6	1:1:471:U:O4	2.21	0.59
1:1:1024:G:N2	1:1:1027:A:OP2	2.31	0.59
1:1:1043:C:H5"	47:s:89:ARG:HH22	1.68	0.59
1:1:1044:U:O4'	47:s:89:ARG:O	2.21	0.59
1:1:1362:G:H21	13:J:158:LYS:NZ	2.01	0.59
1:1:1472:U:O3'	23:T:24:LEU:HB2	2.03	0.59
1:1:1695:U:H1'	38:i:26:PRO:CB	2.28	0.59
1:1:2043:U:O4	1:1:2045:G:N1	2.35	0.59
1:1:2941:A:OP2	9:F:256:HIS:ND1	2.28	0.59
1:1:2945:G:O2'	1:1:2948:C:OP2	2.21	0.59
5:B:10:G:N1	5:B:25:U:N3	2.51	0.59
6:C:103:ALA:CA	16:M:62:ASN:CB	2.78	0.59
22:S:94:PHE:CE2	32:c:119:PRO:HD3	2.37	0.59
22:S:173:GLU:HB3	32:c:50:PRO:O	2.03	0.59
1:1:49:A:N6	19:P:187:ARG:HD3	2.18	0.59
1:1:79:U:H2'	1:1:80:G:H8	1.67	0.59
1:1:1661:G:H2'	1:1:1662:G:H8	1.68	0.59
1:1:2111:G:OP2	28:Y:48:ARG:NH2	2.35	0.59
1:1:2162:U:OP1	8:E:234:LYS:NZ	2.33	0.59
1:1:2168:A:H5'	19:P:67:ARG:HH12	1.68	0.59
1:1:3157:U:O4	48:t:656:ALA:CA	2.51	0.59
3:4:5:U:P	21:R:62:ARG:NE	2.76	0.59
3:4:57:C:H41	41:l:63:ARG:CZ	2.14	0.59
11:H:15:ARG:CZ	25:V:19:PHE:HE1	2.16	0.59
29:Z:51:VAL:CG1	39:j:62:GLN:HB3	2.23	0.59
32:c:128:ARG:HG2	40:k:8:ALA:HB2	1.84	0.59
1:1:136:G:C4'	39:j:95:PHE:CD2	2.83	0.58
1:1:1661:G:H2'	1:1:1662:G:C8	2.37	0.58
2:3:79:A:H62	2:3:101:G:N2	1.99	0.58
3:4:34:U:H5'	41:l:78:PHE:CZ	2.36	0.58
3:4:34:U:H6	41:l:74:PHE:CD1	2.20	0.58
11:H:77:ALA:O	11:H:108:ARG:NH1	2.36	0.58
31:b:15:ARG:HE	38:i:86:LYS:HD2	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:950:G:N2	1:1:1369:A:H62	1.98	0.58
1:1:1097:G:C8	25:V:128:LEU:HD11	2.38	0.58
1:1:1231:A:H5"	1:1:1232:C:H5'	1.84	0.58
1:1:1362:G:O2'	13:J:160:ARG:N	2.33	0.58
1:1:1493:G:OP1	43:n:49:MET:HG2	2.02	0.58
1:1:2730:G:O2'	22:S:184:PHE:CD1	2.55	0.58
1:1:2836:C:C4'	47:s:156:TYR:CD2	2.87	0.58
1:1:2950:G:N2	1:1:2950:G:OP2	2.35	0.58
9:F:221:THR:HB	9:F:273:HIS:H	1.67	0.58
10:G:317:PRO:CD	13:J:149:TYR:O	2.50	0.58
17:N:67:ARG:HB3	32:c:105:LEU:HG	1.85	0.58
29:Z:60:TYR:CD2	39:j:25:LYS:HD2	2.30	0.58
31:b:17:ARG:CD	38:i:73:SER:HB3	2.32	0.58
1:1:28:C:O2'	1:1:61:A:N3	2.36	0.58
1:1:1491:A:N6	43:n:2:ALA:CB	2.66	0.58
1:1:2234:G:O2'	1:1:2603:G:O2'	2.21	0.58
1:1:2527:G:H1'	14:K:241:LYS:CD	2.33	0.58
1:1:3172:A:C8	20:Q:97:ALA:HB1	2.38	0.58
11:H:40:HIS:ND1	25:V:69:LYS:HG3	2.16	0.58
25:V:84:TYR:CE2	33:d:21:ILE:HG21	2.38	0.58
1:1:72:C:H5'	40:k:13:LYS:HG2	1.84	0.58
1:1:397:A:O2'	1:1:400:G:OP2	2.21	0.58
1:1:1786:G:H2'	1:1:1787:A:C8	2.38	0.58
1:1:1861:G:H5'	23:T:63:THR:CG2	2.33	0.58
11:H:17:GLN:HG3	25:V:20:ARG:O	2.03	0.58
11:H:69:ILE:CA	25:V:31:LEU:HD13	2.33	0.58
40:k:34:SER:O	40:k:38:LYS:NZ	2.36	0.58
48:t:765:PHE:HB2	48:t:770:LYS:HE3	1.85	0.58
1:1:342:A:O2'	1:1:344:A:N7	2.35	0.58
1:1:938:C:OP2	32:c:26:ARG:NH1	2.37	0.58
1:1:1059:G:H2'	25:V:61:THR:OG1	2.03	0.58
1:1:1150:A:N6	1:1:2369:G:O2'	2.37	0.58
1:1:1718:G:OP2	23:T:121:HIS:CD2	2.57	0.58
1:1:3276:G:O6	21:R:171:ARG:CD	2.51	0.58
3:4:81:U:H5"	3:4:82:U:H5'	1.86	0.58
12:I:158:TYR:HH	18:O:114:ASP:HB3	1.66	0.58
17:N:3:ILE:HD13	32:c:34:MET:CE	2.32	0.58
1:1:321:C:C5'	19:P:150:TRP:CE3	2.87	0.58
1:1:321:C:H5'	19:P:150:TRP:CH2	2.38	0.58
1:1:672:A:O3'	22:S:21:SER:CB	2.52	0.58
1:1:1663:C:H2'	1:1:1664:G:H8	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1722:U:OP1	23:T:100:ARG:NH1	2.35	0.58
1:1:1847:A:C8	21:R:130:TYR:OH	2.57	0.58
1:1:1993:G:O6	1:1:2028:U:O4	2.20	0.58
1:1:2093:A:H5'	23:T:143:ILE:CD1	2.23	0.58
1:1:2681:U:C5'	16:M:66:ALA:CB	2.79	0.58
1:1:3084:C:O2'	1:1:3332:U:OP1	2.18	0.58
3:4:14:C:C5'	21:R:123:PRO:CD	2.82	0.58
3:4:52:A:N1	43:n:23:LEU:CG	2.62	0.58
14:K:28:HIS:ND1	31:b:128:GLN:CD	2.62	0.58
29:Z:139:ILE:O	39:j:33:VAL:HG21	2.03	0.58
1:1:404:G:O6	3:4:19:C:N4	2.36	0.58
1:1:571:U:H2'	1:1:572:A:H8	1.69	0.58
1:1:884:A:OP1	41:l:5:THR:CG2	2.52	0.58
1:1:1589:A:N7	38:i:13:TYR:CE2	2.72	0.58
1:1:3225:C:H2'	1:1:3226:A:N7	2.18	0.58
1:1:29:C:O2	19:P:162:ARG:HG2	2.03	0.58
1:1:321:C:H5'	19:P:150:TRP:CZ2	2.39	0.58
1:1:2004:U:O4	1:1:2017:G:O6	2.21	0.58
1:1:3233:C:H2'	1:1:3234:A:C8	2.38	0.58
1:1:3365:U:H2'	1:1:3366:G:C8	2.38	0.58
22:S:178:ARG:NH1	32:c:50:PRO:CG	2.60	0.58
1:1:138:U:H2'	1:1:139:G:H8	1.69	0.58
1:1:406:G:O2'	3:4:17:A:N6	2.36	0.58
1:1:1168:U:H3	1:1:1330:A:H62	1.52	0.58
1:1:1169:A:H5"	13:J:219:LYS:HG3	1.85	0.58
1:1:1720:U:P	23:T:110:ARG:HH22	2.27	0.58
1:1:1938:U:O2'	23:T:79:GLY:CA	2.50	0.58
1:1:1986:U:H3	1:1:2035:G:H1	1.52	0.58
1:1:2218:G:H2'	1:1:2219:A:H8	1.69	0.58
1:1:2277:C:H5"	45:p:23:ARG:HH22	1.68	0.58
29:Z:141:TYR:CB	39:j:36:LEU:HD21	2.34	0.58
1:1:389:A:O4'	21:R:101:ASN:CG	2.46	0.58
1:1:879:U:H4'	21:R:132:ALA:HB3	1.84	0.58
1:1:1609:C:OP1	29:Z:125:ARG:NH2	2.36	0.58
1:1:1959:G:O6	1:1:2082:U:O2	2.22	0.58
1:1:2432:A:N3	19:P:125:SER:OG	2.37	0.58
2:3:55:A:O2'	16:M:10:ARG:NE	2.37	0.58
8:E:129:ALA:HB3	8:E:132:ASN:HD22	1.68	0.58
10:G:352:ALA:N	13:J:71:ALA:O	2.37	0.58
11:H:27:LYS:HE2	16:M:144:CYS:SG	2.43	0.58
25:V:66:ASN:HD21	33:d:35:VAL:CA	1.93	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:e:51:LEU:HD12	38:i:94:LEU:CD1	2.34	0.58
1:1:41:G:H21	1:1:2803:A:H62	1.50	0.57
1:1:321:C:C5'	19:P:150:TRP:CZ3	2.87	0.57
1:1:669:U:H4'	22:S:153:PHE:CZ	2.39	0.57
1:1:728:G:O6	1:1:741:U:O4	2.21	0.57
1:1:1463:U:H3	1:1:1467:A:N6	1.99	0.57
1:1:1965:C:N4	1:1:2059:U:O2	2.36	0.57
1:1:2012:G:O6	48:t:176:GLN:O	2.22	0.57
1:1:2432:A:C2	19:P:125:SER:CB	2.85	0.57
1:1:2677:G:N1	16:M:57:PHE:CZ	2.71	0.57
1:1:2698:G:H4'	25:V:12:ARG:NH1	2.19	0.57
1:1:3109:G:H1'	15:L:163:GLN:NE2	2.17	0.57
23:T:148:ASP:OD1	23:T:151:ARG:NH2	2.36	0.57
1:1:360:G:H5'	41:l:16:HIS:CD2	2.34	0.57
1:1:785:G:H1'	22:S:92:ARG:NH2	2.19	0.57
1:1:1682:U:C4	26:W:85:LYS:CB	2.87	0.57
1:1:2618:G:C5	47:s:114:MET:CG	2.85	0.57
1:1:3067:C:C6	23:T:62:ARG:NH1	2.72	0.57
1:1:3187:A:OP2	15:L:23:ARG:CG	2.51	0.57
2:3:89:G:C5'	24:U:84:ARG:NH2	2.67	0.57
11:H:55:PHE:HE1	11:H:60:ILE:HG12	1.68	0.57
26:W:36:TYR:O	26:W:40:HIS:ND1	2.37	0.57
34:e:39:SER:HA	34:e:93:LEU:HA	1.87	0.57
1:1:562:C:C5'	24:U:71:LYS:CE	2.82	0.57
1:1:581:U:H2'	1:1:582:G:H8	1.67	0.57
1:1:627:U:H2'	1:1:628:A:C8	2.39	0.57
11:H:33:ARG:HG2	25:V:27:LEU:HD13	1.87	0.57
11:H:43:LYS:HB3	11:H:46:THR:HB	1.87	0.57
21:R:171:ARG:HH22	37:h:60:ARG:NH1	1.94	0.57
1:1:32:U:H3	1:1:52:A:H61	1.49	0.57
1:1:47:C:OP1	17:N:16:LYS:HE3	2.03	0.57
1:1:196:G:N1	1:1:199:A:OP2	2.36	0.57
1:1:412:G:N3	21:R:118:GLN:OE1	2.37	0.57
1:1:1547:G:P	19:P:108:ARG:HH22	2.28	0.57
1:1:3086:A:O2'	9:F:365:PHE:O	2.20	0.57
1:1:3182:G:H4'	20:Q:161:LYS:HZ2	1.70	0.57
1:1:3337:G:H2'	1:1:3338:C:C6	2.39	0.57
5:B:4:G:H1	5:B:69:U:H3	1.52	0.57
17:N:166:ALA:CB	32:c:135:GLU:OE2	2.52	0.57
30:a:45:ILE:HD11	30:a:122:LYS:HD3	1.85	0.57
39:j:44:ILE:HG12	39:j:48:ARG:HH21	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:302:U:H4'	19:P:179:LYS:HE2	1.86	0.57
1:1:596:C:H5"	13:J:37:ASN:HD21	1.68	0.57
1:1:856:G:OP1	23:T:92:GLN:CD	2.47	0.57
1:1:986:U:O2'	13:J:122:ALA:O	2.19	0.57
1:1:1306:G:C1'	20:Q:60:LYS:HA	2.32	0.57
1:1:1355:A:O2'	22:S:31:LYS:CD	2.53	0.57
1:1:2674:A:C5'	16:M:105:GLY:HA3	2.34	0.57
3:4:45:C:O5'	43:n:15:LYS:HD2	2.05	0.57
3:4:45:C:H3'	43:n:15:LYS:HD2	1.85	0.57
3:4:95:G:O4'	41:l:79:GLN:O	2.22	0.57
11:H:15:ARG:CB	25:V:19:PHE:CZ	2.85	0.57
14:K:160:ILE:HB	19:P:22:LEU:HD21	1.85	0.57
17:N:3:ILE:O	32:c:44:ASN:ND2	2.38	0.57
22:S:29:LEU:HD13	22:S:124:LEU:HD12	1.85	0.57
1:1:58:G:H4'	19:P:155:VAL:HG12	1.86	0.57
1:1:149:U:O5'	19:P:55:ALA:HB3	2.05	0.57
1:1:252:U:H5'	1:1:253:A:H5'	1.86	0.57
1:1:518:G:OP1	13:J:70:LYS:NZ	2.36	0.57
1:1:1219:C:O2'	1:1:1286:A:N6	2.37	0.57
1:1:2014:U:O4'	48:t:180:ASN:C	2.47	0.57
1:1:2344:U:H2'	1:1:2345:A:C8	2.39	0.57
1:1:2382:G:O2'	20:Q:70:PRO:CG	2.52	0.57
1:1:2703:A:OP2	11:H:23:ARG:NH2	2.37	0.57
1:1:2846:U:N3	44:o:97:ARG:NH2	2.50	0.57
1:1:3273:A:OP2	12:I:77:ARG:NH2	2.36	0.57
9:F:47:LEU:HB3	9:F:335:ILE:HD11	1.87	0.57
10:G:344:ALA:HA	13:J:60:ARG:NH2	2.18	0.57
17:N:157:ARG:NH2	32:c:146:GLU:OE1	2.38	0.57
1:1:197:G:N2	1:1:218:G:N3	2.53	0.57
1:1:597:G:H5'	13:J:41:ARG:HD2	1.86	0.57
1:1:618:C:H5'	21:R:169:THR:HG22	0.63	0.57
1:1:1301:A:OP2	1:1:2833:A:O2'	2.22	0.57
1:1:1378:U:H2'	1:1:1379:G:H8	1.70	0.57
1:1:1433:A:O2'	1:1:1434:G:O5'	2.23	0.57
1:1:1825:G:OP1	42:m:48:SER:CB	2.48	0.57
1:1:2277:C:O3'	45:p:23:ARG:NH1	2.36	0.57
1:1:2723:U:OP1	25:V:87:LYS:CD	2.52	0.57
8:E:51:ASP:HB2	8:E:58:LEU:HG	1.85	0.57
1:1:122:A:OP1	14:K:134:TYR:OH	2.09	0.57
1:1:298:U:OP2	40:k:33:ALA:CB	2.53	0.57
1:1:322:U:OP1	19:P:156:HIS:CE1	2.58	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:451:U:H2'	1:1:452:G:C8	2.40	0.57
1:1:990:U:H4'	25:V:100:LYS:HB2	1.86	0.57
1:1:1062:A:H1'	25:V:130:ARG:NH1	2.20	0.57
1:1:1097:G:C2'	25:V:128:LEU:HD12	2.33	0.57
1:1:1864:A:OP1	23:T:82:LYS:CA	2.52	0.57
3:4:52:A:N1	43:n:23:LEU:HD11	2.20	0.57
3:4:107:G:H4'	3:4:138:A:H5'	1.87	0.57
11:H:75:LEU:O	11:H:112:LYS:NZ	2.38	0.57
29:Z:60:TYR:CB	39:j:25:LYS:HD3	2.35	0.57
48:t:212:MET:HE2	48:t:226:VAL:HG22	1.85	0.57
1:1:817:A:C6	41:l:13:ASN:O	2.58	0.57
1:1:1157:G:O2'	1:1:1169:A:N3	2.32	0.57
1:1:2129:U:O2'	1:1:2144:A:O2'	2.21	0.57
1:1:2599:U:H5"	19:P:70:ASN:HD21	1.66	0.57
1:1:2618:G:C6	47:s:114:MET:HB3	2.37	0.57
1:1:2698:G:H4'	25:V:12:ARG:HH12	1.69	0.57
3:4:11:C:H2'	3:4:12:A:C8	2.40	0.57
10:G:281:ILE:HG22	22:S:25:TYR:CD1	2.39	0.57
1:1:134:U:O2	39:j:72:GLY:C	2.46	0.57
1:1:351:A:C6	43:n:37:TYR:O	2.57	0.57
1:1:1861:G:C5'	23:T:63:THR:HG23	2.35	0.57
1:1:2013:C:O4'	48:t:176:GLN:HB3	2.03	0.57
1:1:2097:U:H2'	1:1:2098:C:C6	2.39	0.57
1:1:2736:A:H5"	25:V:71:SER:OG	2.04	0.57
1:1:3040:A:H5"	27:X:12:ARG:HB2	1.87	0.57
17:N:157:ARG:HH21	32:c:124:ILE:HG21	1.70	0.57
49:u:86:LEU:HD11	49:u:92:LEU:HB2	1.86	0.57
1:1:85:A:N6	1:1:100:A:OP2	2.37	0.56
1:1:841:A:H5'	23:T:125:LYS:C	2.30	0.56
1:1:1008:U:H4'	47:s:33:TYR:CD2	2.39	0.56
1:1:1127:G:N2	1:1:1130:A:OP2	2.37	0.56
1:1:1347:U:C6	22:S:38:ARG:HD2	2.39	0.56
1:1:1361:U:O2	13:J:159:GLN:CD	2.46	0.56
1:1:1472:U:H2'	1:1:1473:G:H8	1.70	0.56
1:1:2094:C:H2'	1:1:2095:G:C8	2.40	0.56
1:1:3267:A:H5'	21:R:181:ARG:HH11	1.65	0.56
1:1:3321:C:H2'	1:1:3322:A:H8	1.70	0.56
2:3:13:A:H1'	2:3:112:G:C8	2.40	0.56
8:E:117:GLU:HG2	8:E:124:GLY:H	1.69	0.56
10:G:109:TRP:CD1	17:N:26:PHE:CD1	2.80	0.56
17:N:64:LYS:CD	32:c:69:TRP:CG	2.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:31:C:C5’	19:P:96:ARG:HG3	2.36	0.56
1:1:57:A:H4’	19:P:157:LYS:CG	2.35	0.56
1:1:456:U:O2	1:1:474:G:O6	2.23	0.56
1:1:1101:G:H5”	13:J:107:ARG:NE	2.20	0.56
1:1:1493:G:OP2	1:1:1493:G:N2	2.29	0.56
1:1:2853:A:OP1	47:s:62:GLU:HB3	2.05	0.56
1:1:3034:C:O2	15:L:121:LYS:CA	2.52	0.56
2:3:62:U:H5”	11:H:277:LEU:HD22	1.87	0.56
3:4:12:A:H4’	21:R:2:ALA:O	2.04	0.56
6:C:50:PHE:CB	19:P:85:THR:O	2.54	0.56
1:1:50:U:H5’	19:P:191:TRP:CH2	2.40	0.56
1:1:57:A:H4’	19:P:157:LYS:CD	2.35	0.56
1:1:70:A:H5’	32:c:64:GLN:HE22	1.70	0.56
1:1:86:G:C6	17:N:13:HIS:ND1	2.70	0.56
1:1:110:G:C5’	17:N:91:ARG:NH1	2.65	0.56
1:1:136:G:H5’	39:j:95:PHE:HD2	1.68	0.56
1:1:382:U:OP2	48:t:37:LYS:HG2	1.97	0.56
1:1:503:C:H2’	1:1:504:A:H8	1.69	0.56
1:1:1009:A:O3’	47:s:38:LYS:CD	2.48	0.56
1:1:1362:G:C4’	13:J:160:ARG:O	2.52	0.56
1:1:1472:U:H5’	23:T:4:LEU:CB	2.36	0.56
1:1:1805:C:O2’	38:i:76:TYR:CD1	2.57	0.56
1:1:1947:G:H4’	23:T:134:HIS:CB	2.35	0.56
1:1:1975:C:O4’	42:m:59:ALA:CB	2.40	0.56
1:1:2363:A:H2’	1:1:2364:G:C8	2.39	0.56
1:1:2660:G:H1’	1:1:2744:U:H1’	1.86	0.56
1:1:2853:A:C5’	47:s:62:GLU:HB3	2.34	0.56
1:1:3134:A:P	20:Q:146:GLY:CA	2.93	0.56
1:1:3180:A:N6	20:Q:167:TYR:CD2	2.67	0.56
1:1:3365:U:H2’	1:1:3366:G:H8	1.69	0.56
2:3:17:A:O5’	16:M:150:ASN:ND2	2.37	0.56
5:B:67:C:H2’	5:B:68:G:C8	2.40	0.56
29:Z:140:GLY:CA	39:j:33:VAL:HG13	2.20	0.56
31:b:3:LYS:HE2	31:b:5:LEU:HB2	1.86	0.56
49:u:20:ASN:ND2	49:u:33:TYR:OH	2.39	0.56
1:1:136:G:H2’	1:1:137:G:H8	1.70	0.56
1:1:289:A:N3	19:P:93:LYS:HD3	2.20	0.56
1:1:691:A:C2	17:N:27:ASP:HA	2.41	0.56
1:1:929:A:O4’	41:l:49:TRP:CZ3	2.51	0.56
1:1:1010:G:O5’	47:s:38:LYS:HD3	2.05	0.56
1:1:1313:G:O3’	20:Q:17:GLY:HA3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1417:G:O2'	1:1:1418:A:OP1	2.22	0.56
1:1:1612:A:O3'	42:m:51:LEU:HB2	2.06	0.56
1:1:2875:U:O2	4:A:76:A:O2'	2.22	0.56
42:m:43:PHE:HB2	42:m:54:LEU:HB3	1.85	0.56
1:1:372:A:N6	1:1:395:A:OP1	2.39	0.56
1:1:671:U:H5'	22:S:16:ARG:HH22	1.70	0.56
1:1:1044:U:O2	47:s:93:PHE:HE2	1.86	0.56
1:1:1547:G:P	19:P:108:ARG:NH2	2.79	0.56
1:1:3039:C:OP1	9:F:62:ARG:NH1	2.37	0.56
1:1:3211:C:H2'	1:1:3212:C:C6	2.41	0.56
4:A:53:G:C5'	47:s:69:ILE:CG2	2.82	0.56
5:B:52:G:H2'	5:B:53:G:H8	1.70	0.56
11:H:211:LEU:HB3	11:H:219:PHE:HB2	1.87	0.56
27:X:18:PRO:HA	27:X:51:ALA:HA	1.88	0.56
32:c:38:GLN:HB3	32:c:42:ARG:HH21	1.71	0.56
32:c:129:PHE:CE1	40:k:9:ILE:HG23	2.21	0.56
1:1:73:C:OP1	40:k:15:LYS:N	2.38	0.56
1:1:348:A:N3	1:1:352:A:O2'	2.37	0.56
1:1:532:A:N6	1:1:560:G:H1	2.03	0.56
1:1:664:U:O3'	19:P:203:ARG:NH1	2.38	0.56
1:1:1175:C:O2	20:Q:87:MET:CG	2.53	0.56
1:1:2640:A:OP1	25:V:55:LYS:HE2	2.06	0.56
23:T:23:TRP:HB2	23:T:53:LYS:HD2	1.86	0.56
1:1:69:C:P	19:P:178:HIS:HD1	2.29	0.56
1:1:561:C:P	18:O:77:ARG:HG3	2.45	0.56
1:1:841:A:P	23:T:125:LYS:HB3	2.43	0.56
1:1:1956:A:H2'	1:1:1957:G:C8	2.41	0.56
1:1:2139:A:H62	41:l:3:LYS:HG3	1.69	0.56
1:1:2549:G:C6	14:K:34:PHE:O	2.58	0.56
1:1:2812:C:H2'	1:1:2813:A:H8	1.71	0.56
9:F:238:LEU:HB3	9:F:242:THR:HG21	1.87	0.56
12:I:158:TYR:CG	18:O:115:PHE:CD1	2.92	0.56
13:J:91:GLY:HA2	13:J:111:ILE:HD12	1.87	0.56
1:1:49:A:C6	19:P:187:ARG:CD	2.89	0.56
1:1:103:G:C4'	17:N:65:TYR:CD2	2.89	0.56
1:1:769:G:P	17:N:179:PHE:CE2	2.99	0.56
1:1:842:G:H2'	1:1:843:A:H8	1.70	0.56
1:1:1750:A:H5'	42:m:28:ASN:OD1	2.05	0.56
1:1:2423:U:H2'	1:1:2424:A:C8	2.41	0.56
1:1:2901:G:N2	1:1:3030:G:N3	2.54	0.56
1:1:2908:G:N3	1:1:3106:A:O2'	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3094:A:H2'	1:1:3095:U:H6	1.70	0.56
2:3:64:A:C8	47:s:205:LEU:HD13	2.41	0.56
10:G:314:LYS:CE	13:J:150:LYS:O	2.54	0.56
30:a:60:ARG:HB2	30:a:103:LYS:HD2	1.87	0.56
36:g:19:ARG:HB3	36:g:22:SER:HB3	1.88	0.56
48:t:514:ARG:HG3	48:t:547:VAL:HG11	1.87	0.56
1:1:50:U:C5'	19:P:191:TRP:CZ3	2.89	0.56
1:1:743:C:C1'	22:S:140:LEU:HD22	2.34	0.56
1:1:1071:U:H2'	1:1:1072:G:C8	2.41	0.56
1:1:1093:A:O2'	1:1:1094:U:O4'	2.23	0.56
1:1:1598:G:OP1	38:i:27:GLY:HA3	2.06	0.56
1:1:1668:G:C2'	38:i:22:VAL:HG11	2.33	0.56
1:1:1695:U:O2	38:i:26:PRO:CB	2.53	0.56
1:1:1870:C:H1'	1:1:3066:U:H1'	1.87	0.56
1:1:2050:C:OP1	42:m:36:LYS:HD3	2.06	0.56
1:1:2098:C:H2'	1:1:2099:A:C4	2.41	0.56
1:1:2284:C:OP2	1:1:2286:U:O2'	2.23	0.56
1:1:2555:G:N2	31:b:135:ARG:O	2.37	0.56
3:4:38:U:OP2	39:j:78:LYS:HD2	2.04	0.56
32:c:114:GLY:H	32:c:134:ALA:HB2	1.71	0.56
1:1:76:G:C3'	17:N:100:ARG:HH11	2.19	0.56
1:1:1009:A:C5'	47:s:34:ASP:CB	2.67	0.56
1:1:2494:A:H1'	46:r:157:UNK:C	2.35	0.56
1:1:2681:U:OP1	16:M:65:ILE:CG2	2.53	0.56
6:C:74:CYS:SG	6:C:75:VAL:N	2.79	0.56
19:P:10:LEU:HD23	40:k:44:VAL:HG13	1.88	0.56
1:1:37:U:H4'	1:1:935:U:H4'	1.88	0.55
1:1:293:C:O2'	40:k:76:ARG:HD2	2.05	0.55
1:1:1539:A:N7	1:1:1553:U:O2	2.40	0.55
1:1:1593:A:H4'	38:i:60:ARG:HD3	1.87	0.55
1:1:1748:G:H4'	42:m:51:LEU:CD2	2.33	0.55
1:1:2119:A:C2	23:T:82:LYS:HE2	2.41	0.55
1:1:2673:A:OP1	16:M:95:ASN:N	2.38	0.55
1:1:3085:G:OP1	28:Y:34:SER:OG	2.24	0.55
3:4:13:A:H1'	21:R:120:ASN:CG	2.30	0.55
9:F:95:THR:OG1	9:F:98:GLY:O	2.18	0.55
9:F:161:LEU:HB3	9:F:178:LEU:HD11	1.87	0.55
31:b:23:VAL:HG12	31:b:45:GLY:HA3	1.87	0.55
1:1:103:G:OP1	17:N:70:ARG:CD	2.54	0.55
1:1:148:G:O2'	19:P:55:ALA:CB	2.54	0.55
1:1:928:C:H2'	1:1:929:A:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:969:C:OP1	33:d:19:ASN:ND2	2.39	0.55
1:1:1045:C:C1'	47:s:93:PHE:CE2	2.86	0.55
1:1:1847:A:C8	21:R:130:TYR:CE1	2.94	0.55
1:1:2163:C:H2'	1:1:2164:A:H8	1.71	0.55
1:1:2674:A:N7	16:M:126:ASP:OD1	2.39	0.55
1:1:2786:G:N2	32:c:58:MET:SD	2.79	0.55
1:1:3205:G:C2	24:U:171:PHE:CD1	2.94	0.55
1:1:3309:G:H4'	21:R:70:THR:C	2.32	0.55
3:4:34:U:C1'	41:l:74:PHE:HB2	2.36	0.55
3:4:94:C:P	41:l:72:ARG:HG3	2.47	0.55
1:1:54:C:HO2'	1:1:1547:G:HO2'	1.54	0.55
1:1:57:A:O5'	19:P:157:LYS:HB3	2.05	0.55
1:1:1495:U:H1'	43:n:44:TRP:CZ2	2.40	0.55
1:1:1589:A:C6	38:i:13:TYR:CZ	2.94	0.55
1:1:1738:C:O2	38:i:52:GLN:OE1	2.25	0.55
1:1:2769:A:H2'	1:1:2770:G:C8	2.41	0.55
1:1:2853:A:OP1	47:s:62:GLU:CB	2.53	0.55
4:A:14:A:C5	4:A:15:G:H1'	2.41	0.55
10:G:20:LEU:HD11	10:G:252:GLU:HG3	1.88	0.55
10:G:110:ASN:HB3	19:P:202:TYR:CE1	2.42	0.55
1:1:879:U:C2'	21:R:131:ARG:HH21	2.10	0.55
1:1:1187:C:H5'	24:U:113:ARG:NE	2.22	0.55
1:1:2593:A:O2'	1:1:2594:C:OP2	2.21	0.55
1:1:2732:G:H4'	1:1:2760:C:H4'	1.87	0.55
1:1:3094:A:H2'	1:1:3095:U:C6	2.42	0.55
5:B:1:G:O2'	47:s:110:LEU:O	2.23	0.55
9:F:222:LYS:HE2	9:F:331:ASN:HD22	1.71	0.55
11:H:69:ILE:HG22	25:V:31:LEU:CB	1.98	0.55
1:1:293:C:H4'	40:k:76:ARG:NH1	2.20	0.55
1:1:745:C:H2'	1:1:746:A:H8	1.70	0.55
1:1:880:G:N7	21:R:132:ALA:HB2	2.21	0.55
1:1:986:U:C5'	13:J:126:LEU:HD23	2.31	0.55
1:1:1189:C:N4	20:Q:133:ARG:CZ	2.67	0.55
1:1:1213:G:H4'	24:U:90:MET:HB3	1.89	0.55
1:1:1446:A:O3'	21:R:27:LYS:NZ	2.39	0.55
1:1:2155:G:OP1	8:E:241:ARG:NH1	2.39	0.55
17:N:166:ALA:HB3	32:c:135:GLU:OE1	2.06	0.55
29:Z:64:GLU:HA	39:j:32:LYS:NZ	2.20	0.55
47:s:168:LYS:HG2	47:s:177:ARG:HE	1.70	0.55
1:1:121:A:C6	14:K:108:ARG:NE	2.75	0.55
1:1:1313:G:H5'	20:Q:83:ALA:HB1	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1321:G:C5’	24:U:117:ARG:NH1	2.59	0.55
1:1:1848:G:C8	43:n:45:ARG:NH2	2.74	0.55
1:1:2057:G:N2	1:1:2058:G:O6	2.34	0.55
1:1:2129:U:H2’	1:1:2130:G:C8	2.42	0.55
24:U:38:LYS:HE3	24:U:58:ILE:HG13	1.88	0.55
30:a:87:LYS:HB2	30:a:97:ILE:HD11	1.89	0.55
31:b:81:LEU:HD11	38:i:90:ILE:CD1	2.36	0.55
44:o:97:ARG:HH21	44:o:122:ARG:HB3	1.70	0.55
1:1:156:G:C5’	40:k:25:LYS:HE3	2.36	0.55
1:1:1339:C:H2’	1:1:1340:G:H8	1.70	0.55
1:1:2013:C:H5’	48:t:177:GLN:HE22	1.61	0.55
1:1:3107:U:OP1	44:o:112:LYS:CE	2.55	0.55
2:3:96:U:C2’	24:U:119:ARG:HD2	2.36	0.55
34:e:58:TYR:CE1	38:i:97:GLU:CG	2.87	0.55
35:f:83:GLU:CD	48:t:48:LYS:O	2.47	0.55
48:t:556:LYS:NZ	48:t:677:ASP:OD2	2.39	0.55
1:1:189:G:O2’	1:1:190:U:OP1	2.23	0.55
1:1:269:G:C4’	19:P:120:TRP:CZ3	2.90	0.55
1:1:346:C:N4	1:1:349:A:OP2	2.39	0.55
1:1:484:C:H2’	1:1:485:A:C8	2.41	0.55
1:1:638:C:N4	1:1:639:G:O6	2.39	0.55
1:1:761:A:N6	1:1:770:G:N2	2.55	0.55
1:1:788:C:H2’	1:1:789:A:H8	1.72	0.55
1:1:1041:U:O2’	47:s:195:PHE:HE2	1.74	0.55
1:1:1226:G:H5’	1:1:3117:C:H1’	1.88	0.55
1:1:1491:A:C5	43:n:2:ALA:HB3	2.41	0.55
1:1:1560:G:H2’	1:1:1561:G:C8	2.41	0.55
1:1:2013:C:H4’	48:t:177:GLN:CG	2.36	0.55
1:1:2494:A:OP1	46:r:197:UNK:CB	2.55	0.55
1:1:3207:U:C4	24:U:159:SER:OG	2.51	0.55
1:1:3276:G:C6	21:R:171:ARG:HG3	2.42	0.55
6:C:102:GLN:C	16:M:62:ASN:CB	2.79	0.55
10:G:112:LYS:HZ1	19:P:204:LYS:CB	2.20	0.55
1:1:412:G:C5’	21:R:30:ARG:HG3	2.36	0.55
1:1:991:G:H2’	1:1:992:A:C8	2.42	0.55
1:1:1318:A:N7	20:Q:18:ARG:CZ	2.70	0.55
1:1:1588:A:C4	43:n:4:GLN:CG	2.79	0.55
1:1:1746:U:O2’	42:m:4:GLU:CD	2.49	0.55
1:1:1748:G:OP2	42:m:42:LYS:NZ	2.33	0.55
1:1:2677:G:N2	1:1:2680:A:OP2	2.39	0.55
1:1:2988:C:OP1	20:Q:65:ASN:ND2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3184:A:C3’	15:L:23:ARG:NH1	2.66	0.55
1:1:3259:U:H5”	1:1:3260:G:C8	2.42	0.55
1:1:151:A:OP2	19:P:147:ARG:NH2	2.40	0.55
1:1:264:G:OP1	40:k:34:SER:HB2	2.06	0.55
1:1:520:U:P	13:J:70:LYS:NZ	2.80	0.55
1:1:1306:G:C8	20:Q:61:ALA:O	2.59	0.55
1:1:1362:G:C4’	13:J:160:ARG:C	2.77	0.55
1:1:1391:C:O2’	1:1:1392:G:OP1	2.22	0.55
2:3:56:A:H4’	16:M:152:HIS:CG	2.42	0.55
3:4:142:C:H5’	19:P:62:TYR:OH	2.07	0.55
4:A:5:C:H2’	4:A:6:G:C8	2.42	0.55
6:C:32:LYS:HG2	6:C:34:SER:H	1.71	0.55
1:1:19:U:H5”	39:j:90:ARG:HE	1.71	0.54
1:1:86:G:H4’	1:1:87:U:O5’	2.05	0.54
1:1:1323:G:OP1	24:U:1:MET:HA	2.07	0.54
1:1:1324:U:H5”	24:U:2:ALA:HB1	1.89	0.54
1:1:1493:G:H2’	43:n:49:MET:CE	2.36	0.54
1:1:1858:A:N3	38:i:4:ARG:HD3	2.22	0.54
1:1:2515:A:O3’	19:P:31:ARG:NH2	2.40	0.54
1:1:2516:U:P	19:P:28:TRP:NE1	2.78	0.54
1:1:3016:A:H2’	1:1:3017:A:C8	2.42	0.54
1:1:3078:U:O2’	1:1:3079:U:OP2	2.17	0.54
22:S:176:ARG:HH11	32:c:53:PHE:HD2	1.55	0.54
31:b:14:VAL:HG13	31:b:15:ARG:HG2	1.89	0.54
33:d:47:LEU:HA	33:d:50:THR:HG22	1.89	0.54
48:t:763:THR:O	48:t:770:LYS:NZ	2.40	0.54
1:1:75:G:H5”	17:N:58:VAL:HG21	1.88	0.54
1:1:363:G:OP2	41:l:52:LYS:CD	2.54	0.54
1:1:1151:U:O4	1:1:1200:A:N6	2.36	0.54
1:1:1307:G:H4’	1:1:1308:A:O5’	2.06	0.54
1:1:1472:U:H5’	23:T:4:LEU:HB2	1.88	0.54
1:1:1495:U:O2’	43:n:44:TRP:CZ2	2.49	0.54
1:1:2335:G:N2	1:1:2339:C:O2’	2.40	0.54
1:1:3016:A:H2’	1:1:3017:A:H8	1.71	0.54
1:1:3032:A:C2	15:L:170:LYS:HE2	2.43	0.54
1:1:3068:U:OP1	23:T:58:HIS:HA	2.07	0.54
1:1:3107:U:P	44:o:112:LYS:HZ1	2.27	0.54
1:1:3109:G:C1’	15:L:163:GLN:NE2	2.70	0.54
1:1:3157:U:O2’	48:t:649:LYS:HA	2.07	0.54
1:1:3225:C:H2’	1:1:3226:A:C8	2.42	0.54
17:N:27:ASP:O	17:N:29:ALA:N	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:S:94:PHE:HZ	32:c:79:TRP:CD1	2.25	0.54
1:1:31:C:H5'	19:P:96:ARG:HD2	1.88	0.54
1:1:88:A:H61	1:1:281:G:H1'	1.71	0.54
1:1:356:C:O2'	10:G:81:GLY:O	2.25	0.54
1:1:674:G:P	22:S:105:ARG:NH2	2.80	0.54
1:1:733:G:N2	1:1:736:A:OP2	2.39	0.54
1:1:784:A:C5	22:S:93:ILE:HG21	2.42	0.54
1:1:1355:A:C2	22:S:38:ARG:NH1	2.76	0.54
1:1:2382:G:O2'	20:Q:70:PRO:CA	2.55	0.54
1:1:2674:A:P	16:M:105:GLY:H	2.30	0.54
1:1:2731:U:O2'	1:1:2761:G:O2'	2.20	0.54
1:1:3152:U:O2	1:1:3294:A:N6	2.40	0.54
1:1:3313:U:OP1	9:F:117:ARG:NH1	2.41	0.54
19:P:99:ARG:NH2	19:P:118:SER:O	2.39	0.54
24:U:30:PHE:HZ	24:U:99:ARG:HH21	1.54	0.54
1:1:677:A:H4'	1:1:678:G:O5'	2.07	0.54
1:1:784:A:C5	22:S:93:ILE:CG2	2.89	0.54
1:1:785:G:N9	22:S:92:ARG:CZ	2.69	0.54
1:1:2014:U:H1'	48:t:180:ASN:C	2.32	0.54
1:1:2177:G:N2	8:E:118:GLU:OE2	2.40	0.54
1:1:3108:G:OP2	1:1:3120:C:N4	2.39	0.54
1:1:3178:A:C2	20:Q:115:LYS:CD	2.90	0.54
3:4:67:U:H2'	3:4:68:G:H8	1.72	0.54
10:G:328:ASN:ND2	13:J:182:ASP:OD2	2.41	0.54
17:N:165:SER:O	17:N:167:PHE:N	2.40	0.54
1:1:148:G:C3'	19:P:55:ALA:HB2	2.36	0.54
1:1:266:A:C2	40:k:30:LYS:HD2	2.40	0.54
1:1:1410:U:H4'	36:g:75:LEU:HD11	1.89	0.54
1:1:1473:G:C5'	23:T:24:LEU:O	2.43	0.54
1:1:2014:U:C1'	48:t:180:ASN:C	2.81	0.54
1:1:2744:U:H2'	1:1:2745:G:C8	2.43	0.54
1:1:3067:C:P	23:T:62:ARG:HH11	2.30	0.54
1:1:3180:A:C6	20:Q:167:TYR:CE2	2.91	0.54
1:1:3205:G:C4	24:U:171:PHE:CZ	2.96	0.54
11:H:69:ILE:HA	25:V:31:LEU:HD12	1.88	0.54
11:H:150:LEU:CD1	16:M:143:ARG:CD	2.85	0.54
17:N:91:ARG:HH21	17:N:97:VAL:HB	1.72	0.54
1:1:353:G:H4'	1:1:354:U:O5'	2.08	0.54
1:1:577:C:O2'	1:1:579:G:OP1	2.25	0.54
1:1:884:A:N6	1:1:2139:A:N3	2.55	0.54
1:1:986:U:O4'	13:J:126:LEU:CG	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1492:G:N7	43:n:2:ALA:HB2	2.22	0.54
1:1:1716:U:N3	23:T:118:HIS:CE1	2.76	0.54
1:1:1852:G:O2'	41:l:10:LYS:CG	2.54	0.54
1:1:1938:U:HO2'	23:T:79:GLY:H	1.52	0.54
1:1:2115:G:H4'	23:T:79:GLY:O	2.08	0.54
1:1:2388:U:O2'	21:R:80:LYS:NZ	2.38	0.54
1:1:2674:A:C5'	16:M:105:GLY:O	2.55	0.54
1:1:3034:C:C1'	15:L:120:ASP:HB3	2.38	0.54
10:G:314:LYS:HE3	13:J:150:LYS:O	2.08	0.54
10:G:359:LEU:HG	24:U:8:GLN:HE22	1.73	0.54
28:Y:6:ASP:OD2	28:Y:9:SER:N	2.38	0.54
1:1:1106:G:O3'	33:d:25:LYS:NZ	2.33	0.54
1:1:1159:A:OP2	13:J:92:ILE:HG22	2.08	0.54
1:1:2102:U:OP2	23:T:88:ARG:NH2	2.38	0.54
1:1:2609:A:C5'	19:P:81:TYR:HE1	2.14	0.54
9:F:328:ILE:HD11	9:F:336:VAL:HG11	1.90	0.54
22:S:174:ARG:CB	32:c:56:VAL:CG1	2.84	0.54
1:1:484:C:H2'	1:1:485:A:H8	1.73	0.54
1:1:720:A:OP2	32:c:117:ARG:NH1	2.41	0.54
1:1:768:C:H5"	17:N:179:PHE:CZ	2.43	0.54
1:1:979:U:O2'	1:1:980:A:O5'	2.24	0.54
1:1:1491:A:C6	43:n:2:ALA:HB1	2.43	0.54
1:1:1858:A:H2	38:i:4:ARG:NH1	2.06	0.54
1:1:2648:G:H2'	1:1:2649:A:H8	1.73	0.54
1:1:2673:A:H4'	16:M:104:PHE:HA	1.89	0.54
1:1:3007:U:C5'	20:Q:73:PHE:CD1	2.83	0.54
1:1:3321:C:H2'	1:1:3322:A:C8	2.43	0.54
3:4:126:A:O2'	3:4:129:C:N4	2.40	0.54
13:J:228:SER:O	13:J:232:ARG:NH2	2.40	0.54
36:g:42:VAL:HG12	36:g:52:GLN:HE21	1.71	0.54
1:1:76:G:C8	17:N:101:ARG:CD	2.69	0.54
1:1:209:A:N3	10:G:221:ASN:ND2	2.56	0.54
1:1:672:A:O3'	22:S:21:SER:HB2	2.08	0.54
1:1:1157:G:H5'	13:J:220:PHE:CE2	2.36	0.54
1:1:1168:U:H2'	1:1:1169:A:H8	1.72	0.54
1:1:1175:C:O2	20:Q:87:MET:HG2	2.08	0.54
1:1:1588:A:C6	43:n:4:GLN:CB	2.91	0.54
1:1:1975:C:H5"	42:m:63:LYS:CG	2.36	0.54
3:4:67:U:H5"	41:l:85:LYS:HZ3	1.72	0.54
10:G:344:ALA:HB1	13:J:60:ARG:HH12	1.71	0.54
42:m:9:LYS:NZ	42:m:13:GLU:OE2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:31:C:H41	19:P:188:ARG:NH2	2.05	0.54
1:1:147:U:C5	14:K:194:THR:HB	2.39	0.54
1:1:282:G:O2'	1:1:283:G:OP2	2.24	0.54
1:1:298:U:OP2	40:k:33:ALA:HB3	2.08	0.54
1:1:398:A:C8	21:R:3:ARG:NH2	2.76	0.54
1:1:728:G:O2'	22:S:139:ILE:HD12	2.07	0.54
1:1:1321:G:C4'	24:U:117:ARG:NH2	2.71	0.54
1:1:2179:C:O2'	8:E:130:SER:O	2.24	0.54
1:1:2383:C:H5'	20:Q:71:PHE:HE2	1.70	0.54
1:1:2674:A:H5"	16:M:105:GLY:H	1.73	0.54
1:1:2883:U:H3	1:1:2939:G:H1	1.54	0.54
8:E:59:ALA:HB2	8:E:78:ALA:HB2	1.89	0.54
29:Z:46:TYR:CD2	39:j:77:PRO:HA	2.42	0.54
30:a:17:LYS:O	30:a:21:THR:OG1	2.23	0.54
30:a:111:LEU:HD23	30:a:116:LYS:HG2	1.88	0.54
31:b:5:LEU:HD11	34:e:35:ARG:HD2	1.90	0.54
32:c:96:LYS:O	32:c:98:THR:N	2.41	0.54
1:1:712:G:H5'	17:N:174:ARG:NH1	2.23	0.53
1:1:966:U:H2'	1:1:967:A:H8	1.73	0.53
1:1:986:U:O4'	13:J:126:LEU:CD2	2.56	0.53
1:1:1666:G:H1	1:1:1783:U:H3	1.56	0.53
1:1:2499:U:H2'	1:1:2500:A:C8	2.42	0.53
1:1:3213:A:O5'	18:O:128:ARG:CD	2.50	0.53
1:1:3213:A:C3'	18:O:125:LYS:NZ	2.59	0.53
5:B:63:C:C2'	47:s:23:ARG:HE	2.20	0.53
22:S:75:GLY:O	22:S:79:LYS:NZ	2.41	0.53
31:b:12:VAL:HB	31:b:81:LEU:HB2	1.90	0.53
32:c:77:LYS:O	32:c:79:TRP:N	2.34	0.53
1:1:119:U:O2'	14:K:133:LYS:CD	2.56	0.53
1:1:266:A:N3	40:k:30:LYS:CE	2.49	0.53
1:1:785:G:OP1	22:S:66:ARG:NH2	2.42	0.53
1:1:806:A:N3	1:1:2812:C:O2'	2.39	0.53
1:1:1018:G:H2'	1:1:1019:G:H8	1.73	0.53
1:1:1048:A:N6	47:s:16:TYR:CZ	2.72	0.53
1:1:1322:U:C4'	24:U:111:ALA:HB1	2.37	0.53
1:1:1461:A:H2'	1:1:1462:A:H8	1.73	0.53
1:1:1477:A:OP1	1:1:3075:G:O2'	2.25	0.53
1:1:1491:A:OP1	41:l:14:LYS:CD	2.46	0.53
1:1:3231:U:H2'	1:1:3232:G:H8	1.73	0.53
1:1:3310:A:OP1	21:R:74:LYS:HE3	2.08	0.53
3:4:34:U:C5'	41:l:78:PHE:CE2	2.85	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:112:LYS:HE2	19:P:202:TYR:CB	2.32	0.53
21:R:172:GLN:HE22	37:h:61:GLY:C	2.15	0.53
47:s:188:GLU:HG2	47:s:199:LEU:HD13	1.90	0.53
50:v:19:LEU:HD12	50:v:22:LEU:HD12	1.91	0.53
1:1:136:G:O3'	39:j:95:PHE:CE2	2.62	0.53
1:1:152:U:OP1	39:j:103:LYS:HA	2.08	0.53
1:1:841:A:N6	1:1:853:G:O6	2.42	0.53
1:1:986:U:O4'	13:J:126:LEU:HG	2.08	0.53
1:1:1381:A:H2'	1:1:1382:G:H8	1.72	0.53
1:1:1895:A:N6	1:1:2335:G:O2'	2.33	0.53
1:1:2094:C:H2'	1:1:2095:G:H8	1.74	0.53
1:1:2815:G:N2	1:1:2818:U:O2	2.36	0.53
1:1:3008:A:C4'	20:Q:66:LYS:O	2.56	0.53
2:3:92:A:H2	47:s:55:GLU:CB	2.21	0.53
2:3:97:A:H4'	13:J:224:ILE:CG2	2.38	0.53
1:1:114:A:H4'	19:P:49:ARG:HG2	1.89	0.53
1:1:282:G:H1	19:P:181:ASN:ND2	2.05	0.53
1:1:502:U:O2'	12:I:26:ARG:NH1	2.41	0.53
1:1:578:A:C4	13:J:145:ARG:NH2	2.76	0.53
1:1:595:G:H5"	13:J:33:ARG:HH12	1.72	0.53
1:1:785:G:H21	22:S:63:SER:HB3	1.69	0.53
1:1:1060:U:H2'	1:1:1061:A:H8	1.73	0.53
1:1:1187:C:H5'	24:U:113:ARG:HE	1.73	0.53
1:1:1460:A:H2'	1:1:1461:A:H8	1.73	0.53
1:1:2138:A:C6	41:l:3:LYS:HB3	2.43	0.53
1:1:2373:A:H62	1:1:2867:C:H1'	1.72	0.53
1:1:2584:G:N3	14:K:240:ASN:ND2	2.56	0.53
1:1:2630:C:H5	25:V:3:LYS:O	1.91	0.53
1:1:2751:G:OP1	25:V:50:LYS:CE	2.56	0.53
1:1:2853:A:H4'	47:s:63:ALA:HA	1.89	0.53
2:3:91:G:C6	47:s:55:GLU:OE2	2.61	0.53
6:C:50:PHE:HB2	19:P:85:THR:O	2.07	0.53
11:H:17:GLN:HE22	25:V:21:LYS:C	2.07	0.53
1:1:57:A:C3'	19:P:157:LYS:HD2	2.37	0.53
1:1:281:G:O6	19:P:181:ASN:ND2	2.40	0.53
1:1:547:G:O2'	1:1:548:G:O5'	2.26	0.53
1:1:608:A:OP1	10:G:315:LYS:NZ	2.41	0.53
1:1:669:U:C4'	22:S:153:PHE:HZ	2.22	0.53
1:1:2810:C:H2'	1:1:2811:A:H8	1.74	0.53
1:1:3180:A:N6	20:Q:167:TYR:CZ	2.56	0.53
10:G:106:TRP:HZ3	17:N:22:VAL:HG21	1.66	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:65:ILE:HG12	11:H:74:VAL:HG22	1.91	0.53
12:I:40:LEU:HD13	12:I:84:VAL:HG11	1.91	0.53
30:a:68:GLY:HA2	30:a:84:LYS:HD3	1.91	0.53
1:1:87:U:C2	1:1:99:A:N6	2.76	0.53
1:1:122:A:O2'	1:1:123:A:O5'	2.21	0.53
1:1:1320:C:H2'	24:U:115:ARG:NH1	2.21	0.53
1:1:1675:G:P	26:W:72:SER:HB3	2.49	0.53
1:1:1856:C:H2'	1:1:1857:C:C6	2.44	0.53
1:1:1944:U:H2'	1:1:1945:A:H8	1.74	0.53
1:1:2115:G:H5'	23:T:79:GLY:HA2	1.90	0.53
1:1:3215:A:C4	18:O:118:PHE:HZ	2.27	0.53
2:3:57:G:OP1	16:M:149:GLY:HA3	2.08	0.53
20:Q:4:GLU:O	20:Q:31:GLN:NE2	2.38	0.53
29:Z:51:VAL:HG11	39:j:62:GLN:CB	2.25	0.53
48:t:486:ASN:ND2	48:t:668:SER:O	2.42	0.53
1:1:49:A:C4	19:P:187:ARG:NH1	2.77	0.53
1:1:1316:C:C6	20:Q:130:LYS:HB2	2.43	0.53
1:1:1558:A:N1	14:K:55:TYR:HE1	2.07	0.53
1:1:1574:C:H2'	1:1:1575:A:C8	2.43	0.53
1:1:1687:U:H5'	26:W:75:TYR:HE1	1.73	0.53
1:1:2218:G:H5"	40:k:68:ARG:NH1	2.24	0.53
1:1:2433:U:H1'	19:P:125:SER:OG	2.08	0.53
1:1:3215:A:H4'	12:I:161:ALA:HA	1.91	0.53
3:4:68:G:H2'	3:4:69:U:C6	2.43	0.53
10:G:327:LEU:HD11	13:J:165:ASP:HA	1.90	0.53
21:R:23:ARG:HH22	21:R:125:GLN:HG3	1.74	0.53
29:Z:141:TYR:N	39:j:33:VAL:HG13	2.24	0.53
31:b:115:LYS:NZ	31:b:119:GLU:OE2	2.35	0.53
48:t:464:ARG:NE	48:t:502:GLU:OE1	2.38	0.53
1:1:589:A:N6	1:1:610:G:N3	2.57	0.53
1:1:975:C:H5"	22:S:54:LEU:CD2	2.39	0.53
1:1:2427:U:O2	1:1:2602:G:N2	2.37	0.53
1:1:2812:C:H2'	1:1:2813:A:C8	2.44	0.53
5:B:64:G:P	47:s:23:ARG:HE	2.31	0.53
34:e:47:ASN:HD21	34:e:74:ASN:H	1.57	0.53
1:1:108:A:O5'	17:N:42:ARG:NH1	2.16	0.53
1:1:410:U:H3	3:4:14:C:H42	1.57	0.53
1:1:852:U:H2'	1:1:853:G:H8	1.72	0.53
1:1:946:U:H2'	1:1:947:G:C8	2.44	0.53
1:1:1028:U:H3	16:M:94:ARG:HH22	1.57	0.53
1:1:1231:A:N6	1:1:1277:C:OP2	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1846:C:C6	21:R:136:ILE:HD11	2.44	0.53
1:1:2515:A:C3'	19:P:28:TRP:HE1	2.19	0.53
3:4:97:A:O5'	39:j:63:ARG:NE	2.42	0.53
11:H:40:HIS:HE1	25:V:69:LYS:CA	2.16	0.53
43:n:24:PRO:HD2	43:n:27:ILE:HD12	1.90	0.53
1:1:744:A:C4'	22:S:141:ARG:CB	2.86	0.53
1:1:1739:U:O2'	38:i:56:THR:HG23	2.09	0.53
1:1:2151:C:H2'	1:1:2152:A:H8	1.74	0.53
1:1:2435:G:N2	1:1:2514:U:O4	2.39	0.53
1:1:2549:G:C8	14:K:35:GLY:CA	2.91	0.53
1:1:2723:U:P	25:V:87:LYS:NZ	2.82	0.53
1:1:2757:U:H1'	25:V:8:ARG:HB2	1.91	0.53
1:1:3205:G:N1	24:U:171:PHE:CG	2.77	0.53
2:3:28:C:H5"	16:M:137:ARG:HD3	1.91	0.53
15:L:90:MET:HG2	15:L:181:VAL:HA	1.91	0.53
20:Q:36:VAL:HB	20:Q:108:ILE:HG12	1.90	0.53
1:1:280:U:H1'	19:P:182:ASN:HD21	1.74	0.52
1:1:451:U:O2	1:1:483:G:O6	2.27	0.52
1:1:538:G:H1	1:1:553:U:H3	1.56	0.52
1:1:666:A:H2	17:N:10:LEU:HD11	1.67	0.52
1:1:938:C:O2	1:1:2813:A:O2'	2.27	0.52
1:1:1103:A:H61	22:S:9:GLN:NE2	1.88	0.52
1:1:1158:A:H5"	13:J:91:GLY:HA3	1.91	0.52
1:1:1235:U:N3	1:1:1237:G:H4'	2.24	0.52
1:1:1603:A:H61	29:Z:71:THR:HG21	1.74	0.52
1:1:1666:G:H2'	1:1:1667:A:C8	2.45	0.52
1:1:1929:G:O2'	1:1:2321:A:OP1	2.25	0.52
1:1:2008:G:H21	48:t:180:ASN:HA	1.74	0.52
1:1:2555:G:N7	38:i:95:ILE:HD11	2.20	0.52
1:1:2703:A:C2'	16:M:142:LYS:HZ3	2.22	0.52
2:3:39:C:O2	16:M:69:VAL:CG2	2.56	0.52
3:4:82:U:O2	3:4:87:G:O2'	2.22	0.52
15:L:41:ILE:HD11	15:L:67:ALA:HB1	1.89	0.52
17:N:3:ILE:C	32:c:44:ASN:HD21	2.16	0.52
47:s:177:ARG:H	47:s:178:PRO:HD2	1.74	0.52
1:1:666:A:O2'	17:N:10:LEU:HD22	2.09	0.52
1:1:817:A:C2	41:l:11:ARG:HG2	2.44	0.52
1:1:880:G:N7	21:R:132:ALA:CA	2.72	0.52
1:1:1167:U:H1'	13:J:209:ASN:HB2	1.90	0.52
1:1:1318:A:H61	20:Q:18:ARG:N	2.07	0.52
1:1:2112:U:H5'	1:1:2113:A:N3	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2964:G:N2	1:1:2967:A:OP2	2.42	0.52
1:1:3126:C:H4'	15:L:129:ARG:NH2	2.23	0.52
2:3:39:C:O2'	16:M:43:GLN:CB	2.56	0.52
10:G:29:PRO:HB3	22:S:25:TYR:CE2	2.44	0.52
23:T:45:VAL:HG22	23:T:50:ILE:HB	1.92	0.52
1:1:520:U:P	13:J:70:LYS:HZ1	2.32	0.52
1:1:528:U:H2'	1:1:529:A:C8	2.45	0.52
1:1:658:G:N2	10:G:93:MET:O	2.42	0.52
1:1:1028:U:H3	16:M:94:ARG:NH2	2.07	0.52
1:1:1150:A:H61	1:1:2369:G:H1'	1.75	0.52
1:1:1564:U:H2'	1:1:1565:G:H8	1.74	0.52
1:1:1682:U:C4	26:W:85:LYS:CG	2.92	0.52
1:1:2007:G:N2	1:1:2014:U:O2	2.27	0.52
1:1:2352:A:P	21:R:82:ARG:HG2	2.50	0.52
1:1:2916:U:H2'	1:1:2917:G:H8	1.74	0.52
1:1:3306:U:H2'	1:1:3307:A:H5"	1.92	0.52
2:3:28:C:OP2	11:H:57:ASN:ND2	2.41	0.52
11:H:15:ARG:HB2	25:V:20:ARG:CG	2.40	0.52
22:S:171:LYS:H	32:c:56:VAL:HG21	1.75	0.52
24:U:13:ARG:HB2	24:U:22:PRO:HG2	1.91	0.52
48:t:265:ARG:NH2	49:u:218:ASP:OD1	2.43	0.52
49:u:10:ILE:HA	49:u:13:ILE:HG23	1.92	0.52
1:1:169:U:OP1	17:N:128:ARG:HB3	2.09	0.52
1:1:358:G:N2	1:1:361:A:OP2	2.43	0.52
1:1:1487:G:O6	1:1:1856:C:N4	2.42	0.52
2:3:96:U:H2'	13:J:225:GLN:HE21	1.72	0.52
17:N:3:ILE:C	32:c:44:ASN:ND2	2.67	0.52
34:e:25:LEU:HD22	34:e:87:VAL:HG21	1.90	0.52
1:1:73:C:C2	17:N:59:ARG:NH1	2.70	0.52
1:1:136:G:H4'	39:j:95:PHE:CZ	2.40	0.52
1:1:357:A:H2'	1:1:358:G:C8	2.45	0.52
1:1:1333:C:O2'	13:J:208:SER:HA	2.09	0.52
1:1:1547:G:H5'	19:P:108:ARG:NH2	2.24	0.52
1:1:1948:G:OP2	23:T:135:LYS:CB	2.56	0.52
2:3:55:A:O2'	16:M:10:ARG:HD3	2.09	0.52
1:1:215:G:OP1	30:a:12:ARG:NH1	2.42	0.52
1:1:1223:A:H8	1:1:1285:G:H21	1.58	0.52
1:1:1695:U:O2	38:i:26:PRO:HB3	2.09	0.52
1:1:2418:G:OP2	1:1:2606:G:N2	2.43	0.52
1:1:2541:U:H4'	1:1:2542:U:O5'	2.10	0.52
1:1:3226:A:N6	1:1:3260:G:N1	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3291:G:P	48:t:644:SER:CB	2.98	0.52
2:3:42:A:C8	16:M:72:ARG:HD3	2.44	0.52
2:3:89:G:N2	2:3:92:A:OP2	2.38	0.52
3:4:36:G:C5	39:j:86:ARG:HD3	2.45	0.52
5:B:65:U:P	47:s:24:ALA:HB1	2.49	0.52
9:F:76:VAL:HG21	9:F:323:MET:HE3	1.92	0.52
20:Q:29:ASN:O	37:h:12:LYS:HE2	2.10	0.52
1:1:74:G:C1'	17:N:61:PRO:CG	2.87	0.52
1:1:76:G:C2'	17:N:100:ARG:NH1	2.63	0.52
1:1:382:U:OP2	48:t:37:LYS:CG	2.50	0.52
1:1:659:G:N2	1:1:660:A:N1	2.58	0.52
1:1:984:G:N2	1:1:1138:U:OP1	2.41	0.52
1:1:2014:U:C1'	48:t:180:ASN:CB	2.66	0.52
1:1:2374:C:N4	1:1:2941:A:N3	2.56	0.52
1:1:2723:U:P	25:V:87:LYS:HE3	2.49	0.52
1:1:2950:G:H5"	1:1:2951:G:OP1	2.09	0.52
1:1:3243:A:N3	20:Q:156:LEU:CD1	2.50	0.52
1:1:3368:U:H5"	1:1:3369:G:H5'	1.90	0.52
1:1:57:A:C4'	19:P:157:LYS:CD	2.86	0.52
1:1:80:G:P	19:P:193:ARG:HH11	2.33	0.52
1:1:290:G:C2	19:P:93:LYS:HE2	2.45	0.52
1:1:1040:A:N3	47:s:197:LYS:HE3	2.24	0.52
1:1:1044:U:H5"	47:s:132:GLN:NE2	2.25	0.52
1:1:1186:G:C2	24:U:112:ALA:HB1	2.44	0.52
1:1:1593:A:C4'	38:i:60:ARG:CZ	2.88	0.52
1:1:2769:A:H2'	1:1:2770:G:H8	1.74	0.52
1:1:3217:C:H6	21:R:182:ILE:HD11	1.70	0.52
1:1:3268:A:OP1	21:R:181:ARG:NH2	2.42	0.52
3:4:29:U:H5'	17:N:27:ASP:HB3	1.92	0.52
3:4:47:C:O2'	3:4:62:C:OP2	2.27	0.52
3:4:56:G:N2	3:4:62:C:O4'	2.43	0.52
6:C:103:ALA:N	16:M:62:ASN:CB	2.73	0.52
11:H:15:ARG:HA	25:V:20:ARG:HD3	0.52	0.52
11:H:156:GLY:HA2	11:H:181:PRO:HB3	1.91	0.52
14:K:94:PHE:HE1	14:K:200:LEU:HD11	1.75	0.52
19:P:17:ASP:HA	19:P:20:ARG:HG2	1.91	0.52
48:t:565:TYR:HE2	48:t:604:TYR:HB2	1.75	0.52
1:1:272:G:H2'	1:1:273:A:H8	1.75	0.52
1:1:812:G:N3	41:l:49:TRP:CE2	2.76	0.52
1:1:1213:G:OP1	24:U:137:ARG:CD	2.52	0.52
1:1:1682:U:C5	26:W:85:LYS:CG	2.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2196:C:O2'	1:1:2270:A:H1'	2.10	0.52
1:1:2356:A:C2	21:R:131:ARG:CZ	2.93	0.52
2:3:16:U:H2'	2:3:17:A:C8	2.44	0.52
3:4:12:A:H5"	21:R:3:ARG:HB2	1.92	0.52
7:D:46:THR:HB	7:D:58:SER:HB2	1.92	0.52
25:V:84:TYR:HB3	33:d:24:PRO:HG3	1.91	0.52
48:t:838:LEU:O	48:t:846:GLN:NE2	2.42	0.52
1:1:103:G:P	17:N:70:ARG:HD3	2.49	0.52
1:1:260:C:H2'	1:1:261:U:C6	2.45	0.52
1:1:519:A:OP1	24:U:63:GLN:N	2.42	0.52
1:1:532:A:OP2	1:1:555:U:N3	2.43	0.52
1:1:1307:G:H5'	20:Q:60:LYS:HZ1	1.73	0.52
1:1:1495:U:O2	43:n:44:TRP:CZ3	2.62	0.52
1:1:1543:G:P	19:P:35:VAL:HG21	2.48	0.52
1:1:2086:A:O2'	1:1:2087:C:OP1	2.23	0.52
1:1:2352:A:OP1	21:R:82:ARG:HG2	2.10	0.52
1:1:2417:U:OP2	1:1:2606:G:O2'	2.17	0.52
1:1:3181:C:C2'	20:Q:164:SER:C	2.83	0.52
10:G:329:PRO:HB2	13:J:45:LEU:HD12	1.91	0.52
17:N:66:ASN:HD21	32:c:128:ARG:CZ	2.11	0.52
31:b:14:VAL:CG1	38:i:86:LYS:HE3	2.31	0.52
37:h:86:ARG:NH1	37:h:87:ASN:OD1	2.42	0.52
1:1:359:U:H4'	41:l:25:ARG:NH1	2.11	0.51
1:1:617:G:O3'	21:R:169:THR:HG22	2.10	0.51
1:1:617:G:H4'	21:R:169:THR:HB	1.91	0.51
1:1:1018:G:H2'	1:1:1019:G:C8	2.46	0.51
1:1:1191:U:O2	20:Q:48:PHE:CZ	2.64	0.51
1:1:1347:U:C5	22:S:38:ARG:HD3	2.40	0.51
1:1:1472:U:O4'	23:T:4:LEU:CD1	2.53	0.51
1:1:1589:A:H1'	38:i:13:TYR:CB	2.22	0.51
1:1:1751:G:OP1	42:m:26:LYS:NZ	2.36	0.51
1:1:1958:U:C2	1:1:2083:G:O6	2.62	0.51
1:1:1986:U:O2	1:1:2035:G:N2	2.29	0.51
3:4:54:A:P	43:n:40:LYS:HZ3	2.32	0.51
5:B:66:C:H2'	5:B:67:C:C6	2.45	0.51
15:L:163:GLN:O	15:L:166:ARG:NH1	2.43	0.51
17:N:165:SER:CA	32:c:135:GLU:OE2	2.51	0.51
21:R:109:ALA:HA	21:R:112:LEU:HD13	1.92	0.51
47:s:204:SER:O	47:s:208:ASN:ND2	2.44	0.51
48:t:505:GLU:OE2	48:t:606:ARG:NH2	2.43	0.51
1:1:157:A:C8	40:k:26:ILE:CG2	2.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:530:G:H2'	1:1:531:G:H8	1.75	0.51
1:1:1040:A:N3	47:s:197:LYS:HE2	2.23	0.51
1:1:1558:A:OP2	14:K:51:LYS:CE	2.55	0.51
1:1:1738:C:HO2'	38:i:53:GLY:N	2.07	0.51
1:1:2196:C:H2'	1:1:2242:A:H61	1.76	0.51
3:4:87:G:OP1	39:j:5:LYS:HE3	2.09	0.51
10:G:112:LYS:HZ3	19:P:204:LYS:CG	1.99	0.51
10:G:269:SER:O	10:G:271:LYS:N	2.43	0.51
10:G:318:LEU:H	10:G:324:LEU:HD13	1.75	0.51
29:Z:140:GLY:C	39:j:33:VAL:HG13	2.34	0.51
31:b:14:VAL:CG2	38:i:86:LYS:CG	2.62	0.51
35:f:11:GLU:OE1	35:f:72:ARG:NH2	2.43	0.51
1:1:71:A:H61	1:1:303:G:N2	2.07	0.51
1:1:530:G:H2'	1:1:531:G:C8	2.46	0.51
1:1:1109:U:C5'	22:S:153:PHE:CG	2.92	0.51
1:1:2101:C:OP2	23:T:71:ARG:HG2	2.09	0.51
1:1:2313:A:O2'	1:1:2314:U:O5'	2.23	0.51
1:1:2385:G:O2'	1:1:2386:A:O5'	2.24	0.51
1:1:2608:G:OP1	8:E:2:GLY:N	2.44	0.51
1:1:3243:A:H5'	9:F:95:THR:HG22	1.91	0.51
4:A:21:A:H61	4:A:46:G:H2'	1.75	0.51
1:1:241:G:C4'	17:N:45:LYS:NZ	2.73	0.51
1:1:302:U:C5'	19:P:179:LYS:HE2	2.40	0.51
1:1:922:U:OP1	41:l:3:LYS:HE2	2.09	0.51
1:1:1043:C:H4'	47:s:89:ARG:NH1	2.25	0.51
1:1:1097:G:O2'	25:V:129:LYS:HA	2.11	0.51
1:1:1306:G:O2'	20:Q:60:LYS:N	2.39	0.51
1:1:1342:C:H2'	1:1:1343:A:C8	2.45	0.51
1:1:1695:U:C2'	38:i:26:PRO:HG3	2.30	0.51
1:1:1861:G:H4'	23:T:63:THR:HG23	1.92	0.51
1:1:2085:U:H2'	1:1:2086:A:H8	1.72	0.51
1:1:2155:G:H4'	8:E:227:ARG:HH21	1.75	0.51
2:3:89:G:H5'	24:U:84:ARG:CZ	2.40	0.51
16:M:166:LYS:O	16:M:168:ASP:N	2.42	0.51
48:t:717:ASP:OD1	48:t:721:ASN:ND2	2.43	0.51
1:1:264:G:OP1	40:k:34:SER:CB	2.59	0.51
1:1:536:U:H2'	1:1:537:A:H8	1.76	0.51
1:1:744:A:C1'	22:S:141:ARG:HB2	2.38	0.51
1:1:1382:G:OP2	10:G:188:ARG:NH1	2.43	0.51
1:1:1665:C:H2'	1:1:1666:G:H8	1.76	0.51
1:1:2525:G:O2'	1:1:2526:C:OP2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2526:C:H2'	1:1:2527:G:H8	1.75	0.51
1:1:2853:A:O3'	47:s:63:ALA:HB2	2.09	0.51
1:1:3205:G:C5	24:U:171:PHE:CD2	2.98	0.51
1:1:3366:G:OP1	28:Y:61:LYS:NZ	2.31	0.51
2:3:17:A:OP1	16:M:150:ASN:ND2	2.43	0.51
3:4:38:U:OP1	39:j:78:LYS:CE	2.58	0.51
18:O:123:LEU:HD22	20:Q:190:VAL:HG23	1.92	0.51
26:W:90:ARG:O	26:W:92:TRP:N	2.43	0.51
1:1:181:U:H4'	41:l:75:LYS:HD2	1.92	0.51
1:1:669:U:H5"	22:S:153:PHE:HZ	1.74	0.51
1:1:695:C:OP1	10:G:119:ARG:NE	2.38	0.51
1:1:985:U:O2'	13:J:126:LEU:HD21	2.10	0.51
1:1:1655:G:N2	1:1:1801:U:O4	2.44	0.51
1:1:1805:C:H2'	1:1:1806:A:H8	1.75	0.51
1:1:2166:A:H1'	19:P:74:PRO:HA	1.92	0.51
1:1:2646:C:H4'	47:s:118:TRP:CZ3	2.45	0.51
1:1:3158:G:N7	48:t:649:LYS:CB	2.74	0.51
1:1:3368:U:H4'	1:1:3369:G:H4'	1.92	0.51
4:A:51:A:H61	4:A:63:U:H3	1.58	0.51
23:T:106:LEU:HB3	23:T:120:TYR:HE1	1.75	0.51
1:1:389:A:O4'	21:R:101:ASN:ND2	2.44	0.51
1:1:685:G:H5"	17:N:39:ARG:NH2	2.26	0.51
1:1:707:U:H5"	1:1:779:G:H1'	1.93	0.51
1:1:787:G:P	22:S:147:ARG:HA	2.50	0.51
1:1:1125:U:P	47:s:14:LYS:HZ1	2.26	0.51
1:1:1666:G:H2'	1:1:1667:A:H8	1.75	0.51
1:1:2680:A:H2	16:M:24:GLY:HA2	1.76	0.51
15:L:90:MET:HE2	15:L:179:ILE:HG22	1.93	0.51
24:U:109:ASP:OD1	24:U:113:ARG:NH1	2.44	0.51
1:1:398:A:N7	21:R:3:ARG:NH2	2.58	0.51
1:1:608:A:O2'	10:G:326:ARG:NH1	2.44	0.51
1:1:727:G:H21	22:S:139:ILE:CG2	2.24	0.51
1:1:1306:G:N3	20:Q:61:ALA:N	2.59	0.51
1:1:1362:G:C3'	13:J:160:ARG:H	2.23	0.51
1:1:3258:U:O2'	1:1:3260:G:OP1	2.25	0.51
3:4:46:G:OP1	43:n:18:LYS:HE3	2.10	0.51
4:A:2:G:H2'	4:A:3:G:C8	2.45	0.51
11:H:25:GLU:O	16:M:144:CYS:HA	2.11	0.51
20:Q:90:HIS:HA	20:Q:95:GLY:HA3	1.92	0.51
22:S:123:THR:OG1	22:S:125:ASP:OD1	2.28	0.51
29:Z:68:THR:CG2	39:j:36:LEU:CG	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:u:98:VAL:HG11	49:u:141:LEU:HD11	1.93	0.51
1:1:50:U:H2'	1:1:51:A:H8	1.75	0.51
1:1:138:U:H2'	1:1:139:G:C8	2.46	0.51
1:1:185:C:H5"	30:a:122:LYS:HG2	1.93	0.51
1:1:275:U:H3	1:1:290:G:H1	1.59	0.51
1:1:302:U:H5"	19:P:179:LYS:HE2	1.82	0.51
1:1:388:G:HO2'	21:R:17:ALA:CB	2.24	0.51
1:1:647:A:N6	1:1:2371:G:O2'	2.41	0.51
1:1:769:G:P	17:N:179:PHE:HE2	2.33	0.51
1:1:878:G:O2'	1:1:880:G:N2	2.44	0.51
1:1:1593:A:C4'	38:i:60:ARG:HD3	2.40	0.51
1:1:2747:A:H4'	11:H:174:PRO:HB2	1.92	0.51
1:1:2846:U:C4	44:o:97:ARG:NH2	2.74	0.51
1:1:2948:C:H4'	9:F:243:HIS:H	1.76	0.51
2:3:55:A:O2'	16:M:10:ARG:CD	2.59	0.51
4:A:29:U:H2'	4:A:30:G:C8	2.45	0.51
8:E:32:LEU:HD21	8:E:37:ARG:HD3	1.92	0.51
8:E:52:SER:HB3	8:E:191:LEU:HD23	1.92	0.51
10:G:26:PHE:HA	10:G:127:ALA:HA	1.92	0.51
25:V:68:THR:OG1	25:V:69:LYS:N	2.40	0.51
1:1:119:U:C2'	14:K:133:LYS:HZ2	2.22	0.51
1:1:269:G:O5'	19:P:120:TRP:HE3	1.89	0.51
1:1:440:A:N6	1:1:619:A:N7	2.59	0.51
1:1:1462:A:H2'	1:1:1463:U:C6	2.46	0.51
1:1:1687:U:OP2	26:W:42:LYS:HD2	2.05	0.51
1:1:2218:G:H5"	40:k:68:ARG:HH12	1.76	0.51
1:1:2352:A:C2'	21:R:85:ALA:HB3	2.40	0.51
1:1:2549:G:O6	14:K:34:PHE:O	2.29	0.51
5:B:13:C:N3	5:B:23:A:N6	2.60	0.51
6:C:106:PHE:CZ	46:r:112:UNK:CB	2.93	0.51
11:H:17:GLN:OE1	25:V:22:HIS:HB2	2.10	0.51
11:H:26:GLY:O	16:M:144:CYS:N	2.36	0.51
19:P:159:ARG:NH2	19:P:164:LEU:O	2.44	0.51
34:e:57:GLU:OE2	34:e:69:TYR:OH	2.26	0.51
47:s:97:ARG:HB3	47:s:119:GLY:HA3	1.92	0.51
1:1:49:A:C5	19:P:187:ARG:CZ	2.93	0.50
1:1:451:U:OP1	50:v:82:LYS:CB	2.59	0.50
1:1:1003:A:N1	1:1:1049:C:O2'	2.43	0.50
1:1:1139:G:H4'	13:J:94:LYS:HA	1.92	0.50
1:1:1694:U:O2	38:i:26:PRO:O	2.29	0.50
1:1:1975:C:P	42:m:63:LYS:HD2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2181:C:H2'	1:1:2182:A:C8	2.45	0.50
1:1:2349:U:O2'	1:1:3307:A:N3	2.44	0.50
1:1:2355:G:C2'	21:R:139:TYR:CE1	2.93	0.50
3:4:34:U:C5'	41:l:78:PHE:CZ	2.94	0.50
3:4:51:G:H8	43:n:27:ILE:HD11	1.76	0.50
11:H:111:GLN:HA	11:H:116:ASP:HB2	1.93	0.50
13:J:83:LEU:HD21	13:J:116:PHE:HD1	1.76	0.50
1:1:84:U:OP2	1:1:85:A:O2'	2.24	0.50
1:1:111:C:OP2	1:1:156:G:N1	2.43	0.50
1:1:276:U:H2'	1:1:277:G:C8	2.46	0.50
1:1:915:A:OP2	1:1:2145:A:O2'	2.25	0.50
1:1:1253:U:H3	1:1:1264:G:P	2.34	0.50
1:1:1446:A:H5'	1:1:1448:U:H1'	1.94	0.50
1:1:1846:C:N4	51:z:10:UNK:CA	2.50	0.50
1:1:1974:A:H2	42:m:59:ALA:N	2.07	0.50
1:1:2432:A:C2	19:P:125:SER:OG	2.62	0.50
1:1:2950:G:H4'	1:1:2951:G:C8	2.46	0.50
1:1:3182:G:H5'	20:Q:161:LYS:HG2	1.92	0.50
1:1:3329:U:H5"	9:F:308:MET:HE2	1.92	0.50
11:H:15:ARG:HB2	25:V:20:ARG:HG3	1.94	0.50
14:K:61:GLN:HB3	19:P:28:TRP:HH2	1.77	0.50
31:b:46:ILE:HA	31:b:70:PRO:HA	1.93	0.50
39:j:101:THR:HG23	39:j:104:GLN:H	1.76	0.50
49:u:109:GLU:OE2	49:u:149:TYR:OH	2.29	0.50
1:1:358:G:H21	1:1:360:G:H8	1.59	0.50
1:1:700:C:H2'	1:1:701:G:H8	1.75	0.50
1:1:812:G:N3	41:l:49:TRP:NE1	2.58	0.50
1:1:1146:C:H2'	1:1:1147:G:C8	2.46	0.50
1:1:1558:A:H2'	29:Z:34:LEU:HG	1.93	0.50
1:1:1974:A:H2	42:m:58:ASP:CG	2.17	0.50
1:1:2119:A:C2	23:T:82:LYS:CE	2.94	0.50
1:1:2526:C:C6	14:K:49:TYR:OH	2.65	0.50
1:1:2768:U:H2'	1:1:2769:A:C8	2.46	0.50
1:1:3183:A:C5'	20:Q:12:LYS:NZ	2.74	0.50
1:1:3309:G:H8	21:R:69:ARG:HH11	1.59	0.50
2:3:57:G:OP1	16:M:149:GLY:CA	2.59	0.50
12:I:51:ARG:NH2	18:O:114:ASP:CG	2.70	0.50
1:1:231:G:H2'	1:1:232:G:C8	2.47	0.50
1:1:347:G:H2'	1:1:348:A:H8	1.77	0.50
1:1:786:A:H1'	1:1:787:G:C8	2.47	0.50
1:1:787:G:OP2	22:S:147:ARG:CA	2.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1164:G:H2'	1:1:1165:A:H8	1.76	0.50
1:1:1612:A:C4'	42:m:51:LEU:HD22	2.34	0.50
1:1:2139:A:OP1	41:l:2:GLY:HA3	2.12	0.50
1:1:3033:A:N1	15:L:120:ASP:OD1	2.43	0.50
1:1:3113:A:C3'	15:L:69:ARG:CG	2.80	0.50
3:4:38:U:P	39:j:78:LYS:CE	3.00	0.50
3:4:83:C:O2'	3:4:85:G:N2	2.44	0.50
10:G:289:ILE:HG22	22:S:32:LEU:HD11	1.92	0.50
31:b:14:VAL:HG22	38:i:86:LYS:CG	2.32	0.50
34:e:58:TYR:HE1	38:i:97:GLU:CG	2.23	0.50
48:t:230:LEU:HD11	48:t:243:LEU:HG	1.93	0.50
48:t:714:TYR:OH	48:t:740:ARG:NH1	2.37	0.50
1:1:62:A:H5"	19:P:164:LEU:HD21	1.94	0.50
1:1:529:A:H2'	1:1:530:G:C8	2.47	0.50
1:1:671:U:O2'	22:S:20:LYS:HD2	2.12	0.50
1:1:1241:U:O2'	1:1:1242:G:O5'	2.27	0.50
1:1:1663:C:H2'	1:1:1664:G:C8	2.46	0.50
1:1:1805:C:H2'	1:1:1806:A:C8	2.47	0.50
1:1:2607:G:OP1	8:E:233:GLN:NE2	2.45	0.50
1:1:3113:A:C4'	15:L:69:ARG:CG	2.89	0.50
2:3:64:A:H5"	47:s:204:SER:HA	1.93	0.50
5:B:75:C:H5"	5:B:76:A:OP2	2.10	0.50
32:c:129:PHE:HZ	40:k:9:ILE:HG22	1.60	0.50
1:1:6:A:O2'	14:K:188:THR:HG21	2.12	0.50
1:1:319:A:H4'	19:P:51:LEU:HD22	1.91	0.50
1:1:829:U:H3	1:1:895:A:H62	1.59	0.50
1:1:1307:G:O5'	20:Q:60:LYS:NZ	2.45	0.50
1:1:2177:G:H2'	8:E:128:ARG:HB2	1.93	0.50
1:1:2393:G:O2'	1:1:2394:G:H8	1.94	0.50
11:H:183:TRP:HE3	11:H:190:ILE:HD13	1.76	0.50
21:R:172:GLN:NE2	37:h:61:GLY:C	2.69	0.50
31:b:83:THR:HG23	31:b:85:TYR:H	1.76	0.50
37:h:9:VAL:N	37:h:100:ILE:O	2.43	0.50
38:i:80:ARG:HB3	38:i:84:CYS:HB2	1.92	0.50
1:1:269:G:OP2	19:P:11:GLN:HG3	2.12	0.50
1:1:297:G:H1	19:P:12:ARG:NH1	1.88	0.50
1:1:319:A:C4'	19:P:51:LEU:CD2	2.86	0.50
1:1:364:G:H4'	10:G:84:ARG:HG2	1.94	0.50
1:1:886:C:H2'	1:1:887:G:C8	2.47	0.50
1:1:965:A:H2'	1:1:966:U:C6	2.46	0.50
1:1:1220:U:H5"	1:1:1286:A:H62	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1687:U:C4'	26:W:75:TYR:HE1	2.23	0.50
1:1:2093:A:H5'	23:T:143:ILE:HD13	1.82	0.50
1:1:3322:A:H2'	1:1:3323:A:C8	2.47	0.50
2:3:39:C:H4'	16:M:44:THR:O	2.10	0.50
35:f:83:GLU:HB2	48:t:48:LYS:C	2.34	0.50
1:1:117:U:C6	14:K:141:ALA:HB1	2.47	0.50
1:1:156:G:C5'	40:k:25:LYS:CE	2.89	0.50
1:1:364:G:OP2	41:l:52:LYS:CE	2.37	0.50
1:1:814:U:H2'	1:1:815:G:C8	2.47	0.50
1:1:1059:G:HO2'	25:V:61:THR:H	1.59	0.50
1:1:1324:U:P	24:U:2:ALA:CB	2.95	0.50
1:1:1540:U:H3	1:1:1557:A:N6	2.10	0.50
1:1:1633:C:H2'	1:1:1634:G:H8	1.76	0.50
1:1:1687:U:C5'	26:W:75:TYR:HE1	2.24	0.50
1:1:1864:A:OP1	23:T:82:LYS:HB2	2.11	0.50
1:1:2139:A:OP1	41:l:2:GLY:CA	2.60	0.50
1:1:2681:U:C5'	16:M:66:ALA:HB2	2.34	0.50
1:1:3043:C:H2'	1:1:3044:G:H8	1.76	0.50
3:4:94:C:C5	41:l:72:ARG:CD	2.90	0.50
10:G:89:ALA:O	10:G:91:GLY:N	2.45	0.50
12:I:51:ARG:NE	18:O:114:ASP:OD2	2.45	0.50
13:J:156:ILE:HD11	13:J:172:ASN:HD21	1.77	0.50
1:1:268:A:H2'	19:P:14:LYS:NZ	2.26	0.50
1:1:597:G:OP1	13:J:41:ARG:HD2	2.12	0.50
1:1:986:U:O2	13:J:122:ALA:HB2	2.01	0.50
1:1:1324:U:H2'	1:1:1325:U:C6	2.47	0.50
1:1:1497:C:H2'	1:1:1498:A:C8	2.46	0.50
1:1:2836:C:C4'	47:s:156:TYR:HD2	2.20	0.50
3:4:12:A:H5'	21:R:3:ARG:HB2	1.94	0.50
8:E:30:ARG:HH12	8:E:41:ILE:HD13	1.77	0.50
12:I:51:ARG:NH2	18:O:114:ASP:OD2	2.43	0.50
21:R:172:GLN:NE2	37:h:60:ARG:O	2.43	0.50
47:s:87:ARG:HB2	47:s:138:ARG:HH22	1.75	0.50
1:1:56:G:H4'	19:P:158:HIS:CG	2.46	0.49
1:1:302:U:H5"	19:P:179:LYS:NZ	2.26	0.49
1:1:561:C:OP1	18:O:77:ARG:CA	2.60	0.49
1:1:813:G:H4'	41:l:47:TYR:CZ	2.47	0.49
1:1:908:G:N2	1:1:2414:G:OP1	2.44	0.49
1:1:2287:C:N4	1:1:2926:A:O2'	2.45	0.49
1:1:2617:U:O3'	47:s:115:ARG:NH2	2.37	0.49
1:1:3215:A:O4'	18:O:118:PHE:HE1	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3337:G:H2'	1:1:3338:C:H6	1.77	0.49
6:C:38:GLN:OE1	6:C:41:ARG:NH2	2.45	0.49
9:F:139:GLN:HG3	9:F:141:GLY:H	1.77	0.49
13:J:151:ARG:NH1	13:J:206:LYS:O	2.45	0.49
17:N:64:LYS:HD2	32:c:69:TRP:CG	2.47	0.49
1:1:264:G:P	40:k:34:SER:CB	2.93	0.49
1:1:986:U:C2'	13:J:122:ALA:CB	2.88	0.49
1:1:1750:A:OP1	42:m:26:LYS:HG2	2.12	0.49
1:1:1810:A:H2'	1:1:1811:G:C8	2.47	0.49
1:1:1810:A:H2'	1:1:1811:G:H8	1.77	0.49
1:1:2513:U:O2'	1:1:2514:U:O5'	2.23	0.49
1:1:2960:C:H2'	1:1:2961:G:H8	1.77	0.49
1:1:3022:G:H4'	1:1:3023:U:O5'	2.11	0.49
1:1:3180:A:H5'	20:Q:116:LYS:HB2	1.95	0.49
2:3:84:A:H2'	2:3:85:G:C8	2.46	0.49
9:F:74:GLU:OE1	9:F:283:TYR:OH	2.27	0.49
17:N:180:ARG:HH11	40:k:11:LEU:HD11	1.77	0.49
21:R:69:ARG:HA	21:R:80:LYS:HA	1.94	0.49
49:u:215:LYS:NZ	49:u:217:GLU:OE2	2.45	0.49
1:1:531:G:H2'	1:1:532:A:C8	2.47	0.49
1:1:2978:U:N3	51:z:17:UNK:CB	2.74	0.49
1:1:3135:U:H5'	20:Q:148:LYS:NZ	2.27	0.49
13:J:232:ARG:HB2	13:J:235:PHE:HB2	1.94	0.49
48:t:542:GLU:OE2	48:t:661:ARG:NH1	2.46	0.49
1:1:146:U:O2'	14:K:135:GLY:CA	2.48	0.49
1:1:149:U:OP1	19:P:54:LYS:CA	2.57	0.49
1:1:786:A:OP1	22:S:146:SER:CB	2.58	0.49
1:1:1116:G:N2	1:1:2817:A:O4'	2.45	0.49
1:1:1220:U:H4'	1:1:1222:G:H1'	1.95	0.49
1:1:1461:A:H2'	1:1:1462:A:C8	2.48	0.49
1:1:1490:A:H61	1:1:1839:A:H61	1.60	0.49
1:1:1598:G:H2'	1:1:1599:G:C8	2.47	0.49
1:1:2111:G:O2'	1:1:2112:U:OP1	2.27	0.49
2:3:76:A:H1'	24:U:50:LYS:NZ	2.27	0.49
10:G:29:PRO:HB3	22:S:25:TYR:CZ	2.47	0.49
17:N:55:ARG:HB3	17:N:71:ALA:HB1	1.95	0.49
17:N:67:ARG:HB2	32:c:106:ALA:HA	1.94	0.49
48:t:43:LEU:HD21	48:t:59:LEU:HD23	1.93	0.49
48:t:102:ARG:HD2	48:t:573:LEU:HD11	1.93	0.49
1:1:57:A:C4'	19:P:157:LYS:CB	2.68	0.49
1:1:716:A:OP1	1:1:752:C:O2'	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:768:C:O3'	17:N:175:SER:OG	2.30	0.49
1:1:1103:A:H62	22:S:9:GLN:NE2	1.84	0.49
1:1:1189:C:C5	20:Q:133:ARG:NH2	2.80	0.49
1:1:1265:U:H3	1:1:1276:U:H3	1.60	0.49
1:1:1713:G:H22	1:1:1730:G:H2'	1.77	0.49
1:1:2494:A:C1'	46:r:158:UNK:CB	2.90	0.49
1:1:2516:U:P	19:P:31:ARG:NH2	2.74	0.49
1:1:2521:U:O2	1:1:2523:A:O2'	2.21	0.49
1:1:2537:U:H2'	1:1:2538:U:C6	2.47	0.49
3:4:69:U:H2'	3:4:70:G:O4'	2.12	0.49
5:B:66:C:H2'	5:B:67:C:H6	1.78	0.49
1:1:119:U:C4	14:K:138:HIS:CG	3.00	0.49
1:1:272:G:H2'	1:1:273:A:C8	2.47	0.49
1:1:739:G:H2'	1:1:740:G:H8	1.77	0.49
1:1:780:A:H4'	22:S:162:ALA:HB2	1.87	0.49
1:1:1060:U:O2'	25:V:39:ILE:HG21	2.12	0.49
1:1:1418:A:O2'	1:1:1419:A:OP1	2.24	0.49
1:1:2681:U:O4'	16:M:66:ALA:CB	2.42	0.49
1:1:3060:C:H2'	1:1:3061:G:H8	1.76	0.49
1:1:3060:C:H2'	1:1:3061:G:C8	2.47	0.49
2:3:77:G:O2'	2:3:78:U:OP2	2.27	0.49
2:3:97:A:O2'	13:J:222:HIS:NE2	2.41	0.49
3:4:51:G:N9	43:n:26:TRP:CZ2	2.79	0.49
6:C:50:PHE:HZ	19:P:91:GLU:HB2	1.76	0.49
10:G:299:ILE:HG22	22:S:39:ARG:HE	1.73	0.49
38:i:81:CYS:O	38:i:83:ASN:N	2.45	0.49
1:1:197:G:N2	1:1:372:A:N7	2.61	0.49
1:1:290:G:N3	19:P:93:LYS:CE	2.75	0.49
1:1:612:U:H2'	1:1:613:G:C8	2.47	0.49
1:1:1039:U:H2'	1:1:1040:A:C8	2.48	0.49
1:1:1141:C:O2'	1:1:1153:A:N3	2.45	0.49
1:1:1147:G:OP1	36:g:47:ARG:NH1	2.45	0.49
1:1:1404:G:N2	1:1:1407:A:OP2	2.28	0.49
1:1:1598:G:H2'	1:1:1599:G:H8	1.77	0.49
1:1:1651:U:H2'	1:1:1652:G:H8	1.78	0.49
1:1:2013:C:H4'	48:t:177:GLN:NE2	2.21	0.49
1:1:2723:U:OP1	25:V:87:LYS:HD2	2.13	0.49
1:1:3193:C:H2'	1:1:3194:C:C6	2.48	0.49
1:1:3219:G:O2'	1:1:3220:G:OP2	2.25	0.49
1:1:3322:A:H2'	1:1:3323:A:H8	1.78	0.49
3:4:52:A:C6	43:n:23:LEU:HD21	2.03	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:193:LYS:HA	10:G:198:ARG:HA	1.94	0.49
17:N:47:ALA:HB1	17:N:48:PRO:HD2	1.95	0.49
17:N:47:ALA:O	17:N:49:ARG:N	2.46	0.49
1:1:57:A:H2'	1:1:58:G:C8	2.47	0.49
1:1:147:U:O2'	1:1:148:G:OP1	2.30	0.49
1:1:998:A:H2'	1:1:999:G:C8	2.48	0.49
1:1:1544:G:C5'	19:P:67:ARG:NH2	2.75	0.49
1:1:1569:U:H3'	1:1:1570:U:H5'	1.95	0.49
1:1:1610:G:H2'	1:1:1611:G:H8	1.77	0.49
1:1:1750:A:P	42:m:26:LYS:HG2	2.53	0.49
1:1:1922:A:H62	1:1:1929:G:H21	1.60	0.49
1:1:3034:C:N1	15:L:120:ASP:HB3	2.28	0.49
1:1:3112:G:H5'	15:L:77:ASN:ND2	2.20	0.49
1:1:3181:C:O2	20:Q:164:SER:C	2.48	0.49
3:4:150:G:OP1	29:Z:27:ARG:NH2	2.45	0.49
18:O:18:GLY:HA2	18:O:72:LEU:HD12	1.93	0.49
19:P:73:ARG:HB3	19:P:89:VAL:HG13	1.94	0.49
29:Z:60:TYR:OH	39:j:26:LYS:HG3	2.13	0.49
1:1:743:C:H42	22:S:141:ARG:NH1	2.10	0.49
1:1:984:G:C5	13:J:97:PRO:HB3	2.47	0.49
1:1:1095:U:H1'	25:V:129:LYS:HE3	1.94	0.49
1:1:1317:A:HO2'	20:Q:18:ARG:HH22	1.59	0.49
1:1:1367:G:OP1	36:g:45:ARG:NH2	2.46	0.49
1:1:1370:G:H2'	1:1:1371:G:H8	1.77	0.49
1:1:1448:U:H4'	21:R:66:SER:CB	2.39	0.49
1:1:1808:G:O2'	1:1:1809:A:H8	1.96	0.49
1:1:2100:A:P	23:T:71:ARG:NH1	2.86	0.49
1:1:2101:C:P	23:T:71:ARG:HG2	2.53	0.49
1:1:2846:U:C4	44:o:97:ARG:NH1	2.67	0.49
1:1:3178:A:N1	20:Q:112:TYR:CE1	2.81	0.49
1:1:3377:G:H21	9:F:332:ARG:HH21	1.61	0.49
2:3:28:C:H2'	2:3:29:C:O4'	2.13	0.49
3:4:29:U:H5"	17:N:27:ASP:HB3	1.93	0.49
3:4:38:U:O4'	39:j:78:LYS:HB3	2.13	0.49
10:G:337:GLU:O	10:G:339:LEU:N	2.46	0.49
24:U:93:GLU:HB2	24:U:140:VAL:HG21	1.95	0.49
35:f:51:LEU:HD13	35:f:55:LEU:HD22	1.95	0.49
37:h:75:HIS:HB2	37:h:82:ARG:HG3	1.94	0.49
1:1:743:C:H42	22:S:141:ARG:HH12	1.60	0.49
1:1:1305:U:H1'	9:F:257:PRO:HG3	1.94	0.49
1:1:1944:U:H2'	1:1:1945:A:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2352:A:P	21:R:82:ARG:CG	3.01	0.49
1:1:2354:C:H2'	21:R:139:TYR:HH	1.76	0.49
1:1:2723:U:C5'	25:V:87:LYS:HE3	2.40	0.49
1:1:3208:G:H5'	1:1:3209:A:OP1	2.13	0.49
3:4:43:A:H1'	41:l:21:ARG:O	2.13	0.49
3:4:71:A:O2'	3:4:83:C:O2	2.23	0.49
10:G:3:ARG:HH11	10:G:22:LEU:HB2	1.78	0.49
10:G:299:ILE:HG23	22:S:39:ARG:CB	2.41	0.49
11:H:95:TRP:HZ3	11:H:199:ILE:HA	1.77	0.49
11:H:148:ILE:HG22	11:H:150:LEU:H	1.78	0.49
13:J:153:PHE:HA	13:J:162:PRO:HA	1.94	0.49
27:X:102:ILE:HG23	27:X:110:LYS:HB3	1.94	0.49
28:Y:20:LEU:HD21	28:Y:28:ILE:HG23	1.95	0.49
48:t:174:GLU:HB3	48:t:177:GLN:HB2	1.93	0.49
48:t:407:ILE:HD13	48:t:423:LEU:HD23	1.93	0.49
48:t:442:GLU:OE2	48:t:445:ARG:NH2	2.46	0.49
1:1:472:A:H2'	1:1:473:G:C8	2.48	0.48
1:1:991:G:H2'	1:1:992:A:H8	1.77	0.48
1:1:1095:U:O2	25:V:127:GLN:OE1	2.30	0.48
1:1:1341:U:H2'	1:1:1342:C:C6	2.48	0.48
1:1:1464:G:N1	1:1:1467:A:OP2	2.45	0.48
1:1:1573:G:H2'	1:1:1574:C:O4'	2.13	0.48
1:1:1689:U:O2'	23:T:59:SER:CA	2.60	0.48
1:1:1858:A:C2	38:i:4:ARG:NH1	2.81	0.48
1:1:1975:C:P	42:m:63:LYS:CD	2.89	0.48
2:3:42:A:N7	16:M:72:ARG:CD	2.76	0.48
8:E:27:ALA:HB3	8:E:128:ARG:HH21	1.78	0.48
9:F:283:TYR:HD2	9:F:323:MET:HE2	1.78	0.48
10:G:112:LYS:NZ	19:P:204:LYS:HG3	2.12	0.48
17:N:157:ARG:CD	32:c:101:VAL:HG21	2.43	0.48
19:P:18:VAL:HG13	19:P:19:LEU:HD12	1.94	0.48
20:Q:61:ALA:HA	20:Q:70:PRO:HD2	1.95	0.48
21:R:171:ARG:NH2	37:h:60:ARG:HH11	1.98	0.48
27:X:81:GLN:O	27:X:98:ASN:ND2	2.46	0.48
30:a:109:LEU:HD22	30:a:115:ARG:HH22	1.78	0.48
34:e:16:LEU:HD21	34:e:97:ASP:HB3	1.95	0.48
1:1:32:U:C5'	19:P:94:TYR:CD1	2.96	0.48
1:1:676:G:N1	22:S:61:PRO:HB3	2.28	0.48
1:1:1847:A:C5	21:R:130:TYR:CE1	2.99	0.48
1:1:3034:C:C2'	15:L:122:LYS:CB	2.69	0.48
2:3:20:A:H2'	2:3:21:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:68:C:H2'	2:3:69:C:C6	2.47	0.48
3:4:132:G:O2'	29:Z:97:LYS:NZ	2.46	0.48
10:G:316:ASN:CG	13:J:150:LYS:HG3	2.37	0.48
24:U:66:GLU:HB3	24:U:69:PRO:HG3	1.95	0.48
1:1:86:G:C5	17:N:13:HIS:ND1	2.78	0.48
1:1:694:C:H2'	1:1:695:C:C6	2.49	0.48
1:1:1060:U:H2'	1:1:1061:A:C8	2.47	0.48
1:1:1189:C:H41	20:Q:133:ARG:NH2	2.11	0.48
1:1:1290:A:H2'	1:1:1291:A:H8	1.78	0.48
1:1:1654:A:N3	38:i:59:PRO:CB	2.76	0.48
1:1:2526:C:H2'	1:1:2527:G:C8	2.48	0.48
1:1:2778:G:H2'	1:1:2779:A:H8	1.79	0.48
1:1:3178:A:C4	20:Q:6:VAL:CG1	2.96	0.48
8:E:48:ILE:HG22	8:E:59:ALA:HA	1.94	0.48
10:G:329:PRO:HG2	13:J:45:LEU:N	2.28	0.48
14:K:45:ASN:CG	29:Z:26:VAL:HG23	2.38	0.48
17:N:64:LYS:HG3	32:c:69:TRP:CE2	2.38	0.48
25:V:84:TYR:CZ	33:d:21:ILE:HG21	2.48	0.48
48:t:572:GLN:HA	48:t:575:PHE:HD2	1.78	0.48
1:1:121:A:H62	14:K:108:ARG:HH21	1.59	0.48
1:1:534:U:P	24:U:132:THR:OG1	2.71	0.48
1:1:798:G:H1'	17:N:14:PHE:HB2	1.94	0.48
1:1:1011:A:H2'	1:1:1012:G:H8	1.78	0.48
1:1:1103:A:N6	22:S:9:GLN:OE1	2.45	0.48
1:1:1211:U:H2'	1:1:1212:A:C8	2.48	0.48
1:1:1355:A:O2'	22:S:31:LYS:HD2	2.14	0.48
1:1:1483:G:O2'	1:1:1484:U:OP1	2.31	0.48
1:1:1491:A:C5	43:n:2:ALA:HB2	2.46	0.48
1:1:1570:U:H4'	1:1:1571:A:C4	2.49	0.48
1:1:2512:C:H5'	14:K:249:ARG:NH1	2.20	0.48
1:1:2515:A:H5'	14:K:65:LEU:HD12	1.91	0.48
1:1:3007:U:H2'	1:1:3008:A:H8	1.77	0.48
3:4:91:C:H1'	30:a:25:SER:HB3	1.95	0.48
4:A:1:G:O6	4:A:72:C:N4	2.45	0.48
4:A:13:C:H4'	4:A:14:A:OP1	2.14	0.48
10:G:290:ILE:HG21	22:S:35:PHE:CE2	2.48	0.48
10:G:328:ASN:CG	13:J:182:ASP:OD2	2.57	0.48
15:L:4:ILE:HG22	24:U:142:GLN:HE21	1.79	0.48
15:L:49:ASN:O	15:L:51:GLN:N	2.45	0.48
22:S:86:THR:HG22	22:S:105:ARG:HB2	1.95	0.48
29:Z:51:VAL:HG22	39:j:66:VAL:CG2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:o:96:CYS:SG	44:o:97:ARG:N	2.86	0.48
1:1:268:A:H5'	19:P:47:LYS:CE	2.41	0.48
1:1:362:U:H2'	1:1:363:G:H8	1.77	0.48
1:1:363:G:OP2	41:l:52:LYS:HB2	2.14	0.48
1:1:394:G:H22	1:1:396:A:H3'	1.78	0.48
1:1:400:G:O2'	1:1:401:U:O5'	2.29	0.48
1:1:595:G:OP1	13:J:33:ARG:NH2	2.41	0.48
1:1:682:U:O2'	17:N:28:GLN:NE2	2.47	0.48
1:1:855:U:C4'	23:T:95:TRP:CG	2.94	0.48
1:1:1635:G:N2	1:1:1638:A:OP2	2.47	0.48
1:1:1906:G:H21	1:1:1909:A:H61	1.62	0.48
1:1:1947:G:C4'	23:T:134:HIS:CB	2.91	0.48
1:1:2093:A:P	23:T:143:ILE:CG1	3.02	0.48
1:1:2781:U:O3'	17:N:185:LYS:HD3	2.14	0.48
1:1:2882:U:O2'	9:F:261:MET:SD	2.66	0.48
3:4:37:A:OP1	39:j:89:ARG:NH2	2.45	0.48
3:4:91:C:H2'	3:4:92:A:H8	1.78	0.48
3:4:97:A:O5'	39:j:63:ARG:CZ	2.61	0.48
4:A:23:A:H2'	4:A:24:G:C8	2.48	0.48
5:B:52:G:H2'	5:B:53:G:C8	2.47	0.48
10:G:142:VAL:HB	10:G:145:ILE:HD13	1.95	0.48
13:J:164:SER:OG	13:J:165:ASP:N	2.45	0.48
1:1:4:U:H2'	1:1:5:G:C8	2.47	0.48
1:1:119:U:C4	14:K:138:HIS:HB2	2.48	0.48
1:1:291:C:C5'	19:P:68:ARG:NH2	2.75	0.48
1:1:986:U:O2'	13:J:122:ALA:CB	2.62	0.48
1:1:1157:G:H5"	13:J:220:PHE:HE1	1.67	0.48
1:1:1610:G:H2'	1:1:1611:G:C8	2.48	0.48
1:1:1740:U:OP1	38:i:55:SER:CB	2.61	0.48
1:1:2012:G:O6	48:t:176:GLN:C	2.21	0.48
1:1:2385:G:H2'	1:1:3143:C:H41	1.79	0.48
1:1:2653:C:H2'	1:1:2654:C:H6	1.79	0.48
1:1:2703:A:C2'	16:M:142:LYS:NZ	2.76	0.48
1:1:2778:G:H2'	1:1:2779:A:C8	2.48	0.48
1:1:3047:U:O4	1:1:3094:A:N1	2.46	0.48
1:1:3178:A:O4'	20:Q:6:VAL:O	2.32	0.48
1:1:3180:A:C1'	20:Q:114:LYS:O	2.61	0.48
2:3:89:G:C5'	24:U:84:ARG:CZ	2.92	0.48
10:G:105:THR:O	17:N:26:PHE:CE2	2.66	0.48
10:G:317:PRO:O	10:G:319:LYS:N	2.46	0.48
48:t:400:PHE:HB3	48:t:431:LEU:HD11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:u:194:LEU:HD22	49:u:199:LEU:HD11	1.94	0.48
1:1:69:C:P	19:P:177:GLY:HA2	2.53	0.48
1:1:76:G:H5"	17:N:98:ASP:OD2	2.13	0.48
1:1:266:A:C6	40:k:30:LYS:CD	2.91	0.48
1:1:929:A:N3	41:l:49:TRP:CD2	2.82	0.48
1:1:1447:G:O5'	21:R:27:LYS:HD3	2.13	0.48
1:1:1690:C:H5'	23:T:59:SER:HA	1.96	0.48
1:1:2499:U:H2'	1:1:2500:A:H8	1.79	0.48
1:1:2661:G:H2'	1:1:2662:G:H8	1.79	0.48
1:1:2673:A:OP1	16:M:95:ASN:CA	2.62	0.48
1:1:3207:U:P	18:O:99:TRP:HH2	2.31	0.48
1:1:3275:U:O2'	37:h:99:ARG:NH1	2.46	0.48
9:F:92:TYR:HB2	9:F:157:VAL:HG23	1.95	0.48
9:F:360:ASP:OD1	9:F:371:GLN:NE2	2.34	0.48
10:G:10:SER:OG	10:G:13:GLY:O	2.26	0.48
10:G:261:VAL:O	10:G:270:SER:OG	2.31	0.48
17:N:64:LYS:HG3	32:c:69:TRP:CG	2.41	0.48
17:N:157:ARG:HE	32:c:101:VAL:CG2	2.27	0.48
17:N:158:ALA:HA	32:c:97:GLU:HA	1.95	0.48
25:V:39:ILE:HD12	25:V:102:ARG:HD3	1.96	0.48
27:X:104:ASN:OD1	27:X:108:GLU:N	2.47	0.48
31:b:24:VAL:HG11	31:b:87:LEU:HD23	1.95	0.48
34:e:32:LYS:HG2	34:e:35:ARG:HH22	1.78	0.48
37:h:48:ARG:HG3	37:h:104:PRO:HD3	1.96	0.48
1:1:273:A:H1'	40:k:78:GLY:HA2	1.94	0.48
1:1:290:G:C4	19:P:93:LYS:HE3	2.45	0.48
1:1:666:A:N3	17:N:10:LEU:HD11	2.13	0.48
1:1:794:U:H2'	1:1:795:G:C8	2.48	0.48
1:1:1160:C:N4	1:1:1366:A:O2'	2.47	0.48
1:1:1327:C:H2'	1:1:1328:C:C6	2.49	0.48
1:1:1738:C:C1'	38:i:52:GLN:OE1	2.54	0.48
1:1:1873:U:OP1	23:T:21:LYS:HE3	2.07	0.48
1:1:2106:A:H2'	1:1:2107:A:C8	2.49	0.48
1:1:2189:U:O2'	7:D:20:SER:OG	2.24	0.48
1:1:2526:C:C2'	14:K:241:LYS:NZ	2.77	0.48
1:1:2965:U:O2	8:E:221:LYS:NZ	2.36	0.48
1:1:3243:A:N1	20:Q:156:LEU:HB3	2.28	0.48
1:1:3349:C:H2'	1:1:3350:C:C6	2.48	0.48
2:3:97:A:O2'	13:J:224:ILE:HD12	2.14	0.48
3:4:91:C:H2'	3:4:92:A:C8	2.49	0.48
3:4:97:A:H4'	39:j:63:ARG:HD2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:135:ALA:HB2	13:J:229:PHE:HA	1.96	0.48
20:Q:77:SER:HB2	20:Q:104:VAL:HG12	1.94	0.48
1:1:451:U:OP2	50:v:83:GLN:HA	2.14	0.48
1:1:901:G:H2'	1:1:902:G:C8	2.49	0.48
1:1:1362:G:C5'	13:J:160:ARG:C	2.81	0.48
1:1:2515:A:N6	1:1:2592:G:H21	2.04	0.48
1:1:2561:A:H2	14:K:32:LYS:H	1.62	0.48
1:1:3236:U:O2'	1:1:3237:U:H5'	2.13	0.48
1:1:3314:A:H2'	1:1:3315:G:C8	2.49	0.48
3:4:51:G:C6	43:n:26:TRP:CH2	3.00	0.48
10:G:302:ALA:HB2	22:S:39:ARG:HH11	1.65	0.48
10:G:359:LEU:HG	24:U:8:GLN:NE2	2.28	0.48
19:P:74:PRO:O	19:P:75:VAL:HG22	2.13	0.48
24:U:42:TRP:HH2	24:U:56:GLY:HA3	1.79	0.48
1:1:170:G:H5'	39:j:109:ILE:HG23	1.96	0.48
1:1:1593:A:O5'	38:i:60:ARG:HD2	2.13	0.48
1:1:1816:A:H4'	1:1:1817:G:OP1	2.14	0.48
1:1:1861:G:N2	1:1:3065:G:O2'	2.36	0.48
1:1:1938:U:O2'	1:1:1939:G:OP1	2.31	0.48
1:1:2993:G:H2'	1:1:3142:A:H61	1.79	0.48
1:1:3153:U:O2	48:t:652:LYS:CB	2.62	0.48
5:B:9:A:H1'	5:B:45:G:H2'	1.95	0.48
5:B:51:G:H2'	5:B:52:G:H8	1.79	0.48
8:E:209:HIS:HD2	8:E:211:HIS:HB2	1.78	0.48
17:N:3:ILE:CD1	32:c:34:MET:HE1	2.39	0.48
17:N:67:ARG:CZ	32:c:108:GLY:HA2	2.44	0.48
17:N:157:ARG:NE	32:c:101:VAL:CG2	2.74	0.48
18:O:50:LYS:HD3	18:O:85:TRP:HD1	1.78	0.48
19:P:116:LEU:HB3	19:P:133:ILE:HG23	1.96	0.48
25:V:88:ARG:NH1	33:d:33:LYS:O	2.47	0.48
1:1:118:U:N3	1:1:122:A:OP2	2.39	0.47
1:1:307:A:O2'	1:1:2223:A:O2'	2.18	0.47
1:1:411:U:O2'	21:R:26:PHE:HE2	1.86	0.47
1:1:841:A:H5'	23:T:126:GLU:HA	1.96	0.47
1:1:985:U:O2'	13:J:102:VAL:CG2	2.58	0.47
1:1:1109:U:C3'	22:S:153:PHE:CD1	2.89	0.47
1:1:1536:G:H2'	1:1:1537:A:H8	1.79	0.47
1:1:1975:C:H5'	42:m:63:LYS:HB2	1.95	0.47
1:1:2014:U:H6	48:t:180:ASN:CG	2.21	0.47
1:1:2096:A:H2'	1:1:2097:U:C6	2.49	0.47
1:1:2746:A:N1	11:H:148:ILE:HD12	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3114:A:H2'	15:L:62:ARG:HH21	1.79	0.47
30:a:101:PRO:HA	30:a:104:LEU:HD12	1.95	0.47
1:1:119:U:O4	14:K:138:HIS:HB2	2.14	0.47
1:1:149:U:P	19:P:55:ALA:CB	3.01	0.47
1:1:669:U:H5'	22:S:164:ARG:NH2	2.29	0.47
1:1:788:C:H2'	1:1:789:A:C8	2.48	0.47
1:1:928:C:H2'	1:1:929:A:C8	2.49	0.47
1:1:1191:U:H4'	20:Q:52:LEU:CD1	2.44	0.47
1:1:1392:G:N2	1:1:1393:A:N7	2.60	0.47
1:1:2007:G:N2	48:t:184:GLN:OE1	2.47	0.47
1:1:2226:U:H2'	1:1:2227:C:C6	2.49	0.47
1:1:2899:C:N4	15:L:173:ARG:NH1	2.61	0.47
1:1:3124:G:H4'	15:L:40:HIS:CE1	2.49	0.47
2:3:11:A:N6	11:H:13:SER:O	2.47	0.47
2:3:62:U:H4'	11:H:285:ARG:HH12	1.78	0.47
11:H:41:LYS:CE	25:V:93:VAL:HG11	2.45	0.47
11:H:60:ILE:HB	11:H:80:SER:HB3	1.95	0.47
17:N:127:PRO:HD2	17:N:132:ALA:HB2	1.96	0.47
25:V:75:ILE:HG22	25:V:88:ARG:HA	1.95	0.47
1:1:156:G:H5'	40:k:25:LYS:HE3	1.94	0.47
1:1:359:U:C4'	41:l:25:ARG:HH12	2.13	0.47
1:1:684:G:H2'	1:1:685:G:C8	2.49	0.47
1:1:821:U:H2'	1:1:822:G:C8	2.46	0.47
1:1:1010:G:O2'	47:s:193:GLY:CA	2.62	0.47
1:1:2201:G:H21	8:E:224:THR:HG21	1.79	0.47
1:1:2674:A:C2	16:M:124:GLY:CA	2.74	0.47
1:1:2877:G:O2'	1:1:2923:U:O2'	2.32	0.47
1:1:2890:A:H61	1:1:2913:C:H42	1.62	0.47
1:1:3299:A:C4'	21:R:55:GLN:OE1	2.62	0.47
9:F:352:GLU:HG2	9:F:354:VAL:HG13	1.96	0.47
10:G:280:ILE:CD1	22:S:25:TYR:CB	2.55	0.47
10:G:359:LEU:CD1	24:U:8:GLN:HE22	2.27	0.47
13:J:88:ARG:HH22	13:J:92:ILE:HD12	1.79	0.47
30:a:71:SER:HB3	30:a:83:ASP:HB2	1.96	0.47
1:1:767:U:O2	1:1:768:C:N4	2.47	0.47
1:1:1009:A:O3'	47:s:38:LYS:NZ	2.46	0.47
1:1:1207:G:C4'	44:o:117:HIS:O	2.58	0.47
1:1:1589:A:C5	38:i:13:TYR:CZ	3.02	0.47
1:1:1599:G:H2'	1:1:1600:U:H6	1.79	0.47
1:1:1609:C:H2'	1:1:1610:G:C8	2.50	0.47
1:1:1672:U:P	23:T:64:ARG:NH2	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1675:G:H2'	1:1:1676:A:H8	1.79	0.47
1:1:1682:U:C4	26:W:85:LYS:HG2	2.49	0.47
1:1:2014:U:O2'	48:t:184:GLN:CB	2.62	0.47
1:1:2356:A:H2	21:R:131:ARG:CZ	2.28	0.47
1:1:2378:C:H2'	1:1:2379:U:H6	1.79	0.47
1:1:2403:G:H4'	1:1:2404:A:OP1	2.14	0.47
1:1:2681:U:O2'	16:M:66:ALA:HB1	2.14	0.47
1:1:3047:U:O4	1:1:3094:A:C6	2.68	0.47
2:3:45:A:OP1	11:H:151:GLN:NE2	2.36	0.47
4:A:53:G:H5'	47:s:69:ILE:CG2	2.44	0.47
10:G:112:LYS:HE3	19:P:202:TYR:HB3	1.90	0.47
10:G:359:LEU:CG	24:U:8:GLN:HE22	2.27	0.47
14:K:79:GLN:HG3	14:K:80:TYR:H	1.80	0.47
14:K:136:LEU:HD21	14:K:165:PHE:HZ	1.78	0.47
1:1:458:U:H2'	1:1:459:G:H8	1.80	0.47
1:1:522:A:O2'	24:U:65:ASN:CB	2.63	0.47
1:1:631:U:H2'	1:1:632:G:C8	2.50	0.47
1:1:664:U:H2'	1:1:665:A:C8	2.48	0.47
1:1:672:A:P	22:S:55:SER:HB2	2.54	0.47
1:1:695:C:H2'	1:1:696:C:C6	2.50	0.47
1:1:770:G:P	17:N:171:ARG:HH11	2.38	0.47
1:1:1973:G:C2	1:1:2048:G:H2'	2.49	0.47
1:1:2218:G:H2'	1:1:2219:A:C8	2.49	0.47
1:1:2407:C:H5'	1:1:2619:G:H21	1.80	0.47
1:1:2808:A:O2'	1:1:2969:A:OP1	2.26	0.47
3:4:45:C:H4'	43:n:11:GLN:HG2	1.96	0.47
3:4:63:G:O3'	39:j:49:LYS:HE2	2.14	0.47
11:H:15:ARG:C	25:V:20:ARG:HD2	2.34	0.47
14:K:65:LEU:HG	14:K:69:LEU:HD13	1.95	0.47
31:b:41:ALA:HB2	31:b:77:TYR:HE1	1.80	0.47
39:j:63:ARG:HH21	39:j:67:ARG:HH21	1.62	0.47
48:t:234:GLU:OE2	48:t:240:LYS:NZ	2.43	0.47
1:1:388:G:H4'	21:R:18:ARG:H	1.75	0.47
1:1:563:U:P	24:U:68:HIS:CD2	3.08	0.47
1:1:632:G:H4'	37:h:94:PHE:HE2	1.78	0.47
1:1:691:A:N1	3:4:28:C:O2'	2.47	0.47
1:1:1306:G:C5	20:Q:61:ALA:O	2.61	0.47
1:1:1593:A:O4'	38:i:60:ARG:NH2	2.44	0.47
1:1:1611:G:H2'	1:1:1612:A:C8	2.50	0.47
1:1:1697:A:H5'	38:i:33:GLN:NE2	2.29	0.47
1:1:1947:G:C4'	23:T:134:HIS:HB2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1949:G:OP1	23:T:104:ARG:CZ	2.61	0.47
1:1:1958:U:N3	1:1:1959:G:N7	2.62	0.47
1:1:1974:A:C2	42:m:58:ASP:OD1	2.67	0.47
1:1:1974:A:O2'	42:m:60:GLY:HA2	2.13	0.47
1:1:1975:C:C5'	42:m:63:LYS:CB	2.92	0.47
1:1:2093:A:OP1	23:T:143:ILE:CD1	2.56	0.47
1:1:2268:U:H2'	1:1:2269:U:C6	2.49	0.47
1:1:2680:A:H1'	16:M:65:ILE:CD1	2.45	0.47
1:1:3041:U:OP1	27:X:12:ARG:NH1	2.48	0.47
1:1:3139:A:H2'	1:1:3140:G:O4'	2.15	0.47
4:A:13:C:O2'	4:A:14:A:O5'	2.25	0.47
9:F:46:PHE:CE2	9:F:81:THR:HG23	2.50	0.47
1:1:52:A:O3'	41:l:48:ASN:HB2	1.91	0.47
1:1:95:A:H5"	32:c:34:MET:HB2	1.96	0.47
1:1:119:U:C5	14:K:138:HIS:CB	2.95	0.47
1:1:134:U:O2	39:j:72:GLY:HA2	2.15	0.47
1:1:136:G:O3'	39:j:95:PHE:CZ	2.67	0.47
1:1:268:A:H2'	19:P:14:LYS:HZ3	1.80	0.47
1:1:529:A:H2'	1:1:530:G:H8	1.78	0.47
1:1:595:G:H5"	13:J:33:ARG:NH1	2.29	0.47
1:1:712:G:P	17:N:174:ARG:HH12	2.38	0.47
1:1:838:G:H2'	1:1:839:C:O4'	2.14	0.47
1:1:855:U:C4'	23:T:95:TRP:CD1	2.88	0.47
1:1:884:A:P	41:l:5:THR:HG22	2.55	0.47
1:1:1072:G:H2'	1:1:1073:U:C6	2.49	0.47
1:1:1290:A:H2'	1:1:1291:A:C8	2.50	0.47
1:1:1391:C:HO2'	1:1:1392:G:P	2.36	0.47
1:1:1447:G:P	21:R:27:LYS:HZ3	2.37	0.47
1:1:1589:A:C6	38:i:13:TYR:CE1	3.03	0.47
1:1:1591:G:H5"	38:i:37:LYS:NZ	2.30	0.47
1:1:1874:A:OP2	23:T:21:LYS:HE2	2.15	0.47
1:1:1974:A:N6	1:1:2049:A:N3	2.62	0.47
1:1:2549:G:N7	14:K:35:GLY:CA	2.77	0.47
1:1:2584:G:C2'	14:K:240:ASN:ND2	2.77	0.47
1:1:2618:G:N7	47:s:114:MET:CG	2.71	0.47
1:1:2684:C:O2'	16:M:99:THR:HB	2.15	0.47
1:1:2736:A:H4'	25:V:71:SER:OG	2.15	0.47
1:1:2757:U:C1'	25:V:8:ARG:HD3	2.43	0.47
2:3:28:C:H5"	16:M:137:ARG:HB3	1.95	0.47
6:C:34:SER:OG	6:C:35:LEU:N	2.47	0.47
8:E:6:ARG:HG2	8:E:10:LYS:HE2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:101:VAL:HA	8:E:165:VAL:HA	1.97	0.47
17:N:92:THR:HG21	39:j:111:PHE:HB3	1.96	0.47
24:U:8:GLN:HE21	24:U:62:ASN:HB2	1.79	0.47
27:X:93:LEU:HB3	28:Y:20:LEU:HB3	1.97	0.47
48:t:738:ALA:HB1	48:t:743:THR:HG22	1.95	0.47
49:u:19:ALA:HB3	49:u:95:TYR:HE1	1.80	0.47
1:1:277:G:OP1	6:C:49:GLY:N	2.47	0.47
1:1:383:G:N2	1:1:386:A:OP2	2.39	0.47
1:1:669:U:C5’	22:S:153:PHE:HZ	2.27	0.47
1:1:743:C:O2	22:S:140:LEU:C	2.57	0.47
1:1:743:C:O2	22:S:141:ARG:N	2.48	0.47
1:1:1092:C:H4’	25:V:120:LYS:NZ	2.30	0.47
1:1:1305:U:O2’	20:Q:63:ALA:HB3	2.10	0.47
1:1:1493:G:C2’	43:n:49:MET:CE	2.84	0.47
1:1:1536:G:H2’	1:1:1537:A:C8	2.50	0.47
1:1:1861:G:O2’	1:1:3066:U:OP1	2.32	0.47
1:1:1861:G:H1’	1:1:3066:U:H5”	1.96	0.47
1:1:1873:U:OP1	23:T:21:LYS:HE2	2.09	0.47
1:1:2286:U:H4’	1:1:2287:C:H3’	1.97	0.47
1:1:2525:G:H5’	14:K:49:TYR:CZ	2.50	0.47
1:1:2555:G:H4’	38:i:88:ARG:NE	2.29	0.47
1:1:2656:A:O2’	1:1:2657:A:OP1	2.30	0.47
1:1:2659:G:H2’	1:1:2660:G:C8	2.50	0.47
1:1:2673:A:OP1	16:M:94:ARG:HG3	2.15	0.47
1:1:2932:U:H5’	27:X:41:GLY:HA2	1.96	0.47
1:1:3215:A:N6	1:1:3261:C:OP2	2.48	0.47
1:1:3231:U:O4	1:1:3256:G:O6	2.32	0.47
1:1:3354:U:H5”	1:1:3355:U:H5’	1.97	0.47
2:3:15:C:H2’	2:3:16:U:C6	2.50	0.47
2:3:96:U:H2’	2:3:97:A:C8	2.50	0.47
3:4:10:A:N3	21:R:6:ALA:HB2	2.22	0.47
3:4:45:C:O5’	43:n:15:LYS:HD3	2.14	0.47
5:B:64:G:C2	5:B:65:U:C2	3.03	0.47
10:G:299:ILE:CG2	22:S:39:ARG:CB	2.91	0.47
10:G:330:TYR:CZ	13:J:49:ALA:CB	2.90	0.47
19:P:64:VAL:HG11	19:P:102:ALA:HB1	1.97	0.47
20:Q:94:ARG:NE	37:h:94:PHE:CD2	2.83	0.47
23:T:99:LEU:HD21	23:T:103:ARG:HH21	1.80	0.47
29:Z:82:LEU:N	29:Z:124:VAL:O	2.45	0.47
49:u:96:VAL:HB	49:u:118:LEU:HD13	1.97	0.47
1:1:15:C:H2’	1:1:16:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:119:U:C5	14:K:138:HIS:HB2	2.50	0.47
1:1:276:U:H2'	1:1:277:G:H8	1.79	0.47
1:1:442:G:H1	1:1:492:U:H3	1.62	0.47
1:1:656:A:H2'	1:1:657:A:H8	1.80	0.47
1:1:1109:U:H2'	1:1:1110:U:C6	2.50	0.47
1:1:1616:U:H2'	1:1:1617:G:C8	2.50	0.47
1:1:1616:U:H2'	1:1:1617:G:H8	1.79	0.47
1:1:1795:U:N3	7:D:51:ALA:HA	2.29	0.47
1:1:1915:A:H4'	23:T:83:GLY:O	2.14	0.47
1:1:2367:A:H2'	1:1:2368:A:C8	2.50	0.47
9:F:232:ARG:HA	9:F:270:ARG:HD3	1.95	0.47
15:L:4:ILE:HG23	15:L:5:GLN:HG2	1.97	0.47
17:N:67:ARG:HD2	32:c:106:ALA:C	2.39	0.47
1:1:412:G:H5'	21:R:26:PHE:HZ	1.80	0.47
1:1:1473:G:H5"	23:T:23:TRP:CD1	2.51	0.47
1:1:1788:C:H2'	1:1:1789:G:H8	1.79	0.47
1:1:2661:G:H2'	1:1:2662:G:C8	2.49	0.47
1:1:2698:G:H22	25:V:8:ARG:CZ	2.27	0.47
1:1:2945:G:OP2	1:1:2945:G:N2	2.45	0.47
1:1:2960:C:H2'	1:1:2961:G:C8	2.50	0.47
1:1:3008:A:O2'	20:Q:66:LYS:CB	2.62	0.47
1:1:3113:A:C4'	15:L:69:ARG:HG3	2.42	0.47
1:1:3126:C:C2'	15:L:156:GLN:HE22	2.17	0.47
1:1:3215:A:O4'	18:O:118:PHE:CE1	2.68	0.47
2:3:65:G:H2'	2:3:66:A:H8	1.80	0.47
3:4:75:G:OP1	43:n:31:THR:OG1	2.30	0.47
4:A:15:G:H2'	4:A:16:U:H5	1.80	0.47
5:B:7:G:O2'	5:B:49:G:O4'	2.29	0.47
10:G:110:ASN:HB3	19:P:202:TYR:HE1	1.79	0.47
10:G:119:ARG:HH11	10:G:274:TYR:HB2	1.80	0.47
11:H:125:VAL:HG12	11:H:199:ILE:HD13	1.95	0.47
13:J:116:PHE:O	13:J:199:ASN:ND2	2.42	0.47
20:Q:121:PRO:HG3	24:U:164:SER:HB2	1.97	0.47
48:t:53:HIS:CE1	48:t:55:ASP:HB2	2.50	0.47
1:1:59:G:H4'	1:1:60:A:H4'	1.96	0.46
1:1:104:G:OP2	17:N:70:ARG:CD	2.64	0.46
1:1:199:A:C4	1:1:201:A:C8	3.03	0.46
1:1:516:A:H2'	1:1:517:G:H8	1.80	0.46
1:1:519:A:N1	24:U:65:ASN:HB2	2.30	0.46
1:1:1299:U:H2'	1:1:1300:G:O4'	2.14	0.46
1:1:1360:C:H4'	10:G:309:ARG:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1793:C:N4	8:E:177:LYS:O	2.48	0.46
1:1:2344:U:H2'	1:1:2345:A:H8	1.79	0.46
1:1:2412:G:H2'	1:1:2413:A:H8	1.80	0.46
1:1:2620:G:H2'	1:1:2621:G:C8	2.50	0.46
1:1:2850:G:O2'	1:1:2851:A:O5'	2.33	0.46
1:1:3208:G:N2	24:U:165:TYR:CE1	2.59	0.46
2:3:40:C:O2	16:M:72:ARG:NE	2.48	0.46
6:C:2:VAL:N	6:C:90:HIS:O	2.48	0.46
31:b:88:ASP:HB3	31:b:121:ARG:HH22	1.79	0.46
38:i:72:VAL:HG23	38:i:74:ARG:H	1.81	0.46
39:j:17:LEU:HD13	39:j:58:ILE:HG12	1.95	0.46
48:t:441:LEU:HD23	48:t:458:THR:HA	1.97	0.46
1:1:106:A:H4'	17:N:35:ARG:NH1	2.31	0.46
1:1:269:G:N2	19:P:14:LYS:HB2	2.30	0.46
1:1:619:A:H4'	1:1:620:U:C6	2.50	0.46
1:1:929:A:N3	41:l:49:TRP:CE3	2.84	0.46
1:1:1264:G:H21	1:1:1277:C:H42	1.61	0.46
1:1:1317:A:H2'	1:1:1318:A:H2'	1.97	0.46
1:1:1345:G:H2'	1:1:1346:G:H8	1.80	0.46
1:1:1591:G:H5"	38:i:37:LYS:HZ3	1.80	0.46
1:1:1687:U:OP1	26:W:42:LYS:CE	2.54	0.46
1:1:1716:U:O2'	1:1:1717:U:OP1	2.25	0.46
1:1:2881:C:H2'	1:1:2882:U:C6	2.51	0.46
3:4:34:U:C4'	41:l:74:PHE:CD1	2.97	0.46
4:A:49:G:H2'	4:A:49:G:N3	2.30	0.46
32:c:130:VAL:HG11	32:c:145:VAL:HG11	1.97	0.46
47:s:56:LEU:HB2	47:s:130:ILE:HD11	1.97	0.46
48:t:135:GLN:HA	48:t:138:ILE:HG12	1.96	0.46
1:1:526:C:H2'	1:1:527:A:C8	2.50	0.46
1:1:744:A:H1'	22:S:141:ARG:HD3	1.93	0.46
1:1:843:A:H2'	1:1:844:G:H8	1.80	0.46
1:1:880:G:C8	21:R:132:ALA:HB2	2.50	0.46
1:1:1144:U:H4'	1:1:1145:G:O5'	2.15	0.46
1:1:1253:U:O2'	1:1:1254:C:O5'	2.30	0.46
1:1:1982:G:N2	1:1:2040:U:H3	2.14	0.46
1:1:3190:C:H2'	1:1:3191:G:C8	2.50	0.46
10:G:138:ARG:NH1	10:G:245:GLY:O	2.39	0.46
10:G:181:VAL:HG12	10:G:182:LEU:HD12	1.98	0.46
47:s:29:LYS:HG3	47:s:62:GLU:HG3	1.96	0.46
48:t:381:ILE:HB	48:t:382:PRO:HD3	1.97	0.46
1:1:15:C:H2'	1:1:16:A:H8	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:121:A:C6	14:K:108:ARG:CZ	2.98	0.46
1:1:1095:U:O4'	25:V:129:LYS:HE3	2.15	0.46
1:1:1165:A:H2'	1:1:1166:G:C8	2.51	0.46
1:1:1376:C:H2'	1:1:1377:G:H8	1.80	0.46
1:1:1682:U:C5	26:W:85:LYS:CD	2.98	0.46
1:1:1721:U:OP2	23:T:103:ARG:HD3	2.16	0.46
1:1:1940:G:H2'	1:1:1941:C:H6	1.81	0.46
1:1:2004:U:O2	1:1:2017:G:N2	2.31	0.46
1:1:2646:C:H4'	47:s:118:TRP:CE3	2.50	0.46
1:1:2987:A:H5"	20:Q:68:ARG:NH1	2.30	0.46
1:1:3084:C:OP1	28:Y:38:SER:OG	2.28	0.46
2:3:43:U:C4'	16:M:140:ARG:HG3	2.45	0.46
3:4:51:G:C6	43:n:26:TRP:HH2	2.31	0.46
3:4:87:G:OP1	39:j:5:LYS:CE	2.64	0.46
3:4:103:G:OP2	3:4:105:A:O2'	2.32	0.46
16:M:15:GLU:HB3	16:M:130:VAL:HG13	1.97	0.46
17:N:64:LYS:CE	32:c:69:TRP:CG	2.96	0.46
35:f:51:LEU:HD22	35:f:55:LEU:HD13	1.96	0.46
47:s:11:GLN:HG2	47:s:58:GLN:HE21	1.80	0.46
47:s:37:LYS:HE2	47:s:39:LYS:HB2	1.98	0.46
48:t:715:ILE:HD11	48:t:747:LEU:HD13	1.97	0.46
1:1:102:C:O2'	17:N:62:THR:CG2	2.55	0.46
1:1:203:G:H2'	1:1:204:A:H8	1.80	0.46
1:1:518:G:N2	1:1:520:U:O2'	2.49	0.46
1:1:685:G:H2'	1:1:686:G:C8	2.51	0.46
1:1:1060:U:O2'	25:V:39:ILE:HD13	2.15	0.46
1:1:1211:U:H2'	1:1:1212:A:H8	1.80	0.46
1:1:1360:C:H2'	1:1:1361:U:C6	2.51	0.46
1:1:1738:C:C2	38:i:52:GLN:OE1	2.69	0.46
1:1:2015:C:C1'	48:t:184:GLN:NE2	2.68	0.46
1:1:2679:A:C2'	16:M:52:TYR:HH	2.25	0.46
2:3:40:C:H4'	16:M:43:GLN:HE22	0.63	0.46
10:G:31:ARG:HD3	22:S:25:TYR:HD2	1.80	0.46
10:G:290:ILE:HG23	22:S:35:PHE:CE2	2.48	0.46
11:H:27:LYS:CE	16:M:144:CYS:SG	3.03	0.46
11:H:258:LYS:O	11:H:259:LYS:HG2	2.15	0.46
19:P:98:LEU:HD22	19:P:128:LYS:HD2	1.98	0.46
38:i:44:CYS:SG	38:i:45:GLY:N	2.88	0.46
48:t:159:ARG:HH12	48:t:201:HIS:HB2	1.81	0.46
1:1:95:A:O3'	17:N:15:ARG:NH2	2.48	0.46
1:1:106:A:N6	1:1:107:A:N1	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:147:U:O4	14:K:194:THR:HG21	2.15	0.46
1:1:174:C:H2'	1:1:175:C:H6	1.81	0.46
1:1:436:A:H2'	1:1:437:G:O4'	2.16	0.46
1:1:627:U:H1'	1:1:1399:A:H1'	1.96	0.46
1:1:768:C:H5"	17:N:179:PHE:CE1	2.50	0.46
1:1:870:G:O2'	1:1:871:U:O5'	2.27	0.46
1:1:1105:A:H2'	1:1:1106:G:H8	1.80	0.46
1:1:1320:C:O2	24:U:115:ARG:NH2	2.44	0.46
1:1:1551:C:H2'	1:1:1552:G:C8	2.51	0.46
1:1:1677:G:OP1	26:W:103:TYR:CE1	2.56	0.46
1:1:1859:A:H2'	1:1:1860:G:H8	1.80	0.46
1:1:1887:A:N6	1:1:2348:A:O2'	2.49	0.46
1:1:2245:C:O2'	8:E:220:GLY:O	2.32	0.46
1:1:2599:U:C5'	19:P:70:ASN:ND2	2.61	0.46
1:1:3008:A:O2'	20:Q:66:LYS:HB3	2.14	0.46
1:1:3178:A:C4	20:Q:6:VAL:CB	2.97	0.46
3:4:65:A:O2'	39:j:10:ARG:NH2	2.48	0.46
3:4:68:G:H2'	3:4:69:U:H6	1.79	0.46
23:T:102:LEU:HD22	23:T:138:LEU:HD13	1.97	0.46
27:X:87:ARG:NE	27:X:121:GLU:OE2	2.47	0.46
35:f:77:ARG:HG2	35:f:89:LEU:HD23	1.96	0.46
1:1:290:G:C2	19:P:93:LYS:CE	2.99	0.46
1:1:370:U:O2'	1:1:399:A:O2'	2.24	0.46
1:1:696:C:H2'	1:1:697:A:C8	2.51	0.46
1:1:919:U:H3'	1:1:923:C:H41	1.80	0.46
1:1:1097:G:H8	25:V:128:LEU:HD11	1.81	0.46
1:1:1499:C:H2'	1:1:1500:G:C8	2.51	0.46
1:1:1861:G:H5"	23:T:63:THR:CG2	2.45	0.46
1:1:1874:A:OP2	23:T:20:ARG:HD3	2.16	0.46
1:1:1915:A:C4'	23:T:84:THR:CG2	2.90	0.46
1:1:1963:G:H2'	1:1:1964:C:H4'	1.96	0.46
1:1:2428:U:H2'	1:1:2429:G:C8	2.50	0.46
1:1:2757:U:O4'	25:V:8:ARG:CD	2.49	0.46
1:1:2842:U:OP1	1:1:2844:C:N4	2.49	0.46
1:1:3043:C:H2'	1:1:3044:G:C8	2.49	0.46
1:1:3181:C:H1'	20:Q:164:SER:OG	2.11	0.46
3:4:150:G:H4'	14:K:52:TRP:HZ3	1.81	0.46
12:I:71:VAL:HG12	12:I:160:SER:HB3	1.98	0.46
22:S:16:ARG:HH12	22:S:55:SER:HB3	1.80	0.46
48:t:428:LEU:HB2	48:t:437:ALA:HB2	1.97	0.46
1:1:264:G:OP1	40:k:34:SER:OG	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:612:U:H2'	1:1:613:G:H8	1.81	0.46
1:1:637:C:N4	1:1:2361:A:N7	2.64	0.46
1:1:1385:C:O2'	12:I:2:SER:N	2.41	0.46
1:1:1411:C:OP1	36:g:98:HIS:ND1	2.32	0.46
1:1:1460:A:H2'	1:1:1461:A:C8	2.51	0.46
1:1:1488:G:H5"	1:1:1838:G:O6	2.16	0.46
1:1:1975:C:H4'	42:m:63:LYS:HB2	1.96	0.46
1:1:2221:G:N2	1:1:2224:A:OP2	2.49	0.46
1:1:2844:C:O2'	1:1:2846:U:OP2	2.34	0.46
1:1:3299:A:H4'	21:R:55:GLN:OE1	2.15	0.46
2:3:87:G:H2'	2:3:88:G:H8	1.80	0.46
6:C:50:PHE:CE2	19:P:91:GLU:HB2	2.51	0.46
8:E:143:GLU:HG3	8:E:145:LYS:HG2	1.98	0.46
10:G:31:ARG:HH21	22:S:23:ASN:CB	2.19	0.46
11:H:261:THR:OG1	11:H:264:GLN:OE1	2.22	0.46
13:J:96:PRO:HB2	13:J:99:PRO:HD2	1.98	0.46
49:u:87:ALA:O	49:u:89:GLY:N	2.48	0.46
1:1:45:A:OP2	19:P:85:THR:HG21	2.16	0.46
1:1:534:U:P	24:U:132:THR:HG1	2.28	0.46
1:1:617:G:C4'	21:R:169:THR:HB	2.46	0.46
1:1:684:G:H2'	1:1:685:G:H8	1.81	0.46
1:1:743:C:O2'	22:S:140:LEU:HD22	2.16	0.46
1:1:998:A:H2'	1:1:999:G:H8	1.80	0.46
1:1:1322:U:OP1	24:U:117:ARG:NE	2.49	0.46
1:1:2366:C:H2'	1:1:2367:A:H8	1.81	0.46
1:1:2677:G:N1	16:M:57:PHE:HZ	2.13	0.46
1:1:2681:U:H2'	1:1:2682:C:H6	1.81	0.46
2:3:83:U:O4	2:3:84:A:N6	2.48	0.46
2:3:96:U:H2'	2:3:97:A:H8	1.81	0.46
3:4:14:C:C5'	21:R:123:PRO:CG	2.89	0.46
3:4:75:G:N1	43:n:26:TRP:CE3	2.84	0.46
10:G:298:ALA:HB3	22:S:132:PRO:HB3	1.98	0.46
17:N:126:PHE:O	39:j:114:ARG:NH2	2.41	0.46
17:N:157:ARG:HE	32:c:101:VAL:HG21	1.80	0.46
18:O:36:VAL:HG21	18:O:55:ARG:HH12	1.81	0.46
29:Z:46:TYR:CD2	39:j:77:PRO:CA	2.99	0.46
41:l:19:CYS:SG	41:l:20:ASN:N	2.89	0.46
48:t:395:LEU:HD13	48:t:427:ILE:HG12	1.98	0.46
1:1:119:U:O2'	14:K:133:LYS:HD2	2.16	0.46
1:1:667:C:H2'	1:1:668:G:H8	1.81	0.46
1:1:784:A:O2'	1:1:785:G:O4'	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1128:U:H5'	47:s:8:TYR:CZ	2.50	0.46
1:1:1321:G:C3'	24:U:117:ARG:NH2	2.78	0.46
1:1:1345:G:H2'	1:1:1346:G:C8	2.51	0.46
1:1:1488:G:H21	38:i:12:PRO:CG	2.28	0.46
1:1:1803:C:H2'	1:1:1804:A:H8	1.80	0.46
1:1:2139:A:N6	41:l:3:LYS:HG3	2.30	0.46
1:1:2178:A:H4'	1:1:2179:C:O5'	2.16	0.46
1:1:2407:C:H2'	1:1:2408:U:H6	1.79	0.46
1:1:2822:U:H2'	1:1:2823:G:H8	1.81	0.46
1:1:2947:G:OP1	1:1:2982:A:N6	2.47	0.46
1:1:3021:A:H61	1:1:3032:A:H3'	1.80	0.46
3:4:3:A:O3'	21:R:61:ARG:HD3	2.15	0.46
10:G:112:LYS:HZ1	19:P:204:LYS:N	2.14	0.46
19:P:35:VAL:HG12	19:P:36:ILE:HG13	1.97	0.46
24:U:43:TYR:HE2	24:U:122:HIS:HE1	1.64	0.46
29:Z:68:THR:HB	39:j:36:LEU:HD13	1.98	0.46
36:g:38:ILE:HA	36:g:43:ARG:HH21	1.81	0.46
1:1:76:G:C4	17:N:100:ARG:O	2.69	0.45
1:1:158:G:H2'	1:1:159:A:H8	1.80	0.45
1:1:260:C:H2'	1:1:261:U:H6	1.80	0.45
1:1:671:U:H2'	1:1:672:A:H8	1.81	0.45
1:1:799:G:O2'	17:N:18:TRP:NE1	2.49	0.45
1:1:1682:U:O4	26:W:85:LYS:HB2	2.16	0.45
1:1:1852:G:N3	41:l:9:GLY:C	2.73	0.45
1:1:2009:C:O2'	48:t:179:ILE:CG2	2.64	0.45
1:1:2049:A:C6	1:1:2051:G:H1'	2.52	0.45
1:1:2086:A:O2'	1:1:2087:C:H5'	2.16	0.45
1:1:2662:G:H2'	1:1:2663:G:C8	2.49	0.45
1:1:3037:U:H2'	1:1:3038:U:C6	2.51	0.45
2:3:40:C:C2	16:M:70:THR:OG1	2.62	0.45
3:4:46:G:OP1	43:n:15:LYS:HA	2.16	0.45
10:G:362:ASP:O	24:U:28:ARG:HD2	2.17	0.45
11:H:69:ILE:HA	25:V:31:LEU:HD13	1.92	0.45
14:K:150:LEU:HB3	14:K:200:LEU:HD12	1.97	0.45
49:u:149:TYR:HA	49:u:194:LEU:H	1.81	0.45
1:1:74:G:H8	17:N:104:ARG:HH21	1.61	0.45
1:1:287:G:C4'	19:P:180:PHE:CE1	2.84	0.45
1:1:503:C:H2'	1:1:504:A:C8	2.49	0.45
1:1:512:U:H2'	1:1:513:G:H8	1.81	0.45
1:1:784:A:N7	22:S:65:SER:HB2	2.10	0.45
1:1:1010:G:O5'	47:s:38:LYS:CD	2.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1612:A:H5”	42:m:51:LEU:HD13	1.99	0.45
1:1:1695:U:O2	38:i:26:PRO:HG2	2.16	0.45
1:1:2941:A:OP2	9:F:255:TRP:HB3	2.16	0.45
10:G:64:SER:HA	10:G:75:PRO:HA	1.99	0.45
1:1:127:G:H2’	1:1:128:G:H8	1.80	0.45
1:1:201:A:H4’	1:1:220:G:C6	2.51	0.45
1:1:241:G:C4’	17:N:45:LYS:HZ1	2.29	0.45
1:1:451:U:P	50:v:83:GLN:HA	2.53	0.45
1:1:1006:A:H2	47:s:93:PHE:CZ	2.34	0.45
1:1:1010:G:O2’	47:s:193:GLY:HA3	2.16	0.45
1:1:1313:G:O3’	20:Q:17:GLY:CA	2.65	0.45
1:1:1628:C:O5’	1:1:1814:A:N6	2.48	0.45
1:1:2013:C:C2’	48:t:176:GLN:C	2.90	0.45
1:1:2355:G:C1’	21:R:139:TYR:CE1	2.99	0.45
1:1:2513:U:H4’	1:1:2514:U:OP1	2.16	0.45
1:1:3126:C:C1’	15:L:156:GLN:OE1	2.64	0.45
1:1:3180:A:N6	20:Q:167:TYR:CE2	2.85	0.45
3:4:30:C:H2’	3:4:31:G:H8	1.81	0.45
3:4:130:C:H2’	3:4:131:A:C8	2.50	0.45
4:A:5:C:H2’	4:A:6:G:H8	1.80	0.45
6:C:26:THR:OG1	6:C:71:ARG:O	2.28	0.45
12:I:154:LEU:O	18:O:115:PHE:CZ	2.70	0.45
14:K:24:ASN:HB3	14:K:25:PRO:HD3	1.99	0.45
1:1:637:C:H2’	1:1:638:C:C6	2.51	0.45
1:1:1097:G:C2’	25:V:128:LEU:CD1	2.95	0.45
1:1:1231:A:O2’	1:1:1261:G:O2’	2.19	0.45
1:1:1493:G:P	43:n:49:MET:CE	2.97	0.45
1:1:1805:C:O2’	38:i:76:TYR:CE1	2.70	0.45
1:1:1915:A:O3’	23:T:84:THR:CG2	2.63	0.45
1:1:3157:U:C4	48:t:656:ALA:CB	2.89	0.45
2:3:89:G:H4’	24:U:84:ARG:NH1	2.31	0.45
3:4:58:G:O2’	3:4:59:A:O5’	2.28	0.45
3:4:64:U:H5”	39:j:49:LYS:HD2	1.98	0.45
5:B:10:G:H2’	5:B:11:U:C6	2.51	0.45
9:F:68:HIS:CD2	9:F:69:LYS:HG3	2.51	0.45
15:L:93:VAL:HG22	44:o:82:LEU:HD22	1.98	0.45
15:L:182:SER:OG	15:L:183:HIS:N	2.49	0.45
1:1:129:U:O4	1:1:139:G:O6	2.35	0.45
1:1:669:U:C5’	22:S:153:PHE:CZ	3.00	0.45
1:1:861:C:OP2	1:1:2133:U:O2’	2.22	0.45
1:1:1109:U:H5”	22:S:153:PHE:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1125:U:O5'	47:s:14:LYS:NZ	2.45	0.45
1:1:1208:U:O4	44:o:108:THR:HG21	2.17	0.45
1:1:1447:G:O4'	21:R:27:LYS:NZ	2.49	0.45
1:1:1855:U:H2'	1:1:1856:C:C5	2.52	0.45
1:1:2014:U:O2'	48:t:184:GLN:HB2	2.17	0.45
1:1:2096:A:H2'	1:1:2097:U:H6	1.81	0.45
1:1:2277:C:H2'	1:1:2278:C:C6	2.52	0.45
1:1:2378:C:H2'	1:1:2379:U:C6	2.51	0.45
1:1:2674:A:C6	16:M:124:GLY:N	2.77	0.45
1:1:2757:U:O2'	25:V:8:ARG:HB2	2.16	0.45
1:1:2836:C:H5'	47:s:156:TYR:HE2	1.82	0.45
10:G:317:PRO:HG2	13:J:149:TYR:O	2.16	0.45
25:V:83:ARG:HB2	33:d:22:LYS:HB2	1.99	0.45
48:t:107:TYR:CZ	48:t:137:GLN:HG2	2.52	0.45
48:t:849:ILE:HG12	48:t:853:TYR:HD2	1.82	0.45
49:u:150:VAL:HB	49:u:194:LEU:HD11	1.98	0.45
1:1:31:C:H2'	1:1:32:U:C6	2.51	0.45
1:1:151:A:OP1	19:P:147:ARG:CZ	2.65	0.45
1:1:334:A:H2'	1:1:335:G:C8	2.51	0.45
1:1:673:U:P	22:S:21:SER:OG	2.75	0.45
1:1:785:G:C4	22:S:92:ARG:NH1	2.85	0.45
1:1:1011:A:H2'	1:1:1012:G:C8	2.50	0.45
1:1:1097:G:C1'	25:V:128:LEU:CD1	2.90	0.45
1:1:1108:U:H2'	1:1:1109:U:C6	2.50	0.45
1:1:1473:G:O3'	23:T:23:TRP:CD1	2.70	0.45
1:1:1543:G:O5'	19:P:35:VAL:CG2	2.65	0.45
1:1:2109:U:H2'	1:1:2110:G:C8	2.48	0.45
1:1:2516:U:H5"	19:P:31:ARG:NH2	2.26	0.45
1:1:2697:A:H2'	1:1:2698:G:C8	2.52	0.45
1:1:2803:A:O2'	1:1:2804:A:OP1	2.33	0.45
1:1:3064:U:H2'	1:1:3065:G:C8	2.52	0.45
1:1:3095:U:H2'	1:1:3096:C:C6	2.51	0.45
1:1:3214:U:H2'	18:O:121:MET:SD	2.57	0.45
1:1:3217:C:H5	21:R:182:ILE:HG23	1.65	0.45
1:1:3246:G:O2'	1:1:3247:G:O5'	2.30	0.45
3:4:13:A:O2'	21:R:121:GLN:O	2.24	0.45
6:C:50:PHE:CZ	19:P:88:GLY:C	2.93	0.45
10:G:53:SER:HB3	10:G:56:ALA:HB2	1.99	0.45
11:H:44:TYR:CE1	25:V:34:TYR:O	2.69	0.45
20:Q:94:ARG:NE	37:h:94:PHE:HD2	2.14	0.45
1:1:288:C:OP1	19:P:170:LYS:HE3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:306:A:N6	1:1:2784:G:N2	2.63	0.45
1:1:341:G:O2'	1:1:342:A:O5'	2.28	0.45
1:1:343:U:C4	1:1:657:A:H1'	2.52	0.45
1:1:710:A:H2'	1:1:711:A:C8	2.51	0.45
1:1:882:A:O2'	41:l:5:THR:HG21	2.16	0.45
1:1:1111:U:C5'	17:N:5:LYS:CE	2.90	0.45
1:1:1533:U:H2'	1:1:1534:A:C8	2.51	0.45
1:1:1675:G:OP1	26:W:72:SER:HB3	2.17	0.45
1:1:1861:G:H5"	23:T:63:THR:HG23	1.98	0.45
1:1:2524:A:H1'	14:K:49:TYR:HB2	1.99	0.45
1:1:2630:C:H5'	25:V:6:GLY:HA3	1.99	0.45
1:1:2911:A:H4'	1:1:2912:G:O5'	2.15	0.45
1:1:3082:C:H2'	1:1:3083:G:H8	1.81	0.45
1:1:3214:U:C3'	18:O:121:MET:HE2	2.41	0.45
1:1:3330:A:OP2	9:F:376:LYS:NZ	2.41	0.45
2:3:70:U:H2'	2:3:71:G:C8	2.52	0.45
3:4:142:C:C5'	19:P:62:TYR:OH	2.65	0.45
5:B:49:G:H22	5:B:65:U:H5	1.65	0.45
8:E:136:ILE:HG13	8:E:148:VAL:HG12	1.99	0.45
14:K:26:LEU:CD1	31:b:53:VAL:HG11	2.46	0.45
45:p:14:LYS:HG2	45:p:17:ARG:HH21	1.81	0.45
1:1:268:A:N7	19:P:12:ARG:CD	2.78	0.45
1:1:526:C:H2'	1:1:527:A:H8	1.82	0.45
1:1:761:A:C6	1:1:770:G:N2	2.85	0.45
1:1:987:U:O4'	13:J:122:ALA:HB2	2.17	0.45
1:1:1320:C:H2'	1:1:1321:G:C8	2.51	0.45
1:1:1383:G:H4'	10:G:138:ARG:HH21	1.81	0.45
1:1:1527:C:H2'	1:1:1528:G:O4'	2.16	0.45
1:1:1544:G:O6	1:1:1550:C:N4	2.50	0.45
1:1:2157:G:C5	8:E:150:LEU:HD13	2.51	0.45
1:1:2216:G:OP2	40:k:75:LYS:NZ	2.36	0.45
1:1:2350:C:H5"	21:R:68:GLY:HA3	1.99	0.45
1:1:2435:G:H4'	19:P:24:ARG:CZ	2.47	0.45
1:1:2524:A:H1'	14:K:49:TYR:CG	2.52	0.45
1:1:2583:C:H2'	1:1:2584:G:C8	2.52	0.45
1:1:2672:G:O3'	16:M:95:ASN:N	2.50	0.45
1:1:2683:U:H1'	16:M:128:TYR:HE2	1.64	0.45
1:1:2819:A:H5"	1:1:2866:U:C4	2.51	0.45
1:1:3074:G:H2'	1:1:3075:G:H8	1.82	0.45
1:1:3194:C:H2'	1:1:3195:U:H5"	1.99	0.45
1:1:3269:U:H4'	1:1:3270:U:O5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:92:A:C2	47:s:55:GLU:CB	2.98	0.45
29:Z:57:LEU:HD12	29:Z:61:LYS:HB3	1.98	0.45
48:t:813:LEU:HB3	48:t:834:ILE:HG12	1.97	0.45
1:1:57:A:C5'	19:P:157:LYS:CB	2.95	0.45
1:1:269:G:OP2	19:P:11:GLN:CG	2.65	0.45
1:1:443:G:H2'	1:1:444:U:C6	2.52	0.45
1:1:498:A:O2'	1:1:3273:A:N1	2.45	0.45
1:1:983:A:H2	13:J:105:LEU:HD22	1.81	0.45
1:1:1471:U:O2'	23:T:4:LEU:HB2	2.17	0.45
1:1:1498:A:H2'	1:1:1499:C:C6	2.52	0.45
1:1:1589:A:H2'	38:i:15:THR:HG21	1.96	0.45
1:1:1717:U:H2'	1:1:1718:G:C8	2.51	0.45
1:1:1833:G:OP1	43:n:10:LYS:HD3	2.17	0.45
1:1:1852:G:C2	41:l:9:GLY:CA	3.00	0.45
1:1:2527:G:C1'	14:K:241:LYS:CD	2.95	0.45
1:1:2609:A:C5'	19:P:81:TYR:CE1	2.94	0.45
1:1:2680:A:H5'	16:M:54:VAL:HG21	1.98	0.45
1:1:2735:U:H2'	1:1:2736:A:C8	2.51	0.45
1:1:3049:A:N6	9:F:75:ALA:HB2	2.32	0.45
2:3:5:G:H5"	16:M:143:ARG:NH2	2.32	0.45
4:A:23:A:H2'	4:A:24:G:H8	1.81	0.45
29:Z:51:VAL:HG22	39:j:66:VAL:HG23	1.98	0.45
32:c:75:LEU:HB3	32:c:118:ILE:HG21	1.99	0.45
34:e:47:ASN:ND2	34:e:74:ASN:H	2.14	0.45
48:t:839:SER:OG	48:t:840:PRO:HD3	2.16	0.45
1:1:1186:G:O2'	24:U:113:ARG:HG3	2.17	0.45
1:1:1191:U:O5'	20:Q:49:ARG:HD3	2.15	0.45
1:1:1237:G:H2'	1:1:1237:G:N3	2.32	0.45
1:1:1364:C:H2'	1:1:1365:G:C8	2.52	0.45
1:1:1599:G:H2'	1:1:1600:U:C6	2.52	0.45
1:1:1887:A:C2	1:1:2391:G:H4'	2.51	0.45
1:1:2382:G:O2'	20:Q:70:PRO:HA	2.17	0.45
1:1:2388:U:O2'	21:R:80:LYS:HD3	2.17	0.45
1:1:3134:A:OP1	20:Q:146:GLY:CA	2.65	0.45
1:1:3153:U:O2	48:t:648:LYS:O	2.35	0.45
1:1:3158:G:H2'	1:1:3159:C:C6	2.51	0.45
1:1:3237:U:H2'	1:1:3238:G:C8	2.52	0.45
2:3:39:C:N3	16:M:70:THR:HG23	2.32	0.45
3:4:5:U:OP1	21:R:62:ARG:NE	2.50	0.45
10:G:281:ILE:CG2	22:S:25:TYR:HD1	2.29	0.45
14:K:240:ASN:OD1	14:K:241:LYS:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:U:124:LEU:HA	25:V:153:PRO:HG2	1.97	0.45
29:Z:42:ARG:HG2	29:Z:44:PRO:HD3	1.99	0.45
31:b:33:SER:OG	31:b:34:LYS:N	2.50	0.45
47:s:3:ARG:HD2	47:s:8:TYR:HE2	1.82	0.45
1:1:449:U:O2'	50:v:84:ASN:CB	2.65	0.44
1:1:1312:C:C2	20:Q:87:MET:HE2	2.49	0.44
1:1:1321:G:C4'	24:U:117:ARG:HH12	2.31	0.44
1:1:1489:A:P	43:n:3:ALA:CB	3.04	0.44
1:1:1606:U:N1	38:i:8:ARG:NH2	2.64	0.44
1:1:1816:A:O2'	1:1:1817:G:O5'	2.30	0.44
1:1:2494:A:O2'	46:r:157:UNK:CB	2.65	0.44
1:1:2641:U:H4'	33:d:7:HIS:CD2	2.52	0.44
1:1:2757:U:C1'	25:V:8:ARG:HB2	2.46	0.44
1:1:3047:U:H5"	1:1:3048:A:H2	1.82	0.44
1:1:3067:C:OP2	23:T:62:ARG:NH1	2.49	0.44
1:1:3096:C:H2'	1:1:3097:C:C6	2.52	0.44
3:4:46:G:P	43:n:18:LYS:HZ1	2.40	0.44
5:B:18:G:O2'	5:B:19:U:OP1	2.31	0.44
16:M:99:THR:O	16:M:154:THR:OG1	2.35	0.44
21:R:48:LEU:HD22	21:R:88:VAL:HG13	1.98	0.44
1:1:19:U:OP1	39:j:90:ARG:NH1	2.45	0.44
1:1:156:G:N7	17:N:99:HIS:CE1	2.85	0.44
1:1:886:C:H2'	1:1:887:G:H8	1.82	0.44
1:1:1296:C:C2	1:1:1297:C:C6	3.05	0.44
1:1:1364:C:H2'	1:1:1365:G:H8	1.82	0.44
1:1:1370:G:H2'	1:1:1371:G:C8	2.52	0.44
1:1:1589:A:O5'	38:i:11:ASN:CG	2.61	0.44
1:1:1940:G:N2	1:1:3362:A:H8	2.14	0.44
1:1:2223:A:H2'	1:1:2224:A:C8	2.52	0.44
1:1:2524:A:H1'	14:K:49:TYR:CD2	2.52	0.44
1:1:3109:G:O4'	15:L:163:GLN:NE2	2.51	0.44
2:3:70:U:H2'	2:3:71:G:H8	1.82	0.44
3:4:36:G:H3'	39:j:86:ARG:HD2	1.98	0.44
3:4:38:U:O2'	3:4:39:G:OP1	2.32	0.44
5:B:64:G:O2'	47:s:24:ALA:CA	2.65	0.44
20:Q:30:GLY:HA3	37:h:95:GLY:O	2.17	0.44
22:S:158:HIS:H	22:S:186:VAL:HG11	1.82	0.44
1:1:47:C:H5"	17:N:16:LYS:HG2	1.99	0.44
1:1:83:U:O2'	1:1:700:C:O2'	2.27	0.44
1:1:286:U:H2'	1:1:287:G:C8	2.53	0.44
1:1:299:G:C5	40:k:31:GLY:CA	2.95	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:316:U:C4	40:k:30:LYS:CD	3.00	0.44
1:1:618:C:P	21:R:169:THR:HG22	2.58	0.44
1:1:648:C:H5"	1:1:649:A:H5'	1.98	0.44
1:1:815:G:O3'	1:1:920:A:N6	2.50	0.44
1:1:986:U:C4'	13:J:126:LEU:HG	2.47	0.44
1:1:1178:G:O6	37:h:20:LYS:NZ	2.37	0.44
1:1:1493:G:P	43:n:49:MET:CG	2.94	0.44
1:1:1657:C:H42	1:1:1797:A:H3'	1.82	0.44
1:1:1845:G:H4'	41:l:8:PHE:CD2	2.52	0.44
1:1:2575:G:H2'	1:1:2576:G:H8	1.83	0.44
1:1:2639:G:C1'	25:V:56:PHE:CE1	2.97	0.44
1:1:2656:A:HO2'	1:1:2657:A:P	2.40	0.44
1:1:2679:A:C3'	16:M:52:TYR:HH	2.30	0.44
1:1:2853:A:H4'	47:s:63:ALA:CA	2.48	0.44
1:1:2897:A:OP2	15:L:173:ARG:NH1	2.51	0.44
8:E:116:VAL:HG13	8:E:126:LEU:HB2	1.99	0.44
11:H:150:LEU:CD1	16:M:143:ARG:CG	2.78	0.44
13:J:127:LEU:O	13:J:131:GLU:HG3	2.17	0.44
15:L:132:VAL:HA	15:L:148:GLY:HA2	2.00	0.44
37:h:13:HIS:ND1	37:h:93:THR:O	2.50	0.44
48:t:329:LEU:HD22	48:t:363:LEU:HD21	1.98	0.44
1:1:388:G:H5"	21:R:18:ARG:HD2	2.00	0.44
1:1:412:G:H5'	21:R:26:PHE:CZ	2.52	0.44
1:1:562:C:C4'	24:U:71:LYS:HZ1	1.98	0.44
1:1:671:U:C5'	22:S:16:ARG:HH22	2.30	0.44
1:1:926:A:H2'	1:1:927:C:H6	1.83	0.44
1:1:948:C:OP1	1:1:1365:G:O2'	2.33	0.44
1:1:1064:A:H1'	1:1:1065:A:OP2	2.18	0.44
1:1:1206:G:OP1	47:s:152:ARG:NH1	2.51	0.44
1:1:1235:U:H4'	1:1:1236:G:H5'	2.00	0.44
1:1:1686:U:H5"	26:W:42:LYS:NZ	2.32	0.44
1:1:2290:C:H2'	1:1:2291:A:H8	1.82	0.44
1:1:2555:G:H4'	38:i:88:ARG:HE	1.82	0.44
1:1:2710:C:H2'	1:1:2711:C:C6	2.52	0.44
1:1:2728:G:C6	25:V:85:LEU:HD13	2.53	0.44
1:1:3007:U:OP1	20:Q:74:ARG:N	2.51	0.44
1:1:3034:C:C2	15:L:120:ASP:HB3	2.53	0.44
1:1:3034:C:C6	15:L:120:ASP:OD1	2.70	0.44
1:1:3374:U:O2'	1:1:3378:C:N4	2.44	0.44
2:3:77:G:H4'	2:3:78:U:O5'	2.18	0.44
7:D:26:VAL:HG21	8:E:180:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:134:VAL:HG12	8:E:151:PRO:HD3	1.99	0.44
31:b:81:LEU:HD21	38:i:90:ILE:CD1	2.48	0.44
47:s:28:SER:HB2	47:s:124:LEU:HD12	1.99	0.44
47:s:106:GLY:O	47:s:108:ASP:N	2.51	0.44
1:1:149:U:P	19:P:55:ALA:N	2.86	0.44
1:1:156:G:H5"	40:k:25:LYS:HE3	1.99	0.44
1:1:332:C:H2'	1:1:333:G:H8	1.83	0.44
1:1:562:C:H5"	24:U:71:LYS:HE2	2.00	0.44
1:1:1092:C:H4'	25:V:120:LYS:HZ1	1.82	0.44
1:1:1313:G:O2'	20:Q:17:GLY:HA3	2.18	0.44
1:1:1355:A:HO2'	22:S:31:LYS:HE3	1.79	0.44
1:1:1653:G:H2'	1:1:1654:A:H8	1.83	0.44
1:1:1689:U:H2'	1:1:1690:C:C6	2.52	0.44
1:1:1695:U:C2	38:i:26:PRO:CB	2.99	0.44
1:1:2011:U:C4	48:t:176:GLN:OE1	2.71	0.44
1:1:2755:C:O2	25:V:49:GLN:NE2	2.50	0.44
1:1:3182:G:O2'	1:1:3183:A:O4'	2.23	0.44
2:3:79:A:N6	2:3:101:G:H21	2.05	0.44
2:3:87:G:H2'	2:3:88:G:C8	2.51	0.44
3:4:45:C:P	43:n:15:LYS:HE2	2.57	0.44
5:B:3:A:H2'	5:B:4:G:C8	2.53	0.44
6:C:12:CYS:HB2	6:C:23:HIS:CE1	2.52	0.44
10:G:289:ILE:CD1	22:S:125:ASP:HB2	2.32	0.44
10:G:311:HIS:ND1	13:J:162:PRO:CG	2.75	0.44
11:H:33:ARG:HE	25:V:27:LEU:HD12	1.83	0.44
32:c:128:ARG:CG	40:k:8:ALA:HB2	2.47	0.44
44:o:88:LYS:HA	44:o:92:ASP:HB2	2.00	0.44
47:s:104:CYS:SG	47:s:105:ALA:N	2.89	0.44
1:1:57:A:H2'	1:1:58:G:H8	1.83	0.44
1:1:342:A:H1'	1:1:344:A:C6	2.53	0.44
1:1:413:U:H5"	21:R:34:GLN:CD	2.41	0.44
1:1:528:U:H2'	1:1:529:A:H8	1.80	0.44
1:1:609:G:N7	10:G:308:LYS:HD3	2.32	0.44
1:1:672:A:H5"	22:S:21:SER:HB2	2.00	0.44
1:1:970:A:H2'	1:1:971:G:C8	2.53	0.44
1:1:1322:U:OP1	24:U:117:ARG:CD	2.65	0.44
1:1:2737:C:H4'	25:V:68:THR:OG1	2.17	0.44
1:1:2967:A:H5"	8:E:213:GLY:HA3	1.99	0.44
1:1:3101:G:H2'	1:1:3102:G:C8	2.52	0.44
1:1:3159:C:H2'	1:1:3160:U:C6	2.49	0.44
1:1:3243:A:C2	20:Q:156:LEU:CB	3.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3352:U:H4'	1:1:3353:G:C4	2.53	0.44
2:3:40:C:O2	16:M:72:ARG:CG	2.66	0.44
2:3:65:G:H2'	2:3:66:A:C8	2.53	0.44
3:4:43:A:C4'	41:l:22:CYS:O	2.57	0.44
5:B:17:C:OP1	5:B:60:U:O2'	2.24	0.44
5:B:64:G:P	47:s:23:ARG:NE	2.86	0.44
18:O:105:GLN:NE2	20:Q:198:GLY:O	2.51	0.44
24:U:155:ARG:HD2	24:U:172:TYR:HD1	1.83	0.44
48:t:415:PRO:HG3	50:v:25:VAL:HG11	1.99	0.44
48:t:665:GLU:O	48:t:669:VAL:HG22	2.18	0.44
1:1:16:A:H2'	1:1:17:G:C8	2.53	0.44
1:1:183:G:H2'	1:1:184:U:C6	2.51	0.44
1:1:282:G:H1	19:P:181:ASN:CB	2.29	0.44
1:1:716:A:C8	32:c:116:GLY:HA3	2.53	0.44
1:1:1268:G:N2	1:1:1272:C:OP2	2.51	0.44
1:1:1523:U:H1'	29:Z:111:ASN:HB3	2.00	0.44
1:1:1949:G:P	23:T:101:VAL:HG13	2.58	0.44
1:1:2119:A:H2	23:T:82:LYS:HE2	1.79	0.44
1:1:2663:G:H4'	11:H:152:ARG:HH21	1.81	0.44
1:1:3067:C:O5'	23:T:62:ARG:NH1	2.51	0.44
4:A:15:G:O2'	4:A:16:U:OP1	2.27	0.44
10:G:330:TYR:CD1	13:J:45:LEU:O	2.71	0.44
19:P:156:HIS:HB3	19:P:159:ARG:HD2	2.00	0.44
24:U:135:VAL:HB	24:U:141:LYS:HE3	1.99	0.44
25:V:116:ARG:HG3	25:V:126:VAL:HG11	2.00	0.44
30:a:57:LEU:N	30:a:105:VAL:O	2.51	0.44
1:1:119:U:O2'	14:K:138:HIS:HE1	2.00	0.44
1:1:296:A:N3	1:1:299:G:O2'	2.33	0.44
1:1:1076:C:H4'	33:d:38:LYS:HD3	2.00	0.44
1:1:1193:A:OP1	20:Q:49:ARG:NH2	2.44	0.44
1:1:1709:C:H4'	31:b:15:ARG:HH12	1.82	0.44
1:1:2119:A:N1	23:T:82:LYS:NZ	2.53	0.44
1:1:2166:A:H1'	19:P:74:PRO:CA	2.48	0.44
1:1:2202:C:H5"	8:E:226:SER:HB2	1.98	0.44
1:1:3060:C:H1'	1:1:3332:U:H1'	1.99	0.44
1:1:3207:U:N3	24:U:159:SER:OG	2.50	0.44
2:3:40:C:O2'	16:M:72:ARG:HB2	2.17	0.44
8:E:80:GLU:HB2	8:E:170:ALA:HA	2.00	0.44
10:G:351:PRO:HB3	13:J:70:LYS:C	2.41	0.44
41:l:21:ARG:NH1	41:l:38:GLY:O	2.51	0.44
1:1:63:A:H5"	19:P:169:LYS:NZ	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:373:A:C6	1:1:375:A:C6	3.06	0.44
1:1:547:G:H4'	1:1:548:G:OP1	2.18	0.44
1:1:720:A:N6	1:1:784:A:O4'	2.51	0.44
1:1:911:C:H2'	1:1:912:G:C8	2.53	0.44
1:1:1217:A:H2'	1:1:1218:U:O4'	2.17	0.44
1:1:1602:A:H5'	23:T:10:LEU:HD21	1.98	0.44
1:1:1653:G:H2'	1:1:1654:A:C8	2.53	0.44
1:1:2225:U:H2'	1:1:2226:U:C6	2.53	0.44
1:1:2583:C:H2'	1:1:2584:G:H8	1.83	0.44
1:1:2653:C:H2'	1:1:2654:C:C6	2.53	0.44
1:1:2676:A:C6	16:M:22:SER:HB3	2.52	0.44
10:G:338:LYS:O	10:G:340:GLY:N	2.45	0.44
15:L:24:ILE:HD11	15:L:39:LYS:HE2	1.99	0.44
48:t:270:ARG:NH2	49:u:143:GLU:OE1	2.49	0.44
48:t:371:LEU:HB2	48:t:386:THR:HG21	1.99	0.44
1:1:91:G:N2	1:1:95:A:OP2	2.48	0.43
1:1:127:G:OP1	19:P:140:LYS:CG	2.38	0.43
1:1:155:G:H5"	1:1:156:G:C8	2.53	0.43
1:1:269:G:H5"	19:P:14:LYS:HE3	1.91	0.43
1:1:316:U:N3	40:k:30:LYS:HD3	2.32	0.43
1:1:413:U:H5'	21:R:34:GLN:OE1	2.18	0.43
1:1:685:G:H2'	1:1:686:G:H8	1.83	0.43
1:1:1125:U:H2'	1:1:1126:G:C8	2.52	0.43
1:1:1757:A:N6	1:1:1769:G:O6	2.51	0.43
1:1:2535:A:N6	1:1:2545:C:N3	2.66	0.43
1:1:2716:U:H2'	1:1:2717:U:H6	1.83	0.43
1:1:3034:C:N3	15:L:121:LYS:N	2.57	0.43
1:1:3153:U:C2	48:t:649:LYS:HA	2.53	0.43
2:3:27:A:H5"	16:M:141:ARG:HH12	1.83	0.43
3:4:75:G:H21	43:n:26:TRP:HB3	1.76	0.43
6:C:4:VAL:HG11	6:C:70:LEU:HD21	1.99	0.43
19:P:44:ARG:NH1	19:P:120:TRP:O	2.49	0.43
21:R:172:GLN:NE2	37:h:61:GLY:CA	2.74	0.43
25:V:82:ASN:HA	33:d:16:ALA:HB1	1.99	0.43
32:c:129:PHE:HE1	40:k:9:ILE:CD1	2.14	0.43
1:1:117:U:C5	14:K:141:ALA:HB1	2.53	0.43
1:1:363:G:OP2	41:l:52:LYS:CB	2.66	0.43
1:1:922:U:OP1	41:l:3:LYS:NZ	2.50	0.43
1:1:923:C:C2	1:1:926:A:H5'	2.53	0.43
1:1:1333:C:O2	13:J:209:ASN:ND2	2.51	0.43
1:1:1361:U:H2'	1:1:1362:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1362:G:H21	13:J:158:LYS:HZ1	1.66	0.43
1:1:1506:A:H5"	1:1:1507:G:H5"	1.99	0.43
1:1:1557:A:O2'	1:1:1558:A:OP1	2.28	0.43
1:1:1788:C:H2'	1:1:1789:G:C8	2.53	0.43
1:1:1814:A:OP1	1:1:1816:A:O2'	2.36	0.43
1:1:2015:C:O4'	48:t:184:GLN:OE1	2.28	0.43
1:1:2630:C:H3'	25:V:4:SER:OG	2.18	0.43
1:1:2770:G:H2'	1:1:2771:U:C6	2.54	0.43
1:1:3113:A:OP1	15:L:73:SER:OG	2.36	0.43
1:1:3175:U:HO2'	1:1:3176:G:P	2.41	0.43
1:1:3310:A:H5"	21:R:74:LYS:NZ	2.29	0.43
2:3:19:C:H2'	2:3:20:A:C8	2.54	0.43
5:B:10:G:H2'	5:B:11:U:H6	1.82	0.43
7:D:83:ILE:HG23	8:E:96:LEU:HD23	1.98	0.43
9:F:216:ASP:HB2	9:F:339:ARG:HB3	2.01	0.43
11:H:195:LEU:O	11:H:199:ILE:HG13	2.18	0.43
34:e:43:ILE:N	34:e:90:VAL:O	2.45	0.43
34:e:58:TYR:HE1	38:i:97:GLU:CD	2.26	0.43
1:1:29:C:O2'	19:P:162:ARG:O	2.34	0.43
1:1:43:A:OP1	19:P:83:LYS:HE2	2.17	0.43
1:1:57:A:P	19:P:158:HIS:CD2	3.06	0.43
1:1:117:U:C4	14:K:145:ASN:ND2	2.86	0.43
1:1:381:U:H2'	1:1:382:U:C6	2.53	0.43
1:1:381:U:O3'	48:t:37:LYS:HG2	2.05	0.43
1:1:676:G:H22	22:S:61:PRO:HG3	0.72	0.43
1:1:685:G:OP2	17:N:32:LYS:CD	2.67	0.43
1:1:816:A:H2'	1:1:820:A:H62	1.84	0.43
1:1:836:A:H2'	1:1:837:A:H8	1.84	0.43
1:1:884:A:C6	1:1:2139:A:H1'	2.53	0.43
1:1:957:C:H2'	1:1:958:C:C6	2.53	0.43
1:1:987:U:H5"	13:J:125:GLU:HG3	2.00	0.43
1:1:1043:C:H5"	47:s:89:ARG:CZ	2.47	0.43
1:1:1306:G:H1'	20:Q:60:LYS:HA	1.99	0.43
1:1:1321:G:H4'	24:U:117:ARG:CZ	2.48	0.43
1:1:1615:C:H2'	1:1:1616:U:C6	2.53	0.43
1:1:2407:C:H2'	1:1:2408:U:C6	2.53	0.43
1:1:3003:G:H2'	1:1:3004:C:C6	2.52	0.43
1:1:3178:A:C5	20:Q:6:VAL:HB	2.53	0.43
1:1:3231:U:H2'	1:1:3232:G:C8	2.51	0.43
2:3:7:G:N7	11:H:21:ARG:NH2	2.66	0.43
2:3:96:U:H2'	13:J:225:GLN:NE2	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:98:LYS:HB3	13:J:99:PRO:HD3	2.00	0.43
15:L:22:SER:OG	15:L:23:ARG:N	2.45	0.43
22:S:176:ARG:HG3	22:S:183:GLY:HA3	2.00	0.43
25:V:75:ILE:H	25:V:75:ILE:HG13	1.73	0.43
27:X:45:ARG:HG2	27:X:48:ARG:HE	1.83	0.43
47:s:59:LEU:HD13	47:s:64:LEU:HD21	2.01	0.43
1:1:98:G:N7	17:N:13:HIS:NE2	2.66	0.43
1:1:586:C:H2'	1:1:587:U:C6	2.53	0.43
1:1:1416:C:H2'	1:1:1417:G:C8	2.53	0.43
1:1:1474:A:H2'	1:1:1475:A:O4'	2.18	0.43
1:1:1534:A:H1'	1:1:1797:A:H2	1.83	0.43
1:1:1651:U:H2'	1:1:1652:G:C8	2.53	0.43
1:1:1716:U:C2'	23:T:118:HIS:CD2	2.93	0.43
1:1:1747:G:H4'	42:m:53:THR:HG21	1.99	0.43
1:1:1750:A:O5'	42:m:26:LYS:HE3	2.17	0.43
1:1:1781:C:H2'	1:1:1782:U:C6	2.54	0.43
1:1:1913:A:H2'	1:1:2120:A:O2'	2.19	0.43
1:1:1942:U:H3'	23:T:74:ARG:HH22	1.83	0.43
1:1:2040:U:H2'	1:1:2041:U:C6	2.52	0.43
1:1:2824:G:O6	1:1:2867:C:N4	2.51	0.43
1:1:3223:A:H2'	1:1:3224:G:H8	1.83	0.43
3:4:123:G:H2'	3:4:124:G:C8	2.53	0.43
9:F:89:VAL:HA	9:F:160:VAL:HA	2.00	0.43
11:H:44:TYR:HE1	25:V:35:LYS:HA	1.83	0.43
22:S:178:ARG:HH12	32:c:50:PRO:CG	2.24	0.43
48:t:210:ASP:OD1	48:t:246:ARG:NH2	2.38	0.43
49:u:48:THR:HG22	49:u:92:LEU:HA	2.00	0.43
1:1:75:G:P	17:N:58:VAL:HG21	2.54	0.43
1:1:127:G:H2'	1:1:128:G:C8	2.53	0.43
1:1:409:A:N3	1:1:655:C:H1'	2.34	0.43
1:1:970:A:H2'	1:1:971:G:H8	1.82	0.43
1:1:1164:G:H2'	1:1:1165:A:C8	2.53	0.43
1:1:2103:U:H2'	1:1:2104:A:H8	1.83	0.43
1:1:2669:G:H2'	1:1:2670:G:H8	1.83	0.43
2:3:44:C:H2'	2:3:45:A:H8	1.82	0.43
2:3:97:A:H5"	13:J:224:ILE:CG2	2.47	0.43
8:E:146:THR:HB	8:E:158:ILE:HG13	2.01	0.43
11:H:150:LEU:CD1	16:M:143:ARG:HD2	2.46	0.43
14:K:74:THR:HG23	14:K:75:ILE:HG13	2.01	0.43
20:Q:186:ALA:C	20:Q:188:SER:H	2.26	0.43
22:S:175:ALA:CB	32:c:54:GLY:O	2.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:f:48:ASP:OD2	35:f:50:ARG:NH1	2.52	0.43
40:k:70:ARG:HB3	40:k:80:PHE:HE1	1.82	0.43
47:s:75:MET:HE1	47:s:146:VAL:HG12	1.99	0.43
1:1:99:A:O2'	1:1:100:A:O4'	2.33	0.43
1:1:147:U:C5	14:K:194:THR:CB	3.02	0.43
1:1:267:G:N1	1:1:319:A:C5	2.87	0.43
1:1:543:C:H2'	1:1:544:C:O4'	2.18	0.43
1:1:673:U:OP1	22:S:21:SER:OG	2.34	0.43
1:1:903:U:P	41:l:30:GLN:CG	2.84	0.43
1:1:983:A:C2	13:J:105:LEU:HD22	2.54	0.43
1:1:1051:U:H4'	25:V:19:PHE:CD1	2.54	0.43
1:1:1472:U:H2'	1:1:1473:G:C8	2.52	0.43
1:1:1592:G:P	38:i:37:LYS:NZ	2.91	0.43
1:1:2013:C:C1'	48:t:176:GLN:CB	2.89	0.43
1:1:2181:C:H2'	1:1:2182:A:H8	1.83	0.43
1:1:2524:A:H1'	14:K:49:TYR:CB	2.48	0.43
1:1:2618:G:C5	47:s:114:MET:HG2	2.53	0.43
1:1:2630:C:C5'	25:V:6:GLY:N	2.81	0.43
1:1:2827:U:O2'	1:1:2828:G:H8	2.02	0.43
1:1:3092:C:O2	27:X:12:ARG:NE	2.52	0.43
1:1:3208:G:C2	24:U:165:TYR:CZ	2.80	0.43
9:F:169:THR:O	9:F:171:LEU:N	2.51	0.43
10:G:352:ALA:HB3	13:J:73:GLY:HA3	1.79	0.43
14:K:78:PHE:HA	14:K:179:ILE:HD13	2.00	0.43
48:t:199:TYR:OH	49:u:42:GLU:OE1	2.35	0.43
1:1:121:A:C2	14:K:129:PRO:HB3	2.54	0.43
1:1:501:A:OP1	12:I:82:ARG:NH2	2.46	0.43
1:1:558:U:O2'	1:1:559:A:OP1	2.34	0.43
1:1:607:A:N1	12:I:26:ARG:NH2	2.67	0.43
1:1:781:G:P	22:S:151:ARG:CD	3.06	0.43
1:1:834:U:H2'	1:1:835:G:O4'	2.19	0.43
1:1:951:A:N3	1:1:1113:G:N2	2.65	0.43
1:1:1111:U:H5"	17:N:5:LYS:CE	2.46	0.43
1:1:1355:A:H2	22:S:38:ARG:NH1	2.15	0.43
1:1:1544:G:O5'	19:P:67:ARG:NH2	2.51	0.43
1:1:1757:A:H2'	1:1:1758:G:C8	2.54	0.43
1:1:1804:A:H2'	1:1:1805:C:C6	2.54	0.43
1:1:2103:U:H2'	1:1:2104:A:C8	2.53	0.43
1:1:2277:C:H5"	45:p:23:ARG:CZ	2.48	0.43
1:1:2514:U:O2'	14:K:65:LEU:HG	2.18	0.43
1:1:2716:U:H2'	1:1:2717:U:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3007:U:H2'	1:1:3008:A:C8	2.53	0.43
1:1:3213:A:O5'	18:O:128:ARG:HD2	2.18	0.43
2:3:112:G:H2'	2:3:113:C:C6	2.54	0.43
3:4:130:C:H2'	3:4:131:A:H8	1.82	0.43
4:A:61:C:H2'	4:A:62:C:C6	2.54	0.43
10:G:72:ALA:HB3	10:G:76:ARG:HH21	1.83	0.43
10:G:359:LEU:HD12	24:U:8:GLN:HE22	1.83	0.43
11:H:15:ARG:CB	25:V:20:ARG:CG	2.97	0.43
20:Q:12:LYS:HD2	20:Q:37:ARG:HH11	1.83	0.43
22:S:155:MET:HG2	32:c:48:TYR:HA	2.01	0.43
25:V:84:TYR:HE2	33:d:21:ILE:CG2	2.14	0.43
31:b:22:LYS:HE3	31:b:134:LEU:HB2	1.99	0.43
39:j:112:PRO:HB2	39:j:113:GLN:H	1.65	0.43
48:t:609:LYS:HD2	48:t:716:LEU:HD13	2.00	0.43
50:v:75:VAL:HB	50:v:95:PHE:HB3	2.01	0.43
1:1:1550:C:H2'	1:1:1551:C:C6	2.53	0.43
1:1:1658:G:H2'	1:1:1659:U:C6	2.54	0.43
1:1:1719:G:H5'	23:T:110:ARG:NH2	2.34	0.43
1:1:1741:A:H1'	38:i:38:LEU:CD2	2.49	0.43
1:1:2227:C:H2'	1:1:2228:A:C8	2.54	0.43
1:1:2631:U:P	25:V:9:SER:CA	3.07	0.43
1:1:3131:U:H2'	1:1:3132:C:C6	2.53	0.43
10:G:359:LEU:CD1	24:U:8:GLN:NE2	2.82	0.43
14:K:75:ILE:HG22	14:K:76:ALA:H	1.82	0.43
24:U:80:ARG:HE	25:V:156:TYR:HB2	1.83	0.43
24:U:82:ASP:HB2	24:U:120:SER:HB3	2.01	0.43
25:V:7:TYR:OH	25:V:52:MET:O	2.32	0.43
39:j:61:GLN:HA	39:j:64:GLU:HG2	2.00	0.43
1:1:181:U:H4'	41:l:75:LYS:CG	2.49	0.43
1:1:340:C:H2'	1:1:341:G:C8	2.54	0.43
1:1:360:G:O2'	1:1:361:A:O4'	2.32	0.43
1:1:625:G:N2	1:1:1401:A:OP1	2.41	0.43
1:1:670:C:O3'	1:1:973:A:O2'	2.34	0.43
1:1:745:C:H2'	1:1:746:A:C8	2.53	0.43
1:1:836:A:H2'	1:1:837:A:C8	2.54	0.43
1:1:922:U:OP1	41:l:3:LYS:CE	2.67	0.43
1:1:1000:C:C2	1:1:1046:A:N6	2.87	0.43
1:1:1071:U:H2'	1:1:1072:G:H8	1.84	0.43
1:1:1143:A:H2	1:1:1367:G:H21	1.66	0.43
1:1:1740:U:H1'	1:1:1741:A:H2	1.84	0.43
1:1:1815:U:O2'	1:1:1816:A:O5'	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1874:A:N6	23:T:20:ARG:NH1	2.64	0.43
1:1:1881:A:H2'	1:1:1882:G:C8	2.54	0.43
1:1:1891:A:N1	1:1:2345:A:N6	2.66	0.43
1:1:2014:U:H2'	1:1:2015:C:C6	2.53	0.43
1:1:2166:A:O4'	19:P:74:PRO:CA	2.53	0.43
1:1:2654:C:O2'	1:1:2656:A:H1'	2.19	0.43
1:1:2686:A:H2'	1:1:2687:G:O4'	2.19	0.43
1:1:2740:A:H2'	1:1:2741:C:C6	2.54	0.43
1:1:2991:A:P	9:F:20:LYS:HB2	2.58	0.43
1:1:3178:A:C2	20:Q:115:LYS:HE2	2.54	0.43
2:3:28:C:OP1	16:M:137:ARG:HD3	2.18	0.43
7:D:51:ALA:HB1	8:E:50:HIS:HB2	2.01	0.43
37:h:51:TYR:CE2	37:h:53:TYR:HB3	2.54	0.43
48:t:503:GLN:HG2	48:t:507:TYR:CE2	2.53	0.43
48:t:572:GLN:HG2	49:u:34:MET:HE1	2.00	0.43
1:1:768:C:H2'	1:1:769:G:O4'	2.19	0.43
1:1:1654:A:N3	38:i:59:PRO:HB3	2.34	0.43
1:1:1686:U:C5	26:W:82:LYS:NZ	2.69	0.43
1:1:1687:U:H1'	26:W:75:TYR:CD1	2.52	0.43
1:1:1902:G:OP1	1:1:2918:G:H5'	2.18	0.43
1:1:1917:C:H2'	1:1:1918:C:C6	2.54	0.43
1:1:2223:A:N1	1:1:2783:U:H1'	2.33	0.43
1:1:2513:U:O2'	1:1:2514:U:H3'	2.18	0.43
1:1:2621:G:O6	47:s:112:GLN:NE2	2.48	0.43
1:1:2679:A:C4'	16:M:52:TYR:HH	2.29	0.43
1:1:2681:U:C5'	16:M:66:ALA:HB3	2.40	0.43
3:4:11:C:O2	21:R:5:GLY:HA2	2.18	0.43
3:4:38:U:OP2	39:j:78:LYS:CE	2.67	0.43
5:B:29:U:H2'	5:B:30:G:H8	1.84	0.43
8:E:65:ASP:OD2	8:E:68:LYS:N	2.52	0.43
10:G:22:LEU:HD23	10:G:255:PHE:HZ	1.82	0.43
15:L:41:ILE:HG23	15:L:43:VAL:HG13	2.00	0.43
17:N:64:LYS:HE3	32:c:69:TRP:CD2	2.54	0.43
49:u:10:ILE:O	49:u:13:ILE:HG12	2.18	0.43
1:1:201:A:H2'	1:1:202:G:H8	1.84	0.42
1:1:292:U:P	19:P:68:ARG:NH2	2.92	0.42
1:1:395:A:H3'	1:1:396:A:H8	1.83	0.42
1:1:489:C:HO2'	1:1:490:A:H8	1.67	0.42
1:1:587:U:H2'	1:1:588:G:C8	2.54	0.42
1:1:633:C:H5'	37:h:18:ARG:HH12	1.84	0.42
1:1:880:G:C5	21:R:132:ALA:HB2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1001:G:N2	1:1:1041:U:OP1	2.45	0.42
1:1:1169:A:H4'	13:J:219:LYS:HD3	0.48	0.42
1:1:1256:G:H2'	1:1:1257:C:C6	2.54	0.42
1:1:1345:G:H21	10:G:307:GLN:NE2	2.17	0.42
1:1:1433:A:H4'	1:1:1434:G:OP1	2.18	0.42
1:1:1647:A:N6	1:1:1808:G:H1'	2.32	0.42
1:1:1974:A:OP1	1:1:2048:G:N2	2.51	0.42
1:1:2100:A:C4'	23:T:71:ARG:NH1	2.64	0.42
1:1:2138:A:C8	41:l:3:LYS:HD2	2.54	0.42
1:1:2266:U:H2'	1:1:2267:C:C6	2.54	0.42
1:1:2631:U:P	25:V:9:SER:HA	2.59	0.42
2:3:40:C:O2	16:M:72:ARG:CD	2.67	0.42
2:3:41:G:H4'	2:3:42:A:N7	2.34	0.42
3:4:94:C:H2'	41:l:72:ARG:HH12	1.81	0.42
7:D:8:VAL:O	7:D:11:THR:HG22	2.19	0.42
9:F:41:VAL:HG13	9:F:183:LEU:HD23	2.01	0.42
17:N:170:LEU:CD2	32:c:147:LEU:HD13	2.48	0.42
20:Q:157:GLU:HA	20:Q:160:ARG:HG2	2.01	0.42
48:t:200:GLU:HG3	48:t:583:GLY:HA3	2.01	0.42
48:t:512:LEU:HD22	48:t:852:TYR:HD1	1.84	0.42
48:t:705:MET:HG3	48:t:706:GLN:HG3	2.01	0.42
48:t:714:TYR:HE1	48:t:736:LYS:HE3	1.84	0.42
1:1:38:U:H4'	32:c:32:ARG:HG3	2.01	0.42
1:1:903:U:OP2	41:l:30:GLN:NE2	2.51	0.42
1:1:950:G:H21	1:1:1369:A:N6	2.06	0.42
1:1:1109:U:C5'	22:S:153:PHE:CB	2.97	0.42
1:1:1306:G:N3	20:Q:61:ALA:C	2.78	0.42
1:1:1322:U:O2	24:U:108:GLN:CD	2.62	0.42
1:1:1741:A:H1'	38:i:38:LEU:HD21	2.00	0.42
1:1:1821:U:C4	38:i:67:LYS:HD2	2.53	0.42
1:1:2388:U:O2'	21:R:80:LYS:CE	2.67	0.42
1:1:2674:A:C4	16:M:124:GLY:HA3	2.52	0.42
1:1:3013:U:H2'	1:1:3014:U:C6	2.55	0.42
1:1:3206:C:O4'	24:U:155:ARG:NH1	2.50	0.42
2:3:76:A:N3	24:U:50:LYS:CE	2.81	0.42
9:F:115:LYS:NZ	9:F:129:ALA:O	2.52	0.42
14:K:70:LYS:NZ	14:K:235:GLY:O	2.50	0.42
17:N:138:VAL:HG12	17:N:140:SER:H	1.84	0.42
1:1:76:G:OP1	17:N:72:GLY:C	2.62	0.42
1:1:103:G:P	17:N:70:ARG:NE	2.92	0.42
1:1:619:A:H5"	1:1:620:U:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:816:A:C2	1:1:919:U:H1'	2.53	0.42
1:1:1580:A:O2'	1:1:1581:C:O5'	2.25	0.42
1:1:2093:A:O5'	23:T:143:ILE:CG1	2.61	0.42
1:1:2130:G:H21	1:1:2132:C:H5'	1.84	0.42
1:1:2635:A:C6	25:V:10:ARG:NH2	2.78	0.42
1:1:2655:U:O2'	6:C:5:PRO:HG3	2.19	0.42
1:1:2723:U:P	25:V:87:LYS:CE	3.07	0.42
3:4:14:C:H4'	21:R:122:ALA:C	2.44	0.42
3:4:30:C:H2'	3:4:31:G:C8	2.54	0.42
3:4:64:U:OP1	39:j:49:LYS:NZ	2.45	0.42
11:H:17:GLN:OE1	25:V:22:HIS:N	2.52	0.42
19:P:190:THR:HA	19:P:193:ARG:HG2	2.01	0.42
48:t:141:PHE:HA	48:t:144:ALA:HB3	2.00	0.42
48:t:760:ARG:O	48:t:770:LYS:NZ	2.41	0.42
1:1:57:A:C5'	19:P:157:LYS:HD3	2.31	0.42
1:1:195:U:H2'	1:1:196:G:O4'	2.19	0.42
1:1:451:U:H2'	1:1:452:G:H8	1.84	0.42
1:1:618:C:O5'	21:R:169:THR:HG22	2.09	0.42
1:1:926:A:H2'	1:1:927:C:C6	2.55	0.42
1:1:1045:C:C1'	47:s:93:PHE:HD2	2.25	0.42
1:1:1339:C:H2'	1:1:1340:G:C8	2.52	0.42
1:1:1400:G:H2'	1:1:1401:A:C8	2.54	0.42
1:1:1881:A:H2'	1:1:1882:G:H8	1.85	0.42
1:1:2180:G:OP1	8:E:174:ARG:NH2	2.33	0.42
1:1:2372:A:N3	1:1:2868:U:H4'	2.33	0.42
1:1:3208:G:O6	20:Q:116:LYS:CE	2.68	0.42
1:1:3231:U:O2	1:1:3256:G:N2	2.37	0.42
1:1:3265:C:H2'	1:1:3266:G:H8	1.84	0.42
1:1:3267:A:N6	12:I:71:VAL:O	2.43	0.42
2:3:5:G:O6	2:3:117:A:N6	2.52	0.42
2:3:97:A:O2'	13:J:222:HIS:CD2	2.72	0.42
14:K:195:SER:O	14:K:197:VAL:N	2.52	0.42
1:1:609:G:OP2	10:G:315:LYS:NZ	2.52	0.42
1:1:651:G:H2'	1:1:652:G:C8	2.53	0.42
1:1:685:G:H5"	17:N:39:ARG:HH22	1.84	0.42
1:1:707:U:H1'	1:1:754:G:H1'	2.01	0.42
1:1:1109:U:O2'	22:S:153:PHE:CE1	2.58	0.42
1:1:1165:A:H2'	1:1:1166:G:H8	1.84	0.42
1:1:1321:G:C4'	24:U:117:ARG:NH1	2.83	0.42
1:1:1535:A:H62	1:1:1586:G:H21	0.67	0.42
1:1:1802:C:H2'	1:1:1803:C:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1863:G:N1	1:1:1866:C:OP2	2.47	0.42
1:1:2089:A:O2'	1:1:2090:U:O4'	2.19	0.42
1:1:2429:G:H2'	1:1:2430:A:C8	2.55	0.42
1:1:2584:G:O2'	14:K:240:ASN:ND2	2.52	0.42
1:1:2679:A:O2'	16:M:54:VAL:HG22	2.20	0.42
1:1:2864:A:O2'	47:s:114:MET:HE2	2.17	0.42
1:1:3003:G:H2'	1:1:3004:C:H6	1.83	0.42
1:1:3178:A:C4	20:Q:6:VAL:HG11	2.53	0.42
1:1:3186:A:O2'	18:O:12:TRP:CZ3	2.67	0.42
1:1:3359:A:H2'	1:1:3360:C:C6	2.54	0.42
2:3:39:C:C5'	16:M:44:THR:OG1	2.67	0.42
3:4:67:U:H4'	41:l:84:SER:O	2.20	0.42
10:G:7:THR:HA	10:G:19:ALA:HA	2.01	0.42
14:K:143:ILE:HD11	14:K:151:VAL:HG21	2.02	0.42
20:Q:74:ARG:HG2	20:Q:146:GLY:HA3	2.01	0.42
23:T:152:GLU:O	23:T:156:ASN:ND2	2.53	0.42
29:Z:117:ASN:OD1	29:Z:118:GLY:N	2.53	0.42
41:l:34:CYS:SG	41:l:35:SER:N	2.92	0.42
48:t:23:GLN:HB3	48:t:46:ILE:HD11	2.01	0.42
1:1:32:U:H2'	1:1:33:G:O4'	2.19	0.42
1:1:76:G:N1	1:1:315:C:OP1	2.27	0.42
1:1:100:A:O2'	1:1:101:G:O4'	2.32	0.42
1:1:682:U:C4	19:P:202:TYR:CD2	3.02	0.42
1:1:714:G:H4'	1:1:753:C:H4'	2.00	0.42
1:1:927:C:C2	1:1:928:C:C5	3.08	0.42
1:1:1197:A:N7	1:1:1198:C:N4	2.68	0.42
1:1:1203:A:H2'	1:1:1204:A:H8	1.84	0.42
1:1:1320:C:H1'	24:U:115:ARG:HH22	1.85	0.42
1:1:1322:U:C4'	24:U:111:ALA:CB	2.98	0.42
1:1:1488:G:O2'	38:i:12:PRO:HD3	2.20	0.42
1:1:1612:A:C5'	42:m:51:LEU:HD22	2.49	0.42
1:1:2138:A:C6	41:l:3:LYS:CB	3.03	0.42
1:1:2524:A:C2'	14:K:49:TYR:CD2	2.98	0.42
1:1:2669:G:O6	1:1:2686:A:N6	2.53	0.42
1:1:3248:C:H2'	1:1:3249:C:C6	2.55	0.42
1:1:3304:U:O4	1:1:3312:U:O2'	2.29	0.42
1:1:3356:G:H2'	1:1:3357:U:C6	2.54	0.42
2:3:20:A:H2'	2:3:21:G:H8	1.84	0.42
2:3:69:C:H2'	2:3:70:U:C6	2.55	0.42
3:4:102:U:O2'	41:l:20:ASN:O	2.35	0.42
3:4:142:C:O3'	19:P:60:VAL:HG21	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:141:GLY:HA2	9:F:144:ILE:HD12	2.00	0.42
10:G:311:HIS:ND1	13:J:162:PRO:HG2	2.31	0.42
32:c:75:LEU:HD23	32:c:78:LEU:HD13	2.02	0.42
1:1:11:A:N1	1:1:12:A:N6	2.67	0.42
1:1:71:A:OP1	32:c:67:HIS:NE2	2.53	0.42
1:1:261:U:H2'	1:1:262:U:C6	2.54	0.42
1:1:290:G:C4	19:P:93:LYS:HE2	2.53	0.42
1:1:1538:G:H2'	1:1:1539:A:H8	1.84	0.42
1:1:1594:A:O2'	1:1:1614:C:O2	2.38	0.42
1:1:1749:A:C3'	42:m:44:LYS:HZ2	2.18	0.42
1:1:1880:U:O4	1:1:1881:A:N6	2.53	0.42
1:1:2585:G:N7	14:K:52:TRP:HZ2	2.17	0.42
1:1:2601:A:H2'	1:1:2602:G:H8	1.83	0.42
1:1:2878:G:H2'	1:1:2879:C:C6	2.55	0.42
1:1:3000:A:H2'	1:1:3001:C:C6	2.55	0.42
1:1:3198:U:O4'	15:L:21:LYS:CD	2.68	0.42
7:D:59:CYS:C	7:D:61:LYS:H	2.28	0.42
8:E:7:ASN:OD1	8:E:8:GLN:N	2.53	0.42
13:J:189:ILE:HG23	13:J:190:THR:HG23	2.00	0.42
36:g:100:ILE:O	36:g:125:ARG:NH1	2.53	0.42
48:t:353:GLN:HB3	49:u:68:LEU:HA	2.00	0.42
1:1:22:G:OP1	41:l:43:LYS:CE	2.67	0.42
1:1:103:G:P	17:N:70:ARG:CD	3.08	0.42
1:1:339:C:OP2	10:G:197:ARG:NH2	2.52	0.42
1:1:346:C:O2	1:1:348:A:N6	2.53	0.42
1:1:451:U:P	50:v:83:GLN:N	2.92	0.42
1:1:598:A:P	13:J:41:ARG:NH1	2.86	0.42
1:1:879:U:C4'	21:R:135:ARG:NH2	2.82	0.42
1:1:960:U:H2'	1:1:961:C:C6	2.55	0.42
1:1:1310:G:H2'	1:1:1311:G:C8	2.54	0.42
1:1:1348:U:H4'	1:1:1349:G:OP1	2.17	0.42
1:1:1493:G:H5"	43:n:49:MET:HE3	1.92	0.42
1:1:2014:U:H2'	1:1:2015:C:H6	1.84	0.42
1:1:2402:A:H1'	1:1:2871:G:O4'	2.20	0.42
1:1:3082:C:H2'	1:1:3083:G:C8	2.54	0.42
9:F:4:ARG:O	9:F:6:TYR:N	2.53	0.42
12:I:98:VAL:O	12:I:100:LYS:N	2.53	0.42
12:I:131:LYS:HG3	12:I:133:GLU:H	1.84	0.42
31:b:21:LYS:HE3	31:b:47:GLU:HG3	2.02	0.42
40:k:27:SER:O	40:k:29:LYS:N	2.52	0.42
48:t:210:ASP:O	48:t:213:TYR:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:56:G:H4'	19:P:158:HIS:CB	2.50	0.42
1:1:156:G:C5'	40:k:25:LYS:HZ2	2.31	0.42
1:1:640:U:OP2	36:g:38:ILE:HG12	2.19	0.42
1:1:714:G:C6	32:c:113:LEU:HD11	2.55	0.42
1:1:768:C:H5"	17:N:179:PHE:CE2	2.54	0.42
1:1:944:C:H4'	36:g:33:ARG:NH1	2.34	0.42
1:1:987:U:H2'	1:1:988:U:C6	2.54	0.42
1:1:1321:G:C4'	24:U:117:ARG:HH22	2.15	0.42
1:1:2098:C:H2'	1:1:2099:A:C5	2.55	0.42
1:1:2352:A:OP2	21:R:82:ARG:CD	2.67	0.42
1:1:2630:C:H5'	25:V:6:GLY:N	2.33	0.42
1:1:2681:U:H2'	1:1:2682:C:C6	2.54	0.42
1:1:2866:U:H4'	1:1:2867:C:C6	2.55	0.42
1:1:2948:C:H5"	9:F:243:HIS:HB3	2.02	0.42
1:1:3181:C:C3'	20:Q:164:SER:OG	2.45	0.42
1:1:3198:U:O4	15:L:26:LYS:CB	2.54	0.42
2:3:43:U:O4'	16:M:140:ARG:HG3	2.20	0.42
11:H:33:ARG:HG2	25:V:27:LEU:CD1	2.49	0.42
32:c:126:LYS:HE2	32:c:148:ILE:HD13	2.02	0.42
1:1:169:U:P	17:N:128:ARG:CD	2.82	0.42
1:1:266:A:C4	40:k:30:LYS:CE	2.83	0.42
1:1:290:G:H1'	19:P:70:ASN:OD1	2.20	0.42
1:1:761:A:N6	1:1:770:G:H21	2.17	0.42
1:1:786:A:C6	22:S:88:THR:HG21	2.53	0.42
1:1:1044:U:H4'	47:s:90:VAL:HA	2.01	0.42
1:1:1231:A:H5"	1:1:1232:C:C5'	2.48	0.42
1:1:1234:G:OP2	1:1:1235:U:H3'	2.19	0.42
1:1:1288:U:H2'	1:1:1289:G:C8	2.48	0.42
1:1:1779:C:O4'	23:T:97:ARG:NH2	2.53	0.42
1:1:1954:G:H2'	1:1:1955:U:C6	2.55	0.42
1:1:2178:A:P	1:1:2178:A:H8	2.43	0.42
1:1:2278:C:P	45:p:23:ARG:HH11	2.42	0.42
1:1:2673:A:H4'	16:M:104:PHE:CA	2.50	0.42
1:1:2736:A:C5'	25:V:71:SER:OG	2.68	0.42
1:1:2999:U:H2'	1:1:3000:A:C8	2.55	0.42
1:1:3192:U:H2'	1:1:3193:C:C6	2.55	0.42
2:3:24:A:H1'	2:3:120:C:H4'	2.01	0.42
2:3:36:C:H2'	2:3:37:G:C8	2.53	0.42
2:3:91:G:N1	47:s:55:GLU:OE2	2.53	0.42
4:A:73:A:OP1	47:s:105:ALA:HB3	2.19	0.42
9:F:119:TYR:HE2	9:F:129:ALA:HB2	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:351:PRO:CA	13:J:70:LYS:O	2.65	0.42
17:N:64:LYS:HA	32:c:69:TRP:CZ3	2.55	0.42
25:V:66:ASN:HD21	33:d:35:VAL:CG1	2.27	0.42
1:1:214:G:H2'	1:1:215:G:H8	1.84	0.41
1:1:976:U:C5'	22:S:144:ARG:NH1	2.63	0.41
1:1:1186:G:H4'	24:U:113:ARG:HH22	0.98	0.41
1:1:1592:G:OP1	38:i:58:ARG:CZ	2.53	0.41
1:1:2648:G:H2'	1:1:2649:A:C8	2.54	0.41
1:1:2897:A:H2'	1:1:2899:C:O5'	2.20	0.41
1:1:2991:A:O2'	1:1:3309:G:N7	2.53	0.41
17:N:6:ASN:CG	32:c:48:TYR:HD1	2.28	0.41
24:U:6:GLU:OE2	24:U:28:ARG:NH1	2.53	0.41
28:Y:1:MET:HG3	28:Y:15:PRO:HG2	2.02	0.41
38:i:25:THR:OG1	38:i:29:ILE:O	2.34	0.41
41:l:22:CYS:SG	41:l:23:GLY:N	2.93	0.41
47:s:46:PRO:HD2	47:s:140:LYS:HA	2.02	0.41
1:1:120:G:O2'	1:1:121:A:N7	2.48	0.41
1:1:181:U:H4'	41:l:75:LYS:CD	2.50	0.41
1:1:495:G:H1	1:1:618:C:H42	1.67	0.41
1:1:516:A:H2'	1:1:517:G:C8	2.54	0.41
1:1:726:G:N2	1:1:743:C:OP2	2.53	0.41
1:1:798:G:C2	17:N:14:PHE:CE2	3.01	0.41
1:1:1213:G:OP1	24:U:137:ARG:HD2	2.18	0.41
1:1:1321:G:C8	24:U:115:ARG:NH1	2.83	0.41
1:1:1399:A:C6	3:4:8:C:H1'	2.56	0.41
1:1:1602:A:H4'	23:T:10:LEU:HD11	2.03	0.41
1:1:1709:C:H2'	1:1:1710:C:C6	2.56	0.41
1:1:1811:G:H2'	1:1:1812:G:C8	2.56	0.41
1:1:1846:C:C4	51:z:10:UNK:HA	2.55	0.41
1:1:2179:C:H2'	8:E:132:ASN:HD21	1.85	0.41
1:1:2392:C:H1'	9:F:266:ARG:HH21	1.84	0.41
1:1:2721:A:H2'	1:1:2722:U:H6	1.85	0.41
1:1:3183:A:P	20:Q:12:LYS:CD	2.99	0.41
1:1:3265:C:H2'	1:1:3266:G:C8	2.55	0.41
3:4:36:G:C8	39:j:86:ARG:HD3	2.56	0.41
7:D:19:GLY:O	7:D:23:ARG:NE	2.36	0.41
13:J:232:ARG:HA	24:U:35:VAL:HG21	2.02	0.41
14:K:50:VAL:HA	29:Z:30:ALA:O	2.20	0.41
1:1:100:A:H2'	1:1:101:G:N3	2.35	0.41
1:1:201:A:H4'	1:1:220:G:N1	2.35	0.41
1:1:215:G:H2'	1:1:216:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:426:G:N3	36:g:48:GLY:HA2	2.34	0.41
1:1:560:G:H5'	18:O:80:THR:OG1	2.21	0.41
1:1:794:U:H2'	1:1:795:G:H8	1.85	0.41
1:1:823:C:H2'	1:1:824:C:C6	2.55	0.41
1:1:1059:G:HO2'	25:V:61:THR:N	2.08	0.41
1:1:1059:G:C1'	25:V:59:GLY:O	2.52	0.41
1:1:1321:G:N9	24:U:115:ARG:NH1	2.68	0.41
1:1:1370:G:H5"	32:c:18:GLY:HA2	2.01	0.41
1:1:1433:A:O2'	1:1:1434:G:O4'	2.36	0.41
1:1:1649:U:H2'	1:1:1650:G:C8	2.55	0.41
1:1:1789:G:H2'	1:1:1790:G:H8	1.86	0.41
1:1:2198:A:H2'	1:1:2199:G:H5'	2.02	0.41
1:1:2527:G:C1'	14:K:241:LYS:CE	2.90	0.41
1:1:2634:U:H3	1:1:2635:A:H62	1.68	0.41
1:1:2744:U:H2'	1:1:2745:G:H8	1.84	0.41
1:1:2797:C:H4'	1:1:2798:C:OP2	2.20	0.41
1:1:3019:U:O2	1:1:3035:A:N6	2.38	0.41
1:1:3095:U:H2'	1:1:3096:C:H6	1.85	0.41
1:1:3181:C:C2	20:Q:165:ALA:CA	2.81	0.41
3:4:143:U:OP2	19:P:38:ARG:NH2	2.53	0.41
5:B:63:C:H2'	5:B:64:G:H8	1.85	0.41
10:G:299:ILE:HG21	22:S:39:ARG:CD	2.50	0.41
19:P:36:ILE:HG12	19:P:64:VAL:HG23	2.02	0.41
29:Z:60:TYR:CE2	39:j:22:VAL:HA	2.47	0.41
32:c:7:LYS:O	32:c:11:HIS:ND1	2.38	0.41
47:s:128:VAL:HG11	47:s:134:ILE:HD11	2.03	0.41
1:1:49:A:C6	19:P:187:ARG:CZ	2.81	0.41
1:1:209:A:O2'	1:1:211:A:OP2	2.38	0.41
1:1:737:G:H2'	1:1:738:A:H8	1.86	0.41
1:1:825:U:H4'	1:1:1587:A:H2	1.84	0.41
1:1:854:G:C2	1:1:855:U:C4	3.08	0.41
1:1:932:U:H4'	1:1:933:A:H3'	2.02	0.41
1:1:991:G:N1	1:1:1059:G:N7	2.67	0.41
1:1:1024:G:O2'	1:1:1026:A:N6	2.45	0.41
1:1:1057:A:OP1	13:J:98:LYS:HE3	2.19	0.41
1:1:1129:A:O2'	1:1:1130:A:O4'	2.23	0.41
1:1:1589:A:C8	38:i:13:TYR:CE2	3.09	0.41
1:1:1803:C:H2'	1:1:1804:A:C8	2.55	0.41
1:1:1890:U:O4	1:1:1891:A:N6	2.53	0.41
1:1:1925:U:H1'	7:D:20:SER:HB3	2.02	0.41
1:1:2294:U:O2'	1:1:2296:A:N7	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2435:G:H4'	19:P:24:ARG:NH2	2.35	0.41
1:1:2516:U:H5"	19:P:31:ARG:CZ	2.50	0.41
1:1:2673:A:O3'	16:M:104:PHE:CA	2.62	0.41
1:1:2757:U:H4'	25:V:8:ARG:HG3	2.03	0.41
2:3:11:A:N6	11:H:14:SER:O	2.53	0.41
10:G:265:GLU:HG2	10:G:266:THR:HG23	2.01	0.41
10:G:316:ASN:OD1	13:J:150:LYS:HG3	2.21	0.41
10:G:323:VAL:HA	10:G:326:ARG:HG2	2.02	0.41
14:K:26:LEU:HD12	31:b:53:VAL:HG11	2.01	0.41
21:R:89:LYS:HA	21:R:92:GLN:HG2	2.01	0.41
27:X:135:VAL:HG11	28:Y:26:SER:HB3	2.02	0.41
29:Z:132:ALA:HA	29:Z:135:ILE:HG22	2.02	0.41
35:f:82:GLU:HA	48:t:51:GLY:H	1.86	0.41
40:k:2:THR:OG1	40:k:4:LYS:NZ	2.45	0.41
1:1:108:A:N1	17:N:55:ARG:NH1	2.51	0.41
1:1:291:C:H5"	19:P:68:ARG:HH21	1.81	0.41
1:1:512:U:H2'	1:1:513:G:C8	2.56	0.41
1:1:522:A:O2'	24:U:65:ASN:HB2	2.20	0.41
1:1:691:A:H62	10:G:48:GLN:HG2	1.85	0.41
1:1:780:A:O4'	22:S:162:ALA:CA	2.69	0.41
1:1:800:G:H2'	1:1:800:G:N3	2.35	0.41
1:1:1348:U:O4'	1:1:1355:A:N6	2.53	0.41
1:1:1374:G:O6	32:c:10:LYS:NZ	2.42	0.41
1:1:1665:C:H2'	1:1:1666:G:C8	2.54	0.41
1:1:1941:C:H42	1:1:2107:A:N6	2.19	0.41
1:1:1974:A:C2'	42:m:60:GLY:CA	2.97	0.41
1:1:2252:A:H2'	1:1:2253:G:C8	2.56	0.41
1:1:2689:A:H4'	1:1:2690:G:C4	2.55	0.41
1:1:2756:C:O2'	25:V:8:ARG:CD	2.54	0.41
1:1:2829:U:H4'	47:s:103:SER:OG	2.20	0.41
1:1:3213:A:H3'	18:O:125:LYS:NZ	2.34	0.41
2:3:3:U:O2'	2:3:25:G:N3	2.48	0.41
9:F:166:ILE:HG21	9:F:175:LYS:N	2.35	0.41
9:F:284:ARG:H	9:F:323:MET:HB3	1.84	0.41
29:Z:114:VAL:HB	43:n:10:LYS:NZ	2.33	0.41
1:1:286:U:O2	19:P:182:ASN:ND2	2.53	0.41
1:1:299:G:N7	40:k:31:GLY:N	2.66	0.41
1:1:522:A:O2'	24:U:65:ASN:HB3	2.20	0.41
1:1:653:A:H5"	1:1:2361:A:H5"	2.01	0.41
1:1:726:G:H21	1:1:744:A:H62	1.69	0.41
1:1:949:C:H5"	22:S:9:GLN:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1418:A:HO2'	1:1:1419:A:P	2.41	0.41
1:1:1505:C:H2'	1:1:1506:A:C8	2.56	0.41
1:1:1948:G:H2'	1:1:1949:G:H8	1.84	0.41
1:1:1949:G:O6	1:1:2097:U:O4	2.39	0.41
1:1:2255:A:H62	1:1:2260:U:H3	1.68	0.41
1:1:3185:U:C2	24:U:169:SER:HA	2.55	0.41
2:3:27:A:H2'	2:3:28:C:H6	1.85	0.41
3:4:12:A:O3'	21:R:2:ALA:O	2.38	0.41
3:4:94:C:OP2	41:l:72:ARG:CG	2.67	0.41
4:A:13:C:HO2'	4:A:14:A:C5'	2.32	0.41
6:C:38:GLN:OE1	32:c:59:ARG:NH2	2.53	0.41
7:D:52:ALA:HB3	8:E:50:HIS:CE1	2.55	0.41
10:G:281:ILE:CG1	22:S:125:ASP:OD2	2.67	0.41
14:K:77:GLN:NE2	14:K:167:PRO:HG2	2.35	0.41
23:T:47:ASN:OD1	23:T:48:GLY:N	2.53	0.41
32:c:36:GLY:HA3	32:c:40:HIS:CE1	2.56	0.41
32:c:129:PHE:CE1	40:k:9:ILE:CD1	2.97	0.41
49:u:36:HIS:HD2	49:u:99:LYS:HB3	1.86	0.41
1:1:268:A:N7	19:P:12:ARG:NE	2.69	0.41
1:1:560:G:H2'	1:1:561:C:C6	2.56	0.41
1:1:712:G:H5'	17:N:174:ARG:CZ	2.50	0.41
1:1:956:U:H2'	1:1:957:C:C6	2.55	0.41
1:1:998:A:H4'	2:3:103:A:C2	2.55	0.41
1:1:1523:U:H5	1:1:1605:A:H2	1.69	0.41
1:1:1649:U:H2'	1:1:1650:G:H8	1.86	0.41
1:1:1882:G:H2'	1:1:1883:A:C8	2.55	0.41
1:1:2290:C:H2'	1:1:2291:A:C8	2.55	0.41
1:1:2352:A:O3'	21:R:85:ALA:HB3	2.19	0.41
1:1:2425:G:OP2	19:P:90:ASN:ND2	2.54	0.41
1:1:2435:G:H4'	19:P:24:ARG:HH22	1.86	0.41
1:1:2679:A:C2'	16:M:52:TYR:OH	2.69	0.41
1:1:3153:U:H5	1:1:3293:U:H3	1.68	0.41
2:3:57:G:OP1	16:M:149:GLY:N	2.53	0.41
3:4:14:C:H1'	21:R:121:GLN:HB3	2.03	0.41
3:4:136:G:O2'	29:Z:42:ARG:NH1	2.42	0.41
4:A:44:U:H2'	4:A:45:G:O4'	2.20	0.41
8:E:209:HIS:CE1	8:E:235:ALA:HB1	2.56	0.41
9:F:262:TRP:HE1	20:Q:66:LYS:HG2	1.77	0.41
11:H:259:LYS:HG3	11:H:260:PHE:CD2	2.55	0.41
22:S:157:PRO:HD3	32:c:47:LYS:HE3	2.03	0.41
25:V:83:ARG:CB	33:d:22:LYS:HB2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:X:26:ALA:HB1	27:X:114:ILE:HG23	2.02	0.41
28:Y:23:ARG:NH2	28:Y:25:ASP:OD2	2.44	0.41
31:b:75:VAL:HG11	31:b:80:LEU:HD21	2.01	0.41
41:l:46:SER:HB2	41:l:54:LYS:HE2	2.01	0.41
47:s:15:PRO:HG3	47:s:127:ARG:HH12	1.85	0.41
48:t:327:LYS:NZ	48:t:331:GLU:OE2	2.40	0.41
48:t:696:ALA:HA	48:t:700:TYR:HB3	2.03	0.41
49:u:162:LEU:HD22	49:u:166:ARG:HH12	1.86	0.41
1:1:797:U:OP1	17:N:2:ALA:HA	2.21	0.41
1:1:1321:G:H4'	24:U:117:ARG:HH12	1.86	0.41
1:1:1686:U:H5"	26:W:42:LYS:HZ1	1.85	0.41
1:1:1757:A:H2'	1:1:1758:G:H8	1.85	0.41
1:1:2742:C:H2'	1:1:2743:A:C8	2.52	0.41
1:1:2896:A:H5'	44:o:124:LYS:HZ2	1.82	0.41
1:1:3150:A:O2'	1:1:3294:A:O2'	2.18	0.41
9:F:57:VAL:HG22	9:F:73:VAL:HG12	2.03	0.41
10:G:316:ASN:OD1	13:J:150:LYS:HA	2.21	0.41
14:K:133:LYS:HD2	14:K:138:HIS:CE1	2.56	0.41
19:P:122:ASN:OD1	19:P:123:GLN:N	2.54	0.41
27:X:13:ILE:HB	27:X:85:TRP:HB2	2.02	0.41
29:Z:46:TYR:CB	39:j:75:TYR:O	2.60	0.41
41:l:54:LYS:O	41:l:58:THR:HG23	2.21	0.41
1:1:16:A:H2'	1:1:17:G:H8	1.85	0.41
1:1:23:A:OP1	41:l:44:THR:CA	2.69	0.41
1:1:76:G:C6	17:N:101:ARG:N	2.88	0.41
1:1:118:U:H3'	1:1:119:U:H5"	2.02	0.41
1:1:299:G:O6	40:k:30:LYS:HB3	2.20	0.41
1:1:412:G:P	21:R:62:ARG:NH1	2.92	0.41
1:1:442:G:H2'	1:1:443:G:C8	2.56	0.41
1:1:515:C:H2'	1:1:516:A:C8	2.56	0.41
1:1:561:C:C5'	18:O:76:ALA:HA	2.41	0.41
1:1:597:G:H5'	13:J:41:ARG:CD	2.50	0.41
1:1:727:G:C2	1:1:728:G:H1'	2.56	0.41
1:1:739:G:H2'	1:1:740:G:C8	2.55	0.41
1:1:894:G:H4'	1:1:895:A:C8	2.56	0.41
1:1:914:A:O2'	1:1:915:A:O5'	2.34	0.41
1:1:1043:C:C5'	47:s:89:ARG:NH1	2.84	0.41
1:1:1139:G:O2'	13:J:94:LYS:CG	2.54	0.41
1:1:1189:C:C5	20:Q:133:ARG:CZ	3.02	0.41
1:1:1343:A:H2'	1:1:1344:G:C8	2.55	0.41
1:1:1448:U:OP2	21:R:82:ARG:NH1	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1698:C:H2'	1:1:1699:A:H8	1.85	0.41
1:1:2007:G:O6	1:1:2014:U:O4	2.38	0.41
1:1:2208:A:O2'	1:1:2209:U:OP1	2.35	0.41
1:1:2507:C:H2'	1:1:2508:U:C6	2.56	0.41
1:1:2512:C:H5"	14:K:249:ARG:NH1	2.33	0.41
1:1:2549:G:C8	14:K:35:GLY:HA2	2.56	0.41
1:1:2721:A:H2'	1:1:2722:U:C6	2.56	0.41
1:1:2877:G:H2'	1:1:2878:G:H8	1.86	0.41
1:1:3060:C:H5"	1:1:3372:A:H1'	2.02	0.41
1:1:3114:A:C2'	15:L:62:ARG:NH2	2.84	0.41
1:1:3156:U:O2'	1:1:3157:U:OP1	2.33	0.41
1:1:3160:U:H3	1:1:3290:G:H1	1.67	0.41
1:1:3162:C:H2'	1:1:3163:A:C8	2.50	0.41
1:1:3187:A:N1	1:1:3205:G:O6	2.54	0.41
1:1:3211:C:C2	1:1:3212:C:C5	3.09	0.41
2:3:39:C:N3	16:M:70:THR:OG1	2.54	0.41
2:3:68:C:H2'	2:3:69:C:H6	1.86	0.41
2:3:92:A:N1	47:s:55:GLU:HG2	2.24	0.41
3:4:29:U:H2'	3:4:30:C:C6	2.56	0.41
3:4:34:U:H4'	41:l:78:PHE:CZ	2.45	0.41
3:4:78:G:O2'	39:j:42:PRO:HG2	2.21	0.41
3:4:97:A:H4'	39:j:63:ARG:CD	2.51	0.41
6:C:47:GLN:HE22	6:C:53:GLN:HA	1.86	0.41
8:E:14:SER:OG	8:E:15:ILE:N	2.50	0.41
8:E:201:GLY:HA3	8:E:209:HIS:CD2	2.56	0.41
10:G:290:ILE:HG23	22:S:35:PHE:CD2	2.56	0.41
18:O:20:VAL:O	18:O:66:THR:OG1	2.33	0.41
30:a:82:VAL:HG12	30:a:85:VAL:H	1.86	0.41
38:i:74:ARG:HH12	38:i:82:ALA:H	1.67	0.41
41:l:5:THR:N	41:l:6:PRO:HD2	2.35	0.41
48:t:697:THR:HA	48:t:701:ASN:ND2	2.35	0.41
1:1:210:U:C2	1:1:230:U:H4'	2.56	0.41
1:1:359:U:O4'	1:1:817:A:N6	2.54	0.41
1:1:374:A:O2'	1:1:376:G:H8	2.04	0.41
1:1:1109:U:C3'	22:S:153:PHE:HE1	2.30	0.41
1:1:1385:C:H41	10:G:202:ARG:NH2	2.19	0.41
1:1:1449:A:H3'	1:1:1450:G:H8	1.86	0.41
1:1:2549:G:C5	14:K:34:PHE:O	2.73	0.41
1:1:2660:G:H4'	1:1:2749:G:H22	1.84	0.41
1:1:2660:G:H4'	1:1:2749:G:N2	2.36	0.41
1:1:2680:A:H2	16:M:24:GLY:CA	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2682:C:H2'	1:1:2683:U:C6	2.56	0.41
1:1:2745:G:N2	1:1:2747:A:H3'	2.35	0.41
1:1:3178:A:C5	20:Q:6:VAL:HG21	2.56	0.41
1:1:3207:U:OP1	18:O:99:TRP:HZ2	1.90	0.41
1:1:3215:A:C6	1:1:3259:U:H1'	2.56	0.41
2:3:16:U:H2'	2:3:17:A:H8	1.84	0.41
3:4:36:G:N7	39:j:86:ARG:HD3	2.36	0.41
7:D:84:ARG:HH11	7:D:87:ARG:HH21	1.69	0.41
9:F:262:TRP:HE1	20:Q:66:LYS:NZ	2.19	0.41
10:G:125:ALA:O	10:G:129:THR:HG23	2.21	0.41
11:H:68:THR:HG22	11:H:70:THR:H	1.85	0.41
17:N:27:ASP:OD1	17:N:27:ASP:N	2.52	0.41
29:Z:63:ILE:H	29:Z:63:ILE:HG13	1.74	0.41
29:Z:114:VAL:HG11	43:n:10:LYS:NZ	1.94	0.41
47:s:109:ARG:HD3	47:s:109:ARG:H	1.86	0.41
1:1:93:C:OP2	1:1:2764:C:H1'	2.21	0.40
1:1:149:U:H5'	19:P:54:LYS:CE	2.33	0.40
1:1:291:C:H5"	19:P:68:ARG:CZ	2.51	0.40
1:1:785:G:C1'	22:S:92:ARG:CZ	2.99	0.40
1:1:1320:C:C2'	24:U:115:ARG:NH2	2.84	0.40
1:1:1488:G:N3	38:i:12:PRO:HG3	2.36	0.40
1:1:1501:U:H3	1:1:1515:A:H61	1.69	0.40
1:1:1588:A:N1	43:n:4:GLN:HG3	2.07	0.40
1:1:1850:A:HO2'	1:1:1851:G:P	2.41	0.40
1:1:2379:U:H2'	1:1:2380:U:C6	2.56	0.40
1:1:2433:U:OP2	1:1:2434:U:O2'	2.24	0.40
1:1:2553:U:O2	1:1:2553:U:H2'	2.20	0.40
1:1:2620:G:H2'	1:1:2621:G:H8	1.85	0.40
1:1:2635:A:H4'	1:1:2636:A:C2	2.56	0.40
1:1:2898:G:N7	44:o:125:LYS:NZ	2.70	0.40
1:1:3025:C:H4'	15:L:175:PHE:CZ	2.57	0.40
9:F:143:GLY:O	9:F:147:GLU:HG2	2.21	0.40
17:N:157:ARG:HG2	32:c:101:VAL:CG2	2.51	0.40
20:Q:35:VAL:HB	20:Q:104:VAL:HG22	2.03	0.40
27:X:80:ARG:HB2	27:X:99:ALA:HB3	2.03	0.40
35:f:29:ALA:HB3	35:f:30:PRO:HD3	2.01	0.40
49:u:36:HIS:HB3	49:u:97:LEU:HD11	2.03	0.40
1:1:42:C:H2'	1:1:43:A:H5"	2.02	0.40
1:1:60:A:H2'	1:1:61:A:H8	1.86	0.40
1:1:88:A:C6	1:1:99:A:N1	2.90	0.40
1:1:147:U:C4	14:K:194:THR:HG21	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:699:A:OP1	17:N:68:LYS:CE	2.65	0.40
1:1:785:G:C8	22:S:92:ARG:NH2	2.88	0.40
1:1:1059:G:H1'	25:V:60:LYS:HA	2.03	0.40
1:1:1318:A:N6	20:Q:18:ARG:CB	2.82	0.40
1:1:1446:A:N1	1:1:2356:A:H5"	2.37	0.40
1:1:1517:G:H5"	43:n:22:PRO:HG3	1.97	0.40
1:1:1695:U:C2	38:i:26:PRO:CG	3.04	0.40
1:1:2166:A:C1'	19:P:74:PRO:CA	2.93	0.40
1:1:2536:A:H2'	1:1:2537:U:N1	2.35	0.40
1:1:2665:U:O4	1:1:2703:A:H4'	2.21	0.40
1:1:2679:A:H4'	16:M:52:TYR:HH	1.77	0.40
1:1:2832:C:H2'	1:1:2833:A:C8	2.52	0.40
1:1:2934:A:H2'	1:1:2935:U:O4'	2.21	0.40
1:1:2956:A:H61	1:1:2977:G:H1'	1.86	0.40
2:3:92:A:H2	47:s:55:GLU:HA	1.87	0.40
10:G:329:PRO:C	13:J:45:LEU:CD1	2.86	0.40
11:H:51:LEU:N	11:H:145:PHE:O	2.50	0.40
15:L:106:LYS:HB3	15:L:111:PHE:HD2	1.86	0.40
27:X:39:VAL:HB	27:X:42:SER:HB3	2.02	0.40
30:a:56:VAL:HA	30:a:106:ILE:HA	2.02	0.40
37:h:14:LEU:HD11	37:h:31:LYS:HB2	2.02	0.40
48:t:380:PRO:HG2	48:t:381:ILE:HD12	2.04	0.40
1:1:76:G:C3'	17:N:100:ARG:NH1	2.84	0.40
1:1:183:G:H2'	1:1:184:U:H6	1.86	0.40
1:1:189:G:O2'	1:1:190:U:H4'	2.20	0.40
1:1:650:C:H2'	1:1:651:G:C8	2.56	0.40
1:1:750:G:C2	1:1:751:A:C8	3.09	0.40
1:1:1039:U:H2'	1:1:1040:A:H8	1.86	0.40
1:1:1323:G:OP1	24:U:1:MET:CA	2.69	0.40
1:1:1447:G:P	21:R:27:LYS:NZ	2.94	0.40
1:1:1682:U:C5	26:W:85:LYS:HD3	2.56	0.40
1:1:1946:A:H2'	1:1:1947:G:C8	2.56	0.40
1:1:2131:A:H61	7:D:18:TYR:HA	1.86	0.40
1:1:2416:U:H2'	1:1:2417:U:C6	2.57	0.40
1:1:3344:A:N6	1:1:3361:G:O2'	2.54	0.40
2:3:55:A:C2'	16:M:10:ARG:HD3	2.51	0.40
3:4:60:U:C6	39:j:55:LEU:HD13	2.55	0.40
7:D:66:GLY:HA2	8:E:80:GLU:HG3	2.03	0.40
10:G:270:SER:OG	10:G:271:LYS:N	2.54	0.40
11:H:295:GLY:HA2	47:s:216:PHE:O	2.21	0.40
21:R:168:LEU:HD13	21:R:173:ARG:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:m:56:ILE:HG22	42:m:58:ASP:H	1.86	0.40
1:1:157:A:O4'	40:k:26:ILE:HD13	2.21	0.40
1:1:319:A:H4'	19:P:51:LEU:HD21	1.99	0.40
1:1:371:G:N2	1:1:375:A:H62	2.19	0.40
1:1:648:C:N4	1:1:2375:G:H4'	2.36	0.40
1:1:720:A:H5'	1:1:721:G:H5'	2.03	0.40
1:1:1733:G:H2'	1:1:1734:G:C8	2.57	0.40
1:1:2087:C:H2'	1:1:2088:A:H2'	2.04	0.40
1:1:2295:A:N6	1:1:2296:A:N1	2.69	0.40
1:1:2452:G:N2	1:1:2494:A:H62	2.20	0.40
1:1:2673:A:O2'	16:M:104:PHE:C	2.64	0.40
1:1:3112:G:H4'	15:L:73:SER:HB3	2.03	0.40
1:1:3152:U:H1'	1:1:3294:A:C5	2.56	0.40
2:3:77:G:C6	24:U:50:LYS:O	2.74	0.40
3:4:85:G:C8	30:a:113:LYS:HD2	2.57	0.40
10:G:289:ILE:CG2	22:S:32:LEU:HD11	2.51	0.40
14:K:61:GLN:HB3	19:P:28:TRP:CH2	2.54	0.40
24:U:81:TYR:O	24:U:87:THR:OG1	2.33	0.40
35:f:24:SER:O	35:f:28:ARG:HG3	2.20	0.40
48:t:849:ILE:HA	48:t:853:TYR:HB2	2.03	0.40
1:1:31:C:O3'	19:P:94:TYR:CZ	2.75	0.40
1:1:553:U:H2'	1:1:554:A:O4'	2.22	0.40
1:1:583:G:H4'	37:h:106:ASN:HD21	1.85	0.40
1:1:598:A:P	13:J:41:ARG:NH2	2.89	0.40
1:1:647:A:O2'	1:1:649:A:OP1	2.25	0.40
1:1:727:G:H2'	1:1:728:G:O4'	2.21	0.40
1:1:764:U:O2'	1:1:765:C:OP1	2.32	0.40
1:1:824:C:H2'	1:1:825:U:O4'	2.20	0.40
1:1:1089:G:H2'	1:1:1090:G:H8	1.86	0.40
1:1:1108:U:H2'	1:1:1109:U:H6	1.86	0.40
1:1:1184:A:N6	1:1:1323:G:O6	2.55	0.40
1:1:1186:G:C2'	24:U:113:ARG:CZ	2.80	0.40
1:1:1223:A:N3	1:1:1223:A:H2'	2.35	0.40
1:1:1667:A:H2'	1:1:1668:G:H8	1.87	0.40
1:1:1722:U:O3'	23:T:99:LEU:HD13	2.21	0.40
1:1:1827:C:H2'	1:1:1828:A:C8	2.57	0.40
1:1:1862:U:H2'	1:1:1863:G:O4'	2.21	0.40
1:1:2619:G:H2'	1:1:2619:G:N3	2.37	0.40
1:1:3034:C:HO2'	15:L:122:LYS:HD3	1.85	0.40
1:1:3170:A:H2'	1:1:3171:U:C6	2.56	0.40
10:G:112:LYS:CG	19:P:202:TYR:HB3	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:15:ARG:CZ	25:V:19:PHE:CE1	3.00	0.40
11:H:41:LYS:HE2	25:V:93:VAL:HG12	2.03	0.40
16:M:54:VAL:O	16:M:56:THR:N	2.47	0.40
21:R:171:ARG:HH21	37:h:60:ARG:NH1	2.04	0.40
30:a:54:ASP:OD1	30:a:110:HIS:N	2.55	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	C	103/106 (97%)	84 (82%)	18 (18%)	1 (1%)	13	39
7	D	89/92 (97%)	81 (91%)	7 (8%)	1 (1%)	12	37
8	E	250/254 (98%)	212 (85%)	34 (14%)	4 (2%)	8	29
9	F	384/387 (99%)	330 (86%)	47 (12%)	7 (2%)	7	27
10	G	359/362 (99%)	308 (86%)	37 (10%)	14 (4%)	2	15
11	H	294/297 (99%)	258 (88%)	31 (10%)	5 (2%)	7	28
12	I	152/176 (86%)	135 (89%)	16 (10%)	1 (1%)	19	47
13	J	220/244 (90%)	191 (87%)	22 (10%)	7 (3%)	3	18
14	K	231/256 (90%)	203 (88%)	22 (10%)	6 (3%)	4	22
15	L	189/191 (99%)	166 (88%)	20 (11%)	3 (2%)	8	29
16	M	167/174 (96%)	132 (79%)	30 (18%)	5 (3%)	3	19
17	N	191/199 (96%)	162 (85%)	22 (12%)	7 (4%)	2	16
18	O	134/138 (97%)	114 (85%)	18 (13%)	2 (2%)	8	30
19	P	201/204 (98%)	177 (88%)	20 (10%)	4 (2%)	6	25
20	Q	195/199 (98%)	181 (93%)	14 (7%)	0	100	100
21	R	181/184 (98%)	148 (82%)	30 (17%)	3 (2%)	7	28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
22	S	183/186 (98%)	164 (90%)	16 (9%)	3 (2%)	8 29
23	T	186/189 (98%)	173 (93%)	11 (6%)	2 (1%)	12 37
24	U	170/172 (99%)	137 (81%)	31 (18%)	2 (1%)	11 35
25	V	157/160 (98%)	135 (86%)	18 (12%)	4 (2%)	4 22
26	W	98/121 (81%)	77 (79%)	18 (18%)	3 (3%)	3 18
27	X	134/137 (98%)	119 (89%)	15 (11%)	0	100 100
28	Y	96/155 (62%)	83 (86%)	12 (12%)	1 (1%)	13 39
29	Z	119/142 (84%)	110 (92%)	7 (6%)	2 (2%)	7 28
30	a	124/127 (98%)	113 (91%)	10 (8%)	1 (1%)	16 44
31	b	133/136 (98%)	117 (88%)	13 (10%)	3 (2%)	5 23
32	c	146/149 (98%)	121 (83%)	18 (12%)	7 (5%)	2 12
33	d	56/59 (95%)	50 (89%)	3 (5%)	3 (5%)	1 10
34	e	95/105 (90%)	92 (97%)	3 (3%)	0	100 100
35	f	107/109 (98%)	95 (89%)	9 (8%)	3 (3%)	4 20
36	g	125/130 (96%)	114 (91%)	8 (6%)	3 (2%)	5 23
37	h	104/107 (97%)	95 (91%)	9 (9%)	0	100 100
38	i	110/121 (91%)	102 (93%)	7 (6%)	1 (1%)	14 41
39	j	117/120 (98%)	102 (87%)	13 (11%)	2 (2%)	7 28
40	k	97/100 (97%)	77 (79%)	15 (16%)	5 (5%)	1 10
41	l	85/88 (97%)	70 (82%)	15 (18%)	0	100 100
42	m	75/78 (96%)	64 (85%)	11 (15%)	0	100 100
43	n	48/51 (94%)	41 (85%)	7 (15%)	0	100 100
44	o	50/128 (39%)	45 (90%)	4 (8%)	1 (2%)	6 25
45	p	23/25 (92%)	23 (100%)	0	0	100 100
47	s	218/221 (99%)	176 (81%)	33 (15%)	9 (4%)	2 15
48	t	836/854 (98%)	760 (91%)	69 (8%)	7 (1%)	16 44
49	u	233/238 (98%)	186 (80%)	43 (18%)	4 (2%)	7 28
50	v	157/176 (89%)	138 (88%)	17 (11%)	2 (1%)	10 33
All	All	7422/7847 (95%)	6461 (87%)	823 (11%)	138 (2%)	9 26

All (138) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	G	146	PRO
14	K	79	GLN
24	U	22	PRO
8	E	144	ASN
10	G	268	ALA
10	G	270	SER
10	G	318	LEU
11	H	89	THR
11	H	276	LYS
12	I	99	GLU
14	K	163	VAL
14	K	196	ALA
15	L	139	ASN
16	M	8	PRO
16	M	114	ILE
17	N	61	PRO
17	N	94	GLY
17	N	166	ALA
19	P	74	PRO
25	V	124	VAL
26	W	52	ASN
32	c	47	LYS
32	c	48	TYR
32	c	97	GLU
35	f	82	GLU
39	j	112	PRO
40	k	28	TYR
47	s	187	GLY
49	u	57	SER
8	E	21	ARG
8	E	24	GLN
9	F	5	LYS
9	F	187	SER
9	F	314	TYR
10	G	90	PHE
10	G	131	VAL
10	G	264	SER
10	G	291	ASN
10	G	317	PRO
10	G	320	ASN
10	G	338	LYS
14	K	156	ASP
15	L	22	SER

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Mol	Chain	Res	Type
16	M	135	GLY
17	N	28	GLN
17	N	48	PRO
17	N	129	ASN
19	P	145	ASP
22	S	98	LYS
23	T	53	LYS
25	V	17	ARG
26	W	91	ASP
30	a	126	LEU
32	c	27	LYS
32	c	77	LYS
32	c	117	ARG
33	d	6	ASN
35	f	69	TYR
36	g	12	LYS
38	i	82	ALA
40	k	99	ARG
47	s	46	PRO
47	s	107	ALA
48	t	121	GLY
48	t	255	GLY
50	v	86	LEU
10	G	141	ARG
11	H	7	ALA
13	J	91	GLY
15	L	50	ASN
16	M	117	ASP
17	N	136	GLU
24	U	130	GLU
29	Z	97	LYS
29	Z	108	LEU
31	b	103	GLN
31	b	124	ALA
36	g	77	ALA
44	o	79	GLU
47	s	2	ARG
47	s	104	CYS
47	s	110	LEU
47	s	194	ALA
48	t	309	GLU
48	t	356	LYS

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Mol	Chain	Res	Type
48	t	400	PHE
48	t	528	VAL
49	u	220	LEU
9	F	155	ALA
9	F	250	ALA
9	F	317	ILE
10	G	14	GLU
11	H	125	VAL
13	J	160	ARG
13	J	178	ILE
14	K	36	ILE
14	K	157	VAL
18	O	8	LYS
21	R	24	VAL
22	S	132	PRO
22	S	162	ALA
23	T	73	GLY
26	W	11	ILE
28	Y	80	ARG
33	d	21	ILE
33	d	25	LYS
39	j	83	LYS
40	k	3	VAL
47	s	17	PRO
48	t	173	GLY
49	u	222	SER
50	v	146	GLY
7	D	9	GLY
9	F	38	SER
10	G	140	HIS
13	J	27	ALA
13	J	159	GLN
13	J	191	VAL
18	O	6	ILE
21	R	18	ARG
25	V	123	GLY
35	f	7	VAL
40	k	27	SER
47	s	172	PHE
49	u	88	PRO
13	J	92	ILE
31	b	125	GLY

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Mol	Chain	Res	Type
40	k	9	ILE
8	E	5	ILE
21	R	77	GLY
36	g	5	PRO
6	C	14	GLY
11	H	148	ILE
32	c	51	GLY
16	M	134	PRO
19	P	52	GLY
19	P	75	VAL
25	V	132	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
6	C	90/91 (99%)	90 (100%)	0	100 100
7	D	71/72 (99%)	71 (100%)	0	100 100
8	E	193/196 (98%)	193 (100%)	0	100 100
9	F	320/323 (99%)	319 (100%)	1 (0%)	91 95
10	G	288/289 (100%)	288 (100%)	0	100 100
11	H	244/245 (100%)	244 (100%)	0	100 100
12	I	134/153 (88%)	133 (99%)	1 (1%)	81 88
13	J	186/205 (91%)	186 (100%)	0	100 100
14	K	187/208 (90%)	187 (100%)	0	100 100
15	L	171/171 (100%)	171 (100%)	0	100 100
16	M	147/150 (98%)	147 (100%)	0	100 100
17	N	154/159 (97%)	154 (100%)	0	100 100
18	O	107/109 (98%)	107 (100%)	0	100 100
19	P	175/176 (99%)	174 (99%)	1 (1%)	84 90
20	Q	160/162 (99%)	160 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	R	140/146 (96%)	140 (100%)	0	100	100
22	S	150/151 (99%)	150 (100%)	0	100	100
23	T	153/154 (99%)	153 (100%)	0	100	100
24	U	156/156 (100%)	156 (100%)	0	100	100
25	V	136/137 (99%)	136 (100%)	0	100	100
26	W	87/107 (81%)	87 (100%)	0	100	100
27	X	104/105 (99%)	104 (100%)	0	100	100
28	Y	57/129 (44%)	57 (100%)	0	100	100
29	Z	104/118 (88%)	104 (100%)	0	100	100
30	a	109/110 (99%)	109 (100%)	0	100	100
31	b	115/116 (99%)	115 (100%)	0	100	100
32	c	118/119 (99%)	118 (100%)	0	100	100
33	d	46/47 (98%)	46 (100%)	0	100	100
34	e	81/88 (92%)	81 (100%)	0	100	100
35	f	92/96 (96%)	92 (100%)	0	100	100
36	g	109/111 (98%)	109 (100%)	0	100	100
37	h	90/91 (99%)	90 (100%)	0	100	100
38	i	95/103 (92%)	95 (100%)	0	100	100
39	j	104/105 (99%)	104 (100%)	0	100	100
40	k	81/82 (99%)	81 (100%)	0	100	100
41	l	70/71 (99%)	70 (100%)	0	100	100
42	m	68/69 (99%)	68 (100%)	0	100	100
43	n	45/46 (98%)	45 (100%)	0	100	100
44	o	47/116 (40%)	47 (100%)	0	100	100
45	p	23/23 (100%)	23 (100%)	0	100	100
47	s	184/187 (98%)	183 (100%)	1 (0%)	86	91
48	t	683/759 (90%)	682 (100%)	1 (0%)	92	97
49	u	177/216 (82%)	177 (100%)	0	100	100
50	v	133/153 (87%)	133 (100%)	0	100	100
All	All	6184/6620 (93%)	6179 (100%)	5 (0%)	92	97

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	F	102	LEU
12	I	65	ILE
19	P	75	VAL
47	s	110	LEU
48	t	440	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (96) such sidechains are listed below:

Mol	Chain	Res	Type
6	C	22	GLN
6	C	59	HIS
8	E	50	HIS
8	E	83	HIS
8	E	132	ASN
8	E	139	HIS
8	E	209	HIS
9	F	11	HIS
9	F	109	HIS
9	F	198	HIS
9	F	231	HIS
9	F	243	HIS
10	G	5	GLN
10	G	58	HIS
10	G	110	ASN
10	G	311	HIS
11	H	17	GLN
11	H	40	HIS
13	J	37	ASN
13	J	159	GLN
13	J	172	ASN
13	J	225	GLN
14	K	41	GLN
14	K	77	GLN
14	K	145	ASN
14	K	243	GLN
15	L	77	ASN
16	M	43	GLN
17	N	28	GLN
17	N	66	ASN
17	N	103	ASN
17	N	112	ASN
17	N	149	GLN
18	O	41	GLN

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Mol	Chain	Res	Type
19	P	37	HIS
19	P	156	HIS
19	P	158	HIS
20	Q	193	GLN
21	R	172	GLN
22	S	9	GLN
22	S	15	HIS
22	S	145	ASN
23	T	66	HIS
23	T	118	HIS
23	T	121	HIS
23	T	130	ASN
23	T	144	GLN
23	T	156	ASN
24	U	3	HIS
24	U	8	GLN
24	U	68	HIS
24	U	122	HIS
24	U	142	GLN
24	U	157	GLN
25	V	22	HIS
25	V	58	GLN
25	V	66	ASN
25	V	95	HIS
26	W	87	ASN
26	W	88	GLN
27	X	98	ASN
28	Y	42	GLN
30	a	120	GLN
31	b	36	HIS
31	b	57	HIS
31	b	78	ASN
31	b	128	GLN
32	c	14	HIS
32	c	40	HIS
32	c	44	ASN
32	c	64	GLN
34	e	47	ASN
35	f	21	HIS
35	f	105	GLN
36	g	52	GLN
37	h	42	GLN

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Mol	Chain	Res	Type
38	i	33	GLN
39	j	59	ASN
41	l	76	ASN
44	o	109	ASN
47	s	58	GLN
47	s	132	GLN
48	t	95	HIS
48	t	172	ASN
48	t	176	GLN
48	t	177	GLN
48	t	209	ASN
48	t	229	HIS
48	t	430	HIS
48	t	450	GLN
49	u	17	GLN
49	u	20	ASN
49	u	23	ASN
49	u	163	HIS
49	u	203	ASN
50	v	32	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3330/3396 (98%)	773 (23%)	101 (3%)
2	3	120/121 (99%)	22 (18%)	2 (1%)
3	4	157/158 (99%)	35 (22%)	5 (3%)
4	A	75/76 (98%)	27 (36%)	4 (5%)
5	B	76/77 (98%)	23 (30%)	2 (2%)
All	All	3758/3828 (98%)	880 (23%)	114 (3%)

All (880) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	13	A
1	1	14	U
1	1	15	C
1	1	26	A
1	1	40	A
1	1	41	G
1	1	44	U

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Mol	Chain	Res	Type
1	1	49	A
1	1	59	G
1	1	60	A
1	1	66	A
1	1	67	A
1	1	72	C
1	1	77	A
1	1	86	G
1	1	87	U
1	1	92	G
1	1	93	C
1	1	94	G
1	1	111	C
1	1	116	A
1	1	117	U
1	1	118	U
1	1	119	U
1	1	121	A
1	1	123	A
1	1	134	U
1	1	135	C
1	1	136	G
1	1	146	U
1	1	147	U
1	1	148	G
1	1	156	G
1	1	157	A
1	1	161	G
1	1	166	C
1	1	182	U
1	1	187	A
1	1	189	G
1	1	190	U
1	1	191	U
1	1	200	C
1	1	206	G
1	1	210	U
1	1	212	G
1	1	213	A
1	1	218	G
1	1	219	A
1	1	220	G

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Mol	Chain	Res	Type
1	1	221	A
1	1	229	G
1	1	240	U
1	1	252	U
1	1	253	A
1	1	268	A
1	1	269	G
1	1	270	U
1	1	281	G
1	1	283	G
1	1	284	A
1	1	286	U
1	1	295	A
1	1	297	G
1	1	298	U
1	1	304	G
1	1	305	U
1	1	323	A
1	1	329	U
1	1	330	G
1	1	342	A
1	1	344	A
1	1	346	C
1	1	350	C
1	1	352	A
1	1	353	G
1	1	354	U
1	1	375	A
1	1	376	G
1	1	395	A
1	1	398	A
1	1	399	A
1	1	400	G
1	1	401	U
1	1	402	A
1	1	403	C
1	1	406	G
1	1	408	A
1	1	421	G
1	1	422	A
1	1	427	C
1	1	439	C

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Mol	Chain	Res	Type
1	1	440	A
1	1	441	U
1	1	446	U
1	1	455	C
1	1	458	U
1	1	462	C
1	1	464	U
1	1	465	U
1	1	466	G
1	1	469	G
1	1	470	G
1	1	472	A
1	1	479	U
1	1	480	C
1	1	481	U
1	1	482	C
1	1	486	U
1	1	488	U
1	1	489	C
1	1	494	G
1	1	503	C
1	1	517	G
1	1	520	U
1	1	521	A
1	1	523	A
1	1	535	G
1	1	536	U
1	1	543	C
1	1	546	C
1	1	547	G
1	1	548	G
1	1	552	G
1	1	555	U
1	1	556	U
1	1	558	U
1	1	559	A
1	1	564	G
1	1	569	A
1	1	579	G
1	1	581	U
1	1	592	A
1	1	597	G

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Mol	Chain	Res	Type
1	1	600	G
1	1	603	A
1	1	609	G
1	1	611	A
1	1	620	U
1	1	621	A
1	1	622	A
1	1	636	C
1	1	637	C
1	1	641	C
1	1	643	U
1	1	646	A
1	1	648	C
1	1	649	A
1	1	661	G
1	1	662	U
1	1	667	C
1	1	677	A
1	1	678	G
1	1	681	U
1	1	683	U
1	1	690	A
1	1	691	A
1	1	692	A
1	1	705	A
1	1	708	G
1	1	712	G
1	1	716	A
1	1	719	U
1	1	720	A
1	1	760	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	767	U
1	1	770	G
1	1	776	U
1	1	777	U
1	1	781	G
1	1	784	A
1	1	800	G
1	1	801	A

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Mol	Chain	Res	Type
1	1	806	A
1	1	817	A
1	1	820	A
1	1	826	G
1	1	837	A
1	1	849	C
1	1	857	G
1	1	860	G
1	1	861	C
1	1	871	U
1	1	874	U
1	1	879	U
1	1	894	G
1	1	896	A
1	1	905	U
1	1	908	G
1	1	915	A
1	1	916	G
1	1	917	A
1	1	922	U
1	1	925	A
1	1	933	A
1	1	936	A
1	1	937	G
1	1	944	C
1	1	953	G
1	1	959	C
1	1	960	U
1	1	962	A
1	1	963	G
1	1	974	G
1	1	980	A
1	1	982	C
1	1	984	G
1	1	994	G
1	1	995	U
1	1	1001	G
1	1	1002	A
1	1	1006	A
1	1	1015	U
1	1	1016	C
1	1	1017	C

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Mol	Chain	Res	Type
1	1	1018	G
1	1	1021	G
1	1	1025	A
1	1	1026	A
1	1	1029	G
1	1	1032	C
1	1	1045	C
1	1	1047	A
1	1	1049	C
1	1	1063	G
1	1	1065	A
1	1	1066	G
1	1	1075	A
1	1	1076	C
1	1	1081	U
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1096	U
1	1	1097	G
1	1	1098	A
1	1	1103	A
1	1	1104	G
1	1	1116	G
1	1	1117	G
1	1	1131	G
1	1	1132	C
1	1	1143	A
1	1	1144	U
1	1	1145	G
1	1	1155	C
1	1	1159	A
1	1	1177	G
1	1	1178	G
1	1	1180	A
1	1	1181	U
1	1	1182	A
1	1	1186	G
1	1	1191	U
1	1	1192	C
1	1	1193	A
1	1	1199	C

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Mol	Chain	Res	Type
1	1	1220	U
1	1	1228	C
1	1	1229	G
1	1	1232	C
1	1	1236	G
1	1	1237	G
1	1	1238	C
1	1	1239	C
1	1	1240	A
1	1	1241	U
1	1	1242	G
1	1	1243	G
1	1	1245	A
1	1	1246	G
1	1	1248	C
1	1	1249	G
1	1	1251	A
1	1	1253	U
1	1	1254	C
1	1	1262	G
1	1	1263	A
1	1	1265	U
1	1	1266	G
1	1	1269	U
1	1	1270	A
1	1	1271	A
1	1	1272	C
1	1	1274	A
1	1	1277	C
1	1	1286	A
1	1	1302	A
1	1	1303	A
1	1	1306	G
1	1	1307	G
1	1	1308	A
1	1	1316	C
1	1	1317	A
1	1	1323	G
1	1	1325	U
1	1	1329	U
1	1	1330	A
1	1	1331	U

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Mol	Chain	Res	Type
1	1	1345	G
1	1	1349	G
1	1	1351	U
1	1	1352	A
1	1	1353	U
1	1	1356	U
1	1	1357	G
1	1	1366	A
1	1	1386	A
1	1	1387	G
1	1	1390	A
1	1	1391	C
1	1	1392	G
1	1	1399	A
1	1	1400	G
1	1	1408	G
1	1	1418	A
1	1	1419	A
1	1	1432	C
1	1	1433	A
1	1	1434	G
1	1	1435	A
1	1	1437	C
1	1	1446	A
1	1	1447	G
1	1	1448	U
1	1	1456	A
1	1	1464	G
1	1	1468	A
1	1	1470	U
1	1	1481	A
1	1	1482	A
1	1	1483	G
1	1	1484	U
1	1	1485	G
1	1	1490	A
1	1	1495	U
1	1	1496	C
1	1	1508	C
1	1	1512	U
1	1	1523	U
1	1	1527	C

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Mol	Chain	Res	Type
1	1	1536	G
1	1	1554	U
1	1	1556	C
1	1	1557	A
1	1	1558	A
1	1	1559	A
1	1	1560	G
1	1	1561	G
1	1	1563	C
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A
1	1	1572	U
1	1	1573	G
1	1	1578	C
1	1	1580	A
1	1	1581	C
1	1	1582	C
1	1	1583	A
1	1	1588	A
1	1	1589	A
1	1	1593	A
1	1	1595	U
1	1	1605	A
1	1	1606	U
1	1	1620	U
1	1	1621	A
1	1	1629	U
1	1	1630	U
1	1	1643	A
1	1	1645	U
1	1	1677	G
1	1	1715	A
1	1	1717	U
1	1	1719	G
1	1	1724	U
1	1	1741	A
1	1	1750	A
1	1	1752	A
1	1	1760	A

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Mol	Chain	Res	Type
1	1	1762	C
1	1	1763	U
1	1	1765	U
1	1	1770	G
1	1	1771	C
1	1	1773	C
1	1	1775	G
1	1	1780	G
1	1	1794	G
1	1	1796	G
1	1	1797	A
1	1	1813	A
1	1	1815	U
1	1	1816	A
1	1	1817	G
1	1	1818	U
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1822	C
1	1	1835	A
1	1	1839	A
1	1	1840	U
1	1	1841	A
1	1	1843	C
1	1	1846	C
1	1	1847	A
1	1	1849	C
1	1	1850	A
1	1	1851	G
1	1	1864	A
1	1	1867	A
1	1	1880	U
1	1	1885	U
1	1	1886	A
1	1	1893	A
1	1	1895	A
1	1	1901	A
1	1	1906	G
1	1	1907	C
1	1	1926	C
1	1	1927	G

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Mol	Chain	Res	Type
1	1	1932	A
1	1	1935	G
1	1	1939	G
1	1	1952	G
1	1	1953	G
1	1	1954	G
1	1	1955	U
1	1	1960	A
1	1	1961	G
1	1	1962	G
1	1	1963	G
1	1	1964	C
1	1	1972	A
1	1	1973	G
1	1	1976	G
1	1	1981	G
1	1	1988	C
1	1	1994	G
1	1	1998	G
1	1	2001	U
1	1	2006	G
1	1	2010	U
1	1	2013	C
1	1	2017	G
1	1	2020	A
1	1	2022	G
1	1	2023	C
1	1	2025	G
1	1	2033	G
1	1	2035	G
1	1	2039	C
1	1	2045	G
1	1	2047	A
1	1	2048	G
1	1	2049	A
1	1	2050	C
1	1	2059	U
1	1	2081	U
1	1	2082	U
1	1	2087	C
1	1	2088	A
1	1	2089	A

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Mol	Chain	Res	Type
1	1	2093	A
1	1	2099	A
1	1	2101	C
1	1	2102	U
1	1	2107	A
1	1	2111	G
1	1	2112	U
1	1	2113	A
1	1	2114	C
1	1	2121	G
1	1	2122	G
1	1	2125	A
1	1	2126	A
1	1	2131	A
1	1	2138	A
1	1	2140	U
1	1	2144	A
1	1	2145	A
1	1	2157	G
1	1	2159	U
1	1	2160	G
1	1	2169	G
1	1	2170	U
1	1	2176	U
1	1	2178	A
1	1	2179	C
1	1	2180	G
1	1	2184	U
1	1	2197	C
1	1	2199	G
1	1	2205	U
1	1	2206	G
1	1	2209	U
1	1	2211	U
1	1	2225	U
1	1	2243	A
1	1	2244	A
1	1	2256	A
1	1	2257	C
1	1	2263	C
1	1	2272	G
1	1	2279	A

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Mol	Chain	Res	Type
1	1	2281	A
1	1	2282	U
1	1	2287	C
1	1	2298	U
1	1	2299	A
1	1	2306	C
1	1	2307	G
1	1	2309	A
1	1	2313	A
1	1	2314	U
1	1	2315	G
1	1	2318	U
1	1	2319	U
1	1	2332	A
1	1	2336	U
1	1	2373	A
1	1	2374	C
1	1	2375	G
1	1	2378	C
1	1	2386	A
1	1	2388	U
1	1	2397	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2411	U
1	1	2418	G
1	1	2419	A
1	1	2435	G
1	1	2437	G
1	1	2439	A
1	1	2446	U
1	1	2451	G
1	1	2493	U
1	1	2494	A
1	1	2495	C
1	1	2496	C
1	1	2498	U
1	1	2501	U
1	1	2502	A
1	1	2503	G
1	1	2514	U

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Mol	Chain	Res	Type
1	1	2515	A
1	1	2522	G
1	1	2523	A
1	1	2524	A
1	1	2526	C
1	1	2530	G
1	1	2531	C
1	1	2538	U
1	1	2539	C
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2544	U
1	1	2547	A
1	1	2548	C
1	1	2550	U
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2558	U
1	1	2571	U
1	1	2572	C
1	1	2585	G
1	1	2594	C
1	1	2606	G
1	1	2607	G
1	1	2614	G
1	1	2617	U
1	1	2618	G
1	1	2619	G
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2630	C
1	1	2635	A
1	1	2636	A
1	1	2645	G
1	1	2652	U
1	1	2655	U
1	1	2657	A
1	1	2666	C

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Mol	Chain	Res	Type
1	1	2674	A
1	1	2678	A
1	1	2679	A
1	1	2691	A
1	1	2696	A
1	1	2703	A
1	1	2704	A
1	1	2712	U
1	1	2713	U
1	1	2716	U
1	1	2727	A
1	1	2728	G
1	1	2737	C
1	1	2742	C
1	1	2753	G
1	1	2755	C
1	1	2762	A
1	1	2772	C
1	1	2773	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2797	C
1	1	2798	C
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2818	U
1	1	2829	U
1	1	2834	G
1	1	2842	U
1	1	2844	C
1	1	2845	A
1	1	2847	A
1	1	2850	G
1	1	2851	A

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Mol	Chain	Res	Type
1	1	2859	U
1	1	2867	C
1	1	2870	C
1	1	2871	G
1	1	2872	A
1	1	2873	U
1	1	2874	G
1	1	2887	A
1	1	2888	U
1	1	2889	C
1	1	2898	G
1	1	2910	A
1	1	2911	A
1	1	2912	G
1	1	2923	U
1	1	2935	U
1	1	2936	A
1	1	2941	A
1	1	2942	C
1	1	2945	G
1	1	2951	G
1	1	2954	U
1	1	2966	G
1	1	2971	A
1	1	2972	G
1	1	2978	U
1	1	2983	C
1	1	2992	U
1	1	2997	G
1	1	3012	A
1	1	3021	A
1	1	3022	G
1	1	3023	U
1	1	3026	G
1	1	3039	C
1	1	3058	U
1	1	3059	G
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3086	A
1	1	3092	C

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Mol	Chain	Res	Type
1	1	3109	G
1	1	3117	C
1	1	3122	A
1	1	3130	A
1	1	3131	U
1	1	3141	A
1	1	3142	A
1	1	3143	C
1	1	3144	G
1	1	3145	C
1	1	3151	U
1	1	3152	U
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3157	U
1	1	3167	A
1	1	3170	A
1	1	3172	A
1	1	3174	A
1	1	3176	G
1	1	3180	A
1	1	3181	C
1	1	3182	G
1	1	3185	U
1	1	3195	U
1	1	3196	U
1	1	3197	G
1	1	3198	U
1	1	3207	U
1	1	3208	G
1	1	3209	A
1	1	3210	A
1	1	3216	G
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3220	G
1	1	3226	A
1	1	3227	A
1	1	3228	C

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Mol	Chain	Res	Type
1	1	3231	U
1	1	3237	U
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3246	G
1	1	3247	G
1	1	3259	U
1	1	3260	G
1	1	3263	G
1	1	3268	A
1	1	3270	U
1	1	3273	A
1	1	3275	U
1	1	3276	G
1	1	3277	U
1	1	3278	C
1	1	3280	U
1	1	3288	G
1	1	3289	G
1	1	3290	G
1	1	3293	U
1	1	3295	A
1	1	3296	A
1	1	3305	A
1	1	3306	U
1	1	3313	U
1	1	3316	A
1	1	3317	U
1	1	3318	G
1	1	3319	U
1	1	3327	G
1	1	3335	A
1	1	3341	U
1	1	3345	G
1	1	3349	C
1	1	3351	U
1	1	3352	U
1	1	3353	G
1	1	3354	U
1	1	3355	U
1	1	3358	U

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Mol	Chain	Res	Type
1	1	3368	U
1	1	3369	G
1	1	3370	A
1	1	3375	A
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3390	G
1	1	3391	A
2	3	7	G
2	3	11	A
2	3	13	A
2	3	14	U
2	3	22	A
2	3	33	U
2	3	41	G
2	3	42	A
2	3	48	U
2	3	53	U
2	3	55	A
2	3	64	A
2	3	65	G
2	3	76	A
2	3	77	G
2	3	78	U
2	3	87	G
2	3	91	G
2	3	99	G
2	3	102	A
2	3	112	G
2	3	121	U
3	4	15	G
3	4	23	U
3	4	24	G
3	4	33	A
3	4	34	U
3	4	35	C
3	4	37	A
3	4	39	G
3	4	40	A
3	4	49	G

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Mol	Chain	Res	Type
3	4	51	G
3	4	59	A
3	4	60	U
3	4	62	C
3	4	63	G
3	4	72	A
3	4	80	A
3	4	82	U
3	4	83	C
3	4	85	G
3	4	86	U
3	4	90	U
3	4	95	G
3	4	100	U
3	4	104	A
3	4	106	C
3	4	111	A
3	4	112	U
3	4	113	U
3	4	116	G
3	4	125	U
3	4	126	A
3	4	136	G
3	4	148	G
3	4	151	C
4	A	3	G
4	A	5	C
4	A	6	G
4	A	8	U
4	A	10	G
4	A	14	A
4	A	15	G
4	A	16	U
4	A	17	U
4	A	18	G
4	A	19	G
4	A	21	A
4	A	34	U
4	A	35	U
4	A	38	A
4	A	47	U
4	A	49	G

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Mol	Chain	Res	Type
4	A	50	C
4	A	51	A
4	A	52	G
4	A	55	U
4	A	59	A
4	A	60	U
4	A	61	C
4	A	71	C
4	A	73	A
4	A	74	C
5	B	8	U
5	B	10	G
5	B	13	C
5	B	16	U
5	B	17	C
5	B	17(A)	G
5	B	18	G
5	B	19	U
5	B	20	U
5	B	21	A
5	B	33	U
5	B	35	U
5	B	37	A
5	B	42	G
5	B	46	G
5	B	47	U
5	B	48	C
5	B	49	G
5	B	54	U
5	B	61	C
5	B	65	U
5	B	75	C
5	B	76	A

All (114) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	13	A
1	1	14	U
1	1	43	A
1	1	86	G
1	1	116	A

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Mol	Chain	Res	Type
1	1	122	A
1	1	147	U
1	1	155	G
1	1	189	G
1	1	211	A
1	1	239	G
1	1	282	G
1	1	285	A
1	1	341	G
1	1	353	G
1	1	400	G
1	1	547	G
1	1	558	U
1	1	677	A
1	1	715	A
1	1	764	U
1	1	870	G
1	1	914	A
1	1	916	G
1	1	979	U
1	1	994	G
1	1	1064	A
1	1	1075	A
1	1	1144	U
1	1	1177	G
1	1	1241	U
1	1	1253	U
1	1	1271	A
1	1	1307	G
1	1	1329	U
1	1	1348	U
1	1	1355	A
1	1	1365	G
1	1	1391	C
1	1	1417	G
1	1	1418	A
1	1	1433	A
1	1	1483	G
1	1	1557	A
1	1	1580	A
1	1	1716	U
1	1	1740	U

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Mol	Chain	Res	Type
1	1	1815	U
1	1	1816	A
1	1	1840	U
1	1	1850	A
1	1	1900	A
1	1	1938	U
1	1	1959	G
1	1	2086	A
1	1	2101	C
1	1	2111	G
1	1	2112	U
1	1	2139	A
1	1	2158	A
1	1	2177	G
1	1	2178	A
1	1	2208	A
1	1	2313	A
1	1	2385	G
1	1	2403	G
1	1	2434	U
1	1	2445	A
1	1	2493	U
1	1	2501	U
1	1	2513	U
1	1	2514	U
1	1	2525	G
1	1	2537	U
1	1	2538	U
1	1	2539	C
1	1	2541	U
1	1	2549	G
1	1	2593	A
1	1	2656	A
1	1	2715	A
1	1	2727	A
1	1	2797	C
1	1	2803	A
1	1	2850	G
1	1	2911	A
1	1	2950	G
1	1	3021	A
1	1	3022	G

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Mol	Chain	Res	Type
1	1	3078	U
1	1	3121	U
1	1	3156	U
1	1	3175	U
1	1	3179	U
1	1	3216	G
1	1	3218	A
1	1	3219	G
1	1	3246	G
1	1	3269	U
1	1	3317	U
1	1	3334	U
2	3	76	A
2	3	77	G
3	4	22	U
3	4	38	U
3	4	48	A
3	4	58	G
3	4	71	A
4	A	13	C
4	A	15	G
4	A	54	U
4	A	58	A
5	B	17(A)	G
5	B	18	G

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
52	3HE	1	3401	-	21,21,21	4.46	7 (33%)	19,30,30	5.28	11 (57%)

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
52	3HE	1	3401	-	-	0/8/36/36	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	1	3401	3HE	O-C4	11.93	1.40	1.21
52	1	3401	3HE	O1-C11	8.23	1.40	1.23
52	1	3401	3HE	C12-N	7.97	1.51	1.37
52	1	3401	3HE	O2-C12	7.93	1.39	1.23
52	1	3401	3HE	C11-N	7.07	1.49	1.37
52	1	3401	3HE	C8-C9	3.31	1.58	1.53
52	1	3401	3HE	C5-C4	2.17	1.54	1.51

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	1	3401	3HE	C11-N-C12	-10.23	113.38	125.78
52	1	3401	3HE	O-C4-C5	-9.76	109.08	123.28
52	1	3401	3HE	O-C4-C3	-8.83	109.00	122.15
52	1	3401	3HE	O1-C11-N	-7.27	108.77	120.28
52	1	3401	3HE	O2-C12-N	-7.24	108.81	120.28
52	1	3401	3HE	O1-C11-C10	-7.09	108.81	122.62
52	1	3401	3HE	O2-C12-C13	-7.09	108.82	122.62
52	1	3401	3HE	C14-C3-C4	-3.57	108.77	112.53
52	1	3401	3HE	C6-C5-C4	2.81	112.30	108.13
52	1	3401	3HE	C13-C12-N	-2.75	112.58	115.95
52	1	3401	3HE	C10-C11-N	-2.72	112.61	115.95

There are no chirality outliers.

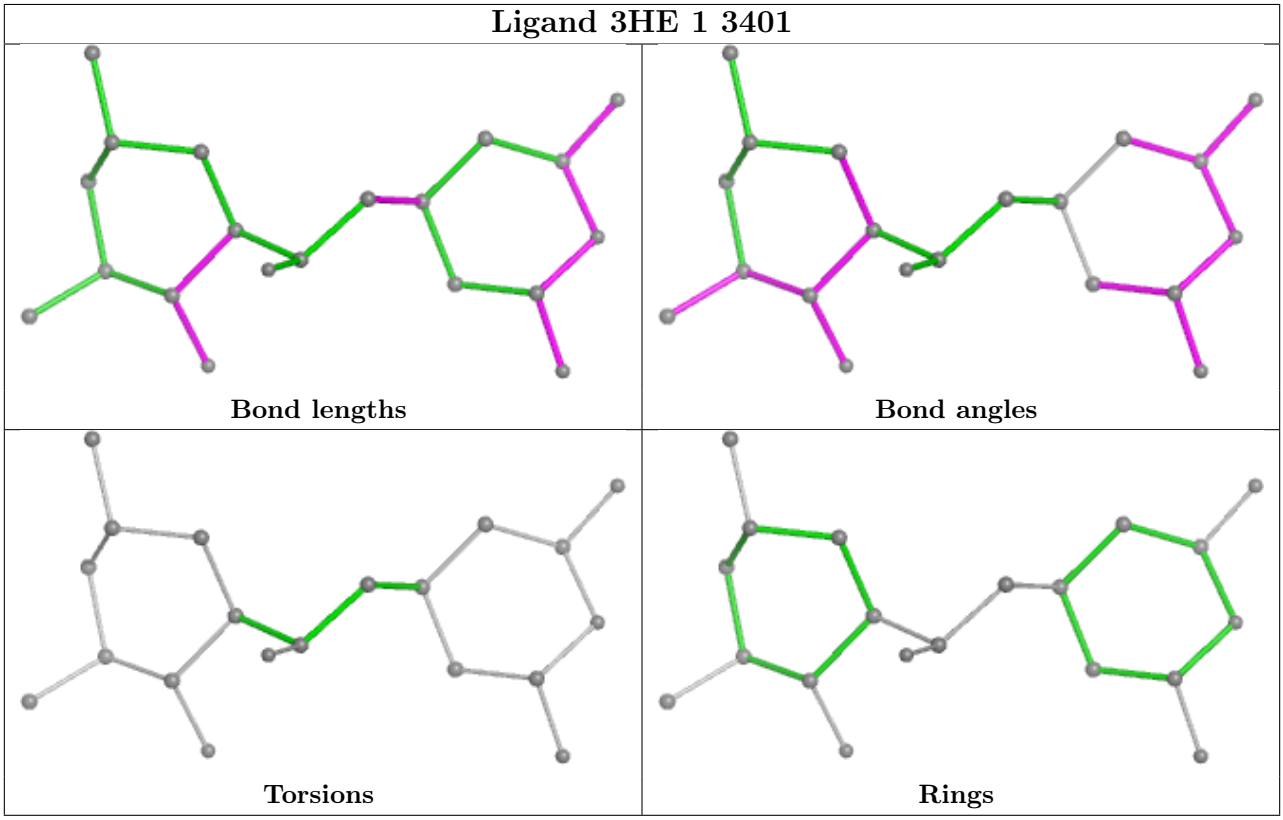
There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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

Ligand 3HE 1 3401



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	4

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1984:C	O3'	1985:G	P	6.36
1	1	615:U	O3'	616:G	P	4.31
1	1	426:G	O3'	427:C	P	3.34
1	1	1946:A	O3'	1947:G	P	3.13

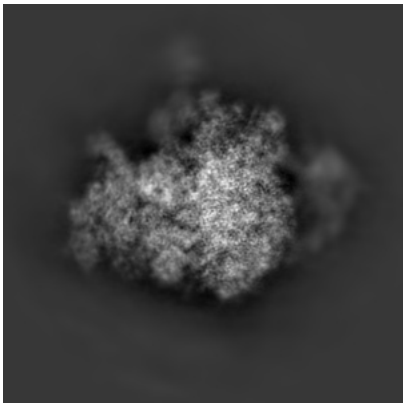
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-0202. These allow visual inspection of the internal detail of the map and identification of artifacts.

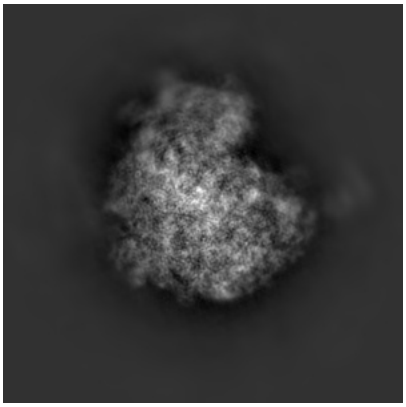
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

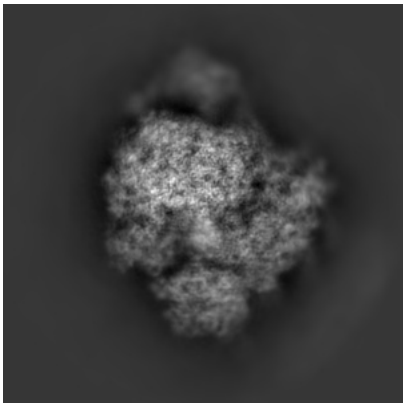
6.1.1 Primary map



X



Y

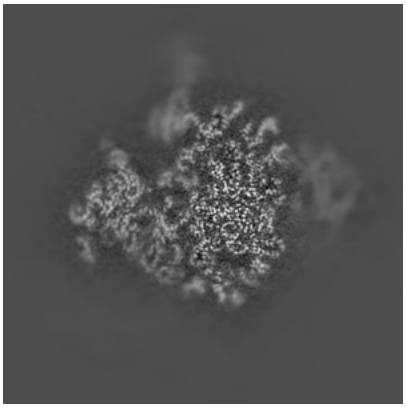


Z

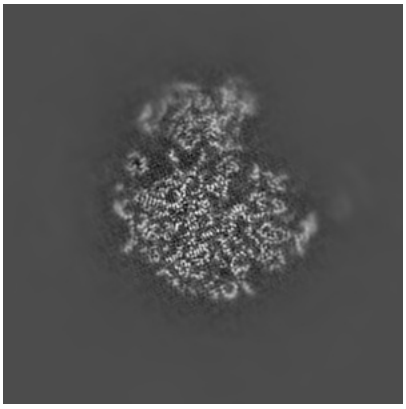
The images above show the map projected in three orthogonal directions.

6.2 Central slices

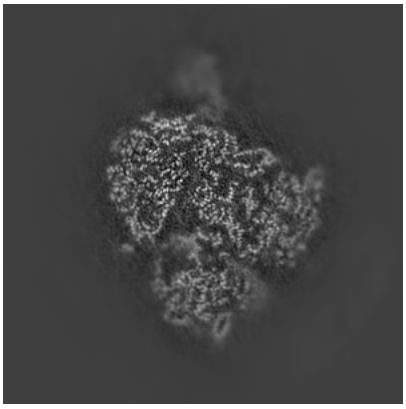
6.2.1 Primary map



X Index: 210



Y Index: 210

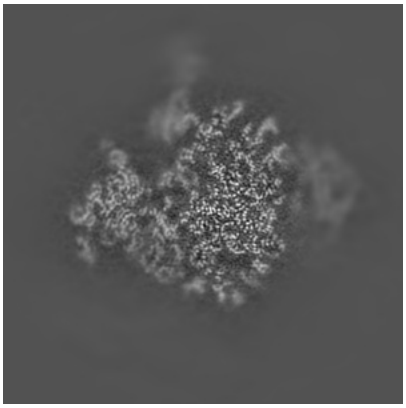


Z Index: 210

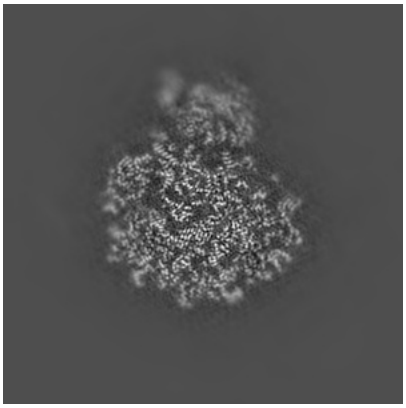
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

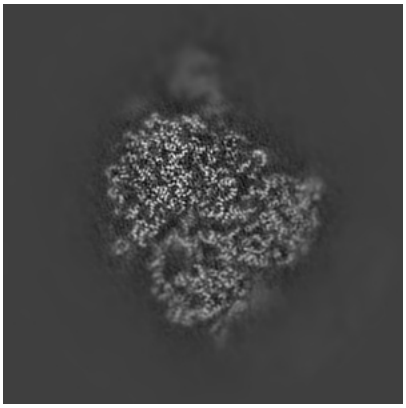
6.3.1 Primary map



X Index: 211



Y Index: 233

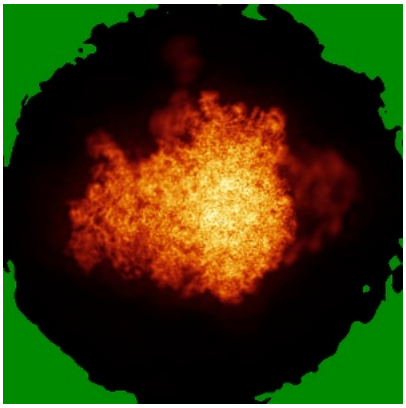


Z Index: 215

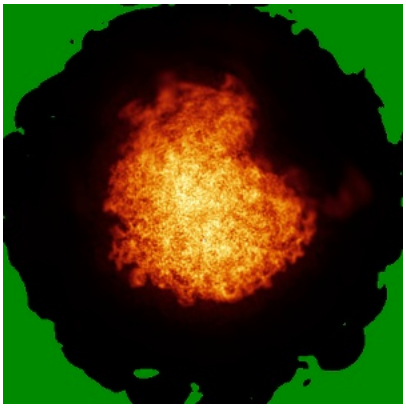
The images above show the largest variance slices of the map in three orthogonal directions.

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

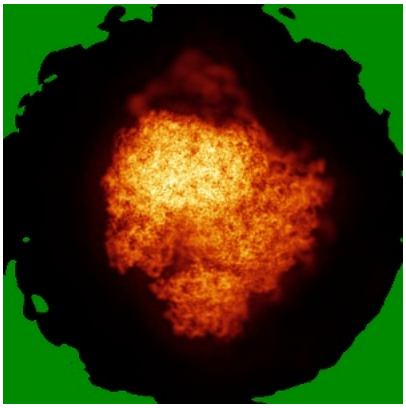
6.4.1 Primary map



X



Y

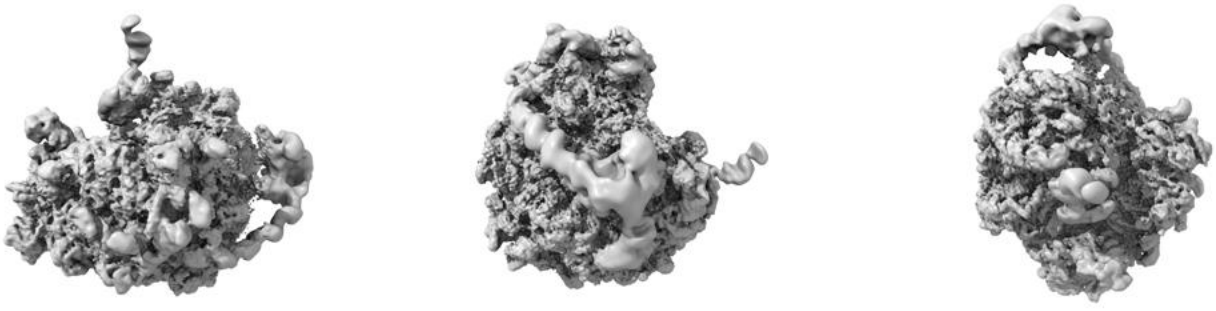


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0126. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

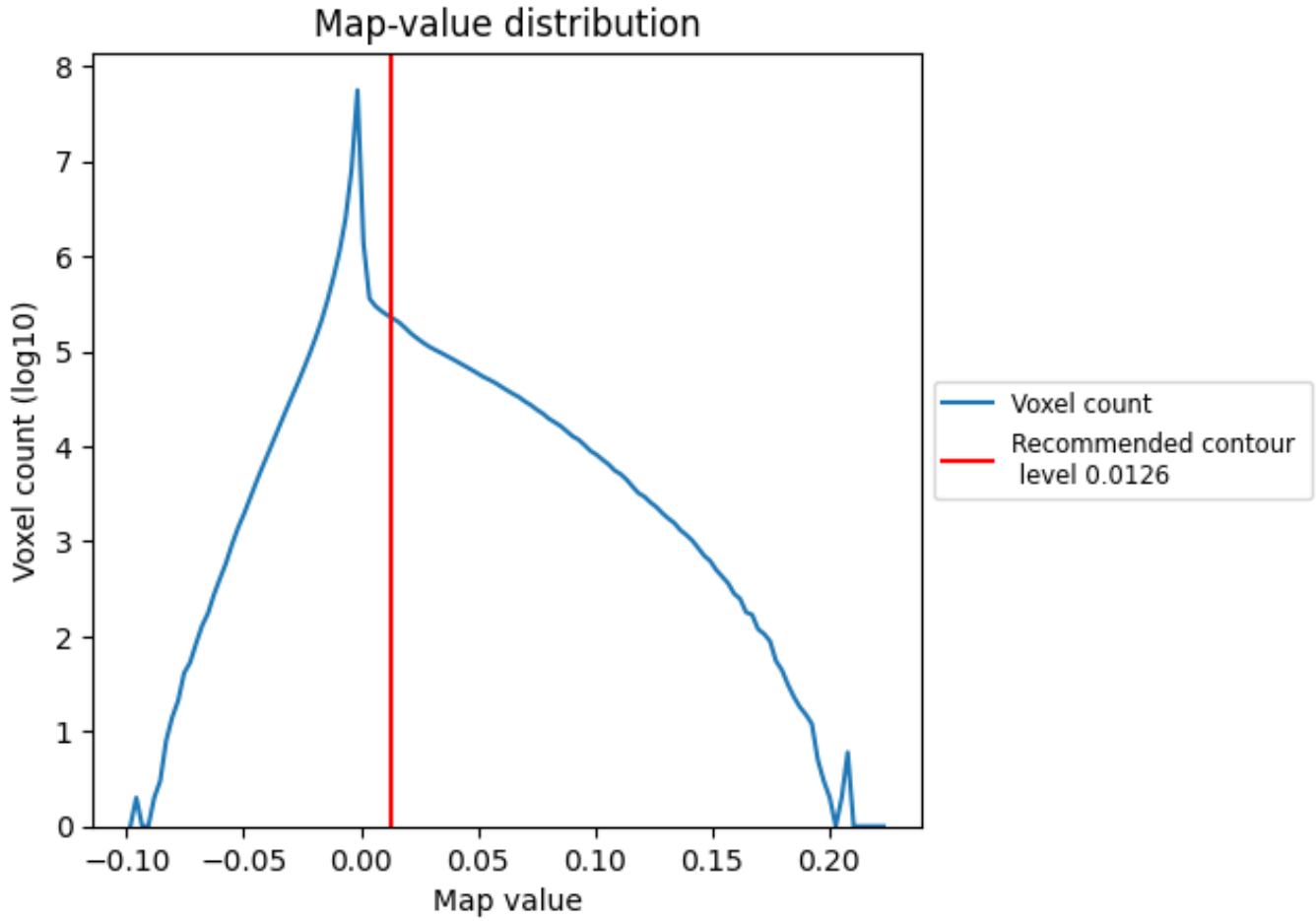
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

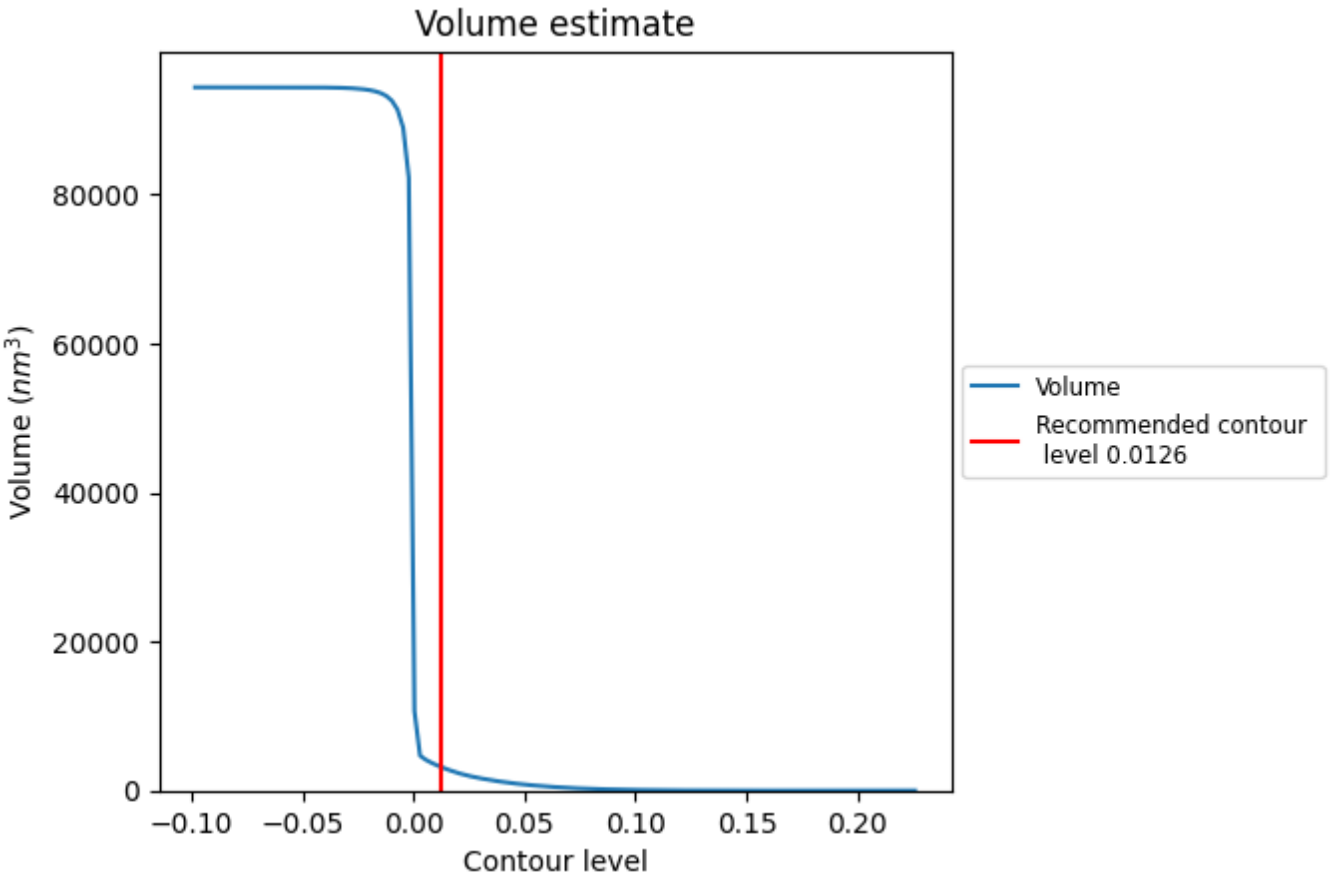
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

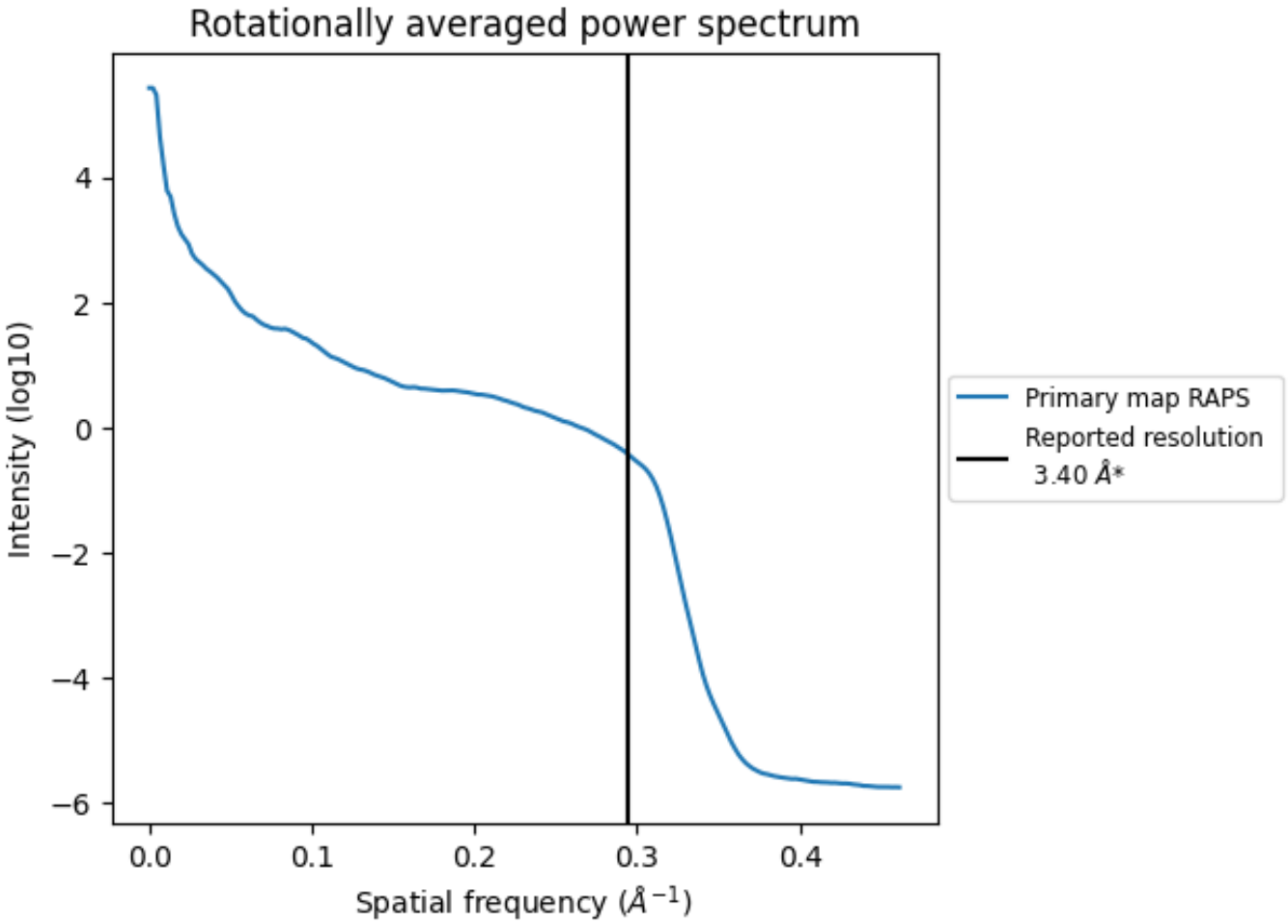
7.2 Volume estimate



The volume at the recommended contour level is 3137 nm^3; this corresponds to an approximate mass of 2834 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

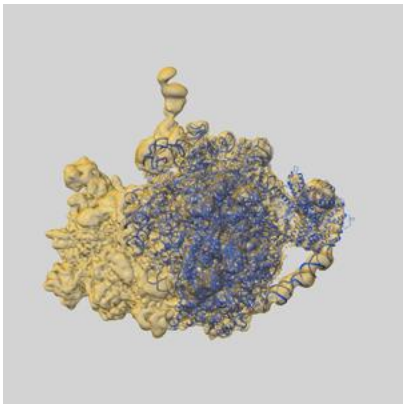
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

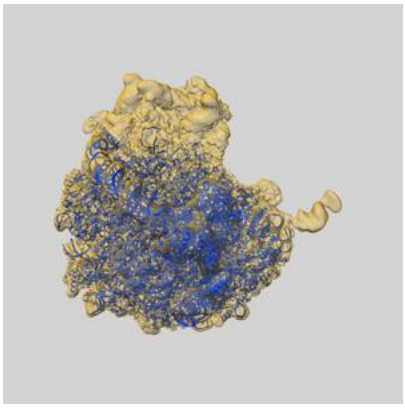
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-0202 and PDB model 6HD7. Per-residue inclusion information can be found in section 3 on page 13.

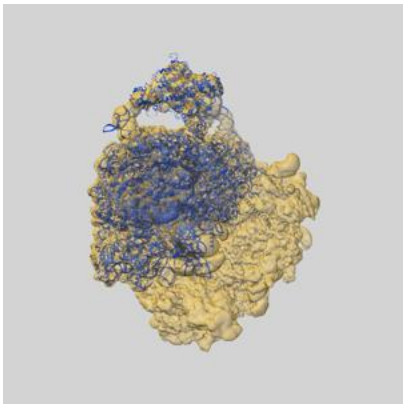
9.1 Map-model overlay



X



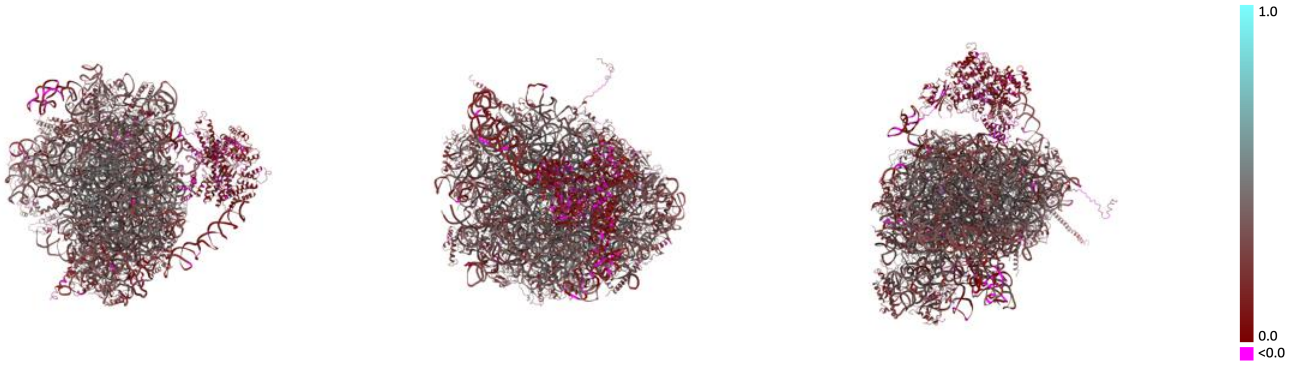
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0126 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

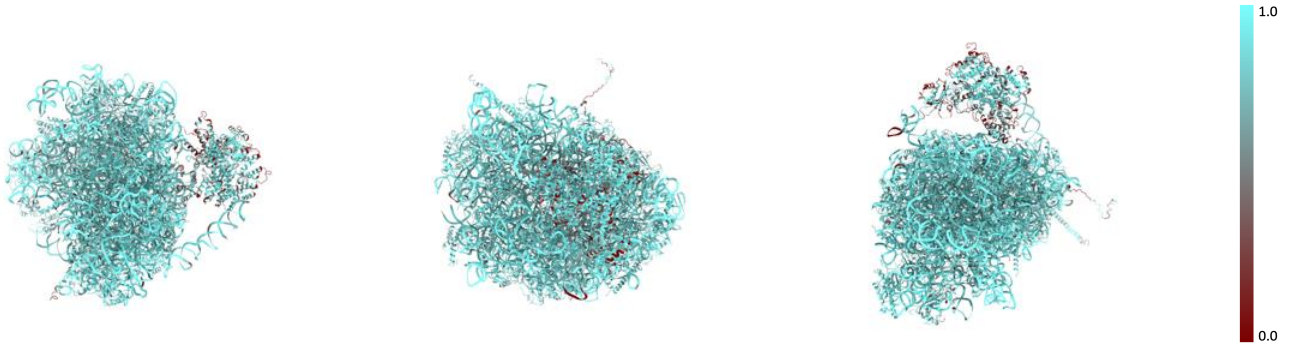
9.2 Q-score mapped to coordinate model



X Y Z

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

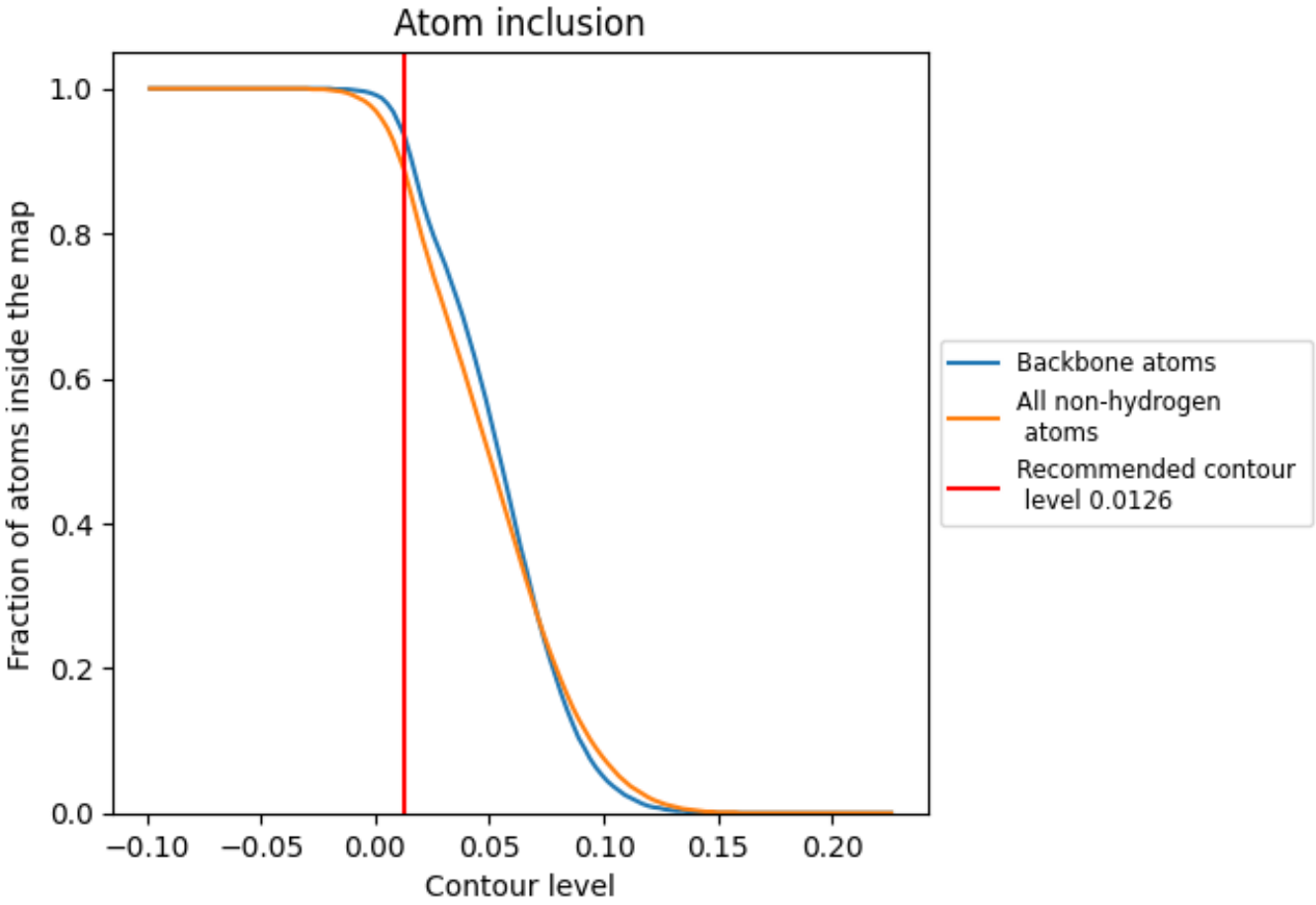
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0126).

9.4 Atom inclusion (i)



At the recommended contour level, 94% of all backbone atoms, 89% 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 (0.0126) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8890	0.3130
1	0.9470	0.3410
3	0.9780	0.3350
4	0.9550	0.3470
A	0.8980	0.2670
B	0.9080	0.2840
C	0.8080	0.3230
D	0.7650	0.2980
E	0.8350	0.3650
F	0.8620	0.3470
G	0.8770	0.3590
H	0.8640	0.2830
I	0.8760	0.3290
J	0.8410	0.3080
K	0.8220	0.2400
L	0.8340	0.2840
M	0.8500	0.2560
N	0.8550	0.3140
O	0.8370	0.2750
P	0.8590	0.3640
Q	0.8420	0.3260
R	0.8000	0.3020
S	0.8470	0.3320
T	0.8250	0.3130
U	0.8340	0.2950
V	0.8350	0.3330
W	0.8710	0.2920
X	0.7930	0.3480
Y	0.7280	0.2570
Z	0.8430	0.3230
a	0.8850	0.3200
b	0.8470	0.2930
c	0.8670	0.3750
d	0.8470	0.3430
e	0.8150	0.2950

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Chain	Atom inclusion	Q-score
f	0.8390	0.3630
g	0.8370	0.3670
h	0.8650	0.3850
i	0.8330	0.3340
j	0.8310	0.2740
k	0.8190	0.2540
l	0.8610	0.3800
m	0.8630	0.2910
n	0.8840	0.3980
o	0.8160	0.3010
p	0.8260	0.3120
r	0.7680	0.2730
s	0.8060	0.2660
t	0.6980	0.0900
u	0.6760	0.0820
v	0.5220	0.0780
z	0.4870	0.1540