



Full wwPDB EM Validation Report ⓘ

Mar 25, 2026 – 12:20 PM UTC

PDB ID : 3J2H / pdb_00003j2h
EMDB ID : EMD-5510
Title : Dissecting the in vivo assembly of the 30S ribosomal subunit reveals the role of RimM
Authors : Guo, Q.; Goto, S.; Chen, Y.; Muto, A.; Himeno, H.; Deng, H.; Lei, J.; Gao, N.
Deposited on : 2012-09-28
Resolution : 18.80 Å (reported)
Based on initial model : 3OFA

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

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

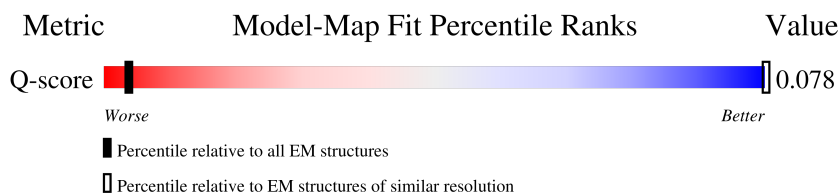
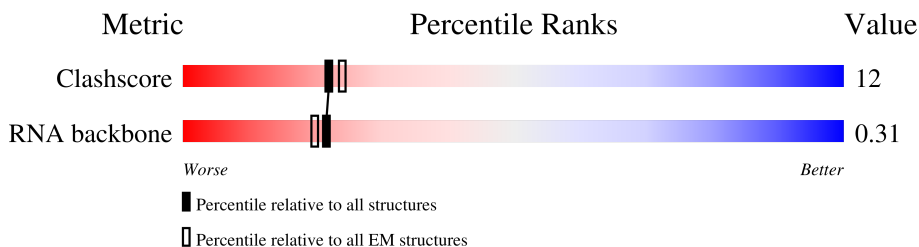
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 18.80 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
RNA backbone	8273	3508	-
Q-score	-	25397	16 (18.30 - 19.20)

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

Mol	Chain	Length	Quality of chain
1	N	1533	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 49446 atoms, of which 16554 are hydrogens and 0 are deuteriums.

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

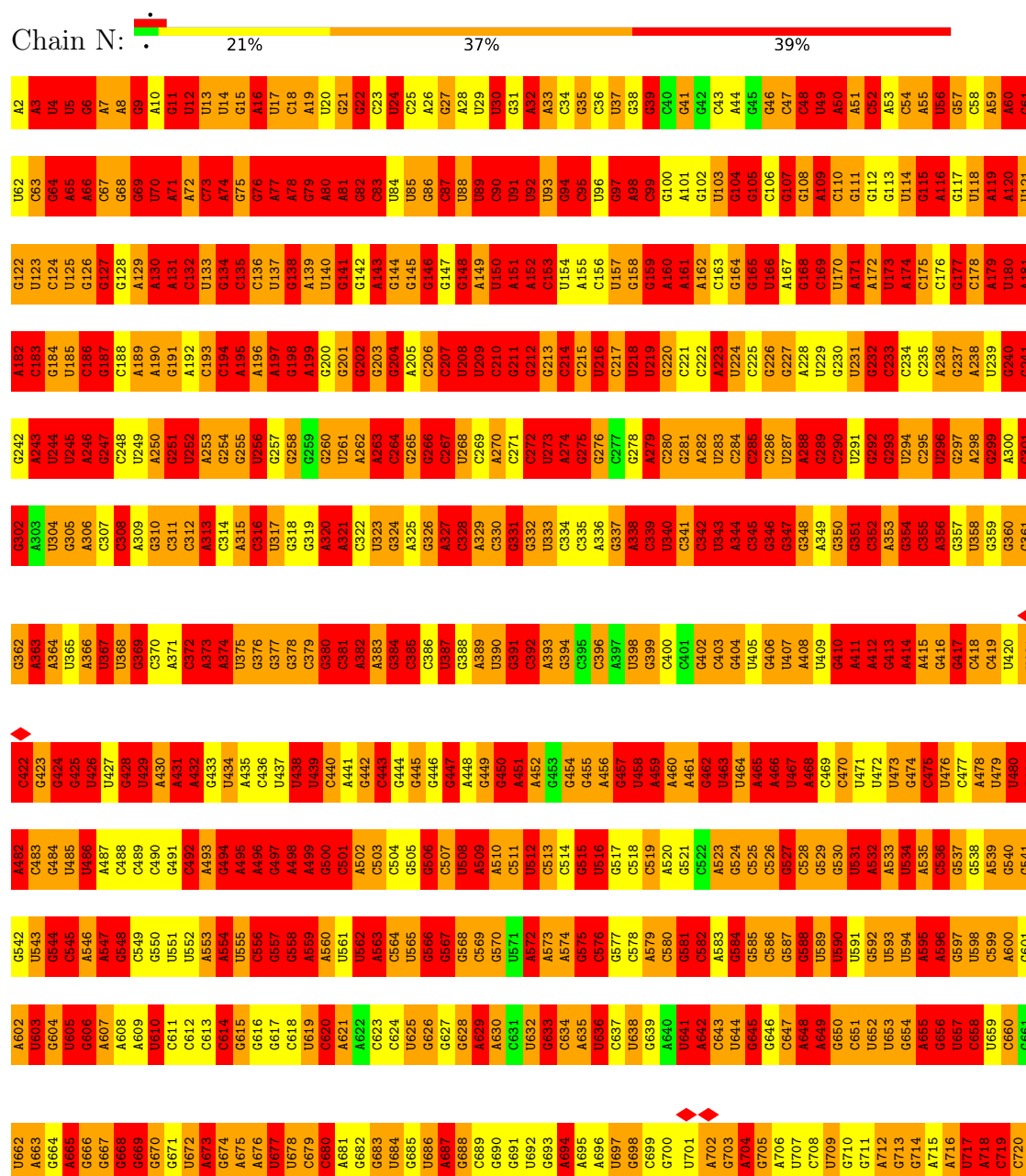
- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	N	1533	Total	C	H	N	O	P	0	0
			49446	14671	16554	6036	10653	1532		

3 Residue-property plots

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

• Molecule 1: 16S rRNA





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	11474	Depositor
Resolution determination method	FSC 0.5 CUT-OFF	Depositor
CTF correction method	Weiner filter	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3800	Depositor
Magnification	59000	Depositor
Image detector	FEI EAGLE (4k x 4k)	Depositor
Maximum map value	4.629	Depositor
Minimum map value	-7.414	Depositor
Average map value	-4.262	Depositor
Map value standard deviation	0.653	Depositor
Recommended contour level	-2.3	Depositor
Map size ($\text{\AA}$)	375.0, 375.0, 375.0	wwPDB
Map dimensions	125, 125, 125	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	3.0, 3.0, 3.0	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	N	2.05	818/36831 (2.2%)	2.10	1988/57458 (3.5%)

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	N	0	978

All (818) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	404	G	C2'-C1'	-9.72	1.38	1.53
1	N	669	G	P-O5'	-9.63	1.45	1.59
1	N	353	A	C2'-C1'	-8.86	1.40	1.53
1	N	1205	U	C1'-N1	8.85	1.61	1.48
1	N	350	G	C1'-N9	8.72	1.61	1.48
1	N	79	G	C1'-N9	8.70	1.60	1.48
1	N	1200	C	C4'-C3'	8.52	1.65	1.52
1	N	544	G	C1'-N9	8.43	1.60	1.48
1	N	1205	U	P-O5'	-8.33	1.47	1.59
1	N	511	C	C2'-C1'	-8.25	1.40	1.53
1	N	1355	G	C5'-C4'	8.19	1.63	1.51
1	N	216	U	C4'-O4'	8.19	1.57	1.45
1	N	18	C	C5'-C4'	8.07	1.63	1.51
1	N	49	U	C5'-C4'	8.05	1.63	1.51
1	N	885	G	P-O5'	-8.05	1.47	1.59
1	N	91	U	C4'-C3'	7.98	1.64	1.52
1	N	348	G	O3'-P	-7.98	1.49	1.61
1	N	1444	U	C2'-C1'	-7.93	1.41	1.53
1	N	307	C	C1'-N1	7.92	1.60	1.48
1	N	1174	G	O3'-P	-7.90	1.49	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	747	A	C2'-C1'	-7.89	1.41	1.53
1	N	1145	A	C5'-C4'	7.86	1.63	1.51
1	N	387	U	C1'-N1	7.85	1.60	1.48
1	N	1223	C	C3'-C2'	7.83	1.64	1.52
1	N	750	C	C1'-N1	7.80	1.60	1.48
1	N	1243	C	C1'-N1	7.80	1.60	1.48
1	N	475	C	O3'-P	-7.78	1.49	1.61
1	N	354	G	C1'-N9	7.74	1.59	1.48
1	N	970	C	C1'-N1	7.73	1.60	1.48
1	N	47	C	C1'-N1	7.68	1.58	1.47
1	N	113	G	O5'-C5'	7.64	1.53	1.42
1	N	1528	U	C3'-O3'	7.61	1.54	1.43
1	N	864	A	P-O5'	-7.61	1.48	1.59
1	N	1087	G	C1'-N9	7.52	1.59	1.48
1	N	1140	C	C1'-N1	7.51	1.58	1.47
1	N	322	C	C1'-N1	7.51	1.59	1.48
1	N	1130	A	O3'-P	-7.48	1.50	1.61
1	N	578	C	C4'-O4'	7.47	1.56	1.45
1	N	568	G	C1'-N9	7.46	1.59	1.48
1	N	1425	U	C2'-C1'	-7.46	1.42	1.53
1	N	576	C	C1'-N1	7.45	1.58	1.47
1	N	547	A	C2'-C1'	-7.44	1.41	1.53
1	N	1123	U	C1'-N1	7.42	1.59	1.48
1	N	647	C	P-O5'	-7.41	1.48	1.59
1	N	800	G	C5'-C4'	7.41	1.62	1.51
1	N	750	C	C3'-O3'	7.40	1.53	1.42
1	N	361	G	C2'-C1'	-7.38	1.42	1.53
1	N	1266	G	C2'-C1'	-7.36	1.42	1.53
1	N	919	A	C2'-C1'	-7.34	1.42	1.53
1	N	1287	A	C2'-C1'	-7.32	1.42	1.53
1	N	1323	G	C4'-O4'	7.32	1.56	1.45
1	N	1274	A	C4'-C3'	7.27	1.63	1.52
1	N	1505	G	O5'-C5'	7.27	1.53	1.42
1	N	148	G	C5'-C4'	7.26	1.62	1.51
1	N	273	U	O5'-C5'	-7.26	1.31	1.42
1	N	1075	U	C1'-N1	7.22	1.59	1.48
1	N	1364	U	C1'-N1	7.21	1.58	1.47
1	N	49	U	C1'-N1	7.20	1.59	1.48
1	N	1374	A	O4'-C1'	7.15	1.52	1.41
1	N	871	U	C5'-C4'	7.15	1.61	1.51
1	N	179	A	C1'-N9	7.14	1.58	1.48
1	N	1106	G	O5'-C5'	7.14	1.53	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1267	C	C1'-N1	7.14	1.59	1.48
1	N	156	C	O3'-P	-7.12	1.50	1.61
1	N	1411	C	C2'-C1'	-7.12	1.42	1.53
1	N	1094	G	C4'-O4'	-7.12	1.34	1.45
1	N	220	G	O4'-C1'	7.12	1.52	1.41
1	N	1151	A	C5'-C4'	7.12	1.61	1.51
1	N	551	U	C1'-N1	7.11	1.59	1.48
1	N	950	U	C1'-N1	7.08	1.59	1.48
1	N	699	C	C4'-C3'	7.08	1.63	1.52
1	N	330	C	C3'-C2'	7.08	1.63	1.52
1	N	331	G	C5'-C4'	7.08	1.61	1.51
1	N	43	C	C5'-C4'	7.07	1.61	1.51
1	N	146	G	C1'-N9	7.07	1.58	1.48
1	N	1335	U	O3'-P	-7.05	1.50	1.61
1	N	1481	U	C1'-N1	7.04	1.59	1.48
1	N	582	C	P-O5'	-7.03	1.49	1.59
1	N	74	A	C5'-C4'	7.01	1.61	1.51
1	N	1347	G	O3'-P	-7.00	1.50	1.61
1	N	90	C	C4'-C3'	6.99	1.63	1.53
1	N	512	U	C4'-C3'	6.99	1.63	1.52
1	N	323	U	C1'-N1	6.99	1.58	1.48
1	N	879	C	C2'-C1'	-6.99	1.42	1.53
1	N	1259	C	C1'-N1	6.99	1.58	1.48
1	N	498	A	C5'-C4'	6.99	1.61	1.51
1	N	968	A	C3'-C2'	6.98	1.63	1.52
1	N	1132	C	C5'-C4'	6.97	1.61	1.51
1	N	846	G	C5'-C4'	6.97	1.61	1.51
1	N	352	C	C5'-C4'	6.96	1.61	1.51
1	N	776	G	P-O5'	-6.96	1.49	1.59
1	N	1250	A	C1'-N9	-6.95	1.37	1.48
1	N	1163	A	O4'-C1'	6.95	1.52	1.41
1	N	258	G	P-O5'	-6.94	1.49	1.59
1	N	1528	U	O5'-C5'	6.93	1.53	1.42
1	N	514	C	C1'-N1	6.92	1.58	1.48
1	N	957	U	P-O5'	-6.92	1.49	1.59
1	N	131	A	C4'-C3'	6.91	1.62	1.52
1	N	577	G	C1'-N9	6.89	1.58	1.48
1	N	1227	A	O3'-P	-6.87	1.50	1.61
1	N	1346	A	C4'-C3'	6.85	1.63	1.53
1	N	1499	A	C5'-C4'	6.84	1.61	1.51
1	N	1424	U	C1'-N1	6.83	1.58	1.48
1	N	1163	A	C5'-C4'	6.83	1.61	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	919	A	O3'-P	-6.82	1.50	1.61
1	N	1124	G	C4'-O4'	-6.81	1.35	1.45
1	N	643	C	C4'-C3'	-6.80	1.42	1.52
1	N	1521	C	C1'-N1	6.79	1.58	1.48
1	N	814	A	C3'-O3'	-6.79	1.31	1.42
1	N	126	G	O3'-P	-6.78	1.50	1.61
1	N	1258	G	C1'-N9	6.78	1.58	1.48
1	N	755	G	O3'-P	-6.76	1.51	1.61
1	N	1502	A	C4'-O4'	-6.75	1.35	1.45
1	N	559	A	C2'-C1'	-6.74	1.43	1.53
1	N	684	U	C2'-C1'	-6.73	1.43	1.53
1	N	108	G	C4'-O4'	-6.73	1.35	1.45
1	N	1433	A	C1'-N9	6.73	1.58	1.48
1	N	909	A	C4'-C3'	6.73	1.62	1.52
1	N	471	U	C4'-O4'	6.72	1.55	1.45
1	N	807	A	C2'-C1'	-6.72	1.43	1.53
1	N	629	A	C2'-C1'	-6.72	1.43	1.53
1	N	1501	C	C1'-N1	6.71	1.58	1.48
1	N	1430	A	P-O5'	-6.70	1.49	1.59
1	N	608	A	O4'-C1'	6.70	1.51	1.41
1	N	753	A	O4'-C1'	-6.68	1.31	1.42
1	N	1308	U	C2'-C1'	-6.67	1.43	1.53
1	N	1228	C	C4'-C3'	6.67	1.62	1.52
1	N	601	G	C5'-C4'	6.67	1.61	1.51
1	N	504	C	O3'-P	-6.66	1.51	1.61
1	N	1421	G	C3'-C2'	6.66	1.62	1.52
1	N	984	C	C5'-C4'	6.66	1.61	1.51
1	N	1138	G	C1'-N9	6.65	1.57	1.48
1	N	1241	G	C3'-C2'	6.65	1.62	1.52
1	N	971	G	C3'-C2'	6.63	1.62	1.52
1	N	1331	G	O3'-P	-6.63	1.51	1.61
1	N	963	G	C2'-C1'	-6.62	1.43	1.53
1	N	1500	A	C4'-C3'	6.61	1.62	1.52
1	N	1496	C	C1'-N1	6.61	1.58	1.48
1	N	920	U	C5'-C4'	6.60	1.61	1.51
1	N	1326	U	C2'-C1'	-6.60	1.43	1.53
1	N	1006	G	C1'-N9	6.60	1.57	1.48
1	N	513	C	O3'-P	-6.60	1.51	1.61
1	N	1305	G	C2'-C1'	-6.58	1.43	1.53
1	N	330	C	O3'-P	-6.57	1.51	1.61
1	N	1029	U	C5'-C4'	6.55	1.61	1.51
1	N	1515	G	O4'-C1'	6.55	1.51	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1297	G	C2'-O2'	-6.55	1.31	1.41
1	N	951	G	C2'-C1'	-6.55	1.43	1.53
1	N	683	G	C1'-N9	6.54	1.57	1.48
1	N	326	G	C2'-C1'	-6.54	1.43	1.53
1	N	1479	C	C4'-C3'	6.54	1.62	1.52
1	N	811	C	O3'-P	-6.54	1.51	1.61
1	N	1362	A	C1'-N9	6.54	1.56	1.47
1	N	1432	G	O3'-P	-6.54	1.51	1.61
1	N	426	U	O3'-P	-6.53	1.51	1.61
1	N	829	G	C2'-C1'	-6.53	1.43	1.53
1	N	65	A	C2'-C1'	-6.53	1.43	1.53
1	N	1107	C	C5'-C4'	6.53	1.61	1.51
1	N	1359	C	O4'-C1'	-6.52	1.31	1.41
1	N	79	G	C5'-C4'	6.52	1.61	1.51
1	N	1347	G	C1'-N9	-6.52	1.37	1.47
1	N	960	U	C2'-C1'	-6.51	1.43	1.53
1	N	1423	G	C2'-C1'	6.50	1.63	1.53
1	N	537	G	P-O5'	-6.49	1.50	1.59
1	N	897	C	C1'-N1	6.48	1.58	1.48
1	N	464	U	C5'-C4'	6.48	1.60	1.51
1	N	525	C	C1'-N1	6.47	1.58	1.48
1	N	634	C	C1'-N1	6.47	1.58	1.48
1	N	135	C	C1'-N1	6.47	1.58	1.48
1	N	84	U	O5'-C5'	6.47	1.52	1.42
1	N	213	G	O3'-P	-6.47	1.51	1.61
1	N	1055	A	O3'-P	-6.46	1.51	1.61
1	N	871	U	C1'-N1	6.46	1.58	1.48
1	N	1325	C	C5'-C4'	6.46	1.60	1.51
1	N	601	G	C1'-N9	6.46	1.57	1.48
1	N	264	C	P-O5'	-6.45	1.50	1.59
1	N	530	G	C2'-C1'	6.45	1.63	1.53
1	N	48	C	O3'-P	-6.45	1.51	1.61
1	N	819	A	C6-N6	6.44	1.46	1.33
1	N	451	A	O3'-P	-6.44	1.51	1.61
1	N	1518	A	C5'-C4'	6.43	1.60	1.51
1	N	251	G	C2'-C1'	-6.43	1.43	1.53
1	N	1502	A	C5'-C4'	6.42	1.60	1.51
1	N	456	A	C1'-N9	6.41	1.57	1.48
1	N	392	C	C2'-C1'	-6.41	1.43	1.53
1	N	702	A	C1'-N9	6.40	1.57	1.48
1	N	964	A	C4'-C3'	6.40	1.62	1.52
1	N	164	G	C2'-C1'	-6.39	1.43	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	317	U	C1'-N1	6.39	1.58	1.48
1	N	989	U	N3-C4	6.38	1.51	1.38
1	N	1173	U	O3'-P	-6.38	1.51	1.61
1	N	488	C	C3'-O3'	6.38	1.51	1.42
1	N	863	U	P-O5'	-6.38	1.50	1.59
1	N	975	A	C2'-C1'	-6.38	1.43	1.53
1	N	1108	G	C5'-C4'	6.38	1.60	1.51
1	N	1022	A	C1'-N9	6.38	1.57	1.48
1	N	1130	A	C4'-C3'	6.37	1.62	1.52
1	N	270	A	C5'-C4'	6.37	1.60	1.51
1	N	550	G	O4'-C1'	6.36	1.51	1.41
1	N	565	U	C2'-C1'	-6.36	1.43	1.53
1	N	813	U	C1'-N1	6.36	1.57	1.48
1	N	974	A	C2'-C1'	-6.35	1.43	1.53
1	N	1458	G	P-O5'	-6.34	1.50	1.59
1	N	4	U	C3'-C2'	6.34	1.62	1.52
1	N	503	C	O4'-C1'	6.33	1.51	1.41
1	N	1366	C	C1'-N1	6.33	1.57	1.48
1	N	191	G	P-O5'	-6.33	1.50	1.59
1	N	1023	U	C1'-N1	6.33	1.57	1.48
1	N	836	G	C4'-C3'	6.33	1.62	1.52
1	N	551	U	C2'-C1'	-6.33	1.43	1.53
1	N	1304	G	C3'-O3'	6.33	1.51	1.42
1	N	975	A	O3'-P	-6.32	1.51	1.61
1	N	831	A	O5'-C5'	6.32	1.51	1.42
1	N	324	G	O3'-P	-6.31	1.51	1.61
1	N	558	G	C2'-C1'	-6.30	1.43	1.53
1	N	1433	A	P-O5'	-6.30	1.50	1.59
1	N	252	U	C3'-O3'	6.29	1.51	1.42
1	N	587	G	C1'-N9	6.29	1.57	1.48
1	N	849	G	O5'-C5'	6.29	1.51	1.42
1	N	185	U	C1'-N1	6.29	1.57	1.48
1	N	141	G	C5'-C4'	6.29	1.60	1.51
1	N	555	U	C4'-C3'	6.29	1.61	1.52
1	N	962	C	C1'-N1	6.28	1.57	1.48
1	N	1124	G	O5'-C5'	6.28	1.51	1.42
1	N	274	A	C1'-N9	6.27	1.56	1.47
1	N	204	G	P-O5'	-6.27	1.50	1.59
1	N	687	A	O4'-C1'	-6.27	1.32	1.42
1	N	795	C	O5'-C5'	-6.27	1.33	1.42
1	N	1350	A	C2'-C1'	-6.26	1.44	1.53
1	N	80	A	P-O5'	6.25	1.69	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1298	U	C1'-N1	6.25	1.56	1.47
1	N	1240	U	C5'-C4'	6.25	1.60	1.51
1	N	367	U	C2-N3	6.25	1.50	1.37
1	N	1509	C	C1'-N1	6.24	1.57	1.48
1	N	321	A	O3'-P	-6.24	1.51	1.61
1	N	418	C	O3'-P	-6.24	1.51	1.61
1	N	756	C	C1'-N1	6.24	1.57	1.48
1	N	252	U	C1'-N1	6.23	1.57	1.48
1	N	198	G	C5'-C4'	6.22	1.60	1.51
1	N	219	U	C1'-N1	6.22	1.57	1.48
1	N	1381	U	C4'-C3'	6.21	1.61	1.52
1	N	400	C	N1-C2	-6.19	1.27	1.40
1	N	680	C	C1'-N1	6.18	1.57	1.48
1	N	875	U	O3'-P	-6.17	1.51	1.61
1	N	1383	C	C3'-O3'	6.17	1.51	1.42
1	N	1353	G	C3'-O3'	6.17	1.51	1.42
1	N	209	U	C1'-N1	6.15	1.57	1.48
1	N	1070	U	O3'-P	-6.15	1.51	1.61
1	N	648	A	O3'-P	-6.14	1.51	1.61
1	N	1007	U	C1'-N1	6.14	1.57	1.48
1	N	1482	G	P-O5'	-6.14	1.50	1.59
1	N	637	C	O4'-C1'	6.14	1.50	1.41
1	N	1355	G	O5'-C5'	6.14	1.51	1.42
1	N	933	G	C1'-N9	6.14	1.57	1.48
1	N	1118	U	P-O5'	-6.14	1.50	1.59
1	N	1146	A	C2'-C1'	-6.14	1.44	1.53
1	N	1386	G	C3'-O3'	6.13	1.51	1.42
1	N	806	C	C2'-C1'	-6.13	1.44	1.53
1	N	244	U	C1'-N1	6.12	1.56	1.47
1	N	1479	C	C5'-C4'	6.12	1.60	1.51
1	N	1495	U	C1'-N1	6.11	1.57	1.48
1	N	381	C	O4'-C1'	6.09	1.50	1.41
1	N	1005	A	C1'-N9	6.09	1.57	1.48
1	N	1039	G	C2-N3	6.09	1.45	1.32
1	N	545	C	C4-C5	6.08	1.55	1.43
1	N	1360	A	O4'-C1'	6.07	1.50	1.41
1	N	115	G	C4'-C3'	6.07	1.62	1.53
1	N	1528	U	C5'-C4'	6.07	1.60	1.51
1	N	1097	C	C5'-C4'	6.06	1.60	1.51
1	N	1479	C	O4'-C1'	6.06	1.50	1.41
1	N	185	U	P-O5'	-6.06	1.50	1.59
1	N	1378	C	C1'-N1	6.06	1.57	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	701	U	P-O5'	6.05	1.68	1.59
1	N	983	A	C4'-C3'	6.05	1.62	1.53
1	N	925	G	O3'-P	-6.04	1.52	1.61
1	N	654	G	C5'-C4'	6.03	1.60	1.51
1	N	200	G	C2'-C1'	-6.02	1.44	1.53
1	N	796	C	C2'-C1'	6.02	1.62	1.53
1	N	992	U	O3'-P	-6.01	1.52	1.61
1	N	572	A	C4'-O4'	-6.01	1.36	1.45
1	N	605	U	O3'-P	-6.00	1.52	1.61
1	N	1264	U	C1'-N1	6.00	1.57	1.48
1	N	1310	G	O3'-P	-6.00	1.52	1.61
1	N	1505	G	C2'-O2'	-6.00	1.33	1.42
1	N	171	A	C5'-C4'	6.00	1.60	1.51
1	N	1122	U	C3'-O3'	6.00	1.51	1.42
1	N	1377	A	C2'-C1'	-6.00	1.44	1.53
1	N	122	G	O4'-C1'	5.99	1.50	1.41
1	N	913	A	C2'-C1'	-5.99	1.44	1.53
1	N	714	G	C3'-O3'	5.99	1.51	1.42
1	N	1128	C	C1'-N1	5.99	1.57	1.48
1	N	1487	G	O3'-P	-5.99	1.52	1.61
1	N	1324	A	C3'-C2'	5.98	1.61	1.52
1	N	1515	G	C2-N3	5.97	1.44	1.32
1	N	660	C	C4'-O4'	5.96	1.54	1.45
1	N	1284	C	C4'-O4'	5.96	1.54	1.45
1	N	324	G	C4'-O4'	5.96	1.54	1.45
1	N	460	A	O5'-C5'	5.96	1.51	1.42
1	N	834	U	C5'-C4'	5.95	1.60	1.51
1	N	488	C	C2'-O2'	-5.95	1.33	1.42
1	N	835	U	C3'-C2'	5.95	1.61	1.52
1	N	943	U	C1'-N1	5.95	1.57	1.48
1	N	1491	G	C5'-C4'	5.95	1.60	1.51
1	N	230	G	C2'-C1'	-5.95	1.44	1.53
1	N	90	C	C4'-O4'	-5.95	1.36	1.45
1	N	1240	U	C4'-C3'	5.95	1.61	1.52
1	N	1259	C	C4'-O4'	5.95	1.54	1.45
1	N	273	U	C1'-N1	5.94	1.57	1.48
1	N	624	C	O5'-C5'	5.94	1.51	1.42
1	N	1135	U	O4'-C1'	5.94	1.50	1.41
1	N	679	C	C2'-C1'	-5.94	1.44	1.53
1	N	542	G	C2'-C1'	-5.94	1.44	1.53
1	N	483	C	C2'-C1'	-5.94	1.44	1.53
1	N	815	A	O5'-C5'	-5.93	1.33	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	319	G	O5'-C5'	5.92	1.51	1.42
1	N	628	G	O5'-C5'	-5.91	1.33	1.42
1	N	1221	G	C5'-C4'	5.91	1.60	1.51
1	N	1327	C	C4'-O4'	5.91	1.54	1.45
1	N	968	A	C5'-C4'	5.91	1.60	1.51
1	N	373	A	C2'-C1'	-5.91	1.44	1.53
1	N	1473	G	C4'-O4'	5.91	1.54	1.45
1	N	789	U	C2'-C1'	5.91	1.62	1.53
1	N	305	G	O5'-C5'	5.90	1.51	1.42
1	N	619	U	O4'-C1'	5.90	1.50	1.41
1	N	775	G	P-O5'	-5.90	1.50	1.59
1	N	54	C	C1'-N1	5.90	1.57	1.48
1	N	262	A	C2'-C1'	-5.89	1.44	1.53
1	N	194	C	O4'-C1'	-5.89	1.32	1.41
1	N	1213	A	C4'-C3'	5.89	1.61	1.52
1	N	1242	G	C1'-N9	5.89	1.56	1.48
1	N	797	C	C4'-O4'	-5.89	1.36	1.45
1	N	1376	U	P-O5'	-5.89	1.50	1.59
1	N	910	C	C4'-C3'	-5.89	1.43	1.52
1	N	1069	C	C3'-O3'	-5.89	1.33	1.42
1	N	234	C	O5'-C5'	5.88	1.51	1.42
1	N	415	A	P-O5'	-5.88	1.50	1.59
1	N	1446	A	P-O5'	5.88	1.68	1.59
1	N	1437	A	O5'-C5'	5.87	1.51	1.42
1	N	1105	A	C1'-N9	5.87	1.56	1.48
1	N	115	G	C3'-O3'	5.86	1.51	1.43
1	N	214	C	C4'-C3'	5.85	1.61	1.52
1	N	302	G	C2'-O2'	-5.85	1.33	1.42
1	N	374	A	C3'-O3'	5.85	1.50	1.42
1	N	290	C	C5'-C4'	-5.84	1.42	1.51
1	N	701	U	O3'-P	-5.84	1.52	1.61
1	N	175	C	C5'-C4'	5.83	1.59	1.51
1	N	85	U	C4'-O4'	-5.83	1.37	1.45
1	N	700	G	C5'-C4'	5.83	1.59	1.51
1	N	872	A	C4'-C3'	5.83	1.61	1.53
1	N	1079	G	O4'-C1'	5.82	1.50	1.41
1	N	1514	G	C2'-O2'	-5.82	1.33	1.42
1	N	343	U	O3'-P	-5.82	1.52	1.61
1	N	672	U	O3'-P	-5.82	1.52	1.61
1	N	1203	C	C4'-O4'	5.82	1.54	1.45
1	N	1267	C	C5'-C4'	5.82	1.59	1.51
1	N	1481	U	C4'-O4'	-5.82	1.36	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1125	U	C1'-N1	5.82	1.57	1.48
1	N	351	G	C5-C6	-5.81	1.30	1.42
1	N	748	G	C2'-O2'	-5.81	1.33	1.42
1	N	785	G	C1'-N9	5.81	1.56	1.48
1	N	378	G	C4'-C3'	-5.81	1.43	1.52
1	N	340	U	P-O5'	-5.81	1.51	1.59
1	N	1276	G	C3'-O3'	5.81	1.50	1.42
1	N	1489	G	C5'-C4'	5.80	1.59	1.51
1	N	495	A	C2'-C1'	-5.80	1.44	1.53
1	N	320	A	C3'-O3'	5.80	1.50	1.42
1	N	945	G	P-O5'	-5.80	1.51	1.59
1	N	1184	G	C5'-C4'	5.79	1.59	1.51
1	N	621	A	C5'-C4'	5.79	1.59	1.51
1	N	1495	U	C5'-C4'	5.79	1.59	1.51
1	N	566	G	C4'-C3'	5.79	1.61	1.53
1	N	32	A	O4'-C1'	-5.78	1.32	1.41
1	N	1463	U	C1'-N1	5.78	1.57	1.48
1	N	24	U	C1'-N1	5.78	1.57	1.48
1	N	1071	C	C1'-N1	5.78	1.57	1.48
1	N	330	C	C1'-N1	5.78	1.57	1.48
1	N	913	A	O5'-C5'	5.77	1.51	1.42
1	N	128	G	O4'-C1'	5.76	1.50	1.41
1	N	1114	C	C2'-C1'	5.76	1.61	1.53
1	N	20	U	C5'-C4'	5.75	1.59	1.51
1	N	878	A	P-O5'	-5.75	1.51	1.59
1	N	299	G	C5'-C4'	5.75	1.59	1.51
1	N	684	U	C1'-N1	5.75	1.57	1.48
1	N	369	G	C3'-O3'	5.74	1.50	1.42
1	N	288	A	C3'-C2'	-5.73	1.44	1.52
1	N	908	A	C4'-O4'	-5.73	1.36	1.45
1	N	11	G	C4'-C3'	5.72	1.61	1.52
1	N	584	G	C5'-C4'	5.72	1.59	1.51
1	N	62	U	P-O5'	-5.72	1.51	1.59
1	N	176	C	C5'-C4'	5.72	1.59	1.51
1	N	1064	G	C2-N3	5.72	1.44	1.32
1	N	636	U	O5'-C5'	5.72	1.51	1.42
1	N	770	C	C3'-O3'	5.72	1.50	1.42
1	N	1059	C	C1'-N1	5.71	1.57	1.48
1	N	1172	C	C3'-C2'	-5.71	1.44	1.52
1	N	1269	A	O3'-P	-5.71	1.52	1.61
1	N	676	A	C4'-O4'	5.71	1.54	1.45
1	N	771	G	C2'-C1'	-5.70	1.44	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	7	A	C4'-C3'	5.70	1.61	1.52
1	N	1016	A	C2'-C1'	-5.70	1.44	1.53
1	N	1305	G	C4'-C3'	5.70	1.61	1.52
1	N	288	A	C2'-C1'	-5.70	1.44	1.53
1	N	461	A	C5'-C4'	5.70	1.59	1.51
1	N	1007	U	C3'-C2'	5.70	1.61	1.52
1	N	1025	U	C1'-N1	5.70	1.56	1.48
1	N	1371	G	O4'-C1'	5.70	1.50	1.41
1	N	184	G	O5'-C5'	-5.69	1.33	1.42
1	N	129	A	C1'-N9	5.69	1.55	1.47
1	N	268	U	O3'-P	-5.69	1.52	1.61
1	N	747	A	C3'-C2'	5.68	1.61	1.52
1	N	1503	A	C4'-C3'	5.68	1.61	1.53
1	N	595	A	C4'-C3'	-5.68	1.44	1.53
1	N	815	A	N7-C5	-5.68	1.27	1.39
1	N	1254	A	O4'-C1'	5.67	1.50	1.41
1	N	366	A	O5'-C5'	5.67	1.51	1.42
1	N	1185	G	O4'-C1'	5.67	1.50	1.41
1	N	628	G	C2'-C1'	-5.67	1.44	1.53
1	N	255	G	C2'-C1'	-5.67	1.44	1.53
1	N	941	G	C5'-C4'	5.67	1.59	1.51
1	N	191	G	C4'-O4'	5.67	1.54	1.45
1	N	1484	C	O5'-C5'	-5.66	1.33	1.42
1	N	1069	C	C3'-C2'	-5.66	1.44	1.52
1	N	1290	G	C3'-C2'	5.66	1.61	1.52
1	N	67	C	C1'-N1	5.66	1.56	1.48
1	N	807	A	C4'-O4'	5.65	1.54	1.45
1	N	680	C	P-O5'	-5.65	1.51	1.59
1	N	273	U	C5'-C4'	5.65	1.59	1.51
1	N	70	U	C3'-C2'	5.65	1.61	1.52
1	N	462	G	C2'-C1'	5.65	1.61	1.53
1	N	250	A	C4'-C3'	5.64	1.61	1.53
1	N	317	U	C2'-C1'	-5.64	1.44	1.53
1	N	657	U	P-O5'	-5.64	1.51	1.59
1	N	1092	A	O3'-P	-5.64	1.52	1.61
1	N	1230	C	C5'-C4'	5.64	1.59	1.51
1	N	281	G	O3'-P	-5.64	1.52	1.61
1	N	630	A	C3'-O3'	5.64	1.50	1.42
1	N	105	G	C4'-O4'	-5.63	1.37	1.45
1	N	1041	G	C3'-O3'	5.63	1.50	1.42
1	N	118	U	C3'-O3'	5.63	1.50	1.42
1	N	212	G	O3'-P	-5.63	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	317	U	O4'-C1'	5.63	1.50	1.41
1	N	647	C	C2'-O2'	-5.63	1.34	1.42
1	N	473	U	O5'-C5'	5.63	1.50	1.42
1	N	1070	U	O4'-C1'	5.62	1.50	1.41
1	N	1186	G	O4'-C1'	-5.62	1.33	1.41
1	N	1490	U	C1'-N1	5.62	1.56	1.48
1	N	1514	G	C2'-C1'	-5.62	1.45	1.53
1	N	1296	C	O4'-C1'	-5.61	1.33	1.41
1	N	1499	A	C4'-C3'	5.61	1.60	1.52
1	N	1035	A	P-O5'	-5.61	1.51	1.59
1	N	1310	G	P-O5'	5.61	1.68	1.59
1	N	84	U	C3'-C2'	5.61	1.61	1.52
1	N	608	A	P-O5'	-5.61	1.51	1.59
1	N	1414	U	O5'-C5'	5.61	1.50	1.42
1	N	30	U	C3'-O3'	5.60	1.51	1.43
1	N	488	C	P-O5'	-5.60	1.51	1.59
1	N	96	U	O3'-P	-5.60	1.52	1.61
1	N	551	U	O3'-P	-5.59	1.52	1.61
1	N	791	G	C4'-C3'	-5.59	1.44	1.52
1	N	176	C	O5'-C5'	-5.59	1.34	1.42
1	N	130	A	C4'-C3'	5.58	1.61	1.53
1	N	1107	C	C1'-N1	5.58	1.56	1.48
1	N	435	A	N7-C5	-5.58	1.28	1.39
1	N	459	A	O4'-C1'	5.58	1.50	1.41
1	N	772	U	C3'-O3'	-5.58	1.33	1.42
1	N	328	C	O4'-C1'	-5.57	1.33	1.42
1	N	1088	G	C5'-C4'	5.57	1.59	1.51
1	N	1223	C	C1'-N1	5.56	1.56	1.48
1	N	208	U	C4'-O4'	-5.56	1.37	1.45
1	N	299	G	C3'-C2'	5.56	1.61	1.52
1	N	301	G	C2'-C1'	-5.56	1.45	1.53
1	N	1003	G	C4'-C3'	5.56	1.60	1.52
1	N	713	G	C4'-C3'	5.55	1.60	1.52
1	N	1079	G	C4'-C3'	5.55	1.60	1.52
1	N	1026	G	N9-C4	5.55	1.49	1.38
1	N	1435	G	C1'-N9	5.55	1.56	1.48
1	N	1101	A	C2'-C1'	-5.55	1.44	1.53
1	N	164	G	O3'-P	-5.54	1.52	1.61
1	N	116	A	C2'-C1'	-5.54	1.45	1.53
1	N	479	U	C5'-C4'	5.54	1.59	1.51
1	N	926	G	C1'-N9	5.54	1.56	1.48
1	N	599	C	P-O5'	-5.54	1.51	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	346	G	O4'-C1'	5.54	1.50	1.41
1	N	426	U	P-O5'	-5.54	1.51	1.59
1	N	1167	A	O3'-P	-5.53	1.52	1.61
1	N	500	G	C2'-C1'	-5.53	1.45	1.53
1	N	574	A	C3'-C2'	5.53	1.61	1.52
1	N	999	C	C4'-C3'	5.53	1.60	1.52
1	N	1143	G	C4'-O4'	-5.53	1.37	1.45
1	N	1243	C	P-O5'	-5.52	1.51	1.59
1	N	1120	C	C1'-N1	5.52	1.56	1.48
1	N	580	C	C5'-C4'	5.52	1.59	1.51
1	N	760	G	C4'-O4'	-5.52	1.37	1.45
1	N	829	G	C3'-O3'	5.51	1.50	1.42
1	N	1440	U	C1'-N1	5.51	1.56	1.48
1	N	287	U	P-O5'	-5.51	1.51	1.59
1	N	671	G	C2'-C1'	-5.51	1.45	1.53
1	N	1420	U	C5'-C4'	5.51	1.59	1.51
1	N	1214	C	C3'-C2'	5.50	1.61	1.52
1	N	1485	U	P-O5'	-5.50	1.51	1.59
1	N	56	U	C1'-N1	5.50	1.56	1.48
1	N	261	U	C5'-C4'	5.50	1.59	1.51
1	N	235	C	P-O5'	-5.50	1.51	1.59
1	N	811	C	C1'-N1	5.50	1.56	1.48
1	N	940	C	C4'-C3'	-5.50	1.44	1.52
1	N	114	U	P-O5'	-5.50	1.51	1.59
1	N	296	U	C1'-N1	5.49	1.56	1.48
1	N	1458	G	C4'-O4'	-5.49	1.37	1.45
1	N	1478	U	C3'-C2'	5.49	1.60	1.52
1	N	617	G	C1'-N9	5.49	1.56	1.48
1	N	1054	C	O3'-P	-5.49	1.52	1.61
1	N	1436	U	O3'-P	-5.49	1.52	1.61
1	N	885	G	C2'-C1'	-5.48	1.45	1.53
1	N	795	C	P-O5'	-5.48	1.51	1.59
1	N	1497	G	C2'-C1'	-5.48	1.45	1.53
1	N	1021	A	C3'-O3'	5.48	1.50	1.42
1	N	882	C	P-O5'	-5.47	1.51	1.59
1	N	1434	A	P-O5'	-5.47	1.51	1.59
1	N	572	A	N7-C5	-5.47	1.28	1.39
1	N	944	G	C5'-C4'	5.47	1.59	1.51
1	N	6	G	C5'-C4'	5.46	1.59	1.51
1	N	1289	A	C3'-O3'	5.46	1.50	1.42
1	N	388	G	O5'-C5'	5.46	1.51	1.42
1	N	942	G	C3'-O3'	5.46	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1245	C	C4'-O4'	5.46	1.53	1.45
1	N	1184	G	C4'-C3'	5.45	1.60	1.52
1	N	852	G	C3'-O3'	5.45	1.50	1.42
1	N	905	U	C1'-N1	5.45	1.56	1.48
1	N	198	G	C2'-C1'	-5.45	1.45	1.53
1	N	434	U	C1'-N1	5.45	1.56	1.48
1	N	137	U	C5'-C4'	5.44	1.59	1.51
1	N	751	U	O4'-C1'	-5.44	1.33	1.41
1	N	832	G	O3'-P	5.44	1.69	1.61
1	N	1304	G	P-O5'	-5.44	1.51	1.59
1	N	1501	C	C4'-C3'	5.43	1.60	1.52
1	N	1398	A	C4'-O4'	-5.43	1.37	1.45
1	N	1160	G	C4'-C3'	5.43	1.60	1.52
1	N	1105	A	O4'-C1'	5.43	1.49	1.41
1	N	1300	G	C5'-C4'	5.43	1.59	1.51
1	N	656	G	C3'-O3'	5.42	1.50	1.42
1	N	1006	G	N9-C4	-5.42	1.27	1.38
1	N	1450	U	P-O5'	-5.42	1.51	1.59
1	N	9	G	O3'-P	-5.42	1.53	1.61
1	N	101	A	C3'-C2'	5.42	1.60	1.52
1	N	208	U	C1'-N1	5.42	1.56	1.48
1	N	350	G	C5'-C4'	-5.41	1.43	1.51
1	N	88	U	C1'-N1	5.41	1.55	1.47
1	N	477	C	C3'-O3'	5.41	1.50	1.42
1	N	2	A	O5'-C5'	5.41	1.50	1.42
1	N	78	A	C1'-N9	5.41	1.56	1.48
1	N	400	C	C5'-C4'	5.41	1.59	1.51
1	N	804	U	O3'-P	-5.41	1.53	1.61
1	N	1265	C	C5'-C4'	5.41	1.59	1.51
1	N	1406	U	C3'-O3'	5.41	1.50	1.42
1	N	741	G	C5'-C4'	5.40	1.59	1.51
1	N	419	C	N3-C4	5.40	1.44	1.33
1	N	162	A	C4'-C3'	5.39	1.60	1.52
1	N	168	G	O4'-C1'	5.39	1.49	1.41
1	N	965	U	C2'-C1'	-5.39	1.45	1.53
1	N	1520	C	C5'-C4'	5.39	1.59	1.51
1	N	436	C	P-O5'	-5.39	1.51	1.59
1	N	697	U	C2'-C1'	-5.39	1.45	1.53
1	N	727	G	O3'-P	5.38	1.69	1.61
1	N	945	G	C4'-O4'	-5.38	1.37	1.45
1	N	623	C	C1'-N1	5.38	1.56	1.48
1	N	883	C	C1'-N1	5.38	1.56	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	499	A	P-O5'	-5.38	1.51	1.59
1	N	777	A	O4'-C1'	5.38	1.49	1.41
1	N	169	C	C2'-C1'	-5.37	1.45	1.53
1	N	1362	A	O4'-C1'	-5.37	1.33	1.42
1	N	1475	G	O3'-P	-5.37	1.53	1.61
1	N	198	G	C1'-N9	5.37	1.56	1.48
1	N	341	C	C3'-C2'	5.37	1.60	1.52
1	N	312	C	C1'-N1	5.37	1.56	1.48
1	N	411	A	C3'-C2'	5.37	1.60	1.52
1	N	958	A	C3'-O3'	5.37	1.50	1.42
1	N	1153	G	C1'-N9	5.36	1.55	1.48
1	N	506	G	C2'-C1'	-5.36	1.45	1.53
1	N	644	U	O4'-C1'	5.36	1.49	1.41
1	N	970	C	C4'-C3'	5.36	1.60	1.52
1	N	1375	A	C1'-N9	5.36	1.55	1.48
1	N	1241	G	C5'-C4'	5.36	1.59	1.51
1	N	107	G	C3'-C2'	-5.36	1.44	1.52
1	N	874	G	O3'-P	-5.36	1.53	1.61
1	N	414	A	C1'-N9	5.35	1.55	1.48
1	N	905	U	C2'-O2'	-5.35	1.34	1.42
1	N	995	C	C4'-C3'	5.35	1.60	1.52
1	N	1331	G	C4'-C3'	5.35	1.60	1.52
1	N	1162	C	C4'-C3'	5.34	1.60	1.52
1	N	1272	G	O5'-C5'	5.34	1.50	1.42
1	N	1337	G	P-O5'	-5.34	1.51	1.59
1	N	1365	G	C5'-C4'	5.34	1.59	1.51
1	N	896	C	C5'-C4'	5.33	1.59	1.51
1	N	197	A	P-O5'	-5.33	1.51	1.59
1	N	211	G	C2'-C1'	-5.33	1.45	1.53
1	N	1486	G	C4'-C3'	5.33	1.60	1.52
1	N	87	C	C3'-C2'	5.33	1.60	1.52
1	N	874	G	C4'-O4'	5.33	1.53	1.45
1	N	1458	G	C2'-C1'	5.32	1.61	1.53
1	N	1172	C	C1'-N1	5.32	1.56	1.48
1	N	198	G	O4'-C1'	-5.32	1.33	1.41
1	N	1399	C	O3'-P	-5.32	1.53	1.61
1	N	1236	A	O3'-P	-5.32	1.53	1.61
1	N	1371	G	C2'-C1'	-5.31	1.45	1.53
1	N	673	A	C5'-C4'	5.31	1.59	1.51
1	N	639	G	C5'-C4'	5.31	1.59	1.51
1	N	719	C	C5'-C4'	5.30	1.59	1.51
1	N	468	A	C4'-O4'	-5.30	1.37	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	739	C	C3'-C2'	-5.30	1.44	1.52
1	N	1099	G	O4'-C1'	5.30	1.49	1.41
1	N	743	A	O3'-P	-5.30	1.53	1.61
1	N	1264	U	C4'-O4'	5.29	1.53	1.45
1	N	174	A	C3'-O3'	5.29	1.50	1.42
1	N	913	A	O3'-P	-5.29	1.53	1.61
1	N	1476	A	C2'-C1'	-5.29	1.45	1.53
1	N	492	C	O4'-C1'	5.29	1.49	1.41
1	N	516	U	C2'-C1'	-5.29	1.45	1.53
1	N	769	G	P-O5'	5.29	1.67	1.59
1	N	955	U	C1'-N1	5.29	1.56	1.48
1	N	1168	U	C5'-C4'	5.29	1.59	1.51
1	N	645	G	P-O5'	-5.28	1.51	1.59
1	N	1320	C	C4'-O4'	-5.28	1.37	1.45
1	N	107	G	C5'-C4'	5.27	1.59	1.51
1	N	174	A	C2'-C1'	-5.27	1.45	1.53
1	N	446	G	O3'-P	-5.27	1.53	1.61
1	N	112	G	C3'-C2'	-5.27	1.44	1.52
1	N	727	G	P-O5'	-5.27	1.51	1.59
1	N	769	G	C3'-O3'	5.26	1.50	1.42
1	N	928	G	P-O5'	-5.26	1.51	1.59
1	N	1248	A	P-O5'	-5.26	1.51	1.59
1	N	1288	A	O4'-C1'	-5.26	1.33	1.41
1	N	347	G	C2'-C1'	-5.26	1.45	1.53
1	N	1382	C	C2'-O2'	-5.26	1.34	1.42
1	N	1168	U	C2'-C1'	5.25	1.61	1.53
1	N	940	C	C1'-N1	5.25	1.56	1.48
1	N	1457	G	C2-N2	5.25	1.45	1.34
1	N	600	A	O3'-P	-5.25	1.53	1.61
1	N	674	G	O5'-C5'	-5.25	1.34	1.42
1	N	1124	G	C5'-C4'	5.25	1.59	1.51
1	N	1484	C	C1'-N1	5.25	1.56	1.48
1	N	335	C	O3'-P	-5.25	1.53	1.61
1	N	207	C	O4'-C1'	5.24	1.49	1.41
1	N	95	C	O5'-C5'	5.24	1.50	1.42
1	N	1414	U	C1'-N1	5.24	1.56	1.48
1	N	417	G	C5'-C4'	5.24	1.59	1.51
1	N	888	G	C1'-N9	5.24	1.55	1.48
1	N	265	G	C5'-C4'	-5.24	1.43	1.51
1	N	83	C	C4'-O4'	5.23	1.53	1.45
1	N	702	A	C5'-C4'	5.23	1.59	1.51
1	N	391	G	O3'-P	-5.23	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	582	C	C1'-N1	5.23	1.56	1.48
1	N	220	G	P-O5'	-5.23	1.51	1.59
1	N	601	G	C3'-C2'	5.22	1.60	1.52
1	N	1000	A	O4'-C1'	-5.22	1.33	1.41
1	N	1050	G	O4'-C1'	-5.22	1.33	1.41
1	N	32	A	P-O5'	-5.22	1.51	1.59
1	N	1234	C	P-O5'	-5.22	1.51	1.59
1	N	289	G	C2'-C1'	-5.21	1.45	1.53
1	N	347	G	C4'-C3'	5.21	1.60	1.52
1	N	904	U	C3'-O3'	5.21	1.50	1.42
1	N	1030	U	C3'-C2'	5.21	1.60	1.52
1	N	1291	U	C4'-O4'	5.21	1.53	1.45
1	N	1467	C	C1'-N1	5.21	1.56	1.48
1	N	927	G	O3'-P	-5.21	1.53	1.61
1	N	103	U	O4'-C1'	5.21	1.49	1.41
1	N	274	A	O4'-C1'	-5.21	1.34	1.42
1	N	1310	G	C4'-C3'	5.21	1.60	1.52
1	N	322	C	P-O5'	-5.21	1.51	1.59
1	N	411	A	C2'-C1'	-5.21	1.45	1.53
1	N	1416	G	O5'-C5'	5.21	1.50	1.42
1	N	186	C	C3'-O3'	5.21	1.50	1.42
1	N	774	G	C3'-C2'	-5.21	1.45	1.52
1	N	92	U	C3'-C2'	5.20	1.60	1.52
1	N	461	A	C4'-O4'	5.20	1.53	1.45
1	N	754	C	C2'-O2'	-5.20	1.34	1.42
1	N	682	G	O4'-C1'	5.20	1.49	1.41
1	N	1533	C	P-O5'	-5.20	1.51	1.59
1	N	447	G	C1'-N9	5.20	1.55	1.48
1	N	1015	G	C1'-N9	5.20	1.55	1.48
1	N	1172	C	C3'-O3'	5.20	1.50	1.42
1	N	1220	G	O3'-P	5.20	1.69	1.61
1	N	558	G	C4'-C3'	-5.19	1.44	1.52
1	N	384	G	C2'-C1'	-5.19	1.45	1.53
1	N	717	U	C5'-C4'	5.19	1.59	1.51
1	N	729	A	C1'-N9	-5.19	1.40	1.48
1	N	82	G	P-O5'	-5.19	1.51	1.59
1	N	778	G	C4'-C3'	-5.19	1.44	1.52
1	N	254	G	C5'-C4'	5.18	1.59	1.51
1	N	1387	G	N1-C2	5.18	1.48	1.37
1	N	39	G	C3'-C2'	5.18	1.60	1.52
1	N	15	G	C1'-N9	5.18	1.55	1.48
1	N	483	C	O3'-P	-5.18	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1166	G	C2'-C1'	-5.17	1.45	1.53
1	N	4	U	C1'-N1	5.17	1.55	1.47
1	N	106	C	C3'-C2'	-5.17	1.45	1.52
1	N	242	G	C3'-C2'	5.16	1.60	1.52
1	N	400	C	O4'-C1'	5.16	1.49	1.41
1	N	5	U	C4'-O4'	5.16	1.53	1.45
1	N	721	G	C5'-C4'	5.16	1.59	1.51
1	N	1008	U	C2'-C1'	-5.16	1.45	1.53
1	N	864	A	C2'-C1'	-5.15	1.45	1.53
1	N	1061	G	C4'-C3'	-5.15	1.44	1.52
1	N	577	G	C4'-C3'	5.15	1.60	1.52
1	N	874	G	P-O5'	-5.15	1.52	1.59
1	N	1119	C	P-O5'	5.15	1.67	1.59
1	N	272	C	C1'-N1	5.14	1.56	1.48
1	N	638	U	C1'-N1	5.14	1.56	1.48
1	N	576	C	O3'-P	-5.14	1.53	1.61
1	N	671	G	C1'-N9	5.14	1.55	1.48
1	N	899	C	C2'-C1'	-5.14	1.45	1.53
1	N	1109	C	O3'-P	-5.14	1.53	1.61
1	N	231	U	C5'-C4'	5.14	1.58	1.51
1	N	376	G	C3'-C2'	-5.14	1.45	1.52
1	N	944	G	C4'-O4'	-5.14	1.37	1.45
1	N	100	G	C3'-O3'	5.14	1.49	1.42
1	N	457	G	O3'-P	-5.13	1.53	1.61
1	N	620	C	P-O5'	-5.13	1.52	1.59
1	N	1529	G	C3'-C2'	-5.13	1.45	1.52
1	N	619	U	P-O5'	-5.13	1.52	1.59
1	N	357	G	C1'-N9	5.13	1.55	1.48
1	N	424	G	C1'-N9	5.13	1.55	1.48
1	N	489	C	C3'-O3'	-5.13	1.34	1.42
1	N	961	U	C2-N3	5.13	1.48	1.37
1	N	64	G	C6-N1	5.13	1.49	1.39
1	N	265	G	O3'-P	-5.13	1.53	1.61
1	N	1066	C	C4'-O4'	5.13	1.53	1.45
1	N	37	U	C2'-C1'	-5.12	1.45	1.53
1	N	801	U	C5'-C4'	5.12	1.58	1.51
1	N	922	G	O5'-C5'	5.12	1.50	1.42
1	N	1407	C	O4'-C1'	5.12	1.49	1.41
1	N	525	C	C2'-C1'	-5.12	1.45	1.53
1	N	668	G	C4'-O4'	5.12	1.53	1.45
1	N	1136	C	C4'-C3'	5.12	1.60	1.53
1	N	1193	G	O3'-P	-5.11	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	625	U	C3'-O3'	5.11	1.49	1.42
1	N	229	U	C2'-C1'	5.11	1.61	1.53
1	N	1028	C	C5'-C4'	5.11	1.58	1.51
1	N	1317	C	C5'-C4'	-5.10	1.43	1.51
1	N	111	G	O3'-P	-5.10	1.53	1.61
1	N	451	A	C2'-C1'	-5.10	1.45	1.53
1	N	227	G	C3'-O3'	5.10	1.49	1.42
1	N	692	U	C2'-O2'	-5.10	1.34	1.42
1	N	1203	C	C2'-C1'	-5.09	1.45	1.53
1	N	202	G	N7-C5	5.09	1.49	1.39
1	N	209	U	C2'-C1'	-5.09	1.45	1.53
1	N	1183	U	O4'-C1'	5.09	1.49	1.41
1	N	1002	G	C1'-N9	5.09	1.55	1.48
1	N	1396	A	C4'-O4'	-5.09	1.38	1.45
1	N	182	A	O4'-C1'	5.09	1.49	1.42
1	N	322	C	C4'-C3'	-5.09	1.45	1.52
1	N	945	G	C3'-C2'	5.09	1.60	1.52
1	N	1524	C	C3'-C2'	-5.09	1.45	1.52
1	N	1232	U	O4'-C1'	5.08	1.49	1.41
1	N	1398	A	C5'-C4'	5.08	1.58	1.51
1	N	423	G	P-O5'	-5.08	1.52	1.59
1	N	569	C	C4'-C3'	-5.08	1.45	1.52
1	N	1017	U	O4'-C1'	-5.08	1.34	1.41
1	N	1500	A	C3'-O3'	5.08	1.49	1.42
1	N	769	G	O3'-P	-5.08	1.53	1.61
1	N	200	G	C3'-O3'	-5.07	1.34	1.42
1	N	605	U	C4'-O4'	-5.07	1.38	1.45
1	N	739	C	C1'-N1	5.07	1.56	1.48
1	N	748	G	C2'-C1'	5.07	1.60	1.53
1	N	1029	U	C2'-C1'	5.07	1.60	1.53
1	N	779	C	C4-N4	5.07	1.44	1.33
1	N	952	U	C4'-C3'	5.06	1.60	1.52
1	N	986	U	C3'-C2'	-5.06	1.45	1.52
1	N	159	G	N1-C2	5.06	1.47	1.37
1	N	326	G	O3'-P	-5.06	1.53	1.61
1	N	1147	C	C2'-O2'	-5.06	1.34	1.42
1	N	134	G	C4'-O4'	5.05	1.53	1.45
1	N	777	A	C3'-C2'	-5.05	1.45	1.52
1	N	1105	A	O3'-P	-5.05	1.53	1.61
1	N	527	G	C2'-C1'	-5.05	1.45	1.53
1	N	505	G	C5'-C4'	5.05	1.58	1.51
1	N	809	G	C1'-N9	5.05	1.55	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1312	G	C3'-C2'	-5.05	1.45	1.52
1	N	565	U	C4-C5	-5.04	1.33	1.43
1	N	1121	U	P-O5'	-5.04	1.52	1.59
1	N	285	C	O5'-C5'	-5.04	1.34	1.42
1	N	639	G	C1'-N9	5.04	1.55	1.48
1	N	673	A	C4'-O4'	-5.04	1.38	1.45
1	N	172	A	O3'-P	-5.04	1.53	1.61
1	N	1169	A	C5'-C4'	5.04	1.58	1.51
1	N	1164	G	P-O5'	-5.04	1.52	1.59
1	N	901	A	O4'-C1'	5.04	1.49	1.41
1	N	1027	C	C4'-O4'	-5.03	1.38	1.45
1	N	570	G	C5'-C4'	5.03	1.58	1.51
1	N	803	G	C1'-N9	-5.03	1.40	1.48
1	N	265	G	C6-N1	5.03	1.49	1.39
1	N	1509	C	C4'-C3'	5.03	1.60	1.52
1	N	135	C	C3'-O3'	5.03	1.49	1.42
1	N	566	G	P-O5'	-5.03	1.52	1.59
1	N	1189	U	O4'-C1'	5.02	1.49	1.41
1	N	416	G	C1'-N9	5.02	1.55	1.48
1	N	911	U	C4'-O4'	5.02	1.53	1.45
1	N	263	A	C2'-C1'	-5.02	1.45	1.53
1	N	233	C	C1'-N1	5.02	1.55	1.48
1	N	768	A	C8-N7	-5.02	1.21	1.31
1	N	937	A	O5'-C5'	5.02	1.50	1.42
1	N	242	G	C5-C6	-5.02	1.32	1.42
1	N	298	A	C3'-O3'	5.02	1.49	1.42
1	N	503	C	C5'-C4'	5.02	1.58	1.51
1	N	961	U	O3'-P	-5.01	1.53	1.61
1	N	1164	G	C4'-O4'	5.01	1.53	1.45
1	N	1193	G	C5'-C4'	5.01	1.58	1.51
1	N	1512	U	O5'-C5'	5.01	1.50	1.42
1	N	905	U	C4'-O4'	5.01	1.53	1.45
1	N	893	C	C4'-C3'	-5.01	1.45	1.52
1	N	997	U	P-O5'	-5.01	1.52	1.59
1	N	150	U	N1-C6	5.01	1.48	1.38
1	N	73	C	C5'-C4'	5.00	1.58	1.51
1	N	183	C	C4'-C3'	-5.00	1.45	1.52
1	N	262	A	O5'-C5'	5.00	1.50	1.42
1	N	926	G	O3'-P	-5.00	1.53	1.61
1	N	1300	G	C3'-O3'	-5.00	1.35	1.43
1	N	334	C	O4'-C1'	5.00	1.49	1.41
1	N	885	G	C4'-C3'	5.00	1.60	1.52

All (1988) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1248	A	P-O5'-C5'	18.01	147.91	120.90
1	N	1399	C	P-O3'-C3'	17.73	146.79	120.20
1	N	1242	G	P-O5'-C5'	17.63	147.35	120.90
1	N	1531	A	P-O5'-C5'	17.49	147.14	120.90
1	N	94	G	P-O3'-C3'	16.80	145.39	120.20
1	N	93	U	P-O5'-C5'	16.79	146.08	120.90
1	N	47	C	P-O3'-C3'	16.70	145.25	120.20
1	N	1362	A	P-O3'-C3'	16.48	144.92	120.20
1	N	1088	G	P-O5'-C5'	16.14	145.11	120.90
1	N	795	C	P-O5'-C5'	16.07	145.00	120.90
1	N	316	C	C5'-C4'-C3'	-16.02	91.97	116.00
1	N	913	A	P-O3'-C3'	15.32	143.19	120.20
1	N	950	U	P-O5'-C5'	15.15	143.63	120.90
1	N	264	C	P-O5'-C5'	15.15	143.62	120.90
1	N	1173	U	P-O5'-C5'	14.56	142.74	120.90
1	N	690	G	P-O5'-C5'	14.40	142.51	120.90
1	N	484	G	P-O3'-C3'	14.40	141.80	120.20
1	N	895	G	P-O5'-C5'	14.38	142.47	120.90
1	N	1243	C	P-O5'-C5'	14.36	142.44	120.90
1	N	511	C	P-O3'-C3'	14.24	141.56	120.20
1	N	1040	U	P-O5'-C5'	14.11	142.06	120.90
1	N	1432	G	P-O3'-C3'	13.94	141.11	120.20
1	N	1263	C	P-O5'-C5'	13.77	141.55	120.90
1	N	991	U	P-O3'-C3'	13.77	140.85	120.20
1	N	982	U	P-O3'-C3'	13.57	140.55	120.20
1	N	119	A	P-O3'-C3'	13.41	140.32	120.20
1	N	438	U	P-O3'-C3'	13.18	139.97	120.20
1	N	243	A	P-O3'-C3'	13.09	139.83	120.20
1	N	1331	G	P-O3'-C3'	13.07	139.80	120.20
1	N	776	G	P-O5'-C5'	13.04	140.46	120.90
1	N	1241	G	P-O5'-C5'	13.04	140.46	120.90
1	N	88	U	P-O3'-C3'	13.03	139.74	120.20
1	N	721	G	P-O3'-C3'	12.83	139.45	120.20
1	N	184	G	P-O5'-C5'	12.72	139.98	120.90
1	N	535	A	P-O3'-C3'	12.65	139.18	120.20
1	N	317	U	P-O5'-C5'	12.63	139.84	120.90
1	N	633	G	P-O5'-C5'	12.54	139.71	120.90
1	N	1061	G	P-O5'-C5'	12.46	139.58	120.90
1	N	53	A	P-O5'-C5'	12.44	139.56	120.90
1	N	812	G	P-O3'-C3'	12.44	138.86	120.20
1	N	566	G	P-O3'-C3'	12.40	138.80	120.20
1	N	477	C	P-O5'-C5'	12.38	139.47	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	197	A	P-O5'-C5'	12.34	139.41	120.90
1	N	481	G	O4'-C4'-C3'	-12.31	93.79	106.10
1	N	73	C	O4'-C1'-C2'	-12.24	95.36	107.60
1	N	1114	C	P-O5'-C5'	12.11	139.06	120.90
1	N	273	U	P-O5'-C5'	12.03	138.94	120.90
1	N	1285	A	P-O3'-C3'	11.93	138.10	120.20
1	N	1201	A	P-O3'-C3'	11.91	138.07	120.20
1	N	669	G	P-O5'-C5'	11.79	138.58	120.90
1	N	344	A	P-O3'-C3'	11.67	137.71	120.20
1	N	1433	A	O3'-P-O5'	-11.65	86.52	104.00
1	N	515	G	P-O5'-C5'	11.64	138.36	120.90
1	N	126	G	P-O3'-C3'	11.62	137.63	120.20
1	N	51	A	P-O3'-C3'	11.45	137.37	120.20
1	N	176	C	P-O5'-C5'	11.43	138.05	120.90
1	N	928	G	P-O3'-C3'	11.37	137.25	120.20
1	N	532	A	P-O3'-C3'	11.35	137.22	120.20
1	N	314	C	C4'-C3'-C2'	-11.29	91.31	102.60
1	N	172	A	P-O3'-C3'	11.26	137.08	120.20
1	N	1482	G	P-O5'-C5'	11.19	137.68	120.90
1	N	547	A	P-O3'-C3'	11.18	136.97	120.20
1	N	372	C	P-O3'-C3'	11.17	136.95	120.20
1	N	210	C	P-O3'-C3'	11.11	136.86	120.20
1	N	559	A	P-O3'-C3'	10.98	136.67	120.20
1	N	1507	A	P-O5'-C5'	10.97	137.36	120.90
1	N	120	A	O4'-C1'-C2'	-10.90	96.70	107.60
1	N	327	A	P-O3'-C3'	10.80	136.39	120.20
1	N	817	C	P-O3'-C3'	10.78	136.38	120.20
1	N	1403	C	P-O5'-C5'	10.76	137.04	120.90
1	N	109	A	P-O3'-C3'	10.71	136.26	120.20
1	N	1337	G	P-O3'-C3'	-10.64	104.23	120.20
1	N	1058	G	P-O5'-C5'	10.62	136.84	120.90
1	N	864	A	P-O3'-C3'	10.61	136.12	120.20
1	N	605	U	P-O3'-C3'	10.60	136.11	120.20
1	N	985	C	P-O5'-C5'	10.59	136.78	120.90
1	N	860	A	P-O3'-C3'	10.56	136.04	120.20
1	N	197	A	C5'-C4'-C3'	10.52	130.98	115.20
1	N	486	U	C5'-C4'-C3'	-10.48	100.28	116.00
1	N	1203	C	P-O5'-C5'	10.44	136.56	120.90
1	N	1227	A	C5'-C4'-C3'	-10.42	100.36	116.00
1	N	641	U	P-O3'-C3'	10.34	135.71	120.20
1	N	199	A	P-O5'-C5'	10.32	136.38	120.90
1	N	752	G	C2'-C3'-O3'	10.31	124.97	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1119	C	P-O5'-C5'	-10.31	105.44	120.90
1	N	1530	G	P-O3'-C3'	10.29	135.64	120.20
1	N	800	G	P-O5'-C5'	10.27	136.30	120.90
1	N	1321	U	P-O5'-C5'	10.26	136.29	120.90
1	N	9	G	P-O5'-C5'	10.25	136.28	120.90
1	N	413	G	P-O3'-C3'	10.24	135.56	120.20
1	N	794	A	C5'-C4'-C3'	-10.22	100.67	116.00
1	N	1312	G	C5'-C4'-C3'	-10.20	100.70	116.00
1	N	153	C	P-O5'-C5'	10.15	136.12	120.90
1	N	1418	A	P-O5'-C5'	10.14	136.10	120.90
1	N	1226	C	P-O3'-C3'	10.11	135.37	120.20
1	N	1000	A	P-O5'-C5'	10.07	136.01	120.90
1	N	1278	G	P-O3'-C3'	10.04	135.27	120.20
1	N	460	A	P-O5'-C5'	10.01	135.91	120.90
1	N	212	G	P-O5'-C5'	10.00	135.90	120.90
1	N	957	U	P-O5'-C5'	9.97	135.86	120.90
1	N	285	C	P-O5'-C5'	9.93	135.80	120.90
1	N	1206	G	P-O5'-C5'	9.93	135.79	120.90
1	N	686	U	C2'-C3'-O3'	9.92	124.38	109.50
1	N	1096	C	P-O5'-C5'	9.91	135.76	120.90
1	N	1252	A	O4'-C1'-N9	9.91	123.36	108.50
1	N	1318	A	P-O5'-C5'	9.90	135.75	120.90
1	N	192	A	P-O5'-C5'	9.84	135.65	120.90
1	N	1241	G	C5'-C4'-C3'	-9.78	101.34	116.00
1	N	992	U	C5'-C4'-C3'	9.76	129.84	115.20
1	N	805	C	P-O5'-C5'	9.74	135.51	120.90
1	N	117	G	P-O5'-C5'	9.74	135.51	120.90
1	N	148	G	P-O5'-C5'	9.70	135.44	120.90
1	N	1102	A	P-O5'-C5'	9.69	135.43	120.90
1	N	1086	U	C5'-C4'-C3'	-9.68	101.48	116.00
1	N	963	G	P-O3'-C3'	-9.68	105.68	120.20
1	N	842	U	P-O5'-C5'	9.68	135.41	120.90
1	N	557	G	P-O3'-C3'	9.67	134.70	120.20
1	N	50	A	P-O5'-C5'	9.63	135.35	120.90
1	N	775	G	P-O5'-C5'	9.60	135.30	120.90
1	N	1101	A	P-O3'-C3'	9.58	134.57	120.20
1	N	212	G	P-O3'-C3'	9.56	134.54	120.20
1	N	866	C	P-O5'-C5'	9.56	135.23	120.90
1	N	1094	G	P-O3'-C3'	9.54	134.51	120.20
1	N	958	A	P-O5'-C5'	9.53	135.19	120.90
1	N	323	U	P-O5'-C5'	9.52	135.17	120.90
1	N	486	U	P-O5'-C5'	-9.50	106.64	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	166	U	C5'-C4'-C3'	-9.46	101.81	116.00
1	N	218	U	P-O5'-C5'	9.46	135.08	120.90
1	N	530	G	P-O3'-C3'	9.45	134.38	120.20
1	N	508	U	P-O3'-C3'	9.44	134.36	120.20
1	N	871	U	O4'-C4'-C3'	-9.44	94.56	104.00
1	N	1249	C	P-O5'-C5'	-9.41	106.78	120.90
1	N	60	A	P-O3'-C3'	9.40	134.30	120.20
1	N	1208	C	P-O5'-C5'	9.38	134.96	120.90
1	N	181	A	C4'-C3'-C2'	-9.35	93.25	102.60
1	N	266	G	P-O3'-C3'	9.35	134.22	120.20
1	N	1293	C	C4'-C3'-C2'	-9.32	93.28	102.60
1	N	572	A	C2'-C3'-O3'	9.31	123.46	109.50
1	N	94	G	P-O5'-C5'	-9.30	106.94	120.90
1	N	822	U	P-O5'-C5'	9.28	134.81	120.90
1	N	1319	A	P-O3'-C3'	9.27	134.10	120.20
1	N	1101	A	C2'-C3'-O3'	9.26	123.38	109.50
1	N	557	G	O3'-P-O5'	-9.25	90.12	104.00
1	N	1037	C	O4'-C4'-C3'	-9.24	94.76	104.00
1	N	1363	A	P-O5'-C5'	9.22	134.73	120.90
1	N	878	A	P-O5'-C5'	9.22	134.73	120.90
1	N	305	G	P-O3'-C3'	9.21	134.01	120.20
1	N	499	A	P-O3'-C3'	9.21	134.01	120.20
1	N	902	G	P-O5'-C5'	9.20	134.71	120.90
1	N	979	C	C5'-C4'-C3'	-9.17	102.24	116.00
1	N	1277	C	O4'-C1'-N1	9.16	122.24	108.50
1	N	63	C	P-O3'-C3'	9.14	133.91	120.20
1	N	1137	C	C5'-C4'-C3'	-9.12	101.52	115.20
1	N	1118	U	C5'-C4'-O4'	-9.11	96.13	109.80
1	N	388	G	C5'-C4'-C3'	-9.10	101.56	115.20
1	N	49	U	P-O5'-C5'	9.09	134.54	120.90
1	N	198	G	C5'-C4'-C3'	-9.07	102.39	116.00
1	N	1362	A	C2'-C3'-O3'	9.07	123.10	109.50
1	N	369	G	O4'-C1'-C2'	-9.06	98.54	107.60
1	N	179	A	P-O5'-C5'	9.05	134.47	120.90
1	N	1395	C	C4'-C3'-O3'	-9.04	99.44	113.00
1	N	513	C	P-O5'-C5'	9.04	134.46	120.90
1	N	641	U	C4'-C3'-O3'	-9.01	99.48	113.00
1	N	985	C	O4'-C1'-N1	9.01	122.01	108.50
1	N	449	G	C1'-O4'-C4'	8.97	118.87	109.90
1	N	812	G	O3'-P-O5'	-8.97	90.55	104.00
1	N	575	G	P-O3'-C3'	8.96	133.64	120.20
1	N	1043	G	C4'-C3'-O3'	-8.95	99.58	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	130	A	C4'-C3'-C2'	-8.93	93.67	102.60
1	N	1359	C	P-O5'-C5'	-8.93	107.51	120.90
1	N	1432	G	C2'-C3'-O3'	8.92	122.88	109.50
1	N	846	G	C5'-C4'-C3'	-8.92	102.62	116.00
1	N	1299	A	P-O5'-C5'	8.91	134.27	120.90
1	N	858	G	O4'-C1'-C2'	-8.91	98.69	107.60
1	N	207	C	O4'-C1'-C2'	-8.88	98.72	107.60
1	N	861	G	P-O3'-C3'	8.87	133.51	120.20
1	N	96	U	O5'-C5'-C4'	-8.87	98.39	111.70
1	N	1031	C	P-O5'-C5'	8.87	134.20	120.90
1	N	1469	C	P-O5'-C5'	-8.85	107.62	120.90
1	N	528	C	O4'-C1'-N1	8.84	121.76	108.50
1	N	1086	U	O5'-C5'-C4'	8.84	124.75	111.50
1	N	546	A	P-O5'-C5'	-8.83	107.65	120.90
1	N	582	C	P-O5'-C5'	8.81	134.12	120.90
1	N	519	C	C5'-C4'-C3'	-8.81	102.79	116.00
1	N	825	A	C4'-C3'-C2'	-8.79	93.81	102.60
1	N	195	A	P-O5'-C5'	8.76	134.04	120.90
1	N	893	C	O4'-C1'-N1	8.75	121.62	108.50
1	N	468	A	P-O5'-C5'	8.74	134.01	120.90
1	N	225	C	P-O5'-C5'	8.72	133.99	120.90
1	N	896	C	C5'-C4'-C3'	-8.72	102.91	116.00
1	N	601	G	P-O5'-C5'	8.72	133.98	120.90
1	N	93	U	O4'-C1'-N1	8.71	121.57	108.50
1	N	723	U	P-O3'-C3'	-8.71	107.14	120.20
1	N	1041	G	O4'-C4'-C3'	-8.67	95.33	104.00
1	N	1336	C	P-O3'-C3'	8.64	133.16	120.20
1	N	495	A	P-O3'-C3'	8.61	133.12	120.20
1	N	709	U	P-O5'-C5'	8.59	133.79	120.90
1	N	1515	G	P-O3'-C3'	-8.59	107.32	120.20
1	N	966	G	P-O3'-C3'	8.57	133.05	120.20
1	N	132	C	P-O3'-C3'	-8.56	107.35	120.20
1	N	686	U	P-O3'-C3'	8.56	133.05	120.20
1	N	904	U	C5'-C4'-C3'	8.56	128.85	116.00
1	N	909	A	P-O5'-C5'	8.56	133.75	120.90
1	N	1239	A	C4'-C3'-O3'	8.56	122.24	109.40
1	N	458	U	O4'-C1'-C2'	-8.52	99.08	107.60
1	N	1274	A	P-O3'-C3'	-8.52	107.42	120.20
1	N	905	U	P-O5'-C5'	8.50	133.65	120.90
1	N	11	G	C4'-C3'-C2'	-8.48	94.12	102.60
1	N	752	G	P-O3'-C3'	8.48	132.92	120.20
1	N	1042	A	P-O5'-C5'	8.46	133.59	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	66	A	P-O3'-C3'	8.44	132.87	120.20
1	N	212	G	C4'-C3'-O3'	-8.44	100.35	113.00
1	N	180	U	P-O5'-C5'	8.42	133.53	120.90
1	N	909	A	C4'-C3'-C2'	-8.41	94.19	102.60
1	N	62	U	O3'-P-O5'	-8.41	91.39	104.00
1	N	1114	C	O4'-C1'-C2'	-8.41	99.19	107.60
1	N	451	A	O4'-C1'-N9	8.40	120.80	108.20
1	N	1485	U	P-O5'-C5'	8.39	133.49	120.90
1	N	615	G	O4'-C1'-C2'	-8.39	99.21	107.60
1	N	426	U	P-O3'-C3'	8.38	132.77	120.20
1	N	1448	C	P-O3'-C3'	8.37	132.75	120.20
1	N	834	U	P-O5'-C5'	8.36	133.45	120.90
1	N	666	G	C5'-C4'-C3'	8.36	128.54	116.00
1	N	1444	U	C3'-C2'-C1'	8.35	109.65	101.30
1	N	1168	U	P-O3'-C3'	8.35	132.73	120.20
1	N	756	C	P-O3'-C3'	-8.33	107.70	120.20
1	N	555	U	P-O3'-C3'	8.33	132.69	120.20
1	N	1377	A	O3'-P-O5'	-8.29	91.56	104.00
1	N	357	G	O4'-C1'-C2'	-8.29	99.31	107.60
1	N	416	G	P-O5'-C5'	8.25	133.27	120.90
1	N	127	G	P-O5'-C5'	8.24	133.27	120.90
1	N	447	G	P-O5'-C5'	8.24	133.27	120.90
1	N	601	G	O4'-C1'-C2'	-8.24	99.36	107.60
1	N	1049	U	P-O3'-C3'	8.24	132.57	120.20
1	N	859	G	C4'-C3'-C2'	-8.24	94.36	102.60
1	N	777	A	O4'-C4'-C3'	-8.23	95.77	104.00
1	N	1117	A	N9-C1'-C2'	8.23	124.34	112.00
1	N	367	U	C5'-C4'-C3'	-8.22	102.86	115.20
1	N	797	C	P-O5'-C5'	-8.22	108.56	120.90
1	N	1525	G	P-O5'-C5'	8.22	133.22	120.90
1	N	299	G	P-O5'-C5'	8.21	133.22	120.90
1	N	283	U	P-O5'-C5'	8.21	133.22	120.90
1	N	1315	U	P-O5'-C5'	8.21	133.21	120.90
1	N	115	G	P-O3'-C3'	8.20	132.49	120.20
1	N	650	G	P-O5'-C5'	-8.19	108.62	120.90
1	N	591	U	P-O5'-C5'	8.17	133.16	120.90
1	N	1447	A	P-O3'-C3'	8.17	132.46	120.20
1	N	1498	U	P-O3'-C3'	8.17	132.46	120.20
1	N	501	C	C4'-C3'-O3'	-8.17	100.75	113.00
1	N	1239	A	O4'-C1'-C2'	-8.17	97.63	105.80
1	N	1488	G	C4'-C3'-C2'	-8.16	94.44	102.60
1	N	753	A	P-O5'-C5'	-8.16	108.66	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1502	A	C2'-C3'-O3'	8.16	121.74	109.50
1	N	70	U	C2'-C3'-O3'	8.15	121.73	109.50
1	N	253	A	C4'-C3'-C2'	-8.15	94.45	102.60
1	N	871	U	P-O3'-C3'	8.15	132.43	120.20
1	N	980	C	C5'-C4'-O4'	8.14	122.00	109.80
1	N	889	A	P-O3'-C3'	8.13	132.40	120.20
1	N	617	G	O5'-C5'-C4'	-8.10	99.34	111.50
1	N	890	G	O4'-C1'-C2'	-8.10	97.70	105.80
1	N	313	A	C4'-C3'-C2'	-8.10	94.50	102.60
1	N	1391	U	O4'-C1'-N1	8.10	120.64	108.50
1	N	629	A	C4'-C3'-C2'	-8.07	94.53	102.60
1	N	940	C	P-O5'-C5'	8.07	133.01	120.90
1	N	407	U	P-O5'-C5'	8.07	133.00	120.90
1	N	738	C	P-O5'-C5'	8.06	132.99	120.90
1	N	528	C	O4'-C1'-C2'	-8.05	99.55	107.60
1	N	636	U	P-O5'-C5'	-8.03	108.85	120.90
1	N	140	U	P-O5'-C5'	8.03	132.95	120.90
1	N	1356	G	P-O5'-C5'	8.03	132.95	120.90
1	N	197	A	P-O3'-C3'	7.97	132.16	120.20
1	N	959	A	P-O3'-C3'	7.97	132.16	120.20
1	N	426	U	O5'-C5'-C4'	-7.95	99.58	111.50
1	N	1042	A	O5'-C5'-C4'	-7.95	99.58	111.50
1	N	289	G	C5'-C4'-C3'	-7.92	104.11	116.00
1	N	694	A	O4'-C1'-N9	7.91	120.36	108.50
1	N	775	G	C4'-C3'-C2'	-7.90	94.70	102.60
1	N	340	U	O5'-C5'-C4'	-7.89	99.66	111.50
1	N	849	G	C5'-C4'-C3'	-7.89	104.16	116.00
1	N	787	A	C5'-C4'-C3'	7.89	127.83	116.00
1	N	923	A	P-O3'-C3'	7.88	132.03	120.20
1	N	943	U	O4'-C4'-C3'	-7.88	96.12	104.00
1	N	871	U	O4'-C1'-C2'	-7.88	99.72	107.60
1	N	1449	C	C4'-C3'-O3'	-7.87	101.19	113.00
1	N	1365	G	C4'-C3'-C2'	-7.86	94.74	102.60
1	N	1483	A	O4'-C4'-C3'	-7.86	96.14	104.00
1	N	559	A	O4'-C1'-C2'	7.85	113.65	105.80
1	N	366	A	C2'-C3'-O3'	7.83	121.24	109.50
1	N	996	A	C4'-C3'-C2'	-7.83	94.78	102.60
1	N	566	G	C4'-C3'-O3'	7.81	121.12	109.40
1	N	204	G	P-O5'-C5'	7.81	132.62	120.90
1	N	344	A	C4'-C3'-C2'	7.81	110.41	102.60
1	N	120	A	C4'-C3'-C2'	-7.81	94.79	102.60
1	N	509	A	P-O3'-C3'	7.80	131.90	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	663	A	O4'-C1'-N9	7.80	120.20	108.50
1	N	1348	U	C2'-C3'-O3'	-7.80	102.01	113.70
1	N	652	U	P-O3'-C3'	7.79	131.89	120.20
1	N	249	U	O3'-P-O5'	-7.79	92.32	104.00
1	N	1066	C	C5'-C4'-C3'	-7.79	104.32	116.00
1	N	104	G	P-O5'-C5'	7.78	132.58	120.90
1	N	890	G	C4'-C3'-C2'	-7.78	94.82	102.60
1	N	1350	A	O4'-C4'-C3'	-7.77	96.23	104.00
1	N	862	C	C2'-C3'-O3'	7.76	125.34	113.70
1	N	207	C	P-O3'-C3'	7.76	131.84	120.20
1	N	1289	A	P-O3'-C3'	-7.75	108.58	120.20
1	N	136	C	O5'-C5'-C4'	-7.75	99.88	111.50
1	N	1170	A	O4'-C1'-C2'	-7.75	99.85	107.60
1	N	1469	C	O5'-C5'-C4'	7.75	123.12	111.50
1	N	969	A	P-O5'-C5'	-7.72	109.32	120.90
1	N	186	C	P-O3'-C3'	-7.71	108.63	120.20
1	N	1144	G	P-O3'-C3'	7.71	131.76	120.20
1	N	1464	U	P-O3'-C3'	7.71	131.76	120.20
1	N	120	A	C5'-C4'-C3'	7.71	127.56	116.00
1	N	1425	U	C4'-C3'-C2'	-7.70	94.90	102.60
1	N	210	C	O3'-P-O5'	-7.67	92.49	104.00
1	N	770	C	O4'-C4'-C3'	-7.67	96.33	104.00
1	N	1336	C	C2'-C3'-O3'	7.67	121.01	109.50
1	N	1066	C	C3'-C2'-C1'	7.67	108.97	101.30
1	N	1424	U	C4'-C3'-C2'	-7.67	94.93	102.60
1	N	979	C	O4'-C1'-N1	7.67	120.00	108.50
1	N	647	C	O4'-C1'-N1	7.67	120.00	108.50
1	N	578	C	P-O5'-C5'	7.66	132.39	120.90
1	N	1007	U	P-O3'-C3'	7.66	131.69	120.20
1	N	373	A	P-O5'-C5'	-7.64	109.43	120.90
1	N	161	A	C5'-C4'-C3'	7.64	127.46	116.00
1	N	78	A	C1'-O4'-C4'	7.63	117.53	109.90
1	N	1310	G	P-O3'-C3'	7.63	131.64	120.20
1	N	766	A	O3'-P-O5'	-7.62	92.57	104.00
1	N	866	C	C4'-C3'-O3'	-7.60	101.60	113.00
1	N	1446	A	C5'-C4'-C3'	-7.59	104.61	116.00
1	N	106	C	P-O3'-C3'	7.59	131.58	120.20
1	N	1107	C	C4'-C3'-O3'	-7.58	101.63	113.00
1	N	1374	A	O4'-C1'-N9	7.58	119.86	108.50
1	N	672	U	C5'-C4'-C3'	-7.57	104.64	116.00
1	N	511	C	P-O5'-C5'	-7.56	109.56	120.90
1	N	1458	G	P-O5'-C5'	7.56	132.24	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	97	G	P-O5'-C5'	7.54	132.21	120.90
1	N	265	G	P-O3'-C3'	7.54	131.51	120.20
1	N	944	G	C4'-C3'-C2'	-7.54	95.06	102.60
1	N	652	U	C5'-C4'-C3'	-7.53	104.70	116.00
1	N	1205	U	O4'-C1'-C2'	-7.53	100.07	107.60
1	N	181	A	P-O3'-C3'	7.53	131.49	120.20
1	N	346	G	C5'-C4'-C3'	-7.53	104.71	116.00
1	N	788	U	O5'-C5'-C4'	7.52	122.79	111.50
1	N	196	A	O3'-P-O5'	-7.52	92.73	104.00
1	N	208	U	P-O5'-C5'	-7.51	109.63	120.90
1	N	1115	U	P-O5'-C5'	7.51	132.16	120.90
1	N	484	G	C2'-C3'-O3'	7.51	120.76	109.50
1	N	1060	U	P-O3'-C3'	-7.51	108.94	120.20
1	N	1040	U	P-O3'-C3'	7.50	131.46	120.20
1	N	763	G	C5'-C4'-C3'	-7.50	104.75	116.00
1	N	1073	U	O4'-C1'-C2'	-7.49	100.11	107.60
1	N	1491	G	O5'-C5'-C4'	-7.49	100.26	111.50
1	N	23	C	P-O5'-C5'	7.49	132.13	120.90
1	N	848	C	P-O3'-C3'	7.49	131.43	120.20
1	N	198	G	O4'-C1'-N9	7.48	119.72	108.50
1	N	662	U	O4'-C1'-N1	7.48	119.72	108.50
1	N	1228	C	O4'-C1'-N1	7.47	119.71	108.50
1	N	802	A	P-O3'-C3'	7.47	131.41	120.20
1	N	169	C	O4'-C1'-N1	7.46	119.69	108.50
1	N	7	A	P-O3'-C3'	7.46	131.39	120.20
1	N	140	U	C2'-C3'-O3'	7.46	124.89	113.70
1	N	957	U	C5'-C4'-C3'	7.46	127.19	116.00
1	N	1146	A	C5'-C4'-C3'	7.45	127.18	116.00
1	N	601	G	C4'-C3'-C2'	-7.44	95.16	102.60
1	N	459	A	C5'-C4'-C3'	-7.43	104.85	116.00
1	N	605	U	C1'-O4'-C4'	7.43	117.33	109.90
1	N	1358	U	C4'-C3'-C2'	7.43	110.03	102.60
1	N	274	A	C4'-C3'-O3'	7.43	120.55	109.40
1	N	1277	C	O4'-C1'-C2'	-7.43	100.17	107.60
1	N	352	C	C4'-C3'-C2'	-7.43	95.17	102.60
1	N	1277	C	C4'-C3'-C2'	-7.43	95.17	102.60
1	N	472	U	C4'-C3'-C2'	-7.41	95.19	102.60
1	N	534	U	P-O5'-C5'	7.41	132.02	120.90
1	N	256	U	P-O5'-C5'	7.40	132.00	120.90
1	N	1298	U	C5'-C4'-O4'	7.40	120.20	109.10
1	N	559	A	O5'-C5'-C4'	-7.40	100.61	111.70
1	N	580	C	P-O5'-C5'	7.39	131.98	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	139	A	P-O5'-C5'	7.39	131.98	120.90
1	N	344	A	P-O5'-C5'	7.38	131.98	120.90
1	N	513	C	P-O3'-C3'	7.38	131.27	120.20
1	N	1494	G	P-O5'-C5'	7.38	131.97	120.90
1	N	1494	G	O4'-C1'-N9	7.38	119.56	108.50
1	N	90	C	P-O3'-C3'	7.37	131.26	120.20
1	N	1262	C	O4'-C1'-N1	7.37	119.56	108.50
1	N	98	A	C5'-C4'-C3'	-7.37	104.94	116.00
1	N	274	A	C2'-C3'-O3'	7.37	120.55	109.50
1	N	78	A	O4'-C1'-C2'	-7.36	100.24	107.60
1	N	856	C	O4'-C4'-C3'	-7.36	96.64	104.00
1	N	914	A	C5'-C4'-C3'	-7.36	104.96	116.00
1	N	1189	U	O4'-C4'-C3'	-7.35	96.65	104.00
1	N	762	U	C1'-O4'-C4'	7.35	117.25	109.90
1	N	1312	G	O4'-C1'-C2'	-7.34	100.26	107.60
1	N	883	C	O5'-C5'-C4'	-7.34	100.49	111.50
1	N	1197	A	O4'-C1'-C2'	-7.34	100.26	107.60
1	N	246	A	C2'-C3'-O3'	7.34	120.50	109.50
1	N	797	C	O4'-C1'-N1	7.34	119.50	108.50
1	N	292	G	O4'-C1'-N9	7.33	119.50	108.50
1	N	9	G	O4'-C1'-C2'	-7.33	100.27	107.60
1	N	1239	A	O4'-C1'-N9	7.33	119.19	108.20
1	N	1170	A	C5'-C4'-C3'	7.32	126.98	116.00
1	N	771	G	P-O5'-C5'	7.31	131.87	120.90
1	N	1339	A	P-O3'-C3'	7.31	131.17	120.20
1	N	210	C	C2'-C3'-O3'	7.31	120.46	109.50
1	N	775	G	O4'-C1'-C2'	-7.31	100.29	107.60
1	N	854	U	P-O3'-C3'	-7.31	109.24	120.20
1	N	569	C	P-O5'-C5'	7.30	131.86	120.90
1	N	1423	G	P-O3'-C3'	-7.30	109.24	120.20
1	N	224	U	C4'-C3'-C2'	-7.30	95.30	102.60
1	N	1132	C	P-O5'-C5'	7.30	131.85	120.90
1	N	49	U	C5'-C4'-C3'	-7.29	105.07	116.00
1	N	843	U	O4'-C1'-N1	7.29	119.43	108.50
1	N	1218	C	O4'-C1'-C2'	-7.28	100.32	107.60
1	N	861	G	C4'-C3'-C2'	-7.28	95.32	102.60
1	N	519	C	O4'-C1'-N1	7.28	119.42	108.50
1	N	140	U	P-O3'-C3'	7.27	131.11	120.20
1	N	803	G	P-O5'-C5'	7.27	131.80	120.90
1	N	1046	A	C1'-O4'-C4'	-7.27	102.63	109.90
1	N	1236	A	C4'-C3'-O3'	-7.26	102.11	113.00
1	N	464	U	P-O3'-C3'	7.26	131.08	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	734	G	C4'-C3'-C2'	-7.25	95.35	102.60
1	N	465	A	P-O5'-C5'	7.25	131.77	120.90
1	N	440	C	C4'-C3'-O3'	-7.24	102.13	113.00
1	N	591	U	C4'-C3'-C2'	-7.24	95.36	102.60
1	N	897	C	O4'-C1'-N1	7.24	119.36	108.50
1	N	1174	G	C4'-C3'-C2'	-7.24	95.36	102.60
1	N	234	C	O4'-C1'-N1	7.23	119.35	108.50
1	N	766	A	C5'-C4'-C3'	-7.23	105.15	116.00
1	N	946	A	C4'-C3'-C2'	7.23	109.83	102.60
1	N	451	A	P-O3'-C3'	7.23	131.05	120.20
1	N	212	G	O4'-C4'-C3'	-7.23	96.77	104.00
1	N	559	A	C4'-C3'-O3'	7.22	120.24	109.40
1	N	1100	C	O4'-C1'-N1	7.22	119.03	108.20
1	N	324	G	P-O5'-C5'	7.22	131.73	120.90
1	N	1143	G	O4'-C1'-N9	7.21	119.31	108.50
1	N	305	G	C2'-C3'-O3'	7.20	120.30	109.50
1	N	1483	A	O4'-C1'-N9	7.20	119.31	108.50
1	N	1283	U	O4'-C1'-N1	7.19	119.29	108.50
1	N	1207	G	O4'-C1'-C2'	-7.19	100.41	107.60
1	N	574	A	C5'-C4'-C3'	7.18	126.77	116.00
1	N	221	C	C4'-C3'-C2'	-7.18	95.42	102.60
1	N	934	C	P-O3'-C3'	7.17	130.95	120.20
1	N	1346	A	P-O3'-C3'	7.17	130.95	120.20
1	N	1091	U	C4'-C3'-O3'	-7.17	102.25	113.00
1	N	944	G	P-O5'-C5'	-7.16	110.16	120.90
1	N	281	G	P-O3'-C3'	7.16	130.94	120.20
1	N	1087	G	P-O5'-C5'	7.16	131.64	120.90
1	N	185	U	C4'-C3'-O3'	-7.16	102.26	113.00
1	N	1396	A	C5'-C4'-C3'	-7.16	104.46	115.20
1	N	714	G	O4'-C1'-N9	7.16	119.23	108.50
1	N	531	U	C5'-C4'-C3'	7.15	126.73	116.00
1	N	916	U	P-O5'-C5'	7.15	131.62	120.90
1	N	1398	A	P-O3'-C3'	-7.15	109.47	120.20
1	N	266	G	C2'-C3'-O3'	7.15	120.22	109.50
1	N	351	G	C4'-C3'-O3'	7.14	120.12	109.40
1	N	534	U	O4'-C4'-C3'	-7.14	96.86	104.00
1	N	1012	A	P-O5'-C5'	-7.14	110.19	120.90
1	N	1305	G	O3'-P-O5'	-7.14	93.29	104.00
1	N	729	A	O5'-C5'-C4'	-7.14	100.79	111.50
1	N	1472	U	C5'-C4'-C3'	7.14	126.70	116.00
1	N	531	U	P-O3'-C3'	7.13	130.90	120.20
1	N	99	C	O3'-P-O5'	-7.12	93.32	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	548	G	O5'-C5'-C4'	-7.12	100.82	111.50
1	N	926	G	C5'-C4'-C3'	7.12	126.68	116.00
1	N	451	A	C2'-C3'-O3'	7.12	120.17	109.50
1	N	254	G	O5'-C5'-C4'	-7.11	100.83	111.50
1	N	1252	A	O4'-C1'-C2'	-7.11	100.49	107.60
1	N	736	C	C4'-C3'-C2'	-7.10	95.50	102.60
1	N	1519	A	O4'-C1'-C2'	-7.09	100.51	107.60
1	N	181	A	C4'-C3'-O3'	7.08	120.03	109.40
1	N	1003	G	P-O3'-C3'	7.08	130.83	120.20
1	N	273	U	C5'-C4'-C3'	-7.08	105.38	116.00
1	N	400	C	O4'-C1'-N1	7.08	119.12	108.50
1	N	840	C	O4'-C1'-N1	7.08	119.12	108.50
1	N	984	C	P-O5'-C5'	7.08	131.52	120.90
1	N	87	C	O4'-C4'-C3'	7.08	111.08	104.00
1	N	267	C	C5'-C4'-O4'	-7.08	99.18	109.80
1	N	718	A	P-O3'-C3'	7.08	130.82	120.20
1	N	212	G	O5'-C5'-C4'	-7.08	100.89	111.50
1	N	1395	C	O4'-C1'-N1	7.08	119.11	108.50
1	N	1345	U	O3'-P-O5'	-7.07	93.39	104.00
1	N	467	U	C5'-C4'-C3'	7.07	126.60	116.00
1	N	854	U	C4'-C3'-C2'	-7.07	95.53	102.60
1	N	339	C	O5'-C5'-C4'	-7.07	100.90	111.50
1	N	591	U	O4'-C1'-N1	7.05	119.08	108.50
1	N	207	C	C5'-C4'-C3'	7.05	126.57	116.00
1	N	1102	A	O4'-C1'-N9	7.05	119.07	108.50
1	N	699	C	O4'-C1'-N1	7.04	119.06	108.50
1	N	926	G	P-O3'-C3'	7.04	130.75	120.20
1	N	1533	C	P-O5'-C5'	7.03	131.45	120.90
1	N	317	U	C5'-C4'-O4'	7.03	120.34	109.80
1	N	774	G	P-O5'-C5'	7.03	131.45	120.90
1	N	1464	U	O4'-C1'-N1	7.03	119.05	108.50
1	N	789	U	O5'-C5'-C4'	-7.03	100.96	111.50
1	N	1112	C	C5'-C4'-C3'	7.03	125.74	115.20
1	N	372	C	O4'-C1'-N1	7.02	118.73	108.20
1	N	1038	C	O4'-C1'-N1	7.01	119.02	108.50
1	N	1185	G	O4'-C4'-C3'	-7.01	96.99	104.00
1	N	660	C	C4'-C3'-C2'	-7.00	95.60	102.60
1	N	238	A	C4'-C3'-C2'	-7.00	95.60	102.60
1	N	548	G	C2'-C3'-O3'	-6.99	103.22	113.70
1	N	1125	U	O3'-P-O5'	6.99	114.48	104.00
1	N	719	C	O4'-C1'-N1	6.99	118.98	108.50
1	N	58	C	O4'-C1'-N1	6.98	118.98	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	769	G	C4'-C3'-C2'	-6.98	95.62	102.60
1	N	1323	G	O4'-C1'-N9	6.98	118.97	108.50
1	N	921	U	P-O5'-C5'	6.98	131.37	120.90
1	N	1131	G	O5'-C5'-C4'	-6.98	101.04	111.50
1	N	141	G	C5'-C4'-C3'	-6.97	105.54	116.00
1	N	1268	G	P-O3'-C3'	6.97	130.66	120.20
1	N	58	C	C5'-C4'-C3'	-6.96	105.56	116.00
1	N	342	C	O4'-C1'-N1	6.96	118.94	108.50
1	N	619	U	P-O5'-C5'	6.96	131.34	120.90
1	N	426	U	P-O5'-C5'	6.95	131.32	120.90
1	N	450	G	O5'-C5'-C4'	-6.95	101.08	111.50
1	N	1494	G	C5'-C4'-C3'	6.94	126.41	116.00
1	N	72	A	C4'-C3'-C2'	-6.93	95.67	102.60
1	N	172	A	C2'-C3'-O3'	6.93	124.10	113.70
1	N	720	C	C4'-C3'-C2'	-6.93	95.67	102.60
1	N	717	U	C2'-C3'-O3'	6.93	119.89	109.50
1	N	1404	C	C4'-C3'-O3'	-6.92	102.61	113.00
1	N	542	G	C4'-C3'-C2'	-6.92	95.69	102.60
1	N	1165	U	P-O5'-C5'	6.92	131.27	120.90
1	N	1254	A	P-O5'-C5'	6.91	131.27	120.90
1	N	956	U	P-O3'-C3'	-6.91	109.84	120.20
1	N	566	G	C2'-C3'-O3'	6.90	119.85	109.50
1	N	393	A	P-O3'-C3'	-6.89	109.86	120.20
1	N	216	U	C4'-C3'-C2'	-6.89	95.71	102.60
1	N	798	U	C5'-C4'-C3'	6.89	126.33	116.00
1	N	1336	C	O4'-C1'-N1	6.88	118.52	108.20
1	N	843	U	P-O3'-C3'	-6.88	109.89	120.20
1	N	1147	C	P-O5'-C5'	6.88	131.22	120.90
1	N	963	G	C4'-C3'-C2'	-6.87	95.73	102.60
1	N	447	G	O4'-C1'-C2'	-6.87	100.73	107.60
1	N	245	U	P-O5'-C5'	-6.87	110.60	120.90
1	N	1448	C	C5'-C4'-C3'	6.86	126.29	116.00
1	N	87	C	P-O5'-C5'	-6.85	110.62	120.90
1	N	1316	G	P-O3'-C3'	6.85	130.48	120.20
1	N	251	G	P-O5'-C5'	6.85	131.17	120.90
1	N	1186	G	C5'-C4'-C3'	6.85	126.27	116.00
1	N	80	A	P-O3'-C3'	-6.84	109.94	120.20
1	N	723	U	C1'-O4'-C4'	-6.84	103.06	109.90
1	N	986	U	O4'-C1'-N1	6.83	118.75	108.50
1	N	279	A	C5'-C4'-C3'	6.83	125.45	115.20
1	N	1394	A	O4'-C4'-C3'	-6.83	99.27	106.10
1	N	323	U	O5'-C5'-C4'	-6.82	101.27	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1335	U	C2'-C3'-O3'	6.82	119.73	109.50
1	N	119	A	P-O5'-C5'	-6.81	110.68	120.90
1	N	1462	C	C4'-C3'-C2'	-6.80	95.80	102.60
1	N	1489	G	C4'-C3'-C2'	-6.80	95.80	102.60
1	N	200	G	O4'-C4'-C3'	-6.80	97.20	104.00
1	N	937	A	O4'-C1'-N9	6.79	118.68	108.50
1	N	694	A	C5'-C4'-C3'	6.79	126.18	116.00
1	N	1085	U	P-O3'-C3'	-6.79	110.02	120.20
1	N	913	A	O4'-C4'-C3'	-6.78	99.32	106.10
1	N	67	C	C4'-C3'-C2'	-6.78	95.82	102.60
1	N	994	A	P-O3'-C3'	-6.78	110.04	120.20
1	N	114	U	C4'-C3'-C2'	-6.77	95.83	102.60
1	N	10	A	C1'-C2'-O2'	6.77	118.56	108.40
1	N	763	G	C4'-C3'-C2'	-6.77	95.83	102.60
1	N	1530	G	O4'-C4'-C3'	-6.77	99.33	106.10
1	N	1141	C	O4'-C1'-N1	6.76	118.65	108.50
1	N	1251	A	N9-C1'-C2'	-6.76	103.85	114.00
1	N	491	G	P-O5'-C5'	-6.76	110.76	120.90
1	N	85	U	O4'-C1'-C2'	6.76	112.56	105.80
1	N	386	C	O4'-C1'-N1	6.76	118.64	108.50
1	N	1108	G	P-O3'-C3'	6.76	130.34	120.20
1	N	537	G	C4'-C3'-C2'	-6.76	95.84	102.60
1	N	246	A	P-O5'-C5'	6.75	131.03	120.90
1	N	274	A	C1'-O4'-C4'	6.75	116.45	109.70
1	N	416	G	O5'-C5'-C4'	-6.75	101.37	111.50
1	N	195	A	C4'-C3'-O3'	-6.75	102.88	113.00
1	N	756	C	O4'-C1'-N1	6.75	118.62	108.50
1	N	171	A	C5'-C4'-C3'	-6.74	105.88	116.00
1	N	1249	C	O3'-P-O5'	6.74	114.11	104.00
1	N	193	C	C4'-C3'-O3'	-6.74	102.89	113.00
1	N	34	C	O4'-C4'-C3'	-6.74	97.26	104.00
1	N	945	G	P-O5'-C5'	6.74	131.01	120.90
1	N	152	A	C5'-C4'-C3'	6.73	126.10	116.00
1	N	758	C	C4'-C3'-C2'	-6.73	95.87	102.60
1	N	1449	C	P-O5'-C5'	-6.73	110.81	120.90
1	N	429	U	O4'-C1'-N1	6.73	118.29	108.20
1	N	346	G	P-O5'-C5'	-6.73	110.81	120.90
1	N	154	U	C4'-C3'-C2'	-6.72	95.88	102.60
1	N	607	A	P-O5'-C5'	6.72	130.99	120.90
1	N	765	G	P-O3'-C3'	-6.72	110.11	120.20
1	N	1037	C	C5'-C4'-C3'	6.72	126.08	116.00
1	N	918	A	O4'-C1'-N9	6.72	118.58	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	793	U	O4'-C1'-N1	6.72	118.58	108.50
1	N	1399	C	O4'-C1'-N1	6.72	118.27	108.20
1	N	1386	G	C4'-C3'-C2'	-6.71	95.89	102.60
1	N	1285	A	C4'-C3'-O3'	6.71	119.47	109.40
1	N	1430	A	P-O5'-C5'	6.71	130.96	120.90
1	N	1072	G	C4'-C3'-O3'	-6.70	102.95	113.00
1	N	503	C	O4'-C1'-N1	6.70	118.55	108.50
1	N	749	A	C4'-C3'-C2'	-6.70	95.90	102.60
1	N	1284	C	P-O5'-C5'	6.69	130.94	120.90
1	N	1247	U	P-O3'-C3'	-6.69	110.16	120.20
1	N	112	G	P-O3'-C3'	-6.68	110.18	120.20
1	N	916	U	O4'-C4'-C3'	-6.68	97.32	104.00
1	N	776	G	C4'-C3'-O3'	-6.67	102.99	113.00
1	N	199	A	C2'-C3'-O3'	-6.66	103.71	113.70
1	N	1209	C	O4'-C1'-N1	6.66	118.49	108.50
1	N	1506	U	P-O5'-C5'	-6.66	110.91	120.90
1	N	891	U	C4'-C3'-C2'	-6.66	95.94	102.60
1	N	1062	U	P-O5'-C5'	6.65	130.88	120.90
1	N	857	C	C2'-C3'-O3'	6.65	123.68	113.70
1	N	1423	G	P-O5'-C5'	6.65	130.88	120.90
1	N	704	A	O4'-C1'-N9	6.65	118.47	108.50
1	N	1043	G	P-O5'-C5'	6.65	130.87	120.90
1	N	1146	A	O5'-C5'-C4'	-6.65	101.53	111.50
1	N	117	G	O3'-P-O5'	-6.64	94.04	104.00
1	N	1502	A	C4'-C3'-C2'	6.64	109.24	102.60
1	N	1263	C	O4'-C1'-N1	6.64	118.46	108.50
1	N	674	G	P-O5'-C5'	6.64	130.86	120.90
1	N	477	C	O4'-C1'-N1	6.64	118.45	108.50
1	N	558	G	O4'-C1'-C2'	-6.64	100.96	107.60
1	N	440	C	C2'-C3'-O3'	6.63	123.65	113.70
1	N	885	G	C4'-C3'-O3'	-6.63	103.05	113.00
1	N	924	C	P-O5'-C5'	6.63	130.85	120.90
1	N	1390	U	O4'-C1'-N1	6.63	118.44	108.50
1	N	1191	A	O4'-C1'-C2'	-6.63	100.97	107.60
1	N	424	G	O4'-C1'-C2'	-6.62	100.97	107.60
1	N	1473	G	O4'-C4'-C3'	-6.62	97.38	104.00
1	N	1202	U	O4'-C1'-N1	6.62	118.42	108.50
1	N	1353	G	O4'-C1'-C2'	-6.62	100.98	107.60
1	N	287	U	O5'-C5'-C4'	-6.61	101.58	111.50
1	N	969	A	P-O3'-C3'	-6.61	110.28	120.20
1	N	232	G	O4'-C1'-N9	6.61	118.42	108.50
1	N	784	A	O4'-C4'-C3'	-6.61	97.39	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1171	A	P-O3'-C3'	6.61	130.11	120.20
1	N	551	U	C4'-C3'-O3'	-6.60	103.10	113.00
1	N	311	C	O4'-C1'-N1	6.60	118.39	108.50
1	N	1326	U	O4'-C1'-N1	6.59	118.39	108.50
1	N	26	A	O4'-C1'-N9	6.59	118.39	108.50
1	N	993	G	O3'-P-O5'	-6.58	94.13	104.00
1	N	1053	G	P-O3'-C3'	6.58	130.06	120.20
1	N	175	C	P-O3'-C3'	-6.57	110.34	120.20
1	N	209	U	C1'-O4'-C4'	-6.57	103.33	109.90
1	N	242	G	C4'-C3'-O3'	-6.57	103.14	113.00
1	N	739	C	O4'-C1'-N1	6.57	118.36	108.50
1	N	50	A	N9-C1'-C2'	6.57	123.85	114.00
1	N	241	G	P-O5'-C5'	6.57	130.75	120.90
1	N	410	G	P-O3'-C3'	6.57	130.05	120.20
1	N	893	C	O4'-C1'-C2'	-6.56	101.04	107.60
1	N	1168	U	C4'-C3'-C2'	-6.56	96.04	102.60
1	N	1050	G	C5'-C4'-C3'	-6.55	106.17	116.00
1	N	355	C	O4'-C1'-N1	6.55	118.32	108.50
1	N	1520	C	O4'-C1'-N1	6.55	118.32	108.50
1	N	96	U	C3'-C2'-C1'	6.55	108.05	101.50
1	N	821	G	P-O3'-C3'	-6.55	110.38	120.20
1	N	1239	A	O3'-P-O5'	6.54	113.81	104.00
1	N	1075	U	O3'-P-O5'	-6.54	94.19	104.00
1	N	73	C	O4'-C1'-N1	6.54	118.30	108.50
1	N	767	A	P-O5'-C5'	6.54	130.70	120.90
1	N	987	G	O4'-C1'-N9	6.53	118.30	108.50
1	N	19	A	C4'-C3'-C2'	-6.53	96.07	102.60
1	N	273	U	C1'-O4'-C4'	6.53	116.43	109.90
1	N	425	G	P-O3'-C3'	-6.53	110.40	120.20
1	N	1460	C	P-O5'-C5'	6.53	130.69	120.90
1	N	1448	C	O4'-C1'-N1	6.53	118.29	108.50
1	N	1399	C	C2'-C3'-O3'	6.52	119.28	109.50
1	N	1080	A	P-O3'-C3'	6.52	129.98	120.20
1	N	70	U	P-O3'-C3'	6.52	129.98	120.20
1	N	120	A	O4'-C1'-N9	6.52	118.27	108.50
1	N	818	G	P-O3'-C3'	6.52	129.97	120.20
1	N	173	U	O3'-P-O5'	6.51	113.77	104.00
1	N	656	G	P-O5'-C5'	6.51	130.66	120.90
1	N	1311	A	P-O3'-C3'	-6.51	110.44	120.20
1	N	736	C	O4'-C1'-C2'	-6.50	101.09	107.60
1	N	408	A	P-O5'-C5'	-6.50	111.15	120.90
1	N	960	U	C2'-C3'-O3'	6.50	119.25	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	438	U	C2'-C3'-O3'	6.49	119.24	109.50
1	N	764	C	O4'-C1'-N1	6.49	118.24	108.50
1	N	1511	G	C3'-C2'-C1'	6.49	107.79	101.30
1	N	113	G	C4'-C3'-C2'	-6.49	96.11	102.60
1	N	516	U	C4'-C3'-C2'	-6.49	96.11	102.60
1	N	863	U	C4'-C3'-C2'	-6.49	96.11	102.60
1	N	896	C	P-O5'-C5'	6.49	130.63	120.90
1	N	418	C	O5'-C5'-C4'	-6.48	101.78	111.50
1	N	1440	U	O4'-C1'-C2'	-6.48	101.12	107.60
1	N	1446	A	C4'-C3'-O3'	-6.48	103.28	113.00
1	N	823	C	C1'-C2'-O2'	6.48	118.12	108.40
1	N	1190	G	C4'-C3'-O3'	-6.48	103.28	113.00
1	N	271	C	P-O5'-C5'	6.48	130.62	120.90
1	N	559	A	C2'-C3'-O3'	6.47	119.21	109.50
1	N	630	A	C4'-C3'-C2'	-6.47	96.13	102.60
1	N	696	A	C3'-C2'-C1'	-6.47	94.83	101.30
1	N	46	G	O3'-P-O5'	-6.47	94.30	104.00
1	N	778	G	C4'-C3'-C2'	-6.47	96.13	102.60
1	N	1063	C	P-O3'-C3'	-6.46	110.51	120.20
1	N	1032	G	O4'-C1'-N9	6.46	118.19	108.50
1	N	632	U	O4'-C1'-N1	6.46	118.19	108.50
1	N	1049	U	O4'-C1'-N1	6.45	117.88	108.20
1	N	1305	G	O4'-C1'-N9	6.45	118.18	108.50
1	N	126	G	C4'-C3'-C2'	-6.45	96.15	102.60
1	N	632	U	P-O3'-C3'	6.45	129.87	120.20
1	N	776	G	P-O3'-C3'	6.45	129.87	120.20
1	N	54	C	O4'-C1'-C2'	-6.44	101.16	107.60
1	N	822	U	O5'-C5'-C4'	-6.44	101.84	111.50
1	N	1269	A	O3'-P-O5'	-6.44	94.33	104.00
1	N	127	G	O4'-C1'-C2'	-6.44	101.16	107.60
1	N	810	C	O4'-C1'-N1	6.43	118.15	108.50
1	N	96	U	O4'-C1'-C2'	-6.43	99.37	105.80
1	N	428	G	C2'-C3'-O3'	6.43	119.15	109.50
1	N	139	A	O3'-P-O5'	-6.43	94.36	104.00
1	N	1045	C	O4'-C1'-N1	6.43	118.14	108.50
1	N	1187	G	O4'-C1'-N9	6.42	118.13	108.50
1	N	641	U	C2'-C3'-O3'	6.42	123.33	113.70
1	N	1522	U	O4'-C1'-N1	6.42	118.12	108.50
1	N	871	U	C1'-O4'-C4'	6.41	116.31	109.90
1	N	1378	C	C2'-C3'-O3'	6.41	123.32	113.70
1	N	807	A	O4'-C4'-C3'	-6.41	97.59	104.00
1	N	794	A	C2'-C3'-O3'	-6.41	104.09	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1419	G	O4'-C4'-C3'	6.41	110.41	104.00
1	N	1310	G	P-O5'-C5'	-6.41	111.29	120.90
1	N	429	U	P-O3'-C3'	6.40	129.81	120.20
1	N	298	A	C2'-C3'-O3'	6.40	123.30	113.70
1	N	1432	G	O4'-C1'-C2'	-6.40	99.40	105.80
1	N	771	G	O4'-C4'-C3'	-6.40	97.60	104.00
1	N	284	C	O5'-C5'-C4'	-6.39	101.91	111.50
1	N	547	A	O3'-P-O5'	6.39	113.59	104.00
1	N	123	U	C5'-C4'-C3'	6.39	125.58	116.00
1	N	383	A	P-O3'-C3'	6.39	129.78	120.20
1	N	760	G	P-O5'-C5'	6.39	130.48	120.90
1	N	1252	A	P-O3'-C3'	-6.39	110.62	120.20
1	N	1235	U	O3'-P-O5'	-6.38	94.42	104.00
1	N	251	G	P-O3'-C3'	6.38	129.77	120.20
1	N	1021	A	P-O5'-C5'	6.38	130.47	120.90
1	N	949	A	C4'-C3'-C2'	-6.37	96.23	102.60
1	N	1236	A	P-O3'-C3'	6.37	129.76	120.20
1	N	337	G	P-O5'-C5'	-6.37	111.35	120.90
1	N	1534	A	O4'-C1'-N9	6.37	118.05	108.50
1	N	738	C	C4'-C3'-C2'	-6.37	96.23	102.60
1	N	1304	G	O3'-P-O5'	-6.36	94.46	104.00
1	N	1015	G	O4'-C1'-N9	6.36	118.04	108.50
1	N	179	A	C2'-C3'-O3'	6.36	123.24	113.70
1	N	1003	G	C4'-C3'-O3'	-6.36	103.47	113.00
1	N	95	C	P-O5'-C5'	-6.35	111.37	120.90
1	N	19	A	O4'-C1'-C2'	-6.35	101.25	107.60
1	N	736	C	O4'-C1'-N1	6.35	118.03	108.50
1	N	449	G	P-O5'-C5'	6.35	130.43	120.90
1	N	581	G	P-O3'-C3'	-6.34	110.68	120.20
1	N	1259	C	P-O5'-C5'	6.34	130.41	120.90
1	N	33	A	C5'-C4'-C3'	6.34	125.51	116.00
1	N	244	U	C4'-C3'-O3'	6.34	118.91	109.40
1	N	246	A	C4'-C3'-C2'	6.33	108.93	102.60
1	N	850	U	C4'-C3'-C2'	-6.33	96.27	102.60
1	N	1168	U	C5'-C4'-C3'	6.33	125.49	116.00
1	N	1332	A	C4'-C3'-O3'	-6.33	103.51	113.00
1	N	1265	C	O4'-C1'-N1	6.33	117.99	108.50
1	N	110	C	O4'-C4'-C3'	-6.33	97.67	104.00
1	N	1020	G	C5'-C4'-C3'	-6.33	106.51	116.00
1	N	750	C	P-O3'-C3'	-6.32	110.72	120.20
1	N	753	A	C5'-C4'-C3'	-6.32	105.72	115.20
1	N	1369	C	O4'-C1'-N1	6.32	117.98	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	500	G	O4'-C1'-N9	6.32	117.98	108.50
1	N	1511	G	O5'-C5'-C4'	-6.32	102.02	111.50
1	N	138	G	C3'-C2'-O2'	6.32	120.17	110.70
1	N	1152	A	C5'-C4'-C3'	-6.31	106.53	116.00
1	N	93	U	O3'-P-O5'	6.31	113.47	104.00
1	N	652	U	O4'-C1'-N1	6.31	117.96	108.50
1	N	1302	C	O4'-C1'-C2'	-6.31	101.29	107.60
1	N	1456	A	C5'-C4'-C3'	-6.30	106.54	116.00
1	N	212	G	C4'-C3'-C2'	-6.30	96.30	102.60
1	N	1113	C	C5'-C4'-C3'	-6.30	106.55	116.00
1	N	1090	U	O4'-C1'-N1	6.30	117.95	108.50
1	N	854	U	O5'-C5'-C4'	-6.30	102.06	111.50
1	N	648	A	P-O5'-C5'	6.29	130.34	120.90
1	N	814	A	P-O5'-C5'	-6.29	111.46	120.90
1	N	777	A	O4'-C1'-N9	6.29	117.94	108.50
1	N	1050	G	O4'-C1'-N9	6.29	117.94	108.50
1	N	1534	A	C5'-C4'-C3'	-6.29	106.57	116.00
1	N	255	G	O4'-C4'-C3'	-6.29	97.72	104.00
1	N	1245	C	O4'-C1'-N1	6.29	117.93	108.50
1	N	1459	G	P-O5'-C5'	6.28	130.32	120.90
1	N	406	G	P-O5'-C5'	6.28	130.32	120.90
1	N	321	A	O5'-C5'-C4'	6.28	120.92	111.50
1	N	493	A	O5'-C5'-C4'	-6.28	102.08	111.50
1	N	1250	A	P-O5'-C5'	6.28	130.32	120.90
1	N	317	U	C5'-C4'-C3'	-6.27	106.60	116.00
1	N	403	C	P-O3'-C3'	-6.27	110.80	120.20
1	N	770	C	O3'-P-O5'	-6.27	94.60	104.00
1	N	229	U	P-O5'-C5'	6.26	130.29	120.90
1	N	943	U	C1'-O4'-C4'	6.26	116.16	109.90
1	N	376	G	C4'-C3'-C2'	-6.26	96.34	102.60
1	N	981	U	O4'-C1'-N1	6.26	117.89	108.50
1	N	729	A	O4'-C1'-N9	6.26	117.88	108.50
1	N	788	U	C3'-C2'-O2'	6.26	120.09	110.70
1	N	119	A	C1'-O4'-C4'	6.25	115.95	109.70
1	N	566	G	C5'-C4'-C3'	-6.25	105.83	115.20
1	N	253	A	O5'-C5'-C4'	-6.25	102.13	111.50
1	N	881	G	C5'-C4'-C3'	6.25	125.37	116.00
1	N	997	U	O5'-C5'-C4'	-6.25	102.13	111.50
1	N	729	A	P-O5'-C5'	6.25	130.27	120.90
1	N	858	G	P-O5'-C5'	6.24	130.26	120.90
1	N	172	A	P-O5'-C5'	6.24	130.26	120.90
1	N	1100	C	C1'-O4'-C4'	6.24	115.94	109.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	890	G	C1'-O4'-C4'	-6.24	103.46	109.70
1	N	93	U	P-O3'-C3'	-6.24	110.85	120.20
1	N	245	U	P-O3'-C3'	6.23	129.55	120.20
1	N	1025	U	O3'-P-O5'	-6.23	94.65	104.00
1	N	1089	G	C4'-C3'-C2'	-6.23	96.37	102.60
1	N	1187	G	C4'-C3'-O3'	-6.23	103.66	113.00
1	N	748	G	C1'-O4'-C4'	6.23	116.13	109.90
1	N	87	C	C3'-C2'-C1'	6.22	107.52	101.30
1	N	273	U	O3'-P-O5'	-6.22	94.66	104.00
1	N	280	C	C3'-C2'-C1'	-6.22	95.28	101.50
1	N	605	U	C4'-C3'-O3'	-6.22	103.67	113.00
1	N	114	U	P-O5'-C5'	6.21	130.21	120.90
1	N	1278	G	C4'-C3'-C2'	-6.21	96.39	102.60
1	N	564	C	P-O3'-C3'	6.21	129.51	120.20
1	N	645	G	O5'-C5'-C4'	-6.21	102.19	111.50
1	N	1384	C	O4'-C1'-C2'	-6.21	101.39	107.60
1	N	1303	C	C4'-C3'-C2'	6.21	108.81	102.60
1	N	434	U	O5'-C5'-C4'	-6.20	102.19	111.50
1	N	1347	G	C4'-C3'-C2'	-6.20	96.40	102.60
1	N	1378	C	C4'-C3'-C2'	6.20	108.80	102.60
1	N	241	G	C5'-C4'-C3'	6.20	125.30	116.00
1	N	480	U	O3'-P-O5'	-6.20	94.70	104.00
1	N	788	U	O3'-P-O5'	6.19	113.29	104.00
1	N	204	G	C4'-C3'-O3'	6.19	122.29	113.00
1	N	581	G	O5'-C5'-C4'	-6.19	102.21	111.50
1	N	957	U	O3'-P-O5'	-6.19	94.71	104.00
1	N	1239	A	C5'-C4'-C3'	6.19	124.48	115.20
1	N	655	A	P-O5'-C5'	6.19	130.18	120.90
1	N	858	G	C4'-C3'-C2'	-6.19	96.41	102.60
1	N	936	C	O4'-C1'-N1	6.18	117.78	108.50
1	N	1139	G	O5'-C5'-C4'	-6.18	102.42	111.70
1	N	108	G	O3'-P-O5'	6.18	113.27	104.00
1	N	636	U	C5'-C4'-C3'	6.18	125.27	116.00
1	N	1104	G	O4'-C1'-N9	6.17	117.76	108.50
1	N	1380	U	O4'-C1'-N1	6.17	117.76	108.50
1	N	660	C	O5'-C5'-C4'	-6.17	102.24	111.50
1	N	1105	A	C4'-C3'-C2'	6.17	108.77	102.60
1	N	1348	U	C5'-C4'-O4'	-6.17	100.55	109.80
1	N	1125	U	P-O3'-C3'	6.16	129.44	120.20
1	N	92	U	C2'-C3'-O3'	-6.16	104.46	113.70
1	N	382	A	C4'-C3'-C2'	-6.16	96.44	102.60
1	N	564	C	C5'-C4'-C3'	-6.16	106.76	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1139	G	P-O3'-C3'	6.16	129.44	120.20
1	N	220	G	C1'-O4'-C4'	-6.16	103.74	109.90
1	N	582	C	C4'-C3'-C2'	-6.15	96.45	102.60
1	N	999	C	C4'-C3'-C2'	-6.15	96.45	102.60
1	N	173	U	P-O3'-C3'	6.15	129.42	120.20
1	N	1122	U	C3'-C2'-C1'	6.15	107.45	101.30
1	N	907	A	O4'-C1'-C2'	-6.15	101.45	107.60
1	N	1156	G	C5'-C4'-O4'	-6.15	100.58	109.80
1	N	1273	C	O4'-C1'-N1	6.14	117.72	108.50
1	N	1138	G	C5'-C4'-O4'	6.14	119.01	109.80
1	N	835	U	C4'-C3'-C2'	-6.14	96.46	102.60
1	N	28	A	O4'-C4'-C3'	-6.14	97.86	104.00
1	N	810	C	O5'-C5'-C4'	-6.14	102.29	111.50
1	N	428	G	O4'-C1'-C2'	6.14	111.94	105.80
1	N	658	C	P-O3'-C3'	-6.14	111.00	120.20
1	N	1100	C	O4'-C4'-C3'	-6.14	99.96	106.10
1	N	184	G	O4'-C4'-C3'	-6.13	97.87	104.00
1	N	425	G	P-O5'-C5'	6.13	130.10	120.90
1	N	118	U	O4'-C1'-C2'	-6.13	101.47	107.60
1	N	1046	A	C4'-C3'-C2'	-6.13	96.47	102.60
1	N	608	A	O4'-C1'-N9	6.13	117.69	108.50
1	N	1454	G	C5'-C4'-C3'	-6.13	106.81	116.00
1	N	119	A	C4'-C3'-O3'	6.13	118.59	109.40
1	N	262	A	O4'-C1'-N9	6.13	117.69	108.50
1	N	947	G	P-O5'-C5'	-6.13	111.71	120.90
1	N	267	C	C1'-O4'-C4'	6.12	116.02	109.90
1	N	1189	U	O5'-C5'-C4'	-6.12	102.32	111.50
1	N	173	U	N1-C1'-C2'	6.12	123.18	114.00
1	N	262	A	P-O5'-C5'	-6.12	111.72	120.90
1	N	765	G	P-O5'-C5'	6.12	130.08	120.90
1	N	47	C	C2'-C3'-O3'	6.12	118.68	109.50
1	N	1528	U	O4'-C1'-N1	6.12	117.38	108.20
1	N	530	G	C3'-C2'-C1'	-6.11	95.19	101.30
1	N	834	U	C1'-C2'-O2'	6.11	117.56	108.40
1	N	1332	A	C5'-C4'-O4'	-6.11	100.64	109.80
1	N	837	U	C4'-C3'-O3'	6.10	122.16	113.00
1	N	418	C	P-O5'-C5'	6.10	130.05	120.90
1	N	456	A	O3'-P-O5'	-6.10	94.85	104.00
1	N	779	C	P-O3'-C3'	6.10	129.35	120.20
1	N	928	G	O3'-P-O5'	6.10	113.15	104.00
1	N	294	U	P-O5'-C5'	6.10	130.05	120.90
1	N	58	C	C4'-C3'-C2'	-6.10	96.50	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	390	U	O4'-C1'-N1	6.10	117.65	108.50
1	N	131	A	O4'-C1'-N9	6.09	117.64	108.50
1	N	39	G	C5'-C4'-C3'	-6.09	106.86	116.00
1	N	698	G	O5'-C5'-C4'	-6.09	102.36	111.50
1	N	609	A	O4'-C4'-C3'	6.09	110.09	104.00
1	N	1067	A	C5'-C4'-C3'	-6.09	106.06	115.20
1	N	759	A	C4'-C3'-C2'	-6.09	96.51	102.60
1	N	1408	A	P-O3'-C3'	6.09	129.34	120.20
1	N	1336	C	O4'-C1'-C2'	-6.09	99.71	105.80
1	N	313	A	O4'-C1'-C2'	-6.08	101.52	107.60
1	N	1310	G	O5'-C5'-C4'	-6.08	102.38	111.50
1	N	915	A	C4'-C3'-C2'	-6.08	96.52	102.60
1	N	78	A	C4'-C3'-O3'	-6.08	103.89	113.00
1	N	172	A	C4'-C3'-O3'	-6.08	103.89	113.00
1	N	343	U	O4'-C1'-N1	6.07	117.61	108.50
1	N	1062	U	O4'-C1'-N1	6.07	117.61	108.50
1	N	70	U	O4'-C1'-N1	6.07	117.31	108.20
1	N	280	C	C1'-O4'-C4'	-6.07	103.63	109.70
1	N	964	A	C3'-C2'-C1'	-6.07	95.23	101.30
1	N	1166	G	P-O5'-C5'	6.07	130.01	120.90
1	N	499	A	C2'-C3'-O3'	6.07	118.60	109.50
1	N	986	U	C4'-C3'-C2'	-6.07	96.53	102.60
1	N	1046	A	P-O5'-C5'	-6.07	111.80	120.90
1	N	1339	A	O4'-C1'-N9	6.07	117.60	108.50
1	N	184	G	O5'-C5'-C4'	-6.06	102.40	111.50
1	N	1302	C	N1-C1'-C2'	6.06	121.09	112.00
1	N	549	C	C3'-C2'-C1'	6.06	107.36	101.30
1	N	172	A	C4'-C3'-C2'	6.06	108.66	102.60
1	N	1262	C	P-O3'-C3'	-6.06	111.11	120.20
1	N	892	A	C5'-C4'-C3'	6.06	125.08	116.00
1	N	1031	C	P-O3'-C3'	-6.06	111.12	120.20
1	N	511	C	C2'-C3'-O3'	6.05	118.58	109.50
1	N	884	U	P-O5'-C5'	6.05	129.98	120.90
1	N	268	U	C5'-C4'-C3'	6.05	125.08	116.00
1	N	930	C	C4'-C3'-O3'	-6.05	103.92	113.00
1	N	1054	C	C5'-C4'-C3'	-6.05	106.12	115.20
1	N	1128	C	O4'-C1'-N1	6.05	117.58	108.50
1	N	248	C	P-O3'-C3'	-6.05	111.13	120.20
1	N	596	A	P-O5'-C5'	6.05	129.97	120.90
1	N	943	U	C4'-C3'-C2'	6.05	108.65	102.60
1	N	90	C	C5'-C4'-C3'	6.04	124.26	115.20
1	N	175	C	C3'-C2'-O2'	6.04	119.76	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	197	A	C2'-C3'-O3'	6.04	118.56	109.50
1	N	215	C	C4'-C3'-C2'	-6.04	96.56	102.60
1	N	1131	G	O3'-P-O5'	-6.04	94.94	104.00
1	N	1138	G	C4'-C3'-C2'	-6.04	96.56	102.60
1	N	43	C	P-O5'-C5'	6.04	129.95	120.90
1	N	811	C	O4'-C1'-N1	6.04	117.55	108.50
1	N	907	A	C4'-C3'-O3'	-6.04	103.95	113.00
1	N	90	C	O3'-P-O5'	-6.03	94.95	104.00
1	N	96	U	P-O3'-C3'	6.03	129.25	120.20
1	N	339	C	P-O5'-C5'	6.03	129.95	120.90
1	N	1218	C	O4'-C1'-N1	6.03	117.55	108.50
1	N	1396	A	C1'-O4'-C4'	6.03	115.73	109.70
1	N	1127	G	P-O3'-C3'	-6.03	111.15	120.20
1	N	210	C	C5'-C4'-C3'	-6.03	106.16	115.20
1	N	535	A	C2'-C3'-O3'	6.03	122.74	113.70
1	N	1362	A	O4'-C4'-C3'	-6.03	100.07	106.10
1	N	1502	A	P-O3'-C3'	6.03	129.24	120.20
1	N	204	G	C3'-C2'-C1'	-6.03	95.28	101.30
1	N	589	U	O4'-C1'-N1	6.03	117.54	108.50
1	N	618	C	O4'-C1'-N1	6.03	117.54	108.50
1	N	1081	A	C1'-C2'-O2'	6.03	117.44	108.40
1	N	1370	G	O4'-C1'-N9	6.03	117.54	108.50
1	N	142	G	P-O3'-C3'	6.02	129.24	120.20
1	N	1425	U	C3'-C2'-C1'	6.02	107.32	101.30
1	N	910	C	C1'-C2'-O2'	6.02	117.43	108.40
1	N	1270	G	P-O5'-C5'	6.01	129.92	120.90
1	N	158	G	P-O5'-C5'	-6.01	111.88	120.90
1	N	174	A	O3'-P-O5'	6.01	113.02	104.00
1	N	509	A	P-O5'-C5'	-6.01	111.88	120.90
1	N	1167	A	P-O3'-C3'	-6.01	111.18	120.20
1	N	1249	C	C3'-C2'-C1'	6.01	107.31	101.30
1	N	856	C	O4'-C1'-N1	6.00	117.51	108.50
1	N	194	C	O4'-C1'-N1	6.00	117.50	108.50
1	N	428	G	P-O3'-C3'	6.00	129.21	120.20
1	N	633	G	O4'-C1'-N9	6.00	117.50	108.50
1	N	1002	G	N9-C1'-C2'	-6.00	102.99	112.00
1	N	1078	U	C4'-C3'-C2'	6.00	108.60	102.60
1	N	89	U	C1'-O4'-C4'	6.00	115.70	109.70
1	N	724	G	C5'-C4'-C3'	-6.00	107.00	116.00
1	N	574	A	C4'-C3'-C2'	-6.00	96.60	102.60
1	N	1327	C	C4'-C3'-O3'	-5.99	104.01	113.00
1	N	568	G	P-O5'-C5'	-5.99	111.91	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	864	A	O5'-C5'-C4'	-5.99	102.52	111.50
1	N	1251	A	O4'-C1'-N9	5.99	117.18	108.20
1	N	625	U	O4'-C1'-N1	5.99	117.48	108.50
1	N	1071	C	C4'-C3'-C2'	-5.98	96.62	102.60
1	N	551	U	C4'-C3'-C2'	-5.98	96.62	102.60
1	N	282	A	P-O5'-C5'	-5.98	111.93	120.90
1	N	52	C	C5'-C4'-O4'	-5.97	100.84	109.80
1	N	380	G	C4'-C3'-C2'	-5.97	96.63	102.60
1	N	946	A	O4'-C1'-N9	5.97	117.46	108.50
1	N	908	A	C4'-C3'-C2'	-5.97	96.63	102.60
1	N	192	A	O3'-P-O5'	-5.97	95.05	104.00
1	N	1025	U	P-O5'-C5'	5.97	129.85	120.90
1	N	1449	C	O4'-C1'-N1	5.96	117.45	108.50
1	N	498	A	C4'-C3'-C2'	5.96	108.56	102.60
1	N	1514	G	O4'-C1'-N9	5.96	117.44	108.50
1	N	342	C	C1'-O4'-C4'	5.96	115.86	109.90
1	N	443	C	O4'-C1'-N1	5.96	117.44	108.50
1	N	591	U	P-O3'-C3'	-5.96	111.27	120.20
1	N	1498	U	C4'-C3'-O3'	5.95	118.33	109.40
1	N	197	A	O4'-C1'-N9	5.95	117.13	108.20
1	N	261	U	O4'-C1'-N1	5.95	117.43	108.50
1	N	369	G	O4'-C4'-C3'	-5.95	98.05	104.00
1	N	1384	C	O4'-C4'-C3'	-5.95	98.05	104.00
1	N	74	A	O3'-P-O5'	5.95	112.92	104.00
1	N	65	A	P-O3'-C3'	5.95	129.12	120.20
1	N	238	A	P-O3'-C3'	-5.95	111.28	120.20
1	N	1394	A	C5'-C4'-C3'	-5.95	106.28	115.20
1	N	1433	A	O4'-C1'-C2'	-5.94	101.66	107.60
1	N	283	U	O3'-P-O5'	-5.94	95.09	104.00
1	N	420	U	O4'-C1'-N1	5.94	117.41	108.50
1	N	431	A	O4'-C1'-N9	5.94	117.41	108.50
1	N	1145	A	C5'-C4'-C3'	5.94	124.91	116.00
1	N	328	C	C2'-C3'-O3'	5.94	118.41	109.50
1	N	1132	C	O4'-C1'-N1	5.94	117.41	108.50
1	N	567	G	P-O5'-C5'	5.93	129.80	120.90
1	N	53	A	C4'-C3'-C2'	-5.93	96.67	102.60
1	N	358	U	O5'-C5'-C4'	-5.93	102.61	111.50
1	N	159	G	P-O5'-C5'	-5.93	112.01	120.90
1	N	552	U	O5'-C5'-C4'	-5.92	102.63	111.50
1	N	884	U	C5'-C4'-C3'	5.92	124.07	115.20
1	N	1388	C	O4'-C1'-N1	5.92	117.38	108.50
1	N	1448	C	C4'-C3'-O3'	-5.92	104.13	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	257	G	C4'-C3'-C2'	-5.91	96.69	102.60
1	N	828	U	C5'-C4'-C3'	5.91	124.87	116.00
1	N	1026	G	C4'-C3'-C2'	-5.91	96.69	102.60
1	N	1533	C	C1'-O4'-C4'	-5.91	103.79	109.70
1	N	1251	A	C2'-C3'-O3'	5.91	118.36	109.50
1	N	643	C	O5'-C5'-C4'	-5.90	102.65	111.50
1	N	892	A	C4'-C3'-C2'	-5.90	96.70	102.60
1	N	1280	A	P-O5'-C5'	-5.90	112.05	120.90
1	N	302	G	P-O3'-C3'	-5.90	111.35	120.20
1	N	262	A	C3'-C2'-C1'	5.89	107.19	101.30
1	N	813	U	C1'-O4'-C4'	5.89	115.79	109.90
1	N	944	G	P-O3'-C3'	-5.89	111.36	120.20
1	N	1373	G	P-O5'-C5'	-5.89	112.06	120.90
1	N	1218	C	O4'-C4'-C3'	-5.89	98.11	104.00
1	N	503	C	O4'-C1'-C2'	-5.88	101.72	107.60
1	N	1145	A	O3'-P-O5'	-5.88	95.17	104.00
1	N	1181	G	C2'-C3'-O3'	5.88	118.33	109.50
1	N	1303	C	C1'-O4'-C4'	5.88	115.78	109.90
1	N	372	C	O4'-C1'-C2'	-5.88	99.92	105.80
1	N	465	A	P-O3'-C3'	5.88	129.02	120.20
1	N	1251	A	C1'-C2'-O2'	-5.88	102.98	111.80
1	N	1305	G	O5'-C5'-C4'	5.88	120.32	111.50
1	N	798	U	P-O3'-C3'	5.88	129.01	120.20
1	N	352	C	O3'-P-O5'	-5.88	95.19	104.00
1	N	1212	U	N1-C1'-C2'	5.88	120.81	112.00
1	N	105	G	P-O5'-C5'	5.87	129.70	120.90
1	N	391	G	O4'-C4'-C3'	5.87	109.87	104.00
1	N	394	G	C4'-C3'-C2'	-5.87	96.73	102.60
1	N	480	U	C1'-O4'-C4'	-5.87	103.83	109.70
1	N	50	A	O3'-P-O5'	5.87	112.80	104.00
1	N	183	C	P-O3'-C3'	5.87	129.00	120.20
1	N	215	C	O4'-C1'-N1	5.87	117.30	108.50
1	N	719	C	P-O5'-C5'	5.87	129.70	120.90
1	N	1392	G	P-O5'-C5'	5.86	129.70	120.90
1	N	187	G	C4'-C3'-O3'	-5.86	104.22	113.00
1	N	455	G	O4'-C1'-N9	5.86	117.28	108.50
1	N	942	G	C5'-C4'-C3'	5.86	124.78	116.00
1	N	1314	C	P-O3'-C3'	-5.85	111.42	120.20
1	N	41	G	O4'-C1'-N9	5.85	117.28	108.50
1	N	310	G	C5'-C4'-C3'	-5.85	107.22	116.00
1	N	226	G	O5'-C5'-C4'	-5.85	102.73	111.50
1	N	1459	G	C4'-C3'-C2'	-5.85	96.75	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	422	C	C2'-C3'-O3'	5.85	118.27	109.50
1	N	541	G	C4'-C3'-C2'	-5.84	96.76	102.60
1	N	1276	G	P-O3'-C3'	-5.84	111.43	120.20
1	N	1041	G	N9-C1'-C2'	-5.84	103.24	112.00
1	N	1199	U	C3'-C2'-C1'	5.84	107.14	101.30
1	N	962	C	O4'-C1'-N1	5.84	117.26	108.50
1	N	591	U	C3'-C2'-C1'	5.84	107.14	101.30
1	N	520	A	P-O5'-C5'	5.83	129.65	120.90
1	N	860	A	C4'-C3'-C2'	-5.83	96.77	102.60
1	N	157	U	O4'-C1'-N1	5.83	117.25	108.50
1	N	988	G	O4'-C1'-N9	5.83	117.25	108.50
1	N	69	G	N9-C1'-C2'	5.83	120.75	112.00
1	N	927	G	C4'-C3'-C2'	-5.83	96.77	102.60
1	N	1435	G	O4'-C1'-N9	5.83	117.24	108.50
1	N	1392	G	O5'-C5'-C4'	5.83	120.24	111.50
1	N	116	A	O4'-C1'-N9	5.83	117.24	108.50
1	N	839	C	C4'-C3'-C2'	-5.82	96.78	102.60
1	N	840	C	P-O3'-C3'	5.82	128.94	120.20
1	N	1063	C	O4'-C1'-N1	5.82	117.24	108.50
1	N	1115	U	P-O3'-C3'	-5.82	111.47	120.20
1	N	1156	G	C5'-C4'-C3'	5.82	124.73	116.00
1	N	508	U	C3'-C2'-O2'	-5.82	105.87	114.60
1	N	1364	U	O4'-C1'-N1	5.82	116.93	108.20
1	N	387	U	C4'-C3'-O3'	-5.82	104.27	113.00
1	N	710	G	C5'-C4'-O4'	5.82	118.53	109.80
1	N	888	G	C1'-O4'-C4'	-5.82	104.08	109.90
1	N	134	G	C4'-C3'-C2'	-5.82	96.78	102.60
1	N	488	C	O5'-C5'-C4'	-5.82	102.78	111.50
1	N	1083	U	O4'-C1'-N1	5.82	117.22	108.50
1	N	1003	G	C4'-C3'-C2'	-5.81	96.79	102.60
1	N	641	U	O5'-C5'-C4'	-5.81	102.78	111.50
1	N	472	U	O4'-C4'-C3'	5.81	109.81	104.00
1	N	972	C	O4'-C1'-N1	5.81	117.21	108.50
1	N	396	C	C5'-C4'-C3'	-5.80	107.29	116.00
1	N	1327	C	P-O5'-C5'	5.80	129.61	120.90
1	N	802	A	O4'-C1'-N9	5.80	117.20	108.50
1	N	903	G	P-O3'-C3'	5.80	128.90	120.20
1	N	1073	U	O4'-C1'-N1	5.80	117.20	108.50
1	N	1214	C	P-O3'-C3'	-5.80	111.50	120.20
1	N	507	C	C4'-C3'-O3'	-5.80	104.30	113.00
1	N	226	G	C3'-C2'-C1'	-5.80	95.50	101.30
1	N	897	C	O4'-C1'-C2'	-5.80	101.80	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1010	U	O4'-C1'-N1	5.80	117.20	108.50
1	N	1345	U	C2'-C3'-O3'	5.80	118.19	109.50
1	N	1446	A	C5'-C4'-O4'	5.79	118.49	109.80
1	N	1133	G	O3'-P-O5'	-5.79	95.31	104.00
1	N	1394	A	C5'-C4'-O4'	5.79	117.79	109.10
1	N	1460	C	O4'-C1'-N1	5.79	117.19	108.50
1	N	120	A	N9-C1'-C2'	5.79	120.68	112.00
1	N	155	A	P-O5'-C5'	5.79	129.58	120.90
1	N	15	G	C5'-C4'-C3'	-5.79	107.32	116.00
1	N	48	C	O4'-C4'-C3'	-5.79	98.22	104.00
1	N	1002	G	P-O3'-C3'	-5.79	111.52	120.20
1	N	1421	G	O4'-C1'-N9	5.79	117.18	108.50
1	N	1456	A	P-O3'-C3'	5.79	128.88	120.20
1	N	244	U	C5'-C4'-O4'	5.78	117.77	109.10
1	N	253	A	P-O3'-C3'	-5.78	111.53	120.20
1	N	81	A	O4'-C1'-N9	5.78	116.86	108.20
1	N	1325	C	P-O3'-C3'	-5.78	111.54	120.20
1	N	304	U	O4'-C1'-N1	5.77	117.16	108.50
1	N	223	A	C5'-C4'-C3'	-5.77	107.34	116.00
1	N	806	C	O4'-C1'-N1	5.77	117.16	108.50
1	N	503	C	C4'-C3'-O3'	-5.77	104.34	113.00
1	N	837	U	C4'-C3'-C2'	-5.77	96.83	102.60
1	N	1200	C	C3'-C2'-C1'	5.77	107.07	101.30
1	N	1338	G	O5'-C5'-C4'	5.77	120.36	111.70
1	N	11	G	C3'-C2'-C1'	5.77	107.07	101.30
1	N	960	U	C1'-O4'-C4'	-5.77	103.93	109.70
1	N	870	U	P-O3'-C3'	-5.77	111.55	120.20
1	N	973	G	P-O5'-C5'	5.77	129.55	120.90
1	N	188	C	C4'-C3'-C2'	-5.76	96.84	102.60
1	N	439	U	O4'-C1'-N1	5.76	117.15	108.50
1	N	1269	A	C1'-O4'-C4'	5.76	115.66	109.90
1	N	1443	C	O5'-C5'-C4'	-5.76	102.85	111.50
1	N	1452	C	P-O5'-C5'	5.76	129.54	120.90
1	N	49	U	P-O3'-C3'	-5.76	111.56	120.20
1	N	2	A	O4'-C1'-C2'	-5.75	101.84	107.60
1	N	356	A	C1'-O4'-C4'	-5.75	104.15	109.90
1	N	706	A	O5'-C5'-C4'	-5.75	102.87	111.50
1	N	1177	G	P-O5'-C5'	5.75	129.53	120.90
1	N	1451	U	P-O5'-C5'	-5.75	112.27	120.90
1	N	121	U	P-O3'-C3'	-5.75	111.57	120.20
1	N	665	A	P-O5'-C5'	-5.75	112.27	120.90
1	N	738	C	O4'-C1'-C2'	-5.75	101.85	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	841	C	C5'-C4'-O4'	5.75	118.43	109.80
1	N	1515	G	O4'-C4'-C3'	-5.75	98.25	104.00
1	N	902	G	O5'-C5'-C4'	-5.75	102.87	111.50
1	N	1092	A	C4'-C3'-C2'	5.75	108.35	102.60
1	N	1169	A	O3'-P-O5'	5.74	112.61	104.00
1	N	542	G	P-O5'-C5'	5.74	129.51	120.90
1	N	907	A	O4'-C4'-C3'	-5.74	98.26	104.00
1	N	190	A	O3'-P-O5'	-5.74	95.39	104.00
1	N	839	C	O4'-C1'-N1	5.74	117.11	108.50
1	N	1145	A	C2'-C3'-O3'	5.74	122.31	113.70
1	N	1482	G	C3'-C2'-C1'	-5.74	95.56	101.30
1	N	1211	U	O4'-C1'-N1	5.74	116.80	108.20
1	N	639	G	O4'-C1'-C2'	-5.73	101.87	107.60
1	N	65	A	C1'-O4'-C4'	-5.73	103.97	109.70
1	N	1348	U	O3'-P-O5'	5.73	112.60	104.00
1	N	1410	A	O5'-C5'-C4'	-5.73	102.90	111.50
1	N	94	G	C4'-C3'-O3'	5.73	117.99	109.40
1	N	1293	C	O4'-C1'-C2'	-5.73	101.87	107.60
1	N	705	G	C4'-C3'-C2'	-5.73	96.87	102.60
1	N	870	U	C2'-C3'-O3'	5.73	118.09	109.50
1	N	1376	U	P-O5'-C5'	5.73	129.49	120.90
1	N	1451	U	O4'-C1'-N1	5.73	117.09	108.50
1	N	509	A	C4'-C3'-O3'	-5.72	104.41	113.00
1	N	1234	C	O4'-C1'-C2'	-5.72	101.88	107.60
1	N	1293	C	C5'-C4'-C3'	-5.72	107.41	116.00
1	N	1269	A	O4'-C1'-N9	5.72	117.08	108.50
1	N	1296	C	O4'-C1'-C2'	5.72	113.32	107.60
1	N	1400	C	P-O3'-C3'	5.72	128.78	120.20
1	N	1498	U	O4'-C1'-N1	5.72	116.78	108.20
1	N	975	A	P-O3'-C3'	5.72	128.78	120.20
1	N	1303	C	P-O5'-C5'	5.72	129.48	120.90
1	N	1461	G	N9-C1'-C2'	-5.72	103.42	112.00
1	N	531	U	O3'-P-O5'	5.72	112.58	104.00
1	N	766	A	O4'-C1'-N9	5.72	117.07	108.50
1	N	260	G	C4'-C3'-O3'	-5.71	104.43	113.00
1	N	284	C	O4'-C1'-N1	5.71	117.07	108.50
1	N	1129	C	O4'-C1'-C2'	5.71	111.51	105.80
1	N	1282	C	O4'-C1'-N1	5.71	117.07	108.50
1	N	319	G	C5'-C4'-C3'	-5.71	107.43	116.00
1	N	224	U	O4'-C1'-C2'	-5.71	101.89	107.60
1	N	1100	C	O4'-C1'-C2'	-5.71	100.09	105.80
1	N	1136	C	C2'-C3'-O3'	5.71	118.07	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1044	A	P-O3'-C3'	5.71	128.76	120.20
1	N	885	G	O4'-C1'-C2'	-5.71	101.89	107.60
1	N	328	C	C3'-C2'-O2'	-5.71	106.04	114.60
1	N	223	A	O4'-C1'-C2'	-5.70	101.90	107.60
1	N	996	A	P-O3'-C3'	-5.70	111.64	120.20
1	N	1209	C	O5'-C5'-C4'	-5.70	102.94	111.50
1	N	1462	C	C2'-C3'-O3'	5.70	122.25	113.70
1	N	256	U	O5'-C5'-C4'	-5.70	102.95	111.50
1	N	352	C	O4'-C1'-N1	5.70	117.05	108.50
1	N	5	U	C1'-O4'-C4'	-5.70	104.00	109.70
1	N	1090	U	C4'-C3'-C2'	-5.70	96.90	102.60
1	N	331	G	C4'-C3'-C2'	5.70	108.30	102.60
1	N	812	G	C2'-C3'-O3'	5.70	118.04	109.50
1	N	1030	U	C5'-C4'-O4'	5.69	118.34	109.80
1	N	609	A	C2'-C3'-O3'	5.69	122.24	113.70
1	N	729	A	O3'-P-O5'	5.69	112.54	104.00
1	N	643	C	O4'-C4'-C3'	5.69	109.69	104.00
1	N	720	C	N1-C1'-C2'	5.69	120.53	112.00
1	N	348	G	C2'-C3'-O3'	5.68	122.23	113.70
1	N	400	C	O4'-C1'-C2'	-5.68	101.92	107.60
1	N	776	G	C2'-C3'-O3'	5.68	122.23	113.70
1	N	29	U	P-O5'-C5'	5.68	129.42	120.90
1	N	217	C	O4'-C1'-N1	5.68	117.02	108.50
1	N	957	U	O4'-C1'-C2'	-5.68	101.92	107.60
1	N	1473	G	O4'-C1'-C2'	-5.67	101.93	107.60
1	N	48	C	C4'-C3'-O3'	-5.67	104.49	113.00
1	N	966	G	P-O5'-C5'	-5.67	112.39	120.90
1	N	195	A	C2'-C3'-O3'	5.67	122.20	113.70
1	N	528	C	O5'-C5'-C4'	-5.67	103.00	111.50
1	N	556	C	O4'-C1'-N1	5.67	117.00	108.50
1	N	769	G	O4'-C4'-C3'	5.67	109.67	104.00
1	N	1490	U	O4'-C1'-N1	5.67	117.00	108.50
1	N	537	G	O4'-C1'-C2'	-5.67	101.94	107.60
1	N	645	G	C4'-C3'-C2'	-5.66	96.94	102.60
1	N	1068	G	C5'-C4'-C3'	-5.66	107.51	116.00
1	N	1419	G	C5'-C4'-C3'	-5.66	107.51	116.00
1	N	347	G	O4'-C4'-C3'	-5.66	98.34	104.00
1	N	1450	U	C4'-C3'-O3'	-5.66	104.51	113.00
1	N	724	G	P-O5'-C5'	-5.66	112.41	120.90
1	N	517	G	C5'-C4'-C3'	-5.65	107.52	116.00
1	N	339	C	O4'-C1'-N1	5.65	116.97	108.50
1	N	458	U	N1-C1'-C2'	5.65	120.48	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	984	C	C4'-C3'-O3'	-5.65	104.53	113.00
1	N	807	A	P-O5'-C5'	-5.65	112.43	120.90
1	N	832	G	P-O5'-C5'	-5.64	112.44	120.90
1	N	1247	U	C4'-C3'-C2'	-5.64	96.96	102.60
1	N	806	C	O4'-C4'-C3'	-5.64	98.36	104.00
1	N	298	A	O5'-C5'-C4'	-5.64	103.04	111.50
1	N	626	G	O5'-C5'-C4'	-5.64	103.04	111.50
1	N	940	C	O4'-C4'-C3'	-5.64	98.36	104.00
1	N	11	G	P-O5'-C5'	5.64	129.36	120.90
1	N	639	G	C5'-C4'-C3'	-5.64	107.54	116.00
1	N	1288	A	C5'-C4'-C3'	5.63	124.45	116.00
1	N	1342	C	C4'-C3'-C2'	-5.63	96.97	102.60
1	N	216	U	O4'-C1'-C2'	-5.63	101.97	107.60
1	N	562	U	P-O3'-C3'	5.63	128.65	120.20
1	N	23	C	C4'-C3'-O3'	-5.63	104.56	113.00
1	N	1407	C	P-O3'-C3'	5.63	128.65	120.20
1	N	693	G	P-O3'-C3'	5.63	128.64	120.20
1	N	1248	A	O3'-P-O5'	5.63	112.44	104.00
1	N	1500	A	C5'-C4'-C3'	5.63	124.44	116.00
1	N	610	U	O4'-C1'-C2'	-5.62	101.97	107.60
1	N	80	A	O4'-C1'-C2'	-5.62	101.98	107.60
1	N	185	U	C2'-C3'-O3'	5.62	122.13	113.70
1	N	440	C	O5'-C5'-C4'	-5.62	103.07	111.50
1	N	501	C	O3'-P-O5'	-5.62	95.57	104.00
1	N	1391	U	P-O5'-C5'	5.62	129.33	120.90
1	N	794	A	P-O3'-C3'	-5.62	111.77	120.20
1	N	242	G	C4'-C3'-C2'	-5.62	96.98	102.60
1	N	428	G	C5'-C4'-O4'	-5.62	100.67	109.10
1	N	18	C	O5'-C5'-C4'	5.62	119.92	111.50
1	N	374	A	C5'-C4'-O4'	-5.62	101.38	109.80
1	N	888	G	O4'-C1'-C2'	5.62	113.22	107.60
1	N	1395	C	O4'-C1'-C2'	-5.61	101.99	107.60
1	N	103	U	P-O3'-C3'	-5.61	111.79	120.20
1	N	686	U	C3'-C2'-C1'	-5.61	95.89	101.50
1	N	1046	A	N9-C1'-C2'	-5.60	103.59	112.00
1	N	747	A	O4'-C1'-N9	5.60	116.90	108.50
1	N	1309	G	C4'-C3'-O3'	-5.60	104.60	113.00
1	N	92	U	N1-C1'-C2'	5.60	120.40	112.00
1	N	610	U	P-O3'-C3'	5.60	128.60	120.20
1	N	857	C	O5'-C5'-C4'	-5.60	103.10	111.50
1	N	252	U	O4'-C1'-C2'	-5.60	102.00	107.60
1	N	577	G	P-O5'-C5'	-5.60	112.50	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1148	U	C3'-C2'-C1'	-5.60	95.70	101.30
1	N	567	G	C5-C6-O6	-5.59	111.82	128.60
1	N	196	A	O5'-C5'-C4'	5.59	119.89	111.50
1	N	130	A	O5'-C5'-C4'	5.59	120.09	111.70
1	N	367	U	P-O3'-C3'	-5.59	111.81	120.20
1	N	1450	U	O4'-C1'-N1	5.59	116.89	108.50
1	N	274	A	P-O5'-C5'	5.59	129.29	120.90
1	N	726	C	C5'-C4'-C3'	-5.59	107.62	116.00
1	N	1279	G	C1'-C2'-O2'	-5.59	103.42	111.80
1	N	329	A	C1'-O4'-C4'	5.59	115.29	109.70
1	N	637	C	C5'-C4'-O4'	5.59	118.18	109.80
1	N	1352	C	O4'-C1'-N1	5.59	116.88	108.50
1	N	635	A	O4'-C4'-C3'	-5.58	98.42	104.00
1	N	1526	G	P-O5'-C5'	5.58	129.28	120.90
1	N	55	A	P-O5'-C5'	5.58	129.28	120.90
1	N	592	G	O4'-C4'-C3'	-5.58	98.42	104.00
1	N	375	U	C4'-C3'-O3'	-5.58	104.63	113.00
1	N	972	C	P-O5'-C5'	-5.58	112.53	120.90
1	N	287	U	C4'-C3'-C2'	-5.58	97.02	102.60
1	N	1323	G	O4'-C4'-C3'	-5.58	98.42	104.00
1	N	338	A	O4'-C1'-C2'	-5.58	102.03	107.60
1	N	995	C	P-O3'-C3'	-5.58	111.84	120.20
1	N	1376	U	O4'-C4'-C3'	-5.58	98.42	104.00
1	N	450	G	O4'-C1'-N9	5.57	116.86	108.50
1	N	674	G	O4'-C1'-N9	5.57	116.86	108.50
1	N	1195	C	O4'-C1'-N1	5.57	116.86	108.50
1	N	146	G	C3'-C2'-C1'	-5.57	95.73	101.30
1	N	1436	U	O4'-C1'-N1	5.57	116.86	108.50
1	N	366	A	C4'-C3'-C2'	5.57	108.17	102.60
1	N	447	G	C4'-C3'-C2'	-5.57	97.03	102.60
1	N	729	A	C5'-C4'-C3'	5.57	124.36	116.00
1	N	811	C	C4'-C3'-C2'	-5.57	97.03	102.60
1	N	186	C	C2'-C3'-O3'	5.57	122.05	113.70
1	N	1381	U	P-O3'-C3'	5.57	128.55	120.20
1	N	122	G	O4'-C1'-C2'	-5.57	102.03	107.60
1	N	1086	U	C4'-C3'-C2'	-5.57	97.03	102.60
1	N	1173	U	C3'-C2'-C1'	-5.57	95.73	101.30
1	N	569	C	O4'-C1'-N1	5.56	116.84	108.50
1	N	576	C	C5'-C4'-O4'	5.56	117.44	109.10
1	N	219	U	C2'-C3'-O3'	5.56	122.04	113.70
1	N	251	G	C4'-C3'-C2'	-5.56	97.04	102.60
1	N	470	C	C4'-C3'-C2'	-5.56	97.04	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1033	G	C4'-C3'-O3'	-5.56	104.67	113.00
1	N	701	U	C2'-C3'-O3'	5.55	122.03	113.70
1	N	1442	G	O4'-C1'-N9	5.55	116.83	108.50
1	N	1041	G	P-O3'-C3'	-5.55	111.87	120.20
1	N	200	G	P-O3'-C3'	5.55	128.53	120.20
1	N	767	A	O4'-C1'-N9	5.55	116.83	108.50
1	N	937	A	C5'-C4'-C3'	5.55	124.33	116.00
1	N	1249	C	C5'-C4'-C3'	-5.55	107.68	116.00
1	N	1380	U	P-O3'-C3'	5.55	128.53	120.20
1	N	776	G	O3'-P-O5'	-5.55	95.68	104.00
1	N	689	C	C4'-C3'-C2'	5.55	108.15	102.60
1	N	1324	A	P-O5'-C5'	5.55	129.22	120.90
1	N	1424	U	P-O5'-C5'	5.55	129.22	120.90
1	N	1293	C	P-O5'-C5'	-5.54	112.58	120.90
1	N	253	A	C4'-C3'-O3'	-5.54	104.69	113.00
1	N	507	C	C3'-C2'-C1'	-5.54	95.76	101.30
1	N	1107	C	P-O3'-C3'	-5.54	111.89	120.20
1	N	1505	G	C5'-C4'-C3'	-5.54	107.69	116.00
1	N	673	A	C4'-C3'-C2'	-5.54	97.06	102.60
1	N	49	U	O5'-C5'-C4'	5.54	119.80	111.50
1	N	614	C	P-O5'-C5'	-5.54	112.60	120.90
1	N	1256	A	O4'-C4'-C3'	-5.54	100.56	106.10
1	N	1355	G	C4'-C3'-C2'	-5.54	97.06	102.60
1	N	135	C	P-O3'-C3'	-5.53	111.90	120.20
1	N	283	U	C5'-C4'-C3'	-5.53	107.70	116.00
1	N	800	G	C4'-C3'-C2'	5.53	108.13	102.60
1	N	454	G	C5'-C4'-C3'	-5.53	107.70	116.00
1	N	1127	G	O4'-C1'-C2'	-5.53	102.07	107.60
1	N	555	U	C4'-C3'-O3'	-5.53	104.71	113.00
1	N	704	A	O4'-C4'-C3'	-5.53	98.47	104.00
1	N	140	U	C1'-O4'-C4'	5.53	115.43	109.90
1	N	731	G	C1'-C2'-O2'	-5.53	100.11	108.40
1	N	865	A	C2'-C3'-O3'	5.53	121.99	113.70
1	N	443	C	O4'-C4'-C3'	-5.52	98.48	104.00
1	N	885	G	C1'-O4'-C4'	5.52	115.42	109.90
1	N	264	C	O5'-C5'-C4'	-5.52	103.22	111.50
1	N	366	A	N9-C1'-C2'	-5.52	105.72	114.00
1	N	66	A	O3'-P-O5'	-5.52	95.72	104.00
1	N	1199	U	O4'-C1'-C2'	-5.52	102.08	107.60
1	N	34	C	O4'-C1'-C2'	-5.52	102.08	107.60
1	N	758	C	O4'-C1'-N1	5.51	116.77	108.50
1	N	935	A	O5'-C5'-C4'	5.51	119.77	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1316	G	C3'-C2'-C1'	-5.51	95.79	101.30
1	N	467	U	O4'-C1'-N1	5.51	116.77	108.50
1	N	762	U	O4'-C1'-C2'	-5.51	102.09	107.60
1	N	810	C	P-O5'-C5'	5.51	129.17	120.90
1	N	1323	G	P-O3'-C3'	-5.51	111.93	120.20
1	N	1446	A	C3'-C2'-C1'	-5.51	95.79	101.30
1	N	274	A	P-O3'-C3'	5.51	128.46	120.20
1	N	615	G	O4'-C1'-N9	5.51	116.76	108.50
1	N	1066	C	O4'-C1'-N1	5.51	116.76	108.50
1	N	112	G	O4'-C1'-C2'	-5.51	102.09	107.60
1	N	738	C	O5'-C5'-C4'	-5.51	103.24	111.50
1	N	1137	C	O4'-C1'-N1	5.51	116.46	108.20
1	N	1215	G	C1'-C2'-O2'	-5.51	100.14	108.40
1	N	669	G	O4'-C4'-C3'	-5.50	98.50	104.00
1	N	772	U	O3'-P-O5'	-5.50	95.74	104.00
1	N	47	C	C3'-C2'-C1'	5.50	107.00	101.50
1	N	583	A	O4'-C1'-N9	5.50	116.75	108.50
1	N	357	G	P-O5'-C5'	5.50	129.15	120.90
1	N	484	G	C4'-C3'-C2'	5.50	108.10	102.60
1	N	659	U	C3'-C2'-C1'	-5.50	95.80	101.30
1	N	841	C	O4'-C1'-N1	5.50	116.75	108.50
1	N	307	C	C5'-C4'-O4'	-5.50	101.55	109.80
1	N	579	A	P-O3'-C3'	-5.50	111.95	120.20
1	N	955	U	C1'-C2'-O2'	5.50	116.65	108.40
1	N	1185	G	C1'-C2'-O2'	5.50	116.65	108.40
1	N	1331	G	C4'-C3'-C2'	-5.50	97.10	102.60
1	N	99	C	C4'-C3'-O3'	-5.50	104.76	113.00
1	N	386	C	C4'-C3'-O3'	-5.49	104.76	113.00
1	N	619	U	O4'-C1'-N1	5.49	116.73	108.50
1	N	793	U	O4'-C1'-C2'	-5.49	102.11	107.60
1	N	344	A	C2'-C3'-O3'	5.49	117.73	109.50
1	N	375	U	C4'-C3'-C2'	-5.49	97.11	102.60
1	N	813	U	O4'-C1'-N1	5.49	116.73	108.50
1	N	568	G	C4'-C3'-C2'	-5.48	97.12	102.60
1	N	813	U	O3'-P-O5'	-5.48	95.78	104.00
1	N	577	G	C5'-C4'-C3'	5.48	124.22	116.00
1	N	904	U	O4'-C1'-C2'	-5.48	102.12	107.60
1	N	164	G	O4'-C4'-C3'	-5.48	98.52	104.00
1	N	906	A	C4'-C3'-C2'	-5.48	97.12	102.60
1	N	368	U	C5'-C4'-C3'	-5.48	106.98	115.20
1	N	138	G	C5'-C4'-C3'	5.48	124.21	116.00
1	N	656	G	O4'-C1'-N9	5.47	116.71	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	316	C	O4'-C1'-N1	5.47	116.71	108.50
1	N	432	A	P-O5'-C5'	5.47	129.11	120.90
1	N	1467	C	C5'-C4'-C3'	5.47	124.21	116.00
1	N	695	A	O5'-C5'-C4'	-5.47	103.30	111.50
1	N	986	U	P-O5'-C5'	5.47	129.10	120.90
1	N	899	C	O4'-C1'-N1	5.47	116.70	108.50
1	N	598	U	P-O5'-C5'	5.46	129.10	120.90
1	N	655	A	C1'-C2'-O2'	5.46	116.60	108.40
1	N	880	C	O4'-C1'-N1	5.46	116.70	108.50
1	N	1338	G	O4'-C4'-C3'	-5.46	100.64	106.10
1	N	508	U	C2'-C3'-O3'	5.46	117.69	109.50
1	N	1059	C	C4'-C3'-O3'	-5.46	104.81	113.00
1	N	1453	G	C5'-C4'-C3'	-5.46	107.81	116.00
1	N	92	U	C5'-C4'-C3'	-5.46	107.81	116.00
1	N	315	A	P-O5'-C5'	5.46	129.09	120.90
1	N	1394	A	C1'-O4'-C4'	5.46	115.16	109.70
1	N	559	A	C4'-C3'-C2'	5.46	108.06	102.60
1	N	530	G	O4'-C1'-C2'	-5.46	102.14	107.60
1	N	760	G	O3'-P-O5'	-5.46	95.82	104.00
1	N	861	G	O3'-P-O5'	-5.46	95.81	104.00
1	N	10	A	C3'-C2'-C1'	-5.46	95.84	101.30
1	N	393	A	O4'-C4'-C3'	-5.45	98.55	104.00
1	N	572	A	P-O3'-C3'	5.45	128.38	120.20
1	N	851	G	P-O5'-C5'	5.45	129.08	120.90
1	N	1014	A	O3'-P-O5'	-5.45	95.82	104.00
1	N	1406	U	P-O3'-C3'	-5.45	112.02	120.20
1	N	1096	C	O4'-C1'-N1	5.45	116.68	108.50
1	N	968	A	C4'-C3'-C2'	-5.45	97.15	102.60
1	N	1004	A	C4'-C3'-C2'	-5.45	97.15	102.60
1	N	1192	C	O5'-C5'-C4'	5.45	119.67	111.50
1	N	21	G	P-O5'-C5'	5.44	129.07	120.90
1	N	429	U	C4'-C3'-C2'	-5.44	97.16	102.60
1	N	1081	A	C5'-C4'-C3'	-5.44	107.84	116.00
1	N	1446	A	O4'-C4'-C3'	-5.44	98.56	104.00
1	N	531	U	C1'-O4'-C4'	-5.44	104.46	109.90
1	N	1035	A	C5'-C4'-C3'	-5.44	107.84	116.00
1	N	529	G	C3'-C2'-O2'	5.44	118.86	110.70
1	N	895	G	O4'-C1'-N9	5.44	116.66	108.50
1	N	1226	C	C4'-C3'-O3'	5.44	117.56	109.40
1	N	565	U	O4'-C1'-N1	5.44	116.65	108.50
1	N	89	U	C1'-C2'-O2'	-5.43	103.65	111.80
1	N	204	G	C5'-C4'-C3'	5.43	124.15	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	727	G	C4'-C3'-C2'	-5.43	97.17	102.60
1	N	982	U	C2'-C3'-O3'	5.43	117.65	109.50
1	N	314	C	O4'-C1'-N1	5.43	116.65	108.50
1	N	186	C	O4'-C1'-C2'	-5.43	102.17	107.60
1	N	1410	A	P-O3'-C3'	5.43	128.35	120.20
1	N	561	U	O5'-C5'-C4'	-5.43	103.56	111.70
1	N	412	A	O4'-C1'-C2'	-5.43	100.37	105.80
1	N	980	C	O4'-C4'-C3'	-5.42	98.58	104.00
1	N	1245	C	P-O5'-C5'	5.42	129.04	120.90
1	N	186	C	O4'-C1'-N1	5.42	116.63	108.50
1	N	267	C	P-O3'-C3'	5.42	128.33	120.20
1	N	653	U	O4'-C1'-N1	5.42	116.63	108.50
1	N	700	G	O3'-P-O5'	5.42	112.13	104.00
1	N	1377	A	C4'-C3'-C2'	-5.42	97.18	102.60
1	N	1345	U	C1'-O4'-C4'	-5.42	104.28	109.70
1	N	555	U	C4'-C3'-C2'	-5.42	97.18	102.60
1	N	879	C	C3'-C2'-C1'	5.42	106.72	101.30
1	N	1481	U	C1'-O4'-C4'	5.42	115.32	109.90
1	N	1436	U	P-O3'-C3'	5.42	128.32	120.20
1	N	636	U	C2'-C3'-O3'	5.42	121.82	113.70
1	N	234	C	O4'-C1'-C2'	-5.41	102.19	107.60
1	N	919	A	C1'-O4'-C4'	-5.41	104.49	109.90
1	N	165	G	O3'-P-O5'	-5.41	95.88	104.00
1	N	614	C	O4'-C1'-C2'	-5.41	102.19	107.60
1	N	423	G	O4'-C1'-N9	5.41	116.62	108.50
1	N	637	C	C4'-C3'-O3'	-5.41	104.88	113.00
1	N	449	G	O3'-P-O5'	-5.41	95.89	104.00
1	N	1149	C	C1'-O4'-C4'	5.41	115.31	109.90
1	N	1252	A	C4'-C3'-C2'	-5.41	97.19	102.60
1	N	811	C	C5'-C4'-O4'	5.41	117.91	109.80
1	N	1035	A	P-O5'-C5'	5.41	129.01	120.90
1	N	96	U	O4'-C1'-N1	5.41	116.31	108.20
1	N	724	G	C4'-C3'-O3'	-5.41	104.89	113.00
1	N	1366	C	P-O5'-C5'	5.41	129.01	120.90
1	N	84	U	P-O5'-C5'	-5.40	112.79	120.90
1	N	196	A	C4'-C3'-O3'	-5.40	104.89	113.00
1	N	494	G	C5'-C4'-C3'	-5.40	107.89	116.00
1	N	1450	U	O4'-C1'-C2'	-5.40	102.20	107.60
1	N	863	U	O4'-C1'-N1	5.40	116.61	108.50
1	N	1320	C	O4'-C1'-N1	5.40	116.61	108.50
1	N	134	G	O4'-C4'-C3'	-5.40	98.60	104.00
1	N	1085	U	C1'-C2'-O2'	-5.40	103.70	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	333	U	O4'-C1'-N1	5.40	116.60	108.50
1	N	788	U	P-O3'-C3'	-5.40	112.10	120.20
1	N	1092	A	O4'-C1'-N9	5.40	116.30	108.20
1	N	916	U	O4'-C1'-C2'	-5.40	102.20	107.60
1	N	229	U	C4'-C3'-C2'	-5.39	97.20	102.60
1	N	444	G	O5'-C5'-C4'	-5.39	103.41	111.50
1	N	997	U	O4'-C1'-N1	5.39	116.59	108.50
1	N	1426	G	C5'-C4'-C3'	5.39	124.09	116.00
1	N	115	G	C4'-C3'-C2'	5.39	107.99	102.60
1	N	361	G	C2'-C3'-O3'	5.39	121.79	113.70
1	N	789	U	P-O5'-C5'	5.39	128.99	120.90
1	N	261	U	P-O5'-C5'	5.39	128.99	120.90
1	N	449	G	O4'-C1'-C2'	-5.39	102.21	107.60
1	N	348	G	P-O5'-C5'	-5.39	112.82	120.90
1	N	856	C	O4'-C1'-C2'	-5.39	102.21	107.60
1	N	1269	A	C5'-C4'-C3'	5.38	124.08	116.00
1	N	8	A	O4'-C1'-N9	5.38	116.28	108.20
1	N	1509	C	O4'-C1'-N1	5.38	116.57	108.50
1	N	184	G	N1-C6-O6	5.38	136.04	119.90
1	N	302	G	C4'-C3'-O3'	-5.38	104.93	113.00
1	N	476	U	O3'-P-O5'	-5.38	95.93	104.00
1	N	991	U	N1-C1'-C2'	-5.38	105.93	114.00
1	N	1396	A	C3'-C2'-C1'	5.38	106.88	101.50
1	N	545	C	O4'-C1'-N1	5.38	116.57	108.50
1	N	585	G	P-O5'-C5'	-5.38	112.83	120.90
1	N	51	A	C4'-C3'-C2'	5.38	107.98	102.60
1	N	466	A	O4'-C1'-C2'	-5.38	102.22	107.60
1	N	547	A	C5'-C4'-O4'	5.38	117.17	109.10
1	N	715	A	P-O3'-C3'	5.38	128.26	120.20
1	N	947	G	C2'-C3'-O3'	5.38	121.77	113.70
1	N	1368	A	C4'-C3'-C2'	-5.38	97.22	102.60
1	N	222	C	N1-C1'-C2'	-5.38	103.94	112.00
1	N	984	C	O5'-C5'-C4'	-5.38	103.44	111.50
1	N	184	G	C5-C6-O6	-5.37	112.48	128.60
1	N	256	U	O4'-C4'-C3'	-5.37	98.63	104.00
1	N	580	C	C4'-C3'-O3'	-5.37	104.94	113.00
1	N	1019	A	P-O3'-C3'	-5.37	112.14	120.20
1	N	385	C	O4'-C1'-N1	5.37	116.56	108.50
1	N	528	C	C3'-C2'-C1'	-5.37	95.93	101.30
1	N	633	G	O3'-P-O5'	5.37	112.06	104.00
1	N	1347	G	C5'-C4'-O4'	5.37	117.16	109.10
1	N	572	A	O4'-C4'-C3'	5.37	111.47	106.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	665	A	P-O3'-C3'	-5.37	112.14	120.20
1	N	1190	G	C5'-C4'-C3'	-5.37	107.94	116.00
1	N	1457	G	O4'-C4'-C3'	5.37	109.37	104.00
1	N	475	C	P-O5'-C5'	5.37	128.95	120.90
1	N	756	C	O4'-C1'-C2'	-5.37	102.23	107.60
1	N	758	C	N1-C1'-C2'	5.37	120.05	112.00
1	N	60	A	C2'-C3'-O3'	5.36	117.55	109.50
1	N	1331	G	C5'-C4'-C3'	-5.36	107.95	116.00
1	N	1415	G	P-O5'-C5'	-5.36	112.85	120.90
1	N	1389	C	C4'-C3'-C2'	-5.36	97.24	102.60
1	N	962	C	P-O3'-C3'	-5.36	112.16	120.20
1	N	1514	G	P-O3'-C3'	5.36	128.24	120.20
1	N	281	G	C2'-C3'-O3'	5.36	117.53	109.50
1	N	300	A	N9-C1'-C2'	5.36	120.04	112.00
1	N	368	U	O4'-C1'-N1	5.36	116.24	108.20
1	N	1404	C	C4'-C3'-C2'	-5.36	97.24	102.60
1	N	1281	C	C5'-C4'-O4'	5.36	117.83	109.80
1	N	1329	A	C4'-C3'-C2'	-5.36	97.24	102.60
1	N	110	C	C5'-C4'-C3'	5.35	124.03	116.00
1	N	74	A	P-O3'-C3'	5.35	128.23	120.20
1	N	217	C	P-O5'-C5'	-5.35	112.87	120.90
1	N	1110	A	P-O3'-C3'	5.35	128.23	120.20
1	N	1425	U	P-O3'-C3'	-5.35	112.17	120.20
1	N	37	U	C5'-C4'-C3'	5.35	124.03	116.00
1	N	948	C	O4'-C1'-N1	5.35	116.53	108.50
1	N	1056	U	C2'-C3'-O3'	5.35	121.73	113.70
1	N	1071	C	O4'-C1'-N1	5.35	116.53	108.50
1	N	1207	G	O4'-C1'-N9	5.35	116.53	108.50
1	N	207	C	C1'-O4'-C4'	5.35	115.25	109.90
1	N	731	G	O4'-C1'-N9	5.35	116.53	108.50
1	N	974	A	O4'-C4'-C3'	-5.35	100.75	106.10
1	N	1063	C	P-O5'-C5'	-5.35	112.88	120.90
1	N	1089	G	C4'-C3'-O3'	-5.35	104.97	113.00
1	N	1102	A	C4'-C3'-O3'	-5.35	104.97	113.00
1	N	1398	A	C4'-C3'-C2'	-5.35	97.25	102.60
1	N	860	A	O5'-C5'-C4'	-5.35	103.48	111.50
1	N	1279	G	O4'-C4'-C3'	-5.35	100.75	106.10
1	N	621	A	O5'-C5'-C4'	-5.34	103.48	111.50
1	N	902	G	C5'-C4'-C3'	-5.34	107.99	116.00
1	N	990	C	P-O3'-C3'	-5.34	112.19	120.20
1	N	1035	A	C3'-C2'-C1'	-5.34	95.96	101.30
1	N	1286	U	P-O3'-C3'	-5.34	112.19	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	191	G	C4'-C3'-O3'	-5.34	104.99	113.00
1	N	1065	U	P-O3'-C3'	-5.34	112.19	120.20
1	N	1201	A	C1'-O4'-C4'	5.34	115.04	109.70
1	N	1376	U	C1'-O4'-C4'	5.34	115.24	109.90
1	N	1438	G	C3'-C2'-C1'	5.34	106.64	101.30
1	N	1519	A	C4'-C3'-C2'	-5.34	97.26	102.60
1	N	186	C	C3'-C2'-C1'	5.34	106.64	101.30
1	N	573	A	P-O5'-C5'	-5.34	112.89	120.90
1	N	256	U	O4'-C1'-C2'	-5.33	102.27	107.60
1	N	1489	G	P-O5'-C5'	-5.33	112.90	120.90
1	N	1059	C	O4'-C1'-C2'	-5.33	102.27	107.60
1	N	1498	U	C2'-C3'-O3'	5.33	117.50	109.50
1	N	186	C	C4'-C3'-O3'	-5.33	105.00	113.00
1	N	425	G	C1'-C2'-O2'	5.33	116.40	108.40
1	N	1053	G	C4'-C3'-C2'	-5.33	97.27	102.60
1	N	422	C	P-O5'-C5'	-5.33	112.91	120.90
1	N	1113	C	O4'-C1'-N1	5.33	116.49	108.50
1	N	1471	U	O4'-C1'-N1	5.33	116.49	108.50
1	N	52	C	O4'-C1'-N1	5.33	116.49	108.50
1	N	337	G	C4'-C3'-C2'	-5.33	97.28	102.60
1	N	588	G	O4'-C4'-C3'	-5.33	98.67	104.00
1	N	775	G	O4'-C1'-N9	5.33	116.49	108.50
1	N	199	A	O4'-C1'-N9	5.32	116.49	108.50
1	N	464	U	C3'-C2'-C1'	5.32	106.62	101.30
1	N	1071	C	O4'-C1'-C2'	-5.32	102.28	107.60
1	N	311	C	C4'-C3'-C2'	-5.32	97.28	102.60
1	N	369	G	C3'-C2'-C1'	5.32	106.62	101.30
1	N	1037	C	O4'-C1'-N1	5.32	116.48	108.50
1	N	249	U	P-O3'-C3'	-5.32	112.22	120.20
1	N	517	G	C5'-C4'-O4'	5.32	117.78	109.80
1	N	893	C	C5'-C4'-C3'	5.32	123.97	116.00
1	N	150	U	O4'-C1'-N1	5.31	116.46	108.50
1	N	985	C	O3'-P-O5'	-5.31	96.04	104.00
1	N	677	U	O4'-C1'-N1	5.31	116.46	108.50
1	N	787	A	P-O5'-C5'	5.31	128.86	120.90
1	N	1097	C	O4'-C4'-C3'	-5.31	98.69	104.00
1	N	739	C	O4'-C1'-C2'	-5.31	102.29	107.60
1	N	208	U	P-O3'-C3'	5.30	128.16	120.20
1	N	382	A	C3'-C2'-C1'	5.30	106.60	101.30
1	N	764	C	O4'-C1'-C2'	-5.30	102.30	107.60
1	N	895	G	C5'-C4'-C3'	-5.30	108.05	116.00
1	N	1437	A	C5'-C4'-C3'	5.30	123.95	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1333	A	P-O3'-C3'	-5.30	112.25	120.20
1	N	1530	G	C4'-C3'-C2'	5.30	107.90	102.60
1	N	1048	G	P-O3'-C3'	-5.30	112.25	120.20
1	N	1095	U	C3'-C2'-O2'	5.30	118.65	110.70
1	N	1240	U	O3'-P-O5'	5.30	111.95	104.00
1	N	933	G	O4'-C1'-N9	5.29	116.44	108.50
1	N	313	A	O5'-C5'-C4'	-5.29	103.56	111.50
1	N	730	G	P-O3'-C3'	5.29	128.14	120.20
1	N	272	C	P-O3'-C3'	5.29	128.14	120.20
1	N	324	G	C5'-C4'-C3'	5.29	123.94	116.00
1	N	1125	U	O4'-C1'-N1	5.29	116.43	108.50
1	N	1292	G	C1'-C2'-O2'	5.29	116.34	108.40
1	N	279	A	C4'-C3'-C2'	5.29	107.89	102.60
1	N	1092	A	C5'-C4'-C3'	5.29	123.13	115.20
1	N	1114	C	C5'-C4'-C3'	-5.29	108.07	116.00
1	N	1503	A	C4'-C3'-O3'	5.29	117.33	109.40
1	N	56	U	O4'-C1'-C2'	-5.29	102.31	107.60
1	N	577	G	O5'-C5'-C4'	-5.29	103.57	111.50
1	N	614	C	O4'-C1'-N1	5.29	116.43	108.50
1	N	1413	A	O4'-C1'-N9	5.29	116.43	108.50
1	N	67	C	C2'-C3'-O3'	5.28	121.63	113.70
1	N	585	G	C1'-O4'-C4'	5.28	115.18	109.90
1	N	300	A	C5'-C4'-C3'	5.28	123.92	116.00
1	N	833	G	P-O3'-C3'	-5.28	112.28	120.20
1	N	49	U	O3'-P-O5'	-5.28	96.08	104.00
1	N	1034	G	P-O5'-C5'	-5.28	112.98	120.90
1	N	1227	A	O4'-C1'-N9	5.28	116.42	108.50
1	N	1283	U	C4'-C3'-C2'	5.28	107.88	102.60
1	N	35	G	O4'-C4'-C3'	5.28	109.28	104.00
1	N	817	C	C5'-C4'-O4'	5.28	117.02	109.10
1	N	270	A	O5'-C5'-C4'	-5.28	103.59	111.50
1	N	1266	G	O4'-C1'-N9	5.28	116.41	108.50
1	N	1519	A	O3'-P-O5'	-5.28	96.09	104.00
1	N	628	G	C4'-C3'-C2'	-5.27	97.33	102.60
1	N	983	A	O4'-C1'-N9	5.27	116.11	108.20
1	N	77	A	O5'-C5'-C4'	5.27	119.40	111.50
1	N	438	U	O3'-P-O5'	-5.27	96.10	104.00
1	N	1197	A	P-O5'-C5'	5.27	128.81	120.90
1	N	1376	U	P-O3'-C3'	-5.27	112.30	120.20
1	N	211	G	C4'-C3'-C2'	5.27	107.87	102.60
1	N	227	G	N9-C1'-C2'	-5.27	104.10	112.00
1	N	1443	C	C4'-C3'-O3'	-5.27	105.10	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1147	C	O5'-C5'-C4'	-5.26	103.60	111.50
1	N	1241	G	P-O3'-C3'	-5.26	112.30	120.20
1	N	1278	G	C5'-C4'-C3'	-5.26	107.31	115.20
1	N	16	A	C5'-C4'-O4'	-5.26	101.91	109.80
1	N	1233	G	C4'-C3'-C2'	-5.26	97.34	102.60
1	N	193	C	O4'-C1'-N1	5.26	116.39	108.50
1	N	1133	G	C1'-C2'-O2'	5.26	116.29	108.40
1	N	1184	G	P-O5'-C5'	5.26	128.78	120.90
1	N	1196	A	C4'-C3'-O3'	-5.26	105.11	113.00
1	N	220	G	C5'-C4'-O4'	5.25	117.68	109.80
1	N	747	A	C4'-C3'-C2'	-5.25	97.34	102.60
1	N	542	G	O4'-C1'-N9	5.25	116.38	108.50
1	N	940	C	C5'-C4'-C3'	5.25	123.88	116.00
1	N	1120	C	O4'-C1'-N1	5.25	116.38	108.50
1	N	1308	U	O4'-C1'-N1	5.25	116.38	108.50
1	N	1323	G	O4'-C1'-C2'	-5.25	102.35	107.60
1	N	311	C	O4'-C1'-C2'	-5.25	102.35	107.60
1	N	582	C	C2'-C3'-O3'	5.25	121.58	113.70
1	N	802	A	C1'-O4'-C4'	5.25	115.15	109.90
1	N	1160	G	C3'-C2'-O2'	5.25	118.58	110.70
1	N	1133	G	P-O3'-C3'	-5.25	112.32	120.20
1	N	1090	U	C1'-O4'-C4'	-5.25	104.65	109.90
1	N	1438	G	P-O5'-C5'	5.25	128.77	120.90
1	N	373	A	O4'-C1'-N9	5.25	116.37	108.50
1	N	539	A	C4'-C3'-C2'	-5.25	97.35	102.60
1	N	926	G	C4'-C3'-O3'	5.25	120.87	113.00
1	N	940	C	O5'-C5'-C4'	-5.25	103.63	111.50
1	N	1072	G	P-O3'-C3'	5.25	128.07	120.20
1	N	590	U	C1'-O4'-C4'	5.25	115.14	109.90
1	N	1025	U	C4'-C3'-O3'	-5.25	105.13	113.00
1	N	1239	A	P-O3'-C3'	5.24	128.07	120.20
1	N	172	A	O3'-P-O5'	-5.24	96.14	104.00
1	N	165	G	C4'-C3'-C2'	-5.24	97.36	102.60
1	N	1136	C	O5'-C5'-C4'	5.24	119.56	111.70
1	N	1397	C	O4'-C1'-N1	5.24	116.36	108.50
1	N	403	C	C3'-C2'-C1'	-5.24	96.06	101.30
1	N	563	A	C5'-C4'-O4'	-5.24	101.94	109.80
1	N	597	G	O3'-P-O5'	5.24	111.86	104.00
1	N	340	U	O4'-C1'-N1	5.24	116.35	108.50
1	N	380	G	C4'-C3'-O3'	-5.24	105.15	113.00
1	N	533	A	O4'-C4'-C3'	-5.23	100.87	106.10
1	N	360	G	C5'-C4'-C3'	-5.23	108.15	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	800	G	O5'-C5'-C4'	-5.23	103.65	111.50
1	N	1487	G	C4'-C3'-O3'	-5.23	105.16	113.00
1	N	182	A	O5'-C5'-C4'	5.23	119.54	111.70
1	N	763	G	O4'-C1'-N9	5.23	116.34	108.50
1	N	965	U	O3'-P-O5'	-5.23	96.16	104.00
1	N	1176	A	O5'-C5'-C4'	-5.23	103.66	111.50
1	N	1504	G	P-O3'-C3'	5.23	128.04	120.20
1	N	554	A	P-O5'-C5'	-5.22	113.06	120.90
1	N	912	C	P-O5'-C5'	5.22	128.74	120.90
1	N	1249	C	C4'-C3'-O3'	-5.22	105.16	113.00
1	N	1286	U	O5'-C5'-C4'	5.22	119.34	111.50
1	N	293	G	O4'-C1'-N9	5.22	116.33	108.50
1	N	973	G	C4'-C3'-C2'	-5.22	97.38	102.60
1	N	1086	U	O4'-C1'-N1	5.22	116.33	108.50
1	N	796	C	O4'-C1'-N1	5.22	116.33	108.50
1	N	475	C	C4'-C3'-O3'	-5.22	105.17	113.00
1	N	720	C	C3'-C2'-C1'	5.22	106.52	101.30
1	N	716	A	P-O3'-C3'	-5.22	112.38	120.20
1	N	4	U	C4'-C3'-O3'	5.21	117.22	109.40
1	N	449	G	C3'-C2'-C1'	5.21	106.51	101.30
1	N	896	C	C5'-C4'-O4'	5.21	117.62	109.80
1	N	1091	U	P-O3'-C3'	5.21	128.02	120.20
1	N	98	A	O5'-C5'-C4'	-5.21	103.68	111.50
1	N	160	A	O4'-C1'-C2'	-5.21	102.39	107.60
1	N	93	U	C4'-C3'-C2'	-5.21	97.39	102.60
1	N	977	A	O5'-C5'-C4'	5.21	119.31	111.50
1	N	1344	C	O4'-C1'-N1	5.21	116.31	108.50
1	N	756	C	C4'-C3'-C2'	-5.21	97.39	102.60
1	N	347	G	P-O5'-C5'	5.20	128.70	120.90
1	N	954	G	P-O5'-C5'	5.20	128.70	120.90
1	N	92	U	O4'-C1'-N1	5.20	116.30	108.50
1	N	239	U	P-O5'-C5'	5.20	128.70	120.90
1	N	593	U	O4'-C1'-N1	5.20	116.30	108.50
1	N	676	A	C3'-C2'-C1'	5.20	106.50	101.30
1	N	67	C	C4'-C3'-O3'	-5.20	105.20	113.00
1	N	561	U	O4'-C1'-C2'	5.20	111.00	105.80
1	N	1294	G	O4'-C1'-N9	5.20	116.30	108.50
1	N	996	A	C1'-O4'-C4'	-5.20	104.70	109.90
1	N	380	G	O5'-C5'-C4'	-5.20	103.71	111.50
1	N	591	U	O4'-C1'-C2'	-5.20	102.40	107.60
1	N	1374	A	O4'-C4'-C3'	-5.20	98.80	104.00
1	N	1412	C	O4'-C1'-N1	5.20	116.29	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1514	G	C4'-C3'-O3'	5.20	120.80	113.00
1	N	1401	G	P-O5'-C5'	5.19	128.69	120.90
1	N	567	G	N1-C6-O6	5.19	135.47	119.90
1	N	1117	A	C5'-C4'-C3'	-5.19	108.22	116.00
1	N	1262	C	O4'-C1'-C2'	-5.19	102.41	107.60
1	N	445	G	O4'-C1'-N9	5.19	116.28	108.50
1	N	597	G	P-O3'-C3'	-5.19	112.42	120.20
1	N	1206	G	P-O3'-C3'	-5.19	112.42	120.20
1	N	519	C	C4'-C3'-O3'	-5.18	105.22	113.00
1	N	1397	C	N1-C1'-C2'	5.18	119.78	112.00
1	N	1068	G	O4'-C1'-N9	5.18	116.27	108.50
1	N	1140	C	O4'-C1'-N1	5.18	115.97	108.20
1	N	1482	G	O5'-C5'-C4'	-5.18	103.73	111.50
1	N	411	A	P-O5'-C5'	5.18	128.67	120.90
1	N	425	G	C2'-C3'-O3'	5.18	121.47	113.70
1	N	1513	A	O4'-C1'-N9	5.18	116.27	108.50
1	N	499	A	C4'-C3'-O3'	5.18	117.16	109.40
1	N	554	A	C4'-C3'-C2'	-5.17	97.42	102.60
1	N	1387	G	P-O5'-C5'	5.17	128.66	120.90
1	N	1414	U	P-O5'-C5'	-5.17	113.14	120.90
1	N	127	G	O3'-P-O5'	-5.17	96.24	104.00
1	N	315	A	C2'-C3'-O3'	5.17	117.26	109.50
1	N	345	C	O4'-C1'-N1	5.17	115.96	108.20
1	N	1037	C	C4'-C3'-O3'	-5.17	105.24	113.00
1	N	531	U	O4'-C1'-N1	5.17	116.25	108.50
1	N	913	A	P-O5'-C5'	-5.17	113.14	120.90
1	N	1322	C	C2'-C3'-O3'	5.17	117.25	109.50
1	N	304	U	C4'-C3'-O3'	-5.17	105.25	113.00
1	N	415	A	O5'-C5'-C4'	-5.17	103.75	111.50
1	N	740	U	O4'-C1'-N1	5.17	116.25	108.50
1	N	291	U	C4'-C3'-C2'	-5.17	97.43	102.60
1	N	471	U	O4'-C1'-N1	5.17	116.25	108.50
1	N	1157	A	N9-C1'-C2'	5.17	121.75	114.00
1	N	980	C	O4'-C1'-N1	5.17	116.25	108.50
1	N	1166	G	O4'-C1'-N9	5.17	116.25	108.50
1	N	655	A	O4'-C1'-N9	5.16	116.25	108.50
1	N	1291	U	P-O3'-C3'	-5.16	112.45	120.20
1	N	252	U	O4'-C1'-N1	5.16	116.24	108.50
1	N	366	A	C4'-C3'-O3'	5.16	117.14	109.40
1	N	812	G	C5'-C4'-O4'	5.16	116.84	109.10
1	N	1250	A	C5'-C4'-C3'	5.16	123.74	116.00
1	N	753	A	C4'-C3'-O3'	5.16	117.14	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1515	G	N9-C1'-C2'	-5.16	104.26	112.00
1	N	73	C	O5'-C5'-C4'	5.16	119.23	111.50
1	N	603	U	N1-C1'-C2'	5.16	119.73	112.00
1	N	641	U	O3'-P-O5'	-5.16	96.26	104.00
1	N	1140	C	C2'-C3'-O3'	5.16	117.23	109.50
1	N	136	C	C4'-C3'-O3'	-5.16	105.27	113.00
1	N	411	A	O4'-C1'-C2'	5.16	112.75	107.60
1	N	1532	U	C1'-O4'-C4'	5.16	115.06	109.90
1	N	780	A	O4'-C1'-N9	5.15	116.23	108.50
1	N	1053	G	C5'-C4'-O4'	-5.15	102.07	109.80
1	N	1199	U	P-O5'-C5'	5.15	128.63	120.90
1	N	513	C	C1'-C2'-O2'	5.15	116.13	108.40
1	N	597	G	O4'-C1'-C2'	-5.15	102.45	107.60
1	N	868	C	O3'-P-O5'	-5.15	96.28	104.00
1	N	247	G	C1'-C2'-O2'	5.15	116.12	108.40
1	N	1017	U	O4'-C1'-N1	5.15	116.22	108.50
1	N	1019	A	C2'-C3'-O3'	5.15	121.42	113.70
1	N	210	C	O5'-C5'-C4'	5.15	119.42	111.70
1	N	273	U	O4'-C1'-N1	5.15	116.22	108.50
1	N	497	G	C5'-C4'-O4'	-5.15	102.08	109.80
1	N	553	A	C1'-C2'-O2'	5.15	116.12	108.40
1	N	975	A	O4'-C4'-C3'	-5.15	100.95	106.10
1	N	707	U	O4'-C1'-N1	5.15	116.22	108.50
1	N	885	G	O4'-C4'-C3'	-5.15	98.85	104.00
1	N	1443	C	O3'-P-O5'	-5.15	96.28	104.00
1	N	958	A	O4'-C1'-N9	5.14	116.22	108.50
1	N	1496	C	C5'-C4'-C3'	5.14	123.72	116.00
1	N	1529	G	C4'-C3'-C2'	-5.14	97.45	102.60
1	N	910	C	O4'-C1'-N1	5.14	116.21	108.50
1	N	236	A	C4'-C3'-O3'	-5.14	105.29	113.00
1	N	374	A	C4'-C3'-O3'	-5.14	105.29	113.00
1	N	451	A	C3'-C2'-C1'	5.14	106.64	101.50
1	N	186	C	O3'-P-O5'	-5.14	96.29	104.00
1	N	377	G	N9-C1'-C2'	-5.14	104.29	112.00
1	N	64	G	P-O5'-C5'	5.14	128.61	120.90
1	N	299	G	C1'-O4'-C4'	5.14	115.04	109.90
1	N	540	G	C4'-C3'-C2'	-5.14	97.46	102.60
1	N	1458	G	C5'-C4'-O4'	5.14	117.51	109.80
1	N	585	G	O4'-C1'-C2'	-5.13	102.47	107.60
1	N	1051	C	P-O3'-C3'	-5.13	112.50	120.20
1	N	134	G	C4'-C3'-O3'	5.13	120.69	113.00
1	N	457	G	P-O5'-C5'	-5.13	113.21	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	476	U	O4'-C1'-C2'	-5.13	102.47	107.60
1	N	112	G	C5'-C4'-C3'	5.13	123.69	116.00
1	N	143	A	C5'-C4'-C3'	-5.13	108.31	116.00
1	N	1341	U	P-O5'-C5'	-5.13	113.21	120.90
1	N	945	G	O4'-C1'-C2'	-5.12	102.47	107.60
1	N	1414	U	O4'-C1'-N1	5.12	116.19	108.50
1	N	592	G	O4'-C1'-C2'	-5.12	102.48	107.60
1	N	1315	U	O4'-C1'-N1	5.12	116.19	108.50
1	N	443	C	O4'-C1'-C2'	-5.12	102.48	107.60
1	N	467	U	C2'-C3'-O3'	5.12	121.38	113.70
1	N	1041	G	O3'-P-O5'	-5.12	96.32	104.00
1	N	1216	A	C1'-O4'-C4'	5.12	115.02	109.90
1	N	300	A	O3'-P-O5'	-5.12	96.32	104.00
1	N	581	G	C4'-C3'-C2'	-5.12	97.48	102.60
1	N	1477	U	C5'-C4'-C3'	5.12	123.68	116.00
1	N	759	A	O5'-C5'-C4'	-5.12	103.82	111.50
1	N	837	U	P-O5'-C5'	5.12	128.58	120.90
1	N	1440	U	O4'-C1'-N1	5.12	116.17	108.50
1	N	705	G	C5'-C4'-C3'	-5.11	108.33	116.00
1	N	1489	G	C4'-C3'-O3'	-5.11	105.33	113.00
1	N	161	A	O4'-C1'-C2'	-5.11	102.49	107.60
1	N	444	G	C1'-C2'-O2'	5.11	116.06	108.40
1	N	472	U	C3'-C2'-C1'	5.11	106.41	101.30
1	N	491	G	C5'-C4'-C3'	-5.11	108.33	116.00
1	N	703	G	C2'-C3'-O3'	5.11	117.17	109.50
1	N	1224	U	O4'-C1'-N1	5.11	116.17	108.50
1	N	1030	U	O3'-P-O5'	-5.11	96.34	104.00
1	N	1236	A	C2'-C3'-O3'	5.11	121.36	113.70
1	N	39	G	C3'-C2'-C1'	-5.11	96.19	101.30
1	N	500	G	O3'-P-O5'	-5.11	96.34	104.00
1	N	741	G	O4'-C1'-N9	5.11	116.16	108.50
1	N	1186	G	C4'-C3'-C2'	-5.11	97.50	102.60
1	N	468	A	C4'-C3'-O3'	-5.10	105.34	113.00
1	N	484	G	O3'-P-O5'	5.10	111.66	104.00
1	N	486	U	O4'-C1'-C2'	-5.10	102.50	107.60
1	N	195	A	O4'-C1'-N9	5.10	116.15	108.50
1	N	711	G	O4'-C1'-C2'	-5.10	102.50	107.60
1	N	620	C	O4'-C1'-N1	5.10	116.15	108.50
1	N	74	A	C2'-C3'-O3'	-5.10	106.06	113.70
1	N	1115	U	O4'-C1'-C2'	-5.10	102.50	107.60
1	N	1218	C	C1'-O4'-C4'	5.10	115.00	109.90
1	N	22	G	O4'-C1'-N9	5.09	116.14	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	61	G	O4'-C1'-N9	5.09	116.14	108.50
1	N	210	C	C3'-C2'-O2'	-5.09	106.96	114.60
1	N	850	U	P-O5'-C5'	5.09	128.54	120.90
1	N	93	U	C4'-C3'-O3'	5.09	120.64	113.00
1	N	95	C	C4'-C3'-C2'	5.09	107.69	102.60
1	N	894	G	P-O5'-C5'	5.09	128.53	120.90
1	N	963	G	C5'-C4'-C3'	-5.09	108.37	116.00
1	N	1011	C	C4'-C3'-C2'	-5.09	97.51	102.60
1	N	1211	U	O4'-C4'-C3'	-5.09	101.01	106.10
1	N	151	A	O4'-C4'-C3'	-5.09	98.91	104.00
1	N	175	C	C2'-C3'-O3'	-5.09	106.07	113.70
1	N	229	U	O4'-C1'-N1	5.09	116.13	108.50
1	N	967	C	C5'-C4'-C3'	5.09	123.63	116.00
1	N	1503	A	P-O3'-C3'	5.09	127.83	120.20
1	N	16	A	O3'-P-O5'	5.08	111.63	104.00
1	N	267	C	P-O5'-C5'	-5.08	113.28	120.90
1	N	1407	C	N1-C1'-C2'	-5.08	104.38	112.00
1	N	30	U	C2'-C3'-O3'	5.08	117.12	109.50
1	N	651	C	P-O3'-C3'	-5.08	112.58	120.20
1	N	160	A	O3'-P-O5'	5.08	111.62	104.00
1	N	168	G	O5'-C5'-C4'	-5.08	103.88	111.50
1	N	19	A	O4'-C4'-C3'	5.08	109.08	104.00
1	N	923	A	C5'-C4'-C3'	5.08	123.62	116.00
1	N	1297	G	O4'-C4'-C3'	-5.08	101.02	106.10
1	N	267	C	C3'-C2'-C1'	5.08	106.38	101.30
1	N	1471	U	C5'-C4'-C3'	5.08	123.61	116.00
1	N	867	G	C3'-C2'-C1'	5.08	106.38	101.30
1	N	1125	U	P-O5'-C5'	5.08	128.51	120.90
1	N	1080	A	C5'-C4'-C3'	5.07	123.61	116.00
1	N	1139	G	O3'-P-O5'	-5.07	96.39	104.00
1	N	1433	A	N9-C1'-C2'	5.07	119.61	112.00
1	N	1200	C	P-O5'-C5'	-5.07	113.29	120.90
1	N	1401	G	C4'-C3'-C2'	-5.07	97.53	102.60
1	N	166	U	O4'-C1'-N1	5.07	116.11	108.50
1	N	477	C	O4'-C1'-C2'	-5.07	102.53	107.60
1	N	1323	G	C2'-C3'-O3'	-5.07	106.09	113.70
1	N	1462	C	O4'-C1'-N1	5.07	116.11	108.50
1	N	724	G	C4'-C3'-C2'	5.07	107.67	102.60
1	N	1136	C	C5'-C4'-O4'	5.07	116.70	109.10
1	N	95	C	O4'-C1'-N1	5.07	116.10	108.50
1	N	543	U	C1'-O4'-C4'	5.07	114.97	109.90
1	N	789	U	O3'-P-O5'	-5.07	96.40	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	867	G	C2'-C3'-O3'	5.07	121.30	113.70
1	N	12	U	C3'-C2'-C1'	5.06	106.36	101.30
1	N	67	C	P-O3'-C3'	5.06	127.80	120.20
1	N	196	A	C5'-C4'-C3'	5.06	123.60	116.00
1	N	1487	G	O4'-C4'-C3'	-5.06	98.94	104.00
1	N	449	G	O4'-C1'-N9	5.06	116.09	108.50
1	N	656	G	P-O3'-C3'	-5.06	112.61	120.20
1	N	914	A	O4'-C1'-N9	5.06	116.09	108.50
1	N	1237	C	O5'-C5'-C4'	-5.06	103.91	111.50
1	N	54	C	P-O3'-C3'	-5.06	112.61	120.20
1	N	64	G	O3'-P-O5'	-5.06	96.41	104.00
1	N	510	A	P-O5'-C5'	5.06	128.49	120.90
1	N	1269	A	O4'-C4'-C3'	-5.06	98.94	104.00
1	N	921	U	O4'-C1'-N1	5.06	116.09	108.50
1	N	1090	U	O3'-P-O5'	5.06	111.59	104.00
1	N	1305	G	C3'-C2'-C1'	5.06	106.36	101.30
1	N	1387	G	O4'-C1'-C2'	5.06	112.66	107.60
1	N	352	C	O4'-C4'-C3'	5.06	109.06	104.00
1	N	839	C	O5'-C5'-C4'	-5.06	103.91	111.50
1	N	905	U	O4'-C1'-N1	5.06	116.08	108.50
1	N	740	U	P-O3'-C3'	-5.06	112.62	120.20
1	N	478	A	O4'-C1'-C2'	-5.05	102.55	107.60
1	N	608	A	O5'-C5'-C4'	-5.05	103.92	111.50
1	N	793	U	P-O3'-C3'	5.05	127.78	120.20
1	N	1223	C	C5'-C4'-C3'	-5.05	108.42	116.00
1	N	214	C	O5'-C5'-C4'	-5.05	103.92	111.50
1	N	493	A	O3'-P-O5'	-5.05	96.42	104.00
1	N	830	G	P-O5'-C5'	5.05	128.48	120.90
1	N	947	G	C5'-C4'-C3'	5.05	123.58	116.00
1	N	1186	G	N9-C1'-C2'	-5.05	104.42	112.00
1	N	588	G	O4'-C1'-N9	5.05	116.07	108.50
1	N	711	G	O4'-C4'-C3'	-5.05	98.95	104.00
1	N	774	G	O4'-C1'-N9	5.05	116.07	108.50
1	N	916	U	C5'-C4'-O4'	5.05	117.37	109.80
1	N	675	A	O4'-C1'-N9	5.05	116.07	108.50
1	N	815	A	O5'-C5'-C4'	-5.05	103.93	111.50
1	N	877	G	O4'-C1'-N9	5.05	116.07	108.50
1	N	1024	G	P-O5'-C5'	5.05	128.47	120.90
1	N	514	C	P-O5'-C5'	5.04	128.47	120.90
1	N	530	G	C5'-C4'-O4'	5.04	117.37	109.80
1	N	1137	C	C5'-C4'-O4'	5.04	116.67	109.10
1	N	1347	G	C2'-C3'-O3'	5.04	117.06	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	459	A	C5'-C4'-O4'	5.04	117.36	109.80
1	N	711	G	O4'-C1'-N9	5.04	116.06	108.50
1	N	88	U	C5'-C4'-C3'	5.04	122.76	115.20
1	N	177	G	O4'-C1'-N9	5.04	116.06	108.50
1	N	1280	A	C4'-C3'-C2'	5.04	107.64	102.60
1	N	1353	G	P-O3'-C3'	-5.04	112.64	120.20
1	N	1365	G	C2'-C3'-O3'	-5.04	106.14	113.70
1	N	828	U	O4'-C1'-N1	5.04	116.06	108.50
1	N	494	G	C5'-C4'-O4'	5.04	117.36	109.80
1	N	1222	G	C4'-C3'-C2'	-5.04	97.56	102.60
1	N	1450	U	C1'-O4'-C4'	5.03	114.93	109.90
1	N	133	U	O3'-P-O5'	-5.03	96.45	104.00
1	N	144	G	C4'-C3'-C2'	-5.03	97.57	102.60
1	N	1217	C	P-O5'-C5'	5.03	128.45	120.90
1	N	95	C	C5'-C4'-C3'	-5.03	108.46	116.00
1	N	841	C	O4'-C4'-C3'	-5.03	98.97	104.00
1	N	559	A	C1'-O4'-C4'	-5.03	104.67	109.70
1	N	645	G	O4'-C1'-N9	5.03	116.04	108.50
1	N	971	G	C1'-O4'-C4'	5.03	114.93	109.90
1	N	178	C	C3'-C2'-C1'	-5.03	96.28	101.30
1	N	308	C	O4'-C1'-N1	5.03	116.04	108.50
1	N	319	G	P-O5'-C5'	-5.03	113.36	120.90
1	N	607	A	C5'-C4'-C3'	-5.03	108.46	116.00
1	N	1401	G	O4'-C1'-C2'	-5.03	102.58	107.60
1	N	98	A	C4'-C3'-C2'	-5.02	97.58	102.60
1	N	422	C	C5'-C4'-O4'	5.02	116.63	109.10
1	N	449	G	C5'-C4'-C3'	-5.02	108.47	116.00
1	N	868	C	C4'-C3'-C2'	-5.02	97.58	102.60
1	N	1087	G	P-O3'-C3'	-5.02	112.67	120.20
1	N	1094	G	O4'-C4'-C3'	5.02	109.02	104.00
1	N	1294	G	C4'-C3'-C2'	-5.02	97.58	102.60
1	N	516	U	O4'-C1'-N1	5.02	116.03	108.50
1	N	83	C	O4'-C1'-N1	5.02	116.03	108.50
1	N	275	G	O4'-C1'-N9	5.02	116.03	108.50
1	N	515	G	C1'-C2'-O2'	5.02	115.93	108.40
1	N	839	C	O4'-C4'-C3'	5.02	109.02	104.00
1	N	1371	G	C4'-C3'-O3'	-5.02	105.47	113.00
1	N	1427	C	O4'-C1'-N1	5.02	116.03	108.50
1	N	462	G	O4'-C1'-C2'	-5.02	102.58	107.60
1	N	880	C	O5'-C5'-C4'	-5.02	103.97	111.50
1	N	1316	G	O3'-P-O5'	-5.02	96.47	104.00
1	N	991	U	C4'-C3'-C2'	5.02	107.62	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1300	G	C4'-C3'-C2'	-5.01	97.59	102.60
1	N	3	A	O3'-P-O5'	5.01	111.52	104.00
1	N	952	U	O4'-C1'-N1	5.01	116.02	108.50
1	N	1011	C	C4'-C3'-O3'	-5.01	105.48	113.00
1	N	1069	C	O4'-C1'-N1	5.01	116.02	108.50
1	N	573	A	O4'-C1'-N9	5.01	116.02	108.50
1	N	455	G	C5'-C4'-C3'	-5.01	108.49	116.00
1	N	542	G	O4'-C1'-C2'	-5.01	102.59	107.60
1	N	1135	U	C3'-C2'-C1'	5.01	106.31	101.30
1	N	1450	U	P-O3'-C3'	5.01	127.71	120.20
1	N	907	A	C1'-O4'-C4'	5.01	114.91	109.90
1	N	1245	C	O4'-C4'-C3'	-5.01	98.99	104.00
1	N	88	U	C3'-C2'-O2'	-5.00	107.09	114.60
1	N	536	C	O4'-C1'-N1	5.00	116.00	108.50

There are no chirality outliers.

All (978) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	N	1003	G	Sidechain
1	N	1005	A	Sidechain
1	N	1006	G	Sidechain
1	N	1007	U	Sidechain
1	N	1009	U	Sidechain
1	N	1010	U	Sidechain
1	N	1011	C	Sidechain
1	N	1012	A	Sidechain
1	N	1014	A	Sidechain
1	N	1015	G	Sidechain
1	N	1017	U	Sidechain
1	N	1018	G	Sidechain
1	N	1019	A	Sidechain
1	N	1021	A	Sidechain
1	N	1023	U	Sidechain
1	N	1026	G	Sidechain
1	N	1027	C	Sidechain
1	N	1030	U	Sidechain
1	N	1031	C	Sidechain
1	N	1032	G	Sidechain
1	N	1033	G	Sidechain
1	N	1035	A	Sidechain
1	N	1039	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	104	G	Sidechain
1	N	1040	U	Sidechain
1	N	1041	G	Sidechain
1	N	1044	A	Sidechain
1	N	1045	C	Sidechain
1	N	1047	G	Sidechain
1	N	1048	G	Sidechain
1	N	1049	U	Sidechain
1	N	105	G	Sidechain
1	N	1050	G	Sidechain
1	N	1051	C	Sidechain
1	N	1053	G	Sidechain
1	N	1055	A	Sidechain
1	N	1056	U	Sidechain
1	N	1057	G	Sidechain
1	N	1059	C	Sidechain
1	N	1060	U	Sidechain
1	N	1062	U	Sidechain
1	N	1065	U	Sidechain
1	N	1066	C	Sidechain
1	N	1067	A	Sidechain
1	N	1068	G	Sidechain
1	N	107	G	Sidechain
1	N	1070	U	Sidechain
1	N	1071	C	Sidechain
1	N	1072	G	Sidechain
1	N	1073	U	Sidechain
1	N	1075	U	Sidechain
1	N	1076	U	Sidechain
1	N	1077	G	Sidechain
1	N	1080	A	Sidechain
1	N	1083	U	Sidechain
1	N	1084	G	Sidechain
1	N	1085	U	Sidechain
1	N	1088	G	Sidechain
1	N	109	A	Sidechain
1	N	1095	U	Sidechain
1	N	1096	C	Sidechain
1	N	1098	C	Sidechain
1	N	1099	G	Sidechain
1	N	11	G	Sidechain
1	N	1101	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1102	A	Sidechain
1	N	1104	G	Sidechain
1	N	1105	A	Sidechain
1	N	1106	G	Sidechain
1	N	1108	G	Sidechain
1	N	111	G	Sidechain
1	N	1115	U	Sidechain
1	N	1116	U	Sidechain
1	N	1117	A	Sidechain
1	N	1120	C	Sidechain
1	N	1121	U	Sidechain
1	N	1123	U	Sidechain
1	N	1124	G	Sidechain
1	N	1126	U	Sidechain
1	N	1129	C	Sidechain
1	N	1130	A	Sidechain
1	N	1131	G	Sidechain
1	N	1132	C	Sidechain
1	N	1133	G	Sidechain
1	N	1138	G	Sidechain
1	N	1139	G	Sidechain
1	N	114	U	Sidechain
1	N	1140	C	Sidechain
1	N	1142	G	Sidechain
1	N	1143	G	Sidechain
1	N	1144	G	Sidechain
1	N	1147	C	Sidechain
1	N	1148	U	Sidechain
1	N	1149	C	Sidechain
1	N	115	G	Sidechain
1	N	1150	A	Sidechain
1	N	1151	A	Sidechain
1	N	1153	G	Sidechain
1	N	1154	G	Sidechain
1	N	1156	G	Sidechain
1	N	1157	A	Sidechain
1	N	1158	C	Sidechain
1	N	1159	U	Sidechain
1	N	116	A	Sidechain
1	N	1160	G	Sidechain
1	N	1161	C	Sidechain
1	N	1164	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1165	U	Sidechain
1	N	1166	G	Sidechain
1	N	1168	U	Sidechain
1	N	1170	A	Sidechain
1	N	1174	G	Sidechain
1	N	1177	G	Sidechain
1	N	1178	G	Sidechain
1	N	1179	A	Sidechain
1	N	1180	A	Sidechain
1	N	1181	G	Sidechain
1	N	1182	G	Sidechain
1	N	1185	G	Sidechain
1	N	1186	G	Sidechain
1	N	1188	A	Sidechain
1	N	1189	U	Sidechain
1	N	119	A	Sidechain
1	N	1191	A	Sidechain
1	N	1192	C	Sidechain
1	N	1193	G	Sidechain
1	N	1196	A	Sidechain
1	N	1197	A	Sidechain
1	N	1198	G	Sidechain
1	N	12	U	Sidechain
1	N	120	A	Sidechain
1	N	1200	C	Sidechain
1	N	1201	A	Sidechain
1	N	1204	A	Sidechain
1	N	1205	U	Sidechain
1	N	1207	G	Sidechain
1	N	1208	C	Sidechain
1	N	121	U	Sidechain
1	N	1211	U	Sidechain
1	N	1214	C	Sidechain
1	N	1215	G	Sidechain
1	N	1216	A	Sidechain
1	N	1217	C	Sidechain
1	N	1219	A	Sidechain
1	N	1220	G	Sidechain
1	N	1221	G	Sidechain
1	N	1222	G	Sidechain
1	N	1223	C	Sidechain
1	N	1224	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1225	A	Sidechain
1	N	1226	C	Sidechain
1	N	1227	A	Sidechain
1	N	123	U	Sidechain
1	N	1235	U	Sidechain
1	N	1236	A	Sidechain
1	N	1237	C	Sidechain
1	N	1238	A	Sidechain
1	N	1239	A	Sidechain
1	N	124	C	Sidechain
1	N	1240	U	Sidechain
1	N	1241	G	Sidechain
1	N	1243	C	Sidechain
1	N	1245	C	Sidechain
1	N	1246	A	Sidechain
1	N	1248	A	Sidechain
1	N	1249	C	Sidechain
1	N	125	U	Sidechain
1	N	1250	A	Sidechain
1	N	1251	A	Sidechain
1	N	1256	A	Sidechain
1	N	1259	C	Sidechain
1	N	1260	G	Sidechain
1	N	1261	A	Sidechain
1	N	1265	C	Sidechain
1	N	1267	C	Sidechain
1	N	1269	A	Sidechain
1	N	127	G	Sidechain
1	N	1270	G	Sidechain
1	N	1273	C	Sidechain
1	N	1274	A	Sidechain
1	N	1275	A	Sidechain
1	N	1276	G	Sidechain
1	N	1278	G	Sidechain
1	N	1279	G	Sidechain
1	N	1281	C	Sidechain
1	N	1282	C	Sidechain
1	N	1283	U	Sidechain
1	N	1285	A	Sidechain
1	N	1287	A	Sidechain
1	N	1288	A	Sidechain
1	N	1289	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1292	G	Sidechain
1	N	1295	U	Sidechain
1	N	1296	C	Sidechain
1	N	1297	G	Sidechain
1	N	1298	U	Sidechain
1	N	13	U	Sidechain
1	N	130	A	Sidechain
1	N	1300	G	Sidechain
1	N	1302	C	Sidechain
1	N	1305	G	Sidechain
1	N	1306	A	Sidechain
1	N	1308	U	Sidechain
1	N	1309	G	Sidechain
1	N	131	A	Sidechain
1	N	1310	G	Sidechain
1	N	1311	A	Sidechain
1	N	1312	G	Sidechain
1	N	1313	U	Sidechain
1	N	1314	C	Sidechain
1	N	1315	U	Sidechain
1	N	1316	G	Sidechain
1	N	1317	C	Sidechain
1	N	1318	A	Sidechain
1	N	1319	A	Sidechain
1	N	132	C	Sidechain
1	N	1321	U	Sidechain
1	N	1322	C	Sidechain
1	N	1323	G	Sidechain
1	N	1325	C	Sidechain
1	N	1327	C	Sidechain
1	N	1329	A	Sidechain
1	N	133	U	Sidechain
1	N	1330	U	Sidechain
1	N	1331	G	Sidechain
1	N	1333	A	Sidechain
1	N	1334	G	Sidechain
1	N	1337	G	Sidechain
1	N	1338	G	Sidechain
1	N	134	G	Sidechain
1	N	1340	A	Sidechain
1	N	1343	G	Sidechain
1	N	1344	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1345	U	Sidechain
1	N	1346	A	Sidechain
1	N	1347	G	Sidechain
1	N	1348	U	Sidechain
1	N	1349	A	Sidechain
1	N	135	C	Sidechain
1	N	1351	U	Sidechain
1	N	1353	G	Sidechain
1	N	1354	U	Sidechain
1	N	1357	A	Sidechain
1	N	1358	U	Sidechain
1	N	1362	A	Sidechain
1	N	1364	U	Sidechain
1	N	1365	G	Sidechain
1	N	137	U	Sidechain
1	N	1372	U	Sidechain
1	N	1373	G	Sidechain
1	N	1374	A	Sidechain
1	N	1375	A	Sidechain
1	N	1376	U	Sidechain
1	N	1377	A	Sidechain
1	N	1378	C	Sidechain
1	N	1379	G	Sidechain
1	N	138	G	Sidechain
1	N	1380	U	Sidechain
1	N	1383	C	Sidechain
1	N	1385	G	Sidechain
1	N	1386	G	Sidechain
1	N	1387	G	Sidechain
1	N	1388	C	Sidechain
1	N	1389	C	Sidechain
1	N	139	A	Sidechain
1	N	1391	U	Sidechain
1	N	1392	G	Sidechain
1	N	1393	U	Sidechain
1	N	1395	C	Sidechain
1	N	1399	C	Sidechain
1	N	14	U	Sidechain
1	N	140	U	Sidechain
1	N	1400	C	Sidechain
1	N	1402	C	Sidechain
1	N	1403	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1405	G	Sidechain
1	N	1409	C	Sidechain
1	N	141	G	Sidechain
1	N	1410	A	Sidechain
1	N	1411	C	Sidechain
1	N	1417	G	Sidechain
1	N	1419	G	Sidechain
1	N	1421	G	Sidechain
1	N	1422	G	Sidechain
1	N	1424	U	Sidechain
1	N	1426	G	Sidechain
1	N	1427	C	Sidechain
1	N	1429	A	Sidechain
1	N	143	A	Sidechain
1	N	1430	A	Sidechain
1	N	1431	A	Sidechain
1	N	1432	G	Sidechain
1	N	1433	A	Sidechain
1	N	1434	A	Sidechain
1	N	1435	G	Sidechain
1	N	1436	U	Sidechain
1	N	1437	A	Sidechain
1	N	1438	G	Sidechain
1	N	1439	G	Sidechain
1	N	144	G	Sidechain
1	N	1440	U	Sidechain
1	N	1442	G	Sidechain
1	N	1443	C	Sidechain
1	N	1445	U	Sidechain
1	N	1447	A	Sidechain
1	N	145	G	Sidechain
1	N	1450	U	Sidechain
1	N	1454	G	Sidechain
1	N	1455	G	Sidechain
1	N	1457	G	Sidechain
1	N	1458	G	Sidechain
1	N	1459	G	Sidechain
1	N	146	G	Sidechain
1	N	1460	C	Sidechain
1	N	1461	G	Sidechain
1	N	1462	C	Sidechain
1	N	1463	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1464	U	Sidechain
1	N	1465	A	Sidechain
1	N	1468	A	Sidechain
1	N	1469	C	Sidechain
1	N	147	G	Sidechain
1	N	1471	U	Sidechain
1	N	1472	U	Sidechain
1	N	1473	G	Sidechain
1	N	1474	U	Sidechain
1	N	148	G	Sidechain
1	N	1481	U	Sidechain
1	N	1483	A	Sidechain
1	N	1485	U	Sidechain
1	N	1487	G	Sidechain
1	N	149	A	Sidechain
1	N	1490	U	Sidechain
1	N	1491	G	Sidechain
1	N	1494	G	Sidechain
1	N	1496	C	Sidechain
1	N	1497	G	Sidechain
1	N	1498	U	Sidechain
1	N	15	G	Sidechain
1	N	150	U	Sidechain
1	N	1500	A	Sidechain
1	N	1502	A	Sidechain
1	N	1503	A	Sidechain
1	N	1504	G	Sidechain
1	N	1505	G	Sidechain
1	N	1508	A	Sidechain
1	N	1509	C	Sidechain
1	N	151	A	Sidechain
1	N	1511	G	Sidechain
1	N	1512	U	Sidechain
1	N	1514	G	Sidechain
1	N	1515	G	Sidechain
1	N	1516	G	Sidechain
1	N	1517	G	Sidechain
1	N	1518	A	Sidechain
1	N	152	A	Sidechain
1	N	1523	G	Sidechain
1	N	1524	C	Sidechain
1	N	1526	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1528	U	Sidechain
1	N	153	C	Sidechain
1	N	1531	A	Sidechain
1	N	1532	U	Sidechain
1	N	1533	C	Sidechain
1	N	157	U	Sidechain
1	N	158	G	Sidechain
1	N	159	G	Sidechain
1	N	16	A	Sidechain
1	N	160	A	Sidechain
1	N	161	A	Sidechain
1	N	162	A	Sidechain
1	N	165	G	Sidechain
1	N	166	U	Sidechain
1	N	168	G	Sidechain
1	N	169	C	Sidechain
1	N	17	U	Sidechain
1	N	170	U	Sidechain
1	N	171	A	Sidechain
1	N	173	U	Sidechain
1	N	174	A	Sidechain
1	N	175	C	Sidechain
1	N	177	G	Sidechain
1	N	179	A	Sidechain
1	N	18	C	Sidechain
1	N	180	U	Sidechain
1	N	181	A	Sidechain
1	N	182	A	Sidechain
1	N	183	C	Sidechain
1	N	184	G	Sidechain
1	N	185	U	Sidechain
1	N	186	C	Sidechain
1	N	187	G	Sidechain
1	N	189	A	Sidechain
1	N	190	A	Sidechain
1	N	191	G	Sidechain
1	N	193	C	Sidechain
1	N	194	C	Sidechain
1	N	195	A	Sidechain
1	N	196	A	Sidechain
1	N	197	A	Sidechain
1	N	199	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	201	G	Sidechain
1	N	202	G	Sidechain
1	N	203	G	Sidechain
1	N	204	G	Sidechain
1	N	206	C	Sidechain
1	N	207	C	Sidechain
1	N	208	U	Sidechain
1	N	209	U	Sidechain
1	N	21	G	Sidechain
1	N	210	C	Sidechain
1	N	214	C	Sidechain
1	N	216	U	Sidechain
1	N	218	U	Sidechain
1	N	219	U	Sidechain
1	N	22	G	Sidechain
1	N	220	G	Sidechain
1	N	223	A	Sidechain
1	N	226	G	Sidechain
1	N	227	G	Sidechain
1	N	231	U	Sidechain
1	N	233	C	Sidechain
1	N	237	G	Sidechain
1	N	24	U	Sidechain
1	N	240	G	Sidechain
1	N	241	G	Sidechain
1	N	243	A	Sidechain
1	N	244	U	Sidechain
1	N	245	U	Sidechain
1	N	246	A	Sidechain
1	N	247	G	Sidechain
1	N	250	A	Sidechain
1	N	251	G	Sidechain
1	N	252	U	Sidechain
1	N	253	A	Sidechain
1	N	255	G	Sidechain
1	N	256	U	Sidechain
1	N	260	G	Sidechain
1	N	261	U	Sidechain
1	N	262	A	Sidechain
1	N	263	A	Sidechain
1	N	264	C	Sidechain
1	N	265	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	267	C	Sidechain
1	N	269	C	Sidechain
1	N	27	G	Sidechain
1	N	272	C	Sidechain
1	N	273	U	Sidechain
1	N	274	A	Sidechain
1	N	275	G	Sidechain
1	N	276	G	Sidechain
1	N	278	G	Sidechain
1	N	279	A	Sidechain
1	N	280	C	Sidechain
1	N	283	U	Sidechain
1	N	284	C	Sidechain
1	N	286	C	Sidechain
1	N	287	U	Sidechain
1	N	288	A	Sidechain
1	N	289	G	Sidechain
1	N	290	C	Sidechain
1	N	292	G	Sidechain
1	N	293	G	Sidechain
1	N	294	U	Sidechain
1	N	295	C	Sidechain
1	N	296	U	Sidechain
1	N	297	G	Sidechain
1	N	298	A	Sidechain
1	N	299	G	Sidechain
1	N	3	A	Sidechain
1	N	30	U	Sidechain
1	N	301	G	Sidechain
1	N	302	G	Sidechain
1	N	304	U	Sidechain
1	N	308	C	Sidechain
1	N	309	A	Sidechain
1	N	312	C	Sidechain
1	N	313	A	Sidechain
1	N	315	A	Sidechain
1	N	316	C	Sidechain
1	N	317	U	Sidechain
1	N	318	G	Sidechain
1	N	32	A	Sidechain
1	N	320	A	Sidechain
1	N	321	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	323	U	Sidechain
1	N	324	G	Sidechain
1	N	327	A	Sidechain
1	N	328	C	Sidechain
1	N	33	A	Sidechain
1	N	331	G	Sidechain
1	N	332	G	Sidechain
1	N	333	U	Sidechain
1	N	336	A	Sidechain
1	N	337	G	Sidechain
1	N	338	A	Sidechain
1	N	339	C	Sidechain
1	N	340	U	Sidechain
1	N	341	C	Sidechain
1	N	342	C	Sidechain
1	N	343	U	Sidechain
1	N	344	A	Sidechain
1	N	345	C	Sidechain
1	N	347	G	Sidechain
1	N	35	G	Sidechain
1	N	352	C	Sidechain
1	N	354	G	Sidechain
1	N	355	C	Sidechain
1	N	356	A	Sidechain
1	N	359	G	Sidechain
1	N	36	C	Sidechain
1	N	360	G	Sidechain
1	N	361	G	Sidechain
1	N	362	G	Sidechain
1	N	363	A	Sidechain
1	N	364	A	Sidechain
1	N	365	U	Sidechain
1	N	367	U	Sidechain
1	N	369	G	Sidechain
1	N	37	U	Sidechain
1	N	370	C	Sidechain
1	N	371	A	Sidechain
1	N	372	C	Sidechain
1	N	374	A	Sidechain
1	N	375	U	Sidechain
1	N	376	G	Sidechain
1	N	377	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	378	G	Sidechain
1	N	379	C	Sidechain
1	N	38	G	Sidechain
1	N	380	G	Sidechain
1	N	381	C	Sidechain
1	N	382	A	Sidechain
1	N	383	A	Sidechain
1	N	384	G	Sidechain
1	N	385	C	Sidechain
1	N	387	U	Sidechain
1	N	389	A	Sidechain
1	N	39	G	Sidechain
1	N	391	G	Sidechain
1	N	392	C	Sidechain
1	N	393	A	Sidechain
1	N	394	G	Sidechain
1	N	396	C	Sidechain
1	N	398	U	Sidechain
1	N	399	G	Sidechain
1	N	4	U	Sidechain
1	N	402	G	Sidechain
1	N	404	G	Sidechain
1	N	405	U	Sidechain
1	N	407	U	Sidechain
1	N	408	A	Sidechain
1	N	409	U	Sidechain
1	N	41	G	Sidechain
1	N	410	G	Sidechain
1	N	411	A	Sidechain
1	N	412	A	Sidechain
1	N	413	G	Sidechain
1	N	414	A	Sidechain
1	N	415	A	Sidechain
1	N	416	G	Sidechain
1	N	417	G	Sidechain
1	N	419	C	Sidechain
1	N	421	U	Sidechain
1	N	422	C	Sidechain
1	N	424	G	Sidechain
1	N	425	G	Sidechain
1	N	426	U	Sidechain
1	N	427	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	428	G	Sidechain
1	N	429	U	Sidechain
1	N	430	A	Sidechain
1	N	432	A	Sidechain
1	N	433	G	Sidechain
1	N	434	U	Sidechain
1	N	437	U	Sidechain
1	N	439	U	Sidechain
1	N	440	C	Sidechain
1	N	442	G	Sidechain
1	N	443	C	Sidechain
1	N	445	G	Sidechain
1	N	447	G	Sidechain
1	N	448	A	Sidechain
1	N	449	G	Sidechain
1	N	450	G	Sidechain
1	N	451	A	Sidechain
1	N	452	A	Sidechain
1	N	454	G	Sidechain
1	N	455	G	Sidechain
1	N	457	G	Sidechain
1	N	458	U	Sidechain
1	N	46	G	Sidechain
1	N	462	G	Sidechain
1	N	463	U	Sidechain
1	N	464	U	Sidechain
1	N	465	A	Sidechain
1	N	466	A	Sidechain
1	N	470	C	Sidechain
1	N	473	U	Sidechain
1	N	474	G	Sidechain
1	N	475	C	Sidechain
1	N	478	A	Sidechain
1	N	479	U	Sidechain
1	N	480	U	Sidechain
1	N	481	G	Sidechain
1	N	482	A	Sidechain
1	N	486	U	Sidechain
1	N	487	A	Sidechain
1	N	492	C	Sidechain
1	N	493	A	Sidechain
1	N	494	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	496	A	Sidechain
1	N	497	G	Sidechain
1	N	498	A	Sidechain
1	N	499	A	Sidechain
1	N	5	U	Sidechain
1	N	50	A	Sidechain
1	N	500	G	Sidechain
1	N	501	C	Sidechain
1	N	502	A	Sidechain
1	N	503	C	Sidechain
1	N	506	G	Sidechain
1	N	508	U	Sidechain
1	N	509	A	Sidechain
1	N	510	A	Sidechain
1	N	515	G	Sidechain
1	N	516	U	Sidechain
1	N	519	C	Sidechain
1	N	52	C	Sidechain
1	N	521	G	Sidechain
1	N	523	A	Sidechain
1	N	524	G	Sidechain
1	N	526	C	Sidechain
1	N	527	G	Sidechain
1	N	528	C	Sidechain
1	N	529	G	Sidechain
1	N	530	G	Sidechain
1	N	531	U	Sidechain
1	N	532	A	Sidechain
1	N	534	U	Sidechain
1	N	536	C	Sidechain
1	N	537	G	Sidechain
1	N	538	G	Sidechain
1	N	540	G	Sidechain
1	N	541	G	Sidechain
1	N	543	U	Sidechain
1	N	544	G	Sidechain
1	N	545	C	Sidechain
1	N	546	A	Sidechain
1	N	547	A	Sidechain
1	N	548	G	Sidechain
1	N	553	A	Sidechain
1	N	554	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	556	C	Sidechain
1	N	557	G	Sidechain
1	N	558	G	Sidechain
1	N	559	A	Sidechain
1	N	56	U	Sidechain
1	N	560	A	Sidechain
1	N	562	U	Sidechain
1	N	563	A	Sidechain
1	N	565	U	Sidechain
1	N	566	G	Sidechain
1	N	567	G	Sidechain
1	N	568	G	Sidechain
1	N	569	C	Sidechain
1	N	57	G	Sidechain
1	N	570	G	Sidechain
1	N	572	A	Sidechain
1	N	575	G	Sidechain
1	N	576	C	Sidechain
1	N	581	G	Sidechain
1	N	582	C	Sidechain
1	N	584	G	Sidechain
1	N	586	C	Sidechain
1	N	587	G	Sidechain
1	N	588	G	Sidechain
1	N	59	A	Sidechain
1	N	590	U	Sidechain
1	N	594	U	Sidechain
1	N	595	A	Sidechain
1	N	598	U	Sidechain
1	N	599	C	Sidechain
1	N	6	G	Sidechain
1	N	60	A	Sidechain
1	N	600	A	Sidechain
1	N	602	A	Sidechain
1	N	603	U	Sidechain
1	N	605	U	Sidechain
1	N	606	G	Sidechain
1	N	610	U	Sidechain
1	N	611	C	Sidechain
1	N	612	C	Sidechain
1	N	614	C	Sidechain
1	N	615	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	616	G	Sidechain
1	N	619	U	Sidechain
1	N	620	C	Sidechain
1	N	621	A	Sidechain
1	N	625	U	Sidechain
1	N	629	A	Sidechain
1	N	63	C	Sidechain
1	N	630	A	Sidechain
1	N	633	G	Sidechain
1	N	634	C	Sidechain
1	N	636	U	Sidechain
1	N	638	U	Sidechain
1	N	64	G	Sidechain
1	N	641	U	Sidechain
1	N	642	A	Sidechain
1	N	645	G	Sidechain
1	N	646	G	Sidechain
1	N	647	C	Sidechain
1	N	648	A	Sidechain
1	N	649	A	Sidechain
1	N	65	A	Sidechain
1	N	650	G	Sidechain
1	N	651	C	Sidechain
1	N	652	U	Sidechain
1	N	653	U	Sidechain
1	N	654	G	Sidechain
1	N	655	A	Sidechain
1	N	656	G	Sidechain
1	N	657	U	Sidechain
1	N	658	C	Sidechain
1	N	66	A	Sidechain
1	N	660	C	Sidechain
1	N	662	U	Sidechain
1	N	667	G	Sidechain
1	N	668	G	Sidechain
1	N	669	G	Sidechain
1	N	670	G	Sidechain
1	N	673	A	Sidechain
1	N	674	G	Sidechain
1	N	676	A	Sidechain
1	N	677	U	Sidechain
1	N	678	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	68	G	Sidechain
1	N	680	C	Sidechain
1	N	681	A	Sidechain
1	N	683	G	Sidechain
1	N	684	U	Sidechain
1	N	685	G	Sidechain
1	N	687	A	Sidechain
1	N	688	G	Sidechain
1	N	69	G	Sidechain
1	N	691	G	Sidechain
1	N	694	A	Sidechain
1	N	697	U	Sidechain
1	N	698	G	Sidechain
1	N	70	U	Sidechain
1	N	704	A	Sidechain
1	N	705	G	Sidechain
1	N	708	C	Sidechain
1	N	709	U	Sidechain
1	N	71	A	Sidechain
1	N	712	A	Sidechain
1	N	713	G	Sidechain
1	N	714	G	Sidechain
1	N	717	U	Sidechain
1	N	718	A	Sidechain
1	N	719	C	Sidechain
1	N	721	G	Sidechain
1	N	723	U	Sidechain
1	N	724	G	Sidechain
1	N	728	A	Sidechain
1	N	73	C	Sidechain
1	N	730	G	Sidechain
1	N	732	C	Sidechain
1	N	733	G	Sidechain
1	N	735	C	Sidechain
1	N	737	C	Sidechain
1	N	738	C	Sidechain
1	N	739	C	Sidechain
1	N	74	A	Sidechain
1	N	740	U	Sidechain
1	N	741	G	Sidechain
1	N	742	G	Sidechain
1	N	743	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	744	C	Sidechain
1	N	745	G	Sidechain
1	N	748	G	Sidechain
1	N	749	A	Sidechain
1	N	75	G	Sidechain
1	N	750	C	Sidechain
1	N	751	U	Sidechain
1	N	753	A	Sidechain
1	N	755	G	Sidechain
1	N	757	U	Sidechain
1	N	759	A	Sidechain
1	N	76	G	Sidechain
1	N	760	G	Sidechain
1	N	761	G	Sidechain
1	N	762	U	Sidechain
1	N	763	G	Sidechain
1	N	764	C	Sidechain
1	N	765	G	Sidechain
1	N	766	A	Sidechain
1	N	767	A	Sidechain
1	N	768	A	Sidechain
1	N	769	G	Sidechain
1	N	77	A	Sidechain
1	N	771	G	Sidechain
1	N	772	U	Sidechain
1	N	773	G	Sidechain
1	N	774	G	Sidechain
1	N	775	G	Sidechain
1	N	776	G	Sidechain
1	N	777	A	Sidechain
1	N	778	G	Sidechain
1	N	779	C	Sidechain
1	N	78	A	Sidechain
1	N	780	A	Sidechain
1	N	781	A	Sidechain
1	N	782	A	Sidechain
1	N	783	C	Sidechain
1	N	784	A	Sidechain
1	N	785	G	Sidechain
1	N	786	G	Sidechain
1	N	788	U	Sidechain
1	N	789	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	79	G	Sidechain
1	N	790	A	Sidechain
1	N	791	G	Sidechain
1	N	793	U	Sidechain
1	N	794	A	Sidechain
1	N	795	C	Sidechain
1	N	796	C	Sidechain
1	N	797	C	Sidechain
1	N	798	U	Sidechain
1	N	799	G	Sidechain
1	N	80	A	Sidechain
1	N	800	G	Sidechain
1	N	801	U	Sidechain
1	N	802	A	Sidechain
1	N	804	U	Sidechain
1	N	805	C	Sidechain
1	N	806	C	Sidechain
1	N	807	A	Sidechain
1	N	808	C	Sidechain
1	N	809	G	Sidechain
1	N	81	A	Sidechain
1	N	810	C	Sidechain
1	N	811	C	Sidechain
1	N	812	G	Sidechain
1	N	816	A	Sidechain
1	N	817	C	Sidechain
1	N	818	G	Sidechain
1	N	819	A	Sidechain
1	N	82	G	Sidechain
1	N	820	U	Sidechain
1	N	821	G	Sidechain
1	N	822	U	Sidechain
1	N	823	C	Sidechain
1	N	828	U	Sidechain
1	N	829	G	Sidechain
1	N	83	C	Sidechain
1	N	830	G	Sidechain
1	N	831	A	Sidechain
1	N	832	G	Sidechain
1	N	835	U	Sidechain
1	N	838	G	Sidechain
1	N	839	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	842	U	Sidechain
1	N	843	U	Sidechain
1	N	845	A	Sidechain
1	N	847	G	Sidechain
1	N	848	C	Sidechain
1	N	851	G	Sidechain
1	N	855	U	Sidechain
1	N	856	C	Sidechain
1	N	857	C	Sidechain
1	N	858	G	Sidechain
1	N	859	G	Sidechain
1	N	86	G	Sidechain
1	N	860	A	Sidechain
1	N	861	G	Sidechain
1	N	862	C	Sidechain
1	N	864	A	Sidechain
1	N	865	A	Sidechain
1	N	866	C	Sidechain
1	N	868	C	Sidechain
1	N	869	G	Sidechain
1	N	87	C	Sidechain
1	N	870	U	Sidechain
1	N	871	U	Sidechain
1	N	872	A	Sidechain
1	N	873	A	Sidechain
1	N	874	G	Sidechain
1	N	876	C	Sidechain
1	N	877	G	Sidechain
1	N	879	C	Sidechain
1	N	881	G	Sidechain
1	N	885	G	Sidechain
1	N	887	G	Sidechain
1	N	888	G	Sidechain
1	N	889	A	Sidechain
1	N	89	U	Sidechain
1	N	890	G	Sidechain
1	N	891	U	Sidechain
1	N	893	C	Sidechain
1	N	894	G	Sidechain
1	N	895	G	Sidechain
1	N	896	C	Sidechain
1	N	899	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	9	G	Sidechain
1	N	900	A	Sidechain
1	N	901	A	Sidechain
1	N	902	G	Sidechain
1	N	903	G	Sidechain
1	N	904	U	Sidechain
1	N	905	U	Sidechain
1	N	906	A	Sidechain
1	N	907	A	Sidechain
1	N	908	A	Sidechain
1	N	909	A	Sidechain
1	N	91	U	Sidechain
1	N	915	A	Sidechain
1	N	917	G	Sidechain
1	N	918	A	Sidechain
1	N	919	A	Sidechain
1	N	921	U	Sidechain
1	N	923	A	Sidechain
1	N	926	G	Sidechain
1	N	927	G	Sidechain
1	N	928	G	Sidechain
1	N	929	G	Sidechain
1	N	93	U	Sidechain
1	N	930	C	Sidechain
1	N	932	C	Sidechain
1	N	933	G	Sidechain
1	N	934	C	Sidechain
1	N	937	A	Sidechain
1	N	938	A	Sidechain
1	N	939	G	Sidechain
1	N	94	G	Sidechain
1	N	941	G	Sidechain
1	N	942	G	Sidechain
1	N	944	G	Sidechain
1	N	945	G	Sidechain
1	N	946	A	Sidechain
1	N	947	G	Sidechain
1	N	948	C	Sidechain
1	N	949	A	Sidechain
1	N	951	G	Sidechain
1	N	952	U	Sidechain
1	N	953	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	954	G	Sidechain
1	N	958	A	Sidechain
1	N	961	U	Sidechain
1	N	962	C	Sidechain
1	N	963	G	Sidechain
1	N	964	A	Sidechain
1	N	966	G	Sidechain
1	N	967	C	Sidechain
1	N	969	A	Sidechain
1	N	97	G	Sidechain
1	N	970	C	Sidechain
1	N	973	G	Sidechain
1	N	974	A	Sidechain
1	N	976	G	Sidechain
1	N	978	A	Sidechain
1	N	979	C	Sidechain
1	N	98	A	Sidechain
1	N	981	U	Sidechain
1	N	982	U	Sidechain
1	N	984	C	Sidechain
1	N	985	C	Sidechain
1	N	986	U	Sidechain
1	N	987	G	Sidechain
1	N	988	G	Sidechain
1	N	989	U	Sidechain
1	N	99	C	Sidechain
1	N	991	U	Sidechain
1	N	995	C	Sidechain
1	N	997	U	Sidechain
1	N	998	C	Sidechain
1	N	999	C	Sidechain

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	N	32892	16554	16521	569	0
All	All	32892	16554	16521	569	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (569) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:32:A:H4'	1:N:48:C:H42	1.50	0.75
1:N:594:U:C4	1:N:595:A:C6	2.74	0.75
1:N:338:A:H61	1:N:351:G:H1	1.36	0.73
1:N:116:A:H61	1:N:313:A:H1'	1.53	0.73
1:N:197:A:H2	1:N:198:G:C4	2.08	0.70
1:N:688:G:C8	1:N:688:G:H5''	2.27	0.69
1:N:67:C:H2'	1:N:68:G:C8	2.27	0.68
1:N:203:G:H22	1:N:206:C:H41	1.42	0.68
1:N:272:C:C4	1:N:273:U:C4	2.82	0.68
1:N:169:C:C4	1:N:170:U:C4	2.82	0.67
1:N:1483:A:C8	1:N:1484:C:C6	2.82	0.67
1:N:776:G:H4'	1:N:777:A:C8	2.31	0.66
1:N:198:G:H2'	1:N:199:A:C8	2.31	0.66
1:N:1239:A:C5	1:N:1241:G:C2	2.84	0.66
1:N:668:G:C6	1:N:669:G:C6	2.85	0.65
1:N:1127:G:H22	1:N:1145:A:H2	1.45	0.64
1:N:79:G:H2'	1:N:80:A:C8	2.31	0.64
1:N:1011:C:C2	1:N:1019:A:C2	2.86	0.63
1:N:1240:U:C2	1:N:1240:U:OP1	2.50	0.63
1:N:80:A:C4	1:N:81:A:H1'	2.34	0.63
1:N:120:A:C2	1:N:122:G:C6	2.86	0.63
1:N:39:G:C2	1:N:498:A:H2	2.17	0.62
1:N:1038:C:H2'	1:N:1039:G:C8	2.35	0.62
1:N:779:C:H2'	1:N:780:A:C8	2.35	0.62
1:N:1066:C:H5''	1:N:1066:C:H6	1.66	0.61
1:N:501:C:H2'	1:N:502:A:C8	2.36	0.61
1:N:301:G:C6	1:N:302:G:C5	2.89	0.61
1:N:669:G:C6	1:N:670:G:C6	2.88	0.61
1:N:832:G:C6	1:N:855:U:C2	2.88	0.61
1:N:50:A:H1'	1:N:52:C:C6	2.35	0.61
1:N:91:U:C5	1:N:92:U:C2	2.89	0.60
1:N:780:A:C2	1:N:801:U:C5	2.88	0.60
1:N:39:G:H1'	1:N:497:G:H21	1.66	0.60
1:N:515:G:C5	1:N:516:U:C5	2.90	0.60
1:N:438:U:C4	1:N:494:G:C8	2.90	0.60
1:N:1507:A:C2	1:N:1531:A:C2	2.90	0.59
1:N:197:A:C2	1:N:198:G:C4	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:424:G:C6	1:N:425:G:C6	2.90	0.59
1:N:1066:C:H5''	1:N:1066:C:C6	2.38	0.59
1:N:1423:G:C5	1:N:1424:U:C4	2.91	0.59
1:N:1266:G:H21	1:N:1269:A:H8	1.51	0.59
1:N:1058:G:C6	1:N:1059:C:N3	2.71	0.58
1:N:1244:G:C6	1:N:1294:G:C6	2.91	0.58
1:N:596:A:H61	1:N:644:U:H3	1.50	0.58
1:N:1341:U:C5	1:N:1342:C:C5	2.91	0.58
1:N:78:A:C6	1:N:79:G:C6	2.92	0.57
1:N:295:C:C4	1:N:296:U:C4	2.92	0.57
1:N:1332:A:H3'	1:N:1333:A:H8	1.70	0.57
1:N:273:U:C4	1:N:274:A:C6	2.93	0.57
1:N:1319:A:H4'	1:N:1320:C:OP1	2.04	0.57
1:N:50:A:C2	1:N:52:C:N3	2.73	0.57
1:N:644:U:H2'	1:N:645:G:C8	2.40	0.57
1:N:232:G:C5	1:N:233:C:C5	2.93	0.56
1:N:961:U:H2'	1:N:962:C:C6	2.40	0.56
1:N:673:A:H61	1:N:717:U:H3	1.53	0.56
1:N:860:A:N6	1:N:861:G:C2	2.74	0.56
1:N:1375:A:H3'	1:N:1376:U:H6	1.68	0.56
1:N:524:G:C2	1:N:525:C:C2	2.93	0.56
1:N:1058:G:C6	1:N:1059:C:C4	2.94	0.56
1:N:1104:G:C6	1:N:1105:A:C6	2.93	0.56
1:N:1225:A:H2'	1:N:1226:C:C5	2.41	0.56
1:N:1186:G:C2	1:N:1187:G:H1'	2.40	0.56
1:N:1240:U:H6	1:N:1241:G:H5'	1.70	0.56
1:N:512:U:H3	1:N:539:A:H61	1.52	0.56
1:N:73:C:C6	1:N:73:C:H5''	2.42	0.55
1:N:1394:A:H3'	1:N:1395:C:H5'	1.86	0.55
1:N:672:U:H2'	1:N:673:A:C8	2.41	0.55
1:N:724:G:H5''	1:N:724:G:H8	1.72	0.55
1:N:218:U:C5	1:N:219:U:C4	2.95	0.55
1:N:410:G:H2'	1:N:429:U:C4	2.41	0.55
1:N:655:A:C4	1:N:656:G:C8	2.94	0.55
1:N:980:C:H3'	1:N:981:U:H6	1.72	0.55
1:N:1037:C:H2'	1:N:1038:C:C6	2.42	0.55
1:N:1423:G:C6	1:N:1424:U:C4	2.95	0.55
1:N:1315:U:H2'	1:N:1316:G:C8	2.42	0.55
1:N:495:A:H1'	1:N:496:A:C5	2.42	0.54
1:N:724:G:H5''	1:N:724:G:C8	2.43	0.54
1:N:872:A:C5	1:N:874:G:C8	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:904:U:C4	1:N:905:U:C4	2.95	0.54
1:N:1301:U:H2'	1:N:1303:C:C5	2.42	0.54
1:N:1090:U:H2'	1:N:1091:U:C6	2.43	0.54
1:N:657:U:H2'	1:N:658:C:C6	2.42	0.54
1:N:1282:C:H2'	1:N:1283:U:C6	2.42	0.54
1:N:1309:G:C6	1:N:1310:G:C6	2.95	0.54
1:N:59:A:C2	1:N:354:G:C5	2.96	0.54
1:N:811:C:H2'	1:N:812:G:H5'	1.89	0.54
1:N:1250:A:H2'	1:N:1251:A:C8	2.42	0.54
1:N:1366:C:C4	1:N:1367:C:C4	2.95	0.54
1:N:64:G:H2'	1:N:99:C:H41	1.71	0.54
1:N:442:G:H1	1:N:492:C:H42	1.56	0.54
1:N:558:G:H2'	1:N:559:A:C2	2.43	0.54
1:N:858:G:H1	1:N:869:G:H2'	1.72	0.54
1:N:1261:A:H61	1:N:1274:A:H2'	1.73	0.54
1:N:413:G:C8	1:N:426:U:OP2	2.61	0.54
1:N:80:A:C5	1:N:81:A:H1'	2.43	0.53
1:N:602:A:C2	1:N:603:U:C2	2.96	0.53
1:N:738:C:C4	1:N:739:C:C4	2.96	0.53
1:N:803:G:C6	1:N:804:U:C4	2.96	0.53
1:N:821:G:C6	1:N:822:U:C4	2.97	0.53
1:N:955:U:C2	1:N:956:U:C5	2.97	0.53
1:N:107:G:H5''	1:N:134:G:H21	1.72	0.53
1:N:1144:G:H21	1:N:1146:A:H62	1.55	0.53
1:N:94:G:H4'	1:N:95:C:H5''	1.90	0.53
1:N:749:A:C2	1:N:750:C:C2	2.97	0.53
1:N:1219:A:C6	1:N:1220:G:C6	2.97	0.53
1:N:105:G:H21	1:N:380:G:H5'	1.74	0.53
1:N:936:C:H1'	1:N:1382:C:H42	1.74	0.53
1:N:1365:G:C6	1:N:1366:C:C4	2.96	0.53
1:N:1482:G:C8	1:N:1482:G:H3'	2.44	0.53
1:N:11:G:C6	1:N:12:U:C4	2.98	0.52
1:N:39:G:C4	1:N:498:A:C2	2.97	0.52
1:N:354:G:C6	1:N:355:C:C4	2.97	0.52
1:N:466:A:H2'	1:N:467:U:C2	2.45	0.52
1:N:500:G:C6	1:N:501:C:C4	2.98	0.52
1:N:165:G:C4	1:N:166:U:C6	2.98	0.52
1:N:792:A:H5'	1:N:1518:A:H61	1.75	0.52
1:N:933:G:C2	1:N:1385:G:C2	2.98	0.51
1:N:39:G:C2	1:N:498:A:C2	2.98	0.51
1:N:595:A:H4'	1:N:596:A:H5'	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:882:C:N3	1:N:883:C:C5	2.79	0.51
1:N:1041:G:C6	1:N:1042:A:C6	2.98	0.51
1:N:1266:G:N2	1:N:1268:G:H3'	2.25	0.51
1:N:456:A:C2	1:N:457:G:C5	2.99	0.51
1:N:592:G:C6	1:N:648:A:C6	2.98	0.51
1:N:1249:C:H3'	1:N:1250:A:H5''	1.93	0.51
1:N:1255:G:H2'	1:N:1279:G:H1	1.76	0.51
1:N:512:U:H2'	1:N:513:C:C6	2.45	0.51
1:N:1349:A:N1	1:N:1374:A:H1'	2.26	0.51
1:N:109:A:C8	1:N:327:A:O4'	2.64	0.51
1:N:1130:A:C5	1:N:1131:G:C4	2.98	0.51
1:N:141:G:C6	1:N:223:A:C6	2.99	0.51
1:N:207:C:H2'	1:N:208:U:C2	2.45	0.51
1:N:1014:A:C5	1:N:1015:G:C6	2.99	0.51
1:N:68:G:C4	1:N:69:G:H1'	2.45	0.50
1:N:172:A:C6	1:N:174:A:H1'	2.45	0.50
1:N:197:A:C2	1:N:198:G:N9	2.79	0.50
1:N:209:U:C4	1:N:211:G:N1	2.79	0.50
1:N:627:G:C6	1:N:628:G:C6	2.99	0.50
1:N:803:G:C5	1:N:804:U:C5	2.99	0.50
1:N:19:A:C2	1:N:917:G:C5	2.99	0.50
1:N:1439:G:C5	1:N:1440:U:C6	3.00	0.50
1:N:243:A:C2	1:N:282:A:N6	2.79	0.50
1:N:292:G:C5	1:N:293:G:H1'	2.47	0.50
1:N:74:A:H5'	1:N:90:C:H5'	1.92	0.50
1:N:626:G:H2'	1:N:627:G:C8	2.47	0.50
1:N:890:G:H22	1:N:906:A:H3'	1.75	0.50
1:N:1024:G:C6	1:N:1025:U:C5	2.99	0.50
1:N:102:G:C6	1:N:103:U:C4	3.00	0.50
1:N:1501:C:H3'	1:N:1504:G:C8	2.46	0.50
1:N:256:U:H3	1:N:270:A:H61	1.59	0.50
1:N:903:G:C4	1:N:904:U:C5	2.99	0.50
1:N:920:U:H2'	1:N:921:U:C6	2.47	0.50
1:N:168:G:C6	1:N:169:C:C5	2.99	0.49
1:N:687:A:C2	1:N:704:A:C6	2.99	0.49
1:N:803:G:C2	1:N:804:U:C2	2.99	0.49
1:N:928:G:H2'	1:N:929:G:C8	2.47	0.49
1:N:64:G:C2	1:N:69:G:C6	3.00	0.49
1:N:141:G:N1	1:N:223:A:C5	2.80	0.49
1:N:372:C:H4'	1:N:373:A:OP1	2.11	0.49
1:N:1268:G:H21	1:N:1326:U:H1'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:596:A:N6	1:N:644:U:H3	2.11	0.49
1:N:925:G:H2'	1:N:927:G:C8	2.48	0.49
1:N:928:G:H1	1:N:1390:U:H3	1.60	0.49
1:N:1434:A:C5	1:N:1435:G:C5	3.00	0.49
1:N:1256:A:C2	1:N:1258:G:C6	3.01	0.49
1:N:339:C:C4	1:N:340:U:C4	3.00	0.49
1:N:589:U:H2'	1:N:590:U:C6	2.47	0.49
1:N:1239:A:C2	1:N:1241:G:C6	3.00	0.49
1:N:1496:C:H2'	1:N:1497:G:C8	2.48	0.49
1:N:1433:A:H1'	1:N:1468:A:C2	2.48	0.49
1:N:760:G:C6	1:N:761:G:C4	3.01	0.49
1:N:1129:C:H1'	1:N:1146:A:H61	1.77	0.49
1:N:1231:G:C6	1:N:1232:U:N3	2.80	0.49
1:N:61:G:H21	1:N:379:C:H4'	1.78	0.49
1:N:595:A:C2	1:N:596:A:N6	2.81	0.49
1:N:775:G:C6	1:N:776:G:C6	3.01	0.49
1:N:1060:U:H3	1:N:1197:A:H61	1.59	0.49
1:N:882:C:C2	1:N:883:C:C5	3.01	0.48
1:N:991:U:O2'	1:N:993:G:C8	2.65	0.48
1:N:381:C:C5	1:N:382:A:C5	3.01	0.48
1:N:411:A:C4	1:N:429:U:C5	3.02	0.48
1:N:458:U:H2'	1:N:459:A:C8	2.48	0.48
1:N:1316:G:C2	1:N:1319:A:C8	3.02	0.48
1:N:603:U:H2'	1:N:604:G:C8	2.48	0.48
1:N:1502:A:H5'	1:N:1504:G:N7	2.28	0.48
1:N:500:G:C5	1:N:501:C:C4	3.02	0.48
1:N:104:G:C6	1:N:105:G:C5	3.01	0.48
1:N:1315:U:C4	1:N:1316:G:C6	3.02	0.48
1:N:442:G:C5	1:N:443:C:C5	3.01	0.48
1:N:613:C:H2'	1:N:614:C:O4'	2.13	0.48
1:N:1500:A:C6	1:N:1501:C:C4	3.02	0.48
1:N:65:A:H4'	1:N:66:A:H5'	1.95	0.48
1:N:982:U:H5'	1:N:983:A:C8	2.49	0.48
1:N:1148:U:N3	1:N:1149:C:C2	2.82	0.48
1:N:981:U:C2	1:N:982:U:C5	3.02	0.48
1:N:146:G:C2	1:N:177:G:C8	3.02	0.47
1:N:665:A:C8	1:N:733:G:C2	3.02	0.47
1:N:1095:U:C4	1:N:1096:C:C4	3.02	0.47
1:N:236:A:N1	1:N:237:G:C5	2.82	0.47
1:N:1055:A:C6	1:N:1206:G:C5	3.02	0.47
1:N:1302:C:C3'	1:N:1303:C:C5'	2.91	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:232:G:C6	1:N:233:C:C5	3.02	0.47
1:N:296:U:H2'	1:N:297:G:C8	2.50	0.47
1:N:368:U:H3'	1:N:369:G:C5'	2.44	0.47
1:N:425:G:C6	1:N:426:U:N3	2.82	0.47
1:N:582:C:N3	1:N:760:G:C6	2.83	0.47
1:N:124:C:C2	1:N:238:A:C2	3.02	0.47
1:N:499:A:C2	1:N:547:A:C2	3.03	0.47
1:N:961:U:C2	1:N:983:A:C2	3.02	0.47
1:N:852:G:C6	1:N:853:C:N3	2.83	0.47
1:N:866:C:C4	1:N:873:A:H2	2.33	0.47
1:N:1283:U:H2'	1:N:1284:C:C6	2.50	0.47
1:N:49:U:C2	1:N:362:G:H1'	2.50	0.47
1:N:120:A:C2	1:N:122:G:N1	2.83	0.47
1:N:557:G:C2	1:N:558:G:C2	3.03	0.47
1:N:585:G:C5	1:N:586:C:C4	3.02	0.47
1:N:585:G:C6	1:N:586:C:N3	2.82	0.47
1:N:1025:U:H2'	1:N:1031:C:C5	2.50	0.47
1:N:1072:G:C6	1:N:1073:U:N3	2.83	0.47
1:N:1357:A:C4	1:N:1358:U:C2	3.02	0.47
1:N:782:A:C6	1:N:783:C:C2	3.03	0.47
1:N:1215:G:H2'	1:N:1216:A:H5'	1.96	0.47
1:N:1244:G:C6	1:N:1245:C:C4	3.03	0.47
1:N:1287:A:H2'	1:N:1288:A:C8	2.50	0.47
1:N:98:A:C5	1:N:99:C:C4	3.03	0.47
1:N:1239:A:H4'	1:N:1240:U:OP1	2.15	0.47
1:N:130:A:C8	1:N:264:C:H1'	2.49	0.47
1:N:1170:A:C5	1:N:1171:A:C4	3.03	0.47
1:N:1261:A:H61	1:N:1274:A:C2'	2.28	0.47
1:N:1072:G:C2	1:N:1104:G:C2	3.03	0.46
1:N:1234:C:C4	1:N:1235:U:C5	3.03	0.46
1:N:17:U:H1'	1:N:1080:A:C2	2.51	0.46
1:N:240:G:C6	1:N:241:G:C5	3.03	0.46
1:N:474:G:C6	1:N:475:C:N3	2.83	0.46
1:N:788:U:H2'	1:N:789:U:C6	2.50	0.46
1:N:810:C:H2'	1:N:811:C:H5'	1.97	0.46
1:N:373:A:C2	1:N:374:A:C4	3.04	0.46
1:N:512:U:H3	1:N:539:A:N6	2.13	0.46
1:N:585:G:C6	1:N:586:C:C4	3.03	0.46
1:N:604:G:C6	1:N:605:U:N3	2.83	0.46
1:N:669:G:C6	1:N:670:G:C5	3.03	0.46
1:N:669:G:H2'	1:N:670:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:754:C:O2	1:N:754:C:H5''	2.15	0.46
1:N:946:A:C2	1:N:1236:A:C2	3.03	0.46
1:N:1072:G:C5	1:N:1073:U:C4	3.03	0.46
1:N:1123:U:H3	1:N:1150:A:H61	1.63	0.46
1:N:1302:C:H3'	1:N:1303:C:C5'	2.45	0.46
1:N:171:A:C5	1:N:172:A:C6	3.03	0.46
1:N:635:A:C6	1:N:636:U:N3	2.83	0.46
1:N:917:G:C2	1:N:918:A:C4	3.02	0.46
1:N:830:G:N1	1:N:857:C:C2	2.84	0.46
1:N:939:G:N3	1:N:1375:A:C2	2.84	0.46
1:N:1048:G:H1'	1:N:1215:G:H4'	1.98	0.46
1:N:1159:U:H6	1:N:1161:C:H41	1.64	0.46
1:N:145:G:C2	1:N:178:C:C2	3.04	0.46
1:N:160:A:C2	1:N:346:G:N1	2.83	0.46
1:N:218:U:C6	1:N:219:U:C4	3.03	0.46
1:N:151:A:C6	1:N:171:A:C6	3.04	0.46
1:N:217:C:H4'	1:N:463:U:C5	2.50	0.46
1:N:285:C:H2'	1:N:286:C:C6	2.51	0.46
1:N:507:C:H3'	1:N:508:U:H5''	1.98	0.46
1:N:596:A:C2	1:N:597:G:C8	3.03	0.46
1:N:1058:G:C5	1:N:1059:C:C4	3.03	0.46
1:N:1385:G:C6	1:N:1386:G:C6	3.04	0.46
1:N:506:G:C5	1:N:507:C:C4	3.04	0.46
1:N:525:C:H2'	1:N:526:C:C6	2.50	0.46
1:N:64:G:H2'	1:N:99:C:N4	2.30	0.46
1:N:832:G:C5	1:N:855:U:C2	3.04	0.46
1:N:855:U:C4	1:N:856:C:C4	3.04	0.46
1:N:893:C:H1'	1:N:1416:G:H21	1.80	0.46
1:N:982:U:H4'	1:N:983:A:O5'	2.16	0.46
1:N:1504:G:H4'	1:N:1505:G:C4	2.51	0.46
1:N:68:G:C5	1:N:69:G:H1'	2.51	0.45
1:N:134:G:C5	1:N:325:A:N6	2.84	0.45
1:N:979:C:C5	1:N:980:C:C6	3.04	0.45
1:N:1095:U:N3	1:N:1096:C:C2	2.84	0.45
1:N:1104:G:C6	1:N:1105:A:C5	3.04	0.45
1:N:1415:G:C2	1:N:1416:G:C5	3.04	0.45
1:N:70:U:C5	1:N:94:G:H2'	2.51	0.45
1:N:584:G:C6	1:N:585:G:C6	3.04	0.45
1:N:668:G:N1	1:N:739:C:C2	2.85	0.45
1:N:134:G:C8	1:N:325:A:N7	2.84	0.45
1:N:246:A:H4'	1:N:247:G:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:272:C:H2'	1:N:273:U:O4'	2.16	0.45
1:N:827:U:H2'	1:N:870:U:O4	2.15	0.45
1:N:1294:G:C5	1:N:1295:U:C5	3.05	0.45
1:N:417:G:C5	1:N:418:C:C4	3.05	0.45
1:N:673:A:N6	1:N:717:U:H3	2.14	0.45
1:N:832:G:C5	1:N:855:U:N3	2.84	0.45
1:N:859:G:C6	1:N:860:A:C6	3.04	0.45
1:N:1117:A:C2	1:N:1184:G:C5	3.05	0.45
1:N:1348:U:C5	1:N:1373:G:N2	2.84	0.45
1:N:293:G:N2	1:N:306:A:C2	2.79	0.45
1:N:913:A:N3	1:N:914:A:C8	2.85	0.45
1:N:1022:A:C8	1:N:1022:A:H5'	2.52	0.45
1:N:1182:G:H4'	1:N:1184:G:H5''	1.99	0.45
1:N:1299:A:C2	1:N:1301:U:N3	2.84	0.45
1:N:78:A:C5	1:N:79:G:C6	3.04	0.45
1:N:458:U:O2	1:N:475:C:O2	2.34	0.45
1:N:1075:U:H2'	1:N:1076:U:O4'	2.16	0.45
1:N:1113:C:C5	1:N:1114:C:C5	3.05	0.45
1:N:355:C:H2'	1:N:356:A:C8	2.52	0.45
1:N:438:U:C5	1:N:494:G:C8	3.04	0.45
1:N:679:C:H2'	1:N:680:C:O4'	2.16	0.45
1:N:985:C:H2'	1:N:986:U:O4'	2.17	0.45
1:N:1129:C:C1'	1:N:1146:A:H61	2.30	0.45
1:N:1264:U:H2'	1:N:1265:C:O4'	2.16	0.45
1:N:718:A:H3'	1:N:719:C:C6	2.52	0.45
1:N:807:A:C2	1:N:808:C:C2	3.05	0.45
1:N:1102:A:C2	1:N:1103:C:C2	3.05	0.45
1:N:105:G:N2	1:N:380:G:H5'	2.31	0.45
1:N:118:U:H2'	1:N:288:A:H61	1.81	0.45
1:N:217:C:H4'	1:N:463:U:H5	1.82	0.45
1:N:668:G:C4	1:N:669:G:C8	3.05	0.45
1:N:830:G:C6	1:N:831:A:C6	3.04	0.45
1:N:1416:G:C6	1:N:1417:G:C4	3.04	0.45
1:N:11:G:C6	1:N:12:U:N3	2.84	0.45
1:N:98:A:C6	1:N:99:C:C4	3.05	0.45
1:N:150:U:O2	1:N:151:A:C8	2.70	0.45
1:N:373:A:H2'	1:N:374:A:C8	2.52	0.45
1:N:750:C:N3	1:N:751:U:C4	2.85	0.45
1:N:856:C:H2'	1:N:857:C:C6	2.52	0.45
1:N:1350:A:N1	1:N:1373:G:C2	2.85	0.45
1:N:1436:U:H2'	1:N:1437:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:57:G:C6	1:N:356:A:N1	2.85	0.44
1:N:544:G:C6	1:N:545:C:C4	3.05	0.44
1:N:776:G:H21	1:N:779:C:H42	1.65	0.44
1:N:1100:C:H1'	1:N:1102:A:H4'	1.99	0.44
1:N:1400:C:H3'	1:N:1401:G:H5'	1.99	0.44
1:N:109:A:C5	1:N:326:G:C6	3.05	0.44
1:N:134:G:C8	1:N:325:A:C5	3.06	0.44
1:N:368:U:H3'	1:N:369:G:H5'	1.99	0.44
1:N:368:U:C3'	1:N:369:G:H5'	2.47	0.44
1:N:795:C:C5	1:N:796:C:C4	3.05	0.44
1:N:1321:U:H2'	1:N:1322:C:H2'	1.99	0.44
1:N:1423:G:C6	1:N:1424:U:N3	2.85	0.44
1:N:1500:A:C5	1:N:1501:C:C5	3.05	0.44
1:N:44:A:C2	1:N:399:G:C5	3.05	0.44
1:N:349:A:N1	1:N:350:G:C6	2.85	0.44
1:N:677:U:C4	1:N:678:U:C4	3.05	0.44
1:N:1069:C:C5	1:N:1094:G:C6	3.06	0.44
1:N:1343:G:C8	1:N:1344:C:C5	3.05	0.44
1:N:1483:A:C8	1:N:1484:C:C5	3.04	0.44
1:N:593:U:H2'	1:N:594:U:C6	2.52	0.44
1:N:980:C:H3'	1:N:981:U:C6	2.51	0.44
1:N:1294:G:C6	1:N:1295:U:C4	3.06	0.44
1:N:1345:U:H4'	1:N:1346:A:C8	2.52	0.44
1:N:16:A:H2'	1:N:17:U:H5'	1.99	0.44
1:N:181:A:C6	1:N:194:C:H2'	2.53	0.44
1:N:232:G:C6	1:N:233:C:C4	3.05	0.44
1:N:411:A:C5	1:N:429:U:C5	3.05	0.44
1:N:781:A:C8	1:N:782:A:C8	3.05	0.44
1:N:908:A:H2'	1:N:909:A:C8	2.53	0.44
1:N:1225:A:H2'	1:N:1226:C:C6	2.53	0.44
1:N:289:G:C5	1:N:290:C:C5	3.05	0.44
1:N:457:G:N2	1:N:476:U:H1'	2.32	0.44
1:N:482:A:C5	1:N:483:C:C2	3.05	0.44
1:N:938:A:C6	1:N:939:G:C5	3.05	0.44
1:N:342:C:C4	1:N:343:U:C4	3.06	0.44
1:N:1287:A:C2	1:N:1288:A:C2	3.06	0.44
1:N:71:A:H61	1:N:99:C:H1'	1.83	0.44
1:N:171:A:C2	1:N:172:A:C2	3.06	0.44
1:N:172:A:C8	1:N:174:A:C8	3.05	0.44
1:N:465:A:C6	1:N:466:A:C6	3.05	0.44
1:N:1218:C:H2'	1:N:1219:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1244:G:C6	1:N:1245:C:N3	2.85	0.44
1:N:1375:A:H3'	1:N:1376:U:C6	2.50	0.44
1:N:152:A:C6	1:N:153:C:H1'	2.53	0.43
1:N:1122:U:H2'	1:N:1123:U:C6	2.53	0.43
1:N:1438:G:C4	1:N:1464:U:O2	2.70	0.43
1:N:946:A:H2'	1:N:947:G:C8	2.53	0.43
1:N:1177:G:C6	1:N:1178:G:C2	3.06	0.43
1:N:955:U:C2	1:N:956:U:C6	3.07	0.43
1:N:1095:U:H2'	1:N:1096:C:O4'	2.18	0.43
1:N:76:G:H2'	1:N:76:G:N3	2.33	0.43
1:N:642:A:C5	1:N:643:C:C5	3.07	0.43
1:N:894:G:C6	1:N:895:G:C6	3.07	0.43
1:N:1047:G:C2	1:N:1213:A:C2	3.06	0.43
1:N:1283:U:H2'	1:N:1284:C:H6	1.83	0.43
1:N:181:A:H4'	1:N:182:A:O5'	2.19	0.43
1:N:223:A:C6	1:N:224:U:N3	2.86	0.43
1:N:402:G:H1'	1:N:620:C:H42	1.82	0.43
1:N:403:C:H41	1:N:547:A:H5''	1.84	0.43
1:N:558:G:C8	1:N:559:A:H2'	2.53	0.43
1:N:802:A:H3'	1:N:803:G:C8	2.54	0.43
1:N:1357:A:N1	1:N:1363:A:C6	2.87	0.43
1:N:447:G:C5	1:N:485:U:C6	3.07	0.43
1:N:575:G:C5	1:N:821:G:C8	3.06	0.43
1:N:776:G:H4'	1:N:777:A:H8	1.77	0.43
1:N:872:A:N7	1:N:874:G:C8	2.86	0.43
1:N:1261:A:N1	1:N:1274:A:C2	2.86	0.43
1:N:236:A:C2	1:N:237:G:C5	3.06	0.43
1:N:1262:C:H2'	1:N:1263:C:H5'	2.00	0.43
1:N:585:G:C2	1:N:586:C:C2	3.07	0.43
1:N:677:U:C5	1:N:678:U:C5	3.07	0.43
1:N:678:U:H3	1:N:712:A:H61	1.65	0.43
1:N:865:A:O2'	1:N:866:C:H5'	2.18	0.43
1:N:1047:G:C2	1:N:1213:A:H2	2.37	0.43
1:N:1129:C:N3	1:N:1144:G:C6	2.87	0.43
1:N:1295:U:C4	1:N:1296:C:C4	3.07	0.43
1:N:1058:G:C5	1:N:1059:C:C5	3.06	0.43
1:N:1069:C:N4	1:N:1107:C:H42	2.17	0.43
1:N:1239:A:C4	1:N:1241:G:C5	3.07	0.43
1:N:1502:A:C8	1:N:1505:G:N2	2.87	0.43
1:N:59:A:H1'	1:N:354:G:C2	2.54	0.43
1:N:64:G:N2	1:N:69:G:C5	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:424:G:C5	1:N:425:G:C5	3.06	0.43
1:N:858:G:N3	1:N:858:G:H2'	2.33	0.43
1:N:119:A:C8	1:N:240:G:O6	2.72	0.42
1:N:664:G:H22	1:N:741:G:H1	1.67	0.42
1:N:1409:C:N3	1:N:1410:A:C5	2.87	0.42
1:N:59:A:C2	1:N:331:G:C5	3.07	0.42
1:N:64:G:C5	1:N:99:C:C2	3.07	0.42
1:N:186:C:N3	1:N:187:G:C5	2.87	0.42
1:N:1032:G:C6	1:N:1033:G:H1'	2.53	0.42
1:N:1047:G:H1	1:N:1210:C:H42	1.67	0.42
1:N:1164:G:H2'	1:N:1165:U:C6	2.54	0.42
1:N:1468:A:H2'	1:N:1469:C:H5'	2.01	0.42
1:N:201:G:N2	1:N:468:A:H62	2.17	0.42
1:N:675:A:C2	1:N:716:A:H2	2.37	0.42
1:N:756:C:C4	1:N:757:U:C4	3.08	0.42
1:N:813:U:H5'	1:N:904:U:H4'	2.01	0.42
1:N:1456:A:C8	1:N:1457:G:C8	3.08	0.42
1:N:580:C:H3'	1:N:581:G:H8	1.84	0.42
1:N:585:G:H2'	1:N:586:C:C6	2.54	0.42
1:N:648:A:H2'	1:N:649:A:C8	2.54	0.42
1:N:669:G:C5	1:N:670:G:C5	3.07	0.42
1:N:736:C:H2'	1:N:737:C:C6	2.54	0.42
1:N:811:C:C2'	1:N:812:G:H5'	2.50	0.42
1:N:978:A:C4	1:N:1319:A:C2	3.08	0.42
1:N:1052:U:O2	1:N:1207:G:C2	2.73	0.42
1:N:1067:A:OP2	1:N:1092:A:C8	2.73	0.42
1:N:1353:G:C2	1:N:1370:G:C2	3.07	0.42
1:N:1356:G:H2'	1:N:1357:A:C8	2.55	0.42
1:N:338:A:C8	1:N:339:C:C5	3.08	0.42
1:N:1144:G:C6	1:N:1145:A:C5	3.07	0.42
1:N:1244:G:C5	1:N:1294:G:N1	2.87	0.42
1:N:1343:G:C5	1:N:1344:C:C4	3.07	0.42
1:N:1500:A:C6	1:N:1501:C:C5	3.08	0.42
1:N:1523:G:C6	1:N:1524:C:C4	3.07	0.42
1:N:24:U:H2'	1:N:25:C:C6	2.55	0.42
1:N:76:G:C6	1:N:77:A:C5	3.08	0.42
1:N:198:G:C6	1:N:199:A:C6	3.08	0.42
1:N:215:C:C4	1:N:216:U:C2	3.07	0.42
1:N:465:A:H2'	1:N:466:A:C8	2.55	0.42
1:N:977:A:H1'	1:N:1223:C:C4	2.55	0.42
1:N:1074:G:C6	1:N:1075:U:N3	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1254:A:C2	1:N:1284:C:C2	3.08	0.42
1:N:1511:G:C6	1:N:1525:G:C6	3.07	0.42
1:N:66:A:C4	1:N:67:C:C5	3.08	0.42
1:N:482:A:C6	1:N:483:C:C2	3.07	0.42
1:N:1244:G:N1	1:N:1245:C:C2	2.88	0.42
1:N:1251:A:C2	1:N:1370:G:H4'	2.54	0.42
1:N:55:A:C5	1:N:56:U:C6	3.07	0.42
1:N:81:A:C8	1:N:83:C:C2	3.08	0.42
1:N:668:G:C5	1:N:669:G:C5	3.08	0.42
1:N:955:U:N3	1:N:956:U:C5	2.87	0.42
1:N:958:A:C2	1:N:959:A:C2	3.07	0.42
1:N:102:G:C5	1:N:103:U:C5	3.08	0.42
1:N:148:G:N2	1:N:149:A:H1'	2.35	0.42
1:N:263:A:C2	1:N:264:C:C5	3.08	0.42
1:N:301:G:C6	1:N:302:G:C6	3.08	0.42
1:N:665:A:H5'	1:N:733:G:H21	1.84	0.42
1:N:211:G:N2	1:N:213:G:C8	2.88	0.42
1:N:998:C:C4	1:N:999:C:C4	3.07	0.42
1:N:321:A:N7	1:N:328:C:H1'	2.35	0.41
1:N:346:G:N2	1:N:347:G:C6	2.89	0.41
1:N:908:A:C2	1:N:909:A:C4	3.07	0.41
1:N:1072:G:C2	1:N:1073:U:C2	3.08	0.41
1:N:1113:C:C6	1:N:1114:C:H5	2.38	0.41
1:N:213:G:C8	1:N:214:C:C5	3.09	0.41
1:N:320:A:H4'	1:N:1435:G:H21	1.85	0.41
1:N:554:A:H2'	1:N:555:U:C6	2.55	0.41
1:N:866:C:N3	1:N:873:A:H2	2.18	0.41
1:N:922:G:H2'	1:N:923:A:C8	2.55	0.41
1:N:1086:U:H3'	1:N:1087:G:C5'	2.50	0.41
1:N:1239:A:N3	1:N:1241:G:C6	2.88	0.41
1:N:1343:G:C5	1:N:1344:C:C5	3.08	0.41
1:N:136:C:C2	1:N:228:A:C2	3.09	0.41
1:N:171:A:H2'	1:N:172:A:C8	2.54	0.41
1:N:179:A:C5	1:N:180:U:C4	3.08	0.41
1:N:204:G:H3'	1:N:204:G:C8	2.55	0.41
1:N:1083:U:OP1	1:N:1086:U:C2	2.73	0.41
1:N:342:C:C5	1:N:343:U:C4	3.08	0.41
1:N:465:A:C2	1:N:466:A:C4	3.08	0.41
1:N:761:G:C6	1:N:762:U:C4	3.08	0.41
1:N:763:G:C5	1:N:764:C:C4	3.08	0.41
1:N:980:C:H4'	1:N:1219:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1066:C:H3'	1:N:1067:A:C8	2.56	0.41
1:N:1129:C:C5	1:N:1139:G:C8	3.08	0.41
1:N:1129:C:C6	1:N:1139:G:C8	3.08	0.41
1:N:325:A:N6	1:N:326:G:C2	2.88	0.41
1:N:387:U:H2'	1:N:389:A:C8	2.56	0.41
1:N:460:A:C2	1:N:462:G:C8	3.09	0.41
1:N:496:A:C2	1:N:497:G:C5	3.09	0.41
1:N:635:A:C2	1:N:636:U:C2	3.08	0.41
1:N:668:G:N2	1:N:739:C:H1'	2.35	0.41
1:N:737:C:H2'	1:N:738:C:O4'	2.20	0.41
1:N:811:C:H2'	1:N:812:G:C5'	2.51	0.41
1:N:1068:G:C6	1:N:1108:G:C6	3.09	0.41
1:N:1213:A:H2'	1:N:1215:G:C8	2.55	0.41
1:N:109:A:C5	1:N:326:G:C5	3.08	0.41
1:N:852:G:C6	1:N:853:C:C4	3.08	0.41
1:N:893:C:C2	1:N:894:G:C8	3.09	0.41
1:N:1060:U:H3	1:N:1197:A:N6	2.18	0.41
1:N:1130:A:C6	1:N:1131:G:C4	3.08	0.41
1:N:1255:G:C6	1:N:1279:G:C5	3.09	0.41
1:N:1366:C:H2'	1:N:1367:C:C6	2.55	0.41
1:N:54:C:H5'	1:N:351:G:N7	2.36	0.41
1:N:125:U:H2'	1:N:126:G:O4'	2.21	0.41
1:N:384:G:C6	1:N:385:C:C4	3.09	0.41
1:N:588:G:C6	1:N:753:A:C8	3.09	0.41
1:N:788:U:H2'	1:N:789:U:H6	1.85	0.41
1:N:1317:C:C5	1:N:1318:A:C6	3.09	0.41
1:N:310:G:C6	1:N:311:C:C5	3.09	0.41
1:N:852:G:C5	1:N:853:C:C4	3.08	0.41
1:N:934:C:C2	1:N:1344:C:C4	3.09	0.41
1:N:1255:G:C4	1:N:1279:G:C6	3.09	0.41
1:N:1377:A:HO2'	1:N:1378:C:H5	1.65	0.41
1:N:160:A:H2'	1:N:161:A:C8	2.56	0.41
1:N:316:C:O2	1:N:316:C:H2'	2.21	0.41
1:N:340:U:H1'	1:N:350:G:H22	1.85	0.41
1:N:373:A:C2	1:N:482:A:N6	2.89	0.41
1:N:562:U:H4'	1:N:563:A:C4	2.56	0.41
1:N:666:G:C2	1:N:667:G:C8	3.09	0.41
1:N:679:C:C4	1:N:680:C:C4	3.09	0.41
1:N:723:U:H3	1:N:832:G:N2	2.19	0.41
1:N:986:U:H3	1:N:1219:A:H61	1.69	0.41
1:N:1075:U:C4	1:N:1076:U:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1157:A:C4	1:N:1181:G:C6	3.09	0.41
1:N:1223:C:H5''	1:N:1224:U:H3'	2.02	0.41
1:N:1345:U:H4'	1:N:1346:A:H8	1.86	0.41
1:N:64:G:C4	1:N:99:C:C4	3.09	0.41
1:N:575:G:H2'	1:N:821:G:OP2	2.21	0.41
1:N:596:A:C6	1:N:645:G:N1	2.88	0.41
1:N:606:G:N2	1:N:633:G:C6	2.89	0.41
1:N:904:U:C2	1:N:905:U:C6	3.09	0.41
1:N:1093:A:C2	1:N:1110:A:C2	3.10	0.41
1:N:98:A:H2'	1:N:99:C:O4'	2.21	0.40
1:N:347:G:C6	1:N:348:G:C4	3.09	0.40
1:N:447:G:H3'	1:N:447:G:C8	2.56	0.40
1:N:1012:A:C6	1:N:1018:G:C6	3.09	0.40
1:N:1394:A:C6	1:N:1501:C:H4'	2.56	0.40
1:N:1434:A:C6	1:N:1435:G:C6	3.09	0.40
1:N:54:C:O2	1:N:358:U:C2	2.74	0.40
1:N:297:G:H22	1:N:299:G:H3'	1.86	0.40
1:N:363:A:C6	1:N:364:A:C6	3.10	0.40
1:N:663:A:H2	1:N:742:G:H22	1.69	0.40
1:N:675:A:C2	1:N:716:A:C2	3.09	0.40
1:N:786:G:C6	1:N:797:C:N3	2.89	0.40
1:N:903:G:C5	1:N:904:U:C4	3.09	0.40
1:N:1124:G:C2	1:N:1127:G:N2	2.90	0.40
1:N:431:A:C6	1:N:432:A:C4	3.10	0.40
1:N:1224:U:H5	1:N:1322:C:C4	2.39	0.40
1:N:1224:U:H5	1:N:1322:C:C5	2.39	0.40
1:N:1230:C:H2'	1:N:1231:G:C8	2.56	0.40
1:N:202:G:C4	1:N:203:G:C8	3.10	0.40
1:N:236:A:C6	1:N:237:G:C5	3.10	0.40
1:N:254:G:OP2	1:N:266:G:H3'	2.22	0.40
1:N:500:G:C5	1:N:501:C:C5	3.09	0.40
1:N:959:A:H2	1:N:1221:G:N3	2.19	0.40
1:N:985:C:C4	1:N:986:U:C4	3.09	0.40
1:N:1129:C:C2	1:N:1144:G:C2	3.09	0.40
1:N:1156:G:H1'	1:N:1179:A:H61	1.86	0.40
1:N:1402:C:O2	1:N:1500:A:N1	2.54	0.40
1:N:1481:U:C4	1:N:1482:G:C6	3.09	0.40
1:N:203:G:O6	1:N:212:G:C6	2.74	0.40
1:N:769:G:OP1	1:N:802:A:C2	2.74	0.40
1:N:1099:G:C4	1:N:1102:A:OP1	2.75	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	N	1532/1533 (99%)	459 (29%)	152 (9%)

All (459) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	N	3	A
1	N	4	U
1	N	5	U
1	N	6	G
1	N	7	A
1	N	8	A
1	N	9	G
1	N	13	U
1	N	14	U
1	N	22	G
1	N	27	G
1	N	31	G
1	N	32	A
1	N	39	G
1	N	47	C
1	N	48	C
1	N	49	U
1	N	50	A
1	N	51	A
1	N	52	C
1	N	60	A
1	N	61	G
1	N	65	A
1	N	66	A
1	N	70	U

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Mol	Chain	Res	Type
1	N	71	A
1	N	72	A
1	N	73	C
1	N	74	A
1	N	75	G
1	N	76	G
1	N	77	A
1	N	79	G
1	N	81	A
1	N	82	G
1	N	83	C
1	N	85	U
1	N	86	G
1	N	87	C
1	N	88	U
1	N	89	U
1	N	90	C
1	N	91	U
1	N	92	U
1	N	94	G
1	N	95	C
1	N	97	G
1	N	107	G
1	N	108	G
1	N	109	A
1	N	110	C
1	N	115	G
1	N	116	A
1	N	119	A
1	N	120	A
1	N	127	G
1	N	130	A
1	N	131	A
1	N	132	C
1	N	134	G
1	N	135	C
1	N	138	G
1	N	141	G
1	N	143	A
1	N	159	G
1	N	160	A
1	N	161	A

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Mol	Chain	Res	Type
1	N	163	C
1	N	164	G
1	N	173	U
1	N	174	A
1	N	177	G
1	N	181	A
1	N	182	A
1	N	183	C
1	N	189	A
1	N	195	A
1	N	197	A
1	N	198	G
1	N	199	A
1	N	202	G
1	N	205	A
1	N	207	C
1	N	208	U
1	N	209	U
1	N	210	C
1	N	211	G
1	N	212	G
1	N	214	C
1	N	219	U
1	N	232	G
1	N	240	G
1	N	243	A
1	N	244	U
1	N	245	U
1	N	247	G
1	N	251	G
1	N	252	U
1	N	258	G
1	N	266	G
1	N	267	C
1	N	268	U
1	N	273	U
1	N	274	A
1	N	275	G
1	N	276	G
1	N	279	A
1	N	281	G
1	N	285	C

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Mol	Chain	Res	Type
1	N	289	G
1	N	305	G
1	N	306	A
1	N	308	C
1	N	316	C
1	N	321	A
1	N	328	C
1	N	329	A
1	N	330	C
1	N	331	G
1	N	332	G
1	N	344	A
1	N	345	C
1	N	346	G
1	N	347	G
1	N	351	G
1	N	352	C
1	N	353	A
1	N	354	G
1	N	363	A
1	N	366	A
1	N	367	U
1	N	369	G
1	N	373	A
1	N	374	A
1	N	384	G
1	N	390	U
1	N	391	G
1	N	392	C
1	N	398	U
1	N	406	G
1	N	411	A
1	N	412	A
1	N	413	G
1	N	414	A
1	N	421	U
1	N	422	C
1	N	423	G
1	N	424	G
1	N	428	G
1	N	429	U
1	N	430	A

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Mol	Chain	Res	Type
1	N	431	A
1	N	439	U
1	N	441	A
1	N	451	A
1	N	452	A
1	N	458	U
1	N	459	A
1	N	461	A
1	N	462	G
1	N	463	U
1	N	466	A
1	N	467	U
1	N	468	A
1	N	469	C
1	N	481	G
1	N	482	A
1	N	484	G
1	N	485	U
1	N	486	U
1	N	496	A
1	N	497	G
1	N	498	A
1	N	499	A
1	N	500	G
1	N	501	C
1	N	508	U
1	N	509	A
1	N	511	C
1	N	512	U
1	N	518	C
1	N	523	A
1	N	527	G
1	N	531	U
1	N	532	A
1	N	533	A
1	N	534	U
1	N	536	C
1	N	548	G
1	N	556	C
1	N	559	A
1	N	560	A
1	N	562	U

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Mol	Chain	Res	Type
1	N	563	A
1	N	564	C
1	N	566	G
1	N	567	G
1	N	572	A
1	N	573	A
1	N	574	A
1	N	575	G
1	N	576	C
1	N	579	A
1	N	588	G
1	N	595	A
1	N	596	A
1	N	604	G
1	N	606	G
1	N	607	A
1	N	610	U
1	N	629	A
1	N	632	U
1	N	633	G
1	N	642	A
1	N	649	A
1	N	665	A
1	N	694	A
1	N	702	A
1	N	703	G
1	N	717	U
1	N	718	A
1	N	719	C
1	N	720	C
1	N	721	G
1	N	722	G
1	N	723	U
1	N	724	G
1	N	731	G
1	N	748	G
1	N	753	A
1	N	754	C
1	N	755	G
1	N	767	A
1	N	776	G
1	N	777	A

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Mol	Chain	Res	Type
1	N	787	A
1	N	788	U
1	N	792	A
1	N	793	U
1	N	794	A
1	N	802	A
1	N	812	G
1	N	813	U
1	N	815	A
1	N	816	A
1	N	817	C
1	N	818	G
1	N	819	A
1	N	828	U
1	N	829	G
1	N	832	G
1	N	843	U
1	N	844	G
1	N	846	G
1	N	855	U
1	N	861	G
1	N	870	U
1	N	871	U
1	N	874	G
1	N	884	U
1	N	885	G
1	N	889	A
1	N	890	G
1	N	914	A
1	N	926	G
1	N	927	G
1	N	929	G
1	N	932	C
1	N	934	C
1	N	935	A
1	N	936	C
1	N	942	G
1	N	944	G
1	N	960	U
1	N	961	U
1	N	965	U
1	N	967	C

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Mol	Chain	Res	Type
1	N	968	A
1	N	969	A
1	N	970	C
1	N	971	G
1	N	972	C
1	N	974	A
1	N	975	A
1	N	976	G
1	N	977	A
1	N	982	U
1	N	983	A
1	N	992	U
1	N	993	G
1	N	994	A
1	N	1003	G
1	N	1004	A
1	N	1008	U
1	N	1017	U
1	N	1018	G
1	N	1022	A
1	N	1028	C
1	N	1029	U
1	N	1030	U
1	N	1031	C
1	N	1032	G
1	N	1034	G
1	N	1036	A
1	N	1050	G
1	N	1052	U
1	N	1053	G
1	N	1054	C
1	N	1055	A
1	N	1063	C
1	N	1064	G
1	N	1065	U
1	N	1066	C
1	N	1067	A
1	N	1085	U
1	N	1086	U
1	N	1087	G
1	N	1088	G
1	N	1091	U

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Mol	Chain	Res	Type
1	N	1092	A
1	N	1094	G
1	N	1095	U
1	N	1100	C
1	N	1101	A
1	N	1102	A
1	N	1104	G
1	N	1111	A
1	N	1113	C
1	N	1124	G
1	N	1125	U
1	N	1126	U
1	N	1127	G
1	N	1129	C
1	N	1130	A
1	N	1133	G
1	N	1135	U
1	N	1137	C
1	N	1138	G
1	N	1139	G
1	N	1140	C
1	N	1141	C
1	N	1144	G
1	N	1145	A
1	N	1151	A
1	N	1152	A
1	N	1158	C
1	N	1159	U
1	N	1160	G
1	N	1161	C
1	N	1167	A
1	N	1168	U
1	N	1169	A
1	N	1181	G
1	N	1182	G
1	N	1188	A
1	N	1190	G
1	N	1191	A
1	N	1192	C
1	N	1193	G
1	N	1196	A
1	N	1197	A

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Mol	Chain	Res	Type
1	N	1198	G
1	N	1200	C
1	N	1201	A
1	N	1202	U
1	N	1211	U
1	N	1213	A
1	N	1223	C
1	N	1224	U
1	N	1225	A
1	N	1226	C
1	N	1227	A
1	N	1228	C
1	N	1229	A
1	N	1238	A
1	N	1239	A
1	N	1240	U
1	N	1241	G
1	N	1250	A
1	N	1251	A
1	N	1252	A
1	N	1256	A
1	N	1275	A
1	N	1278	G
1	N	1279	G
1	N	1280	A
1	N	1281	C
1	N	1282	C
1	N	1283	U
1	N	1286	U
1	N	1287	A
1	N	1293	C
1	N	1297	G
1	N	1298	U
1	N	1299	A
1	N	1300	G
1	N	1303	C
1	N	1304	G
1	N	1305	G
1	N	1308	U
1	N	1315	U
1	N	1316	G
1	N	1320	C

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Mol	Chain	Res	Type
1	N	1322	C
1	N	1323	G
1	N	1332	A
1	N	1336	C
1	N	1337	G
1	N	1338	G
1	N	1339	A
1	N	1345	U
1	N	1346	A
1	N	1348	U
1	N	1349	A
1	N	1353	G
1	N	1358	U
1	N	1359	C
1	N	1362	A
1	N	1363	A
1	N	1364	U
1	N	1365	G
1	N	1371	G
1	N	1380	U
1	N	1381	U
1	N	1392	G
1	N	1394	A
1	N	1396	A
1	N	1397	C
1	N	1399	C
1	N	1400	C
1	N	1401	G
1	N	1406	U
1	N	1432	G
1	N	1433	A
1	N	1441	A
1	N	1446	A
1	N	1448	C
1	N	1452	C
1	N	1453	G
1	N	1454	G
1	N	1469	C
1	N	1470	U
1	N	1492	A
1	N	1494	G
1	N	1497	G

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Mol	Chain	Res	Type
1	N	1498	U
1	N	1499	A
1	N	1502	A
1	N	1503	A
1	N	1505	G
1	N	1506	U
1	N	1507	A
1	N	1517	G
1	N	1529	G
1	N	1530	G
1	N	1531	A
1	N	1532	U
1	N	1533	C
1	N	1534	A

All (152) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	N	5	U
1	N	7	A
1	N	13	U
1	N	30	U
1	N	47	C
1	N	51	A
1	N	60	A
1	N	65	A
1	N	70	U
1	N	71	A
1	N	73	C
1	N	75	G
1	N	81	A
1	N	87	C
1	N	94	G
1	N	95	C
1	N	109	A
1	N	115	G
1	N	119	A
1	N	120	A
1	N	129	A
1	N	130	A
1	N	131	A
1	N	167	A

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Mol	Chain	Res	Type
1	N	168	G
1	N	181	A
1	N	197	A
1	N	198	G
1	N	204	G
1	N	210	C
1	N	243	A
1	N	244	U
1	N	246	A
1	N	251	G
1	N	266	G
1	N	267	C
1	N	274	A
1	N	275	G
1	N	279	A
1	N	305	G
1	N	327	A
1	N	331	G
1	N	344	A
1	N	346	G
1	N	351	G
1	N	366	A
1	N	372	C
1	N	391	G
1	N	421	U
1	N	428	G
1	N	429	U
1	N	438	U
1	N	450	G
1	N	451	A
1	N	467	U
1	N	480	U
1	N	481	G
1	N	484	G
1	N	485	U
1	N	490	C
1	N	495	A
1	N	496	A
1	N	499	A
1	N	500	G
1	N	508	U
1	N	511	C

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Mol	Chain	Res	Type
1	N	531	U
1	N	532	A
1	N	535	A
1	N	547	A
1	N	559	A
1	N	563	A
1	N	566	G
1	N	572	A
1	N	575	G
1	N	576	C
1	N	641	U
1	N	686	U
1	N	717	U
1	N	721	G
1	N	723	U
1	N	733	G
1	N	752	G
1	N	754	C
1	N	776	G
1	N	777	A
1	N	811	C
1	N	817	C
1	N	862	C
1	N	870	U
1	N	884	U
1	N	913	A
1	N	934	C
1	N	941	G
1	N	960	U
1	N	974	A
1	N	976	G
1	N	982	U
1	N	991	U
1	N	1041	G
1	N	1049	U
1	N	1053	G
1	N	1064	G
1	N	1066	C
1	N	1078	U
1	N	1085	U
1	N	1087	G
1	N	1092	A

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Mol	Chain	Res	Type
1	N	1094	G
1	N	1101	A
1	N	1129	C
1	N	1151	A
1	N	1167	A
1	N	1168	U
1	N	1185	G
1	N	1189	U
1	N	1191	A
1	N	1197	A
1	N	1201	A
1	N	1224	U
1	N	1228	C
1	N	1239	A
1	N	1250	A
1	N	1263	C
1	N	1280	A
1	N	1282	C
1	N	1285	A
1	N	1299	A
1	N	1302	C
1	N	1303	C
1	N	1319	A
1	N	1331	G
1	N	1335	U
1	N	1336	C
1	N	1345	U
1	N	1348	U
1	N	1358	U
1	N	1362	A
1	N	1363	A
1	N	1364	U
1	N	1380	U
1	N	1396	A
1	N	1399	C
1	N	1432	G
1	N	1440	U
1	N	1453	G
1	N	1498	U
1	N	1502	A
1	N	1506	U
1	N	1530	G

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Mol	Chain	Res	Type
1	N	1532	U
1	N	1533	C

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

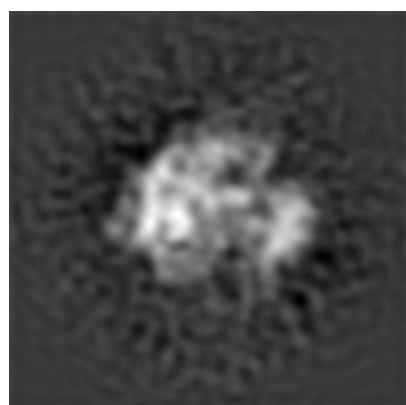
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-5510. These allow visual inspection of the internal detail of the map and identification of artifacts.

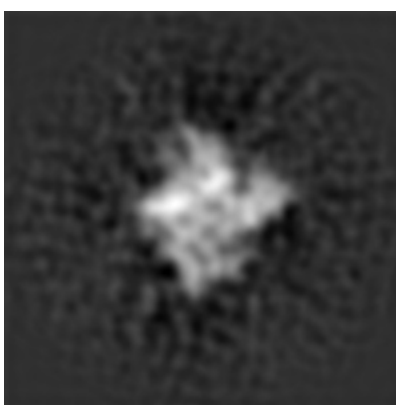
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

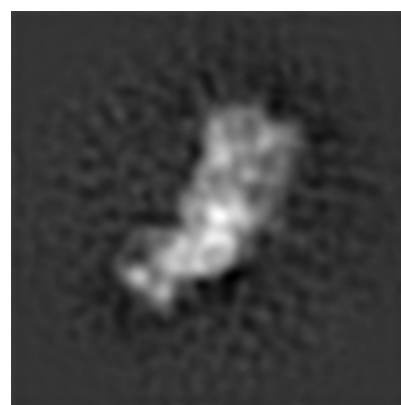
6.1.1 Primary map



X



Y

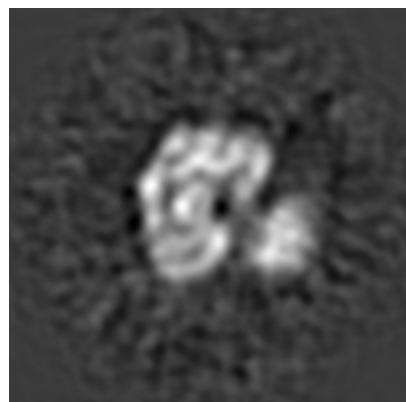


Z

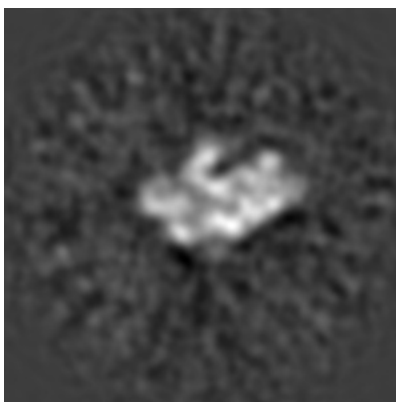
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

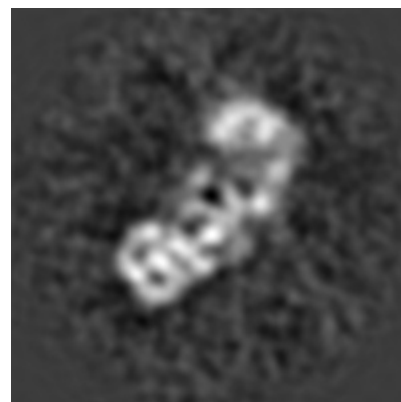
6.2.1 Primary map



X Index: 62



Y Index: 62

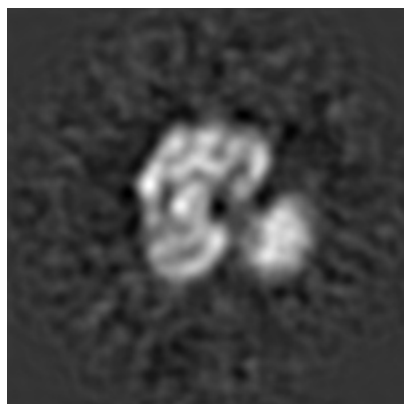


Z Index: 62

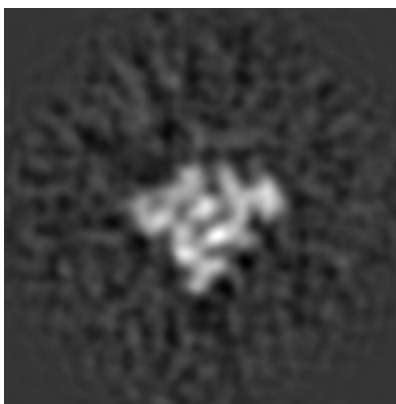
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

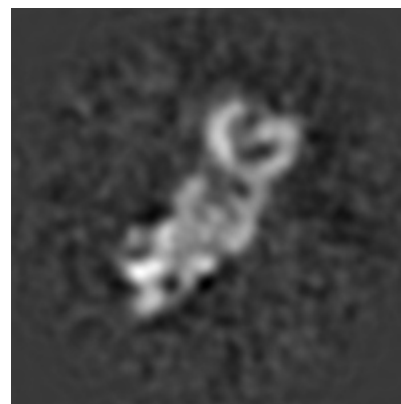
6.3.1 Primary map



X Index: 63



Y Index: 53

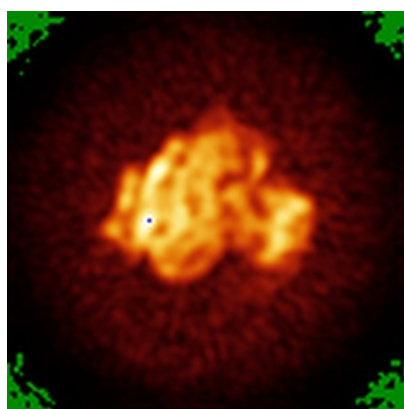


Z Index: 58

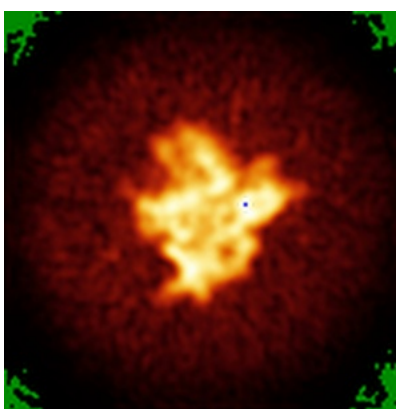
The images above show the largest variance slices of the map in three orthogonal directions.

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

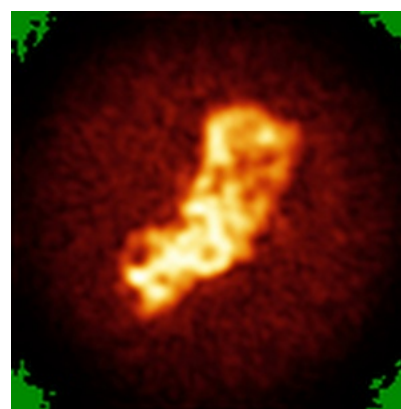
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level - 2.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

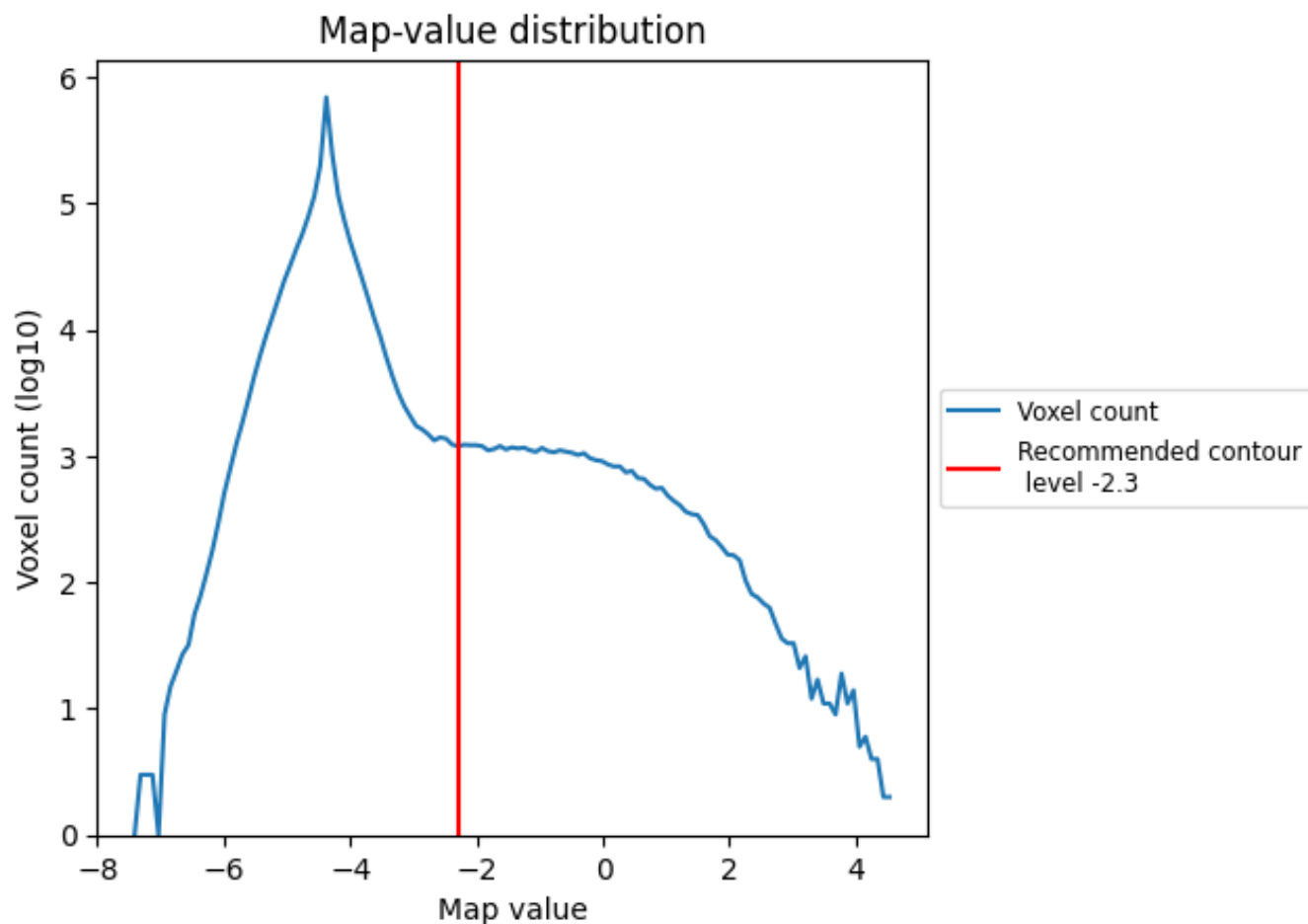
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

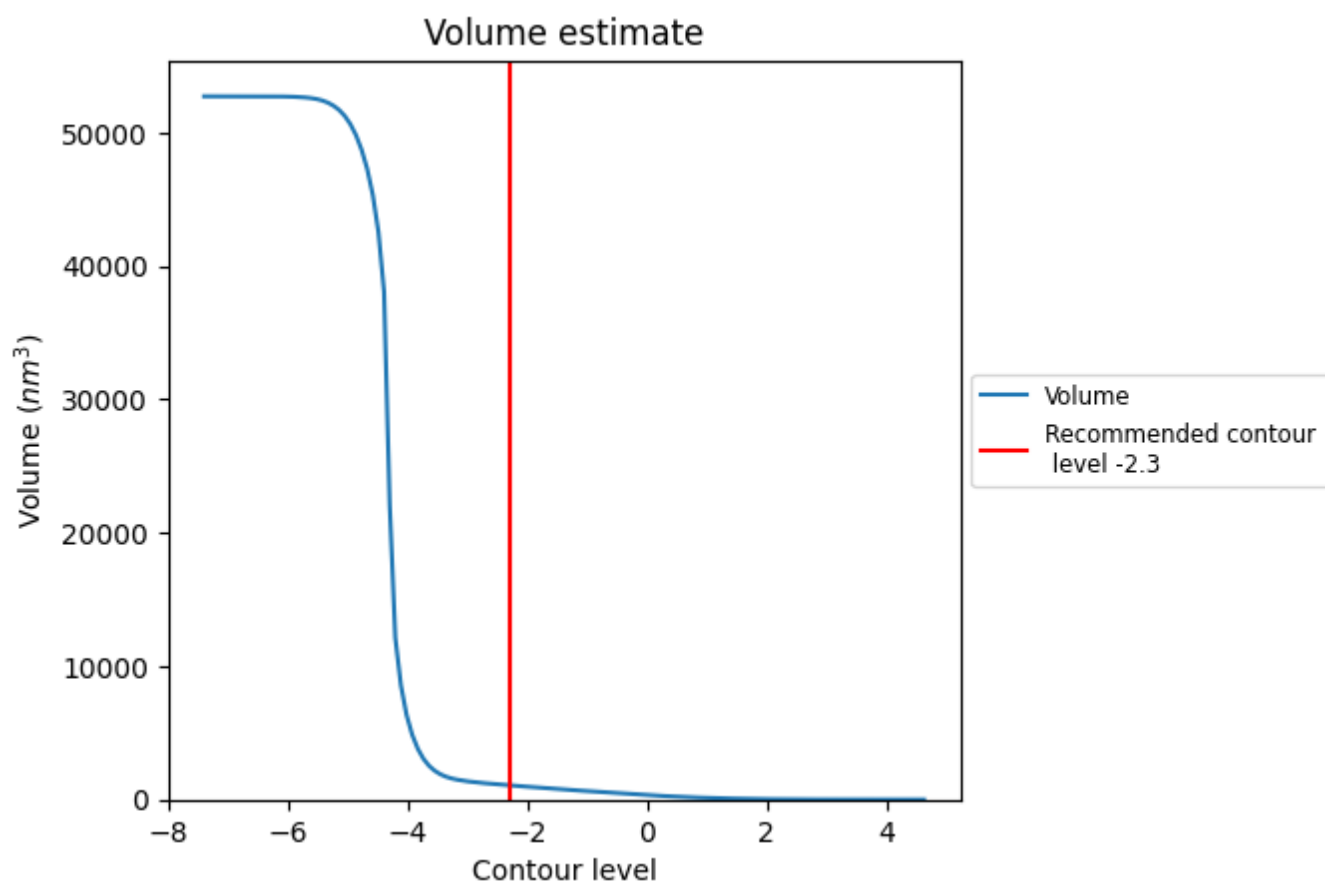
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

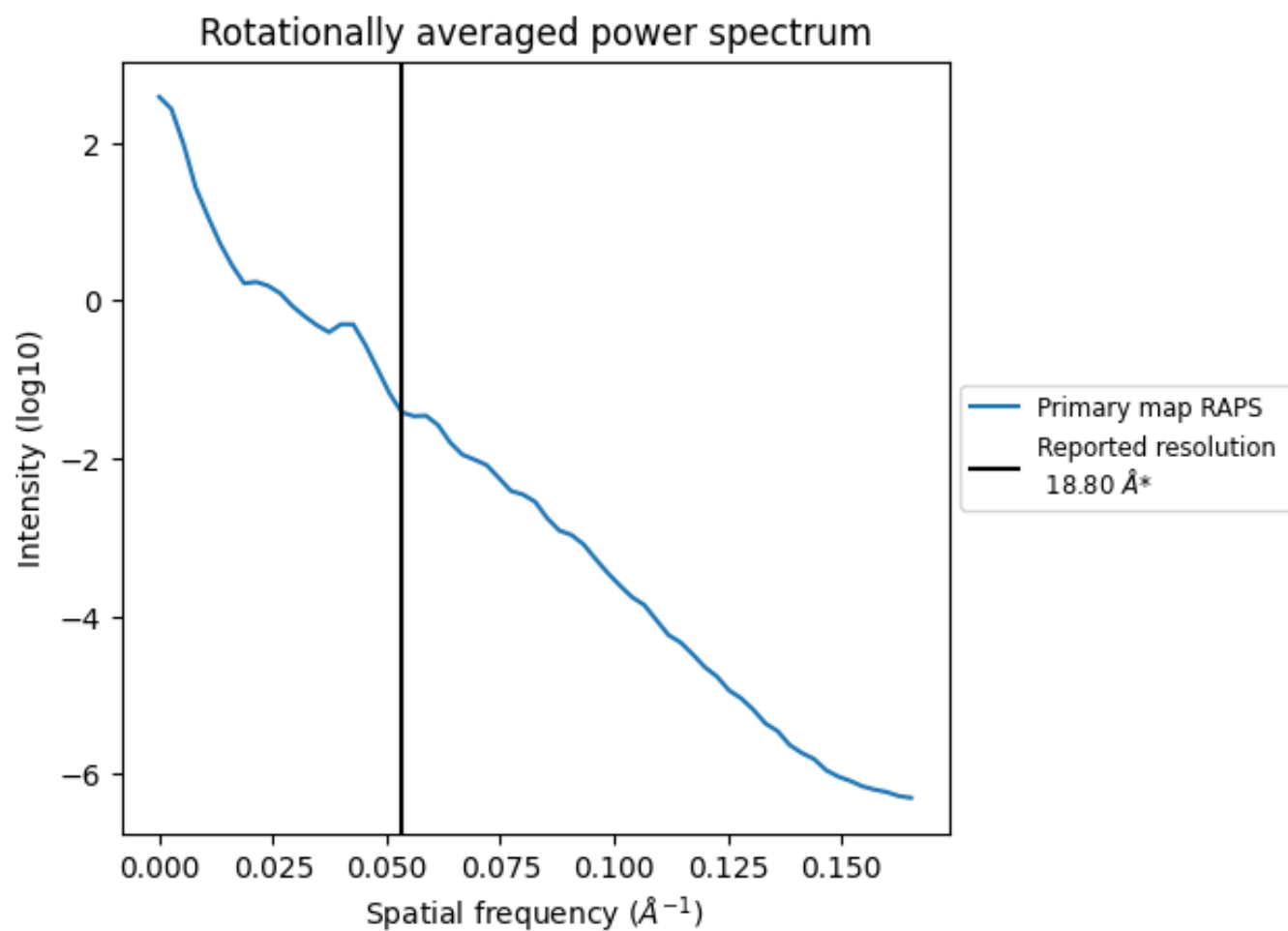
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1065 nm³; this corresponds to an approximate mass of 962 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.053 Å⁻¹

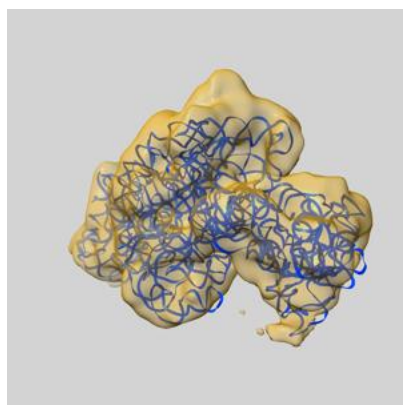
8 Fourier-Shell correlation ⓘ

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

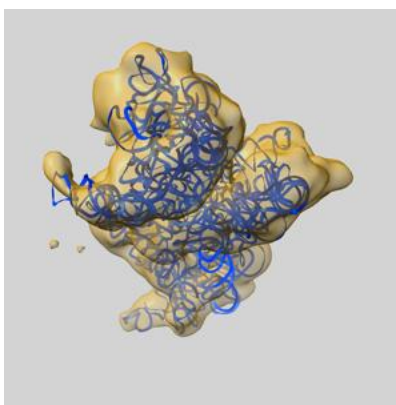
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-5510 and PDB model 3J2H. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

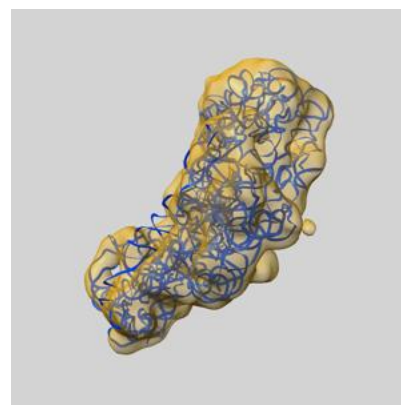
9.1 Map-model overlay [i](#)



X



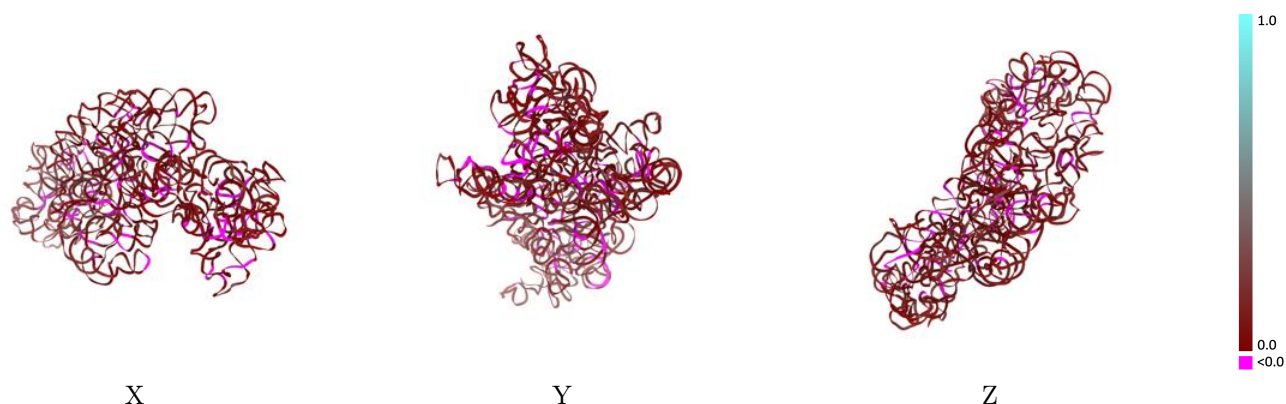
Y



Z

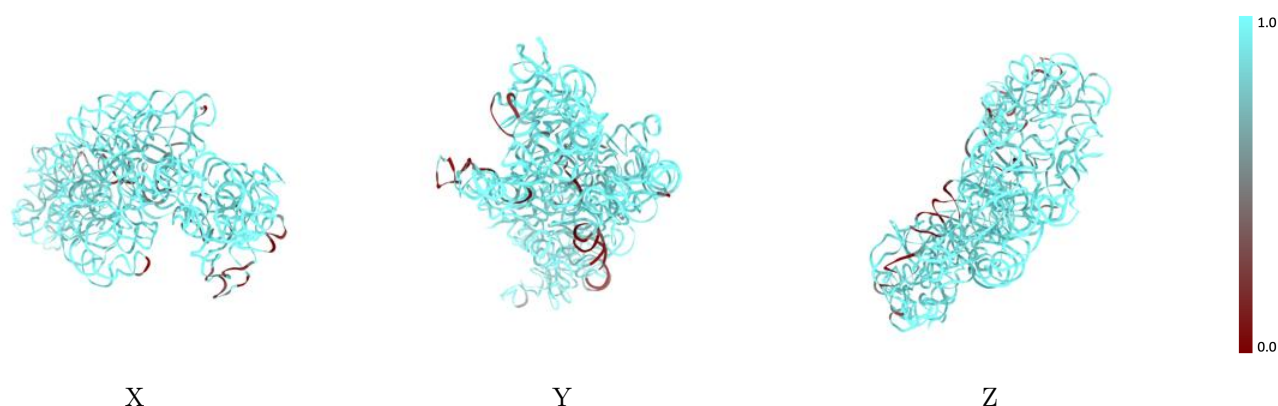
The images above show the 3D surface view of the map at the recommended contour level -2.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



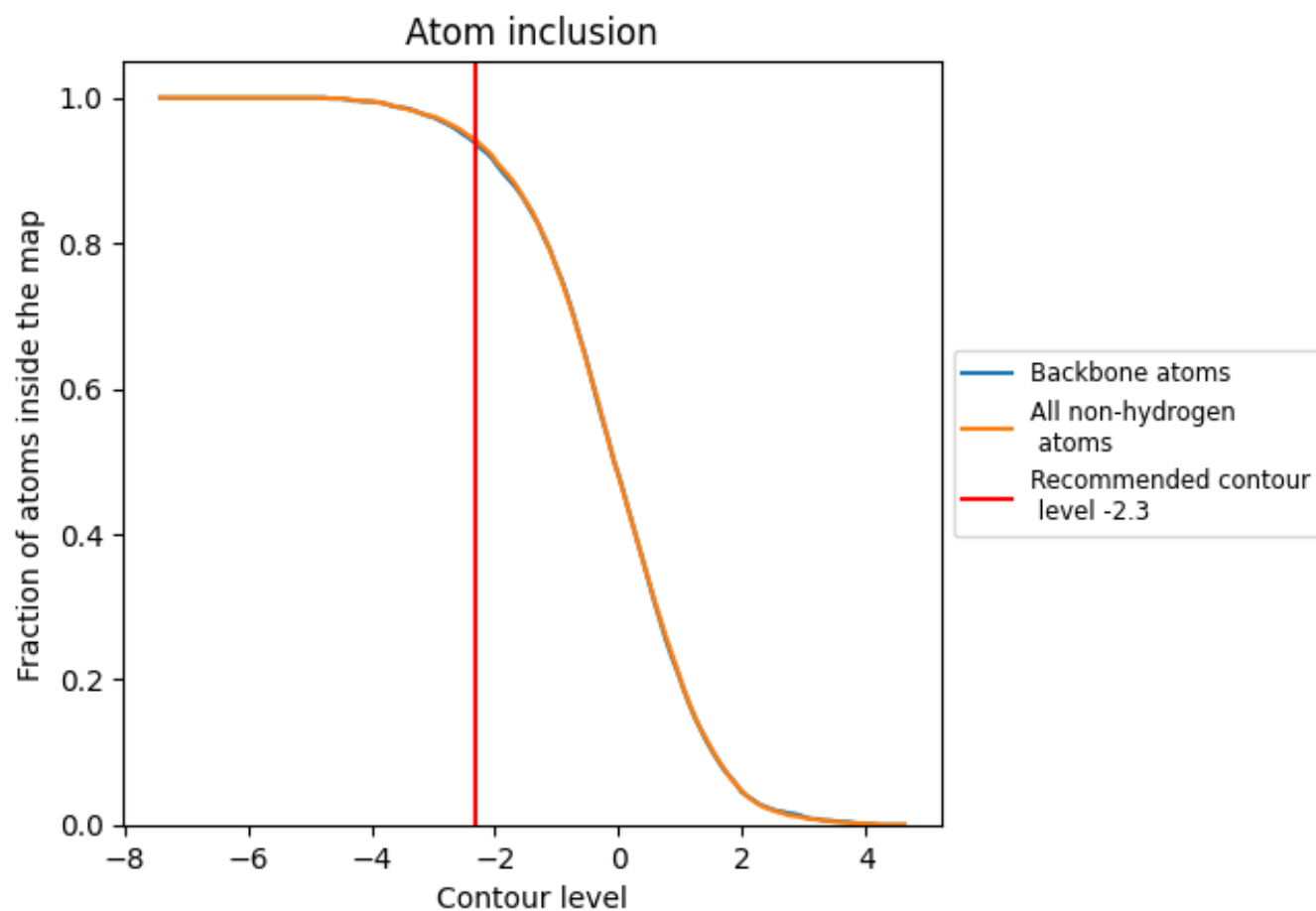
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (-2.3).

9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (-2.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9410	0.0780
N	0.9420	0.0780

