



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 6, 2020 – 07:20 am BST

PDB ID : 6NDK  
Title : Structure of ASLSufA6 A37.5 bound to the 70S A site  
Authors : Nguyen, H.T.; Hoffer, E.D.; Dunham, C.M.  
Deposited on : 2018-12-13  
Resolution : 3.64 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : **FAILED**  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11



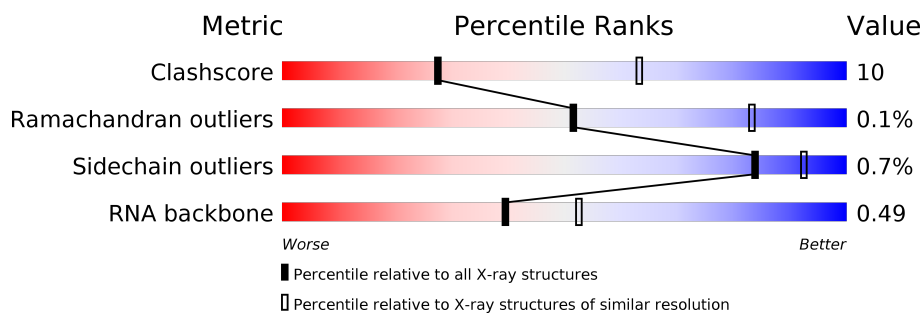
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.64 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1439 (3.78-3.50)
Ramachandran outliers	138981	1391 (3.78-3.50)
Sidechain outliers	138945	1391 (3.78-3.50)
RNA backbone	3102	1019 (4.26-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ .


























Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1521	
1	XA	1521	
2	QB	256	
2	XB	256	
3	QC	239	
3	XC	239	
4	QD	209	

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Mol	Chain	Length	Quality of chain
4	XD	209	
5	QE	162	
5	XE	162	
6	QF	101	
6	XF	101	
7	QG	156	
7	XG	156	
8	QH	138	
8	XH	138	
9	QI	128	
9	XI	128	
10	QJ	105	
10	XJ	105	
11	QK	129	
11	XK	129	
12	QL	132	
12	XL	132	
13	QM	126	
13	XM	126	
14	QN	61	
14	XN	61	
15	QO	89	
15	XO	89	
16	QP	88	
16	XP	88	

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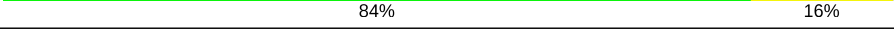


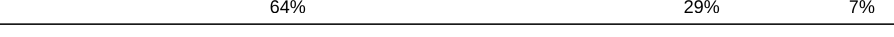

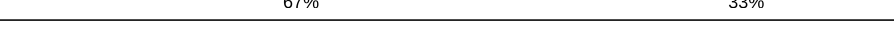


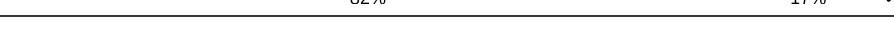

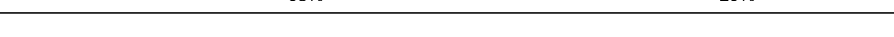
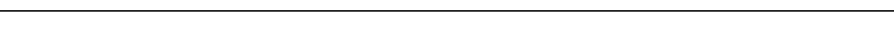

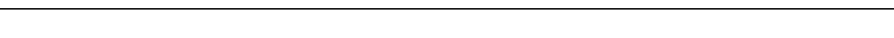
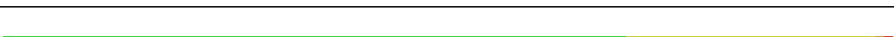


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Mol	Chain	Length	Quality of chain
17	QQ	105	
17	XQ	105	
18	QR	88	
18	XR	88	
19	QS	93	
19	XS	93	
20	QT	106	
20	XT	106	
21	QU	27	
21	XU	27	
22	QV	77	
22	XV	77	
23	QX	26	
23	XX	26	
24	QY	18	
24	XY	18	
25	RA	2915	
25	YA	2915	
26	RB	122	
26	YB	122	
27	RD	276	
27	YD	276	
28	RE	206	
28	YE	206	
29	RF	210	

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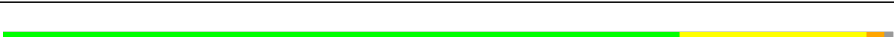


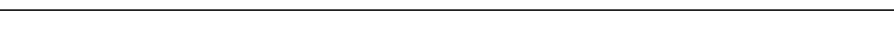











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Mol	Chain	Length	Quality of chain
29	YF	210	
30	RG	182	
30	YG	182	
31	RH	180	
31	YH	180	
32	RI	148	
32	YI	148	
33	RN	140	
33	YN	140	
34	RO	122	
34	YO	122	
35	RP	150	
35	YP	150	
36	RQ	141	
36	YQ	141	
37	RR	118	
37	YR	118	
38	RS	112	
38	YS	112	
39	RT	146	
39	YT	146	
40	RU	118	
40	YU	118	
41	RV	101	
41	YV	101	

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Mol	Chain	Length	Quality of chain
42	RW	113	
42	YW	113	
43	RX	96	
43	YX	96	
44	RY	110	
44	YY	110	
45	RZ	206	
45	YZ	206	
46	R0	85	
46	Y0	85	
47	R1	98	
47	Y1	98	
48	R2	72	
48	Y2	72	
49	R3	60	
49	Y3	60	
50	R4	71	
50	Y4	71	
51	R5	60	
51	Y5	60	
52	R6	54	
52	Y6	54	
53	R7	49	
53	Y7	49	
54	R8	65	

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Mol	Chain	Length	Quality of chain
54	Y8	65	 72%25% . .
55	R9	37	 59%38% .
55	Y9	37	 73%27%
56	ZA	3	 67%33%
56	ZB	3	 67%33%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	QN	101	-	-	X	-
57	MG	RB	203	-	-	X	-
57	MG	RD	303	-	-	X	-
58	SF4	QD	303	-	-	X	-
58	SF4	XD	302	-	-	X	-



## 2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291822 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32246	14358	5975	10413	1500			
1	XA	1504	Total	C	N	O	P	0	0	0
			32331	14396	5990	10441	1504			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	235	Total	C	N	O	S	0	0	0
			1907	1217	342	343	5			
2	XB	236	Total	C	N	O	S	0	0	0
			1915	1223	343	344	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			
3	XC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	QD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
4	XD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

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



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	148	Total	C	N	O	S	0	0	0
			1133	716	214	199	4			
5	XE	148	Total	C	N	O	S	0	0	0
			1133	716	214	199	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	100	Total	C	N	O	S	0	0	0
			837	528	154	152	3			
6	XF	100	Total	C	N	O	S	0	0	0
			837	528	154	152	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			
8	XH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O		0	0	0
			1010	639	197	174				
9	XI	126	Total	C	N	O		0	0	0
			998	633	193	172				

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	96	Total	C	N	O	S	0	0	0
			777	487	153	136	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	114	Total	C	N	O	S	0	0	0
			844	525	158	158	3			
11	XK	114	Total	C	N	O	S	0	0	0
			844	525	158	158	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			
12	XL	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	116	Total	C	N	O	S	0	0	0
			928	574	191	161	2			
13	XM	114	Total	C	N	O	S	0	0	0
			916	566	189	159	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			



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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	82	Total	C	N	O	S	0	0	0
			691	438	138	114	1			
16	XP	82	Total	C	N	O	S	0	0	0
			691	438	138	114	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			
17	XQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	68	Total	C	N	O	0	0	0
			555	355	108	92			
18	XR	68	Total	C	N	O	0	0	0
			555	355	108	92			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
19	XS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	96	Total	C	N	O	S	0	0	0
			743	458	159	124	2			
20	XT	98	Total	C	N	O	S	0	0	0
			759	469	162	126	2			

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	23	Total	C	N	O	0	0	0
			199	122	48	29			
21	XU	23	Total	C	N	O	0	0	0
			199	122	48	29			

- Molecule 22 is a RNA chain called P-site tRNA<sup>fMet</sup>.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	8	Total	C	N	O	P	0	0	0
			167	75	28	56	8			
23	XX	11	Total	C	N	O	P	0	0	0
			233	105	43	74	11			

- Molecule 24 is a RNA chain called A-site ASLSufA6 A37.5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QY	14	Total	C	N	O	P	0	0	0
			301	134	55	98	14			
24	XY	16	Total	C	N	O	P	0	0	0
			341	153	63	110	15			

- Molecule 25 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RA	2870	Total	C	N	O	P	0	0	0
			61819	27519	11565	19867	2868			
25	YA	2870	Total	C	N	O	P	0	0	0
			61822	27520	11565	19869	2868			

- Molecule 26 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RB	120	Total	C	N	O	P	0	0	0
			2572	1145	476	832	119			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 27 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	RD	275	Total	C	N	O	S	0	0	0
			2144	1353	428	360	3			
27	YD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 28 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	RE	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			
28	YE	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 29 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			
29	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 30 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
30	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 31 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	RH	174	Total	C	N	O	S	0	0	0
			1336	848	251	236	1			
31	YH	173	Total	C	N	O	S	0	0	0
			1330	845	250	234	1			



- Molecule 32 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
32	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	RN	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			
33	YN	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	RO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
34	YO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	RP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			
35	YP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
36	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 37 is a protein called 50S ribosomal protein L17.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
37	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RS	110	Total	C	N	O	S	0	0	0
			877	553	175	149				
38	YS	110	Total	C	N	O	S	0	0	0
			877	553	175	149				

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RT	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			
39	YT	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			
40	YU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
41	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RW	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	YW	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	RX	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			
43	YX	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	RY	107	Total	C	N	O	S	0	0	0
			818	525	155	132	6			
44	YY	107	Total	C	N	O	S	0	0	0
			818	525	155	132	6			

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	RZ	196	Total	C	N	O	S	0	0	0
			1552	988	273	288	3			
45	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	R0	77	Total	C	N	O	S	0	0	0
			611	378	129	103	1			
46	Y0	77	Total	C	N	O	S	0	0	0
			611	378	129	103	1			

- Molecule 47 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
47	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			



- Molecule 48 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	R2	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			
48	Y2	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			

- Molecule 49 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
49	Y3	59	Total	C	N	O	0	0	0
			468	298	90	80			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			
50	Y4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			

- Molecule 51 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
51	Y5	58	Total	C	N	O	S	0	0	0
			451	283	89	74	5			

- Molecule 52 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
52	Y6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			

- Molecule 53 is a protein called 50S ribosomal protein L34.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	R7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
53	Y7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
54	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 55 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
55	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 56 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	ZA	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	ZB	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	124	Total	Mg	0	0
			124	124		
57	YV	1	Total	Mg	0	0
			1	1		
57	RP	2	Total	Mg	0	0
			2	2		
57	R7	1	Total	Mg	0	0
			1	1		
57	YA	544	Total	Mg	0	0
			544	544		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QM	2	Total 2	Mg 2	0	0
57	YR	1	Total 1	Mg 1	0	0
57	Y9	1	Total 1	Mg 1	0	0
57	QD	2	Total 2	Mg 2	0	0
57	RN	2	Total 2	Mg 2	0	0
57	Y1	3	Total 3	Mg 3	0	0
57	YD	8	Total 8	Mg 8	0	0
57	XX	1	Total 1	Mg 1	0	0
57	QV	3	Total 3	Mg 3	0	0
57	RX	1	Total 1	Mg 1	0	0
57	Y8	1	Total 1	Mg 1	0	0
57	XA	128	Total 128	Mg 128	0	0
57	RQ	1	Total 1	Mg 1	0	0
57	R0	2	Total 2	Mg 2	0	0
57	QL	2	Total 2	Mg 2	0	0
57	YU	1	Total 1	Mg 1	0	0
57	RO	1	Total 1	Mg 1	0	0
57	XJ	1	Total 1	Mg 1	0	0
57	Y7	1	Total 1	Mg 1	0	0
57	Y0	1	Total 1	Mg 1	0	0
57	YG	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	YQ	2	Total 2	Mg 2	0	0
57	QC	1	Total 1	Mg 1	0	0
57	R8	1	Total 1	Mg 1	0	0
57	YX	1	Total 1	Mg 1	0	0
57	RR	1	Total 1	Mg 1	0	0
57	RD	5	Total 5	Mg 5	0	0
57	R1	1	Total 1	Mg 1	0	0
57	QO	1	Total 1	Mg 1	0	0
57	YT	1	Total 1	Mg 1	0	0
57	RV	1	Total 1	Mg 1	0	0
57	R5	1	Total 1	Mg 1	0	0
57	RA	414	Total 414	Mg 414	0	0
57	Y3	1	Total 1	Mg 1	0	0
57	YF	1	Total 1	Mg 1	0	0
57	YP	3	Total 3	Mg 3	0	0
57	RZ	1	Total 1	Mg 1	0	0
57	Y5	1	Total 1	Mg 1	0	0
57	R9	1	Total 1	Mg 1	0	0
57	RE	5	Total 5	Mg 5	0	0
57	XK	2	Total 2	Mg 2	0	0
57	YB	8	Total 8	Mg 8	0	0

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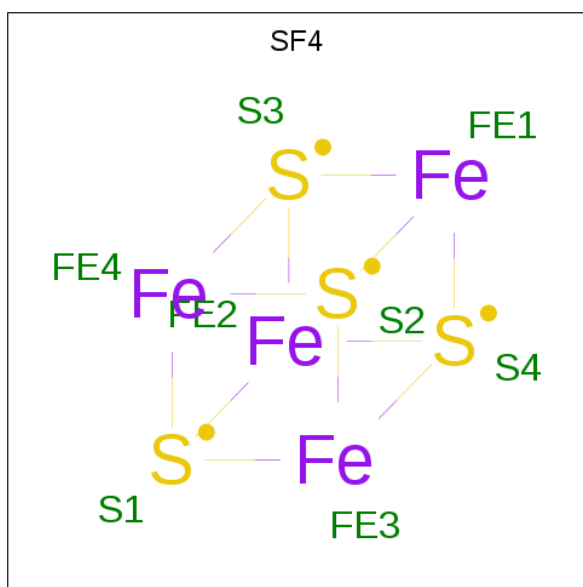


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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	Y6	1	Total 1	Mg 1	0	0
57	QN	2	Total 2	Mg 2	0	0
57	YW	1	Total 1	Mg 1	0	0
57	RW	1	Total 1	Mg 1	0	0
57	XN	1	Total 1	Mg 1	0	0
57	R6	1	Total 1	Mg 1	0	0
57	XV	1	Total 1	Mg 1	0	0
57	RB	8	Total 8	Mg 8	0	0
57	QE	2	Total 2	Mg 2	0	0
57	XD	1	Total 1	Mg 1	0	0
57	RF	5	Total 5	Mg 5	0	0
57	R3	1	Total 1	Mg 1	0	0
57	YE	7	Total 7	Mg 7	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).





Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
58	QD	1	Total	Fe	S	0	0
			8	4	4		
58	XD	1	Total	Fe	S	0	0
			8	4	4		

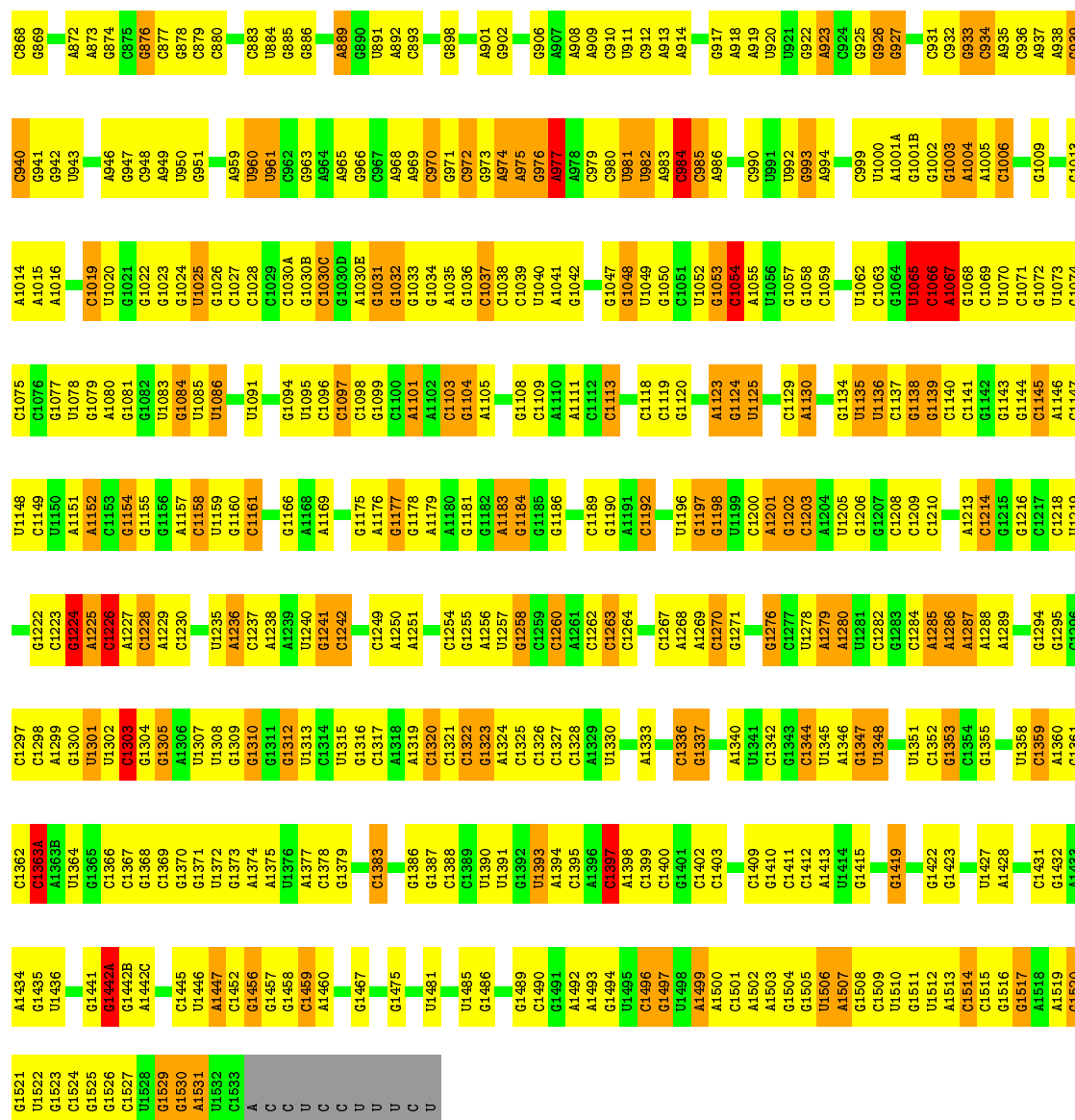
- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	Y4	1	Total	Zn	0	0
			1	1		
59	R4	1	Total	Zn	0	0
			1	1		
59	R9	1	Total	Zn	0	0
			1	1		
59	QN	1	Total	Zn	0	0
			1	1		
59	XN	1	Total	Zn	0	0
			1	1		

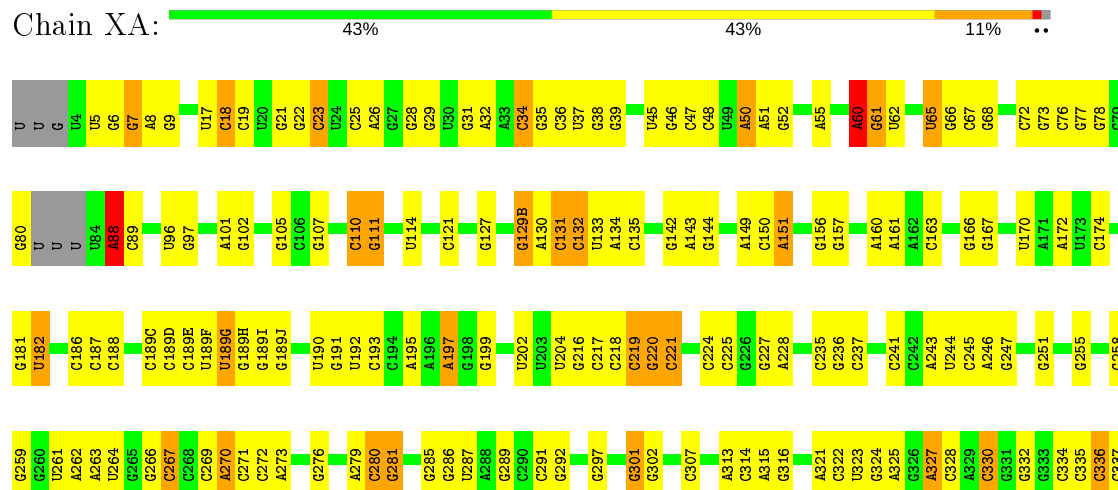








### • Molecule 1: 16S rRNA



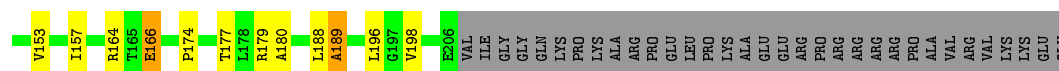


G1432	A1433	C1362	G1127	A1055	U982	G902	C811	A737	A653	C562	U486	U404	A338
A1434	A1363B	G1221	C1128	G1058	C985	G903	C812	C738	G661	A563	A487	U405	C339
A1435	A1364	G1222	A1130	C1059	A986	G906	A814	C739	U740	C564	C488	G406	C342
U1436	G1291	G1223	G1136	C1060	G989	A907	C817	G741	A663	A572	A408	A408	U343
C1437	G1292	G1224	U1137	U1061	C990	A908	C818	G742	G664	A573	G409	G409	U344
C1438	G1367	A1225	G1138	U1062	C991	A909	C819	U743	A665	A574	G410	G410	C345
C1439	G1368	C1226	U991	U1063	U992	A910	C820	C744	A666	G575	A496	G411	C346
	G1369	A1227	G1139	U1064	U993	A911	C821	G745	G667	G576	U498	A412	G347
	G1370	C1228	C1140	A1065	C994	A912	C822	A746	G673	G577	G413	G413	G348
G1442A	G1371	A1229	C1141	A1066	A994	A913	C823	C747	G674	C578	G416	G416	A349
G1442B	U1372	C1230	G1142	A1067	A995	A914	C824	C748	A675	G579	G502	G502	G350
	C1373	G1231	G1143	G1068	C999			C749	A676	U580	C503	G351	
A1447	A1374	G1231		U1070	C999			G750	U677	G581	C504	C352	
C1452	A1375	A1236	C1147	C1071	G1001B	A918	A828	G751	U678	U582	G505	U421	
G1456	G1303	C1237	U1148	G1072	G1002	A919	A829	C754	G679	U583	A353	A353	A354
G1458	G1304	A1238	G1003	U1073	G1003	U921	G830	G755	G680	G584	A509	G423	C355
C1459	G1305	A1239	A1152	G1074	A1004	G922	U833	C756	G681	G585	A510	G424	A356
	C1382	U1240	C1005	C1075	A1005	A923	U834	U757	G683	C586	C511	G425	C357
G1464	C1383	G1241	C1006		C1006	C924	U835				U512	G426	U358
	C1384			U1078		G925	G836	G761	A687	C589	C513	U427	U359
G1469	G1385	C1244	U1159	G1079	G1010	G926	C840	C762	G688	G593	C514	G428	A360
G1470	G1386	A1245	C1161	A1080	G1011	G927	C841	G763	C689	G593	G515	U429	G361
	G1387	C1246	G1164	G1081	G1014	C931	C848	A766	U692	C596	U516	A430	
G1475		U1247			A1014	C932	C849	A767	G693		G517	A431	U365
G1476		A1248	A1170	U1085	A1015	C933	G851		A694	C601	C518	A432	C366
	U1390	C1249	G1178	U1086	A1016	G934	G852	C770	A695	A602	C519	C433	U367
G1480	U1391	A1250	A1179	A1092	C1019	C935	G853	G774	A696	U603	A520	U434	U368
U1481	C1395	G1251	G1179	A1093	G1020	U936	G854	G775	U697	A608	G524	U437	G371
	A1396	C1255	G1180	U1094	G1021	U937	G855	A781	C707	A609	C525	C438	C372
C1397	C1397	A1256	A1183	U1095	G1022	A946	A859	G776		G610	C526	G438	A373
G1486	A1398	U1257	G1184	C1096	G1023	G947	A860	A777	A702	A611	G527	A439	A374
G1488	C1399	G1258	G1185	C1097	G1024	C948	G861	G778			C528	C442	U375
A1489		C1259	G1186	C1098	U1025	A949	G862						G376
C1490	C1403	C1260	G1190	G1099	G1026	U950	C863	A782	C618	A608	G524	U437	G377
	A1402	A1261	A1191	C1100	C1027	G951	U863	A783	U619	A609	C525	G438	G378
G1491	C1403	C1282	A1192	A1101	C1028	U952	A864	C783	C620	C620	A532	A448	C379
A1492	G1405	G1283	G1192	A1102	G1029	G953	A865	C784	A621	A621	A533	C449	
G1493	U1406	C1284		C1103	C1030A	G954	C866	G785	A622	A622	A534		G380
G1494	C1407	G1285	U1196	G1104	G1030B	U955	G867	G786	C623	C623	A535	A453	C381
	A1408	G1286	G1197		C1030C		C868		C624	C624	A539	C454	A382
U1497	C1409	C1287	G1200	G1108	U1030C	U960	C869	A790	G625	G625	G540	C455	A383
U1498	G1410	A1288	A1201	C1109	G1031	U961	U870	C791	C717	C717	G540		G384
A1500	C1411	A1289	G1202	C1112	G1032	C967	U871	A792	G718	G630	C543	A461	C385
C1501	A1412	C1270	C1203	C1113	G1036	A968	A872	C793	G719	G631	G544	A462	C386
A1503	U1413	G1271	A1204	C1114	G1037	A969	A873	A794	G721	A632	G545	G470	U387
G1504	U1414		G1274	C1115	C1038	C970	C877	C797	U723	G635	G546	A472	G388
U1505	G1419	A1275	G1207	C1116	C1039	G971	G878	G798	U724	U636	A547	G473	A389
			C1208	G1117	U1040	C972	C883		G725	G637	U552	G474	C390
G1422	G1422	U1278	C1209	C1118		G973	U884	A802	G725	G638	U553	G475	G392
G1423	C1423	A1279	C1210	C1119	C1043	A974	U884	G803	A728	G639	A554	G476	
C1424		U1281	U1211	G1120	A1044	A975	U884	G803	A729	A640	C555	G477	G396
		U1281	U1212	U1121	C1045	G976	U891	C805	G730	U641	C556	A479	A397
U1427	U1427	C1282	G1214	U1122	A1046	A977	U892	C806	G731	U642	C557	G480	C398
A1428	A1428		G1215	A1123	G1047	A978	C893	A807	G731	A643	G557	U481	G399
C1429	C1429	A1285	G1215	U1124		C979	C893	C808	G734	C643	G558	A482	C400
U1512	U1512	A1286	U1125	U1125	G1053	C980	A900	C808	G734	U646	U559	A483	C401
A1513	A1513		U1126	U1126	C1054	U981	A901	C810	C736		U561	G484	G403
G1515	G1515	A1287	C1218	U1126								G485	

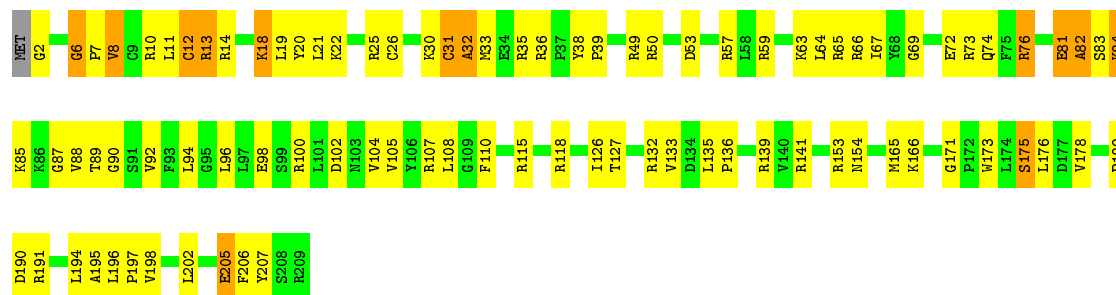




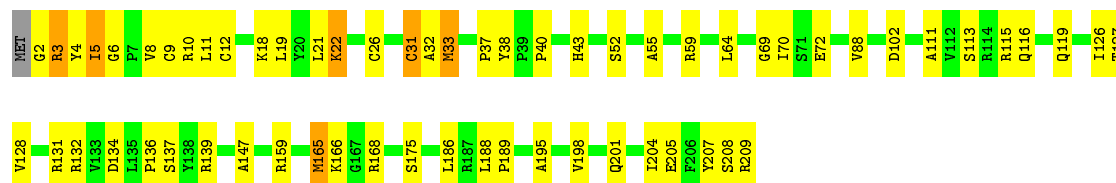




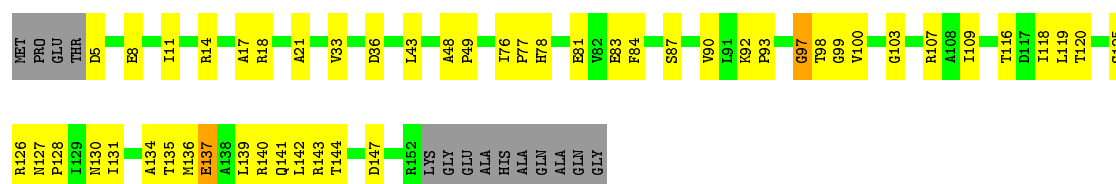
• Molecule 4: 30S ribosomal protein S4



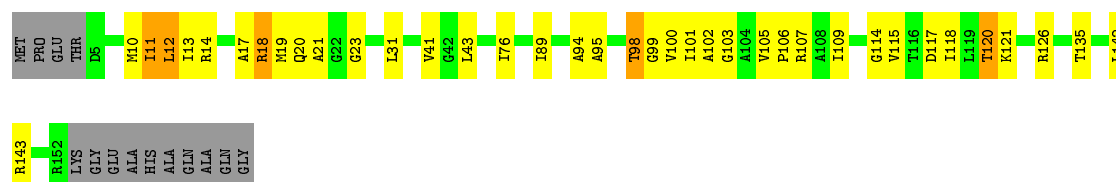
• Molecule 4: 30S ribosomal protein S4



• Molecule 5: 30S ribosomal protein S5




• Molecule 5: 30S ribosomal protein S5




• Molecule 6: 30S ribosomal protein S6



Chain QF:  73% 25% ..



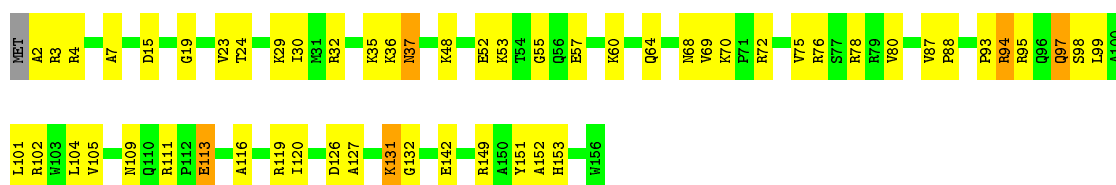
- Molecule 6: 30S ribosomal protein S6

Chain XF:  76% 23% .



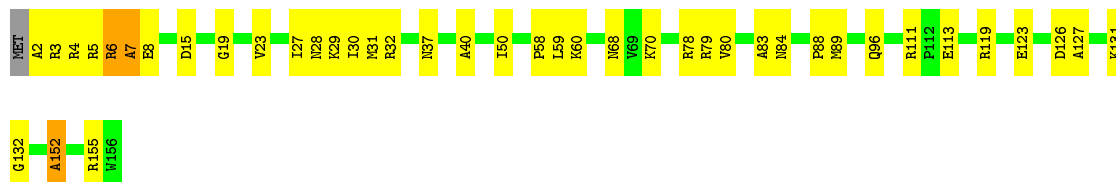
- Molecule 7: 30S ribosomal protein S7

Chain QG:  63% 33% ..



- Molecule 7: 30S ribosomal protein S7

Chain XG:  72% 25% ..



- Molecule 8: 30S ribosomal protein S8

Chain QH:  59% 38% ..



- Molecule 8: 30S ribosomal protein S8

Chain XH:  68% 30% ..

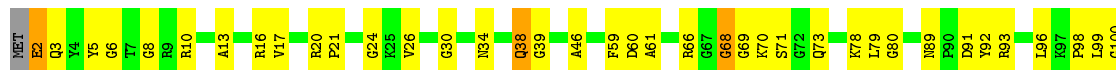






- Molecule 9: 30S ribosomal protein S9

Chain QI: 53% 41% 5%



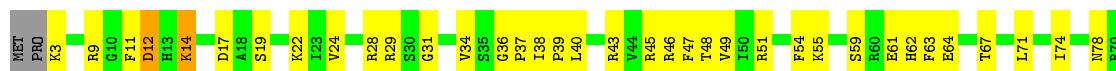
- Molecule 9: 30S ribosomal protein S9

Chain XI: 62% 35% 3%



- Molecule 10: 30S ribosomal protein S10

Chain QJ: 53% 39% 6%



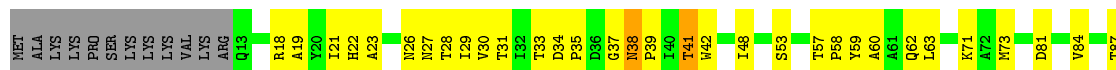
- Molecule 10: 30S ribosomal protein S10

Chain XJ: 64% 28% 9%



- Molecule 11: 30S ribosomal protein S11

Chain QK: 57% 28% 12%







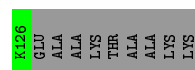
- Molecule 11: 30S ribosomal protein S11

Chain XK: 59% 26% 12%



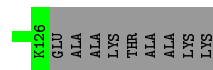
- Molecule 12: 30S ribosomal protein S12

Chain QL: 65% 23% 5% 8%



- Molecule 12: 30S ribosomal protein S12

Chain XL: 65% 26% 8%



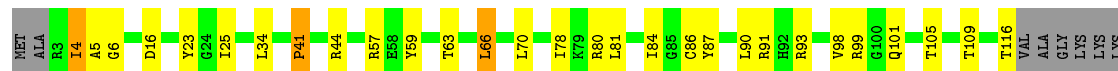
- Molecule 13: 30S ribosomal protein S13

Chain QM: 52% 36% 8%



- Molecule 13: 30S ribosomal protein S13

Chain XM: 67% 21% 10%





ALA  
PRO  
ARG  
LYS

- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:  49% 46% ..


MET A2 R3 K4 A5 L6 L7 E8 K9 A10 K11 R12 R17 K17 V18 R19 T22 R23 G28 R29 S32 V33 Y34 L39 C40 R41 T42 C43 R45 E46 L47 Q52 L53 P54 G55 K58 A59 S60 M61

- Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:  67% 30% ..


MET A2 R3 K4 L6 K9 A10 K11 R12 T13 A20 Y21 T22 R23 C24 C27 G28 R29 R35 C40 C43 H49 K58 M61

- Molecule 15: 30S ribosomal protein S15

Chain QO:  83% 12% ..

MET P2 Q9 K10 V11 I12 R17 F18 D21 E26 L31 D49 H50 H51 L67 R77 Y78 G86 G89

- Molecule 15: 30S ribosomal protein S15

Chain XO:  83% 15% ..

MET P2 I3 T4 K5 E6 E7 G20 D21 T22 G23 S24 T25 L34 L39 K47 R54 R88 G89

- Molecule 16: 30S ribosomal protein S16

Chain QP:  58% 34% 7%

M1 V2 K3 I4 R5 L6 M14 P15 H16 I19 V20 V21 R25 G30 I33 E34 K35 I36 G37 Y38 T45 P46 D47 K50 V51 R55 A56 S57 V62 T69 R72 L73 L74 R75 Q76 A77 G78 V79 F80 R81 Q82 GLU ALA ARG GLY GLY ALA

- Molecule 16: 30S ribosomal protein S16

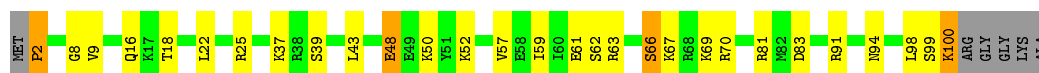
Chain XP:  60% 32% 7%

M1 V2 K3 R5 H8 K12 P15 R18 I19 V20 R25 R28 D29 Y32 I33 E34 K35 I36 G37 D52 D57 V58 H59 L60 S61 V62 T67 A70 R71 R72 L73 L74 V79 F80 R81 Q82 GLU ALA ARG GLY GLY ALA

- Molecule 17: 30S ribosomal protein S17

Chain QQ:  67% 24% 6%





- Molecule 17: 30S ribosomal protein S17



- Molecule 18: 30S ribosomal protein S18



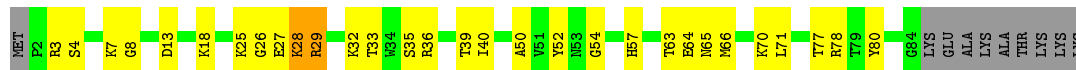
- Molecule 18: 30S ribosomal protein S18



- Molecule 19: 30S ribosomal protein S19



- Molecule 19: 30S ribosomal protein S19



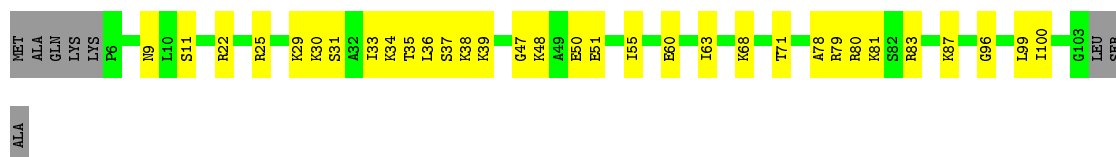
- Molecule 20: 30S ribosomal protein S20



- Molecule 20: 30S ribosomal protein S20







- Molecule 21: 30S ribosomal protein Thx



- Molecule 21: 30S ribosomal protein Thx



- Molecule 22: P-site tRNAfMet



- Molecule 22: P-site tRNAfMet



- Molecule 23: mRNA




- Molecule 23: mRNA



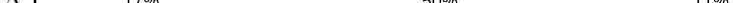
- Molecule 24: A-site ASLSufA6 A37.5

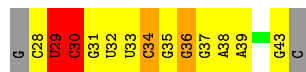


Chain QY: 



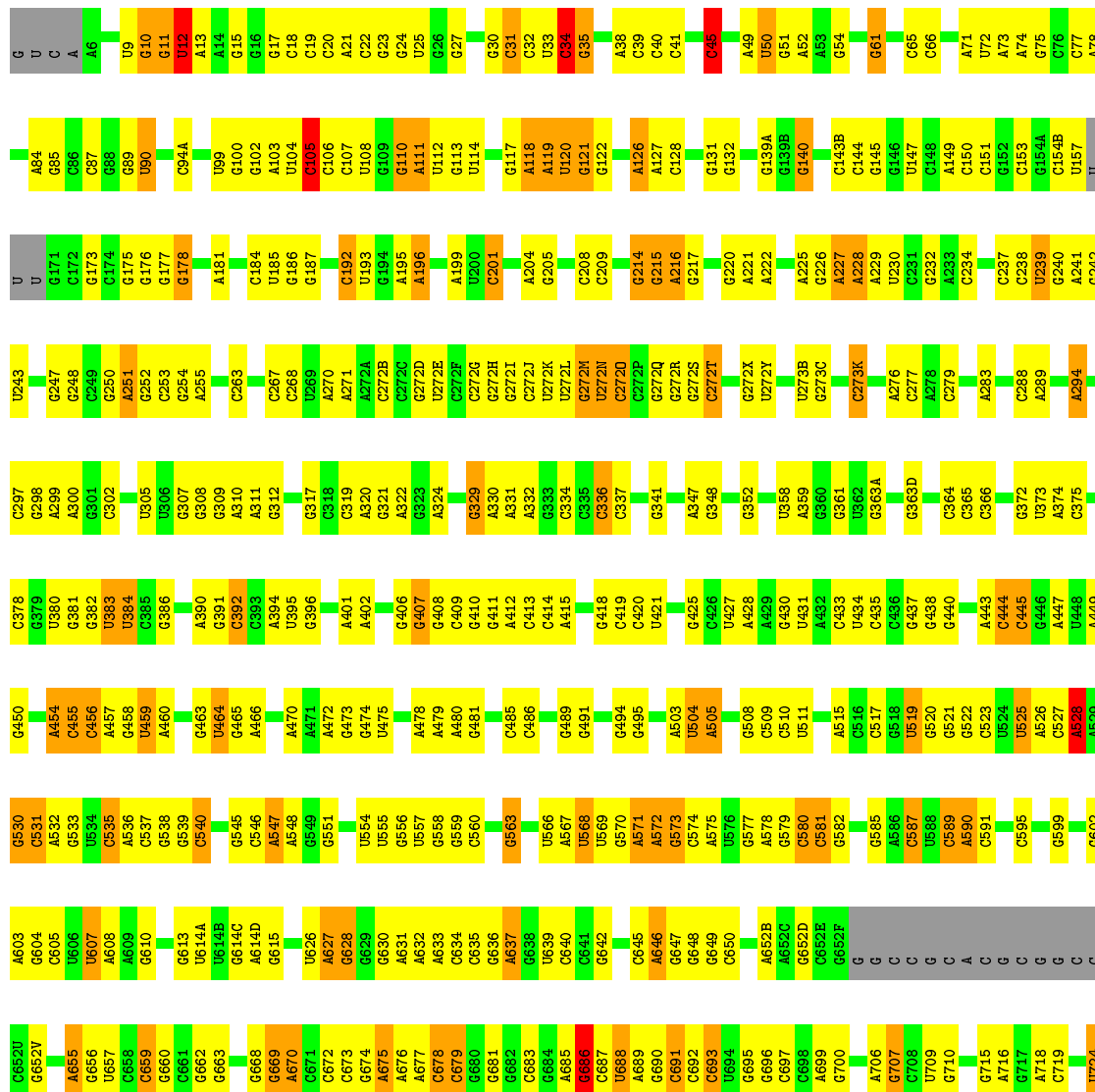
- Molecule 24: A-site ASLSufA6 A37.5

Chain XY:  17% 50% 11% 11% 11%



- Molecule 25: 23S rRNA

Chain RA: 





WORLDWIDE  
**PDB**  
PROTEIN DATA BANK



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C	C2825	C2744	C2667	G2583	G2505	G2428	C2346	G2279	U2197	U2130	A2060	C1983	A1901
		C2745		U2584	U2506	G2429	C2347	G2280	U2198	U2131	A2061	C1984	C1902
	C2828	U2746	A2675	U2585	U2511	A2430	C2350	G2281	C2200	U2132	A2062	G1988	G1903
	C2829	C2747	C2676	C2586	C2512	A2431	G2351	G2282	C2201	G2133	C2063	G1989	C1905
		A2748	C2676	A2587	G2513	A2432	G2352	G2283	C2202	A2134	C2064	C1990	G1906
	A2835	A2749		G2588	U2514	A2434	G2353		C2205	C2135	C2065	U1991	
	U2836	A2750	A2679	A2589	U2515	A2435	G2354	A2286	G2206	C2136	C2066	G1992	A1913
	G2837	C2751	C2680	C2590	A2518	C2440	G2355	A2287	G2207	G2139	G2067	U1993	A1914
	G2838	C2752	C2681	C2591	A2519	C2441	G2356	A2288	G2208	C2140	U2068	C1994	A1919
	G2839	U2682	U2683	U2592	U2519	C2442	A2361	A2289	A2208	G2141	U2069	U1995	C1920
	C2840	C2683	C2684	U2593	G2526	C2443	G2362	G2290	G2219	C2142		C1996	
		U2756	G2685	G2595	C2527		G2363	U2291	G2220	C2143	G2072	G1997	
	G2846	A2757	G2685	U2596	U2528	G2447	C2364	C2292	G2221	U2144	U2075	U1998	A1922
	U2847	A2758		G2597	U2529	U2448	G2365	C2293	G2222	C2145	U2076	C1999	
	G2848	G2763	U2689	G2598	A2530	U2449	G2370	C2294	G2223	U2146	U2079	G2000	C1925
	U2849	A2765	C2691	U2599	U2537	A2450	G2371	C2295	G2224	C2147	U2079	A2001	U1926
	A2850	C2766	C2692	A2602	U2538	A2452	C2374	U2296	G2225	G2148	G2090	G2003	A1927
	A2851			G2608	C2539			A2298	C2226		A2082	G2004	U1928
	C2852		U2696	U2611	A2542	G2455	A2377	A2299	C2231		C2084	A2005	G1930
	C2853	C2773	U2697	U2612	G2543	U2456	A2378	G2300	U2232	G2152	C2085	C2006	C1934
	C2854	C2774	U2698	U2613	G2544	U2457	G2379	G2303	U2233	G2153	C2086	G2009	G1935
	C2855	A2775	C2699	A2614	G2545	G2458	C2380	G2304	U2234	G2154	C2087	G2010	A1936
	C2856	A2776	C2700	G2615	U2546		C2381	G2305	G2235	G2155	U2096	U2011	A1937
	G2857	A2777	C2701	G2616	U2547	C2466	G2382	C2306	G2236	G2156	G2088	G2012	A1938
		A2778	U2702	C2617	G2548	C2467	G2383	G2307	G2237	A2158	U2091	A2013	
	U2865	G2782	C2703	C2620	G2549	G2468	C2385	G2308	C2240	G2159	U2092	A2014	C1941
	U2866	G2783	A2705	A2621	G2550	A2469	U2390	A2309	A2241	G2160	U2093	A2015	C1942
	G2867	C2784		G2622	C2551	G2470	G2391	U2312	G2246	C2161	G2094	U2016	U1943
	A2868	C2785	G2709	G2623	U2552	C2471	A2392	G2313	C2247	G2162	U2095	U2017	
			U2710	G2624	G2553	G2472	A2393	C2314	C2248	C2163	C2096	G2022	C1947
	G2872	C2788	U2711	A2615	U2554	U2473	A2394	G2315	C2249	G2164	U2096	A1952	
	C2873	C2789	U2712	G2630	U2555		C2395	G2316	G2250	G2165	G2100	A1953	
	C2874	A	A2713	G2631	C2556		C2396	C2317	G2251	G2166		A2030	
	C2875	C	G2714	A2632	C2557	A2476	U2398	G2318	C2254		C2103	A2031	U1955
	G2876	G2792	G2715	G2636	G2558	C2477	G2399	A2319	C2257		G2104	G2032	U1956
	C2879	G2793	U2716	U2637	C2559	G2478		A2320	U2258	A2171	C2107	A2033	C1957
	C2880	U	G2717	U2637	A2561	G2481	C2402	A2322	U2259	A2172	C2108	G2036	G1958
	A2882	C	G2718	G2642	U2562	G2482	C2403	A2323	C2258	C2174	G2109	G2037	G1959
	A2883	U	G2719	G2643	A2563	C2483	C2404	A2324	C2259	G2175	U2110	G2038	
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	C2885	C2723		G2645	A2565	G2485	G2407	A2326	U2261	C2177	G2112	U2041	A1966
	C2889	C2724		G2646	A2566	G2486		A2327	U2262	C2178	G2113	C2042	C1967
	G2891	A2725		U2647	G2567	G2487	G2408	A2328	U2263	C2179	G2114	A2043	G1968
	A2892	U2726		U2649	C2568	A2488	A2411	G2329	C2264	U2180	G2115	U2047	A1969
	G2893	G2727		U2653	A2572	U2493	G2412	G2330	U2265	G2182	A2117	U2048	A1970
	G2894			A2654	C2573	G2494	G2413	G2331	A2266	C2183	U2118	G2049	A1971
				G2655	G2574	G2495	G2414	G2332	A2267	C2184	A2119	A1972	
	U	C2816		U2656	A2575	A2496	G2415	A2336	A2268	C2185	G2120	C2050	G1973
	G	G2817		U2657	G2576	A2497	G2421	A2337	A2269	C2186	G2121	A2051	C1974
	A	G2818		A2577	A2577	C2498	A2422	G2340	G2271	G2187	U2122	G2052	G1975
	C	G2819		G2578	G2578	C2499	U2423	G2341	U2272	C2188	G2125	C2055	G1980
	A2820			C2579	C2579	C2501	C2424	A2273	A2273	U2189			
	A2821			A2661	A2661	G2502	A2425	C2343	A2274				
	C	G2822		U2580	U2580								

• Molecule 25: 23S rRNA

Chain YA:  41% 40% 15%

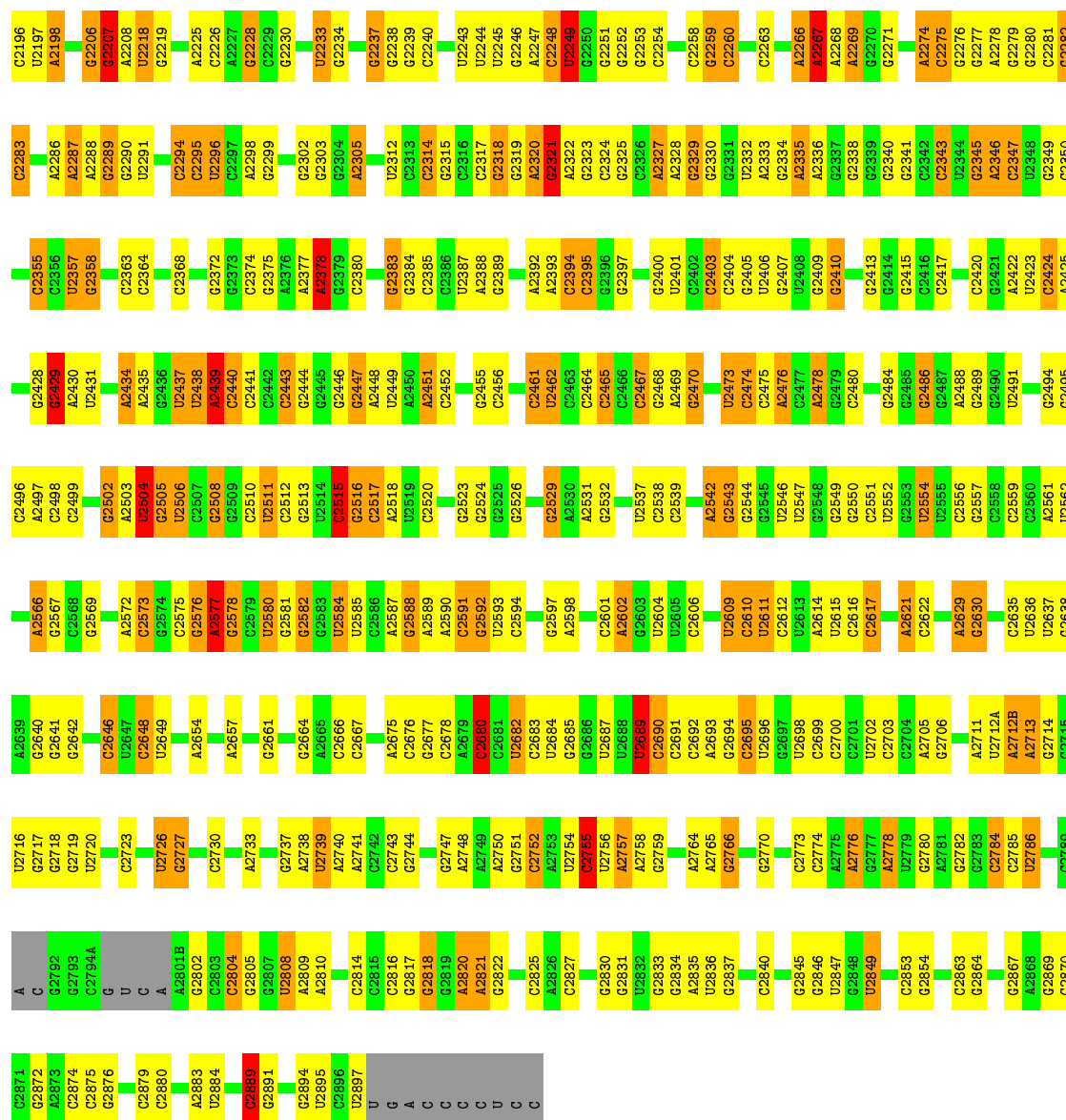


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A990	A990	A917	A841	G771	U868	C635	U869	C486	G396	G272D	A195	C
G1062	C991	A918	A842	G772	A889	G636	G570	C487	G397	U272E	A196	A
G1063	G919	G919	G843	U773	G690	A637	A571	G488	U403	C272F	A197	A6
G1064	C994	U922	C346	A774	C691	G638	A572	G489	U403	C272G	G198	G10
U1065	C995	U922	U847	G775	C692	U639	G573	G494	G407	C272H	A199	G11
U1066	A996	C925	U847	G776	C693	C640	G574	G495	G407	G272I	U200	U12
G1068	C997	C925	A848	A777	U694	C641	A575	G495	G408	U272L	U202	G15
A1069	U999	G928	C850	U778	G695	G642	U576	A503	G409	G272M	C203	G16
A1070	A1000	U851	U851	G779	G696	G643	U577	U504	G410	U272N	A204	G17
A1071	A1001	G932	G852	A782	C697	C645	A578	A505	G411	U272O	G205	C18
C1072	G1002	A983	G853	A783	C698	A646	G579	A505	G412	G272P	U206	C19
A1073	C1005	C935	G854	A784	A699	G647	C581	C509	C413	G272Q	C210	G24
G1074	C1005	C935	G855	A785	G700	G648	G582	C510	A414	G272R	A211	U25
A1077	A1009	U937	C856	C786	G701	G649	G583	U511	A415	G272S	C210	G26
U1078	A1010	U938	U858	U787	G702	A652C	C587	U512	C420	G272T	A212	U29
C1079	G1011	G941	U859	A788	G717	G652D	U888	A513	C423	G272U	A213	G30
U1082	C1013	U942	U860	A793	A718	C652E	C589	A514	A428	C273K	G225	C31
U1083	U943	G943	A861	G794	C719	G652F	C590	A515	A428	G274	G226	C32
A1084	G944	U944	G862	C795	C720	G	A590	C516	A428	G275	A221	U33
A1085	G1017	G945	A863	C796	C721	C	C591	C517	A435	U273B	A222	C34
A1086	C1018	U946	G864	C797	A722	C	G593	C527	C435	G273C	A223	G35
U1087	U1019	G947	A866	A800	G723	G	U594	C528	A443	G273D	A224	C37
A1088	A1021	U948	C867	G801	G725	A	C596	C529	A444	G273E	A225	A38
G1089	G1022	C949	U868	A802	G726	C	G597	C530	C445	G273F	A226	C39
U1090	U1023	U953	G869	U803	G728	C	C601	C531	A449	C273G	A227	A43
G1091	U1026	G954	A870	U804	G729	C	G602	C532	G450	G273H	A228	G44
C1092	A1027	G955	U871	G805	C730	G	A603	C533	C451	G273I	A229	C45
G1093	A1028	G956	A872	C806	C731	C	U604	C534	A455	G273J	A230	C47
A1096	U1029	A957	G873	U807	C737	C	U606	C535	C456	G273K	A231	G51
U1097	G1030	U958	C876	U810	G738	C652U	U607	C536	A457	G273L	A232	A52
U1101	G1031	A959	U877	U811	G739	C	G610	C537	A458	G273M	A233	A53
C1102	A1032	A960	A878	C812	U740	C	C611	C538	U459	G273N	A234	G61
A1103	U1033	G961	G879	U813	U745	C	C612	C539	A460	G273O	A235	A64
C1104	C1038	U962	G880	C814	A746	C	G613	C540	C462	G273P	A236	C65
U1105	G1039	U963	C885	C815	U747	G662	U614A	C541	C463	G273Q	A237	U67
G1106	U1040	C964	C886	C816	G748	G663	G614B	C542	U464	G273R	A238	A71
U1107	C1041	C965	C887	C817	G749	G664	G614C	C543	A466	G273S	A239	U72
U1108	G1042	G966	C888	A820	A750	G665	A614D	C544	A467	G273T	A240	A73
C1109	U1043	U969	C889	C825	A751	G666	G615	C545	C468	G273U	A241	A74
A1111	G1044	C970	A890	C826	A752	G667	C616	C546	U469	G273V	A242	C75
G1112	A1045	A973	C993	U826	C753	G668	G617	C547	A470	G273W	A243	C76
U1113	A1046	G974	A896	U827	C754	G669	G618	C548	A471	G273X	A244	G81
G1114	G1047	C975	C897	U828	C755	C672	G619	C549	A472	G273Y	A245	G82
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C1116	U1049	G975B	C998	G831	U757	A675	G621	C551	C474	G273A	A247	A84
U1122	G1050	A981	G906	U832	C758	A676	U626	C552	A477	G273B	A248	
C1123	A1051	C982	U907	U833	C759	A677	G627	C553	A478	G273C	A249	
G1124	C1052	A983	C908	G834	G760	A678	G628	C554	A479	G273D	A250	
A1126	A1054	A984	A909	A835	A761	C679	G629	C555	A480	G273E	A251	
	A1057	C986	A910	C937	A764	C683	G630	C556	A481	G273F	A252	
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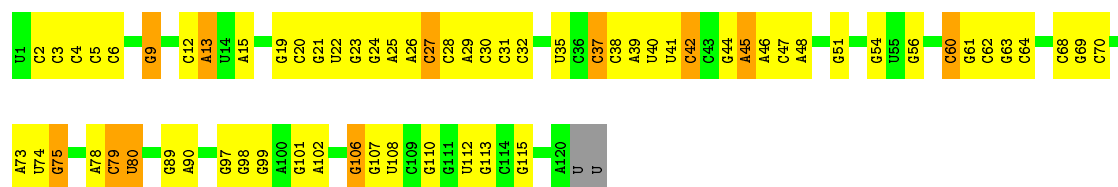
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G2055	C2055	A1912	A1819	A1912	A1819	G1744	G1646	G1573	G1500	G1421	G1343	U1273	A1204	G1131
G2056	G1980	A1913	U1820	A1913	U1820	A1749	G1647	G1574	C1501	G1422	G1344	A1274	U1205	A1132
A2059	C1981	C1914	A1821	C1914	A1821	G1752	G1648	G1575	G1505	G1423	C1345	A1275	G1206	U1133
A2060	C1982	U1915	G1822	U1915	G1822	G1753	G1649	U1576	G1506	G1424	U1352	A1276	G1207	C1135
G2061	C1983	A1916	G1823	A1916	G1823	G1754	G1651	U1577	A1507	G1425	U1353	G1280	A1210	G1136
A2062	C1988	A1917	G1826	A1917	G1826	A1755	G1652	U1578	A1508	G1426	A1353	G1281	U1211	G1137
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C2069	G1998	G1765	U1833	C2069	U1833	G1765	G1659	A1587	C1513	A1434	A1360	C1291	C1221A	G1144
C2070	C1999	C1766	U1834	C2070	U1834	C1766	A1664	C1588	U1514	G1435	G1363	U1292	G1223	C1145
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C2074	G1931	G1771	G1841	C2074	G1841	G1771	A1668	G1595	G1525	G1439	A1367	C1296	A1227	G1154
U2075	C1935	G1772	G1842	U2075	G1842	G1772	G1669	G1596	G1526	G1440	G1368	C1297	G1227	A1155
U2076	G1936	A1773	C1843	U2076	C1843	A1773	G1670	A1596			G1369	C1298	G1228	A1156
A2077	A1937	C1774	C1844	A1937	C1844	C1774	G1671	A1597	G1531	A1445A	G1374	C1299	G1229	G1157
	A1938	G1775	G1845	A1938	G1845	G1775	G1672	C1598	C1532	C1445B	C1375	U1300	C1230	C1158
G2080	C1938	G1776	G1846	C1938	G1846	G1776	G1673	G1599	U	C1446	C1376	A1301	C1231	G1159
C2081	U1939	G1777	A1847	U1939	A1847	G1777	G1674	C1603	A	G1447	A1377	A1302	U1234	U1160
A2082	U1940	C1781	A1848	A2082	A1848	C1781	G1675	A1604			A1379	C1306	G1236	G1164
G2085	U1943	G1782	C1852	G2085	C1852	G1782	G1676	C1605	C1536	G1450A	G1380	A1307	G1239	U1165
A2014	U1944	A1783	A1853	A2014	A1853	A1783	G1677	C1606	G1537	A1452	A1308	G1309	A1240	
A2015	G1945	A1784	G1857	A2015	G1857	A1784	G1678	C1607	G1538	U1453	G1309	G1310	G1241	
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A2019	G1949	G1788	G1866	A2019	G1866	G1788	G1682	C1611	C1543	C1462	G1389	C1314	A1246	U
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C2026	A1953	G1792	G1878	C2026	G1878	G1792	G1686	A1615	C1547	G1466	U1396	C1318	G1252	G1180
G2029	U1955	U1794	C1879	G2029	C1879	U1794	G1687	A1616	C1548	G1467	U1397		G1253	C1181
A2030	U1956	C1795	G1882	A2030	G1882	C1795	G1688	G1619	C1549		C1398	A1321	A1253	A1182
A2031	C1957	U1798	A1889	A2031	A1889	U1798	G1689	G1695		G1470	C1399	A1322	A1254	G1183
A2032	G1958	G1799	C1892	A2032	C1892	G1799	G1690	G1696	A1553	A1471	G1400	G1325	U1255	G1184
A2033	C1962	G1800	C1893	A2033	C1893	G1800	G1691	G1697	A1554	A1472	G1401	U1326	G1256	C1185
C2036	G1963	A1801	C1894	C2036	C1894	A1801	G1692	G1698		G1473	C1402	C1327	G1257	G1186
G2037	G1964	A1802	G1897	G2037	G1897	A1802	G1693	U1629	C1557	C1476	U1405	G1328	G1258	G1187
C2038	C1965	G1803	U1898	C2038	U1898	G1803	G1694	U1701	A1558		U1406	U1329	G1259	U1188
G2039	A1966	C1804	G1899	G2039	G1899	C1804	G1695	G1702	G1559	G1482	C1407	C1330	G1260	A1189
C2040	C1967	U1808	U1898	C2040	U1898	U1808	G1696	G1633	G1561	G1483	C1408	A1331	C1261	G1190
U2041	G1968	A1809	A1900	U2041	A1900	A1809	G1697	G1634	U1562	A1490	C1409	A1332	G1262	G1191
A2042	A1969	A1901	G1901	A2042	G1901	A1901	G1698	G1635	G1563	G1491	G1410	C1333	G1263	
C2043	A1970	U1720	G1902	C2043	G1902	U1720	G1699	C1636	C1564	G1492	C1411	G1334	A1265	C1196
C2044	A1971	G1813	G1903	C2044	G1903	G1813	G1721	C1638	A1565	C1493	A1412	U1335	G1266	G1197
A2051	U1972	A1814	G1904	A2051	G1904	A1814	A1722	U1639	A1566	A1494	G1416	A1336	U1267	U1198
G2052	U1976	G1816	G1906	G2052	G1906	G1816	U1739	C1640	A1569	A1495	C1417	G1337	A1268	U1199
													C1270	C1201





- Molecule 26: 5S rRNA

Chain RB: 



- Molecule 26: 5S rRNA

Chain YB:  58% 29% 10% 3%

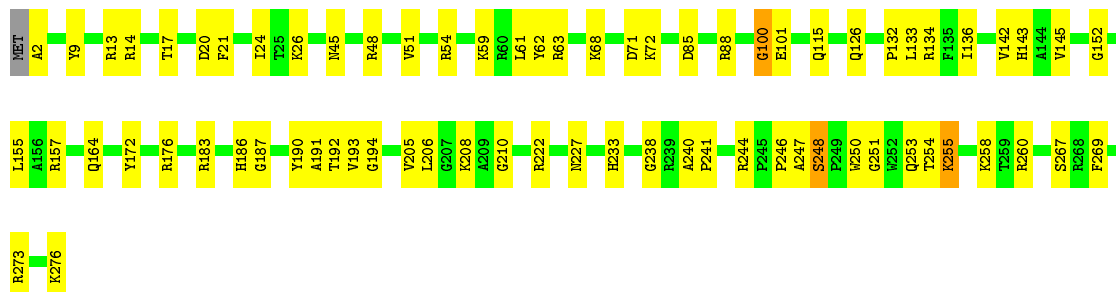






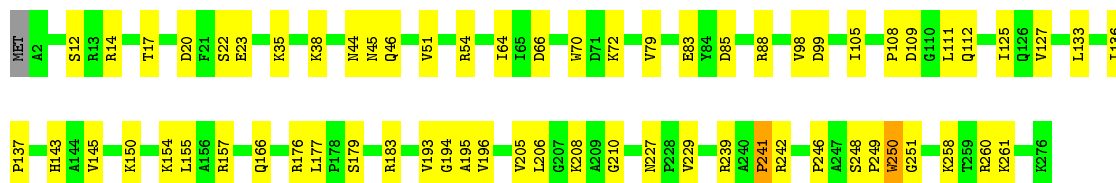
- Molecule 27: 50S ribosomal protein L2

Chain RD: 74% 25%



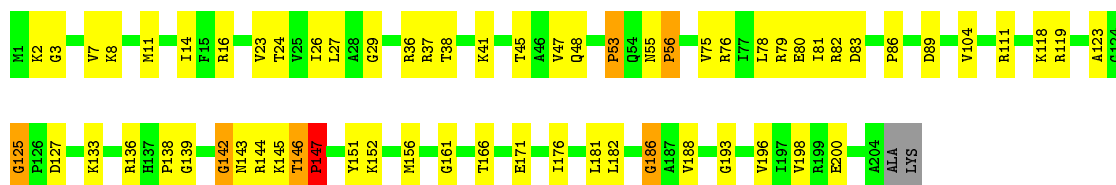
- Molecule 27: 50S ribosomal protein L2

Chain YD: 76% 23%



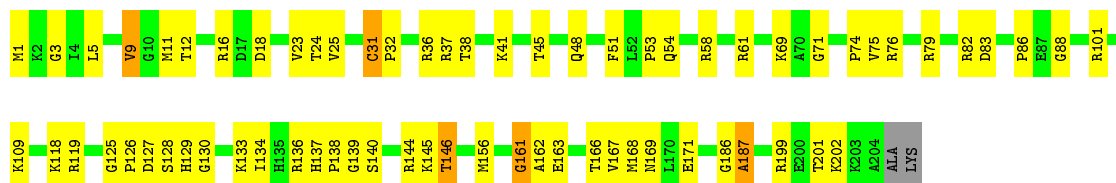
- Molecule 28: 50S ribosomal protein L3

Chain RE: 68% 28%



- Molecule 28: 50S ribosomal protein L3

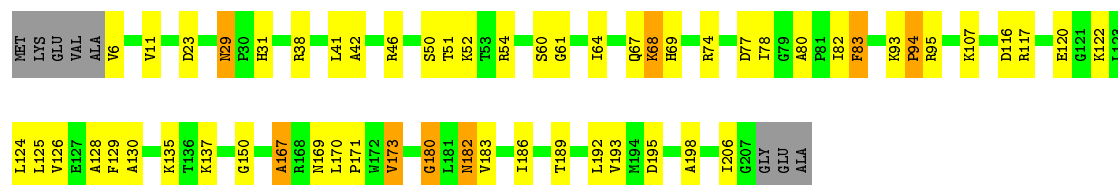
Chain YE: 66% 31%



- Molecule 29: 50S ribosomal protein L4

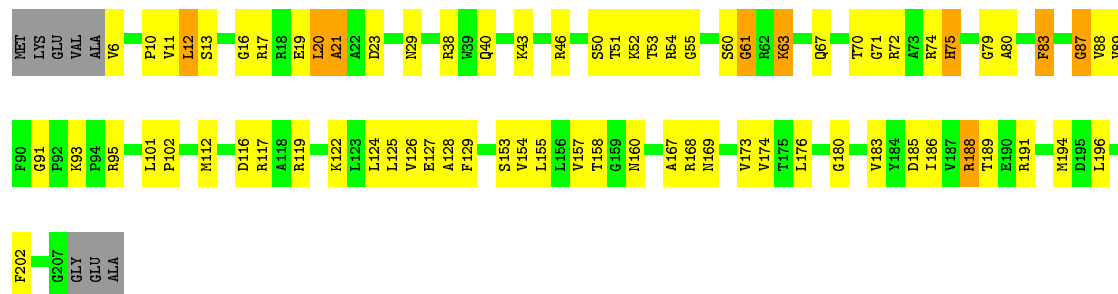
Chain RF: 69% 23%





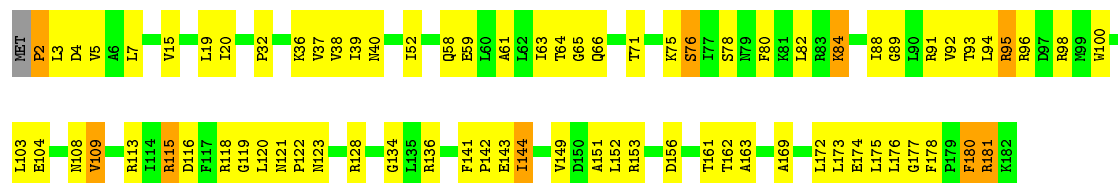
- Molecule 29: 50S ribosomal protein L4

Chain YF: 60% 31%



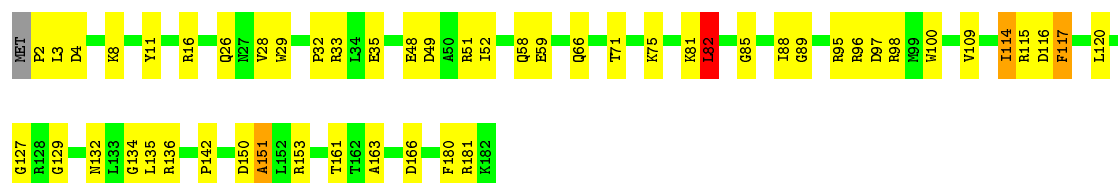
- Molecule 30: 50S ribosomal protein L5

Chain RG: 57% 37% 5%



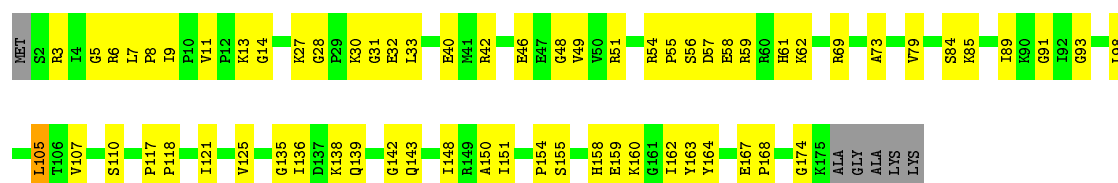
- Molecule 30: 50S ribosomal protein L5

Chain YG: 71% 26%



- Molecule 31: 50S ribosomal protein L6

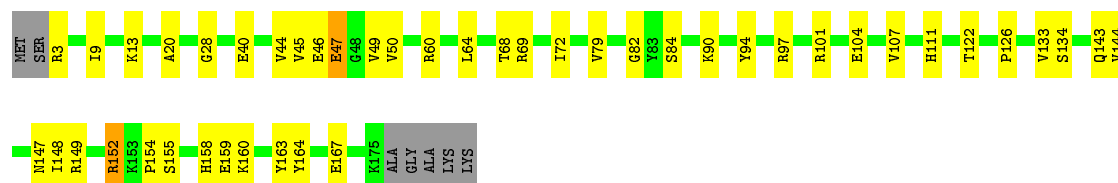
Chain RH: 61% 36%





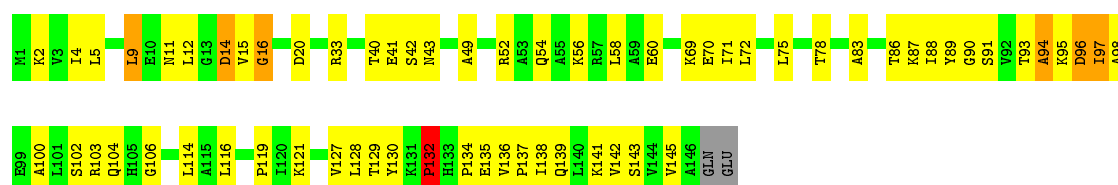
- Molecule 31: 50S ribosomal protein L6

Chain YH:  71% 24% . .



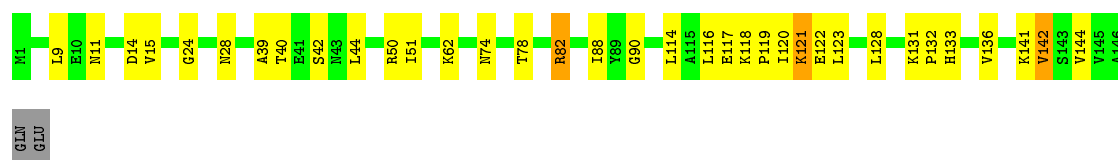
- Molecule 32: 50S ribosomal protein L9

Chain RI:  55% 39% . .



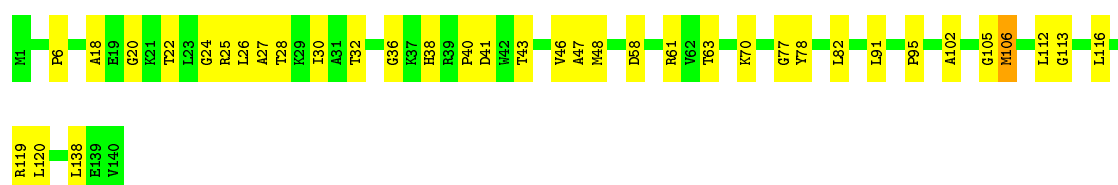
- Molecule 32: 50S ribosomal protein L9

Chain YI:  75% 22% . .




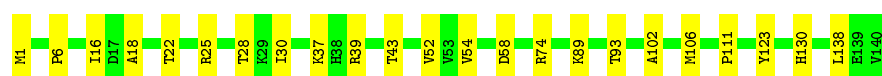
- Molecule 33: 50S ribosomal protein L13

Chain RN:  74% 26% .



- Molecule 33: 50S ribosomal protein L13

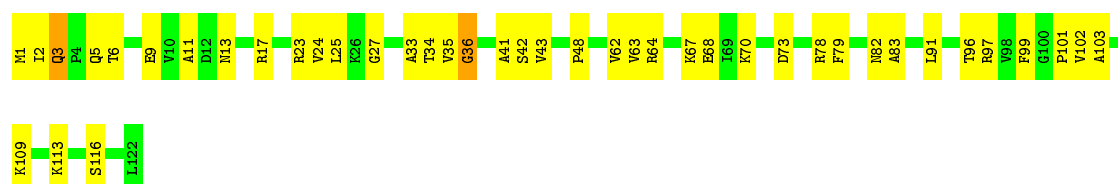
Chain YN:  84% 16%



- Molecule 34: 50S ribosomal protein L14

Chain RO:  66% 33% .





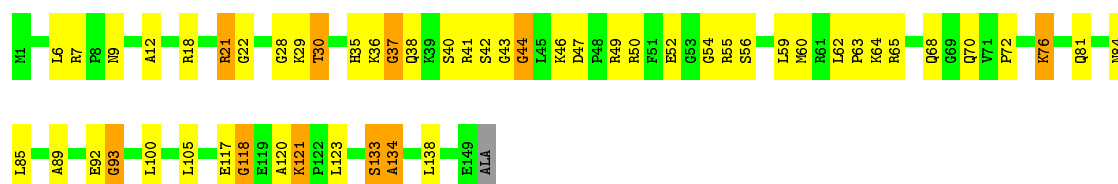
- Molecule 34: 50S ribosomal protein L14

Chain YO: 79% 20% .



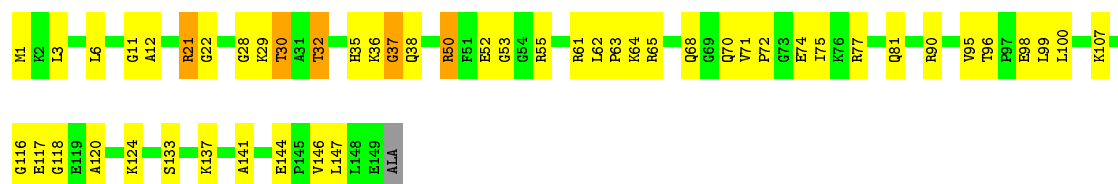
- Molecule 35: 50S ribosomal protein L15

Chain RP: 64% 29% 7% .



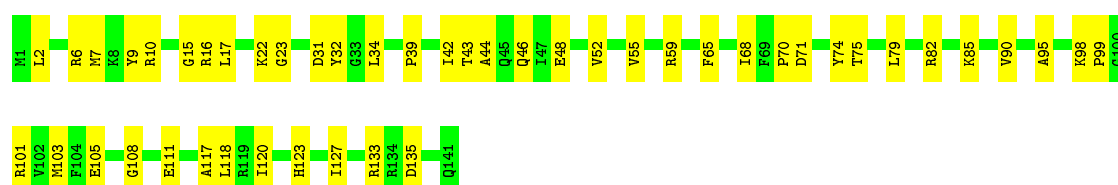
- Molecule 35: 50S ribosomal protein L15

Chain YP: 66% 30% . .



- Molecule 36: 50S ribosomal protein L16

Chain RQ: 67% 33%



- Molecule 36: 50S ribosomal protein L16

Chain YQ: 79% 21%

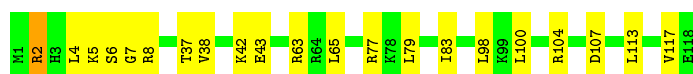
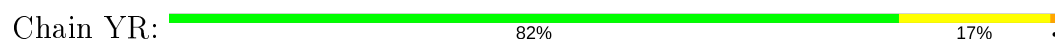




- Molecule 37: 50S ribosomal protein L17



- Molecule 37: 50S ribosomal protein L17



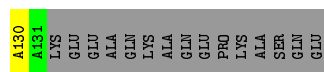
- Molecule 38: 50S ribosomal protein L18



- Molecule 38: 50S ribosomal protein L18



- Molecule 39: 50S ribosomal protein L19



- Molecule 39: 50S ribosomal protein L19

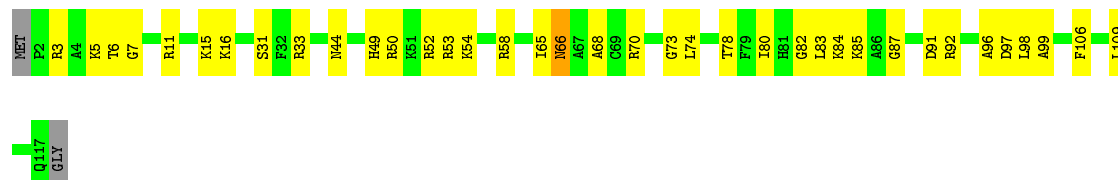






- Molecule 40: 50S ribosomal protein L20

Chain RU: 67% 31% ..



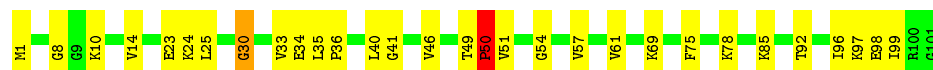
- Molecule 40: 50S ribosomal protein L20

Chain YU: 78% 20% .



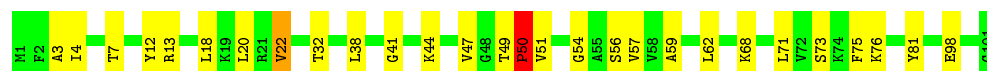
- Molecule 41: 50S ribosomal protein L21

Chain RV: 70% 28% ..



- Molecule 41: 50S ribosomal protein L21

Chain YV: 72% 26% ..



- Molecule 42: 50S ribosomal protein L22

Chain RW: 77% 22% .



- Molecule 42: 50S ribosomal protein L22

Chain YW: 79% 19% ..





- Molecule 43: 50S ribosomal protein L23

Chain RX: 72% 25% ..



- Molecule 43: 50S ribosomal protein L23

Chain YX: 86% 13% .



- Molecule 44: 50S ribosomal protein L24

Chain RY: 75% 19% . .



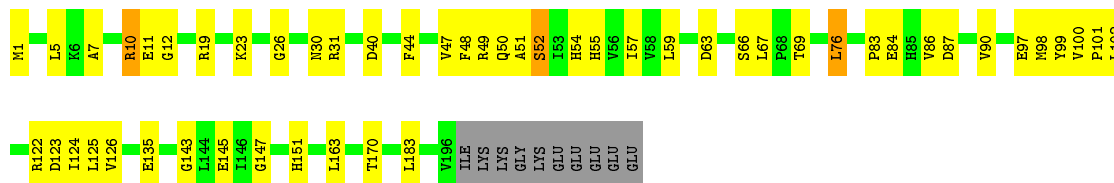
- Molecule 44: 50S ribosomal protein L24

Chain YY: 68% 27% . .



- Molecule 45: 50S ribosomal protein L25

Chain RZ: 70% 24% . 5%



- Molecule 45: 50S ribosomal protein L25

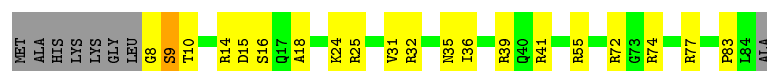
Chain YZ: 62% 25% . 11%



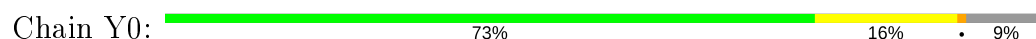




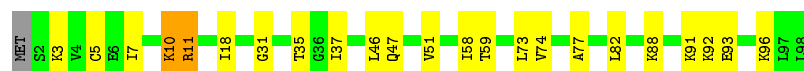
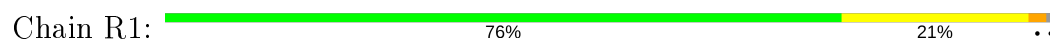
- Molecule 46: 50S ribosomal protein L27



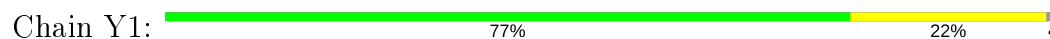
- Molecule 46: 50S ribosomal protein L27



- Molecule 47: 50S ribosomal protein L28



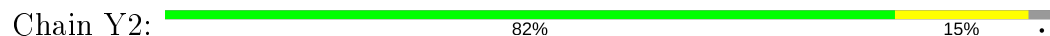
- Molecule 47: 50S ribosomal protein L28



- Molecule 48: 50S ribosomal protein L29



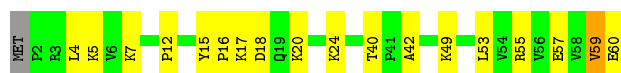
- Molecule 48: 50S ribosomal protein L29



- Molecule 49: 50S ribosomal protein L30







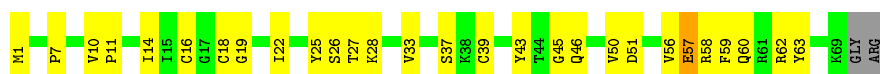
- Molecule 49: 50S ribosomal protein L30

Chain Y3: 68% 27% ..



- Molecule 50: 50S ribosomal protein L31

Chain R4: 58% 38% ..



- Molecule 50: 50S ribosomal protein L31

Chain Y4: 58% 37% ..



- Molecule 51: 50S ribosomal protein L32

Chain R5: 80% 18% .



- Molecule 51: 50S ribosomal protein L32

Chain Y5: 80% 17% .



- Molecule 52: 50S ribosomal protein L33

Chain R6: 70% 28% .



- Molecule 52: 50S ribosomal protein L33

Chain Y6: 65% 31% ..

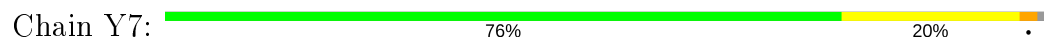




- Molecule 53: 50S ribosomal protein L34



- Molecule 53: 50S ribosomal protein L34



- Molecule 54: 50S ribosomal protein L35



- Molecule 54: 50S ribosomal protein L35



- Molecule 55: 50S ribosomal protein L36



- Molecule 55: 50S ribosomal protein L36



- Molecule 56: tRNA acceptor end mimic







- Molecule 56: tRNA acceptor end mimic

Chain ZB:  67% 33%





## 4 Data and refinement statistics

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	208.91Å 445.91Å 617.31Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.17 – 3.64	Depositor
% Data completeness (in resolution range)	93.4 (49.17-3.64)	Depositor
$R_{merge}$	0.24	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.37 (at 3.67Å)	Xtriage
Refinement program	PHENIX 1.14_3260	Depositor
R, $R_{free}$	0.208 , 0.250	Depositor
Wilson B-factor (Å <sup>2</sup> )	123.8	Xtriage
Anisotropy	0.381	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.37$ , $\langle L^2 \rangle = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	291822	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	150.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.02% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 5MU, OMC, ZN, OMG, OMU, MA6, G7M, SF4, 0TD, MG, 2MA, 2MG, 5MC, UR3, 4OC, M2G, PPU, PSU

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	QA	0.92	1/35795 (0.0%)	1.25	264/55864 (0.5%)
1	XA	1.03	8/35890 (0.0%)	1.25	234/56012 (0.4%)
2	QB	0.36	0/1942	0.64	0/2619
2	XB	0.39	0/1950	0.59	0/2630
3	QC	0.36	0/1629	0.60	1/2195 (0.0%)
3	XC	0.42	0/1629	0.59	0/2195
4	QD	0.47	0/1733	0.66	0/2318
4	XD	0.48	0/1733	0.61	0/2318
5	QE	0.40	0/1149	0.61	0/1548
5	XE	0.47	0/1149	0.59	0/1548
6	QF	0.40	0/850	0.56	0/1147
6	XF	0.49	0/850	0.60	1/1147 (0.1%)
7	QG	0.36	0/1276	0.55	0/1709
7	XG	0.43	0/1276	0.56	0/1709
8	QH	0.43	0/1128	0.59	0/1517
8	XH	0.44	0/1128	0.59	0/1517
9	QI	0.38	0/1029	0.62	0/1379
9	XI	0.42	0/1017	0.64	0/1365
10	QJ	0.37	0/814	0.61	0/1095
10	XJ	0.40	0/790	0.52	0/1063
11	QK	0.42	0/859	0.54	0/1162
11	XK	0.41	0/859	0.52	0/1162
12	QL	0.49	0/963	0.65	0/1287
12	XL	0.52	0/963	0.60	0/1287
13	QM	0.41	0/938	0.64	0/1258
13	XM	0.45	0/926	0.61	0/1241
14	QN	0.40	0/501	0.59	0/664
14	XN	0.48	0/501	0.60	0/664
15	QO	0.38	0/745	0.55	0/992
15	XO	0.45	0/745	0.62	0/992
16	QP	0.50	0/707	0.56	0/951



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
16	XP	0.43	0/707	0.57	0/951
17	QQ	0.45	0/836	0.58	0/1117
17	XQ	0.45	0/836	0.56	0/1117
18	QR	0.38	0/560	0.58	0/746
18	XR	0.45	0/560	0.60	0/746
19	QS	0.33	0/680	0.57	0/915
19	XS	0.44	0/680	0.58	0/915
20	QT	0.43	0/745	0.57	0/981
20	XT	0.34	0/762	0.57	0/1003
21	QU	0.37	0/203	0.54	0/266
21	XU	0.41	0/203	0.47	0/266
22	QV	0.90	1/1836 (0.1%)	1.28	31/2859 (1.1%)
22	XV	1.16	1/1836 (0.1%)	1.40	25/2859 (0.9%)
23	QX	0.71	0/185	1.34	1/285 (0.4%)
23	XX	0.89	0/260	1.69	8/402 (2.0%)
24	QY	0.69	0/336	1.25	3/522 (0.6%)
24	XY	0.71	0/381	1.39	7/593 (1.2%)
25	RA	1.20	15/68971 (0.0%)	1.33	622/107656 (0.6%)
25	YA	1.36	49/68976 (0.1%)	1.43	918/107668 (0.9%)
26	RB	0.78	0/2876	1.27	26/4486 (0.6%)
26	YB	1.09	0/2878	1.27	18/4490 (0.4%)
27	RD	0.60	0/2194	0.59	0/2955
27	YD	0.67	0/2195	0.62	0/2955
28	RE	0.57	0/1596	0.59	0/2153
28	YE	0.61	0/1596	0.65	0/2153
29	RF	0.60	1/1620 (0.1%)	0.61	0/2194
29	YF	0.65	0/1620	0.64	1/2194 (0.0%)
30	RG	0.40	0/1499	0.69	0/2016
30	YG	0.53	0/1499	0.67	1/2016 (0.0%)
31	RH	0.38	0/1362	0.58	0/1841
31	YH	0.55	0/1356	0.58	0/1833
32	RI	0.42	0/1151	0.68	1/1558 (0.1%)
32	YI	0.44	0/1151	0.67	0/1558
33	RN	0.51	0/1148	0.55	0/1547
33	YN	0.58	0/1148	0.54	0/1547
34	RO	0.56	0/943	0.67	1/1269 (0.1%)
34	YO	0.64	0/943	0.67	2/1269 (0.2%)
35	RP	0.50	0/1156	0.60	0/1537
35	YP	0.56	0/1156	0.62	0/1537
36	RQ	0.50	0/1143	0.58	0/1527
36	YQ	0.59	0/1143	0.59	0/1527
37	RR	0.56	0/982	0.66	0/1312
37	YR	0.54	0/982	0.62	0/1312



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	RS	0.39	0/887	0.63	1/1180 (0.1%)
38	YS	0.49	0/887	0.62	0/1180
39	RT	0.52	0/1105	0.57	0/1477
39	YT	0.58	0/1105	0.58	0/1477
40	RU	0.52	0/977	0.52	0/1301
40	YU	0.61	0/977	0.54	0/1301
41	RV	0.48	0/790	0.64	0/1057
41	YV	0.59	0/790	0.67	0/1057
42	RW	0.60	0/901	0.55	0/1209
42	YW	0.62	0/901	0.54	0/1209
43	RX	0.54	0/764	0.57	1/1025 (0.1%)
43	YX	0.63	0/764	0.59	0/1025
44	RY	0.49	0/831	0.59	0/1108
44	YY	0.57	0/831	0.61	0/1108
45	RZ	0.42	0/1585	0.61	1/2153 (0.0%)
45	YZ	0.50	0/1493	0.65	1/2026 (0.0%)
46	R0	0.47	0/619	0.55	0/825
46	Y0	0.59	0/619	0.57	0/825
47	R1	0.52	0/770	0.58	0/1022
47	Y1	0.59	1/770 (0.1%)	0.60	0/1022
48	R2	0.40	0/594	0.52	0/785
48	Y2	0.47	0/594	0.51	0/785
49	R3	0.52	0/474	0.61	0/635
49	Y3	0.52	0/473	0.62	0/635
50	R4	0.36	0/578	0.60	0/776
50	Y4	0.42	0/578	0.63	1/776 (0.1%)
51	R5	0.58	0/473	0.61	0/639
51	Y5	0.57	0/465	0.57	0/629
52	R6	0.32	0/460	0.56	0/613
52	Y6	0.33	0/460	0.64	0/613
53	R7	0.58	0/426	0.59	0/561
53	Y7	0.62	0/426	0.63	0/561
54	R8	0.52	0/525	0.58	0/691
54	Y8	0.59	0/525	0.65	0/691
55	R9	0.29	0/310	0.56	0/407
55	Y9	0.38	0/310	0.59	0/407
56	ZA	0.64	0/40	1.52	4/60 (6.7%)
56	ZB	1.26	0/40	1.60	0/60
All	All	1.02	77/314471 (0.0%)	1.18	2174/470119 (0.5%)

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



sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	XA	0	1
2	QB	0	30
2	XB	0	23
3	QC	0	24
3	XC	0	16
4	QD	0	18
4	XD	0	8
5	QE	0	13
5	XE	0	15
6	QF	0	6
6	XF	0	5
7	QG	0	10
7	XG	0	10
8	QH	0	14
8	XH	0	6
9	QI	0	22
9	XI	0	9
10	QJ	0	10
10	XJ	0	8
11	QK	0	6
11	XK	0	11
12	QL	0	13
12	XL	0	10
13	QM	0	12
13	XM	0	7
14	QN	0	5
14	XN	0	6
15	QO	0	4
15	XO	0	3
16	QP	0	10
16	XP	0	4
17	QQ	0	7
17	XQ	0	5
18	QR	0	3
18	XR	0	1
19	QS	0	10
19	XS	0	8
20	QT	0	6
20	XT	0	4
21	QU	0	3
21	XU	0	2
25	YA	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
27	RD	0	17
27	YD	0	9
28	RE	0	14
28	YE	0	16
29	RF	0	15
29	YF	0	19
30	RG	0	29
30	YG	0	19
31	RH	0	20
31	YH	0	5
32	RI	0	26
32	YI	0	19
33	RN	0	7
33	YN	0	5
34	RO	0	5
34	YO	0	1
35	RP	0	23
35	YP	0	18
36	RQ	0	4
36	YQ	0	4
37	RR	0	5
37	YR	0	5
38	RS	0	5
38	YS	0	5
39	RT	0	5
39	YT	0	5
40	RU	0	6
40	YU	0	1
41	RV	0	8
41	YV	0	9
42	RW	0	2
42	YW	0	5
43	RX	0	4
43	YX	0	3
44	RY	0	6
44	YY	0	6
45	RZ	0	13
45	YZ	0	22
46	R0	0	5
46	Y0	0	3
47	R1	0	5
47	Y1	0	4

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Mol	Chain	#Chirality outliers	#Planarity outliers
48	R2	0	3
48	Y2	0	1
49	R3	0	2
49	Y3	0	4
50	R4	0	10
50	Y4	0	11
51	R5	0	2
51	Y5	0	3
52	R6	0	5
52	Y6	0	5
53	R7	0	4
53	Y7	0	2
54	R8	0	1
54	Y8	0	4
55	R9	0	4
55	Y9	0	1
All	All	0	858

All (77) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	XA	88	A	C3'-C2'	11.98	1.66	1.52
22	XV	1	C	OP3-P	-9.54	1.49	1.61
22	QV	1	C	OP3-P	-9.31	1.50	1.61
1	XA	88	A	C1'-N9	7.29	1.59	1.48
1	XA	88	A	C4'-O4'	7.00	1.54	1.45
25	YA	2415	G	N3-C4	-6.91	1.30	1.35
25	YA	1378	A	N9-C4	-6.74	1.33	1.37
25	YA	2415	G	C2-N3	-6.74	1.27	1.32
1	XA	359	U	P-O5'	6.34	1.66	1.59
1	XA	358	U	C3'-O3'	6.27	1.50	1.42
25	YA	2060	A	N9-C4	-6.02	1.34	1.37
1	XA	358	U	C5'-C4'	-6.00	1.44	1.51
25	YA	971	C	N1-C6	-5.96	1.33	1.37
25	YA	2542	A	N9-C4	-5.91	1.34	1.37
25	YA	471	A	N9-C4	-5.84	1.34	1.37
25	YA	2486	G	N3-C4	-5.83	1.31	1.35
25	YA	750	A	N7-C5	-5.80	1.35	1.39
25	YA	1787	A	N7-C5	-5.75	1.35	1.39
25	YA	2403	C	C2-O2	-5.74	1.19	1.24
25	RA	2589	A	N9-C4	-5.72	1.34	1.37
25	RA	960	A	N7-C5	-5.68	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YA	567	A	N9-C4	-5.66	1.34	1.37
25	YA	466	A	N7-C5	-5.65	1.35	1.39
25	RA	2030	A	N9-C4	-5.62	1.34	1.37
1	XA	900	A	N9-C4	-5.60	1.34	1.37
25	YA	1981	A	N9-C4	-5.56	1.34	1.37
25	RA	751	A	N9-C4	-5.55	1.34	1.37
25	RA	685	A	N9-C4	-5.52	1.34	1.37
25	YA	959	A	N9-C4	-5.50	1.34	1.37
25	YA	2020	A	N9-C4	-5.50	1.34	1.37
25	RA	528	A	N7-C5	-5.47	1.35	1.39
25	YA	1281	G	C2'-C1'	-5.46	1.47	1.53
25	RA	2031	A	N9-C4	-5.46	1.34	1.37
25	RA	2621	A	N9-C4	-5.41	1.34	1.37
29	RF	23	ASP	C-N	-5.41	1.21	1.34
25	YA	1325	G	N9-C4	-5.38	1.33	1.38
25	YA	1698	A	N9-C4	-5.35	1.34	1.37
25	YA	1819	A	N9-C4	-5.33	1.34	1.37
25	RA	111	A	N9-C4	-5.32	1.34	1.37
25	YA	2614	A	N9-C4	-5.31	1.34	1.37
25	YA	1247	A	N9-C4	-5.30	1.34	1.37
25	YA	1608	A	N9-C4	-5.30	1.34	1.37
25	RA	782	A	N9-C4	-5.27	1.34	1.37
25	YA	1913	A	N9-C4	-5.26	1.34	1.37
25	YA	2051	A	C5-C6	-5.26	1.36	1.41
25	RA	577	G	N7-C5	-5.25	1.36	1.39
25	YA	676	A	N9-C4	-5.24	1.34	1.37
25	RA	2542	A	N9-C4	-5.24	1.34	1.37
25	YA	126	A	N9-C4	-5.23	1.34	1.37
1	XA	359	U	C5'-C4'	5.21	1.57	1.51
25	YA	2063	C	C4-C5	-5.20	1.38	1.43
25	YA	2486	G	N9-C4	-5.19	1.33	1.38
25	YA	1286	A	N9-C4	-5.19	1.34	1.37
25	YA	2439	A	N9-C4	-5.17	1.34	1.37
25	YA	1342	A	N9-C4	-5.17	1.34	1.37
25	YA	1251	C	N1-C6	-5.15	1.34	1.37
25	YA	2015	A	N7-C5	-5.14	1.36	1.39
25	RA	390	A	N9-C4	-5.13	1.34	1.37
25	YA	1609	A	N9-C4	-5.12	1.34	1.37
25	YA	1817	G	N7-C5	-5.12	1.36	1.39
25	YA	116	C	N1-C6	-5.12	1.34	1.37
25	YA	84	A	N9-C4	-5.12	1.34	1.37
25	YA	1544	A	N9-C4	-5.12	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YA	1938	A	N9-C4	-5.11	1.34	1.37
25	YA	800	A	N7-C5	-5.11	1.36	1.39
1	QA	325	A	N9-C4	-5.10	1.34	1.37
25	YA	783	A	N7-C5	-5.07	1.36	1.39
47	Y1	42	GLN	C-N	-5.07	1.22	1.34
25	RA	2015	A	N7-C5	-5.05	1.36	1.39
25	YA	1830	C	C4-C5	-5.05	1.39	1.43
25	YA	1027	A	N9-C4	-5.05	1.34	1.37
25	YA	1638	C	N1-C6	-5.04	1.34	1.37
25	YA	2577	A	N3-C4	-5.04	1.31	1.34
25	YA	800	A	N9-C4	-5.02	1.34	1.37
25	RA	686	G	N7-C5	-5.02	1.36	1.39
25	YA	195	A	N9-C4	-5.02	1.34	1.37
25	YA	1754	C	N1-C6	-5.01	1.34	1.37

All (2174) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	88	A	O4'-C1'-C2'	16.46	122.42	107.60
1	XA	359	U	C2-N1-C1'	15.95	136.84	117.70
25	YA	2415	G	N3-C2-N2	-15.63	108.96	119.90
23	XX	19	C	N1-C2-O2	13.47	126.98	118.90
1	XA	358	U	N1-C1'-C2'	-12.81	97.35	114.00
25	YA	1827	C	O5'-P-OP2	-12.80	94.18	105.70
1	XA	747	C	N3-C2-O2	-12.32	113.27	121.90
1	XA	359	U	C6-N1-C1'	-12.32	103.96	121.20
25	RA	2584	U	C2-N1-C1'	12.12	132.24	117.70
25	RA	1102	C	N3-C2-O2	-11.93	113.55	121.90
25	YA	2584	U	C2-N1-C1'	11.77	131.82	117.70
1	XA	747	C	N1-C2-O2	11.52	125.81	118.90
25	RA	912	C	C6-N1-C2	-11.45	115.72	120.30
25	RA	2221	G	C4-N9-C1'	11.42	141.34	126.50
25	RA	912	C	C2-N1-C1'	11.40	131.34	118.80
22	QV	32	C	N1-C2-O2	11.39	125.73	118.90
25	YA	385	C	C2-N1-C1'	11.38	131.32	118.80
25	YA	1281	G	N9-C1'-C2'	-11.27	99.35	114.00
25	YA	1314	C	C2-N1-C1'	11.25	131.17	118.80
1	QA	979	C	C6-N1-C2	-11.15	115.84	120.30
25	RA	2221	G	C8-N9-C1'	-10.84	112.91	127.00
25	YA	1314	C	C6-N1-C2	-10.77	115.99	120.30
25	RA	2880	C	N3-C2-O2	-10.77	114.36	121.90
25	YA	385	C	N1-C2-O2	10.75	125.35	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	754	C	C2-N1-C1'	10.73	130.60	118.80
25	RA	1102	C	N1-C2-O2	10.58	125.25	118.90
25	YA	445	C	C6-N1-C2	-10.58	116.07	120.30
25	RA	2880	C	N1-C2-O2	10.55	125.23	118.90
25	RA	1092	C	N1-C2-O2	10.48	125.19	118.90
25	RA	912	C	N3-C2-O2	-10.43	114.60	121.90
25	RA	2063	C	C6-N1-C2	-10.40	116.14	120.30
25	RA	1102	C	C6-N1-C2	-10.37	116.15	120.30
25	YA	2573	C	C2-N1-C1'	10.35	130.19	118.80
23	XX	19	C	N3-C2-O2	-10.33	114.67	121.90
23	XX	19	C	C2-N1-C1'	10.31	130.14	118.80
25	RA	1313	U	C2-N1-C1'	10.26	130.01	117.70
25	RA	912	C	N1-C2-O2	10.22	125.03	118.90
25	YA	2575	C	C2-N1-C1'	-10.18	107.60	118.80
25	YA	1332	G	O5'-P-OP2	-10.09	96.62	105.70
25	YA	2465	C	N3-C2-O2	-10.08	114.84	121.90
25	RA	1142(A)	U	N1-C2-O2	10.07	129.85	122.80
25	YA	867	C	N1-C2-O2	9.92	124.85	118.90
1	XA	979	C	C6-N1-C2	-9.91	116.34	120.30
22	XV	75	C	C6-N1-C1'	9.90	132.68	120.80
25	YA	2063	C	C2-N1-C1'	9.88	129.67	118.80
1	QA	330	C	N1-C2-O2	9.80	124.78	118.90
25	RA	856	C	C6-N1-C2	-9.80	116.38	120.30
25	YA	2573	C	C6-N1-C1'	-9.63	109.25	120.80
1	XA	330	C	N1-C2-O2	9.53	124.62	118.90
25	RA	1779	U	C2-N1-C1'	9.51	129.11	117.70
24	QY	34	C	N1-C2-O2	9.46	124.58	118.90
25	YA	2063	C	C6-N1-C2	-9.43	116.53	120.30
25	YA	2465	C	C6-N1-C2	-9.39	116.54	120.30
25	YA	466	A	C8-N9-C4	-9.28	102.09	105.80
26	RB	37	C	N3-C2-O2	-9.26	115.42	121.90
25	YA	2403	C	C6-N1-C1'	9.26	131.91	120.80
25	YA	2051	A	N9-C4-C5	-9.25	102.10	105.80
25	YA	1604	C	C6-N1-C1'	9.22	131.87	120.80
25	YA	1179	C	N1-C2-O2	9.21	124.42	118.90
22	QV	32	C	N3-C2-O2	-9.18	115.47	121.90
1	QA	1066	C	N1-C2-O2	9.17	124.40	118.90
25	YA	445	C	C6-N1-C1'	9.13	131.76	120.80
25	RA	2498	C	C2-N1-C1'	-9.12	108.77	118.80
25	RA	2063	C	C5-C6-N1	9.11	125.55	121.00
25	YA	2666	C	N1-C2-O2	9.10	124.36	118.90
25	YA	2473	U	N1-C2-O2	9.08	129.16	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	824	C	C6-N1-C2	-9.06	116.68	120.30
25	RA	1142(A)	U	N3-C2-O2	-9.03	115.88	122.20
25	YA	2295	C	C6-N1-C2	-9.03	116.69	120.30
25	YA	203	C	O5'-P-OP2	9.03	121.53	110.70
25	YA	2584	U	C6-N1-C1'	-9.00	108.60	121.20
25	YA	385	C	N3-C2-O2	-9.00	115.60	121.90
25	YA	2587	A	O5'-P-OP1	-8.99	97.61	105.70
1	XA	435	C	C5-C6-N1	8.98	125.49	121.00
1	QA	979	C	N3-C2-O2	-8.97	115.62	121.90
1	XA	435	C	C6-N1-C2	-8.88	116.75	120.30
25	RA	984	A	C8-N9-C4	-8.86	102.25	105.80
22	XV	75	C	C2-N1-C1'	-8.85	109.06	118.80
25	RA	2318	G	C4-N9-C1'	8.83	137.98	126.50
25	YA	2575	C	C6-N1-C1'	8.82	131.39	120.80
25	YA	2179	C	C6-N1-C2	-8.79	116.78	120.30
25	YA	2063	C	N1-C2-O2	8.79	124.17	118.90
25	YA	786	C	C2-N1-C1'	-8.78	109.14	118.80
25	RA	2465	C	C6-N1-C2	-8.77	116.79	120.30
25	YA	192	C	C6-N1-C2	-8.77	116.79	120.30
25	RA	2153	G	N3-C4-N9	8.76	131.25	126.00
25	RA	2063	C	N1-C2-O2	8.75	124.15	118.90
1	XA	1522	U	C6-N1-C1'	8.75	133.45	121.20
25	RA	2220	G	N9-C1'-C2'	-8.75	102.38	112.00
25	YA	2473	U	N3-C2-O2	-8.74	116.08	122.20
25	YA	755	C	C6-N1-C2	-8.71	116.81	120.30
25	RA	1774	C	N3-C2-O2	-8.71	115.80	121.90
25	YA	2179	C	N1-C2-O2	8.71	124.12	118.90
25	YA	786	C	C6-N1-C1'	8.68	131.21	120.80
25	YA	385	C	C6-N1-C1'	-8.65	110.42	120.80
25	RA	2498	C	C6-N1-C1'	8.64	131.16	120.80
25	RA	2880	C	C6-N1-C2	-8.63	116.85	120.30
25	YA	2363	C	C6-N1-C1'	8.63	131.16	120.80
25	YA	269	U	N3-C2-O2	-8.61	116.17	122.20
25	RA	1313	U	N3-C2-O2	-8.61	116.17	122.20
25	RA	2666	C	N1-C2-O2	8.60	124.06	118.90
25	YA	2499	C	C2-N1-C1'	-8.59	109.36	118.80
25	YA	806	C	C6-N1-C2	-8.59	116.87	120.30
25	RA	1411	C	N1-C2-O2	8.58	124.05	118.90
25	RA	2321	G	N3-C4-C5	-8.58	124.31	128.60
1	QA	689	C	C5-C6-N1	8.55	125.28	121.00
25	YA	2318	G	C4-N9-C1'	8.55	137.61	126.50
25	RA	1956	U	N3-C2-O2	-8.54	116.22	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1604	C	C2-N1-C1'	-8.54	109.41	118.80
25	YA	2051	A	C2-N3-C4	-8.53	106.33	110.60
25	YA	466	A	N7-C8-N9	8.52	118.06	113.80
34	YO	91	LEU	CA-CB-CG	8.50	134.85	115.30
25	RA	1065	U	N1-C2-O2	8.49	128.75	122.80
25	YA	2415	G	N9-C4-C5	8.48	108.79	105.40
25	YA	1779	U	C2-N1-C1'	8.48	127.88	117.70
25	YA	964	C	C6-N1-C1'	8.46	130.96	120.80
25	RA	1467	C	N1-C2-O2	8.46	123.98	118.90
1	QA	980	C	N1-C2-O2	8.43	123.96	118.90
25	RA	1314	C	C6-N1-C2	-8.41	116.94	120.30
25	YA	580	C	C5-C6-N1	8.40	125.20	121.00
25	YA	2043	C	C5-C6-N1	8.40	125.20	121.00
25	YA	2814	C	N1-C2-O2	8.40	123.94	118.90
25	RA	614(A)	U	N3-C2-O2	-8.39	116.33	122.20
25	YA	788	A	O5'-P-OP2	8.38	120.76	110.70
1	QA	525	C	C6-N1-C2	-8.37	116.95	120.30
25	YA	269	U	N1-C2-O2	8.37	128.66	122.80
25	YA	2666	C	N3-C2-O2	-8.37	116.04	121.90
25	YA	2096	U	N1-C2-O2	8.36	128.65	122.80
1	XA	135	C	N1-C2-O2	8.34	123.90	118.90
25	RA	2096	U	N1-C2-O2	8.33	128.63	122.80
25	RA	2584	U	C6-N1-C1'	-8.33	109.53	121.20
25	YA	2439	A	O4'-C1'-N9	-8.33	101.54	108.20
1	XA	367	U	N1-C1'-C2'	-8.32	102.85	112.00
1	XA	88	A	C1'-O4'-C4'	-8.31	103.25	109.90
25	YA	1052	C	C6-N1-C2	-8.31	116.98	120.30
1	QA	1496	C	N1-C2-O2	8.30	123.88	118.90
25	YA	2440	C	C6-N1-C1'	8.30	130.76	120.80
25	RA	614(A)	U	C2-N1-C1'	8.29	127.65	117.70
25	RA	595	C	N1-C2-O2	8.28	123.87	118.90
25	YA	1844	C	C6-N1-C2	-8.28	116.99	120.30
25	YA	1179	C	N3-C2-O2	-8.27	116.11	121.90
25	YA	570	G	C8-N9-C4	-8.26	103.09	106.40
25	RA	1005	C	C6-N1-C2	-8.26	117.00	120.30
26	RB	37	C	C6-N1-C2	-8.26	117.00	120.30
34	RO	91	LEU	CA-CB-CG	8.25	134.28	115.30
25	RA	12	U	C5-C6-N1	8.25	126.82	122.70
25	YA	2474	C	N1-C2-O2	8.25	123.85	118.90
25	YA	856	C	C6-N1-C2	-8.24	117.00	120.30
1	XA	1522	U	C2-N1-C1'	-8.24	107.81	117.70
1	QA	754	C	N3-C2-O2	-8.23	116.14	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	RB	60	C	C5-C6-N1	8.22	125.11	121.00
24	QY	34	C	N3-C2-O2	-8.22	116.15	121.90
1	XA	623	C	C5-C6-N1	8.20	125.10	121.00
26	RB	37	C	N1-C2-O2	8.17	123.80	118.90
25	YA	2363	C	C2-N1-C1'	-8.15	109.83	118.80
25	YA	614(A)	U	C2-N1-C1'	8.14	127.47	117.70
25	YA	2499	C	C6-N1-C1'	8.14	130.57	120.80
1	QA	936	C	N1-C2-O2	8.13	123.78	118.90
26	YB	36	C	N1-C2-O2	8.11	123.77	118.90
25	RA	1671	U	C6-N1-C1'	8.10	132.54	121.20
25	YA	2474	C	N3-C2-O2	-8.10	116.23	121.90
25	YA	697	C	C6-N1-C2	-8.09	117.06	120.30
25	YA	1005	C	N1-C2-O2	8.09	123.75	118.90
25	RA	1611	C	C2-N1-C1'	-8.09	109.91	118.80
25	YA	2591	C	O5'-P-OP1	-8.08	98.42	105.70
24	XY	29	U	N3-C2-O2	-8.07	116.55	122.20
1	XA	307	C	N1-C2-O2	8.07	123.74	118.90
25	YA	867	C	N3-C2-O2	-8.07	116.25	121.90
25	YA	2874	C	N1-C2-O2	8.06	123.73	118.90
25	YA	2403	C	N3-C2-O2	-8.05	116.27	121.90
1	XA	1383	C	N1-C2-O2	8.04	123.73	118.90
25	RA	2318	G	C8-N9-C1'	-8.03	116.56	127.00
25	RA	2746	U	N1-C2-O2	8.00	128.40	122.80
1	QA	980	C	N3-C2-O2	-7.99	116.31	121.90
25	YA	2680	C	C2-N1-C1'	7.99	127.59	118.80
25	YA	2096	U	N3-C2-O2	-7.99	116.61	122.20
25	RA	2573	C	N1-C2-O2	7.98	123.69	118.90
1	QA	754	C	C6-N1-C1'	-7.98	111.22	120.80
25	RA	1065	U	N3-C2-O2	-7.98	116.61	122.20
25	RA	1462	C	N1-C2-O2	7.96	123.68	118.90
25	RA	884	C	N1-C2-O2	7.95	123.67	118.90
25	RA	2153	G	C6-C5-N7	-7.93	125.64	130.40
25	YA	2403	C	C6-N1-C2	-7.92	117.13	120.30
25	YA	2095	C	N1-C2-O2	7.92	123.65	118.90
25	YA	2438	U	C5-C6-N1	7.91	126.66	122.70
25	YA	1313	U	C2-N1-C1'	7.90	127.18	117.70
25	YA	1678	G	C4-N9-C1'	7.90	136.77	126.50
25	RA	1835	G	N3-C4-N9	7.90	130.74	126.00
25	YA	1467	C	N1-C2-O2	7.90	123.64	118.90
25	YA	2179	C	C2-N1-C1'	7.89	127.48	118.80
1	XA	88	A	O4'-C1'-N9	-7.88	101.89	108.20
24	XY	29	U	N1-C2-O2	7.88	128.32	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1313	U	N1-C2-O2	7.88	128.31	122.80
25	RA	752	A	O5'-P-OP1	-7.86	98.63	105.70
25	RA	2129	C	N1-C2-O2	7.86	123.61	118.90
1	XA	623	C	C6-N1-C2	-7.83	117.17	120.30
25	YA	2814	C	N3-C2-O2	-7.82	116.42	121.90
1	QA	936	C	N3-C2-O2	-7.82	116.43	121.90
25	YA	2228	G	O5'-P-OP1	-7.81	98.67	105.70
25	YA	2063	C	N3-C2-O2	-7.79	116.45	121.90
1	QA	1036	G	N3-C4-N9	7.78	130.67	126.00
25	YA	777	A	O5'-P-OP2	-7.78	98.70	105.70
22	XV	1	C	N3-C2-O2	-7.75	116.47	121.90
1	XA	1516	G	C8-N9-C1'	7.75	137.07	127.00
25	RA	2220	G	P-O3'-C3'	7.74	128.99	119.70
25	YA	2043	C	C6-N1-C2	-7.74	117.21	120.30
1	QA	754	C	N1-C2-O2	7.73	123.54	118.90
26	YB	7	G	C4-N9-C1'	7.72	136.53	126.50
1	QA	1344	C	C6-N1-C2	-7.70	117.22	120.30
25	YA	580	C	C6-N1-C2	-7.69	117.22	120.30
25	RA	1370	C	N1-C2-O2	7.69	123.51	118.90
1	XA	979	C	N3-C2-O2	-7.69	116.52	121.90
25	YA	869	G	N3-C2-N2	-7.68	114.52	119.90
25	YA	2063	C	C5-C6-N1	7.68	124.84	121.00
25	YA	2755	C	C5-C6-N1	7.67	124.84	121.00
25	YA	459	U	N1-C2-O2	7.67	128.17	122.80
1	XA	110	C	N1-C2-O2	7.67	123.50	118.90
25	YA	1345	C	C6-N1-C1'	7.67	130.00	120.80
25	RA	1092	C	N3-C2-O2	-7.66	116.54	121.90
1	QA	267	C	O5'-P-OP1	-7.66	98.81	105.70
25	YA	1281	G	P-O3'-C3'	7.66	128.89	119.70
1	QA	961	U	N3-C2-O2	-7.66	116.84	122.20
25	YA	2394	C	N1-C2-O2	7.63	123.48	118.90
25	RA	2723	C	C6-N1-C1'	7.62	129.94	120.80
25	YA	1498	C	N1-C2-O2	7.62	123.47	118.90
26	RB	42	C	N1-C2-O2	7.61	123.47	118.90
25	YA	2248	C	C6-N1-C2	-7.61	117.26	120.30
25	YA	2621	A	O5'-P-OP2	-7.59	98.87	105.70
25	YA	1345	C	C2-N1-C1'	-7.59	110.45	118.80
25	RA	614(A)	U	N1-C2-O2	7.58	128.11	122.80
23	XX	19	C	C6-N1-C1'	-7.58	111.71	120.80
25	RA	1611	C	C6-N1-C1'	7.58	129.89	120.80
1	QA	307	C	N1-C2-O2	7.57	123.44	118.90
25	RA	1327	C	C6-N1-C1'	7.57	129.88	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	847	U	N3-C2-O2	-7.57	116.91	122.20
25	YA	105	C	C6-N1-C2	-7.55	117.28	120.30
1	XA	936	C	N1-C2-O2	7.55	123.43	118.90
25	YA	2053	G	C5-N7-C8	-7.54	100.53	104.30
45	YZ	59	LEU	CA-CB-CG	7.52	132.60	115.30
1	QA	444	C	N3-C2-O2	-7.52	116.64	121.90
25	YA	2321	G	N3-C4-C5	-7.50	124.85	128.60
25	RA	2321	G	C8-N9-C4	-7.50	103.40	106.40
25	RA	1605	C	C6-N1-C2	-7.49	117.30	120.30
1	QA	866	C	C6-N1-C2	-7.49	117.30	120.30
25	RA	1807	G	O5'-P-OP1	-7.49	98.96	105.70
25	YA	1827	C	C6-N1-C2	-7.49	117.31	120.30
1	QA	221	C	N1-C2-O2	7.48	123.39	118.90
25	RA	806	C	C6-N1-C2	-7.47	117.31	120.30
25	RA	1678	G	C4-N9-C1'	7.47	136.22	126.50
25	YA	2295	C	C5-C6-N1	7.47	124.74	121.00
25	RA	2746	U	N3-C2-O2	-7.47	116.97	122.20
25	YA	731	C	N1-C2-O2	7.46	123.38	118.90
25	RA	2143	C	N1-C2-O2	7.46	123.38	118.90
25	RA	2063	C	N3-C2-O2	-7.46	116.68	121.90
26	YB	7	G	C8-N9-C1'	-7.46	117.31	127.00
25	YA	867	C	C2-N1-C1'	7.45	127.00	118.80
25	YA	1967	C	N1-C2-O2	7.44	123.36	118.90
25	RA	1793	C	C6-N1-C2	-7.43	117.33	120.30
1	QA	397	A	C2-N3-C4	7.43	114.31	110.60
25	YA	2346	A	N9-C4-C5	7.43	108.77	105.80
25	RA	1411	C	C6-N1-C2	-7.42	117.33	120.30
1	XA	359	U	P-O5'-C5'	7.41	132.75	120.90
1	QA	1066	C	N3-C2-O2	-7.40	116.72	121.90
25	YA	1566	A	O5'-P-OP2	-7.40	99.04	105.70
25	RA	2153	G	C4-N9-C1'	7.40	136.12	126.50
1	XA	135	C	N3-C2-O2	-7.40	116.72	121.90
1	XA	442	C	C2-N1-C1'	7.40	126.94	118.80
25	YA	810	U	O5'-P-OP1	-7.40	99.04	105.70
22	QV	50	U	N3-C2-O2	-7.40	117.02	122.20
25	YA	1905	C	O5'-P-OP2	-7.39	99.05	105.70
25	RA	1065	U	C2-N1-C1'	7.38	126.56	117.70
25	RA	1411	C	N3-C2-O2	-7.38	116.73	121.90
25	RA	1327	C	C2-N1-C1'	-7.38	110.68	118.80
25	YA	277	C	C6-N1-C1'	-7.37	111.96	120.80
1	XA	110	C	N3-C2-O2	-7.37	116.74	121.90
25	RA	607	U	N3-C2-O2	-7.36	117.05	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	607	U	N3-C2-O2	-7.36	117.05	122.20
25	YA	1402	C	C6-N1-C2	-7.36	117.36	120.30
25	RA	65	C	N1-C2-O2	7.36	123.32	118.90
25	YA	183	C	N1-C2-O2	7.36	123.32	118.90
25	YA	1640	C	N1-C2-O2	7.36	123.31	118.90
25	YA	2095	C	N3-C2-O2	-7.36	116.75	121.90
1	XA	367	U	C2-N1-C1'	7.35	126.52	117.70
25	YA	2739	U	C2-N1-C1'	7.34	126.51	117.70
25	YA	1430	C	C6-N1-C2	-7.34	117.36	120.30
1	QA	689	C	C6-N1-C2	-7.33	117.37	120.30
1	QA	979	C	N1-C2-O2	7.33	123.30	118.90
25	RA	12	U	C6-N1-C2	-7.33	116.60	121.00
25	YA	2415	G	C8-N9-C1'	7.33	136.52	127.00
25	YA	2666	C	C6-N1-C2	-7.32	117.37	120.30
25	RA	1993	U	O5'-P-OP1	-7.32	99.12	105.70
25	YA	864	G	OP1-P-OP2	-7.32	108.63	119.60
25	RA	2594	C	C6-N1-C2	-7.31	117.38	120.30
22	QV	67	C	C2-N1-C1'	7.30	126.83	118.80
25	YA	731	C	N3-C2-O2	-7.30	116.79	121.90
25	YA	2275	C	O4'-C1'-N1	-7.30	102.36	108.20
25	RA	2501	C	C6-N1-C2	-7.30	117.38	120.30
25	YA	964	C	C2-N1-C1'	-7.30	110.77	118.80
1	XA	442	C	N1-C2-O2	7.29	123.28	118.90
25	YA	451	C	O5'-P-OP2	-7.29	99.14	105.70
1	XA	34	C	C2-N1-C1'	-7.28	110.79	118.80
25	RA	964	C	C6-N1-C1'	7.28	129.53	120.80
25	YA	2403	C	C2-N1-C1'	-7.27	110.80	118.80
1	XA	589	C	C6-N1-C2	-7.27	117.39	120.30
25	YA	1325	G	N3-C4-C5	7.27	132.23	128.60
25	RA	2096	U	N3-C2-O2	-7.27	117.11	122.20
1	XA	367	U	OP1-P-O3'	7.25	121.16	105.20
25	RA	1102	C	C2-N1-C1'	7.24	126.77	118.80
25	YA	1790	C	C2-N1-C1'	-7.24	110.83	118.80
25	YA	738	G	O5'-P-OP2	-7.24	99.18	105.70
25	RA	1049	C	N1-C2-O2	7.24	123.24	118.90
1	QA	180	U	N3-C2-O2	-7.23	117.14	122.20
25	RA	783	A	C4-N9-C1'	7.23	139.32	126.30
1	QA	267	C	C2-N1-C1'	7.23	126.76	118.80
1	QA	526	C	C6-N1-C2	-7.22	117.41	120.30
25	RA	2497	A	O5'-P-OP1	-7.21	99.21	105.70
25	YA	687	C	N1-C2-O2	7.21	123.23	118.90
25	YA	752	A	P-O3'-C3'	7.21	128.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1976	U	C2-N1-C1'	-7.21	109.05	117.70
1	QA	1054	C	N1-C2-O2	7.20	123.22	118.90
1	XA	1516	G	C4-N9-C1'	-7.18	117.16	126.50
1	XA	18	C	C6-N1-C2	-7.18	117.43	120.30
25	RA	1934	C	N1-C2-O2	7.18	123.21	118.90
25	YA	2037	G	O5'-P-OP2	-7.18	99.24	105.70
25	YA	1445(B)	C	C6-N1-C2	-7.17	117.43	120.30
22	XV	1	C	N1-C2-O2	7.17	123.20	118.90
25	YA	1511	C	C5-C6-N1	7.17	124.58	121.00
22	QV	50	U	N1-C2-O2	7.16	127.81	122.80
25	YA	1052	C	C2-N1-C1'	7.16	126.68	118.80
1	QA	409	G	C8-N9-C1'	7.16	136.31	127.00
25	YA	847	U	C2-N1-C1'	7.15	126.28	117.70
1	XA	1224	G	O5'-P-OP1	-7.15	99.27	105.70
25	YA	1790	C	C6-N1-C1'	7.15	129.38	120.80
25	YA	2584	U	N3-C2-O2	-7.15	117.20	122.20
25	RA	847	U	C2-N1-C1'	7.14	126.27	117.70
25	YA	2580	U	O5'-P-OP2	7.14	119.27	110.70
25	YA	2051	A	C4-C5-N7	7.14	114.27	110.70
25	YA	1139	G	O5'-P-OP1	-7.14	99.27	105.70
25	YA	1497	U	N3-C2-O2	-7.13	117.20	122.20
25	YA	2814	C	C2-N1-C1'	7.13	126.65	118.80
1	XA	1086	U	N1-C2-O2	7.13	127.79	122.80
25	YA	1253	A	N1-C6-N6	7.13	122.88	118.60
25	YA	2680	C	C6-N1-C1'	-7.13	112.24	120.80
25	RA	1493	C	N1-C2-O2	7.12	123.17	118.90
25	RA	2700	C	N1-C2-O2	7.12	123.17	118.90
1	XA	330	C	N3-C2-O2	-7.12	116.92	121.90
1	XA	979	C	N1-C2-O2	7.12	123.17	118.90
22	XV	32	C	N1-C2-O2	7.12	123.17	118.90
25	YA	691	C	C6-N1-C2	-7.12	117.45	120.30
1	XA	1403	C	C2-N1-C1'	-7.12	110.97	118.80
25	YA	783	A	C2-N3-C4	7.12	114.16	110.60
25	YA	2682	U	N3-C2-O2	-7.12	117.22	122.20
1	XA	1403	C	C6-N1-C1'	7.11	129.33	120.80
25	YA	576	U	C2-N1-C1'	-7.11	109.17	117.70
25	YA	523	C	C5-C6-N1	7.10	124.55	121.00
1	XA	1004	A	O4'-C1'-N9	7.10	113.88	108.20
1	QA	1395	C	C6-N1-C2	-7.10	117.46	120.30
25	YA	2447	G	C8-N9-C1'	-7.09	117.78	127.00
25	YA	1276	A	OP1-P-OP2	-7.09	108.96	119.60
25	YA	2622	C	C6-N1-C1'	7.09	129.31	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	RB	70	C	N1-C2-O2	7.09	123.15	118.90
25	RA	1774	C	N1-C2-O2	7.09	123.15	118.90
25	RA	2808	U	N3-C2-O2	-7.08	117.24	122.20
25	RA	2443	C	C6-N1-C2	-7.08	117.47	120.30
25	YA	2440	C	C2-N1-C1'	-7.08	111.01	118.80
25	YA	2539	C	C5-C6-N1	7.08	124.54	121.00
25	RA	1462	C	N3-C2-O2	-7.08	116.95	121.90
25	YA	753	C	C6-N1-C2	-7.07	117.47	120.30
1	QA	1086	U	N1-C2-O2	7.07	127.75	122.80
1	XA	1003	G	N3-C4-C5	-7.06	125.07	128.60
25	RA	1295	C	C6-N1-C1'	7.06	129.27	120.80
25	RA	1671	U	C2-N1-C1'	-7.06	109.23	117.70
25	RA	1467	C	N3-C2-O2	-7.05	116.96	121.90
1	XA	1381	U	N3-C2-O2	-7.05	117.26	122.20
25	YA	556	G	C8-N9-C1'	-7.05	117.84	127.00
25	RA	201	C	C6-N1-C2	-7.05	117.48	120.30
25	YA	1314	C	C6-N1-C1'	-7.05	112.34	120.80
25	YA	943	U	O5'-P-OP1	-7.04	99.36	105.70
25	YA	269	U	C2-N1-C1'	7.04	126.14	117.70
25	RA	1135	C	N1-C2-O2	7.03	123.12	118.90
25	YA	1852	C	C6-N1-C1'	7.03	129.24	120.80
25	YA	2539	C	C6-N1-C2	-7.03	117.49	120.30
1	XA	749	C	C6-N1-C2	-7.03	117.49	120.30
25	YA	889	C	O4'-C1'-N1	7.03	113.82	108.20
25	RA	1678	G	C8-N9-C1'	-7.02	117.87	127.00
25	RA	912	C	N3-C4-C5	-7.02	119.09	121.90
25	YA	1982	C	C2-N1-C1'	7.02	126.52	118.80
22	QV	32	C	C6-N1-C2	-7.02	117.49	120.30
1	XA	1019	C	N3-C2-O2	-7.01	116.99	121.90
1	XA	1383	C	N3-C2-O2	-7.01	116.99	121.90
1	QA	993	G	C4-N9-C1'	7.01	135.61	126.50
25	RA	1188	U	C2-N1-C1'	-7.00	109.30	117.70
25	YA	1282	U	C2-N1-C1'	7.00	126.11	117.70
25	YA	2539	C	N1-C2-O2	7.00	123.10	118.90
25	YA	1779	U	N1-C2-O2	7.00	127.70	122.80
25	RA	893	C	N1-C2-O2	7.00	123.10	118.90
25	YA	2438	U	C6-N1-C2	-6.99	116.81	121.00
1	XA	810	C	C6-N1-C2	-6.98	117.51	120.30
25	RA	1804	C	C6-N1-C2	-6.98	117.51	120.30
25	YA	1467	C	N3-C2-O2	-6.98	117.02	121.90
25	YA	1979	C	C6-N1-C2	-6.98	117.51	120.30
25	YA	1771	C	C6-N1-C2	-6.97	117.51	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1633	G	C8-N9-C4	-6.97	103.61	106.40
25	RA	2318	G	N3-C4-N9	6.97	130.18	126.00
25	RA	2153	G	N3-C4-C5	-6.96	125.12	128.60
25	YA	810	U	C2-N1-C1'	-6.96	109.35	117.70
25	YA	1678	G	C8-N9-C1'	-6.96	117.95	127.00
25	RA	1835	G	N3-C4-C5	-6.95	125.12	128.60
25	RA	1314	C	C5-C6-N1	6.95	124.47	121.00
26	RB	60	C	C6-N1-C2	-6.95	117.52	120.30
1	QA	409	G	C4-N9-C1'	-6.94	117.48	126.50
25	YA	2096	U	C2-N1-C1'	6.93	126.02	117.70
25	YA	2447	G	C4-N9-C1'	6.93	135.51	126.50
26	YB	7	G	C6-C5-N7	-6.93	126.24	130.40
1	XA	738	C	C5-C6-N1	6.92	124.46	121.00
22	QV	65	C	N1-C2-O2	6.92	123.05	118.90
25	YA	2346	A	N1-C6-N6	-6.91	114.45	118.60
25	YA	1976	U	C6-N1-C1'	6.91	130.88	121.20
25	YA	2403	C	N1-C2-N3	6.91	124.04	119.20
1	QA	1378	C	N1-C2-O2	6.91	123.04	118.90
25	YA	1498	C	N3-C2-O2	-6.90	117.07	121.90
25	YA	2785	C	C6-N1-C2	-6.90	117.54	120.30
25	RA	2720	U	N3-C2-O2	-6.90	117.37	122.20
1	XA	1158	C	N1-C2-O2	6.90	123.04	118.90
25	YA	2073	C	C6-N1-C1'	6.90	129.08	120.80
25	YA	1261	C	C6-N1-C1'	6.90	129.07	120.80
25	RA	1295	C	C2-N1-C1'	-6.89	111.22	118.80
25	RA	781	A	OP1-P-OP2	6.89	129.94	119.60
25	RA	1233	C	C6-N1-C2	-6.89	117.54	120.30
25	RA	2221	G	O4'-C1'-N9	-6.89	102.69	108.20
25	YA	2439	A	OP1-P-O3'	6.88	120.35	105.20
25	YA	2814	C	C6-N1-C2	-6.88	117.55	120.30
1	XA	1086	U	N3-C2-O2	-6.88	117.38	122.20
25	YA	1836	C	O5'-P-OP2	-6.88	99.51	105.70
25	YA	628	G	C4-N9-C1'	-6.88	117.56	126.50
25	YA	1493	C	N1-C2-O2	6.87	123.02	118.90
25	RA	2153	G	N7-C8-N9	6.87	116.53	113.10
25	YA	459	U	N3-C2-O2	-6.87	117.39	122.20
25	YA	694	U	C2-N1-C1'	-6.86	109.47	117.70
25	YA	2318	G	C8-N9-C1'	-6.86	118.08	127.00
25	YA	1430	C	C5-C6-N1	6.85	124.42	121.00
25	YA	1446	C	N1-C2-O2	6.85	123.01	118.90
26	RB	79	C	N3-C2-O2	-6.85	117.11	121.90
25	YA	753	C	C5-C6-N1	6.84	124.42	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1113	C	C6-N1-C2	-6.84	117.57	120.30
1	QA	221	C	N3-C2-O2	-6.83	117.12	121.90
25	YA	2179	C	N3-C2-O2	-6.83	117.12	121.90
22	QV	1	C	N1-C2-O2	6.83	123.00	118.90
25	RA	1271	G	C4-N9-C1'	-6.83	117.62	126.50
25	RA	2442	C	C6-N1-C1'	6.83	129.00	120.80
25	YA	1765	C	O5'-P-OP2	-6.83	99.55	105.70
25	YA	2870	C	C6-N1-C2	-6.83	117.57	120.30
25	RA	2579	C	C6-N1-C2	-6.82	117.57	120.30
25	RA	1257	C	C6-N1-C2	-6.82	117.57	120.30
25	YA	731	C	C6-N1-C2	-6.82	117.57	120.30
25	YA	2161	C	N1-C2-O2	6.82	122.99	118.90
25	YA	1967	C	C6-N1-C2	-6.82	117.57	120.30
25	YA	1791	A	O5'-P-OP1	-6.81	99.57	105.70
25	YA	1314	C	O5'-P-OP1	-6.81	99.57	105.70
25	RA	2143	C	N3-C2-O2	-6.80	117.14	121.90
25	YA	2179	C	C5-C6-N1	6.80	124.40	121.00
25	RA	435	C	N1-C2-O2	6.80	122.98	118.90
1	QA	455	C	N1-C2-O2	6.80	122.98	118.90
25	YA	2226	C	N1-C2-O2	6.80	122.98	118.90
25	YA	1828	G	N9-C4-C5	6.80	108.12	105.40
25	YA	1658	C	C6-N1-C2	-6.79	117.58	120.30
25	YA	642	G	C4-N9-C1'	-6.79	117.67	126.50
25	YA	2486	G	N1-C2-N3	6.79	127.97	123.90
1	XA	330	C	C6-N1-C2	-6.79	117.58	120.30
25	YA	2515	C	N1-C2-O2	6.79	122.97	118.90
1	QA	311	C	N1-C2-O2	6.79	122.97	118.90
32	RI	9	LEU	CA-CB-CG	6.77	130.88	115.30
25	RA	2808	U	N1-C2-O2	6.77	127.54	122.80
25	RA	964	C	C2-N1-C1'	-6.77	111.35	118.80
25	YA	1267	U	N1-C2-O2	6.77	127.54	122.80
25	RA	776	G	N3-C4-C5	-6.77	125.22	128.60
25	YA	1844	C	C5-C6-N1	6.77	124.38	121.00
25	RA	912	C	C6-N1-C1'	-6.76	112.69	120.80
1	QA	1529	G	C4-N9-C1'	6.76	135.29	126.50
25	RA	1142(A)	U	C2-N1-C1'	6.76	125.81	117.70
25	YA	2434	A	O5'-P-OP1	-6.76	99.62	105.70
25	YA	1314	C	C5-C6-N1	6.75	124.38	121.00
25	RA	984	A	N7-C8-N9	6.75	117.18	113.80
24	XY	34	C	C6-N1-C2	-6.75	117.60	120.30
25	RA	767	U	C2-N1-C1'	-6.75	109.60	117.70
25	RA	105	C	N3-C2-O2	-6.75	117.18	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2755	C	N1-C2-O2	6.75	122.95	118.90
25	YA	1893	C	N1-C2-O2	6.75	122.95	118.90
25	RA	456	C	C6-N1-C2	6.74	123.00	120.30
25	RA	2189	U	N3-C2-O2	-6.74	117.48	122.20
25	YA	1721	G	C4-N9-C1'	6.73	135.25	126.50
25	YA	1956	U	N3-C2-O2	-6.73	117.49	122.20
25	YA	2464	C	C2-N1-C1'	-6.73	111.39	118.80
25	RA	2318	G	N3-C4-C5	-6.73	125.24	128.60
1	QA	1383	C	C5-C6-N1	6.72	124.36	121.00
25	RA	1902	C	C6-N1-C1'	6.72	128.87	120.80
25	YA	731	C	N3-C4-N4	6.72	122.70	118.00
25	YA	1661	G	C8-N9-C1'	6.71	135.73	127.00
1	QA	717	C	N1-C2-O2	6.71	122.93	118.90
25	YA	2682	U	N1-C2-O2	6.71	127.49	122.80
1	XA	1381	U	N1-C2-O2	6.70	127.49	122.80
1	QA	525	C	C5-C6-N1	6.70	124.35	121.00
1	QA	673	G	C4-C5-N7	6.70	113.48	110.80
25	YA	1612	C	C5-C6-N1	6.70	124.35	121.00
25	RA	776	G	N3-C4-N9	6.70	130.02	126.00
25	RA	928	G	C8-N9-C4	-6.69	103.73	106.40
1	XA	1019	C	C6-N1-C2	-6.69	117.63	120.30
25	RA	2584	U	N3-C2-O2	-6.68	117.52	122.20
25	YA	2163	C	N1-C2-O2	6.68	122.91	118.90
25	RA	1040	C	C2-N1-C1'	-6.68	111.45	118.80
43	RX	13	LEU	CA-CB-CG	6.68	130.66	115.30
25	RA	1064	C	C6-N1-C2	-6.68	117.63	120.30
1	XA	1066	C	N1-C2-O2	6.68	122.91	118.90
1	XA	1203	C	N1-C2-O2	6.68	122.91	118.90
25	RA	2745	C	N1-C2-O2	6.67	122.90	118.90
25	YA	642	G	C8-N9-C1'	6.67	135.67	127.00
25	YA	2056	G	C4-C5-N7	6.67	113.47	110.80
22	QV	13	C	C6-N1-C1'	6.67	128.80	120.80
1	XA	1382	C	N1-C2-O2	6.67	122.90	118.90
25	RA	2465	C	C5-C6-N1	6.66	124.33	121.00
25	YA	2689	U	N3-C2-O2	-6.66	117.54	122.20
25	RA	1899	G	N3-C4-C5	-6.66	125.27	128.60
25	YA	2506	U	C5-C6-N1	6.66	126.03	122.70
25	RA	837	C	C6-N1-C2	-6.65	117.64	120.30
1	XA	673	G	N3-C4-N9	6.65	129.99	126.00
25	YA	749	C	N1-C2-O2	6.65	122.89	118.90
25	YA	1191	G	O5'-P-OP1	-6.65	99.71	105.70
25	RA	2825	C	C6-N1-C2	-6.65	117.64	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1661	G	C4-N9-C1'	-6.65	117.86	126.50
1	XA	824	C	C5-C6-N1	6.64	124.32	121.00
25	YA	2056	G	C6-C5-N7	-6.64	126.41	130.40
25	RA	2096	U	C5-C6-N1	6.64	126.02	122.70
1	QA	1054	C	C2-N1-C1'	6.64	126.11	118.80
25	YA	393	C	C6-N1-C2	-6.64	117.64	120.30
25	RA	1049	C	N3-C2-O2	-6.64	117.25	121.90
25	YA	1658	C	C5-C6-N1	6.64	124.32	121.00
25	RA	2689	U	P-O3'-C3'	6.64	127.67	119.70
25	YA	774	A	C4-N9-C1'	6.64	138.25	126.30
25	RA	201	C	N3-C2-O2	-6.63	117.25	121.90
25	RA	595	C	N3-C2-O2	-6.63	117.26	121.90
1	XA	999	C	N1-C2-O2	6.63	122.88	118.90
1	XA	674	G	C8-N9-C4	-6.62	103.75	106.40
25	RA	1314	C	C2-N1-C1'	6.62	126.08	118.80
25	YA	2683	C	N1-C2-O2	6.61	122.87	118.90
25	RA	1064	C	C5-C6-N1	6.61	124.31	121.00
25	YA	2007	C	C2-N1-C1'	6.61	126.07	118.80
25	RA	2144	U	N1-C2-O2	6.61	127.42	122.80
22	XV	27	U	N3-C2-O2	-6.61	117.58	122.20
25	YA	2874	C	C2-N1-C1'	6.61	126.07	118.80
25	YA	284	U	N3-C2-O2	-6.60	117.58	122.20
25	YA	797	C	C5-C6-N1	6.60	124.30	121.00
25	RA	856	C	C5-C6-N1	6.60	124.30	121.00
25	YA	556	G	C4-N9-C1'	6.60	135.08	126.50
1	XA	936	C	N3-C2-O2	-6.60	117.28	121.90
1	QA	91	C	N3-C2-O2	-6.60	117.28	121.90
25	YA	825	C	C6-N1-C1'	6.59	128.72	120.80
25	YA	837	C	C6-N1-C2	-6.59	117.66	120.30
1	QA	330	C	N3-C2-O2	-6.59	117.29	121.90
25	RA	1658	C	C5-C6-N1	6.58	124.29	121.00
25	YA	11	G	N3-C4-N9	6.58	129.95	126.00
25	RA	273(K)	C	C6-N1-C2	-6.58	117.67	120.30
25	YA	893	C	N1-C2-O2	6.58	122.85	118.90
25	YA	570	G	N9-C4-C5	6.57	108.03	105.40
1	QA	552	U	N3-C2-O2	-6.57	117.60	122.20
1	QA	1496	C	N3-C2-O2	-6.57	117.30	121.90
25	YA	1159	U	N3-C2-O2	-6.57	117.60	122.20
25	YA	576	U	C6-N1-C1'	6.57	130.39	121.20
25	YA	683	C	C5-C6-N1	6.57	124.28	121.00
25	RA	2666	C	C5-C6-N1	6.57	124.28	121.00
25	YA	2755	C	C6-N1-C2	-6.57	117.67	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	392	C	C2-N1-C1'	6.56	126.02	118.80
26	RB	70	C	C6-N1-C2	-6.56	117.67	120.30
1	XA	307	C	N3-C2-O2	-6.56	117.31	121.90
25	RA	1313	U	C6-N1-C1'	-6.55	112.02	121.20
1	QA	442	C	C6-N1-C2	-6.55	117.68	120.30
25	YA	1267	U	N3-C2-O2	-6.55	117.61	122.20
25	YA	683	C	C6-N1-C1'	6.55	128.66	120.80
25	YA	1464	C	C6-N1-C2	-6.55	117.68	120.30
25	RA	1370	C	N3-C2-O2	-6.54	117.32	121.90
25	RA	1956	U	N1-C2-O2	6.54	127.38	122.80
25	RA	2816	C	N1-C2-O2	6.54	122.82	118.90
25	YA	1190	G	C5-C6-N1	6.54	114.77	111.50
25	YA	2296	U	O5'-P-OP2	-6.54	99.82	105.70
25	RA	45	C	N3-C2-O2	-6.53	117.33	121.90
25	YA	1159	U	N1-C2-O2	6.53	127.37	122.80
1	XA	1224	G	O5'-P-OP2	6.53	118.53	110.70
25	YA	847	U	N1-C2-O2	6.53	127.37	122.80
26	RB	27	C	C6-N1-C2	-6.52	117.69	120.30
25	YA	198	C	N1-C2-O2	6.52	122.81	118.90
26	RB	3	C	N1-C2-O2	6.52	122.81	118.90
25	YA	729	G	C4-N9-C1'	6.52	134.97	126.50
1	QA	705	U	N3-C2-O2	-6.52	117.64	122.20
1	QA	1109	C	N3-C2-O2	-6.52	117.34	121.90
1	XA	674	G	N7-C8-N9	6.52	116.36	113.10
25	YA	1629	U	C6-N1-C1'	6.52	130.32	121.20
25	RA	607	U	C2-N1-C1'	6.51	125.52	117.70
25	YA	2164	C	N1-C2-O2	6.51	122.81	118.90
25	RA	2065	C	C5-C6-N1	6.51	124.26	121.00
25	YA	1694	C	O5'-P-OP2	-6.51	99.84	105.70
25	YA	2695	C	O5'-P-OP2	-6.51	99.84	105.70
25	RA	2816	C	N3-C2-O2	-6.51	117.34	121.90
1	QA	91	C	N1-C2-O2	6.50	122.80	118.90
22	XV	65	C	N1-C2-O2	6.50	122.80	118.90
1	QA	1113	C	C5-C6-N1	6.50	124.25	121.00
25	RA	1658	C	C6-N1-C2	-6.50	117.70	120.30
25	YA	183	C	N3-C2-O2	-6.50	117.35	121.90
25	YA	2249	U	O5'-P-OP1	-6.50	99.85	105.70
25	YA	1644	C	N3-C2-O2	-6.49	117.36	121.90
25	YA	691	C	C5-C6-N1	6.49	124.25	121.00
25	YA	1771	C	C5-C6-N1	6.49	124.24	121.00
25	YA	1188	U	N1-C2-O2	6.49	127.34	122.80
25	RA	1899	G	N3-C4-N9	6.48	129.89	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2254	C	N1-C2-O2	6.48	122.79	118.90
25	RA	1178	C	N1-C2-O2	6.48	122.79	118.90
25	YA	2006	C	C6-N1-C2	-6.48	117.71	120.30
25	YA	1833	U	N3-C2-O2	-6.47	117.67	122.20
1	QA	1442(A)	G	N3-C4-N9	6.47	129.88	126.00
25	RA	767	U	C6-N1-C1'	6.47	130.26	121.20
25	RA	871	U	C2-N1-C1'	-6.47	109.93	117.70
25	YA	1978	A	O5'-P-OP1	-6.47	99.87	105.70
25	YA	2357	U	C6-N1-C1'	6.47	130.26	121.20
25	YA	1619	G	C4-C5-N7	6.47	113.39	110.80
25	RA	1934	C	C6-N1-C2	-6.47	117.71	120.30
25	YA	806	C	C5-C6-N1	6.46	124.23	121.00
25	YA	2037	G	O5'-P-OP1	6.46	118.45	110.70
1	QA	596	C	C6-N1-C2	-6.46	117.72	120.30
1	XA	596	C	N1-C2-O2	6.46	122.78	118.90
25	YA	392	C	C2-N1-C1'	6.46	125.90	118.80
25	YA	1695	G	C4-N9-C1'	6.46	134.90	126.50
25	YA	755	C	C5-C6-N1	6.46	124.23	121.00
25	RA	982	C	C6-N1-C1'	6.45	128.54	120.80
25	RA	1779	U	C6-N1-C1'	-6.45	112.17	121.20
25	RA	2723	C	C2-N1-C1'	-6.45	111.70	118.80
25	YA	1446	C	N3-C2-O2	-6.45	117.38	121.90
25	RA	273(K)	C	N1-C2-O2	6.45	122.77	118.90
25	YA	204	A	OP1-P-OP2	6.45	129.28	119.60
25	RA	2617	C	N1-C2-O2	6.45	122.77	118.90
25	YA	445	C	N3-C2-O2	-6.44	117.39	121.90
25	RA	1837	C	C6-N1-C2	-6.44	117.72	120.30
25	YA	817	C	C6-N1-C2	-6.44	117.72	120.30
25	RA	2144	U	N3-C2-O2	-6.44	117.69	122.20
26	RB	42	C	N3-C2-O2	-6.43	117.40	121.90
25	RA	2232	U	C2-N1-C1'	-6.43	109.98	117.70
25	RA	2189	U	N1-C2-O2	6.43	127.30	122.80
22	QV	67	C	N1-C2-O2	6.43	122.76	118.90
25	YA	1967	C	N3-C2-O2	-6.43	117.40	121.90
25	YA	2357	U	C2-N1-C1'	-6.43	109.99	117.70
25	RA	2260	C	C6-N1-C2	-6.42	117.73	120.30
25	YA	277	C	C2-N1-C1'	6.42	125.87	118.80
25	YA	2573	C	N1-C2-O2	6.42	122.75	118.90
25	RA	2752	C	N1-C2-O2	6.42	122.75	118.90
25	RA	2161	C	N1-C2-O2	6.42	122.75	118.90
1	XA	1121	U	C5-C6-N1	6.42	125.91	122.70
1	QA	1109	C	N1-C2-O2	6.42	122.75	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2415	G	C8-N9-C4	-6.42	103.83	106.40
25	RA	1271	G	C8-N9-C1'	6.41	135.34	127.00
25	YA	749	C	C5-C6-N1	6.41	124.21	121.00
25	YA	263	C	C2-N1-C1'	-6.41	111.75	118.80
1	QA	1514	C	C5-C6-N1	6.41	124.20	121.00
25	RA	2226	C	C6-N1-C2	-6.41	117.74	120.30
1	XA	1158	C	N3-C2-O2	-6.41	117.42	121.90
25	YA	1261	C	C2-N1-C1'	-6.41	111.75	118.80
25	RA	731	C	N1-C2-O2	6.40	122.74	118.90
25	YA	1531	C	N1-C2-O2	6.40	122.74	118.90
1	XA	783	C	C2-N1-C1'	6.40	125.83	118.80
25	YA	1589	C	C6-N1-C2	-6.40	117.74	120.30
25	YA	2161	C	N3-C2-O2	-6.40	117.42	121.90
25	YA	2415	G	N1-C2-N2	6.40	121.96	116.20
25	RA	105	C	N1-C2-O2	6.39	122.74	118.90
25	YA	272(F)	C	C6-N1-C2	-6.39	117.74	120.30
25	RA	825	C	C6-N1-C2	-6.39	117.74	120.30
1	XA	1442(A)	G	N3-C4-N9	6.39	129.83	126.00
25	YA	339	U	C2-N1-C1'	-6.39	110.03	117.70
25	YA	1407	C	C5-C6-N1	6.39	124.19	121.00
1	XA	34	C	C6-N1-C1'	6.39	128.46	120.80
25	RA	2501	C	C5-C6-N1	6.38	124.19	121.00
25	YA	2039	C	C6-N1-C2	-6.38	117.75	120.30
25	YA	2248	C	C5-C6-N1	6.38	124.19	121.00
25	RA	220	G	C8-N9-C4	-6.38	103.85	106.40
25	YA	1905	C	N1-C2-O2	6.38	122.73	118.90
25	YA	1092	C	C5-C6-N1	6.38	124.19	121.00
25	RA	2295	C	C6-N1-C2	-6.38	117.75	120.30
25	YA	834	C	C6-N1-C2	-6.38	117.75	120.30
25	YA	253	C	C6-N1-C1'	6.38	128.45	120.80
25	YA	31	C	C6-N1-C2	-6.37	117.75	120.30
25	YA	66	C	N1-C2-O2	6.37	122.72	118.90
25	RA	2147	G	C8-N9-C4	-6.36	103.86	106.40
25	YA	1779	U	N3-C2-O2	-6.36	117.75	122.20
25	YA	2066	C	C5-C6-N1	6.36	124.18	121.00
1	QA	307	C	N3-C2-O2	-6.36	117.45	121.90
25	YA	99	U	N1-C2-O2	6.35	127.25	122.80
1	QA	939	G	C6-N1-C2	-6.35	121.29	125.10
25	YA	570	G	C5-C6-O6	6.35	132.41	128.60
1	QA	1192	C	C6-N1-C2	-6.35	117.76	120.30
1	XA	1442(A)	G	N3-C4-C5	-6.35	125.42	128.60
25	YA	1644	C	C6-N1-C2	-6.34	117.76	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2231	C	C6-N1-C1'	6.34	128.41	120.80
25	RA	2700	C	C5-C6-N1	6.34	124.17	121.00
25	YA	568	U	C6-N1-C2	-6.33	117.20	121.00
1	QA	1066	C	C6-N1-C2	-6.33	117.77	120.30
25	RA	113	G	C4-N9-C1'	-6.33	118.27	126.50
25	YA	195	A	C4-C5-C6	-6.33	113.83	117.00
25	YA	1221(A)	C	C6-N1-C2	-6.33	117.77	120.30
26	YB	28	C	C6-N1-C2	-6.33	117.77	120.30
1	QA	1249	C	C6-N1-C2	-6.33	117.77	120.30
22	XV	1	C	C6-N1-C2	-6.33	117.77	120.30
25	RA	806	C	C5-C6-N1	6.33	124.16	121.00
25	YA	415	A	O5'-P-OP1	-6.33	100.01	105.70
1	QA	960	U	C2-N1-C1'	6.32	125.29	117.70
25	RA	2014	A	C8-N9-C1'	6.32	139.08	127.70
25	YA	2467	C	C2-N1-C1'	-6.32	111.84	118.80
25	YA	1256	G	N3-C4-N9	6.32	129.79	126.00
1	QA	1078	U	N3-C2-O2	-6.32	117.78	122.20
1	QA	1260	C	C6-N1-C2	-6.32	117.77	120.30
1	XA	367	U	C6-N1-C1'	-6.32	112.35	121.20
25	YA	2319	G	C4-C5-N7	6.32	113.33	110.80
25	RA	2514	U	C2-N1-C1'	-6.32	110.12	117.70
25	RA	2381	C	C6-N1-C1'	6.31	128.38	120.80
25	YA	1949	G	O5'-P-OP2	-6.31	100.02	105.70
1	QA	1145	C	C2-N1-C1'	6.31	125.74	118.80
1	QA	1348	U	N3-C2-O2	-6.31	117.78	122.20
25	RA	66	C	N1-C2-O2	6.30	122.68	118.90
25	YA	2056	G	C4-N9-C1'	6.30	134.70	126.50
25	YA	435	C	N1-C2-O2	6.30	122.68	118.90
1	XA	555	C	C6-N1-C2	-6.30	117.78	120.30
25	YA	1934	C	C2-N1-C1'	-6.30	111.87	118.80
25	RA	2689	U	N3-C2-O2	-6.30	117.79	122.20
25	YA	1779	U	C6-N1-C1'	-6.30	112.38	121.20
25	RA	589	C	C6-N1-C1'	6.29	128.35	120.80
25	RA	808	G	O5'-P-OP1	-6.29	100.03	105.70
25	YA	1462	C	N1-C2-O2	6.29	122.68	118.90
25	YA	1640	C	N3-C2-O2	-6.29	117.50	121.90
1	QA	283	C	N1-C2-O2	6.29	122.67	118.90
1	QA	1036	G	N3-C4-C5	-6.29	125.46	128.60
1	QA	189(E)	C	N1-C2-O2	6.29	122.67	118.90
25	YA	120	U	C5-C4-O4	-6.29	122.13	125.90
25	RA	1092	C	C5-C6-N1	6.28	124.14	121.00
22	XV	39	C	C6-N1-C2	-6.28	117.79	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1293	C	C6-N1-C1'	6.28	128.33	120.80
1	QA	442	C	N1-C2-O2	6.27	122.66	118.90
25	RA	783	A	C2-N3-C4	6.27	113.73	110.60
25	YA	200	U	N3-C2-O2	-6.27	117.81	122.20
25	YA	335	C	C6-N1-C2	-6.27	117.79	120.30
25	YA	2073	C	C2-N1-C1'	-6.27	111.90	118.80
1	QA	180	U	C6-N1-C2	-6.27	117.24	121.00
1	QA	1393	U	C2-N1-C1'	-6.27	110.18	117.70
25	RA	924	C	N1-C2-O2	6.26	122.66	118.90
25	RA	2442	C	C2-N1-C1'	-6.26	111.91	118.80
25	YA	662	G	C8-N9-C1'	6.26	135.14	127.00
25	YA	972	G	N3-C4-C5	-6.26	125.47	128.60
25	RA	2220	G	C3'-C2'-C1'	-6.26	96.49	101.50
1	QA	266	G	P-O3'-C3'	6.26	127.21	119.70
25	YA	2622	C	C2-N1-C1'	-6.26	111.92	118.80
26	YB	60	C	C6-N1-C2	-6.26	117.80	120.30
22	QV	67	C	C5-C6-N1	6.25	124.13	121.00
25	RA	857	C	C6-N1-C2	-6.25	117.80	120.30
1	QA	405	U	N1-C2-O2	6.25	127.17	122.80
1	QA	1161	C	N1-C2-O2	6.25	122.65	118.90
1	XA	999	C	C6-N1-C2	-6.25	117.80	120.30
25	YA	2752	C	N1-C2-O2	6.25	122.65	118.90
1	QA	528	C	C6-N1-C2	-6.24	117.80	120.30
25	RA	2303	G	C8-N9-C1'	6.24	135.11	127.00
25	YA	2233	U	C2-N1-C1'	-6.24	110.21	117.70
25	YA	1782	C	C6-N1-C2	-6.24	117.81	120.30
25	RA	113	G	C8-N9-C1'	6.24	135.11	127.00
25	YA	1005	C	N3-C2-O2	-6.24	117.53	121.90
1	QA	1226	C	C2-N1-C1'	6.23	125.66	118.80
25	YA	1049	C	O5'-P-OP1	-6.23	100.09	105.70
25	YA	1672	C	C5-C6-N1	6.23	124.12	121.00
1	QA	365	U	C2-N1-C1'	6.23	125.18	117.70
25	RA	2573	C	C2-N1-C1'	6.23	125.65	118.80
25	YA	2237	G	O5'-P-OP2	-6.23	100.10	105.70
25	YA	1531	C	C2-N1-C1'	6.22	125.65	118.80
25	YA	2588	G	C4-C5-N7	6.22	113.29	110.80
1	QA	673	G	N9-C4-C5	-6.22	102.91	105.40
1	XA	924	C	C6-N1-C2	-6.22	117.81	120.30
25	YA	2581	G	C4-N9-C1'	6.22	134.59	126.50
1	XA	189(E)	C	N1-C2-O2	6.22	122.63	118.90
25	YA	243	U	N3-C2-O2	-6.21	117.85	122.20
1	QA	630	G	N3-C4-N9	6.21	129.73	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1996	C	C2-N1-C1'	-6.21	111.97	118.80
25	RA	642	G	C8-N9-C1'	6.21	135.07	127.00
1	XA	1395	C	N1-C2-O2	6.21	122.62	118.90
25	YA	487	C	N1-C2-O2	6.21	122.62	118.90
25	RA	384	U	N3-C2-O2	-6.20	117.86	122.20
25	RA	1835	G	C6-C5-N7	-6.20	126.68	130.40
25	RA	178	G	C4-N9-C1'	-6.20	118.44	126.50
25	RA	2456	C	C6-N1-C2	-6.20	117.82	120.30
25	YA	2415	G	N3-C4-N9	-6.20	122.28	126.00
25	YA	2713	A	C2-N3-C4	6.20	113.70	110.60
25	YA	2889	C	N1-C2-O2	6.20	122.62	118.90
25	YA	1804	C	C6-N1-C2	-6.19	117.82	120.30
1	QA	221	C	C6-N1-C2	-6.19	117.82	120.30
25	YA	1670	C	N1-C2-O2	6.19	122.61	118.90
25	YA	2616	C	N1-C2-O2	6.19	122.61	118.90
25	RA	1142(A)	U	C5-C6-N1	6.19	125.79	122.70
1	QA	1205	U	C5-C6-N1	6.19	125.79	122.70
1	QA	939	G	N3-C4-C5	-6.18	125.51	128.60
1	QA	961	U	N1-C2-O2	6.18	127.13	122.80
25	RA	2825	C	N3-C2-O2	-6.18	117.57	121.90
25	YA	628	G	C8-N9-C1'	6.18	135.03	127.00
25	RA	2514	U	C6-N1-C1'	6.18	129.85	121.20
25	YA	2582	G	C4-N9-C1'	6.18	134.53	126.50
1	QA	311	C	N3-C2-O2	-6.17	117.58	121.90
1	XA	449	C	C6-N1-C2	-6.17	117.83	120.30
1	XA	739	C	C6-N1-C2	-6.17	117.83	120.30
25	YA	1934	C	O5'-P-OP1	-6.17	100.15	105.70
1	QA	1242	C	C5-C6-N1	6.17	124.08	121.00
1	QA	1383	C	N1-C2-O2	6.17	122.60	118.90
25	YA	2456	C	C6-N1-C2	-6.17	117.83	120.30
25	RA	1157	G	N3-C4-N9	6.16	129.70	126.00
25	YA	2076	U	N1-C2-O2	6.16	127.11	122.80
25	YA	1640	C	C6-N1-C2	-6.16	117.84	120.30
25	YA	1893	C	N3-C2-O2	-6.16	117.59	121.90
25	YA	540	C	C6-N1-C2	-6.16	117.84	120.30
25	RA	2720	U	N1-C2-O2	6.16	127.11	122.80
25	RA	1621	U	C6-N1-C1'	6.16	129.82	121.20
25	RA	688	U	C2-N1-C1'	-6.15	110.32	117.70
25	RA	1886	C	N1-C2-O2	6.15	122.59	118.90
1	XA	365	U	N1-C2-O2	6.15	127.11	122.80
25	YA	1325	G	N3-C4-N9	-6.15	122.31	126.00
25	YA	1899	G	N3-C4-C5	-6.15	125.52	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	783	A	C8-N9-C1'	-6.15	116.63	127.70
25	YA	803	U	C6-N1-C1'	6.15	129.81	121.20
25	YA	373	U	N3-C2-O2	-6.15	117.90	122.20
25	RA	2232	U	C6-N1-C1'	6.14	129.80	121.20
25	RA	2709	G	OP2-P-O3'	6.14	118.70	105.20
25	RA	1902	C	C2-N1-C1'	-6.14	112.05	118.80
1	XA	455	C	N1-C2-O2	6.14	122.58	118.90
25	YA	949	C	C6-N1-C2	-6.14	117.84	120.30
25	YA	1671	U	N3-C4-O4	6.14	123.69	119.40
25	YA	1810	A	C8-N9-C4	-6.14	103.34	105.80
25	RA	577	G	C6-C5-N7	-6.13	126.72	130.40
25	YA	2258	C	C2-N1-C1'	6.13	125.55	118.80
25	YA	1660	C	N1-C2-O2	6.13	122.58	118.90
25	YA	2456	C	C5-C6-N1	6.13	124.07	121.00
1	QA	337	C	C6-N1-C2	-6.13	117.85	120.30
25	YA	1956	U	N1-C2-O2	6.13	127.09	122.80
25	RA	2161	C	N3-C2-O2	-6.13	117.61	121.90
25	YA	2486	G	C2-N3-C4	-6.12	108.84	111.90
1	XA	217	C	N1-C2-O2	6.12	122.57	118.90
25	YA	2517	C	C2-N1-C1'	6.12	125.53	118.80
25	RA	2466	C	C6-N1-C2	-6.12	117.85	120.30
25	YA	2248	C	N1-C2-O2	6.12	122.57	118.90
25	RA	2744	G	N3-C4-N9	6.12	129.67	126.00
25	YA	607	U	N1-C2-O2	6.11	127.08	122.80
25	RA	1030	G	C5-C6-O6	-6.11	124.94	128.60
25	RA	65	C	N3-C2-O2	-6.11	117.63	121.90
25	RA	2700	C	C6-N1-C2	-6.11	117.86	120.30
25	YA	2667	C	N1-C2-O2	6.11	122.56	118.90
1	XA	1267	C	C6-N1-C2	-6.10	117.86	120.30
25	RA	1267	U	N3-C2-O2	-6.10	117.93	122.20
25	YA	1102	C	C5-C6-N1	6.10	124.05	121.00
25	YA	1795	C	C6-N1-C2	-6.10	117.86	120.30
25	YA	568	U	N3-C4-C5	-6.10	110.94	114.60
25	YA	2178	C	N1-C2-O2	6.10	122.56	118.90
25	RA	45	C	N1-C2-O2	6.10	122.56	118.90
25	RA	2153	G	C8-N9-C1'	-6.10	119.07	127.00
25	YA	687	C	N3-C2-O2	-6.10	117.63	121.90
26	YB	36	C	N3-C2-O2	-6.10	117.63	121.90
25	YA	1899	G	N3-C4-N9	6.09	129.66	126.00
25	YA	772	C	C6-N1-C1'	6.09	128.11	120.80
25	YA	2321	G	C8-N9-C4	-6.09	103.96	106.40
25	RA	1000	A	N7-C8-N9	6.09	116.84	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	479	A	O4'-C1'-N9	6.09	113.07	108.20
25	RA	1005	C	C5-C6-N1	6.09	124.04	121.00
25	RA	2449	U	O5'-P-OP2	-6.09	100.22	105.70
25	RA	2381	C	C2-N1-C1'	-6.08	112.11	118.80
25	YA	192	C	N3-C2-O2	-6.08	117.64	121.90
25	YA	263	C	C6-N1-C1'	6.08	128.10	120.80
25	YA	1407	C	C6-N1-C2	-6.08	117.87	120.30
25	YA	2053	G	N7-C8-N9	6.08	116.14	113.10
25	YA	2506	U	C2-N1-C1'	6.08	124.99	117.70
25	YA	1692	U	C2-N1-C1'	-6.07	110.41	117.70
25	YA	1879	C	C6-N1-C2	-6.07	117.87	120.30
1	QA	1369	C	N1-C2-O2	6.07	122.54	118.90
25	RA	208	C	C2-N1-C1'	6.07	125.48	118.80
25	YA	273(K)	C	C6-N1-C2	-6.07	117.87	120.30
25	YA	385	C	C6-N1-C2	-6.07	117.87	120.30
25	YA	1002	G	C4-N9-C1'	-6.07	118.61	126.50
25	YA	1644	C	N1-C2-O2	6.07	122.54	118.90
25	YA	2508	G	O5'-P-OP1	-6.07	100.23	105.70
25	YA	1619	G	N9-C4-C5	-6.07	102.97	105.40
1	QA	1383	C	C6-N1-C2	-6.07	117.87	120.30
25	YA	2039	C	C5-C6-N1	6.07	124.03	121.00
1	XA	186	C	C6-N1-C2	-6.06	117.88	120.30
1	QA	749	C	N1-C2-O2	6.06	122.54	118.90
1	QA	993	G	N3-C4-N9	6.06	129.64	126.00
25	YA	694	U	C6-N1-C1'	6.06	129.69	121.20
25	RA	2014	A	C4-N9-C1'	-6.06	115.39	126.30
25	RA	2205	C	C2-N1-C1'	-6.06	112.14	118.80
25	YA	2071	A	O5'-P-OP2	-6.06	100.25	105.70
25	RA	1547	C	C2-N1-C1'	6.05	125.46	118.80
25	YA	1774	C	C6-N1-C2	-6.05	117.88	120.30
1	QA	1078	U	N1-C2-O2	6.05	127.04	122.80
25	YA	511	U	O5'-P-OP1	-6.05	100.25	105.70
1	XA	219	C	C6-N1-C2	-6.05	117.88	120.30
1	QA	620	C	N1-C2-O2	6.05	122.53	118.90
1	QA	1303	C	C6-N1-C2	-6.05	117.88	120.30
25	YA	107	C	O5'-P-OP1	6.05	117.96	110.70
25	RA	2829	C	N1-C2-O2	6.05	122.53	118.90
1	QA	687	A	P-O3'-C3'	6.04	126.95	119.70
1	QA	1393	U	C6-N1-C1'	6.04	129.66	121.20
25	RA	1605	C	C5-C6-N1	6.04	124.02	121.00
1	XA	979	C	C5-C6-N1	6.04	124.02	121.00
25	RA	749	C	N1-C2-O2	6.04	122.52	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1782	C	C6-N1-C2	-6.04	117.89	120.30
25	RA	2095	C	C6-N1-C2	-6.04	117.88	120.30
22	QV	65	C	C5-C6-N1	6.04	124.02	121.00
25	RA	907	U	N3-C2-O2	-6.04	117.97	122.20
25	YA	1005	C	C5-C6-N1	6.04	124.02	121.00
26	RB	68	C	C6-N1-C2	-6.03	117.89	120.30
25	YA	486	C	C6-N1-C2	-6.03	117.89	120.30
25	YA	1675	C	N1-C2-O2	6.03	122.52	118.90
25	YA	445	C	C2-N1-C1'	-6.03	112.17	118.80
1	QA	1066	C	C5-C6-N1	6.03	124.02	121.00
1	QA	1103	C	N1-C2-O2	6.03	122.52	118.90
1	XA	1369	C	N1-C2-O2	6.03	122.52	118.90
25	YA	1005	C	C6-N1-C2	-6.03	117.89	120.30
1	QA	940	C	C6-N1-C1'	6.03	128.03	120.80
25	RA	1493	C	N3-C2-O2	-6.03	117.68	121.90
25	YA	2592	G	O5'-P-OP2	-6.03	100.28	105.70
25	RA	595	C	C6-N1-C2	-6.02	117.89	120.30
25	YA	1356	G	O5'-P-OP2	6.02	117.92	110.70
25	YA	1589	C	C5-C6-N1	6.02	124.01	121.00
1	QA	1066	C	C2-N1-C1'	6.02	125.42	118.80
22	QV	75	C	C6-N1-C1'	6.02	128.02	120.80
29	YF	20	LEU	CA-CB-CG	6.02	129.14	115.30
22	QV	1	C	N3-C2-O2	-6.02	117.69	121.90
1	QA	1226	C	C6-N1-C1'	-6.01	113.58	120.80
25	RA	2579	C	N1-C2-O2	6.01	122.51	118.90
1	QA	405	U	N3-C2-O2	-6.01	117.99	122.20
22	XV	17	C	C2-N1-C1'	6.01	125.41	118.80
25	YA	1065	U	P-O3'-C3'	6.01	126.91	119.70
25	YA	2095	C	C6-N1-C2	-6.01	117.90	120.30
25	RA	2352	A	O5'-P-OP2	6.01	117.91	110.70
25	RA	2646	C	C6-N1-C2	-6.00	117.90	120.30
25	YA	516	C	N1-C2-O2	6.00	122.50	118.90
25	YA	1256	G	C6-C5-N7	-6.00	126.80	130.40
1	QA	749	C	C6-N1-C2	-6.00	117.90	120.30
25	YA	1967	C	C5-C6-N1	6.00	124.00	121.00
25	YA	2474	C	C6-N1-C2	-6.00	117.90	120.30
1	XA	620	C	N1-C2-O2	5.99	122.49	118.90
25	RA	758	C	N3-C2-O2	-5.99	117.71	121.90
25	RA	2594	C	C5-C6-N1	5.99	123.99	121.00
23	XX	19	C	C6-N1-C2	-5.98	117.91	120.30
25	YA	794	G	N3-C4-N9	5.98	129.59	126.00
25	YA	614(A)	U	C6-N1-C1'	-5.98	112.83	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1330	C	C6-N1-C2	-5.98	117.91	120.30
25	YA	1893	C	C2-N1-C1'	5.98	125.38	118.80
1	QA	180	U	N1-C2-O2	5.97	126.98	122.80
1	QA	563	A	C4-N9-C1'	5.97	137.05	126.30
25	YA	1934	C	C6-N1-C1'	5.97	127.97	120.80
25	YA	1958	C	C6-N1-C2	-5.97	117.91	120.30
25	RA	1430	C	C6-N1-C2	-5.97	117.91	120.30
25	YA	810	U	C6-N1-C1'	5.97	129.56	121.20
25	YA	1108	U	N1-C2-O2	5.96	126.98	122.80
24	QY	34	C	C6-N1-C2	-5.96	117.92	120.30
25	RA	1437	C	C6-N1-C2	-5.96	117.92	120.30
1	XA	88	A	C3'-C2'-C1'	-5.96	96.73	101.50
25	YA	672	C	C6-N1-C2	-5.96	117.92	120.30
1	XA	1264	C	C5-C6-N1	5.96	123.98	121.00
25	RA	1345	C	C6-N1-C2	-5.95	117.92	120.30
25	RA	1550	C	C6-N1-C2	-5.95	117.92	120.30
1	QA	848	C	C6-N1-C2	-5.95	117.92	120.30
1	XA	18	C	C5-C6-N1	5.95	123.97	121.00
1	XA	1505	G	C8-N9-C1'	5.95	134.73	127.00
25	YA	99	U	N3-C2-O2	-5.95	118.03	122.20
25	YA	1500	G	O5'-P-OP2	-5.95	100.35	105.70
1	QA	174	C	C5-C6-N1	5.94	123.97	121.00
25	YA	210	C	C6-N1-C1'	5.94	127.93	120.80
25	RA	1557	C	N1-C2-O2	5.94	122.47	118.90
1	XA	1147	C	N3-C2-O2	-5.94	117.74	121.90
1	XA	330	C	C5-C6-N1	5.94	123.97	121.00
1	XA	1028	C	C5-C6-N1	5.94	123.97	121.00
25	YA	725	G	C8-N9-C4	-5.94	104.03	106.40
25	YA	1333	C	C2-N1-C1'	5.94	125.33	118.80
1	XA	989	C	C6-N1-C2	-5.93	117.93	120.30
25	YA	797	C	C2-N1-C1'	5.93	125.33	118.80
25	YA	1253	A	C4-C5-N7	5.93	113.67	110.70
25	YA	1476	C	C6-N1-C2	-5.93	117.93	120.30
25	YA	2689	U	N1-C2-O2	5.93	126.95	122.80
25	RA	546	C	N1-C2-O2	5.93	122.46	118.90
25	RA	2076	U	C2-N1-C1'	5.93	124.81	117.70
25	RA	1191	G	O5'-P-OP2	-5.92	100.37	105.70
25	YA	1314	C	N3-C2-O2	-5.92	117.75	121.90
25	YA	1787	A	O5'-P-OP2	5.92	117.81	110.70
26	YB	60	C	C5-C6-N1	5.92	123.96	121.00
1	QA	1267	C	N1-C2-O2	5.92	122.45	118.90
25	YA	1293	C	C2-N1-C1'	-5.92	112.29	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	993	G	C8-N9-C1'	-5.92	119.31	127.00
1	QA	1378	C	N3-C2-O2	-5.92	117.76	121.90
25	RA	2828	C	N1-C2-O2	5.92	122.45	118.90
1	XA	563	A	C4-N9-C1'	5.92	136.95	126.30
1	XA	1147	C	N1-C2-O2	5.92	122.45	118.90
25	YA	2226	C	N3-C2-O2	-5.92	117.76	121.90
23	XX	19	C	C5-C6-N1	5.91	123.96	121.00
25	YA	560	C	N1-C2-O2	5.91	122.45	118.90
1	QA	1032	G	N3-C4-N9	-5.91	122.45	126.00
25	RA	1437	C	C5-C6-N1	5.91	123.96	121.00
25	YA	2559	C	C6-N1-C2	-5.91	117.94	120.30
25	YA	2295	C	N1-C2-O2	5.91	122.44	118.90
25	RA	1188	U	C6-N1-C1'	5.91	129.47	121.20
25	RA	2666	C	N3-C2-O2	-5.91	117.77	121.90
25	RA	2015	A	N7-C8-N9	5.90	116.75	113.80
25	RA	54	G	C4-N9-C1'	-5.89	118.84	126.50
25	RA	2084	C	C6-N1-C2	-5.89	117.94	120.30
25	RA	392	C	N1-C2-O2	5.89	122.43	118.90
25	RA	2441	C	N1-C2-O2	5.89	122.43	118.90
25	YA	1658	C	C2-N1-C1'	5.89	125.28	118.80
25	YA	2368	C	C6-N1-C2	-5.89	117.94	120.30
25	RA	510	C	C6-N1-C2	-5.89	117.94	120.30
25	RA	2551	C	N1-C2-O2	5.89	122.43	118.90
25	RA	2560	C	C6-N1-C2	-5.89	117.94	120.30
25	RA	2224	G	C8-N9-C1'	5.88	134.65	127.00
26	YB	42	C	N1-C2-O2	5.88	122.43	118.90
25	YA	530	G	O4'-C1'-N9	-5.88	103.50	108.20
1	XA	358	U	P-O3'-C3'	5.88	126.75	119.70
1	XA	1436	U	C5-C6-N1	5.88	125.64	122.70
25	YA	925	C	N1-C2-O2	5.88	122.43	118.90
25	RA	912	C	O4'-C1'-N1	5.87	112.90	108.20
25	RA	2404	C	C6-N1-C2	-5.87	117.95	120.30
25	YA	1905	C	N3-C2-O2	-5.87	117.79	121.90
1	QA	526	C	C5-C6-N1	5.87	123.94	121.00
25	YA	812	C	C2-N1-C1'	5.87	125.26	118.80
25	YA	1721	G	C8-N9-C1'	-5.87	119.37	127.00
25	YA	2321	G	N3-C2-N2	-5.87	115.79	119.90
25	RA	1430	C	C5-C6-N1	5.87	123.94	121.00
25	RA	2224	G	C4-N9-C1'	-5.87	118.87	126.50
25	YA	1833	U	C6-N1-C2	-5.87	117.48	121.00
1	QA	385	C	C6-N1-C2	-5.87	117.95	120.30
25	YA	2395	C	N1-C2-O2	5.87	122.42	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1116	C	N1-C2-O2	5.86	122.42	118.90
25	RA	1941	C	N1-C2-O2	5.86	122.42	118.90
1	QA	502	G	OP1-P-O3'	5.86	118.09	105.20
25	RA	1934	C	C5-C6-N1	5.86	123.93	121.00
25	RA	2473	U	N3-C2-O2	-5.86	118.10	122.20
25	YA	1142(B)	A	C4-N9-C1'	5.86	136.84	126.30
25	YA	1687	G	N1-C2-N2	-5.86	110.93	116.20
25	YA	1781	C	C6-N1-C2	5.86	122.64	120.30
25	YA	2394	C	N3-C2-O2	-5.86	117.80	121.90
25	RA	2506	U	N1-C2-O2	5.85	126.89	122.80
1	XA	1382	C	C6-N1-C2	-5.85	117.96	120.30
25	YA	1353	A	O4'-C1'-N9	-5.85	103.52	108.20
25	YA	1687	G	C6-C5-N7	-5.85	126.89	130.40
25	YA	1577	C	N1-C2-O2	5.84	122.41	118.90
25	RA	2512	C	N1-C2-O2	5.84	122.41	118.90
25	RA	85	G	O5'-P-OP1	-5.84	100.45	105.70
1	XA	187	C	C6-N1-C2	-5.84	117.97	120.30
25	YA	560	C	N3-C2-O2	-5.84	117.81	121.90
25	YA	2063	C	C6-N1-C1'	-5.84	113.80	120.80
1	XA	1066	C	N3-C2-O2	-5.83	117.82	121.90
25	YA	210	C	C2-N1-C1'	-5.83	112.39	118.80
25	YA	1669	A	C4-N9-C1'	5.83	136.80	126.30
1	XA	999	C	N3-C2-O2	-5.83	117.82	121.90
22	QV	67	C	C6-N1-C2	-5.83	117.97	120.30
25	YA	1200	C	C6-N1-C2	-5.83	117.97	120.30
25	RA	1947	C	C6-N1-C1'	5.83	127.79	120.80
25	RA	2039	C	N1-C2-O2	5.83	122.39	118.90
1	XA	188	C	N1-C2-O2	5.83	122.39	118.90
25	YA	67	U	N3-C2-O2	-5.83	118.12	122.20
25	YA	964	C	C6-N1-C2	-5.82	117.97	120.30
1	QA	267	C	C6-N1-C1'	-5.82	113.81	120.80
1	QA	381	C	N1-C2-O2	5.82	122.39	118.90
25	RA	595	C	C5-C6-N1	5.82	123.91	121.00
24	XY	30	C	C6-N1-C2	-5.82	117.97	120.30
25	YA	1314	C	N1-C2-O2	5.82	122.39	118.90
25	RA	2667	C	N1-C2-O2	5.82	122.39	118.90
25	RA	2785	C	C6-N1-C2	-5.82	117.97	120.30
25	YA	467	G	O5'-P-OP2	-5.82	100.47	105.70
25	YA	807	U	OP2-P-O3'	5.82	117.99	105.20
25	YA	1190	G	N1-C6-O6	-5.82	116.41	119.90
25	RA	1899	G	C4-N9-C1'	5.81	134.06	126.50
25	RA	2144	U	C2-N1-C1'	5.81	124.68	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	856	C	C5-C6-N1	5.81	123.91	121.00
25	RA	272(B)	C	C5-C6-N1	5.81	123.91	121.00
1	XA	1109	C	N1-C2-O2	5.81	122.39	118.90
25	YA	1041	C	C6-N1-C2	-5.81	117.98	120.30
1	XA	697	U	N3-C2-O2	-5.81	118.13	122.20
25	RA	1574	C	C5-C6-N1	5.81	123.90	121.00
1	XA	893	C	N1-C2-O2	5.81	122.39	118.90
25	RA	2573	C	N3-C2-O2	-5.80	117.84	121.90
1	QA	697	U	N3-C2-O2	-5.80	118.14	122.20
26	RB	68	C	C5-C6-N1	5.80	123.90	121.00
1	XA	797	C	C6-N1-C1'	5.80	127.76	120.80
25	YA	1612	C	C6-N1-C2	-5.80	117.98	120.30
25	RA	1830	C	N1-C2-O2	5.80	122.38	118.90
25	YA	683	C	C2-N1-C1'	-5.80	112.42	118.80
1	QA	268	C	N1-C2-O2	5.80	122.38	118.90
26	RB	79	C	N1-C2-O2	5.79	122.38	118.90
25	YA	1882	C	C6-N1-C2	-5.79	117.98	120.30
25	YA	2318	G	N3-C4-C5	-5.79	125.70	128.60
25	YA	972	G	N3-C4-N9	5.79	129.48	126.00
25	YA	1257	C	C6-N1-C2	-5.79	117.98	120.30
25	RA	2247	A	N7-C8-N9	5.79	116.70	113.80
25	YA	1446	C	C6-N1-C2	-5.79	117.98	120.30
25	YA	1619	G	N3-C4-N9	5.79	129.47	126.00
1	XA	738	C	C6-N1-C2	-5.79	117.98	120.30
25	RA	66	C	N3-C2-O2	-5.79	117.85	121.90
25	RA	2271	G	C4-N9-C1'	5.79	134.03	126.50
25	RA	1041	C	N3-C2-O2	-5.79	117.85	121.90
25	RA	2487	G	C4-N9-C1'	-5.79	118.98	126.50
25	YA	204	A	O5'-P-OP1	-5.79	100.49	105.70
1	XA	135	C	C6-N1-C2	-5.78	117.99	120.30
25	YA	2648	C	C5-C6-N1	5.78	123.89	121.00
1	QA	308	C	C2-N1-C1'	5.78	125.16	118.80
25	RA	413	C	C6-N1-C2	-5.78	117.99	120.30
25	YA	1598	C	C6-N1-C2	-5.78	117.99	120.30
1	QA	1198	G	C8-N9-C1'	5.78	134.51	127.00
1	QA	54	C	C6-N1-C2	-5.78	117.99	120.30
25	RA	1879	C	C6-N1-C2	-5.78	117.99	120.30
1	XA	1067	A	P-O3'-C3'	5.78	126.63	119.70
25	YA	2320	A	C2-N3-C4	5.78	113.49	110.60
25	YA	1988	C	O5'-P-OP1	-5.78	100.50	105.70
25	RA	2504	U	C6-N1-C2	-5.77	117.54	121.00
1	QA	91	C	C6-N1-C2	-5.77	117.99	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1695	G	C8-N9-C1'	-5.77	119.50	127.00
25	RA	961	C	O5'-P-OP2	-5.76	100.51	105.70
25	RA	1253	A	C5-N7-C8	-5.76	101.02	103.90
25	YA	837	C	C5-C6-N1	5.76	123.88	121.00
25	YA	2438	U	C6-N1-C1'	5.76	129.27	121.20
25	RA	957	A	N1-C6-N6	5.76	122.06	118.60
25	RA	2321	G	C6-N1-C2	-5.76	121.64	125.10
25	RA	2321	G	P-O3'-C3'	5.76	126.61	119.70
1	XA	65	U	P-O3'-C3'	5.76	126.61	119.70
1	QA	972	C	C2-N3-C4	-5.76	117.02	119.90
56	ZA	2	C	C2-N1-C1'	-5.76	112.47	118.80
1	XA	1200	C	C6-N1-C2	5.76	122.60	120.30
25	YA	999	U	N3-C2-O2	-5.75	118.17	122.20
1	QA	950	U	C5-C6-N1	5.75	125.58	122.70
25	RA	1257	C	O5'-P-OP2	-5.75	100.52	105.70
25	RA	1640	C	N1-C2-O2	5.75	122.35	118.90
1	QA	421	U	N3-C2-O2	-5.75	118.17	122.20
25	YA	1852	C	C2-N1-C1'	-5.75	112.47	118.80
25	YA	1635	G	C6-C5-N7	-5.75	126.95	130.40
1	QA	514	C	C6-N1-C2	-5.75	118.00	120.30
22	QV	56	C	N1-C2-O2	5.75	122.35	118.90
25	RA	528	A	C4-N9-C1'	5.75	136.65	126.30
25	YA	568	U	C6-N1-C1'	5.75	129.25	121.20
1	QA	749	C	N3-C2-O2	-5.75	117.88	121.90
25	YA	2051	A	C8-N9-C4	5.75	108.10	105.80
25	YA	76	C	N1-C2-O2	5.75	122.35	118.90
25	RA	1040	C	C6-N1-C1'	5.74	127.69	120.80
25	YA	1660	C	N3-C2-O2	-5.74	117.88	121.90
25	YA	2700	C	C2-N1-C1'	5.74	125.12	118.80
1	QA	7	G	C4-N9-C1'	5.74	133.97	126.50
1	XA	1038	C	N1-C2-O2	5.74	122.34	118.90
1	QA	1097	C	C6-N1-C2	-5.74	118.00	120.30
25	YA	2407	G	C6-C5-N7	-5.74	126.96	130.40
25	YA	2648	C	C6-N1-C2	-5.74	118.00	120.30
25	YA	29	U	C5-C6-N1	5.74	125.57	122.70
25	RA	1250	G	C4-N9-C1'	5.74	133.96	126.50
25	RA	1765	C	C6-N1-C2	-5.74	118.01	120.30
25	YA	2465	C	N1-C2-N3	5.73	123.21	119.20
25	YA	2056	G	C8-N9-C1'	-5.73	119.55	127.00
25	YA	2076	U	N3-C2-O2	-5.73	118.19	122.20
25	YA	2470	G	N3-C2-N2	-5.73	115.89	119.90
25	RA	692	C	C6-N1-C2	-5.73	118.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	189(E)	C	C6-N1-C2	-5.73	118.01	120.30
25	RA	1041	C	N1-C2-O2	5.73	122.33	118.90
1	XA	365	U	O4'-C1'-N1	5.72	112.78	108.20
25	YA	450	G	C5-C6-N1	-5.72	108.64	111.50
25	YA	2766	G	C4-N9-C1'	5.72	133.94	126.50
25	RA	1464	C	C2-N3-C4	-5.72	117.04	119.90
25	YA	1982	C	N1-C2-O2	5.72	122.33	118.90
25	RA	535	C	C6-N1-C1'	5.72	127.66	120.80
1	XA	1125	U	N1-C2-O2	5.72	126.80	122.80
22	XV	27	U	N1-C2-O2	5.72	126.80	122.80
1	QA	1529	G	C8-N9-C1'	-5.72	119.57	127.00
1	XA	675	A	N7-C8-N9	5.71	116.66	113.80
25	YA	1752	C	C6-N1-C2	-5.71	118.01	120.30
25	YA	2486	G	C8-N9-C1'	5.71	134.43	127.00
25	YA	862	G	N3-C4-C5	-5.71	125.74	128.60
25	YA	1822	G	C8-N9-C1'	5.71	134.43	127.00
25	YA	2321	G	C6-N1-C2	-5.71	121.67	125.10
25	YA	1531	C	C6-N1-C2	-5.71	118.02	120.30
25	RA	1782	C	C5-C6-N1	5.71	123.85	121.00
1	XA	365	U	N3-C2-O2	-5.71	118.21	122.20
25	YA	662	G	C4-N9-C1'	-5.71	119.08	126.50
25	RA	587	C	C2-N1-C1'	5.70	125.07	118.80
25	RA	2473	U	N1-C2-O2	5.70	126.79	122.80
25	RA	2064	C	C6-N1-C2	-5.70	118.02	120.30
25	YA	1669	A	C2-N3-C4	5.70	113.45	110.60
1	QA	1514	C	C6-N1-C2	-5.70	118.02	120.30
25	YA	1947	C	C6-N1-C2	-5.70	118.02	120.30
25	YA	2756	U	O4'-C1'-N1	5.70	112.76	108.20
1	QA	717	C	C2-N1-C1'	5.70	125.07	118.80
1	QA	898	G	O5'-P-OP1	-5.70	100.58	105.70
22	XV	6	G	C6-C5-N7	-5.70	126.98	130.40
25	YA	838	C	C6-N1-C1'	5.70	127.64	120.80
25	YA	1409	C	C6-N1-C2	-5.70	118.02	120.30
1	QA	153	C	C6-N1-C2	-5.69	118.02	120.30
25	RA	1267	U	N1-C2-O2	5.69	126.78	122.80
25	RA	1532	C	N1-C2-O2	5.69	122.32	118.90
25	RA	433	C	C6-N1-C1'	5.69	127.63	120.80
25	YA	672	C	C6-N1-C1'	5.69	127.63	120.80
25	YA	1116	C	C5-C6-N1	5.69	123.84	121.00
25	YA	1306	C	N1-C2-O2	5.69	122.31	118.90
25	RA	1597	A	O4'-C1'-N9	5.69	112.75	108.20
25	YA	1038	C	C6-N1-C2	-5.69	118.03	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	174	C	C6-N1-C2	-5.68	118.03	120.30
25	RA	535	C	C2-N1-C1'	-5.68	112.55	118.80
25	YA	1951	U	C6-N1-C1'	5.68	129.16	121.20
25	YA	2321	G	P-O3'-C3'	5.68	126.52	119.70
25	YA	2827	C	N1-C2-O2	5.68	122.31	118.90
25	RA	2752	C	N3-C2-O2	-5.68	117.92	121.90
1	XA	358	U	C5'-C4'-O4'	5.68	115.92	109.10
25	YA	1712	C	C6-N1-C2	-5.68	118.03	120.30
25	YA	2275	C	N1-C2-O2	5.68	122.31	118.90
25	RA	2579	C	N3-C2-O2	-5.68	117.92	121.90
25	RA	2483	C	N1-C2-O2	5.68	122.31	118.90
25	YA	2443	C	OP1-P-O3'	5.68	117.69	105.20
1	QA	25	C	N1-C2-O2	5.68	122.31	118.90
1	QA	1019	C	N1-C2-O2	5.68	122.31	118.90
25	RA	733	G	C8-N9-C1'	5.68	134.38	127.00
25	YA	794	G	C5-C6-O6	-5.68	125.19	128.60
25	YA	972	G	O4'-C1'-N9	-5.68	103.66	108.20
25	RA	1547	C	N1-C2-O2	5.67	122.31	118.90
1	XA	1362	C	C6-N1-C2	-5.67	118.03	120.30
25	YA	2506	U	N1-C2-O2	5.67	126.77	122.80
1	QA	444	C	C6-N1-C1'	5.67	127.61	120.80
25	RA	655	A	N7-C8-N9	5.67	116.64	113.80
25	YA	838	C	N3-C2-O2	-5.67	117.93	121.90
1	QA	689	C	N3-C4-N4	5.67	121.97	118.00
22	XV	32	C	N3-C2-O2	-5.67	117.93	121.90
25	RA	850	C	C5-C6-N1	5.67	123.83	121.00
25	RA	273(K)	C	C5-C6-N1	5.67	123.83	121.00
25	RA	2039	C	C5-C6-N1	5.67	123.83	121.00
1	XA	1030(A)	C	N1-C2-O2	5.67	122.30	118.90
25	YA	154(B)	C	C6-N1-C2	-5.67	118.03	120.30
25	YA	2551	C	C6-N1-C2	-5.66	118.03	120.30
25	RA	692	C	C5-C6-N1	5.66	123.83	121.00
25	RA	1178	C	N3-C2-O2	-5.66	117.94	121.90
25	YA	1431	U	C2-N1-C1'	5.66	124.49	117.70
25	YA	277	C	N1-C1'-C2'	5.65	121.35	114.00
25	YA	1981	A	C5-N7-C8	-5.65	101.07	103.90
25	YA	1064	C	C6-N1-C2	-5.65	118.04	120.30
25	RA	1771	C	OP2-P-O3'	5.65	117.63	105.20
1	QA	699	C	C6-N1-C2	-5.65	118.04	120.30
25	YA	774	A	C8-N9-C1'	-5.65	117.53	127.70
25	YA	2505	G	OP2-P-O3'	5.65	117.62	105.20
25	YA	183	C	C6-N1-C2	-5.65	118.04	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	105	C	C6-N1-C2	-5.64	118.04	120.30
25	RA	1021	A	C2-N3-C4	5.64	113.42	110.60
25	RA	957	A	C4-C5-N7	5.64	113.52	110.70
25	YA	2874	C	C5-C6-N1	5.64	123.82	121.00
25	YA	465	G	C8-N9-C4	-5.64	104.14	106.40
25	YA	523	C	C6-N1-C2	-5.64	118.04	120.30
25	YA	2582	G	C8-N9-C1'	-5.64	119.67	127.00
25	RA	1621	U	C2-N1-C1'	-5.64	110.94	117.70
1	QA	630	G	N3-C4-C5	-5.64	125.78	128.60
25	RA	1157	G	C4-C5-N7	5.64	113.06	110.80
25	YA	339	U	C6-N1-C1'	5.64	129.09	121.20
25	YA	2174	C	N1-C2-O2	5.63	122.28	118.90
1	QA	537	G	C6-C5-N7	-5.63	127.02	130.40
24	XY	34	C	C5-C6-N1	5.63	123.82	121.00
25	YA	816	C	C6-N1-C1'	5.63	127.56	120.80
25	YA	1926	U	C2-N1-C1'	-5.63	110.94	117.70
25	RA	1000	A	C8-N9-C4	-5.63	103.55	105.80
1	QA	1224	G	N3-C4-N9	-5.63	122.62	126.00
25	YA	825	C	C2-N1-C1'	-5.63	112.61	118.80
25	YA	2739	U	N3-C2-O2	-5.63	118.26	122.20
25	RA	1831	G	C6-C5-N7	-5.63	127.02	130.40
25	YA	2617	C	N1-C2-O2	5.63	122.28	118.90
25	RA	2156	G	N3-C4-N9	5.62	129.37	126.00
1	XA	863	U	C2-N1-C1'	-5.62	110.95	117.70
25	RA	960	A	C8-N9-C4	-5.62	103.55	105.80
25	YA	1164	G	C8-N9-C4	-5.62	104.15	106.40
25	YA	1333	C	C6-N1-C2	-5.62	118.05	120.30
25	RA	774	A	O5'-P-OP2	-5.62	100.64	105.70
1	XA	713	G	C8-N9-C4	-5.62	104.15	106.40
1	XA	555	C	C5-C6-N1	5.62	123.81	121.00
25	YA	1462	C	N3-C2-O2	-5.62	117.97	121.90
25	RA	2066	C	C6-N1-C2	-5.61	118.05	120.30
1	QA	1348	U	N1-C2-O2	5.61	126.73	122.80
25	YA	2437	U	C6-N1-C1'	5.61	129.06	121.20
22	QV	32	C	C5-C6-N1	5.61	123.81	121.00
25	YA	243	U	N1-C2-O2	5.61	126.73	122.80
1	XA	1060	C	C2-N1-C1'	-5.61	112.63	118.80
25	YA	2218	U	N1-C2-O2	5.61	126.72	122.80
25	RA	267	C	N3-C2-O2	-5.61	117.98	121.90
25	RA	2009	G	C4-N9-C1'	-5.61	119.21	126.50
25	YA	264	C	N1-C2-O2	5.61	122.26	118.90
25	YA	324	A	N9-C1'-C2'	-5.60	105.84	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1514	C	C6-N1-C2	-5.60	118.06	120.30
1	QA	308	C	N1-C2-O2	5.60	122.26	118.90
22	QV	65	C	C6-N1-C2	-5.59	118.06	120.30
25	RA	525	U	C2-N1-C1'	-5.59	110.99	117.70
25	RA	733	G	C4-C5-N7	5.59	113.04	110.80
25	YA	1052	C	C5-C6-N1	5.59	123.80	121.00
1	QA	1263	C	N1-C2-O2	5.59	122.26	118.90
25	YA	2610	C	C6-N1-C2	5.59	122.54	120.30
30	YG	82	LEU	CA-CB-CG	5.59	128.16	115.30
25	RA	1100	C	N3-C2-O2	-5.59	117.99	121.90
25	YA	1041	C	C5-C6-N1	5.59	123.80	121.00
25	RA	982	C	C2-N1-C1'	-5.59	112.65	118.80
25	RA	475	U	C5-C6-N1	5.59	125.49	122.70
25	YA	981	A	O5'-P-OP2	-5.59	100.67	105.70
25	RA	589	C	C6-N1-C2	-5.58	118.07	120.30
25	RA	2724	C	N3-C2-O2	-5.58	117.99	121.90
25	YA	1253	A	C5-N7-C8	-5.58	101.11	103.90
25	YA	1405	U	O5'-P-OP2	-5.58	100.67	105.70
25	YA	2056	G	N3-C4-N9	5.58	129.35	126.00
25	RA	1333	C	N3-C2-O2	-5.58	117.99	121.90
25	RA	1665	A	N1-C6-N6	-5.58	115.25	118.60
25	RA	2107	C	N1-C2-O2	5.58	122.25	118.90
1	XA	749	C	C5-C6-N1	5.58	123.79	121.00
25	YA	2009	G	C6-C5-N7	-5.58	127.05	130.40
25	YA	2511	U	C2-N1-C1'	-5.58	111.01	117.70
25	YA	234	C	N1-C2-O2	5.58	122.25	118.90
25	YA	2283	C	N1-C2-O2	5.57	122.24	118.90
1	XA	1003	G	C8-N9-C4	-5.57	104.17	106.40
25	YA	1253	A	C5-C6-N6	-5.57	119.24	123.70
1	QA	1260	C	N1-C2-O2	5.57	122.24	118.90
25	YA	485	C	C6-N1-C2	-5.57	118.07	120.30
25	YA	2254	C	N1-C2-O2	5.57	122.24	118.90
25	RA	1992	G	O4'-C1'-N9	-5.57	103.75	108.20
25	YA	2076	U	C2-N1-C1'	5.57	124.38	117.70
1	XA	980	C	N1-C2-O2	5.57	122.24	118.90
25	YA	737	C	N1-C2-O2	5.57	122.24	118.90
25	YA	1852	C	C6-N1-C2	-5.57	118.07	120.30
25	YA	2075	U	C5-C4-O4	-5.57	122.56	125.90
26	YB	7	G	N3-C4-N9	5.57	129.34	126.00
1	QA	1109	C	C6-N1-C2	-5.57	118.07	120.30
25	YA	2420	C	C6-N1-C2	-5.57	118.07	120.30
1	QA	397	A	N3-C4-C5	-5.56	122.91	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1262	C	N1-C2-O2	5.56	122.24	118.90
25	YA	104	U	N3-C2-O2	-5.56	118.31	122.20
1	QA	7	G	C8-N9-C1'	-5.56	119.77	127.00
25	RA	786	C	C6-N1-C1'	5.56	127.48	120.80
25	RA	1092	C	C6-N1-C2	-5.56	118.08	120.30
25	YA	2720	U	N3-C4-O4	5.56	123.29	119.40
1	XA	221	C	C6-N1-C2	-5.56	118.08	120.30
25	YA	807	U	N3-C2-O2	-5.56	118.31	122.20
25	YA	1629	U	C2-N1-C1'	-5.56	111.03	117.70
25	RA	871	U	C6-N1-C1'	5.56	128.98	121.20
25	RA	1531	C	C6-N1-C2	-5.56	118.08	120.30
25	RA	2575	C	C2-N1-C1'	-5.56	112.69	118.80
25	YA	1052	C	N1-C2-O2	5.56	122.23	118.90
1	QA	132	C	C6-N1-C2	-5.55	118.08	120.30
25	YA	105	C	N3-C2-O2	-5.55	118.01	121.90
22	QV	34	C	C2-N1-C1'	5.55	124.91	118.80
25	RA	774	A	C4-N9-C1'	5.55	136.29	126.30
25	RA	2065	C	C6-N1-C2	-5.55	118.08	120.30
25	RA	2121	G	N3-C4-C5	-5.55	125.82	128.60
25	RA	2303	G	C4-N9-C1'	-5.55	119.28	126.50
26	RB	27	C	N1-C2-O2	5.55	122.23	118.90
22	XV	17	C	N1-C2-O2	5.55	122.23	118.90
25	YA	1256	G	C4-N9-C1'	5.55	133.72	126.50
25	YA	1982	C	C6-N1-C1'	-5.55	114.14	120.80
25	YA	1097	U	N1-C2-O2	5.55	126.68	122.80
25	YA	1968	G	OP1-P-O3'	5.55	117.41	105.20
1	XA	1260	C	N1-C2-O2	5.55	122.23	118.90
25	YA	197	A	OP1-P-OP2	5.55	127.92	119.60
25	YA	1981	A	C8-N9-C4	-5.55	103.58	105.80
1	QA	977	A	C8-N9-C4	-5.54	103.58	105.80
22	QV	13	C	C2-N1-C1'	-5.54	112.70	118.80
25	RA	2746	U	C5-C6-N1	5.54	125.47	122.70
25	YA	1218	C	C5-C6-N1	5.54	123.77	121.00
25	YA	2387	U	C6-N1-C1'	5.54	128.96	121.20
1	QA	1353	G	N1-C6-O6	-5.54	116.58	119.90
1	XA	1412	C	C6-N1-C2	-5.54	118.08	120.30
1	QA	1218	C	N3-C2-O2	-5.54	118.02	121.90
22	QV	24	U	N3-C2-O2	-5.54	118.32	122.20
25	RA	999	U	N3-C2-O2	-5.54	118.32	122.20
25	YA	1692	U	C6-N1-C1'	5.54	128.95	121.20
25	RA	479	A	O4'-C1'-N9	5.54	112.63	108.20
1	QA	1303	C	N1-C2-O2	5.53	122.22	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1894	C	N3-C2-O2	-5.53	118.03	121.90
1	XA	1003	G	N3-C4-N9	5.53	129.32	126.00
25	YA	1131	G	O4'-C1'-N9	-5.53	103.77	108.20
25	RA	998	C	N1-C2-O2	5.53	122.22	118.90
1	XA	1066	C	O5'-P-OP1	-5.53	100.72	105.70
25	YA	1646	C	C2-N1-C1'	5.53	124.88	118.80
56	ZA	1	C	C2-N1-C1'	5.53	124.88	118.80
26	RB	79	C	C6-N1-C2	-5.53	118.09	120.30
1	XA	374	A	N7-C8-N9	5.53	116.56	113.80
25	YA	1153	C	N1-C2-O2	5.53	122.22	118.90
25	RA	2226	C	C5-C6-N1	5.52	123.76	121.00
25	YA	1690	A	N1-C6-N6	-5.52	115.29	118.60
25	YA	2263	C	N3-C4-C5	5.52	124.11	121.90
25	YA	2486	G	C4-N9-C1'	-5.52	119.32	126.50
1	QA	697	U	N1-C2-O2	5.52	126.66	122.80
25	YA	2378	A	O5'-P-OP1	-5.52	100.73	105.70
25	YA	2584	U	N1-C2-O2	5.52	126.67	122.80
1	QA	754	C	C6-N1-C2	-5.52	118.09	120.30
22	QV	65	C	N3-C2-O2	-5.52	118.04	121.90
25	RA	2329	G	C6-C5-N7	-5.52	127.09	130.40
25	RA	642	G	C4-N9-C1'	-5.52	119.33	126.50
25	RA	2188	C	C6-N1-C2	-5.52	118.09	120.30
25	RA	2429	G	O5'-P-OP2	-5.52	100.73	105.70
25	RA	2739	U	N3-C2-O2	-5.52	118.34	122.20
25	RA	445	C	C6-N1-C1'	5.52	127.42	120.80
25	YA	594	U	C6-N1-C1'	5.52	128.92	121.20
25	YA	1257	C	C6-N1-C1'	5.52	127.42	120.80
25	RA	440	G	O5'-P-OP1	-5.51	100.74	105.70
25	RA	2015	A	C5-N7-C8	-5.51	101.14	103.90
25	RA	2855	C	C6-N1-C2	-5.51	118.09	120.30
1	XA	1003	G	C4-N9-C1'	5.51	133.67	126.50
1	XA	1357	A	N7-C8-N9	5.51	116.56	113.80
25	YA	1426	G	O4'-C1'-N9	-5.51	103.79	108.20
1	QA	421	U	N1-C2-O2	5.51	126.66	122.80
25	YA	327	G	C8-N9-C1'	5.51	134.17	127.00
25	RA	2009	G	C8-N9-C1'	5.51	134.16	127.00
25	YA	1828	G	C4-C5-N7	-5.51	108.60	110.80
25	YA	1218	C	N1-C2-O2	5.51	122.20	118.90
25	RA	2829	C	N3-C2-O2	-5.51	118.05	121.90
25	YA	2164	C	C5-C6-N1	5.51	123.75	121.00
25	YA	1142(B)	A	C8-N9-C1'	-5.50	117.79	127.70
1	XA	1411	C	C6-N1-C2	-5.50	118.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1325	G	C2-N3-C4	-5.50	109.15	111.90
1	QA	330	C	C5-C6-N1	5.50	123.75	121.00
1	QA	1032	G	N3-C2-N2	-5.50	116.05	119.90
25	RA	31	C	C5-C6-N1	5.50	123.75	121.00
25	RA	1256	G	N3-C4-N9	5.50	129.30	126.00
25	YA	2044	C	C6-N1-C2	-5.50	118.10	120.30
25	YA	2683	C	N3-C2-O2	-5.50	118.05	121.90
1	QA	1075	C	N1-C2-O2	5.50	122.20	118.90
1	QA	1397	C	N1-C2-O2	5.50	122.20	118.90
25	RA	581	C	C6-N1-C2	-5.50	118.10	120.30
25	YA	2081	C	C6-N1-C2	-5.50	118.10	120.30
25	YA	2611	U	O5'-P-OP1	-5.50	100.75	105.70
25	RA	2645	G	P-O3'-C3'	5.50	126.30	119.70
45	RZ	183	LEU	CA-CB-CG	5.50	127.94	115.30
25	YA	2036	C	C6-N1-C2	-5.50	118.10	120.30
25	RA	2825	C	N1-C2-O2	5.49	122.19	118.90
25	YA	1550	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	442	C	N3-C2-O2	-5.49	118.06	121.90
1	XA	503	C	C6-N1-C2	-5.49	118.10	120.30
25	YA	104	U	N1-C2-O2	5.49	126.64	122.80
25	RA	2666	C	C6-N1-C2	-5.49	118.11	120.30
25	RA	614(A)	U	C6-N1-C1'	-5.48	113.52	121.20
25	RA	691	C	C6-N1-C2	-5.48	118.11	120.30
25	YA	1295	C	C6-N1-C1'	5.48	127.38	120.80
25	YA	2440	C	O5'-P-OP1	-5.48	100.77	105.70
25	YA	2511	U	C6-N1-C1'	5.48	128.88	121.20
25	RA	2248	C	N1-C2-O2	5.48	122.19	118.90
25	RA	2504	U	C5-C6-N1	5.48	125.44	122.70
25	YA	867	C	C6-N1-C1'	-5.48	114.22	120.80
25	RA	2636	U	N1-C2-O2	5.48	126.63	122.80
25	YA	2646	C	N1-C2-O2	5.48	122.19	118.90
1	QA	1067	A	P-O3'-C3'	5.48	126.27	119.70
1	XA	1028	C	C6-N1-C2	-5.47	118.11	120.30
25	YA	1804	C	C6-N1-C1'	5.47	127.37	120.80
25	RA	2441	C	N3-C2-O2	-5.47	118.07	121.90
1	XA	699	C	C6-N1-C2	-5.47	118.11	120.30
25	YA	1501	C	C6-N1-C2	-5.47	118.11	120.30
26	YB	79	C	C6-N1-C2	-5.47	118.11	120.30
25	RA	201	C	N1-C2-O2	5.47	122.18	118.90
25	RA	272(B)	C	C6-N1-C2	-5.47	118.11	120.30
25	YA	2346	A	C6-C5-N7	5.47	136.13	132.30
1	QA	481	G	C4-N9-C1'	5.47	133.61	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	756	C	N1-C2-O2	5.47	122.18	118.90
1	XA	1505	G	C4-N9-C1'	-5.47	119.39	126.50
25	RA	2501	C	N1-C2-O2	5.47	122.18	118.90
25	YA	1437	C	C6-N1-C2	-5.47	118.11	120.30
25	RA	178	G	C8-N9-C1'	5.46	134.10	127.00
25	RA	1166	C	C6-N1-C2	-5.46	118.11	120.30
25	YA	772	C	C2-N1-C1'	-5.46	112.79	118.80
25	YA	1145	C	C6-N1-C2	-5.46	118.11	120.30
1	QA	673	G	C5-C6-O6	-5.46	125.32	128.60
25	YA	2163	C	C6-N1-C2	-5.46	118.11	120.30
25	YA	2415	G	C4-N9-C1'	-5.46	119.40	126.50
25	RA	2745	C	N3-C2-O2	-5.46	118.08	121.90
1	XA	1260	C	C6-N1-C2	-5.46	118.11	120.30
25	YA	2026	C	C5-C6-N1	5.46	123.73	121.00
25	YA	2506	U	N3-C2-O2	-5.46	118.38	122.20
25	RA	27	G	O5'-P-OP2	-5.46	100.79	105.70
25	YA	2597	G	OP1-P-OP2	-5.46	111.41	119.60
1	QA	174	C	C2-N1-C1'	5.46	124.80	118.80
1	QA	1260	C	N3-C2-O2	-5.46	118.08	121.90
25	RA	427	U	N3-C2-O2	-5.46	118.38	122.20
1	XA	354	G	C6-C5-N7	-5.46	127.12	130.40
1	XA	528	C	C6-N1-C2	-5.46	118.12	120.30
1	XA	767	A	OP2-P-O3'	5.46	117.21	105.20
25	YA	272(T)	C	N3-C2-O2	-5.46	118.08	121.90
26	YB	42	C	C5-C6-N1	5.46	123.73	121.00
25	RA	1516	C	C5-C6-N1	5.46	123.73	121.00
1	XA	23	C	C5-C6-N1	5.46	123.73	121.00
25	YA	243	U	C2-N1-C1'	5.46	124.25	117.70
25	YA	2874	C	N3-C2-O2	-5.46	118.08	121.90
1	XA	1118	C	C2-N1-C1'	-5.45	112.80	118.80
25	RA	1914	C	C6-N1-C2	-5.45	118.12	120.30
1	XA	188	C	N3-C2-O2	-5.45	118.08	121.90
25	YA	277	C	OP1-P-O3'	5.45	117.19	105.20
25	YA	1101	U	N3-C2-O2	-5.45	118.38	122.20
25	YA	2233	U	C6-N1-C1'	5.45	128.83	121.20
25	YA	1672	C	C4-C5-C6	-5.45	114.68	117.40
25	RA	678	C	O5'-P-OP2	-5.45	100.80	105.70
25	RA	2487	G	C8-N9-C1'	5.45	134.08	127.00
1	QA	806	C	C6-N1-C1'	5.44	127.33	120.80
25	YA	1447	G	C8-N9-C1'	5.44	134.07	127.00
1	QA	524	G	C4-N9-C1'	5.44	133.57	126.50
25	YA	1531	C	C5-C6-N1	5.44	123.72	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1359	C	C5-C6-N1	5.44	123.72	121.00
1	XA	60	A	P-O3'-C3'	5.44	126.22	119.70
1	XA	336	C	C6-N1-C1'	5.43	127.32	120.80
1	XA	365	U	C2-N1-C1'	5.43	124.22	117.70
25	RA	87	C	C6-N1-C2	-5.43	118.13	120.30
25	RA	2451	A	C8-N9-C1'	5.43	137.48	127.70
25	YA	1619	G	C6-C5-N7	-5.43	127.14	130.40
25	RA	776	G	C4-N9-C1'	5.43	133.56	126.50
25	RA	1256	G	N3-C4-C5	-5.43	125.89	128.60
22	XV	65	C	C5-C6-N1	5.43	123.72	121.00
1	XA	1382	C	N3-C2-O2	-5.43	118.10	121.90
1	QA	1103	C	N3-C2-O2	-5.43	118.10	121.90
25	YA	1687	G	C8-N9-C4	-5.43	104.23	106.40
1	QA	153	C	N1-C2-O2	5.42	122.16	118.90
1	XA	1358	U	O4'-C1'-N1	5.42	112.54	108.20
25	YA	200	U	N1-C2-O2	5.42	126.60	122.80
25	YA	1954	G	C4-N9-C1'	5.42	133.55	126.50
26	YB	2	C	N1-C2-O2	5.42	122.16	118.90
25	RA	1629	U	C6-N1-C1'	5.42	128.79	121.20
26	RB	2	C	N1-C2-O2	5.42	122.15	118.90
25	RA	1631(A)	C	N1-C2-O2	5.42	122.15	118.90
25	RA	2162	G	N3-C4-N9	5.42	129.25	126.00
25	YA	2451	A	OP1-P-OP2	5.42	127.73	119.60
25	RA	1087	G	N3-C4-N9	-5.42	122.75	126.00
25	YA	1313	U	N3-C2-O2	-5.42	118.41	122.20
25	RA	1375	C	C6-N1-C2	-5.41	118.14	120.30
1	XA	1503	A	OP1-P-O3'	5.41	117.11	105.20
25	YA	1498	C	C6-N1-C2	-5.41	118.14	120.30
25	YA	2319	G	O4'-C1'-N9	5.41	112.53	108.20
25	YA	462	C	C6-N1-C2	-5.41	118.14	120.30
25	YA	2889	C	C6-N1-C2	-5.41	118.14	120.30
25	RA	1632	A	C5-N7-C8	-5.41	101.20	103.90
25	RA	1005	C	N3-C2-O2	-5.41	118.12	121.90
25	RA	1779	U	N3-C2-O2	-5.41	118.42	122.20
25	YA	2007	C	C6-N1-C1'	-5.41	114.31	120.80
25	RA	2458	G	N3-C4-C5	-5.40	125.90	128.60
25	YA	1687	G	N7-C8-N9	5.40	115.80	113.10
25	YA	2825	C	C6-N1-C2	-5.40	118.14	120.30
25	RA	2559	C	N1-C2-O2	5.40	122.14	118.90
25	YA	1526	G	C6-C5-N7	-5.40	127.16	130.40
25	YA	2581	G	C8-N9-C1'	-5.40	119.98	127.00
26	YB	2	C	C6-N1-C2	-5.40	118.14	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1517	G	C2-N3-C4	-5.40	109.20	111.90
25	RA	1778	U	O5'-P-OP1	-5.40	100.84	105.70
25	YA	721	C	C2-N1-C1'	5.39	124.73	118.80
25	YA	2506	U	OP1-P-O3'	5.39	117.07	105.20
25	YA	2314	C	C6-N1-C1'	5.39	127.27	120.80
1	QA	795	C	C6-N1-C1'	5.39	127.27	120.80
25	YA	108	U	C6-N1-C1'	5.39	128.75	121.20
1	QA	528	C	N1-C2-O2	5.39	122.13	118.90
25	RA	1178	C	C6-N1-C2	-5.39	118.14	120.30
25	YA	127	A	C8-N9-C4	-5.39	103.64	105.80
25	YA	702	G	N3-C2-N2	-5.39	116.13	119.90
25	YA	850	C	C6-N1-C2	-5.39	118.14	120.30
25	YA	1040	C	N1-C2-O2	5.39	122.13	118.90
25	YA	1619	G	C5-C6-O6	-5.39	125.37	128.60
25	RA	1574	C	C6-N1-C2	-5.38	118.15	120.30
25	RA	2066	C	N3-C2-O2	-5.38	118.13	121.90
22	XV	6	G	C4-C5-N7	5.38	112.95	110.80
25	YA	1979	C	N3-C2-O2	-5.38	118.13	121.90
25	RA	2015	A	C8-N9-C4	-5.38	103.65	105.80
23	XX	19	C	O5'-P-OP1	-5.38	100.86	105.70
25	RA	724	U	N3-C2-O2	-5.38	118.43	122.20
25	RA	2636	U	N3-C2-O2	-5.38	118.43	122.20
1	QA	797	C	N3-C2-O2	-5.38	118.14	121.90
25	RA	154(B)	C	N1-C2-O2	5.38	122.13	118.90
25	RA	2281	C	C5-C6-N1	5.38	123.69	121.00
1	XA	111	G	C6-C5-N7	-5.38	127.17	130.40
1	XA	111	G	N7-C8-N9	5.37	115.79	113.10
25	YA	2302	G	N3-C2-N2	-5.37	116.14	119.90
1	QA	537	G	N3-C4-N9	5.37	129.22	126.00
23	QX	21	C	C6-N1-C2	-5.37	118.15	120.30
25	RA	587	C	C6-N1-C1'	-5.37	114.35	120.80
25	RA	2002	G	N1-C6-O6	5.37	123.12	119.90
1	XA	504	C	C2-N1-C1'	5.37	124.71	118.80
1	XA	883	C	C6-N1-C1'	5.37	127.25	120.80
26	RB	70	C	N3-C2-O2	-5.37	118.14	121.90
25	YA	971	C	C2-N1-C1'	5.37	124.71	118.80
25	YA	1375	C	C6-N1-C2	-5.37	118.15	120.30
25	YA	2646	C	O5'-P-OP2	-5.37	100.87	105.70
56	ZA	2	C	C6-N1-C1'	5.37	127.24	120.80
25	RA	1250	G	C8-N9-C1'	-5.37	120.02	127.00
1	XA	1344	C	C6-N1-C2	-5.37	118.15	120.30
1	QA	219	C	C6-N1-C2	-5.36	118.16	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	923	A	C4-N9-C1'	5.36	135.95	126.30
25	RA	1990	C	N1-C2-O2	5.36	122.12	118.90
25	RA	2321	G	C2-N3-C4	5.36	114.58	111.90
25	YA	2355	C	N1-C2-O2	5.36	122.12	118.90
25	YA	2429	G	O5'-P-OP2	-5.36	100.87	105.70
25	RA	234	C	N1-C2-O2	5.36	122.12	118.90
25	RA	1135	C	N3-C2-O2	-5.36	118.15	121.90
25	RA	2086	U	C6-N1-C1'	5.36	128.70	121.20
25	YA	2825	C	N3-C2-O2	-5.36	118.15	121.90
34	YO	104	ARG	NE-CZ-NH1	-5.36	117.62	120.30
25	RA	999	U	N1-C2-O2	5.36	126.55	122.80
25	RA	915	C	N1-C2-O2	5.36	122.11	118.90
25	YA	753	C	N1-C2-O2	5.36	122.11	118.90
25	RA	755	C	C6-N1-C2	-5.36	118.16	120.30
25	YA	2164	C	C6-N1-C2	-5.35	118.16	120.30
25	RA	378	C	C6-N1-C2	-5.35	118.16	120.30
1	XA	673	G	N3-C4-C5	-5.35	125.92	128.60
25	YA	828	U	C2-N1-C1'	-5.35	111.28	117.70
25	YA	2178	C	C6-N1-C2	-5.35	118.16	120.30
26	YB	42	C	C6-N1-C2	-5.35	118.16	120.30
25	RA	580	C	C6-N1-C2	-5.35	118.16	120.30
1	XA	679	C	C5-C6-N1	5.35	123.67	121.00
23	XX	21	C	C6-N1-C1'	5.35	127.22	120.80
25	YA	2295	C	C2-N1-C1'	5.35	124.69	118.80
1	XA	483	C	N1-C2-O2	5.35	122.11	118.90
25	YA	2808	U	N3-C2-O2	-5.35	118.46	122.20
25	YA	2782	G	C6-C5-N7	-5.35	127.19	130.40
25	YA	2822	G	OP2-P-O3'	5.35	116.96	105.20
1	QA	1363(A)	C	N3-C2-O2	-5.34	118.16	121.90
1	XA	679	C	C6-N1-C2	-5.34	118.16	120.30
25	YA	2321	G	C2-N3-C4	5.34	114.57	111.90
26	YB	30	C	C6-N1-C2	-5.34	118.16	120.30
1	QA	1285	A	P-O3'-C3'	5.34	126.11	119.70
25	YA	2355	C	N3-C2-O2	-5.34	118.16	121.90
1	XA	891	U	N3-C2-O2	-5.34	118.46	122.20
25	YA	2294	C	OP2-P-O3'	5.34	116.95	105.20
25	YA	2825	C	N1-C2-O2	5.34	122.10	118.90
25	RA	1994	C	OP1-P-OP2	-5.34	111.59	119.60
25	YA	253	C	C6-N1-C2	-5.34	118.17	120.30
26	RB	60	C	N1-C2-O2	5.34	122.10	118.90
25	YA	2355	C	C2-N1-C1'	5.34	124.67	118.80
25	RA	192	C	N3-C2-O2	-5.33	118.17	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2129	C	N3-C2-O2	-5.33	118.17	121.90
25	RA	2294	C	C6-N1-C2	-5.33	118.17	120.30
25	YA	1234	U	N3-C2-O2	-5.33	118.47	122.20
25	YA	1804	C	C5-C6-N1	5.33	123.67	121.00
25	RA	2002	G	N7-C8-N9	5.33	115.77	113.10
1	XA	596	C	N3-C2-O2	-5.33	118.17	121.90
1	XA	643	C	N1-C2-O2	5.33	122.10	118.90
25	YA	688	U	C6-N1-C1'	5.33	128.67	121.20
25	YA	2870	C	C5-C6-N1	5.33	123.67	121.00
25	YA	1105	U	N3-C2-O2	-5.33	118.47	122.20
25	RA	590	A	N7-C8-N9	5.33	116.46	113.80
25	YA	2480	C	C6-N1-C2	-5.33	118.17	120.30
25	RA	2615	U	C5-C6-N1	5.33	125.36	122.70
25	YA	2051	A	N3-C4-C5	5.33	130.53	126.80
25	YA	2139	C	C5-C6-N1	5.33	123.66	121.00
1	QA	563	A	N7-C8-N9	5.32	116.46	113.80
1	QA	912	C	C6-N1-C2	-5.32	118.17	120.30
25	RA	739	G	O5'-P-OP2	-5.32	100.91	105.70
25	YA	754	C	C6-N1-C2	-5.32	118.17	120.30
25	RA	2231	C	C6-N1-C2	-5.32	118.17	120.30
1	XA	358	U	O4'-C4'-C3'	-5.32	98.68	104.00
1	QA	43	C	N1-C2-O2	5.32	122.09	118.90
25	RA	525	U	C6-N1-C1'	5.32	128.65	121.20
25	RA	825	C	C6-N1-C1'	5.32	127.18	120.80
25	RA	1914	C	N1-C2-O2	5.32	122.09	118.90
25	RA	2466	C	N1-C2-O2	5.32	122.09	118.90
25	YA	697	C	C5-C6-N1	5.32	123.66	121.00
25	YA	1476	C	C5-C6-N1	5.32	123.66	121.00
25	RA	1975	G	C8-N9-C1'	-5.32	120.09	127.00
25	YA	1437	C	C5-C6-N1	5.31	123.66	121.00
1	XA	19	C	C6-N1-C2	-5.31	118.17	120.30
25	YA	758	C	C6-N1-C2	-5.31	118.17	120.30
25	YA	2582	G	OP2-P-O3'	5.31	116.88	105.20
1	QA	1030(C)	C	N1-C2-O2	5.31	122.09	118.90
25	RA	669	G	N3-C4-N9	5.31	129.19	126.00
25	YA	1256	G	C8-N9-C1'	-5.31	120.10	127.00
25	YA	1566	A	OP1-P-OP2	5.31	127.56	119.60
25	YA	2053	G	C4-C5-N7	5.31	112.92	110.80
25	RA	1688	U	C6-N1-C1'	5.31	128.63	121.20
25	YA	2318	G	C8-N9-C4	-5.31	104.28	106.40
25	YA	2464	C	C6-N1-C2	5.31	122.42	120.30
1	QA	247	G	C4-N9-C1'	-5.31	119.60	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	120	U	N3-C4-O4	5.31	123.11	119.40
25	RA	1835	G	C4-N9-C1'	5.30	133.40	126.50
25	RA	1992	G	P-O3'-C3'	5.30	126.06	119.70
1	XA	818	G	O4'-C1'-N9	5.30	112.44	108.20
25	YA	794	G	C6-C5-N7	-5.30	127.22	130.40
1	XA	970	C	C6-N1-C1'	5.30	127.16	120.80
1	QA	910	C	N1-C2-O2	5.30	122.08	118.90
25	RA	459	U	N1-C2-O2	5.30	126.51	122.80
25	RA	1087	G	N9-C4-C5	5.30	107.52	105.40
25	YA	2321	G	N3-C4-N9	5.30	129.18	126.00
25	RA	1544	A	C5-C6-N6	-5.30	119.46	123.70
25	YA	1899	G	C4-N9-C1'	5.30	133.38	126.50
25	YA	487	C	N3-C2-O2	-5.29	118.19	121.90
1	QA	189(E)	C	N3-C2-O2	-5.29	118.20	121.90
25	RA	577	G	C4-C5-N7	5.29	112.92	110.80
1	XA	186	C	N3-C2-O2	-5.29	118.20	121.90
1	XA	906	G	C8-N9-C4	-5.29	104.28	106.40
1	QA	455	C	C5-C6-N1	5.29	123.64	121.00
25	RA	1314	C	N3-C4-N4	5.29	121.70	118.00
25	YA	1447	G	O5'-P-OP2	-5.29	100.94	105.70
25	RA	1842	G	C8-N9-C4	-5.28	104.29	106.40
25	RA	2766	G	N3-C4-N9	5.28	129.17	126.00
25	YA	871	U	C2-N1-C1'	-5.28	111.36	117.70
25	YA	1793	C	C6-N1-C2	-5.28	118.19	120.30
25	YA	2598	A	O5'-P-OP1	5.28	117.04	110.70
25	YA	1588	C	C6-N1-C2	-5.28	118.19	120.30
1	QA	514	C	C5-C6-N1	5.28	123.64	121.00
25	YA	925	C	N3-C2-O2	-5.28	118.20	121.90
25	YA	2063	C	O4'-C1'-N1	-5.28	103.98	108.20
25	YA	2103	C	C6-N1-C2	-5.28	118.19	120.30
25	YA	1116	C	C6-N1-C2	-5.28	118.19	120.30
25	YA	1789	A	C8-N9-C1'	5.28	137.20	127.70
1	QA	353	A	OP2-P-O3'	5.28	116.81	105.20
1	QA	600	C	N1-C2-O2	5.28	122.06	118.90
22	QV	34	C	N1-C2-O2	5.28	122.06	118.90
22	QV	66	C	N1-C2-O2	5.28	122.06	118.90
25	RA	2036	C	C2-N1-C1'	5.28	124.60	118.80
25	YA	2343	C	N3-C2-O2	-5.28	118.21	121.90
25	YA	1135	C	N1-C2-O2	5.27	122.06	118.90
1	QA	548	G	C4-N9-C1'	5.27	133.35	126.50
1	QA	1065	U	P-O3'-C3'	5.27	126.03	119.70
26	YB	7	G	C4-C5-N7	5.27	112.91	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	284	U	N1-C2-O2	5.27	126.49	122.80
1	QA	1203	C	N1-C2-O2	5.27	122.06	118.90
1	XA	811	C	N3-C2-O2	-5.27	118.21	121.90
25	YA	729	G	C8-N9-C1'	-5.27	120.15	127.00
25	YA	1678	G	N3-C4-C5	-5.27	125.97	128.60
25	YA	1926	U	C6-N1-C1'	5.27	128.58	121.20
25	RA	268	C	N1-C2-O2	5.27	122.06	118.90
25	RA	2874	C	C2-N1-C1'	-5.27	113.01	118.80
1	QA	524	G	C8-N9-C1'	-5.26	120.16	127.00
25	YA	350	U	N3-C2-O2	-5.26	118.51	122.20
25	YA	1969	A	OP1-P-OP2	-5.26	111.70	119.60
1	XA	563	A	C8-N9-C1'	-5.26	118.23	127.70
25	YA	1511	C	C6-N1-C2	-5.26	118.20	120.30
1	QA	18	C	C6-N1-C2	-5.26	118.20	120.30
1	QA	283	C	C5-C6-N1	5.26	123.63	121.00
1	XA	374	A	C8-N9-C4	-5.26	103.70	105.80
25	RA	1313	U	C6-N1-C2	-5.26	117.84	121.00
25	RA	1687	G	C6-C5-N7	-5.26	127.25	130.40
1	XA	931	C	C6-N1-C2	-5.26	118.20	120.30
25	RA	459	U	N3-C2-O2	-5.26	118.52	122.20
26	RB	70	C	C5-C6-N1	5.26	123.63	121.00
1	XA	442	C	N3-C2-O2	-5.26	118.22	121.90
1	XA	810	C	C5-C6-N1	5.26	123.63	121.00
1	QA	1201	A	P-O3'-C3'	5.25	126.01	119.70
1	XA	435	C	N3-C4-N4	5.25	121.68	118.00
25	YA	1787	A	O4'-C1'-N9	-5.25	104.00	108.20
25	RA	279	C	N3-C2-O2	-5.25	118.22	121.90
25	YA	47	C	C6-N1-C2	-5.25	118.20	120.30
25	YA	1306	C	C5-C6-N1	5.25	123.63	121.00
25	RA	209	C	C6-N1-C2	-5.25	118.20	120.30
25	RA	1458	C	C6-N1-C2	5.25	122.40	120.30
25	RA	2465	C	N1-C2-O2	5.25	122.05	118.90
25	RA	2586	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	747	C	C6-N1-C2	-5.25	118.20	120.30
25	YA	2576	G	N3-C4-N9	5.25	129.15	126.00
25	YA	2591	C	C5-C6-N1	5.25	123.62	121.00
1	QA	1208	C	N1-C2-O2	5.25	122.05	118.90
25	YA	1376	C	N1-C2-O2	5.25	122.05	118.90
25	RA	1445(B)	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	189(E)	C	N3-C2-O2	-5.25	118.23	121.90
25	YA	65	C	N1-C2-O2	5.25	122.05	118.90
25	YA	838	C	C6-N1-C2	-5.25	118.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1011	G	C8-N9-C1'	-5.25	120.18	127.00
25	YA	1657	C	N1-C2-O2	5.25	122.05	118.90
25	YA	2440	C	C6-N1-C2	-5.25	118.20	120.30
25	RA	475	U	C2-N1-C1'	5.24	123.99	117.70
1	XA	1267	C	C5-C6-N1	5.24	123.62	121.00
25	YA	1309	G	O5'-P-OP2	-5.24	100.98	105.70
1	QA	673	G	N3-C4-N9	5.24	129.15	126.00
25	RA	688	U	C6-N1-C1'	5.24	128.53	121.20
25	RA	1586	A	O5'-P-OP1	-5.24	100.98	105.70
25	YA	947	G	OP1-P-O3'	-5.24	93.67	105.20
25	YA	1190	G	O5'-P-OP2	-5.24	100.98	105.70
25	YA	1893	C	C6-N1-C2	-5.24	118.20	120.30
25	YA	1996	C	C6-N1-C1'	5.24	127.08	120.80
1	QA	1237	C	C5-C6-N1	5.24	123.62	121.00
1	QA	1359	C	C6-N1-C2	-5.24	118.20	120.30
25	RA	1100	C	N1-C2-O2	5.24	122.04	118.90
1	QA	180	U	C2-N1-C1'	5.24	123.98	117.70
25	YA	570	G	C4-C5-N7	-5.24	108.71	110.80
25	YA	2318	G	N3-C4-N9	5.24	129.14	126.00
25	YA	958	U	N3-C2-O2	-5.23	118.54	122.20
1	QA	14	U	C6-N1-C1'	5.23	128.53	121.20
25	RA	2579	C	C5-C6-N1	5.23	123.62	121.00
38	RS	56	LEU	CA-CB-CG	5.23	127.34	115.30
1	XA	483	C	N3-C4-C5	5.23	123.99	121.90
25	YA	2056	G	O4'-C1'-N9	-5.23	104.01	108.20
25	YA	2282	G	C6-N1-C2	-5.23	121.96	125.10
1	QA	545	C	C6-N1-C2	-5.23	118.21	120.30
25	RA	1817	G	OP2-P-O3'	5.23	116.71	105.20
25	RA	2667	C	N3-C2-O2	-5.23	118.24	121.90
24	XY	30	C	C5-C6-N1	5.23	123.61	121.00
1	XA	1459	C	N1-C2-O2	5.23	122.04	118.90
25	YA	192	C	N1-C2-N3	5.23	122.86	119.20
25	YA	248	G	C8-N9-C4	-5.23	104.31	106.40
25	YA	2874	C	C6-N1-C2	-5.23	118.21	120.30
25	RA	1814	G	C4-N9-C1'	5.23	133.29	126.50
1	QA	226	G	N3-C4-N9	5.23	129.14	126.00
25	RA	1514	U	C2-N1-C1'	-5.23	111.43	117.70
25	YA	1476	C	N1-C2-O2	5.23	122.03	118.90
1	QA	1198	G	C4-N9-C1'	-5.22	119.71	126.50
25	YA	1646	C	C6-N1-C1'	-5.22	114.53	120.80
25	YA	2289	G	O4'-C1'-N9	-5.22	104.02	108.20
1	QA	705	U	N1-C2-O2	5.22	126.45	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	957	A	C5-C6-N6	-5.22	119.52	123.70
25	RA	1198	U	N3-C2-O2	-5.22	118.54	122.20
1	XA	307	C	C6-N1-C2	-5.22	118.21	120.30
1	QA	984	C	C6-N1-C1'	5.22	127.06	120.80
25	RA	897	C	C2-N1-C1'	5.22	124.54	118.80
25	RA	1804	C	C5-C6-N1	5.22	123.61	121.00
25	RA	1947	C	C2-N1-C1'	-5.22	113.06	118.80
25	RA	2064	C	C6-N1-C1'	5.22	127.06	120.80
1	QA	634	C	N3-C2-O2	-5.22	118.25	121.90
22	XV	74	C	O5'-P-OP2	-5.22	101.00	105.70
25	YA	1827	C	C5-C6-N1	5.22	123.61	121.00
25	RA	528	A	C8-N9-C1'	-5.22	118.31	127.70
25	RA	54	G	C8-N9-C1'	5.21	133.78	127.00
1	XA	689	C	C5-C6-N1	5.21	123.61	121.00
1	QA	963	G	C6-N1-C2	-5.21	121.97	125.10
22	QV	13	C	C5-C6-N1	5.21	123.61	121.00
25	RA	2697	G	C8-N9-C1'	5.21	133.78	127.00
1	QA	357	G	N3-C2-N2	-5.21	116.25	119.90
25	YA	1945	G	C8-N9-C1'	-5.21	120.23	127.00
1	QA	526	C	N3-C4-N4	5.21	121.65	118.00
25	RA	1289	C	N1-C2-O2	5.21	122.03	118.90
25	RA	2267	A	C2-N3-C4	5.21	113.20	110.60
1	XA	1513	A	C5-C6-N1	5.21	120.30	117.70
22	XV	6	G	N3-C4-N9	5.21	129.12	126.00
25	YA	2840	C	C2-N1-C1'	5.21	124.53	118.80
1	QA	673	G	C6-C5-N7	-5.20	127.28	130.40
25	YA	2689	U	C2-N1-C1'	5.20	123.94	117.70
25	RA	837	C	C5-C6-N1	5.20	123.60	121.00
1	XA	114	U	C2-N1-C1'	5.20	123.94	117.70
25	YA	2163	C	C5-C6-N1	5.20	123.60	121.00
22	QV	48	C	C6-N1-C2	5.20	122.38	120.30
25	RA	1701	A	O5'-P-OP1	-5.20	101.02	105.70
25	RA	1806	C	C6-N1-C1'	5.20	127.04	120.80
22	XV	75	C	C6-N1-C2	-5.20	118.22	120.30
1	QA	883	C	N1-C2-O2	5.20	122.02	118.90
1	XA	673	G	C6-C5-N7	-5.20	127.28	130.40
22	XV	56	C	C6-N1-C2	-5.20	118.22	120.30
25	YA	413	C	C6-N1-C2	-5.20	118.22	120.30
25	YA	871	U	C6-N1-C1'	5.20	128.48	121.20
25	YA	1951	U	O5'-P-OP2	-5.20	101.02	105.70
1	QA	1276	G	C6-C5-N7	-5.20	127.28	130.40
25	RA	797	C	C6-N1-C2	-5.20	118.22	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1648	C	O5'-P-OP1	5.20	116.93	110.70
25	YA	1670	C	C6-N1-C1'	5.20	127.03	120.80
22	XV	50	U	N1-C2-O2	5.19	126.44	122.80
25	RA	2144	U	C5-C6-N1	5.19	125.30	122.70
1	XA	1147	C	C6-N1-C2	-5.19	118.22	120.30
25	YA	454	A	O5'-P-OP2	-5.19	101.03	105.70
25	YA	2338	G	O5'-P-OP2	-5.19	101.03	105.70
25	YA	2178	C	N3-C2-O2	-5.19	118.27	121.90
1	QA	397	A	N3-C4-N9	5.19	131.55	127.40
25	YA	1097	U	C2-N1-C1'	5.19	123.93	117.70
26	YB	2	C	C5-C6-N1	5.19	123.59	121.00
25	RA	2506	U	N3-C2-O2	-5.19	118.57	122.20
1	XA	833	U	N3-C2-O2	-5.19	118.57	122.20
25	RA	1833	U	N3-C2-O2	-5.19	118.57	122.20
25	YA	1097	U	N3-C2-O2	-5.19	118.57	122.20
25	RA	1364	G	O5'-P-OP1	5.18	116.92	110.70
25	RA	2086	U	C2-N1-C1'	-5.18	111.48	117.70
25	YA	2163	C	N3-C2-O2	-5.18	118.27	121.90
25	RA	659	C	C6-N1-C1'	5.18	127.02	120.80
25	RA	1323	U	C5-C6-N1	5.18	125.29	122.70
25	RA	1411	C	C2-N1-C1'	5.18	124.50	118.80
25	YA	2467	C	C6-N1-C1'	5.18	127.02	120.80
1	QA	1054	C	C6-N1-C1'	-5.18	114.58	120.80
26	RB	27	C	C5-C6-N1	5.18	123.59	121.00
25	YA	253	C	C5-C6-N1	5.18	123.59	121.00
25	YA	234	C	N3-C2-O2	-5.18	118.28	121.90
50	Y4	9	LEU	CA-CB-CG	5.18	127.20	115.30
25	RA	2061	G	C8-N9-C1'	-5.17	120.27	127.00
22	XV	50	U	N3-C2-O2	-5.17	118.58	122.20
25	RA	1157	G	N9-C4-C5	-5.17	103.33	105.40
25	RA	2260	C	C5-C6-N1	5.17	123.59	121.00
25	YA	1829	A	N7-C8-N9	5.17	116.39	113.80
25	RA	850	C	C6-N1-C2	-5.17	118.23	120.30
1	XA	336	C	C2-N1-C1'	-5.17	113.11	118.80
25	YA	828	U	C6-N1-C1'	5.17	128.44	121.20
25	YA	949	C	N3-C4-N4	5.17	121.62	118.00
25	YA	1420	U	P-O3'-C3'	5.17	125.90	119.70
25	YA	2126	A	P-O3'-C3'	5.17	125.90	119.70
25	YA	2667	C	N3-C2-O2	-5.17	118.28	121.90
22	QV	69	C	N1-C2-O2	5.16	122.00	118.90
25	RA	1420	U	P-O3'-C3'	5.16	125.89	119.70
25	RA	1539	G	N3-C4-N9	5.16	129.10	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	XY	29	U	C2-N1-C1'	5.16	123.90	117.70
25	YA	1957	C	N1-C2-O2	5.16	122.00	118.90
25	YA	2085	C	C6-N1-C1'	5.16	127.00	120.80
25	YA	2248	C	N3-C2-O2	-5.16	118.28	121.90
1	QA	977	A	N7-C8-N9	5.16	116.38	113.80
1	QA	9	G	O5'-P-OP2	-5.16	101.06	105.70
25	RA	1557	C	N3-C2-O2	-5.16	118.29	121.90
25	RA	2254	C	N3-C2-O2	-5.16	118.29	121.90
25	YA	1493	C	N3-C2-O2	-5.16	118.29	121.90
25	RA	2295	C	C5-C6-N1	5.16	123.58	121.00
25	YA	2550	G	C6-C5-N7	-5.16	127.31	130.40
1	QA	525	C	C2-N1-C1'	5.16	124.47	118.80
1	QA	1459	C	N3-C2-O2	-5.16	118.29	121.90
25	RA	707	G	C4-N9-C1'	5.16	133.20	126.50
25	YA	67	U	C6-N1-C2	-5.16	117.91	121.00
25	YA	1337	G	C8-N9-C1'	5.16	133.70	127.00
25	YA	1398	C	N1-C2-O2	5.16	121.99	118.90
25	RA	1934	C	N3-C2-O2	-5.15	118.29	121.90
6	XF	21	LEU	CA-CB-CG	5.15	127.15	115.30
25	YA	2249	U	O5'-P-OP2	5.15	116.88	110.70
25	RA	1257	C	C5-C6-N1	5.15	123.58	121.00
1	QA	1284	C	N1-C2-O2	5.15	121.99	118.90
25	RA	540	C	C6-N1-C2	-5.15	118.24	120.30
1	XA	745	C	C6-N1-C2	-5.15	118.24	120.30
25	YA	2030	A	O5'-P-OP2	-5.15	101.06	105.70
25	YA	2064	C	C6-N1-C2	-5.15	118.24	120.30
25	YA	435	C	N3-C2-O2	-5.15	118.30	121.90
25	YA	1276	A	O5'-P-OP1	5.15	116.88	110.70
25	YA	1387	C	C6-N1-C2	-5.15	118.24	120.30
25	YA	1672	C	C6-N1-C1'	5.15	126.98	120.80
25	YA	1892	C	C6-N1-C2	-5.15	118.24	120.30
25	RA	928	G	N7-C8-N9	5.15	115.67	113.10
25	RA	2744	G	C6-C5-N7	-5.15	127.31	130.40
25	RA	2752	C	C6-N1-C2	-5.14	118.24	120.30
1	XA	970	C	C6-N1-C2	-5.14	118.24	120.30
26	RB	80	U	N3-C2-O2	-5.14	118.60	122.20
25	YA	2329	G	C6-C5-N7	-5.14	127.31	130.40
22	QV	34	C	C5-C6-N1	5.14	123.57	121.00
25	RA	2129	C	C5-C6-N1	5.14	123.57	121.00
25	YA	18	C	C6-N1-C2	-5.14	118.24	120.30
1	QA	993	G	C6-C5-N7	-5.14	127.32	130.40
25	YA	1132	A	C8-N9-C1'	5.14	136.95	127.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	455	C	C6-N1-C2	-5.14	118.25	120.30
25	RA	435	C	N3-C2-O2	-5.14	118.31	121.90
1	XA	367	U	OP2-P-O3'	-5.14	93.90	105.20
1	XA	442	C	C5-C6-N1	5.14	123.57	121.00
25	RA	956	G	C4-N9-C1'	5.13	133.17	126.50
1	XA	1260	C	N3-C2-O2	-5.13	118.31	121.90
25	RA	384	U	N1-C2-O2	5.13	126.39	122.80
1	QA	600	C	N3-C2-O2	-5.13	118.31	121.90
1	QA	737	A	C8-N9-C4	-5.13	103.75	105.80
1	QA	1237	C	C6-N1-C2	-5.13	118.25	120.30
25	RA	1788	C	OP1-P-O3'	5.13	116.49	105.20
25	YA	1882	C	C5-C6-N1	5.13	123.57	121.00
25	RA	272(T)	C	N3-C2-O2	-5.13	118.31	121.90
25	YA	2282	G	C5-C6-N1	5.13	114.06	111.50
25	YA	2363	C	N3-C2-O2	-5.13	118.31	121.90
25	YA	2739	U	C6-N1-C1'	-5.13	114.02	121.20
1	QA	54	C	N3-C2-O2	-5.13	118.31	121.90
25	YA	2086	U	C2-N1-C1'	-5.13	111.55	117.70
25	RA	2295	C	N1-C2-O2	5.13	121.98	118.90
25	YA	2504	U	C5-C6-N1	5.13	125.26	122.70
25	YA	2678	C	C6-N1-C2	-5.13	118.25	120.30
25	RA	1827	C	N1-C2-O2	5.12	121.97	118.90
1	QA	357	G	C6-N1-C2	-5.12	122.03	125.10
25	RA	1692	U	C2-N1-C1'	-5.12	111.55	117.70
22	XV	6	G	N9-C4-C5	-5.12	103.35	105.40
26	RB	45	A	N7-C8-N9	5.12	116.36	113.80
25	YA	784	A	O5'-P-OP2	-5.12	101.09	105.70
25	YA	2786	U	C6-N1-C2	-5.12	117.93	121.00
25	YA	2889	C	C5-C6-N1	5.12	123.56	121.00
1	QA	252	U	C2-N1-C1'	5.12	123.84	117.70
1	QA	395	C	N1-C2-O2	5.12	121.97	118.90
1	QA	979	C	C5-C6-N1	5.12	123.56	121.00
1	XA	132	C	N1-C2-O2	5.12	121.97	118.90
25	YA	1092	C	C6-N1-C2	-5.12	118.25	120.30
25	YA	1062	G	N3-C4-N9	5.12	129.07	126.00
25	YA	1894	C	C6-N1-C2	-5.12	118.25	120.30
25	YA	2009	G	C5-C6-O6	-5.12	125.53	128.60
25	YA	2275	C	C2-N1-C1'	5.12	124.43	118.80
25	RA	2544	G	C6-C5-N7	-5.12	127.33	130.40
22	XV	5	G	C4-N9-C1'	5.12	133.15	126.50
25	YA	2591	C	C6-N1-C2	-5.12	118.25	120.30
25	YA	11	G	N3-C4-C5	-5.12	126.04	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	1187	G	O5'-P-OP1	5.12	116.84	110.70
1	XA	675	A	C8-N9-C4	-5.11	103.75	105.80
25	YA	687	C	C6-N1-C2	-5.11	118.25	120.30
25	YA	1188	U	C5-C6-N1	5.11	125.26	122.70
25	YA	2062	A	OP2-P-O3'	5.11	116.45	105.20
25	YA	2277	G	C6-N1-C2	-5.11	122.03	125.10
25	RA	1640	C	N3-C2-O2	-5.11	118.32	121.90
25	RA	2689	U	N1-C2-O2	5.11	126.38	122.80
25	YA	1052	C	N3-C2-O2	-5.11	118.32	121.90
1	XA	1225	A	C8-N9-C4	-5.11	103.75	105.80
25	YA	1399	C	C6-N1-C2	-5.11	118.26	120.30
25	YA	1945	G	C4-N9-C1'	5.11	133.14	126.50
25	YA	2576	G	O5'-P-OP2	-5.11	101.10	105.70
1	QA	939	G	C5-C6-N1	5.11	114.05	111.50
25	YA	206	U	N1-C2-O2	5.11	126.38	122.80
25	YA	886	C	N1-C2-O2	5.11	121.97	118.90
25	YA	2461	C	N1-C2-O2	5.11	121.97	118.90
1	XA	743	U	C2-N1-C1'	-5.11	111.57	117.70
25	YA	248	G	OP1-P-O3'	5.11	116.43	105.20
25	YA	378	C	C6-N1-C2	-5.11	118.26	120.30
25	YA	1030	G	C8-N9-C1'	5.11	133.64	127.00
25	YA	1140	C	N1-C2-O2	5.11	121.96	118.90
25	RA	1323	U	N3-C4-O4	5.10	122.97	119.40
25	YA	2075	U	N3-C4-O4	5.10	122.97	119.40
25	YA	2091	U	C2-N1-C1'	-5.10	111.58	117.70
25	YA	2784	C	N3-C2-O2	-5.10	118.33	121.90
25	RA	774	A	C2-N3-C4	5.10	113.15	110.60
25	YA	105	C	C5-C6-N1	5.10	123.55	121.00
25	YA	773	U	O5'-P-OP2	-5.10	101.11	105.70
1	XA	442	C	C6-N1-C2	-5.10	118.26	120.30
1	QA	933	G	C6-C5-N7	-5.10	127.34	130.40
22	XV	71	C	C6-N1-C2	-5.10	118.26	120.30
25	RA	1318	C	C6-N1-C2	-5.10	118.26	120.30
25	RA	1632	A	C4-C5-N7	5.10	113.25	110.70
1	QA	180	U	C5-C6-N1	5.09	125.25	122.70
1	QA	498	U	N3-C2-O2	-5.09	118.63	122.20
25	RA	569	U	O5'-P-OP2	-5.09	101.11	105.70
25	RA	1926	U	C2-N1-C1'	-5.09	111.59	117.70
25	YA	1011	G	C4-N9-C1'	5.09	133.12	126.50
22	QV	56	C	N3-C2-O2	-5.09	118.33	121.90
25	YA	1828	G	C8-N9-C1'	5.09	133.62	127.00
25	RA	1333	C	N1-C2-O2	5.09	121.95	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2043	C	N1-C2-O2	5.09	121.95	118.90
25	YA	392	C	C5-C6-N1	5.09	123.55	121.00
25	YA	2601	C	C5-C6-N1	5.09	123.55	121.00
25	RA	957	A	N9-C4-C5	-5.09	103.76	105.80
25	RA	1481	U	C2-N1-C1'	-5.09	111.59	117.70
25	RA	2649	U	C5-C6-N1	5.09	125.24	122.70
25	YA	315	G	N3-C4-C5	-5.09	126.06	128.60
25	YA	333	G	C6-C5-N7	-5.09	127.35	130.40
25	YA	838	C	N1-C2-O2	5.09	121.95	118.90
25	YA	1330	C	N1-C2-O2	5.09	121.95	118.90
22	QV	75	C	C2-N1-C1'	-5.09	113.21	118.80
25	YA	535	C	C6-N1-C1'	5.09	126.90	120.80
25	YA	2587	A	C8-N9-C4	-5.09	103.77	105.80
25	RA	1743	C	C6-N1-C2	-5.08	118.27	120.30
25	YA	1633	G	N7-C8-N9	5.08	115.64	113.10
25	RA	445	C	C6-N1-C2	-5.08	118.27	120.30
25	RA	2441	C	OP1-P-OP2	-5.08	111.97	119.60
1	XA	589	C	C5-C6-N1	5.08	123.54	121.00
1	XA	989	C	N3-C2-O2	-5.08	118.34	121.90
1	XA	1264	C	C6-N1-C2	-5.08	118.27	120.30
25	YA	816	C	C2-N1-C1'	-5.08	113.21	118.80
25	YA	1440	G	C4-N9-C1'	-5.08	119.89	126.50
1	XA	911	U	C6-N1-C1'	5.08	128.31	121.20
25	YA	445	C	C5-C6-N1	5.08	123.54	121.00
25	YA	556	G	C6-C5-N7	-5.08	127.35	130.40
25	YA	1201	C	C6-N1-C2	-5.08	118.27	120.30
25	YA	1691	C	C6-N1-C2	-5.08	118.27	120.30
26	RB	23	G	N3-C2-N2	-5.08	116.34	119.90
25	YA	1943	U	OP1-P-O3'	5.08	116.37	105.20
25	YA	2515	C	N3-C2-O2	-5.08	118.34	121.90
1	QA	481	G	C8-N9-C1'	-5.08	120.40	127.00
1	XA	697	U	N1-C2-O2	5.08	126.35	122.80
25	RA	1104	C	N1-C2-O2	5.08	121.95	118.90
25	RA	1669	A	OP1-P-O3'	5.08	116.37	105.20
1	XA	436	C	C6-N1-C2	-5.08	118.27	120.30
1	XA	437	U	N3-C2-O2	-5.08	118.65	122.20
25	YA	2387	U	C2-N1-C1'	-5.08	111.61	117.70
1	QA	354	G	C6-C5-N7	-5.07	127.36	130.40
25	RA	510	C	O5'-P-OP2	-5.07	101.13	105.70
1	XA	748	C	P-O3'-C3'	5.07	125.79	119.70
1	XA	979	C	C2-N1-C1'	5.07	124.38	118.80
25	YA	587	C	O4'-C1'-N1	-5.07	104.14	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	404	U	N3-C2-O2	-5.07	118.65	122.20
1	QA	433	C	N3-C2-O2	-5.07	118.35	121.90
25	RA	2139	C	N1-C2-O2	5.07	121.94	118.90
25	YA	1132	A	O4'-C1'-N9	-5.07	104.14	108.20
1	QA	950	U	C6-N1-C2	-5.07	117.96	121.00
25	RA	1988	C	N1-C2-O2	5.07	121.94	118.90
25	RA	2857	G	C8-N9-C1'	5.07	133.59	127.00
25	YA	1784	A	C4-N9-C1'	5.07	135.42	126.30
25	RA	114	U	C5-C6-N1	5.07	125.23	122.70
1	QA	266	G	N3-C4-C5	-5.07	126.07	128.60
25	RA	2889	C	N1-C2-O2	5.07	121.94	118.90
1	XA	267	C	C6-N1-C2	-5.07	118.27	120.30
25	YA	761	A	C5-N7-C8	-5.07	101.37	103.90
25	YA	986	C	C6-N1-C2	-5.07	118.27	120.30
25	YA	1459	G	N3-C4-C5	-5.07	126.07	128.60
25	YA	2068	U	N1-C2-O2	5.07	126.35	122.80
25	RA	650	C	C6-N1-C2	-5.06	118.27	120.30
25	RA	1975	G	C4-N9-C1'	5.06	133.08	126.50
25	YA	1102	C	C6-N1-C2	-5.06	118.28	120.30
25	RA	884	C	N3-C2-O2	-5.06	118.36	121.90
25	YA	749	C	C6-N1-C2	-5.06	118.28	120.30
25	YA	1772	G	C8-N9-C1'	5.06	133.58	127.00
25	YA	1992	G	O4'-C1'-N9	-5.06	104.15	108.20
25	YA	2840	C	N1-C2-O2	5.06	121.94	118.90
25	RA	871	U	O4'-C1'-N1	5.06	112.25	108.20
25	RA	1481	U	C6-N1-C1'	5.06	128.28	121.20
25	RA	2556	C	C6-N1-C2	-5.06	118.28	120.30
1	XA	809	G	N3-C2-N2	-5.06	116.36	119.90
25	YA	2343	C	N1-C2-O2	5.06	121.94	118.90
1	QA	1397	C	C2-N1-C1'	5.06	124.36	118.80
25	YA	1638	C	N3-C2-O2	-5.06	118.36	121.90
25	YA	2462	U	C2-N1-C1'	-5.06	111.63	117.70
25	RA	2697	G	C4-N9-C1'	-5.05	119.93	126.50
1	XA	1118	C	C6-N1-C1'	5.05	126.86	120.80
25	YA	336	C	C6-N1-C2	-5.05	118.28	120.30
25	RA	2885	C	N1-C2-O2	5.05	121.93	118.90
1	XA	643	C	N3-C2-O2	-5.05	118.36	121.90
25	RA	669	G	N3-C4-C5	-5.05	126.08	128.60
1	XA	754	C	C2-N1-C1'	5.05	124.36	118.80
25	YA	684	G	O5'-P-OP2	-5.05	101.15	105.70
1	QA	557	G	N3-C4-N9	5.05	129.03	126.00
25	RA	485	C	C6-N1-C1'	5.05	126.86	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1446	C	N1-C2-O2	5.05	121.93	118.90
25	RA	1678	G	N3-C4-N9	5.05	129.03	126.00
25	YA	523	C	N1-C2-O2	5.05	121.93	118.90
25	YA	1101	U	N1-C2-O2	5.05	126.33	122.80
1	XA	442	C	C6-N1-C1'	-5.05	114.74	120.80
1	QA	633	G	C4-N9-C1'	5.05	133.06	126.50
25	RA	336	C	N1-C2-O2	5.05	121.93	118.90
26	RB	27	C	C2-N1-C1'	5.05	124.35	118.80
25	RA	2857	G	O5'-P-OP2	-5.04	101.16	105.70
25	YA	1501	C	N1-C2-O2	5.04	121.93	118.90
25	RA	312	G	C8-N9-C1'	-5.04	120.44	127.00
1	XA	347	G	C6-C5-N7	-5.04	127.37	130.40
1	QA	442	C	C5-C6-N1	5.04	123.52	121.00
25	RA	34	C	N1-C2-O2	5.04	121.92	118.90
25	RA	693	C	C6-N1-C2	-5.04	118.28	120.30
25	RA	1102	C	C5-C6-N1	5.04	123.52	121.00
25	RA	2766	G	N3-C4-C5	-5.04	126.08	128.60
1	XA	778	G	OP2-P-O3'	5.04	116.29	105.20
1	QA	1030(C)	C	C6-N1-C2	-5.04	118.28	120.30
25	RA	2126	A	P-O3'-C3'	5.04	125.75	119.70
25	YA	272(F)	C	C6-N1-C1'	5.04	126.85	120.80
1	QA	940	C	C6-N1-C2	-5.04	118.28	120.30
3	QC	101	LEU	CA-CB-CG	5.04	126.89	115.30
25	RA	1788	C	C6-N1-C2	-5.04	118.28	120.30
25	YA	1293	C	C5-C6-N1	5.04	123.52	121.00
25	RA	1333	C	C6-N1-C2	-5.04	118.29	120.30
25	RA	2247	A	C8-N9-C4	-5.04	103.78	105.80
25	YA	254	G	C8-N9-C4	-5.04	104.39	106.40
25	YA	2808	U	N1-C2-O2	5.04	126.33	122.80
22	QV	34	C	C6-N1-C2	-5.03	118.29	120.30
25	RA	546	C	N3-C2-O2	-5.03	118.38	121.90
25	RA	2271	G	C6-C5-N7	-5.03	127.38	130.40
25	YA	1253	A	O4'-C1'-N9	-5.03	104.17	108.20
25	YA	2259	G	OP2-P-O3'	5.03	116.27	105.20
25	YA	2260	C	C5-C6-N1	5.03	123.52	121.00
25	YA	2260	C	N1-C2-O2	5.03	121.92	118.90
1	XA	575	G	N3-C4-N9	-5.03	122.98	126.00
25	RA	361	G	C6-N1-C2	-5.03	122.08	125.10
25	RA	2128	C	N1-C2-O2	5.03	121.92	118.90
25	YA	220	G	C8-N9-C4	-5.03	104.39	106.40
25	YA	686	G	OP1-P-OP2	5.03	127.15	119.60
25	YA	1190	G	C8-N9-C1'	5.03	133.54	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	ZA	1	C	C6-N1-C1'	-5.03	114.76	120.80
25	RA	2506	U	C2-N1-C1'	5.03	123.73	117.70
25	YA	2086	U	C6-N1-C1'	5.03	128.24	121.20
1	QA	18	C	C5-C6-N1	5.03	123.51	121.00
1	QA	337	C	C5-C6-N1	5.03	123.51	121.00
25	RA	1233	C	N3-C2-O2	-5.03	118.38	121.90
25	YA	836	G	C8-N9-C4	-5.03	104.39	106.40
1	QA	1030(C)	C	N3-C2-O2	-5.03	118.38	121.90
25	RA	784	A	OP1-P-O3'	5.03	116.26	105.20
25	RA	2153	G	N3-C2-N2	5.03	123.42	119.90
1	XA	1510	U	N3-C2-O2	-5.03	118.68	122.20
25	YA	1633	G	OP2-P-O3'	5.03	116.26	105.20
1	QA	1197	G	O5'-P-OP1	-5.02	101.18	105.70
25	YA	272(G)	C	C6-N1-C2	-5.02	118.29	120.30
25	YA	1822	G	C4-N9-C1'	-5.02	119.97	126.50
1	QA	1086	U	N3-C2-O2	-5.02	118.68	122.20
25	RA	2153	G	C4-C5-C6	5.02	121.81	118.80
25	RA	2874	C	C6-N1-C1'	5.02	126.83	120.80
1	XA	993	G	N3-C4-C5	-5.02	126.09	128.60
25	YA	783	A	N3-C4-N9	5.02	131.42	127.40
25	YA	833	U	C5-C6-N1	5.02	125.21	122.70
25	YA	2267	A	N1-C2-N3	-5.02	126.79	129.30
1	XA	1263	C	N1-C2-O2	5.02	121.91	118.90
1	XA	911	U	C2-N1-C1'	-5.02	111.68	117.70
25	YA	413	C	C5-C6-N1	5.02	123.51	121.00
25	YA	2443	C	N1-C2-O2	5.02	121.91	118.90
1	QA	1369	C	N3-C2-O2	-5.02	118.39	121.90
25	RA	679	C	C6-N1-C2	-5.02	118.29	120.30
25	YA	1829	A	C8-N9-C4	-5.02	103.79	105.80
25	RA	2205	C	C6-N1-C1'	5.02	126.82	120.80
25	RA	2546	U	C2-N1-C1'	-5.02	111.68	117.70
25	YA	802	A	OP2-P-O3'	5.02	116.23	105.20
1	XA	356	A	C5-C6-N1	5.01	120.21	117.70
25	YA	1038	C	C5-C6-N1	5.01	123.51	121.00
25	YA	2099	U	N3-C2-O2	-5.01	118.69	122.20
1	QA	737	A	N7-C8-N9	5.01	116.31	113.80
1	XA	1109	C	N3-C2-O2	-5.01	118.39	121.90
25	RA	1241	A	OP1-P-OP2	-5.01	112.08	119.60
25	RA	1653	G	C4-N9-C1'	5.01	133.01	126.50
25	RA	1108	U	C5-C6-N1	5.01	125.20	122.70
25	YA	814	C	C2-N1-C1'	5.01	124.31	118.80
25	YA	1828	G	C8-N9-C4	-5.01	104.40	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2318	G	N7-C8-N9	5.01	115.61	113.10
25	YA	1603	A	OP1-P-OP2	-5.00	112.09	119.60
25	YA	2207	G	C6-C5-N7	-5.00	127.40	130.40
1	QA	985	C	C6-N1-C2	-5.00	118.30	120.30
25	RA	1222	C	C6-N1-C2	-5.00	118.30	120.30
25	YA	1082	U	C6-N1-C2	-5.00	118.00	121.00
1	XA	505	G	N3-C4-N9	5.00	129.00	126.00
1	XA	1078	U	N3-C2-O2	-5.00	118.70	122.20

There are no chirality outliers.

All (858) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	QB	101	MET	Peptide
2	QB	104	ASN	Peptide
2	QB	121	LEU	Peptide
2	QB	124	SER	Peptide
2	QB	13	ALA	Peptide
2	QB	15	VAL	Peptide
2	QB	156	LYS	Peptide
2	QB	157	ARG	Peptide
2	QB	17	PHE	Peptide
2	QB	186	ALA	Peptide
2	QB	19	HIS	Peptide
2	QB	192	SER	Peptide
2	QB	200	ILE	Peptide
2	QB	206	ASP	Peptide
2	QB	207	ALA	Peptide
2	QB	21	ARG	Peptide
2	QB	227	GLY	Peptide
2	QB	230	VAL	Peptide
2	QB	232	PRO	Peptide
2	QB	233	SER	Peptide
2	QB	234	PRO	Peptide
2	QB	239	VAL	Peptide
2	QB	24	TRP	Peptide
2	QB	28	PHE	Peptide
2	QB	34	ALA	Peptide
2	QB	35	GLU	Peptide
2	QB	38	GLY	Peptide
2	QB	71	VAL	Peptide
2	QB	95	GLN	Peptide

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Mol	Chain	Res	Type	Group
2	QB	96	ARG	Peptide
3	QC	107	GLN	Peptide
3	QC	11	ARG	Peptide
3	QC	124	ILE	Peptide
3	QC	126	ARG	Peptide
3	QC	144	SER	Peptide
3	QC	147	LYS	Peptide
3	QC	166	GLU	Peptide
3	QC	2	GLY	Peptide
3	QC	25	GLY	Peptide
3	QC	3	ASN	Peptide
3	QC	41	GLY	Peptide
3	QC	44	GLU	Peptide
3	QC	48	TYR	Peptide
3	QC	51	GLY	Peptide
3	QC	59	ARG	Peptide
3	QC	6	HIS	Peptide
3	QC	61	ALA	Peptide
3	QC	62	ASP	Peptide
3	QC	75	VAL	Peptide
3	QC	78	GLY	Peptide
3	QC	79	ARG	Peptide
3	QC	83	ARG	Peptide
3	QC	86	VAL	Peptide
3	QC	94	LEU	Peptide
4	QD	153	ARG	Peptide
4	QD	154	ASN	Peptide
4	QD	165	MET	Peptide
4	QD	171	GLY	Peptide
4	QD	175	SER	Peptide
4	QD	205	GLU	Peptide
4	QD	49	ARG	Peptide
4	QD	50	ARG	Peptide
4	QD	6	GLY	Peptide
4	QD	66	ARG	Peptide
4	QD	69	GLY	Peptide
4	QD	81	GLU	Peptide
4	QD	82	ALA	Peptide
4	QD	83	SER	Peptide
4	QD	84	LYS	Peptide
4	QD	87	GLY	Peptide
4	QD	88	VAL	Peptide

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Mol	Chain	Res	Type	Group
4	QD	90	GLY	Peptide
5	QE	103	GLY	Peptide
5	QE	11	ILE	Peptide
5	QE	116	THR	Peptide
5	QE	126	ARG	Peptide
5	QE	137	GLU	Peptide
5	QE	17	ALA	Peptide
5	QE	36	ASP	Peptide
5	QE	48	ALA	Peptide
5	QE	49	PRO	Peptide
5	QE	8	GLU	Peptide
5	QE	83	GLU	Peptide
5	QE	93	PRO	Peptide
5	QE	97	GLY	Peptide
6	QF	36	ARG	Peptide
6	QF	71	ARG	Peptide
6	QF	86	ARG	Peptide
6	QF	87	ARG	Peptide
6	QF	98	LEU	Peptide
6	QF	99	ALA	Peptide
7	QG	113	GLU	Peptide
7	QG	131	LYS	Peptide
7	QG	132	GLY	Peptide
7	QG	151	TYR	Peptide
7	QG	2	ALA	Peptide
7	QG	37	ASN	Peptide
7	QG	55	GLY	Peptide
7	QG	7	ALA	Peptide
7	QG	97	GLN	Peptide
7	QG	99	LEU	Peptide
8	QH	115	SER	Peptide
8	QH	118	VAL	Peptide
8	QH	124	ALA	Peptide
8	QH	137	VAL	Peptide
8	QH	2	LEU	Peptide
8	QH	27	PRO	Peptide
8	QH	28	ALA	Peptide
8	QH	42	GLU	Peptide
8	QH	71	GLY	Peptide
8	QH	76	PRO	Peptide
8	QH	78	GLN	Peptide
8	QH	81	HIS	Peptide

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Mol	Chain	Res	Type	Group
8	QH	91	ARG	Peptide
8	QH	96	GLY	Peptide
9	QI	102	LEU	Peptide
9	QI	110	GLU	Peptide
9	QI	118	LYS	Peptide
9	QI	119	ALA	Peptide
9	QI	123	PRO	Peptide
9	QI	124	GLN	Peptide
9	QI	125	TYR	Peptide
9	QI	126	SER	Peptide
9	QI	16	ARG	Peptide
9	QI	2	GLU	Peptide
9	QI	24	GLY	Peptide
9	QI	30	GLY	Peptide
9	QI	38	GLN	Peptide
9	QI	39	GLY	Peptide
9	QI	68	GLY	Peptide
9	QI	69	GLY	Peptide
9	QI	89	ASN	Peptide
9	QI	91	ASP	Peptide
9	QI	92	TYR	Peptide
9	QI	93	ARG	Peptide
9	QI	98	PRO	Peptide
9	QI	99	LEU	Peptide
10	QJ	100	THR	Peptide
10	QJ	12	ASP	Peptide
10	QJ	14	LYS	Peptide
10	QJ	31	GLY	Peptide
10	QJ	39	PRO	Peptide
10	QJ	85	LEU	Peptide
10	QJ	90	LEU	Peptide
10	QJ	91	PRO	Peptide
10	QJ	92	THR	Peptide
10	QJ	96	ILE	Peptide
11	QK	101	SER	Peptide
11	QK	103	LEU	Peptide
11	QK	104	GLN	Peptide
11	QK	116	HIS	Peptide
11	QK	38	ASN	Peptide
11	QK	87	THR	Peptide
12	QL	104	VAL	Peptide
12	QL	105	TYR	Peptide

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Mol	Chain	Res	Type	Group
12	QL	106	ASP	Peptide
12	QL	107	ALA	Peptide
12	QL	125	PRO	Peptide
12	QL	15	ARG	Peptide
12	QL	46	LYS	Peptide
12	QL	57	LYS	Peptide
12	QL	72	GLY	Peptide
12	QL	82	VAL	Peptide
12	QL	91	LYS	Peptide
12	QL	92	0TD	Peptide
12	QL	99	HIS	Peptide
13	QM	105	THR	Peptide
13	QM	107	ALA	Peptide
13	QM	112	GLY	Peptide
13	QM	3	ARG	Peptide
13	QM	4	ILE	Peptide
13	QM	47	ASP	Peptide
13	QM	6	GLY	Peptide
13	QM	63	THR	Peptide
13	QM	66	LEU	Peptide
13	QM	83	ASP	Peptide
13	QM	97	PRO	Peptide
13	QM	98	VAL	Peptide
14	QN	28	GLY	Peptide
14	QN	54	PRO	Peptide
14	QN	55	GLY	Peptide
14	QN	60	SER	Peptide
14	QN	7	ILE	Peptide
15	QO	10	LYS	Peptide
15	QO	18	PHE	Peptide
15	QO	21	ASP	Peptide
15	QO	86	GLY	Peptide
16	QP	15	PRO	Peptide
16	QP	19	ILE	Peptide
16	QP	25	ARG	Peptide
16	QP	30	GLY	Peptide
16	QP	50	LYS	Peptide
16	QP	51	VAL	Peptide
16	QP	62	VAL	Peptide
16	QP	69	THR	Peptide
16	QP	77	ALA	Peptide
16	QP	81	ARG	Peptide

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Mol	Chain	Res	Type	Group
17	QQ	2	PRO	Peptide
17	QQ	37	LYS	Peptide
17	QQ	43	LEU	Peptide
17	QQ	48	GLU	Peptide
17	QQ	52	LYS	Peptide
17	QQ	66	SER	Peptide
17	QQ	8	GLY	Peptide
18	QR	21	LYS	Peptide
18	QR	22	VAL	Peptide
18	QR	80	PRO	Peptide
19	QS	10	PHE	Peptide
19	QS	23	ASN	Peptide
19	QS	3	ARG	Peptide
19	QS	35	SER	Peptide
19	QS	5	LEU	Peptide
19	QS	53	ASN	Peptide
19	QS	55	LYS	Peptide
19	QS	68	GLY	Peptide
19	QS	81	ARG	Peptide
19	QS	83	HIS	Peptide
20	QT	100	ILE	Peptide
20	QT	101	GLY	Peptide
20	QT	48	LYS	Peptide
20	QT	8	ARG	Peptide
20	QT	9	ASN	Peptide
20	QT	97	ALA	Peptide
21	QU	19	GLY	Peptide
21	QU	2	GLY	Peptide
21	QU	23	PRO	Peptide
46	R0	18	ALA	Peptide
46	R0	31	VAL	Peptide
46	R0	72	ARG	Peptide
46	R0	83	PRO	Peptide
46	R0	9	SER	Peptide
47	R1	10	LYS	Peptide
47	R1	11	ARG	Peptide
47	R1	31	GLY	Peptide
47	R1	7	ILE	Peptide
47	R1	82	LEU	Peptide
48	R2	15	LYS	Peptide
48	R2	57	ILE	Peptide
48	R2	69	ARG	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
49	R3	53	LEU	Peptide
49	R3	59	VAL	Peptide
50	R4	28	LYS	Peptide
50	R4	43	TYR	Peptide
50	R4	45	GLY	Peptide
50	R4	46	GLN	Peptide
50	R4	51	ASP	Peptide
50	R4	57	GLU	Peptide
50	R4	59	PHE	Peptide
50	R4	60	GLN	Peptide
50	R4	62	ARG	Peptide
50	R4	63	TYR	Peptide
51	R5	24	ALA	Peptide
51	R5	5	PRO	Peptide
52	R6	11	LEU	Peptide
52	R6	25	LYS	Peptide
52	R6	35	GLU	Peptide
52	R6	43	CYS	Peptide
52	R6	52	VAL	Peptide
53	R7	25	PRO	Peptide
53	R7	3	ARG	Peptide
53	R7	38	GLY	Peptide
53	R7	46	VAL	Peptide
54	R8	51	ALA	Peptide
55	R9	1	MET	Peptide
55	R9	10	ILE	Peptide
55	R9	21	GLY	Peptide
55	R9	4	ARG	Peptide
27	RD	100	GLY	Peptide
27	RD	115	GLN	Peptide
27	RD	126	GLN	Peptide
27	RD	152	GLY	Peptide
27	RD	191	ALA	Peptide
27	RD	192	THR	Peptide
27	RD	2	ALA	Peptide
27	RD	227	ASN	Peptide
27	RD	233	HIS	Peptide
27	RD	238	GLY	Peptide
27	RD	240	ALA	Peptide
27	RD	246	PRO	Peptide
27	RD	248	SER	Peptide
27	RD	255	LYS	Peptide

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Mol	Chain	Res	Type	Group
27	RD	26	LYS	Peptide
27	RD	71	ASP	Peptide
27	RD	9	TYR	Peptide
28	RE	123	ALA	Peptide
28	RE	125	GLY	Peptide
28	RE	139	GLY	Peptide
28	RE	14	ILE	Peptide
28	RE	142	GLY	Peptide
28	RE	146	THR	Peptide
28	RE	147	PRO	Peptide
28	RE	161	GLY	Peptide
28	RE	186	GLY	Peptide
28	RE	23	VAL	Peptide
28	RE	29	GLY	Peptide
28	RE	53	PRO	Peptide
28	RE	56	PRO	Peptide
28	RE	76	ARG	Peptide
29	RF	126	VAL	Peptide
29	RF	128	ALA	Peptide
29	RF	129	PHE	Peptide
29	RF	130	ALA	Peptide
29	RF	150	GLY	Peptide
29	RF	167	ALA	Peptide
29	RF	173	VAL	Peptide
29	RF	180	GLY	Peptide
29	RF	182	ASN	Peptide
29	RF	29	ASN	Peptide
29	RF	6	VAL	Peptide
29	RF	68	LYS	Peptide
29	RF	80	ALA	Peptide
29	RF	83	PHE	Peptide
29	RF	94	PRO	Peptide
30	RG	109	VAL	Peptide
30	RG	115	ARG	Peptide
30	RG	116	ASP	Peptide
30	RG	118	ARG	Peptide
30	RG	136	ARG	Peptide
30	RG	141	PHE	Peptide
30	RG	143	GLU	Peptide
30	RG	144	ILE	Peptide
30	RG	149	VAL	Peptide
30	RG	151	ALA	Peptide

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Mol	Chain	Res	Type	Group
30	RG	152	LEU	Peptide
30	RG	162	THR	Peptide
30	RG	176	LEU	Peptide
30	RG	180	PHE	Peptide
30	RG	181	ARG	Peptide
30	RG	2	PRO	Peptide
30	RG	39	ILE	Peptide
30	RG	4	ASP	Peptide
30	RG	40	ASN	Peptide
30	RG	52	ILE	Peptide
30	RG	58	GLN	Peptide
30	RG	75	LYS	Peptide
30	RG	76	SER	Peptide
30	RG	78	SER	Peptide
30	RG	80	PHE	Peptide
30	RG	82	LEU	Peptide
30	RG	84	LYS	Peptide
30	RG	88	ILE	Peptide
30	RG	95	ARG	Peptide
31	RH	105	LEU	Peptide
31	RH	117	PRO	Peptide
31	RH	13	LYS	Peptide
31	RH	135	GLY	Peptide
31	RH	14	GLY	Peptide
31	RH	150	ALA	Peptide
31	RH	154	PRO	Peptide
31	RH	159	GLU	Peptide
31	RH	164	TYR	Peptide
31	RH	167	GLU	Peptide
31	RH	168	PRO	Peptide
31	RH	174	GLY	Peptide
31	RH	30	LYS	Peptide
31	RH	33	LEU	Peptide
31	RH	55	PRO	Peptide
31	RH	7	LEU	Peptide
31	RH	8	PRO	Peptide
31	RH	84	SER	Peptide
31	RH	91	GLY	Peptide
31	RH	93	GLY	Peptide
32	RI	103	ARG	Peptide
32	RI	104	GLN	Peptide
32	RI	11	ASN	Peptide

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Mol	Chain	Res	Type	Group
32	RI	116	LEU	Peptide
32	RI	119	PRO	Peptide
32	RI	12	LEU	Peptide
32	RI	121	LYS	Peptide
32	RI	130	TYR	Peptide
32	RI	132	PRO	Peptide
32	RI	135	GLU	Peptide
32	RI	136	VAL	Peptide
32	RI	14	ASP	Peptide
32	RI	142	VAL	Peptide
32	RI	143	SER	Peptide
32	RI	145	VAL	Peptide
32	RI	15	VAL	Peptide
32	RI	16	GLY	Peptide
32	RI	41	GLU	Peptide
32	RI	42	SER	Peptide
32	RI	5	LEU	Peptide
32	RI	83	ALA	Peptide
32	RI	86	THR	Peptide
32	RI	9	LEU	Peptide
32	RI	94	ALA	Peptide
32	RI	96	ASP	Peptide
32	RI	97	ILE	Peptide
33	RN	138	LEU	Peptide
33	RN	18	ALA	Peptide
33	RN	22	THR	Peptide
33	RN	26	LEU	Peptide
33	RN	41	ASP	Peptide
33	RN	46	VAL	Peptide
33	RN	6	PRO	Peptide
34	RO	109	LYS	Peptide
34	RO	27	GLY	Peptide
34	RO	3	GLN	Peptide
34	RO	36	GLY	Peptide
34	RO	41	ALA	Peptide
35	RP	100	LEU	Peptide
35	RP	117	GLU	Peptide
35	RP	118	GLY	Peptide
35	RP	120	ALA	Peptide
35	RP	121	LYS	Peptide
35	RP	133	SER	Peptide
35	RP	134	ALA	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
35	RP	18	ARG	Peptide
35	RP	21	ARG	Peptide
35	RP	22	GLY	Peptide
35	RP	28	GLY	Peptide
35	RP	30	THR	Peptide
35	RP	35	HIS	Peptide
35	RP	37	GLY	Peptide
35	RP	42	SER	Peptide
35	RP	43	GLY	Peptide
35	RP	44	GLY	Peptide
35	RP	54	GLY	Peptide
35	RP	6	LEU	Peptide
35	RP	72	PRO	Peptide
35	RP	76	LYS	Peptide
35	RP	92	GLU	Peptide
35	RP	93	GLY	Peptide
36	RQ	108	GLY	Peptide
36	RQ	15	GLY	Peptide
36	RQ	59	ARG	Peptide
36	RQ	98	LYS	Peptide
37	RR	13	HIS	Peptide
37	RR	2	ARG	Peptide
37	RR	6	SER	Peptide
37	RR	7	GLY	Peptide
37	RR	70	LEU	Peptide
38	RS	5	THR	Peptide
38	RS	60	GLY	Peptide
38	RS	7	TYR	Peptide
38	RS	84	GLN	Peptide
38	RS	95	HIS	Peptide
39	RT	111	ARG	Peptide
39	RT	130	ALA	Peptide
39	RT	27	THR	Peptide
39	RT	35	LYS	Peptide
39	RT	36	GLU	Peptide
40	RU	66	ASN	Peptide
40	RU	73	GLY	Peptide
40	RU	83	LEU	Peptide
40	RU	87	GLY	Peptide
40	RU	97	ASP	Peptide
40	RU	98	LEU	Peptide
41	RV	30	GLY	Peptide

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Mol	Chain	Res	Type	Group
41	RV	33	VAL	Peptide
41	RV	34	GLU	Peptide
41	RV	41	GLY	Peptide
41	RV	49	THR	Peptide
41	RV	50	PRO	Peptide
41	RV	54	GLY	Peptide
41	RV	98	GLU	Peptide
42	RW	111	HIS	Peptide
42	RW	3	ALA	Peptide
43	RX	28	PHE	Peptide
43	RX	3	THR	Peptide
43	RX	86	GLY	Peptide
43	RX	94	GLY	Peptide
44	RY	101	LYS	Peptide
44	RY	106	LEU	Peptide
44	RY	3	VAL	Peptide
44	RY	39	VAL	Peptide
44	RY	52	SER	Peptide
44	RY	83	THR	Peptide
45	RZ	1	MET	Peptide
45	RZ	10	ARG	Peptide
45	RZ	11	GLU	Peptide
45	RZ	12	GLY	Peptide
45	RZ	135	GLU	Peptide
45	RZ	143	GLY	Peptide
45	RZ	145	GLU	Peptide
45	RZ	147	GLY	Peptide
45	RZ	47	VAL	Peptide
45	RZ	50	GLN	Peptide
45	RZ	51	ALA	Peptide
45	RZ	52	SER	Peptide
45	RZ	76	LEU	Peptide
1	XA	88	A	Sidechain
2	XB	130	ARG	Peptide
2	XB	154	LEU	Peptide
2	XB	168	THR	Peptide
2	XB	18	GLY	Peptide
2	XB	19	HIS	Peptide
2	XB	190	THR	Peptide
2	XB	199	TYR	Peptide
2	XB	21	ARG	Peptide
2	XB	211	ILE	Peptide

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Mol	Chain	Res	Type	Group
2	XB	226	ARG	Peptide
2	XB	227	GLY	Peptide
2	XB	23	ARG	Peptide
2	XB	230	VAL	Peptide
2	XB	232	PRO	Peptide
2	XB	233	SER	Peptide
2	XB	234	PRO	Peptide
2	XB	237	ALA	Peptide
2	XB	238	LEU	Peptide
2	XB	239	VAL	Peptide
2	XB	28	PHE	Peptide
2	XB	66	GLY	Peptide
2	XB	74	LYS	Peptide
2	XB	95	GLN	Peptide
3	XC	103	VAL	Peptide
3	XC	11	ARG	Peptide
3	XC	126	ARG	Peptide
3	XC	144	SER	Peptide
3	XC	145	GLY	Peptide
3	XC	147	LYS	Peptide
3	XC	15	THR	Peptide
3	XC	166	GLU	Peptide
3	XC	189	ALA	Peptide
3	XC	2	GLY	Peptide
3	XC	23	TYR	Peptide
3	XC	25	GLY	Peptide
3	XC	3	ASN	Peptide
3	XC	59	ARG	Peptide
3	XC	62	ASP	Peptide
3	XC	9	GLY	Peptide
4	XD	126	ILE	Peptide
4	XD	128	VAL	Peptide
4	XD	165	MET	Peptide
4	XD	3	ARG	Peptide
4	XD	4	TYR	Peptide
4	XD	5	ILE	Peptide
4	XD	69	GLY	Peptide
4	XD	88	VAL	Peptide
5	XE	10	MET	Peptide
5	XE	101	ILE	Peptide
5	XE	11	ILE	Peptide
5	XE	114	GLY	Peptide

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Mol	Chain	Res	Type	Group
5	XE	12	LEU	Peptide
5	XE	120	THR	Peptide
5	XE	121	LYS	Peptide
5	XE	13	ILE	Peptide
5	XE	17	ALA	Peptide
5	XE	18	ARG	Peptide
5	XE	19	MET	Peptide
5	XE	21	ALA	Peptide
5	XE	23	GLY	Peptide
5	XE	95	ALA	Peptide
5	XE	98	THR	Peptide
6	XF	35	ALA	Peptide
6	XF	70	ASP	Peptide
6	XF	93	SER	Peptide
6	XF	98	LEU	Peptide
6	XF	99	ALA	Peptide
7	XG	132	GLY	Peptide
7	XG	152	ALA	Peptide
7	XG	31	MET	Peptide
7	XG	6	ARG	Peptide
7	XG	7	ALA	Peptide
7	XG	79	ARG	Peptide
7	XG	8	GLU	Peptide
7	XG	83	ALA	Peptide
7	XG	84	ASN	Peptide
7	XG	89	MET	Peptide
8	XH	101	PRO	Peptide
8	XH	103	VAL	Peptide
8	XH	137	VAL	Peptide
8	XH	25	ASP	Peptide
8	XH	27	PRO	Peptide
8	XH	48	TYR	Peptide
9	XI	16	ARG	Peptide
9	XI	24	GLY	Peptide
9	XI	42	ARG	Peptide
9	XI	52	ALA	Peptide
9	XI	6	GLY	Peptide
9	XI	69	GLY	Peptide
9	XI	89	ASN	Peptide
9	XI	9	ARG	Peptide
9	XI	92	TYR	Peptide
10	XJ	31	GLY	Peptide

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Mol	Chain	Res	Type	Group
10	XJ	32	ALA	Peptide
10	XJ	41	PRO	Peptide
10	XJ	53	PRO	Peptide
10	XJ	54	PHE	Peptide
10	XJ	55	LYS	Peptide
10	XJ	91	PRO	Peptide
10	XJ	93	GLY	Peptide
11	XK	104	GLN	Peptide
11	XK	106	LYS	Peptide
11	XK	107	SER	Peptide
11	XK	117	ASN	Peptide
11	XK	125	PHE	Peptide
11	XK	47	VAL	Peptide
11	XK	80	VAL	Peptide
11	XK	84	VAL	Peptide
11	XK	85	ARG	Peptide
11	XK	86	GLY	Peptide
11	XK	90	GLY	Peptide
12	XL	104	VAL	Peptide
12	XL	13	LYS	Peptide
12	XL	15	ARG	Peptide
12	XL	34	ARG	Peptide
12	XL	74	GLY	Peptide
12	XL	80	HIS	Peptide
12	XL	86	ARG	Peptide
12	XL	87	GLY	Peptide
12	XL	91	LYS	Peptide
12	XL	99	HIS	Peptide
13	XM	105	THR	Peptide
13	XM	25	ILE	Peptide
13	XM	4	ILE	Peptide
13	XM	41	PRO	Peptide
13	XM	5	ALA	Peptide
13	XM	6	GLY	Peptide
13	XM	66	LEU	Peptide
14	XN	13	THR	Peptide
14	XN	20	ALA	Peptide
14	XN	21	TYR	Peptide
14	XN	22	THR	Peptide
14	XN	27	CYS	Peptide
14	XN	28	GLY	Peptide
15	XO	20	GLY	Peptide

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Mol	Chain	Res	Type	Group
15	XO	22	THR	Peptide
15	XO	88	ARG	Peptide
16	XP	15	PRO	Peptide
16	XP	36	ILE	Peptide
16	XP	52	ASP	Peptide
16	XP	62	VAL	Peptide
17	XQ	19	VAL	Peptide
17	XQ	32	TYR	Peptide
17	XQ	39	SER	Peptide
17	XQ	76	LEU	Peptide
17	XQ	8	GLY	Peptide
18	XR	27	GLY	Peptide
19	XS	25	LYS	Peptide
19	XS	26	GLY	Peptide
19	XS	27	GLU	Peptide
19	XS	28	LYS	Peptide
19	XS	29	ARG	Peptide
19	XS	65	ASN	Peptide
19	XS	66	MET	Peptide
19	XS	8	GLY	Peptide
20	XT	100	ILE	Peptide
20	XT	47	GLY	Peptide
20	XT	48	LYS	Peptide
20	XT	96	GLY	Peptide
21	XU	18	TYR	Peptide
21	XU	2	GLY	Peptide
46	Y0	8	GLY	Peptide
46	Y0	80	HIS	Peptide
46	Y0	83	PRO	Peptide
47	Y1	31	GLY	Peptide
47	Y1	48	LYS	Peptide
47	Y1	7	ILE	Peptide
47	Y1	82	LEU	Peptide
48	Y2	42	GLY	Peptide
49	Y3	10	LYS	Peptide
49	Y3	53	LEU	Peptide
49	Y3	56	VAL	Peptide
49	Y3	59	VAL	Peptide
50	Y4	11	PRO	Peptide
50	Y4	41	PRO	Peptide
50	Y4	46	GLN	Peptide
50	Y4	48	ARG	Peptide

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Mol	Chain	Res	Type	Group
50	Y4	50	VAL	Peptide
50	Y4	52	THR	Peptide
50	Y4	54	GLY	Peptide
50	Y4	55	ARG	Peptide
50	Y4	57	GLU	Peptide
50	Y4	61	ARG	Peptide
50	Y4	62	ARG	Peptide
51	Y5	22	HIS	Peptide
51	Y5	24	ALA	Peptide
51	Y5	37	LYS	Peptide
52	Y6	16	CYS	Peptide
52	Y6	2	ALA	Peptide
52	Y6	39	TYR	Peptide
52	Y6	43	CYS	Peptide
52	Y6	5	VAL	Peptide
53	Y7	47	ARG	Peptide
53	Y7	6	GLN	Peptide
54	Y8	10	ALA	Peptide
54	Y8	27	THR	Peptide
54	Y8	29	LYS	Peptide
54	Y8	51	ALA	Peptide
55	Y9	5	ALA	Peptide
25	YA	277	C	Sidechain
27	YD	112	GLN	Peptide
27	YD	227	ASN	Peptide
27	YD	241	PRO	Peptide
27	YD	246	PRO	Peptide
27	YD	249	PRO	Peptide
27	YD	250	TRP	Peptide
27	YD	251	GLY	Peptide
27	YD	83	GLU	Peptide
27	YD	98	VAL	Peptide
28	YE	1	MET	Peptide
28	YE	125	GLY	Peptide
28	YE	130	GLY	Peptide
28	YE	139	GLY	Peptide
28	YE	146	THR	Peptide
28	YE	161	GLY	Peptide
28	YE	162	ALA	Peptide
28	YE	167	VAL	Peptide
28	YE	18	ASP	Peptide
28	YE	186	GLY	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
28	YE	187	ALA	Peptide
28	YE	23	VAL	Peptide
28	YE	31	CYS	Peptide
28	YE	32	PRO	Peptide
28	YE	71	GLY	Peptide
28	YE	74	PRO	Peptide
29	YF	12	LEU	Peptide
29	YF	128	ALA	Peptide
29	YF	129	PHE	Peptide
29	YF	153	SER	Peptide
29	YF	167	ALA	Peptide
29	YF	176	LEU	Peptide
29	YF	188	ARG	Peptide
29	YF	20	LEU	Peptide
29	YF	21	ALA	Peptide
29	YF	61	GLY	Peptide
29	YF	63	LYS	Peptide
29	YF	75	HIS	Peptide
29	YF	80	ALA	Peptide
29	YF	83	PHE	Peptide
29	YF	87	GLY	Peptide
29	YF	88	VAL	Peptide
29	YF	89	VAL	Peptide
29	YF	91	GLY	Peptide
29	YF	93	LYS	Peptide
30	YG	109	VAL	Peptide
30	YG	114	ILE	Peptide
30	YG	115	ARG	Peptide
30	YG	116	ASP	Peptide
30	YG	117	PHE	Peptide
30	YG	127	GLY	Peptide
30	YG	135	LEU	Peptide
30	YG	136	ARG	Peptide
30	YG	151	ALA	Peptide
30	YG	181	ARG	Peptide
30	YG	2	PRO	Peptide
30	YG	3	LEU	Peptide
30	YG	35	GLU	Peptide
30	YG	4	ASP	Peptide
30	YG	48	GLU	Peptide
30	YG	52	ILE	Peptide
30	YG	82	LEU	Peptide

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Mol	Chain	Res	Type	Group
30	YG	85	GLY	Peptide
30	YG	95	ARG	Peptide
31	YH	111	HIS	Peptide
31	YH	152	ARG	Peptide
31	YH	20	ALA	Peptide
31	YH	3	ARG	Peptide
31	YH	82	GLY	Peptide
32	YI	11	ASN	Peptide
32	YI	114	LEU	Peptide
32	YI	116	LEU	Peptide
32	YI	117	GLU	Peptide
32	YI	118	LYS	Peptide
32	YI	119	PRO	Peptide
32	YI	121	LYS	Peptide
32	YI	122	GLU	Peptide
32	YI	128	LEU	Peptide
32	YI	131	LYS	Peptide
32	YI	132	PRO	Peptide
32	YI	136	VAL	Peptide
32	YI	14	ASP	Peptide
32	YI	142	VAL	Peptide
32	YI	144	VAL	Peptide
32	YI	15	VAL	Peptide
32	YI	82	ARG	Peptide
32	YI	9	LEU	Peptide
32	YI	90	GLY	Peptide
33	YN	138	LEU	Peptide
33	YN	18	ALA	Peptide
33	YN	22	THR	Peptide
33	YN	39	ARG	Peptide
33	YN	6	PRO	Peptide
34	YO	39	ILE	Peptide
35	YP	1	MET	Peptide
35	YP	107	LYS	Peptide
35	YP	11	GLY	Peptide
35	YP	118	GLY	Peptide
35	YP	12	ALA	Peptide
35	YP	141	ALA	Peptide
35	YP	146	VAL	Peptide
35	YP	147	LEU	Peptide
35	YP	21	ARG	Peptide
35	YP	22	GLY	Peptide

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Mol	Chain	Res	Type	Group
35	YP	28	GLY	Peptide
35	YP	30	THR	Peptide
35	YP	35	HIS	Peptide
35	YP	37	GLY	Peptide
35	YP	50	ARG	Peptide
35	YP	6	LEU	Peptide
35	YP	70	GLN	Peptide
35	YP	98	GLU	Peptide
36	YQ	108	GLY	Peptide
36	YQ	19	GLY	Peptide
36	YQ	20	ALA	Peptide
36	YQ	28	ALA	Peptide
37	YR	117	VAL	Peptide
37	YR	2	ARG	Peptide
37	YR	4	LEU	Peptide
37	YR	6	SER	Peptide
37	YR	7	GLY	Peptide
38	YS	111	GLU	Peptide
38	YS	19	LYS	Peptide
38	YS	20	ARG	Peptide
38	YS	81	GLY	Peptide
38	YS	86	ALA	Peptide
39	YT	127	ALA	Peptide
39	YT	17	THR	Peptide
39	YT	27	THR	Peptide
39	YT	54	ARG	Peptide
39	YT	55	ASN	Peptide
40	YU	8	VAL	Peptide
41	YV	18	LEU	Peptide
41	YV	41	GLY	Peptide
41	YV	47	VAL	Peptide
41	YV	49	THR	Peptide
41	YV	50	PRO	Peptide
41	YV	54	GLY	Peptide
41	YV	62	LEU	Peptide
41	YV	71	LEU	Peptide
41	YV	98	GLU	Peptide
42	YW	111	HIS	Peptide
42	YW	2	GLU	Peptide
42	YW	78	GLU	Peptide
42	YW	79	GLY	Peptide
42	YW	99	ARG	Peptide

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Mol	Chain	Res	Type	Group
43	YX	68	ARG	Peptide
43	YX	70	LEU	Peptide
43	YX	94	GLY	Peptide
44	YY	10	GLY	Peptide
44	YY	100	ALA	Peptide
44	YY	106	LEU	Peptide
44	YY	39	VAL	Peptide
44	YY	52	SER	Peptide
44	YY	93	GLY	Peptide
45	YZ	106	GLY	Peptide
45	YZ	11	GLU	Peptide
45	YZ	110	GLY	Peptide
45	YZ	112	ARG	Peptide
45	YZ	12	GLY	Peptide
45	YZ	140	ASP	Peptide
45	YZ	142	SER	Peptide
45	YZ	143	GLY	Peptide
45	YZ	153	SER	Peptide
45	YZ	154	ASP	Peptide
45	YZ	166	SER	Peptide
45	YZ	167	PRO	Peptide
45	YZ	181	GLU	Peptide
45	YZ	182	LYS	Peptide
45	YZ	21	ALA	Peptide
45	YZ	22	GLY	Peptide
45	YZ	51	ALA	Peptide
45	YZ	52	SER	Peptide
45	YZ	62	PRO	Peptide
45	YZ	91	LEU	Peptide
45	YZ	92	SER	Peptide
45	YZ	93	ASP	Peptide

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32246	0	16294	685	0
1	XA	32331	0	16338	595	14

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	QB	1907	0	1958	42	0
2	XB	1915	0	1969	45	0
3	QC	1605	0	1668	48	0
3	XC	1605	0	1668	20	1
4	QD	1703	0	1762	81	0
4	XD	1703	0	1763	52	6
5	QE	1133	0	1190	32	0
5	XE	1133	0	1191	23	0
6	QF	837	0	852	11	1
6	XF	837	0	852	15	0
7	QG	1257	0	1296	34	0
7	XG	1257	0	1296	26	0
8	QH	1108	0	1165	33	0
8	XH	1108	0	1165	27	0
9	QI	1010	0	1037	36	0
9	XI	998	0	1024	29	0
10	QJ	801	0	849	29	0
10	XJ	777	0	815	16	0
11	QK	844	0	855	29	1
11	XK	844	0	855	22	0
12	QL	958	0	1047	23	0
12	XL	958	0	1047	19	0
13	QM	928	0	987	37	0
13	XM	916	0	973	20	0
14	QN	492	0	530	30	0
14	XN	492	0	528	11	0
15	QO	734	0	771	9	0
15	XO	734	0	771	10	0
16	QP	691	0	714	17	0
16	XP	691	0	714	19	0
17	QQ	823	0	891	24	0
17	XQ	823	0	891	20	0
18	QR	555	0	618	11	0
18	XR	555	0	618	8	0
19	QS	665	0	686	13	0
19	XS	665	0	686	20	0
20	QT	743	0	840	22	0
20	XT	759	0	861	24	0
21	QU	199	0	208	10	0
21	XU	199	0	208	8	0
22	QV	1644	0	835	29	0
22	XV	1644	0	836	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	QX	167	0	86	2	0
23	XX	233	0	120	4	0
24	QY	301	0	152	5	0
24	XY	341	0	175	8	0
25	RA	61819	0	31179	950	3
25	YA	61822	0	31176	961	3
26	RB	2572	0	1305	44	0
26	YB	2573	0	1306	28	0
27	RD	2144	0	2233	57	3
27	YD	2145	0	2234	53	0
28	RE	1563	0	1629	44	0
28	YE	1563	0	1628	44	0
29	RF	1585	0	1632	35	0
29	YF	1585	0	1632	43	0
30	RG	1474	0	1535	40	0
30	YG	1474	0	1535	29	0
31	RH	1336	0	1418	30	0
31	YH	1330	0	1413	28	13
32	RI	1136	0	1223	26	14
32	YI	1136	0	1223	13	0
33	RN	1121	0	1195	25	0
33	YN	1121	0	1195	16	0
34	RO	933	0	996	32	0
34	YO	933	0	996	22	0
35	RP	1139	0	1222	35	0
35	YP	1139	0	1222	36	0
36	RQ	1122	0	1179	33	0
36	YQ	1122	0	1179	20	0
37	RR	968	0	1033	22	0
37	YR	968	0	1033	17	0
38	RS	877	0	938	26	0
38	YS	877	0	938	28	0
39	RT	1091	0	1151	25	0
39	YT	1091	0	1151	32	0
40	RU	959	0	1019	28	0
40	YU	959	0	1019	25	0
41	RV	779	0	852	16	0
41	YV	779	0	852	13	6
42	RW	890	0	951	17	1
42	YW	890	0	951	17	0
43	RX	750	0	814	16	0
43	YX	750	0	814	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	RY	818	0	913	13	0
44	YY	818	0	911	15	14
45	RZ	1552	0	1573	31	0
45	YZ	1461	0	1493	24	0
46	R0	611	0	631	13	0
46	Y0	611	0	631	12	0
47	R1	763	0	848	15	0
47	Y1	763	0	848	11	0
48	R2	592	0	654	10	0
48	Y2	592	0	654	6	1
49	R3	469	0	518	12	0
49	Y3	468	0	518	15	0
50	R4	565	0	556	14	0
50	Y4	565	0	557	13	0
51	R5	459	0	480	8	0
51	Y5	451	0	471	6	3
52	R6	453	0	477	6	0
52	Y6	453	0	477	8	0
53	R7	418	0	467	12	0
53	Y7	418	0	467	8	0
54	R8	517	0	582	15	0
54	Y8	517	0	582	12	0
55	R9	307	0	335	10	0
55	Y9	307	0	338	8	0
56	ZA	74	0	51	13	0
56	ZB	74	0	51	5	0
57	QA	124	0	0	0	0
57	QC	1	0	0	0	0
57	QD	2	0	0	0	0
57	QE	2	0	0	0	0
57	QL	2	0	0	0	0
57	QM	2	0	0	0	0
57	QN	2	0	0	2	0
57	QO	1	0	0	0	0
57	QV	3	0	0	0	0
57	R0	2	0	0	0	0
57	R1	1	0	0	0	0
57	R3	1	0	0	0	0
57	R5	1	0	0	0	0
57	R6	1	0	0	0	0
57	R7	1	0	0	0	0
57	R8	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	R9	1	0	0	0	0
57	RA	414	0	0	2	0
57	RB	8	0	0	2	0
57	RD	5	0	0	2	0
57	RE	5	0	0	2	0
57	RF	5	0	0	0	0
57	RN	2	0	0	0	0
57	RO	1	0	0	0	0
57	RP	2	0	0	0	0
57	RQ	1	0	0	0	0
57	RR	1	0	0	0	0
57	RV	1	0	0	0	0
57	RW	1	0	0	0	0
57	RX	1	0	0	0	0
57	RZ	1	0	0	0	0
57	XA	128	0	0	0	0
57	XD	1	0	0	0	0
57	XJ	1	0	0	0	0
57	XK	2	0	0	0	0
57	XN	1	0	0	0	0
57	XV	1	0	0	0	0
57	XX	1	0	0	0	0
57	Y0	1	0	0	0	0
57	Y1	3	0	0	0	0
57	Y3	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y6	1	0	0	0	0
57	Y7	1	0	0	0	0
57	Y8	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YA	544	0	0	1	0
57	YB	8	0	0	0	0
57	YD	8	0	0	0	0
57	YE	7	0	0	1	0
57	YF	1	0	0	0	0
57	YG	1	0	0	0	0
57	YP	3	0	0	0	0
57	YQ	2	0	0	0	0
57	YR	1	0	0	0	0
57	YT	1	0	0	0	0
57	YU	1	0	0	0	0
57	YV	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	YW	1	0	0	0	0
57	YX	1	0	0	0	0
58	QD	8	0	0	6	0
58	XD	8	0	0	4	0
59	QN	1	0	0	1	0
59	R4	1	0	0	0	0
59	R9	1	0	0	0	0
59	XN	1	0	0	0	0
59	Y4	1	0	0	0	0
All	All	291822	0	197739	4729	42

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 10.

All (4729) 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)
28:RE:152:LYS:HG3	33:RN:77:GLY:O	1.40	1.18
49:Y3:10:LYS:NZ	49:Y3:15:TYR:OH	1.81	1.13
25:YA:2228:G:OP1	27:YD:261:LYS:NZ	1.83	1.12
1:QA:982:U:H3	1:QA:1223:C:N4	1.52	1.08
1:QA:1055:A:H62	1:QA:1200:C:N4	1.56	1.04
28:RE:152:LYS:CG	33:RN:77:GLY:O	2.09	1.00
1:QA:1055:A:N6	1:QA:1200:C:H42	1.59	1.00
50:R4:18:CYS:HB3	50:R4:39:CYS:SG	2.02	0.99
26:YB:8:U:H3	26:YB:113:G:H1	1.07	0.99
22:QV:8:U:H3	22:QV:14:A:H62	0.99	0.99
1:QA:835:U:H3	1:QA:851:G:H1	1.10	0.97
1:XA:766:A:H62	1:XA:813:U:H3	1.12	0.97
1:QA:410:G:N2	1:QA:432:A:H62	1.62	0.96
25:RA:242:G:N2	25:RA:255:A:OP2	1.97	0.96
1:QA:372:C:N4	1:QA:389:A:H62	1.63	0.96
1:XA:1055:A:H62	1:XA:1200:C:H42	1.09	0.96
1:QA:410:G:H21	1:QA:432:A:H62	1.08	0.95
26:RB:51:G:H21	57:RB:203:MG:MG	0.72	0.95
1:QA:157:G:H1	1:QA:164:U:H3	1.13	0.94
27:RD:134:ARG:HG3	27:RD:187:GLY:HA3	1.46	0.94
25:RA:1255:U:H5"	25:RA:1256:G:H5"	1.48	0.92
25:RA:2526:G:H1	25:RA:2537:U:H3	0.96	0.92
1:QA:339:C:OP2	34:RO:97:ARG:NH2	2.03	0.92
1:QA:539:A:OP2	12:QL:115:LYS:NZ	2.03	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:950:U:H3	1:XA:1231:G:H1	1.06	0.92
1:QA:73:G:H1	1:QA:96:U:H3	1.02	0.91
1:QA:503:C:OP2	12:QL:116:SER:OG	1.89	0.91
1:QA:429:U:OP2	4:QD:13:ARG:NH1	2.02	0.91
1:XA:580:U:H3	1:XA:761:G:H1	1.12	0.91
1:QA:437:U:H3	1:QA:495:A:H62	1.17	0.91
1:XA:1055:A:H62	1:XA:1200:C:N4	1.69	0.91
26:RB:80:U:H3	26:RB:97:G:H1	1.14	0.90
1:XA:430:A:OP2	4:XD:22:LYS:NZ	2.05	0.89
50:Y4:12:ALA:HB3	50:Y4:24:THR:O	1.72	0.89
1:XA:452:A:H62	1:XA:480:U:H3	0.91	0.89
1:QA:372:C:H42	1:QA:389:A:N6	1.69	0.88
25:RA:2478:A:OP2	55:R9:2:LYS:NZ	2.06	0.88
1:XA:1414:U:H3	1:XA:1486:G:H1	1.20	0.88
25:YA:2637:U:H3	25:YA:2776:A:H62	1.20	0.87
25:YA:1972:A:OP1	27:YD:239:ARG:NH2	2.07	0.87
1:QA:1415:G:H1	1:QA:1485:U:H3	1.21	0.87
25:RA:2637:U:H3	25:RA:2776:A:H62	1.23	0.87
49:Y3:12:PRO:HA	49:Y3:15:TYR:HD1	1.38	0.86
25:YA:1972:A:P	27:YD:239:ARG:HH21	1.98	0.86
25:YA:2099:U:H3	25:YA:2190:G:H1	0.87	0.86
31:YH:47:GLU:OE1	31:YH:49:VAL:HG22	1.75	0.86
9:QI:20:ARG:O	9:QI:60:ASP:HB2	1.75	0.86
28:YE:127:ASP:OD2	57:YE:303:MG:MG	1.16	0.86
25:RA:969:U:H5'	49:R3:16:PRO:HA	1.58	0.85
1:QA:15:G:H1	1:QA:920:U:H3	1.19	0.85
1:XA:1240:U:OP1	7:XG:119:ARG:NH2	2.10	0.85
25:YA:269:U:H3	25:YA:370:G:H1	1.25	0.85
1:XA:452:A:N6	1:XA:480:U:H3	1.75	0.85
27:RD:14:ARG:NH1	57:RD:303:MG:MG	1.35	0.84
1:XA:927:G:H1	1:XA:1390:U:H3	1.22	0.84
1:XA:741:G:H5'	15:XO:39:LEU:HD21	1.60	0.84
1:QA:410:G:H21	1:QA:432:A:N6	1.75	0.84
25:YA:2809:A:OP2	25:YA:2891:G:N1	2.10	0.84
1:QA:372:C:H42	1:QA:389:A:H62	0.87	0.84
1:QA:959:A:HO2'	1:QA:984:C:HO2'	1.27	0.83
56:ZA:3:PPU:H8	56:ZA:3:PPU:H5'	1.60	0.83
27:RD:14:ARG:HH11	57:RD:303:MG:MG	0.84	0.83
25:RA:1815:A:OP2	27:RD:54:ARG:NH2	2.10	0.82
25:YA:578:A:OP1	25:YA:1255:U:O2'	1.96	0.82
4:XD:33:MET:O	4:XD:37:PRO:HB3	1.79	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2584:U:H5'	56:ZB:3:PPU:H103	1.61	0.82
1:XA:429:U:O3'	4:XD:22:LYS:NZ	2.13	0.81
22:QV:8:U:H3	22:QV:14:A:N6	1.77	0.81
25:RA:536:A:OP1	40:RU:53:ARG:NH1	2.13	0.81
1:QA:927:G:H1	1:QA:1390:U:H3	1.25	0.81
25:YA:1920:OMC:HM22	25:YA:1921:G:H5'	1.61	0.81
1:QA:130:A:H5'	17:QQ:63:ARG:HE	1.45	0.81
25:RA:1754:C:OP1	39:RT:96:ARG:NH1	2.12	0.81
25:RA:1792:G:O2'	25:RA:1830:C:OP1	1.98	0.81
25:YA:277:C:O2'	25:YA:278:A:OP1	1.97	0.81
26:RB:51:G:N2	57:RB:203:MG:MG	1.39	0.81
45:RZ:99:TYR:HA	45:RZ:124:ILE:O	1.81	0.81
1:QA:1422:G:H5''	34:RO:48:PRO:HB3	1.61	0.80
25:YA:2096:U:H3	25:YA:2193:G:H1	1.25	0.80
25:YA:2323:G:H1	25:YA:2332:U:H3	1.29	0.80
25:YA:1800:C:OP2	27:YD:183:ARG:NH2	2.15	0.80
25:RA:587:C:OP2	35:RP:21:ARG:NH1	2.13	0.79
25:YA:18:C:O2'	25:YA:554:U:OP1	2.00	0.79
25:RA:2198:A:OP1	32:RI:33:ARG:NH2	2.16	0.79
25:YA:607:U:O2	25:YA:621:A:N6	2.16	0.79
1:XA:1003:G:H2'	1:XA:1004:A:H4'	1.62	0.79
1:XA:925:G:H1	1:XA:1391:U:H3	1.28	0.79
25:YA:2638:G:H21	25:YA:2778:A:H62	1.31	0.78
1:XA:1086:U:H3	1:XA:1099:G:H22	1.29	0.78
1:QA:1351:U:H3	1:QA:1371:G:H1	1.27	0.78
25:YA:568:U:O4	57:YA:3438:MG:MG	1.26	0.78
1:QA:1315:U:O2'	1:QA:1360:A:O2'	1.99	0.78
1:QA:429:U:O3'	4:QD:22:LYS:NZ	2.16	0.78
25:YA:2584:U:H4'	56:ZB:3:PPU:H92	1.63	0.78
47:Y1:65:SER:HG	47:Y1:66:HIS:HD1	1.31	0.78
25:RA:2134:A:N6	25:RA:2156:G:HO2'	1.81	0.77
25:RA:99:U:OP1	25:RA:100:G:O2'	2.01	0.77
25:YA:2572:A:OP2	28:YE:146:THR:OG1	2.00	0.77
22:QV:15:G:N2	22:QV:48:C:H42	1.82	0.77
25:YA:71:A:H4'	25:YA:72:U:H5''	1.64	0.77
1:QA:975:A:H4'	1:QA:976:G:H5''	1.66	0.77
1:XA:1055:A:N6	1:XA:1200:C:H42	1.82	0.77
25:RA:1999:C:OP1	28:RE:118:LYS:NZ	2.16	0.76
25:YA:2640:G:O3'	33:YN:74:ARG:NH2	2.17	0.76
25:RA:2816:C:O3'	37:RR:99:LYS:NZ	2.17	0.76
25:RA:1264:G:OP1	51:R5:19:ARG:NH1	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2104:G:H22	25:RA:2185:C:H42	1.34	0.76
1:XA:324:G:N2	1:XA:327:A:OP2	2.18	0.76
25:YA:1972:A:P	27:YD:239:ARG:NH2	2.59	0.76
28:RE:125:GLY:O	57:RE:302:MG:MG	1.26	0.76
1:QA:244:U:O4	1:QA:893:C:N4	2.18	0.76
25:RA:1021:A:O2'	25:RA:1123:C:OP1	2.02	0.76
25:RA:807:U:OP2	35:RP:41:ARG:NH2	2.17	0.76
25:YA:1216:G:OP1	40:YU:11:ARG:NH2	2.17	0.76
1:QA:1053:G:H4'	1:QA:1054:C:H3'	1.67	0.76
25:YA:1446:C:H42	25:YA:1465:G:H1	1.33	0.76
1:XA:430:A:P	4:XD:22:LYS:NZ	2.59	0.75
1:QA:981:U:H3'	1:QA:982:U:H2'	1.68	0.75
25:YA:1823:G:OP1	27:YD:54:ARG:NH1	2.19	0.75
1:QA:60:A:N6	1:QA:110:C:N4	2.35	0.75
25:RA:1638:C:O2	25:RA:2698:U:O2'	2.03	0.75
1:QA:60:A:H62	1:QA:110:C:N4	1.83	0.75
25:RA:1223:G:N2	25:RA:1226:A:OP2	2.16	0.75
25:YA:1816:G:OP2	27:YD:38:LYS:NZ	2.19	0.75
1:QA:672:U:H3	1:QA:734:G:H1	1.33	0.74
14:QN:4:LYS:NZ	57:QN:101:MG:MG	1.44	0.74
25:RA:309:G:N3	25:RA:329:G:O2'	2.20	0.74
25:YA:2291:U:O2'	25:YA:2374:C:O2	2.05	0.74
1:QA:558:G:OP2	1:QA:559:A:O2'	2.04	0.74
27:RD:134:ARG:HG3	27:RD:187:GLY:CA	2.18	0.74
22:QV:15:G:H22	22:QV:48:C:N4	1.86	0.74
25:RA:2553:G:N2	56:ZA:3:PPU:H2	2.02	0.74
25:RA:2577:A:OP2	51:R5:3:LYS:NZ	2.19	0.74
1:XA:430:A:P	4:XD:22:LYS:HZ1	2.11	0.74
4:QD:32:ALA:O	4:QD:35:ARG:N	2.17	0.74
25:RA:2134:A:N6	25:RA:2156:G:O2'	2.21	0.74
1:QA:514:C:H2'	1:QA:515:G:H8	1.53	0.73
25:RA:272(D):G:H1	25:RA:272(T):C:H42	1.36	0.73
25:YA:290:G:H1	25:YA:350:U:H3	1.35	0.73
25:RA:987:G:O2'	25:RA:1000:A:N3	2.21	0.73
25:RA:227:A:H61	25:RA:410:G:H21	1.35	0.73
25:YA:1059:G:H3'	25:YA:1060:U:H2'	1.71	0.73
4:XD:18:LYS:NZ	58:XD:302:SF4:S2	2.61	0.73
1:QA:429:U:O2'	4:QD:22:LYS:NZ	2.22	0.73
1:QA:1399:C:N3	1:QA:1502:A:N1	2.37	0.73
1:QA:9:G:O6	1:QA:558:G:O2'	2.05	0.73
25:RA:570:G:O6	57:RA:3097:MG:MG	1.31	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:606:U:H3	25:YA:622:G:H1	1.37	0.73
25:YA:1466:G:H2'	25:YA:1547:C:H41	1.53	0.73
28:RE:127:ASP:OD2	57:RE:303:MG:MG	1.31	0.72
1:QA:578:C:O2'	1:QA:728:A:N3	2.20	0.72
25:YA:1065:U:O2'	25:YA:1066:U:OP2	2.06	0.72
25:YA:1218:C:OP2	40:YU:15:LYS:NZ	2.22	0.72
1:QA:982:U:C4	1:QA:1223:C:N3	2.57	0.72
25:RA:2364:C:OP1	46:R0:55:ARG:NH1	2.22	0.72
1:XA:357:G:H5''	1:XA:367:U:H3'	1.71	0.72
1:XA:975:A:H4'	1:XA:976:G:H5''	1.71	0.72
25:YA:1607:C:N4	25:YA:1622:G:OP2	2.22	0.72
25:RA:2221:G:C8	25:RA:2221:G:O5'	2.43	0.72
25:YA:635:C:O2'	25:YA:639:U:OP1	2.08	0.72
1:XA:877:C:H2'	1:XA:878:G:H8	1.55	0.72
1:XA:406:G:O3'	4:XD:3:ARG:NH2	2.22	0.72
25:YA:2347:C:OP1	52:Y6:38:LYS:NZ	2.18	0.72
25:YA:2638:G:N2	25:YA:2778:A:H62	1.88	0.72
25:YA:2100:G:H1	25:YA:2189:U:H3	1.37	0.71
25:YA:2875:C:OP1	39:YT:3:ARG:NH1	2.23	0.71
25:RA:11:G:H2'	25:RA:12:U:H5''	1.71	0.71
25:RA:1514:U:H2'	25:RA:1515:G:H8	1.54	0.71
25:YA:1140:C:O3'	33:YN:25:ARG:NH1	2.22	0.71
1:QA:1040:U:H2'	1:QA:1041:A:H8	1.55	0.71
25:RA:2125:G:H21	25:RA:2173:A:H62	1.37	0.71
25:YA:2126:A:N6	25:YA:2162:G:O2'	2.22	0.71
25:RA:571:A:H5'	25:RA:2030:A:H62	1.55	0.71
1:XA:380:G:N2	1:XA:383:A:OP2	2.23	0.71
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.21	0.71
1:XA:618:C:H5'	1:XA:619:U:H5''	1.72	0.71
31:YH:47:GLU:N	31:YH:47:GLU:OE1	2.24	0.71
26:YB:49:C:OP2	38:YS:30:ARG:NH1	2.24	0.71
19:QS:11:VAL:HG12	19:QS:13:ASP:H	1.54	0.71
1:XA:437:U:H3	1:XA:495:A:H62	1.37	0.71
1:XA:339:C:OP2	34:YO:97:ARG:NH1	2.23	0.71
25:YA:2689:U:H4'	25:YA:2690:C:H5'	1.72	0.71
3:QC:14:ILE:HG22	3:QC:15:THR:HG23	1.73	0.71
25:RA:823:G:H2'	25:RA:824:A:C8	2.25	0.71
1:XA:107:G:OP1	1:XA:325:A:N6	2.23	0.71
25:YA:2134:A:H5''	25:YA:2156:G:H22	1.54	0.71
25:YA:83:G:N1	25:YA:102:G:O2'	2.24	0.71
1:QA:38:G:H22	1:QA:397:A:H5'	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:359:U:H3'	1:XA:360:A:H8	1.55	0.70
25:YA:2296:U:OP2	38:YS:9:ARG:NH2	2.24	0.70
1:XA:1285:A:H4'	1:XA:1286:A:H5'	1.72	0.70
1:QA:982:U:H3	1:QA:1223:C:H42	0.77	0.70
25:YA:918:A:N3	26:YB:80:U:O2'	2.24	0.70
1:QA:1399:C:N4	1:QA:1502:A:C2	2.59	0.70
1:QA:403:C:OP2	4:QD:74:GLN:NE2	2.24	0.70
1:QA:1254:C:OP1	10:QJ:45:ARG:NE	2.24	0.70
1:QA:501:C:H1'	1:QA:549:C:H1'	1.74	0.70
1:XA:358:U:C6	1:XA:358:U:H3'	2.26	0.70
1:XA:73:G:H1	1:XA:96:U:H3	1.40	0.70
25:YA:2059:A:H5''	25:YA:2060:A:OP2	1.92	0.70
25:YA:849:A:H5''	25:YA:850:C:OP2	1.92	0.70
1:QA:1203:C:OP1	14:QN:3:ARG:NE	2.25	0.70
4:QD:20:TYR:OH	6:XF:15:ASP:HA	1.92	0.70
25:RA:1084:A:N6	25:RA:1086:A:N7	2.40	0.70
4:XD:32:ALA:HB3	58:XD:302:SF4:S1	2.32	0.70
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.24	0.69
1:QA:547:A:OP1	4:QD:73:ARG:NH1	2.25	0.69
1:QA:908:A:H2'	1:QA:909:A:H8	1.58	0.69
25:RA:2122:U:H3	25:RA:2176:A:H61	1.39	0.69
25:YA:1514:U:H2'	25:YA:1515:G:H8	1.56	0.69
25:YA:2786:U:OP1	28:YE:69:LYS:NZ	2.22	0.69
1:XA:1375:A:OP1	7:XG:28:ASN:ND2	2.26	0.69
1:QA:131:C:O2'	1:QA:262:A:N3	2.22	0.69
25:YA:593:G:H4'	54:Y8:63:PRO:HB2	1.75	0.69
25:RA:270:A:OP2	25:RA:272(X):G:N1	2.25	0.69
1:XA:790:A:OP1	22:XV:38:A:O2'	2.11	0.69
1:XA:1326:C:OP1	21:XU:12:LYS:NZ	2.25	0.69
22:QV:15:G:N1	22:QV:48:C:N3	2.40	0.69
18:XR:58:LEU:HB3	18:XR:62:GLU:HG3	1.75	0.69
1:QA:1055:A:H62	1:QA:1200:C:H42	0.78	0.69
1:QA:673:G:H2'	1:QA:674:G:H8	1.56	0.69
1:XA:259:G:H5''	20:XT:83:ARG:HH12	1.58	0.69
4:QD:32:ALA:HB3	58:QD:303:SF4:S4	2.33	0.69
9:QI:128:ARG:NH2	22:QV:33:U:OP2	2.22	0.69
25:RA:1942:5MC:OP2	25:RA:1943:U:O2'	2.10	0.69
25:RA:243:U:OP2	54:R8:8:LYS:NZ	2.19	0.69
25:RA:2246:G:H2'	25:RA:2247:A:C8	2.28	0.68
1:XA:514:C:H2'	1:XA:515:G:H8	1.58	0.68
25:YA:2299:G:OP1	30:YG:75:LYS:NZ	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1086:U:H3	1:QA:1099:G:H22	1.39	0.68
25:YA:919:G:N2	25:YA:2269:A:OP2	2.24	0.68
25:YA:2404:C:O3'	35:YP:77:ARG:NH2	2.26	0.68
27:RD:134:ARG:HH11	27:RD:187:GLY:HA3	1.58	0.68
22:XV:2:G:O3'	46:Y0:8:GLY:N	2.27	0.68
1:XA:373:A:H2'	1:XA:374:A:H8	1.58	0.68
1:QA:1065:U:H5''	1:QA:1190:G:H22	1.59	0.68
1:QA:1344:C:H4'	9:QI:120:ARG:HB3	1.74	0.68
25:RA:1646:C:H5''	25:RA:1647:G:H5''	1.76	0.68
39:YT:65:LYS:HE3	39:YT:67:SER:HB2	1.76	0.68
25:YA:71:A:H5''	25:YA:73:A:C8	2.28	0.68
1:QA:959:A:H3'	1:QA:960:U:H5''	1.74	0.68
25:RA:2555:U:C2	56:ZA:1:C:C6	2.81	0.68
1:QA:631:G:H2'	1:QA:632:A:H8	1.59	0.68
25:YA:1473:G:H1	25:YA:1518:U:H3	1.40	0.68
25:RA:1093:G:N2	25:RA:1098:A:N7	2.42	0.68
25:YA:552:G:OP1	41:YV:68:LYS:NZ	2.26	0.68
1:QA:411:A:OP1	4:QD:30:LYS:NZ	2.23	0.67
5:QE:92:LYS:HB3	5:QE:119:LEU:HB2	1.76	0.67
25:RA:52:A:H62	25:RA:119:A:H62	1.42	0.67
1:XA:392:G:OP1	16:XP:8:ARG:NH2	2.27	0.67
9:QI:10:ARG:HH21	9:QI:107:ARG:HD3	1.59	0.67
1:XA:429:U:H3'	4:XD:9:CYS:SG	2.34	0.67
25:YA:1280:G:C2'	25:YA:1281:G:H5'	2.24	0.67
1:QA:1179:A:H4'	9:QI:103:THR:HA	1.76	0.67
1:QA:60:A:N6	1:QA:110:C:H42	1.93	0.67
25:RA:1693:U:O2'	27:RD:14:ARG:NH2	2.26	0.67
25:YA:2105:C:H42	25:YA:2185:C:H42	1.40	0.67
25:YA:489:G:N7	42:YW:49:LYS:NZ	2.40	0.67
1:QA:1070:U:OP1	5:QE:18:ARG:NH2	2.26	0.67
1:QA:973:G:O2'	10:QJ:54:PHE:O	2.11	0.67
22:XV:50:U:H3	22:XV:64:G:H1	1.41	0.67
25:YA:1165:U:H3	25:YA:1184:G:H1	1.41	0.67
25:YA:527:C:N4	25:YA:2043:C:OP2	2.26	0.67
1:QA:1073:U:H2'	1:QA:1074:G:H8	1.58	0.67
1:QA:107:G:OP1	1:QA:325:A:N6	2.28	0.67
1:QA:673:G:H2'	1:QA:674:G:C8	2.29	0.67
25:RA:1159:U:H2'	25:RA:1160:G:H8	1.58	0.67
25:RA:570:G:OP1	25:RA:972:G:O2'	2.07	0.67
26:RB:48:A:H4'	38:RS:95:HIS:HD2	1.59	0.67
1:XA:358:U:H2'	1:XA:359:U:C6	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:787:U:H5''	25:YA:788:A:H5'	1.77	0.67
25:YA:2303:G:N3	30:YG:132:ASN:ND2	2.42	0.67
1:QA:429:U:P	4:QD:13:ARG:NH1	2.67	0.67
25:RA:2328:A:H2'	25:RA:2329:G:H8	1.59	0.67
1:QA:1183:A:H3'	1:QA:1184:G:H5''	1.75	0.67
25:RA:2133:G:O2'	25:RA:2158:A:N1	2.25	0.67
25:RA:589:C:H2'	25:RA:590:A:C8	2.30	0.67
1:QA:593:G:H1	1:QA:646:U:H3	1.43	0.67
38:RS:34:HIS:HD1	38:RS:53:SER:HG	1.42	0.67
25:YA:889:C:O2'	25:YA:890:A:O5'	2.13	0.67
25:RA:1286:A:O2'	25:RA:1288:U:OP2	2.09	0.67
1:QA:245:C:H2'	1:QA:246:A:H5''	1.77	0.67
25:RA:1864:U:OP1	25:RA:2410:G:O2'	2.06	0.67
25:YA:2475:C:H42	25:YA:2529:G:H22	1.42	0.67
25:RA:1247:A:OP1	29:RF:95:ARG:NH2	2.28	0.66
25:YA:1687:G:N2	25:YA:1702:G:O6	2.28	0.66
38:YS:34:HIS:HD1	38:YS:53:SER:HG	1.41	0.66
25:RA:1278:A:OP1	37:RR:36:THR:OG1	2.06	0.66
25:RA:2198:A:H5'	32:RI:33:ARG:HH21	1.60	0.66
1:XA:1005:A:O2'	1:XA:1036:G:N2	2.28	0.66
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.60	0.66
25:YA:1005:C:O2'	33:YN:28:THR:HG21	1.95	0.66
1:QA:1151:A:O2'	1:QA:1152:A:O5'	2.13	0.66
1:XA:1286:A:H2'	1:XA:1287:A:H4'	1.75	0.66
48:Y2:51:ARG:HG2	48:Y2:55:ARG:HE	1.60	0.66
25:YA:511:U:H4'	25:YA:1235:G:H4'	1.76	0.66
8:QH:32:LYS:HA	8:QH:35:ILE:HD12	1.76	0.66
25:RA:2291:U:O2'	25:RA:2374:C:O2	2.13	0.66
25:YA:783:A:H2'	25:YA:784:A:H4'	1.77	0.66
1:QA:1347:G:N1	1:QA:1374:A:OP2	2.26	0.66
1:QA:46:G:HO2'	1:QA:365:U:HO2'	1.34	0.66
25:RA:1069:A:H5''	25:RA:1096:A:H5''	1.78	0.66
25:RA:228:A:OP1	35:RP:76:LYS:NZ	2.29	0.66
25:YA:2849:U:OP1	39:YT:95:ARG:NH2	2.29	0.66
25:RA:1952:A:N3	25:RA:2560:C:O2'	2.26	0.66
25:YA:2465:C:O2	25:YA:2486:G:N2	2.28	0.66
30:YG:150:ASP:OD1	30:YG:153:ARG:NH1	2.28	0.66
25:RA:1225:G:OP1	41:RV:69:LYS:NZ	2.24	0.66
25:YA:2206:G:H5''	25:YA:2207:G:C5	2.31	0.66
1:QA:1510:U:H3	1:QA:1525:G:H1	1.44	0.66
1:XA:359:U:O5'	1:XA:359:U:C6	2.49	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:674:G:H2'	1:XA:675:A:H8	1.60	0.66
25:YA:2577:A:H5'	51:Y5:3:LYS:HE2	1.76	0.66
1:QA:1073:U:H2'	1:QA:1074:G:C8	2.31	0.66
25:RA:2727:G:O3'	34:RO:70:LYS:NZ	2.28	0.66
1:XA:1053:G:H4'	1:XA:1054:C:H3'	1.78	0.66
25:YA:848:G:OP2	25:YA:928:G:N2	2.29	0.66
1:QA:806:C:H2'	1:QA:807:A:H8	1.61	0.65
1:XA:1518:MA6:H8	1:XA:1518:MA6:O5'	1.96	0.65
25:YA:857:C:H4'	46:Y0:23:VAL:HG21	1.78	0.65
25:YA:1352:U:O2'	25:YA:1570:A:N3	2.27	0.65
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.29	0.65
25:RA:860:U:H2'	25:RA:861:A:H8	1.61	0.65
25:YA:140:G:N2	25:YA:142(A):A:H62	1.94	0.65
25:YA:829:A:N7	25:YA:2247:A:O2'	2.28	0.65
25:YA:631:A:OP2	54:Y8:47:LYS:NZ	2.29	0.65
3:QC:77:ILE:HG13	3:QC:79:ARG:H	1.59	0.65
25:YA:2206:G:H3'	25:YA:2207:G:C8	2.31	0.65
26:YB:80:U:H3	26:YB:97:G:H1	1.44	0.65
25:RA:2450:A:H62	25:RA:2501:C:N4	1.95	0.65
1:XA:453:A:H4'	16:XP:72:ARG:HG3	1.77	0.65
1:XA:731:G:OP1	1:XA:766:A:H1'	1.97	0.65
1:QA:524:G:H5''	12:QL:91:LYS:HE2	1.78	0.65
1:QA:946:A:O2'	1:QA:1333:A:N3	2.30	0.65
25:RA:2371:G:O6	57:RA:3376:MG:MG	1.37	0.65
40:RU:74:LEU:HD13	40:RU:78:THR:HB	1.79	0.65
25:YA:2134:A:H5''	25:YA:2156:G:N2	2.11	0.65
25:YA:956:G:H2'	25:YA:957:A:H2'	1.78	0.65
28:YE:128:SER:OG	28:YE:129:HIS:N	2.29	0.65
25:RA:2680:C:OP2	28:RE:111:ARG:NH2	2.30	0.65
26:YB:37:C:O2	38:YS:95:HIS:NE2	2.27	0.65
25:RA:635:C:O2'	25:RA:639:U:OP1	2.15	0.65
1:XA:1247:U:H3	1:XA:1290:G:H1	1.45	0.65
1:XA:502:G:OP1	12:XL:118:SER:N	2.28	0.65
7:XG:5:ARG:HG2	7:XG:7:ALA:H	1.62	0.65
25:YA:24:G:O2'	42:YW:78:GLU:O	2.12	0.65
25:YA:1939:5MU:OP1	25:YA:2604:U:O2'	2.09	0.65
25:YA:278:A:H3'	25:YA:278:A:OP2	1.96	0.65
11:QK:48:ILE:HG12	11:QK:63:LEU:HD13	1.79	0.65
25:RA:1632:A:O5'	25:RA:1632:A:H8	1.80	0.65
25:YA:784:A:H62	27:YD:229:VAL:HG21	1.60	0.65
25:RA:2880:C:O2'	37:RR:90:ARG:NH1	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RR:2:ARG:NH1	37:RR:5:LYS:O	2.30	0.64
1:XA:377:G:OP1	16:XP:3:LYS:NZ	2.29	0.64
1:QA:572:A:H5''	1:QA:917:G:H4'	1.79	0.64
25:RA:910:A:N3	25:RA:2264:C:O2'	2.30	0.64
1:QA:315:A:HO2'	1:QA:330:C:HO2'	1.39	0.64
25:RA:1038:C:H42	25:RA:1117:G:H1	1.45	0.64
26:YB:30:C:H1'	26:YB:57:A:H61	1.62	0.64
40:YU:97:ASP:OD1	40:YU:101:ARG:NH1	2.30	0.64
41:YV:20:LEU:HD22	41:YV:22:VAL:HG22	1.79	0.64
1:XA:405:U:O4	4:XD:2:GLY:N	2.31	0.64
1:QA:195:A:H4'	20:QT:68:LYS:HZ1	1.62	0.64
12:QL:71:PRO:O	12:QL:102:ARG:NH1	2.30	0.64
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.80	0.64
25:RA:2547:U:O2	34:RO:23:ARG:NH1	2.30	0.64
6:XF:12:PRO:HD3	6:XF:58:GLY:HA2	1.80	0.64
25:YA:2711:A:H5''	25:YA:2712(A):U:H5''	1.78	0.64
25:YA:458:G:N2	25:YA:470:A:OP2	2.31	0.64
56:ZA:3:PPU:H8	56:ZA:3:PPU:C5'	2.27	0.64
1:QA:1003:G:H2'	1:QA:1004:A:H4'	1.79	0.64
1:QA:1255:G:OP2	10:QJ:45:ARG:NH2	2.30	0.64
25:RA:2452:C:H42	25:RA:2504:U:H3	1.45	0.64
25:YA:213:A:H5''	25:YA:213:A:H8	1.62	0.64
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.62	0.64
1:QA:346:G:OP1	39:RT:41:ARG:NH2	2.31	0.64
1:QA:360:A:H2'	1:QA:361:G:C8	2.33	0.64
27:RD:134:ARG:CG	27:RD:187:GLY:HA3	2.23	0.64
1:XA:334:C:HO2'	1:XA:1434:A:HO2'	1.41	0.64
22:XV:16:C:O2'	22:XV:61:C:OP1	2.15	0.64
1:QA:1227:A:H5'	13:QM:111:LYS:HD2	1.80	0.64
1:XA:1329:A:N7	21:XU:7:ARG:NH2	2.45	0.64
25:YA:1316:U:H2'	25:YA:1317:A:H8	1.61	0.64
25:RA:2746:U:H1'	31:RH:139:GLN:HB3	1.79	0.64
1:XA:357:G:O2'	1:XA:358:U:H5'	1.98	0.64
25:YA:1821:A:H2'	25:YA:1822:G:H8	1.61	0.64
25:YA:2328:A:H2'	25:YA:2329:G:C8	2.33	0.64
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.31	0.64
25:RA:2394:C:H5''	35:RP:64:LYS:HE2	1.78	0.64
1:XA:358:U:H2'	1:XA:359:U:H6	1.62	0.64
25:YA:860:U:H2'	25:YA:861:A:H8	1.62	0.64
25:YA:322:A:OP1	29:YF:168:ARG:NH1	2.31	0.64
1:QA:677:U:H3	1:QA:713:G:H22	1.44	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:757:U:H1'	1:QA:879:C:H1'	1.79	0.63
38:RS:10:ARG:HA	38:RS:13:ARG:HG2	1.80	0.63
25:YA:554:U:O2'	25:YA:555:U:H5'	1.98	0.63
31:YH:47:GLU:OE1	31:YH:49:VAL:CG2	2.45	0.63
1:QA:67:C:O2'	1:QA:171:A:N3	2.28	0.63
1:QA:60:A:H4'	1:QA:61:G:H5'	1.80	0.63
30:RG:134:GLY:HA2	30:RG:156:ASP:HA	1.80	0.63
25:YA:2291:U:OP1	25:YA:2380:C:O2'	2.16	0.63
28:YE:45:THR:O	28:YE:82:ARG:NH1	2.31	0.63
1:QA:1320:C:N3	19:QS:36:ARG:NH2	2.46	0.63
25:RA:2075:U:H4'	25:RA:2596:U:H3	1.63	0.63
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.33	0.63
5:XE:12:LEU:HB3	5:XE:31:LEU:H	1.63	0.63
6:XF:87:ARG:NH1	18:XR:75:ILE:O	2.31	0.63
25:YA:1636:C:H2'	25:YA:1637:A:C8	2.34	0.63
25:YA:2099:U:O2	25:YA:2190:G:N2	2.27	0.63
25:YA:2641:G:P	33:YN:74:ARG:HH22	2.20	0.63
1:QA:1422:G:H2'	1:QA:1423:G:H8	1.63	0.63
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.61	0.63
1:XA:335:C:O2'	1:XA:1433:A:N3	2.31	0.63
1:QA:474:G:H2'	1:QA:475:G:H8	1.62	0.63
25:RA:2741:A:O3'	55:R9:35:ARG:NH1	2.31	0.63
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.31	0.63
1:XA:1301:U:O2'	1:XA:1302:U:H5'	1.98	0.63
1:XA:1291:G:OP1	7:XG:37:ASN:ND2	2.31	0.63
25:RA:1770:G:H1	25:RA:1982:C:H42	1.47	0.63
25:RA:2659:G:N2	25:RA:2662:A:OP2	2.32	0.63
1:XA:448:A:OP2	1:XA:485:G:N1	2.26	0.63
25:YA:1438:U:H3	25:YA:1553:A:H2	1.44	0.63
40:YU:97:ASP:O	40:YU:101:ARG:HB2	1.99	0.63
25:RA:1049:C:H1'	25:RA:1113:U:H4'	1.80	0.63
25:RA:700:G:H1	25:RA:732:C:H42	1.47	0.63
1:XA:1098:C:H2'	1:XA:1099:G:H8	1.64	0.63
1:XA:1074:G:O2'	1:XA:1101:A:N1	2.31	0.63
1:XA:292:G:H21	1:XA:608:A:H61	1.47	0.63
26:YB:27:C:H5''	38:YS:54:LEU:HD11	1.80	0.63
56:ZA:3:PPU:N7	56:ZA:3:PPU:H93	2.13	0.63
1:QA:401:C:O2'	1:QA:621:A:N3	2.32	0.63
11:QK:22:HIS:HB3	11:QK:29:ILE:HB	1.81	0.63
34:RO:2:ILE:HB	34:RO:33:ALA:HB3	1.81	0.63
25:YA:249:C:O2	54:Y8:12:LYS:NZ	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1569:A:H2'	25:YA:1570:A:C8	2.34	0.63
25:YA:244:A:H4'	35:YP:74:GLU:HB2	1.80	0.63
1:QA:405:U:O4	4:QD:2:GLY:N	2.32	0.63
25:RA:1920:OMC:HM22	25:RA:1921:G:H5'	1.81	0.63
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.27	0.63
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.81	0.63
31:YH:164:TYR:HB2	31:YH:167:GLU:HB2	1.80	0.63
1:QA:983:A:N1	1:QA:1222:G:N2	2.47	0.62
25:RA:24:G:O2'	42:RW:78:GLU:O	2.16	0.62
1:XA:258:G:OP1	20:XT:87:LYS:NZ	2.32	0.62
1:QA:1216:G:OP1	14:QN:2:ALA:N	2.32	0.62
7:QG:35:LYS:HE2	7:QG:37:ASN:H	1.64	0.62
25:RA:1361:G:H1	25:RA:1370:C:H42	1.47	0.62
1:XA:489:C:OP1	4:XD:131:ARG:NH2	2.32	0.62
25:YA:2818:G:OP2	37:YR:42:LYS:NZ	2.31	0.62
38:YS:11:LYS:HG3	38:YS:91:PRO:HD3	1.81	0.62
1:QA:1367:C:OP1	9:QI:115:GLY:N	2.24	0.62
1:QA:1399:C:C4	1:QA:1502:A:N1	2.67	0.62
7:QG:75:VAL:HA	7:QG:88:PRO:HA	1.81	0.62
25:RA:1203:G:N1	25:RA:1241:A:OP2	2.33	0.62
25:RA:139(A):G:N3	43:RX:41:ASN:ND2	2.47	0.62
25:RA:227:A:H61	25:RA:410:G:N2	1.96	0.62
25:RA:566:U:OP1	35:RP:29:LYS:NZ	2.23	0.62
1:XA:410:G:H21	1:XA:432:A:H62	1.48	0.62
50:Y4:51:ASP:N	50:Y4:51:ASP:OD1	2.31	0.62
27:YD:166:GLN:HE22	27:YD:176:ARG:HH21	1.47	0.62
25:RA:2682:U:O2'	39:RT:58:ASN:OD1	2.17	0.62
25:YA:1833:U:O2'	25:YA:1969:A:N1	2.26	0.62
25:YA:89:G:OP1	44:YY:33:LYS:NZ	2.30	0.62
1:QA:265:G:N2	1:QA:267:C:H5'	2.14	0.62
1:QA:781:A:OP2	1:QA:800:G:N2	2.25	0.62
7:QG:72:ARG:NH2	7:QG:142:GLU:OE2	2.32	0.62
25:RA:857:C:OP2	46:R0:77:ARG:NH2	2.32	0.62
1:XA:870:U:H4'	1:XA:871:U:H5''	1.80	0.62
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.32	0.62
19:XS:28:LYS:HG3	19:XS:29:ARG:HG3	1.81	0.62
25:YA:1821:A:H2'	25:YA:1822:G:C8	2.33	0.62
25:YA:273(K):C:H2'	25:YA:274:G:H8	1.64	0.62
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.63	0.62
8:QH:81:HIS:ND1	8:QH:138:TRP:OXT	2.32	0.62
12:QL:53:ARG:NH2	12:QL:92:0TD:OD2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:511:U:H4'	25:RA:1235:G:H4'	1.82	0.62
25:RA:489:G:N7	42:RW:49:LYS:NZ	2.45	0.62
40:RU:66:ASN:HD21	40:RU:70:ARG:HH21	1.47	0.62
1:XA:279:A:H4'	1:XA:280:C:H5'	1.82	0.62
9:XI:18:PHE:HB2	9:XI:62:TYR:O	2.00	0.62
25:YA:674:G:OP1	29:YF:54:ARG:NH2	2.32	0.62
1:XA:1101:A:N7	2:XB:175:ARG:NH2	2.47	0.62
1:XA:376:G:H1	1:XA:387:U:H3	1.48	0.62
4:XD:19:LEU:HB3	4:XD:21:LEU:HD21	1.80	0.62
45:YZ:10:ARG:NH2	45:YZ:37:VAL:O	2.32	0.62
1:QA:514:C:H2'	1:QA:515:G:C8	2.34	0.62
25:RA:1593:G:H2'	25:RA:1594:G:C8	2.34	0.62
25:RA:495:G:N3	42:RW:61:ASN:ND2	2.47	0.62
45:RZ:101:PRO:HA	45:RZ:122:ARG:O	2.00	0.62
1:XA:1129:C:O2	1:XA:1130:A:N6	2.33	0.62
33:YN:58:ASP:N	33:YN:58:ASP:OD1	2.33	0.62
25:RA:2422:A:O2'	25:RA:2423:U:OP2	2.16	0.62
25:RA:2788:C:O2'	25:RA:2809:A:N3	2.32	0.62
34:RO:13:ASN:ND2	34:RO:96:THR:OG1	2.33	0.62
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.32	0.62
1:XA:728:A:H2'	1:XA:729:A:H8	1.64	0.62
12:XL:49:ASN:ND2	12:XL:92:0TD:SB	2.73	0.62
25:YA:2424:C:O2	25:YA:2429:G:O2'	2.18	0.62
1:QA:982:U:O4	1:QA:1223:C:N3	2.33	0.62
3:QC:42:LEU:HD23	3:QC:45:LYS:HD3	1.82	0.62
25:RA:535:C:H2'	25:RA:536:A:H8	1.65	0.62
32:RI:49:ALA:HA	32:RI:52:ARG:HG2	1.81	0.62
1:XA:1347:G:H5''	9:XI:107:ARG:HG2	1.80	0.62
34:YO:2:ILE:HB	34:YO:33:ALA:HB3	1.82	0.62
1:QA:908:A:H2'	1:QA:909:A:C8	2.35	0.61
25:RA:288:C:H2'	25:RA:289:A:H8	1.64	0.61
25:RA:819:A:OP2	25:RA:1187:G:N2	2.20	0.61
27:RD:133:LEU:HA	27:RD:136:ILE:HD12	1.81	0.61
1:XA:908:A:H2'	1:XA:909:A:H8	1.65	0.61
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.33	0.61
25:YA:1754:C:OP1	39:YT:96:ARG:NH1	2.32	0.61
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.65	0.61
1:QA:501:C:H2'	1:QA:502:G:H8	1.65	0.61
2:QB:6:THR:O	2:QB:217:ARG:NH1	2.33	0.61
1:QA:127:G:O2'	17:QQ:2:PRO:O	2.17	0.61
22:QV:8:U:O4	22:QV:14:A:N7	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2738:A:N1	25:RA:2766:G:O6	2.34	0.61
1:QA:976:G:H5'	1:QA:1358:U:O2'	2.00	0.61
1:QA:429:U:C3'	4:QD:22:LYS:NZ	2.63	0.61
25:RA:2091:U:O2'	25:RA:2092:U:OP1	2.18	0.61
5:XE:76:ILE:HG12	5:XE:118:ILE:HD11	1.82	0.61
25:YA:1281:G:H3'	25:YA:1281:G:C8	2.35	0.61
42:YW:14:PRO:HG2	42:YW:78:GLU:HG2	1.83	0.61
1:QA:501:C:H2'	1:QA:502:G:C8	2.36	0.61
25:RA:1420:U:O2'	25:RA:1421:G:OP1	2.18	0.61
25:RA:1639:U:O2'	25:RA:2699:C:H4'	2.01	0.61
25:RA:2328:A:H2'	25:RA:2329:G:C8	2.35	0.61
25:RA:807:U:H2'	25:RA:808:G:H8	1.66	0.61
25:YA:1438:U:H2'	25:YA:1439:A:H8	1.64	0.61
25:RA:589:C:H2'	25:RA:590:A:H8	1.62	0.61
25:RA:833:U:O2	35:RP:55:ARG:NH2	2.33	0.61
36:RQ:34:LEU:HB2	36:RQ:118:LEU:HD23	1.82	0.61
1:XA:1318:A:OP1	19:XS:3:ARG:NH2	2.33	0.61
30:YG:98:ARG:NH1	50:Y4:1:MET:SD	2.73	0.61
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.36	0.61
2:XB:107:THR:HA	2:XB:110:GLN:HG3	1.83	0.61
25:YA:1250:G:OP2	35:YP:21:ARG:NH1	2.32	0.61
49:R3:17:LYS:HA	49:R3:20:LYS:HB2	1.81	0.61
1:XA:367:U:H4'	1:XA:368:U:OP2	1.98	0.61
7:XG:50:ILE:HD11	7:XG:58:PRO:HB3	1.83	0.61
21:XU:8:THR:HG23	21:XU:11:GLY:H	1.65	0.61
35:YP:96:THR:HG22	35:YP:99:LEU:HD23	1.82	0.61
25:YA:958:U:OP2	36:YQ:14:ARG:NH1	2.33	0.61
2:QB:47:THR:HA	2:QB:202:PRO:HG2	1.81	0.61
1:QA:1279:A:OP2	10:QJ:9:ARG:NH1	2.33	0.61
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.18	0.61
1:QA:1328:C:O2'	13:QM:29:ARG:NH2	2.33	0.61
25:RA:2809:A:OP2	25:RA:2891:G:N1	2.28	0.61
31:YH:149:ARG:NH2	31:YH:167:GLU:OE2	2.34	0.61
1:QA:1359:C:O2'	1:QA:1361:G:N7	2.32	0.61
1:QA:1496:C:H2'	1:QA:1497:G:C8	2.36	0.61
3:QC:64:VAL:N	3:QC:98:ASN:O	2.33	0.61
5:QE:33:VAL:HG21	5:QE:109:ILE:HA	1.82	0.61
16:QP:1:MET:N	16:QP:1:MET:SD	2.70	0.61
25:RA:1651:G:H1	25:RA:2006:C:H42	1.48	0.61
53:Y7:34:ARG:NH1	53:Y7:41:ARG:O	2.34	0.61
28:YE:9:VAL:HG13	28:YE:25:VAL:HG13	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YF:53:THR:HG23	29:YF:55:GLY:H	1.66	0.61
25:YA:806:C:OP2	35:YP:37:GLY:HA2	2.01	0.61
1:QA:1149:C:O2'	1:QA:1280:A:N1	2.34	0.61
1:QA:1052:U:H3	1:QA:1206:G:H1	1.47	0.61
1:QA:1268:A:N3	1:QA:1326:C:O2'	2.32	0.61
25:RA:329:G:OP1	44:RY:71:LYS:NZ	2.34	0.61
45:RZ:100:VAL:O	45:RZ:123:ASP:HA	1.99	0.61
1:XA:1128:C:O2'	1:XA:1147:C:N3	2.33	0.61
1:XA:358:U:C6	1:XA:358:U:C3'	2.84	0.61
25:YA:2747:G:H21	25:YA:2757:A:H62	1.47	0.61
26:YB:108:U:H2'	26:YB:109:C:H5''	1.83	0.61
1:QA:244:U:O4	1:QA:893:C:C4	2.54	0.60
1:QA:244:U:O4	1:QA:893:C:N3	2.33	0.60
25:RA:1190:G:H2'	25:RA:1191:G:H8	1.64	0.60
44:RY:99:CYS:SG	44:RY:100:ALA:N	2.74	0.60
3:XC:3:ASN:HB2	3:XC:4:LYS:HG2	1.83	0.60
16:XP:20:VAL:HG12	16:XP:35:LYS:HA	1.83	0.60
25:YA:2281:C:O2'	25:YA:2282:G:H5'	2.00	0.60
29:YF:60:SER:OG	29:YF:61:GLY:N	2.34	0.60
1:QA:1434:A:H62	1:QA:1467:G:H21	1.48	0.60
1:QA:750:G:O2'	15:QO:21:ASP:OD1	2.18	0.60
7:QG:101:LEU:HA	7:QG:104:LEU:HD12	1.82	0.60
25:RA:707:G:H1	25:RA:724:U:H3	1.48	0.60
27:RD:208:LYS:HG3	27:RD:210:GLY:H	1.66	0.60
1:XA:452:A:N7	1:XA:480:U:O4	2.34	0.60
27:YD:133:LEU:HA	27:YD:136:ILE:HD12	1.82	0.60
33:YN:1:MET:HG2	40:YU:93:LYS:HD3	1.84	0.60
1:QA:1286:A:H2'	1:QA:1287:A:H4'	1.82	0.60
1:QA:976:G:N2	1:QA:1363(A):C:OP2	2.28	0.60
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	1.82	0.60
3:QC:63:ASN:HA	3:QC:98:ASN:HB3	1.83	0.60
50:R4:26:SER:OG	50:R4:27:THR:N	2.35	0.60
25:RA:1593:G:H2'	25:RA:1594:G:H8	1.66	0.60
25:RA:227:A:N6	25:RA:410:G:H21	1.99	0.60
1:XA:1375:A:O2'	7:XG:29:LYS:NZ	2.32	0.60
10:XJ:28:ARG:NH2	10:XJ:34:VAL:O	2.34	0.60
25:YA:1263:U:O2'	25:YA:1264:G:H5'	2.01	0.60
1:QA:427:U:P	4:QD:13:ARG:HH22	2.24	0.60
1:QA:790:A:OP1	22:QV:38:A:O2'	2.19	0.60
2:QB:82:ARG:NH1	2:QB:150:SER:OG	2.34	0.60
25:RA:1592:C:H2'	25:RA:1593:G:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2246:G:H2'	25:RA:2247:A:H8	1.65	0.60
25:RA:848:G:H2'	25:RA:849:A:H8	1.66	0.60
1:XA:1402:4OC:HM22	1:XA:1403:C:H5'	1.84	0.60
25:RA:1341:U:OP1	25:RA:1397:U:N3	2.32	0.60
25:RA:1607:C:N4	25:RA:1622:G:OP2	2.34	0.60
25:RA:247:G:O2'	25:RA:250:G:O6	2.19	0.60
10:XJ:84:GLN:O	10:XJ:88:LEU:HB2	2.01	0.60
20:XT:50:GLU:HB2	20:XT:99:LEU:HD12	1.82	0.60
25:YA:1030:G:OP2	36:YQ:128:LYS:NZ	2.34	0.60
25:YA:814:C:O2'	25:YA:1224:C:N3	2.34	0.60
25:YA:2099:U:O4	25:YA:2190:G:O6	2.19	0.60
25:YA:806:C:O2	25:YA:2444:G:O2'	2.16	0.60
29:YF:70:THR:OG1	29:YF:71:GLY:N	2.34	0.60
13:QM:14:ARG:NH2	13:QM:16:ASP:OD2	2.32	0.60
21:QU:10:ARG:HA	21:QU:13:ILE:HD12	1.82	0.60
25:RA:1687:G:N2	25:RA:1702:G:O6	2.34	0.60
25:RA:1941:C:N4	25:RA:1965:C:O4'	2.35	0.60
25:RA:574:C:N3	28:RE:145:LYS:NZ	2.41	0.60
25:RA:971:C:O2'	25:RA:983:A:N3	2.30	0.60
1:XA:689:C:OP1	11:XK:27:ASN:ND2	2.34	0.60
25:YA:2845:G:H2'	25:YA:2846:G:H8	1.67	0.60
25:YA:1693:U:O2'	27:YD:14:ARG:NH2	2.35	0.60
41:YV:56:SER:OG	41:YV:57:VAL:N	2.34	0.60
2:QB:144:ARG:NH1	2:QB:148:TYR:OH	2.35	0.60
16:QP:21:VAL:HG22	16:QP:33:ILE:HD12	1.83	0.60
25:RA:1592:C:H2'	25:RA:1593:G:C8	2.36	0.60
25:RA:2223:G:OP1	27:RD:172:TYR:OH	2.13	0.60
2:XB:80:ILE:HG22	2:XB:215:LEU:HD23	1.84	0.60
1:XA:579:G:O3'	15:XO:54:ARG:NH2	2.34	0.60
25:YA:1009:A:OP2	33:YN:37:LYS:NZ	2.34	0.60
25:YA:1754:C:P	39:YT:96:ARG:HH12	2.24	0.60
25:YA:380:U:H2'	25:YA:381:G:H8	1.67	0.60
37:YR:8:ARG:NH1	37:YR:43:GLU:OE2	2.35	0.60
25:YA:2451:A:C2	56:ZB:3:PPU:HD2	2.37	0.60
25:RA:964:C:O2'	25:RA:2273:A:N3	2.29	0.60
45:RZ:48:PHE:O	45:RZ:52:SER:HB3	2.01	0.60
1:XA:673:G:O3'	6:XF:87:ARG:NH2	2.34	0.60
29:YF:185:ASP:OD1	29:YF:188:ARG:NH1	2.34	0.60
1:QA:1103:C:H5'	2:QB:98:LEU:HD11	1.83	0.60
4:QD:31:CYS:HA	58:QD:303:SF4:S1	2.41	0.60
28:RE:152:LYS:HG3	33:RN:77:GLY:C	2.21	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1261:A:H62	1:XA:1274:G:H21	1.50	0.60
4:QD:20:TYR:CE2	6:XF:15:ASP:HB3	2.36	0.60
25:YA:392:C:H5'	25:YA:409:C:H5'	1.82	0.60
1:QA:297:G:N2	1:QA:300:A:OP2	2.35	0.60
11:QK:23:ALA:HA	11:QK:28:THR:HG23	1.83	0.60
25:RA:1782:C:O2	25:RA:2608:G:O2'	2.14	0.60
25:RA:238:C:O2'	25:RA:608:A:N3	2.27	0.60
1:XA:1026:G:N2	1:XA:1027:C:O2	2.35	0.60
1:XA:1442(A):G:O2'	1:XA:1442(B):G:O5'	2.17	0.60
25:YA:414:C:H2'	25:YA:415:A:H8	1.67	0.60
1:QA:1323:G:HO2'	1:QA:1362:C:HO2'	1.46	0.59
25:RA:1190:G:O2'	25:RA:1191:G:H5'	2.01	0.59
30:RG:173:LEU:O	30:RG:177:GLY:N	2.34	0.59
1:XA:192:U:O2'	20:XT:60:GLU:OE2	2.16	0.59
25:YA:1280:G:H2'	25:YA:1281:G:H5'	1.83	0.59
31:YH:107:VAL:O	31:YH:152:ARG:NH2	2.35	0.59
35:YP:29:LYS:HD3	35:YP:30:THR:HG23	1.83	0.59
37:RR:104:ARG:HG3	37:RR:111:LEU:HD21	1.84	0.59
2:XB:168:THR:HA	2:XB:171:ALA:HB2	1.83	0.59
1:XA:1329:A:H62	21:XU:7:ARG:HH22	1.48	0.59
22:XV:53:G:O2'	22:XV:54:U:O5'	2.18	0.59
25:YA:1696:G:N2	25:YA:1977:A:O2'	2.32	0.59
25:YA:633:A:O2'	25:YA:2404:C:OP1	2.18	0.59
38:YS:27:SER:HA	38:YS:88:ASP:HB3	1.84	0.59
25:RA:1467:C:H5	25:RA:1546:C:H2'	1.65	0.59
28:YE:11:MET:HG2	28:YE:24:THR:HG22	1.84	0.59
45:YZ:5:LEU:H	45:YZ:59:LEU:HA	1.66	0.59
1:QA:632:A:H3'	1:QA:633:G:H8	1.68	0.59
14:QN:47:LEU:HD12	14:QN:52:GLN:HB2	1.84	0.59
1:QA:324:G:H5'	20:QT:22:ARG:HH21	1.67	0.59
25:RA:1110:G:OP2	25:RA:1110:G:H2'	2.02	0.59
1:XA:372:C:H42	1:XA:389:A:H62	1.51	0.59
25:RA:1337:G:H2'	25:RA:1338:G:H8	1.68	0.59
4:XD:5:ILE:O	4:XD:115:ARG:NH1	2.35	0.59
19:XS:77:THR:HG23	19:XS:78:ARG:HG3	1.84	0.59
1:QA:79:G:H1	1:QA:90:U:H3	1.51	0.59
29:RF:124:LEU:HB2	29:RF:193:VAL:HG12	1.85	0.59
32:RI:88:ILE:HG22	32:RI:90:GLY:H	1.67	0.59
26:RB:107:G:H5'	45:RZ:31:ARG:NH1	2.18	0.59
1:XA:1271:G:H5'	1:XA:1314:C:H5'	1.85	0.59
13:XM:34:LEU:HD11	13:XM:41:PRO:HA	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2820:A:OP1	37:YR:2:ARG:NH2	2.36	0.59
25:YA:687:C:H42	25:YA:787:U:H4'	1.68	0.59
2:QB:54:THR:HG22	2:QB:199:TYR:HB3	1.84	0.59
1:QA:1304:G:OP1	21:QU:2:GLY:N	2.35	0.59
32:RI:69:LYS:HG3	32:RI:70:GLU:HG2	1.85	0.59
1:XA:272:C:H2'	1:XA:273:A:H8	1.68	0.59
22:XV:3:C:O2'	22:XV:4:G:H5'	2.02	0.59
39:YT:16:ARG:NH2	39:YT:83:ILE:O	2.30	0.59
1:QA:559:A:H4'	1:QA:560:U:H3'	1.84	0.59
3:QC:81:GLY:O	3:QC:85:ARG:NH1	2.36	0.59
7:QG:68:ASN:ND2	7:QG:127:ALA:O	2.35	0.59
25:RA:826:U:H5''	25:RA:2429:G:OP2	2.03	0.59
25:RA:2031:A:N3	25:RA:2455:G:O2'	2.33	0.59
25:RA:958:U:OP1	36:RQ:74:TYR:OH	2.10	0.59
34:RO:63:VAL:HB	34:RO:102:VAL:HG13	1.83	0.59
4:XD:21:LEU:HD23	58:XD:302:SF4:S3	2.43	0.59
1:XA:1079:G:O3'	5:XE:14:ARG:NH2	2.35	0.59
54:Y8:11:LYS:NZ	54:Y8:65:GLU:OE2	2.32	0.59
25:YA:2452:C:H42	25:YA:2504:U:H3	1.50	0.59
25:YA:1216:G:P	40:YU:11:ARG:HH21	2.24	0.59
1:QA:151:A:H62	1:QA:170:U:H3	1.48	0.59
1:QA:359:U:H2'	1:QA:360:A:H8	1.67	0.59
25:RA:2081:C:H2'	25:RA:2082:A:H8	1.68	0.59
29:RF:60:SER:OG	29:RF:61:GLY:N	2.36	0.59
30:RG:104:GLU:O	30:RG:108:ASN:ND2	2.35	0.59
31:RH:51:ARG:HG3	31:RH:69:ARG:HH22	1.68	0.59
1:XA:1010:G:H2'	1:XA:1011:G:H8	1.66	0.59
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.37	0.59
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.17	0.59
1:XA:673:G:H2'	1:XA:674:G:C8	2.37	0.59
4:XD:6:GLY:O	4:XD:8:VAL:HG12	2.03	0.59
25:YA:32:C:H2'	25:YA:33:U:C6	2.38	0.59
25:YA:856:C:O2'	25:YA:857:C:OP1	2.17	0.59
1:QA:1330:U:H4'	13:QM:23:TYR:CZ	2.37	0.59
50:R4:14:ILE:HB	50:R4:22:ILE:HB	1.84	0.59
4:XD:8:VAL:HA	4:XD:11:LEU:HD13	1.84	0.59
55:Y9:16:VAL:HG12	55:Y9:25:VAL:HG22	1.85	0.59
25:YA:1316:U:H2'	25:YA:1317:A:C8	2.38	0.59
25:YA:2468:G:O2'	25:YA:2469:A:OP2	2.20	0.59
25:YA:2737:G:H2'	25:YA:2738:A:C8	2.37	0.59
27:YD:108:PRO:HA	27:YD:196:VAL:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:301:G:OP2	44:YY:84:ARG:NH2	2.36	0.59
1:QA:1069:C:O2'	1:QA:1192:C:O2	2.15	0.58
9:QI:128:ARG:NE	22:QV:32:C:OP2	2.36	0.58
45:RZ:151:HIS:HA	45:RZ:170:THR:HA	1.85	0.58
13:XM:78:ILE:HA	13:XM:81:LEU:HD12	1.85	0.58
1:QA:1307:U:H2'	1:QA:1308:U:C6	2.38	0.58
1:QA:658:G:OP1	15:QO:31:LEU:HD11	2.03	0.58
1:QA:1079:G:O3'	5:QE:14:ARG:NH2	2.36	0.58
25:RA:153:C:OP2	47:R1:92:LYS:NZ	2.35	0.58
29:RF:51:THR:OG1	29:RF:52:LYS:N	2.30	0.58
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.84	0.58
1:XA:337:C:H2'	1:XA:338:A:H8	1.69	0.58
2:QB:109:SER:O	2:QB:113:HIS:ND1	2.35	0.58
3:QC:3:ASN:HB2	3:QC:4:LYS:HG3	1.83	0.58
1:QA:692:U:H3	11:QK:53:SER:HG	1.51	0.58
1:QA:1202:G:H4'	14:QN:29:ARG:HE	1.68	0.58
25:RA:1035:U:H3	25:RA:1120:G:H1	1.51	0.58
25:RA:993:G:OP1	40:RU:50:ARG:NH2	2.37	0.58
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.38	0.58
1:XA:280:C:H42	17:XQ:39:SER:HB3	1.68	0.58
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.85	0.58
53:Y7:34:ARG:HG2	53:Y7:39:ARG:HG3	1.85	0.58
1:QA:918:A:H2'	1:QA:919:A:C8	2.39	0.58
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.36	0.58
1:QA:454:C:OP1	16:QP:75:ARG:NH2	2.36	0.58
45:RZ:126:VAL:HG12	45:RZ:163:LEU:HA	1.85	0.58
1:XA:1437:C:H2'	1:XA:1438:G:H8	1.69	0.58
1:XA:67:C:H2'	1:XA:68:G:C8	2.39	0.58
9:XI:5:TYR:HA	9:XI:17:VAL:O	2.02	0.58
31:YH:47:GLU:CD	31:YH:47:GLU:H	2.07	0.58
44:YY:31:LEU:HB2	44:YY:36:ALA:HB3	1.84	0.58
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.17	0.58
1:QA:187:C:O2	20:QT:89:ARG:NH2	2.37	0.58
17:QQ:66:SER:H	17:QQ:69:LYS:HB3	1.68	0.58
1:XA:593:G:H1	1:XA:646:U:H3	1.50	0.58
25:YA:1639:U:H2'	25:YA:1640:C:H5''	1.84	0.58
25:YA:1794:U:H2'	25:YA:1795:C:H6	1.69	0.58
25:YA:320:A:N3	29:YF:169:ASN:ND2	2.52	0.58
1:QA:631:G:H2'	1:QA:632:A:C8	2.38	0.58
13:QM:88:ARG:O	13:QM:92:HIS:ND1	2.34	0.58
22:QV:4:G:O2'	22:QV:5:G:O5'	2.22	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1397:C:O4'	23:QX:23:A:N6	2.36	0.58
25:RA:2065:C:H1'	25:RA:2449:U:H3	1.67	0.58
25:RA:2345:G:O6	25:RA:2371:G:N2	2.34	0.58
25:RA:699:A:N3	25:RA:1633:G:O2'	2.34	0.58
1:XA:1422:G:H5''	34:YO:48:PRO:HB3	1.86	0.58
1:XA:359:U:H3'	1:XA:360:A:C8	2.38	0.58
41:YV:76:LYS:HB2	41:YV:81:TYR:HB3	1.84	0.58
44:YY:9:LYS:NZ	44:YY:28:LYS:O	2.34	0.58
4:QD:191:ARG:HH12	4:QD:195:ALA:HA	1.67	0.58
25:RA:1529:G:H1	25:RA:1540:U:H3	1.49	0.58
1:XA:390:C:H2'	1:XA:391:G:C8	2.39	0.58
25:YA:1196:C:HO2'	25:YA:1227:G:HO2'	1.42	0.58
1:QA:829:G:O6	1:QA:858:G:N2	2.36	0.58
3:QC:18:TRP:HB3	3:QC:20:SER:H	1.69	0.58
12:QL:74:GLY:O	12:QL:102:ARG:NH2	2.33	0.58
1:QA:1059:C:O3'	14:QN:45:ARG:NH2	2.35	0.58
25:RA:1790:C:H5''	25:RA:1791:A:OP1	2.03	0.58
25:RA:1856:G:H1	25:RA:1886:C:H42	1.50	0.58
25:RA:2355:C:H1'	46:R0:39:ARG:HE	1.68	0.58
27:RD:134:ARG:NH1	27:RD:187:GLY:HA3	2.19	0.58
25:RA:2511:U:O2'	28:RE:138:PRO:O	2.18	0.58
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.68	0.58
1:XA:461:A:O2'	1:XA:471:G:N7	2.31	0.58
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.37	0.58
25:YA:1102:C:H2'	25:YA:1103:A:H8	1.69	0.58
25:YA:1818:U:OP2	27:YD:157:ARG:NE	2.27	0.58
25:YA:2446:G:H21	25:YA:2449:U:H3	1.52	0.58
25:YA:277:C:O3'	25:YA:278:A:C8	2.57	0.58
1:QA:545:C:H5'	4:QD:72:GLU:HG3	1.85	0.58
13:QM:108:ARG:NH1	13:QM:112:GLY:O	2.37	0.58
5:QE:76:ILE:HG12	5:QE:118:ILE:HD11	1.86	0.58
25:RA:660:G:N2	35:RP:12:ALA:O	2.37	0.58
25:RA:848:G:H2'	25:RA:849:A:C8	2.38	0.58
26:RB:45:A:O4'	30:RG:95:ARG:NH1	2.36	0.58
29:YF:29:ASN:N	29:YF:112:MET:SD	2.76	0.58
41:YV:50:PRO:HB2	41:YV:51:VAL:HG22	1.85	0.58
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.85	0.57
25:RA:1378:A:OP1	53:R7:10:ARG:NH2	2.37	0.57
25:RA:889:C:O2'	25:RA:890:A:O5'	2.22	0.57
28:RE:53:PRO:HA	28:RE:75:VAL:HA	1.85	0.57
1:XA:371:G:O2'	1:XA:373:A:N7	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:514:C:H2'	1:XA:515:G:C8	2.38	0.57
5:XE:94:ALA:HB1	5:XE:98:THR:HG21	1.86	0.57
20:XT:22:ARG:HA	20:XT:25:ARG:HG2	1.86	0.57
25:YA:201:C:H4'	25:YA:386:G:C2	2.39	0.57
28:YE:119:ARG:NH1	28:YE:156:MET:O	2.37	0.57
25:RA:2555:U:N3	56:ZA:1:C:C6	2.71	0.57
1:QA:927:G:N2	1:QA:1390:U:O2	2.32	0.57
36:RQ:23:GLY:O	36:RQ:101:ARG:NH1	2.37	0.57
1:XA:373:A:H2'	1:XA:374:A:C8	2.38	0.57
49:Y3:12:PRO:HA	49:Y3:15:TYR:CD1	2.28	0.57
25:YA:1137:G:H2'	25:YA:1138:G:C8	2.39	0.57
25:YA:2156:G:N7	25:YA:2157:G:N2	2.51	0.57
25:YA:2641:G:H2'	25:YA:2642:G:H8	1.68	0.57
25:YA:277:C:O3'	25:YA:278:A:H8	1.87	0.57
1:QA:877:C:H2'	1:QA:878:G:H8	1.68	0.57
25:RA:320:A:O2'	25:RA:322:A:OP2	2.15	0.57
26:RB:37:C:O2	38:RS:95:HIS:NE2	2.35	0.57
20:XT:31:SER:O	20:XT:35:THR:OG1	2.22	0.57
25:YA:1086:A:O2'	25:YA:1103:A:N1	2.37	0.57
25:YA:272(Q):G:H2'	25:YA:272(R):G:H8	1.69	0.57
30:YG:16:ARG:NH2	30:YG:28:VAL:O	2.37	0.57
36:YQ:141:GLN:NE2	45:YZ:74:VAL:O	2.37	0.57
1:QA:8:A:N6	4:QD:205:GLU:O	2.37	0.57
25:RA:1991:U:H2'	25:RA:1992:G:H5''	1.86	0.57
25:RA:2882:A:OP1	37:RR:96:ARG:NE	2.37	0.57
1:XA:1073:U:O2	2:XB:104:ASN:ND2	2.35	0.57
2:XB:178:ARG:HB3	8:XH:72:PRO:HA	1.85	0.57
1:XA:36:C:O2'	12:XL:117:ARG:NH2	2.36	0.57
24:XY:38:A:H2'	24:XY:39:A:C8	2.38	0.57
25:YA:1388:G:H2'	25:YA:1389:G:H8	1.69	0.57
25:YA:2162:G:OP1	25:YA:2172:U:O2'	2.22	0.57
25:YA:1813:G:H21	27:YD:51:VAL:HG23	1.70	0.57
1:QA:429:U:P	4:QD:13:ARG:HH12	2.25	0.57
10:QJ:14:LYS:NZ	10:QJ:17:ASP:OD2	2.36	0.57
25:RA:1697:G:H3'	25:RA:1698:A:H2'	1.87	0.57
25:RA:1802:A:H2'	25:RA:1803:A:C8	2.40	0.57
25:RA:2317:C:N4	25:RA:2318:G:O6	2.37	0.57
25:RA:478:A:N7	25:RA:480:A:N6	2.53	0.57
25:RA:521:G:H2'	25:RA:522:G:H8	1.68	0.57
25:RA:2305:A:H5''	30:RG:134:GLY:HA3	1.85	0.57
43:RX:8:ILE:O	48:R2:36:ARG:NH2	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:60:LEU:HB3	12:XL:62:SER:H	1.70	0.57
25:YA:1853:A:N3	25:YA:2233:U:O2'	2.35	0.57
25:YA:1816:G:O6	27:YD:35:LYS:NZ	2.38	0.57
4:QD:64:LEU:HA	4:QD:67:ILE:HD12	1.86	0.57
5:QE:43:LEU:HD21	5:QE:109:ILE:HD12	1.87	0.57
25:RA:2818:G:H1	25:RA:2828:C:H42	1.51	0.57
30:RG:19:LEU:HD21	30:RG:32:PRO:HD2	1.87	0.57
1:XA:580:U:O4	1:XA:761:G:O6	2.22	0.57
49:Y3:3:ARG:HD3	49:Y3:60:GLU:HG2	1.84	0.57
25:YA:1761:C:H42	25:YA:1762:A:H62	1.53	0.57
25:YA:1853:A:H1'	25:YA:2234:G:H5'	1.86	0.57
28:YE:82:ARG:NH1	28:YE:83:ASP:OD1	2.37	0.57
1:QA:132:C:H5'	1:QA:262:A:H1'	1.85	0.57
7:QG:29:LYS:HB3	7:QG:105:VAL:HG11	1.86	0.57
25:RA:2220:G:C8	25:RA:2220:G:H3'	2.39	0.57
25:RA:2405:G:O2'	25:RA:2406:U:OP1	2.18	0.57
25:RA:2698:U:H3	25:RA:2709:G:H1	1.53	0.57
25:RA:61:G:H1	25:RA:94(A):C:H42	1.53	0.57
25:RA:1294:U:O2	37:RR:23:ASN:ND2	2.37	0.57
1:XA:927:G:N2	1:XA:1390:U:O2	2.32	0.57
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.40	0.57
11:XK:33:THR:HA	11:XK:39:PRO:HA	1.86	0.57
39:YT:73:GLU:OE1	39:YT:103:ARG:NE	2.37	0.57
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.38	0.57
25:RA:551:G:O2'	25:RA:1220:A:N3	2.30	0.57
25:RA:1528(B):A:H62	25:RA:1541:G:N2	2.03	0.57
28:RE:143:ASN:HD22	28:RE:147:PRO:HG3	1.70	0.57
1:XA:436:C:H2'	1:XA:437:U:H6	1.69	0.57
25:YA:639:U:H2'	25:YA:640:C:C6	2.40	0.57
25:YA:675:A:OP1	29:YF:63:LYS:NZ	2.36	0.57
25:YA:994:C:OP1	40:YU:53:ARG:NH2	2.37	0.57
29:YF:51:THR:OG1	29:YF:52:LYS:N	2.36	0.57
1:QA:246:A:N1	1:QA:278:G:O2'	2.36	0.57
1:QA:28:G:OP1	4:QD:76:ARG:NH2	2.34	0.57
25:RA:1389:G:H2'	25:RA:1390:U:C6	2.40	0.57
25:RA:1842:G:H2'	25:RA:1843:C:C6	2.39	0.57
25:RA:2221:G:H5''	25:RA:2222:G:OP2	2.05	0.57
1:XA:976:G:N2	1:XA:1363(A):C:OP2	2.29	0.57
1:XA:781:A:H4'	1:XA:1522:U:O2'	2.04	0.57
1:XA:390:C:H2'	1:XA:391:G:H8	1.69	0.57
10:XJ:61:GLU:OE1	14:YN:58:LYS:NZ	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:665:C:H2'	25:YA:666:G:H8	1.69	0.57
25:YA:2773:C:OP1	28:YE:166:THR:OG1	2.23	0.57
9:QI:46:ALA:HA	9:QI:78:LYS:HD3	1.86	0.57
13:QM:90:LEU:HA	13:QM:93:ARG:HE	1.69	0.57
25:RA:1385:G:O2'	25:RA:1396:U:O2	2.21	0.57
25:RA:2485:G:OP1	36:RQ:46:GLN:NE2	2.34	0.57
32:RI:129:THR:HA	32:RI:137:PRO:HA	1.87	0.57
35:RP:52:GLU:OE1	35:RP:55:ARG:NH1	2.38	0.57
25:YA:1790:C:H5''	25:YA:1791:A:OP1	2.05	0.57
25:YA:205:G:O2'	25:YA:206:U:OP2	2.23	0.57
29:YF:124:LEU:HD23	29:YF:191:ARG:HH12	1.69	0.57
40:YU:43:GLY:HA3	41:YV:73:SER:HB3	1.86	0.57
1:QA:1295:G:O2'	13:QM:14:ARG:NH1	2.38	0.56
5:QE:139:LEU:HA	5:QE:142:LEU:HD13	1.87	0.56
53:R7:34:ARG:NH1	53:R7:41:ARG:O	2.38	0.56
38:RS:34:HIS:ND1	38:RS:53:SER:OG	2.34	0.56
25:RA:1754:C:P	39:RT:96:ARG:HH12	2.27	0.56
5:XE:102:ALA:O	5:XE:107:ARG:NH1	2.38	0.56
25:YA:1065:U:HO2'	25:YA:1066:U:P	2.27	0.56
25:YA:860:U:H2'	25:YA:861:A:C8	2.40	0.56
1:QA:184:G:H2'	1:QA:185:A:H8	1.69	0.56
4:QD:191:ARG:NH1	4:QD:194:LEU:O	2.37	0.56
25:RA:1227:G:OP2	40:RU:16:LYS:NZ	2.38	0.56
25:RA:10:G:O2'	25:RA:2801(B):A:N6	2.37	0.56
2:XB:92:TYR:OH	2:XB:150:SER:OG	2.24	0.56
25:YA:2637:U:O4	25:YA:2776:A:N7	2.38	0.56
25:YA:615:G:OP2	29:YF:43:LYS:NZ	2.27	0.56
40:YU:44:ASN:ND2	41:YV:75:PHE:O	2.34	0.56
45:YZ:19:ARG:NH1	45:YZ:84:GLU:O	2.37	0.56
1:QA:384:G:H2'	1:QA:385:C:C6	2.40	0.56
13:QM:67:GLU:OE1	13:QM:71:ARG:NH1	2.38	0.56
25:RA:1827:C:OP2	27:RD:222:ARG:NH1	2.38	0.56
25:RA:2080:G:OP1	47:R1:35:THR:HG21	2.06	0.56
30:RG:161:THR:HG22	30:RG:163:ALA:H	1.70	0.56
1:XA:736:C:H2'	1:XA:737:A:H8	1.69	0.56
6:XF:81:ILE:HG21	27:YD:125:ILE:HD13	1.86	0.56
1:QA:982:U:N3	1:QA:1223:C:N4	2.35	0.56
1:QA:1240:U:N3	7:QG:30:ILE:O	2.34	0.56
25:RA:2572:A:OP2	28:RE:146:THR:OG1	2.20	0.56
27:RD:143:HIS:ND1	27:RD:194:GLY:O	2.37	0.56
1:XA:584:G:H1	1:XA:757:U:H3	1.52	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:90:LEU:HD23	13:XM:93:ARG:HD2	1.86	0.56
25:YA:1137:G:H2'	25:YA:1138:G:H8	1.71	0.56
25:YA:1508:A:H4'	25:YA:1509(B):A:C4	2.40	0.56
27:YD:72:LYS:NZ	27:YD:99:ASP:OD2	2.34	0.56
25:RA:272(I):G:H1	25:RA:272(O):C:H42	1.54	0.56
25:RA:820:A:H2'	25:RA:821:A:C8	2.40	0.56
29:RF:195:ASP:HB2	29:RF:198:ALA:H	1.70	0.56
1:XA:1456:G:N1	20:XT:51:GLU:OE1	2.38	0.56
25:YA:1113:U:H2'	25:YA:1114:G:C8	2.41	0.56
56:ZB:3:PPU:N7	56:ZB:3:PPU:H93	2.19	0.56
1:QA:1099:G:OP2	2:QB:144:ARG:NH1	2.30	0.56
13:QM:16:ASP:N	13:QM:16:ASP:OD1	2.38	0.56
11:QK:110:ASP:HB3	18:QR:85:LEU:HB2	1.87	0.56
25:RA:2591:C:H2'	25:RA:2592:G:C8	2.40	0.56
26:RB:19:G:H1	26:RB:64:C:H42	1.52	0.56
45:RZ:102:LEU:HD11	45:RZ:124:ILE:HG12	1.88	0.56
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.69	0.56
25:YA:1299:G:H21	25:YA:1641:A:H62	1.52	0.56
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.69	0.56
8:QH:36:LEU:HD13	8:QH:39:LEU:HD13	1.86	0.56
25:RA:628:G:H5''	54:R8:18:ALA:HB2	1.87	0.56
25:RA:358:U:H2'	25:RA:359:A:H8	1.70	0.56
25:RA:1800:C:OP2	27:RD:183:ARG:NH2	2.38	0.56
1:XA:1524:C:H2'	1:XA:1525:G:C8	2.40	0.56
1:XA:235:C:H2'	1:XA:236:G:H8	1.71	0.56
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.88	0.56
3:XC:17:ASP:O	3:XC:54:ARG:NH2	2.38	0.56
1:XA:489:C:H5''	4:XD:131:ARG:HH12	1.70	0.56
1:XA:8:A:N6	4:XD:205:GLU:O	2.39	0.56
1:XA:1178:G:P	9:XI:93:ARG:HH21	2.29	0.56
55:Y9:25:VAL:HB	55:Y9:34:GLN:HB2	1.88	0.56
25:YA:1639:U:C2'	25:YA:1640:C:H5''	2.35	0.56
29:YF:11:VAL:HG22	29:YF:125:LEU:HB2	1.88	0.56
1:QA:1336:C:H5'	1:QA:1337:G:C2	2.40	0.56
1:QA:922:G:H2'	1:QA:923:A:H8	1.71	0.56
14:QN:22:THR:OG1	14:QN:33:VAL:HG23	2.05	0.56
25:RA:1041:C:H42	25:RA:1114:G:H1	1.54	0.56
25:RA:1301:A:H4'	25:RA:1302:A:OP1	2.06	0.56
27:RD:134:ARG:NH1	27:RD:187:GLY:CA	2.69	0.56
27:RD:134:ARG:HH11	27:RD:187:GLY:CA	2.19	0.56
31:RH:89:ILE:HG22	31:RH:162:ILE:HG23	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:626:U:O4	35:RP:81:GLN:NE2	2.39	0.56
25:RA:869:G:H5'	36:RQ:6:ARG:HH22	1.70	0.56
1:XA:344:A:H5''	1:XA:345:C:C5	2.41	0.56
1:XA:664:G:H22	1:XA:741:G:H1	1.54	0.56
29:YF:50:SER:OG	29:YF:51:THR:N	2.39	0.56
1:QA:1373:G:OP2	9:QI:71:SER:OG	2.22	0.56
25:RA:1153:C:OP1	40:RU:92:ARG:NH2	2.39	0.56
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.22	0.56
1:XA:1247:U:O4	1:XA:1290:G:O6	2.24	0.56
1:XA:737:A:H2'	1:XA:738:C:C6	2.40	0.56
2:XB:192:SER:OG	2:XB:193:ASP:N	2.36	0.56
25:YA:1573:G:H2'	25:YA:1574:C:H5'	1.88	0.56
25:YA:330:A:O2'	25:YA:331:A:H8	1.89	0.56
1:QA:1158:C:H5	1:QA:1181:G:H1	1.53	0.56
1:QA:934:C:O2'	1:QA:1344:C:OP2	2.19	0.56
53:R7:24:THR:HG23	53:R7:27:GLY:H	1.70	0.56
1:XA:1203:C:H2'	1:XA:1204:A:C8	2.41	0.56
1:XA:1320:C:H42	19:XS:36:ARG:HE	1.53	0.56
1:XA:7:G:O2'	5:XE:120:THR:O	2.22	0.56
8:XH:111:ILE:HG22	8:XH:134:ILE:HD13	1.88	0.56
24:XY:37:G:O2'	25:YA:1913:A:N1	2.36	0.56
25:YA:851:U:OP1	49:Y3:49:LYS:NZ	2.27	0.56
40:YU:28:ARG:NH1	40:YU:38:THR:OG1	2.37	0.56
4:QD:166:LYS:HB2	4:QD:178:VAL:HG11	1.88	0.56
11:QK:33:THR:HA	11:QK:39:PRO:HA	1.88	0.56
25:RA:1000:A:H2'	25:RA:1001:A:C8	2.41	0.56
25:RA:835:A:H2'	25:RA:836:G:H8	1.71	0.56
36:RQ:75:THR:HA	36:RQ:90:VAL:HA	1.87	0.56
38:RS:25:ARG:NH1	38:RS:42:ASP:OD1	2.39	0.56
1:XA:149:A:H61	1:XA:172:A:H62	1.52	0.56
1:XA:62:U:O2'	1:XA:379:C:O2	2.24	0.56
25:YA:855:G:O2'	46:Y0:27:GLU:OE2	2.20	0.56
25:YA:813:U:HO2'	25:YA:1225:G:HO2'	1.53	0.56
25:YA:693:C:O2'	25:YA:1353:A:N3	2.38	0.56
25:YA:1453:U:H5'	37:YR:63:ARG:NE	2.20	0.56
25:YA:2266:A:H4'	25:YA:2267:A:N3	2.21	0.56
25:YA:2314:C:H2'	25:YA:2315:G:H8	1.71	0.56
38:YS:12:PHE:O	38:YS:16:ASN:ND2	2.38	0.56
1:QA:1422:G:H2'	1:QA:1423:G:C8	2.41	0.55
1:QA:222:U:H2'	1:QA:223:U:C6	2.40	0.55
6:QF:1:MET:N	6:QF:69:GLU:OE1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1147:C:HO2'	9:QI:5:TYR:HH	1.54	0.55
25:RA:2086:U:H2'	25:RA:2087:G:H8	1.71	0.55
25:RA:881:G:H22	25:RA:895:U:H3	1.53	0.55
25:RA:870:A:H5'	36:RQ:6:ARG:HB3	1.88	0.55
11:XK:45:GLY:HA2	11:XK:48:ILE:HD12	1.87	0.55
50:Y4:16:CYS:SG	50:Y4:17:GLY:N	2.79	0.55
25:YA:1625:C:H2'	25:YA:1626:G:O4'	2.07	0.55
25:YA:2017:U:H5''	25:YA:2018:G:OP2	2.06	0.55
25:YA:604:G:OP2	35:YP:90:ARG:NH1	2.39	0.55
29:YF:117:ARG:NH2	29:YF:189:THR:O	2.37	0.55
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.41	0.55
1:QA:624:C:H2'	1:QA:625:G:H8	1.70	0.55
1:QA:745:C:H2'	1:QA:746:A:C8	2.41	0.55
25:RA:2345:G:N3	25:RA:2381:C:H2'	2.21	0.55
25:RA:2744:G:N2	31:RH:143:GLN:OE1	2.32	0.55
39:RT:102:ILE:HA	39:RT:105:LEU:HD13	1.88	0.55
1:XA:1137:C:O2	1:XA:1138:G:N2	2.39	0.55
1:XA:1183:A:H3'	1:XA:1184:G:H5''	1.87	0.55
1:XA:1380:U:O4	7:XG:2:ALA:N	2.39	0.55
9:XI:21:PRO:HA	9:XI:59:PHE:HA	1.88	0.55
22:XV:23:C:H2'	22:XV:24:U:H6	1.72	0.55
25:YA:17:G:H4'	40:YU:25:TRP:HE1	1.69	0.55
27:YD:85:ASP:OD2	27:YD:88:ARG:NH1	2.39	0.55
37:YR:107:ASP:N	37:YR:107:ASP:OD1	2.36	0.55
1:QA:34:C:H2'	1:QA:35:G:H8	1.72	0.55
1:QA:583:A:O2'	17:QQ:91:ARG:NH2	2.28	0.55
4:QD:104:VAL:HA	4:QD:107:ARG:HB2	1.88	0.55
1:QA:7:G:O2'	5:QE:120:THR:O	2.23	0.55
1:QA:826:C:O2	8:QH:15:ASN:ND2	2.39	0.55
54:R8:22:VAL:HG13	54:R8:50:LEU:HB2	1.89	0.55
1:XA:399:G:H2'	1:XA:400:C:C6	2.42	0.55
27:YD:66:ASP:HB3	27:YD:105:ILE:HG22	1.88	0.55
1:QA:1235:U:O2'	1:QA:1305:G:OP1	2.15	0.55
25:RA:1143:A:OP1	33:RN:25:ARG:NH2	2.35	0.55
25:RA:1270:C:H5''	25:RA:1271:G:H5'	1.88	0.55
25:RA:1316:U:H2'	25:RA:1317:A:H8	1.71	0.55
22:QV:75:C:H42	25:RA:2251:OMG:HN1	1.55	0.55
25:RA:952:G:OP1	36:RQ:16:ARG:NH2	2.39	0.55
29:RF:116:ASP:OD2	29:RF:117:ARG:NH1	2.40	0.55
35:RP:85:LEU:HB2	35:RP:118:GLY:HA3	1.88	0.55
1:XA:923:A:O2'	1:XA:1399:C:OP2	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:XO:3:ILE:HG21	15:XO:34:LEU:HD21	1.87	0.55
52:Y6:25:LYS:NZ	52:Y6:32:ASN:O	2.38	0.55
25:YA:637:A:OP2	35:YP:116:GLY:N	2.37	0.55
25:YA:658:C:O2'	25:YA:659:C:H5'	2.07	0.55
27:YD:44:ASN:ND2	27:YD:46:GLN:OE1	2.38	0.55
30:YG:29:TRP:O	30:YG:33:ARG:NH1	2.39	0.55
1:QA:187:C:OP1	20:QT:82:SER:OG	2.22	0.55
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.87	0.55
9:QI:96:LEU:O	9:QI:100:GLY:N	2.39	0.55
20:QT:10:LEU:HG	20:QT:12:ALA:H	1.71	0.55
25:RA:535:C:H2'	25:RA:536:A:C8	2.41	0.55
25:RA:787:U:H5''	25:RA:788:A:H5'	1.87	0.55
39:RT:105:LEU:HD23	39:RT:109:GLU:HB3	1.88	0.55
45:RZ:19:ARG:NH1	45:RZ:84:GLU:O	2.37	0.55
1:XA:1527:C:O2'	1:XA:1528:U:H5'	2.05	0.55
1:XA:403:C:OP1	4:XD:137:SER:OG	2.24	0.55
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.40	0.55
25:YA:2115:G:N2	25:YA:2117:A:N7	2.54	0.55
25:YA:1817:G:OP1	27:YD:88:ARG:NH2	2.39	0.55
1:QA:222:U:H2'	1:QA:223:U:H6	1.71	0.55
1:QA:279:A:N6	17:QQ:98:LEU:O	2.39	0.55
25:RA:1838:C:H4'	25:RA:1839:G:H5'	1.86	0.55
25:RA:2314:C:H2'	25:RA:2315:G:H8	1.71	0.55
25:RA:2450:A:N6	25:RA:2501:C:N4	2.54	0.55
32:RI:94:ALA:HB1	32:RI:114:LEU:HD23	1.88	0.55
39:RT:66:VAL:HA	39:RT:71:GLY:HA2	1.89	0.55
1:XA:1098:C:H2'	1:XA:1099:G:C8	2.41	0.55
1:XA:1330:U:H4'	13:XM:23:TYR:CZ	2.41	0.55
25:YA:2635:C:O2	28:YE:37:ARG:NH2	2.39	0.55
25:YA:574:C:N3	28:YE:145:LYS:NZ	2.47	0.55
31:YH:94:TYR:OH	31:YH:152:ARG:NH2	2.39	0.55
25:RA:2506:U:O2	56:ZA:3:PPU:O2'	2.24	0.55
1:QA:188:C:H2'	1:QA:189(A):G:H8	1.72	0.55
5:QE:140:ARG:O	5:QE:143:ARG:NH2	2.33	0.55
1:QA:938:A:H5'	7:QG:76:ARG:HH22	1.72	0.55
47:R1:5:CYS:HB3	47:R1:10:LYS:H	1.70	0.55
25:RA:1889:A:H2'	25:RA:1890:A:C8	2.41	0.55
25:RA:2636:U:H3	25:RA:2782:G:H1	1.52	0.55
25:RA:700:G:O6	25:RA:733:G:N2	2.40	0.55
25:RA:991:C:OP2	25:RA:1186:G:H5'	2.07	0.55
29:RF:117:ARG:NH2	29:RF:189:THR:O	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RU:31:SER:OG	40:RU:33:ARG:N	2.39	0.55
7:XG:113:GLU:O	7:XG:119:ARG:NH1	2.38	0.55
20:XT:78:ALA:HA	20:XT:81:LYS:HD3	1.88	0.55
25:YA:1593:G:H2'	25:YA:1594:G:C8	2.41	0.55
25:YA:1697:G:OP2	25:YA:1698:A:O2'	2.22	0.55
25:YA:1667:G:N2	25:YA:1992:G:OP2	2.39	0.55
25:YA:2818:G:O2'	25:YA:2836:U:O2'	2.21	0.55
25:YA:106:C:O2'	25:YA:294:A:O2'	2.25	0.55
2:QB:73:THR:O	2:QB:78:GLN:NE2	2.40	0.55
25:RA:2845:G:H2'	25:RA:2846:G:H8	1.72	0.55
1:XA:376:G:O3'	16:XP:5:ARG:NH1	2.39	0.55
4:XD:102:ASP:N	4:XD:102:ASP:OD1	2.37	0.55
13:XM:16:ASP:N	13:XM:16:ASP:OD1	2.37	0.55
25:YA:1239:G:H2'	25:YA:1240:U:O4'	2.06	0.55
25:YA:1819:A:H4'	25:YA:1820:U:H5''	1.89	0.55
25:YA:190:A:N3	25:YA:679:C:O2'	2.36	0.55
25:YA:466:A:N3	25:YA:683:C:H1'	2.21	0.55
29:YF:183:VAL:HA	29:YF:186:ILE:HD12	1.87	0.55
2:QB:178:ARG:NH2	2:QB:196:LEU:O	2.40	0.55
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.39	0.55
19:QS:22:LEU:O	19:QS:26:GLY:N	2.37	0.55
32:RI:40:THR:HG23	32:RI:43:ASN:H	1.71	0.55
37:RR:102:GLU:OE2	42:RW:37:ARG:NH2	2.39	0.55
1:XA:1070:U:OP1	5:XE:18:ARG:NH2	2.36	0.55
8:XH:9:MET:HG3	8:XH:26:VAL:HG11	1.88	0.55
11:XK:24:SER:OG	11:XK:25:TYR:N	2.39	0.55
25:YA:1405:U:H2'	25:YA:1406:U:H6	1.72	0.55
25:YA:859:G:O2'	25:YA:916:G:O6	2.25	0.55
26:YB:52:A:H61	38:YS:32:LEU:HB3	1.70	0.55
28:YE:101:ARG:NH1	28:YE:169:ASN:O	2.39	0.55
30:YG:151:ALA:O	30:YG:153:ARG:NH1	2.40	0.55
25:YA:906:G:O2'	36:YQ:67:ARG:NH2	2.37	0.55
20:QT:57:ARG:HH12	20:QT:100:ILE:HD12	1.71	0.55
25:RA:52:A:OP2	25:RA:117:G:N1	2.28	0.55
25:RA:1651:G:H5'	37:RR:39:PRO:HG2	1.89	0.55
1:XA:376:G:H2'	1:XA:377:G:H8	1.72	0.55
1:XA:745:C:H2'	1:XA:746:A:H8	1.72	0.55
6:XF:9:VAL:HB	6:XF:87:ARG:HB2	1.89	0.55
22:XV:23:C:H2'	22:XV:24:U:C6	2.41	0.55
31:YH:9:ILE:HD11	31:YH:69:ARG:HG2	1.89	0.55
1:QA:244:U:C4	1:QA:893:C:N3	2.75	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:69:VAL:HG21	7:QG:104:LEU:HD21	1.89	0.54
25:RA:517:C:OP1	51:R5:16:ARG:NH2	2.40	0.54
25:RA:49:A:H4'	25:RA:50:U:H5''	1.87	0.54
25:RA:958:U:O2	26:RB:90:A:O2'	2.22	0.54
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.42	0.54
4:XD:127:THR:HG23	4:XD:147:ALA:HB3	1.90	0.54
25:YA:2323:G:O6	25:YA:2332:U:O4	2.26	0.54
54:R8:33:ASN:HA	54:R8:36:LYS:HD2	1.89	0.54
25:RA:1480:G:H1	25:RA:1511:C:H42	1.55	0.54
25:RA:1646:C:H5''	25:RA:1647:G:C5'	2.35	0.54
25:RA:2262:U:O2'	25:RA:2263:C:H5'	2.07	0.54
31:RH:118:PRO:HG2	31:RH:121:ILE:HG13	1.90	0.54
1:XA:1458:G:OP1	20:XT:35:THR:OG1	2.24	0.54
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.89	0.54
19:XS:33:THR:HG1	19:XS:35:SER:HG	1.53	0.54
47:Y1:46:LEU:O	47:Y1:47:GLN:NE2	2.41	0.54
50:Y4:26:SER:OG	50:Y4:27:THR:N	2.39	0.54
25:YA:1227:G:OP2	40:YU:16:LYS:NZ	2.37	0.54
25:YA:140:G:H21	25:YA:142(A):A:H62	1.54	0.54
25:YA:2303:G:H1'	30:YG:132:ASN:HD22	1.72	0.54
25:YA:2889:C:H3'	25:YA:2891:G:H8	1.71	0.54
30:YG:11:TYR:OH	30:YG:32:PRO:O	2.22	0.54
36:YQ:23:GLY:O	36:YQ:101:ARG:NH1	2.40	0.54
38:YS:34:HIS:ND1	38:YS:53:SER:OG	2.34	0.54
44:YY:43:ASN:ND2	44:YY:66:PRO:O	2.40	0.54
56:ZA:3:PPU:C8	56:ZA:3:PPU:C5'	2.85	0.54
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.31	0.54
1:QA:148:G:H2'	1:QA:149:A:C8	2.42	0.54
51:R5:41:PRO:O	51:R5:44:THR:OG1	2.25	0.54
25:RA:1141:U:OP2	33:RN:63:THR:OG1	2.17	0.54
25:RA:2543:G:H21	25:RA:2646:C:H5''	1.69	0.54
25:RA:2637:U:O4	25:RA:2776:A:N7	2.40	0.54
25:RA:675:A:N3	25:RA:2443:C:O2'	2.35	0.54
25:RA:745:G:OP1	28:RE:133:LYS:NZ	2.39	0.54
30:RG:15:VAL:HG13	30:RG:175:LEU:HB3	1.89	0.54
1:XA:323:U:H4'	20:XT:22:ARG:HB2	1.88	0.54
1:XA:407:G:H2'	1:XA:408:A:H8	1.72	0.54
17:XQ:66:SER:OG	17:XQ:67:LYS:N	2.41	0.54
25:YA:2066:C:C2'	25:YA:2067:G:H5'	2.37	0.54
2:QB:82:ARG:NH1	2:QB:92:TYR:OH	2.40	0.54
25:RA:635:C:H2'	25:RA:636:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2206:G:OP1	27:RD:68:LYS:NZ	2.40	0.54
1:XA:399:G:H2'	1:XA:400:C:H6	1.73	0.54
1:XA:501:C:H2'	1:XA:502:G:H8	1.72	0.54
4:XD:201:GLN:HA	4:XD:204:ILE:HD12	1.89	0.54
5:XE:100:VAL:O	5:XE:107:ARG:NH2	2.40	0.54
47:Y1:71:TYR:HA	47:Y1:74:VAL:HG12	1.90	0.54
25:YA:2740:A:H2'	25:YA:2741:A:H8	1.73	0.54
28:YE:5:LEU:HD21	28:YE:79:ARG:HB2	1.88	0.54
25:YA:2469:A:O2'	36:YQ:56:ARG:NH1	2.40	0.54
1:QA:1525:G:H2'	1:QA:1526:G:H8	1.73	0.54
1:QA:922:G:H2'	1:QA:923:A:C8	2.42	0.54
1:QA:427:U:P	4:QD:13:ARG:NH2	2.80	0.54
4:QD:175:SER:OG	4:QD:176:LEU:N	2.41	0.54
25:RA:380:U:H5'	47:R1:18:ILE:HD13	1.89	0.54
25:RA:1309:G:H4'	53:R7:7:PRO:HG2	1.90	0.54
25:RA:1231:G:H2'	25:RA:1232:G:C8	2.42	0.54
25:RA:144:C:H2'	25:RA:145:G:H8	1.72	0.54
25:RA:2561:A:H2	34:RO:23:ARG:HH11	1.55	0.54
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.16	0.54
1:XA:280:C:N3	17:XQ:39:SER:N	2.49	0.54
9:XI:26:VAL:HG22	9:XI:61:ALA:HB3	1.90	0.54
1:XA:236:G:OP1	17:XQ:40:LYS:NZ	2.41	0.54
25:YA:2334:G:O6	46:Y0:74:ARG:NH2	2.40	0.54
46:Y0:50:ASN:HB2	46:Y0:81:VAL:HG13	1.90	0.54
25:YA:1011:G:OP2	40:YU:66:ASN:ND2	2.33	0.54
25:YA:1292:U:H2'	25:YA:1293:C:C6	2.43	0.54
25:YA:1433:U:H3	25:YA:1560:G:H1	1.55	0.54
25:YA:2037:G:O2'	25:YA:2038:G:H5'	2.07	0.54
25:YA:2470:G:O6	25:YA:2476:A:O2'	2.25	0.54
25:YA:288:C:H2'	25:YA:289:A:H8	1.72	0.54
25:YA:396:G:O2'	47:Y1:43:TYR:O	2.26	0.54
26:YB:8:U:O4	26:YB:113:G:O6	2.26	0.54
32:YI:62:LYS:HD2	32:YI:133:HIS:HE1	1.72	0.54
28:YE:12:THR:HG23	39:YT:58:ASN:HD21	1.71	0.54
1:QA:263:A:OP1	20:QT:79:ARG:NH1	2.40	0.54
1:QA:977:A:N6	1:QA:1224:G:OP1	2.39	0.54
3:QC:131:ARG:NH1	3:QC:166:GLU:OE1	2.41	0.54
12:QL:53:ARG:HG3	12:QL:93:LEU:HD11	1.90	0.54
47:R1:59:THR:O	47:R1:91:LYS:NZ	2.37	0.54
49:R3:7:LYS:HB3	49:R3:55:ARG:HB3	1.88	0.54
25:RA:2684:U:O2'	34:RO:68:GLU:OE2	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.40	0.54
25:YA:1029:A:OP1	36:YQ:128:LYS:NZ	2.37	0.54
25:YA:467:G:N7	53:Y7:39:ARG:NH2	2.56	0.54
25:YA:974:G:O2'	25:YA:975(B):G:N7	2.28	0.54
25:YA:631:A:OP1	35:YP:65:ARG:NH1	2.40	0.54
1:QA:127:G:N2	17:QQ:61:GLU:OE1	2.40	0.54
1:QA:1179:A:H5'	9:QI:102:LEU:HG	1.90	0.54
24:QY:37:G:O2'	25:RA:1913:A:N1	2.41	0.54
25:RA:1066:U:O2'	25:RA:1068:G:OP2	2.23	0.54
25:RA:1091:G:N2	25:RA:1100:C:O2	2.39	0.54
25:RA:1668:A:N3	25:RA:1670:C:N4	2.56	0.54
25:RA:184:C:O3'	25:RA:217:G:N2	2.40	0.54
25:RA:2171:A:H4'	25:RA:2172:U:OP1	2.07	0.54
25:RA:2180:U:H2'	25:RA:2181:G:C8	2.42	0.54
26:RB:24:G:N3	26:RB:26:A:N6	2.56	0.54
27:RD:145:VAL:HB	27:RD:155:LEU:HB2	1.89	0.54
35:RP:65:ARG:O	35:RP:68:GLN:NE2	2.40	0.54
1:XA:689:C:OP1	11:XK:44:SER:OG	2.23	0.54
1:XA:737:A:H2'	1:XA:738:C:H6	1.71	0.54
2:XB:95:GLN:HG3	2:XB:147:LYS:HD2	1.90	0.54
55:Y9:2:LYS:HB3	55:Y9:4:ARG:HG3	1.90	0.54
25:YA:1721:G:N2	25:YA:1739:U:OP2	2.41	0.54
25:YA:2740:A:H2'	25:YA:2741:A:C8	2.42	0.54
25:YA:922:U:O2'	46:Y0:29:GLN:OE1	2.23	0.54
38:YS:105:ALA:HB1	38:YS:110:LEU:HD23	1.90	0.54
4:QD:8:VAL:HG13	4:QD:22:LYS:HE3	1.89	0.54
36:RQ:85:LYS:HE2	46:R0:8:GLY:HA3	1.90	0.54
26:RB:46:A:H2'	26:RB:47:C:C6	2.42	0.54
27:RD:248:SER:OG	27:RD:251:GLY:N	2.38	0.54
34:RO:64:ARG:HB3	34:RO:83:ALA:HB3	1.89	0.54
1:XA:1227:A:OP1	19:XS:80:TYR:OH	2.16	0.54
22:XV:50:U:O4	22:XV:64:G:O6	2.26	0.54
25:YA:2552:OMU:H2'	25:YA:2554:U:OP2	2.07	0.54
25:YA:581:C:H2'	25:YA:582:G:H8	1.72	0.54
1:QA:237:C:O3'	17:QQ:25:ARG:NH1	2.41	0.54
8:QH:3:THR:OG1	8:QH:4:ASP:N	2.38	0.54
1:QA:970:C:N4	9:QI:128:ARG:OXT	2.41	0.54
11:QK:21:ILE:HG22	11:QK:30:VAL:HG12	1.89	0.54
1:QA:267:C:OP1	17:QQ:67:LYS:HD3	2.08	0.54
25:RA:336:C:O2'	25:RA:337:C:H5'	2.07	0.54
26:RB:80:U:O2	26:RB:97:G:N2	2.31	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:918:A:H2'	1:XA:919:A:C8	2.43	0.54
1:XA:926:G:H22	23:XX:15:A:H3'	1.71	0.54
2:XB:47:THR:HG23	2:XB:202:PRO:HG2	1.90	0.54
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.88	0.54
22:XV:75:C:OP1	25:YA:2602:A:H5''	2.08	0.54
28:YE:38:THR:HG1	28:YE:41:LYS:H	1.54	0.54
29:YF:157:VAL:HB	29:YF:194:MET:HG2	1.90	0.54
1:QA:795:C:O2'	1:QA:1506:U:O2	2.17	0.54
4:QD:53:ASP:HB3	5:QE:107:ARG:HH22	1.71	0.54
9:QI:5:TYR:HA	9:QI:17:VAL:O	2.08	0.54
12:QL:89:ARG:HB3	12:QL:91:LYS:HE3	1.90	0.54
1:QA:926:G:N2	23:QX:16:A:OP1	2.41	0.54
25:RA:681:G:H1	25:RA:796:C:H42	1.56	0.54
1:XA:1255:G:N7	10:XJ:43:ARG:NH2	2.54	0.54
25:YA:1394:U:O2	43:YX:16:LYS:NZ	2.39	0.54
25:YA:1406:U:H2'	25:YA:1407:C:C6	2.43	0.54
25:YA:2716:U:H2'	25:YA:2717:G:H8	1.73	0.54
25:YA:274:G:H2'	25:YA:275:G:H8	1.73	0.54
25:YA:997:G:OP1	40:YU:92:ARG:HD3	2.07	0.54
1:QA:613:C:H2'	1:QA:614:A:H8	1.73	0.53
3:QC:44:GLU:HB3	3:QC:52:LEU:HD11	1.90	0.53
1:QA:548:G:O5'	4:QD:73:ARG:NH2	2.42	0.53
4:QD:81:GLU:OE2	4:QD:139:ARG:NH1	2.41	0.53
25:RA:1316:U:H2'	25:RA:1317:A:C8	2.43	0.53
28:RE:38:THR:HG1	28:RE:41:LYS:H	1.55	0.53
32:RI:14:ASP:N	32:RI:14:ASP:OD1	2.41	0.53
1:XA:1207:2MG:H2'	1:XA:1208:C:H6	1.71	0.53
1:XA:1525:G:H2'	1:XA:1526:G:H8	1.73	0.53
1:XA:1112:C:H1'	3:XC:179:ARG:HH11	1.73	0.53
8:XH:103:VAL:HG12	8:XH:104:ARG:HB2	1.88	0.53
9:XI:17:VAL:HG21	9:XI:80:GLY:HA3	1.90	0.53
21:XU:17:THR:O	21:XU:22:ARG:NH1	2.39	0.53
25:YA:1265:A:H4'	25:YA:1266:G:OP1	2.07	0.53
25:YA:1308:A:H2'	25:YA:1309:G:O4'	2.09	0.53
1:QA:235:C:H2'	1:QA:236:G:H8	1.72	0.53
8:QH:4:ASP:OD2	8:QH:7:ALA:N	2.36	0.53
25:RA:13:A:O2'	25:RA:15:G:N7	2.40	0.53
25:RA:1794:U:H2'	25:RA:1795:C:H6	1.73	0.53
25:RA:2648:C:H2'	25:RA:2649:U:C6	2.43	0.53
25:RA:463:G:N2	25:RA:466:A:OP2	2.40	0.53
25:RA:613:G:O2'	25:RA:614(D):A:N6	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1817:G:O5'	27:RD:157:ARG:NH2	2.41	0.53
28:RE:2:LYS:HG2	28:RE:200:GLU:HB2	1.91	0.53
1:XA:1229:A:OP1	13:XM:116:THR:OG1	2.18	0.53
1:XA:501:C:H2'	1:XA:502:G:C8	2.43	0.53
2:XB:54:THR:HG22	2:XB:199:TYR:HB3	1.89	0.53
25:YA:1105:U:H2'	25:YA:1106:G:H8	1.74	0.53
25:YA:1826:G:H4'	27:YD:242:ARG:HH21	1.73	0.53
25:YA:2115:G:H21	25:YA:2171:A:H61	1.56	0.53
25:YA:2784:C:O2	28:YE:37:ARG:NH1	2.37	0.53
25:YA:443:A:H1'	25:YA:1201:C:O4'	2.09	0.53
25:YA:836:G:H2'	25:YA:837:C:C6	2.44	0.53
1:QA:1317:C:OP2	14:QN:17:LYS:NZ	2.39	0.53
1:QA:1500:A:H5''	1:QA:1508:G:H5''	1.89	0.53
1:QA:184:G:H2'	1:QA:185:A:C8	2.44	0.53
1:QA:819:A:H5'	1:QA:820:U:H5	1.73	0.53
1:QA:430:A:P	4:QD:22:LYS:HZ1	2.30	0.53
25:RA:1031:G:O2'	55:R9:7:VAL:O	2.24	0.53
26:RB:42:C:H1'	30:RG:92:VAL:HG23	1.90	0.53
31:RH:105:LEU:HB3	31:RH:107:VAL:HG23	1.89	0.53
38:RS:35:ILE:HG23	38:RS:97:ARG:HH21	1.73	0.53
1:XA:68:G:H22	1:XA:101:A:H2	1.56	0.53
3:XC:131:ARG:NH1	3:XC:166:GLU:OE1	2.40	0.53
13:XM:98:VAL:HG13	13:XM:99:ARG:HG3	1.89	0.53
20:XT:30:LYS:HA	20:XT:33:ILE:HD12	1.89	0.53
26:YB:8:U:O2	26:YB:113:G:N2	2.36	0.53
1:QA:1321:C:OP2	1:QA:1322:C:O2'	2.26	0.53
1:QA:1360:A:H8	1:QA:1360:A:OP1	1.91	0.53
1:QA:237:C:H2'	1:QA:238:G:H8	1.74	0.53
53:R7:13:ALA:HB2	53:R7:46:VAL:HG21	1.91	0.53
25:RA:1224:C:O2	41:RV:85:LYS:NZ	2.41	0.53
25:RA:2591:C:H2'	25:RA:2592:G:H8	1.73	0.53
25:RA:449:A:H2'	25:RA:450:G:H5'	1.91	0.53
25:RA:590:A:H2'	25:RA:591:C:C6	2.43	0.53
25:RA:856:C:O2'	25:RA:857:C:OP1	2.24	0.53
30:RG:61:ALA:O	30:RG:65:GLY:N	2.39	0.53
25:RA:2746:U:H4'	31:RH:138:LYS:HD3	1.89	0.53
35:RP:62:LEU:O	54:R8:13:ARG:NH1	2.40	0.53
1:XA:1437:C:H2'	1:XA:1438:G:C8	2.44	0.53
1:XA:740:U:O3'	15:XO:39:LEU:HD11	2.09	0.53
25:YA:1593:G:H2'	25:YA:1594:G:H8	1.73	0.53
25:YA:1999:C:OP1	25:YA:2723:C:O2'	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2698:U:H2'	25:YA:2699:C:C6	2.44	0.53
25:YA:305:U:H2'	25:YA:306:U:C6	2.43	0.53
25:YA:690:G:H2'	25:YA:691:C:C6	2.44	0.53
39:YT:54:ARG:HA	39:YT:59:THR:HG23	1.91	0.53
1:QA:816:A:OP2	1:QA:1526:G:O2'	2.27	0.53
6:QF:100:ASN:ND2	18:QR:26:LEU:O	2.41	0.53
25:RA:1273:U:H5'	25:RA:1274:A:OP1	2.09	0.53
25:RA:1791:A:H4'	27:RD:206:LEU:HB2	1.89	0.53
25:RA:300:A:OP1	44:RY:86:ARG:NH2	2.41	0.53
29:RF:29:ASN:OD1	29:RF:31:HIS:N	2.40	0.53
29:RF:54:ARG:NH2	29:RF:77:ASP:OD1	2.42	0.53
37:RR:37:THR:OG1	37:RR:38:VAL:N	2.40	0.53
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.41	0.53
25:YA:272(C):C:H42	25:YA:272(U):G:H1	1.56	0.53
1:QA:1459:C:H2'	1:QA:1460:A:H8	1.74	0.53
1:QA:1519:MA6:H8	1:QA:1520:G:O4'	2.08	0.53
1:QA:662:G:H2'	1:QA:663:A:C8	2.44	0.53
25:RA:1629:U:H2'	25:RA:1630:G:C8	2.44	0.53
25:RA:2493:U:H2'	25:RA:2494:G:O4'	2.09	0.53
33:RN:113:GLY:HA2	33:RN:116:LEU:HD12	1.88	0.53
1:XA:1239:A:H4'	1:XA:1240:U:H5''	1.91	0.53
1:XA:261:U:N3	1:XA:264:U:OP2	2.33	0.53
55:Y9:4:ARG:O	55:Y9:36:GLN:HA	2.09	0.53
25:YA:1830:C:H2'	25:YA:1831:G:H8	1.74	0.53
33:YN:123:TYR:HH	33:YN:130:HIS:HE2	1.53	0.53
42:YW:25:ARG:NH2	42:YW:74:ALA:O	2.34	0.53
1:QA:107:G:N7	20:QT:15:ARG:NH2	2.57	0.53
13:QM:86:CYS:SG	13:QM:89:GLY:N	2.77	0.53
24:QY:36:G:H2'	24:QY:37:G:H8	1.73	0.53
25:RA:676:A:H62	25:RA:802:A:H61	1.54	0.53
33:RN:28:THR:O	33:RN:32:THR:OG1	2.24	0.53
33:RN:47:ALA:O	33:RN:119:ARG:NH1	2.41	0.53
1:XA:1073:U:O2'	2:XB:104:ASN:OD1	2.16	0.53
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.90	0.53
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.42	0.53
25:YA:2372:G:OP1	52:Y6:45:LYS:NZ	2.41	0.53
28:YE:53:PRO:HA	28:YE:75:VAL:HA	1.90	0.53
35:YP:95:VAL:HA	35:YP:99:LEU:HD21	1.90	0.53
3:QC:136:GLN:OE1	3:QC:140:ARG:NH2	2.42	0.53
4:QD:72:GLU:OE1	4:QD:207:TYR:OH	2.27	0.53
25:RA:1346:G:H1	25:RA:1600:C:H42	1.55	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:530:G:H4'	25:RA:531:C:OP1	2.09	0.53
40:RU:50:ARG:O	40:RU:54:LYS:NZ	2.41	0.53
14:YN:24:CYS:SG	14:YN:27:CYS:CA	2.80	0.53
22:XV:53:G:H8	22:XV:53:G:OP2	1.92	0.53
49:Y3:15:TYR:CE1	49:Y3:53:LEU:HD21	2.43	0.53
25:YA:2294:C:H2'	25:YA:2295:C:H6	1.74	0.53
25:YA:2508:G:H1	25:YA:2580:U:H3	1.57	0.53
25:YA:511:U:H2'	25:YA:512:G:H5'	1.91	0.53
1:QA:1366:C:OP1	9:QI:117:HIS:NE2	2.41	0.53
55:R9:22:ARG:HH22	55:R9:37:GLY:HA3	1.73	0.53
25:RA:1216:G:OP1	40:RU:11:ARG:NH2	2.34	0.53
25:RA:2125:G:N2	25:RA:2173:A:H62	2.04	0.53
25:RA:2197:U:H1'	25:RA:2198:A:C8	2.44	0.53
26:RB:6:C:H42	26:RB:115:G:H1	1.57	0.53
30:RG:120:LEU:HB2	30:RG:180:PHE:HA	1.90	0.53
1:XA:486:U:H2'	1:XA:487:A:H8	1.73	0.53
1:XA:662:G:H2'	1:XA:663:A:C8	2.44	0.53
1:XA:1360:A:OP2	14:YN:35:ARG:NH2	2.42	0.53
25:YA:43:A:H2'	25:YA:44:G:C8	2.44	0.53
25:YA:807:U:OP1	35:YP:36:LYS:NZ	2.36	0.53
1:QA:1402:4OC:HM22	1:QA:1403:C:H5'	1.91	0.53
1:QA:404:U:OP1	4:QD:118:ARG:NH2	2.40	0.53
1:QA:667:G:O2'	15:QO:49:ASP:OD1	2.19	0.53
25:RA:1859:A:N6	25:RA:1883:G:O2'	2.42	0.53
25:RA:1980:G:O2'	25:RA:1982:C:OP2	2.27	0.53
25:RA:706:A:N6	25:RA:725:G:O2'	2.41	0.53
27:RD:45:ASN:OD1	27:RD:45:ASN:N	2.41	0.53
1:XA:1030(A):C:H42	1:XA:1031:G:H22	1.57	0.53
1:XA:974:A:H4'	1:XA:975:A:H5'	1.91	0.53
35:YP:52:GLU:OE1	35:YP:55:ARG:NH1	2.42	0.53
45:YZ:30:ASN:OD1	45:YZ:33:LEU:N	2.41	0.53
45:YZ:57:ILE:HG22	45:YZ:59:LEU:HG	1.91	0.53
1:QA:1079:G:H2'	1:QA:1080:A:C8	2.45	0.52
1:QA:1375:A:H4'	7:QG:29:LYS:NZ	2.24	0.52
25:RA:1181:C:H2'	25:RA:1182:A:C8	2.44	0.52
26:RB:12:C:O2'	26:RB:13:A:OP2	2.23	0.52
28:RE:152:LYS:HG2	33:RN:77:GLY:O	2.03	0.52
25:RA:863:A:P	36:RQ:22:LYS:HG3	2.49	0.52
1:XA:396:G:O2'	1:XA:398:C:OP1	2.16	0.52
1:XA:403:C:OP1	4:XD:136:PRO:HD2	2.09	0.52
25:YA:1190:G:H5''	35:YP:32:THR:HA	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2641:G:H2'	25:YA:2642:G:C8	2.45	0.52
25:YA:674:G:O2'	29:YF:74:ARG:HD3	2.09	0.52
1:QA:1323:G:H2'	1:QA:1324:A:C8	2.44	0.52
1:QA:15:G:H2'	1:QA:16:A:C8	2.43	0.52
1:QA:940:C:H2'	1:QA:941:G:C8	2.44	0.52
1:QA:673:G:H1'	18:QR:75:ILE:HD12	1.90	0.52
25:RA:1992:G:N2	25:RA:1996:C:O2	2.37	0.52
25:RA:2784:C:H2'	25:RA:2785:C:C6	2.44	0.52
25:RA:972:G:H3'	25:RA:973:A:H2'	1.91	0.52
26:RB:13:A:N1	26:RB:69:G:O2'	2.33	0.52
1:XA:1139:G:N2	1:XA:1143:G:O6	2.41	0.52
1:XA:804:U:H5''	1:XA:805:C:OP2	2.09	0.52
4:XD:165:MET:SD	4:XD:168:ARG:NH1	2.82	0.52
8:XH:121:ASP:N	8:XH:121:ASP:OD1	2.42	0.52
16:XP:5:ARG:O	16:XP:19:ILE:HA	2.09	0.52
25:YA:2246:G:H2'	25:YA:2247:A:C8	2.44	0.52
25:YA:271:A:N3	25:YA:365:C:O2'	2.34	0.52
25:YA:380:U:H2'	25:YA:381:G:C8	2.44	0.52
34:YO:104:ARG:HD3	34:YO:121:VAL:HG22	1.90	0.52
37:YR:79:LEU:HA	37:YR:83:ILE:HD12	1.92	0.52
8:QH:121:ASP:HB2	8:QH:125:ARG:HH12	1.73	0.52
1:QA:1269:A:OP1	21:QU:24:ARG:NH1	2.42	0.52
22:QV:15:G:O6	22:QV:48:C:O2	2.27	0.52
25:RA:1905:C:H5'	25:RA:1906:G:OP1	2.10	0.52
25:RA:297:C:H2'	25:RA:298:G:O4'	2.09	0.52
28:RE:143:ASN:ND2	28:RE:151:TYR:OH	2.42	0.52
31:RH:27:LYS:HD3	31:RH:32:GLU:HB3	1.91	0.52
32:RI:95:LYS:O	32:RI:98:ALA:N	2.36	0.52
25:RA:2495:G:H5''	36:RQ:82:ARG:HG2	1.92	0.52
43:RX:32:PRO:HA	43:RX:77:LYS:HD2	1.91	0.52
1:XA:1060:C:H2'	1:XA:1061:G:H8	1.74	0.52
1:XA:1494:G:HO2'	25:YA:1912:A:HO2'	1.54	0.52
1:XA:372:C:N4	1:XA:389:A:H62	2.07	0.52
1:XA:642:A:N3	8:XH:113:SER:OG	2.40	0.52
54:Y8:29:LYS:O	54:Y8:33:ASN:ND2	2.40	0.52
25:YA:221:A:N1	25:YA:265:A:O2'	2.41	0.52
25:YA:322:A:O4'	25:YA:340:A:H1'	2.10	0.52
25:YA:956:G:OP2	36:YQ:14:ARG:NH2	2.42	0.52
28:YE:36:ARG:NH2	28:YE:88:GLY:O	2.43	0.52
1:QA:321:A:H61	1:QA:332:G:H1	1.58	0.52
1:QA:461:A:O2'	1:QA:470:C:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1101:A:N6	2:QB:176:GLU:OE2	2.42	0.52
6:QF:82:ARG:HG3	6:QF:84:ASN:H	1.75	0.52
25:RA:1405:U:H2'	25:RA:1406:U:C6	2.44	0.52
25:RA:2147:G:H2'	25:RA:2148:G:O4'	2.09	0.52
25:RA:571:A:O2'	41:RV:78:LYS:NZ	2.42	0.52
30:RG:71:THR:N	30:RG:89:GLY:O	2.42	0.52
44:RY:52:SER:HG	44:RY:55:TYR:H	1.57	0.52
14:XN:40:CYS:HB2	14:XN:43:CYS:H	1.74	0.52
25:YA:612:C:H42	25:YA:615:G:H1	1.56	0.52
25:YA:2305:A:H5''	30:YG:134:GLY:HA3	1.91	0.52
30:YG:49:ASP:OD1	30:YG:51:ARG:NE	2.42	0.52
39:YT:51:ARG:HB3	39:YT:62:THR:HB	1.90	0.52
1:QA:1432:G:OP1	39:RT:108:ARG:HG2	2.10	0.52
1:QA:1458:G:OP1	20:QT:35:THR:OG1	2.15	0.52
1:QA:363:A:O2'	1:QA:364:A:H5'	2.08	0.52
1:QA:939:G:OP1	7:QG:102:ARG:NH1	2.43	0.52
9:QI:70:LYS:HA	9:QI:73:GLN:HE21	1.75	0.52
50:Y4:59:PHE:O	50:Y4:62:ARG:NE	2.42	0.52
25:YA:1500:G:H2'	25:YA:1501:C:H6	1.72	0.52
25:YA:1557:C:H5''	25:YA:1558:A:OP2	2.10	0.52
25:YA:345:A:N3	25:YA:347:A:N6	2.57	0.52
1:QA:777:A:H2'	1:QA:778:G:H8	1.74	0.52
3:QC:136:GLN:O	3:QC:140:ARG:N	2.36	0.52
14:QN:22:THR:CB	14:QN:33:VAL:HG23	2.38	0.52
25:RA:2183:C:H2'	25:RA:2184:G:H8	1.74	0.52
25:RA:655:A:H3'	25:RA:656:G:H8	1.75	0.52
30:RG:98:ARG:NH1	50:R4:1:MET:SD	2.82	0.52
1:XA:1386:G:H2'	1:XA:1387:G:H8	1.75	0.52
15:XO:4:THR:HG23	15:XO:7:GLU:H	1.74	0.52
24:XY:38:A:H2'	24:XY:39:A:H8	1.75	0.52
25:YA:1937:A:O2'	25:YA:1938:A:O5'	2.25	0.52
25:YA:213:A:H5''	25:YA:213:A:C8	2.44	0.52
29:YF:13:SER:OG	29:YF:16:GLY:N	2.42	0.52
31:YH:90:LYS:NZ	31:YH:159:GLU:OE1	2.40	0.52
36:YQ:71:ASP:N	36:YQ:71:ASP:OD1	2.43	0.52
1:QA:1368:G:H5''	9:QI:112:LYS:HB3	1.92	0.52
1:QA:884:U:H4'	1:QA:885:G:H5''	1.91	0.52
1:QA:985:C:H2'	1:QA:986:A:H8	1.73	0.52
17:QQ:99:SER:OG	17:QQ:100:LYS:N	2.43	0.52
25:RA:1435:G:N2	25:RA:1477:A:O2'	2.32	0.52
25:RA:1958:C:O2'	25:RA:1959:G:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:443:A:H1'	25:RA:1201:C:O4'	2.09	0.52
25:RA:693:C:OP2	27:RD:59:LYS:NZ	2.43	0.52
30:RG:76:SER:H	30:RG:84:LYS:HG3	1.75	0.52
32:RI:2:LYS:HG2	32:RI:20:ASP:HB3	1.90	0.52
1:XA:713:G:H2'	1:XA:714:G:C8	2.44	0.52
1:XA:946:A:H2'	1:XA:947:G:H8	1.75	0.52
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	1.92	0.52
7:XG:59:LEU:HD23	7:XG:60:LYS:HD2	1.90	0.52
22:XV:28:C:H2'	22:XV:29:G:H8	1.74	0.52
25:YA:223:A:O2'	25:YA:420:C:O2	2.24	0.52
25:YA:478:A:N7	25:YA:480:A:N6	2.58	0.52
25:YA:503:A:H4'	25:YA:504:U:H5''	1.92	0.52
1:QA:9:G:H2'	1:QA:10:A:H8	1.75	0.52
1:QA:806:C:H2'	1:QA:807:A:C8	2.43	0.52
5:QE:87:SER:OG	5:QE:125:SER:O	2.24	0.52
8:QH:33:GLU:O	8:QH:36:LEU:N	2.43	0.52
10:QJ:28:ARG:NH2	10:QJ:34:VAL:O	2.43	0.52
25:RA:1537:G:H2'	25:RA:1538:G:H8	1.75	0.52
25:RA:1632:A:C8	25:RA:1632:A:O5'	2.61	0.52
25:RA:1364:G:O2'	25:RA:1808:U:O4	2.27	0.52
25:RA:2291:U:OP1	25:RA:2380:C:O2'	2.28	0.52
25:RA:2347:C:O2	25:RA:2370:G:N2	2.40	0.52
25:RA:2361:A:OP2	54:R8:26:LYS:NZ	2.39	0.52
39:RT:18:ASP:N	39:RT:18:ASP:OD1	2.41	0.52
1:XA:25:C:H2'	1:XA:26:A:C8	2.45	0.52
1:XA:728:A:H2'	1:XA:729:A:C8	2.45	0.52
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.38	0.52
3:XC:9:GLY:HA3	14:XN:49:HIS:HA	1.92	0.52
25:YA:1066:U:O2'	25:YA:1068:G:OP2	2.20	0.52
25:YA:639:U:H3	25:YA:649:G:H1	1.57	0.52
34:YO:80:ASP:OD2	39:YT:64:ARG:NH2	2.42	0.52
1:QA:1037:C:O2'	1:QA:1038:C:O4'	2.24	0.52
1:QA:1071:C:H2'	1:QA:1072:G:C8	2.43	0.52
1:QA:410:G:H3'	4:QD:25:ARG:HH22	1.75	0.52
25:RA:1967:C:H2'	25:RA:1968:G:O4'	2.09	0.52
1:XA:131:C:O2'	1:XA:262:A:N3	2.38	0.52
2:XB:69:LEU:HD11	2:XB:93:VAL:HG23	1.92	0.52
10:XJ:45:ARG:O	10:XJ:65:LEU:N	2.40	0.52
25:YA:1823:G:P	27:YD:54:ARG:HH22	2.32	0.52
25:YA:615:G:OP1	29:YF:40:GLN:NE2	2.43	0.52
25:YA:773:U:O2	25:YA:778:G:O2'	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:989:G:OP2	49:Y3:11:SER:OG	2.22	0.52
30:YG:8:LYS:NZ	30:YG:97:ASP:OD1	2.40	0.52
1:QA:1276:G:N3	1:QA:1282:C:O2'	2.37	0.52
1:QA:437:U:O4	1:QA:495:A:N7	2.42	0.52
4:QD:82:ALA:O	4:QD:85:LYS:N	2.43	0.52
52:R6:8:LYS:HG3	52:R6:54:ILE:HD13	1.92	0.52
25:RA:2712(A):U:O2'	25:RA:2712(B):A:OP2	2.22	0.52
35:RP:60:MET:SD	54:R8:13:ARG:NH2	2.83	0.52
1:XA:421:U:OP2	1:XA:422:C:N4	2.42	0.52
25:YA:1286:A:H1'	25:YA:1288:U:OP2	2.10	0.52
25:YA:1326:U:O2'	25:YA:1327:C:H5'	2.09	0.52
25:YA:1425:G:O2'	25:YA:1426:G:H5'	2.10	0.52
25:YA:675:A:H4'	29:YF:67:GLN:OE1	2.09	0.52
25:YA:829:A:N7	25:YA:2248:C:H5'	2.25	0.52
29:YF:70:THR:OG1	29:YF:72:ARG:N	2.41	0.52
1:QA:19:C:OP2	5:QE:127:ASN:HB2	2.10	0.51
4:QD:53:ASP:O	4:QD:57:ARG:NH1	2.38	0.51
53:R7:34:ARG:NH1	53:R7:42:LEU:O	2.43	0.51
25:RA:1853:A:H2'	25:RA:1854:A:C8	2.45	0.51
25:RA:1889:A:H2'	25:RA:1890:A:H8	1.75	0.51
25:RA:581:C:H2'	25:RA:582:G:H8	1.75	0.51
32:RI:127:VAL:HA	32:RI:139:GLN:HA	1.92	0.51
1:XA:1485:U:H2'	1:XA:1486:G:H8	1.74	0.51
1:XA:360:A:H2'	1:XA:361:G:C8	2.45	0.51
48:Y2:16:LEU:O	48:Y2:67:LYS:NZ	2.43	0.51
25:YA:833:U:O2	35:YP:55:ARG:NH2	2.38	0.51
1:QA:1393:U:HO2'	1:QA:1501:C:HO2'	1.43	0.51
1:QA:429:U:O4'	1:QA:430:A:H8	1.94	0.51
1:QA:943:U:H1'	9:QI:124:GLN:HE22	1.76	0.51
14:QN:22:THR:O	14:QN:33:VAL:HG21	2.10	0.51
21:QU:12:LYS:HZ2	21:QU:19:GLY:HA3	1.76	0.51
25:RA:1139:G:OP2	33:RN:70:LYS:NZ	2.28	0.51
25:RA:1186:G:H2'	25:RA:1187:G:O4'	2.11	0.51
25:RA:1340:U:OP1	43:RX:16:LYS:NZ	2.33	0.51
25:RA:1664:A:H61	25:RA:1996:C:N4	2.08	0.51
25:RA:1901:A:OP2	27:RD:255:LYS:NZ	2.37	0.51
25:RA:495:G:H4'	42:RW:4:LYS:HG3	1.90	0.51
25:RA:965:C:H2'	25:RA:966:G:H8	1.75	0.51
25:RA:974:G:O2'	25:RA:975(B):G:N7	2.36	0.51
38:RS:27:SER:HA	38:RS:88:ASP:HB3	1.92	0.51
1:XA:407:G:H5''	4:XD:115:ARG:HB3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:104:VAL:O	12:XL:107:ALA:N	2.43	0.51
25:YA:2115:G:N2	25:YA:2171:A:H61	2.08	0.51
25:YA:573:G:O2'	25:YA:574:C:H3'	2.10	0.51
27:YD:79:VAL:HG11	27:YD:111:LEU:HD21	1.91	0.51
35:YP:124:LYS:HA	35:YP:144:GLU:HB3	1.91	0.51
33:YN:43:THR:OG1	40:YU:64:ARG:NH1	2.43	0.51
19:QS:3:ARG:NH1	19:QS:8:GLY:O	2.43	0.51
50:R4:56:VAL:HB	50:R4:58:ARG:HG3	1.93	0.51
25:RA:2431:U:N3	25:RA:2434:A:OP2	2.31	0.51
25:RA:2648:C:H2'	25:RA:2649:U:H6	1.75	0.51
26:RB:78:A:H62	26:RB:99:G:H21	1.57	0.51
39:RT:35:LYS:HA	39:RT:40:THR:HA	1.92	0.51
1:XA:552:U:H2'	1:XA:553:A:H8	1.74	0.51
1:XA:974:A:H8	1:XA:974:A:OP1	1.94	0.51
2:XB:231:GLU:HG3	2:XB:233:SER:H	1.75	0.51
8:XH:96:GLY:HA2	8:XH:130:GLY:HA3	1.93	0.51
25:YA:2271:G:H5'	46:Y0:20:ARG:HG2	1.93	0.51
49:Y3:10:LYS:CE	49:Y3:15:TYR:OH	2.57	0.51
25:YA:1782:C:H1'	25:YA:2609:U:H5''	1.93	0.51
25:YA:2206:G:H5''	25:YA:2207:G:N7	2.26	0.51
25:YA:330:A:HO2'	25:YA:331:A:H8	1.57	0.51
27:YD:127:VAL:HA	27:YD:193:VAL:HG23	1.92	0.51
1:QA:976:G:OP1	14:QN:32:SER:N	2.38	0.51
3:QC:78:GLY:O	3:QC:81:GLY:N	2.39	0.51
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.43	0.51
25:RA:1390:U:O2'	25:RA:1391:U:H5'	2.10	0.51
25:RA:1569:A:H2'	25:RA:1570:A:C8	2.45	0.51
25:RA:45:C:OP2	25:RA:215:G:H5'	2.11	0.51
25:RA:307:G:N2	25:RA:310:A:OP2	2.42	0.51
36:RQ:117:ALA:HA	36:RQ:120:ILE:HD12	1.91	0.51
1:XA:142:G:H1	1:XA:221:C:H42	1.58	0.51
2:XB:207:ALA:O	2:XB:210:SER:N	2.42	0.51
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.43	0.51
49:Y3:18:ASP:OD1	49:Y3:18:ASP:N	2.43	0.51
25:YA:17:G:H2'	25:YA:18:C:C6	2.45	0.51
25:YA:2816:C:H2'	25:YA:2817:G:H8	1.75	0.51
1:QA:1148:U:O2	9:QI:66:ARG:NH2	2.43	0.51
22:QV:15:G:N2	22:QV:48:C:N4	2.48	0.51
25:RA:851:U:OP1	49:R3:49:LYS:HE3	2.11	0.51
25:RA:1458:C:H4'	25:RA:1459:G:O4'	2.10	0.51
25:RA:2296:U:OP2	38:RS:9:ARG:NH2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:678:C:O2'	25:RA:679:C:H5'	2.10	0.51
25:RA:688:U:O2	25:RA:786:C:O2'	2.27	0.51
25:RA:795:C:H2'	25:RA:796:C:C6	2.45	0.51
1:XA:50:A:H8	1:XA:50:A:OP1	1.92	0.51
10:XJ:97:GLU:HB3	10:XJ:99:LYS:HE2	1.92	0.51
12:XL:78:GLN:H	12:XL:81:SER:HG	1.56	0.51
22:XV:71:C:H2'	22:XV:72:A:H8	1.76	0.51
25:YA:1395:A:O2'	25:YA:1396:U:H5''	2.09	0.51
25:YA:216:A:H2'	25:YA:217:G:H8	1.75	0.51
25:YA:2355:C:OP1	46:Y0:25:ARG:NH2	2.39	0.51
25:YA:2804:C:H2'	25:YA:2805:G:C8	2.46	0.51
1:QA:1049:U:H4'	1:QA:1050:G:H5''	1.93	0.51
1:QA:835:U:O4	1:QA:851:G:O6	2.28	0.51
2:QB:80:ILE:HD13	2:QB:212:GLN:HE21	1.75	0.51
3:QC:56:ASP:HB2	3:QC:67:THR:HB	1.92	0.51
25:RA:1025:G:C8	25:RA:1135:C:H1'	2.45	0.51
25:RA:1190:G:H2'	25:RA:1191:G:C8	2.46	0.51
25:RA:1352:U:O2'	25:RA:1353:A:H5'	2.11	0.51
1:XA:1101:A:N6	2:XB:176:GLU:OE2	2.43	0.51
25:YA:1400:G:H2'	25:YA:1401:G:C8	2.45	0.51
25:YA:1614:A:OP2	25:YA:1614:A:H8	1.92	0.51
25:YA:2392:A:OP2	25:YA:2422:A:N6	2.43	0.51
29:YF:6:VAL:N	29:YF:21:ALA:O	2.43	0.51
25:YA:587:C:OP2	35:YP:21:ARG:NH2	2.43	0.51
44:YY:44:ILE:HA	44:YY:63:LYS:O	2.11	0.51
1:QA:1224:G:C4	1:QA:1322:C:H5'	2.46	0.51
1:QA:148:G:H2'	1:QA:149:A:H8	1.75	0.51
1:QA:556:C:H2'	1:QA:557:G:H8	1.76	0.51
1:QA:718:G:H5'	11:QK:117:ASN:OD1	2.11	0.51
25:RA:1231:G:H2'	25:RA:1232:G:H8	1.76	0.51
25:RA:1657:C:OP1	28:RE:136:ARG:N	2.44	0.51
25:RA:1666:G:H4'	34:RO:6:THR:HG23	1.92	0.51
25:RA:2784:C:H2'	25:RA:2785:C:H6	1.76	0.51
25:RA:33:U:H3	25:RA:447:A:H62	1.57	0.51
25:RA:455:C:N3	25:RA:472:A:H2'	2.25	0.51
28:RE:7:VAL:HG12	28:RE:27:LEU:HB3	1.93	0.51
1:XA:1522:U:O2'	1:XA:1523:G:H5'	2.10	0.51
16:XP:28:ARG:NH1	16:XP:29:ASP:OD1	2.43	0.51
19:XS:64:GLU:OE2	50:Y4:58:ARG:NH2	2.44	0.51
25:YA:1051:G:H5'	25:YA:2752:C:H1'	1.91	0.51
25:YA:1720:U:H3	25:YA:1742:G:H1	1.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2515:C:O2'	25:YA:2516:G:H5'	2.11	0.51
25:YA:477:A:H8	25:YA:477:A:O5'	1.93	0.51
25:YA:863:A:O2'	25:YA:864:G:H5'	2.11	0.51
27:YD:143:HIS:ND1	27:YD:194:GLY:O	2.41	0.51
39:YT:18:ASP:OD1	39:YT:18:ASP:N	2.35	0.51
45:YZ:149:SER:OG	45:YZ:172:ALA:O	2.23	0.51
1:QA:1099:G:H5''	2:QB:96:ARG:HH12	1.76	0.51
1:QA:973:G:H3'	1:QA:974:A:H5''	1.92	0.51
3:QC:24:ALA:HB3	3:QC:29:TYR:HD1	1.74	0.51
4:QD:8:VAL:HG22	58:QD:303:SF4:S2	2.50	0.51
7:QG:105:VAL:O	7:QG:109:ASN:ND2	2.44	0.51
7:QG:113:GLU:HG2	7:QG:119:ARG:HG2	1.92	0.51
25:RA:1337:G:H2'	25:RA:1338:G:C8	2.44	0.51
25:RA:1615:C:O2'	25:RA:1616:A:H5''	2.11	0.51
25:RA:1796:U:H2'	25:RA:1797:C:H6	1.75	0.51
25:RA:2286:A:OP1	52:R6:29:ASN:ND2	2.35	0.51
28:RE:119:ARG:NH1	28:RE:156:MET:O	2.43	0.51
28:RE:11:MET:HG2	28:RE:24:THR:HG23	1.92	0.51
45:RZ:52:SER:O	45:RZ:54:HIS:ND1	2.42	0.51
1:XA:21:G:H2'	1:XA:22:G:H8	1.76	0.51
1:XA:357:G:C2'	1:XA:358:U:H5'	2.40	0.51
1:XA:371:G:H1'	1:XA:373:A:H62	1.76	0.51
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.42	0.51
1:XA:977:A:N6	1:XA:1224:G:OP1	2.43	0.51
10:XJ:45:ARG:HB3	10:XJ:65:LEU:HB3	1.92	0.51
25:YA:1048:A:OP2	25:YA:1110:G:N2	2.43	0.51
25:YA:1553:A:H4'	25:YA:1553:A:OP1	2.11	0.51
24:XY:38:A:H5'	25:YA:1913:A:C6	2.46	0.51
25:YA:1972:A:OP2	27:YD:239:ARG:NH2	2.43	0.51
28:YE:16:ARG:NH1	28:YE:171:GLU:OE2	2.34	0.51
44:YY:99:CYS:SG	44:YY:104:GLY:N	2.83	0.51
1:QA:1066:C:H2'	1:QA:1067:A:C8	2.46	0.51
1:QA:1111:A:N6	3:QC:176:HIS:O	2.44	0.51
1:QA:1288:A:O2'	21:QU:10:ARG:NH2	2.43	0.51
1:QA:1419:G:H1	1:QA:1481:U:H3	1.57	0.51
16:QP:45:THR:OG1	16:QP:47:ASP:OD1	2.28	0.51
25:RA:852:G:H2'	25:RA:853:G:H8	1.75	0.51
28:RE:26:ILE:O	28:RE:182:LEU:N	2.42	0.51
37:RR:59:ASP:N	37:RR:59:ASP:OD1	2.40	0.51
1:XA:1330:U:H2'	1:XA:1331:G:H5'	1.91	0.51
8:XH:33:GLU:OE2	8:XH:50:ARG:NH2	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y0:50:ASN:ND2	46:Y0:81:VAL:O	2.37	0.51
25:YA:1281:G:H2'	25:YA:1282:U:C6	2.45	0.51
25:YA:642:G:N2	25:YA:645:C:OP2	2.33	0.51
26:YB:56:G:H4'	26:YB:57:A:H5'	1.93	0.51
25:YA:2657:A:O3'	31:YH:160:LYS:NZ	2.44	0.51
1:QA:1118:C:H1'	1:QA:1179:A:C6	2.46	0.51
1:QA:974:A:H4'	1:QA:975:A:H5'	1.91	0.51
8:QH:49:GLU:OE2	8:QH:62:TYR:OH	2.29	0.51
13:QM:71:ARG:HA	13:QM:74:VAL:HG12	1.92	0.51
25:RA:1068:G:H5'	25:RA:1069:A:H2'	1.93	0.51
25:RA:1073:A:O2'	25:RA:1074:G:OP1	2.25	0.51
25:RA:1651:G:H2'	25:RA:1652:A:C8	2.46	0.51
25:RA:2361:A:OP1	54:R8:26:LYS:HD3	2.11	0.51
25:RA:783:A:H4'	25:RA:2588:G:H4'	1.93	0.51
25:RA:821:A:O2'	25:RA:946:G:OP2	2.24	0.51
36:RQ:7:MET:HG3	36:RQ:9:TYR:H	1.76	0.51
1:XA:1101:A:H4'	1:XA:1102:A:O5'	2.10	0.51
1:XA:45:U:H2'	1:XA:46:G:H8	1.75	0.51
1:XA:908:A:H2'	1:XA:909:A:C8	2.44	0.51
1:XA:1368:G:H1'	10:XJ:46:ARG:HH22	1.76	0.51
16:XP:67:THR:HB	16:XP:70:ALA:H	1.76	0.51
25:YA:126:A:H5'	53:Y7:19:ARG:HG3	1.93	0.51
25:YA:370:G:OP1	25:YA:403:U:N3	2.29	0.51
25:YA:39:C:O2	29:YF:46:ARG:NH2	2.44	0.51
30:YG:71:THR:N	30:YG:89:GLY:O	2.36	0.51
31:YH:40:GLU:OE2	31:YH:60:ARG:NH1	2.43	0.51
34:YO:68:GLU:OE2	34:YO:78:ARG:NH1	2.44	0.51
1:QA:1124:G:N2	1:QA:1125:U:O4	2.40	0.50
1:QA:666:G:H5'	1:QA:726:C:H1'	1.92	0.50
1:QA:769:G:O2'	1:QA:770:C:H5'	2.11	0.50
1:QA:877:C:H2'	1:QA:878:G:C8	2.46	0.50
18:QR:74:ARG:HG3	18:QR:79:LEU:HB2	1.91	0.50
25:RA:1794:U:H2'	25:RA:1795:C:C6	2.46	0.50
25:RA:627:A:N7	35:RP:84:ASN:ND2	2.47	0.50
30:RG:119:GLY:HA3	30:RG:181:ARG:HG3	1.93	0.50
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.10	0.50
1:XA:662:G:H2'	1:XA:663:A:H8	1.75	0.50
1:XA:766:A:N7	1:XA:813:U:O4	2.45	0.50
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.93	0.50
5:XE:100:VAL:HG23	5:XE:118:ILE:HG22	1.92	0.50
7:XG:68:ASN:ND2	7:XG:127:ALA:O	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:22:HIS:HB3	11:XK:29:ILE:HG23	1.93	0.50
49:Y3:8:LEU:HD13	49:Y3:23:LEU:HD11	1.93	0.50
25:YA:2115:G:N1	25:YA:2119:A:OP2	2.41	0.50
25:YA:2274:A:O2'	25:YA:2276:G:OP1	2.22	0.50
25:YA:2314:C:H2'	25:YA:2315:G:C8	2.45	0.50
25:YA:672:C:H2'	25:YA:673:C:C6	2.46	0.50
1:QA:1000:U:O4	1:QA:1001(A):A:N6	2.44	0.50
1:QA:1062:U:H2'	1:QA:1063:C:C6	2.47	0.50
1:QA:564:C:OP1	12:QL:15:ARG:NE	2.45	0.50
4:QD:94:LEU:O	4:QD:98:GLU:N	2.42	0.50
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.43	0.50
25:RA:1186:G:O5'	25:RA:1186:G:H8	1.94	0.50
25:RA:1218:C:OP2	40:RU:15:LYS:NZ	2.43	0.50
25:RA:1797:C:OP1	27:RD:273:ARG:NH2	2.44	0.50
25:RA:747:U:O2	25:RA:2014:A:H1'	2.11	0.50
40:RU:6:THR:OG1	40:RU:7:GLY:N	2.44	0.50
1:XA:241:C:H42	1:XA:285:G:H1	1.59	0.50
1:XA:861:G:O6	1:XA:869:G:N2	2.44	0.50
2:XB:189:ASP:OD1	2:XB:189:ASP:N	2.44	0.50
7:XG:111:ARG:NH2	7:XG:126:ASP:OD2	2.41	0.50
18:XR:45:SER:OG	18:XR:48:GLY:N	2.44	0.50
25:YA:1204:A:N6	25:YA:1241:A:OP2	2.42	0.50
25:YA:2461:C:H2'	25:YA:2462:U:C6	2.46	0.50
25:YA:546:C:H3'	25:YA:547:A:C8	2.46	0.50
1:QA:1517:G:H21	25:RA:1919:A:H2'	1.76	0.50
1:QA:166:G:H2'	1:QA:167:G:H8	1.77	0.50
1:QA:524:G:H5''	12:QL:91:LYS:CE	2.42	0.50
2:QB:165:VAL:HG23	2:QB:187:LEU:HD23	1.93	0.50
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.92	0.50
5:QE:5:ASP:OD1	5:QE:5:ASP:N	2.44	0.50
7:QG:57:GLU:HB2	7:QG:60:LYS:HG2	1.93	0.50
25:RA:2584:U:C5'	56:ZA:3:PPU:H92	2.41	0.50
25:RA:2712(B):A:H5''	25:RA:2713:A:OP2	2.11	0.50
25:RA:272(M):G:O2'	25:RA:272(N):U:O5'	2.22	0.50
25:RA:807:U:H2'	25:RA:808:G:C8	2.47	0.50
25:RA:2294:C:P	38:RS:89:ARG:HH12	2.35	0.50
39:RT:24:PRO:HA	39:RT:49:VAL:HG13	1.93	0.50
1:XA:1249:C:O2'	9:XI:73:GLN:NE2	2.40	0.50
1:XA:160:A:N6	1:XA:346:G:O6	2.44	0.50
1:XA:714:G:H2'	1:XA:715:A:C8	2.46	0.50
1:XA:891:U:H2'	1:XA:892:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XQ:82:MET:HA	17:XQ:85:VAL:HG22	1.92	0.50
25:YA:1335:U:OP2	43:YX:64:LYS:NZ	2.32	0.50
25:YA:1580:A:H5'	25:YA:1581:G:OP2	2.11	0.50
25:YA:1609:A:O2'	25:YA:1610:A:H5'	2.11	0.50
1:QA:21:G:N1	1:QA:22:G:O6	2.45	0.50
1:QA:237:C:H2'	1:QA:238:G:C8	2.47	0.50
1:QA:501:C:O2	1:QA:549:C:O2'	2.24	0.50
1:QA:6:G:H22	5:QE:98:THR:HG22	1.76	0.50
25:RA:1824:G:N3	27:RD:254:THR:OG1	2.44	0.50
25:RA:1921:G:H2'	25:RA:1922:G:H8	1.77	0.50
25:RA:2467:C:H4'	36:RQ:123:HIS:ND1	2.27	0.50
25:RA:568:U:N3	25:RA:571:A:OP2	2.31	0.50
25:RA:635:C:H2'	25:RA:636:G:H8	1.77	0.50
31:RH:6:ARG:O	31:RH:51:ARG:NH1	2.44	0.50
31:RH:58:GLU:HB3	31:RH:61:HIS:HD1	1.76	0.50
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.11	0.50
1:XA:410:G:N2	1:XA:432:A:H62	2.09	0.50
1:XA:950:U:H4'	1:XA:971:G:C2	2.47	0.50
1:XA:971:G:OP1	1:XA:972:C:H5''	2.12	0.50
16:XP:1:MET:SD	16:XP:1:MET:N	2.80	0.50
25:YA:2154:G:H2'	25:YA:2155:G:H8	1.77	0.50
1:QA:56:U:H2'	1:QA:57:G:C8	2.47	0.50
4:QD:22:LYS:N	4:QD:26:CYS:SG	2.85	0.50
25:RA:1409:C:H2'	25:RA:1410:G:H8	1.77	0.50
25:RA:30:G:H2'	25:RA:31:C:C6	2.47	0.50
25:RA:795:C:H2'	25:RA:796:C:H6	1.76	0.50
41:RV:14:VAL:HB	41:RV:96:ILE:HD13	1.93	0.50
1:XA:574:A:N3	1:XA:883:C:H1'	2.26	0.50
1:XA:813:U:H2'	1:XA:814:A:H8	1.77	0.50
2:XB:82:ARG:NH1	2:XB:92:TYR:OH	2.44	0.50
25:YA:1538:G:H2'	25:YA:1539:G:H8	1.77	0.50
25:YA:2723:C:OP2	28:YE:109:LYS:NZ	2.41	0.50
25:YA:2867:G:OP2	39:YT:119:LYS:NZ	2.29	0.50
1:QA:1202:G:H2'	1:QA:1203:C:C6	2.47	0.50
1:QA:61:G:H2'	1:QA:62:U:C6	2.47	0.50
22:QV:52:G:H1	22:QV:62:C:H42	1.60	0.50
55:R9:25:VAL:HB	55:R9:34:GLN:HB2	1.93	0.50
25:RA:1509(B):A:H3'	25:RA:1509(C):A:H8	1.77	0.50
25:RA:271:A:N3	25:RA:365:C:O2'	2.43	0.50
25:RA:272(G):C:H2'	25:RA:272(H):G:H8	1.77	0.50
25:RA:299:A:N3	25:RA:319:C:O2'	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:473:G:O2'	25:RA:474:G:H5'	2.12	0.50
25:RA:659:C:H2'	25:RA:660:G:H8	1.75	0.50
36:RQ:65:PHE:N	36:RQ:105:GLU:O	2.43	0.50
44:RY:6:HIS:O	44:RY:97:ARG:NH2	2.43	0.50
45:RZ:76:LEU:HA	45:RZ:83:PRO:HA	1.92	0.50
1:XA:1119:C:H2'	1:XA:1120:G:H8	1.75	0.50
1:XA:877:C:H2'	1:XA:878:G:C8	2.42	0.50
7:XG:88:PRO:HG2	7:XG:152:ALA:HB2	1.94	0.50
25:YA:1794:U:H2'	25:YA:1795:C:C6	2.45	0.50
25:YA:646:A:O2'	25:YA:647:G:H5'	2.11	0.50
1:QA:269:C:H2'	1:QA:270:A:C8	2.47	0.50
1:QA:426:G:OP1	4:QD:36:ARG:NH1	2.45	0.50
13:QM:31:LYS:HA	13:QM:34:LEU:HD12	1.93	0.50
14:QN:22:THR:HB	14:QN:33:VAL:HG23	1.94	0.50
17:QQ:18:THR:OG1	17:QQ:69:LYS:NZ	2.35	0.50
1:QA:760:G:H22	17:QQ:94:ASN:HD22	1.59	0.50
25:RA:1827:C:H2'	25:RA:1828:G:H5'	1.94	0.50
25:RA:2064:C:H2'	25:RA:2065:C:C6	2.47	0.50
25:RA:557:U:H2'	25:RA:558:G:C8	2.47	0.50
25:RA:637:A:OP1	35:RP:133:SER:OG	2.18	0.50
1:XA:181:G:N2	1:XA:182:U:O4	2.37	0.50
1:XA:552:U:H4'	12:XL:87:GLY:HA3	1.94	0.50
1:XA:835:U:H3	1:XA:851:G:H1	1.60	0.50
2:XB:184:VAL:HG23	2:XB:198:ASP:H	1.76	0.50
3:XC:8:ILE:O	3:XC:11:ARG:N	2.45	0.50
4:XD:18:LYS:NZ	4:XD:31:CYS:SG	2.85	0.50
9:XI:117:HIS:HB3	9:XI:118:LYS:HE2	1.92	0.50
25:YA:1164:G:H2'	25:YA:1165:U:C6	2.46	0.50
25:YA:1547:C:H2'	25:YA:1548:C:H6	1.77	0.50
25:YA:2152:G:H2'	25:YA:2153:G:C8	2.47	0.50
25:YA:2154:G:H2'	25:YA:2155:G:C8	2.46	0.50
25:YA:343:C:H2'	25:YA:344:G:H8	1.77	0.50
25:YA:646:A:H2'	25:YA:647:G:C8	2.47	0.50
25:YA:93:G:H2'	25:YA:94(A):C:C6	2.47	0.50
26:YB:13:A:N1	26:YB:69:G:O2'	2.39	0.50
25:YA:1826:G:H4'	27:YD:242:ARG:HE	1.77	0.50
30:YG:16:ARG:HH21	30:YG:28:VAL:HB	1.76	0.50
8:QH:34:GLU:OE2	8:QH:37:ARG:NH1	2.42	0.50
46:R0:9:SER:OG	46:R0:10:THR:N	2.40	0.50
25:RA:1044:G:H21	25:RA:1111:A:H2	1.60	0.50
25:RA:106:C:HO2'	25:RA:294:A:HO2'	1.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2250:G:C8	25:RA:2496:C:H5''	2.47	0.50
25:RA:2495:G:H2'	25:RA:2496:C:H6	1.76	0.50
25:RA:2526:G:O6	25:RA:2537:U:O4	2.30	0.50
25:RA:2567:G:H2'	25:RA:2568:C:C6	2.46	0.50
25:RA:358:U:H2'	25:RA:359:A:C8	2.45	0.50
25:RA:822:U:H2'	25:RA:823:G:H8	1.77	0.50
25:RA:832:G:P	35:RP:38:GLN:H	2.35	0.50
43:RX:3:THR:OG1	43:RX:6:ASP:N	2.44	0.50
1:XA:892:A:H2'	1:XA:893:C:H6	1.77	0.50
25:YA:1281:G:C3'	25:YA:1281:G:C8	2.95	0.50
25:YA:2144:U:HO2'	25:YA:2147:G:H1	1.57	0.50
29:YF:17:ARG:NE	29:YF:19:GLU:OE2	2.43	0.50
38:YS:40:ILE:HG12	38:YS:47:THR:HG23	1.93	0.50
1:QA:932:C:H2'	1:QA:933:G:H8	1.77	0.50
4:QD:14:ARG:HD2	4:QD:39:PRO:HB3	1.94	0.50
5:QE:98:THR:OG1	5:QE:99:GLY:N	2.45	0.50
1:QA:1223:C:OP2	19:QS:78:ARG:NH2	2.45	0.50
25:RA:1935:G:H1'	25:RA:1964:G:N2	2.27	0.50
25:RA:674:G:O2'	29:RF:67:GLN:NE2	2.33	0.50
25:RA:956:G:H2'	25:RA:957:A:H2'	1.93	0.50
25:RA:2574:G:N2	28:RE:142:GLY:O	2.42	0.50
31:RH:79:VAL:HG12	31:RH:136:ILE:HD11	1.94	0.50
40:RU:49:HIS:HA	40:RU:52:ARG:HB3	1.93	0.50
45:RZ:69:THR:HA	45:RZ:90:VAL:HA	1.94	0.50
1:XA:261:U:H2'	1:XA:263:A:OP2	2.12	0.50
1:XA:954:G:H21	1:XA:1227:A:H62	1.60	0.50
2:XB:163:PHE:HA	2:XB:185:ILE:O	2.12	0.50
25:YA:2151:G:H2'	25:YA:2152:G:C8	2.47	0.50
25:YA:2845:G:H2'	25:YA:2846:G:C8	2.47	0.50
40:YU:106:PHE:HA	40:YU:109:LEU:HD12	1.93	0.50
45:YZ:137:ILE:HG23	45:YZ:156:LYS:HB3	1.94	0.50
1:QA:1003:G:C2'	1:QA:1004:A:H4'	2.41	0.49
1:QA:1013:G:N2	1:QA:1016:A:OP2	2.33	0.49
1:QA:1226:C:O2'	13:QM:111:LYS:NZ	2.45	0.49
1:QA:302:G:H2'	1:QA:303:A:C8	2.47	0.49
1:QA:360:A:H3'	1:QA:360:A:OP2	2.11	0.49
10:QJ:11:PHE:HE1	10:QJ:67:THR:HG22	1.76	0.49
25:RA:2087:G:H2'	25:RA:2088:G:H8	1.75	0.49
25:RA:503:A:H4'	25:RA:504:U:H5''	1.93	0.49
25:RA:557:U:H2'	25:RA:558:G:H8	1.77	0.49
1:XA:314:C:H2'	1:XA:315:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1456:G:O3'	20:XT:39:LYS:NZ	2.44	0.49
25:YA:1510:G:H2'	25:YA:1511:C:C6	2.47	0.49
25:YA:1801:G:OP2	27:YD:154:LYS:NZ	2.35	0.49
25:YA:2510:C:O2'	25:YA:2511:U:H5'	2.12	0.49
25:YA:746:A:O2'	25:YA:2611:U:O2'	2.30	0.49
25:YA:796:C:H2'	25:YA:797:C:C6	2.46	0.49
30:YG:150:ASP:N	30:YG:150:ASP:OD1	2.38	0.49
36:YQ:65:PHE:HB2	36:YQ:105:GLU:HB2	1.92	0.49
1:QA:130:A:H5'	17:QQ:63:ARG:NE	2.22	0.49
1:QA:460:G:N2	1:QA:471:G:OP2	2.44	0.49
1:QA:591:U:OP2	8:QH:30:ARG:NE	2.45	0.49
4:QD:21:LEU:HD13	58:QD:303:SF4:S2	2.52	0.49
20:QT:31:SER:O	20:QT:35:THR:OG1	2.30	0.49
47:R1:73:LEU:O	47:R1:77:ALA:N	2.45	0.49
25:RA:2129:C:H5'	25:RA:2130:U:OP2	2.12	0.49
25:RA:2297:C:H2'	25:RA:2298:A:H8	1.76	0.49
25:RA:861:A:N3	26:RB:79:C:O2'	2.44	0.49
35:RP:93:GLY:H	35:RP:123:LEU:HG	1.78	0.49
1:XA:1366:C:O2'	1:XA:1367:C:H5'	2.12	0.49
25:YA:2010:G:OP1	42:YW:41:LYS:HD2	2.12	0.49
25:YA:626:U:O4	35:YP:81:GLN:NE2	2.44	0.49
31:YH:90:LYS:HD3	31:YH:159:GLU:HG2	1.94	0.49
1:QA:1104:G:H2'	1:QA:1105:A:O4'	2.12	0.49
8:QH:79:VAL:HG13	8:QH:80:ILE:HD12	1.94	0.49
9:QI:26:VAL:HG12	9:QI:61:ALA:HB3	1.93	0.49
1:QA:1358:U:H5'	14:QN:34:TYR:HA	1.94	0.49
25:RA:2219:G:H2'	25:RA:2220:G:H8	1.78	0.49
25:RA:2313:C:OP1	30:RG:91:ARG:NH1	2.44	0.49
25:RA:1127:A:H1'	25:RA:2518:A:H5''	1.94	0.49
25:RA:494:G:O2'	25:RA:495:G:H5'	2.12	0.49
26:RB:28:C:H2'	26:RB:29:A:C8	2.46	0.49
30:RG:37:VAL:HB	30:RG:94:LEU:HB2	1.94	0.49
30:RG:36:LYS:H	30:RG:96:ARG:HH22	1.59	0.49
33:RN:27:ALA:HA	33:RN:30:ILE:HD12	1.94	0.49
36:RQ:135:ASP:OD2	45:RZ:49:ARG:NH2	2.45	0.49
1:XA:1065:U:H5''	1:XA:1190:G:H22	1.76	0.49
1:XA:1095:U:P	1:XA:1108:G:H1	2.34	0.49
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.12	0.49
1:XA:67:C:H2'	1:XA:68:G:H8	1.76	0.49
11:XK:61:ALA:HB1	11:XK:94:ALA:HB2	1.94	0.49
25:YA:11:G:H2'	25:YA:12:U:H5'	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:140:G:N3	25:YA:142(A):A:N6	2.58	0.49
25:YA:1636:C:H2'	25:YA:1637:A:H8	1.74	0.49
25:YA:1672:C:O2'	25:YA:1673:U:OP1	2.27	0.49
25:YA:1970:A:H4'	25:YA:1971:A:OP1	2.11	0.49
25:YA:2328:A:H2'	25:YA:2329:G:H8	1.76	0.49
25:YA:2467:C:O2'	25:YA:2468:G:H5'	2.12	0.49
31:YH:154:PRO:HB3	31:YH:163:TYR:CZ	2.47	0.49
1:QA:582:U:H2'	1:QA:583:A:C8	2.48	0.49
1:QA:1113:C:H4'	3:QC:14:ILE:HD11	1.94	0.49
25:RA:1376:C:H2'	25:RA:1377:G:C8	2.47	0.49
25:RA:2503:2MA:O2'	25:RA:2505:G:OP2	2.21	0.49
25:RA:2593:U:H2'	25:RA:2594:C:C6	2.48	0.49
25:RA:835:A:H2'	25:RA:836:G:C8	2.47	0.49
28:RE:78:LEU:O	28:RE:79:ARG:NH1	2.42	0.49
29:RF:167:ALA:HB1	29:RF:173:VAL:HG11	1.93	0.49
34:RO:24:VAL:HG12	34:RO:33:ALA:HB2	1.93	0.49
45:RZ:7:ALA:HB2	45:RZ:59:LEU:HD12	1.95	0.49
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.78	0.49
1:XA:102:G:O2'	1:XA:151:A:N3	2.41	0.49
7:XG:40:ALA:HB3	9:XI:41:VAL:HG21	1.93	0.49
11:XK:28:THR:HG21	11:XK:90:GLY:HA3	1.95	0.49
19:XS:40:ILE:HG13	19:XS:71:LEU:HD22	1.95	0.49
20:XT:9:ASN:OD1	20:XT:11:SER:OG	2.24	0.49
25:YA:1223:G:N2	25:YA:1226:A:OP2	2.46	0.49
25:YA:1273:U:O2'	25:YA:1274:A:H5''	2.13	0.49
25:YA:1363:C:H2'	25:YA:1364:G:H8	1.78	0.49
25:YA:1608:A:H1'	25:YA:1610:A:OP2	2.12	0.49
25:YA:2107:C:O2'	25:YA:2108:C:O4'	2.30	0.49
25:YA:2478:A:OP2	55:Y9:2:LYS:NZ	2.34	0.49
25:YA:2754:U:H2'	25:YA:2755:C:H5'	1.95	0.49
25:YA:886:C:H5'	25:YA:887:A:OP2	2.11	0.49
25:YA:972:G:OP1	25:YA:974:G:H5''	2.13	0.49
26:YB:112:U:H2'	26:YB:113:G:H8	1.78	0.49
1:QA:674:G:H2'	1:QA:675:A:H8	1.77	0.49
1:QA:977:A:O2'	1:QA:981:U:N3	2.45	0.49
6:QF:25:ILE:HG21	6:QF:82:ARG:HH21	1.77	0.49
1:QA:553:A:H5''	12:QL:24:VAL:HG21	1.93	0.49
13:QM:45:VAL:HA	13:QM:48:LEU:HG	1.95	0.49
50:R4:10:VAL:N	50:R4:26:SER:O	2.43	0.49
25:RA:907:U:O2'	36:RQ:101:ARG:NH2	2.45	0.49
32:RI:132:PRO:HD2	32:RI:134:PRO:HD2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:674:G:H2'	1:XA:675:A:C8	2.46	0.49
23:XX:19:C:H42	24:XY:36:G:H1	1.61	0.49
1:QA:1320:C:H2'	1:QA:1321:C:O4'	2.13	0.49
1:QA:1456:G:O2'	20:QT:39:LYS:NZ	2.38	0.49
1:QA:856:C:H2'	1:QA:857:C:C6	2.47	0.49
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HG3	1.95	0.49
48:R2:9:GLN:NE2	48:R2:56:GLN:OE1	2.39	0.49
52:R6:16:CYS:HB2	52:R6:18:ARG:HH11	1.77	0.49
25:RA:1429:G:H2'	25:RA:1430:C:C6	2.47	0.49
25:RA:1995:U:H3'	25:RA:1996:C:H2'	1.94	0.49
25:RA:2064:C:H2'	25:RA:2065:C:H6	1.77	0.49
25:RA:2555:U:C2	56:ZA:1:C:C5	3.00	0.49
25:RA:486:C:O2'	42:RW:60:ASN:OD1	2.30	0.49
25:RA:734:A:O2'	25:RA:735:A:H5'	2.13	0.49
25:RA:806:C:O3'	25:RA:830:G:N2	2.45	0.49
26:RB:112:U:H2'	26:RB:113:G:H8	1.77	0.49
28:RE:16:ARG:NH2	28:RE:171:GLU:OE2	2.44	0.49
29:RF:120:GLU:HB3	29:RF:122:LYS:HD3	1.94	0.49
35:RP:47:ASP:OD2	35:RP:49:ARG:NH2	2.37	0.49
40:RU:106:PHE:HA	40:RU:109:LEU:HD12	1.94	0.49
1:XA:1506:U:O2'	1:XA:1507:A:H5'	2.12	0.49
1:XA:429:U:O4'	1:XA:430:A:H8	1.95	0.49
1:XA:434:U:H2'	1:XA:435:C:H6	1.78	0.49
1:XA:640:A:N3	8:XH:115:SER:OG	2.35	0.49
6:XF:10:LEU:HB2	6:XF:59:TYR:HB3	1.94	0.49
25:YA:2544:G:H1'	25:YA:2646:C:H4'	1.93	0.49
25:YA:2693:A:H2'	25:YA:2694:G:H8	1.78	0.49
25:YA:2737:G:H2'	25:YA:2738:A:H8	1.77	0.49
25:YA:313:C:H2'	25:YA:314:A:H8	1.77	0.49
1:QA:1373:G:H5''	7:QG:36:LYS:HE2	1.95	0.49
1:QA:262:A:H2'	1:QA:263:A:C8	2.47	0.49
1:QA:334:C:H2'	1:QA:335:C:C6	2.48	0.49
1:QA:783:C:H2'	1:QA:784:C:H6	1.77	0.49
25:RA:2314:C:H2'	25:RA:2315:G:C8	2.47	0.49
25:RA:648:G:H2'	25:RA:649:G:C8	2.47	0.49
28:RE:26:ILE:HD12	28:RE:196:VAL:HG11	1.94	0.49
34:RO:35:VAL:HG11	34:RO:103:ALA:HB3	1.95	0.49
25:RA:1262:A:OP2	42:RW:97:LYS:NZ	2.45	0.49
1:XA:1100:C:O2'	1:XA:1102:A:OP1	2.19	0.49
1:XA:166:G:H2'	1:XA:167:G:H8	1.78	0.49
4:XD:8:VAL:HG23	4:XD:8:VAL:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:111:ARG:HD2	7:XG:123:GLU:HB2	1.94	0.49
11:XK:44:SER:H	11:XK:47:VAL:HG12	1.78	0.49
25:YA:1102:C:H2'	25:YA:1103:A:C8	2.47	0.49
25:YA:1266:G:OP2	51:Y5:20:ARG:NE	2.37	0.49
25:YA:1291:C:H2'	25:YA:1292:U:H6	1.76	0.49
25:YA:1496:A:N3	25:YA:1577:C:O2'	2.42	0.49
25:YA:1496:A:O2'	25:YA:1497:U:O2	2.22	0.49
1:QA:1005:A:OP2	1:QA:1006:C:N4	2.46	0.49
1:QA:1321:C:O2	19:QS:36:ARG:NH2	2.46	0.49
1:QA:1415:G:O6	1:QA:1485:U:O4	2.30	0.49
1:QA:302:G:H2'	1:QA:303:A:H8	1.77	0.49
1:QA:490:G:H2'	1:QA:491:G:C8	2.48	0.49
4:QD:20:TYR:HA	58:QD:303:SF4:S3	2.52	0.49
1:QA:1280:A:P	10:QJ:43:ARG:HH21	2.36	0.49
19:QS:50:ALA:HB1	19:QS:57:HIS:HB2	1.95	0.49
25:RA:918:A:H4'	26:RB:98:G:N3	2.28	0.49
25:RA:322:A:P	29:RF:169:ASN:HD21	2.36	0.49
25:RA:614(D):A:C4	29:RF:180:GLY:HA2	2.47	0.49
1:XA:227:G:H2'	1:XA:228:A:C8	2.48	0.49
1:XA:271:C:H2'	1:XA:272:C:C6	2.48	0.49
1:XA:285:G:H2'	1:XA:286:G:H8	1.78	0.49
53:Y7:5:TRP:O	53:Y7:6:GLN:NE2	2.46	0.49
25:YA:2327:A:N7	25:YA:2388:A:N6	2.61	0.49
25:YA:306:U:H2'	25:YA:307:G:O4'	2.13	0.49
25:YA:445:C:O2'	25:YA:449:A:N3	2.38	0.49
25:YA:570:G:H22	25:YA:2498:C:H4'	1.78	0.49
28:YE:161:GLY:HA2	28:YE:163:GLU:HG2	1.94	0.49
28:YE:5:LEU:HB2	28:YE:51:PHE:CD2	2.47	0.49
1:QA:1144:G:H21	1:QA:1146:A:H62	1.59	0.49
1:QA:1226:C:OP2	13:QM:91:ARG:NH2	2.46	0.49
1:QA:1309:G:C2'	1:QA:1310:G:H5'	2.43	0.49
1:QA:672:U:H2'	1:QA:673:G:H8	1.77	0.49
6:QF:79:LEU:HB3	6:QF:88:VAL:HG21	1.93	0.49
25:RA:1206:G:H1	25:RA:1240:U:H3	1.60	0.49
25:RA:1963:U:H4'	25:RA:1964:G:OP1	2.12	0.49
25:RA:216:A:H2'	25:RA:217:G:H8	1.78	0.49
25:RA:383:U:H5"	25:RA:384:U:OP2	2.12	0.49
26:RB:62:C:H2'	26:RB:63:G:C8	2.48	0.49
28:RE:47:VAL:HG11	28:RE:86:PRO:HD2	1.95	0.49
30:RG:173:LEU:HB3	30:RG:178:PHE:HB2	1.92	0.49
43:RX:20:GLY:O	43:RX:25:LYS:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:421:U:H5''	1:XA:422:C:H5	1.77	0.49
1:XA:45:U:H2'	1:XA:46:G:C8	2.48	0.49
1:XA:555:C:H2'	1:XA:556:C:H6	1.78	0.49
13:XM:87:TYR:OH	13:XM:91:ARG:NH2	2.46	0.49
25:YA:572:A:H61	25:YA:2029:G:H21	1.61	0.49
25:YA:630:G:N2	25:YA:633:A:OP2	2.44	0.49
25:YA:932:G:OP2	49:Y3:29:ARG:NH2	2.46	0.49
25:YA:1340:U:OP1	43:YX:16:LYS:NZ	2.45	0.49
1:QA:1103:C:H2'	1:QA:1104:G:O4'	2.13	0.49
3:QC:153:VAL:O	3:QC:166:GLU:N	2.41	0.49
4:QD:18:LYS:HD2	4:QD:20:TYR:CZ	2.47	0.49
9:QI:2:GLU:OE1	9:QI:20:ARG:NH2	2.46	0.49
12:QL:75:HIS:HB2	12:QL:77:LEU:HG	1.95	0.49
25:RA:1243:G:O2'	35:RP:7:ARG:NH2	2.46	0.49
25:RA:184:C:H2'	25:RA:185:U:C6	2.48	0.49
25:RA:1957:C:O2'	25:RA:1984:G:N2	2.45	0.49
25:RA:2576:G:OP2	25:RA:2576:G:N2	2.42	0.49
25:RA:2849:U:O4	39:RT:23:ARG:NH1	2.43	0.49
25:RA:521:G:H2'	25:RA:522:G:C8	2.47	0.49
25:RA:646:A:H2'	25:RA:647:G:C8	2.48	0.49
26:RB:30:C:OP2	38:RS:32:LEU:HD11	2.13	0.49
40:RU:65:ILE:O	40:RU:68:ALA:N	2.46	0.49
44:RY:87:LYS:HG2	44:RY:95:LYS:HE3	1.95	0.49
45:RZ:97:GLU:HA	45:RZ:126:VAL:O	2.13	0.49
1:XA:1095:U:H2'	1:XA:1096:C:C6	2.48	0.49
1:XA:539:A:H2'	1:XA:540:G:C8	2.48	0.49
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.28	0.49
1:XA:127:G:O2'	17:XQ:2:PRO:O	2.31	0.49
25:YA:212:G:H2'	25:YA:213:A:O4'	2.13	0.49
25:YA:2377:A:H2'	25:YA:2378:A:C8	2.47	0.49
25:YA:278:A:H3'	25:YA:278:A:P	2.53	0.49
25:YA:690:G:H2'	25:YA:691:C:H6	1.78	0.49
38:YS:10:ARG:HG2	38:YS:91:PRO:HA	1.94	0.49
39:YT:29:ARG:NH2	39:YT:46:GLU:OE1	2.45	0.49
1:QA:1256:A:OP1	3:QC:26:LYS:HD2	2.12	0.48
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.48	0.48
1:QA:254:G:O2'	17:QQ:16:GLN:O	2.31	0.48
7:QG:87:VAL:HG23	7:QG:152:ALA:HA	1.94	0.48
8:QH:110:ALA:HB3	8:QH:121:ASP:HB3	1.94	0.48
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.93	0.48
25:RA:2017:U:H4'	51:R5:8:LYS:O	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2206:G:H5''	25:RA:2207:G:N7	2.28	0.48
25:RA:32:C:O2'	25:RA:33:U:H5'	2.13	0.48
25:RA:590:A:OP1	29:RF:95:ARG:NH1	2.46	0.48
25:RA:863:A:H2'	25:RA:864:G:H8	1.78	0.48
29:RF:186:ILE:HD12	29:RF:192:LEU:HD21	1.94	0.48
25:RA:2315:G:H21	30:RG:128:ARG:HH11	1.61	0.48
33:RN:58:ASP:N	33:RN:58:ASP:OD1	2.44	0.48
1:XA:130:A:N3	1:XA:263:A:O2'	2.37	0.48
1:XA:533:A:O2'	1:XA:535:A:OP2	2.28	0.48
1:XA:578:C:O2'	1:XA:728:A:N3	2.36	0.48
3:XC:43:LEU:O	3:XC:47:LEU:HB2	2.13	0.48
5:XE:115:VAL:HG12	5:XE:117:ASP:H	1.78	0.48
18:XR:48:GLY:O	18:XR:74:ARG:NH2	2.45	0.48
25:YA:2031:A:N3	25:YA:2455:G:O2'	2.43	0.48
25:YA:2109:U:H2'	25:YA:2110:G:C8	2.48	0.48
25:YA:2137:C:N3	25:YA:2138:C:N4	2.60	0.48
25:YA:2317:C:H2'	25:YA:2318:G:H5'	1.95	0.48
25:YA:2757:A:O2'	25:YA:2758:A:H5'	2.12	0.48
25:YA:802:A:H5'	25:YA:803:U:OP2	2.13	0.48
30:YG:97:ASP:H	30:YG:100:TRP:HD1	1.61	0.48
31:YH:122:THR:O	31:YH:134:SER:OG	2.30	0.48
25:YA:328:U:O2'	44:YY:71:LYS:NZ	2.45	0.48
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.47	0.48
1:QA:1325:C:OP1	21:QU:15:ARG:NE	2.46	0.48
1:QA:768:A:N3	1:QA:1512:U:O2'	2.45	0.48
11:QK:31:THR:HA	11:QK:42:TRP:HA	1.94	0.48
25:RA:1514:U:H2'	25:RA:1515:G:C8	2.43	0.48
31:RH:155:SER:OG	31:RH:158:HIS:O	2.31	0.48
35:RP:81:GLN:NE2	35:RP:105:LEU:O	2.44	0.48
26:RB:75:G:N2	45:RZ:87:ASP:OD1	2.45	0.48
1:XA:1457:G:H4'	20:XT:36:LEU:HD21	1.94	0.48
25:YA:1388:G:H2'	25:YA:1389:G:C8	2.48	0.48
25:YA:2096:U:O4	25:YA:2193:G:O6	2.31	0.48
25:YA:2065:C:H5''	25:YA:2252:G:H1'	1.93	0.48
1:QA:1049:U:O4	14:QN:29:ARG:NH2	2.41	0.48
1:QA:328:C:H4'	1:QA:329:A:H5'	1.95	0.48
1:QA:532:A:N6	1:QA:1206:G:O2'	2.46	0.48
1:QA:538:G:H2'	1:QA:539:A:H8	1.78	0.48
2:QB:71:VAL:HG11	2:QB:170:GLU:HG3	1.95	0.48
18:QR:53:ARG:HD2	18:QR:63:GLN:HG2	1.95	0.48
35:RP:59:LEU:HD21	54:R8:10:ALA:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:37:GLY:N	35:RP:40:SER:OG	2.46	0.48
40:RU:96:ALA:O	40:RU:99:ALA:N	2.44	0.48
40:RU:44:ASN:ND2	41:RV:75:PHE:O	2.32	0.48
45:RZ:5:LEU:O	45:RZ:59:LEU:HA	2.14	0.48
1:XA:376:G:H2'	1:XA:377:G:C8	2.47	0.48
1:XA:434:U:H2'	1:XA:435:C:C6	2.48	0.48
1:XA:902:G:H2'	1:XA:903:G:H8	1.78	0.48
1:XA:946:A:H2'	1:XA:947:G:C8	2.48	0.48
10:XJ:22:LYS:NZ	10:XJ:88:LEU:O	2.46	0.48
16:XP:34:GLU:OE2	16:XP:59:TRP:NE1	2.38	0.48
25:YA:1000:A:H2'	25:YA:1001:A:C8	2.49	0.48
25:YA:1800:C:OP1	27:YD:260:ARG:NH2	2.45	0.48
25:YA:225:A:H2'	25:YA:226:G:H5'	1.95	0.48
25:YA:2494:G:H2'	25:YA:2495:G:H8	1.77	0.48
25:YA:2546:U:H4'	25:YA:2566:A:H2	1.78	0.48
31:YH:9:ILE:HB	31:YH:50:VAL:HB	1.95	0.48
1:QA:1431:C:H2'	1:QA:1432:G:O4'	2.13	0.48
1:QA:272:C:H2'	1:QA:273:A:H8	1.78	0.48
1:QA:545:C:OP2	4:QD:65:ARG:NH2	2.47	0.48
1:QA:783:C:H2'	1:QA:784:C:C6	2.49	0.48
4:QD:19:LEU:HB2	4:QD:21:LEU:HD11	1.94	0.48
4:QD:202:LEU:O	4:QD:206:PHE:N	2.46	0.48
10:QJ:59:SER:OG	10:QJ:59:SER:O	2.29	0.48
13:QM:10:PRO:HB2	13:QM:13:LYS:HE2	1.95	0.48
25:RA:1364:G:N2	25:RA:1367:A:OP2	2.45	0.48
25:RA:2773:C:O2'	25:RA:2774:C:H5'	2.13	0.48
25:RA:2837:G:H2'	25:RA:2838:G:H8	1.78	0.48
36:RQ:39:PRO:HD3	36:RQ:99:PRO:HG3	1.95	0.48
1:XA:864:A:O2'	1:XA:1078:U:O4	2.28	0.48
1:XA:1121:U:H2'	1:XA:1122:U:C6	2.49	0.48
1:XA:489:C:H2'	1:XA:490:G:H8	1.78	0.48
1:XA:543:C:OP2	4:XD:10:ARG:NH2	2.46	0.48
7:XG:15:ASP:OD1	7:XG:19:GLY:N	2.47	0.48
8:XH:51:VAL:HG21	8:XH:60:ARG:HD3	1.96	0.48
13:XM:59:TYR:O	13:XM:63:THR:OG1	2.24	0.48
17:XQ:22:LEU:HA	17:XQ:41:LYS:HA	1.94	0.48
25:YA:1799:G:O6	27:YD:179:SER:N	2.43	0.48
25:YA:2066:C:H2'	25:YA:2067:G:H5'	1.94	0.48
25:YA:382:G:O2'	25:YA:383:U:H5'	2.13	0.48
25:YA:565:C:O2'	25:YA:566:U:H5'	2.12	0.48
25:YA:90:U:H4'	25:YA:92:A:H5'	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:130:A:OP2	17:QQ:63:ARG:NE	2.46	0.48
4:QD:18:LYS:HD2	4:QD:20:TYR:CE1	2.49	0.48
25:RA:1394:U:H4'	25:RA:1603:A:H4'	1.94	0.48
25:RA:2715:C:H2'	25:RA:2716:U:C6	2.49	0.48
28:RE:8:LYS:O	28:RE:193:GLY:N	2.43	0.48
30:RG:63:ILE:HG12	30:RG:144:ILE:HD11	1.95	0.48
30:RG:65:GLY:HA2	50:R4:7:PRO:HG2	1.95	0.48
1:XA:1207:2MG:H2'	1:XA:1208:C:C6	2.48	0.48
1:XA:1289:A:H2'	1:XA:1290:G:H5'	1.96	0.48
1:XA:255:G:P	17:XQ:69:LYS:HZ3	2.36	0.48
1:XA:636:U:H5'	17:XQ:2:PRO:HG3	1.96	0.48
1:XA:1348:U:H4'	9:XI:120:ARG:HD2	1.95	0.48
22:XV:28:C:H2'	22:XV:29:G:C8	2.48	0.48
25:YA:2692:C:H2'	25:YA:2693:A:H8	1.78	0.48
25:YA:514:A:H2'	25:YA:515:A:C8	2.48	0.48
29:YF:63:LYS:NZ	29:YF:75:HIS:O	2.37	0.48
36:YQ:17:LEU:HD21	36:YQ:41:TRP:HE1	1.79	0.48
1:QA:1280:A:H5''	10:QJ:40:LEU:HD21	1.94	0.48
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.49	0.48
1:QA:932:C:H5''	7:QG:4:ARG:HD2	1.95	0.48
8:QH:114:THR:OG1	8:QH:117:GLY:O	2.28	0.48
13:QM:29:ARG:HB2	13:QM:64:TRP:CH2	2.48	0.48
16:QP:35:LYS:HD3	16:QP:37:GLY:H	1.77	0.48
25:RA:374:A:H2'	25:RA:375:C:H5'	1.94	0.48
25:RA:401:A:H2'	25:RA:402:A:C8	2.49	0.48
25:RA:718:A:H3'	25:RA:719:C:H6	1.79	0.48
30:RG:2:PRO:HB2	30:RG:3:LEU:HD22	1.96	0.48
34:RO:68:GLU:OE1	34:RO:78:ARG:NH1	2.47	0.48
25:RA:908:C:O2'	36:RQ:71:ASP:OD2	2.24	0.48
1:XA:197:A:O2'	1:XA:220:G:N2	2.46	0.48
1:XA:269:C:H2'	1:XA:270:A:H8	1.79	0.48
1:XA:398:C:H2'	1:XA:399:G:H8	1.78	0.48
4:XD:111:ALA:HB1	4:XD:116:GLN:HB3	1.94	0.48
25:YA:1374:G:O2'	25:YA:1375:C:H5'	2.14	0.48
25:YA:1844:C:O3'	27:YD:258:LYS:NZ	2.36	0.48
25:YA:2393:A:H5''	35:YP:63:PRO:HB3	1.96	0.48
25:YA:2692:C:H2'	25:YA:2693:A:C8	2.49	0.48
25:YA:414:C:H2'	25:YA:415:A:C8	2.47	0.48
25:YA:689:A:N3	25:YA:779:U:O2'	2.40	0.48
34:YO:73:ASP:N	34:YO:73:ASP:OD1	2.46	0.48
42:YW:86:LEU:HD22	42:YW:96:ILE:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:502:G:H4'	1:QA:550:G:H4'	1.94	0.48
1:QA:613:C:H2'	1:QA:614:A:C8	2.48	0.48
8:QH:21:LYS:O	8:QH:65:TYR:OH	2.29	0.48
10:QJ:19:SER:HA	10:QJ:22:LYS:HE3	1.96	0.48
25:RA:1529:G:O2'	25:RA:1530:C:H5'	2.14	0.48
25:RA:2048:G:H2'	25:RA:2049:G:O4'	2.14	0.48
25:RA:2340:G:H2'	25:RA:2341:G:H8	1.78	0.48
25:RA:40:C:H2'	25:RA:41:C:H6	1.78	0.48
25:RA:674:G:H1'	29:RF:74:ARG:HD3	1.96	0.48
25:RA:2295:C:OP1	38:RS:10:ARG:NH2	2.47	0.48
5:XE:98:THR:OG1	5:XE:99:GLY:N	2.46	0.48
25:YA:2345:G:OP2	52:Y6:38:LYS:HD2	2.12	0.48
25:YA:1042:G:H5'	25:YA:1043:C:OP2	2.14	0.48
25:YA:2495:G:H2'	25:YA:2496:C:C6	2.49	0.48
25:YA:1138:G:O2'	33:YN:102:ALA:O	2.32	0.48
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.48	0.48
1:QA:1270:C:H2'	1:QA:1271:G:H8	1.79	0.48
1:QA:227:G:H2'	1:QA:228:A:C8	2.49	0.48
1:QA:541:G:H2'	1:QA:542:G:H8	1.79	0.48
8:QH:27:PRO:HA	8:QH:58:TYR:HA	1.94	0.48
14:QN:6:LEU:HB3	14:QN:23:ARG:HH22	1.79	0.48
25:RA:1769:G:H2'	25:RA:1770:G:H8	1.78	0.48
25:RA:1801:G:O6	25:RA:2201:C:O2'	2.26	0.48
25:RA:2162:G:HO2'	25:RA:2172:U:HO2'	1.55	0.48
25:RA:237:C:O2'	25:RA:238:C:H5'	2.14	0.48
25:RA:519:U:H2'	25:RA:520:G:H8	1.79	0.48
25:RA:922:U:H2'	25:RA:923:C:C6	2.48	0.48
1:XA:1292:U:H2'	1:XA:1293:G:H8	1.77	0.48
1:XA:1305:G:N2	1:XA:1331:G:H1'	2.29	0.48
1:XA:1324:A:H2'	1:XA:1325:C:C6	2.48	0.48
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.79	0.48
1:XA:436:C:H2'	1:XA:437:U:C6	2.48	0.48
25:YA:1298:C:H3'	25:YA:1299:G:H8	1.79	0.48
25:YA:140:G:N2	25:YA:142(A):A:N6	2.60	0.48
25:YA:876:C:H2'	25:YA:877:U:O4'	2.13	0.48
25:YA:988:A:H8	25:YA:988:A:O5'	1.97	0.48
40:YU:44:ASN:OD1	41:YV:75:PHE:N	2.47	0.48
41:YV:7:THR:HG23	41:YV:22:VAL:HG11	1.96	0.48
25:RA:1309:G:O2'	25:RA:1611:C:O2'	2.00	0.48
25:RA:2232:U:O2'	25:RA:2233:U:H5'	2.14	0.48
25:RA:538:G:H2'	25:RA:539:G:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RB:22:U:H3	26:RB:61:G:H22	1.61	0.48
26:RB:37:C:N3	26:RB:48:A:O2'	2.44	0.48
1:XA:1121:U:H2'	1:XA:1122:U:H6	1.77	0.48
1:XA:1125:U:O2'	1:XA:1126:U:O5'	2.27	0.48
1:XA:448:A:P	1:XA:485:G:H22	2.36	0.48
3:XC:75:VAL:O	3:XC:83:ARG:NH1	2.45	0.48
1:XA:1347:G:N7	9:XI:10:ARG:NH2	2.62	0.48
47:Y1:64:ALA:HA	47:Y1:67:ILE:HG13	1.96	0.48
25:YA:26:G:OP1	42:YW:80:PRO:HB3	2.13	0.48
25:YA:363(B):A:H2'	25:YA:363(C):G:H8	1.78	0.48
45:YZ:163:LEU:HD22	45:YZ:167:PRO:HG3	1.95	0.48
1:QA:1209:C:H2'	1:QA:1210:C:C6	2.49	0.48
1:QA:334:C:H2'	1:QA:335:C:H6	1.79	0.48
1:QA:409:G:P	4:QD:22:LYS:O	2.72	0.48
1:QA:490:G:OP2	4:QD:132:ARG:NH2	2.36	0.48
1:QA:775:G:OP2	27:RD:276:LYS:NZ	2.45	0.48
1:QA:777:A:H2'	1:QA:778:G:C8	2.48	0.48
1:QA:984:C:H2'	1:QA:985:C:H6	1.79	0.48
55:R9:10:ILE:HG23	55:R9:11:CYS:HB2	1.96	0.48
25:RA:104:U:H2'	25:RA:105:C:H5'	1.96	0.48
25:RA:2377:A:H2'	25:RA:2378:A:C8	2.49	0.48
25:RA:2457:U:O2'	25:RA:2458:G:H5'	2.14	0.48
25:RA:2473:U:OP1	25:RA:2529:G:N2	2.46	0.48
1:XA:1263:C:H2'	1:XA:1264:C:H6	1.79	0.48
1:XA:1324:A:H2'	1:XA:1325:C:H6	1.79	0.48
1:XA:76:C:H2'	1:XA:77:G:H8	1.78	0.48
16:XP:61:SER:OG	16:XP:62:VAL:N	2.47	0.48
25:YA:1561:G:H2'	25:YA:1562:A:H8	1.79	0.48
25:YA:52:A:H2'	25:YA:53:A:H8	1.78	0.48
29:YF:155:LEU:HD12	29:YF:174:VAL:HG23	1.96	0.48
29:YF:6:VAL:HG23	29:YF:23:ASP:HA	1.96	0.48
25:YA:831:G:O2'	35:YP:38:GLN:OE1	2.31	0.48
35:YP:71:VAL:HG23	35:YP:72:PRO:HD3	1.94	0.48
39:YT:91:ARG:NE	39:YT:124:ASP:OD2	2.42	0.48
39:YT:92:GLY:O	39:YT:120:ARG:NH2	2.47	0.48
1:QA:1098:C:H2'	1:QA:1099:G:C8	2.49	0.47
1:QA:110:C:H2'	1:QA:111:G:O4'	2.14	0.47
1:QA:1386:G:H2'	1:QA:1387:G:H8	1.79	0.47
1:QA:195:A:H4'	20:QT:68:LYS:NZ	2.29	0.47
1:QA:730:G:O6	15:QO:51:HIS:NE2	2.41	0.47
1:QA:1190:G:H5'	3:QC:176:HIS:CE1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1030:G:O6	25:RA:1125:G:N2	2.47	0.47
25:RA:1356:G:H2'	25:RA:1357:U:C6	2.50	0.47
25:RA:2041:U:H2'	25:RA:2042:A:H8	1.79	0.47
25:RA:573:G:O2'	25:RA:574:C:H3'	2.14	0.47
31:RH:54:ARG:NE	31:RH:56:SER:O	2.46	0.47
36:RQ:43:THR:N	36:RQ:46:GLN:OE1	2.41	0.47
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.48	0.47
1:XA:1407:5MC:H2'	1:XA:1408:A:H8	1.79	0.47
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.47	0.47
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.96	0.47
11:XK:16:SER:HA	11:XK:79:SER:O	2.14	0.47
25:YA:1064:C:H3'	25:YA:1065:U:H5''	1.95	0.47
25:YA:110:G:O2'	25:YA:111:A:H5'	2.14	0.47
25:YA:839:U:O2'	25:YA:1191:G:N3	2.43	0.47
25:YA:1587:A:H2'	25:YA:1588:C:C6	2.49	0.47
25:YA:1791:A:H4'	27:YD:206:LEU:HB2	1.96	0.47
25:YA:1918:A:O2'	25:YA:1920:OMC:N4	2.46	0.47
25:YA:2397:G:OP1	47:Y1:25:LYS:HE2	2.14	0.47
25:YA:2405:G:H5'	35:YP:75:ILE:HD13	1.96	0.47
39:YT:16:ARG:HH11	39:YT:19:LEU:HD21	1.79	0.47
34:YO:104:ARG:NH2	39:YT:43:GLN:OE1	2.47	0.47
44:YY:52:SER:OG	44:YY:55:TYR:N	2.38	0.47
1:QA:1048:G:N2	1:QA:1214:C:O2'	2.46	0.47
1:QA:1160:G:H1	1:QA:1176:A:N6	2.12	0.47
4:QD:21:LEU:HD12	4:QD:21:LEU:N	2.29	0.47
25:RA:1591:G:H2'	25:RA:1592:C:C6	2.49	0.47
25:RA:1297:C:OP1	25:RA:2710:C:H4'	2.15	0.47
25:RA:2852:G:H2'	25:RA:2853:C:C6	2.49	0.47
25:RA:579:G:H2'	25:RA:580:C:C6	2.48	0.47
25:RA:969:U:H2'	25:RA:970:C:C6	2.48	0.47
28:RE:104:VAL:HG11	28:RE:188:VAL:HG13	1.96	0.47
34:RO:36:GLY:N	34:RO:62:VAL:O	2.44	0.47
39:RT:22:PHE:HA	39:RT:91:ARG:HH12	1.79	0.47
1:XA:1221:G:O3'	19:XS:77:THR:OG1	2.22	0.47
1:XA:1231:G:O3'	9:XI:126:SER:OG	2.24	0.47
1:XA:1352:C:H2'	1:XA:1353:G:C8	2.49	0.47
1:XA:22:G:H2'	1:XA:23:C:C6	2.49	0.47
1:XA:35:G:H2'	1:XA:36:C:C6	2.49	0.47
1:XA:382:A:H2'	1:XA:383:A:H8	1.79	0.47
25:YA:961:C:O2'	25:YA:2031:A:N6	2.45	0.47
25:YA:2394:C:O2'	25:YA:2395:C:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2593:U:H2'	25:YA:2594:C:C6	2.49	0.47
1:QA:1135:U:H4'	1:QA:1136:U:H5	1.79	0.47
1:QA:1427:U:H2'	1:QA:1428:A:H8	1.79	0.47
1:QA:889:A:OP1	1:QA:891:U:H1'	2.14	0.47
2:QB:121:LEU:HB3	2:QB:130:ARG:HH22	1.79	0.47
4:QD:92:VAL:O	4:QD:96:LEU:N	2.36	0.47
7:QG:64:GLN:OE1	7:QG:68:ASN:ND2	2.45	0.47
1:QA:1377:A:OP2	7:QG:94:ARG:NE	2.47	0.47
9:QI:21:PRO:HA	9:QI:59:PHE:HA	1.95	0.47
1:QA:453:A:OP1	16:QP:76:GLN:NE2	2.47	0.47
25:RA:1165:U:H3	25:RA:1184:G:H1	1.62	0.47
25:RA:1409:C:H2'	25:RA:1410:G:C8	2.49	0.47
25:RA:2451:A:C6	56:ZA:3:PPU:HE2	2.49	0.47
25:RA:519:U:H2'	25:RA:520:G:C8	2.48	0.47
28:RE:24:THR:OG1	28:RE:186:GLY:O	2.30	0.47
32:RI:56:LYS:O	32:RI:60:GLU:N	2.46	0.47
42:RW:79:GLY:HA3	42:RW:100:THR:HG22	1.96	0.47
1:XA:189(C):C:H42	1:XA:189(J):G:H1	1.61	0.47
1:XA:474:G:H2'	1:XA:475:G:H8	1.80	0.47
25:YA:1142(B):A:O2'	25:YA:1143:A:H3'	2.14	0.47
25:YA:1466:G:H2'	25:YA:1547:C:N4	2.27	0.47
25:YA:197:A:O2'	25:YA:2244:U:OP1	2.18	0.47
25:YA:2804:C:H2'	25:YA:2805:G:H8	1.79	0.47
25:YA:360:G:H2'	25:YA:361:G:H8	1.79	0.47
25:YA:601:C:O2'	25:YA:605:C:OP1	2.30	0.47
25:YA:666:G:N2	54:Y8:2:PRO:O	2.47	0.47
25:YA:2830:G:O3'	28:YE:58:ARG:NH2	2.47	0.47
25:YA:2405:G:P	35:YP:77:ARG:HH21	2.38	0.47
36:YQ:32:TYR:OH	36:YQ:111:GLU:OE1	2.29	0.47
28:YE:9:VAL:HG23	39:YT:3:ARG:HB3	1.97	0.47
1:QA:1526:G:H2'	1:QA:1527:C:C6	2.48	0.47
1:QA:191:G:O2'	20:QT:102:GLY:N	2.45	0.47
1:QA:582:U:H2'	1:QA:583:A:H8	1.79	0.47
6:QF:48:LEU:HD22	6:QF:52:ILE:HD12	1.96	0.47
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.42	0.47
9:QI:111:ARG:HG3	9:QI:113:LYS:HD3	1.96	0.47
12:QL:6:THR:HG1	12:QL:9:GLN:H	1.58	0.47
25:RA:1528(A):A:H2'	25:RA:1528(B):A:C8	2.49	0.47
25:RA:272(Q):G:H2'	25:RA:272(R):G:H8	1.79	0.47
28:RE:36:ARG:NH1	28:RE:86:PRO:O	2.39	0.47
31:RH:40:GLU:O	31:RH:42:ARG:NH1	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:41:ARG:NH1	39:RT:42:ILE:O	2.48	0.47
44:RY:52:SER:OG	44:RY:54:LYS:N	2.47	0.47
45:RZ:10:ARG:HH21	45:RZ:26:GLY:H	1.62	0.47
45:RZ:23:LYS:NZ	45:RZ:40:ASP:OD1	2.37	0.47
1:XA:1010:G:H2'	1:XA:1011:G:C8	2.47	0.47
1:XA:559:A:P	5:XE:126:ARG:HH22	2.38	0.47
1:XA:974:A:OP2	14:XN:29:ARG:NH2	2.47	0.47
25:YA:2526:G:O3'	55:Y9:33:LYS:NZ	2.46	0.47
25:YA:1105:U:H2'	25:YA:1106:G:C8	2.50	0.47
25:YA:1405:U:H2'	25:YA:1406:U:C6	2.48	0.47
25:YA:1423:G:H2'	25:YA:1424:G:H8	1.80	0.47
25:YA:783:A:O2'	25:YA:785:G:OP1	2.32	0.47
13:XM:93:ARG:NH1	25:YA:888:C:OP1	2.48	0.47
26:YB:88:C:H2'	26:YB:89:G:C8	2.49	0.47
27:YD:35:LYS:HE3	27:YD:64:ILE:HD11	1.95	0.47
28:YE:134:ILE:HA	28:YE:137:HIS:HD2	1.79	0.47
43:YX:89:ILE:HG22	43:YX:92:LEU:H	1.79	0.47
1:QA:280:C:N3	17:QQ:39:SER:OG	2.36	0.47
2:QB:70:PHE:HD2	2:QB:163:PHE:HB3	1.79	0.47
3:QC:91:LEU:O	3:QC:95:THR:OG1	2.30	0.47
19:QS:19:VAL:HB	19:QS:20:LEU:HD22	1.97	0.47
25:RA:195:A:H4'	25:RA:251:A:O2'	2.15	0.47
25:RA:459:U:H2'	25:RA:460:A:H8	1.80	0.47
41:RV:8:GLY:O	41:RV:10:LYS:NZ	2.36	0.47
1:XA:1430:C:H2'	1:XA:1431:C:C6	2.50	0.47
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.50	0.47
1:XA:297:G:H4'	1:XA:557:G:H4'	1.97	0.47
1:XA:378:G:O6	1:XA:386:C:N4	2.47	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.79	0.47
4:XD:10:ARG:HB2	4:XD:40:PRO:HG3	1.96	0.47
25:YA:1798:U:O2'	25:YA:1802:A:N3	2.37	0.47
25:YA:2286:A:H4'	25:YA:2287:A:O4'	2.15	0.47
25:YA:2374:C:O2'	25:YA:2375:G:H5'	2.15	0.47
25:YA:2629:A:H1'	25:YA:2630:G:H5''	1.96	0.47
29:YF:122:LYS:HB3	29:YF:191:ARG:HG2	1.97	0.47
33:YN:30:ILE:HG23	33:YN:52:VAL:HG11	1.96	0.47
1:QA:1226:C:H41	13:QM:104:ARG:HG2	1.79	0.47
1:QA:932:C:H2'	1:QA:933:G:C8	2.49	0.47
5:QE:81:GLU:HG2	5:QE:90:VAL:HG13	1.96	0.47
8:QH:83:ILE:O	8:QH:84:ARG:NH1	2.40	0.47
25:RA:214:G:O2'	25:RA:215:G:OP2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:259:G:OP1	20:XT:83:ARG:NH1	2.48	0.47
1:XA:269:C:H2'	1:XA:270:A:C8	2.49	0.47
1:XA:552:U:H2'	1:XA:553:A:C8	2.50	0.47
1:XA:1104:G:H4'	2:XB:111:ARG:CZ	2.44	0.47
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.95	0.47
25:YA:1416:G:HO2'	25:YA:1417:C:H5	1.61	0.47
25:YA:1512:U:H2'	25:YA:1513:C:C6	2.49	0.47
25:YA:1538:G:H2'	25:YA:1539:G:C8	2.50	0.47
25:YA:1270:C:O2'	25:YA:1648:C:OP2	2.25	0.47
25:YA:327:G:H2'	25:YA:328:U:C6	2.50	0.47
25:YA:81:G:H21	44:YY:1:MET:HE2	1.79	0.47
30:YG:166:ASP:OD1	30:YG:166:ASP:N	2.45	0.47
25:YA:2682:U:O2'	39:YT:58:ASN:OD1	2.32	0.47
1:QA:1083:U:H5''	1:QA:1084:G:C8	2.50	0.47
1:QA:1225:A:OP1	13:QM:103:THR:N	2.41	0.47
1:QA:1499:A:H2'	1:QA:1500:A:H8	1.79	0.47
1:QA:410:G:N2	1:QA:432:A:N6	2.43	0.47
1:QA:437:U:H3	1:QA:495:A:N6	1.99	0.47
8:QH:24:THR:OG1	8:QH:25:ASP:N	2.47	0.47
11:QK:34:ASP:OD1	11:QK:37:GLY:N	2.47	0.47
22:QV:76:A:H2'	25:RA:2602:A:N6	2.29	0.47
25:RA:851:U:O2'	49:R3:42:ALA:O	2.28	0.47
25:RA:1441:G:H2'	25:RA:1442:G:H8	1.78	0.47
25:RA:1697:G:OP2	25:RA:1698:A:O2'	2.23	0.47
25:RA:392:C:H5''	25:RA:409:C:H5''	1.97	0.47
25:RA:687:C:H42	25:RA:787:U:H4'	1.79	0.47
25:RA:2685:G:H5'	34:RO:68:GLU:OE2	2.14	0.47
41:RV:97:LYS:HA	41:RV:97:LYS:HD2	1.66	0.47
1:XA:392:G:H5'	16:XP:12:LYS:HG3	1.96	0.47
2:XB:192:SER:OG	2:XB:193:ASP:OD1	2.33	0.47
4:XD:208:SER:OG	4:XD:208:SER:O	2.26	0.47
1:XA:1220:G:N2	19:XS:54:GLY:O	2.47	0.47
25:YA:1009:A:N3	25:YA:1153:C:O2'	2.43	0.47
25:YA:1386:C:H2'	25:YA:1387:C:C6	2.49	0.47
25:YA:1394:U:H4'	25:YA:1603:A:H4'	1.97	0.47
25:YA:2486:G:O5'	25:YA:2486:G:H8	1.97	0.47
25:YA:847:U:OP2	25:YA:928:G:O6	2.33	0.47
25:YA:872:A:O2'	25:YA:873:G:H5'	2.14	0.47
25:YA:985:C:O2'	25:YA:986:C:H5'	2.14	0.47
28:YE:144:ARG:HG2	28:YE:145:LYS:H	1.78	0.47
1:QA:474:G:H2'	1:QA:475:G:C8	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:296:U:O2'	1:QA:556:C:O2	2.20	0.47
3:QC:11:ARG:NH2	3:QC:177:THR:O	2.46	0.47
1:QA:1330:U:H4'	13:QM:23:TYR:CE2	2.48	0.47
17:QQ:62:SER:OG	17:QQ:63:ARG:N	2.47	0.47
25:RA:1082:U:O4	25:RA:1086:A:N6	2.48	0.47
25:RA:1541:G:H3'	25:RA:1542:A:H2'	1.96	0.47
25:RA:1995:U:O2	34:RO:3:GLN:NE2	2.47	0.47
25:RA:2740:A:H2'	25:RA:2741:A:C8	2.49	0.47
25:RA:898:C:H2'	25:RA:899:A:O4'	2.14	0.47
28:RE:26:ILE:HB	28:RE:182:LEU:HB3	1.96	0.47
1:XA:1347:G:H22	1:XA:1374:A:P	2.38	0.47
1:XA:1404:5MC:H2'	1:XA:1405:G:C8	2.50	0.47
7:XG:23:VAL:O	7:XG:27:ILE:HG12	2.15	0.47
2:XB:197:VAL:O	8:XH:68:ARG:NH2	2.43	0.47
25:YA:1096:A:H2'	25:YA:1097:U:H6	1.80	0.47
25:YA:1842:G:O6	25:YA:1898:U:O4	2.33	0.47
25:YA:2537:U:H2'	25:YA:2538:C:C6	2.49	0.47
25:YA:2695:C:H2'	25:YA:2696:U:C6	2.49	0.47
25:YA:459:U:O2'	25:YA:460:A:H5'	2.14	0.47
25:YA:535:C:O3'	40:YU:53:ARG:NH1	2.48	0.47
44:YY:10:GLY:H	44:YY:27:VAL:HB	1.79	0.47
1:QA:1054:C:H4'	1:QA:1055:A:O5'	2.14	0.47
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.48	0.47
1:QA:25:C:H2'	1:QA:26:A:C8	2.50	0.47
1:QA:271:C:H2'	1:QA:272:C:C6	2.50	0.47
1:QA:34:C:H2'	1:QA:35:G:C8	2.49	0.47
1:QA:619:U:H5''	1:QA:620:C:OP2	2.15	0.47
1:QA:67:C:H2'	1:QA:68:G:C8	2.50	0.47
1:QA:938:A:O2'	7:QG:95:ARG:NH1	2.38	0.47
1:QA:1355:G:H21	10:QJ:46:ARG:HH22	1.62	0.47
11:QK:18:ARG:HG3	11:QK:35:PRO:HA	1.97	0.47
11:QK:73:MET:HG2	11:QK:103:LEU:HD21	1.97	0.47
19:QS:41:VAL:HG23	19:QS:43:GLU:H	1.79	0.47
22:QV:18:G:OP1	22:QV:18:G:H8	1.97	0.47
1:QA:1475:G:H4'	25:RA:1689:A:H4'	1.96	0.47
29:RF:11:VAL:HG22	29:RF:125:LEU:HB2	1.97	0.47
29:RF:183:VAL:HA	29:RF:186:ILE:HG12	1.97	0.47
33:RN:43:THR:N	33:RN:48:MET:SD	2.83	0.47
39:RT:92:GLY:O	39:RT:120:ARG:NH2	2.48	0.47
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.50	0.47
1:XA:806:C:H2'	1:XA:807:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:198:ASP:HA	8:XH:68:ARG:HH22	1.80	0.47
3:XC:10:PHE:HD1	3:XC:11:ARG:HD3	1.80	0.47
9:XI:91:ASP:OD1	9:XI:91:ASP:N	2.47	0.47
22:XV:75:C:H6	22:XV:75:C:OP 2	1.98	0.47
25:YA:1842:G:H1	25:YA:1898:U:H3	1.61	0.47
25:YA:2537:U:H2'	25:YA:2538:C:H6	1.79	0.47
35:YP:65:ARG:O	35:YP:68:GLN:NE2	2.48	0.47
43:YX:59:VAL:HB	43:YX:76:ARG:HB2	1.97	0.47
45:YZ:24:LEU:HA	45:YZ:25:PRO:HD3	1.78	0.47
1:QA:1009:G:O6	1:QA:1020:U:O2	2.32	0.47
1:QA:37:U:H2'	1:QA:38:G:C8	2.50	0.47
1:QA:56:U:O2'	32:YI:82:ARG:NH1	2.47	0.47
1:QA:658:G:H2'	1:QA:659:U:C6	2.50	0.47
1:QA:659:U:H2'	1:QA:660:G:C8	2.50	0.47
6:QF:82:ARG:HB3	6:QF:85:VAL:HG23	1.97	0.47
8:QH:7:ALA:HA	8:QH:10:LEU:HB2	1.97	0.47
10:QJ:61:GLU:HG3	14:QN:58:LYS:HE3	1.97	0.47
14:QN:22:THR:C	14:QN:33:VAL:HG21	2.35	0.47
47:R1:46:LEU:O	47:R1:47:GLN:NE2	2.47	0.47
25:RA:1070:A:O2'	25:RA:1071:G:H5'	2.14	0.47
25:RA:1149:G:H2'	25:RA:1150:C:C6	2.50	0.47
25:RA:1657:C:H2'	25:RA:1658:C:H6	1.80	0.47
25:RA:2086:U:H2'	25:RA:2087:G:C8	2.50	0.47
25:RA:2221:G:H3'	25:RA:2222:G:H8	1.80	0.47
1:QA:713:G:OP1	27:RD:176:ARG:NH2	2.48	0.47
29:RF:180:GLY:O	29:RF:182:ASN:ND2	2.40	0.47
29:RF:50:SER:OG	29:RF:51:THR:N	2.47	0.47
36:RQ:65:PHE:HB2	36:RQ:105:GLU:HB2	1.96	0.47
36:RQ:17:LEU:HD12	36:RQ:39:PRO:HB2	1.96	0.47
1:XA:1065:U:H5''	1:XA:1190:G:N2	2.30	0.47
1:XA:1480:G:H2'	1:XA:1481:U:O4'	2.15	0.47
1:XA:276:G:O3'	17:XQ:68:ARG:NH1	2.47	0.47
1:XA:359:U:O5'	1:XA:359:U:H6	1.96	0.47
2:XB:84:GLU:OE1	2:XB:233:SER:OG	2.31	0.47
7:XG:78:ARG:HE	7:XG:80:VAL:HG23	1.80	0.47
25:YA:1089:G:N2	25:YA:1090:U:O4	2.48	0.47
25:YA:827:U:O2	25:YA:2246:G:H4'	2.15	0.47
25:YA:2542:A:H4'	25:YA:2543:G:H8	1.79	0.47
25:YA:595:C:H2'	25:YA:596:G:H8	1.80	0.47
25:YA:740:U:H5''	25:YA:1784:A:H3'	1.96	0.47
25:YA:955:C:OP1	36:YQ:87:LYS:NZ	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YD:145:VAL:HB	27:YD:155:LEU:HB2	1.97	0.47
1:QA:584:G:H2'	1:QA:585:G:H8	1.79	0.47
1:QA:57:G:H2'	1:QA:58:C:C6	2.50	0.47
1:QA:925:G:H1	1:QA:1391:U:H3	1.63	0.47
7:QG:15:ASP:HB3	7:QG:23:VAL:HB	1.97	0.47
1:QA:972:C:H1'	10:QJ:55:LYS:HE3	1.95	0.47
15:QO:67:LEU:HD23	15:QO:78:TYR:HE1	1.80	0.47
20:QT:8:ARG:N	20:QT:9:ASN:OD1	2.48	0.47
22:QV:64:G:H4'	36:RQ:10:ARG:NH1	2.30	0.47
25:RA:1164:G:H2'	25:RA:1165:U:C6	2.50	0.47
25:RA:1269:A:O2'	25:RA:1270:C:H5'	2.15	0.47
25:RA:972:G:OP2	25:RA:973:A:O2'	2.33	0.47
1:XA:1067:A:H8	1:XA:1067:A:O5'	1.98	0.47
1:XA:1118:C:H2'	1:XA:1119:C:C6	2.50	0.47
17:XQ:58:GLU:OE2	17:XQ:75:ARG:NH2	2.48	0.47
22:XV:52:G:H1	22:XV:62:C:H42	1.63	0.47
25:YA:1123:C:O2'	25:YA:1124:C:H5'	2.15	0.47
25:YA:1547:C:H2'	25:YA:1548:C:C6	2.49	0.47
25:YA:2037:G:H2'	25:YA:2038:G:C8	2.49	0.47
25:YA:2133:G:N3	25:YA:2158:A:N6	2.63	0.47
25:YA:2495:G:H2'	25:YA:2496:C:H6	1.79	0.47
25:YA:286:C:H2'	25:YA:287:C:C6	2.50	0.47
25:YA:2883:A:OP1	51:Y5:52:TYR:OH	2.26	0.47
25:YA:52:A:H2'	25:YA:53:A:C8	2.50	0.47
25:YA:2730:C:O2'	28:YE:168:MET:O	2.26	0.47
36:YQ:26:TYR:O	36:YQ:67:ARG:NH1	2.46	0.47
39:YT:118:ARG:HA	39:YT:121:ILE:HD12	1.97	0.47
1:QA:20:U:H2'	1:QA:21:G:O4'	2.15	0.46
1:QA:370:C:H2'	1:QA:371:G:C8	2.50	0.46
1:QA:886:G:H1	1:QA:911:U:H3	1.64	0.46
19:QS:13:ASP:HA	19:QS:16:LEU:HB3	1.96	0.46
25:RA:1094:U:O2'	25:RA:1096:A:O5'	2.31	0.46
25:RA:15:G:H1	25:RA:525:U:H3	1.63	0.46
25:RA:186:G:H2'	25:RA:187:G:H8	1.80	0.46
25:RA:20:C:H2'	25:RA:21:A:H8	1.80	0.46
25:RA:2195:C:H2'	25:RA:2196:C:H6	1.79	0.46
25:RA:2718:G:O2'	25:RA:2847:U:OP1	2.26	0.46
29:RF:38:ARG:O	29:RF:42:ALA:N	2.45	0.46
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.50	0.46
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.50	0.46
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.15	0.46
1:XA:151:A:H62	1:XA:170:U:H3	1.63	0.46
14:YN:9:LYS:HG2	14:YN:12:ARG:HH21	1.80	0.46
25:YA:2397:G:H5'	47:Y1:28:GLY:O	2.15	0.46
25:YA:1322:A:H4'	42:YW:84:ARG:HH21	1.80	0.46
25:YA:1434:A:H61	25:YA:1558:A:H61	1.63	0.46
25:YA:2847:U:H3	25:YA:2869:G:H1	1.64	0.46
25:YA:2863:C:H2'	25:YA:2864:G:H8	1.80	0.46
25:YA:34:C:H5''	25:YA:35:G:OP2	2.15	0.46
25:YA:530:G:H4'	25:YA:531:C:OP1	2.14	0.46
25:YA:934:G:H2'	25:YA:935:C:C6	2.50	0.46
25:YA:985:C:H2'	25:YA:986:C:H6	1.80	0.46
1:QA:1226:C:H2'	13:QM:103:THR:HG22	1.97	0.46
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.97	0.46
4:QD:57:ARG:HE	4:QD:205:GLU:HG3	1.78	0.46
5:QE:144:THR:H	5:QE:147:ASP:HB2	1.79	0.46
11:QK:58:PRO:O	11:QK:62:GLN:N	2.44	0.46
46:R0:15:ASP:OD1	46:R0:16:SER:N	2.48	0.46
25:RA:2331:G:H21	25:RA:2336:A:H2	1.63	0.46
25:RA:648:G:H2'	25:RA:649:G:H8	1.79	0.46
25:RA:818:G:O2'	25:RA:838:C:H4'	2.15	0.46
26:RB:62:C:H2'	26:RB:63:G:H8	1.79	0.46
30:RG:100:TRP:O	30:RG:104:GLU:N	2.44	0.46
25:RA:2313:C:H5''	30:RG:91:ARG:HD3	1.98	0.46
1:XA:1325:C:OP1	21:XU:15:ARG:NH1	2.48	0.46
1:XA:334:C:O2'	1:XA:1434:A:O2'	2.13	0.46
5:XE:103:GLY:O	5:XE:107:ARG:HB3	2.15	0.46
25:YA:1579:A:H2'	25:YA:1580:A:C8	2.51	0.46
25:YA:2196:C:O2'	25:YA:2197:U:H5'	2.16	0.46
25:YA:1027:A:C2	25:YA:2488:A:H5'	2.51	0.46
25:YA:832:G:OP2	25:YA:944:G:N1	2.40	0.46
26:YB:50:G:OP1	38:YS:63:THR:HG23	2.14	0.46
25:YA:2680:C:H1'	28:YE:187:ALA:HB1	1.96	0.46
37:YR:2:ARG:O	37:YR:5:LYS:N	2.48	0.46
1:QA:1410:G:H2'	1:QA:1411:C:H6	1.79	0.46
1:QA:262:A:H4'	20:QT:75:ASN:HB2	1.95	0.46
1:QA:822:C:H2'	1:QA:823:G:H8	1.80	0.46
4:QD:108:LEU:HD23	4:QD:110:PHE:HE2	1.80	0.46
1:QA:1328:C:HO2'	13:QM:29:ARG:HH21	1.63	0.46
21:QU:8:THR:HG23	21:QU:11:GLY:H	1.79	0.46
51:R5:13:LYS:HG2	51:R5:16:ARG:HH21	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:132:G:H1	25:RA:147:U:H3	1.63	0.46
25:RA:2233:U:H2'	25:RA:2234:G:C8	2.50	0.46
25:RA:2836:U:H2'	25:RA:2837:G:C8	2.51	0.46
25:RA:1138:G:O2'	33:RN:102:ALA:O	2.34	0.46
33:RN:40:PRO:HB3	40:RU:68:ALA:HB2	1.97	0.46
42:RW:71:VAL:HA	42:RW:107:LEU:HD23	1.98	0.46
44:RY:48:ALA:HA	44:RY:60:PHE:HD2	1.81	0.46
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.80	0.46
1:XA:407:G:H2'	1:XA:408:A:C8	2.50	0.46
25:YA:1321:A:H2'	25:YA:1322:A:H8	1.81	0.46
25:YA:1748:G:H2'	25:YA:1749:A:C8	2.51	0.46
25:YA:2689:U:OP2	25:YA:2719:G:N2	2.38	0.46
25:YA:347:A:H2'	25:YA:348:G:H8	1.80	0.46
25:YA:934:G:H2'	25:YA:935:C:H6	1.80	0.46
1:QA:1184:G:OP1	1:QA:1184:G:H3'	2.15	0.46
5:QE:128:PRO:HA	5:QE:131:ILE:HD11	1.98	0.46
5:QE:92:LYS:HE3	8:QH:105:ARG:HH21	1.81	0.46
8:QH:12:ARG:NH1	8:QH:25:ASP:O	2.48	0.46
22:QV:8:U:C2	22:QV:14:A:N6	2.81	0.46
49:R3:18:ASP:OD1	49:R3:18:ASP:N	2.48	0.46
25:RA:1361:G:O2'	25:RA:1362:C:H5'	2.15	0.46
25:RA:2157:G:H5''	25:RA:2158:A:H5'	1.96	0.46
25:RA:251:A:OP1	54:R8:7:HIS:NE2	2.36	0.46
25:RA:2703:C:H2'	25:RA:2704:C:H6	1.80	0.46
25:RA:2851:A:H2'	25:RA:2852:G:C8	2.50	0.46
25:RA:672:C:O2'	25:RA:673:C:H5'	2.15	0.46
27:RD:17:THR:HG1	27:RD:205:VAL:H	1.60	0.46
29:RF:68:LYS:HB3	29:RF:69:HIS:CG	2.50	0.46
42:RW:72:LYS:N	42:RW:106:ILE:O	2.45	0.46
44:RY:1:MET:HG2	44:RY:2:ARG:HB2	1.97	0.46
1:XA:1305:G:H22	1:XA:1331:G:H1'	1.80	0.46
1:XA:556:C:H2'	1:XA:557:G:H8	1.81	0.46
13:XM:80:ARG:HD2	50:Y4:58:ARG:HD3	1.96	0.46
47:Y1:86:SER:N	47:Y1:89:GLU:OE1	2.48	0.46
25:YA:2556:C:H2'	25:YA:2557:G:O4'	2.15	0.46
25:YA:2684:U:O2'	34:YO:68:GLU:OE1	2.32	0.46
25:YA:464:U:O2'	25:YA:465:G:H5'	2.16	0.46
25:YA:539:G:H2'	25:YA:540:C:C6	2.50	0.46
25:YA:572:A:H5''	25:YA:573:G:OP2	2.15	0.46
1:QA:126:G:OP1	1:QA:605:U:O2'	2.18	0.46
1:QA:885:G:H2'	1:QA:886:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:127:THR:HA	4:QD:132:ARG:HA	1.97	0.46
15:QO:17:ARG:HB2	15:QO:18:PHE:HD2	1.81	0.46
24:QY:32:U:H5'	24:QY:33:U:OP2	2.14	0.46
25:RA:1405:U:H2'	25:RA:1406:U:H6	1.78	0.46
25:RA:1952:A:H2'	25:RA:1953:A:C8	2.50	0.46
25:RA:2558:C:H2'	25:RA:2559:C:C6	2.51	0.46
25:RA:554:U:O2'	25:RA:555:U:H5'	2.16	0.46
30:RG:108:ASN:HA	50:R4:37:SER:HB3	1.97	0.46
1:XA:818:G:O2'	1:XA:820:U:OP2	2.16	0.46
1:XA:954:G:H2'	1:XA:955:U:C6	2.50	0.46
8:XH:101:PRO:O	8:XH:125:ARG:NH2	2.39	0.46
25:YA:517:C:OP1	51:Y5:16:ARG:NH2	2.49	0.46
54:Y8:42:ARG:O	54:Y8:46:ARG:NH2	2.49	0.46
25:YA:1657:C:OP1	28:YE:136:ARG:N	2.44	0.46
25:YA:1748:G:H2'	25:YA:1749:A:H8	1.80	0.46
25:YA:2117:A:H2'	25:YA:2118:U:H2'	1.96	0.46
25:YA:2168:G:N2	25:YA:2170:A:H3'	2.30	0.46
25:YA:286:C:H2'	25:YA:287:C:H6	1.79	0.46
32:YI:39:ALA:HB1	32:YI:44:LEU:HD11	1.97	0.46
25:RA:2553:G:C2	56:ZA:3:PPU:H2	2.50	0.46
1:QA:269:C:H2'	1:QA:270:A:H8	1.80	0.46
1:QA:407:G:H2'	1:QA:408:A:H8	1.79	0.46
1:QA:741:G:H2'	1:QA:742:G:H8	1.81	0.46
1:QA:830:G:H2'	1:QA:831:U:O4'	2.15	0.46
5:QE:84:PHE:N	5:QE:87:SER:O	2.45	0.46
25:RA:226:G:H21	25:RA:228:A:H62	1.62	0.46
25:RA:2553:G:H1'	25:RA:2582:G:H21	1.80	0.46
25:RA:2846:G:H2'	25:RA:2847:U:C6	2.51	0.46
25:RA:443:A:H5''	25:RA:444:C:OP1	2.15	0.46
25:RA:988:A:H2'	25:RA:989:G:H5''	1.97	0.46
26:RB:60:C:H2'	26:RB:61:G:C8	2.51	0.46
28:RE:48:GLN:HA	28:RE:80:GLU:HA	1.98	0.46
34:RO:78:ARG:O	39:RT:73:GLU:N	2.40	0.46
1:XA:110:C:H3'	1:XA:111:G:H8	1.80	0.46
4:XD:72:GLU:OE1	4:XD:207:TYR:OH	2.30	0.46
12:XL:6:THR:OG1	12:XL:7:ILE:N	2.46	0.46
25:YA:108:U:H2'	25:YA:109:G:H8	1.80	0.46
25:YA:1154:G:O5'	25:YA:1154:G:H8	1.99	0.46
25:YA:1266:G:O6	42:YW:13:SER:OG	2.28	0.46
25:YA:1505:C:H2'	25:YA:1506:C:C6	2.50	0.46
25:YA:2249:U:N3	25:YA:2253:G:OP2	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2849:U:O4	39:YT:23:ARG:NH1	2.37	0.46
25:YA:521:G:H2'	25:YA:522:G:H8	1.80	0.46
38:YS:25:ARG:NH2	38:YS:88:ASP:OD2	2.49	0.46
1:QA:835:U:O2	1:QA:851:G:N2	2.43	0.46
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.98	0.46
25:RA:143(B):C:H2'	25:RA:144:C:H6	1.80	0.46
25:RA:1651:G:H2'	25:RA:1652:A:H8	1.81	0.46
25:RA:2853:C:H2'	25:RA:2854:G:H8	1.81	0.46
25:RA:2852:G:H2'	25:RA:2853:C:H6	1.81	0.46
25:RA:30:G:H2'	25:RA:31:C:H6	1.80	0.46
30:RG:169:ALA:O	30:RG:172:LEU:N	2.49	0.46
25:RA:587:C:P	35:RP:21:ARG:HH22	2.37	0.46
1:XA:1004:A:OP1	1:XA:1024:G:N2	2.49	0.46
1:XA:1069:C:O2'	1:XA:1192:C:O2	2.33	0.46
1:XA:1269:A:N1	1:XA:1312:G:O2'	2.36	0.46
1:XA:1307:U:OP1	13:XM:101:GLN:NE2	2.37	0.46
1:XA:1530:G:HO2'	1:XA:1531:A:H8	1.60	0.46
1:XA:301:G:H2'	1:XA:302:G:C8	2.50	0.46
2:XB:223:ILE:HB	2:XB:229:VAL:HG12	1.97	0.46
22:XV:36:U:H3	23:XX:17:U:H3	1.63	0.46
25:YA:1452:A:O3'	37:YR:77:ARG:NH1	2.48	0.46
25:YA:2020:A:H4'	40:YU:25:TRP:HZ3	1.79	0.46
25:YA:2037:G:H2'	25:YA:2038:G:H8	1.81	0.46
25:YA:2638:G:H21	25:YA:2778:A:N6	2.06	0.46
25:YA:852:G:H2'	25:YA:853:G:H8	1.81	0.46
32:YI:88:ILE:HD12	32:YI:121:LYS:HA	1.97	0.46
38:YS:25:ARG:HH21	38:YS:27:SER:HB2	1.81	0.46
1:QA:943:U:OP1	1:QA:1236:A:N6	2.49	0.46
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.50	0.46
1:QA:1316:G:N1	1:QA:1319:A:OP2	2.43	0.46
1:QA:1459:C:H2'	1:QA:1460:A:C8	2.50	0.46
1:QA:285:G:H2'	1:QA:286:G:H8	1.80	0.46
1:QA:413:G:H1'	1:QA:428:G:H21	1.80	0.46
12:QL:38:THR:OG1	12:QL:39:VAL:N	2.49	0.46
1:QA:1228:C:OP1	13:QM:115:LYS:N	2.47	0.46
20:QT:61:SER:O	20:QT:65:LYS:HB2	2.16	0.46
25:RA:1345:C:N4	25:RA:1346:G:O6	2.48	0.46
25:RA:1882:C:H2'	25:RA:1883:G:O4'	2.14	0.46
25:RA:2002:G:O5'	25:RA:2002:G:H8	1.98	0.46
25:RA:2776:A:H4'	25:RA:2777:G:O5'	2.15	0.46
28:RE:176:ILE:HB	28:RE:181:LEU:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:29:LYS:HD3	35:RP:30:THR:HG23	1.97	0.46
45:RZ:10:ARG:NH2	45:RZ:26:GLY:O	2.48	0.46
1:XA:1039:C:H2'	1:XA:1040:U:C6	2.50	0.46
1:XA:556:C:H2'	1:XA:557:G:C8	2.50	0.46
1:XA:688:G:H2'	1:XA:689:C:C6	2.51	0.46
54:Y8:32:LEU:O	54:Y8:36:LYS:NZ	2.40	0.46
25:YA:1191:G:H2'	25:YA:1192:G:O4'	2.15	0.46
25:YA:1561:G:H2'	25:YA:1562:A:C8	2.50	0.46
25:YA:1983:C:H4'	25:YA:2606:C:H4'	1.98	0.46
25:YA:2119:A:H61	25:YA:2168:G:H21	1.64	0.46
25:YA:2577:A:H5''	25:YA:2578:G:H5'	1.98	0.46
25:YA:855:G:H2'	25:YA:856:C:C6	2.51	0.46
25:YA:995:C:OP2	40:YU:54:LYS:NZ	2.42	0.46
31:YH:28:GLY:HA3	31:YH:79:VAL:HB	1.96	0.46
33:YN:16:ILE:HB	33:YN:54:VAL:HG12	1.98	0.46
25:YA:2334:G:H5'	38:YS:9:ARG:HG2	1.98	0.46
34:YO:78:ARG:NE	39:YT:73:GLU:OE2	2.41	0.46
1:QA:438:G:HO2'	1:QA:493:G:N2	2.14	0.46
1:QA:607:A:H2'	1:QA:608:A:O4'	2.16	0.46
1:QA:714:G:H2'	1:QA:715:A:C8	2.51	0.46
8:QH:4:ASP:OD1	8:QH:85:ARG:NH1	2.49	0.46
1:QA:1355:G:H21	10:QJ:46:ARG:NH2	2.14	0.46
50:R4:11:PRO:HA	50:R4:25:TYR:HD1	1.81	0.46
25:RA:1380:G:H8	25:RA:1380:G:O5'	1.98	0.46
25:RA:1429:G:H2'	25:RA:1430:C:H6	1.80	0.46
25:RA:2472:G:N2	25:RA:2529:G:O6	2.49	0.46
25:RA:2593:U:H2'	25:RA:2594:C:H6	1.80	0.46
25:RA:639:U:H2'	25:RA:640:C:C6	2.51	0.46
25:RA:836:G:H2'	25:RA:837:C:C6	2.50	0.46
37:RR:103:ARG:NH1	37:RR:108:GLY:O	2.46	0.46
25:RA:2882:A:P	37:RR:96:ARG:HE	2.38	0.46
45:RZ:67:LEU:HD12	45:RZ:90:VAL:HG21	1.98	0.46
1:XA:1264:C:H2'	1:XA:1265:G:H8	1.80	0.46
1:XA:1318:A:OP1	19:XS:7:LYS:NZ	2.32	0.46
1:XA:718:G:C8	11:XK:116:HIS:HB3	2.51	0.46
1:XA:859:A:OP2	1:XA:869:G:N2	2.48	0.46
1:XA:489:C:P	4:XD:131:ARG:HH22	2.38	0.46
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.79	0.46
25:YA:2323:G:H2'	25:YA:2324:C:O4'	2.16	0.46
25:YA:37:C:H2'	25:YA:38:A:H8	1.81	0.46
26:YB:40:U:H1'	26:YB:45:A:H61	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YI:123:LEU:HD23	32:YI:142:VAL:HG22	1.97	0.46
41:YV:32:THR:HA	41:YV:59:ALA:O	2.16	0.46
45:YZ:97:GLU:HA	45:YZ:126:VAL:O	2.16	0.46
1:QA:1530:G:H2'	1:QA:1531:A:C8	2.51	0.46
1:QA:304:U:H2'	1:QA:305:G:C8	2.51	0.46
1:QA:373:A:H2'	1:QA:374:A:H8	1.81	0.46
1:QA:486:U:H2'	1:QA:487:A:H8	1.80	0.46
1:QA:664:G:H2'	1:QA:666:G:OP1	2.16	0.46
1:QA:688:G:H2'	1:QA:689:C:C6	2.51	0.46
1:QA:706:A:H2	11:QK:39:PRO:HG2	1.81	0.46
3:QC:64:VAL:O	3:QC:100:ALA:N	2.40	0.46
5:QE:137:GLU:O	5:QE:141:GLN:NE2	2.49	0.46
18:QR:47:THR:HG23	18:QR:49:LYS:HG3	1.98	0.46
25:RA:1591:G:H2'	25:RA:1592:C:H6	1.81	0.46
25:RA:605:C:O2	25:RA:657:U:O2'	2.28	0.46
26:RB:21:G:H2'	26:RB:22:U:C6	2.51	0.46
26:RB:40:U:H1'	26:RB:45:A:H61	1.81	0.46
1:XA:142:G:H2'	1:XA:143:A:C8	2.51	0.46
1:XA:554:C:O2'	1:XA:555:C:H5'	2.16	0.46
2:XB:200:ILE:HG22	2:XB:202:PRO:HD3	1.97	0.46
1:XA:1240:U:N3	7:XG:30:ILE:O	2.42	0.46
25:YA:991:C:OP2	25:YA:1186:G:H5'	2.16	0.46
25:YA:1406:U:H2'	25:YA:1407:C:H6	1.80	0.46
25:YA:1446:C:O2	25:YA:1545:A:O2'	2.29	0.46
27:YD:22:SER:OG	27:YD:23:GLU:OE2	2.32	0.46
36:YQ:43:THR:N	36:YQ:46:GLN:OE1	2.42	0.46
1:QA:310:G:H2'	1:QA:311:C:H6	1.81	0.45
1:QA:543:C:OP2	4:QD:10:ARG:NH1	2.30	0.45
1:QA:559:A:H4'	1:QA:560:U:H5''	1.98	0.45
1:QA:688:G:H2'	1:QA:689:C:H6	1.81	0.45
1:QA:714:G:O2'	1:QA:777:A:N7	2.47	0.45
1:QA:811:C:O2'	1:QA:901:A:N1	2.49	0.45
2:QB:15:VAL:HG21	2:QB:209:ARG:HE	1.82	0.45
3:QC:32:LEU:HB3	3:QC:59:ARG:HH12	1.81	0.45
7:QG:48:LYS:HD3	7:QG:52:GLU:HG3	1.97	0.45
13:QM:91:ARG:HG3	13:QM:96:LEU:HB2	1.97	0.45
16:QP:57:ARG:NE	16:QP:79:VAL:O	2.47	0.45
47:R1:51:VAL:O	47:R1:58:ILE:N	2.47	0.45
25:RA:1183:G:H2'	25:RA:1184:G:H8	1.79	0.45
25:RA:18:C:H2'	25:RA:19:C:C6	2.50	0.45
25:RA:2047:U:H2'	25:RA:2048:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2183:C:H2'	25:RA:2184:G:C8	2.50	0.45
25:RA:2251:OMG:HM23	25:RA:2251:OMG:H1'	1.71	0.45
25:RA:2552:OMU:H2'	25:RA:2554:U:OP2	2.16	0.45
25:RA:2738:A:H2	25:RA:2766:G:H1	1.63	0.45
25:RA:38:A:H2'	25:RA:39:C:C6	2.50	0.45
25:RA:668:G:H2'	25:RA:670:A:H62	1.81	0.45
25:RA:709:U:H2'	25:RA:710:G:H8	1.81	0.45
25:RA:767:U:H2'	25:RA:768:G:H8	1.79	0.45
25:RA:862:G:O6	25:RA:916:G:N2	2.49	0.45
27:RD:247:ALA:HA	27:RD:253:GLN:HA	1.97	0.45
30:RG:113:ARG:HH12	30:RG:142:PRO:HA	1.80	0.45
1:XA:1409:C:H2'	1:XA:1410:G:H8	1.81	0.45
1:XA:1458:G:H2'	1:XA:1459:C:C6	2.51	0.45
1:XA:1475:G:H2'	1:XA:1476:G:H8	1.80	0.45
1:XA:344:A:H5''	1:XA:345:C:H5	1.80	0.45
1:XA:401:C:O2'	1:XA:621:A:N3	2.38	0.45
2:XB:46:LYS:HE3	2:XB:46:LYS:HB3	1.82	0.45
6:XF:17:SER:OG	6:XF:18:GLN:N	2.48	0.45
49:Y3:48:GLU:HA	49:Y3:51:ALA:HB2	1.97	0.45
25:YA:2193:G:H2'	25:YA:2194:G:H8	1.80	0.45
25:YA:378:C:H2'	25:YA:379:G:H5'	1.97	0.45
25:YA:724:U:H2'	25:YA:725:G:O4'	2.17	0.45
25:YA:729:G:C8	27:YD:208:LYS:HD2	2.51	0.45
25:YA:889:C:O2'	25:YA:890:A:O4'	2.33	0.45
32:YI:24:GLY:O	32:YI:28:ASN:ND2	2.48	0.45
1:QA:1508:G:H2'	1:QA:1509:C:C6	2.51	0.45
1:QA:1525:G:H2'	1:QA:1526:G:C8	2.51	0.45
1:QA:711:G:H2'	1:QA:712:A:H8	1.81	0.45
1:QA:761:G:H2'	1:QA:762:C:O4'	2.16	0.45
2:QB:87:ARG:HH12	2:QB:231:GLU:HB2	1.81	0.45
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.82	0.45
10:QJ:48:THR:HA	10:QJ:62:HIS:HA	1.98	0.45
16:QP:74:LEU:HD12	16:QP:79:VAL:HG21	1.99	0.45
25:RA:1675:C:H2'	25:RA:1676:A:O4'	2.16	0.45
25:RA:2002:G:OP2	37:RR:9:LYS:NZ	2.49	0.45
25:RA:2181:G:H2'	25:RA:2182:G:C8	2.51	0.45
25:RA:381:G:O2'	25:RA:382:G:H5'	2.16	0.45
25:RA:686:G:OP1	53:R7:11:LYS:NZ	2.48	0.45
39:RT:50:ILE:HA	39:RT:99:LEU:HD12	1.97	0.45
1:XA:1047:G:OP1	14:YN:4:LYS:NZ	2.36	0.45
1:XA:1186:G:H4'	9:XI:110:GLU:OE2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:133:U:O2'	1:XA:134:A:N7	2.44	0.45
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.82	0.45
1:XA:461:A:O2'	1:XA:470:C:H5'	2.16	0.45
19:XS:39:THR:HA	19:XS:70:LYS:HA	1.98	0.45
25:YA:570:G:H2'	25:YA:2030:A:C6	2.51	0.45
25:YA:2110:G:OP1	25:YA:2118:U:N3	2.49	0.45
25:YA:553:G:O2'	25:YA:554:U:H5'	2.16	0.45
30:YG:114:ILE:HB	30:YG:117:PHE:HB2	1.98	0.45
31:YH:143:GLN:NE2	31:YH:147:ASN:OD1	2.49	0.45
25:YA:272(L):U:H5'	32:YI:50:ARG:HH12	1.81	0.45
1:QA:584:G:O6	1:QA:758:G:N2	2.50	0.45
1:QA:767:A:H2'	1:QA:768:A:H8	1.81	0.45
1:QA:959:A:N3	1:QA:985:C:H1'	2.32	0.45
22:QV:64:G:H2'	22:QV:65:C:C6	2.51	0.45
54:R8:46:ARG:HH12	54:R8:47:LYS:HE2	1.82	0.45
25:RA:1782:C:O5'	25:RA:1782:C:H6	1.99	0.45
25:RA:1996:C:H4'	25:RA:1997:G:OP1	2.15	0.45
25:RA:2481:G:HO2'	25:RA:2482:G:P	2.38	0.45
25:RA:2839:G:H2'	25:RA:2840:C:C6	2.51	0.45
1:XA:1114:C:H2'	1:XA:1115:C:H6	1.82	0.45
1:XA:1120:G:H2'	1:XA:1121:U:C6	2.51	0.45
1:XA:1170:A:OP2	1:XA:1170:A:H8	1.98	0.45
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.52	0.45
1:XA:501:C:OP1	12:XL:117:ARG:NH1	2.50	0.45
2:XB:20:GLU:O	2:XB:40:HIS:ND1	2.50	0.45
22:XV:75:C:OP2	22:XV:75:C:C6	2.70	0.45
25:YA:1130:U:O2'	25:YA:1131:G:H5'	2.17	0.45
25:YA:1344:G:H4'	25:YA:1384:A:C5	2.51	0.45
25:YA:2298:A:H2'	25:YA:2299:G:O4'	2.16	0.45
1:QA:1001(B):G:H2'	1:QA:1002:G:H8	1.82	0.45
1:QA:1228:C:H2'	1:QA:1229:A:H8	1.82	0.45
1:QA:934:C:N3	1:QA:937:A:N6	2.64	0.45
5:QE:78:HIS:HD1	8:QH:104:ARG:HD2	1.81	0.45
19:QS:32:LYS:HZ1	19:QS:52:TYR:HD1	1.64	0.45
25:RA:1215:G:H1	25:RA:1234:U:H3	1.64	0.45
25:RA:1341:U:H5	25:RA:1395:A:H2	1.65	0.45
25:RA:1768:U:H2'	25:RA:1769:G:H8	1.82	0.45
25:RA:184:C:H2'	25:RA:185:U:H6	1.81	0.45
25:RA:2067:G:O2'	25:RA:2068:U:H5'	2.16	0.45
25:RA:184:C:O2'	25:RA:217:G:N3	2.42	0.45
25:RA:646:A:H2'	25:RA:647:G:H8	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1500:G:O2'	27:RD:100:GLY:O	2.33	0.45
1:XA:1122:U:O4	1:XA:1123:A:N6	2.49	0.45
1:XA:1261:A:H62	1:XA:1274:G:N2	2.15	0.45
1:XA:1319:A:O2'	1:XA:1323:G:N7	2.44	0.45
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.82	0.45
1:XA:388:G:H4'	1:XA:390:C:H41	1.81	0.45
1:XA:546:G:P	4:XD:72:GLU:HB3	2.56	0.45
1:XA:639:G:H2'	1:XA:640:A:H8	1.81	0.45
5:XE:142:LEU:O	5:XE:143:ARG:NH1	2.45	0.45
16:XP:35:LYS:HE2	16:XP:37:GLY:HA2	1.98	0.45
25:YA:1291:C:H2'	25:YA:1292:U:C6	2.52	0.45
25:YA:1946:U:H2'	25:YA:1947:C:H6	1.82	0.45
25:YA:216:A:H2'	25:YA:217:G:C8	2.51	0.45
25:YA:397:G:O2'	25:YA:2230:G:N2	2.49	0.45
25:YA:2635:C:O2'	28:YE:48:GLN:NE2	2.50	0.45
1:QA:1031:G:H2'	1:QA:1032:G:H8	1.81	0.45
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.52	0.45
1:QA:1255:G:O2'	1:QA:1258:G:N3	2.43	0.45
1:QA:1323:G:H2'	1:QA:1324:A:H8	1.80	0.45
1:QA:395:C:N4	1:QA:396:G:O6	2.49	0.45
1:QA:814:A:OP2	1:QA:816:A:N6	2.47	0.45
1:QA:946:A:H2'	1:QA:947:G:C8	2.52	0.45
1:QA:948:C:H2'	1:QA:949:A:H8	1.80	0.45
2:QB:193:ASP:N	2:QB:193:ASP:OD1	2.49	0.45
1:QA:247:G:P	17:QQ:99:SER:HG	2.37	0.45
25:RA:1027:A:C2	25:RA:2488:A:H5'	2.52	0.45
25:RA:1337:G:OP2	43:RX:73:ARG:NH1	2.43	0.45
25:RA:2472:G:H21	25:RA:2478:A:H62	1.62	0.45
25:RA:2023:G:H5'	25:RA:2617:C:H4'	1.98	0.45
25:RA:585:G:H21	25:RA:1254:A:H62	1.63	0.45
26:RB:29:A:OP2	38:RS:32:LEU:HG	2.17	0.45
31:RH:9:ILE:HD12	31:RH:73:ALA:HB2	1.97	0.45
25:RA:2296:U:H2'	38:RS:9:ARG:HH12	1.81	0.45
1:XA:1323:G:OP2	1:XA:1323:G:H8	1.99	0.45
1:XA:1330:U:H4'	13:XM:23:TYR:CE2	2.52	0.45
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.51	0.45
1:XA:301:G:H2'	1:XA:302:G:H8	1.81	0.45
22:XV:52:G:H1	22:XV:62:C:N4	2.15	0.45
25:YA:1656:C:H2'	25:YA:1657:C:H6	1.82	0.45
25:YA:1842:G:H2'	25:YA:1843:C:H6	1.82	0.45
25:YA:2289:G:H2'	25:YA:2290:G:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:576:U:H4'	25:YA:2502:G:C8	2.52	0.45
25:YA:357:A:H2'	25:YA:358:U:C6	2.52	0.45
25:YA:538:G:H2'	25:YA:539:G:H8	1.82	0.45
25:YA:659:C:H2'	25:YA:660:G:H8	1.81	0.45
25:YA:658:C:H2'	25:YA:659:C:H6	1.80	0.45
25:YA:719:C:H2'	25:YA:720:C:H6	1.82	0.45
25:YA:863:A:H2'	25:YA:864:G:H8	1.81	0.45
27:YD:20:ASP:OD1	27:YD:20:ASP:N	2.40	0.45
30:YG:82:LEU:HD12	30:YG:88:ILE:HG21	1.98	0.45
35:YP:50:ARG:HD3	54:Y8:7:HIS:CD2	2.51	0.45
36:YQ:16:ARG:HA	36:YQ:16:ARG:HD2	1.67	0.45
2:QB:88:ALA:HA	2:QB:223:ILE:HD11	1.98	0.45
1:QA:1190:G:H5'	3:QC:176:HIS:HE1	1.82	0.45
13:QM:54:VAL:HA	13:QM:57:ARG:HB2	1.98	0.45
14:QN:9:LYS:HA	14:QN:12:ARG:HG2	1.99	0.45
22:QV:13:C:H42	22:QV:23:C:H42	1.62	0.45
49:R3:59:VAL:HG22	49:R3:60:GLU:HB3	1.97	0.45
25:RA:1159:U:H2'	25:RA:1160:G:C8	2.47	0.45
25:RA:2615:U:H6	25:RA:2615:U:H5'	1.80	0.45
26:RB:9:G:OP2	38:RS:15:ARG:NH1	2.50	0.45
26:RB:106:G:O2'	45:RZ:31:ARG:NH1	2.50	0.45
45:RZ:59:LEU:O	45:RZ:66:SER:HA	2.17	0.45
1:XA:1263:C:H2'	1:XA:1264:C:C6	2.51	0.45
1:XA:149:A:H2'	1:XA:150:C:C6	2.52	0.45
1:XA:190:U:H2'	1:XA:191:G:H8	1.82	0.45
1:XA:259:G:H5''	20:XT:83:ARG:NH1	2.28	0.45
1:XA:519:C:H2'	1:XA:520:A:O4'	2.17	0.45
1:XA:581:G:N2	1:XA:582:U:O4	2.49	0.45
1:XA:923:A:H2'	1:XA:924:C:C6	2.51	0.45
2:XB:18:GLY:O	2:XB:204:ASN:ND2	2.50	0.45
5:XE:99:GLY:O	5:XE:117:ASP:HA	2.16	0.45
17:XQ:15:MET:HB3	17:XQ:18:THR:HB	1.98	0.45
6:XF:100:ASN:ND2	18:XR:27:GLY:O	2.43	0.45
50:Y4:10:VAL:N	50:Y4:26:SER:O	2.36	0.45
52:Y6:13:CYS:SG	52:Y6:17:LYS:N	2.89	0.45
25:YA:1785:A:O2'	25:YA:1786:A:H2'	2.17	0.45
25:YA:2243:U:H2'	25:YA:2244:U:C6	2.52	0.45
25:YA:2409:G:H2'	25:YA:2410:G:O4'	2.16	0.45
25:YA:2684:U:H2'	25:YA:2685:G:O4'	2.16	0.45
25:YA:43:A:H2'	25:YA:44:G:H8	1.80	0.45
25:YA:2680:C:O2'	28:YE:11:MET:SD	2.75	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2641:G:P	33:YN:74:ARG:HH12	2.40	0.45
1:QA:1001(B):G:H2'	1:QA:1002:G:C8	2.51	0.45
1:QA:25:C:N4	1:QA:558:G:H21	2.15	0.45
1:QA:692:U:OP2	11:QK:26:ASN:ND2	2.49	0.45
25:RA:1528(B):A:H62	25:RA:1541:G:H21	1.61	0.45
25:RA:1640:C:H2'	25:RA:1641:A:H8	1.81	0.45
25:RA:2220:G:C8	25:RA:2220:G:C3'	2.99	0.45
25:RA:857:C:O2'	25:RA:858:U:H5'	2.17	0.45
25:RA:860:U:H2'	25:RA:861:A:C8	2.48	0.45
38:RS:41:ASP:O	38:RS:45:GLY:N	2.45	0.45
1:XA:131:C:H2'	1:XA:132:C:H6	1.82	0.45
1:XA:1442(A):G:N3	1:XA:1442(A):G:H2'	2.32	0.45
1:XA:381:C:H2'	1:XA:382:A:O4'	2.16	0.45
1:XA:813:U:H2'	1:XA:814:A:C8	2.51	0.45
15:XO:24:SER:OG	15:XO:25:THR:N	2.50	0.45
22:XV:59:A:H2'	22:XV:60:U:H5'	1.98	0.45
25:YA:1287:A:H5'	37:YR:104:ARG:HD3	1.99	0.45
25:YA:1315:C:H2'	25:YA:1316:U:C6	2.52	0.45
25:YA:1605:C:H2'	25:YA:1606:G:O4'	2.17	0.45
25:YA:1842:G:H2'	25:YA:1843:C:C6	2.51	0.45
25:YA:2675:A:H2'	25:YA:2676:C:H6	1.81	0.45
45:YZ:48:PHE:HA	45:YZ:51:ALA:HB3	1.99	0.45
1:QA:251:G:N1	1:QA:266:G:O6	2.50	0.45
1:QA:407:G:H2'	1:QA:408:A:C8	2.52	0.45
1:QA:476:G:H2'	1:QA:477:A:H8	1.81	0.45
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.82	0.45
1:QA:407:G:OP1	4:QD:115:ARG:NH2	2.49	0.45
4:QD:173:TRP:CD2	4:QD:189:PRO:HB3	2.51	0.45
1:QA:659:U:OP1	15:QO:9:GLN:NE2	2.49	0.45
17:QQ:83:ASP:OD1	17:QQ:83:ASP:N	2.47	0.45
46:R0:24:LYS:O	46:R0:25:ARG:NH1	2.41	0.45
25:RA:18:C:O2'	25:RA:554:U:OP1	2.34	0.45
25:RA:196:A:OP2	35:RP:46:LYS:NZ	2.49	0.45
25:RA:829:A:N6	25:RA:2247:A:O2'	2.40	0.45
25:RA:447:A:N1	25:RA:454:A:O2'	2.41	0.45
25:RA:77:C:O3'	48:R2:14:ARG:NH2	2.49	0.45
25:RA:848:G:OP2	25:RA:928:G:N2	2.46	0.45
27:RD:260:ARG:NH1	27:RD:267:SER:OG	2.40	0.45
28:RE:24:THR:HG21	28:RE:188:VAL:HB	1.98	0.45
28:RE:45:THR:OG1	28:RE:83:ASP:OD1	2.35	0.45
41:RV:23:GLU:O	41:RV:92:THR:OG1	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RZ:54:HIS:CG	45:RZ:101:PRO:HG3	2.52	0.45
1:XA:977:A:H8	1:XA:1223:C:C4	2.35	0.45
1:XA:1293:G:H2'	1:XA:1294:G:C8	2.51	0.45
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.82	0.45
1:XA:1104:G:H4'	2:XB:111:ARG:NH1	2.31	0.45
4:XD:52:SER:OG	4:XD:55:ALA:N	2.42	0.45
8:XH:86:ILE:HG12	8:XH:135:CYS:HA	1.98	0.45
8:XH:85:ARG:NH1	8:XH:87:SER:O	2.41	0.45
25:YA:1022:G:N2	25:YA:1023:U:O4	2.41	0.45
25:YA:1281:G:H2'	25:YA:1282:U:H6	1.82	0.45
25:YA:1423:G:OP1	25:YA:1492:G:O2'	2.33	0.45
25:YA:1827:C:C2'	25:YA:1828:G:H5'	2.46	0.45
25:YA:2113:U:H2'	25:YA:2114:A:C8	2.52	0.45
25:YA:2333:A:H4'	25:YA:2335:A:H5''	1.99	0.45
25:YA:357:A:H2'	25:YA:358:U:H6	1.82	0.45
25:YA:385:C:O2'	25:YA:388:G:N2	2.49	0.45
25:YA:721:C:H2'	25:YA:722:A:C8	2.52	0.45
25:YA:96:G:H4'	48:Y2:48:HIS:CD2	2.52	0.45
36:YQ:137:TYR:OH	45:YZ:45:ASP:OD1	2.34	0.45
42:YW:4:LYS:HB3	42:YW:106:ILE:HG12	1.98	0.45
45:YZ:163:LEU:HD13	45:YZ:167:PRO:HD3	1.99	0.45
1:QA:1135:U:O2'	1:QA:1138:G:N2	2.48	0.45
1:QA:1315:U:H2'	1:QA:1316:G:O4'	2.17	0.45
25:RA:106:C:H1'	44:RY:1:MET:HE2	1.97	0.45
25:RA:111:A:H2'	25:RA:112:U:C6	2.52	0.45
25:RA:1154:G:P	40:RU:58:ARG:HE	2.39	0.45
25:RA:1248:G:C5	40:RU:3:ARG:HB2	2.52	0.45
25:RA:2047:U:H2'	25:RA:2048:G:C8	2.52	0.45
25:RA:919:G:N2	25:RA:2269:A:OP2	2.50	0.45
25:RA:24:G:H2'	25:RA:25:U:C6	2.52	0.45
25:RA:769:G:O2'	25:RA:770:G:H5'	2.17	0.45
41:RV:24:LYS:HA	41:RV:92:THR:HG23	1.99	0.45
1:XA:580:U:H2'	1:XA:581:G:O4'	2.17	0.45
1:XA:695:A:H2'	1:XA:696:A:C8	2.51	0.45
1:XA:72:C:H2'	1:XA:73:G:H8	1.81	0.45
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.98	0.45
18:XR:31:LEU:HD23	18:XR:65:ILE:HB	1.99	0.45
25:YA:1051:G:H4'	25:YA:2752:C:H4'	1.99	0.45
25:YA:1215:G:H1	25:YA:1234:U:H3	1.65	0.45
25:YA:1321:A:H2'	25:YA:1322:A:C8	2.52	0.45
25:YA:1760:A:O2'	25:YA:1761:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2119:A:N6	25:YA:2168:G:H21	2.14	0.45
25:YA:989:G:OP1	25:YA:1157:G:O2'	2.33	0.45
1:QA:1038:C:H2'	1:QA:1039:C:H6	1.82	0.45
1:QA:1367:C:H4'	10:QJ:48:THR:HG21	1.98	0.45
1:QA:584:G:H2'	1:QA:585:G:C8	2.51	0.45
17:QQ:81:ARG:HA	17:QQ:81:ARG:HD2	1.84	0.45
49:R3:15:TYR:O	49:R3:20:LYS:NZ	2.42	0.45
25:RA:107:C:H2'	25:RA:108:U:C6	2.51	0.45
25:RA:1181:C:H2'	25:RA:1182:A:H8	1.80	0.45
25:RA:1336:A:H2'	25:RA:1337:G:C8	2.52	0.45
25:RA:1772:G:H5''	25:RA:1773:A:OP2	2.16	0.45
25:RA:2022:U:O2'	25:RA:2617:C:H5'	2.16	0.45
28:RE:55:ASN:HA	28:RE:56:PRO:HD3	1.87	0.45
32:RI:72:LEU:O	32:RI:75:LEU:N	2.48	0.45
1:XA:1047:G:HO2'	1:XA:1215:G:HO2'	1.64	0.45
1:XA:192:U:H2'	1:XA:193:C:C6	2.52	0.45
1:XA:539:A:H2'	1:XA:540:G:H8	1.82	0.45
1:XA:736:C:H2'	1:XA:737:A:C8	2.50	0.45
3:XC:40:ARG:HG2	3:XC:55:VAL:HG21	1.98	0.45
4:XD:8:VAL:C	4:XD:10:ARG:N	2.70	0.45
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.39	0.45
12:XL:70:ILE:HG13	12:XL:100:ILE:HD12	1.99	0.45
25:YA:1770:G:H2'	25:YA:1771:C:C6	2.51	0.45
25:YA:1818:U:H2'	27:YD:157:ARG:HB2	1.99	0.45
25:YA:1853:A:N6	25:YA:1889:A:N7	2.64	0.45
25:YA:2070:G:H2'	25:YA:2071:A:C8	2.52	0.45
25:YA:2119:A:H61	25:YA:2168:G:N2	2.15	0.45
25:YA:2657:A:H62	25:YA:2664:G:H21	1.63	0.45
25:YA:2698:U:H2'	25:YA:2699:C:H6	1.81	0.45
25:YA:658:C:H2'	25:YA:659:C:C6	2.52	0.45
25:YA:906:G:O3'	36:YQ:67:ARG:NH2	2.50	0.45
25:YA:2578:G:N7	28:YE:140:SER:HB3	2.31	0.45
30:YG:96:ARG:H	30:YG:96:ARG:HG2	1.46	0.45
1:QA:1387:G:H2'	1:QA:1388:C:C6	2.52	0.44
1:QA:324:G:OP1	20:QT:70:SER:OG	2.22	0.44
1:QA:45:U:H2'	1:QA:46:G:H8	1.82	0.44
1:QA:982:U:N3	1:QA:1223:C:C4	2.84	0.44
3:QC:154:SER:HA	3:QC:165:THR:HA	1.99	0.44
4:QD:190:ASP:OD1	4:QD:191:ARG:N	2.50	0.44
25:RA:1165:U:H2'	25:RA:1166:C:H6	1.82	0.44
25:RA:1333:C:H2'	25:RA:1334:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2495:G:H2'	25:RA:2496:C:C6	2.52	0.44
25:RA:2528:U:O2'	25:RA:2530:A:OP1	2.28	0.44
25:RA:2696:U:H2'	25:RA:2697:G:C8	2.52	0.44
25:RA:852:G:H2'	25:RA:853:G:C8	2.52	0.44
27:RD:72:LYS:HZ1	27:RD:101:GLU:HB3	1.82	0.44
31:RH:57:ASP:OD1	31:RH:57:ASP:N	2.47	0.44
25:RA:1137:G:N2	33:RN:105:GLY:O	2.39	0.44
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.40	0.44
1:XA:1423:G:H2'	1:XA:1424:C:C6	2.52	0.44
1:XA:356:A:N3	1:XA:368:U:O2'	2.32	0.44
1:XA:555:C:H2'	1:XA:556:C:C6	2.52	0.44
1:XA:712:A:H2'	1:XA:713:G:C8	2.52	0.44
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.99	0.44
2:XB:51:LEU:O	2:XB:54:THR:OG1	2.32	0.44
3:XC:45:LYS:HE2	3:XC:45:LYS:HB3	1.81	0.44
1:XA:264:U:O2'	17:XQ:64:PRO:O	2.27	0.44
18:XR:37:VAL:HB	18:XR:78:LEU:HD23	1.98	0.44
25:YA:2245:U:H5''	25:YA:2246:G:H5'	1.99	0.44
25:YA:2502:G:H5''	25:YA:2503:2MA:H5''	1.99	0.44
25:YA:466:A:H1'	25:YA:683:C:O4'	2.17	0.44
36:YQ:39:PRO:HA	36:YQ:97:VAL:O	2.16	0.44
38:YS:40:ILE:HA	38:YS:47:THR:HA	1.99	0.44
39:YT:53:ARG:NH2	39:YT:58:ASN:O	2.50	0.44
39:YT:65:LYS:O	39:YT:71:GLY:HA2	2.17	0.44
43:YX:54:VAL:HG13	43:YX:81:VAL:HG12	1.99	0.44
45:YZ:154:ASP:H	45:YZ:155:LEU:HG	1.82	0.44
1:QA:558:G:H3'	1:QA:559:A:H2'	2.00	0.44
5:QE:84:PHE:HB2	5:QE:134:ALA:HB2	1.98	0.44
9:QI:6:GLY:O	9:QI:17:VAL:HB	2.18	0.44
15:QO:26:GLU:OE2	15:QO:77:ARG:NE	2.40	0.44
47:R1:51:VAL:HG11	47:R1:74:VAL:HG21	1.98	0.44
25:RA:139(A):G:H2'	25:RA:140:G:N7	2.32	0.44
25:RA:1998:G:H4'	25:RA:2724:C:O2'	2.16	0.44
25:RA:2075:U:H4'	25:RA:2596:U:N3	2.31	0.44
25:RA:2526:G:H5'	25:RA:2742:C:O2'	2.16	0.44
25:RA:2853:C:H2'	25:RA:2854:G:C8	2.51	0.44
25:RA:420:C:O2'	25:RA:421:U:O5'	2.35	0.44
25:RA:659:C:H2'	25:RA:660:G:C8	2.51	0.44
31:RH:160:LYS:H	31:RH:163:TYR:HH	1.58	0.44
1:XA:1058:G:H2'	1:XA:1059:C:C6	2.51	0.44
1:XA:1068:G:N2	1:XA:1191:A:N3	2.59	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.52	0.44
1:XA:715:A:H2'	1:XA:716:A:C8	2.52	0.44
5:XE:118:ILE:HD12	5:XE:118:ILE:HA	1.89	0.44
8:XH:81:HIS:ND1	8:XH:138:TRP:OXT	2.50	0.44
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.99	0.44
20:XT:33:ILE:O	20:XT:37:SER:OG	2.26	0.44
25:YA:197:A:H2	25:YA:2434:A:H62	1.65	0.44
25:YA:2107:C:HO2'	25:YA:2108:C:H6	1.62	0.44
25:YA:272(R):G:H2'	25:YA:272(S):G:H8	1.82	0.44
25:YA:274:G:H2'	25:YA:275:G:C8	2.50	0.44
25:YA:619:G:OP2	25:YA:620:G:N2	2.51	0.44
27:YD:109:ASP:N	27:YD:195:ALA:O	2.46	0.44
34:YO:61:VAL:HG12	34:YO:87:ILE:HD11	1.99	0.44
1:QA:1124:G:N7	1:QA:1145:C:O2'	2.50	0.44
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.36	0.44
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.16	0.44
1:QA:1347:G:N2	1:QA:1373:G:H2'	2.32	0.44
1:QA:867:G:H2'	1:QA:868:C:H6	1.82	0.44
1:QA:9:G:H2'	1:QA:10:A:C8	2.52	0.44
10:QJ:48:THR:HG23	10:QJ:62:HIS:HB3	1.98	0.44
14:QN:4:LYS:HZ3	57:QN:101:MG:MG	1.20	0.44
17:QQ:57:VAL:HG23	17:QQ:59:ILE:HD11	1.99	0.44
22:QV:43:A:H2'	22:QV:44:A:C8	2.51	0.44
25:RA:2355:C:H4'	46:R0:24:LYS:HG3	2.00	0.44
25:RA:39:C:H2'	25:RA:40:C:H6	1.82	0.44
25:RA:729:G:O2'	25:RA:763:G:H4'	2.18	0.44
26:RB:12:C:O2	46:R0:74:ARG:NE	2.42	0.44
32:RI:93:THR:O	32:RI:96:ASP:N	2.47	0.44
1:XA:189(F):U:O2'	1:XA:189(G):U:H5'	2.17	0.44
1:XA:911:U:H2'	1:XA:912:C:C6	2.51	0.44
25:YA:1565:C:O3'	25:YA:1566:A:H8	2.01	0.44
25:YA:2515:C:C2'	25:YA:2516:G:H5'	2.48	0.44
25:YA:833:U:O4'	35:YP:52:GLU:HA	2.17	0.44
27:YD:72:LYS:HE3	27:YD:72:LYS:HB3	1.83	0.44
39:YT:26:ASP:OD1	39:YT:120:ARG:NH2	2.38	0.44
45:YZ:51:ALA:HB1	45:YZ:57:ILE:HD11	2.00	0.44
1:QA:791:G:N2	1:QA:1497:G:O3'	2.50	0.44
1:QA:793:U:O2	1:QA:1516:G:H4'	2.17	0.44
1:QA:45:U:H2'	1:QA:46:G:C8	2.52	0.44
2:QB:100:GLY:O	2:QB:103:THR:N	2.49	0.44
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:127:ASN:OD1	5:QE:130:ASN:ND2	2.45	0.44
14:QN:43:CYS:HB2	59:QN:102:ZN:ZN	1.48	0.44
22:QV:3:C:C2'	22:QV:4:G:H5'	2.47	0.44
25:RA:1255:U:H5''	25:RA:1256:G:C5'	2.35	0.44
25:RA:1537:G:H2'	25:RA:1538:G:C8	2.51	0.44
25:RA:1467:C:C5	25:RA:1546:C:H2'	2.48	0.44
25:RA:1853:A:H2'	25:RA:1854:A:H8	1.81	0.44
25:RA:2865:U:OP2	25:RA:2866:U:O2'	2.21	0.44
25:RA:347:A:H2'	25:RA:348:G:H8	1.83	0.44
25:RA:373:U:H2'	25:RA:374:A:H8	1.83	0.44
25:RA:418:G:O2'	25:RA:419:C:H5'	2.18	0.44
34:RO:34:THR:OG1	34:RO:35:VAL:N	2.51	0.44
37:RR:28:LEU:O	37:RR:32:GLY:N	2.43	0.44
1:XA:1294:G:H2'	1:XA:1295:G:C8	2.52	0.44
1:XA:1396:A:H4'	1:XA:1397:C:H5''	1.98	0.44
1:XA:218:C:H2'	1:XA:219:C:C6	2.52	0.44
3:XC:157:ILE:HG22	3:XC:164:ARG:HH21	1.81	0.44
48:Y2:51:ARG:HD3	48:Y2:55:ARG:HH11	1.82	0.44
25:YA:1525:G:H2'	25:YA:1526:G:H8	1.82	0.44
25:YA:1719:G:O2'	25:YA:1720:U:H5'	2.17	0.44
25:YA:1864:U:H2'	25:YA:1865:G:C8	2.53	0.44
25:YA:1946:U:O2'	25:YA:1947:C:H5'	2.16	0.44
25:YA:2393:A:H5'	35:YP:61:ARG:O	2.17	0.44
25:YA:2676:C:H2'	25:YA:2677:G:H8	1.82	0.44
25:YA:358:U:H2'	25:YA:359:A:H8	1.82	0.44
1:QA:1098:C:H2'	1:QA:1099:G:H8	1.83	0.44
1:QA:1263:C:H2'	1:QA:1264:C:H6	1.83	0.44
1:QA:1410:G:H2'	1:QA:1411:C:C6	2.52	0.44
1:QA:713:G:H2'	1:QA:714:G:C8	2.53	0.44
1:QA:868:C:H2'	1:QA:869:G:O4'	2.17	0.44
12:QL:28:LYS:HA	12:QL:28:LYS:HD2	1.79	0.44
16:QP:47:ASP:OD1	16:QP:47:ASP:N	2.40	0.44
18:QR:30:ASP:HB3	18:QR:33:ASP:HB2	1.98	0.44
47:R1:93:GLU:HA	47:R1:96:LYS:HD2	1.98	0.44
25:RA:127:A:H5''	25:RA:128:C:C6	2.52	0.44
25:RA:177:G:H3'	25:RA:178:G:H8	1.83	0.44
25:RA:1817:G:OP1	27:RD:88:ARG:NH2	2.51	0.44
25:RA:1925:C:H42	25:RA:1929:G:H22	1.66	0.44
25:RA:2845:G:H2'	25:RA:2846:G:C8	2.51	0.44
25:RA:696:G:O2'	25:RA:697:C:H5'	2.17	0.44
32:RI:40:THR:O	32:RI:43:ASN:N	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RP:134:ALA:O	35:RP:138:LEU:N	2.46	0.44
1:XA:1014:A:OP1	1:XA:1014:A:H8	1.99	0.44
1:XA:1014:A:H8	1:XA:1014:A:P	2.41	0.44
1:XA:291:C:O2'	1:XA:292:G:H5'	2.18	0.44
25:YA:17:G:H4'	40:YU:25:TRP:NE1	2.33	0.44
25:YA:184:C:H2'	25:YA:185:U:H6	1.83	0.44
25:YA:1906:G:H2'	25:YA:1907:G:H8	1.83	0.44
25:YA:191:A:O2'	25:YA:192:C:O4'	2.17	0.44
25:YA:2140:C:H2'	25:YA:2141:G:C8	2.53	0.44
25:YA:2266:A:H4'	25:YA:2267:A:C4	2.52	0.44
25:YA:2364:C:OP1	46:Y0:55:ARG:NH1	2.50	0.44
25:YA:236:C:H2'	25:YA:237:C:H6	1.82	0.44
25:YA:2757:A:H5'	55:Y9:18:ARG:HH12	1.83	0.44
25:YA:2853:C:H2'	25:YA:2854:G:H8	1.83	0.44
26:YB:7:G:H3'	26:YB:8:U:H5''	1.99	0.44
34:YO:12:ASP:OD1	34:YO:14:THR:OG1	2.26	0.44
25:YA:896:A:H5''	45:YZ:146:ILE:HB	1.99	0.44
25:RA:2584:U:H5''	56:ZA:3:PPU:H92	2.00	0.44
2:QB:115:LEU:HD13	2:QB:145:LEU:HB3	1.99	0.44
3:QC:73:PRO:O	3:QC:76:VAL:N	2.47	0.44
1:QA:375:U:O2'	16:QP:6:LEU:O	2.34	0.44
25:RA:1365:A:O2'	47:R1:11:ARG:NH2	2.33	0.44
25:RA:2377:A:H2'	25:RA:2378:A:H8	1.82	0.44
25:RA:252:G:O2'	25:RA:253:C:H5'	2.18	0.44
33:RN:20:GLY:HA2	33:RN:61:ARG:HB2	1.99	0.44
37:RR:52:ILE:O	37:RR:55:ALA:N	2.49	0.44
38:RS:12:PHE:HA	38:RS:15:ARG:HG2	1.99	0.44
1:XA:582:U:H2'	1:XA:583:A:H8	1.81	0.44
13:XM:66:LEU:O	13:XM:70:LEU:N	2.48	0.44
50:Y4:15:ILE:HG23	50:Y4:32:TYR:HA	2.00	0.44
25:YA:1107:G:H2'	25:YA:1108:U:H6	1.82	0.44
25:YA:1257:C:H4'	29:YF:83:PHE:CD1	2.52	0.44
25:YA:1651:G:OP1	37:YR:37:THR:HG21	2.17	0.44
25:YA:269:U:O2	25:YA:370:G:N2	2.38	0.44
25:YA:637:A:OP1	35:YP:133:SER:OG	2.26	0.44
25:YA:759:G:H2'	25:YA:760:G:C8	2.52	0.44
25:YA:908:C:O2'	25:YA:909:A:H5'	2.17	0.44
44:YY:36:ALA:HB1	44:YY:66:PRO:HB3	2.00	0.44
1:QA:1057:G:H2'	1:QA:1058:G:O4'	2.18	0.44
1:QA:1523:G:H2'	1:QA:1524:C:C6	2.53	0.44
1:QA:398:C:H2'	1:QA:399:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:546:G:OP1	4:QD:73:ARG:N	2.50	0.44
1:QA:661:G:H2'	1:QA:662:G:H8	1.83	0.44
1:QA:966:M2G:HM12	22:QV:34:C:H5'	1.99	0.44
5:QE:131:ILE:O	5:QE:135:THR:OG1	2.22	0.44
9:QI:128:ARG:HH22	22:QV:33:U:P	2.40	0.44
24:QY:36:G:H2'	24:QY:37:G:C8	2.51	0.44
25:RA:1030:G:N2	55:R9:5:ALA:O	2.51	0.44
25:RA:1090:U:H3'	25:RA:1091:G:H8	1.83	0.44
25:RA:1092:C:P	25:RA:1092:C:H6	2.41	0.44
25:RA:2704:C:H2'	25:RA:2705:A:O4'	2.18	0.44
25:RA:407:G:H2'	25:RA:408:G:C8	2.53	0.44
25:RA:729:G:H5'	25:RA:730:C:H5''	1.99	0.44
25:RA:902:C:H2'	25:RA:903:C:H6	1.82	0.44
25:RA:922:U:H2'	25:RA:923:C:H6	1.82	0.44
26:RB:38:C:H2'	26:RB:39:A:H8	1.81	0.44
27:RD:61:LEU:O	27:RD:63:ARG:NH1	2.45	0.44
32:RI:71:ILE:HG23	32:RI:72:LEU:HD12	2.00	0.44
43:RX:11:PRO:HA	43:RX:28:PHE:HA	2.00	0.44
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.53	0.44
1:XA:129(B):G:N3	1:XA:189(G):U:H5''	2.32	0.44
1:XA:272:C:H2'	1:XA:273:A:C8	2.50	0.44
1:XA:416:G:H2'	1:XA:417:C:C6	2.53	0.44
1:XA:631:G:H2'	1:XA:632:A:C8	2.53	0.44
6:XF:80:ARG:NH1	6:XF:88:VAL:O	2.51	0.44
7:XG:70:LYS:HG2	7:XG:96:GLN:HB3	1.99	0.44
22:XV:64:G:H2'	22:XV:65:C:C6	2.53	0.44
25:YA:1491:G:H2'	25:YA:1492:G:H8	1.82	0.44
25:YA:2071:A:H2'	25:YA:2072:G:H8	1.81	0.44
30:YG:129:GLY:HA2	30:YG:166:ASP:HA	2.00	0.44
40:YU:17:ILE:HG13	40:YU:32:PHE:HE1	1.81	0.44
1:QA:1096:C:H2'	1:QA:1097:C:H6	1.82	0.44
1:QA:1143:G:H2'	1:QA:1144:G:H8	1.82	0.44
1:QA:254:G:H2'	1:QA:255:G:H8	1.83	0.44
1:QA:77:G:H2'	1:QA:78:G:H5'	2.00	0.44
20:QT:38:LYS:HA	20:QT:41:ILE:HG12	2.00	0.44
22:QV:74:C:O2'	22:QV:75:C:O5'	2.36	0.44
54:R8:33:ASN:OD1	54:R8:36:LYS:NZ	2.34	0.44
25:RA:1425:G:H2'	25:RA:1426:G:C8	2.52	0.44
25:RA:1556:C:H2'	25:RA:1557:C:C6	2.53	0.44
25:RA:1682:G:H1	25:RA:1706:U:H3	1.66	0.44
25:RA:729:G:OP2	27:RD:208:LYS:NZ	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:817:C:O2'	25:RA:839:U:OP1	2.20	0.44
27:RD:62:TYR:HE1	27:RD:88:ARG:HH22	1.65	0.44
30:RG:5:VAL:HG12	30:RG:7:LEU:H	1.82	0.44
25:RA:1036:G:OP1	31:RH:59:ARG:HB2	2.18	0.44
34:RO:11:ALA:O	34:RO:99:PHE:N	2.47	0.44
35:RP:36:LYS:HA	35:RP:40:SER:OG	2.18	0.44
25:RA:599:G:P	35:RP:9:ASN:HD22	2.40	0.44
1:XA:968:A:C8	1:XA:1062:U:H4'	2.53	0.44
1:XA:1269:A:H3'	1:XA:1270:C:O4'	2.17	0.44
1:XA:1314:C:H2'	1:XA:1315:U:H6	1.83	0.44
11:XK:101:SER:OG	11:XK:102:GLY:N	2.50	0.44
17:XQ:28:PRO:HA	17:XQ:35:VAL:HA	1.99	0.44
25:YA:1153:C:OP1	40:YU:92:ARG:NH2	2.51	0.44
25:YA:1769:G:H2'	25:YA:1770:G:H8	1.82	0.44
25:YA:2246:G:H2'	25:YA:2247:A:H8	1.82	0.44
25:YA:300:A:OP2	44:YY:84:ARG:NH1	2.49	0.44
25:YA:451:C:H41	25:YA:454:A:H5'	1.81	0.44
25:YA:484:C:H2'	25:YA:485:C:H6	1.83	0.44
25:YA:594:U:H2'	25:YA:595:C:C6	2.53	0.44
28:YE:201:THR:OG1	28:YE:202:LYS:N	2.51	0.44
28:YE:36:ARG:NH1	28:YE:86:PRO:O	2.40	0.44
30:YG:59:GLU:OE1	30:YG:153:ARG:NH2	2.50	0.44
1:QA:1507:A:H2'	1:QA:1508:G:C8	2.53	0.44
1:QA:37:U:H2'	1:QA:38:G:H8	1.83	0.44
1:QA:6:G:O2'	1:QA:7:G:H5''	2.18	0.44
1:QA:724:G:OP1	1:QA:854:G:O2'	2.33	0.44
1:QA:977:A:H3'	1:QA:977:A:N3	2.33	0.44
2:QB:71:VAL:HG12	2:QB:164:VAL:HA	1.99	0.44
4:QD:105:VAL:HG21	4:QD:126:ILE:HD13	2.00	0.44
49:R3:4:LEU:HA	49:R3:4:LEU:HD23	1.83	0.44
25:RA:40:C:H2'	25:RA:41:C:C6	2.52	0.44
25:RA:689:A:H2'	25:RA:690:G:H8	1.83	0.44
25:RA:709:U:H2'	25:RA:710:G:C8	2.53	0.44
25:RA:926:A:H2'	25:RA:927:G:H8	1.81	0.44
36:RQ:68:ILE:HD13	36:RQ:103:MET:HG2	1.99	0.44
1:XA:1244:C:H2'	1:XA:1245:A:H8	1.82	0.44
1:XA:1464:G:OP1	39:YT:108:ARG:NH2	2.47	0.44
1:XA:17:U:H2'	1:XA:18:C:H6	1.83	0.44
1:XA:96:U:H2'	1:XA:97:G:C8	2.53	0.44
3:XC:153:VAL:HG13	3:XC:198:VAL:HG12	2.00	0.44
6:XF:15:ASP:N	6:XF:15:ASP:OD1	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:XY:28:C:O2'	24:XY:29:U:O5'	2.35	0.44
25:YA:1310:G:H2'	25:YA:1311:G:H5'	1.99	0.44
25:YA:1363:C:H2'	25:YA:1364:G:C8	2.53	0.44
25:YA:614(D):A:C4	29:YF:180:GLY:HA3	2.53	0.44
30:YG:120:LEU:HB2	30:YG:180:PHE:HD1	1.82	0.44
34:YO:102:VAL:HG23	34:YO:121:VAL:HG23	2.00	0.44
1:QA:1129:C:O2'	1:QA:1139:G:O6	2.26	0.43
1:QA:533:A:O2'	1:QA:535:A:OP2	2.33	0.43
1:QA:590:C:N4	1:QA:650:G:O6	2.51	0.43
1:QA:675:A:H1'	11:QK:116:HIS:CD2	2.53	0.43
4:QD:102:ASP:OD1	4:QD:102:ASP:N	2.49	0.43
11:QK:57:THR:HG23	11:QK:60:ALA:H	1.83	0.43
54:R8:37:SER:OG	54:R8:40:GLU:N	2.43	0.43
25:RA:2196:C:O2'	25:RA:2197:U:H5'	2.18	0.43
25:RA:2882:A:P	37:RR:96:ARG:HH21	2.40	0.43
25:RA:39:C:O2	29:RF:46:ARG:NH2	2.49	0.43
30:RG:20:ILE:H	30:RG:20:ILE:HG13	1.63	0.43
34:RO:42:SER:OG	34:RO:43:VAL:N	2.51	0.43
1:XA:34:C:H2'	1:XA:35:G:C8	2.53	0.43
1:XA:867:G:O2'	1:XA:873:A:N6	2.51	0.43
14:YN:6:LEU:HD13	14:YN:6:LEU:HA	1.86	0.43
52:Y6:38:LYS:HB2	52:Y6:49:HIS:CE1	2.53	0.43
25:YA:2010:G:H5''	42:YW:42:ARG:HB2	1.99	0.43
25:YA:205:G:O2'	25:YA:206:U:P	2.76	0.43
25:YA:2189:U:H2'	25:YA:2190:G:H8	1.82	0.43
25:YA:2489:G:N2	25:YA:2491:U:O4	2.44	0.43
26:YB:9:G:N1	26:YB:112:U:N3	2.61	0.43
26:YB:43:C:O4'	30:YG:66:GLN:NE2	2.51	0.43
31:YH:44:VAL:O	31:YH:50:VAL:HG13	2.18	0.43
25:YA:1666:G:H4'	34:YO:6:THR:HG23	2.00	0.43
1:QA:1268:A:H2'	1:QA:1269:A:C8	2.53	0.43
1:QA:1441:G:H5''	1:QA:1442(A):G:H5'	1.99	0.43
1:QA:112:G:H4'	1:QA:389:A:H4'	2.00	0.43
1:QA:443:C:H2'	1:QA:444:C:C6	2.53	0.43
1:QA:672:U:O2	1:QA:734:G:N2	2.41	0.43
5:QE:136:MET:HG3	5:QE:140:ARG:HH12	1.82	0.43
7:QG:126:ASP:O	7:QG:131:LYS:N	2.51	0.43
8:QH:9:MET:HE3	8:QH:32:LYS:HE3	1.99	0.43
10:QJ:49:VAL:HG21	14:QN:44:LEU:HD22	2.01	0.43
16:QP:14:ASN:HD21	16:QP:16:HIS:CE1	2.34	0.43
52:R6:16:CYS:HB2	52:R6:18:ARG:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1011:G:OP2	40:RU:66:ASN:ND2	2.51	0.43
25:RA:1102:C:H2'	25:RA:1103:A:C8	2.53	0.43
25:RA:2294:C:H2'	25:RA:2295:C:H6	1.83	0.43
25:RA:2354:G:H21	46:R0:36:ILE:HD11	1.83	0.43
25:RA:2410:G:H3'	25:RA:2411:A:H8	1.82	0.43
25:RA:2480:C:H2'	25:RA:2481:G:H5'	2.00	0.43
25:RA:678:C:H2'	25:RA:679:C:H6	1.82	0.43
25:RA:868:U:H2'	25:RA:869:G:C8	2.53	0.43
25:RA:1568:G:H5''	27:RD:61:LEU:HG	1.99	0.43
25:RA:2745:C:H4'	31:RH:142:GLY:O	2.18	0.43
45:RZ:26:GLY:HA2	45:RZ:86:VAL:O	2.18	0.43
1:XA:21:G:H2'	1:XA:22:G:C8	2.52	0.43
1:XA:338:A:H61	1:XA:351:G:H1	1.65	0.43
1:XA:822:C:O2'	1:XA:823:G:H5'	2.17	0.43
2:XB:106:LYS:H	2:XB:106:LYS:HG2	1.65	0.43
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.18	0.43
6:XF:6:VAL:HB	6:XF:63:TYR:HB2	1.99	0.43
8:XH:98:LYS:HE2	8:XH:98:LYS:HB2	1.89	0.43
9:XI:77:ILE:O	9:XI:81:ILE:HG12	2.18	0.43
19:XS:18:LYS:HA	19:XS:18:LYS:HD2	1.65	0.43
24:XY:28:C:HO2'	24:XY:29:U:C5'	2.30	0.43
25:YA:1379:A:H4'	25:YA:1380:G:OP2	2.18	0.43
25:YA:1657:C:H2'	25:YA:1658:C:H6	1.82	0.43
25:YA:2014:A:O2'	42:YW:92:ARG:NH1	2.46	0.43
25:YA:225:A:C2'	25:YA:226:G:H5'	2.48	0.43
25:YA:272(H):G:H2'	25:YA:272(I):G:C8	2.53	0.43
31:YH:155:SER:OG	31:YH:158:HIS:N	2.51	0.43
38:YS:39:ILE:HD11	38:YS:73:LEU:HD21	1.99	0.43
41:YV:4:ILE:HA	41:YV:12:TYR:O	2.18	0.43
42:YW:71:VAL:HA	42:YW:107:LEU:HD23	1.99	0.43
45:YZ:69:THR:HG22	45:YZ:90:VAL:HA	1.98	0.43
1:QA:1294:G:H2'	1:QA:1295:G:C8	2.53	0.43
1:QA:460:G:N1	1:QA:471:G:OP2	2.43	0.43
1:QA:31:G:N2	1:QA:48:C:O5'	2.52	0.43
1:QA:990:C:N4	1:QA:1216:G:O6	2.52	0.43
4:QD:21:LEU:N	4:QD:26:CYS:SG	2.91	0.43
5:QE:77:PRO:HD2	5:QE:142:LEU:HD23	1.99	0.43
25:RA:2258:C:O2'	25:RA:2427:C:OP2	2.32	0.43
25:RA:2637:U:H5''	28:RE:82:ARG:NH1	2.33	0.43
25:RA:272(E):U:H3	25:RA:272(S):G:H1	1.65	0.43
25:RA:2773:C:OP1	28:RE:166:THR:OG1	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2817:G:H21	25:RA:2836:U:H1'	1.82	0.43
25:RA:414:C:H2'	25:RA:415:A:H8	1.83	0.43
26:RB:101:G:H2'	26:RB:102:A:C8	2.54	0.43
37:RR:100:LEU:HD12	37:RR:101:ALA:H	1.83	0.43
44:RY:13:VAL:HG12	44:RY:74:PRO:HA	1.99	0.43
44:RY:39:VAL:HG13	44:RY:42:VAL:HB	1.99	0.43
1:XA:243:A:N6	1:XA:281:G:O2'	2.52	0.43
1:XA:337:C:H2'	1:XA:338:A:C8	2.51	0.43
3:XC:174:PRO:HB2	3:XC:177:THR:HG23	2.00	0.43
23:XX:18:G:H4'	23:XX:19:C:OP1	2.18	0.43
25:YA:18:C:H2'	25:YA:19:C:C6	2.52	0.43
25:YA:2113:U:H2'	25:YA:2114:A:H8	1.84	0.43
25:YA:2303:G:H1'	30:YG:132:ASN:ND2	2.34	0.43
25:YA:2743:C:OP2	25:YA:2755:C:N4	2.50	0.43
25:YA:675:A:N3	25:YA:2443:C:O2'	2.43	0.43
25:YA:729:G:H5'	25:YA:730:C:H5''	1.99	0.43
26:YB:55:U:H2'	26:YB:56:G:C8	2.53	0.43
31:YH:101:ARG:H	31:YH:101:ARG:HG2	1.60	0.43
34:YO:29:ASN:OD1	34:YO:29:ASN:N	2.50	0.43
37:YR:37:THR:OG1	37:YR:38:VAL:N	2.49	0.43
25:YA:996:A:O3'	40:YU:91:ASP:HB2	2.18	0.43
1:QA:1351:U:O2	1:QA:1371:G:N2	2.43	0.43
1:QA:298:A:H8	1:QA:298:A:OP1	2.01	0.43
1:QA:536:C:H2'	1:QA:537:G:C8	2.53	0.43
50:R4:56:VAL:HG12	50:R4:57:GLU:H	1.82	0.43
52:R6:37:ARG:HA	52:R6:48:VAL:HA	2.01	0.43
25:RA:110:G:H2'	25:RA:111:A:H8	1.83	0.43
25:RA:126:A:OP1	53:R7:18:PHE:N	2.45	0.43
25:RA:1557:C:H5''	25:RA:1558:A:OP2	2.18	0.43
25:RA:1956:U:H1'	25:RA:2552:OMU:OP1	2.18	0.43
25:RA:239:U:H2'	25:RA:240:G:O4'	2.18	0.43
25:RA:241:A:H5'	25:RA:243:U:O4'	2.18	0.43
25:RA:2660:A:H8	25:RA:2660:A:P	2.41	0.43
25:RA:2801(B):A:H5'	25:RA:2802:G:C8	2.53	0.43
25:RA:437:G:H2'	25:RA:438:G:C8	2.53	0.43
25:RA:742:G:H2'	25:RA:743:G:C8	2.54	0.43
25:RA:840:C:H2'	25:RA:841:A:H8	1.83	0.43
25:RA:931:G:O3'	49:R3:24:LYS:NZ	2.52	0.43
31:RH:148:ILE:HA	31:RH:151:ILE:HD12	2.00	0.43
32:RI:54:GLN:O	32:RI:58:LEU:N	2.39	0.43
34:RO:9:GLU:N	34:RO:82:ASN:O	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RW:47:VAL:HA	42:RW:50:VAL:HG12	2.00	0.43
45:RZ:57:ILE:O	45:RZ:69:THR:OG1	2.27	0.43
1:XA:1517:G:N3	25:YA:1919:A:O2'	2.37	0.43
1:XA:725:G:OP1	1:XA:853:G:N2	2.35	0.43
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.86	0.43
25:YA:857:C:OP2	46:Y0:77:ARG:NH2	2.49	0.43
25:YA:1032:A:H2	25:YA:1122:G:H22	1.67	0.43
25:YA:1202:C:H42	25:YA:1243:G:H1	1.67	0.43
25:YA:1299:G:N2	25:YA:1641:A:H62	2.16	0.43
25:YA:1999:C:OP1	28:YE:118:LYS:NZ	2.51	0.43
25:YA:673:C:OP1	29:YF:54:ARG:NH1	2.46	0.43
25:YA:816:C:H2'	25:YA:817:C:H6	1.83	0.43
29:YF:158:THR:HG23	29:YF:160:ASN:H	1.83	0.43
25:YA:2393:A:H4'	35:YP:62:LEU:O	2.18	0.43
45:YZ:24:LEU:HD11	45:YZ:83:PRO:HB2	2.01	0.43
1:QA:1059:C:OP2	3:QC:199:LYS:NZ	2.49	0.43
1:QA:1202:G:H2'	1:QA:1203:C:H6	1.84	0.43
1:QA:1270:C:H4'	1:QA:1313:U:O2'	2.18	0.43
1:QA:273:A:O2'	1:QA:274:A:H5'	2.19	0.43
1:QA:404:U:P	4:QD:118:ARG:HH12	2.41	0.43
1:QA:672:U:H2'	1:QA:673:G:C8	2.53	0.43
1:QA:824:C:H2'	1:QA:825:G:C8	2.54	0.43
2:QB:9:GLU:HA	2:QB:12:GLU:HG2	1.99	0.43
4:QD:8:VAL:CG1	4:QD:22:LYS:HE3	2.48	0.43
4:QD:89:THR:OG1	5:QE:97:GLY:O	2.36	0.43
8:QH:23:SER:OG	8:QH:24:THR:N	2.52	0.43
11:QK:27:ASN:OD1	11:QK:28:THR:N	2.50	0.43
16:QP:1:MET:HG2	16:QP:3:LYS:HG3	2.01	0.43
48:R2:38:GLN:O	48:R2:43:GLN:N	2.51	0.43
54:R8:52:LYS:HD3	54:R8:52:LYS:HA	1.79	0.43
25:RA:120:U:H4'	25:RA:122:G:OP2	2.18	0.43
25:RA:18:C:H2'	25:RA:19:C:H6	1.83	0.43
25:RA:2543:G:O4'	25:RA:2766:G:H5'	2.18	0.43
25:RA:839:U:H2'	25:RA:840:C:H6	1.84	0.43
25:RA:947:G:H2'	25:RA:948:G:C8	2.53	0.43
27:RD:132:PRO:HA	27:RD:190:TYR:HA	1.99	0.43
36:RQ:2:LEU:N	36:RQ:48:GLU:OE2	2.48	0.43
41:RV:35:LEU:HB3	41:RV:57:VAL:HG13	2.01	0.43
1:XA:1499:A:H2'	1:XA:1500:A:H8	1.82	0.43
1:XA:1510:U:H2'	1:XA:1511:G:H8	1.84	0.43
13:XM:84:ILE:HG13	13:XM:86:CYS:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:1314:C:OP1	25:YA:1332:G:H5''	2.19	0.43
25:YA:1961:C:H2'	25:YA:1962:5MC:H5'	1.99	0.43
25:YA:252:G:OP1	35:YP:50:ARG:NH1	2.48	0.43
25:YA:2590:A:H2'	25:YA:2591:C:H6	1.83	0.43
25:YA:729:G:C6	27:YD:208:LYS:HB2	2.54	0.43
25:YA:852:G:O2'	25:YA:853:G:H5'	2.18	0.43
44:YY:96:ILE:HD12	44:YY:96:ILE:HA	1.89	0.43
1:QA:100:C:H2'	1:QA:101:A:C8	2.54	0.43
1:QA:266:G:H2'	1:QA:266:G:N3	2.33	0.43
5:QE:100:VAL:HG23	5:QE:118:ILE:HG22	1.99	0.43
6:QF:23:LYS:HA	6:QF:26:ILE:HD12	1.99	0.43
9:QL:17:VAL:HG21	9:QL:80:GLY:HA3	2.01	0.43
7:QG:153:HIS:NE2	11:QK:57:THR:OG1	2.43	0.43
14:QN:32:SER:O	14:QN:32:SER:OG	2.33	0.43
17:QQ:48:GLU:HB2	17:QQ:50:LYS:HB3	2.00	0.43
25:RA:1796:U:H2'	25:RA:1797:C:C6	2.53	0.43
25:RA:1826:G:H2'	25:RA:1827:C:H6	1.83	0.43
25:RA:1266:G:O2'	25:RA:2012:G:O6	2.30	0.43
25:RA:2087:G:H2'	25:RA:2088:G:C8	2.54	0.43
25:RA:2588:G:H2'	25:RA:2589:A:C8	2.53	0.43
25:RA:503:A:H4'	25:RA:505:A:H5''	2.01	0.43
25:RA:578:A:OP1	25:RA:1255:U:O2'	2.29	0.43
25:RA:2222:G:H5''	27:RD:186:HIS:CD2	2.54	0.43
27:RD:142:VAL:HG23	27:RD:193:VAL:HA	2.00	0.43
27:RD:20:ASP:OD1	27:RD:20:ASP:N	2.50	0.43
31:RH:9:ILE:HG12	31:RH:69:ARG:HH11	1.83	0.43
38:RS:62:LYS:HD2	38:RS:62:LYS:HA	1.65	0.43
38:RS:7:TYR:O	38:RS:11:LYS:N	2.47	0.43
41:RV:50:PRO:HB2	41:RV:51:VAL:HG23	1.99	0.43
1:XA:1523:G:H2'	1:XA:1524:C:C6	2.54	0.43
1:XA:1524:C:H2'	1:XA:1525:G:H8	1.84	0.43
1:XA:189(C):C:H2'	1:XA:189(D):C:H6	1.83	0.43
1:XA:582:U:H2'	1:XA:583:A:C8	2.53	0.43
1:XA:586:C:O3'	8:XH:89:PRO:HB3	2.18	0.43
1:XA:60:A:H4'	1:XA:61:G:O5'	2.19	0.43
11:XK:20:TYR:O	11:XK:30:VAL:HA	2.17	0.43
17:XQ:21:VAL:O	17:XQ:42:TYR:N	2.39	0.43
21:XU:19:GLY:N	21:XU:22:ARG:O	2.38	0.43
25:YA:938:G:OP1	54:Y8:52:LYS:HD2	2.19	0.43
25:YA:1411:C:H2'	25:YA:1412:A:C8	2.53	0.43
25:YA:180:G:N2	25:YA:215:G:O6	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:2327:A:H2'	25:YA:2328:A:C8	2.53	0.43
25:YA:659:C:H2'	25:YA:660:G:C8	2.54	0.43
29:YF:154:VAL:O	29:YF:173:VAL:HA	2.18	0.43
30:YG:161:THR:HG22	30:YG:163:ALA:H	1.84	0.43
35:YP:32:THR:O	35:YP:32:THR:OG1	2.35	0.43
1:QA:1134:G:O6	1:QA:1141:C:N4	2.50	0.43
1:QA:571:U:H5''	1:QA:819:A:C6	2.53	0.43
1:QA:986:A:N3	19:QS:52:TYR:OH	2.49	0.43
12:QL:90:VAL:HG12	12:QL:93:LEU:H	1.83	0.43
48:R2:2:LYS:HB2	48:R2:2:LYS:HE2	1.90	0.43
25:RA:1019:U:OP1	25:RA:1035:U:O2'	2.20	0.43
25:RA:1107:G:H2'	25:RA:1108:U:C6	2.53	0.43
25:RA:1148:A:O2'	25:RA:1149:G:H5'	2.18	0.43
25:RA:1668:A:OP1	34:RO:5:GLN:NE2	2.45	0.43
25:RA:1827:C:C2'	25:RA:1828:G:H5'	2.49	0.43
25:RA:1844:C:O3'	27:RD:258:LYS:NZ	2.35	0.43
25:RA:2291:U:H1'	25:RA:2374:C:H1'	2.00	0.43
25:RA:2579:C:H2'	25:RA:2580:U:O4'	2.18	0.43
26:RB:38:C:H2'	26:RB:39:A:C8	2.54	0.43
29:RF:64:ILE:HG21	29:RF:78:ILE:HG23	2.01	0.43
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	2.00	0.43
1:XA:1439:C:OP1	20:XT:38:LYS:NZ	2.26	0.43
1:XA:1458:G:H2'	1:XA:1459:C:H6	1.84	0.43
1:XA:34:C:H2'	1:XA:35:G:H8	1.84	0.43
1:XA:603:U:H3	1:XA:635:G:H1	1.66	0.43
6:XF:14:LEU:HD23	6:XF:14:LEU:HA	1.82	0.43
22:XV:64:G:H2'	22:XV:65:C:H6	1.82	0.43
25:YA:1366:A:H2'	25:YA:1367:A:O4'	2.19	0.43
25:YA:2108:C:H2'	25:YA:2109:U:H6	1.84	0.43
25:YA:2349:G:OP2	54:Y8:42:ARG:NE	2.41	0.43
25:YA:2357:U:H2'	25:YA:2358:G:H5''	2.01	0.43
25:YA:249:C:O2'	35:YP:64:LYS:NZ	2.42	0.43
25:YA:28:A:H2'	25:YA:29:U:C6	2.54	0.43
25:YA:465:G:H21	25:YA:684:G:H1'	1.84	0.43
25:YA:755:C:H2'	25:YA:756:C:C6	2.53	0.43
25:YA:2511:U:O2'	28:YE:138:PRO:O	2.23	0.43
28:YE:54:GLN:HB3	28:YE:76:ARG:HG2	1.99	0.43
36:YQ:44:ALA:HB2	36:YQ:70:PRO:HG3	2.00	0.43
38:YS:110:LEU:HD13	38:YS:110:LEU:HA	1.91	0.43
1:QA:1202:G:H5''	14:QN:29:ARG:NH2	2.34	0.43
1:QA:1229:A:H2'	1:QA:1230:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:538:G:H2'	1:QA:539:A:C8	2.53	0.43
1:QA:554:C:H2'	1:QA:555:C:C6	2.53	0.43
1:QA:643:C:H2'	1:QA:644:G:H8	1.84	0.43
1:QA:861:G:O2'	1:QA:874:G:O2'	2.23	0.43
4:QD:8:VAL:HA	4:QD:11:LEU:HD13	2.00	0.43
11:QK:19:ALA:N	11:QK:81:ASP:O	2.45	0.43
14:QN:7:ILE:HG21	14:QN:28:GLY:HA2	2.00	0.43
25:RA:787:U:OP1	25:RA:1780:A:N6	2.52	0.43
26:RB:107:G:H5'	45:RZ:31:ARG:HH12	1.84	0.43
29:RF:50:SER:HB2	29:RF:94:PRO:HD3	2.00	0.43
30:RG:64:THR:HG23	30:RG:66:GLN:H	1.83	0.43
32:RI:102:SER:O	32:RI:106:GLY:N	2.52	0.43
37:RR:6:SER:OG	37:RR:6:SER:O	2.37	0.43
25:RA:102:G:H1	44:RY:94:LYS:NZ	2.17	0.43
1:XA:313:A:H2'	1:XA:314:C:C6	2.54	0.43
2:XB:223:ILE:O	2:XB:228:GLY:N	2.52	0.43
2:XB:52:GLU:HB3	2:XB:56:ARG:HH21	1.84	0.43
25:YA:1364:G:N7	47:Y1:3:LYS:HD2	2.33	0.43
25:YA:1019:U:H2'	25:YA:1020:A:C8	2.53	0.43
25:YA:1136:G:H2'	25:YA:1137:G:H8	1.84	0.43
25:YA:2144:U:O2'	25:YA:2147:G:N1	2.43	0.43
25:YA:272(Q):G:H2'	25:YA:272(R):G:C8	2.52	0.43
25:YA:534:U:H2'	25:YA:535:C:C6	2.54	0.43
25:YA:589:C:H2'	25:YA:590:A:C8	2.53	0.43
25:YA:970:C:H2'	25:YA:971:C:C6	2.53	0.43
26:YB:11:C:OP2	26:YB:12:C:N4	2.29	0.43
25:YA:528:A:OP2	33:YN:111:PRO:HB3	2.19	0.43
25:YA:1754:C:P	39:YT:96:ARG:HH22	2.42	0.43
42:YW:86:LEU:HB2	42:YW:96:ILE:HG13	2.01	0.43
1:QA:1014:A:P	1:QA:1014:A:H8	2.41	0.43
1:QA:659:U:H2'	1:QA:660:G:H8	1.84	0.43
1:QA:892:A:H2'	1:QA:893:C:H6	1.83	0.43
3:QC:153:VAL:HG12	3:QC:196:LEU:HD22	2.01	0.43
4:QD:63:LYS:NZ	4:QD:197:PRO:O	2.41	0.43
7:QG:111:ARG:HB2	7:QG:119:ARG:HD2	2.01	0.43
25:RA:1084:A:H8	25:RA:1085:A:H4'	1.84	0.43
25:RA:942:G:H1'	25:RA:1189:A:C2	2.53	0.43
25:RA:2063:C:H2'	25:RA:2064:C:H5'	2.01	0.43
25:RA:742:G:H2'	25:RA:743:G:H8	1.84	0.43
26:RB:20:C:H2'	26:RB:21:G:C8	2.53	0.43
27:RD:21:PHE:HB3	27:RD:24:ILE:HG12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RG:38:VAL:HG13	30:RG:93:THR:HG22	2.01	0.43
36:RQ:42:ILE:HD11	36:RQ:127:ILE:HD11	2.00	0.43
42:RW:29:LEU:HG	42:RW:33:ARG:HD2	2.01	0.43
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.54	0.43
1:XA:1499:A:C1'	1:XA:1520:G:H5'	2.47	0.43
1:XA:610:G:H2'	1:XA:611:A:H8	1.83	0.43
1:XA:749:C:H2'	1:XA:750:G:H8	1.83	0.43
1:XA:969:A:H2'	1:XA:970:C:O4'	2.18	0.43
12:XL:93:LEU:HA	12:XL:94:PRO:HD3	1.79	0.43
25:YA:115:C:O2'	25:YA:116:C:H5'	2.19	0.43
25:YA:1358:G:O2'	25:YA:1359:A:H5''	2.18	0.43
25:YA:140:G:C2	25:YA:142(A):A:N6	2.84	0.43
25:YA:1645:G:H5''	25:YA:1646:C:O4'	2.18	0.43
25:YA:1963:U:H4'	25:YA:1964:G:OP1	2.19	0.43
25:YA:2317:C:C2'	25:YA:2318:G:H5'	2.49	0.43
25:YA:557:U:H2'	25:YA:558:G:C8	2.54	0.43
25:YA:730:C:O2'	25:YA:731:C:H5'	2.19	0.43
25:YA:772:C:O2'	25:YA:773:U:H5'	2.18	0.43
25:YA:93:G:H2'	25:YA:94(A):C:H6	1.83	0.43
1:QA:1154:G:H2'	1:QA:1155:G:H8	1.83	0.43
7:QG:93:PRO:O	7:QG:97:GLN:NE2	2.51	0.43
10:QJ:47:PHE:O	10:QJ:63:PHE:N	2.47	0.43
12:QL:33:ARG:HD2	12:QL:33:ARG:HA	1.81	0.43
20:QT:15:ARG:HA	20:QT:15:ARG:HD3	1.88	0.43
20:QT:51:GLU:HA	20:QT:54:LYS:HG2	2.01	0.43
25:RA:2037:G:H2'	25:RA:2038:G:C8	2.54	0.43
25:RA:2292:C:OP1	38:RS:17:ARG:NH1	2.52	0.43
25:RA:2539:C:H4'	55:R9:35:ARG:NH2	2.34	0.43
25:RA:2620:C:H2'	25:RA:2621:A:O4'	2.19	0.43
25:RA:602:G:N2	25:RA:655:A:OP2	2.46	0.43
28:RE:89:ASP:N	28:RE:89:ASP:OD1	2.41	0.43
30:RG:100:TRP:HA	30:RG:103:LEU:HB2	2.01	0.43
31:RH:46:GLU:HB3	31:RH:49:VAL:HG13	2.00	0.43
47:Y1:52:ARG:HB2	47:Y1:52:ARG:HE	1.59	0.43
25:YA:1386:C:H2'	25:YA:1387:C:H6	1.84	0.43
25:YA:1647:G:P	25:YA:1647:G:H3'	2.59	0.43
25:YA:1778:U:H2'	25:YA:1784:A:H62	1.84	0.43
25:YA:2074:U:H2'	25:YA:2075:U:C6	2.53	0.43
25:YA:2259:G:O2'	25:YA:2260:C:H5'	2.18	0.43
25:YA:2378:A:H4'	38:YS:23:ARG:CZ	2.49	0.43
25:YA:2705:A:H2'	25:YA:2706:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YA:272(S):G:O2'	25:YA:272(T):C:H5'	2.19	0.43
25:YA:2836:U:H2'	25:YA:2837:G:C8	2.54	0.43
34:YO:75:SER:OG	34:YO:76:ALA:N	2.51	0.43
35:YP:120:ALA:HB2	35:YP:137:LYS:HG3	2.00	0.43
45:YZ:123:ASP:N	45:YZ:123:ASP:OD1	2.51	0.43
1:QA:1250:A:H2'	1:QA:1251:A:C8	2.54	0.42
1:QA:1409:C:H2'	1:QA:1410:G:H8	1.84	0.42
1:QA:1445:C:O2'	1:QA:1447:A:N6	2.41	0.42
1:QA:310:G:H2'	1:QA:311:C:C6	2.54	0.42
1:QA:562:C:H4'	1:QA:563:A:H5'	2.01	0.42
1:QA:73:G:H2'	1:QA:76:C:H6	1.84	0.42
1:QA:782:A:O3'	1:QA:1515:C:H4'	2.19	0.42
1:QA:860:A:H2'	1:QA:861:G:O4'	2.18	0.42
4:QD:139:ARG:HH21	4:QD:141:ARG:HH22	1.67	0.42
7:QG:53:LYS:HD2	7:QG:53:LYS:HA	1.93	0.42
20:QT:50:GLU:HG3	20:QT:100:ILE:HD13	2.00	0.42
46:R0:32:ARG:N	46:R0:35:ASN:OD1	2.44	0.42
48:R2:2:LYS:NZ	48:R2:5:GLU:OE1	2.46	0.42
50:R4:16:CYS:HB3	50:R4:19:GLY:H	1.83	0.42
25:RA:1342:A:H5'	43:RX:55:ASN:ND2	2.34	0.42
25:RA:150:C:H2'	25:RA:151:C:H6	1.83	0.42
25:RA:175:G:O2'	25:RA:176:G:H5'	2.19	0.42
25:RA:2692:C:H1'	25:RA:2847:U:H1'	2.00	0.42
25:RA:2784:C:O2'	28:RE:37:ARG:NH1	2.52	0.42
25:RA:444:C:H2'	25:RA:445:C:C6	2.54	0.42
25:RA:536:A:H2'	25:RA:537:C:C6	2.54	0.42
25:RA:558:G:H2'	25:RA:559:G:H8	1.84	0.42
38:RS:59:LYS:HD3	38:RS:59:LYS:HA	1.86	0.42
42:RW:11:ARG:HD2	42:RW:11:ARG:HA	1.90	0.42
1:XA:738:C:O2'	1:XA:739:C:H5'	2.19	0.42
1:XA:1148:U:H4'	9:XI:14:VAL:HG21	2.01	0.42
1:XA:1291:G:O2'	9:XI:38:GLN:OE1	2.37	0.42
25:YA:1298:C:H3'	25:YA:1299:G:C8	2.53	0.42
25:YA:1399:C:OP1	43:YX:25:LYS:NZ	2.33	0.42
22:XV:13:C:O2'	25:YA:1924:C:H4'	2.18	0.42
25:YA:1669:A:O3'	25:YA:2549:G:H5'	2.20	0.42
25:YA:2712(A):U:H1'	25:YA:2712(B):A:C8	2.54	0.42
25:YA:578:A:H2'	25:YA:579:G:H5''	2.01	0.42
29:YF:12:LEU:HB2	29:YF:126:VAL:HG12	2.01	0.42
37:YR:65:LEU:HD23	37:YR:65:LEU:HA	1.86	0.42
45:YZ:27:VAL:O	45:YZ:88:PHE:HB2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.54	0.42
1:QA:1393:U:O2'	1:QA:1501:C:O2'	2.20	0.42
1:QA:291:C:O2'	1:QA:292:G:H5'	2.18	0.42
1:QA:689:C:H2'	1:QA:690:G:O4'	2.19	0.42
1:QA:73:G:H2'	1:QA:76:C:C6	2.54	0.42
9:QI:20:ARG:HA	9:QI:21:PRO:HD3	1.85	0.42
22:QV:62:C:H2'	22:QV:63:G:H8	1.84	0.42
53:R7:22:MET:HA	53:R7:28:ARG:HG2	2.00	0.42
53:R7:30:VAL:HG22	53:R7:33:ARG:HH21	1.84	0.42
25:RA:1366:A:H2'	25:RA:1367:A:O4'	2.19	0.42
25:RA:1878:G:H2'	25:RA:1879:C:C6	2.55	0.42
25:RA:1890:A:H3'	25:RA:1891:G:H8	1.84	0.42
25:RA:2115:G:N1	25:RA:2119:A:OP2	2.44	0.42
25:RA:2839:G:H2'	25:RA:2840:C:H6	1.83	0.42
25:RA:686:G:O5'	53:R7:11:LYS:NZ	2.45	0.42
25:RA:77:C:P	48:R2:59:ARG:HH11	2.42	0.42
27:RD:85:ASP:OD2	27:RD:88:ARG:NH1	2.51	0.42
32:RI:4:ILE:HD11	32:RI:16:GLY:HA2	2.01	0.42
35:RP:50:ARG:HG3	54:R8:61:LEU:HD21	2.02	0.42
36:RQ:42:ILE:O	36:RQ:95:ALA:N	2.47	0.42
41:RV:1:MET:HB3	41:RV:99:ILE:HD12	2.00	0.42
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.54	0.42
1:XA:286:G:H2'	1:XA:287:U:C6	2.54	0.42
1:XA:777:A:H2'	1:XA:778:G:H8	1.85	0.42
4:XD:21:LEU:O	4:XD:113:SER:HB2	2.19	0.42
5:XE:11:ILE:HD12	5:XE:105:VAL:HG13	2.01	0.42
7:XG:6:ARG:HG3	7:XG:6:ARG:H	1.69	0.42
25:YA:1197:G:O2'	25:YA:1198:U:H5'	2.19	0.42
25:YA:1843:C:O2'	25:YA:1844:C:H5'	2.20	0.42
25:YA:2197:U:H1'	25:YA:2198:A:C8	2.53	0.42
25:YA:2251:OMG:HM23	25:YA:2251:OMG:H1'	1.76	0.42
25:YA:2400:G:N2	25:YA:2417:C:N3	2.67	0.42
25:YA:595:C:H2'	25:YA:596:G:C8	2.54	0.42
33:YN:89:LYS:O	33:YN:93:THR:OG1	2.30	0.42
38:YS:25:ARG:HA	38:YS:86:ALA:O	2.19	0.42
1:QA:1130:A:O2'	9:QI:3:GLN:OE1	2.36	0.42
1:QA:129(B):G:N2	1:QA:189(G):U:H5''	2.34	0.42
1:QA:260:G:H2'	1:QA:261:U:C6	2.54	0.42
1:QA:315:A:O2'	1:QA:330:C:O2'	2.20	0.42
1:QA:370:C:H2'	1:QA:371:G:H8	1.83	0.42
3:QC:43:LEU:O	3:QC:46:GLU:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:55:VAL:HG12	3:QC:68:VAL:HG22	2.01	0.42
5:QE:139:LEU:HD23	5:QE:142:LEU:HD13	2.01	0.42
7:QG:78:ARG:HG2	7:QG:80:VAL:HG13	2.01	0.42
10:QJ:46:ARG:HA	10:QJ:64:GLU:HA	2.01	0.42
13:QM:47:ASP:N	13:QM:47:ASP:OD1	2.51	0.42
47:R1:3:LYS:HA	47:R1:3:LYS:HD2	1.79	0.42
25:RA:1203:G:H1	25:RA:1241:A:P	2.41	0.42
25:RA:1252:G:H21	40:RU:33:ARG:HH21	1.67	0.42
25:RA:1380:G:O5'	25:RA:1380:G:C8	2.72	0.42
25:RA:1843:C:H2'	25:RA:1844:C:C6	2.54	0.42
25:RA:2299:G:H2'	25:RA:2300:G:H8	1.85	0.42
25:RA:2750:A:OP2	31:RH:62:LYS:NZ	2.50	0.42
25:RA:2881:C:H2'	25:RA:2882:A:H8	1.84	0.42
25:RA:947:G:H2'	25:RA:948:G:H8	1.84	0.42
28:RE:104:VAL:HG22	28:RE:198:VAL:HG22	2.02	0.42
1:XA:1357:A:H61	1:XA:1365:G:H1	1.68	0.42
1:XA:785:G:O2'	1:XA:786:G:H5'	2.19	0.42
1:XA:986:A:N3	19:XS:52:TYR:OH	2.46	0.42
12:XL:21:LYS:HD2	12:XL:21:LYS:HA	1.89	0.42
22:XV:71:C:H2'	22:XV:72:A:C8	2.55	0.42
25:YA:1060:U:H4'	25:YA:1070:A:N6	2.35	0.42
25:YA:116:C:O2'	25:YA:126:A:H1'	2.19	0.42
25:YA:1231:G:H2'	25:YA:1232:G:H8	1.83	0.42
25:YA:2400:G:H2'	25:YA:2401:U:C6	2.54	0.42
25:YA:2547:U:O2	34:YO:23:ARG:NH2	2.51	0.42
25:YA:568:U:O4	25:YA:973:A:OP2	2.38	0.42
25:YA:582:G:H2'	25:YA:583:G:C8	2.54	0.42
27:YD:17:THR:OG1	27:YD:205:VAL:N	2.51	0.42
32:YI:74:ASN:N	32:YI:74:ASN:OD1	2.47	0.42
25:YA:2012:G:O3'	42:YW:96:ILE:HG23	2.19	0.42
1:QA:1097:C:O2'	1:QA:1169:A:N3	2.45	0.42
1:QA:1288:A:H2'	1:QA:1289:A:C8	2.53	0.42
1:QA:227:G:H2'	1:QA:228:A:H8	1.83	0.42
1:QA:59:A:H2	1:QA:330:C:H42	1.66	0.42
1:QA:576:G:H3'	1:QA:577:G:H5''	2.01	0.42
1:QA:741:G:H2'	1:QA:742:G:C8	2.54	0.42
2:QB:106:LYS:HB3	2:QB:106:LYS:HE3	1.88	0.42
2:QB:119:GLU:OE2	2:QB:153:ARG:NH2	2.50	0.42
2:QB:8:LYS:HA	2:QB:8:LYS:HD2	1.92	0.42
3:QC:94:LEU:HB3	3:QC:95:THR:HG23	2.01	0.42
4:QD:84:LYS:HA	4:QD:84:LYS:HD3	1.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:38:ILE:HG13	10:QJ:71:LEU:HB3	2.02	0.42
13:QM:97:PRO:HG3	13:QM:110:ARG:HB3	2.01	0.42
1:QA:1317:C:N4	14:QN:19:ARG:HH21	2.16	0.42
25:RA:1153:C:H2'	25:RA:1154:G:O4'	2.19	0.42
25:RA:1269:A:H2'	25:RA:1270:C:C6	2.55	0.42
25:RA:1292:U:H2'	25:RA:1293:C:C6	2.55	0.42
25:RA:1390:U:O4	25:RA:1395:A:N7	2.52	0.42
25:RA:177:G:H3'	25:RA:178:G:C8	2.55	0.42
25:RA:1806:C:H2'	25:RA:1807:G:C8	2.55	0.42
25:RA:792:G:H21	25:RA:2072:G:H2'	1.84	0.42
25:RA:776:G:N2	25:RA:2241:A:OP1	2.49	0.42
25:RA:799:G:C8	25:RA:800:A:H2'	2.54	0.42
33:RN:47:ALA:HB2	33:RN:112:LEU:HD11	2.01	0.42
33:RN:43:THR:OG1	33:RN:48:MET:SD	2.70	0.42
37:RR:73:VAL:HA	37:RR:76:VAL:HG22	2.00	0.42
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.41	0.42
1:XA:1309:G:OP2	13:XM:99:ARG:NH2	2.52	0.42
1:XA:1410:G:H2'	1:XA:1411:C:C6	2.54	0.42
1:XA:673:G:H2'	1:XA:674:G:H8	1.83	0.42
1:XA:677:U:H2'	1:XA:678:U:H6	1.85	0.42
1:XA:688:G:H2'	1:XA:689:C:H6	1.83	0.42
1:XA:985:C:H2'	1:XA:986:A:C8	2.55	0.42
4:XD:18:LYS:HG3	4:XD:33:MET:HB2	2.01	0.42
8:XH:100:ILE:HD12	8:XH:125:ARG:HG3	2.01	0.42
9:XI:9:ARG:HB3	9:XI:104:ARG:HH21	1.83	0.42
10:XJ:47:PHE:N	10:XJ:63:PHE:O	2.46	0.42
48:Y2:53:LEU:O	48:Y2:57:ILE:HG13	2.19	0.42
25:YA:2884:U:C4	51:Y5:52:TYR:HE1	2.37	0.42
25:YA:529:A:H62	25:YA:2041:U:H3	1.67	0.42
25:YA:2726:U:O2'	25:YA:2727:G:O5'	2.33	0.42
25:YA:487:C:H1'	42:YW:53:SER:HA	2.01	0.42
26:YB:70:C:H2'	26:YB:71:C:H6	1.84	0.42
26:YB:9:G:OP1	38:YS:25:ARG:NH1	2.40	0.42
31:YH:64:LEU:HD23	31:YH:64:LEU:HA	1.85	0.42
1:QA:426:G:OP1	4:QD:38:TYR:OH	2.32	0.42
1:QA:438:G:O2'	1:QA:493:G:N2	2.53	0.42
1:QA:641:U:O4'	8:QH:115:SER:OG	2.35	0.42
1:QA:708:C:H2'	1:QA:709:G:H8	1.84	0.42
2:QB:172:ILE:HA	2:QB:175:ARG:HB2	2.01	0.42
2:QB:187:LEU:HA	2:QB:201:ILE:HB	2.01	0.42
12:QL:111:LYS:HD3	12:QL:111:LYS:HA	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:77:LEU:HD21	12:QL:107:ALA:HB1	2.01	0.42
25:RA:1416:G:O2'	25:RA:1417:C:OP2	2.36	0.42
25:RA:121:G:H4'	25:RA:149:A:H5'	2.01	0.42
25:RA:2552:OMU:N3	25:RA:2554:U:H5''	2.35	0.42
25:RA:2001:A:H4'	25:RA:2689:U:C6	2.54	0.42
25:RA:12:U:O4	25:RA:526:A:N7	2.52	0.42
25:RA:935:C:H2'	25:RA:936:C:H6	1.84	0.42
26:RB:74:U:H2'	26:RB:75:G:C8	2.55	0.42
25:RA:30:G:P	40:RU:5:LYS:HZ1	2.41	0.42
1:XA:1030(A):C:H42	1:XA:1031:G:H1	1.67	0.42
1:XA:473:G:H2'	1:XA:474:G:H8	1.84	0.42
1:XA:948:C:OP1	13:XM:109:THR:HG22	2.19	0.42
1:XA:1117:G:H4'	9:XI:104:ARG:NH1	2.35	0.42
15:XO:47:LYS:HB2	15:XO:47:LYS:HE2	1.81	0.42
19:XS:13:ASP:N	19:XS:13:ASP:OD1	2.52	0.42
25:YA:106:C:H2'	25:YA:107:C:H6	1.84	0.42
25:YA:1196:C:O2'	25:YA:1227:G:O2'	2.19	0.42
25:YA:1598:C:H2'	25:YA:1599:C:H6	1.85	0.42
25:YA:2773:C:H2'	25:YA:2774:C:H6	1.85	0.42
25:YA:469:G:O6	53:Y7:37:LYS:NZ	2.34	0.42
25:YA:568:U:N3	25:YA:571:A:OP2	2.47	0.42
33:YN:102:ALA:O	33:YN:106:MET:HG3	2.19	0.42
34:YO:44:LYS:HD2	34:YO:44:LYS:HA	1.91	0.42
1:QA:1344:C:H5'	9:QI:120:ARG:O	2.19	0.42
1:QA:1489:G:H2'	1:QA:1490:C:O4'	2.20	0.42
1:QA:243:A:H4'	1:QA:244:U:H3'	2.00	0.42
1:QA:581:G:N2	1:QA:582:U:O4	2.52	0.42
1:QA:584:G:H1	1:QA:757:U:H3	1.66	0.42
9:QI:8:GLY:HA2	9:QI:79:LEU:HD22	2.02	0.42
17:QQ:9:VAL:HG13	17:QQ:22:LEU:HB3	2.02	0.42
25:RA:1336:A:H2'	25:RA:1337:G:H8	1.84	0.42
25:RA:1826:G:H2'	25:RA:1827:C:C6	2.54	0.42
25:RA:1927:A:H2'	25:RA:1928:A:C8	2.54	0.42
25:RA:2061:G:H5''	25:RA:2503:2MA:C2	2.50	0.42
25:RA:232:G:N2	25:RA:420:C:OP1	2.50	0.42
25:RA:455:C:N3	25:RA:473:G:H5'	2.35	0.42
33:RN:24:GLY:O	33:RN:27:ALA:N	2.48	0.42
33:RN:36:GLY:HA2	33:RN:38:HIS:CE1	2.54	0.42
1:XA:22:G:O2'	1:XA:23:C:H5'	2.20	0.42
1:XA:406:G:N3	4:XD:119:GLN:NE2	2.63	0.42
5:XE:12:LEU:HA	5:XE:12:LEU:HD12	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:XO:4:THR:OG1	15:XO:5:LYS:N	2.52	0.42
54:Y8:33:ASN:OD1	54:Y8:36:LYS:NZ	2.36	0.42
25:YA:1297:C:O2'	25:YA:1302:A:N1	2.48	0.42
25:YA:1799:G:N7	27:YD:179:SER:OG	2.50	0.42
25:YA:2437:U:H2'	25:YA:2438:U:C6	2.55	0.42
25:YA:567:A:H2'	25:YA:568:U:O5'	2.19	0.42
25:YA:856:C:HO2'	25:YA:857:C:P	2.39	0.42
25:YA:820:A:C2	25:YA:943:U:H4'	2.54	0.42
27:YD:70:TRP:CE2	27:YD:150:LYS:HE3	2.53	0.42
29:YF:101:LEU:HA	29:YF:102:PRO:HD3	1.88	0.42
34:YO:97:ARG:HA	34:YO:117:LEU:HD13	2.01	0.42
38:YS:35:ILE:HG13	38:YS:97:ARG:HH21	1.83	0.42
1:QA:689:C:H2'	1:QA:690:G:C8	2.54	0.42
3:QC:115:LEU:O	3:QC:119:ARG:N	2.52	0.42
3:QC:84:ILE:HD12	3:QC:87:LEU:HD12	2.02	0.42
4:QD:59:ARG:O	4:QD:63:LYS:N	2.49	0.42
25:RA:1101:U:H2'	25:RA:1102:C:O4'	2.18	0.42
25:RA:1297:C:H2'	25:RA:1298:C:H6	1.84	0.42
25:RA:1451:C:H5'	25:RA:1452:A:H5'	2.01	0.42
25:RA:1785:A:O2'	25:RA:1786:A:H5'	2.19	0.42
25:RA:2398:U:H2'	25:RA:2399:G:H8	1.85	0.42
25:RA:2412:A:H2'	25:RA:2413:G:O4'	2.19	0.42
25:RA:319:C:OP2	29:RF:137:LYS:NZ	2.26	0.42
30:RG:120:LEU:HB2	30:RG:180:PHE:HD1	1.84	0.42
25:RA:2749:A:OP1	31:RH:3:ARG:NH1	2.53	0.42
36:RQ:31:ASP:OD2	36:RQ:133:ARG:NH1	2.52	0.42
36:RQ:52:VAL:HA	36:RQ:55:VAL:HG22	2.01	0.42
40:RU:82:GLY:O	40:RU:85:LYS:N	2.52	0.42
1:XA:1250:A:H4'	9:XI:68:GLY:N	2.35	0.42
1:XA:160:A:H2'	1:XA:161:A:C8	2.54	0.42
1:XA:868:C:H2'	1:XA:869:G:O4'	2.20	0.42
1:XA:490:G:OP2	4:XD:132:ARG:NH2	2.53	0.42
8:XH:134:ILE:HG22	8:XH:135:CYS:HB3	2.01	0.42
20:XT:29:LYS:HD3	20:XT:71:THR:HG21	2.02	0.42
47:Y1:5:CYS:SG	47:Y1:8:SER:OG	2.66	0.42
25:YA:1065:U:H1'	25:YA:1066:U:O5'	2.20	0.42
25:YA:1066:U:O2'	25:YA:1067:A:O5'	2.37	0.42
25:YA:30:G:H2'	25:YA:31:C:C6	2.54	0.42
25:YA:673:C:O2'	25:YA:674:G:H5'	2.20	0.42
25:YA:961:C:H6	25:YA:961:C:H2'	1.63	0.42
26:YB:112:U:H2'	26:YB:113:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:47:GLU:CD	31:YH:47:GLU:N	2.71	0.42
1:QA:1039:C:H2'	1:QA:1040:U:C6	2.54	0.42
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.55	0.42
1:QA:1506:U:N3	1:QA:1522:U:OP1	2.51	0.42
1:QA:18:C:OP1	5:QE:127:ASN:ND2	2.53	0.42
1:QA:457:C:N4	1:QA:475:G:O6	2.53	0.42
1:QA:801:U:H2'	1:QA:802:A:H8	1.85	0.42
8:QH:9:MET:HE1	8:QH:32:LYS:HB3	2.01	0.42
13:QM:99:ARG:N	13:QM:101:GLN:OE1	2.52	0.42
25:RA:1257:C:H4'	29:RF:83:PHE:CD2	2.55	0.42
25:RA:1539:G:H2'	25:RA:1540:U:C6	2.55	0.42
25:RA:1820:U:H4'	25:RA:1821:A:OP2	2.20	0.42
25:RA:2041:U:H2'	25:RA:2042:A:C8	2.54	0.42
25:RA:2051:A:H5'	25:RA:2578:G:O4'	2.19	0.42
25:RA:2623:G:H4'	25:RA:2825:C:O2	2.20	0.42
25:RA:2850:A:N7	25:RA:2868:A:O2'	2.37	0.42
25:RA:523:C:H4'	25:RA:540:C:O2	2.19	0.42
25:RA:690:G:H2'	25:RA:691:C:C6	2.55	0.42
25:RA:797:C:H2'	25:RA:798:G:C8	2.55	0.42
27:RD:13:ARG:HA	27:RD:13:ARG:HD3	1.80	0.42
32:RI:78:THR:HG22	32:RI:141:LYS:HD2	2.02	0.42
34:RO:25:LEU:HD23	34:RO:25:LEU:HA	1.84	0.42
1:XA:1004:A:H5''	1:XA:1025:U:C4	2.55	0.42
1:XA:1065:U:O2'	1:XA:1066:C:OP2	2.28	0.42
1:XA:28:G:H2'	1:XA:29:G:H8	1.84	0.42
1:XA:37:U:H2'	1:XA:38:G:H8	1.85	0.42
5:XE:31:LEU:HD22	5:XE:43:LEU:HD11	2.01	0.42
25:YA:1181:C:H2'	25:YA:1182:A:C8	2.54	0.42
25:YA:1813:G:H2'	25:YA:1814:G:H5'	2.02	0.42
25:YA:2163:C:OP1	25:YA:2172:U:H2'	2.20	0.42
25:YA:2329:G:H2'	25:YA:2330:G:C8	2.54	0.42
25:YA:2648:C:H2'	25:YA:2649:U:C6	2.54	0.42
25:YA:2820:A:OP2	25:YA:2821:A:N6	2.46	0.42
25:YA:2863:C:H2'	25:YA:2864:G:C8	2.55	0.42
25:YA:303:U:H2'	25:YA:304:G:H8	1.85	0.42
1:QA:999:C:H42	1:QA:1042:G:H1	1.68	0.42
1:QA:555:C:H2'	1:QA:556:C:C6	2.55	0.42
2:QB:60:ASP:HB3	2:QB:64:ARG:NH1	2.35	0.42
6:QF:28:ARG:O	6:QF:32:ASN:N	2.36	0.42
14:QN:39:LEU:HD22	14:QN:43:CYS:HB3	2.02	0.42
55:R9:3:VAL:HG11	55:R9:35:ARG:HH21	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1665:A:H4'	34:RO:67:LYS:HB2	2.02	0.42
25:RA:2134:A:O4'	25:RA:2156:G:N2	2.53	0.42
25:RA:2642:G:H5'	33:RN:78:TYR:CD2	2.55	0.42
25:RA:957:A:N6	25:RA:959:A:N1	2.67	0.42
28:RE:3:GLY:HA3	28:RE:81:ILE:HD13	2.01	0.42
30:RG:121:ASN:N	30:RG:181:ARG:HH21	2.18	0.42
33:RN:102:ALA:O	33:RN:106:MET:HG3	2.19	0.42
34:RO:17:ARG:HD3	34:RO:17:ARG:HA	1.82	0.42
40:RU:80:ILE:O	40:RU:84:LYS:N	2.41	0.42
25:RA:996:A:O3'	40:RU:91:ASP:HB2	2.20	0.42
1:XA:476:G:H2'	1:XA:477:A:H8	1.84	0.42
1:XA:776:G:H22	1:XA:802:A:P	2.43	0.42
4:XD:188:LEU:HA	4:XD:189:PRO:HD3	1.84	0.42
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.52	0.42
11:XK:18:ARG:HG3	11:XK:35:PRO:HA	2.01	0.42
1:XA:472:A:H4'	16:XP:80:PHE:O	2.19	0.42
22:XV:9:G:N2	22:XV:45:G:N7	2.68	0.42
25:YA:1814:G:OP2	25:YA:1815:A:O2'	2.18	0.42
25:YA:1935:G:O2'	25:YA:1936:A:H5''	2.19	0.42
25:YA:195:A:H61	25:YA:198:C:H3'	1.85	0.42
25:YA:1660:C:H42	25:YA:2000:G:H1	1.68	0.42
25:YA:2019:A:H8	25:YA:2019:A:O5'	2.03	0.42
25:YA:2589:A:N1	25:YA:2606:C:N4	2.68	0.42
25:YA:358:U:H2'	25:YA:359:A:C8	2.54	0.42
26:YB:42:C:H2'	30:YG:66:GLN:HE21	1.84	0.42
32:YI:120:ILE:HA	32:YI:120:ILE:HD12	1.95	0.42
1:QA:1031:G:H2'	1:QA:1032:G:C8	2.55	0.42
1:QA:1189:C:OP1	10:QJ:51:ARG:NH1	2.46	0.42
1:QA:1263:C:H2'	1:QA:1264:C:C6	2.55	0.42
1:QA:142:G:H2'	1:QA:143:A:C8	2.55	0.42
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.53	0.42
1:QA:272:C:H2'	1:QA:273:A:C8	2.55	0.42
1:QA:632:A:H5'	1:QA:633:G:OP2	2.20	0.42
1:QA:756:C:H2'	1:QA:757:U:C6	2.55	0.42
1:QA:876:G:O5'	8:QH:14:ARG:NH1	2.53	0.42
1:QA:923:A:H5'	5:QE:21:ALA:HB2	2.02	0.42
7:QG:15:ASP:OD1	7:QG:19:GLY:N	2.53	0.42
14:QN:39:LEU:HD23	14:QN:39:LEU:HA	1.83	0.42
49:R3:12:PRO:HB2	49:R3:20:LYS:HG2	2.02	0.42
25:RA:118:A:OP2	25:RA:119:A:H5''	2.20	0.42
25:RA:1466:G:H2'	25:RA:1547:C:H41	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1788:C:H2'	25:RA:1789:A:C8	2.54	0.42
25:RA:2315:G:H2'	25:RA:2316:C:C6	2.55	0.42
25:RA:2648:C:O2'	25:RA:2649:U:H5'	2.20	0.42
25:RA:254:G:H4'	25:RA:384:U:H5'	2.01	0.42
25:RA:839:U:H2'	25:RA:840:C:C6	2.55	0.42
26:RB:4:C:H2'	26:RB:5:C:C6	2.55	0.42
32:RI:128:LEU:N	32:RI:138:ILE:O	2.34	0.42
33:RN:82:LEU:HD12	33:RN:82:LEU:HA	1.86	0.42
38:RS:29:PHE:HB3	38:RS:36:TYR:HB2	2.02	0.42
43:RX:23:GLU:HG2	43:RX:23:GLU:H	1.69	0.42
1:XA:1308:U:OP1	13:XM:98:VAL:HG12	2.20	0.42
1:XA:23:C:OP2	1:XA:561:U:N3	2.44	0.42
1:XA:258:G:H2'	1:XA:259:G:H8	1.84	0.42
1:XA:584:G:H2'	1:XA:585:G:C8	2.55	0.42
1:XA:952:U:H2'	1:XA:953:G:H8	1.83	0.42
4:XD:8:VAL:CG1	4:XD:115:ARG:NH1	2.83	0.42
4:XD:26:CYS:HA	58:XD:302:SF4:S2	2.60	0.42
49:Y3:11:SER:O	49:Y3:15:TYR:CE1	2.73	0.42
52:Y6:23:THR:HG22	52:Y6:24:GLU:H	1.85	0.42
25:YA:1085:A:OP2	25:YA:1085:A:H8	2.03	0.42
25:YA:2637:U:O2'	25:YA:2638:G:H5'	2.19	0.42
25:YA:572:A:H2'	25:YA:573:G:O4'	2.19	0.42
25:YA:745:G:O6	25:YA:746:A:N6	2.53	0.42
25:YA:973:A:HO2'	25:YA:974:G:C5'	2.30	0.42
25:YA:1971:A:N3	27:YD:241:PRO:HD3	2.35	0.42
30:YG:26:GLN:HG3	30:YG:26:GLN:H	1.65	0.42
32:YI:40:THR:HG22	32:YI:42:SER:H	1.84	0.42
1:QA:56:U:H4'	32:YI:82:ARG:NH1	2.35	0.42
25:YA:831:G:N2	35:YP:53:GLY:O	2.47	0.42
38:YS:63:THR:OG1	38:YS:64:GLU:N	2.53	0.42
1:QA:1118:C:H1'	1:QA:1179:A:C5	2.55	0.41
1:QA:1301:U:OP2	1:QA:1303:C:N4	2.53	0.41
2:QB:60:ASP:HB3	2:QB:64:ARG:HH12	1.84	0.41
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.41
4:QD:6:GLY:HA3	4:QD:7:PRO:HD3	1.74	0.41
11:QK:41:THR:HG21	11:QK:71:LYS:HD3	2.01	0.41
7:QG:149:ARG:HD3	11:QK:59:TYR:CZ	2.54	0.41
13:QM:92:HIS:CE1	13:QM:98:VAL:HG21	2.54	0.41
48:R2:1:MET:N	48:R2:52:ASP:OD2	2.52	0.41
25:RA:1105:U:H2'	25:RA:1106:G:H8	1.85	0.41
25:RA:144:C:H2'	25:RA:145:G:C8	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:1599:C:O2'	25:RA:1600:C:H5'	2.20	0.41
25:RA:2745:C:H2'	25:RA:2746:U:C6	2.55	0.41
25:RA:39:C:H2'	25:RA:40:C:C6	2.54	0.41
25:RA:437:G:H2'	25:RA:438:G:H8	1.85	0.41
25:RA:810:U:H2'	35:RP:29:LYS:HA	2.02	0.41
29:RF:93:LYS:HA	29:RF:93:LYS:HD3	1.81	0.41
34:RO:101:PRO:HG3	39:RT:67:SER:HB3	2.01	0.41
36:RQ:32:TYR:OH	36:RQ:111:GLU:OE2	2.34	0.41
36:RQ:43:THR:OG1	36:RQ:46:GLN:N	2.44	0.41
1:XA:156:G:H2'	1:XA:157:G:H8	1.85	0.41
1:XA:262:A:H2'	1:XA:263:A:C8	2.55	0.41
1:XA:486:U:H2'	1:XA:487:A:C8	2.54	0.41
1:XA:524:G:H2'	1:XA:525:C:C6	2.55	0.41
1:XA:711:G:O2'	1:XA:712:A:H5'	2.20	0.41
1:XA:877:C:OP1	8:XH:88:LYS:NZ	2.44	0.41
1:XA:892:A:H2'	1:XA:893:C:C6	2.55	0.41
1:XA:96:U:H2'	1:XA:97:G:H8	1.85	0.41
2:XB:18:GLY:H	2:XB:42:ILE:HG23	1.85	0.41
3:XC:50:ALA:HA	3:XC:72:LYS:HD2	2.01	0.41
8:XH:69:ARG:NH2	8:XH:75:ARG:O	2.47	0.41
25:YA:1044:G:H21	25:YA:1111:A:H2	1.68	0.41
25:YA:118:A:H1'	25:YA:178:G:O4'	2.20	0.41
25:YA:1548:C:H2'	25:YA:1549:C:C6	2.55	0.41
25:YA:1683:C:H2'	25:YA:1684:C:C6	2.55	0.41
25:YA:2015:A:H8	25:YA:2015:A:O5'	2.03	0.41
25:YA:2081:C:H2'	25:YA:2082:A:H8	1.84	0.41
25:YA:2523:G:C2'	25:YA:2524:G:H5'	2.50	0.41
25:YA:2561:A:H2'	25:YA:2562:U:O4'	2.20	0.41
25:YA:2572:A:H2'	28:YE:144:ARG:HD3	2.01	0.41
25:YA:373:U:H1'	25:YA:423:A:N3	2.35	0.41
25:YA:796:C:H2'	25:YA:797:C:H6	1.85	0.41
25:YA:936:C:O2'	25:YA:937:U:H5'	2.20	0.41
30:YG:142:PRO:HB2	50:Y4:31:ILE:HG21	2.01	0.41
31:YH:144:VAL:O	31:YH:148:ILE:HG12	2.20	0.41
34:YO:11:ALA:O	34:YO:99:PHE:N	2.38	0.41
38:YS:44:LYS:HB3	38:YS:44:LYS:HE2	1.99	0.41
38:YS:76:LYS:HE2	38:YS:76:LYS:HB3	1.89	0.41
39:YT:107:ASP:HA	39:YT:110:ILE:HD12	2.01	0.41
25:YA:1753:G:OP1	39:YT:95:ARG:HD3	2.20	0.41
1:QA:1005:A:N6	1:QA:1025:U:O2'	2.53	0.41
1:QA:1309:G:H4'	13:QM:74:VAL:HG23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1400:5MC:H2'	1:QA:1400:5MC:H6	1.73	0.41
1:QA:339:C:H2'	1:QA:340:U:H6	1.85	0.41
1:QA:375:U:O3'	16:QP:6:LEU:HB2	2.20	0.41
1:QA:632:A:H3'	1:QA:633:G:C8	2.52	0.41
3:QC:78:GLY:HA3	3:QC:83:ARG:H	1.84	0.41
6:QF:45:LEU:HD11	6:QF:57:GLN:HB3	2.02	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.51	0.41
1:QA:797:C:OP1	11:QK:124:LYS:HD3	2.20	0.41
14:QN:42:ILE:O	14:QN:46:GLU:N	2.49	0.41
17:QQ:66:SER:OG	17:QQ:67:LYS:N	2.53	0.41
24:QY:40:C:H2'	24:QY:41:G:C8	2.55	0.41
50:R4:18:CYS:CB	50:R4:39:CYS:SG	2.84	0.41
25:RA:528:A:N7	25:RA:2043:C:H4'	2.35	0.41
25:RA:2117:A:O3'	25:RA:2147:G:O2'	2.36	0.41
25:RA:2623:G:H2'	25:RA:2624:G:H8	1.84	0.41
30:RG:174:GLU:HA	30:RG:178:PHE:H	1.85	0.41
31:RH:5:GLY:C	31:RH:69:ARG:HE	2.24	0.41
39:RT:110:ILE:O	39:RT:113:LYS:N	2.52	0.41
43:RX:50:LYS:O	43:RX:84:ALA:N	2.52	0.41
43:RX:90:GLU:HA	43:RX:93:GLU:HB2	2.02	0.41
45:RZ:63:ASP:OD1	45:RZ:63:ASP:N	2.53	0.41
1:XA:1118:C:H2'	1:XA:1119:C:H6	1.86	0.41
1:XA:1183:A:O2'	1:XA:1184:G:OP1	2.29	0.41
1:XA:578:C:H2'	1:XA:579:G:H8	1.85	0.41
1:XA:883:C:N4	1:XA:884:U:O4	2.53	0.41
1:XA:740:U:OP1	15:XO:2:PRO:HA	2.19	0.41
20:XT:34:LYS:HG2	20:XT:80:ARG:HH12	1.85	0.41
25:YA:11:G:H2'	25:YA:11:G:N3	2.34	0.41
25:YA:1203:G:H5'	35:YP:3:LEU:HD12	2.01	0.41
25:YA:140:G:N2	25:YA:1596:A:H4'	2.36	0.41
25:YA:1417:C:H2'	25:YA:1418:G:O4'	2.20	0.41
25:YA:1588:C:H2'	25:YA:1589:C:H6	1.85	0.41
25:YA:1645:G:H5''	25:YA:1646:C:H5'	2.02	0.41
25:YA:1843:C:H2'	25:YA:1844:C:H6	1.85	0.41
25:YA:2321:G:N3	25:YA:2321:G:H2'	2.35	0.41
25:YA:2531:A:H2'	25:YA:2532:G:H8	1.85	0.41
25:YA:879:G:H2'	25:YA:880:G:H8	1.84	0.41
37:YR:98:LEU:HA	37:YR:98:LEU:HD23	1.75	0.41
1:QA:994:A:H61	1:QA:1047:G:H4'	1.85	0.41
1:QA:12:U:H3	1:QA:22:G:H1	1.68	0.41
1:QA:602:A:H2'	1:QA:603:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.54	0.41
2:QB:95:GLN:HG3	2:QB:147:LYS:HD2	2.02	0.41
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.83	0.41
25:RA:1474:C:H2'	25:RA:1475:G:C8	2.55	0.41
25:RA:1687:G:O5'	25:RA:1687:G:H8	2.04	0.41
25:RA:1830:C:H2'	25:RA:1831:G:H8	1.85	0.41
25:RA:2271:G:H2'	25:RA:2272:U:C6	2.54	0.41
25:RA:2362:G:H2'	25:RA:2363:C:H5'	2.02	0.41
25:RA:2820:A:OP2	37:RR:2:ARG:NH2	2.54	0.41
25:RA:308:G:P	25:RA:308:G:H8	2.44	0.41
25:RA:394:A:H2'	25:RA:395:U:H5'	2.02	0.41
25:RA:494:G:H2'	25:RA:495:G:H8	1.85	0.41
25:RA:948:G:N2	25:RA:985:C:OP2	2.53	0.41
34:RO:1:MET:HG3	34:RO:67:LYS:HG2	2.02	0.41
38:RS:12:PHE:O	38:RS:16:ASN:ND2	2.53	0.41
38:RS:35:ILE:HD12	38:RS:69:VAL:HG11	2.01	0.41
10:QJ:29:ARG:NH1	1:XA:1164:G:OP1	2.53	0.41
1:XA:425:G:O2'	1:XA:426:G:H5'	2.20	0.41
4:XD:175:SER:HB3	4:XD:186:LEU:HD21	2.03	0.41
8:XH:113:SER:HA	8:XH:118:VAL:HA	2.00	0.41
11:XK:23:ALA:HA	11:XK:28:THR:HG22	2.03	0.41
12:XL:119:LYS:H	12:XL:119:LYS:HG3	1.65	0.41
25:YA:1317:A:H2'	25:YA:1318:C:C6	2.55	0.41
25:YA:1317:A:O2'	25:YA:1318:C:H5'	2.20	0.41
25:YA:1500:G:H2'	25:YA:1501:C:C6	2.54	0.41
25:YA:1916:A:H2'	25:YA:1917:PSU:H6	1.85	0.41
25:YA:534:U:H2'	25:YA:535:C:H6	1.85	0.41
25:YA:674:G:O2'	29:YF:67:GLN:NE2	2.44	0.41
25:YA:825:C:O2'	25:YA:826:U:H5'	2.20	0.41
25:YA:972:G:H8	25:YA:972:G:O5'	2.04	0.41
29:YF:10:PRO:HG2	29:YF:124:LEU:HD13	2.02	0.41
31:YH:97:ARG:NH2	31:YH:104:GLU:OE2	2.53	0.41
32:YI:78:THR:HG22	32:YI:141:LYS:HB2	2.01	0.41
1:QA:1346:A:H5''	9:QI:120:ARG:HH12	1.86	0.41
1:QA:1394:A:N6	1:QA:1500:A:O2'	2.45	0.41
1:QA:360:A:P	1:QA:360:A:H3'	2.61	0.41
1:QA:537:G:H5'	12:QL:113:ARG:NH1	2.34	0.41
1:QA:601:C:H2'	1:QA:602:A:H8	1.86	0.41
1:QA:68:G:H22	1:QA:101:A:H2	1.68	0.41
2:QB:90:MET:HA	2:QB:91:PRO:HD3	1.94	0.41
13:QM:87:TYR:OH	13:QM:91:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:QO:9:GLN:O	15:QO:12:ILE:N	2.52	0.41
22:QV:13:C:H42	22:QV:23:C:N4	2.18	0.41
25:RA:2330:G:O2'	46:R0:41:ARG:O	2.21	0.41
48:R2:63:VAL:O	48:R2:67:LYS:N	2.50	0.41
25:RA:839:U:H1'	25:RA:1191:G:H1'	2.03	0.41
25:RA:1529:G:O6	25:RA:1540:U:O4	2.38	0.41
25:RA:2563:U:H2'	25:RA:2564:A:H3'	2.01	0.41
25:RA:560:C:H4'	40:RU:52:ARG:NH1	2.35	0.41
25:RA:631:A:H2'	25:RA:632:A:C8	2.55	0.41
25:RA:729:G:C8	27:RD:208:LYS:HD2	2.56	0.41
31:RH:11:VAL:HB	31:RH:48:GLY:HA2	2.02	0.41
34:RO:113:LYS:O	34:RO:116:SER:OG	2.35	0.41
36:RQ:79:LEU:HD23	36:RQ:79:LEU:HA	1.83	0.41
1:XA:1404:5MC:HN41	1:XA:1497:G:H1	1.68	0.41
1:XA:1429:C:O2'	1:XA:1430:C:H5'	2.20	0.41
1:XA:580:U:H2'	1:XA:581:G:C8	2.56	0.41
5:XE:106:PRO:HA	5:XE:109:ILE:HG22	2.01	0.41
5:XE:89:ILE:HD13	5:XE:135:THR:HG23	2.02	0.41
25:YA:1187:G:OP2	25:YA:1187:G:H8	2.02	0.41
25:YA:118:A:OP2	25:YA:119:A:H5''	2.21	0.41
25:YA:1544:A:O2'	25:YA:1545:A:H5'	2.20	0.41
25:YA:1572:A:H8	25:YA:1572:A:O5'	2.04	0.41
25:YA:494:G:O2'	25:YA:495:G:H5'	2.20	0.41
25:YA:768:G:H2'	25:YA:769:G:H8	1.85	0.41
34:YO:104:ARG:HH11	34:YO:104:ARG:HD2	1.65	0.41
45:YZ:14:LYS:HA	45:YZ:15:PRO:HD3	1.90	0.41
1:QA:35:G:N3	12:QL:118:SER:HB2	2.36	0.41
1:QA:721:G:H8	1:QA:721:G:OP1	2.03	0.41
3:QC:24:ALA:HB2	3:QC:32:LEU:HD12	2.01	0.41
4:QD:12:CYS:HB3	4:QD:19:LEU:H	1.85	0.41
10:QJ:78:ASN:ND2	10:QJ:80:LYS:HB2	2.35	0.41
1:QA:1312:G:H5''	19:QS:5:LEU:HD13	2.01	0.41
25:RA:1849:G:H2'	25:RA:1850:G:H8	1.84	0.41
25:RA:216:A:H2'	25:RA:217:G:C8	2.54	0.41
25:RA:2300:G:N1	25:RA:2317:C:N3	2.68	0.41
25:RA:2660:A:H8	25:RA:2660:A:OP1	2.04	0.41
25:RA:831:G:H5''	35:RP:37:GLY:HA3	2.03	0.41
25:RA:918:A:H5''	26:RB:98:G:O2'	2.19	0.41
27:RD:254:THR:O	27:RD:254:THR:OG1	2.39	0.41
32:RI:97:ILE:H	32:RI:97:ILE:HG13	1.65	0.41
34:RO:2:ILE:HG23	34:RO:6:THR:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RT:27:THR:N	39:RT:90:GLN:O	2.49	0.41
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.20	0.41
1:XA:22:G:H2'	1:XA:23:C:H6	1.85	0.41
1:XA:244:U:H4'	1:XA:245:C:H5''	2.02	0.41
1:XA:405:U:H3'	1:XA:406:G:H5'	2.03	0.41
1:XA:688:G:H5'	11:XK:47:VAL:N	2.36	0.41
8:XH:91:ARG:HH21	17:XQ:33:GLY:HA3	1.84	0.41
25:YA:1031:G:O2'	55:Y9:7:VAL:O	2.39	0.41
25:YA:1011:G:OP2	40:YU:70:ARG:NH2	2.52	0.41
25:YA:1313:U:H4'	25:YA:1332:G:H4'	2.02	0.41
25:YA:1564:C:H2'	25:YA:1565:C:C6	2.56	0.41
25:YA:1613:G:O2'	53:Y7:3:ARG:NE	2.33	0.41
25:YA:1657:C:H2'	25:YA:1658:C:C6	2.55	0.41
25:YA:1789:A:O2'	25:YA:1790:C:H5'	2.20	0.41
25:YA:182:A:H61	25:YA:215:G:H1	1.67	0.41
25:YA:827:U:O2'	25:YA:2068:U:C2	2.73	0.41
25:YA:2593:U:H2'	25:YA:2594:C:H6	1.85	0.41
25:YA:343:C:H2'	25:YA:344:G:C8	2.54	0.41
25:YA:820:A:H4'	25:YA:836:G:N2	2.35	0.41
26:YB:75:G:H5'	45:YZ:36:LYS:HD2	2.03	0.41
6:XF:81:ILE:HG23	27:YD:137:PRO:HG2	2.01	0.41
27:YD:177:LEU:HA	27:YD:177:LEU:HD23	1.81	0.41
27:YD:208:LYS:HG3	27:YD:210:GLY:H	1.85	0.41
27:YD:45:ASN:OD1	27:YD:45:ASN:N	2.51	0.41
1:QA:1154:G:H2'	1:QA:1155:G:C8	2.55	0.41
1:QA:793:U:C2	1:QA:1516:G:H4'	2.56	0.41
1:QA:951:G:O2'	1:QA:970:C:O2'	2.31	0.41
3:QC:71:ALA:HB2	3:QC:106:VAL:HB	2.03	0.41
13:QM:50:GLU:HA	13:QM:53:VAL:HG22	2.03	0.41
16:QP:38:TYR:CZ	16:QP:50:LYS:HB2	2.55	0.41
13:QM:65:LYS:HD2	50:R4:50:VAL:HG12	2.02	0.41
25:RA:1630:G:H2'	25:RA:1631(A):C:O5'	2.20	0.41
25:RA:1685:C:H2'	25:RA:1686:C:C6	2.55	0.41
25:RA:2222:G:H5''	27:RD:186:HIS:NE2	2.35	0.41
25:RA:2257:U:O2'	25:RA:2258:C:H5'	2.21	0.41
25:RA:2307:G:OP1	25:RA:2307:G:H8	2.02	0.41
25:RA:2558:C:H2'	25:RA:2559:C:H6	1.84	0.41
25:RA:2653:U:O2	31:RH:110:SER:OG	2.30	0.41
25:RA:2737:G:H2'	25:RA:2738:A:C8	2.55	0.41
25:RA:2818:G:O2'	25:RA:2819:G:H5'	2.19	0.41
25:RA:2630:G:H1'	25:RA:2894:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:332:A:O2'	25:RA:334:C:OP2	2.22	0.41
25:RA:778:G:H5'	27:RD:48:ARG:HH11	1.85	0.41
25:RA:864:G:O6	25:RA:912:C:N4	2.53	0.41
25:RA:930:U:H4'	25:RA:931:G:O4'	2.20	0.41
25:RA:443:A:H61	29:RF:41:LEU:HB3	1.85	0.41
31:RH:28:GLY:N	31:RH:31:GLY:O	2.48	0.41
25:RA:996:A:H4'	40:RU:91:ASP:OD2	2.19	0.41
1:XA:237:C:H5''	17:XQ:25:ARG:CZ	2.50	0.41
1:XA:813:U:O2'	1:XA:814:A:H5'	2.21	0.41
1:XA:864:A:H2'	1:XA:865:A:C8	2.56	0.41
7:XG:152:ALA:O	7:XG:155:ARG:NE	2.54	0.41
9:XI:55:ALA:HB1	9:XI:58:HIS:HB2	2.03	0.41
12:XL:46:LYS:HG2	12:XL:47:LYS:H	1.84	0.41
12:XL:6:THR:O	12:XL:10:LEU:HG	2.21	0.41
48:Y2:17:SER:OG	48:Y2:20:GLU:OE1	2.38	0.41
25:YA:1203:G:OP2	25:YA:1204:A:O2'	2.17	0.41
25:YA:140:G:O2'	25:YA:141:A:OP2	2.34	0.41
25:YA:1548:C:H2'	25:YA:1549:C:H6	1.85	0.41
25:YA:1897:G:H2'	25:YA:1898:U:O4'	2.21	0.41
25:YA:2080:G:H1	25:YA:2240:C:H42	1.67	0.41
25:YA:2439:A:C5'	25:YA:2439:A:C8	3.03	0.41
25:YA:783:A:H4'	25:YA:2588:G:H4'	2.02	0.41
25:YA:2023:G:H5'	25:YA:2617:C:H4'	2.02	0.41
25:YA:637:A:H2'	35:YP:117:GLU:OE2	2.21	0.41
25:YA:663:G:H2'	25:YA:664:C:C6	2.56	0.41
25:YA:836:G:H2'	25:YA:837:C:H6	1.84	0.41
25:YA:879:G:H1	25:YA:898:C:H42	1.67	0.41
25:YA:954:G:H1	25:YA:963:U:H3	1.68	0.41
31:YH:84:SER:HA	31:YH:133:VAL:O	2.20	0.41
56:ZB:1:C:O2'	56:ZB:2:C:H5'	2.21	0.41
1:QA:1001(A):A:H2'	1:QA:1001(B):G:C8	2.55	0.41
1:QA:1403:C:H1'	1:QA:1500:A:N1	2.36	0.41
1:QA:663:A:H5'	18:QR:61:LYS:HE3	2.02	0.41
4:QD:196:LEU:O	4:QD:198:VAL:N	2.53	0.41
12:QL:104:VAL:HG12	12:QL:105:TYR:CG	2.56	0.41
25:RA:1356:G:H2'	25:RA:1357:U:H6	1.84	0.41
25:RA:1582:C:H2'	25:RA:1583:A:O4'	2.20	0.41
25:RA:21:A:O2'	25:RA:22:C:H5'	2.20	0.41
25:RA:2529:G:C5'	25:RA:2530:A:H5''	2.51	0.41
25:RA:272(I):G:H8	25:RA:272(I):G:O5'	2.03	0.41
25:RA:2881:C:H2'	25:RA:2882:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2883:A:H5''	25:RA:2884:U:H5'	2.01	0.41
25:RA:2428:G:O2'	35:RP:56:SER:OG	2.38	0.41
39:RT:8:LYS:HB3	39:RT:8:LYS:HE3	1.82	0.41
41:RV:25:LEU:H	41:RV:92:THR:HG21	1.85	0.41
1:XA:1129:C:H2'	1:XA:1139:G:N7	2.35	0.41
1:XA:1298:C:H4'	1:XA:1299:A:C4	2.55	0.41
1:XA:513:C:H2'	1:XA:514:C:H6	1.85	0.41
2:XB:146:GLN:O	2:XB:150:SER:HB2	2.21	0.41
2:XB:8:LYS:HB3	2:XB:10:LEU:HD12	2.01	0.41
16:XP:57:ARG:HH21	16:XP:79:VAL:HA	1.86	0.41
52:Y6:3:SER:OG	52:Y6:5:VAL:N	2.53	0.41
25:YA:1073:A:O2'	25:YA:1074:G:OP1	2.31	0.41
25:YA:1326:U:H2'	25:YA:1327:C:C6	2.56	0.41
25:YA:1411:C:H2'	25:YA:1412:A:H8	1.86	0.41
25:YA:1266:G:O2'	25:YA:2012:G:O6	2.34	0.41
25:YA:2126:A:N6	25:YA:2163:C:O4'	2.53	0.41
25:YA:2323:G:N1	25:YA:2332:U:N3	2.56	0.41
25:YA:2876:G:OP1	39:YT:3:ARG:HG3	2.21	0.41
25:YA:579:G:H2'	25:YA:580:C:C6	2.56	0.41
25:YA:750:A:N3	25:YA:750:A:H2'	2.35	0.41
25:YA:840:C:H2'	25:YA:841:A:C8	2.55	0.41
25:YA:971:C:O2'	25:YA:972:G:H5'	2.20	0.41
27:YD:12:SER:HB3	27:YD:208:LYS:HB3	2.03	0.41
29:YF:127:GLU:HA	29:YF:196:LEU:HG	2.02	0.41
29:YF:79:GLY:O	29:YF:87:GLY:N	2.38	0.41
41:YV:4:ILE:HG22	41:YV:38:LEU:HB2	2.03	0.41
1:QA:1485:U:H2'	1:QA:1486:G:C8	2.56	0.41
1:QA:794:A:H4'	1:QA:1521:G:O2'	2.21	0.41
1:QA:680:C:H2'	1:QA:681:C:H6	1.85	0.41
1:QA:749:C:H2'	1:QA:750:G:H8	1.85	0.41
1:QA:984:C:H2'	1:QA:985:C:C6	2.56	0.41
4:QD:33:MET:HG2	58:QD:303:SF4:S4	2.60	0.41
1:QA:600:C:OP1	8:QH:97:VAL:HG22	2.21	0.41
11:QK:33:THR:OG1	11:QK:34:ASP:O	2.28	0.41
12:QL:47:LYS:HG2	12:QL:48:PRO:HD3	2.01	0.41
18:QR:45:SER:OG	18:QR:49:LYS:N	2.54	0.41
22:QV:6:G:H2'	22:QV:7:G:C8	2.56	0.41
25:RA:110:G:H2'	25:RA:111:A:C8	2.56	0.41
25:RA:1149:G:H2'	25:RA:1150:C:H6	1.86	0.41
25:RA:1417:C:H4'	25:RA:1588:C:O2	2.20	0.41
25:RA:1570:A:H2'	25:RA:1571:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2013:A:O2'	25:RA:2014:A:H5'	2.21	0.41
25:RA:2611:U:C4	51:R5:3:LYS:HG2	2.56	0.41
25:RA:2612:C:H2'	25:RA:2613:U:H5'	2.03	0.41
25:RA:630:G:N2	25:RA:633:A:OP2	2.53	0.41
30:RG:113:ARG:O	30:RG:115:ARG:NH1	2.41	0.41
25:RA:2413:G:H21	35:RP:70:GLN:NE2	2.18	0.41
38:RS:49:VAL:HG11	38:RS:77:ALA:HB2	2.02	0.41
42:RW:58:ALA:HA	42:RW:62:HIS:HB2	2.02	0.41
43:RX:53:LYS:HB3	43:RX:82:GLN:HB3	2.03	0.41
1:XA:1295:G:H21	1:XA:1302:U:H3	1.67	0.41
1:XA:1347:G:O2'	1:XA:1348:U:OP2	2.39	0.41
1:XA:322:C:H2'	1:XA:323:U:C6	2.55	0.41
1:XA:357:G:C5'	1:XA:367:U:H3'	2.46	0.41
1:XA:584:G:O2'	1:XA:585:G:H5'	2.21	0.41
1:XA:679:C:H2'	1:XA:680:C:C6	2.56	0.41
3:XC:130:VAL:HG11	3:XC:157:ILE:HG23	2.01	0.41
9:XI:96:LEU:HD22	9:XI:101:PHE:HB2	2.03	0.41
9:XI:110:GLU:OE2	9:XI:113:LYS:NZ	2.53	0.41
11:XK:21:ILE:HG23	11:XK:84:VAL:HA	2.01	0.41
14:XN:10:ALA:HB2	14:XN:23:ARG:HD2	2.03	0.41
15:XO:3:ILE:HD13	15:XO:34:LEU:HD21	2.03	0.41
24:XY:29:U:H2'	24:XY:30:C:C5	2.56	0.41
50:Y4:8:LYS:HD2	50:Y4:8:LYS:HA	1.96	0.41
25:YA:1039:G:O2'	25:YA:1040:C:H5'	2.21	0.41
25:YA:1045:A:N7	25:YA:1047:G:N2	2.69	0.41
25:YA:2147:G:H2'	25:YA:2148:G:O4'	2.21	0.41
25:YA:2172:U:H4'	25:YA:2173:A:OP2	2.20	0.41
25:YA:345:A:N3	25:YA:346:A:N6	2.69	0.41
25:YA:590:A:OP1	29:YF:95:ARG:NH1	2.54	0.41
25:YA:688:U:H6	25:YA:688:U:O5'	2.04	0.41
32:YI:51:ILE:HA	32:YI:51:ILE:HD13	1.89	0.41
1:QA:1014:A:H2	1:QA:1219:U:H1'	1.86	0.41
1:QA:1255:G:O2'	1:QA:1258:G:H1'	2.21	0.41
1:QA:423:G:H2'	1:QA:424:G:O4'	2.21	0.41
1:QA:509:A:H2'	1:QA:510:A:C4	2.55	0.41
1:QA:663:A:O2'	18:QR:64:ARG:NH2	2.54	0.41
1:QA:864:A:H2'	1:QA:865:A:C8	2.55	0.41
1:QA:867:G:H2'	1:QA:868:C:C6	2.55	0.41
1:QA:941:G:H2'	1:QA:942:G:O4'	2.21	0.41
1:QA:959:A:H3'	1:QA:960:U:C5'	2.48	0.41
1:QA:96:U:H2'	1:QA:97:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1309:G:H5'	13:QM:78:ILE:HD11	2.03	0.41
1:QA:1235:U:H5''	21:QU:3:LYS:HD2	2.03	0.41
22:QV:9:G:O2'	22:QV:10:G:N7	2.52	0.41
25:RA:2010:G:H5''	42:RW:42:ARG:HB2	2.02	0.41
25:RA:528:A:N6	25:RA:2042:A:H2'	2.36	0.41
25:RA:2292:C:H2'	25:RA:2293:C:C6	2.56	0.41
25:RA:2341:G:H2'	25:RA:2342:C:C6	2.56	0.41
25:RA:2363:C:O2'	25:RA:2364:C:H5'	2.20	0.41
25:RA:2477:C:N4	55:R9:10:ILE:HG13	2.36	0.41
25:RA:2848:G:N2	25:RA:2868:A:H62	2.19	0.41
25:RA:797:C:H2'	25:RA:798:G:H8	1.86	0.41
25:RA:89:G:C6	25:RA:90:U:H5	2.39	0.41
25:RA:944:G:H5''	25:RA:945:A:O5'	2.21	0.41
25:RA:1813:G:H21	27:RD:51:VAL:HG13	1.86	0.41
28:RE:144:ARG:HB3	28:RE:145:LYS:H	1.70	0.41
29:RF:107:LYS:HG2	29:RF:206:ILE:HA	2.01	0.41
35:RP:89:ALA:O	35:RP:121:LYS:NZ	2.43	0.41
25:RA:994:C:OP1	40:RU:53:ARG:NH2	2.53	0.41
1:XA:224:C:H2'	1:XA:225:C:H6	1.83	0.41
1:XA:349:A:O2'	1:XA:350:G:H5'	2.19	0.41
8:XH:14:ARG:HE	8:XH:83:ILE:HG23	1.84	0.41
1:XA:539:A:OP2	12:XL:115:LYS:NZ	2.54	0.41
25:YA:1178:C:H2'	25:YA:1179:C:C6	2.56	0.41
25:YA:1183:G:O2'	49:Y3:29:ARG:NH1	2.43	0.41
25:YA:1354:A:H2'	25:YA:1355:G:O4'	2.20	0.41
25:YA:198:C:O2'	25:YA:199:A:H5'	2.21	0.41
25:YA:18:C:O2'	25:YA:19:C:H5'	2.21	0.41
25:YA:2018:G:OP1	51:Y5:9:LYS:NZ	2.54	0.41
25:YA:2259:G:H2'	25:YA:2260:C:H6	1.86	0.41
25:YA:24:G:H1'	42:YW:77:ASP:HB3	2.02	0.41
25:YA:2592:G:C2'	25:YA:2593:U:H5'	2.51	0.41
25:YA:2817:G:OP1	37:YR:42:LYS:NZ	2.51	0.41
25:YA:378:C:C2'	25:YA:379:G:H5'	2.50	0.41
25:YA:985:C:H2'	25:YA:986:C:C6	2.56	0.41
26:YB:3:C:H2'	26:YB:4:C:C6	2.55	0.41
25:YA:1657:C:H4'	28:YE:133:LYS:HB3	2.02	0.41
25:YA:2831:G:P	28:YE:58:ARG:HH21	2.44	0.41
1:QA:1034:G:H2'	1:QA:1035:A:C4	2.56	0.41
1:QA:1157:A:C2	1:QA:1178:G:N2	2.88	0.41
1:QA:1330:U:H4'	13:QM:23:TYR:CE1	2.56	0.41
1:QA:375:U:H2'	1:QA:376:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:481:G:H8	1:QA:481:G:H2'	1.71	0.41
1:QA:601:C:H2'	1:QA:602:A:C8	2.56	0.41
1:QA:8:A:H4'	1:QA:9:G:OP1	2.21	0.41
2:QB:54:THR:O	2:QB:58:ILE:HG12	2.21	0.41
3:QC:137:ALA:HA	3:QC:140:ARG:HB2	2.03	0.41
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.21	0.41
11:QK:117:ASN:ND2	11:QK:117:ASN:N	2.69	0.41
46:R0:77:ARG:HE	46:R0:77:ARG:HB3	1.67	0.41
25:RA:1084:A:H3'	25:RA:1085:A:O4'	2.21	0.41
25:RA:1359:A:OP2	25:RA:1371:G:N1	2.40	0.41
25:RA:1398:C:O3'	43:RX:25:LYS:NZ	2.46	0.41
25:RA:192:C:H2'	25:RA:193:U:H5'	2.02	0.41
25:RA:2075:U:OP1	27:RD:244:ARG:NH2	2.54	0.41
25:RA:2223:G:H5''	27:RD:269:PHE:CZ	2.56	0.41
25:RA:563:G:H5'	25:RA:572:A:H4'	2.03	0.41
36:RQ:44:ALA:HB2	36:RQ:70:PRO:HG3	2.03	0.41
38:RS:69:VAL:HG13	38:RS:101:LEU:HD13	2.03	0.41
39:RT:118:ARG:HA	39:RT:121:ILE:HG22	2.02	0.41
39:RT:47:GLY:HA2	39:RT:65:LYS:HE2	2.03	0.41
41:RV:40:LEU:HB2	41:RV:46:VAL:HB	2.03	0.41
43:RX:10:ALA:O	43:RX:29:TRP:N	2.54	0.41
45:RZ:44:PHE:O	45:RZ:48:PHE:HB2	2.20	0.41
1:XA:1316:G:N1	1:XA:1319:A:OP2	2.53	0.41
1:XA:26:A:H1'	4:XD:209:ARG:HH21	1.86	0.41
1:XA:489:C:H2'	1:XA:490:G:C8	2.56	0.41
1:XA:511:C:O2	4:XD:43:HIS:NE2	2.53	0.41
1:XA:624:C:H2'	1:XA:625:G:H8	1.84	0.41
1:XA:932:C:O3'	7:XG:4:ARG:NH2	2.54	0.41
1:XA:110:C:O2'	16:XP:25:ARG:O	2.28	0.41
19:XS:63:THR:OG1	19:XS:64:GLU:N	2.51	0.41
20:XT:51:GLU:O	20:XT:55:ILE:HG12	2.21	0.41
25:YA:1186:G:H2'	25:YA:1187:G:O4'	2.21	0.41
25:YA:1246:A:OP1	29:YF:38:ARG:NH1	2.54	0.41
25:YA:1422:G:H1	25:YA:1576:U:H3	1.69	0.41
25:YA:2512:C:H2'	25:YA:2513:G:O4'	2.21	0.41
25:YA:730:C:H2'	25:YA:731:C:H6	1.85	0.41
29:YF:116:ASP:OD1	29:YF:119:ARG:NH2	2.49	0.41
1:QA:109:A:C6	1:QA:326:G:O6	2.74	0.41
1:QA:382:A:H2'	1:QA:383:A:H8	1.85	0.41
3:QC:9:GLY:HA2	3:QC:12:LEU:HG	2.03	0.41
49:R3:55:ARG:NH2	49:R3:57:GLU:OE2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R6:27:LYS:NZ	52:R6:31:PRO:O	2.54	0.41
25:RA:1178:C:H2'	25:RA:1179:C:H6	1.86	0.41
25:RA:1579:A:H2'	25:RA:1580:A:C8	2.56	0.41
25:RA:2079:U:O3'	47:R1:35:THR:OG1	2.29	0.41
25:RA:2321:G:N3	25:RA:2321:G:H2'	2.36	0.41
25:RA:746:A:O2'	25:RA:2611:U:O2'	2.29	0.41
27:RD:164:GLN:OE1	27:RD:176:ARG:NH1	2.53	0.41
31:RH:98:LEU:HB2	31:RH:125:VAL:HG12	2.03	0.41
25:RA:23:G:N2	42:RW:77:ASP:OD1	2.42	0.41
1:XA:1003:G:N7	1:XA:1004:A:H1'	2.36	0.41
1:XA:1096:C:H2'	1:XA:1097:C:H6	1.85	0.41
1:XA:925:G:O6	1:XA:1391:U:O4	2.39	0.41
2:XB:71:VAL:HG13	2:XB:164:VAL:HA	2.03	0.41
2:XB:70:PHE:O	2:XB:92:TYR:HA	2.20	0.41
1:XA:1240:U:N3	7:XG:32:ARG:HD2	2.35	0.41
25:YA:1433:U:O4	25:YA:1560:G:O6	2.39	0.41
25:YA:1952:A:OP1	34:YO:44:LYS:NZ	2.42	0.41
25:YA:220:G:O2'	25:YA:233:A:N3	2.47	0.41
25:YA:2496:C:O2'	25:YA:2497:A:H5'	2.20	0.41
25:YA:363(B):A:H2'	25:YA:363(C):G:C8	2.55	0.41
27:YD:248:SER:OG	27:YD:250:TRP:N	2.41	0.41
38:YS:50:SER:O	38:YS:76:LYS:NZ	2.39	0.41
1:QA:1177:G:H2'	1:QA:1178:G:C8	2.57	0.40
1:QA:1336:C:H4'	1:QA:1337:G:C4	2.56	0.40
1:QA:384:G:H2'	1:QA:385:C:H6	1.85	0.40
2:QB:120:ALA:O	2:QB:123:ALA:N	2.50	0.40
3:QC:154:SER:O	3:QC:197:GLY:N	2.54	0.40
47:R1:18:ILE:HG13	47:R1:37:ILE:HG12	2.02	0.40
53:R7:24:THR:O	53:R7:27:GLY:N	2.54	0.40
25:RA:1017:G:O6	25:RA:1146:C:N4	2.53	0.40
25:RA:150:C:H2'	25:RA:151:C:C6	2.56	0.40
25:RA:1805:U:H5''	27:RD:250:TRP:CD2	2.55	0.40
25:RA:1843:C:H2'	25:RA:1844:C:H6	1.86	0.40
25:RA:216:A:N7	25:RA:431:U:O4	2.54	0.40
25:RA:2282:G:H21	25:RA:2390:U:H3	1.69	0.40
25:RA:2340:G:H2'	25:RA:2341:G:C8	2.56	0.40
25:RA:2391:G:O2'	25:RA:2422:A:N7	2.54	0.40
25:RA:2414:G:H2'	25:RA:2415:G:H8	1.87	0.40
25:RA:466:A:N3	25:RA:683:C:H1'	2.36	0.40
25:RA:639:U:H2'	25:RA:640:C:H6	1.86	0.40
25:RA:755:C:H2'	25:RA:756:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:848:G:C2	25:RA:933:A:H1'	2.56	0.40
25:RA:978:G:O4'	25:RA:1001:A:H2	2.04	0.40
32:RI:97:ILE:O	32:RI:100:ALA:N	2.55	0.40
1:XA:1152:A:H5'	10:XJ:13:HIS:CE1	2.56	0.40
1:XA:353:A:H5'	1:XA:353:A:C8	2.56	0.40
1:XA:692:U:O2'	1:XA:694:A:N7	2.45	0.40
1:XA:797:C:O2'	1:XA:798:G:H5'	2.21	0.40
3:XC:11:ARG:HH21	3:XC:180:ALA:HB3	1.86	0.40
7:XG:126:ASP:O	7:XG:131:LYS:N	2.47	0.40
8:XH:95:VAL:HG21	8:XH:133:LEU:HD12	2.03	0.40
13:XM:4:ILE:HD13	13:XM:57:ARG:HE	1.86	0.40
16:XP:71:ARG:HA	16:XP:74:LEU:HB2	2.03	0.40
17:XQ:46:ASP:OD2	17:XQ:50:LYS:N	2.45	0.40
22:XV:59:A:C2'	22:XV:60:U:H5'	2.51	0.40
49:Y3:7:LYS:HA	49:Y3:33:GLN:O	2.21	0.40
50:Y4:24:THR:OG1	50:Y4:25:TYR:N	2.54	0.40
53:Y7:24:THR:HA	53:Y7:25:PRO:HD3	1.90	0.40
25:YA:215:G:H4'	25:YA:216:A:H4'	2.02	0.40
25:YA:2591:C:H2'	25:YA:2592:G:C8	2.56	0.40
25:YA:522:G:H2'	25:YA:523:C:C6	2.56	0.40
25:YA:539:G:H2'	25:YA:540:C:H6	1.86	0.40
35:YP:100:LEU:HD23	35:YP:100:LEU:HA	1.84	0.40
45:YZ:149:SER:OG	45:YZ:150:LEU:N	2.54	0.40
1:QA:258:G:H2'	1:QA:259:G:H8	1.85	0.40
1:QA:486:U:H2'	1:QA:487:A:C8	2.56	0.40
10:QJ:12:ASP:N	10:QJ:12:ASP:OD1	2.40	0.40
1:QA:1048:G:OP1	14:QN:4:LYS:HG2	2.21	0.40
18:QR:66:LEU:O	18:QR:69:THR:N	2.46	0.40
25:RA:2057:A:C2	51:R5:4:HIS:HB3	2.55	0.40
25:RA:17:G:H2'	25:RA:18:C:C6	2.56	0.40
25:RA:2125:G:N1	25:RA:2172:U:OP2	2.49	0.40
25:RA:2497:A:H1'	25:RA:2498:C:H5	1.86	0.40
25:RA:300:A:H2'	25:RA:334:C:H1'	2.03	0.40
25:RA:394:A:C2'	25:RA:395:U:H5'	2.52	0.40
25:RA:547:A:H3'	25:RA:548:A:C8	2.56	0.40
25:RA:715:G:H2'	25:RA:716:A:C8	2.55	0.40
30:RG:109:VAL:HG22	50:R4:33:VAL:HG21	2.03	0.40
32:RI:78:THR:HG22	32:RI:141:LYS:HB2	2.02	0.40
25:RA:1614:A:N6	42:RW:92:ARG:O	2.49	0.40
1:XA:17:U:H2'	1:XA:18:C:C6	2.57	0.40
1:XA:335:C:H2'	1:XA:336:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:405:U:OP1	1:XA:406:G:H4'	2.22	0.40
1:XA:585:G:OP1	17:XQ:37:LYS:HD2	2.21	0.40
9:XI:42:ARG:NH2	9:XI:75:ASP:OD1	2.50	0.40
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HA	2.03	0.40
20:XT:83:ARG:O	20:XT:87:LYS:HG2	2.21	0.40
46:Y0:15:ASP:OD1	46:Y0:16:SER:N	2.54	0.40
25:YA:1113:U:H2'	25:YA:1114:G:H8	1.84	0.40
25:YA:1510:G:H2'	25:YA:1511:C:H6	1.85	0.40
25:YA:1791:A:H5'	27:YD:206:LEU:HD12	2.03	0.40
25:YA:2051:A:H5'	25:YA:2578:G:O4'	2.21	0.40
25:YA:2063:C:H2'	25:YA:2064:C:H5'	2.04	0.40
25:YA:2340:G:H2'	25:YA:2341:G:C8	2.56	0.40
25:YA:370:G:H5''	25:YA:423:A:N6	2.36	0.40
31:YH:68:THR:O	31:YH:72:ILE:HG12	2.21	0.40
25:YA:2875:C:O2'	39:YT:2:ASN:OD1	2.33	0.40
1:QA:1070:U:H2'	1:QA:1071:C:H6	1.87	0.40
1:QA:123:C:H2'	1:QA:124:G:H8	1.87	0.40
1:QA:150:C:H2'	1:QA:151:A:H8	1.86	0.40
1:QA:539:A:H2'	1:QA:540:G:H8	1.86	0.40
1:QA:693:G:H2'	1:QA:694:A:C8	2.57	0.40
1:QA:959:A:O2'	1:QA:984:C:O2'	2.08	0.40
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.86	0.40
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	2.03	0.40
3:QC:17:ASP:O	3:QC:54:ARG:NH2	2.55	0.40
6:QF:6:VAL:HB	6:QF:63:TYR:HB2	2.03	0.40
11:QK:21:ILE:HG13	11:QK:84:VAL:HA	2.03	0.40
16:QP:72:ARG:HG2	16:QP:73:LEU:HD23	2.02	0.40
25:RA:1685:C:H2'	25:RA:1686:C:H6	1.86	0.40
25:RA:959:A:H1'	25:RA:2457:U:O2'	2.22	0.40
25:RA:263:C:H1'	25:RA:430:G:N3	2.36	0.40
25:RA:2703:C:H2'	25:RA:2704:C:C6	2.55	0.40
25:RA:34:C:H5''	25:RA:35:G:OP2	2.21	0.40
25:RA:464:U:H2'	25:RA:465:G:O4'	2.21	0.40
25:RA:855:G:H1	25:RA:922:U:H3	1.69	0.40
26:RB:78:A:H62	26:RB:99:G:N2	2.18	0.40
29:RF:170:LEU:HA	29:RF:171:PRO:HD3	1.90	0.40
29:RF:78:ILE:H	29:RF:78:ILE:HG12	1.73	0.40
30:RG:122:PRO:HG2	30:RG:123:ASN:ND2	2.35	0.40
31:RH:85:LYS:HD2	31:RH:85:LYS:HA	1.87	0.40
34:RO:73:ASP:OD2	39:RT:32:TYR:OH	2.33	0.40
34:RO:79:PHE:HD2	39:RT:72:VAL:HG12	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2393:A:O3'	35:RP:63:PRO:HA	2.21	0.40
41:RV:30:GLY:H	41:RV:61:VAL:HB	1.86	0.40
43:RX:5:TYR:OH	48:R2:30:ARG:NH1	2.53	0.40
1:XA:1118:C:H1'	1:XA:1179:A:C5	2.56	0.40
1:XA:336:C:H2'	1:XA:337:C:H6	1.86	0.40
1:XA:967:5MC:H2'	1:XA:968:A:C8	2.57	0.40
4:XD:70:ILE:HA	4:XD:70:ILE:HD12	1.79	0.40
12:XL:32:PHE:HB3	12:XL:84:LEU:HD21	2.03	0.40
20:XT:63:ILE:HG21	20:XT:81:LYS:HG3	2.01	0.40
25:YA:1857:G:O6	25:YA:1858:G:N1	2.55	0.40
25:YA:1956:U:H1'	25:YA:2552:OMU:H5'	2.04	0.40
25:YA:2168:G:N2	25:YA:2171:A:OP2	2.45	0.40
25:YA:576:U:H4'	25:YA:2502:G:N7	2.36	0.40
25:YA:28:A:H2'	25:YA:29:U:H6	1.86	0.40
25:YA:360:G:H2'	25:YA:361:G:C8	2.56	0.40
25:YA:61:G:O6	25:YA:94(B):G:N2	2.55	0.40
25:YA:699:A:H2'	25:YA:700:G:O4'	2.21	0.40
25:YA:840:C:OP2	25:YA:932:G:N2	2.52	0.40
37:YR:2:ARG:NH1	37:YR:5:LYS:O	2.55	0.40
37:YR:79:LEU:HD12	37:YR:83:ILE:HB	2.04	0.40
1:QA:1057:G:OP1	3:QC:154:SER:OG	2.39	0.40
1:QA:1179:A:OP1	1:QA:1179:A:H8	2.04	0.40
1:QA:1202:G:H4'	14:QN:29:ARG:NE	2.34	0.40
1:QA:145:G:N1	1:QA:178:C:N3	2.69	0.40
1:QA:123:C:OP1	1:QA:312:C:H5'	2.22	0.40
1:QA:1158:C:H4'	2:QB:133:LYS:HE3	2.04	0.40
3:QC:152:ILE:HB	3:QC:199:LYS:HB2	2.03	0.40
3:QC:82:GLU:O	3:QC:85:ARG:NH1	2.55	0.40
7:QG:29:LYS:O	7:QG:32:ARG:NH1	2.54	0.40
9:QI:34:ASN:O	9:QI:38:GLN:HB2	2.20	0.40
16:QP:55:ARG:HD2	16:QP:55:ARG:HA	1.94	0.40
25:RA:1060:U:H4'	25:RA:1070:A:C8	2.56	0.40
25:RA:1150:C:H2'	25:RA:1151:G:C8	2.56	0.40
25:RA:1296:G:O2'	25:RA:1297:C:H5'	2.21	0.40
25:RA:1842:G:H2'	25:RA:1843:C:H6	1.83	0.40
25:RA:1971:A:N3	27:RD:241:PRO:HD3	2.37	0.40
25:RA:1972:A:H2'	25:RA:1973:G:H8	1.87	0.40
25:RA:2153:G:H2'	25:RA:2154:G:C8	2.57	0.40
25:RA:2186:G:OP2	25:RA:2186:G:H8	2.04	0.40
25:RA:2297:C:H2'	25:RA:2298:A:C8	2.55	0.40
25:RA:2289:G:H5'	25:RA:2383:G:H21	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:2395:C:N4	25:RA:2421:G:O6	2.55	0.40
25:RA:515:A:H1'	25:RA:581:C:H1'	2.04	0.40
25:RA:823:G:H2'	25:RA:824:A:H8	1.78	0.40
25:RA:868:U:H2'	25:RA:869:G:H8	1.86	0.40
25:RA:991:C:O2'	25:RA:992:C:H5'	2.21	0.40
25:RA:1256:G:O2'	29:RF:82:ILE:HD11	2.22	0.40
30:RG:59:GLU:OE1	30:RG:153:ARG:NH2	2.55	0.40
1:XA:1079:G:H2'	1:XA:1080:A:C8	2.56	0.40
1:XA:1255:G:N1	1:XA:1279:A:N7	2.69	0.40
1:XA:1384:C:H2'	1:XA:1385:G:C8	2.56	0.40
1:XA:1409:C:H2'	1:XA:1410:G:C8	2.56	0.40
1:XA:927:G:OP1	1:XA:1505:G:N2	2.51	0.40
1:XA:922:G:H4'	5:XE:20:GLN:HA	2.04	0.40
8:XH:11:THR:HG22	8:XH:14:ARG:NH1	2.36	0.40
10:XJ:50:ILE:HG22	10:XJ:60:ARG:HG2	2.03	0.40
10:XJ:63:PHE:HE1	14:XN:58:LYS:HG2	1.86	0.40
25:YA:1107:G:H2'	25:YA:1108:U:C6	2.57	0.40
25:YA:1435:G:H2'	25:YA:1436:G:C8	2.56	0.40
25:YA:1581:G:H2'	25:YA:1582:C:O4'	2.22	0.40
25:YA:118:A:O2'	25:YA:178:G:H5'	2.22	0.40
25:YA:2346:A:H5'	25:YA:2383:G:O4'	2.20	0.40
25:YA:2400:G:H8	25:YA:2400:G:O5'	2.04	0.40
25:YA:277:C:O2'	25:YA:278:A:P	2.79	0.40
25:YA:2810:A:H5''	28:YE:61:ARG:HD3	2.04	0.40
25:YA:313:C:H2'	25:YA:314:A:C8	2.56	0.40
25:YA:547:A:H2'	25:YA:548:A:C8	2.57	0.40
25:YA:772:C:C2'	25:YA:773:U:H5'	2.51	0.40
28:YE:3:GLY:HA3	28:YE:199:ARG:HG2	2.04	0.40
31:YH:47:GLU:CA	31:YH:47:GLU:OE1	2.69	0.40
41:YV:3:ALA:O	41:YV:13:ARG:HA	2.21	0.40
1:QA:1236:A:OP1	21:QU:3:LYS:NZ	2.53	0.40
1:QA:1241:G:H2'	1:QA:1242:C:H6	1.86	0.40
1:QA:1326:C:H2'	1:QA:1327:C:H6	1.86	0.40
1:QA:362:G:N2	1:QA:365:U:OP2	2.52	0.40
2:QB:7:VAL:HG22	2:QB:217:ARG:HD3	2.04	0.40
4:QD:12:CYS:HB3	4:QD:19:LEU:N	2.36	0.40
8:QH:9:MET:HE2	8:QH:26:VAL:HG11	2.03	0.40
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.37	0.40
47:R1:88:LYS:HA	47:R1:88:LYS:HD2	1.91	0.40
25:RA:1090:U:H3'	25:RA:1091:G:C8	2.57	0.40
25:RA:1327:C:O2'	37:RR:105:ARG:NH1	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RA:185:U:H2'	25:RA:186:G:C8	2.57	0.40
25:RA:2362:G:C2'	25:RA:2363:C:H5'	2.52	0.40
25:RA:2675:A:H2'	25:RA:2676:C:H6	1.86	0.40
25:RA:2750:A:O2'	25:RA:2753:A:N6	2.53	0.40
25:RA:2006:C:O2'	25:RA:2823:A:N3	2.54	0.40
25:RA:2875:C:H2'	25:RA:2876:G:O4'	2.22	0.40
25:RA:321:G:C4	25:RA:341:G:H4'	2.56	0.40
25:RA:321:G:OP1	29:RF:135:LYS:NZ	2.55	0.40
25:RA:902:C:H2'	25:RA:903:C:C6	2.56	0.40
26:RB:24:G:N3	26:RB:27:C:N4	2.69	0.40
33:RN:91:LEU:HA	33:RN:95:PRO:HB3	2.02	0.40
41:RV:35:LEU:HA	41:RV:36:PRO:HD3	1.89	0.40
45:RZ:98:MET:O	45:RZ:125:LEU:HA	2.21	0.40
45:RZ:30:ASN:OD1	45:RZ:30:ASN:N	2.52	0.40
1:XA:110:C:H2'	1:XA:111:G:O4'	2.22	0.40
1:XA:1183:A:H3'	1:XA:1184:G:C5'	2.50	0.40
1:XA:1423:G:H2'	1:XA:1424:C:H6	1.87	0.40
1:XA:636:U:H2'	1:XA:637:G:H8	1.86	0.40
2:XB:130:ARG:HA	2:XB:131:PRO:HD3	1.83	0.40
4:XD:18:LYS:HA	4:XD:33:MET:HG3	2.04	0.40
25:YA:1103:A:OP2	25:YA:1104:C:N4	2.55	0.40
25:YA:2145:C:OP2	25:YA:2146:C:N4	2.54	0.40
25:YA:2506:U:OP2	25:YA:2576:G:N2	2.49	0.40
25:YA:2693:A:H2'	25:YA:2694:G:C8	2.55	0.40
25:YA:300:A:O2'	25:YA:318:C:O2	2.36	0.40
25:YA:565:C:H2'	25:YA:566:U:C6	2.57	0.40
25:YA:590:A:H2'	25:YA:591:C:C6	2.56	0.40
25:YA:769:G:H2'	25:YA:770:G:O4'	2.21	0.40
28:YE:126:PRO:HB2	28:YE:128:SER:H	1.87	0.40
37:YR:100:LEU:HD11	37:YR:113:LEU:HD23	2.02	0.40
44:YY:45:VAL:O	44:YY:62:GLU:HA	2.21	0.40

All (42) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:46:GLU:CG	44:YY:22:GLY:O[4_445]	1.23	0.97
31:YH:46:GLU:CB	44:YY:22:GLY:O[4_445]	1.41	0.79
32:RI:89:TYR:CD2	1:XA:55:A:C2[4_555]	1.42	0.78
27:RD:134:ARG:NE	4:XD:166:LYS:NZ[4_555]	1.53	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RI:89:TYR:CE2	1:XA:55:A:N3[4_555]	1.58	0.62
6:QF:16:GLN:O	4:XD:195:ALA:CB[4_555]	1.62	0.58
31:YH:13:LYS:NZ	44:YY:78:ALA:O[4_445]	1.64	0.56
41:YV:51:VAL:CG2	51:Y5:59:GLU:OE2[4_445]	1.65	0.55
41:YV:51:VAL:CG2	51:Y5:59:GLU:CD[4_445]	1.67	0.53
27:RD:134:ARG:NE	4:XD:166:LYS:CE[4_555]	1.68	0.52
32:RI:89:TYR:CG	1:XA:55:A:N1[4_555]	1.69	0.51
32:RI:89:TYR:CG	1:XA:55:A:C2[4_555]	1.69	0.51
11:QK:99:GLN:NE2	3:XC:79:ARG:CD[4_555]	1.77	0.43
31:YH:46:GLU:CA	44:YY:24:VAL:CG2[4_445]	1.78	0.42
32:RI:89:TYR:O	1:XA:357:G:O2'[4_555]	1.80	0.40
25:YA:1281:G:O3'	41:YV:44:LYS:NZ[4_545]	1.80	0.40
31:YH:13:LYS:NZ	44:YY:79:CYS:C[4_445]	1.80	0.40
25:RA:2220:G:O3'	4:XD:159:ARG:NH1[4_555]	1.82	0.38
27:RD:134:ARG:NH2	4:XD:166:LYS:CD[4_555]	1.85	0.35
31:YH:46:GLU:CG	44:YY:22:GLY:C[4_445]	1.85	0.35
31:YH:46:GLU:CG	44:YY:23:ARG:CA[4_445]	1.88	0.32
25:YA:1281:G:O2'	41:YV:44:LYS:NZ[4_545]	1.90	0.30
41:YV:51:VAL:CG2	51:Y5:59:GLU:CG[4_445]	1.93	0.27
42:RW:60:ASN:ND2	44:YY:91:GLU:O[3_555]	1.93	0.27
32:RI:87:LYS:NZ	1:XA:358:U:O3'[4_555]	1.94	0.26
32:RI:89:TYR:CZ	1:XA:55:A:N3[4_555]	1.95	0.25
32:RI:89:TYR:CD2	1:XA:55:A:N3[4_555]	2.00	0.20
32:RI:89:TYR:CE2	1:XA:55:A:C2[4_555]	2.02	0.18
25:RA:2220:G:O3'	4:XD:159:ARG:NH2[4_555]	2.03	0.17
31:YH:13:LYS:CE	44:YY:78:ALA:O[4_445]	2.07	0.13
31:YH:13:LYS:NZ	44:YY:80:GLY:N[4_445]	2.08	0.12
32:RI:87:LYS:NZ	1:XA:359:U:O5'[4_555]	2.08	0.12
31:YH:46:GLU:OE2	44:YY:23:ARG:CG[4_445]	2.09	0.11
32:RI:89:TYR:CD1	1:XA:55:A:N1[4_555]	2.09	0.11
31:YH:46:GLU:CG	44:YY:23:ARG:N[4_445]	2.12	0.08
31:YH:13:LYS:NZ	44:YY:79:CYS:CA[4_445]	2.12	0.08
32:RI:89:TYR:CZ	1:XA:55:A:C4[4_555]	2.14	0.06
32:RI:89:TYR:CB	1:XA:55:A:N1[4_555]	2.15	0.05
31:YH:13:LYS:NZ	44:YY:78:ALA:C[4_445]	2.15	0.05
25:RA:305:U:OP1	48:Y2:68:ARG:NH1[3_555]	2.16	0.04
25:YA:1282:U:O5'	41:YV:44:LYS:NZ[4_545]	2.17	0.03
32:RI:91:SER:OG	1:XA:368:U:O5'[4_555]	2.18	0.02



## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	233/256 (91%)	204 (88%)	29 (12%)	0	100	100
2	XB	234/256 (91%)	204 (87%)	30 (13%)	0	100	100
3	QC	203/239 (85%)	184 (91%)	19 (9%)	0	100	100
3	XC	203/239 (85%)	183 (90%)	20 (10%)	0	100	100
4	QD	206/209 (99%)	183 (89%)	21 (10%)	2 (1%)	15	54
4	XD	206/209 (99%)	196 (95%)	10 (5%)	0	100	100
5	QE	146/162 (90%)	134 (92%)	12 (8%)	0	100	100
5	XE	146/162 (90%)	134 (92%)	12 (8%)	0	100	100
6	QF	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
6	XF	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
7	QG	153/156 (98%)	145 (95%)	8 (5%)	0	100	100
7	XG	153/156 (98%)	147 (96%)	6 (4%)	0	100	100
8	QH	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
8	XH	135/138 (98%)	129 (96%)	6 (4%)	0	100	100
9	QI	125/128 (98%)	111 (89%)	14 (11%)	0	100	100
9	XI	124/128 (97%)	110 (89%)	14 (11%)	0	100	100
10	QJ	97/105 (92%)	90 (93%)	7 (7%)	0	100	100
10	XJ	94/105 (90%)	83 (88%)	11 (12%)	0	100	100
11	QK	112/129 (87%)	105 (94%)	7 (6%)	0	100	100
11	XK	112/129 (87%)	104 (93%)	8 (7%)	0	100	100
12	QL	119/132 (90%)	113 (95%)	6 (5%)	0	100	100
12	XL	119/132 (90%)	112 (94%)	7 (6%)	0	100	100
13	QM	114/126 (90%)	108 (95%)	6 (5%)	0	100	100
13	XM	112/126 (89%)	102 (91%)	10 (9%)	0	100	100
14	QN	58/61 (95%)	56 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	XN	58/61 (95%)	57 (98%)	1 (2%)	0	100	100
15	QO	86/89 (97%)	84 (98%)	2 (2%)	0	100	100
15	XO	86/89 (97%)	80 (93%)	6 (7%)	0	100	100
16	QP	80/88 (91%)	77 (96%)	3 (4%)	0	100	100
16	XP	80/88 (91%)	76 (95%)	4 (5%)	0	100	100
17	QQ	97/105 (92%)	88 (91%)	9 (9%)	0	100	100
17	XQ	97/105 (92%)	92 (95%)	5 (5%)	0	100	100
18	QR	66/88 (75%)	66 (100%)	0	0	100	100
18	XR	66/88 (75%)	65 (98%)	1 (2%)	0	100	100
19	QS	81/93 (87%)	73 (90%)	8 (10%)	0	100	100
19	XS	81/93 (87%)	78 (96%)	3 (4%)	0	100	100
20	QT	94/106 (89%)	89 (95%)	5 (5%)	0	100	100
20	XT	96/106 (91%)	91 (95%)	5 (5%)	0	100	100
21	QU	21/27 (78%)	20 (95%)	1 (5%)	0	100	100
21	XU	21/27 (78%)	21 (100%)	0	0	100	100
27	RD	273/276 (99%)	260 (95%)	13 (5%)	0	100	100
27	YD	273/276 (99%)	252 (92%)	21 (8%)	0	100	100
28	RE	202/206 (98%)	184 (91%)	17 (8%)	1 (0%)	29	67
28	YE	202/206 (98%)	181 (90%)	21 (10%)	0	100	100
29	RF	200/210 (95%)	192 (96%)	8 (4%)	0	100	100
29	YF	200/210 (95%)	188 (94%)	12 (6%)	0	100	100
30	RG	179/182 (98%)	156 (87%)	23 (13%)	0	100	100
30	YG	179/182 (98%)	151 (84%)	27 (15%)	1 (1%)	25	63
31	RH	172/180 (96%)	166 (96%)	6 (4%)	0	100	100
31	YH	171/180 (95%)	162 (95%)	8 (5%)	1 (1%)	25	63
32	RI	144/148 (97%)	115 (80%)	28 (19%)	1 (1%)	22	61
32	YI	144/148 (97%)	125 (87%)	19 (13%)	0	100	100
33	RN	138/140 (99%)	132 (96%)	6 (4%)	0	100	100
33	YN	138/140 (99%)	131 (95%)	7 (5%)	0	100	100
34	RO	120/122 (98%)	109 (91%)	11 (9%)	0	100	100
34	YO	120/122 (98%)	112 (93%)	8 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
35	RP	147/150 (98%)	136 (92%)	10 (7%)	1 (1%)	22	61
35	YP	147/150 (98%)	135 (92%)	12 (8%)	0	100	100
36	RQ	139/141 (99%)	134 (96%)	5 (4%)	0	100	100
36	YQ	139/141 (99%)	132 (95%)	7 (5%)	0	100	100
37	RR	116/118 (98%)	114 (98%)	2 (2%)	0	100	100
37	YR	116/118 (98%)	111 (96%)	5 (4%)	0	100	100
38	RS	108/112 (96%)	103 (95%)	5 (5%)	0	100	100
38	YS	108/112 (96%)	101 (94%)	7 (6%)	0	100	100
39	RT	129/146 (88%)	120 (93%)	9 (7%)	0	100	100
39	YT	129/146 (88%)	124 (96%)	5 (4%)	0	100	100
40	RU	114/118 (97%)	107 (94%)	7 (6%)	0	100	100
40	YU	114/118 (97%)	111 (97%)	3 (3%)	0	100	100
41	RV	99/101 (98%)	93 (94%)	5 (5%)	1 (1%)	15	54
41	YV	99/101 (98%)	88 (89%)	10 (10%)	1 (1%)	15	54
42	RW	110/113 (97%)	105 (96%)	5 (4%)	0	100	100
42	YW	110/113 (97%)	107 (97%)	3 (3%)	0	100	100
43	RX	93/96 (97%)	84 (90%)	9 (10%)	0	100	100
43	YX	93/96 (97%)	89 (96%)	4 (4%)	0	100	100
44	RY	105/110 (96%)	98 (93%)	7 (7%)	0	100	100
44	YY	105/110 (96%)	101 (96%)	4 (4%)	0	100	100
45	RZ	194/206 (94%)	181 (93%)	13 (7%)	0	100	100
45	YZ	181/206 (88%)	154 (85%)	27 (15%)	0	100	100
46	R0	75/85 (88%)	73 (97%)	2 (3%)	0	100	100
46	Y0	75/85 (88%)	72 (96%)	3 (4%)	0	100	100
47	R1	95/98 (97%)	91 (96%)	4 (4%)	0	100	100
47	Y1	95/98 (97%)	91 (96%)	4 (4%)	0	100	100
48	R2	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
48	Y2	68/72 (94%)	66 (97%)	2 (3%)	0	100	100
49	R3	57/60 (95%)	56 (98%)	1 (2%)	0	100	100
49	Y3	57/60 (95%)	57 (100%)	0	0	100	100
50	R4	67/71 (94%)	53 (79%)	14 (21%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	Y4	67/71 (94%)	53 (79%)	14 (21%)	0	100	100
51	R5	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
51	Y5	56/60 (93%)	54 (96%)	2 (4%)	0	100	100
52	R6	51/54 (94%)	50 (98%)	1 (2%)	0	100	100
52	Y6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
53	R7	46/49 (94%)	42 (91%)	4 (9%)	0	100	100
53	Y7	46/49 (94%)	44 (96%)	2 (4%)	0	100	100
54	R8	62/65 (95%)	55 (89%)	7 (11%)	0	100	100
54	Y8	62/65 (95%)	59 (95%)	3 (5%)	0	100	100
55	R9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
55	Y9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
All	All	11420/12128 (94%)	10610 (93%)	801 (7%)	9 (0%)	51	83

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	QD	32	ALA
4	QD	31	CYS
30	YG	81	LYS
32	RI	132	PRO
41	RV	50	PRO
41	YV	50	PRO
28	RE	147	PRO
35	RP	44	GLY
31	YH	126	PRO

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	203/220 (92%)	201 (99%)	2 (1%)	76	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	XB	204/220 (93%)	201 (98%)	3 (2%)	65	83
3	QC	159/188 (85%)	158 (99%)	1 (1%)	86	94
3	XC	159/188 (85%)	157 (99%)	2 (1%)	69	85
4	QD	180/181 (99%)	175 (97%)	5 (3%)	43	71
4	XD	180/181 (99%)	175 (97%)	5 (3%)	43	71
5	QE	114/123 (93%)	114 (100%)	0	100	100
5	XE	114/123 (93%)	113 (99%)	1 (1%)	78	89
6	QF	90/90 (100%)	89 (99%)	1 (1%)	73	87
6	XF	90/90 (100%)	89 (99%)	1 (1%)	73	87
7	QG	126/127 (99%)	123 (98%)	3 (2%)	49	74
7	XG	126/127 (99%)	126 (100%)	0	100	100
8	QH	118/119 (99%)	118 (100%)	0	100	100
8	XH	118/119 (99%)	117 (99%)	1 (1%)	81	91
9	QI	98/99 (99%)	98 (100%)	0	100	100
9	XI	97/99 (98%)	96 (99%)	1 (1%)	76	88
10	QJ	89/92 (97%)	89 (100%)	0	100	100
10	XJ	86/92 (94%)	86 (100%)	0	100	100
11	QK	86/99 (87%)	85 (99%)	1 (1%)	71	86
11	XK	86/99 (87%)	86 (100%)	0	100	100
12	QL	102/108 (94%)	102 (100%)	0	100	100
12	XL	102/108 (94%)	102 (100%)	0	100	100
13	QM	94/101 (93%)	93 (99%)	1 (1%)	73	87
13	XM	93/101 (92%)	93 (100%)	0	100	100
14	QN	49/50 (98%)	47 (96%)	2 (4%)	30	63
14	XN	49/50 (98%)	49 (100%)	0	100	100
15	QO	79/80 (99%)	78 (99%)	1 (1%)	69	85
15	XO	79/80 (99%)	78 (99%)	1 (1%)	69	85
16	QP	71/74 (96%)	71 (100%)	0	100	100
16	XP	71/74 (96%)	71 (100%)	0	100	100
17	QQ	94/97 (97%)	93 (99%)	1 (1%)	73	87
17	XQ	94/97 (97%)	93 (99%)	1 (1%)	73	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	QR	59/77 (77%)	59 (100%)	0	100	100
18	XR	59/77 (77%)	58 (98%)	1 (2%)	60	81
19	QS	72/80 (90%)	72 (100%)	0	100	100
19	XS	72/80 (90%)	72 (100%)	0	100	100
20	QT	74/82 (90%)	74 (100%)	0	100	100
20	XT	76/82 (93%)	75 (99%)	1 (1%)	69	85
21	QU	18/22 (82%)	18 (100%)	0	100	100
21	XU	18/22 (82%)	18 (100%)	0	100	100
27	RD	217/218 (100%)	217 (100%)	0	100	100
27	YD	217/218 (100%)	217 (100%)	0	100	100
28	RE	165/166 (99%)	165 (100%)	0	100	100
28	YE	165/166 (99%)	163 (99%)	2 (1%)	71	86
29	RF	161/166 (97%)	161 (100%)	0	100	100
29	YF	161/166 (97%)	160 (99%)	1 (1%)	86	94
30	RG	155/156 (99%)	155 (100%)	0	100	100
30	YG	155/156 (99%)	154 (99%)	1 (1%)	86	94
31	RH	145/148 (98%)	145 (100%)	0	100	100
31	YH	144/148 (97%)	142 (99%)	2 (1%)	67	84
32	RI	122/124 (98%)	122 (100%)	0	100	100
32	YI	122/124 (98%)	122 (100%)	0	100	100
33	RN	119/119 (100%)	117 (98%)	2 (2%)	60	81
33	YN	119/119 (100%)	119 (100%)	0	100	100
34	RO	100/100 (100%)	100 (100%)	0	100	100
34	YO	100/100 (100%)	100 (100%)	0	100	100
35	RP	116/116 (100%)	116 (100%)	0	100	100
35	YP	116/116 (100%)	115 (99%)	1 (1%)	78	89
36	RQ	111/111 (100%)	111 (100%)	0	100	100
36	YQ	111/111 (100%)	110 (99%)	1 (1%)	78	89
37	RR	101/101 (100%)	99 (98%)	2 (2%)	55	78
37	YR	101/101 (100%)	101 (100%)	0	100	100
38	RS	87/88 (99%)	86 (99%)	1 (1%)	73	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	YS	87/88 (99%)	87 (100%)	0	100	100
39	RT	115/127 (91%)	115 (100%)	0	100	100
39	YT	115/127 (91%)	115 (100%)	0	100	100
40	RU	93/94 (99%)	93 (100%)	0	100	100
40	YU	93/94 (99%)	92 (99%)	1 (1%)	73	87
41	RV	82/82 (100%)	82 (100%)	0	100	100
41	YV	82/82 (100%)	81 (99%)	1 (1%)	71	86
42	RW	91/92 (99%)	91 (100%)	0	100	100
42	YW	91/92 (99%)	91 (100%)	0	100	100
43	RX	77/78 (99%)	77 (100%)	0	100	100
43	YX	77/78 (99%)	77 (100%)	0	100	100
44	RY	88/91 (97%)	87 (99%)	1 (1%)	73	87
44	YY	88/91 (97%)	88 (100%)	0	100	100
45	RZ	170/179 (95%)	169 (99%)	1 (1%)	86	94
45	YZ	162/179 (90%)	160 (99%)	2 (1%)	71	86
46	R0	62/67 (92%)	61 (98%)	1 (2%)	62	82
46	Y0	62/67 (92%)	62 (100%)	0	100	100
47	R1	82/83 (99%)	82 (100%)	0	100	100
47	Y1	82/83 (99%)	82 (100%)	0	100	100
48	R2	66/67 (98%)	65 (98%)	1 (2%)	65	83
48	Y2	66/67 (98%)	66 (100%)	0	100	100
49	R3	51/52 (98%)	49 (96%)	2 (4%)	32	64
49	Y3	51/52 (98%)	51 (100%)	0	100	100
50	R4	62/63 (98%)	62 (100%)	0	100	100
50	Y4	62/63 (98%)	61 (98%)	1 (2%)	62	82
51	R5	51/52 (98%)	50 (98%)	1 (2%)	55	78
51	Y5	50/52 (96%)	49 (98%)	1 (2%)	55	78
52	R6	51/52 (98%)	50 (98%)	1 (2%)	55	78
52	Y6	51/52 (98%)	48 (94%)	3 (6%)	19	54
53	R7	41/42 (98%)	40 (98%)	1 (2%)	49	74
53	Y7	41/42 (98%)	41 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	R8	54/55 (98%)	54 (100%)	0	100	100
54	Y8	54/55 (98%)	54 (100%)	0	100	100
55	R9	34/34 (100%)	33 (97%)	1 (3%)	42	71
55	Y9	34/34 (100%)	34 (100%)	0	100	100
All	All	9676/10064 (96%)	9608 (99%)	68 (1%)	84	92

All (68) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	96	ARG
2	QB	139	LYS
3	QC	59	ARG
4	QD	8	VAL
4	QD	12	CYS
4	QD	13	ARG
4	QD	18	LYS
4	QD	76	ARG
6	QF	100	ASN
7	QG	24	THR
7	QG	70	LYS
7	QG	94	ARG
11	QK	41	THR
13	QM	63	THR
14	QN	11	LYS
14	QN	40	CYS
15	QO	10	LYS
17	QQ	100	LYS
33	RN	106	MET
33	RN	120	LEU
37	RR	70	LEU
37	RR	79	LEU
38	RS	13	ARG
44	RY	99	CYS
45	RZ	55	HIS
46	R0	14	ARG
48	R2	8	LYS
49	R3	5	LYS
49	R3	40	THR
51	R5	37	LYS
52	R6	44	ARG
53	R7	47	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
55	R9	20	HIS
2	XB	21	ARG
2	XB	137	ARG
2	XB	141	GLU
3	XC	21	ARG
3	XC	188	LEU
4	XD	12	CYS
4	XD	22	LYS
4	XD	31	CYS
4	XD	33	MET
4	XD	139	ARG
5	XE	41	VAL
6	XF	72	VAL
8	XH	37	ARG
9	XI	9	ARG
15	XO	34	LEU
17	XQ	63	ARG
18	XR	66	LEU
20	XT	68	LYS
28	YE	9	VAL
28	YE	31	CYS
29	YF	202	PHE
30	YG	58	GLN
31	YH	45	VAL
31	YH	47	GLU
35	YP	32	THR
36	YQ	66	ILE
40	YU	95	LEU
41	YV	22	VAL
45	YZ	9	TYR
45	YZ	59	LEU
50	Y4	48	ARG
51	Y5	56	LYS
52	Y6	6	ARG
52	Y6	18	ARG
52	Y6	27	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	QB	212	GLN
9	QI	73	GLN

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Mol	Chain	Res	Type
28	RE	143	ASN
35	RP	9	ASN
14	XN	52	GLN
15	XO	9	GLN
27	YD	166	GLN
30	YG	58	GLN
32	YI	133	HIS
52	Y6	49	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1494/1521 (98%)	292 (19%)	14 (0%)
1	XA	1498/1521 (98%)	287 (19%)	14 (0%)
22	QV	76/77 (98%)	18 (23%)	0
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QX	7/26 (26%)	1 (14%)	1 (14%)
23	XX	10/26 (38%)	7 (70%)	1 (10%)
24	QY	13/18 (72%)	5 (38%)	2 (15%)
24	XY	15/18 (83%)	9 (60%)	1 (6%)
25	RA	2860/2915 (98%)	599 (20%)	21 (0%)
25	YA	2861/2915 (98%)	580 (20%)	19 (0%)
26	RB	119/122 (97%)	17 (14%)	0
26	YB	119/122 (97%)	24 (20%)	0
56	ZA	1/3 (33%)	0	0
56	ZB	1/3 (33%)	1 (100%)	0
All	All	9150/9364 (97%)	1857 (20%)	74 (0%)

All (1857) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	11	G
1	QA	21	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	41	G
1	QA	46	G
1	QA	47	C
1	QA	48	C
1	QA	51	A

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Mol	Chain	Res	Type
1	QA	59	A
1	QA	61	G
1	QA	64	G
1	QA	79	G
1	QA	91	C
1	QA	93	G
1	QA	116	A
1	QA	121	C
1	QA	129(B)	G
1	QA	131	C
1	QA	159	G
1	QA	163	C
1	QA	174	C
1	QA	182	U
1	QA	189(G)	U
1	QA	189(H)	G
1	QA	195	A
1	QA	197	A
1	QA	201	C
1	QA	202	U
1	QA	204	U
1	QA	216	G
1	QA	220	G
1	QA	226	G
1	QA	240	C
1	QA	247	G
1	QA	251	G
1	QA	252	U
1	QA	262	A
1	QA	267	C
1	QA	289	G
1	QA	306	G
1	QA	309	G
1	QA	316	G
1	QA	321	A
1	QA	328	C
1	QA	330	C
1	QA	332	G
1	QA	345	C
1	QA	347	G
1	QA	351	G
1	QA	352	C

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Mol	Chain	Res	Type
1	QA	353	A
1	QA	354	G
1	QA	360	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	427	U
1	QA	428	G
1	QA	429	U
1	QA	439	A
1	QA	448	A
1	QA	452	A
1	QA	461	A
1	QA	470	C
1	QA	484	G
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	498	U
1	QA	502	G
1	QA	505	G
1	QA	507	C
1	QA	508	C
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	527	G7M
1	QA	528	C
1	QA	531	U
1	QA	532	A

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Mol	Chain	Res	Type
1	QA	533	A
1	QA	534	U
1	QA	537	G
1	QA	547	A
1	QA	550	G
1	QA	559	A
1	QA	563	A
1	QA	572	A
1	QA	576	G
1	QA	577	G
1	QA	596	C
1	QA	607	A
1	QA	619	U
1	QA	630	G
1	QA	631	G
1	QA	632	A
1	QA	653	A
1	QA	659	U
1	QA	665	A
1	QA	687	A
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	731	G
1	QA	737	A
1	QA	750	G
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	774	G
1	QA	778	G
1	QA	793	U
1	QA	794	A
1	QA	816	A
1	QA	817	C
1	QA	818	G
1	QA	821	G
1	QA	828	A
1	QA	829	G
1	QA	840	C
1	QA	841	U
1	QA	848	C

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Mol	Chain	Res	Type
1	QA	851	G
1	QA	858	G
1	QA	859	A
1	QA	862	C
1	QA	872	A
1	QA	873	A
1	QA	876	G
1	QA	880	C
1	QA	889	A
1	QA	902	G
1	QA	906	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	931	C
1	QA	934	C
1	QA	935	A
1	QA	961	U
1	QA	965	A
1	QA	968	A
1	QA	969	A
1	QA	970	C
1	QA	971	G
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	981	U
1	QA	982	U
1	QA	984	C
1	QA	992	U
1	QA	993	G
1	QA	1003	G
1	QA	1004	A
1	QA	1006	C
1	QA	1019	C
1	QA	1022	G
1	QA	1023	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1027	C

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Mol	Chain	Res	Type
1	QA	1028	C
1	QA	1030(A)	C
1	QA	1030(B)	G
1	QA	1030(C)	C
1	QA	1030(E)	A
1	QA	1031	G
1	QA	1033	G
1	QA	1037	C
1	QA	1048	G
1	QA	1053	G
1	QA	1054	C
1	QA	1065	U
1	QA	1066	C
1	QA	1068	G
1	QA	1081	G
1	QA	1084	G
1	QA	1085	U
1	QA	1091	U
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1104	G
1	QA	1108	G
1	QA	1123	A
1	QA	1124	G
1	QA	1125	U
1	QA	1130	A
1	QA	1135	U
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1152	A
1	QA	1154	G
1	QA	1158	C
1	QA	1159	U
1	QA	1161	C
1	QA	1166	G
1	QA	1177	G
1	QA	1183	A
1	QA	1184	G

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Mol	Chain	Res	Type
1	QA	1186	G
1	QA	1196	U
1	QA	1197	G
1	QA	1198	G
1	QA	1202	G
1	QA	1213	A
1	QA	1214	C
1	QA	1224	G
1	QA	1225	A
1	QA	1226	C
1	QA	1228	C
1	QA	1236	A
1	QA	1238	A
1	QA	1241	G
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1278	U
1	QA	1279	A
1	QA	1280	A
1	QA	1285	A
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1310	G
1	QA	1312	G
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1336	C
1	QA	1337	G
1	QA	1340	A
1	QA	1345	U
1	QA	1347	G

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Mol	Chain	Res	Type
1	QA	1363(A)	C
1	QA	1364	U
1	QA	1370	G
1	QA	1379	G
1	QA	1383	C
1	QA	1397	C
1	QA	1398	A
1	QA	1419	G
1	QA	1442(A)	G
1	QA	1442(B)	G
1	QA	1442(C)	A
1	QA	1446	U
1	QA	1447	A
1	QA	1452	C
1	QA	1456	G
1	QA	1457	G
1	QA	1492	A
1	QA	1493	A
1	QA	1494	G
1	QA	1497	G
1	QA	1499	A
1	QA	1503	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1507	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
1	QA	1531	A
22	QV	2	G
22	QV	4	G
22	QV	5	G
22	QV	9	G
22	QV	13	C
22	QV	16	C
22	QV	17(A)	U
22	QV	18	G
22	QV	19	G
22	QV	21	A
22	QV	47	U
22	QV	48	C

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Mol	Chain	Res	Type
22	QV	49	G
22	QV	53	G
22	QV	65	C
22	QV	67	C
22	QV	75	C
22	QV	76	A
23	QX	19	C
24	QY	33	U
24	QY	34	C
24	QY	35	G
24	QY	37	G
24	QY	41	G
25	RA	10	G
25	RA	11	G
25	RA	12	U
25	RA	34	C
25	RA	35	G
25	RA	45	C
25	RA	50	U
25	RA	51	G
25	RA	61	G
25	RA	71	A
25	RA	72	U
25	RA	73	A
25	RA	74	A
25	RA	75	G
25	RA	78	A
25	RA	84	A
25	RA	90	U
25	RA	103	A
25	RA	105	C
25	RA	110	G
25	RA	118	A
25	RA	119	A
25	RA	120	U
25	RA	121	G
25	RA	126	A
25	RA	131	G
25	RA	140	G
25	RA	157	U
25	RA	173	G
25	RA	181	A

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Mol	Chain	Res	Type
25	RA	196	A
25	RA	199	A
25	RA	201	C
25	RA	204	A
25	RA	205	G
25	RA	214	G
25	RA	215	G
25	RA	216	A
25	RA	221	A
25	RA	222	A
25	RA	225	A
25	RA	227	A
25	RA	228	A
25	RA	229	A
25	RA	230	U
25	RA	239	U
25	RA	248	G
25	RA	251	A
25	RA	272(J)	C
25	RA	272(K)	U
25	RA	272(L)	U
25	RA	272(M)	G
25	RA	272(N)	U
25	RA	272(O)	C
25	RA	272(Y)	U
25	RA	273(B)	U
25	RA	273(C)	G
25	RA	273(K)	C
25	RA	276	A
25	RA	277	C
25	RA	283	A
25	RA	294	A
25	RA	302	C
25	RA	311	A
25	RA	317	G
25	RA	324	A
25	RA	329	G
25	RA	330	A
25	RA	331	A
25	RA	352	G
25	RA	363(A)	G
25	RA	363(D)	G

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Mol	Chain	Res	Type
25	RA	364	C
25	RA	366	C
25	RA	372	G
25	RA	383	U
25	RA	386	G
25	RA	391	G
25	RA	396	G
25	RA	406	G
25	RA	407	G
25	RA	411	G
25	RA	412	A
25	RA	425	G
25	RA	428	A
25	RA	434	U
25	RA	444	C
25	RA	454	A
25	RA	455	C
25	RA	456	C
25	RA	457	A
25	RA	458	G
25	RA	464	U
25	RA	470	A
25	RA	481	G
25	RA	491	G
25	RA	504	U
25	RA	505	A
25	RA	508	G
25	RA	509	C
25	RA	519	U
25	RA	527	C
25	RA	528	A
25	RA	530	G
25	RA	531	C
25	RA	532	A
25	RA	533	G
25	RA	545	G
25	RA	547	A
25	RA	556	G
25	RA	563	G
25	RA	567	A
25	RA	568	U
25	RA	571	A

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Mol	Chain	Res	Type
25	RA	572	A
25	RA	573	G
25	RA	575	A
25	RA	603	A
25	RA	604	G
25	RA	607	U
25	RA	610	G
25	RA	614(C)	G
25	RA	615	G
25	RA	627	A
25	RA	628	G
25	RA	634	C
25	RA	637	A
25	RA	645	C
25	RA	646	A
25	RA	652(B)	A
25	RA	652(D)	G
25	RA	652(V)	G
25	RA	662	G
25	RA	663	G
25	RA	669	G
25	RA	670	A
25	RA	675	A
25	RA	677	A
25	RA	686	G
25	RA	695	G
25	RA	729	G
25	RA	730	C
25	RA	733	G
25	RA	736	C
25	RA	748	G
25	RA	764	A
25	RA	765	G
25	RA	775	G
25	RA	776	G
25	RA	782	A
25	RA	784	A
25	RA	785	G
25	RA	789	A
25	RA	792	G
25	RA	794	G
25	RA	800	A

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Mol	Chain	Res	Type
25	RA	805	G
25	RA	811	U
25	RA	812	C
25	RA	817	C
25	RA	827	U
25	RA	828	U
25	RA	830	G
25	RA	831	G
25	RA	846	C
25	RA	847	U
25	RA	857	C
25	RA	859	G
25	RA	866	A
25	RA	886	C
25	RA	887	A
25	RA	888	C
25	RA	889	C
25	RA	890	A
25	RA	893	C
25	RA	896	A
25	RA	897	C
25	RA	900	A
25	RA	907	U
25	RA	910	A
25	RA	914	C
25	RA	917	A
25	RA	931	G
25	RA	932	G
25	RA	941	A
25	RA	945	A
25	RA	946	G
25	RA	958	U
25	RA	959	A
25	RA	961	C
25	RA	962	G
25	RA	972	G
25	RA	974	G
25	RA	975(A)	C
25	RA	980	A
25	RA	983	A
25	RA	990	A
25	RA	996	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1012	U
25	RA	1013	C
25	RA	1022	G
25	RA	1023	U
25	RA	1025	G
25	RA	1026	U
25	RA	1027	A
25	RA	1033	U
25	RA	1042	G
25	RA	1044	G
25	RA	1046	A
25	RA	1047	G
25	RA	1052	C
25	RA	1054	A
25	RA	1057	A
25	RA	1060	U
25	RA	1063	G
25	RA	1064	C
25	RA	1065	U
25	RA	1066	U
25	RA	1067	A
25	RA	1068	G
25	RA	1069	A
25	RA	1071	G
25	RA	1072	C
25	RA	1073	A
25	RA	1074	G
25	RA	1077	A
25	RA	1078	U
25	RA	1079	C
25	RA	1082	U
25	RA	1083	U
25	RA	1084	A
25	RA	1085	A
25	RA	1086	A
25	RA	1088	A
25	RA	1090	U
25	RA	1091	G
25	RA	1092	C
25	RA	1095	A
25	RA	1096	A
25	RA	1097	U

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Mol	Chain	Res	Type
25	RA	1098	A
25	RA	1099	G
25	RA	1102	C
25	RA	1109	C
25	RA	1110	G
25	RA	1111	A
25	RA	1112	G
25	RA	1115	G
25	RA	1116	C
25	RA	1126	A
25	RA	1128	A
25	RA	1129	A
25	RA	1130	U
25	RA	1131	G
25	RA	1135	C
25	RA	1136	G
25	RA	1142(B)	A
25	RA	1155	A
25	RA	1206	G
25	RA	1211	U
25	RA	1212	G
25	RA	1218	C
25	RA	1220	A
25	RA	1221(A)	C
25	RA	1236	G
25	RA	1241	A
25	RA	1248	G
25	RA	1252	G
25	RA	1253	A
25	RA	1255	U
25	RA	1256	G
25	RA	1265	A
25	RA	1271	G
25	RA	1272	A
25	RA	1300	U
25	RA	1301	A
25	RA	1302	A
25	RA	1304	C
25	RA	1306	C
25	RA	1312	U
25	RA	1314	C
25	RA	1329	U

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Mol	Chain	Res	Type
25	RA	1330	C
25	RA	1338	G
25	RA	1341	U
25	RA	1352	U
25	RA	1355	G
25	RA	1359	A
25	RA	1360	A
25	RA	1365	A
25	RA	1368	G
25	RA	1378	A
25	RA	1379	A
25	RA	1384	A
25	RA	1385	G
25	RA	1395	A
25	RA	1397	U
25	RA	1411	C
25	RA	1416	G
25	RA	1419	A
25	RA	1420	U
25	RA	1421	G
25	RA	1428	C
25	RA	1445(A)	A
25	RA	1450(A)	G
25	RA	1455	G
25	RA	1458	C
25	RA	1459	G
25	RA	1467	C
25	RA	1471	A
25	RA	1482	G
25	RA	1485	G
25	RA	1490	A
25	RA	1493	C
25	RA	1494	A
25	RA	1496	A
25	RA	1497	U
25	RA	1508	A
25	RA	1509(A)	C
25	RA	1509(B)	A
25	RA	1525	G
25	RA	1530	C
25	RA	1531	C
25	RA	1532	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1533	G
25	RA	1539	G
25	RA	1542	A
25	RA	1543	C
25	RA	1546	C
25	RA	1554	A
25	RA	1558	A
25	RA	1559	G
25	RA	1560	G
25	RA	1566	A
25	RA	1569	A
25	RA	1571	A
25	RA	1578	U
25	RA	1580	A
25	RA	1583	A
25	RA	1584	C
25	RA	1586	A
25	RA	1588	C
25	RA	1608	A
25	RA	1609	A
25	RA	1610	A
25	RA	1616	A
25	RA	1631(A)	C
25	RA	1639	U
25	RA	1646	C
25	RA	1648	C
25	RA	1651	G
25	RA	1654	A
25	RA	1665	A
25	RA	1673	U
25	RA	1674	G
25	RA	1693	U
25	RA	1696	G
25	RA	1700	A
25	RA	1701	A
25	RA	1721	G
25	RA	1722	A
25	RA	1739	U
25	RA	1762	A
25	RA	1763	G
25	RA	1764	G
25	RA	1772	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	1773	A
25	RA	1780	A
25	RA	1782	C
25	RA	1784	A
25	RA	1791	A
25	RA	1800	C
25	RA	1801	G
25	RA	1816	G
25	RA	1829	A
25	RA	1835	G
25	RA	1836	C
25	RA	1847	A
25	RA	1860	G
25	RA	1877	A
25	RA	1878	G
25	RA	1882	C
25	RA	1900	A
25	RA	1903	G
25	RA	1906	G
25	RA	1913	A
25	RA	1914	C
25	RA	1927	A
25	RA	1929	G
25	RA	1930	G
25	RA	1934	C
25	RA	1936	A
25	RA	1938	A
25	RA	1955	U
25	RA	1963	U
25	RA	1964	G
25	RA	1967	C
25	RA	1970	A
25	RA	1971	A
25	RA	1972	A
25	RA	1975	G
25	RA	1993	U
25	RA	1997	G
25	RA	2004	G
25	RA	2023	G
25	RA	2031	A
25	RA	2032	G
25	RA	2033	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	RA	2043	C
25	RA	2049	G
25	RA	2052	G
25	RA	2055	C
25	RA	2056	G
25	RA	2060	A
25	RA	2061	G
25	RA	2062	A
25	RA	2069	G
25	RA	2072	G
25	RA	2093	G
25	RA	2096	U
25	RA	2100	G
25	RA	2103	C
25	RA	2104	G
25	RA	2107	C
25	RA	2108	C
25	RA	2110	G
25	RA	2112	G
25	RA	2116	G
25	RA	2117	A
25	RA	2118	U
25	RA	2119	A
25	RA	2120	G
25	RA	2121	G
25	RA	2122	U
25	RA	2127	G
25	RA	2129	C
25	RA	2130	U
25	RA	2131	G
25	RA	2132	U
25	RA	2133	G
25	RA	2134	A
25	RA	2136	C
25	RA	2141	G
25	RA	2145	C
25	RA	2146	C
25	RA	2148	G
25	RA	2151	G
25	RA	2157	G
25	RA	2158	A
25	RA	2159	G

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Mol	Chain	Res	Type
25	RA	2163	C
25	RA	2165	G
25	RA	2167	U
25	RA	2172	U
25	RA	2174	C
25	RA	2178	C
25	RA	2179	C
25	RA	2185	C
25	RA	2186	G
25	RA	2189	U
25	RA	2198	A
25	RA	2199	A
25	RA	2206	G
25	RA	2207	G
25	RA	2208	A
25	RA	2218	U
25	RA	2219	G
25	RA	2221	G
25	RA	2222	G
25	RA	2225	A
25	RA	2235	G
25	RA	2238	G
25	RA	2239	G
25	RA	2249	U
25	RA	2251	OMG
25	RA	2266	A
25	RA	2268	A
25	RA	2269	A
25	RA	2275	C
25	RA	2278	A
25	RA	2279	G
25	RA	2283	C
25	RA	2287	A
25	RA	2288	A
25	RA	2305	A
25	RA	2307	G
25	RA	2309	A
25	RA	2312	U
25	RA	2319	G
25	RA	2320	A
25	RA	2321	G
25	RA	2322	A

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Mol	Chain	Res	Type
25	RA	2325	G
25	RA	2334	G
25	RA	2335	A
25	RA	2336	A
25	RA	2343	C
25	RA	2347	C
25	RA	2350	C
25	RA	2383	G
25	RA	2385	C
25	RA	2402	C
25	RA	2403	C
25	RA	2406	U
25	RA	2410	G
25	RA	2422	A
25	RA	2423	U
25	RA	2424	C
25	RA	2425	A
25	RA	2426	A
25	RA	2428	G
25	RA	2429	G
25	RA	2430	A
25	RA	2431	U
25	RA	2439	A
25	RA	2441	C
25	RA	2447	G
25	RA	2448	A
25	RA	2449	U
25	RA	2465	C
25	RA	2469	A
25	RA	2470	G
25	RA	2476	A
25	RA	2478	A
25	RA	2480	C
25	RA	2494	G
25	RA	2498	C
25	RA	2504	U
25	RA	2505	G
25	RA	2518	A
25	RA	2519	U
25	RA	2529	G
25	RA	2549	G
25	RA	2554	U

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Mol	Chain	Res	Type
25	RA	2564	A
25	RA	2566	A
25	RA	2567	G
25	RA	2576	G
25	RA	2582	G
25	RA	2585	U
25	RA	2597	G
25	RA	2602	A
25	RA	2611	U
25	RA	2612	C
25	RA	2615	U
25	RA	2621	A
25	RA	2630	G
25	RA	2632	A
25	RA	2645	G
25	RA	2646	C
25	RA	2654	A
25	RA	2656	U
25	RA	2663	G
25	RA	2679	A
25	RA	2682	U
25	RA	2689	U
25	RA	2690	C
25	RA	2691	C
25	RA	2702	U
25	RA	2703	C
25	RA	2712(B)	A
25	RA	2713	A
25	RA	2714	G
25	RA	2715	C
25	RA	2718	G
25	RA	2726	U
25	RA	2732	G
25	RA	2733	A
25	RA	2739	U
25	RA	2744	G
25	RA	2746	U
25	RA	2748	A
25	RA	2750	A
25	RA	2751	G
25	RA	2756	U
25	RA	2757	A

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Mol	Chain	Res	Type
25	RA	2758	A
25	RA	2763	G
25	RA	2765	A
25	RA	2766	G
25	RA	2778	A
25	RA	2789	C
25	RA	2793	G
25	RA	2810	A
25	RA	2811	G
25	RA	2820	A
25	RA	2821	A
25	RA	2823	A
25	RA	2835	A
25	RA	2866	U
25	RA	2872	G
25	RA	2876	G
25	RA	2879	C
25	RA	2880	C
25	RA	2883	A
25	RA	2889	C
25	RA	2892	A
25	RA	2894	G
25	RA	2897	U
26	RB	9	G
26	RB	13	A
26	RB	15	A
26	RB	25	A
26	RB	31	C
26	RB	32	C
26	RB	35	U
26	RB	41	U
26	RB	44	G
26	RB	54	G
26	RB	56	G
26	RB	73	A
26	RB	75	G
26	RB	89	G
26	RB	106	G
26	RB	108	U
26	RB	110	G
1	XA	5	U
1	XA	6	G

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Mol	Chain	Res	Type
1	XA	7	G
1	XA	9	G
1	XA	31	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	52	G
1	XA	61	G
1	XA	66	G
1	XA	78	G
1	XA	80	G
1	XA	88	A
1	XA	89	C
1	XA	105	G
1	XA	121	C
1	XA	129(B)	G
1	XA	131	C
1	XA	144	G
1	XA	151	A
1	XA	163	C
1	XA	174	C
1	XA	182	U
1	XA	189(G)	U
1	XA	189(H)	G
1	XA	189(I)	G
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	202	U
1	XA	204	U
1	XA	216	G
1	XA	220	G
1	XA	246	A
1	XA	247	G
1	XA	251	G
1	XA	266	G
1	XA	267	C
1	XA	270	A
1	XA	280	C

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Mol	Chain	Res	Type
1	XA	281	G
1	XA	289	G
1	XA	301	G
1	XA	316	G
1	XA	321	A
1	XA	327	A
1	XA	328	C
1	XA	330	C
1	XA	332	G
1	XA	342	C
1	XA	345	C
1	XA	347	G
1	XA	350	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	358	U
1	XA	359	U
1	XA	360	A
1	XA	367	U
1	XA	368	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	392	G
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	412	A
1	XA	413	G
1	XA	423	G
1	XA	427	U
1	XA	428	G
1	XA	429	U
1	XA	439	A
1	XA	452	A
1	XA	453	A
1	XA	471	G
1	XA	482	A
1	XA	485	G

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Mol	Chain	Res	Type
1	XA	496	A
1	XA	498	U
1	XA	505	G
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	512	U
1	XA	516	PSU
1	XA	517	G
1	XA	518	C
1	XA	521	G
1	XA	527	G7M
1	XA	532	A
1	XA	533	A
1	XA	547	A
1	XA	559	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	589	C
1	XA	601	C
1	XA	602	A
1	XA	618	C
1	XA	630	G
1	XA	632	A
1	XA	653	A
1	XA	661	G
1	XA	665	A
1	XA	666	G
1	XA	683	G
1	XA	687	A
1	XA	688	G
1	XA	702	A
1	XA	721	G
1	XA	723	U
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	755	G
1	XA	763	G

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Mol	Chain	Res	Type
1	XA	770	C
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	813	U
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	829	G
1	XA	836	G
1	XA	840	C
1	XA	841	U
1	XA	848	C
1	XA	851	G
1	XA	855	G
1	XA	864	A
1	XA	867	G
1	XA	872	A
1	XA	873	A
1	XA	891	U
1	XA	902	G
1	XA	914	A
1	XA	920	U
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	960	U
1	XA	961	U
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	982	U
1	XA	992	U

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Mol	Chain	Res	Type
1	XA	993	G
1	XA	994	A
1	XA	1001(B)	G
1	XA	1003	G
1	XA	1004	A
1	XA	1005	A
1	XA	1006	C
1	XA	1020	U
1	XA	1022	G
1	XA	1024	G
1	XA	1025	U
1	XA	1026	G
1	XA	1027	C
1	XA	1028	C
1	XA	1030(A)	C
1	XA	1030(C)	C
1	XA	1031	G
1	XA	1032	G
1	XA	1043	C
1	XA	1044	A
1	XA	1046	A
1	XA	1053	G
1	XA	1055	A
1	XA	1065	U
1	XA	1066	C
1	XA	1068	G
1	XA	1078	U
1	XA	1081	G
1	XA	1085	U
1	XA	1092	A
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1104	G
1	XA	1108	G
1	XA	1117	G
1	XA	1118	C
1	XA	1125	U
1	XA	1129	C
1	XA	1130	A
1	XA	1136	U
1	XA	1137	C

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Mol	Chain	Res	Type
1	XA	1139	G
1	XA	1140	C
1	XA	1147	C
1	XA	1152	A
1	XA	1159	U
1	XA	1160	G
1	XA	1161	C
1	XA	1170	A
1	XA	1183	A
1	XA	1184	G
1	XA	1191	A
1	XA	1196	U
1	XA	1197	G
1	XA	1201	A
1	XA	1210	C
1	XA	1211	U
1	XA	1213	A
1	XA	1215	G
1	XA	1224	G
1	XA	1227	A
1	XA	1237	C
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1260	C
1	XA	1270	C
1	XA	1275	A
1	XA	1278	U
1	XA	1279	A
1	XA	1281	U
1	XA	1282	C
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1300	G
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1312	G

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Mol	Chain	Res	Type
1	XA	1317	C
1	XA	1320	C
1	XA	1323	G
1	XA	1340	A
1	XA	1346	A
1	XA	1347	G
1	XA	1353	G
1	XA	1363(A)	C
1	XA	1364	U
1	XA	1370	G
1	XA	1397	C
1	XA	1398	A
1	XA	1419	G
1	XA	1442(A)	G
1	XA	1442(B)	G
1	XA	1447	A
1	XA	1452	C
1	XA	1456	G
1	XA	1457	G
1	XA	1487	G
1	XA	1492	A
1	XA	1494	G
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
1	XA	1531	A
22	XV	5	G
22	XV	8	U
22	XV	9	G
22	XV	17(A)	U
22	XV	18	G
22	XV	19	G
22	XV	21	A
22	XV	42	G
22	XV	47	U

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Mol	Chain	Res	Type
22	XV	48	C
22	XV	49	G
22	XV	53	G
22	XV	54	U
22	XV	59	A
22	XV	67	C
22	XV	75	C
22	XV	76	A
23	XX	15	A
23	XX	18	G
23	XX	19	C
23	XX	20	C
23	XX	21	C
23	XX	22	U
23	XX	23	A
24	XY	29	U
24	XY	30	C
24	XY	31	G
24	XY	32	U
24	XY	33	U
24	XY	34	C
24	XY	35	G
24	XY	36	G
24	XY	43	G
25	YA	10	G
25	YA	12	U
25	YA	15	G
25	YA	19	C
25	YA	34	C
25	YA	45	C
25	YA	51	G
25	YA	64	A
25	YA	71	A
25	YA	72	U
25	YA	74	A
25	YA	75	G
25	YA	83	G
25	YA	84	A
25	YA	92	A
25	YA	95	G
25	YA	102	G
25	YA	118	A

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Mol	Chain	Res	Type
25	YA	120	U
25	YA	125	G
25	YA	131	G
25	YA	141	A
25	YA	157	U
25	YA	173	G
25	YA	179	G
25	YA	181	A
25	YA	196	A
25	YA	199	A
25	YA	201	C
25	YA	205	G
25	YA	216	A
25	YA	221	A
25	YA	222	A
25	YA	225	A
25	YA	227	A
25	YA	228	A
25	YA	229	A
25	YA	230	U
25	YA	232	G
25	YA	233	A
25	YA	248	G
25	YA	264	C
25	YA	269	U
25	YA	272(D)	G
25	YA	272(L)	U
25	YA	272(N)	U
25	YA	273(B)	U
25	YA	273(C)	G
25	YA	273(D)	G
25	YA	276	A
25	YA	277	C
25	YA	278	A
25	YA	279	C
25	YA	311	A
25	YA	322	A
25	YA	323	G
25	YA	324	A
25	YA	329	G
25	YA	330	A
25	YA	331	A

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Mol	Chain	Res	Type
25	YA	332	A
25	YA	342	G
25	YA	345	A
25	YA	346	A
25	YA	352	G
25	YA	362	U
25	YA	363(A)	G
25	YA	363(C)	G
25	YA	370	G
25	YA	372	G
25	YA	386	G
25	YA	396	G
25	YA	407	G
25	YA	411	G
25	YA	428	A
25	YA	444	C
25	YA	455	C
25	YA	457	A
25	YA	458	G
25	YA	470	A
25	YA	473	G
25	YA	477	A
25	YA	481	G
25	YA	505	A
25	YA	509	C
25	YA	512	G
25	YA	528	A
25	YA	529	A
25	YA	530	G
25	YA	531	C
25	YA	532	A
25	YA	533	G
25	YA	546	C
25	YA	547	A
25	YA	563	G
25	YA	568	U
25	YA	571	A
25	YA	573	G
25	YA	574	C
25	YA	575	A
25	YA	579	G
25	YA	580	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	603	A
25	YA	604	G
25	YA	607	U
25	YA	610	G
25	YA	614(B)	U
25	YA	614(C)	G
25	YA	615	G
25	YA	618	C
25	YA	627	A
25	YA	634	C
25	YA	637	A
25	YA	645	C
25	YA	646	A
25	YA	652(C)	A
25	YA	652(D)	G
25	YA	669	G
25	YA	674	G
25	YA	686	G
25	YA	687	C
25	YA	695	G
25	YA	701	G
25	YA	716	A
25	YA	717	G
25	YA	728	G
25	YA	730	C
25	YA	738	G
25	YA	747	U
25	YA	749	C
25	YA	750	A
25	YA	753	C
25	YA	764	A
25	YA	773	U
25	YA	775	G
25	YA	776	G
25	YA	779	U
25	YA	782	A
25	YA	784	A
25	YA	785	G
25	YA	788	A
25	YA	793	A
25	YA	800	A
25	YA	801	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	802	A
25	YA	805	G
25	YA	812	C
25	YA	827	U
25	YA	831	G
25	YA	843	G
25	YA	846	C
25	YA	857	C
25	YA	859	G
25	YA	860	U
25	YA	866	A
25	YA	886	C
25	YA	887	A
25	YA	888	C
25	YA	889	C
25	YA	890	A
25	YA	893	C
25	YA	896	A
25	YA	897	C
25	YA	907	U
25	YA	910	A
25	YA	914	C
25	YA	917	A
25	YA	925	C
25	YA	932	G
25	YA	941	A
25	YA	945	A
25	YA	946	G
25	YA	953	A
25	YA	957	A
25	YA	959	A
25	YA	961	C
25	YA	962	G
25	YA	968	G
25	YA	973	A
25	YA	974	G
25	YA	983	A
25	YA	996	A
25	YA	1005	C
25	YA	1012	U
25	YA	1013	C
25	YA	1017	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1022	G
25	YA	1023	U
25	YA	1026	U
25	YA	1033	U
25	YA	1038	C
25	YA	1042	G
25	YA	1045	A
25	YA	1046	A
25	YA	1047	G
25	YA	1054	A
25	YA	1057	A
25	YA	1058	G
25	YA	1060	U
25	YA	1063	G
25	YA	1064	C
25	YA	1065	U
25	YA	1066	U
25	YA	1067	A
25	YA	1068	G
25	YA	1069	A
25	YA	1071	G
25	YA	1072	C
25	YA	1073	A
25	YA	1074	G
25	YA	1077	A
25	YA	1078	U
25	YA	1079	C
25	YA	1082	U
25	YA	1083	U
25	YA	1084	A
25	YA	1087	G
25	YA	1088	A
25	YA	1090	U
25	YA	1092	C
25	YA	1093	G
25	YA	1096	A
25	YA	1097	U
25	YA	1108	U
25	YA	1109	C
25	YA	1110	G
25	YA	1126	A
25	YA	1129	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1130	U
25	YA	1132	A
25	YA	1135	C
25	YA	1136	G
25	YA	1142(A)	U
25	YA	1142(B)	A
25	YA	1143	A
25	YA	1150	C
25	YA	1154	G
25	YA	1155	A
25	YA	1156	A
25	YA	1160	G
25	YA	1171	G
25	YA	1179	C
25	YA	1186	G
25	YA	1205	U
25	YA	1206	G
25	YA	1211	U
25	YA	1212	G
25	YA	1218	C
25	YA	1236	G
25	YA	1253	A
25	YA	1255	U
25	YA	1256	G
25	YA	1259	G
25	YA	1264	G
25	YA	1266	G
25	YA	1268	A
25	YA	1271	G
25	YA	1272	A
25	YA	1273	U
25	YA	1274	A
25	YA	1275	A
25	YA	1281	G
25	YA	1282	U
25	YA	1300	U
25	YA	1301	A
25	YA	1310	G
25	YA	1314	C
25	YA	1325	G
25	YA	1328	G
25	YA	1329	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1330	C
25	YA	1352	U
25	YA	1359	A
25	YA	1360	A
25	YA	1365	A
25	YA	1368	G
25	YA	1377	G
25	YA	1378	A
25	YA	1379	A
25	YA	1384	A
25	YA	1385	G
25	YA	1395	A
25	YA	1398	C
25	YA	1416	G
25	YA	1417	C
25	YA	1420	U
25	YA	1421	G
25	YA	1427	A
25	YA	1428	C
25	YA	1445(A)	A
25	YA	1450(A)	G
25	YA	1453	U
25	YA	1455	G
25	YA	1459	G
25	YA	1467	C
25	YA	1470	G
25	YA	1471	A
25	YA	1482	G
25	YA	1490	A
25	YA	1493	C
25	YA	1494	A
25	YA	1497	U
25	YA	1508	A
25	YA	1509(A)	C
25	YA	1514	U
25	YA	1531	C
25	YA	1542	A
25	YA	1544	A
25	YA	1546	C
25	YA	1553	A
25	YA	1554	A
25	YA	1558	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1559	G
25	YA	1566	A
25	YA	1569	A
25	YA	1571	A
25	YA	1578	U
25	YA	1580	A
25	YA	1583	A
25	YA	1584	C
25	YA	1586	A
25	YA	1587	A
25	YA	1607	C
25	YA	1608	A
25	YA	1609	A
25	YA	1612	C
25	YA	1616	A
25	YA	1634	A
25	YA	1639	U
25	YA	1640	C
25	YA	1645	G
25	YA	1648	C
25	YA	1664	A
25	YA	1668	A
25	YA	1672	C
25	YA	1673	U
25	YA	1674	G
25	YA	1681	G
25	YA	1696	G
25	YA	1700	A
25	YA	1701	A
25	YA	1721	G
25	YA	1722	A
25	YA	1756	G
25	YA	1762	A
25	YA	1763	G
25	YA	1764	G
25	YA	1773	A
25	YA	1780	A
25	YA	1782	C
25	YA	1791	A
25	YA	1800	C
25	YA	1801	G
25	YA	1802	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	1808	U
25	YA	1815	A
25	YA	1816	G
25	YA	1829	A
25	YA	1839	G
25	YA	1847	A
25	YA	1848	A
25	YA	1876	A
25	YA	1877	A
25	YA	1878	G
25	YA	1889	A
25	YA	1901	A
25	YA	1903	G
25	YA	1906	G
25	YA	1913	A
25	YA	1914	C
25	YA	1927	A
25	YA	1929	G
25	YA	1930	G
25	YA	1934	C
25	YA	1936	A
25	YA	1937	A
25	YA	1938	A
25	YA	1939	5MU
25	YA	1940	U
25	YA	1955	U
25	YA	1963	U
25	YA	1965	C
25	YA	1966	A
25	YA	1967	C
25	YA	1968	G
25	YA	1970	A
25	YA	1971	A
25	YA	1972	A
25	YA	1981	A
25	YA	1993	U
25	YA	1997	G
25	YA	2003	G
25	YA	2004	G
25	YA	2009	G
25	YA	2020	A
25	YA	2023	G

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Mol	Chain	Res	Type
25	YA	2031	A
25	YA	2032	G
25	YA	2033	A
25	YA	2043	C
25	YA	2055	C
25	YA	2056	G
25	YA	2059	A
25	YA	2060	A
25	YA	2061	G
25	YA	2062	A
25	YA	2069	G
25	YA	2076	U
25	YA	2077	A
25	YA	2093	G
25	YA	2096	U
25	YA	2097	C
25	YA	2102	U
25	YA	2104	G
25	YA	2107	C
25	YA	2108	C
25	YA	2116	G
25	YA	2117	A
25	YA	2118	U
25	YA	2119	A
25	YA	2127	G
25	YA	2128	C
25	YA	2129	C
25	YA	2131	G
25	YA	2132	U
25	YA	2133	G
25	YA	2134	A
25	YA	2138	C
25	YA	2141	G
25	YA	2146	C
25	YA	2147	G
25	YA	2148	G
25	YA	2151	G
25	YA	2159	G
25	YA	2172	U
25	YA	2173	A
25	YA	2185	C
25	YA	2187	G

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Mol	Chain	Res	Type
25	YA	2189	U
25	YA	2192	G
25	YA	2198	A
25	YA	2206	G
25	YA	2207	G
25	YA	2208	A
25	YA	2218	U
25	YA	2219	G
25	YA	2225	A
25	YA	2237	G
25	YA	2238	G
25	YA	2239	G
25	YA	2249	U
25	YA	2266	A
25	YA	2267	A
25	YA	2268	A
25	YA	2269	A
25	YA	2274	A
25	YA	2275	C
25	YA	2278	A
25	YA	2279	G
25	YA	2280	G
25	YA	2283	C
25	YA	2287	A
25	YA	2288	A
25	YA	2305	A
25	YA	2312	U
25	YA	2320	A
25	YA	2321	G
25	YA	2322	A
25	YA	2325	G
25	YA	2327	A
25	YA	2335	A
25	YA	2336	A
25	YA	2343	C
25	YA	2345	G
25	YA	2347	C
25	YA	2350	C
25	YA	2358	G
25	YA	2378	A
25	YA	2383	G
25	YA	2384	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
25	YA	2385	C
25	YA	2389	G
25	YA	2403	C
25	YA	2406	U
25	YA	2410	G
25	YA	2413	G
25	YA	2423	U
25	YA	2424	C
25	YA	2425	A
25	YA	2428	G
25	YA	2429	G
25	YA	2430	A
25	YA	2431	U
25	YA	2435	A
25	YA	2439	A
25	YA	2440	C
25	YA	2441	C
25	YA	2447	G
25	YA	2448	A
25	YA	2473	U
25	YA	2474	C
25	YA	2476	A
25	YA	2478	A
25	YA	2484	G
25	YA	2502	G
25	YA	2504	U
25	YA	2505	G
25	YA	2515	C
25	YA	2516	G
25	YA	2517	C
25	YA	2518	A
25	YA	2520	C
25	YA	2529	G
25	YA	2543	G
25	YA	2554	U
25	YA	2566	A
25	YA	2567	G
25	YA	2569	G
25	YA	2573	C
25	YA	2577	A
25	YA	2578	G
25	YA	2582	G

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Mol	Chain	Res	Type
25	YA	2585	U
25	YA	2602	A
25	YA	2609	U
25	YA	2610	C
25	YA	2612	C
25	YA	2615	U
25	YA	2621	A
25	YA	2629	A
25	YA	2630	G
25	YA	2636	U
25	YA	2654	A
25	YA	2661	G
25	YA	2680	C
25	YA	2687	U
25	YA	2689	U
25	YA	2690	C
25	YA	2691	C
25	YA	2702	U
25	YA	2703	C
25	YA	2712(B)	A
25	YA	2713	A
25	YA	2714	G
25	YA	2718	G
25	YA	2726	U
25	YA	2727	G
25	YA	2733	A
25	YA	2739	U
25	YA	2744	G
25	YA	2748	A
25	YA	2750	A
25	YA	2751	G
25	YA	2755	C
25	YA	2757	A
25	YA	2759	G
25	YA	2764	A
25	YA	2765	A
25	YA	2766	G
25	YA	2770	G
25	YA	2776	A
25	YA	2778	A
25	YA	2780	G
25	YA	2802	G

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Mol	Chain	Res	Type
25	YA	2804	C
25	YA	2808	U
25	YA	2818	G
25	YA	2820	A
25	YA	2821	A
25	YA	2833	G
25	YA	2834	G
25	YA	2835	A
25	YA	2849	U
25	YA	2872	G
25	YA	2879	C
25	YA	2880	C
25	YA	2889	C
25	YA	2894	G
25	YA	2895	U
25	YA	2897	U
26	YB	2	C
26	YB	7	G
26	YB	8	U
26	YB	9	G
26	YB	13	A
26	YB	24	G
26	YB	25	A
26	YB	26	A
26	YB	31	C
26	YB	32	C
26	YB	40	U
26	YB	41	U
26	YB	42	C
26	YB	44	G
26	YB	56	G
26	YB	57	A
26	YB	67	G
26	YB	73	A
26	YB	75	G
26	YB	80	U
26	YB	84	C
26	YB	88	C
26	YB	97	G
26	YB	110	G
56	ZB	2	C

All (74) RNA pucker outliers are listed below:



Mol	Chain	Res	Type
1	QA	115	G
1	QA	251	G
1	QA	266	G
1	QA	429	U
1	QA	509	A
1	QA	687	A
1	QA	913	A
1	QA	1026	G
1	QA	1065	U
1	QA	1067	A
1	QA	1201	A
1	QA	1285	A
1	QA	1299	A
1	QA	1442(A)	G
23	QX	18	G
24	QY	36	G
24	QY	40	C
25	RA	9	U
25	RA	272(M)	G
25	RA	455	C
25	RA	805	G
25	RA	856	C
25	RA	961	C
25	RA	1065	U
25	RA	1073	A
25	RA	1210	A
25	RA	1240	U
25	RA	1300	U
25	RA	1420	U
25	RA	1992	G
25	RA	2031	A
25	RA	2126	A
25	RA	2171	A
25	RA	2321	G
25	RA	2406	U
25	RA	2501	C
25	RA	2585	U
25	RA	2689	U
1	XA	60	A
1	XA	65	U
1	XA	88	A
1	XA	358	U
1	XA	367	U

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Mol	Chain	Res	Type
1	XA	509	A
1	XA	687	A
1	XA	748	C
1	XA	913	A
1	XA	991	U
1	XA	992	U
1	XA	1065	U
1	XA	1067	A
1	XA	1442(A)	G
22	XV	53	G
23	XX	18	G
24	XY	34	C
25	YA	120	U
25	YA	272(M)	G
25	YA	752	A
25	YA	774	A
25	YA	856	C
25	YA	1065	U
25	YA	1073	A
25	YA	1210	A
25	YA	1420	U
25	YA	1672	C
25	YA	1900	A
25	YA	1992	G
25	YA	2003	G
25	YA	2126	A
25	YA	2172	U
25	YA	2321	G
25	YA	2439	A
25	YA	2515	C
25	YA	2689	U

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

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

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



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	UR3	QA	1498	1	14,22,23	0.89	1 (7%)	15,32,35	0.79	1 (6%)
25	PSU	YA	2605	25	17,21,22	1.61	6 (35%)	20,30,33	3.18	9 (45%)
25	PSU	RA	1911	25	17,21,22	2.05	5 (29%)	20,30,33	3.14	7 (35%)
25	OMU	YA	2552	25,57	14,22,23	1.23	2 (14%)	14,31,34	1.00	2 (14%)
1	5MC	QA	1404	1	15,22,23	1.18	1 (6%)	19,32,35	1.42	2 (10%)
25	5MU	YA	1915	25	15,22,23	1.05	2 (13%)	16,32,35	1.95	2 (12%)
1	MA6	QA	1519	1	19,26,27	0.93	1 (5%)	18,38,41	1.95	6 (33%)
56	PPU	ZB	3	25,56	32,40,41	0.89	0	33,57,60	1.57	7 (21%)
25	PSU	RA	1917	25	17,21,22	1.60	5 (29%)	20,30,33	2.91	5 (25%)
25	OMG	RA	2251	25,57,22	18,26,27	0.94	2 (11%)	20,38,41	2.00	5 (25%)
1	PSU	QA	516	1	17,21,22	1.90	5 (29%)	20,30,33	3.17	7 (35%)
1	4OC	QA	1402	1	16,23,24	0.77	0	17,32,35	1.33	1 (5%)
25	5MC	RA	1942	25	15,22,23	1.10	1 (6%)	19,32,35	1.72	4 (21%)
1	4OC	XA	1402	1	16,23,24	0.98	1 (6%)	17,32,35	1.28	2 (11%)
56	PPU	ZA	3	25,57,56	32,40,41	0.96	1 (3%)	33,57,60	1.82	7 (21%)
1	G7M	XA	527	1	20,26,27	2.53	4 (20%)	20,39,42	1.98	4 (20%)
1	2MG	QA	1207	1	19,26,27	1.02	2 (10%)	21,38,41	2.05	6 (28%)
25	PSU	YA	1917	25	17,21,22	1.72	5 (29%)	20,30,33	2.89	6 (30%)
1	5MC	QA	1400	1	15,22,23	1.23	1 (6%)	19,32,35	1.33	3 (15%)
25	2MA	RA	2503	25,57	17,25,26	1.22	1 (5%)	19,37,40	2.10	3 (15%)
25	PSU	RA	2605	25	17,21,22	2.61	6 (35%)	20,30,33	2.90	6 (30%)
12	0TD	XL	92	12	4,9,10	0.55	0	3,11,13	1.75	1 (33%)
1	5MC	QA	967	1	15,22,23	1.23	1 (6%)	19,32,35	1.44	3 (15%)
25	OMU	RA	2552	25	14,22,23	1.19	2 (14%)	14,31,34	1.46	2 (14%)
25	PSU	YA	1911	25	17,21,22	2.41	5 (29%)	20,30,33	3.24	8 (40%)
1	5MC	XA	967	1	15,22,23	1.13	1 (6%)	19,32,35	1.45	4 (21%)
1	PSU	XA	516	1,57	17,21,22	1.60	5 (29%)	20,30,33	3.47	7 (35%)
1	5MC	XA	1404	1	15,22,23	1.12	1 (6%)	19,32,35	1.56	4 (21%)
1	MA6	XA	1518	1	19,26,27	1.00	1 (5%)	18,38,41	1.77	4 (22%)
25	2MA	YA	2503	25,57	17,25,26	1.28	1 (5%)	19,37,40	2.20	3 (15%)
1	MA6	QA	1518	1	19,26,27	0.88	1 (5%)	18,38,41	1.97	7 (38%)
1	MA6	XA	1519	1	19,26,27	0.82	0	18,38,41	2.10	6 (33%)
1	G7M	QA	527	1	20,26,27	2.58	4 (20%)	20,39,42	1.97	4 (20%)
25	5MC	YA	1962	25	15,22,23	1.01	1 (6%)	19,32,35	1.81	4 (21%)
1	UR3	XA	1498	1	14,22,23	0.98	1 (7%)	15,32,35	0.71	0



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
25	OMG	YA	2251	25,57,22	18,26,27	1.04	1 (5%)	20,38,41	2.06	7 (35%)
1	M2G	QA	966	1	20,27,28	1.16	3 (15%)	22,40,43	2.04	6 (27%)
25	5MC	YA	1942	25	15,22,23	1.19	1 (6%)	19,32,35	1.87	4 (21%)
25	OMC	RA	1920	25	15,22,23	0.92	0	17,31,34	2.06	5 (29%)
1	5MC	QA	1407	1	15,22,23	1.10	1 (6%)	19,32,35	1.44	2 (10%)
25	OMC	YA	1920	25	15,22,23	0.93	0	17,31,34	1.88	4 (23%)
25	5MU	RA	1915	25	15,22,23	1.06	2 (13%)	16,32,35	2.01	1 (6%)
1	5MC	XA	1400	1	15,22,23	1.17	1 (6%)	19,32,35	1.42	3 (15%)
12	0TD	QL	92	12	4,9,10	0.62	0	3,11,13	1.79	1 (33%)
1	5MC	XA	1407	1	15,22,23	1.12	2 (13%)	19,32,35	1.61	5 (26%)
1	M2G	XA	966	1	20,27,28	1.15	2 (10%)	22,40,43	2.20	7 (31%)
25	5MU	RA	1939	25,57	15,22,23	0.95	2 (13%)	16,32,35	1.88	2 (12%)
25	5MC	RA	1962	25,57	15,22,23	0.95	1 (6%)	19,32,35	1.79	4 (21%)
1	2MG	XA	1207	1	19,26,27	0.98	1 (5%)	21,38,41	2.24	6 (28%)
25	5MU	YA	1939	25,57	15,22,23	1.24	3 (20%)	16,32,35	1.84	2 (12%)

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
1	UR3	QA	1498	1	-	2/5/25/26	0/2/2/2
25	PSU	YA	2605	25	-	0/7/25/26	0/2/2/2
25	PSU	RA	1911	25	-	0/7/25/26	0/2/2/2
25	OMU	YA	2552	25,57	-	2/7/27/28	0/2/2/2
1	5MC	QA	1404	1	-	0/5/25/26	0/2/2/2
25	5MU	YA	1915	25	-	3/5/25/26	0/2/2/2
1	MA6	QA	1519	1	-	5/7/29/30	0/3/3/3
56	PPU	ZB	3	25,56	-	5/21/43/44	0/4/4/4
25	PSU	RA	1917	25	-	1/7/25/26	0/2/2/2
25	OMG	RA	2251	25,57,22	-	0/5/27/28	0/3/3/3
1	PSU	QA	516	1	-	0/7/25/26	0/2/2/2
1	4OC	QA	1402	1	-	2/9/29/30	0/2/2/2
25	5MC	RA	1942	25	-	0/5/25/26	0/2/2/2
1	4OC	XA	1402	1	-	2/9/29/30	0/2/2/2
56	PPU	ZA	3	25,57,56	-	5/21/43/44	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	G7M	XA	527	1	-	2/3/25/26	0/3/3/3
1	2MG	QA	1207	1	-	0/5/27/28	0/3/3/3
25	PSU	YA	1917	25	-	0/7/25/26	0/2/2/2
1	5MC	QA	1400	1	-	3/5/25/26	0/2/2/2
25	2MA	RA	2503	25,57	-	1/3/25/26	0/3/3/3
25	PSU	RA	2605	25	-	0/7/25/26	0/2/2/2
12	0TD	XL	92	12	-	1/3/12/14	-
1	5MC	QA	967	1	-	0/5/25/26	0/2/2/2
25	OMU	RA	2552	25	-	3/7/27/28	0/2/2/2
25	PSU	YA	1911	25	-	0/7/25/26	0/2/2/2
1	5MC	XA	967	1	-	0/5/25/26	0/2/2/2
1	PSU	XA	516	1,57	-	1/7/25/26	0/2/2/2
1	5MC	XA	1404	1	-	0/5/25/26	0/2/2/2
1	MA6	XA	1518	1	-	1/7/29/30	0/3/3/3
25	2MA	YA	2503	25,57	-	2/3/25/26	0/3/3/3
1	MA6	QA	1518	1	-	1/7/29/30	0/3/3/3
1	MA6	XA	1519	1	-	6/7/29/30	0/3/3/3
1	G7M	QA	527	1	-	2/3/25/26	0/3/3/3
25	5MC	YA	1962	25	-	2/5/25/26	0/2/2/2
1	UR3	XA	1498	1	-	0/5/25/26	0/2/2/2
25	OMG	YA	2251	25,57,22	-	0/5/27/28	0/3/3/3
1	M2G	QA	966	1	-	0/7/29/30	0/3/3/3
25	5MC	YA	1942	25	-	0/5/25/26	0/2/2/2
25	OMC	RA	1920	25	-	3/7/27/28	0/2/2/2
1	5MC	QA	1407	1	-	0/5/25/26	0/2/2/2
25	OMC	YA	1920	25	-	3/7/27/28	0/2/2/2
25	5MU	RA	1915	25	-	2/5/25/26	0/2/2/2
1	5MC	XA	1400	1	-	4/5/25/26	0/2/2/2
12	0TD	QL	92	12	-	3/3/12/14	-
1	5MC	XA	1407	1	-	0/5/25/26	0/2/2/2
1	M2G	XA	966	1	-	2/7/29/30	0/3/3/3
25	5MU	RA	1939	25,57	-	0/5/25/26	0/2/2/2
25	5MC	RA	1962	25,57	-	2/5/25/26	0/2/2/2
1	2MG	XA	1207	1	-	0/5/27/28	0/3/3/3
25	5MU	YA	1939	25,57	-	0/5/25/26	0/2/2/2

All (96) bond length outliers are listed below:



Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	RA	2605	PSU	C5-C1'	-8.78	1.44	1.52
25	YA	1911	PSU	C5-C1'	-8.22	1.45	1.52
1	QA	527	G7M	C8-N9	7.01	1.46	1.33
1	XA	527	G7M	C8-N9	6.96	1.46	1.33
1	QA	527	G7M	C8-N7	6.54	1.45	1.33
25	RA	1911	PSU	C5-C1'	-6.49	1.46	1.52
1	XA	527	G7M	C8-N7	6.14	1.44	1.33
1	QA	516	PSU	C5-C1'	-5.87	1.47	1.52
1	XA	527	G7M	C5-C4	5.05	1.46	1.39
1	QA	527	G7M	C5-C4	4.95	1.46	1.39
25	YA	1917	PSU	C5-C1'	-4.34	1.48	1.52
1	QA	967	5MC	C5-C4	4.14	1.47	1.41
1	XA	516	PSU	C5-C1'	-4.08	1.48	1.52
1	QA	1400	5MC	C5-C4	3.95	1.47	1.41
25	RA	2503	2MA	C6-C5	3.84	1.47	1.41
1	QA	1404	5MC	C5-C4	3.75	1.47	1.41
1	XA	1400	5MC	C5-C4	3.66	1.47	1.41
25	RA	1917	PSU	C4-C5	3.64	1.49	1.41
1	QA	1407	5MC	C5-C4	3.56	1.46	1.41
1	QA	1207	2MG	C6-C5	3.53	1.47	1.41
1	XA	967	5MC	C5-C4	3.52	1.46	1.41
1	QA	527	G7M	C6-C5	3.52	1.47	1.41
1	QA	966	M2G	C6-C5	3.51	1.47	1.41
1	XA	1207	2MG	C6-C5	3.47	1.47	1.41
1	XA	966	M2G	C6-C5	3.44	1.47	1.41
25	RA	1917	PSU	C5-C1'	-3.41	1.49	1.52
1	XA	1407	5MC	C5-C4	3.40	1.46	1.41
25	YA	2605	PSU	C5-C1'	-3.39	1.49	1.52
25	YA	2503	2MA	C6-C5	3.38	1.46	1.41
1	XA	1404	5MC	C5-C4	3.29	1.46	1.41
25	YA	1917	PSU	C4-C5	3.29	1.48	1.41
1	XA	527	G7M	C6-C5	3.21	1.46	1.41
25	RA	1942	5MC	C5-C4	3.11	1.46	1.41
25	YA	2605	PSU	C2-N1	-3.01	1.32	1.38
25	YA	1942	5MC	C5-C4	2.95	1.46	1.41
1	XA	1498	UR3	C6-N1	-2.95	1.32	1.35
25	YA	2251	OMG	C6-C5	2.94	1.46	1.41
25	YA	1962	5MC	C5-C4	2.93	1.46	1.41
1	XA	516	PSU	C4-C5	2.90	1.47	1.41
25	RA	2605	PSU	C2-N3	-2.90	1.32	1.38
25	RA	1911	PSU	C4-C5	2.89	1.47	1.41
25	YA	2552	OMU	C6-N1	-2.88	1.32	1.35
1	QA	516	PSU	C4-C5	2.87	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YA	1911	PSU	C4-C5	2.85	1.47	1.41
25	RA	2251	OMG	C6-C5	2.84	1.46	1.41
1	XA	1402	4OC	C6-N1	-2.70	1.32	1.35
25	RA	2552	OMU	C6-N1	-2.68	1.32	1.35
25	YA	2552	OMU	C2-N3	-2.68	1.32	1.38
25	RA	1962	5MC	C5-C4	2.66	1.45	1.41
25	RA	2552	OMU	C2-N3	-2.62	1.33	1.38
25	YA	1911	PSU	C2-N1	-2.61	1.33	1.38
25	RA	1915	5MU	C4-C5	2.60	1.47	1.41
1	QA	966	M2G	C2-N2	2.59	1.39	1.34
1	QA	1498	UR3	C6-N1	-2.59	1.32	1.35
25	YA	1911	PSU	O4'-C1'	-2.58	1.40	1.44
25	RA	2605	PSU	C2-N1	-2.58	1.33	1.38
25	RA	1917	PSU	C2-N1	-2.58	1.33	1.38
25	YA	1915	5MU	C2-N3	-2.57	1.33	1.38
25	YA	1917	PSU	C2-N3	-2.55	1.33	1.38
25	YA	2605	PSU	C2-N3	-2.52	1.33	1.38
25	RA	1911	PSU	C2-N1	-2.51	1.33	1.38
25	YA	1911	PSU	C2-N3	-2.51	1.33	1.38
25	RA	1915	5MU	C2-N3	-2.51	1.33	1.38
25	YA	1939	5MU	C2-N3	-2.50	1.33	1.38
25	YA	1915	5MU	C4-C5	2.47	1.46	1.41
25	YA	1917	PSU	C2-N1	-2.45	1.33	1.38
25	RA	1939	5MU	C2-N3	-2.43	1.33	1.38
25	RA	1911	PSU	O4'-C1'	-2.43	1.41	1.44
25	RA	2605	PSU	C2'-C1'	-2.41	1.51	1.54
25	RA	1939	5MU	C4-C5	2.40	1.46	1.41
1	XA	516	PSU	C2-N3	-2.40	1.33	1.38
1	XA	516	PSU	O4'-C1'	-2.37	1.41	1.44
25	RA	2605	PSU	O4'-C1'	-2.37	1.41	1.44
25	RA	1917	PSU	C2-N3	-2.36	1.33	1.38
25	RA	1911	PSU	C2-N3	-2.33	1.33	1.38
1	QA	1519	MA6	C5-C4	2.32	1.47	1.40
56	ZA	3	PPU	C2'-C1'	-2.31	1.50	1.53
1	QA	516	PSU	O4'-C1'	-2.30	1.41	1.44
1	QA	516	PSU	C2-N3	-2.28	1.33	1.38
25	YA	2605	PSU	O4'-C1'	-2.27	1.41	1.44
25	RA	2605	PSU	C4-C5	2.23	1.46	1.41
1	XA	516	PSU	C2-N1	-2.23	1.33	1.38
25	YA	2605	PSU	C2'-C1'	-2.18	1.51	1.54
25	YA	1939	5MU	O5'-C5'	-2.16	1.39	1.44
1	XA	966	M2G	C2-N2	2.16	1.38	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YA	2605	PSU	C4-C5	2.16	1.46	1.41
25	YA	1917	PSU	O4'-C1'	-2.14	1.41	1.44
1	QA	1207	2MG	C5-C4	2.10	1.46	1.40
1	QA	516	PSU	C2-N1	-2.09	1.34	1.38
25	YA	1939	5MU	C4-C5	2.06	1.45	1.41
1	XA	1518	MA6	C5-C4	2.05	1.46	1.40
25	RA	2251	OMG	C5-C4	2.04	1.46	1.40
1	QA	1518	MA6	C5-C4	2.04	1.46	1.40
1	QA	966	M2G	C5-C4	2.02	1.46	1.40
1	XA	1407	5MC	C2-N3	-2.02	1.34	1.38
25	RA	1917	PSU	O4'-C1'	-2.01	1.41	1.44

All (211) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	516	PSU	N1-C2-N3	-10.36	120.19	128.43
1	QA	516	PSU	N1-C2-N3	-9.17	121.14	128.43
25	YA	1911	PSU	N1-C2-N3	-8.55	121.63	128.43
25	YA	2605	PSU	N1-C2-N3	-8.24	121.88	128.43
25	YA	1917	PSU	N1-C2-N3	-8.02	122.06	128.43
25	RA	1911	PSU	N1-C2-N3	-7.99	122.08	128.43
25	RA	2605	PSU	N1-C2-N3	-7.97	122.09	128.43
25	RA	1917	PSU	N1-C2-N3	-7.87	122.18	128.43
25	RA	1915	5MU	C4-N3-C2	7.45	121.44	115.14
1	XA	516	PSU	C4-N3-C2	7.27	121.28	115.14
25	RA	2503	2MA	C2-N3-C4	7.21	121.38	115.52
25	YA	2503	2MA	C2-N3-C4	7.19	121.36	115.52
25	YA	1911	PSU	C4-N3-C2	7.03	121.08	115.14
25	YA	1915	5MU	C4-N3-C2	6.83	120.91	115.14
25	RA	1911	PSU	C4-N3-C2	6.63	120.74	115.14
25	YA	2605	PSU	C4-N3-C2	6.59	120.71	115.14
25	RA	1917	PSU	C4-N3-C2	6.50	120.63	115.14
25	YA	1917	PSU	C4-N3-C2	6.42	120.56	115.14
25	YA	1939	5MU	C4-N3-C2	6.13	120.32	115.14
1	QA	516	PSU	C4-N3-C2	6.02	120.22	115.14
25	RA	1939	5MU	C4-N3-C2	5.69	119.95	115.14
1	XA	527	G7M	C5-C6-N1	-5.45	115.98	123.43
1	QA	527	G7M	C5-C6-N1	-5.39	116.06	123.43
25	YA	1911	PSU	C5-C4-N3	-5.30	118.54	125.36
25	RA	1917	PSU	C5-C4-N3	-5.26	118.58	125.36
25	YA	1920	OMC	C2-N3-C4	5.24	121.65	116.34
25	RA	2605	PSU	C4-N3-C2	5.22	119.55	115.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1911	PSU	C5-C4-N3	-5.22	118.64	125.36
25	RA	1920	OMC	C2-N3-C4	5.05	121.46	116.34
1	QA	1207	2MG	C2-N3-C4	5.04	121.00	115.28
1	XA	1207	2MG	C2-N3-C4	5.02	120.98	115.28
1	XA	1519	MA6	N1-C6-N6	4.99	122.31	117.06
25	YA	1917	PSU	C5-C4-N3	-4.99	118.93	125.36
1	XA	1207	2MG	CM2-N2-C2	-4.92	117.66	123.59
1	QA	966	M2G	C6-N1-C2	4.88	121.99	116.18
25	YA	1962	5MC	N4-C4-N3	4.82	123.84	117.03
25	YA	2605	PSU	C5-C4-N3	-4.81	119.17	125.36
25	YA	2251	OMG	C2-N3-C4	4.80	120.84	115.36
25	RA	2251	OMG	C2-N3-C4	4.79	120.83	115.36
1	QA	1518	MA6	N1-C6-N6	4.71	122.01	117.06
1	QA	516	PSU	C6-N1-C2	4.68	123.09	115.36
1	XA	966	M2G	C6-N1-C2	4.67	121.74	116.18
1	QA	516	PSU	C5-C4-N3	-4.58	119.45	125.36
1	QA	1519	MA6	N1-C6-N6	4.54	121.83	117.06
1	XA	516	PSU	C6-N1-C2	4.51	122.80	115.36
25	RA	2552	OMU	CM2-O2'-C2'	-4.50	102.71	114.52
1	QA	516	PSU	C5-C6-N1	-4.42	119.01	124.44
25	RA	2605	PSU	C5-C6-N1	-4.38	119.06	124.44
25	YA	1942	5MC	C5-C6-N1	-4.36	117.49	122.19
1	XA	1518	MA6	C4-C5-N7	-4.33	104.89	109.40
1	XA	966	M2G	C5-C6-N1	-4.30	117.55	123.43
56	ZA	3	PPU	N1-C6-N6	4.30	121.58	117.06
25	YA	2251	OMG	C5-C6-N1	-4.27	117.59	123.43
25	YA	2503	2MA	C5-C6-N1	-4.27	118.58	123.06
1	XA	516	PSU	C5-C4-N3	-4.26	119.88	125.36
25	RA	2605	PSU	C5-C4-N3	-4.25	119.88	125.36
25	RA	2503	2MA	C5-C6-N1	-4.21	118.64	123.06
25	RA	2605	PSU	C6-N1-C2	4.20	122.29	115.36
56	ZA	3	PPU	CG-CB-CA	-4.20	105.40	114.13
1	XA	966	M2G	C2-N3-C4	4.20	120.04	115.28
25	RA	1962	5MC	N4-C4-N3	4.17	122.93	117.03
1	QA	966	M2G	C2-N3-C4	4.17	120.01	115.28
1	XA	1519	MA6	C9-N6-C6	-4.15	106.94	119.51
1	XA	516	PSU	C5-C1'-C2'	4.14	122.71	115.32
25	YA	2605	PSU	C4-C5-C1'	-4.14	113.32	121.12
1	QA	966	M2G	C5-C6-N1	-4.09	117.84	123.43
1	QA	527	G7M	C2-N3-C4	4.08	120.01	115.36
25	RA	1911	PSU	C5-C1'-C2'	-4.03	108.12	115.32
1	XA	527	G7M	C2-N3-C4	4.02	119.94	115.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	2251	OMG	C5-C6-N1	-4.01	117.94	123.43
25	YA	1942	5MC	CM5-C5-C4	-4.00	117.67	121.72
56	ZA	3	PPU	O4'-C1'-C2'	-3.96	101.15	106.93
25	YA	1911	PSU	C6-N1-C2	3.95	121.88	115.36
25	RA	1920	OMC	N4-C4-N3	3.94	122.72	116.49
25	RA	1917	PSU	C6-N1-C2	3.87	121.75	115.36
56	ZB	3	PPU	N1-C6-N6	3.86	121.12	117.06
1	XA	966	M2G	C6-C5-C4	-3.85	117.12	120.80
25	RA	1911	PSU	C6-N1-C2	3.84	121.69	115.36
1	XA	527	G7M	C6-N1-C2	3.81	121.99	115.93
25	YA	1917	PSU	C6-N1-C2	3.81	121.65	115.36
1	QA	1207	2MG	C5-C6-N1	-3.80	118.23	123.43
1	XA	1207	2MG	C5-C6-N1	-3.79	118.24	123.43
1	QA	1404	5MC	C2-N3-C4	3.79	120.59	116.02
1	QA	1407	5MC	C2-N3-C4	3.76	120.55	116.02
1	QA	1402	4OC	CM4-N4-C4	-3.75	119.75	122.97
56	ZB	3	PPU	CG-CB-CA	-3.72	106.38	114.13
1	QA	1207	2MG	CM2-N2-C2	-3.69	119.14	123.59
25	YA	2605	PSU	C6-N1-C2	3.68	121.43	115.36
25	YA	1911	PSU	C5-C6-N1	-3.66	119.94	124.44
1	QA	966	M2G	C6-C5-C4	-3.63	117.33	120.80
25	YA	1911	PSU	O4'-C1'-C5	-3.62	104.33	109.93
1	QA	527	G7M	C6-N1-C2	3.62	121.67	115.93
25	RA	1962	5MC	C2-N3-C4	3.57	120.33	116.02
1	XA	1407	5MC	C2-N3-C4	3.57	120.33	116.02
25	RA	1911	PSU	C5-C6-N1	-3.56	120.06	124.44
1	XA	1207	2MG	C6-N1-C2	3.55	121.53	115.18
25	RA	1942	5MC	N4-C4-N3	3.54	122.04	117.03
25	RA	2251	OMG	C6-N1-C2	3.54	121.55	115.93
25	RA	1942	5MC	C5-C6-N1	-3.50	118.42	122.19
25	YA	1942	5MC	N4-C4-N3	3.49	121.97	117.03
1	XA	1404	5MC	N4-C4-N3	3.45	121.92	117.03
25	RA	1939	5MU	C5-C6-N1	-3.42	118.51	122.19
1	QA	967	5MC	C5-C6-N1	-3.41	118.51	122.19
56	ZA	3	PPU	C9-N6-C6	-3.40	109.21	119.51
25	YA	2251	OMG	C6-N1-C2	3.38	121.30	115.93
25	RA	1920	OMC	C6-N1-C2	-3.36	115.87	121.20
25	RA	1962	5MC	CM5-C5-C4	-3.34	118.34	121.72
1	XA	1519	MA6	C10-N6-C6	-3.33	109.45	119.51
1	XA	1402	4OC	CM4-N4-C4	-3.30	120.14	122.97
1	XA	1400	5MC	C5-C6-N1	-3.28	118.66	122.19
25	YA	1962	5MC	C5-C6-N1	-3.28	118.66	122.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	516	PSU	C5-C6-N1	-3.26	120.43	124.44
25	RA	1942	5MC	CM5-C5-C4	-3.26	118.42	121.72
1	XA	967	5MC	C5-C6-N1	-3.26	118.68	122.19
1	QA	1207	2MG	C6-N1-C2	3.24	120.98	115.18
1	XA	1207	2MG	C6-C5-C4	-3.24	117.71	120.80
25	YA	1962	5MC	C6-N1-C1'	-3.22	112.02	119.24
1	QA	1518	MA6	N3-C2-N1	-3.20	123.67	128.68
1	XA	1407	5MC	C6-N1-C1'	3.20	126.43	119.24
1	QA	1519	MA6	C10-N6-C6	-3.20	109.82	119.51
1	XA	1404	5MC	C5-C6-N1	-3.18	118.76	122.19
56	ZB	3	PPU	N3-C2-N1	-3.17	123.73	128.68
1	QA	1518	MA6	C4-C5-N7	-3.16	106.10	109.40
25	YA	1917	PSU	C5-C6-N1	-3.15	120.57	124.44
1	QA	1519	MA6	C9-N6-C6	-3.14	110.00	119.51
25	RA	1917	PSU	C5-C6-N1	-3.14	120.58	124.44
56	ZA	3	PPU	C10-N6-C6	-3.12	110.05	119.51
56	ZB	3	PPU	C10-N6-C6	-3.11	110.09	119.51
25	YA	2503	2MA	C1'-N9-C4	3.11	132.11	126.64
1	XA	1518	MA6	C10-N6-C9	-3.11	106.10	116.12
1	XA	1519	MA6	N3-C2-N1	-3.11	123.82	128.68
1	QA	1519	MA6	N3-C2-N1	-3.06	123.89	128.68
1	QA	1400	5MC	C5-C6-N1	-3.04	118.92	122.19
25	YA	2605	PSU	C5-C6-N1	-3.03	120.71	124.44
1	XA	1518	MA6	N3-C2-N1	-3.03	123.94	128.68
1	XA	527	G7M	CN7-N7-C8	-3.00	111.01	125.43
1	QA	1400	5MC	N4-C4-N3	2.97	121.23	117.03
56	ZB	3	PPU	C9-N6-C6	-2.96	110.56	119.51
1	QA	527	G7M	CN7-N7-C8	-2.94	111.26	125.43
25	YA	1920	OMC	CM2-O2'-C2'	-2.93	106.83	114.52
1	QA	1207	2MG	C6-C5-C4	-2.92	118.01	120.80
1	XA	1400	5MC	C2-N3-C4	2.89	119.51	116.02
1	QA	1407	5MC	N4-C4-N3	2.89	121.12	117.03
1	QA	1518	MA6	C9-N6-C6	-2.85	110.87	119.51
1	XA	966	M2G	C4-C5-N7	-2.85	106.43	109.40
25	RA	1942	5MC	C2-N3-C4	2.85	119.46	116.02
1	QA	1400	5MC	C2-N3-C4	2.85	119.45	116.02
25	YA	1920	OMC	N4-C4-N3	2.84	120.98	116.49
25	YA	2251	OMG	C1'-N9-C4	2.84	131.63	126.64
1	XA	1519	MA6	C10-N6-C9	-2.84	106.98	116.12
25	YA	2605	PSU	C5-C1'-C2'	-2.82	110.28	115.32
1	XA	967	5MC	C2-N3-C4	2.82	119.42	116.02
12	XL	92	0TD	O-C-CA	-2.79	117.47	124.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1519	MA6	C4-C5-N7	-2.76	106.52	109.40
1	XA	1404	5MC	C2-N3-C4	2.76	119.35	116.02
1	QA	1207	2MG	C4-C5-N7	-2.76	106.53	109.40
56	ZB	3	PPU	C4-C5-N7	-2.76	106.53	109.40
1	QA	967	5MC	C2-N3-C4	2.74	119.33	116.02
1	XA	1207	2MG	C4-C5-N7	-2.73	106.56	109.40
1	XA	1518	MA6	C9-N6-C6	-2.72	111.28	119.51
1	XA	1407	5MC	N4-C4-N3	2.70	120.86	117.03
12	QL	92	0TD	O-C-CA	-2.70	117.69	124.78
56	ZA	3	PPU	N3-C2-N1	-2.70	124.47	128.68
25	RA	1911	PSU	O4'-C1'-C5	-2.67	105.80	109.93
25	YA	1939	5MU	C5-C6-N1	-2.66	119.33	122.19
1	XA	966	M2G	N1-C2-N2	2.65	119.87	117.19
1	XA	1400	5MC	N4-C4-N3	2.63	120.75	117.03
1	QA	1404	5MC	N4-C4-N3	2.60	120.71	117.03
1	XA	967	5MC	N4-C4-N3	2.60	120.71	117.03
1	QA	967	5MC	N4-C4-N3	2.58	120.67	117.03
1	QA	1519	MA6	C10-N6-C9	-2.58	107.82	116.12
1	XA	966	M2G	CM1-N2-C2	-2.56	118.85	121.29
1	XA	1404	5MC	CM5-C5-C4	-2.53	119.16	121.72
25	RA	2251	OMG	N3-C2-N1	-2.53	123.85	127.22
56	ZA	3	PPU	C4-C5-N7	-2.53	106.77	109.40
25	YA	1920	OMC	C6-N1-C2	-2.50	117.23	121.20
25	YA	1962	5MC	CM5-C5-C4	-2.49	119.20	121.72
1	QA	516	PSU	O4'-C1'-C2'	2.48	108.68	104.66
25	RA	1962	5MC	C5-C6-N1	-2.45	119.56	122.19
25	RA	2503	2MA	C4-C5-N7	-2.42	106.88	109.40
25	RA	2605	PSU	O2'-C2'-C1'	-2.41	106.22	111.94
1	XA	516	PSU	O4'-C1'-C2'	2.39	108.53	104.66
25	YA	1942	5MC	C2-N3-C4	2.39	118.90	116.02
25	YA	1911	PSU	C5-C1'-C2'	-2.36	111.11	115.32
1	QA	1518	MA6	C10-N6-C9	-2.33	108.62	116.12
25	YA	1911	PSU	O4'-C1'-C2'	2.29	108.38	104.66
25	YA	2605	PSU	O2'-C2'-C1'	-2.29	106.49	111.94
25	YA	2251	OMG	CM2-O2'-C2'	-2.29	108.52	114.52
56	ZB	3	PPU	C3'-N3'-C	-2.28	119.78	123.21
1	QA	1518	MA6	C10-N6-C6	-2.27	112.64	119.51
25	YA	2605	PSU	C3'-C2'-C1'	-2.27	99.32	101.93
25	YA	2552	OMU	CM2-O2'-C2'	-2.26	108.59	114.52
1	QA	516	PSU	C5-C1'-C2'	2.25	119.33	115.32
25	RA	1920	OMC	CM2-O2'-C2'	-2.25	108.63	114.52
1	QA	966	M2G	CM1-N2-C2	-2.23	119.17	121.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YA	2251	OMG	N3-C2-N1	-2.23	124.25	127.22
25	RA	1920	OMC	C5-C4-N4	-2.23	117.28	121.14
1	XA	1407	5MC	C5-C6-N1	-2.21	119.81	122.19
1	QA	1518	MA6	C1'-N9-C4	-2.20	122.77	126.64
1	XA	1407	5MC	CM5-C5-C4	-2.19	119.50	121.72
25	YA	2251	OMG	C4-C5-N7	-2.17	107.14	109.40
1	XA	1519	MA6	C4-C5-N7	-2.13	107.18	109.40
1	QA	1498	UR3	C3U-N3-C4	2.13	120.94	118.12
25	YA	1915	5MU	C6-N1-C1'	-2.12	114.47	119.24
25	YA	2552	OMU	C5-C4-N3	-2.10	118.69	123.31
25	RA	2251	OMG	CM2-O2'-C2'	-2.09	109.05	114.52
1	XA	1402	4OC	N4-C4-N3	2.08	121.69	116.37
1	QA	966	M2G	C4-C5-N7	-2.07	107.24	109.40
25	RA	2552	OMU	C5-C4-N3	-2.04	118.82	123.31
25	YA	1917	PSU	O4'-C1'-C2'	2.04	107.96	104.66
1	XA	967	5MC	CM5-C5-C4	-2.03	119.66	121.72

There are no chirality outliers.

All (71) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	QA	1498	UR3	C3'-C4'-C5'-O5'
25	YA	1915	5MU	C2'-C1'-N1-C6
1	QA	1519	MA6	O4'-C4'-C5'-O5'
1	QA	1519	MA6	C3'-C4'-C5'-O5'
1	QA	1519	MA6	C5-C6-N6-C10
56	ZB	3	PPU	C5-C6-N6-C9
56	ZA	3	PPU	C3'-C4'-C5'-O5'
56	ZA	3	PPU	C5-C6-N6-C9
1	XA	527	G7M	C3'-C4'-C5'-O5'
1	QA	1400	5MC	O4'-C1'-N1-C6
1	QA	1400	5MC	C2'-C1'-N1-C6
25	RA	2503	2MA	O4'-C4'-C5'-O5'
12	XL	92	0TD	CG-CB-SB-CSB
1	XA	1519	MA6	O4'-C4'-C5'-O5'
1	XA	1519	MA6	C3'-C4'-C5'-O5'
1	XA	1519	MA6	C5-C6-N6-C9
1	XA	1519	MA6	N1-C6-N6-C9
1	QA	527	G7M	O4'-C4'-C5'-O5'
1	QA	527	G7M	C3'-C4'-C5'-O5'
25	YA	1962	5MC	O4'-C1'-N1-C6
25	YA	1962	5MC	C2'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
25	RA	1920	OMC	C2'-C1'-N1-C6
25	YA	1920	OMC	C2'-C1'-N1-C6
25	RA	1915	5MU	C2'-C1'-N1-C6
1	XA	1400	5MC	O4'-C1'-N1-C6
1	XA	1400	5MC	C2'-C1'-N1-C6
12	QL	92	0TD	O-C-CA-CB
12	QL	92	0TD	CA-CB-SB-CSB
12	QL	92	0TD	CG-CB-SB-CSB
25	RA	1962	5MC	O4'-C1'-N1-C6
25	RA	1962	5MC	C2'-C1'-N1-C6
56	ZB	3	PPU	CE1-CZ-OC-CM
56	ZB	3	PPU	CE2-CZ-OC-CM
1	QA	1498	UR3	O4'-C4'-C5'-O5'
1	QA	1402	4OC	O4'-C4'-C5'-O5'
1	XA	1402	4OC	O4'-C4'-C5'-O5'
56	ZA	3	PPU	O4'-C4'-C5'-O5'
25	YA	2503	2MA	O4'-C4'-C5'-O5'
25	YA	1915	5MU	O4'-C4'-C5'-O5'
1	QA	1402	4OC	C3'-C4'-C5'-O5'
1	XA	1402	4OC	C3'-C4'-C5'-O5'
1	XA	527	G7M	O4'-C4'-C5'-O5'
56	ZB	3	PPU	N-CA-CB-CG
56	ZB	3	PPU	C5-C6-N6-C10
1	XA	1519	MA6	C5-C6-N6-C10
25	YA	1915	5MU	C3'-C4'-C5'-O5'
56	ZA	3	PPU	CE2-CZ-OC-CM
1	QA	1519	MA6	C4'-C5'-O5'-P
56	ZA	3	PPU	CE1-CZ-OC-CM
25	YA	2503	2MA	C3'-C4'-C5'-O5'
25	YA	1920	OMC	C3'-C4'-C5'-O5'
1	XA	966	M2G	C3'-C4'-C5'-O5'
1	XA	1519	MA6	C4'-C5'-O5'-P
1	QA	1519	MA6	N1-C6-N6-C10
1	XA	1518	MA6	C5-C6-N6-C10
1	QA	1518	MA6	C5-C6-N6-C10
25	RA	1920	OMC	C3'-C4'-C5'-O5'
25	RA	1915	5MU	O4'-C4'-C5'-O5'
1	XA	1400	5MC	O4'-C4'-C5'-O5'
1	XA	966	M2G	O4'-C4'-C5'-O5'
25	YA	2552	OMU	C3'-C2'-O2'-CM2
25	RA	2552	OMU	C3'-C2'-O2'-CM2
25	RA	1920	OMC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
25	YA	1920	OMC	O4'-C4'-C5'-O5'
25	RA	1917	PSU	C2'-C1'-C5-C6
1	XA	516	PSU	C2'-C1'-C5-C6
1	XA	1400	5MC	C3'-C4'-C5'-O5'
25	YA	2552	OMU	C3'-C4'-C5'-O5'
25	RA	2552	OMU	O4'-C4'-C5'-O5'
1	QA	1400	5MC	O4'-C4'-C5'-O5'
25	RA	2552	OMU	C4'-C5'-O5'-P

There are no ring outliers.

26 monomers are involved in 46 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	YA	2552	OMU	2	0
1	QA	1519	MA6	1	0
56	ZB	3	PPU	4	0
25	RA	2251	OMG	2	0
1	QA	1402	4OC	1	0
25	RA	1942	5MC	1	0
1	XA	1402	4OC	1	0
56	ZA	3	PPU	10	0
25	YA	1917	PSU	1	0
1	QA	1400	5MC	1	0
25	RA	2503	2MA	2	0
12	XL	92	0TD	1	0
25	RA	2552	OMU	3	0
1	XA	967	5MC	1	0
1	XA	1404	5MC	2	0
1	XA	1518	MA6	1	0
25	YA	2503	2MA	1	0
25	YA	1962	5MC	1	0
25	YA	2251	OMG	1	0
1	QA	966	M2G	1	0
25	RA	1920	OMC	1	0
25	YA	1920	OMC	2	0
12	QL	92	0TD	1	0
1	XA	1407	5MC	1	0
1	XA	1207	2MG	2	0
25	YA	1939	5MU	1	0



## 5.5 Carbohydrates

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 1328 ligands modelled in this entry, 1326 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
58	SF4	XD	302	4	0,12,12	0.00	-	-		
58	SF4	QD	303	4	0,12,12	0.00	-	-		

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
58	SF4	XD	302	4	-	-	0/6/5/5
58	SF4	QD	303	4	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	XD	302	SF4	4	0
58	QD	303	SF4	6	0



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.



## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.3 Carbohydrates [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.4 Ligands [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.5 Other polymers [i](#)

EDS failed to run properly - this section is therefore empty.