



Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 03:52 AM UTC

PDB ID : 3J28 / pdb_00003j28
EMDB ID : EMD-5500
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 : 12.90 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

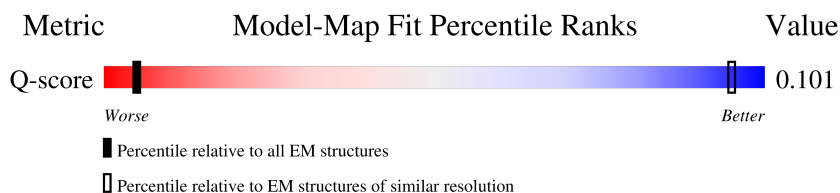
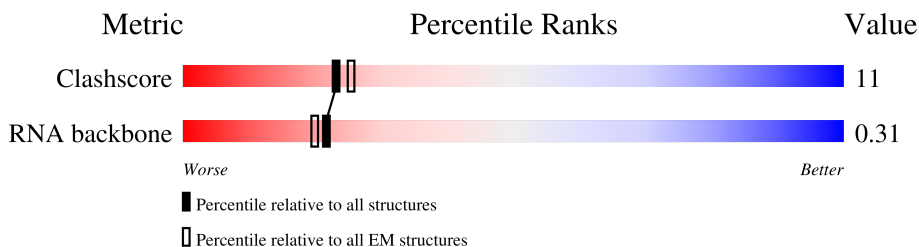
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 12.90 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	58 (12.40 - 13.40)

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.

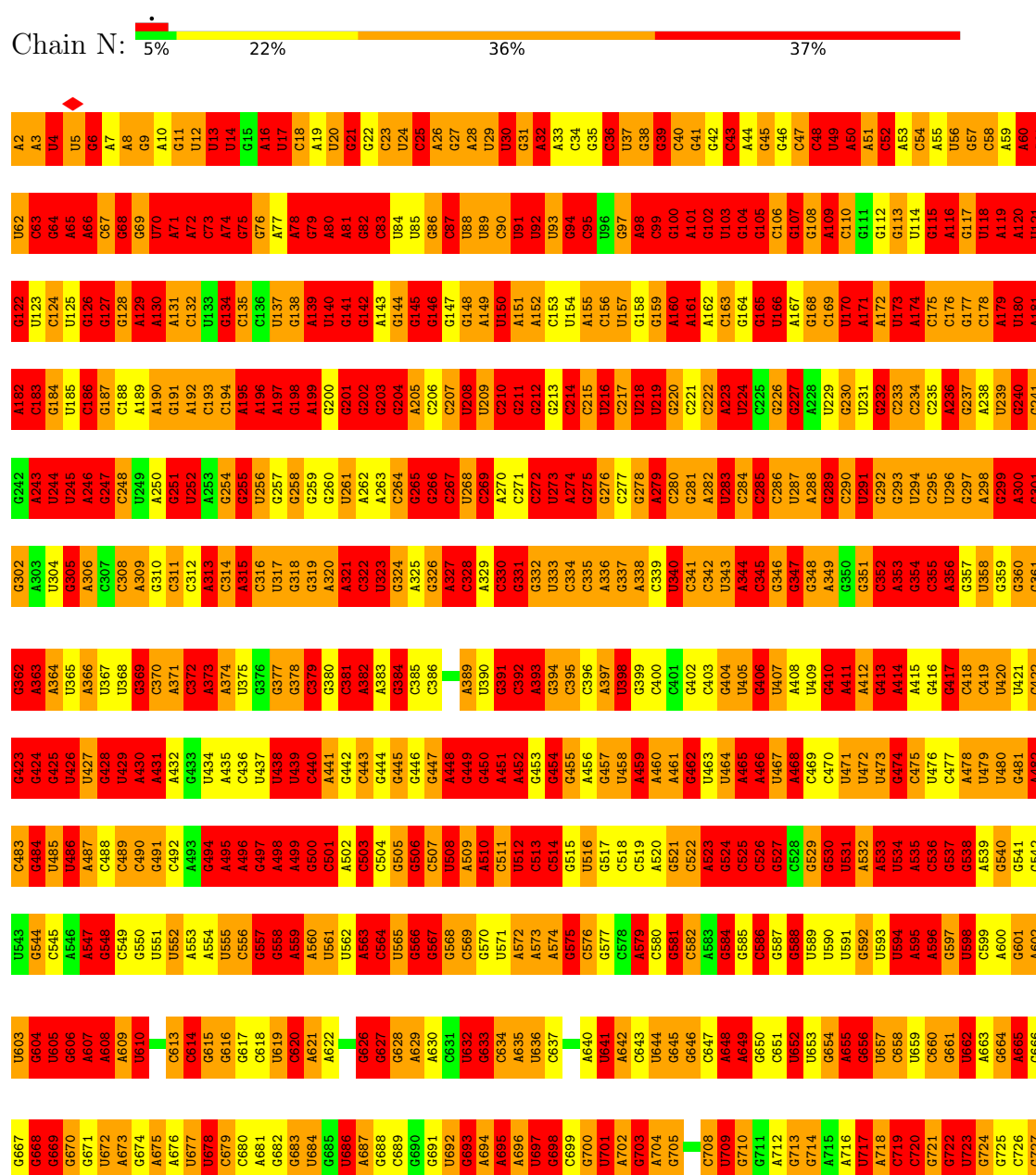
- Molecule 1 is a RNA chain called 16S rRNA.

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



C1510	U1450	U1390	U1330	G1270	G1210	A1150	U1090	U1030	C970	A908	C848	U788	A728
G1511	U1451	U1391	G1331	A1271	U1211	A1151	U1091	C1031	G971	A909	G849	U789	A729
U1512	A1532	G1392	A1332	G1272	U1212	A1152	A1092	G1032	C972	C910	U850	A790	A730
A1513	U1333	U1332	A1333	C1273	A1213	G1153	G1093	G1033	G973	U911	G851	G791	G731
G1514	A1394	A1394	G1334	A1274	C1214	G1154	G1094	A1034	A974	A912	G852	A792	C732
G1515	C1395	A1395	U1335	A1275	G1215	A1155	U1095	A1035	A975	C913	G853	U793	G733
G1516	A1396	A1396	G1336	G1276	A1216	G1156	C1096	A1036	G976	A914	U854	A794	G734
G1517	C1397	C1397	G1337	C1277	C1217	A1157	C1097	C1037	A977	A915	U855	A795	C735
A1518	A1398	A1398	G1338	G1278	C1218	C1158	C1098	C1038	A978	U916	C856	C796	C736
U1519	G1399	A1399	A1339	G1279	A1219	U1159	G1099	U1039	C979	A917	C857	G797	C737
C1520	A1400	A1400	A1340	A1280	G1220	U1160	C1100	U1040	C980	A918	C858	U798	C738
C1521	G1401	G1401	U1341	C1281	G1221	C1161	A1101	G1041	U981	A919	G859	G799	C739
U1522	C1402	C1402	C1342	C1282	G1222	C1162	A1102	A1042	U982	U920	A860	U740	U740
G1523	C1403	U1283	G1343	U1283	C1223	A1163	C1103	G1043	A983	U921	C861	G741	G741
C1524	C1403	C1284	C1344	C1284	U1224	G1164	G1104	A1044	C984	G922	C862	G742	G742
U1464	U1405	A1285	U1345	A1285	A1225	U1165	A1105	C1045	C985	A923	U863	G803	G803
G1525	A1406	U1286	A1346	U1286	C1226	G1166	G1106	A1046	C986	G924	A864	U804	C744
U1527	G1407	A1287	G1347	U1287	C1227	A1167	C1107	G1047	U986	G925	A865	C805	C745
A1528	A1408	A1288	U1348	U1288	C1228	U1168	G1108	G1048	G987	G926	C866	C806	A746
G1529	C1409	A1289	A1349	A1289	A1229	A1169	G1109	U1049	U989	G927	C867	A747	A747
U1530	A1410	G1290	A1350	G1290	C1230	A1170	A1110	U1050	G928	U928	C868	C808	G748
C1467	C1411	U1291	U1351	G1291	G1231	A1171	A1111	C1051	C929	G929	G869	A749	A749
U1469	C1411	C1292	G1352	G1292	U1232	C1172	C1112	U1052	C930	C930	U870	C810	C750
U1470	C1412	C1293	G1353	G1293	U1233	C1173	C1113	G1053	U992	C931	U871	C811	U751
U1471	A1413	G1294	U1354	G1294	G1233	G1174	C1114	C1054	C993	G932	A872	G812	G752
U1472	U1414	U1295	G1355	U1295	C1234	G1175	U1115	A1055	A994	C933	A873	U813	A753
G1473	U1415	C1296	G1356	C1296	U1235	A1176	U1116	U1056	C995	C934	G874	A814	C754
U1474	G1416	G1297	U1357	G1297	A1236	G1177	G1057	G1057	A996	A935	U875	A815	G755
G1475	A1417	U1298	U1358	U1298	C1237	G1178	U1118	G1058	U997	C936	C876	A816	C756
A1476	A1418	C1299	C1359	A1299	A1238	A1179	U1119	C1059	C998	A937	U877	C817	U757
U1477	G1419	G1300	G1360	G1300	A1239	A1180	C1120	U1060	C999	A938	A878	G818	G758
U1478	U1420	U1301	G1361	U1301	U1240	G1181	U1121	G1061	C1001	G939	C879	A819	A759
U1479	G1421	C1302	A1362	C1302	G1241	G1182	U1122	U1062	C940	C940	C880	U820	G760
A1480	U1422	G1303	A1363	C1303	G1242	U1183	U1123	C1063	G941	G941	G881	G821	G761
U1481	G1423	G1304	U1364	G1304	C1243	U1184	G1124	G1064	G942	G942	C882	U822	U762
A1482	U1424	G1305	G1365	G1305	G1244	G1185	U1125	U1065	U943	U943	C883	C823	G763
A1483	U1425	A1306	C1366	G1306	C1245	G1186	U1126	C1066	G944	G944	U884	G824	C764
C1484	U1426	U1307	C1367	U1307	A1246	G1187	G1127	A1067	G945	G945	G885	A825	G765
U1485	A1427	G1308	A1368	U1308	U1247	A1188	C1128	G1068	U1007	A946	C886	C826	A766
U1486	A1428	G1309	G1370	G1309	C1248	U1189	C1129	C1069	G947	G947	G887	U827	A767
U1487	A1429	A1310	G1371	G1310	A1249	G1190	A1130	U1070	C948	C948	G888	U828	A768
G1488	A1430	A1311	U1372	A1311	A1250	A1191	G1131	C1071	A949	A949	A889	G829	G769
U1489	A1431	G1312	U1373	G1312	A1251	C1192	C1132	G1072	U950	U950	U890	G830	C770
U1490	A1432	U1313	G1374	U1313	G1253	G1193	G1134	U1073	C951	C951	G891	A831	G771
G1491	A1433	C1314	A1375	C1314	A1254	U1194	U1135	G1074	U952	U952	A892	G832	U772
A1492	A1434	G1315	U1376	G1315	A1255	C1195	U1136	U1075	G953	G953	C893	G833	G773
U1493	A1435	G1316	U1377	G1316	A1256	A1196	C1137	U1076	G954	G954	C894	U834	G774
A1494	U1436	C1317	A1378	C1317	A1257	A1197	G1138	G1077	U955	U955	G895	U835	G775
U1495	U1437	A1318	G1379	A1318	A1258	G1198	G1139	U1078	U956	U956	C896	G836	G776
G1496	A1438	A1319	U1380	A1319	C1259	U1199	G1140	G1079	U957	U957	C897	U837	A777
U1497	G1439	C1320	U1381	C1320	A1260	C1200	C1141	A1080	U960	U960	C898	G838	G778
U1498	U1440	A1321	A1382	A1321	A1261	A1201	G1142	A1081	A961	A961	C899	C839	C779
A1499	A1441	C1322	C1383	C1322	C1262	U1202	G1143	A1082	C962	C962	A900	C840	A781
U1500	G1442	G1323	C1384	G1323	C1263	C1203	G1144	U1083	G963	G963	A901	C841	A782
A1501	C1443	A1324	A1385	A1324	U1264	G1204	G1145	G1084	U1022	U1022	G902	U842	A783
U1502	U1444	C1325	G1386	C1325	C1265	A1205	G1146	U1085	A1023	A1023	G903	U843	C783
A1503	C1445	U1326	G1387	U1326	G1266	G1206	A1147	U1086	G1024	G1024	U904	C844	A784
G1504	U1446	C1327	A1388	C1327	C1267	G1207	U1148	G1087	U1025	U1025	U905	A845	G785
G1505	A1447	G1328	C1389	A1329	G1268	C1208	U1149	U1088	G1026	G1026	A906	G846	A786
U1506	A1448	C1329	C1390	A1330	G1269	C1209	C1149	G1089	C1027	C1027	A907	G847	A787
U1507	C1449												
A1508													
C1509													

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	32152	Depositor
Resolution determination method	FSC 0.5 CUT-OFF	Depositor
CTF correction method	Weiner filter	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	1300	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	80000	Depositor
Image detector	GATAN ULTRASCAN 4000 (4k x 4k)	Depositor
Maximum map value	4.191	Depositor
Minimum map value	-6.676	Depositor
Average map value	-4.024	Depositor
Map value standard deviation	0.567	Depositor
Recommended contour level	-2.8	Depositor
Map size ($\text{\AA}$)	345.0, 345.0, 345.0	wwPDB
Map dimensions	125, 125, 125	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	2.76, 2.76, 2.76	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	814/36831 (2.2%)	2.08	1954/57458 (3.4%)

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	948

All (814) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1181	G	C1'-N9	11.15	1.63	1.47
1	N	1240	U	C1'-N1	10.94	1.64	1.48
1	N	1485	U	C1'-N1	10.46	1.64	1.48
1	N	11	G	C4'-C3'	9.35	1.66	1.52
1	N	1229	A	C5'-C4'	9.24	1.65	1.51
1	N	94	G	O5'-C5'	9.16	1.56	1.42
1	N	273	U	C1'-N1	9.08	1.62	1.48
1	N	1466	C	C5'-C4'	8.98	1.64	1.51
1	N	1501	C	C1'-N1	8.82	1.61	1.48
1	N	118	U	C1'-N1	8.79	1.61	1.48
1	N	1015	G	C3'-O3'	8.74	1.55	1.42
1	N	1408	A	P-O5'	-8.70	1.46	1.59
1	N	76	G	C1'-N9	8.68	1.60	1.48
1	N	189	A	O5'-C5'	8.66	1.55	1.42
1	N	1518	A	C2'-C1'	-8.34	1.40	1.53
1	N	372	C	C5'-C4'	8.30	1.63	1.51
1	N	794	A	C2'-C1'	-8.28	1.41	1.53
1	N	1374	A	C1'-N9	8.26	1.60	1.48
1	N	154	U	C4'-O4'	8.22	1.57	1.45
1	N	1164	G	C1'-N9	8.13	1.60	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	219	U	C1'-N1	8.13	1.60	1.48
1	N	1071	C	C1'-N1	8.13	1.60	1.48
1	N	330	C	C1'-N1	8.08	1.60	1.48
1	N	523	A	O3'-P	-8.08	1.49	1.61
1	N	752	G	C4'-C3'	8.07	1.64	1.52
1	N	896	C	C1'-N1	8.06	1.60	1.48
1	N	492	C	O3'-P	-8.05	1.49	1.61
1	N	373	A	C2'-C1'	-8.00	1.41	1.53
1	N	1371	G	O3'-P	-7.96	1.49	1.61
1	N	156	C	C4'-O4'	-7.95	1.33	1.45
1	N	98	A	C5'-C4'	7.93	1.63	1.51
1	N	761	G	C4'-C3'	-7.92	1.40	1.52
1	N	1412	C	O4'-C1'	7.86	1.53	1.41
1	N	499	A	C4'-C3'	7.85	1.65	1.53
1	N	79	G	C5'-C4'	7.79	1.62	1.51
1	N	91	U	C4'-C3'	7.78	1.64	1.52
1	N	730	G	C4'-C3'	7.76	1.64	1.52
1	N	120	A	C4'-C3'	7.75	1.64	1.52
1	N	153	C	C4'-C3'	7.72	1.64	1.52
1	N	258	G	C5'-C4'	7.64	1.62	1.51
1	N	347	G	O4'-C1'	7.56	1.52	1.41
1	N	73	C	C5'-C4'	7.55	1.62	1.51
1	N	1188	A	O3'-P	-7.55	1.49	1.61
1	N	166	U	C1'-N1	7.54	1.59	1.48
1	N	1386	G	P-O5'	-7.54	1.48	1.59
1	N	186	C	C1'-N1	7.52	1.59	1.48
1	N	374	A	O5'-C5'	7.51	1.53	1.42
1	N	939	G	O4'-C1'	-7.50	1.30	1.41
1	N	529	G	O3'-P	-7.49	1.50	1.61
1	N	172	A	O3'-P	-7.47	1.50	1.61
1	N	511	C	O3'-P	-7.45	1.50	1.61
1	N	458	U	C1'-N1	7.44	1.59	1.48
1	N	16	A	C2'-C1'	-7.42	1.42	1.53
1	N	862	C	O3'-P	-7.39	1.50	1.61
1	N	1462	C	O3'-P	-7.39	1.50	1.61
1	N	709	U	O4'-C1'	-7.38	1.30	1.41
1	N	454	G	C5'-C4'	7.38	1.62	1.51
1	N	649	A	O3'-P	-7.33	1.50	1.61
1	N	868	C	P-O5'	-7.26	1.48	1.59
1	N	1523	G	O3'-P	-7.26	1.50	1.61
1	N	1264	U	O3'-P	-7.24	1.50	1.61
1	N	948	C	C5'-C4'	7.22	1.62	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1176	A	C5'-C4'	7.22	1.62	1.51
1	N	1082	A	C1'-N9	7.20	1.58	1.48
1	N	1072	G	C5'-C4'	7.19	1.62	1.51
1	N	271	C	P-O5'	-7.19	1.49	1.59
1	N	173	U	C3'-C2'	7.19	1.63	1.52
1	N	545	C	C1'-N1	7.18	1.59	1.48
1	N	527	G	C3'-O3'	7.16	1.52	1.42
1	N	127	G	C5'-C4'	7.16	1.61	1.51
1	N	827	U	C4'-C3'	7.13	1.63	1.52
1	N	1258	G	C3'-O3'	7.13	1.52	1.42
1	N	626	G	O3'-P	-7.10	1.50	1.61
1	N	409	U	O3'-P	-7.09	1.50	1.61
1	N	1030	U	O5'-C5'	7.09	1.53	1.42
1	N	233	C	C5'-C4'	7.08	1.61	1.51
1	N	1358	U	C1'-N1	7.07	1.59	1.48
1	N	1226	C	O3'-P	-7.06	1.50	1.61
1	N	317	U	O4'-C1'	7.05	1.52	1.41
1	N	995	C	O4'-C1'	7.05	1.52	1.41
1	N	1041	G	C2'-C1'	-7.05	1.42	1.53
1	N	1153	G	C3'-C2'	7.05	1.63	1.52
1	N	955	U	C1'-N1	7.05	1.59	1.48
1	N	781	A	O4'-C1'	7.04	1.52	1.41
1	N	57	G	C5'-C4'	7.04	1.61	1.51
1	N	1004	A	O4'-C1'	7.04	1.52	1.41
1	N	916	U	O3'-P	-7.02	1.50	1.61
1	N	988	G	C2'-C1'	-7.01	1.42	1.53
1	N	1375	A	C1'-N9	7.01	1.58	1.48
1	N	317	U	C2'-C1'	-7.00	1.42	1.53
1	N	739	C	C1'-N1	6.99	1.58	1.48
1	N	1508	A	C5'-C4'	6.99	1.61	1.51
1	N	725	G	O3'-P	-6.98	1.50	1.61
1	N	719	C	O3'-P	-6.97	1.50	1.61
1	N	195	A	O3'-P	-6.97	1.50	1.61
1	N	971	G	C3'-C2'	6.96	1.63	1.52
1	N	288	A	O3'-P	-6.95	1.50	1.61
1	N	1332	A	P-O5'	6.95	1.70	1.59
1	N	525	C	C1'-N1	6.94	1.58	1.48
1	N	1388	C	C4'-C3'	6.92	1.62	1.52
1	N	150	U	C1'-N1	6.92	1.58	1.48
1	N	1127	G	P-O5'	-6.92	1.49	1.59
1	N	802	A	C5'-C4'	6.91	1.61	1.51
1	N	1342	C	C1'-N1	6.91	1.58	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1168	U	O4'-C1'	6.90	1.52	1.41
1	N	795	C	C1'-N1	6.89	1.58	1.48
1	N	1416	G	O5'-C5'	6.88	1.52	1.42
1	N	198	G	C5'-C4'	6.88	1.61	1.51
1	N	428	G	C2'-C1'	-6.88	1.42	1.53
1	N	68	G	C5'-C4'	6.88	1.61	1.51
1	N	467	U	C4'-O4'	-6.88	1.35	1.45
1	N	298	A	C5'-C4'	6.87	1.61	1.51
1	N	1376	U	P-O5'	-6.86	1.49	1.59
1	N	108	G	C1'-N9	6.85	1.58	1.48
1	N	485	U	O3'-P	-6.85	1.50	1.61
1	N	1062	U	P-O5'	-6.85	1.49	1.59
1	N	1495	U	C5'-C4'	6.85	1.61	1.51
1	N	169	C	O3'-P	-6.84	1.50	1.61
1	N	679	C	C1'-N1	6.83	1.58	1.48
1	N	141	G	O3'-P	-6.83	1.50	1.61
1	N	222	C	P-O5'	-6.83	1.49	1.59
1	N	1391	U	C1'-N1	6.83	1.58	1.48
1	N	445	G	O3'-P	-6.82	1.50	1.61
1	N	404	G	C4'-C3'	-6.81	1.42	1.52
1	N	1361	G	C2'-C1'	-6.81	1.43	1.53
1	N	1215	G	C2'-C1'	-6.80	1.43	1.53
1	N	251	G	C1'-N9	-6.79	1.36	1.47
1	N	113	G	C2'-C1'	-6.78	1.43	1.53
1	N	1322	C	C1'-N1	6.77	1.57	1.47
1	N	908	A	C3'-O3'	6.75	1.52	1.42
1	N	126	G	O4'-C1'	-6.75	1.31	1.41
1	N	381	C	C1'-N1	6.74	1.58	1.48
1	N	1137	C	C1'-N1	6.74	1.57	1.47
1	N	1279	G	C3'-C2'	-6.73	1.42	1.52
1	N	481	G	O3'-P	-6.72	1.51	1.61
1	N	598	U	C3'-C2'	-6.72	1.42	1.52
1	N	873	A	C5'-C4'	6.71	1.61	1.51
1	N	907	A	C4'-C3'	6.71	1.62	1.52
1	N	984	C	C5'-C4'	6.71	1.61	1.51
1	N	366	A	C2'-C1'	-6.71	1.43	1.53
1	N	208	U	C1'-N1	6.70	1.58	1.48
1	N	1278	G	C1'-N9	6.70	1.56	1.47
1	N	1183	U	O5'-C5'	6.70	1.52	1.42
1	N	1011	C	C1'-N1	6.67	1.58	1.48
1	N	899	C	C3'-C2'	-6.66	1.42	1.52
1	N	81	A	O4'-C1'	-6.66	1.31	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	728	A	C5'-C4'	6.66	1.61	1.51
1	N	1378	C	C5'-C4'	6.65	1.61	1.51
1	N	1033	G	P-O5'	-6.65	1.49	1.59
1	N	1177	G	C4'-C3'	6.65	1.62	1.52
1	N	503	C	C1'-N1	6.65	1.58	1.48
1	N	58	C	C3'-C2'	6.64	1.62	1.52
1	N	78	A	C4'-C3'	6.63	1.62	1.52
1	N	80	A	C5'-C4'	6.63	1.61	1.51
1	N	484	G	C2'-C1'	-6.63	1.43	1.53
1	N	632	U	C4'-C3'	6.63	1.62	1.52
1	N	230	G	C5'-C4'	6.62	1.61	1.51
1	N	641	U	O3'-P	-6.62	1.51	1.61
1	N	1026	G	C5'-C4'	6.62	1.61	1.51
1	N	347	G	P-O5'	-6.61	1.49	1.59
1	N	833	G	C3'-O3'	6.60	1.52	1.42
1	N	1326	U	C2'-C1'	-6.60	1.43	1.53
1	N	87	C	C2'-C1'	-6.59	1.43	1.53
1	N	1317	C	C1'-N1	6.59	1.58	1.48
1	N	643	C	C1'-N1	6.59	1.58	1.48
1	N	1143	G	C3'-O3'	6.58	1.52	1.42
1	N	363	A	C2'-C1'	-6.58	1.43	1.53
1	N	1362	A	O3'-P	-6.58	1.51	1.61
1	N	465	A	O3'-P	-6.58	1.51	1.61
1	N	1380	U	C4'-C3'	6.58	1.62	1.52
1	N	511	C	C4'-C3'	6.58	1.63	1.53
1	N	848	C	O5'-C5'	6.58	1.52	1.42
1	N	1003	G	C2'-C1'	-6.57	1.43	1.53
1	N	947	G	C2'-C1'	-6.56	1.43	1.53
1	N	984	C	C3'-O3'	6.56	1.51	1.42
1	N	180	U	C1'-N1	6.55	1.58	1.48
1	N	120	A	C5'-C4'	6.53	1.61	1.51
1	N	1392	G	C2-N3	6.53	1.45	1.32
1	N	845	A	C1'-N9	6.51	1.57	1.48
1	N	551	U	C3'-O3'	6.51	1.51	1.42
1	N	635	A	C2'-C1'	-6.50	1.43	1.53
1	N	498	A	C2'-C1'	-6.50	1.43	1.53
1	N	1128	C	C5'-C4'	6.50	1.60	1.51
1	N	121	U	C4'-C3'	6.49	1.62	1.52
1	N	1506	U	C4'-C3'	6.49	1.62	1.53
1	N	93	U	C5'-C4'	6.49	1.60	1.51
1	N	1068	G	C1'-N9	6.48	1.57	1.48
1	N	65	A	C2'-C1'	-6.48	1.43	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	134	G	O4'-C1'	6.47	1.51	1.41
1	N	737	C	C5'-C4'	6.47	1.60	1.51
1	N	197	A	C1'-N9	-6.47	1.37	1.47
1	N	788	U	C5'-C4'	6.46	1.60	1.51
1	N	630	A	O3'-P	-6.46	1.51	1.61
1	N	750	C	C1'-N1	6.45	1.58	1.48
1	N	828	U	C1'-N1	6.45	1.58	1.48
1	N	427	U	O4'-C1'	6.44	1.51	1.41
1	N	299	G	C5'-C4'	6.44	1.60	1.51
1	N	890	G	O4'-C1'	-6.44	1.32	1.42
1	N	288	A	C4'-C3'	-6.43	1.43	1.52
1	N	220	G	C4'-O4'	6.43	1.55	1.45
1	N	738	C	P-O5'	-6.43	1.50	1.59
1	N	1449	C	C2'-C1'	-6.43	1.43	1.53
1	N	87	C	C3'-C2'	6.42	1.62	1.52
1	N	147	G	O3'-P	-6.42	1.51	1.61
1	N	483	C	O3'-P	-6.41	1.51	1.61
1	N	1274	A	C2'-C1'	-6.41	1.43	1.53
1	N	911	U	C5'-C4'	6.38	1.60	1.51
1	N	1177	G	C5'-C4'	6.37	1.60	1.51
1	N	1119	C	O5'-C5'	6.37	1.51	1.42
1	N	1348	U	C4'-C3'	6.36	1.62	1.52
1	N	374	A	C5'-C4'	6.36	1.60	1.51
1	N	701	U	C1'-N1	6.36	1.57	1.48
1	N	198	G	C4'-C3'	6.35	1.62	1.52
1	N	117	G	C5'-C4'	6.35	1.60	1.51
1	N	704	A	C4'-C3'	6.33	1.62	1.52
1	N	801	U	C5'-C4'	6.33	1.60	1.51
1	N	1433	A	P-O5'	-6.32	1.50	1.59
1	N	235	C	C5'-C4'	6.32	1.60	1.51
1	N	371	A	C5'-C4'	6.32	1.60	1.51
1	N	56	U	O3'-P	-6.30	1.51	1.61
1	N	815	A	O3'-P	-6.28	1.51	1.61
1	N	869	G	O3'-P	-6.28	1.51	1.61
1	N	1205	U	C4'-O4'	6.28	1.54	1.45
1	N	1127	G	C4'-O4'	6.28	1.54	1.45
1	N	736	C	O4'-C1'	6.26	1.51	1.41
1	N	45	G	C3'-C2'	-6.26	1.43	1.52
1	N	709	U	P-O5'	-6.26	1.50	1.59
1	N	54	C	C3'-C2'	6.25	1.62	1.52
1	N	24	U	C2'-O2'	-6.25	1.33	1.42
1	N	348	G	C2'-C1'	-6.24	1.44	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	561	U	C4'-C3'	6.24	1.62	1.53
1	N	1224	U	C5'-C4'	6.24	1.60	1.51
1	N	1389	C	O5'-C5'	6.24	1.51	1.42
1	N	1394	A	O3'-P	-6.23	1.51	1.61
1	N	1412	C	C4'-O4'	-6.23	1.36	1.45
1	N	166	U	C3'-C2'	6.22	1.62	1.52
1	N	438	U	O3'-P	-6.22	1.51	1.61
1	N	185	U	P-O5'	-6.21	1.50	1.59
1	N	1009	U	C3'-O3'	6.20	1.51	1.42
1	N	408	A	O3'-P	-6.19	1.51	1.61
1	N	1522	U	C1'-N1	6.18	1.57	1.48
1	N	1429	A	O3'-P	-6.17	1.51	1.61
1	N	890	G	C3'-C2'	6.17	1.62	1.52
1	N	698	G	C2'-C1'	-6.17	1.44	1.53
1	N	83	C	C1'-N1	6.16	1.57	1.48
1	N	1415	G	O4'-C1'	6.16	1.50	1.41
1	N	684	U	C2'-O2'	-6.16	1.33	1.42
1	N	235	C	C2'-C1'	-6.15	1.44	1.53
1	N	6	G	C5'-C4'	6.15	1.60	1.51
1	N	1406	U	O4'-C1'	6.15	1.50	1.41
1	N	38	G	C4'-O4'	6.14	1.54	1.45
1	N	1426	G	C5'-C4'	6.14	1.60	1.51
1	N	1337	G	N9-C8	6.14	1.50	1.37
1	N	175	C	C5'-C4'	6.14	1.60	1.51
1	N	1530	G	O5'-C5'	6.13	1.52	1.42
1	N	564	C	O4'-C1'	6.13	1.50	1.41
1	N	873	A	C3'-C2'	6.13	1.62	1.52
1	N	1084	G	O3'-P	-6.13	1.51	1.61
1	N	872	A	C4'-C3'	6.12	1.62	1.53
1	N	968	A	C4'-O4'	-6.12	1.36	1.45
1	N	205	A	C5'-C4'	6.11	1.60	1.51
1	N	1113	C	O3'-P	-6.10	1.51	1.61
1	N	444	G	O4'-C1'	6.10	1.50	1.41
1	N	101	A	C2'-C1'	6.10	1.62	1.53
1	N	314	C	C4'-O4'	6.10	1.54	1.45
1	N	987	G	P-O5'	-6.09	1.50	1.59
1	N	1497	G	C3'-O3'	-6.09	1.33	1.42
1	N	522	C	C4'-C3'	6.08	1.61	1.52
1	N	920	U	C3'-O3'	6.08	1.51	1.42
1	N	889	A	C5'-C4'	6.08	1.60	1.51
1	N	335	C	C3'-O3'	6.08	1.51	1.42
1	N	812	G	O3'-P	-6.07	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1506	U	O3'-P	-6.07	1.52	1.61
1	N	539	A	P-O5'	-6.06	1.50	1.59
1	N	762	U	C1'-N1	6.06	1.57	1.48
1	N	382	A	C4'-O4'	6.05	1.54	1.45
1	N	1295	U	C4'-C3'	6.04	1.61	1.52
1	N	1180	A	C5'-C4'	6.03	1.60	1.51
1	N	648	A	C4'-C3'	6.03	1.61	1.52
1	N	1050	G	C2-N3	6.01	1.44	1.32
1	N	594	U	C2'-C1'	-5.99	1.44	1.53
1	N	1249	C	P-O5'	-5.98	1.50	1.59
1	N	768	A	C5'-C4'	5.98	1.60	1.51
1	N	163	C	O3'-P	-5.98	1.52	1.61
1	N	244	U	C5'-C4'	5.98	1.60	1.51
1	N	102	G	P-O5'	-5.97	1.50	1.59
1	N	1141	C	C1'-N1	5.97	1.57	1.48
1	N	1437	A	C6-N6	5.97	1.45	1.33
1	N	106	C	O4'-C1'	5.96	1.50	1.41
1	N	704	A	C1'-N9	5.96	1.56	1.48
1	N	1395	C	C4'-C3'	-5.96	1.43	1.52
1	N	1514	G	C1'-N9	-5.96	1.39	1.48
1	N	1533	C	C4'-C3'	5.96	1.62	1.53
1	N	649	A	C5'-C4'	5.96	1.60	1.51
1	N	344	A	C4'-C3'	5.95	1.62	1.53
1	N	626	G	P-O5'	-5.95	1.50	1.59
1	N	276	G	C2'-C1'	-5.95	1.44	1.53
1	N	1352	C	C2'-C1'	-5.95	1.44	1.53
1	N	962	C	C5'-C4'	5.93	1.60	1.51
1	N	540	G	O4'-C1'	-5.93	1.32	1.41
1	N	1181	G	C2'-C1'	-5.93	1.44	1.53
1	N	641	U	C2'-C1'	-5.92	1.44	1.53
1	N	838	G	O4'-C1'	5.92	1.50	1.41
1	N	1000	A	C3'-C2'	5.92	1.61	1.52
1	N	140	U	P-O5'	-5.91	1.50	1.59
1	N	215	C	C1'-N1	5.91	1.57	1.48
1	N	930	C	C5'-C4'	5.91	1.60	1.51
1	N	377	G	C2'-C1'	-5.91	1.44	1.53
1	N	796	C	O4'-C1'	-5.91	1.32	1.41
1	N	313	A	C2'-C1'	-5.91	1.44	1.53
1	N	1079	G	C5'-C4'	5.90	1.60	1.51
1	N	62	U	O3'-P	-5.89	1.52	1.61
1	N	179	A	C5'-C4'	-5.89	1.42	1.51
1	N	459	A	C5'-C4'	5.88	1.60	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	569	C	O3'-P	-5.88	1.52	1.61
1	N	1208	C	P-O5'	-5.88	1.50	1.59
1	N	1148	U	C1'-N1	5.88	1.57	1.48
1	N	533	A	O3'-P	-5.88	1.52	1.61
1	N	502	A	P-O5'	-5.87	1.50	1.59
1	N	987	G	C5'-C4'	5.87	1.60	1.51
1	N	138	G	C4'-C3'	5.87	1.61	1.52
1	N	1399	C	C2'-O2'	-5.87	1.32	1.41
1	N	1343	G	P-O5'	5.86	1.68	1.59
1	N	1062	U	C2'-C1'	-5.86	1.44	1.53
1	N	1411	C	O4'-C1'	5.86	1.50	1.41
1	N	1144	G	O3'-P	-5.86	1.52	1.61
1	N	1378	C	C1'-N1	5.85	1.57	1.48
1	N	106	C	C1'-N1	5.85	1.57	1.48
1	N	513	C	O3'-P	-5.85	1.52	1.61
1	N	885	G	C1'-N9	-5.85	1.39	1.48
1	N	16	A	N7-C5	-5.84	1.27	1.39
1	N	1047	G	C5'-C4'	5.84	1.60	1.51
1	N	95	C	O5'-C5'	5.84	1.51	1.42
1	N	467	U	C4'-C3'	5.84	1.61	1.52
1	N	48	C	C4'-C3'	5.83	1.61	1.52
1	N	735	C	O4'-C1'	5.83	1.50	1.41
1	N	795	C	C5'-C4'	5.83	1.59	1.51
1	N	222	C	C4-N4	5.83	1.45	1.33
1	N	887	G	C2'-C1'	-5.82	1.44	1.53
1	N	606	G	C5'-C4'	5.82	1.59	1.51
1	N	261	U	C5'-C4'	5.82	1.59	1.51
1	N	281	G	C4'-C3'	5.82	1.61	1.53
1	N	645	G	C1'-N9	5.81	1.56	1.48
1	N	189	A	C3'-O3'	5.81	1.50	1.42
1	N	921	U	P-O5'	-5.81	1.51	1.59
1	N	1098	C	C4'-C3'	5.81	1.61	1.52
1	N	79	G	C2'-C1'	5.81	1.62	1.53
1	N	1286	U	O5'-C5'	5.80	1.51	1.42
1	N	1028	C	C4'-O4'	5.80	1.54	1.45
1	N	629	A	C3'-C2'	5.79	1.61	1.52
1	N	340	U	C2'-C1'	-5.79	1.44	1.53
1	N	1487	G	C2'-C1'	-5.79	1.44	1.53
1	N	569	C	C2'-C1'	5.79	1.62	1.53
1	N	364	A	O5'-C5'	5.78	1.51	1.42
1	N	839	C	C1'-N1	5.78	1.57	1.48
1	N	1071	C	O4'-C1'	5.77	1.50	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	48	C	C3'-C2'	5.77	1.61	1.52
1	N	146	G	C2'-C1'	-5.77	1.44	1.53
1	N	616	G	C2'-O2'	-5.77	1.33	1.42
1	N	311	C	C1'-N1	5.77	1.57	1.48
1	N	992	U	C1'-N1	5.77	1.56	1.47
1	N	1170	A	O3'-P	-5.77	1.52	1.61
1	N	378	G	C2'-C1'	-5.76	1.44	1.53
1	N	1507	A	C6-N6	5.76	1.45	1.33
1	N	227	G	C1'-N9	5.76	1.56	1.48
1	N	1058	G	C4'-O4'	5.76	1.54	1.45
1	N	1155	A	C1'-N9	5.76	1.56	1.48
1	N	308	C	C1'-N1	5.75	1.57	1.48
1	N	1308	U	O4'-C1'	5.75	1.50	1.41
1	N	94	G	P-O5'	-5.75	1.51	1.59
1	N	64	G	C4'-C3'	5.75	1.61	1.52
1	N	353	A	C4'-C3'	5.75	1.61	1.52
1	N	61	G	O3'-P	-5.75	1.52	1.61
1	N	649	A	C1'-N9	5.74	1.56	1.48
1	N	683	G	C2'-C1'	5.74	1.61	1.53
1	N	1255	G	N3-C4	-5.74	1.24	1.35
1	N	439	U	C1'-N1	5.74	1.57	1.48
1	N	1151	A	C6-N6	5.73	1.45	1.33
1	N	566	G	C3'-C2'	-5.73	1.44	1.52
1	N	506	G	C5'-C4'	5.72	1.59	1.51
1	N	633	G	C4'-C3'	5.72	1.61	1.52
1	N	871	U	N1-C2	5.72	1.50	1.38
1	N	1427	C	O3'-P	-5.72	1.52	1.61
1	N	781	A	C2'-O2'	-5.72	1.33	1.42
1	N	730	G	C4'-O4'	5.71	1.54	1.45
1	N	1353	G	C3'-O3'	5.71	1.50	1.42
1	N	482	A	N9-C8	-5.71	1.26	1.37
1	N	1124	G	C2'-C1'	-5.71	1.44	1.53
1	N	783	C	C1'-N1	5.70	1.57	1.48
1	N	1344	C	P-O5'	-5.70	1.51	1.59
1	N	933	G	C2'-C1'	-5.70	1.44	1.53
1	N	552	U	O5'-C5'	5.69	1.50	1.42
1	N	887	G	P-O5'	-5.69	1.51	1.59
1	N	563	A	N7-C5	-5.69	1.27	1.39
1	N	717	U	O3'-P	-5.69	1.52	1.61
1	N	643	C	P-O5'	-5.68	1.51	1.59
1	N	1176	A	C3'-O3'	5.68	1.50	1.42
1	N	267	C	C4'-C3'	5.67	1.61	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1378	C	C3'-O3'	5.67	1.50	1.42
1	N	48	C	O4'-C1'	5.67	1.50	1.41
1	N	1451	U	C3'-O3'	5.67	1.50	1.42
1	N	1183	U	C1'-N1	5.67	1.56	1.48
1	N	797	C	C1'-N1	5.66	1.56	1.48
1	N	83	C	O3'-P	-5.66	1.52	1.61
1	N	1396	A	N3-C4	-5.66	1.23	1.34
1	N	817	C	O3'-P	-5.65	1.52	1.61
1	N	1072	G	C2'-C1'	-5.65	1.44	1.53
1	N	971	G	C5'-C4'	5.65	1.59	1.51
1	N	203	G	C4'-C3'	-5.65	1.44	1.52
1	N	1378	C	O3'-P	-5.64	1.52	1.61
1	N	773	G	C3'-C2'	-5.63	1.44	1.52
1	N	1418	A	O4'-C1'	-5.63	1.33	1.41
1	N	119	A	C4'-C3'	5.63	1.60	1.52
1	N	749	A	C2'-C1'	-5.63	1.45	1.53
1	N	91	U	C5'-C4'	5.62	1.59	1.51
1	N	24	U	O3'-P	-5.61	1.52	1.61
1	N	582	C	C1'-N1	5.61	1.56	1.48
1	N	1227	A	C1'-N9	5.61	1.56	1.48
1	N	556	C	C2'-C1'	-5.61	1.45	1.53
1	N	166	U	C4'-O4'	5.61	1.53	1.45
1	N	1323	G	C4'-O4'	5.61	1.53	1.45
1	N	18	C	C2'-C1'	-5.61	1.45	1.53
1	N	1146	A	C1'-N9	5.61	1.56	1.48
1	N	771	G	O3'-P	-5.60	1.52	1.61
1	N	169	C	O4'-C1'	5.60	1.50	1.41
1	N	153	C	O3'-P	-5.59	1.52	1.61
1	N	95	C	C1'-N1	5.59	1.56	1.48
1	N	669	G	O3'-P	-5.59	1.52	1.61
1	N	887	G	O3'-P	-5.59	1.52	1.61
1	N	524	G	C3'-C2'	-5.58	1.44	1.52
1	N	1114	C	P-O5'	-5.58	1.51	1.59
1	N	1458	G	O4'-C1'	5.58	1.50	1.41
1	N	1425	U	C3'-O3'	5.58	1.50	1.42
1	N	527	G	C6-N1	5.58	1.50	1.39
1	N	657	U	C1'-N1	5.58	1.56	1.48
1	N	1447	A	O3'-P	-5.58	1.52	1.61
1	N	515	G	O4'-C1'	-5.57	1.33	1.41
1	N	930	C	O5'-C5'	5.57	1.50	1.42
1	N	1394	A	C5'-C4'	5.57	1.59	1.51
1	N	1182	G	O4'-C1'	-5.57	1.33	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	123	U	C4'-C3'	-5.56	1.44	1.52
1	N	1039	G	C4'-O4'	-5.56	1.37	1.45
1	N	1451	U	C4'-C3'	5.56	1.60	1.52
1	N	241	G	C5'-C4'	-5.56	1.43	1.51
1	N	264	C	C5'-C4'	5.56	1.59	1.51
1	N	1480	A	C4'-O4'	5.55	1.53	1.45
1	N	1005	A	O3'-P	-5.55	1.52	1.61
1	N	527	G	C5'-C4'	5.55	1.59	1.51
1	N	873	A	C2'-C1'	-5.55	1.44	1.53
1	N	842	U	P-O5'	-5.54	1.51	1.59
1	N	1086	U	C4'-C3'	5.54	1.60	1.52
1	N	1200	C	C4'-C3'	5.54	1.60	1.52
1	N	575	G	O3'-P	-5.53	1.52	1.61
1	N	938	A	O4'-C1'	5.53	1.50	1.41
1	N	147	G	C2'-C1'	-5.53	1.45	1.53
1	N	1205	U	C1'-N1	5.53	1.56	1.48
1	N	1293	C	C4-N4	5.53	1.45	1.33
1	N	1224	U	C4'-C3'	5.53	1.60	1.52
1	N	1271	A	O3'-P	-5.52	1.52	1.61
1	N	343	U	C3'-C2'	-5.52	1.44	1.52
1	N	157	U	C2'-O2'	-5.51	1.34	1.42
1	N	976	G	O3'-P	-5.51	1.52	1.61
1	N	1031	C	C3'-O3'	5.51	1.50	1.42
1	N	1216	A	C4'-C3'	-5.51	1.44	1.52
1	N	542	G	C1'-N9	5.51	1.56	1.48
1	N	13	U	C4'-C3'	5.51	1.61	1.53
1	N	1260	G	C5'-C4'	5.51	1.59	1.51
1	N	26	A	C5'-C4'	5.50	1.59	1.51
1	N	438	U	C5'-C4'	5.50	1.59	1.51
1	N	380	G	C2-N2	5.50	1.45	1.34
1	N	1129	C	P-O5'	-5.50	1.51	1.59
1	N	194	C	P-O5'	-5.50	1.51	1.59
1	N	272	C	O4'-C1'	5.50	1.49	1.41
1	N	1135	U	C1'-N1	5.49	1.56	1.48
1	N	297	G	O5'-C5'	5.49	1.50	1.42
1	N	980	C	C1'-N1	5.49	1.56	1.48
1	N	1395	C	O3'-P	-5.49	1.52	1.61
1	N	8	A	O5'-C5'	5.48	1.50	1.42
1	N	280	C	C1'-N1	5.48	1.55	1.47
1	N	940	C	P-O5'	-5.48	1.51	1.59
1	N	1250	A	C3'-O3'	5.48	1.50	1.42
1	N	660	C	C2'-C1'	-5.48	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1257	A	C3'-O3'	5.48	1.50	1.42
1	N	1332	A	C1'-N9	5.47	1.56	1.48
1	N	181	A	C3'-C2'	5.47	1.60	1.52
1	N	904	U	C1'-N1	5.47	1.56	1.48
1	N	343	U	C4'-C3'	5.46	1.60	1.52
1	N	556	C	C1'-N1	5.46	1.56	1.48
1	N	736	C	O5'-C5'	5.46	1.50	1.42
1	N	1005	A	C2'-C1'	-5.46	1.45	1.53
1	N	1079	G	C1'-N9	5.46	1.56	1.48
1	N	1240	U	C5'-C4'	5.46	1.59	1.51
1	N	1441	A	C1'-N9	5.46	1.56	1.48
1	N	811	C	C2'-C1'	-5.46	1.45	1.53
1	N	223	A	C4'-C3'	5.45	1.60	1.52
1	N	882	C	C3'-O3'	5.45	1.50	1.42
1	N	1497	G	C2'-C1'	-5.45	1.45	1.53
1	N	916	U	C2'-C1'	-5.45	1.45	1.53
1	N	153	C	C3'-O3'	5.45	1.50	1.42
1	N	356	A	C5'-C4'	5.45	1.59	1.51
1	N	668	G	C2'-O2'	-5.45	1.34	1.42
1	N	369	G	P-O5'	-5.45	1.51	1.59
1	N	505	G	C4'-O4'	5.44	1.53	1.45
1	N	1342	C	C3'-C2'	5.44	1.60	1.52
1	N	758	C	C4'-C3'	5.44	1.60	1.52
1	N	899	C	C2'-C1'	-5.44	1.45	1.53
1	N	1272	G	O3'-P	-5.44	1.52	1.61
1	N	1424	U	C1'-N1	5.44	1.56	1.48
1	N	1229	A	P-O5'	-5.43	1.51	1.59
1	N	1491	G	O4'-C1'	-5.43	1.33	1.41
1	N	754	C	C5'-C4'	5.43	1.59	1.51
1	N	1023	U	C1'-N1	5.43	1.56	1.48
1	N	233	C	C3'-O3'	5.42	1.50	1.42
1	N	1020	G	O5'-C5'	5.42	1.50	1.42
1	N	161	A	C4'-C3'	-5.42	1.44	1.52
1	N	1072	G	O3'-P	-5.42	1.53	1.61
1	N	28	A	N7-C5	-5.42	1.28	1.39
1	N	357	G	C4'-O4'	5.42	1.53	1.45
1	N	680	C	C2'-C1'	-5.42	1.45	1.53
1	N	784	A	O5'-C5'	5.42	1.50	1.42
1	N	1342	C	C4'-C3'	-5.42	1.44	1.52
1	N	405	U	C1'-N1	5.41	1.56	1.48
1	N	1166	G	C2'-C1'	-5.41	1.45	1.53
1	N	1023	U	C4'-C3'	5.41	1.60	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1051	C	C3'-O3'	5.41	1.50	1.42
1	N	52	C	O3'-P	-5.40	1.53	1.61
1	N	955	U	C2'-C1'	-5.40	1.45	1.53
1	N	426	U	O4'-C1'	-5.39	1.33	1.41
1	N	733	G	C2'-C1'	-5.39	1.45	1.53
1	N	1289	A	C5'-C4'	5.39	1.59	1.51
1	N	20	U	C1'-N1	5.39	1.56	1.48
1	N	956	U	C1'-N1	5.39	1.56	1.48
1	N	1303	C	C2'-C1'	-5.39	1.45	1.53
1	N	407	U	C3'-O3'	5.39	1.50	1.42
1	N	1156	G	O5'-C5'	-5.39	1.34	1.42
1	N	170	U	C1'-N1	5.39	1.56	1.48
1	N	258	G	C4'-C3'	5.39	1.60	1.52
1	N	835	U	C2'-C1'	5.39	1.61	1.53
1	N	1110	A	C5'-C4'	5.38	1.59	1.51
1	N	720	C	C4-N4	5.38	1.44	1.33
1	N	82	G	C5'-C4'	5.38	1.59	1.51
1	N	693	G	C2'-C1'	-5.38	1.45	1.53
1	N	1413	A	P-O5'	-5.38	1.51	1.59
1	N	916	U	C5'-C4'	5.38	1.59	1.51
1	N	78	A	O4'-C1'	5.37	1.49	1.41
1	N	1265	C	P-O5'	-5.37	1.51	1.59
1	N	1448	C	C4'-O4'	5.37	1.53	1.45
1	N	1002	G	C2-N3	5.37	1.43	1.32
1	N	1239	A	O3'-P	-5.37	1.53	1.61
1	N	19	A	C2'-C1'	-5.37	1.45	1.53
1	N	580	C	O4'-C1'	5.37	1.49	1.41
1	N	897	C	C5'-C4'	5.37	1.59	1.51
1	N	1097	C	C2'-C1'	-5.37	1.45	1.53
1	N	1036	A	O4'-C1'	5.36	1.49	1.41
1	N	1243	C	N1-C6	5.36	1.47	1.37
1	N	392	C	O3'-P	-5.36	1.53	1.61
1	N	976	G	C5'-C4'	5.36	1.59	1.51
1	N	1223	C	C4'-O4'	-5.36	1.37	1.45
1	N	1218	C	C2'-C1'	-5.35	1.45	1.53
1	N	81	A	C3'-O3'	5.35	1.51	1.43
1	N	343	U	C5'-C4'	5.34	1.59	1.51
1	N	558	G	C2-N3	5.34	1.43	1.32
1	N	736	C	P-O5'	-5.33	1.51	1.59
1	N	1340	A	C6-N6	5.33	1.44	1.33
1	N	1058	G	C1'-N9	5.33	1.55	1.48
1	N	1496	C	C3'-O3'	5.33	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	620	C	C4'-C3'	5.33	1.60	1.52
1	N	1411	C	C4'-C3'	5.32	1.60	1.52
1	N	1236	A	C4'-C3'	-5.32	1.44	1.52
1	N	658	C	C1'-N1	5.32	1.56	1.48
1	N	963	G	C2-N2	5.32	1.45	1.34
1	N	1260	G	O4'-C1'	-5.32	1.33	1.41
1	N	986	U	C1'-N1	5.31	1.56	1.48
1	N	1243	C	C5'-C4'	5.31	1.59	1.51
1	N	1481	U	C3'-O3'	5.31	1.50	1.42
1	N	393	A	P-O5'	-5.31	1.51	1.59
1	N	607	A	P-O5'	-5.31	1.51	1.59
1	N	1019	A	C3'-C2'	5.31	1.60	1.52
1	N	955	U	C3'-O3'	5.30	1.50	1.42
1	N	1049	U	C3'-C2'	5.30	1.60	1.52
1	N	108	G	C2'-C1'	5.30	1.61	1.53
1	N	1497	G	O3'-P	-5.30	1.53	1.61
1	N	223	A	N9-C4	-5.30	1.27	1.37
1	N	987	G	C1'-N9	5.30	1.55	1.48
1	N	1384	C	C5'-C4'	5.30	1.59	1.51
1	N	897	C	O3'-P	-5.30	1.53	1.61
1	N	360	G	C2-N3	5.29	1.43	1.32
1	N	1223	C	O3'-P	-5.29	1.53	1.61
1	N	1072	G	C4'-C3'	5.29	1.60	1.52
1	N	1507	A	C5'-C4'	5.29	1.59	1.51
1	N	1069	C	C1'-N1	5.29	1.56	1.48
1	N	299	G	C1'-N9	5.29	1.55	1.48
1	N	1143	G	C1'-N9	5.28	1.55	1.48
1	N	1225	A	C5'-C4'	5.28	1.59	1.51
1	N	40	C	C5'-C4'	5.28	1.59	1.51
1	N	158	G	C5'-C4'	5.28	1.59	1.51
1	N	304	U	C3'-O3'	5.28	1.50	1.42
1	N	535	A	O3'-P	-5.28	1.53	1.61
1	N	709	U	O3'-P	-5.28	1.53	1.61
1	N	1382	C	C2'-O2'	-5.28	1.34	1.42
1	N	520	A	C5'-C4'	5.28	1.59	1.51
1	N	1279	G	C5'-C4'	5.27	1.59	1.51
1	N	192	A	O5'-C5'	5.27	1.50	1.42
1	N	987	G	O5'-C5'	5.27	1.50	1.42
1	N	1252	A	O4'-C1'	5.27	1.49	1.41
1	N	13	U	C2'-O2'	-5.26	1.33	1.41
1	N	501	C	C1'-N1	5.26	1.56	1.48
1	N	1049	U	C2'-C1'	-5.26	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	428	G	O4'-C1'	-5.26	1.34	1.42
1	N	1483	A	C2'-C1'	-5.26	1.45	1.53
1	N	103	U	C1'-N1	5.26	1.56	1.48
1	N	319	G	P-O5'	-5.26	1.51	1.59
1	N	580	C	C4'-C3'	5.26	1.60	1.52
1	N	420	U	C5'-C4'	5.26	1.59	1.51
1	N	1141	C	C3'-O3'	5.25	1.50	1.42
1	N	1512	U	C2'-C1'	-5.25	1.45	1.53
1	N	1444	U	C5'-C4'	5.25	1.59	1.51
1	N	540	G	O5'-C5'	5.25	1.50	1.42
1	N	1020	G	C5'-C4'	5.25	1.59	1.51
1	N	129	A	C5'-C4'	5.25	1.59	1.51
1	N	1025	U	O3'-P	-5.25	1.53	1.61
1	N	430	A	C5'-C4'	5.25	1.59	1.51
1	N	1013	G	C5'-C4'	5.25	1.59	1.51
1	N	512	U	C1'-N1	5.25	1.56	1.48
1	N	144	G	P-O5'	-5.24	1.51	1.59
1	N	1056	U	C4'-C3'	5.24	1.60	1.52
1	N	997	U	O3'-P	-5.24	1.53	1.61
1	N	1283	U	N1-C2	5.24	1.49	1.38
1	N	1363	A	C4'-O4'	5.24	1.53	1.45
1	N	201	G	O3'-P	-5.24	1.53	1.61
1	N	425	G	C2'-C1'	-5.24	1.45	1.53
1	N	1312	G	O5'-C5'	5.24	1.50	1.42
1	N	1337	G	C2'-C1'	-5.23	1.45	1.53
1	N	177	G	O4'-C1'	5.23	1.49	1.41
1	N	614	C	C4'-O4'	5.23	1.53	1.45
1	N	1125	U	C1'-N1	5.23	1.56	1.48
1	N	137	U	C1'-N1	5.23	1.56	1.48
1	N	857	C	C3'-C2'	-5.23	1.45	1.52
1	N	731	G	C4'-O4'	5.23	1.53	1.45
1	N	701	U	C5'-C4'	5.22	1.59	1.51
1	N	741	G	C4'-O4'	-5.22	1.37	1.45
1	N	2	A	O3'-P	-5.22	1.53	1.61
1	N	1045	C	C1'-N1	5.22	1.56	1.48
1	N	1312	G	C2'-C1'	-5.22	1.45	1.53
1	N	955	U	N3-C4	5.22	1.48	1.38
1	N	1065	U	C2'-C1'	-5.22	1.45	1.53
1	N	186	C	P-O5'	-5.22	1.51	1.59
1	N	891	U	O3'-P	-5.22	1.53	1.61
1	N	616	G	C5'-C4'	5.21	1.59	1.51
1	N	1187	G	O3'-P	-5.21	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	841	C	C4'-O4'	-5.21	1.37	1.45
1	N	794	A	O5'-C5'	5.21	1.50	1.42
1	N	971	G	C3'-O3'	5.21	1.50	1.42
1	N	144	G	N9-C4	-5.20	1.27	1.38
1	N	374	A	C6-N6	5.20	1.44	1.33
1	N	460	A	O3'-P	-5.20	1.53	1.61
1	N	1144	G	O4'-C1'	5.20	1.49	1.41
1	N	1166	G	C5'-C4'	5.20	1.59	1.51
1	N	1256	A	C5'-C4'	5.20	1.59	1.51
1	N	149	A	C6-N6	5.20	1.44	1.33
1	N	930	C	C4'-O4'	5.20	1.53	1.45
1	N	1211	U	C1'-N1	5.20	1.55	1.47
1	N	1047	G	O4'-C1'	5.20	1.49	1.41
1	N	1208	C	C5'-C4'	5.20	1.59	1.51
1	N	449	G	P-O5'	-5.19	1.51	1.59
1	N	506	G	C1'-N9	5.19	1.55	1.48
1	N	1018	G	C5'-C4'	5.19	1.59	1.51
1	N	909	A	C4'-C3'	5.19	1.60	1.52
1	N	377	G	C2-N3	5.18	1.43	1.32
1	N	762	U	O3'-P	-5.18	1.53	1.61
1	N	989	U	C2'-O2'	-5.18	1.34	1.42
1	N	1225	A	P-O5'	-5.18	1.51	1.59
1	N	1022	A	C2'-C1'	-5.18	1.45	1.53
1	N	13	U	C2'-C1'	-5.18	1.45	1.53
1	N	353	A	C6-N6	5.18	1.44	1.33
1	N	650	G	C2'-C1'	5.18	1.61	1.53
1	N	800	G	C3'-C2'	5.18	1.60	1.52
1	N	1250	A	C1'-N9	5.18	1.55	1.48
1	N	740	U	C2'-C1'	-5.17	1.45	1.53
1	N	1225	A	C3'-C2'	5.17	1.60	1.52
1	N	817	C	C4'-O4'	-5.17	1.38	1.45
1	N	1258	G	C2'-C1'	-5.17	1.45	1.53
1	N	1063	C	C5'-C4'	5.17	1.58	1.51
1	N	121	U	C1'-N1	5.16	1.56	1.48
1	N	570	G	C2'-C1'	-5.16	1.45	1.53
1	N	602	A	C4'-O4'	5.16	1.53	1.45
1	N	338	A	O5'-C5'	5.16	1.50	1.42
1	N	64	G	C2'-O2'	-5.16	1.34	1.42
1	N	134	G	C3'-C2'	-5.16	1.45	1.52
1	N	449	G	C3'-C2'	5.16	1.60	1.52
1	N	911	U	C2'-C1'	-5.16	1.45	1.53
1	N	1437	A	C2'-C1'	-5.16	1.45	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1113	C	C3'-O3'	5.15	1.49	1.42
1	N	1377	A	C1'-N9	-5.15	1.40	1.48
1	N	391	G	C3'-C2'	5.15	1.60	1.52
1	N	1201	A	C4'-C3'	5.15	1.60	1.53
1	N	245	U	C5'-C4'	5.15	1.58	1.51
1	N	744	C	C1'-N1	5.15	1.56	1.48
1	N	1211	U	C5'-C4'	5.15	1.59	1.51
1	N	479	U	C2'-C1'	-5.14	1.45	1.53
1	N	887	G	C3'-O3'	5.14	1.49	1.42
1	N	1149	C	C1'-N1	5.14	1.56	1.48
1	N	1234	C	C2-N3	5.14	1.46	1.35
1	N	358	U	C5'-C4'	5.14	1.58	1.51
1	N	36	C	C2'-C1'	-5.14	1.45	1.53
1	N	609	A	C4'-O4'	5.14	1.53	1.45
1	N	1163	A	C4'-C3'	-5.14	1.44	1.52
1	N	1194	U	C1'-N1	5.14	1.56	1.48
1	N	739	C	P-O5'	-5.13	1.52	1.59
1	N	78	A	C4'-O4'	-5.13	1.37	1.45
1	N	596	A	C4'-O4'	5.13	1.53	1.45
1	N	462	G	C3'-C2'	-5.12	1.45	1.52
1	N	158	G	C5-C6	5.12	1.52	1.42
1	N	327	A	C4'-C3'	5.12	1.60	1.53
1	N	254	G	O3'-P	-5.12	1.53	1.61
1	N	1102	A	C5'-C4'	5.12	1.58	1.51
1	N	1186	G	C5'-C4'	5.12	1.58	1.51
1	N	91	U	C4'-O4'	5.12	1.53	1.45
1	N	160	A	C3'-C2'	-5.12	1.45	1.52
1	N	171	A	C2'-C1'	-5.12	1.45	1.53
1	N	191	G	C2'-C1'	-5.12	1.45	1.53
1	N	1499	A	C5'-C4'	5.11	1.58	1.51
1	N	901	A	C4'-O4'	5.11	1.53	1.45
1	N	953	G	C2'-C1'	5.11	1.61	1.53
1	N	1077	G	P-O5'	-5.11	1.52	1.59
1	N	1288	A	C5'-C4'	5.11	1.58	1.51
1	N	384	G	C2'-C1'	-5.11	1.45	1.53
1	N	470	C	P-O5'	-5.11	1.52	1.59
1	N	568	G	C4'-C3'	5.11	1.60	1.52
1	N	902	G	C2'-C1'	-5.11	1.45	1.53
1	N	606	G	O5'-C5'	5.10	1.50	1.42
1	N	224	U	P-O5'	5.10	1.67	1.59
1	N	236	A	C2'-C1'	-5.10	1.45	1.53
1	N	855	U	O4'-C1'	5.10	1.49	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1338	G	C1'-N9	5.10	1.55	1.48
1	N	839	C	O4'-C1'	5.10	1.49	1.41
1	N	49	U	O4'-C1'	-5.09	1.34	1.41
1	N	904	U	C2'-C1'	-5.09	1.45	1.53
1	N	1055	A	C4'-O4'	-5.09	1.38	1.45
1	N	1102	A	N7-C5	-5.09	1.29	1.39
1	N	862	C	C3'-O3'	5.09	1.49	1.42
1	N	981	U	C5'-C4'	5.09	1.58	1.51
1	N	1238	A	O3'-P	-5.09	1.53	1.61
1	N	1465	A	O3'-P	-5.09	1.53	1.61
1	N	1520	C	C1'-N1	5.09	1.56	1.48
1	N	683	G	O4'-C1'	-5.08	1.34	1.41
1	N	728	A	C6-N6	5.08	1.44	1.33
1	N	1303	C	O4'-C1'	5.08	1.49	1.41
1	N	859	G	O5'-C5'	5.08	1.50	1.42
1	N	1396	A	P-O5'	-5.08	1.52	1.59
1	N	983	A	O4'-C1'	5.08	1.49	1.42
1	N	175	C	C4'-C3'	5.08	1.60	1.52
1	N	381	C	O3'-P	-5.08	1.53	1.61
1	N	471	U	O3'-P	-5.08	1.53	1.61
1	N	979	C	C2'-O2'	-5.08	1.34	1.42
1	N	1303	C	C4'-O4'	-5.08	1.38	1.45
1	N	1215	G	C4'-O4'	-5.08	1.38	1.45
1	N	702	A	C1'-N9	5.07	1.55	1.48
1	N	694	A	C3'-C2'	-5.07	1.45	1.52
1	N	301	G	C4'-C3'	5.07	1.60	1.52
1	N	1242	G	O5'-C5'	-5.07	1.34	1.42
1	N	953	G	C5'-C4'	5.07	1.58	1.51
1	N	633	G	C2'-C1'	-5.07	1.45	1.53
1	N	867	G	O4'-C1'	5.07	1.49	1.41
1	N	498	A	C1'-N9	-5.06	1.40	1.48
1	N	481	G	C5'-C4'	5.06	1.58	1.51
1	N	627	G	O5'-C5'	5.06	1.50	1.42
1	N	840	C	C3'-C2'	-5.06	1.45	1.52
1	N	407	U	P-O5'	-5.06	1.52	1.59
1	N	1294	G	N1-C2	5.05	1.47	1.37
1	N	1434	A	C3'-C2'	5.05	1.60	1.52
1	N	1472	U	C1'-N1	5.05	1.56	1.48
1	N	703	G	C6-N1	5.05	1.49	1.39
1	N	25	C	C4-C5	5.04	1.53	1.43
1	N	632	U	C5'-C4'	-5.04	1.43	1.51
1	N	1100	C	C2'-O2'	-5.04	1.34	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	1413	A	C3'-O3'	5.04	1.49	1.42
1	N	1052	U	C4'-C3'	5.04	1.60	1.52
1	N	1194	U	C4'-O4'	-5.04	1.38	1.45
1	N	1355	G	N1-C2	5.04	1.47	1.37
1	N	1023	U	P-O5'	5.04	1.67	1.59
1	N	1472	U	C5'-C4'	5.04	1.58	1.51
1	N	1516	G	C3'-O3'	5.04	1.49	1.42
1	N	138	G	C2'-C1'	-5.03	1.45	1.53
1	N	410	G	C1'-N9	5.03	1.55	1.48
1	N	696	A	N7-C5	-5.03	1.29	1.39
1	N	779	C	C4'-C3'	-5.03	1.45	1.52
1	N	232	G	O3'-P	-5.03	1.53	1.61
1	N	1135	U	C4'-C3'	-5.03	1.45	1.52
1	N	580	C	C4'-O4'	5.03	1.53	1.45
1	N	1312	G	O4'-C1'	5.03	1.49	1.41
1	N	704	A	C6-N1	5.03	1.45	1.35
1	N	1308	U	C3'-C2'	5.03	1.60	1.52
1	N	1520	C	C3'-C2'	-5.03	1.45	1.52
1	N	796	C	C4'-O4'	5.02	1.53	1.45
1	N	1255	G	O4'-C1'	5.02	1.49	1.41
1	N	176	C	C4'-C3'	5.02	1.60	1.52
1	N	693	G	C3'-O3'	5.01	1.49	1.42
1	N	1026	G	C2'-C1'	5.01	1.60	1.53
1	N	710	G	C4'-O4'	-5.01	1.38	1.45
1	N	909	A	C5'-C4'	5.01	1.58	1.51
1	N	1214	C	P-O5'	-5.01	1.52	1.59
1	N	1467	C	C2'-C1'	-5.01	1.45	1.53
1	N	457	G	O3'-P	-5.01	1.53	1.61
1	N	534	U	C2'-C1'	-5.01	1.45	1.53
1	N	804	U	C3'-O3'	5.00	1.49	1.42
1	N	1434	A	C2'-C1'	-5.00	1.45	1.53
1	N	88	U	O3'-P	-5.00	1.53	1.61
1	N	130	A	C5'-C4'	5.00	1.58	1.51
1	N	510	A	P-O5'	-5.00	1.52	1.59
1	N	4	U	C2'-C1'	-5.00	1.45	1.53
1	N	913	A	O4'-C1'	5.00	1.49	1.42
1	N	1073	U	C1'-N1	5.00	1.55	1.48
1	N	1486	G	C4'-C3'	5.00	1.60	1.52

All (1954) bond angle outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1362	A	P-O3'-C3'	23.49	155.43	120.20
1	N	94	G	P-O3'-C3'	19.62	149.63	120.20
1	N	1242	G	P-O5'-C5'	18.54	148.72	120.90
1	N	982	U	P-O3'-C3'	18.00	147.20	120.20
1	N	1173	U	P-O5'-C5'	17.83	147.65	120.90
1	N	47	C	P-O3'-C3'	17.38	146.26	120.20
1	N	511	C	P-O3'-C3'	16.72	145.28	120.20
1	N	210	C	P-O3'-C3'	16.61	145.12	120.20
1	N	1201	A	P-O3'-C3'	16.39	144.79	120.20
1	N	776	G	P-O5'-C5'	16.16	145.14	120.90
1	N	484	G	P-O3'-C3'	15.80	143.90	120.20
1	N	792	A	P-O3'-C3'	15.60	143.59	120.20
1	N	172	A	P-O3'-C3'	14.39	141.79	120.20
1	N	547	A	P-O3'-C3'	14.33	141.70	120.20
1	N	264	C	P-O5'-C5'	14.21	142.21	120.90
1	N	438	U	P-O3'-C3'	14.05	141.28	120.20
1	N	316	C	C5'-C4'-C3'	-13.93	95.11	116.00
1	N	508	U	P-O3'-C3'	13.74	140.81	120.20
1	N	119	A	P-O3'-C3'	13.68	140.72	120.20
1	N	243	A	P-O3'-C3'	13.60	140.60	120.20
1	N	344	A	P-O3'-C3'	13.48	140.43	120.20
1	N	1101	A	P-O3'-C3'	13.28	140.12	120.20
1	N	1000	A	P-O5'-C5'	13.13	140.60	120.90
1	N	641	U	P-O3'-C3'	13.12	139.88	120.20
1	N	1236	A	P-O3'-C3'	13.09	139.83	120.20
1	N	513	C	P-O5'-C5'	12.62	139.83	120.90
1	N	559	A	P-O3'-C3'	12.60	139.11	120.20
1	N	1319	A	P-O3'-C3'	12.56	139.03	120.20
1	N	1482	G	P-O5'-C5'	12.49	139.63	120.90
1	N	1530	G	P-O3'-C3'	12.46	138.89	120.20
1	N	407	U	P-O5'-C5'	12.40	139.51	120.90
1	N	327	A	P-O3'-C3'	12.36	138.74	120.20
1	N	1274	A	P-O5'-C5'	12.35	139.42	120.90
1	N	686	U	P-O3'-C3'	12.31	138.67	120.20
1	N	93	U	P-O5'-C5'	12.21	139.22	120.90
1	N	115	G	P-O3'-C3'	12.20	138.50	120.20
1	N	1278	G	P-O3'-C3'	12.10	138.34	120.20
1	N	1531	A	P-O5'-C5'	11.95	138.82	120.90
1	N	555	U	P-O3'-C3'	11.94	138.11	120.20
1	N	1129	C	O4'-C1'-C2'	11.87	117.67	105.80
1	N	1094	G	P-O3'-C3'	11.62	137.64	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1088	G	P-O5'-C5'	11.38	137.98	120.90
1	N	661	G	P-O5'-C5'	11.27	137.81	120.90
1	N	323	U	P-O5'-C5'	11.24	137.76	120.90
1	N	913	A	P-O3'-C3'	11.16	136.94	120.20
1	N	184	G	P-O5'-C5'	11.12	137.58	120.90
1	N	575	G	P-O3'-C3'	11.05	136.78	120.20
1	N	535	A	P-O3'-C3'	11.03	136.74	120.20
1	N	560	A	P-O3'-C3'	10.95	136.63	120.20
1	N	1433	A	O3'-P-O5'	-10.80	87.80	104.00
1	N	129	A	C2'-C3'-O3'	10.76	125.64	109.50
1	N	817	C	P-O3'-C3'	10.73	136.30	120.20
1	N	633	G	P-O5'-C5'	10.70	136.95	120.90
1	N	185	U	P-O5'-C5'	10.70	136.95	120.90
1	N	345	C	P-O3'-C3'	10.69	136.23	120.20
1	N	1347	G	P-O3'-C3'	10.62	136.13	120.20
1	N	1042	A	P-O5'-C5'	10.58	136.78	120.90
1	N	265	G	P-O3'-C3'	10.55	136.03	120.20
1	N	1170	A	C5'-C4'-C3'	10.55	131.82	116.00
1	N	496	A	P-O5'-C5'	10.53	136.69	120.90
1	N	648	A	P-O5'-C5'	10.46	136.59	120.90
1	N	1188	A	P-O3'-C3'	10.42	135.83	120.20
1	N	830	G	P-O5'-C5'	10.40	136.50	120.90
1	N	924	C	P-O5'-C5'	10.39	136.49	120.90
1	N	566	G	C4'-C3'-C2'	10.36	112.96	102.60
1	N	934	C	C5'-C4'-C3'	-10.33	99.70	115.20
1	N	1418	A	P-O5'-C5'	10.32	136.37	120.90
1	N	1483	A	O4'-C4'-C3'	-10.31	93.69	104.00
1	N	802	A	P-O3'-C3'	10.21	135.52	120.20
1	N	721	G	P-O3'-C3'	10.20	135.51	120.20
1	N	343	U	P-O5'-C5'	10.15	136.13	120.90
1	N	317	U	P-O5'-C5'	10.13	136.09	120.90
1	N	212	G	P-O5'-C5'	10.07	136.01	120.90
1	N	1432	G	P-O3'-C3'	10.03	135.25	120.20
1	N	1515	G	C4'-C3'-C2'	-10.03	92.57	102.60
1	N	1365	G	P-O5'-C5'	-10.02	105.86	120.90
1	N	1395	C	O3'-P-O5'	-10.02	88.97	104.00
1	N	464	U	P-O5'-C5'	9.98	135.87	120.90
1	N	652	U	O4'-C1'-N1	9.95	123.42	108.50
1	N	120	A	P-O3'-C3'	9.94	135.11	120.20
1	N	464	U	C4'-C3'-C2'	9.90	112.50	102.60
1	N	1432	G	C2'-C3'-O3'	9.88	124.32	109.50
1	N	1123	U	P-O3'-C3'	9.88	135.02	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	440	C	P-O5'-C5'	9.79	135.58	120.90
1	N	1081	A	C5'-C4'-C3'	-9.79	101.32	116.00
1	N	1396	A	P-O5'-C5'	9.78	135.57	120.90
1	N	717	U	C2'-C3'-O3'	9.76	124.14	109.50
1	N	1358	U	P-O3'-C3'	9.76	134.84	120.20
1	N	820	U	P-O3'-C3'	9.76	134.84	120.20
1	N	1139	G	O3'-P-O5'	-9.72	89.42	104.00
1	N	655	A	P-O5'-C5'	9.66	135.38	120.90
1	N	1498	U	P-O3'-C3'	9.62	134.64	120.20
1	N	223	A	P-O5'-C5'	9.62	135.33	120.90
1	N	812	G	P-O3'-C3'	9.61	134.62	120.20
1	N	1227	A	C4'-C3'-C2'	9.61	112.21	102.60
1	N	914	A	C5'-C4'-C3'	-9.60	101.60	116.00
1	N	669	G	P-O5'-C5'	9.57	135.26	120.90
1	N	607	A	P-O5'-C5'	9.56	135.25	120.90
1	N	605	U	P-O3'-C3'	9.51	134.47	120.20
1	N	1285	A	P-O3'-C3'	9.46	134.39	120.20
1	N	1171	A	P-O3'-C3'	9.46	134.38	120.20
1	N	1282	C	P-O5'-C5'	9.43	135.05	120.90
1	N	1168	U	P-O3'-C3'	9.42	134.34	120.20
1	N	361	G	P-O5'-C5'	9.39	134.99	120.90
1	N	88	U	P-O3'-C3'	9.38	134.27	120.20
1	N	805	C	P-O5'-C5'	9.37	134.95	120.90
1	N	425	G	P-O5'-C5'	9.31	134.87	120.90
1	N	992	U	P-O5'-C5'	-9.31	106.93	120.90
1	N	50	A	O4'-C1'-N9	9.28	122.12	108.20
1	N	315	A	C2'-C3'-O3'	9.28	123.42	109.50
1	N	1249	C	P-O3'-C3'	9.27	134.10	120.20
1	N	1241	G	P-O5'-C5'	9.24	134.75	120.90
1	N	495	A	P-O3'-C3'	9.22	134.04	120.20
1	N	1095	U	O4'-C1'-N1	9.21	122.32	108.50
1	N	95	C	P-O5'-C5'	-9.18	107.12	120.90
1	N	714	G	O4'-C1'-N9	9.16	122.23	108.50
1	N	788	U	P-O5'-C5'	9.13	134.60	120.90
1	N	535	A	O4'-C4'-C3'	-9.12	96.98	106.10
1	N	926	G	C5'-C4'-C3'	9.11	129.66	116.00
1	N	197	A	C5'-C4'-C3'	9.07	128.81	115.20
1	N	950	U	P-O5'-C5'	9.05	134.48	120.90
1	N	428	G	O4'-C4'-C3'	-9.04	97.06	106.10
1	N	1182	G	P-O3'-C3'	9.04	133.75	120.20
1	N	1497	G	P-O3'-C3'	9.03	133.74	120.20
1	N	1226	C	P-O3'-C3'	9.02	133.73	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1114	C	P-O5'-C5'	9.01	134.42	120.90
1	N	737	C	O5'-C5'-C4'	-9.01	97.99	111.50
1	N	1102	A	P-O5'-C5'	9.00	134.39	120.90
1	N	274	A	C2'-C3'-O3'	8.99	122.98	109.50
1	N	988	G	O4'-C1'-N9	8.99	121.98	108.50
1	N	1529	G	P-O3'-C3'	8.99	133.68	120.20
1	N	1399	C	O3'-P-O5'	8.96	117.44	104.00
1	N	1394	A	P-O5'-C5'	8.96	134.34	120.90
1	N	1321	U	P-O5'-C5'	8.95	134.32	120.90
1	N	95	C	C5'-C4'-C3'	-8.94	102.59	116.00
1	N	1086	U	O5'-C5'-C4'	8.93	124.89	111.50
1	N	274	A	C4'-C3'-O3'	8.92	122.78	109.40
1	N	61	G	O4'-C4'-C3'	-8.92	95.08	104.00
1	N	126	G	C4'-C3'-C2'	-8.89	93.71	102.60
1	N	1469	C	O5'-C5'-C4'	8.89	124.84	111.50
1	N	995	C	P-O3'-C3'	-8.87	106.89	120.20
1	N	60	A	P-O3'-C3'	8.86	133.49	120.20
1	N	208	U	P-O3'-C3'	8.86	133.48	120.20
1	N	905	U	N1-C1'-C2'	8.84	125.26	112.00
1	N	991	U	P-O3'-C3'	8.84	133.46	120.20
1	N	910	C	P-O5'-C5'	8.82	134.14	120.90
1	N	201	G	P-O3'-C3'	8.82	133.43	120.20
1	N	744	C	O4'-C1'-C2'	-8.81	98.79	107.60
1	N	1033	G	P-O5'-C5'	8.77	134.06	120.90
1	N	787	A	P-O5'-C5'	8.74	134.01	120.90
1	N	824	G	C4'-C3'-C2'	-8.74	93.86	102.60
1	N	1487	G	C5'-C4'-C3'	-8.74	102.89	116.00
1	N	1326	U	C4'-C3'-C2'	-8.73	93.87	102.60
1	N	1451	U	P-O5'-C5'	8.72	133.98	120.90
1	N	855	U	P-O3'-C3'	8.61	133.12	120.20
1	N	78	A	C1'-O4'-C4'	8.61	118.51	109.90
1	N	1032	G	P-O5'-C5'	8.59	133.78	120.90
1	N	582	C	O4'-C1'-N1	8.56	121.33	108.50
1	N	610	U	P-O5'-C5'	-8.56	108.06	120.90
1	N	1043	G	P-O3'-C3'	8.56	133.04	120.20
1	N	1210	C	P-O5'-C5'	-8.56	108.06	120.90
1	N	926	G	P-O3'-C3'	8.55	133.03	120.20
1	N	1530	G	P-O5'-C5'	-8.56	108.07	120.90
1	N	1502	A	C2'-C3'-O3'	8.54	122.31	109.50
1	N	351	G	P-O3'-C3'	8.54	133.01	120.20
1	N	391	G	P-O3'-C3'	8.53	133.00	120.20
1	N	957	U	P-O5'-C5'	8.53	133.69	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	171	A	C5'-C4'-C3'	-8.49	103.27	116.00
1	N	366	A	C4'-C3'-O3'	8.48	122.12	109.40
1	N	526	C	C5'-C4'-C3'	8.48	128.72	116.00
1	N	1287	A	P-O5'-C5'	8.47	133.60	120.90
1	N	1181	G	C2'-C3'-O3'	8.41	122.11	109.50
1	N	207	C	P-O3'-C3'	8.41	132.81	120.20
1	N	1467	C	O4'-C1'-N1	8.39	121.08	108.50
1	N	266	G	P-O3'-C3'	8.37	132.76	120.20
1	N	252	U	O3'-P-O5'	-8.37	91.44	104.00
1	N	485	U	O4'-C1'-N1	8.37	120.75	108.20
1	N	1431	A	C3'-C2'-C1'	8.36	109.66	101.30
1	N	566	G	P-O3'-C3'	8.34	132.72	120.20
1	N	486	U	C5'-C4'-C3'	-8.33	103.50	116.00
1	N	1336	C	P-O3'-C3'	8.33	132.70	120.20
1	N	1171	A	O5'-C5'-C4'	-8.32	99.02	111.50
1	N	1113	C	C5'-C4'-C3'	-8.32	103.52	116.00
1	N	535	A	C2'-C3'-O3'	8.31	121.96	109.50
1	N	181	A	P-O3'-C3'	8.30	132.66	120.20
1	N	581	G	C4'-C3'-C2'	-8.29	94.31	102.60
1	N	145	G	P-O3'-C3'	-8.28	107.78	120.20
1	N	603	U	O5'-C5'-C4'	-8.28	99.09	111.50
1	N	109	A	P-O3'-C3'	8.26	132.60	120.20
1	N	298	A	P-O5'-C5'	-8.26	108.51	120.90
1	N	927	G	P-O5'-C5'	-8.26	108.51	120.90
1	N	1314	C	P-O3'-C3'	-8.25	107.83	120.20
1	N	931	C	C4'-C3'-C2'	-8.24	94.36	102.60
1	N	533	A	C4'-C3'-C2'	-8.23	94.37	102.60
1	N	99	C	P-O3'-C3'	8.23	132.54	120.20
1	N	1269	A	O3'-P-O5'	-8.23	91.66	104.00
1	N	1181	G	C5'-C4'-C3'	-8.21	102.88	115.20
1	N	139	A	C3'-C2'-C1'	-8.21	93.09	101.30
1	N	173	U	O5'-C5'-C4'	8.21	124.01	111.70
1	N	941	G	P-O3'-C3'	8.21	132.51	120.20
1	N	1260	G	O5'-C5'-C4'	-8.20	99.20	111.50
1	N	207	C	O4'-C4'-C3'	-8.20	95.81	104.00
1	N	567	G	P-O5'-C5'	8.19	133.18	120.90
1	N	1331	G	P-O3'-C3'	8.19	132.48	120.20
1	N	547	A	C4'-C3'-C2'	8.18	110.78	102.60
1	N	81	A	O4'-C4'-C3'	-8.15	97.95	106.10
1	N	811	C	C4'-C3'-C2'	-8.14	94.46	102.60
1	N	1108	G	C1'-O4'-C4'	-8.14	101.76	109.90
1	N	130	A	O4'-C4'-C3'	-8.13	97.97	106.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	247	G	O4'-C1'-C2'	-8.13	99.47	107.60
1	N	1399	C	P-O3'-C3'	8.13	132.39	120.20
1	N	775	G	P-O5'-C5'	8.12	133.08	120.90
1	N	90	C	C5'-C4'-C3'	8.11	127.37	115.20
1	N	51	A	P-O3'-C3'	8.11	132.36	120.20
1	N	1145	A	O3'-P-O5'	-8.10	91.85	104.00
1	N	1216	A	O4'-C4'-C3'	-8.09	95.91	104.00
1	N	587	G	C4'-C3'-C2'	-8.09	94.52	102.60
1	N	758	C	C4'-C3'-C2'	-8.07	94.53	102.60
1	N	1191	A	O4'-C1'-C2'	-8.07	99.53	107.60
1	N	344	A	P-O5'-C5'	8.07	133.00	120.90
1	N	366	A	C4'-C3'-C2'	8.06	110.67	102.60
1	N	709	U	O5'-C5'-C4'	-8.05	99.42	111.50
1	N	856	C	O4'-C4'-C3'	-8.05	95.95	104.00
1	N	94	G	P-O5'-C5'	-8.04	108.83	120.90
1	N	582	C	P-O5'-C5'	8.04	132.96	120.90
1	N	934	C	C4'-C3'-O3'	8.04	121.45	109.40
1	N	1512	U	C3'-C2'-C1'	8.04	109.34	101.30
1	N	1389	C	C5'-C4'-C3'	8.03	128.05	116.00
1	N	1046	A	P-O5'-C5'	-8.02	108.87	120.90
1	N	788	U	O5'-C5'-C4'	8.01	123.52	111.50
1	N	1419	G	O4'-C1'-C2'	-8.01	99.59	107.60
1	N	940	C	P-O5'-C5'	8.00	132.90	120.90
1	N	1516	G	C4'-C3'-C2'	-8.00	94.60	102.60
1	N	736	C	O4'-C1'-N1	7.99	120.49	108.50
1	N	323	U	O5'-C5'-C4'	-7.99	99.52	111.50
1	N	180	U	C2'-C3'-O3'	7.99	125.68	113.70
1	N	1144	G	P-O5'-C5'	7.99	132.88	120.90
1	N	245	U	P-O5'-C5'	-7.97	108.94	120.90
1	N	814	A	P-O3'-C3'	7.97	132.16	120.20
1	N	866	C	P-O5'-C5'	7.95	132.82	120.90
1	N	138	G	O4'-C1'-N9	7.93	120.39	108.50
1	N	984	C	O4'-C1'-N1	7.93	120.39	108.50
1	N	1223	C	P-O3'-C3'	7.92	132.08	120.20
1	N	1223	C	C2'-C3'-O3'	7.92	121.38	109.50
1	N	1331	G	P-O5'-C5'	7.92	132.77	120.90
1	N	1053	G	P-O3'-C3'	7.91	132.07	120.20
1	N	17	U	O4'-C4'-C3'	-7.91	96.09	104.00
1	N	71	A	O3'-P-O5'	-7.91	92.14	104.00
1	N	1111	A	P-O5'-C5'	-7.91	109.04	120.90
1	N	181	A	C4'-C3'-C2'	-7.90	94.70	102.60
1	N	1369	C	O4'-C1'-N1	7.88	120.32	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	91	U	O4'-C1'-N1	7.87	120.30	108.50
1	N	1139	G	O5'-C5'-C4'	-7.86	99.91	111.70
1	N	273	U	C1'-O4'-C4'	7.85	117.75	109.90
1	N	168	G	C4'-C3'-C2'	-7.85	94.75	102.60
1	N	352	C	P-O5'-C5'	7.84	132.66	120.90
1	N	525	C	O4'-C1'-N1	7.83	120.25	108.50
1	N	1312	G	C5'-C4'-C3'	-7.83	104.25	116.00
1	N	62	U	P-O5'-C5'	7.83	132.65	120.90
1	N	1038	C	P-O3'-C3'	7.82	131.93	120.20
1	N	936	C	P-O3'-C3'	-7.82	108.47	120.20
1	N	730	G	O4'-C4'-C3'	-7.82	96.18	104.00
1	N	372	C	P-O3'-C3'	7.81	131.92	120.20
1	N	285	C	P-O5'-C5'	7.81	132.61	120.90
1	N	486	U	P-O5'-C5'	-7.81	109.19	120.90
1	N	951	G	C5'-C4'-C3'	7.81	127.71	116.00
1	N	74	A	P-O5'-C5'	7.80	132.60	120.90
1	N	982	U	C2'-C3'-O3'	7.79	121.19	109.50
1	N	168	G	O4'-C1'-C2'	-7.79	99.81	107.60
1	N	829	G	O4'-C1'-C2'	-7.79	99.81	107.60
1	N	499	A	O4'-C1'-C2'	7.79	113.59	105.80
1	N	219	U	C5'-C4'-C3'	-7.78	104.32	116.00
1	N	73	C	O4'-C1'-C2'	-7.78	99.82	107.60
1	N	331	G	P-O5'-C5'	7.76	132.55	120.90
1	N	858	G	O4'-C1'-C2'	-7.76	99.83	107.60
1	N	1502	A	P-O3'-C3'	7.76	131.84	120.20
1	N	316	C	O4'-C1'-N1	7.75	120.12	108.50
1	N	1139	G	P-O3'-C3'	7.74	131.81	120.20
1	N	1058	G	O4'-C1'-C2'	-7.74	99.86	107.60
1	N	140	U	O5'-C5'-C4'	-7.74	99.89	111.50
1	N	1322	C	C2'-C3'-O3'	7.74	121.10	109.50
1	N	1243	C	P-O5'-C5'	7.73	132.50	120.90
1	N	351	G	C1'-O4'-C4'	-7.73	101.97	109.70
1	N	1336	C	O4'-C4'-C3'	-7.73	98.37	106.10
1	N	660	C	O4'-C1'-N1	7.72	120.08	108.50
1	N	1092	A	C4'-C3'-C2'	-7.71	94.89	102.60
1	N	1145	A	P-O3'-C3'	7.71	131.76	120.20
1	N	93	U	O4'-C1'-N1	7.70	120.05	108.50
1	N	210	C	C5'-C4'-O4'	7.70	120.65	109.10
1	N	596	A	P-O5'-C5'	7.70	132.45	120.90
1	N	666	G	C5'-C4'-C3'	7.70	127.54	116.00
1	N	834	U	C4'-C3'-C2'	-7.69	94.91	102.60
1	N	1048	G	C3'-C2'-C1'	7.68	108.98	101.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1318	A	O4'-C4'-C3'	7.68	111.68	104.00
1	N	1326	U	C3'-C2'-C1'	7.67	108.97	101.30
1	N	514	C	O4'-C1'-C2'	-7.66	99.94	107.60
1	N	1093	A	C5'-C4'-C3'	7.63	127.45	116.00
1	N	943	U	C5'-C4'-C3'	-7.62	104.56	116.00
1	N	1432	G	O5'-C5'-C4'	-7.62	100.27	111.70
1	N	374	A	P-O5'-C5'	-7.61	109.49	120.90
1	N	1140	C	C2'-C3'-O3'	7.60	120.89	109.50
1	N	857	C	C2'-C3'-O3'	7.58	125.08	113.70
1	N	714	G	C3'-C2'-C1'	7.58	108.88	101.30
1	N	1239	A	C4'-C3'-O3'	7.58	120.77	109.40
1	N	854	U	P-O3'-C3'	-7.58	108.83	120.20
1	N	1206	G	O5'-C5'-C4'	-7.57	100.15	111.50
1	N	843	U	C1'-O4'-C4'	-7.56	102.34	109.90
1	N	1195	C	P-O3'-C3'	7.56	131.54	120.20
1	N	495	A	C2'-C3'-O3'	7.56	120.83	109.50
1	N	467	U	C3'-C2'-C1'	-7.54	93.76	101.30
1	N	960	U	C2'-C3'-O3'	7.54	120.81	109.50
1	N	75	G	P-O5'-C5'	-7.54	109.59	120.90
1	N	467	U	O4'-C1'-C2'	7.54	115.14	107.60
1	N	1239	A	C2'-C3'-O3'	7.54	120.81	109.50
1	N	70	U	P-O3'-C3'	7.54	131.50	120.20
1	N	524	G	P-O5'-C5'	-7.54	109.60	120.90
1	N	1366	C	P-O5'-C5'	7.52	132.18	120.90
1	N	1003	G	C4'-C3'-C2'	-7.51	95.09	102.60
1	N	1148	U	C4'-C3'-C2'	-7.51	95.09	102.60
1	N	869	G	O3'-P-O5'	-7.50	92.75	104.00
1	N	1311	A	O3'-P-O5'	7.49	115.23	104.00
1	N	1509	C	O4'-C1'-N1	7.49	119.73	108.50
1	N	866	C	P-O3'-C3'	7.49	131.43	120.20
1	N	135	C	O4'-C1'-N1	7.46	119.70	108.50
1	N	1345	U	C2'-C3'-O3'	7.45	120.67	109.50
1	N	342	C	O4'-C1'-C2'	-7.44	100.16	107.60
1	N	1245	C	C4'-C3'-C2'	-7.43	95.17	102.60
1	N	1204	A	C4'-C3'-C2'	-7.42	95.17	102.60
1	N	1357	A	C4'-C3'-O3'	-7.42	101.87	113.00
1	N	1336	C	C2'-C3'-O3'	7.42	120.63	109.50
1	N	1168	U	C1'-O4'-C4'	-7.41	102.49	109.90
1	N	1484	C	P-O5'-C5'	7.41	132.02	120.90
1	N	947	G	C5'-C4'-C3'	7.41	127.11	116.00
1	N	54	C	P-O5'-C5'	-7.41	109.79	120.90
1	N	8	A	P-O5'-C5'	-7.40	109.80	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	818	G	C4'-C3'-C2'	-7.40	95.20	102.60
1	N	721	G	C2'-C3'-O3'	7.39	120.58	109.50
1	N	534	U	P-O5'-C5'	7.39	131.98	120.90
1	N	644	U	P-O5'-C5'	7.38	131.98	120.90
1	N	118	U	P-O5'-C5'	7.38	131.97	120.90
1	N	43	C	O4'-C1'-N1	7.38	119.57	108.50
1	N	464	U	O3'-P-O5'	-7.38	92.93	104.00
1	N	1138	G	P-O3'-C3'	7.38	131.26	120.20
1	N	196	A	O3'-P-O5'	-7.37	92.94	104.00
1	N	1282	C	O4'-C1'-N1	7.37	119.56	108.50
1	N	499	A	P-O3'-C3'	7.35	131.23	120.20
1	N	485	U	P-O3'-C3'	7.35	131.23	120.20
1	N	140	U	C4'-C3'-C2'	-7.35	95.25	102.60
1	N	451	A	P-O3'-C3'	7.34	131.21	120.20
1	N	932	C	O4'-C1'-N1	7.34	119.50	108.50
1	N	1353	G	P-O3'-C3'	-7.34	109.19	120.20
1	N	512	U	O4'-C4'-C3'	7.33	111.33	104.00
1	N	1310	G	C2'-C3'-O3'	7.33	124.69	113.70
1	N	198	G	O4'-C1'-N9	7.32	119.49	108.50
1	N	957	U	O3'-P-O5'	-7.32	93.03	104.00
1	N	1358	U	N1-C1'-C2'	7.32	122.97	112.00
1	N	804	U	P-O3'-C3'	-7.31	109.23	120.20
1	N	232	G	O4'-C4'-C3'	-7.31	96.69	104.00
1	N	481	G	O4'-C4'-C3'	-7.31	98.79	106.10
1	N	894	G	O5'-C5'-C4'	-7.31	100.54	111.50
1	N	515	G	P-O5'-C5'	7.30	131.85	120.90
1	N	555	U	P-O5'-C5'	7.30	131.85	120.90
1	N	198	G	C3'-C2'-C1'	7.29	108.59	101.30
1	N	1314	C	O4'-C4'-C3'	-7.29	96.71	104.00
1	N	970	C	O4'-C1'-C2'	7.28	114.88	107.60
1	N	2	A	C4'-C3'-C2'	-7.28	95.32	102.60
1	N	1226	C	O4'-C1'-N1	7.28	119.11	108.20
1	N	613	C	O4'-C1'-N1	7.27	119.41	108.50
1	N	1087	G	O4'-C1'-N9	7.27	119.41	108.50
1	N	464	U	C5'-C4'-C3'	7.25	126.88	116.00
1	N	427	U	C4'-C3'-O3'	-7.25	102.13	113.00
1	N	531	U	O4'-C1'-N1	7.25	119.37	108.50
1	N	224	U	C4'-C3'-C2'	-7.25	95.36	102.60
1	N	244	U	C5'-C4'-O4'	7.24	119.96	109.10
1	N	13	U	O5'-C5'-C4'	-7.24	100.84	111.70
1	N	271	C	O4'-C1'-N1	7.24	119.36	108.50
1	N	1247	U	P-O3'-C3'	-7.22	109.36	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1157	A	C3'-C2'-C1'	7.22	108.72	101.50
1	N	559	A	C4'-C3'-O3'	7.22	120.23	109.40
1	N	828	U	P-O5'-C5'	7.22	131.73	120.90
1	N	1362	A	C1'-O4'-C4'	-7.22	102.68	109.90
1	N	427	U	C5'-C4'-O4'	-7.21	98.98	109.80
1	N	541	G	C4'-C3'-C2'	-7.21	95.39	102.60
1	N	252	U	C5'-C4'-C3'	-7.21	105.19	116.00
1	N	347	G	O4'-C1'-C2'	-7.21	100.39	107.60
1	N	804	U	O4'-C1'-N1	7.20	119.31	108.50
1	N	175	C	P-O5'-C5'	7.20	131.70	120.90
1	N	991	U	C5'-C4'-C3'	-7.20	104.40	115.20
1	N	1331	G	C5'-C4'-C3'	-7.20	105.20	116.00
1	N	264	C	O5'-C5'-C4'	-7.20	100.70	111.50
1	N	1355	G	O3'-P-O5'	7.20	114.80	104.00
1	N	418	C	C4'-C3'-O3'	-7.20	102.20	113.00
1	N	1362	A	O4'-C1'-N9	7.20	119.29	108.50
1	N	932	C	C5'-C4'-C3'	-7.18	105.23	116.00
1	N	588	G	P-O5'-C5'	7.17	131.66	120.90
1	N	789	U	O3'-P-O5'	-7.17	93.24	104.00
1	N	801	U	O4'-C1'-N1	7.17	119.26	108.50
1	N	93	U	O4'-C4'-C3'	-7.17	96.83	104.00
1	N	425	G	O4'-C1'-N9	7.16	119.24	108.50
1	N	811	C	C1'-O4'-C4'	-7.16	102.74	109.90
1	N	1402	C	C4'-C3'-C2'	-7.16	95.44	102.60
1	N	140	U	C2'-C3'-O3'	7.15	124.43	113.70
1	N	1154	G	C5'-C4'-C3'	-7.14	105.28	116.00
1	N	1292	G	P-O5'-C5'	7.14	131.62	120.90
1	N	1190	G	O4'-C1'-C2'	-7.14	98.66	105.80
1	N	531	U	O4'-C4'-C3'	-7.14	96.86	104.00
1	N	1438	G	C4'-C3'-C2'	-7.14	95.46	102.60
1	N	1050	G	C5'-C4'-C3'	-7.13	105.30	116.00
1	N	1055	A	C5'-C4'-C3'	7.13	126.70	116.00
1	N	1049	U	P-O3'-C3'	7.13	130.90	120.20
1	N	532	A	C5'-C4'-C3'	7.13	126.69	116.00
1	N	1279	G	C2'-C3'-O3'	7.12	120.19	109.50
1	N	1174	G	C4'-C3'-C2'	-7.12	95.48	102.60
1	N	1251	A	N9-C1'-C2'	-7.12	103.33	114.00
1	N	245	U	C1'-O4'-C4'	7.10	117.00	109.90
1	N	1506	U	C2'-C3'-O3'	7.10	120.16	109.50
1	N	798	U	C5'-C4'-C3'	7.10	126.65	116.00
1	N	317	U	O3'-P-O5'	-7.09	93.36	104.00
1	N	239	U	O4'-C1'-N1	7.09	119.14	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1134	G	O4'-C1'-N9	7.09	119.13	108.50
1	N	272	C	O4'-C1'-N1	7.08	119.12	108.50
1	N	1132	C	P-O5'-C5'	7.08	131.53	120.90
1	N	1529	G	C2'-C3'-O3'	7.08	120.12	109.50
1	N	824	G	C2'-C3'-O3'	7.08	124.32	113.70
1	N	464	U	P-O3'-C3'	7.08	130.81	120.20
1	N	416	G	O5'-C5'-C4'	-7.07	100.89	111.50
1	N	511	C	P-O5'-C5'	-7.07	110.29	120.90
1	N	704	A	O4'-C4'-C3'	-7.07	96.93	104.00
1	N	1409	C	O4'-C4'-C3'	-7.07	96.93	104.00
1	N	1274	A	C5'-C4'-C3'	7.06	126.59	116.00
1	N	93	U	O3'-P-O5'	7.06	114.59	104.00
1	N	557	G	P-O5'-C5'	7.06	131.49	120.90
1	N	1203	C	P-O5'-C5'	7.06	131.49	120.90
1	N	1207	G	P-O5'-C5'	7.06	131.49	120.90
1	N	1506	U	C5'-C4'-C3'	7.06	125.79	115.20
1	N	1380	U	C4'-C3'-C2'	-7.05	95.55	102.60
1	N	822	U	O5'-C5'-C4'	-7.05	100.92	111.50
1	N	1331	G	O4'-C1'-N9	7.05	119.08	108.50
1	N	273	U	O3'-P-O5'	-7.05	93.43	104.00
1	N	532	A	P-O3'-C3'	7.05	130.78	120.20
1	N	49	U	P-O5'-C5'	7.05	131.47	120.90
1	N	1490	U	O4'-C1'-N1	7.05	119.07	108.50
1	N	1089	G	P-O5'-C5'	-7.04	110.34	120.90
1	N	353	A	P-O3'-C3'	7.04	130.75	120.20
1	N	204	G	C5'-C4'-C3'	7.03	126.55	116.00
1	N	722	G	C5'-C4'-C3'	-7.03	105.45	116.00
1	N	1431	A	C4'-C3'-C2'	-7.03	95.57	102.60
1	N	152	A	C5'-C4'-C3'	7.02	126.53	116.00
1	N	902	G	C4'-C3'-C2'	-7.01	95.58	102.60
1	N	979	C	C4'-C3'-C2'	-7.01	95.58	102.60
1	N	491	G	P-O5'-C5'	-7.01	110.38	120.90
1	N	34	C	O4'-C1'-N1	7.01	119.02	108.50
1	N	1399	C	C4'-C3'-O3'	6.99	119.89	109.40
1	N	314	C	O5'-C5'-C4'	-6.99	101.02	111.50
1	N	362	G	P-O5'-C5'	-6.99	110.42	120.90
1	N	867	G	P-O5'-C5'	6.98	131.37	120.90
1	N	1247	U	C4'-C3'-C2'	-6.98	95.62	102.60
1	N	1417	G	O4'-C1'-C2'	-6.98	100.62	107.60
1	N	1353	G	O4'-C1'-C2'	-6.98	100.62	107.60
1	N	1051	C	O3'-P-O5'	-6.97	93.54	104.00
1	N	87	C	C5'-C4'-C3'	-6.97	105.54	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	73	C	O4'-C1'-N1	6.97	118.96	108.50
1	N	1037	C	P-O5'-C5'	6.97	131.35	120.90
1	N	699	C	P-O5'-C5'	6.96	131.35	120.90
1	N	1390	U	P-O5'-C5'	6.96	131.35	120.90
1	N	1075	U	O4'-C4'-C3'	-6.96	97.04	104.00
1	N	1169	A	C2'-C3'-O3'	6.96	124.14	113.70
1	N	1092	A	O4'-C1'-C2'	-6.95	100.65	107.60
1	N	151	A	O4'-C4'-C3'	-6.95	97.05	104.00
1	N	723	U	O4'-C1'-N1	6.95	118.92	108.50
1	N	1024	G	P-O5'-C5'	6.93	131.29	120.90
1	N	203	G	C5'-C4'-C3'	6.92	126.38	116.00
1	N	369	G	P-O3'-C3'	-6.92	109.82	120.20
1	N	500	G	O3'-P-O5'	-6.92	93.62	104.00
1	N	1473	G	C4'-C3'-C2'	-6.92	95.68	102.60
1	N	845	A	P-O3'-C3'	6.92	130.57	120.20
1	N	1235	U	O3'-P-O5'	-6.91	93.64	104.00
1	N	1169	A	P-O3'-C3'	6.91	130.56	120.20
1	N	1426	G	O4'-C1'-C2'	-6.91	100.69	107.60
1	N	1128	C	C5'-C4'-O4'	6.90	120.15	109.80
1	N	939	G	C5'-C4'-C3'	-6.90	105.66	116.00
1	N	1096	C	P-O5'-C5'	6.89	131.23	120.90
1	N	415	A	P-O5'-C5'	6.89	131.23	120.90
1	N	750	C	O5'-C5'-C4'	-6.89	101.17	111.50
1	N	780	A	O4'-C1'-N9	6.88	118.82	108.50
1	N	81	A	N9-C1'-C2'	6.88	124.31	114.00
1	N	451	A	C1'-O4'-C4'	-6.88	102.83	109.70
1	N	547	A	O4'-C4'-C3'	-6.87	99.23	106.10
1	N	842	U	P-O5'-C5'	6.87	131.21	120.90
1	N	1031	C	P-O5'-C5'	6.87	131.21	120.90
1	N	1469	C	O4'-C1'-N1	6.87	118.80	108.50
1	N	232	G	P-O5'-C5'	6.87	131.20	120.90
1	N	175	C	C5'-C4'-C3'	-6.86	105.70	116.00
1	N	1326	U	C5'-C4'-C3'	-6.86	105.71	116.00
1	N	105	G	P-O5'-C5'	6.86	131.19	120.90
1	N	498	A	P-O3'-C3'	-6.86	109.91	120.20
1	N	1342	C	P-O3'-C3'	-6.86	109.91	120.20
1	N	1232	U	O3'-P-O5'	-6.86	93.71	104.00
1	N	98	A	C5'-C4'-C3'	-6.85	105.73	116.00
1	N	137	U	O4'-C1'-C2'	-6.85	100.75	107.60
1	N	210	C	P-O5'-C5'	6.84	131.17	120.90
1	N	265	G	O5'-C5'-C4'	-6.84	101.24	111.50
1	N	713	G	C4'-C3'-O3'	-6.84	102.74	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	960	U	C5'-C4'-C3'	6.84	125.46	115.20
1	N	1494	G	P-O5'-C5'	6.83	131.14	120.90
1	N	747	A	C4'-C3'-C2'	-6.83	95.77	102.60
1	N	939	G	C4'-C3'-C2'	-6.83	95.77	102.60
1	N	733	G	O4'-C4'-C3'	-6.82	99.28	106.10
1	N	487	A	O5'-C5'-C4'	-6.82	101.27	111.50
1	N	1059	C	O4'-C1'-N1	6.82	118.73	108.50
1	N	190	A	C5'-C4'-C3'	6.82	126.23	116.00
1	N	199	A	P-O3'-C3'	-6.82	109.97	120.20
1	N	1332	A	P-O5'-C5'	-6.82	110.67	120.90
1	N	17	U	O3'-P-O5'	6.82	114.22	104.00
1	N	60	A	C2'-C3'-O3'	6.81	119.72	109.50
1	N	256	U	O5'-C5'-C4'	-6.80	101.30	111.50
1	N	937	A	C4'-C3'-C2'	-6.80	95.80	102.60
1	N	554	A	O4'-C4'-C3'	-6.79	97.21	104.00
1	N	1159	U	O4'-C1'-C2'	-6.79	99.01	105.80
1	N	1230	C	P-O5'-C5'	6.79	131.08	120.90
1	N	324	G	C5'-C4'-C3'	6.78	126.17	116.00
1	N	484	G	C2'-C3'-O3'	6.78	119.67	109.50
1	N	94	G	C4'-C3'-O3'	6.78	119.57	109.40
1	N	530	G	C4'-C3'-C2'	-6.78	95.82	102.60
1	N	919	A	C2'-C3'-O3'	6.78	123.87	113.70
1	N	1466	C	O4'-C1'-N1	6.77	118.66	108.50
1	N	374	A	C5'-C4'-O4'	-6.76	99.66	109.80
1	N	865	A	C4'-C3'-C2'	-6.76	95.84	102.60
1	N	212	G	C5'-C4'-C3'	6.75	126.13	116.00
1	N	724	G	P-O5'-C5'	-6.75	110.78	120.90
1	N	1323	G	C4'-C3'-C2'	-6.75	95.85	102.60
1	N	1389	C	P-O5'-C5'	-6.75	110.78	120.90
1	N	670	G	O4'-C1'-N9	6.75	118.62	108.50
1	N	775	G	P-O3'-C3'	-6.75	110.08	120.20
1	N	222	C	C4'-C3'-C2'	-6.74	95.86	102.60
1	N	1252	A	O4'-C1'-N9	6.74	118.61	108.50
1	N	1290	G	P-O5'-C5'	6.74	131.01	120.90
1	N	197	A	P-O3'-C3'	6.74	130.31	120.20
1	N	338	A	O4'-C4'-C3'	-6.74	97.26	104.00
1	N	1395	C	O4'-C1'-N1	6.74	118.61	108.50
1	N	179	A	P-O5'-C5'	6.74	131.00	120.90
1	N	1417	G	O4'-C4'-C3'	-6.74	97.26	104.00
1	N	440	C	P-O3'-C3'	6.73	130.30	120.20
1	N	572	A	C5'-C4'-C3'	6.73	126.10	116.00
1	N	1363	A	C5'-C4'-C3'	-6.73	105.10	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	234	C	O5'-C5'-C4'	-6.73	101.40	111.50
1	N	1232	U	C2'-C3'-O3'	6.73	123.79	113.70
1	N	555	U	O4'-C1'-N1	6.73	118.59	108.50
1	N	197	A	C2'-C3'-O3'	6.73	119.59	109.50
1	N	200	G	O3'-P-O5'	-6.72	93.92	104.00
1	N	207	C	O4'-C1'-C2'	-6.72	100.88	107.60
1	N	499	A	C2'-C3'-O3'	6.72	119.58	109.50
1	N	1240	U	O4'-C4'-C3'	-6.71	97.29	104.00
1	N	1251	A	C1'-C2'-O2'	-6.71	101.74	111.80
1	N	444	G	C1'-C2'-O2'	6.70	118.45	108.40
1	N	1283	U	O4'-C1'-N1	6.70	118.56	108.50
1	N	108	G	C4'-C3'-O3'	-6.70	102.95	113.00
1	N	342	C	C1'-O4'-C4'	6.70	116.60	109.90
1	N	584	G	O5'-C5'-C4'	-6.70	101.45	111.50
1	N	1287	A	C1'-O4'-C4'	6.70	116.60	109.90
1	N	823	C	O5'-C5'-C4'	-6.70	101.45	111.50
1	N	434	U	C1'-C2'-O2'	6.70	118.44	108.40
1	N	1459	G	C4'-C3'-C2'	-6.69	95.91	102.60
1	N	1168	U	C4'-C3'-C2'	-6.69	95.91	102.60
1	N	12	U	P-O5'-C5'	6.69	130.93	120.90
1	N	119	A	O3'-P-O5'	6.69	114.03	104.00
1	N	1487	G	P-O5'-C5'	6.69	130.93	120.90
1	N	120	A	C4'-C3'-C2'	-6.69	95.91	102.60
1	N	500	G	O4'-C1'-C2'	-6.69	100.91	107.60
1	N	503	C	O4'-C1'-N1	6.68	118.53	108.50
1	N	263	A	P-O5'-C5'	-6.68	110.88	120.90
1	N	1121	U	O4'-C1'-N1	6.68	118.52	108.50
1	N	755	G	O4'-C1'-C2'	-6.68	100.92	107.60
1	N	371	A	O5'-C5'-C4'	-6.68	101.48	111.50
1	N	700	G	P-O5'-C5'	6.68	130.92	120.90
1	N	511	C	C2'-C3'-O3'	6.67	119.51	109.50
1	N	1086	U	C5'-C4'-C3'	-6.67	105.99	116.00
1	N	1156	G	C2'-C3'-O3'	6.67	119.51	109.50
1	N	148	G	P-O5'-C5'	6.67	130.91	120.90
1	N	412	A	C5'-C4'-C3'	6.67	126.00	116.00
1	N	21	G	C4'-C3'-C2'	-6.67	95.93	102.60
1	N	257	G	O5'-C5'-C4'	-6.67	101.50	111.50
1	N	155	A	P-O5'-C5'	6.67	130.90	120.90
1	N	701	U	P-O5'-C5'	6.66	130.89	120.90
1	N	669	G	O5'-C5'-C4'	-6.66	101.51	111.50
1	N	87	C	C5'-C4'-O4'	-6.66	99.81	109.80
1	N	358	U	P-O3'-C3'	-6.66	110.21	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	9	G	P-O5'-C5'	6.66	130.89	120.90
1	N	996	A	O4'-C1'-N9	6.66	118.49	108.50
1	N	142	G	O4'-C1'-N9	6.66	118.48	108.50
1	N	1233	G	C5'-C4'-C3'	-6.65	106.02	116.00
1	N	340	U	O4'-C1'-C2'	-6.65	100.95	107.60
1	N	1501	C	O4'-C4'-C3'	-6.65	97.35	104.00
1	N	1335	U	C4'-C3'-O3'	-6.64	103.03	113.00
1	N	698	G	C5'-C4'-C3'	-6.64	106.04	116.00
1	N	666	G	O4'-C4'-C3'	-6.64	97.36	104.00
1	N	335	C	P-O3'-C3'	-6.64	110.25	120.20
1	N	485	U	C2'-C3'-O3'	6.63	119.45	109.50
1	N	1416	G	P-O3'-C3'	-6.63	110.25	120.20
1	N	119	A	O4'-C1'-N9	6.63	118.44	108.50
1	N	1263	C	O5'-C5'-C4'	-6.63	101.55	111.50
1	N	1401	G	P-O5'-C5'	6.63	130.84	120.90
1	N	1192	C	P-O5'-C5'	-6.62	110.96	120.90
1	N	1211	U	O4'-C1'-C2'	-6.62	99.18	105.80
1	N	980	C	O4'-C1'-N1	6.62	118.43	108.50
1	N	559	A	C4'-C3'-C2'	6.61	109.21	102.60
1	N	333	U	O4'-C1'-N1	6.61	118.41	108.50
1	N	963	G	C4'-C3'-C2'	-6.61	95.99	102.60
1	N	1185	G	C5'-C4'-C3'	6.61	125.91	116.00
1	N	1273	C	P-O5'-C5'	-6.61	110.99	120.90
1	N	630	A	C3'-C2'-C1'	6.60	107.90	101.30
1	N	815	A	P-O5'-C5'	-6.60	111.00	120.90
1	N	1423	G	C4'-C3'-C2'	-6.60	96.00	102.60
1	N	281	G	P-O3'-C3'	6.60	130.10	120.20
1	N	79	G	O4'-C1'-C2'	-6.60	101.00	107.60
1	N	1337	G	C4'-C3'-C2'	6.60	109.20	102.60
1	N	712	A	P-O3'-C3'	6.60	130.09	120.20
1	N	1252	A	C4'-C3'-C2'	-6.59	96.01	102.60
1	N	256	U	P-O5'-C5'	6.59	130.79	120.90
1	N	491	G	C5'-C4'-C3'	-6.59	106.11	116.00
1	N	61	G	O5'-C5'-C4'	-6.59	101.61	111.50
1	N	246	A	P-O5'-C5'	6.59	130.78	120.90
1	N	1364	U	O4'-C1'-N1	6.58	118.08	108.20
1	N	267	C	C4'-C3'-C2'	6.58	109.18	102.60
1	N	199	A	P-O5'-C5'	6.58	130.77	120.90
1	N	14	U	O4'-C1'-C2'	-6.58	101.03	107.60
1	N	561	U	P-O3'-C3'	6.58	130.06	120.20
1	N	633	G	O4'-C1'-N9	6.57	118.36	108.50
1	N	320	A	P-O3'-C3'	6.57	130.06	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	769	G	C4'-C3'-C2'	-6.57	96.03	102.60
1	N	526	C	O5'-C5'-C4'	-6.56	101.66	111.50
1	N	497	G	P-O5'-C5'	6.56	130.74	120.90
1	N	1157	A	C4'-C3'-C2'	-6.56	96.04	102.60
1	N	1243	C	O4'-C1'-N1	6.56	118.34	108.50
1	N	369	G	P-O5'-C5'	-6.56	111.07	120.90
1	N	271	C	P-O5'-C5'	6.55	130.73	120.90
1	N	1042	A	C2'-C3'-O3'	6.55	123.53	113.70
1	N	934	C	P-O3'-C3'	6.55	130.02	120.20
1	N	1417	G	C1'-O4'-C4'	6.55	116.45	109.90
1	N	1392	G	P-O5'-C5'	6.55	130.72	120.90
1	N	1201	A	C2'-C3'-O3'	6.54	119.32	109.50
1	N	58	C	C1'-O4'-C4'	6.54	116.44	109.90
1	N	753	A	C4'-C3'-O3'	6.54	119.21	109.40
1	N	849	G	P-O5'-C5'	-6.54	111.08	120.90
1	N	769	G	C4'-C3'-O3'	-6.54	103.19	113.00
1	N	1267	C	P-O5'-C5'	-6.54	111.09	120.90
1	N	366	A	P-O3'-C3'	6.54	130.01	120.20
1	N	456	A	P-O5'-C5'	-6.54	111.09	120.90
1	N	617	G	P-O5'-C5'	6.54	130.71	120.90
1	N	723	U	C4'-C3'-C2'	-6.54	96.06	102.60
1	N	1508	A	C4'-C3'-C2'	-6.54	96.06	102.60
1	N	1224	U	O4'-C1'-N1	6.54	118.31	108.50
1	N	933	G	C4'-C3'-C2'	-6.54	96.06	102.60
1	N	1295	U	C5'-C4'-C3'	-6.54	106.20	116.00
1	N	212	G	C4'-C3'-O3'	-6.53	103.20	113.00
1	N	1247	U	P-O5'-C5'	6.53	130.69	120.90
1	N	1241	G	C5'-C4'-C3'	-6.53	106.21	116.00
1	N	580	C	C4'-C3'-C2'	-6.52	96.08	102.60
1	N	1200	C	C5'-C4'-O4'	-6.52	100.02	109.80
1	N	792	A	C2'-C3'-O3'	6.52	119.28	109.50
1	N	890	G	C4'-C3'-C2'	-6.52	96.08	102.60
1	N	589	U	P-O5'-C5'	6.51	130.67	120.90
1	N	998	C	C5'-C4'-C3'	6.51	125.76	116.00
1	N	1195	C	C5'-C4'-C3'	6.51	125.76	116.00
1	N	166	U	O4'-C1'-C2'	-6.51	101.09	107.60
1	N	749	A	C4'-C3'-C2'	-6.51	96.09	102.60
1	N	860	A	P-O3'-C3'	6.51	129.96	120.20
1	N	815	A	O5'-C5'-C4'	-6.50	101.74	111.50
1	N	1291	U	P-O3'-C3'	-6.50	110.45	120.20
1	N	1440	U	C5'-C4'-O4'	6.50	119.55	109.80
1	N	1496	C	O4'-C1'-N1	6.50	118.25	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	599	C	O4'-C4'-C3'	-6.50	97.50	104.00
1	N	858	G	C4'-C3'-C2'	-6.50	96.10	102.60
1	N	1374	A	O3'-P-O5'	-6.49	94.26	104.00
1	N	577	G	P-O5'-C5'	-6.49	111.17	120.90
1	N	627	G	P-O5'-C5'	6.48	130.62	120.90
1	N	819	A	O4'-C1'-N9	6.48	117.92	108.20
1	N	193	C	O5'-C5'-C4'	-6.48	101.79	111.50
1	N	1069	C	C4'-C3'-C2'	-6.47	96.13	102.60
1	N	325	A	O4'-C4'-C3'	-6.47	97.53	104.00
1	N	975	A	C2'-C3'-O3'	6.47	119.21	109.50
1	N	39	G	O4'-C1'-N9	6.47	118.20	108.50
1	N	380	G	O4'-C1'-N9	6.47	118.20	108.50
1	N	408	A	P-O5'-C5'	-6.46	111.20	120.90
1	N	1168	U	P-O5'-C5'	6.46	130.59	120.90
1	N	426	U	C2'-C3'-O3'	6.46	123.39	113.70
1	N	1131	G	C3'-C2'-O2'	6.46	120.39	110.70
1	N	1261	A	C5'-C4'-O4'	6.46	119.49	109.80
1	N	182	A	C5'-C4'-C3'	-6.46	105.52	115.20
1	N	1094	G	C4'-C3'-O3'	-6.46	103.31	113.00
1	N	1489	G	O4'-C1'-N9	6.46	118.19	108.50
1	N	878	A	O4'-C1'-N9	6.46	118.18	108.50
1	N	468	A	C4'-C3'-O3'	-6.45	103.33	113.00
1	N	1513	A	C4'-C3'-C2'	-6.45	96.15	102.60
1	N	815	A	O4'-C1'-N9	6.45	118.17	108.50
1	N	874	G	P-O5'-C5'	6.44	130.57	120.90
1	N	502	A	O5'-C5'-C4'	-6.44	101.84	111.50
1	N	634	C	P-O5'-C5'	6.44	130.56	120.90
1	N	1330	U	C4'-C3'-C2'	-6.44	96.16	102.60
1	N	245	U	O4'-C4'-C3'	-6.44	97.56	104.00
1	N	290	C	O5'-C5'-C4'	-6.43	101.85	111.50
1	N	797	C	O4'-C1'-C2'	6.43	114.03	107.60
1	N	950	U	O5'-C5'-C4'	-6.43	101.85	111.50
1	N	422	C	O3'-P-O5'	-6.43	94.35	104.00
1	N	3	A	P-O5'-C5'	-6.43	111.26	120.90
1	N	1443	C	P-O5'-C5'	6.43	130.54	120.90
1	N	970	C	C3'-C2'-C1'	-6.43	94.87	101.30
1	N	1171	A	C5'-C4'-C3'	6.43	125.64	116.00
1	N	577	G	C1'-O4'-C4'	6.43	116.33	109.90
1	N	584	G	P-O5'-C5'	6.43	130.54	120.90
1	N	489	C	O4'-C1'-N1	6.42	118.14	108.50
1	N	1010	U	O4'-C1'-C2'	-6.42	101.18	107.60
1	N	1217	C	C4'-C3'-O3'	-6.42	103.36	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1291	U	P-O5'-C5'	6.42	130.53	120.90
1	N	932	C	C4'-C3'-O3'	-6.42	103.37	113.00
1	N	1262	C	P-O3'-C3'	-6.42	110.57	120.20
1	N	30	U	C3'-C2'-C1'	6.41	107.91	101.50
1	N	305	G	C2'-C3'-O3'	6.41	119.12	109.50
1	N	608	A	P-O3'-C3'	-6.41	110.58	120.20
1	N	1077	G	P-O3'-C3'	-6.41	110.58	120.20
1	N	1384	C	O4'-C1'-N1	6.41	118.12	108.50
1	N	730	G	P-O3'-C3'	6.41	129.82	120.20
1	N	183	C	O4'-C4'-C3'	6.41	110.41	104.00
1	N	915	A	C4'-C3'-C2'	-6.41	96.19	102.60
1	N	699	C	O4'-C1'-N1	6.41	118.11	108.50
1	N	1459	G	P-O5'-C5'	6.40	130.51	120.90
1	N	73	C	P-O5'-C5'	-6.40	111.30	120.90
1	N	50	A	C5'-C4'-C3'	-6.39	105.61	115.20
1	N	122	G	P-O5'-C5'	6.39	130.49	120.90
1	N	70	U	C2'-C3'-O3'	6.39	119.09	109.50
1	N	999	C	O5'-C5'-C4'	-6.39	101.91	111.50
1	N	1433	A	C1'-O4'-C4'	6.39	116.29	109.90
1	N	173	U	C2'-C3'-O3'	6.39	119.08	109.50
1	N	714	G	C4'-C3'-C2'	-6.39	96.21	102.60
1	N	1125	U	P-O3'-C3'	6.39	129.78	120.20
1	N	648	A	O5'-C5'-C4'	-6.38	101.92	111.50
1	N	49	U	P-O3'-C3'	-6.38	110.63	120.20
1	N	243	A	C1'-O4'-C4'	6.38	116.28	109.90
1	N	800	G	P-O5'-C5'	6.38	130.47	120.90
1	N	505	G	O4'-C4'-C3'	-6.38	97.62	104.00
1	N	1032	G	O4'-C1'-C2'	6.38	113.98	107.60
1	N	923	A	P-O3'-C3'	6.38	129.77	120.20
1	N	1323	G	O4'-C1'-N9	6.37	118.06	108.50
1	N	1336	C	C5'-C4'-C3'	6.37	124.76	115.20
1	N	896	C	O3'-P-O5'	6.37	113.56	104.00
1	N	327	A	O4'-C4'-C3'	-6.37	99.73	106.10
1	N	366	A	O4'-C4'-C3'	-6.37	99.73	106.10
1	N	999	C	O4'-C1'-N1	6.37	118.05	108.50
1	N	1460	C	C4'-C3'-O3'	-6.37	103.45	113.00
1	N	178	C	P-O5'-C5'	6.37	130.45	120.90
1	N	1527	U	C3'-C2'-O2'	6.37	120.25	110.70
1	N	615	G	C5'-C4'-C3'	-6.37	106.45	116.00
1	N	1311	A	P-O3'-C3'	-6.37	110.65	120.20
1	N	771	G	O5'-C5'-C4'	-6.36	101.95	111.50
1	N	1166	G	P-O3'-C3'	6.36	129.74	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	717	U	O3'-P-O5'	-6.36	94.46	104.00
1	N	1530	G	O5'-C5'-C4'	6.36	121.24	111.70
1	N	1202	U	O4'-C4'-C3'	-6.36	97.64	104.00
1	N	1523	G	P-O5'-C5'	-6.35	111.37	120.90
1	N	749	A	O4'-C1'-C2'	-6.35	101.25	107.60
1	N	1308	U	P-O5'-C5'	6.35	130.43	120.90
1	N	1371	G	C5'-C4'-C3'	-6.35	106.48	116.00
1	N	1390	U	O4'-C1'-C2'	-6.34	101.26	107.60
1	N	718	A	O4'-C1'-N9	6.34	118.01	108.50
1	N	949	A	O5'-C5'-C4'	-6.34	101.99	111.50
1	N	1287	A	O4'-C1'-C2'	-6.34	101.26	107.60
1	N	1515	G	O4'-C1'-N9	6.34	118.01	108.50
1	N	426	U	P-O5'-C5'	6.34	130.41	120.90
1	N	729	A	P-O5'-C5'	6.34	130.41	120.90
1	N	216	U	C5'-C4'-C3'	6.34	125.50	116.00
1	N	777	A	O4'-C4'-C3'	-6.34	97.66	104.00
1	N	1209	C	O4'-C1'-N1	6.34	118.00	108.50
1	N	63	C	P-O3'-C3'	6.33	129.70	120.20
1	N	852	G	P-O5'-C5'	-6.33	111.40	120.90
1	N	904	U	C1'-C2'-O2'	6.33	117.90	108.40
1	N	1036	A	O3'-P-O5'	-6.33	94.51	104.00
1	N	1169	A	O4'-C1'-C2'	-6.33	101.27	107.60
1	N	888	G	O4'-C1'-N9	6.32	117.98	108.50
1	N	1429	A	O3'-P-O5'	-6.32	94.52	104.00
1	N	467	U	P-O3'-C3'	-6.32	110.72	120.20
1	N	1065	U	C2'-C3'-O3'	6.32	118.97	109.50
1	N	1315	U	O4'-C1'-N1	6.32	117.98	108.50
1	N	1342	C	C4'-C3'-C2'	-6.32	96.28	102.60
1	N	1336	C	C4'-C3'-C2'	6.31	108.91	102.60
1	N	272	C	O4'-C1'-C2'	-6.31	101.29	107.60
1	N	697	U	C4'-C3'-O3'	-6.31	103.54	113.00
1	N	163	C	C3'-C2'-C1'	-6.30	95.00	101.30
1	N	272	C	O3'-P-O5'	-6.30	94.55	104.00
1	N	344	A	C1'-O4'-C4'	6.30	116.00	109.70
1	N	244	U	C5'-C4'-C3'	-6.30	105.75	115.20
1	N	1196	A	C5'-C4'-C3'	6.30	125.45	116.00
1	N	1384	C	P-O5'-C5'	6.29	130.34	120.90
1	N	770	C	C5'-C4'-C3'	6.29	125.44	116.00
1	N	1096	C	O4'-C1'-N1	6.29	117.94	108.50
1	N	1469	C	P-O5'-C5'	-6.29	111.46	120.90
1	N	168	G	O3'-P-O5'	-6.29	94.56	104.00
1	N	1532	U	O4'-C1'-N1	6.29	117.94	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1523	G	C5'-C4'-C3'	6.29	125.43	116.00
1	N	1495	U	O4'-C1'-N1	6.29	117.93	108.50
1	N	344	A	C2'-C3'-O3'	6.28	118.92	109.50
1	N	943	U	P-O3'-C3'	-6.28	110.78	120.20
1	N	1323	G	C2'-C3'-O3'	-6.28	104.28	113.70
1	N	1036	A	P-O5'-C5'	6.28	130.31	120.90
1	N	1335	U	O4'-C4'-C3'	-6.27	97.73	104.00
1	N	129	A	P-O5'-C5'	6.27	130.31	120.90
1	N	204	G	O5'-C5'-C4'	-6.27	102.09	111.50
1	N	268	U	P-O3'-C3'	6.27	129.60	120.20
1	N	1028	C	O3'-P-O5'	-6.27	94.59	104.00
1	N	610	U	O4'-C1'-N1	6.27	117.90	108.50
1	N	220	G	O4'-C1'-C2'	-6.26	101.34	107.60
1	N	484	G	O4'-C4'-C3'	-6.26	99.84	106.10
1	N	161	A	O3'-P-O5'	-6.26	94.61	104.00
1	N	175	C	O4'-C1'-N1	6.26	117.89	108.50
1	N	235	C	C4'-C3'-O3'	-6.26	103.61	113.00
1	N	949	A	P-O5'-C5'	6.26	130.29	120.90
1	N	522	C	O4'-C1'-N1	6.26	117.89	108.50
1	N	1427	C	O4'-C1'-N1	6.26	117.89	108.50
1	N	183	C	C2'-C3'-O3'	6.26	123.08	113.70
1	N	771	G	C5'-C4'-C3'	6.26	125.38	116.00
1	N	963	G	C5'-C4'-C3'	-6.25	106.62	116.00
1	N	1500	A	C4'-C3'-C2'	-6.25	96.34	102.60
1	N	755	G	P-O5'-C5'	6.25	130.28	120.90
1	N	459	A	O4'-C1'-C2'	-6.25	101.35	107.60
1	N	1021	A	P-O5'-C5'	6.25	130.27	120.90
1	N	441	A	P-O5'-C5'	-6.25	111.53	120.90
1	N	557	G	P-O3'-C3'	6.25	129.57	120.20
1	N	1022	A	O5'-C5'-C4'	6.25	120.87	111.50
1	N	373	A	P-O5'-C5'	-6.24	111.53	120.90
1	N	772	U	P-O5'-C5'	6.24	130.26	120.90
1	N	798	U	P-O5'-C5'	-6.24	111.55	120.90
1	N	870	U	O5'-C5'-C4'	-6.23	102.35	111.70
1	N	1069	C	N1-C1'-C2'	-6.23	102.65	112.00
1	N	1362	A	O5'-C5'-C4'	6.23	120.85	111.50
1	N	812	G	C2'-C3'-O3'	6.23	118.85	109.50
1	N	351	G	C2'-C3'-O3'	6.23	118.84	109.50
1	N	1115	U	O4'-C1'-N1	6.23	117.84	108.50
1	N	1275	A	C5'-C4'-C3'	-6.23	106.66	116.00
1	N	649	A	C4'-C3'-C2'	-6.23	96.37	102.60
1	N	658	C	O4'-C1'-N1	6.23	117.84	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1352	C	O4'-C1'-N1	6.23	117.84	108.50
1	N	749	A	O3'-P-O5'	-6.22	94.67	104.00
1	N	904	U	O4'-C1'-N1	6.22	117.83	108.50
1	N	812	G	P-O5'-C5'	-6.22	111.57	120.90
1	N	560	A	O4'-C1'-N9	6.22	117.83	108.50
1	N	686	U	C1'-O4'-C4'	-6.22	103.48	109.70
1	N	184	G	O4'-C1'-N9	6.21	117.82	108.50
1	N	731	G	O4'-C1'-N9	6.21	117.82	108.50
1	N	252	U	P-O3'-C3'	-6.21	110.88	120.20
1	N	1364	U	C1'-C2'-O2'	6.21	121.11	111.80
1	N	358	U	O5'-C5'-C4'	-6.21	102.19	111.50
1	N	557	G	O3'-P-O5'	-6.21	94.69	104.00
1	N	909	A	P-O5'-C5'	6.20	130.20	120.90
1	N	1313	U	O5'-C5'-C4'	-6.20	102.20	111.50
1	N	1377	A	O3'-P-O5'	-6.20	94.70	104.00
1	N	120	A	N9-C1'-C2'	6.20	121.30	112.00
1	N	780	A	P-O5'-C5'	6.20	130.20	120.90
1	N	1049	U	C2'-C3'-O3'	6.20	118.80	109.50
1	N	960	U	P-O5'-C5'	6.20	130.19	120.90
1	N	1483	A	C3'-C2'-C1'	-6.19	95.11	101.30
1	N	1007	U	P-O5'-C5'	6.19	130.18	120.90
1	N	25	C	C4'-C3'-C2'	-6.18	96.42	102.60
1	N	68	G	C5'-C4'-C3'	6.18	125.28	116.00
1	N	1455	G	C5'-C4'-C3'	-6.18	106.73	116.00
1	N	1206	G	C4'-C3'-C2'	-6.18	96.42	102.60
1	N	675	A	O4'-C1'-C2'	-6.18	101.42	107.60
1	N	1428	A	C5'-C4'-C3'	6.17	125.26	116.00
1	N	481	G	C4'-C3'-C2'	-6.17	96.43	102.60
1	N	805	C	O4'-C1'-N1	6.17	117.75	108.50
1	N	1504	G	P-O3'-C3'	6.17	129.45	120.20
1	N	1304	G	P-O3'-C3'	6.17	129.45	120.20
1	N	854	U	O4'-C1'-N1	6.16	117.74	108.50
1	N	1431	A	O4'-C4'-C3'	6.16	110.16	104.00
1	N	505	G	C5'-C4'-O4'	6.16	119.04	109.80
1	N	1383	C	O3'-P-O5'	-6.16	94.76	104.00
1	N	1513	A	C5'-C4'-C3'	6.16	125.24	116.00
1	N	494	G	C3'-C2'-C1'	6.16	107.46	101.30
1	N	50	A	O4'-C4'-C3'	-6.15	99.95	106.10
1	N	1041	G	O3'-P-O5'	-6.15	94.78	104.00
1	N	95	C	O4'-C1'-C2'	-6.15	101.45	107.60
1	N	114	U	P-O5'-C5'	6.15	130.12	120.90
1	N	304	U	P-O5'-C5'	6.15	130.12	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1129	C	P-O5'-C5'	6.15	130.12	120.90
1	N	323	U	O4'-C1'-N1	6.14	117.72	108.50
1	N	538	G	O4'-C1'-N9	6.14	117.72	108.50
1	N	843	U	P-O3'-C3'	-6.14	110.98	120.20
1	N	355	C	P-O5'-C5'	6.14	130.11	120.90
1	N	347	G	C5'-C4'-C3'	-6.14	106.79	116.00
1	N	498	A	C4'-C3'-O3'	-6.14	103.79	113.00
1	N	1007	U	P-O3'-C3'	6.14	129.41	120.20
1	N	394	G	C5'-C4'-C3'	-6.13	106.80	116.00
1	N	1346	A	C1'-C2'-O2'	-6.13	102.60	111.80
1	N	1189	U	O3'-P-O5'	-6.13	94.81	104.00
1	N	149	A	P-O3'-C3'	6.13	129.39	120.20
1	N	391	G	O4'-C1'-N9	6.12	117.68	108.50
1	N	1185	G	O4'-C4'-C3'	-6.12	97.88	104.00
1	N	1292	G	O4'-C1'-N9	6.12	117.68	108.50
1	N	182	A	O5'-C5'-C4'	6.12	120.87	111.70
1	N	1129	C	C1'-O4'-C4'	-6.11	103.59	109.70
1	N	460	A	P-O5'-C5'	6.11	130.07	120.90
1	N	539	A	P-O5'-C5'	6.11	130.06	120.90
1	N	789	U	C4'-C3'-O3'	-6.11	103.83	113.00
1	N	1300	G	C3'-C2'-C1'	-6.11	95.39	101.50
1	N	774	G	O4'-C4'-C3'	-6.11	97.89	104.00
1	N	1514	G	P-O5'-C5'	-6.11	111.74	120.90
1	N	176	C	O4'-C1'-N1	6.10	117.65	108.50
1	N	340	U	C4'-C3'-C2'	-6.10	96.50	102.60
1	N	42	G	O5'-C5'-C4'	-6.10	102.36	111.50
1	N	594	U	O3'-P-O5'	6.10	113.15	104.00
1	N	917	G	C4'-C3'-C2'	-6.10	96.50	102.60
1	N	972	C	O4'-C1'-N1	6.09	117.64	108.50
1	N	323	U	O4'-C1'-C2'	-6.09	101.51	107.60
1	N	698	G	O5'-C5'-C4'	-6.09	102.36	111.50
1	N	294	U	P-O5'-C5'	6.08	130.03	120.90
1	N	386	C	O4'-C1'-N1	6.08	117.62	108.50
1	N	555	U	C2'-C3'-O3'	6.08	122.82	113.70
1	N	703	G	O3'-P-O5'	-6.08	94.88	104.00
1	N	88	U	C1'-O4'-C4'	6.07	115.77	109.70
1	N	304	U	P-O3'-C3'	-6.07	111.09	120.20
1	N	496	A	C5'-C4'-C3'	-6.07	106.89	116.00
1	N	1409	C	C1'-O4'-C4'	6.07	115.97	109.90
1	N	1092	A	O4'-C4'-C3'	-6.07	97.93	104.00
1	N	1230	C	C1'-O4'-C4'	-6.07	103.83	109.90
1	N	514	C	O4'-C1'-N1	6.07	117.60	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	731	G	N9-C1'-C2'	-6.07	102.90	112.00
1	N	109	A	C1'-O4'-C4'	6.06	115.96	109.90
1	N	836	G	O4'-C1'-N9	6.06	117.59	108.50
1	N	1015	G	O4'-C1'-N9	6.06	117.59	108.50
1	N	276	G	O4'-C4'-C3'	-6.06	97.94	104.00
1	N	314	C	O4'-C1'-N1	6.06	117.59	108.50
1	N	658	C	P-O3'-C3'	-6.06	111.12	120.20
1	N	1028	C	O4'-C1'-N1	6.05	117.58	108.50
1	N	243	A	C4'-C3'-C2'	6.05	108.65	102.60
1	N	222	C	O4'-C1'-N1	6.05	117.58	108.50
1	N	1101	A	O4'-C1'-N9	6.05	117.28	108.20
1	N	1111	A	O4'-C1'-N9	6.05	117.58	108.50
1	N	656	G	C5'-C4'-C3'	-6.05	106.93	116.00
1	N	778	G	O4'-C1'-N9	6.05	117.58	108.50
1	N	866	C	C4'-C3'-O3'	-6.05	103.93	113.00
1	N	1462	C	O4'-C1'-C2'	-6.05	101.55	107.60
1	N	1361	G	C4'-C3'-C2'	6.05	108.65	102.60
1	N	985	C	O4'-C1'-N1	6.04	117.56	108.50
1	N	1049	U	O3'-P-O5'	-6.04	94.94	104.00
1	N	1337	G	O4'-C4'-C3'	-6.04	97.96	104.00
1	N	50	A	P-O5'-C5'	6.04	129.96	120.90
1	N	1200	C	C5'-C4'-C3'	6.04	125.06	116.00
1	N	660	C	P-O5'-C5'	6.04	129.96	120.90
1	N	677	U	P-O5'-C5'	6.04	129.96	120.90
1	N	535	A	O5'-C5'-C4'	-6.03	102.65	111.70
1	N	806	C	C4'-C3'-O3'	-6.03	103.95	113.00
1	N	1131	G	C3'-C2'-C1'	-6.03	95.27	101.30
1	N	1187	G	C5'-C4'-C3'	-6.03	106.95	116.00
1	N	1355	G	P-O5'-C5'	-6.03	111.85	120.90
1	N	328	C	C4'-C3'-C2'	-6.03	96.57	102.60
1	N	427	U	P-O3'-C3'	-6.03	111.16	120.20
1	N	956	U	P-O5'-C5'	6.03	129.94	120.90
1	N	840	C	P-O5'-C5'	6.03	129.94	120.90
1	N	1313	U	O4'-C4'-C3'	-6.03	97.97	104.00
1	N	131	A	C5'-C4'-C3'	-6.03	106.96	116.00
1	N	1498	U	C4'-C3'-O3'	6.03	118.44	109.40
1	N	672	U	O4'-C1'-N1	6.02	117.53	108.50
1	N	280	C	P-O3'-C3'	6.02	129.22	120.20
1	N	1032	G	C1'-O4'-C4'	-6.02	103.88	109.90
1	N	1283	U	P-O5'-C5'	6.01	129.92	120.90
1	N	1406	U	O4'-C1'-N1	6.01	117.52	108.50
1	N	693	G	C1'-O4'-C4'	-6.01	103.89	109.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	750	C	C4'-C3'-O3'	-6.00	104.00	113.00
1	N	1330	U	O3'-P-O5'	-6.00	95.00	104.00
1	N	628	G	O4'-C1'-C2'	-6.00	101.60	107.60
1	N	932	C	O4'-C1'-C2'	-6.00	101.60	107.60
1	N	695	A	O4'-C1'-C2'	-6.00	101.60	107.60
1	N	1207	G	O4'-C4'-C3'	6.00	110.00	104.00
1	N	120	A	O4'-C1'-C2'	-6.00	101.60	107.60
1	N	157	U	O4'-C1'-N1	5.99	117.49	108.50
1	N	1188	A	O4'-C1'-N9	5.99	117.19	108.20
1	N	93	U	P-O3'-C3'	-5.99	111.21	120.20
1	N	1433	A	P-O5'-C5'	5.99	129.89	120.90
1	N	584	G	C1'-O4'-C4'	5.99	115.89	109.90
1	N	796	C	C4'-C3'-C2'	-5.99	96.61	102.60
1	N	897	C	C3'-C2'-C1'	-5.99	95.31	101.30
1	N	1171	A	O4'-C1'-N9	5.99	117.48	108.50
1	N	1088	G	O5'-C5'-C4'	-5.99	102.52	111.50
1	N	580	C	P-O5'-C5'	5.99	129.88	120.90
1	N	974	A	P-O3'-C3'	5.99	129.18	120.20
1	N	1388	C	O4'-C4'-C3'	-5.98	98.02	104.00
1	N	67	C	O4'-C1'-N1	5.98	117.47	108.50
1	N	193	C	O4'-C1'-N1	5.98	117.47	108.50
1	N	549	C	O4'-C1'-N1	5.98	117.47	108.50
1	N	916	U	O4'-C4'-C3'	-5.98	98.02	104.00
1	N	629	A	P-O3'-C3'	-5.98	111.23	120.20
1	N	1122	U	C5'-C4'-C3'	-5.98	107.03	116.00
1	N	1202	U	C4'-C3'-C2'	-5.98	96.62	102.60
1	N	424	G	C5'-C4'-C3'	-5.98	107.03	116.00
1	N	449	G	C5'-C4'-C3'	-5.98	107.03	116.00
1	N	797	C	P-O3'-C3'	-5.98	111.23	120.20
1	N	1115	U	P-O3'-C3'	-5.98	111.23	120.20
1	N	1359	C	P-O5'-C5'	-5.98	111.94	120.90
1	N	630	A	O4'-C1'-C2'	-5.97	101.63	107.60
1	N	1035	A	C4'-C3'-C2'	-5.97	96.63	102.60
1	N	1481	U	P-O3'-C3'	-5.97	111.24	120.20
1	N	544	G	P-O5'-C5'	5.97	129.86	120.90
1	N	705	G	P-O5'-C5'	5.97	129.86	120.90
1	N	627	G	C4'-C3'-C2'	-5.97	96.63	102.60
1	N	723	U	O5'-C5'-C4'	5.97	120.45	111.50
1	N	106	C	C4'-C3'-C2'	5.97	108.57	102.60
1	N	1050	G	O4'-C1'-N9	5.97	117.45	108.50
1	N	1305	G	O5'-C5'-C4'	5.97	120.45	111.50
1	N	410	G	P-O3'-C3'	5.96	129.15	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1349	A	C3'-C2'-O2'	5.96	119.65	110.70
1	N	338	A	O4'-C1'-N9	5.96	117.44	108.50
1	N	723	U	P-O3'-C3'	-5.96	111.26	120.20
1	N	181	A	C4'-C3'-O3'	5.96	121.94	113.00
1	N	342	C	O4'-C1'-N1	5.96	117.44	108.50
1	N	1021	A	C4'-C3'-C2'	-5.96	96.64	102.60
1	N	251	G	C4'-C3'-C2'	-5.96	96.64	102.60
1	N	566	G	C5'-C4'-C3'	-5.96	106.27	115.20
1	N	1085	U	C4'-C3'-O3'	-5.95	104.07	113.00
1	N	194	C	O4'-C1'-N1	5.95	117.43	108.50
1	N	33	A	P-O3'-C3'	5.95	129.13	120.20
1	N	54	C	O4'-C1'-C2'	-5.95	101.65	107.60
1	N	1070	U	P-O5'-C5'	-5.95	111.97	120.90
1	N	1085	U	C1'-O4'-C4'	5.95	115.85	109.90
1	N	1140	C	P-O5'-C5'	5.95	129.83	120.90
1	N	1205	U	O3'-P-O5'	-5.95	95.08	104.00
1	N	332	G	O4'-C1'-N9	5.95	117.42	108.50
1	N	381	C	C5'-C4'-C3'	5.95	124.92	116.00
1	N	693	G	P-O3'-C3'	5.95	129.12	120.20
1	N	24	U	C5'-C4'-C3'	-5.94	107.09	116.00
1	N	312	C	O4'-C1'-C2'	-5.94	101.66	107.60
1	N	398	U	C4'-C3'-O3'	-5.94	104.09	113.00
1	N	1079	G	P-O3'-C3'	5.94	129.11	120.20
1	N	1207	G	C4'-C3'-C2'	-5.94	96.66	102.60
1	N	457	G	O4'-C1'-N9	5.94	117.41	108.50
1	N	970	C	C1'-O4'-C4'	-5.94	103.96	109.90
1	N	53	A	O5'-C5'-C4'	-5.93	102.60	111.50
1	N	615	G	C4'-C3'-O3'	-5.93	104.10	113.00
1	N	796	C	C4'-C3'-O3'	-5.93	104.10	113.00
1	N	333	U	P-O5'-C5'	5.93	129.80	120.90
1	N	1522	U	O4'-C4'-C3'	-5.93	98.07	104.00
1	N	95	C	C4'-C3'-O3'	-5.93	104.11	113.00
1	N	31	G	C5'-C4'-C3'	5.93	124.09	115.20
1	N	227	G	O4'-C1'-C2'	-5.92	101.67	107.60
1	N	438	U	O4'-C1'-N1	5.92	117.09	108.20
1	N	1147	C	P-O3'-C3'	5.92	129.09	120.20
1	N	1163	A	O4'-C1'-C2'	-5.92	101.67	107.60
1	N	105	G	C4'-C3'-C2'	-5.92	96.68	102.60
1	N	1037	C	O4'-C1'-N1	5.92	117.38	108.50
1	N	1288	A	P-O3'-C3'	-5.92	111.32	120.20
1	N	709	U	P-O5'-C5'	5.92	129.78	120.90
1	N	919	A	O4'-C1'-N9	5.92	117.38	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	970	C	C5'-C4'-C3'	5.92	124.87	116.00
1	N	418	C	O5'-C5'-C4'	-5.92	102.63	111.50
1	N	918	A	P-O5'-C5'	5.91	129.77	120.90
1	N	1053	G	O5'-C5'-C4'	-5.91	102.63	111.50
1	N	153	C	P-O5'-C5'	5.91	129.77	120.90
1	N	426	U	C4'-C3'-C2'	-5.91	96.69	102.60
1	N	985	C	P-O5'-C5'	5.91	129.76	120.90
1	N	1160	G	C1'-O4'-C4'	5.91	115.61	109.70
1	N	587	G	C2'-C3'-O3'	5.90	122.56	113.70
1	N	678	U	P-O5'-C5'	5.90	129.75	120.90
1	N	1144	G	O4'-C1'-N9	5.90	117.36	108.50
1	N	1419	G	C5'-C4'-C3'	-5.90	107.15	116.00
1	N	17	U	O4'-C1'-N1	5.90	117.35	108.50
1	N	1012	A	P-O3'-C3'	-5.90	111.36	120.20
1	N	1398	A	P-O3'-C3'	-5.90	111.35	120.20
1	N	1433	A	P-O3'-C3'	5.90	129.04	120.20
1	N	665	A	P-O5'-C5'	-5.90	112.06	120.90
1	N	1388	C	C1'-C2'-O2'	-5.90	99.56	108.40
1	N	472	U	P-O5'-C5'	5.89	129.74	120.90
1	N	996	A	C4'-C3'-C2'	-5.89	96.71	102.60
1	N	795	C	O4'-C1'-C2'	-5.89	101.71	107.60
1	N	1157	A	O4'-C4'-C3'	5.89	111.99	106.10
1	N	258	G	C5'-C4'-C3'	-5.89	107.17	116.00
1	N	484	G	C3'-C2'-O2'	-5.89	105.77	114.60
1	N	1507	A	O4'-C1'-N9	5.89	117.33	108.50
1	N	1013	G	O4'-C1'-N9	5.88	117.32	108.50
1	N	494	G	C5'-C4'-C3'	-5.88	107.18	116.00
1	N	496	A	C4'-C3'-O3'	-5.88	104.18	113.00
1	N	474	G	O4'-C1'-C2'	-5.88	101.72	107.60
1	N	484	G	C4'-C3'-O3'	5.88	118.22	109.40
1	N	1363	A	P-O5'-C5'	5.88	129.72	120.90
1	N	1029	U	O4'-C1'-C2'	-5.88	101.72	107.60
1	N	856	C	O4'-C1'-C2'	-5.88	101.72	107.60
1	N	1345	U	C1'-C2'-O2'	-5.87	102.99	111.80
1	N	1144	G	P-O3'-C3'	5.87	129.01	120.20
1	N	121	U	O4'-C4'-C3'	-5.87	98.13	104.00
1	N	566	G	O4'-C4'-C3'	-5.87	100.23	106.10
1	N	764	C	O4'-C1'-N1	5.87	117.30	108.50
1	N	1128	C	C5'-C4'-C3'	-5.87	107.20	116.00
1	N	1236	A	C4'-C3'-O3'	-5.87	104.20	113.00
1	N	607	A	C5'-C4'-O4'	5.87	118.60	109.80
1	N	439	U	O4'-C1'-N1	5.86	117.29	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1481	U	C4'-C3'-O3'	-5.86	104.21	113.00
1	N	897	C	O4'-C4'-C3'	-5.86	98.14	104.00
1	N	844	G	C5'-C4'-C3'	5.86	124.79	116.00
1	N	254	G	P-O5'-C5'	5.86	129.68	120.90
1	N	140	U	P-O3'-C3'	5.85	128.98	120.20
1	N	789	U	P-O5'-C5'	5.85	129.68	120.90
1	N	1242	G	P-O3'-C3'	-5.85	111.42	120.20
1	N	1280	A	C3'-C2'-C1'	5.85	107.35	101.50
1	N	1521	C	C4'-C3'-C2'	-5.85	96.75	102.60
1	N	788	U	C5'-C4'-C3'	-5.85	107.23	116.00
1	N	1452	C	C1'-O4'-C4'	5.85	115.55	109.70
1	N	183	C	P-O5'-C5'	5.85	129.67	120.90
1	N	853	C	O4'-C1'-N1	5.84	117.27	108.50
1	N	1191	A	P-O5'-C5'	5.84	129.66	120.90
1	N	1066	C	O4'-C1'-N1	5.84	117.26	108.50
1	N	11	G	C1'-O4'-C4'	-5.84	104.06	109.90
1	N	180	U	C4'-C3'-O3'	-5.84	104.24	113.00
1	N	256	U	O4'-C1'-C2'	-5.84	101.76	107.60
1	N	268	U	O4'-C1'-N1	5.84	117.26	108.50
1	N	849	G	O4'-C1'-C2'	-5.83	101.77	107.60
1	N	659	U	O4'-C1'-N1	5.83	117.25	108.50
1	N	144	G	C2'-C3'-O3'	5.83	122.44	113.70
1	N	215	C	C3'-C2'-O2'	5.83	119.44	110.70
1	N	211	G	C2'-C3'-O3'	5.83	122.44	113.70
1	N	833	G	O4'-C4'-C3'	-5.83	98.17	104.00
1	N	489	C	C2'-C3'-O3'	5.82	122.43	113.70
1	N	1183	U	C4'-C3'-C2'	5.82	108.42	102.60
1	N	325	A	O4'-C1'-C2'	-5.82	101.78	107.60
1	N	994	A	P-O5'-C5'	-5.82	112.17	120.90
1	N	499	A	C5'-C4'-C3'	-5.82	106.47	115.20
1	N	31	G	O5'-C5'-C4'	-5.82	102.97	111.70
1	N	246	A	P-O3'-C3'	5.82	128.92	120.20
1	N	513	C	C4'-C3'-C2'	-5.81	96.79	102.60
1	N	299	G	O5'-C5'-C4'	-5.81	102.79	111.50
1	N	252	U	O4'-C1'-C2'	-5.81	101.79	107.60
1	N	962	C	O4'-C1'-C2'	-5.81	101.79	107.60
1	N	1438	G	P-O3'-C3'	-5.81	111.49	120.20
1	N	912	C	C4'-C3'-O3'	-5.80	104.29	113.00
1	N	1349	A	O4'-C1'-C2'	-5.80	101.80	107.60
1	N	88	U	O4'-C4'-C3'	-5.80	100.30	106.10
1	N	766	A	O3'-P-O5'	-5.80	95.30	104.00
1	N	139	A	O4'-C1'-N9	5.79	117.19	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	786	G	C4'-C3'-C2'	-5.79	96.81	102.60
1	N	933	G	O4'-C1'-N9	5.79	117.19	108.50
1	N	1070	U	O4'-C1'-N1	5.79	117.19	108.50
1	N	1278	G	O3'-P-O5'	-5.79	95.31	104.00
1	N	1315	U	P-O5'-C5'	5.79	129.59	120.90
1	N	1120	C	C4'-C3'-C2'	-5.79	96.81	102.60
1	N	67	C	C1'-C2'-O2'	5.79	117.08	108.40
1	N	297	G	O4'-C1'-N9	5.79	117.18	108.50
1	N	710	G	C4'-C3'-C2'	-5.79	96.81	102.60
1	N	1041	G	P-O3'-C3'	-5.78	111.53	120.20
1	N	212	G	N9-C1'-C2'	5.78	120.67	112.00
1	N	796	C	C1'-C2'-O2'	5.78	117.07	108.40
1	N	895	G	O5'-C5'-C4'	-5.78	102.83	111.50
1	N	1228	C	P-O3'-C3'	5.78	128.87	120.20
1	N	467	U	O4'-C4'-C3'	-5.78	98.22	104.00
1	N	1515	G	O4'-C1'-C2'	-5.78	101.82	107.60
1	N	244	U	O4'-C4'-C3'	-5.77	100.33	106.10
1	N	315	A	P-O3'-C3'	5.77	128.86	120.20
1	N	1292	G	C4'-C3'-C2'	-5.77	96.83	102.60
1	N	739	C	O4'-C1'-N1	5.77	117.15	108.50
1	N	870	U	C2'-C3'-O3'	5.77	118.15	109.50
1	N	1428	A	O5'-C5'-C4'	-5.77	102.85	111.50
1	N	393	A	O4'-C1'-C2'	-5.77	101.83	107.60
1	N	214	C	O5'-C5'-C4'	-5.76	102.86	111.50
1	N	878	A	C4'-C3'-O3'	-5.76	104.35	113.00
1	N	236	A	P-O5'-C5'	-5.76	112.26	120.90
1	N	411	A	P-O5'-C5'	5.76	129.54	120.90
1	N	1121	U	C4'-C3'-C2'	-5.76	96.84	102.60
1	N	120	A	C1'-O4'-C4'	-5.76	104.14	109.90
1	N	426	U	O5'-C5'-C4'	-5.76	102.86	111.50
1	N	990	C	O4'-C1'-C2'	-5.76	101.84	107.60
1	N	1145	A	P-O5'-C5'	5.76	129.54	120.90
1	N	491	G	C2'-C3'-O3'	5.75	122.33	113.70
1	N	1019	A	O5'-C5'-C4'	-5.75	102.87	111.50
1	N	1166	G	O4'-C1'-N9	5.75	117.13	108.50
1	N	29	U	C2'-C3'-O3'	5.75	122.33	113.70
1	N	203	G	O4'-C1'-N9	5.75	117.13	108.50
1	N	698	G	C2'-C3'-O3'	5.75	122.33	113.70
1	N	867	G	C4'-C3'-O3'	-5.75	104.37	113.00
1	N	1249	C	O3'-P-O5'	5.75	112.63	104.00
1	N	1285	A	C4'-C3'-O3'	5.75	118.03	109.40
1	N	410	G	P-O5'-C5'	5.75	129.53	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	361	G	C4'-C3'-C2'	-5.75	96.85	102.60
1	N	478	A	C3'-C2'-C1'	-5.75	95.55	101.30
1	N	669	G	O4'-C4'-C3'	-5.75	98.25	104.00
1	N	1128	C	O4'-C1'-N1	5.75	117.12	108.50
1	N	1004	A	O5'-C5'-C4'	5.74	120.11	111.50
1	N	916	U	P-O5'-C5'	5.74	129.51	120.90
1	N	1482	G	C2'-C3'-O3'	5.74	122.31	113.70
1	N	794	A	P-O5'-C5'	-5.74	112.29	120.90
1	N	1317	C	C1'-O4'-C4'	-5.74	104.16	109.90
1	N	265	G	C4'-C3'-O3'	-5.74	104.40	113.00
1	N	835	U	O4'-C1'-C2'	-5.74	101.86	107.60
1	N	352	C	C4'-C3'-O3'	-5.73	104.40	113.00
1	N	1055	A	O3'-P-O5'	-5.73	95.40	104.00
1	N	614	C	C4'-C3'-O3'	-5.73	104.40	113.00
1	N	984	C	P-O5'-C5'	5.73	129.50	120.90
1	N	426	U	C4'-C3'-O3'	-5.73	104.41	113.00
1	N	603	U	C4'-C3'-C2'	-5.73	96.87	102.60
1	N	447	G	O4'-C1'-C2'	-5.73	101.87	107.60
1	N	316	C	O5'-C5'-C4'	5.72	120.08	111.50
1	N	1156	G	O4'-C1'-C2'	5.72	111.52	105.80
1	N	1364	U	C1'-O4'-C4'	-5.72	103.98	109.70
1	N	408	A	C5'-C4'-C3'	-5.72	107.42	116.00
1	N	920	U	P-O5'-C5'	5.71	129.47	120.90
1	N	218	U	O4'-C1'-N1	5.71	117.07	108.50
1	N	320	A	C3'-C2'-C1'	5.71	107.01	101.30
1	N	1025	U	O4'-C1'-C2'	-5.71	101.89	107.60
1	N	1202	U	O4'-C1'-N1	5.71	117.07	108.50
1	N	1211	U	O4'-C4'-C3'	-5.71	100.39	106.10
1	N	827	U	C1'-C2'-O2'	5.71	116.96	108.40
1	N	1225	A	C1'-O4'-C4'	5.71	115.41	109.70
1	N	1389	C	O4'-C1'-N1	5.71	117.06	108.50
1	N	23	C	P-O5'-C5'	5.71	129.46	120.90
1	N	719	C	O5'-C5'-C4'	-5.71	102.94	111.50
1	N	71	A	O4'-C1'-N9	5.70	117.05	108.50
1	N	689	C	P-O3'-C3'	-5.70	111.64	120.20
1	N	755	G	C3'-C2'-O2'	5.70	119.25	110.70
1	N	992	U	O4'-C1'-C2'	-5.70	100.10	105.80
1	N	1074	G	O3'-P-O5'	-5.70	95.45	104.00
1	N	1199	U	P-O5'-C5'	5.70	129.45	120.90
1	N	1385	G	P-O5'-C5'	5.70	129.45	120.90
1	N	932	C	C1'-O4'-C4'	5.70	115.60	109.90
1	N	399	G	C5'-C4'-C3'	5.70	124.55	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	882	C	O4'-C1'-N1	5.69	117.04	108.50
1	N	934	C	O4'-C1'-N1	5.69	116.74	108.20
1	N	1039	G	C4'-C3'-C2'	-5.69	96.91	102.60
1	N	731	G	P-O3'-C3'	-5.69	111.66	120.20
1	N	1118	U	C5'-C4'-O4'	-5.69	101.26	109.80
1	N	329	A	P-O5'-C5'	-5.69	112.37	120.90
1	N	81	A	C5'-C4'-C3'	5.68	123.73	115.20
1	N	281	G	O3'-P-O5'	-5.68	95.47	104.00
1	N	405	U	P-O5'-C5'	5.68	129.43	120.90
1	N	418	C	C2'-C3'-O3'	5.68	122.23	113.70
1	N	489	C	O5'-C5'-C4'	-5.68	102.97	111.50
1	N	675	A	P-O3'-C3'	5.68	128.73	120.20
1	N	477	C	O5'-C5'-C4'	-5.68	102.98	111.50
1	N	699	C	P-O3'-C3'	-5.68	111.68	120.20
1	N	838	G	O4'-C1'-C2'	-5.68	101.92	107.60
1	N	906	A	O4'-C1'-N9	5.68	117.02	108.50
1	N	428	G	O3'-P-O5'	5.68	112.52	104.00
1	N	730	G	P-O5'-C5'	5.68	129.42	120.90
1	N	248	C	O4'-C1'-N1	5.68	117.01	108.50
1	N	67	C	C4'-C3'-O3'	-5.67	104.49	113.00
1	N	131	A	C3'-C2'-C1'	5.67	106.97	101.30
1	N	311	C	O4'-C1'-N1	5.67	117.01	108.50
1	N	417	G	O5'-C5'-C4'	-5.67	102.99	111.50
1	N	497	G	C5'-C4'-O4'	-5.67	101.29	109.80
1	N	1274	A	P-O3'-C3'	-5.67	111.69	120.20
1	N	1361	G	O4'-C4'-C3'	-5.67	98.33	104.00
1	N	16	A	P-O5'-C5'	-5.67	112.40	120.90
1	N	1390	U	C4'-C3'-C2'	-5.67	96.93	102.60
1	N	374	A	O4'-C1'-N9	5.67	117.00	108.50
1	N	434	U	O3'-P-O5'	-5.67	95.50	104.00
1	N	251	G	O5'-C5'-C4'	-5.67	103.20	111.70
1	N	408	A	C4'-C3'-C2'	-5.67	96.94	102.60
1	N	534	U	O5'-C5'-C4'	5.67	120.20	111.70
1	N	443	C	O4'-C1'-N1	5.66	116.99	108.50
1	N	1371	G	C1'-C2'-O2'	5.66	116.89	108.40
1	N	529	G	O5'-C5'-C4'	5.66	119.98	111.50
1	N	908	A	O4'-C4'-C3'	-5.66	98.34	104.00
1	N	99	C	O3'-P-O5'	-5.65	95.52	104.00
1	N	1151	A	C3'-C2'-C1'	5.65	106.95	101.30
1	N	1380	U	C4'-C3'-O3'	5.65	121.48	113.00
1	N	919	A	C4'-C3'-C2'	-5.65	96.95	102.60
1	N	1171	A	O3'-P-O5'	-5.65	95.52	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1147	C	O4'-C1'-N1	5.65	116.97	108.50
1	N	420	U	O4'-C1'-N1	5.65	116.97	108.50
1	N	233	C	O4'-C1'-C2'	-5.65	101.95	107.60
1	N	412	A	C2'-C3'-O3'	5.64	122.17	113.70
1	N	759	A	O4'-C1'-N9	5.64	116.97	108.50
1	N	19	A	C4'-C3'-O3'	-5.64	104.53	113.00
1	N	1006	G	O4'-C1'-C2'	-5.64	101.96	107.60
1	N	781	A	O4'-C1'-N9	5.64	116.96	108.50
1	N	1279	G	O4'-C1'-C2'	-5.64	100.16	105.80
1	N	714	G	O4'-C1'-C2'	-5.64	101.96	107.60
1	N	1475	G	C4'-C3'-C2'	-5.64	96.96	102.60
1	N	25	C	O4'-C1'-N1	5.63	116.95	108.50
1	N	162	A	C5'-C4'-O4'	5.63	118.25	109.80
1	N	882	C	O4'-C1'-C2'	-5.63	101.97	107.60
1	N	537	G	C2'-C3'-O3'	-5.63	105.25	113.70
1	N	322	C	C5'-C4'-O4'	5.63	118.25	109.80
1	N	1367	C	C3'-C2'-C1'	-5.63	95.67	101.30
1	N	1326	U	O4'-C1'-C2'	-5.63	101.97	107.60
1	N	216	U	C4'-C3'-C2'	-5.62	96.98	102.60
1	N	629	A	C4'-C3'-C2'	-5.62	96.98	102.60
1	N	727	G	P-O5'-C5'	-5.62	112.47	120.90
1	N	1101	A	C4'-C3'-O3'	5.62	117.84	109.40
1	N	1394	A	C4'-C3'-O3'	5.62	117.84	109.40
1	N	256	U	O4'-C1'-N1	5.62	116.93	108.50
1	N	991	U	C3'-C2'-C1'	5.62	107.12	101.50
1	N	381	C	C3'-C2'-C1'	-5.62	95.68	101.30
1	N	594	U	P-O3'-C3'	5.62	128.62	120.20
1	N	1166	G	C3'-C2'-C1'	5.62	106.92	101.30
1	N	977	A	P-O5'-C5'	-5.61	112.48	120.90
1	N	1139	G	C2'-C3'-O3'	5.61	117.92	109.50
1	N	331	G	P-O3'-C3'	-5.61	111.78	120.20
1	N	428	G	C5'-C4'-C3'	5.61	123.61	115.20
1	N	54	C	C4'-C3'-C2'	-5.61	96.99	102.60
1	N	99	C	O4'-C1'-N1	5.61	116.91	108.50
1	N	1043	G	P-O5'-C5'	5.61	129.31	120.90
1	N	416	G	P-O5'-C5'	5.60	129.31	120.90
1	N	717	U	O4'-C1'-C2'	5.60	111.40	105.80
1	N	1161	C	P-O5'-C5'	-5.60	112.49	120.90
1	N	210	C	O4'-C4'-C3'	-5.60	100.50	106.10
1	N	586	C	O4'-C1'-N1	5.60	116.90	108.50
1	N	1452	C	C5'-C4'-O4'	5.60	117.50	109.10
1	N	491	G	C4'-C3'-O3'	-5.60	104.60	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	669	G	O4'-C1'-C2'	-5.60	102.00	107.60
1	N	320	A	C1'-O4'-C4'	5.60	115.50	109.90
1	N	177	G	P-O3'-C3'	-5.59	111.81	120.20
1	N	761	G	C3'-C2'-O2'	5.59	119.09	110.70
1	N	1348	U	C5'-C4'-O4'	-5.59	101.41	109.80
1	N	1379	G	P-O3'-C3'	-5.59	111.81	120.20
1	N	26	A	C1'-O4'-C4'	-5.59	104.31	109.90
1	N	305	G	P-O3'-C3'	5.59	128.59	120.20
1	N	439	U	O4'-C1'-C2'	-5.59	102.01	107.60
1	N	1514	G	O4'-C4'-C3'	-5.59	98.41	104.00
1	N	855	U	P-O5'-C5'	-5.59	112.52	120.90
1	N	1382	C	O4'-C1'-N1	5.59	116.88	108.50
1	N	1532	U	P-O3'-C3'	5.59	128.58	120.20
1	N	873	A	O5'-C5'-C4'	5.59	120.08	111.70
1	N	898	G	P-O3'-C3'	-5.59	111.82	120.20
1	N	1309	G	P-O5'-C5'	-5.59	112.52	120.90
1	N	32	A	O5'-C5'-C4'	-5.58	103.12	111.50
1	N	1149	C	C2'-C3'-O3'	5.58	122.08	113.70
1	N	398	U	C5'-C4'-C3'	-5.58	107.63	116.00
1	N	695	A	C4'-C3'-C2'	-5.58	97.02	102.60
1	N	803	G	P-O3'-C3'	-5.58	111.83	120.20
1	N	806	C	P-O3'-C3'	-5.58	111.83	120.20
1	N	800	G	O5'-C5'-C4'	-5.58	103.13	111.50
1	N	1118	U	C5'-C4'-C3'	5.58	124.37	116.00
1	N	1357	A	O3'-P-O5'	-5.58	95.63	104.00
1	N	51	A	C3'-C2'-C1'	5.58	107.08	101.50
1	N	154	U	O4'-C1'-N1	5.58	116.86	108.50
1	N	373	A	O4'-C1'-N9	5.57	116.86	108.50
1	N	524	G	C4'-C3'-C2'	5.57	108.17	102.60
1	N	202	G	O4'-C4'-C3'	-5.57	98.43	104.00
1	N	749	A	C4'-C3'-O3'	-5.57	104.64	113.00
1	N	327	A	O4'-C1'-C2'	5.57	111.37	105.80
1	N	484	G	O3'-P-O5'	5.57	112.35	104.00
1	N	1315	U	C3'-C2'-C1'	5.57	106.87	101.30
1	N	1411	C	O4'-C1'-N1	5.57	116.85	108.50
1	N	103	U	C4'-C3'-C2'	-5.56	97.04	102.60
1	N	75	G	O5'-C5'-C4'	5.56	119.84	111.50
1	N	151	A	C1'-C2'-O2'	5.56	116.74	108.40
1	N	438	U	C1'-O4'-C4'	-5.56	104.14	109.70
1	N	741	G	C3'-C2'-C1'	-5.56	95.74	101.30
1	N	1303	C	C1'-O4'-C4'	5.56	115.46	109.90
1	N	877	G	O3'-P-O5'	-5.56	95.66	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1479	C	C1'-C2'-O2'	5.56	116.73	108.40
1	N	873	A	C5'-C4'-O4'	5.56	117.43	109.10
1	N	1311	A	P-O5'-C5'	5.55	129.23	120.90
1	N	357	G	C4'-C3'-C2'	-5.55	97.05	102.60
1	N	1225	A	P-O5'-C5'	5.55	129.22	120.90
1	N	1061	G	O4'-C1'-N9	5.55	116.82	108.50
1	N	1524	C	P-O3'-C3'	-5.55	111.88	120.20
1	N	1152	A	O4'-C1'-C2'	-5.54	102.06	107.60
1	N	151	A	O4'-C1'-C2'	-5.54	102.06	107.60
1	N	222	C	P-O3'-C3'	-5.54	111.89	120.20
1	N	269	C	O4'-C1'-N1	5.54	116.82	108.50
1	N	652	U	C5'-C4'-C3'	-5.54	107.68	116.00
1	N	1149	C	C4'-C3'-O3'	-5.54	104.69	113.00
1	N	118	U	C5'-C4'-O4'	5.54	118.11	109.80
1	N	676	A	C4'-C3'-C2'	-5.54	97.06	102.60
1	N	745	G	C4'-C3'-O3'	-5.54	104.69	113.00
1	N	60	A	C1'-C2'-O2'	-5.54	103.50	111.80
1	N	675	A	O4'-C1'-N9	5.54	116.80	108.50
1	N	981	U	O4'-C1'-N1	5.54	116.80	108.50
1	N	1227	A	P-O5'-C5'	-5.54	112.60	120.90
1	N	1187	G	C4'-C3'-C2'	-5.53	97.07	102.60
1	N	919	A	P-O5'-C5'	-5.53	112.61	120.90
1	N	1125	U	C5'-C4'-C3'	-5.53	107.71	116.00
1	N	1269	A	C5'-C4'-C3'	5.53	124.29	116.00
1	N	1120	C	O4'-C1'-N1	5.53	116.79	108.50
1	N	1495	U	O4'-C1'-C2'	-5.53	102.07	107.60
1	N	851	G	O5'-C5'-C4'	-5.53	103.21	111.50
1	N	812	G	O3'-P-O5'	-5.52	95.71	104.00
1	N	701	U	C4'-C3'-C2'	5.52	108.12	102.60
1	N	214	C	O4'-C1'-N1	5.52	116.78	108.50
1	N	438	U	C4'-C3'-O3'	-5.52	101.12	109.40
1	N	702	A	O4'-C1'-N9	5.52	116.78	108.50
1	N	948	C	O4'-C1'-N1	5.52	116.77	108.50
1	N	788	U	C3'-C2'-C1'	5.51	106.81	101.30
1	N	1101	A	C2'-C3'-O3'	5.51	117.77	109.50
1	N	1273	C	C3'-C2'-C1'	5.51	106.81	101.30
1	N	1305	G	O4'-C1'-N9	5.51	116.77	108.50
1	N	291	U	C1'-C2'-O2'	5.51	116.67	108.40
1	N	603	U	P-O3'-C3'	5.51	128.47	120.20
1	N	678	U	O4'-C1'-N1	5.51	116.77	108.50
1	N	1365	G	C4'-C3'-O3'	-5.51	104.73	113.00
1	N	731	G	O4'-C4'-C3'	-5.51	98.49	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	827	U	C4'-C3'-C2'	-5.51	97.09	102.60
1	N	513	C	P-O3'-C3'	5.51	128.46	120.20
1	N	599	C	O4'-C1'-C2'	-5.51	102.09	107.60
1	N	1386	G	C5'-C4'-C3'	5.50	124.25	116.00
1	N	1221	G	O4'-C1'-C2'	-5.50	102.10	107.60
1	N	446	G	O5'-C5'-C4'	-5.50	103.25	111.50
1	N	740	U	O4'-C1'-C2'	-5.50	102.10	107.60
1	N	408	A	O4'-C1'-C2'	-5.50	102.10	107.60
1	N	1310	G	C4'-C3'-O3'	-5.50	104.75	113.00
1	N	1350	A	P-O5'-C5'	5.50	129.14	120.90
1	N	945	G	C4'-C3'-C2'	-5.49	97.11	102.60
1	N	1087	G	C1'-O4'-C4'	5.49	115.39	109.90
1	N	1228	C	C5'-C4'-C3'	-5.49	107.77	116.00
1	N	78	A	O4'-C1'-C2'	-5.49	102.11	107.60
1	N	11	G	C3'-C2'-O2'	5.49	118.93	110.70
1	N	157	U	P-O3'-C3'	-5.49	111.97	120.20
1	N	1137	C	C4'-C3'-C2'	-5.48	97.12	102.60
1	N	7	A	C4'-C3'-C2'	5.48	108.08	102.60
1	N	1358	U	C4'-C3'-C2'	5.48	108.08	102.60
1	N	294	U	O4'-C4'-C3'	-5.48	98.52	104.00
1	N	754	C	O4'-C1'-C2'	5.48	113.08	107.60
1	N	87	C	P-O5'-C5'	-5.48	112.69	120.90
1	N	1208	C	C4'-C3'-C2'	-5.47	97.13	102.60
1	N	881	G	O4'-C4'-C3'	-5.47	98.53	104.00
1	N	909	A	C4'-C3'-C2'	-5.47	97.13	102.60
1	N	614	C	P-O5'-C5'	-5.47	112.69	120.90
1	N	891	U	O4'-C1'-N1	5.47	116.71	108.50
1	N	1145	A	C5'-C4'-C3'	5.47	124.21	116.00
1	N	774	G	O4'-C1'-N9	5.47	116.70	108.50
1	N	1471	U	O3'-P-O5'	-5.47	95.80	104.00
1	N	536	C	O4'-C1'-N1	5.47	116.70	108.50
1	N	1250	A	P-O5'-C5'	5.47	129.10	120.90
1	N	43	C	P-O5'-C5'	5.46	129.10	120.90
1	N	267	C	C4'-C3'-O3'	-5.46	104.80	113.00
1	N	317	U	C5'-C4'-C3'	-5.46	107.80	116.00
1	N	425	G	O5'-C5'-C4'	-5.46	103.31	111.50
1	N	1112	C	O4'-C1'-N1	5.46	116.69	108.50
1	N	1261	A	O4'-C1'-N9	5.46	116.69	108.50
1	N	428	G	C4'-C3'-O3'	5.46	117.59	109.40
1	N	740	U	O4'-C1'-N1	5.46	116.69	108.50
1	N	1003	G	P-O3'-C3'	5.46	128.39	120.20
1	N	1515	G	P-O3'-C3'	-5.46	112.01	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	384	G	O4'-C1'-C2'	-5.46	102.14	107.60
1	N	395	C	P-O5'-C5'	5.46	129.09	120.90
1	N	502	A	C4'-C3'-C2'	-5.46	97.14	102.60
1	N	748	G	O3'-P-O5'	-5.46	95.81	104.00
1	N	775	G	O3'-P-O5'	5.46	112.19	104.00
1	N	1254	A	C1'-O4'-C4'	-5.46	104.44	109.90
1	N	177	G	C1'-O4'-C4'	-5.46	104.44	109.90
1	N	460	A	O3'-P-O5'	-5.46	95.82	104.00
1	N	1058	G	P-O5'-C5'	5.46	129.08	120.90
1	N	224	U	O4'-C1'-C2'	-5.45	102.15	107.60
1	N	1150	A	P-O5'-C5'	5.45	129.08	120.90
1	N	636	U	O4'-C1'-N1	5.45	116.68	108.50
1	N	1243	C	O4'-C1'-C2'	-5.45	102.15	107.60
1	N	287	U	C4'-C3'-C2'	-5.45	97.15	102.60
1	N	996	A	P-O3'-C3'	-5.45	112.03	120.20
1	N	165	G	O5'-C5'-C4'	-5.45	103.33	111.50
1	N	662	U	C4'-C3'-C2'	-5.45	97.16	102.60
1	N	1095	U	C1'-O4'-C4'	5.45	115.35	109.90
1	N	340	U	C3'-C2'-C1'	5.44	106.74	101.30
1	N	536	C	C5'-C4'-O4'	-5.44	101.64	109.80
1	N	79	G	N9-C1'-C2'	5.44	120.16	112.00
1	N	240	G	O3'-P-O5'	-5.44	95.84	104.00
1	N	297	G	C3'-C2'-C1'	-5.44	95.86	101.30
1	N	476	U	O4'-C1'-N1	5.44	116.67	108.50
1	N	689	C	C1'-C2'-O2'	5.44	116.56	108.40
1	N	337	G	O3'-P-O5'	-5.44	95.84	104.00
1	N	758	C	O4'-C4'-C3'	5.44	109.44	104.00
1	N	1039	G	O4'-C1'-C2'	-5.44	102.16	107.60
1	N	423	G	O4'-C1'-N9	5.44	116.66	108.50
1	N	246	A	C2'-C3'-O3'	5.44	117.66	109.50
1	N	1087	G	P-O5'-C5'	5.44	129.05	120.90
1	N	1179	A	P-O5'-C5'	-5.43	112.75	120.90
1	N	1364	U	O5'-C5'-C4'	5.43	119.85	111.70
1	N	156	C	P-O5'-C5'	-5.43	112.75	120.90
1	N	1091	U	P-O3'-C3'	5.43	128.34	120.20
1	N	395	C	O5'-C5'-C4'	-5.43	103.36	111.50
1	N	1174	G	C3'-C2'-C1'	5.43	106.73	101.30
1	N	1250	A	O4'-C1'-N9	5.42	116.63	108.50
1	N	1521	C	O4'-C1'-C2'	-5.42	102.18	107.60
1	N	101	A	C3'-C2'-C1'	-5.42	95.88	101.30
1	N	160	A	O4'-C1'-C2'	-5.42	102.18	107.60
1	N	619	U	P-O5'-C5'	5.42	129.03	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1531	A	C3'-C2'-C1'	-5.42	95.88	101.30
1	N	584	G	O4'-C1'-C2'	-5.42	102.19	107.60
1	N	682	G	O4'-C1'-C2'	-5.41	102.19	107.60
1	N	1259	C	O4'-C1'-N1	5.41	116.62	108.50
1	N	1274	A	C4'-C3'-O3'	5.41	121.12	113.00
1	N	1426	G	C4'-C3'-C2'	-5.41	97.19	102.60
1	N	633	G	O3'-P-O5'	5.41	112.12	104.00
1	N	279	A	C2'-C3'-O3'	5.41	117.62	109.50
1	N	736	C	O4'-C1'-C2'	-5.41	102.19	107.60
1	N	931	C	O4'-C1'-N1	5.41	116.62	108.50
1	N	71	A	C4'-C3'-C2'	5.41	108.01	102.60
1	N	807	A	O4'-C1'-N9	5.41	116.61	108.50
1	N	1405	G	O4'-C1'-N9	5.41	116.61	108.50
1	N	131	A	O4'-C1'-N9	5.41	116.61	108.50
1	N	235	C	O4'-C1'-N1	5.41	116.61	108.50
1	N	1199	U	C5'-C4'-C3'	5.41	124.11	116.00
1	N	1440	U	O4'-C1'-N1	5.41	116.61	108.50
1	N	23	C	P-O3'-C3'	-5.40	112.09	120.20
1	N	176	C	P-O5'-C5'	5.40	129.00	120.90
1	N	255	G	O3'-P-O5'	-5.40	95.90	104.00
1	N	478	A	C4'-C3'-C2'	5.40	108.00	102.60
1	N	691	G	P-O5'-C5'	5.40	129.00	120.90
1	N	473	U	O3'-P-O5'	-5.40	95.90	104.00
1	N	197	A	O4'-C1'-N9	5.40	116.30	108.20
1	N	266	G	O3'-P-O5'	5.40	112.10	104.00
1	N	801	U	N1-C1'-C2'	-5.40	103.90	112.00
1	N	1162	C	N1-C1'-C2'	5.40	120.10	112.00
1	N	1302	C	C4'-C3'-C2'	5.40	108.00	102.60
1	N	1344	C	O4'-C1'-N1	5.40	116.60	108.50
1	N	1477	U	C3'-C2'-C1'	-5.40	95.90	101.30
1	N	840	C	O4'-C1'-C2'	-5.40	102.20	107.60
1	N	1003	G	O5'-C5'-C4'	5.40	119.59	111.50
1	N	171	A	O4'-C4'-C3'	-5.39	98.61	104.00
1	N	813	U	O3'-P-O5'	-5.39	95.91	104.00
1	N	71	A	C1'-O4'-C4'	5.39	115.29	109.90
1	N	1431	A	P-O5'-C5'	5.39	128.99	120.90
1	N	1516	G	C3'-C2'-C1'	5.39	106.69	101.30
1	N	1077	G	C2'-C3'-O3'	-5.39	105.61	113.70
1	N	1505	G	N9-C1'-C2'	5.39	120.08	112.00
1	N	633	G	O4'-C4'-C3'	-5.39	98.61	104.00
1	N	1160	G	C2'-C3'-O3'	5.39	117.58	109.50
1	N	1433	A	O4'-C4'-C3'	-5.39	98.61	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	226	G	C5'-C4'-C3'	-5.38	107.92	116.00
1	N	581	G	O3'-P-O5'	-5.38	95.92	104.00
1	N	782	A	O4'-C4'-C3'	-5.38	98.62	104.00
1	N	1152	A	O4'-C1'-N9	5.38	116.57	108.50
1	N	1206	G	P-O3'-C3'	-5.38	112.13	120.20
1	N	11	G	O4'-C1'-C2'	5.38	112.98	107.60
1	N	373	A	O4'-C4'-C3'	-5.38	98.62	104.00
1	N	776	G	C1'-O4'-C4'	-5.38	104.52	109.90
1	N	138	G	C4'-C3'-C2'	-5.38	97.22	102.60
1	N	492	C	P-O3'-C3'	5.38	128.27	120.20
1	N	629	A	O4'-C1'-C2'	-5.38	102.22	107.60
1	N	1303	C	C2'-C3'-O3'	-5.38	105.63	113.70
1	N	863	U	C5'-C4'-C3'	-5.37	107.94	116.00
1	N	1320	C	O4'-C4'-C3'	-5.37	98.63	104.00
1	N	551	U	O4'-C1'-N1	5.37	116.56	108.50
1	N	1058	G	C1'-O4'-C4'	5.37	115.27	109.90
1	N	1065	U	O5'-C5'-C4'	-5.37	103.65	111.70
1	N	1469	C	P-O3'-C3'	5.37	128.25	120.20
1	N	18	C	P-O3'-C3'	-5.37	112.15	120.20
1	N	215	C	O4'-C1'-N1	5.37	116.55	108.50
1	N	246	A	C3'-C2'-C1'	5.37	106.87	101.50
1	N	415	A	C4'-C3'-C2'	-5.37	97.23	102.60
1	N	1349	A	P-O3'-C3'	-5.37	112.15	120.20
1	N	1036	A	C4'-C3'-C2'	5.36	107.96	102.60
1	N	1374	A	O4'-C1'-N9	5.36	116.54	108.50
1	N	134	G	C5'-C4'-O4'	5.36	117.84	109.80
1	N	789	U	O4'-C1'-N1	5.36	116.54	108.50
1	N	802	A	O5'-C5'-C4'	5.36	119.54	111.50
1	N	1009	U	P-O3'-C3'	-5.36	112.16	120.20
1	N	1393	U	P-O3'-C3'	5.36	128.24	120.20
1	N	832	G	P-O5'-C5'	-5.36	112.86	120.90
1	N	850	U	O4'-C1'-N1	5.36	116.54	108.50
1	N	72	A	C1'-C2'-O2'	5.36	116.44	108.40
1	N	181	A	C5'-C4'-C3'	5.36	124.03	116.00
1	N	887	G	C4'-C3'-C2'	-5.36	97.25	102.60
1	N	1532	U	C4'-C3'-C2'	5.36	107.95	102.60
1	N	47	C	O5'-C5'-C4'	-5.35	103.67	111.70
1	N	360	G	O4'-C4'-C3'	5.35	109.35	104.00
1	N	328	C	C1'-O4'-C4'	-5.35	104.55	109.90
1	N	458	U	C5'-C4'-C3'	-5.35	107.97	116.00
1	N	768	A	P-O5'-C5'	5.35	128.92	120.90
1	N	937	A	O4'-C1'-N9	5.35	116.53	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	193	C	O3'-P-O5'	-5.35	95.98	104.00
1	N	841	C	O4'-C1'-N1	5.35	116.52	108.50
1	N	45	G	C5'-C4'-C3'	5.34	124.02	116.00
1	N	1202	U	O4'-C1'-C2'	-5.34	102.25	107.60
1	N	134	G	O3'-P-O5'	5.34	112.02	104.00
1	N	683	G	C1'-O4'-C4'	5.34	115.24	109.90
1	N	779	C	P-O3'-C3'	5.34	128.21	120.20
1	N	1374	A	O4'-C1'-C2'	-5.34	102.26	107.60
1	N	738	C	C5'-C4'-C3'	5.34	124.01	116.00
1	N	1399	C	C5'-C4'-C3'	-5.34	107.19	115.20
1	N	38	G	P-O5'-C5'	-5.34	112.89	120.90
1	N	875	U	O3'-P-O5'	-5.34	95.99	104.00
1	N	1337	G	P-O3'-C3'	-5.34	112.20	120.20
1	N	1467	C	P-O5'-C5'	5.34	128.90	120.90
1	N	1474	U	P-O5'-C5'	5.34	128.91	120.90
1	N	4	U	C4'-C3'-O3'	5.33	117.40	109.40
1	N	1051	C	P-O3'-C3'	-5.33	112.20	120.20
1	N	1246	A	P-O3'-C3'	-5.33	112.20	120.20
1	N	1140	C	O4'-C1'-N1	5.33	116.20	108.20
1	N	1367	C	C1'-C2'-O2'	5.33	116.40	108.40
1	N	1004	A	N1-C6-N6	5.33	134.59	118.60
1	N	1423	G	O4'-C1'-N9	5.33	116.49	108.50
1	N	1421	G	O4'-C4'-C3'	-5.33	98.67	104.00
1	N	301	G	C4'-C3'-C2'	-5.32	97.28	102.60
1	N	632	U	O4'-C1'-N1	5.32	116.49	108.50
1	N	709	U	C4'-C3'-C2'	-5.32	97.28	102.60
1	N	1320	C	O4'-C1'-C2'	-5.32	102.28	107.60
1	N	601	G	C4'-C3'-C2'	-5.32	97.28	102.60
1	N	113	G	C5'-C4'-C3'	5.32	123.98	116.00
1	N	181	A	C3'-C2'-C1'	5.32	106.62	101.30
1	N	229	U	P-O3'-C3'	-5.32	112.22	120.20
1	N	654	G	C1'-C2'-O2'	5.32	116.38	108.40
1	N	793	U	O4'-C4'-C3'	-5.32	98.68	104.00
1	N	1092	A	C3'-C2'-C1'	5.32	106.62	101.30
1	N	334	C	P-O5'-C5'	5.32	128.88	120.90
1	N	815	A	P-O3'-C3'	5.32	128.18	120.20
1	N	135	C	O4'-C1'-C2'	-5.32	102.28	107.60
1	N	1018	G	O4'-C1'-C2'	-5.32	102.28	107.60
1	N	280	C	C4'-C3'-O3'	5.32	117.37	109.40
1	N	166	U	O5'-C5'-C4'	-5.31	103.53	111.50
1	N	1110	A	P-O5'-C5'	-5.31	112.93	120.90
1	N	521	G	P-O5'-C5'	5.31	128.87	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	931	C	C4'-C3'-O3'	-5.31	105.03	113.00
1	N	1313	U	O4'-C1'-N1	5.31	116.46	108.50
1	N	229	U	C4'-C3'-O3'	-5.30	105.04	113.00
1	N	479	U	O4'-C1'-N1	5.30	116.46	108.50
1	N	605	U	C4'-C3'-O3'	-5.30	105.04	113.00
1	N	871	U	O3'-P-O5'	5.30	111.96	104.00
1	N	180	U	P-O5'-C5'	5.30	128.85	120.90
1	N	794	A	O4'-C1'-N9	5.30	116.45	108.50
1	N	951	G	P-O3'-C3'	-5.30	112.25	120.20
1	N	335	C	O4'-C1'-N1	5.30	116.45	108.50
1	N	607	A	C5'-C4'-C3'	-5.30	108.05	116.00
1	N	766	A	N1-C6-N6	5.30	134.50	118.60
1	N	1482	G	C4'-C3'-C2'	-5.30	97.30	102.60
1	N	1015	G	O5'-C5'-C4'	5.30	119.45	111.50
1	N	1271	A	O5'-C5'-C4'	-5.30	103.55	111.50
1	N	322	C	N1-C1'-C2'	5.30	119.95	112.00
1	N	1147	C	C4'-C3'-O3'	-5.30	105.06	113.00
1	N	1299	A	P-O5'-C5'	5.30	128.84	120.90
1	N	1082	A	C5'-C4'-C3'	-5.29	108.06	116.00
1	N	1249	C	C1'-C2'-O2'	-5.29	100.46	108.40
1	N	1482	G	O5'-C5'-C4'	-5.29	103.56	111.50
1	N	1029	U	P-O5'-C5'	5.29	128.84	120.90
1	N	289	G	C4'-C3'-O3'	-5.29	105.06	113.00
1	N	1325	C	O4'-C1'-C2'	-5.29	102.31	107.60
1	N	419	C	O4'-C1'-N1	5.29	116.43	108.50
1	N	614	C	C2'-C3'-O3'	5.29	121.63	113.70
1	N	672	U	P-O5'-C5'	5.29	128.83	120.90
1	N	1130	A	O4'-C4'-C3'	-5.29	98.71	104.00
1	N	338	A	P-O3'-C3'	-5.29	112.27	120.20
1	N	668	G	C4'-C3'-C2'	-5.29	97.31	102.60
1	N	1149	C	C4'-C3'-C2'	-5.29	97.31	102.60
1	N	57	G	C1'-O4'-C4'	-5.29	104.61	109.90
1	N	775	G	C1'-C2'-O2'	-5.29	100.47	108.40
1	N	256	U	O4'-C4'-C3'	-5.28	98.72	104.00
1	N	542	G	O4'-C1'-N9	5.28	116.42	108.50
1	N	349	A	C4'-C3'-C2'	-5.28	97.32	102.60
1	N	83	C	O4'-C1'-N1	5.28	116.42	108.50
1	N	584	G	O4'-C1'-N9	5.28	116.42	108.50
1	N	72	A	O5'-C5'-C4'	-5.28	103.58	111.50
1	N	982	U	O5'-C5'-C4'	-5.28	103.78	111.70
1	N	114	U	C4'-C3'-C2'	-5.28	97.33	102.60
1	N	1239	A	O3'-P-O5'	5.28	111.91	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	279	A	C3'-C2'-C1'	5.27	106.77	101.50
1	N	235	C	O4'-C4'-C3'	-5.27	98.73	104.00
1	N	1100	C	P-O3'-C3'	-5.27	112.29	120.20
1	N	567	G	C5'-C4'-C3'	5.27	123.91	116.00
1	N	1381	U	C5'-C4'-C3'	-5.27	108.10	116.00
1	N	514	C	C4'-C3'-C2'	-5.27	97.33	102.60
1	N	747	A	O4'-C1'-N9	5.27	116.40	108.50
1	N	1309	G	C5'-C4'-C3'	5.27	123.90	116.00
1	N	152	A	O4'-C1'-N9	5.26	116.39	108.50
1	N	701	U	O5'-C5'-C4'	5.26	119.39	111.50
1	N	808	C	O4'-C1'-N1	5.26	116.39	108.50
1	N	496	A	O4'-C4'-C3'	5.26	109.26	104.00
1	N	1068	G	C5'-C4'-C3'	-5.25	108.12	116.00
1	N	335	C	C5'-C4'-C3'	5.25	123.88	116.00
1	N	283	U	P-O3'-C3'	-5.25	112.33	120.20
1	N	70	U	C5'-C4'-O4'	5.25	116.97	109.10
1	N	299	G	C5'-C4'-C3'	5.25	123.87	116.00
1	N	314	C	C5'-C4'-C3'	5.25	123.87	116.00
1	N	932	C	C5'-C4'-O4'	5.25	117.67	109.80
1	N	451	A	C4'-C3'-O3'	5.25	117.27	109.40
1	N	378	G	O4'-C1'-N9	5.24	116.36	108.50
1	N	636	U	O5'-C5'-C4'	-5.24	103.63	111.50
1	N	955	U	O4'-C1'-N1	5.24	116.36	108.50
1	N	1298	U	C5'-C4'-C3'	-5.24	107.33	115.20
1	N	1395	C	C4'-C3'-O3'	-5.24	105.14	113.00
1	N	825	A	C4'-C3'-C2'	-5.24	97.36	102.60
1	N	1085	U	N1-C1'-C2'	5.24	119.86	112.00
1	N	14	U	P-O5'-C5'	-5.24	113.04	120.90
1	N	759	A	N9-C1'-C2'	-5.24	104.14	112.00
1	N	1154	G	O4'-C1'-N9	5.23	116.35	108.50
1	N	1262	C	O4'-C1'-N1	5.23	116.35	108.50
1	N	104	G	C3'-C2'-C1'	-5.23	96.07	101.30
1	N	859	G	O4'-C1'-C2'	-5.23	102.37	107.60
1	N	51	A	C2'-C3'-O3'	5.23	117.34	109.50
1	N	169	C	O3'-P-O5'	-5.23	96.16	104.00
1	N	449	G	P-O3'-C3'	-5.23	112.36	120.20
1	N	1344	C	O3'-P-O5'	5.23	111.84	104.00
1	N	1533	C	O4'-C1'-C2'	-5.23	100.57	105.80
1	N	430	A	C2'-C3'-O3'	-5.22	105.86	113.70
1	N	648	A	C4'-C3'-C2'	-5.22	97.38	102.60
1	N	757	U	O5'-C5'-C4'	-5.22	103.67	111.50
1	N	1418	A	O5'-C5'-C4'	-5.22	103.67	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1427	C	O4'-C1'-C2'	-5.22	102.38	107.60
1	N	975	A	P-O5'-C5'	-5.22	113.07	120.90
1	N	1189	U	O4'-C1'-N1	5.22	116.33	108.50
1	N	694	A	O3'-P-O5'	-5.22	96.17	104.00
1	N	1030	U	O4'-C1'-N1	5.22	116.33	108.50
1	N	793	U	C4'-C3'-C2'	5.21	107.81	102.60
1	N	842	U	C4'-C3'-C2'	-5.21	97.39	102.60
1	N	1514	G	C5'-C4'-C3'	5.21	123.82	116.00
1	N	246	A	C4'-C3'-O3'	5.21	117.22	109.40
1	N	1075	U	O4'-C1'-C2'	-5.21	102.39	107.60
1	N	1378	C	P-O3'-C3'	-5.21	112.38	120.20
1	N	339	C	O4'-C1'-N1	5.21	116.31	108.50
1	N	1095	U	O4'-C4'-C3'	-5.21	98.79	104.00
1	N	990	C	O4'-C1'-N1	5.21	116.31	108.50
1	N	1534	A	O4'-C1'-C2'	5.21	111.01	105.80
1	N	921	U	C4'-C3'-C2'	-5.21	97.39	102.60
1	N	422	C	C5'-C4'-O4'	5.20	116.90	109.10
1	N	1431	A	O3'-P-O5'	-5.20	96.20	104.00
1	N	931	C	O4'-C1'-C2'	-5.20	102.40	107.60
1	N	613	C	O4'-C4'-C3'	5.20	109.20	104.00
1	N	36	C	C4'-C3'-C2'	-5.20	97.40	102.60
1	N	917	G	C4'-C3'-O3'	-5.20	105.21	113.00
1	N	945	G	C1'-O4'-C4'	-5.20	104.70	109.90
1	N	1038	C	O4'-C1'-N1	5.20	116.29	108.50
1	N	134	G	O4'-C4'-C3'	-5.19	98.81	104.00
1	N	281	G	C2'-C3'-O3'	5.19	117.29	109.50
1	N	405	U	P-O3'-C3'	5.19	127.99	120.20
1	N	450	G	C2'-C3'-O3'	5.19	121.49	113.70
1	N	452	A	C5'-C4'-C3'	-5.19	108.21	116.00
1	N	1276	G	O4'-C4'-C3'	-5.19	98.81	104.00
1	N	1390	U	C5'-C4'-C3'	5.19	123.79	116.00
1	N	254	G	O4'-C1'-N9	5.19	116.28	108.50
1	N	451	A	C3'-C2'-C1'	-5.19	96.31	101.50
1	N	544	G	O4'-C1'-N9	5.19	116.29	108.50
1	N	847	G	C4'-C3'-C2'	-5.19	97.41	102.60
1	N	974	A	O4'-C4'-C3'	-5.19	100.91	106.10
1	N	94	G	O4'-C1'-C2'	5.19	110.99	105.80
1	N	207	C	O4'-C1'-N1	5.19	116.28	108.50
1	N	1038	C	P-O5'-C5'	5.19	128.68	120.90
1	N	1211	U	C3'-C2'-C1'	-5.19	96.31	101.50
1	N	680	C	O4'-C1'-N1	5.18	116.28	108.50
1	N	754	C	C4'-C3'-C2'	5.18	107.78	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1108	G	P-O3'-C3'	5.18	127.98	120.20
1	N	1438	G	C1'-C2'-O2'	5.18	116.18	108.40
1	N	686	U	C2'-C3'-O3'	5.18	117.27	109.50
1	N	1045	C	P-O5'-C5'	5.18	128.67	120.90
1	N	1070	U	C5'-C4'-C3'	-5.18	108.23	116.00
1	N	75	G	O3'-P-O5'	5.18	111.77	104.00
1	N	1276	G	O5'-C5'-C4'	-5.18	103.73	111.50
1	N	300	A	C5'-C4'-O4'	-5.18	102.03	109.80
1	N	347	G	P-O5'-C5'	5.18	128.67	120.90
1	N	1453	G	O3'-P-O5'	-5.18	96.23	104.00
1	N	72	A	C4'-C3'-C2'	-5.17	97.43	102.60
1	N	448	A	O4'-C1'-C2'	-5.17	102.42	107.60
1	N	1165	U	O4'-C1'-N1	5.17	116.26	108.50
1	N	1223	C	C5'-C4'-O4'	5.17	116.86	109.10
1	N	1506	U	C3'-C2'-C1'	-5.17	96.33	101.50
1	N	677	U	O4'-C1'-N1	5.17	116.26	108.50
1	N	784	A	C4'-C3'-C2'	-5.17	97.43	102.60
1	N	908	A	P-O3'-C3'	-5.17	112.44	120.20
1	N	1192	C	C5'-C4'-O4'	5.17	117.56	109.80
1	N	130	A	C4'-C3'-C2'	-5.17	97.43	102.60
1	N	559	A	O4'-C1'-N9	5.17	115.95	108.20
1	N	498	A	C4'-C3'-C2'	5.17	107.77	102.60
1	N	1411	C	C3'-C2'-C1'	5.17	106.47	101.30
1	N	1483	A	N9-C1'-C2'	5.17	119.75	112.00
1	N	273	U	O4'-C1'-C2'	-5.16	102.44	107.60
1	N	1448	C	C1'-O4'-C4'	-5.16	104.74	109.90
1	N	309	A	N9-C1'-C2'	-5.16	104.26	112.00
1	N	341	C	O4'-C1'-N1	5.16	116.24	108.50
1	N	834	U	C5'-C4'-C3'	-5.16	108.26	116.00
1	N	375	U	O4'-C1'-C2'	-5.16	102.44	107.60
1	N	1160	G	O4'-C1'-N9	5.16	115.94	108.20
1	N	1234	C	C4'-C3'-C2'	-5.16	97.44	102.60
1	N	1347	G	O4'-C1'-N9	5.16	115.94	108.20
1	N	90	C	C4'-C3'-C2'	-5.16	97.44	102.60
1	N	379	C	O4'-C1'-N1	5.16	116.24	108.50
1	N	1245	C	C1'-C2'-O2'	5.16	116.14	108.40
1	N	597	G	O4'-C4'-C3'	-5.15	98.85	104.00
1	N	1239	A	O4'-C1'-N9	5.15	115.93	108.20
1	N	106	C	P-O5'-C5'	-5.15	113.17	120.90
1	N	191	G	C5-C6-O6	-5.15	113.14	128.60
1	N	202	G	O3'-P-O5'	-5.15	96.27	104.00
1	N	826	C	O4'-C1'-C2'	-5.15	102.45	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	836	G	O5'-C5'-C4'	-5.15	103.77	111.50
1	N	848	C	P-O5'-C5'	5.15	128.63	120.90
1	N	559	A	O4'-C4'-C3'	-5.15	100.95	106.10
1	N	719	C	C5'-C4'-C3'	5.15	123.72	116.00
1	N	452	A	P-O3'-C3'	-5.15	112.48	120.20
1	N	93	U	O4'-C1'-C2'	-5.15	102.45	107.60
1	N	363	A	C4'-C3'-C2'	-5.15	97.45	102.60
1	N	863	U	C4'-C3'-O3'	-5.15	105.28	113.00
1	N	652	U	O4'-C4'-C3'	5.15	109.15	104.00
1	N	382	A	N9-C1'-C2'	5.14	119.72	112.00
1	N	505	G	O3'-P-O5'	-5.14	96.28	104.00
1	N	695	A	C2'-C3'-O3'	5.14	121.42	113.70
1	N	846	G	C5'-C4'-C3'	-5.14	108.28	116.00
1	N	1374	A	C3'-C2'-O2'	5.14	118.42	110.70
1	N	675	A	C4'-C3'-C2'	-5.14	97.46	102.60
1	N	172	A	C4'-C3'-C2'	5.14	107.74	102.60
1	N	252	U	C4'-C3'-O3'	-5.14	105.29	113.00
1	N	869	G	C4'-C3'-C2'	-5.14	97.46	102.60
1	N	123	U	O3'-P-O5'	-5.14	96.29	104.00
1	N	343	U	O3'-P-O5'	-5.14	96.29	104.00
1	N	1256	A	C4'-C3'-C2'	-5.14	97.46	102.60
1	N	259	G	C1'-O4'-C4'	5.13	115.03	109.90
1	N	378	G	C4'-C3'-C2'	-5.13	97.47	102.60
1	N	582	C	C5'-C4'-C3'	5.13	123.70	116.00
1	N	205	A	P-O5'-C5'	-5.13	113.20	120.90
1	N	880	C	O5'-C5'-C4'	-5.13	103.80	111.50
1	N	1421	G	O4'-C1'-N9	5.13	116.20	108.50
1	N	185	U	C4'-C3'-O3'	-5.13	105.31	113.00
1	N	705	G	O5'-C5'-C4'	-5.13	103.81	111.50
1	N	40	C	P-O5'-C5'	5.13	128.59	120.90
1	N	153	C	P-O3'-C3'	-5.13	112.51	120.20
1	N	1371	G	C3'-C2'-C1'	-5.13	96.17	101.30
1	N	335	C	C4'-C3'-O3'	-5.12	105.31	113.00
1	N	312	C	O4'-C1'-N1	5.12	116.19	108.50
1	N	559	A	O4'-C1'-C2'	5.12	110.92	105.80
1	N	986	U	C4'-C3'-O3'	-5.12	105.31	113.00
1	N	1372	U	C4'-C3'-C2'	-5.12	97.48	102.60
1	N	902	G	O4'-C1'-N9	5.12	116.18	108.50
1	N	1002	G	C5'-C4'-C3'	5.12	123.68	116.00
1	N	1196	A	C1'-C2'-O2'	5.12	116.08	108.40
1	N	1322	C	C5'-C4'-O4'	-5.12	101.42	109.10
1	N	414	A	C4'-C3'-C2'	-5.12	97.48	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	516	U	O4'-C1'-N1	5.12	116.18	108.50
1	N	1367	C	C4'-C3'-C2'	-5.12	97.48	102.60
1	N	217	C	O4'-C1'-N1	5.12	116.18	108.50
1	N	438	U	C2'-C3'-O3'	5.12	117.18	109.50
1	N	1487	G	C5'-C4'-O4'	5.12	117.48	109.80
1	N	814	A	P-O5'-C5'	-5.12	113.23	120.90
1	N	851	G	C1'-C2'-O2'	5.12	116.07	108.40
1	N	865	A	O4'-C1'-N9	5.12	116.17	108.50
1	N	889	A	O4'-C4'-C3'	-5.12	100.98	106.10
1	N	1259	C	C5'-C4'-C3'	5.12	123.67	116.00
1	N	1419	G	C4'-C3'-C2'	-5.12	97.48	102.60
1	N	52	C	O4'-C1'-N1	5.11	116.17	108.50
1	N	261	U	C4'-C3'-C2'	5.11	107.71	102.60
1	N	1300	G	C4'-C3'-C2'	-5.11	97.49	102.60
1	N	1121	U	O4'-C1'-C2'	-5.11	102.49	107.60
1	N	773	G	O4'-C1'-N9	5.11	116.17	108.50
1	N	789	U	O4'-C4'-C3'	-5.11	98.89	104.00
1	N	878	A	O5'-C5'-C4'	-5.11	103.84	111.50
1	N	553	A	O4'-C1'-N9	5.11	116.16	108.50
1	N	1022	A	P-O5'-C5'	-5.11	113.24	120.90
1	N	1190	G	O4'-C1'-N9	5.11	115.86	108.20
1	N	1360	A	C4'-C3'-O3'	-5.11	105.34	113.00
1	N	286	C	O4'-C1'-N1	5.11	116.16	108.50
1	N	355	C	P-O3'-C3'	5.10	127.86	120.20
1	N	420	U	O5'-C5'-C4'	-5.10	103.84	111.50
1	N	829	G	C4'-C3'-C2'	-5.10	97.50	102.60
1	N	1363	A	O4'-C4'-C3'	-5.10	101.00	106.10
1	N	1369	C	P-O3'-C3'	-5.10	112.55	120.20
1	N	256	U	C2'-C3'-O3'	5.10	121.35	113.70
1	N	569	C	P-O3'-C3'	5.10	127.85	120.20
1	N	1020	G	O4'-C1'-C2'	-5.10	102.50	107.60
1	N	418	C	O4'-C1'-N1	5.10	116.15	108.50
1	N	949	A	C5'-C4'-C3'	-5.10	108.35	116.00
1	N	424	G	O4'-C1'-N9	5.10	116.15	108.50
1	N	356	A	C2'-C3'-O3'	5.10	121.34	113.70
1	N	841	C	O4'-C1'-C2'	-5.10	102.50	107.60
1	N	240	G	C5'-C4'-C3'	-5.09	108.36	116.00
1	N	474	G	C1'-O4'-C4'	5.09	114.99	109.90
1	N	673	A	O4'-C1'-C2'	-5.09	102.50	107.60
1	N	398	U	P-O3'-C3'	-5.09	112.56	120.20
1	N	564	C	C5'-C4'-C3'	-5.09	108.36	116.00
1	N	254	G	O4'-C1'-C2'	-5.09	102.51	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	95	C	C3'-C2'-C1'	5.08	106.38	101.30
1	N	512	U	C5'-C4'-O4'	-5.08	102.18	109.80
1	N	589	U	C1'-C2'-O2'	5.08	116.02	108.40
1	N	1317	C	O5'-C5'-C4'	-5.08	103.88	111.50
1	N	744	C	N1-C1'-C2'	5.08	119.62	112.00
1	N	1089	G	O4'-C1'-C2'	-5.08	102.52	107.60
1	N	1277	C	C4'-C3'-C2'	-5.08	97.52	102.60
1	N	1114	C	O4'-C1'-C2'	-5.08	102.52	107.60
1	N	291	U	O4'-C1'-N1	5.08	116.11	108.50
1	N	1000	A	C4'-C3'-C2'	-5.08	97.52	102.60
1	N	1443	C	O4'-C1'-N1	5.08	116.12	108.50
1	N	1410	A	O4'-C1'-N9	5.08	116.11	108.50
1	N	336	A	C3'-C2'-C1'	-5.07	96.23	101.30
1	N	824	G	C4'-C3'-O3'	-5.07	105.39	113.00
1	N	467	U	C1'-O4'-C4'	-5.07	104.83	109.90
1	N	23	C	O5'-C5'-C4'	-5.07	103.90	111.50
1	N	110	C	O4'-C1'-N1	5.07	116.10	108.50
1	N	1108	G	C1'-C2'-O2'	5.07	116.00	108.40
1	N	1138	G	O4'-C1'-N9	5.07	116.10	108.50
1	N	420	U	O3'-P-O5'	-5.07	96.40	104.00
1	N	1234	C	C4'-C3'-O3'	-5.07	105.40	113.00
1	N	100	G	C1'-C2'-O2'	5.06	116.00	108.40
1	N	230	G	C5'-C4'-C3'	-5.06	108.41	116.00
1	N	518	C	P-O5'-C5'	-5.06	113.31	120.90
1	N	116	A	C1'-O4'-C4'	5.06	114.96	109.90
1	N	204	G	O4'-C4'-C3'	-5.06	98.94	104.00
1	N	692	U	C4'-C3'-O3'	-5.06	105.41	113.00
1	N	968	A	O4'-C1'-C2'	-5.06	100.74	105.80
1	N	776	G	O5'-C5'-C4'	-5.06	103.91	111.50
1	N	57	G	C4'-C3'-C2'	-5.06	97.54	102.60
1	N	344	A	O4'-C4'-C3'	-5.06	101.04	106.10
1	N	436	C	O4'-C1'-N1	5.06	116.08	108.50
1	N	726	C	O4'-C1'-N1	5.06	116.09	108.50
1	N	138	G	O4'-C4'-C3'	-5.05	98.94	104.00
1	N	779	C	C4'-C3'-O3'	-5.05	105.42	113.00
1	N	115	G	C2'-C3'-O3'	5.05	117.08	109.50
1	N	223	A	C3'-C2'-C1'	5.05	106.35	101.30
1	N	1314	C	O4'-C1'-N1	5.05	116.08	108.50
1	N	409	U	O4'-C1'-N1	5.05	116.07	108.50
1	N	1467	C	C5'-C4'-C3'	-5.05	108.43	116.00
1	N	691	G	O4'-C1'-N9	5.05	116.07	108.50
1	N	579	A	O4'-C1'-N9	5.05	116.07	108.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	899	C	O4'-C1'-N1	5.05	116.07	108.50
1	N	1013	G	P-O5'-C5'	5.05	128.47	120.90
1	N	1120	C	P-O5'-C5'	5.05	128.47	120.90
1	N	1158	C	C2-N1-C1'	5.05	133.94	118.80
1	N	130	A	O5'-C5'-C4'	5.04	119.27	111.70
1	N	1185	G	C4'-C3'-C2'	-5.04	97.56	102.60
1	N	36	C	C5'-C4'-C3'	5.04	123.57	116.00
1	N	108	G	O4'-C1'-N9	5.04	116.06	108.50
1	N	256	U	C3'-C2'-C1'	-5.04	96.26	101.30
1	N	477	C	C4'-C3'-C2'	-5.04	97.56	102.60
1	N	501	C	O4'-C1'-N1	5.04	116.07	108.50
1	N	924	C	O4'-C1'-C2'	-5.04	102.56	107.60
1	N	1161	C	C3'-C2'-C1'	5.04	106.34	101.30
1	N	1338	G	O3'-P-O5'	-5.04	96.44	104.00
1	N	1433	A	O4'-C1'-C2'	-5.04	102.56	107.60
1	N	752	G	O3'-P-O5'	-5.04	96.44	104.00
1	N	1100	C	O5'-C5'-C4'	5.04	119.06	111.50
1	N	1117	A	O3'-P-O5'	-5.04	96.44	104.00
1	N	384	G	C1'-C2'-O2'	5.03	115.95	108.40
1	N	657	U	C4'-C3'-C2'	-5.03	97.57	102.60
1	N	1116	U	C3'-C2'-C1'	5.03	106.33	101.30
1	N	942	G	O4'-C4'-C3'	-5.03	98.97	104.00
1	N	1169	A	C4'-C3'-C2'	-5.03	97.57	102.60
1	N	801	U	C5'-C4'-C3'	5.03	123.54	116.00
1	N	804	U	C4'-C3'-C2'	-5.03	97.57	102.60
1	N	973	G	O4'-C1'-N9	5.03	116.04	108.50
1	N	1119	C	O4'-C1'-C2'	-5.03	102.57	107.60
1	N	1528	U	C4'-C3'-O3'	5.03	116.94	109.40
1	N	41	G	O4'-C1'-N9	5.02	116.03	108.50
1	N	593	U	O4'-C1'-N1	5.02	116.03	108.50
1	N	897	C	C5'-C4'-O4'	5.02	117.33	109.80
1	N	1238	A	C5'-C4'-C3'	-5.02	108.47	116.00
1	N	1405	G	C4'-C3'-C2'	-5.02	97.58	102.60
1	N	895	G	O4'-C1'-C2'	-5.02	102.58	107.60
1	N	863	U	P-O3'-C3'	-5.02	112.67	120.20
1	N	897	C	C1'-O4'-C4'	5.02	114.92	109.90
1	N	1049	U	O4'-C1'-N1	5.02	115.73	108.20
1	N	1119	C	C5'-C4'-C3'	-5.02	108.47	116.00
1	N	1176	A	P-O5'-C5'	-5.02	113.38	120.90
1	N	124	C	P-O5'-C5'	-5.01	113.38	120.90
1	N	694	A	C4'-C3'-C2'	-5.01	97.59	102.60
1	N	908	A	O4'-C1'-C2'	-5.01	102.59	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	1047	G	P-O3'-C3'	5.01	127.72	120.20
1	N	87	C	O4'-C4'-C3'	5.01	109.01	104.00
1	N	306	A	P-O3'-C3'	5.01	127.72	120.20
1	N	423	G	P-O5'-C5'	5.01	128.42	120.90
1	N	995	C	O4'-C1'-N1	5.01	116.02	108.50
1	N	1135	U	O3'-P-O5'	5.01	111.52	104.00
1	N	90	C	O3'-P-O5'	-5.01	96.49	104.00
1	N	123	U	C5'-C4'-C3'	5.01	123.51	116.00
1	N	575	G	C4'-C3'-O3'	5.01	116.91	109.40
1	N	124	C	O4'-C1'-N1	5.01	116.01	108.50
1	N	3	A	O4'-C4'-C3'	-5.01	98.99	104.00
1	N	223	A	P-O3'-C3'	-5.00	112.69	120.20
1	N	274	A	P-O3'-C3'	5.00	127.71	120.20
1	N	1227	A	O5'-C5'-C4'	5.00	119.01	111.50
1	N	21	G	C1'-C2'-O2'	5.00	115.91	108.40
1	N	837	U	P-O3'-C3'	-5.00	112.69	120.20
1	N	1353	G	C5'-C4'-C3'	-5.00	108.49	116.00
1	N	1519	A	C5'-C4'-C3'	5.00	123.51	116.00
1	N	51	A	N9-C1'-C2'	-5.00	106.50	114.00
1	N	75	G	C1'-C2'-O2'	5.00	115.90	108.40
1	N	90	C	O5'-C5'-C4'	-5.00	104.20	111.70
1	N	461	A	P-O3'-C3'	5.00	127.70	120.20
1	N	1512	U	O3'-P-O5'	5.00	111.50	104.00

There are no chirality outliers.

All (948) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	N	10	A	Sidechain
1	N	100	G	Sidechain
1	N	1000	A	Sidechain
1	N	1001	C	Sidechain
1	N	1002	G	Sidechain
1	N	1003	G	Sidechain
1	N	1004	A	Sidechain
1	N	1006	G	Sidechain
1	N	1007	U	Sidechain
1	N	1009	U	Sidechain
1	N	101	A	Sidechain
1	N	1010	U	Sidechain
1	N	1011	C	Sidechain
1	N	1012	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	102	G	Sidechain
1	N	1020	G	Sidechain
1	N	1023	U	Sidechain
1	N	1024	G	Sidechain
1	N	1027	C	Sidechain
1	N	103	U	Sidechain
1	N	1030	U	Sidechain
1	N	1031	C	Sidechain
1	N	1035	A	Sidechain
1	N	1037	C	Sidechain
1	N	1038	C	Sidechain
1	N	1039	G	Sidechain
1	N	104	G	Sidechain
1	N	1041	G	Sidechain
1	N	1043	G	Sidechain
1	N	1045	C	Sidechain
1	N	1047	G	Sidechain
1	N	1048	G	Sidechain
1	N	105	G	Sidechain
1	N	1053	G	Sidechain
1	N	1055	A	Sidechain
1	N	1058	G	Sidechain
1	N	1059	C	Sidechain
1	N	106	C	Sidechain
1	N	1061	G	Sidechain
1	N	1062	U	Sidechain
1	N	1064	G	Sidechain
1	N	1066	C	Sidechain
1	N	1067	A	Sidechain
1	N	1068	G	Sidechain
1	N	1069	C	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	1074	G	Sidechain
1	N	1075	U	Sidechain
1	N	1076	U	Sidechain
1	N	1077	G	Sidechain
1	N	1079	G	Sidechain
1	N	1080	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1081	A	Sidechain
1	N	1083	U	Sidechain
1	N	1084	G	Sidechain
1	N	1085	U	Sidechain
1	N	1087	G	Sidechain
1	N	1089	G	Sidechain
1	N	109	A	Sidechain
1	N	1091	U	Sidechain
1	N	1092	A	Sidechain
1	N	1095	U	Sidechain
1	N	1096	C	Sidechain
1	N	1097	C	Sidechain
1	N	1099	G	Sidechain
1	N	11	G	Sidechain
1	N	1100	C	Sidechain
1	N	1101	A	Sidechain
1	N	1102	A	Sidechain
1	N	1104	G	Sidechain
1	N	1106	G	Sidechain
1	N	1107	C	Sidechain
1	N	1108	G	Sidechain
1	N	1111	A	Sidechain
1	N	1113	C	Sidechain
1	N	1115	U	Sidechain
1	N	1116	U	Sidechain
1	N	1119	C	Sidechain
1	N	1121	U	Sidechain
1	N	1122	U	Sidechain
1	N	1123	U	Sidechain
1	N	1125	U	Sidechain
1	N	1126	U	Sidechain
1	N	113	G	Sidechain
1	N	1130	A	Sidechain
1	N	1131	G	Sidechain
1	N	1132	C	Sidechain
1	N	1134	G	Sidechain
1	N	1137	C	Sidechain
1	N	1139	G	Sidechain
1	N	1140	C	Sidechain
1	N	1141	C	Sidechain
1	N	1143	G	Sidechain
1	N	1144	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1145	A	Sidechain
1	N	1148	U	Sidechain
1	N	1149	C	Sidechain
1	N	115	G	Sidechain
1	N	1153	G	Sidechain
1	N	1154	G	Sidechain
1	N	1155	A	Sidechain
1	N	1156	G	Sidechain
1	N	1158	C	Sidechain
1	N	1159	U	Sidechain
1	N	1160	G	Sidechain
1	N	1161	C	Sidechain
1	N	1164	G	Sidechain
1	N	1167	A	Sidechain
1	N	1168	U	Sidechain
1	N	1169	A	Sidechain
1	N	117	G	Sidechain
1	N	1170	A	Sidechain
1	N	1171	A	Sidechain
1	N	1172	C	Sidechain
1	N	1174	G	Sidechain
1	N	1175	G	Sidechain
1	N	1176	A	Sidechain
1	N	1177	G	Sidechain
1	N	1178	G	Sidechain
1	N	1179	A	Sidechain
1	N	118	U	Sidechain
1	N	1180	A	Sidechain
1	N	1181	G	Sidechain
1	N	1182	G	Sidechain
1	N	1183	U	Sidechain
1	N	1185	G	Sidechain
1	N	1187	G	Sidechain
1	N	1188	A	Sidechain
1	N	119	A	Sidechain
1	N	1190	G	Sidechain
1	N	1191	A	Sidechain
1	N	1194	U	Sidechain
1	N	1199	U	Sidechain
1	N	12	U	Sidechain
1	N	120	A	Sidechain
1	N	1200	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1202	U	Sidechain
1	N	1204	A	Sidechain
1	N	1205	U	Sidechain
1	N	1206	G	Sidechain
1	N	1207	G	Sidechain
1	N	1208	C	Sidechain
1	N	1209	C	Sidechain
1	N	121	U	Sidechain
1	N	1211	U	Sidechain
1	N	1212	U	Sidechain
1	N	1214	C	Sidechain
1	N	1216	A	Sidechain
1	N	1218	C	Sidechain
1	N	1219	A	Sidechain
1	N	122	G	Sidechain
1	N	1221	G	Sidechain
1	N	1222	G	Sidechain
1	N	1223	C	Sidechain
1	N	1224	U	Sidechain
1	N	1225	A	Sidechain
1	N	1226	C	Sidechain
1	N	1227	A	Sidechain
1	N	1228	C	Sidechain
1	N	1229	A	Sidechain
1	N	1232	U	Sidechain
1	N	1234	C	Sidechain
1	N	1235	U	Sidechain
1	N	1236	A	Sidechain
1	N	1237	C	Sidechain
1	N	1239	A	Sidechain
1	N	1240	U	Sidechain
1	N	1241	G	Sidechain
1	N	1242	G	Sidechain
1	N	1243	C	Sidechain
1	N	1245	C	Sidechain
1	N	1247	U	Sidechain
1	N	1249	C	Sidechain
1	N	125	U	Sidechain
1	N	1250	A	Sidechain
1	N	1251	A	Sidechain
1	N	1252	A	Sidechain
1	N	1253	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1254	A	Sidechain
1	N	1255	G	Sidechain
1	N	1256	A	Sidechain
1	N	1257	A	Sidechain
1	N	1258	G	Sidechain
1	N	1259	C	Sidechain
1	N	126	G	Sidechain
1	N	1260	G	Sidechain
1	N	1261	A	Sidechain
1	N	1263	C	Sidechain
1	N	1267	C	Sidechain
1	N	1268	G	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	1277	C	Sidechain
1	N	1278	G	Sidechain
1	N	1279	G	Sidechain
1	N	128	G	Sidechain
1	N	1281	C	Sidechain
1	N	1282	C	Sidechain
1	N	1283	U	Sidechain
1	N	1286	U	Sidechain
1	N	1287	A	Sidechain
1	N	1288	A	Sidechain
1	N	129	A	Sidechain
1	N	1291	U	Sidechain
1	N	1292	G	Sidechain
1	N	1293	C	Sidechain
1	N	1296	C	Sidechain
1	N	1298	U	Sidechain
1	N	1299	A	Sidechain
1	N	130	A	Sidechain
1	N	1301	U	Sidechain
1	N	1302	C	Sidechain
1	N	1303	C	Sidechain
1	N	1304	G	Sidechain
1	N	1305	G	Sidechain
1	N	1306	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1310	G	Sidechain
1	N	1313	U	Sidechain
1	N	1316	G	Sidechain
1	N	1318	A	Sidechain
1	N	1319	A	Sidechain
1	N	132	C	Sidechain
1	N	1321	U	Sidechain
1	N	1323	G	Sidechain
1	N	1326	U	Sidechain
1	N	1328	C	Sidechain
1	N	1331	G	Sidechain
1	N	1332	A	Sidechain
1	N	1333	A	Sidechain
1	N	1334	G	Sidechain
1	N	1335	U	Sidechain
1	N	1336	C	Sidechain
1	N	1337	G	Sidechain
1	N	134	G	Sidechain
1	N	1340	A	Sidechain
1	N	1341	U	Sidechain
1	N	1342	C	Sidechain
1	N	1345	U	Sidechain
1	N	1346	A	Sidechain
1	N	1348	U	Sidechain
1	N	1349	A	Sidechain
1	N	1351	U	Sidechain
1	N	1353	G	Sidechain
1	N	1356	G	Sidechain
1	N	1357	A	Sidechain
1	N	1358	U	Sidechain
1	N	1359	C	Sidechain
1	N	1362	A	Sidechain
1	N	1363	A	Sidechain
1	N	1364	U	Sidechain
1	N	1365	G	Sidechain
1	N	1366	C	Sidechain
1	N	137	U	Sidechain
1	N	1371	G	Sidechain
1	N	1373	G	Sidechain
1	N	1374	A	Sidechain
1	N	1375	A	Sidechain
1	N	1376	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1378	C	Sidechain
1	N	1382	C	Sidechain
1	N	1383	C	Sidechain
1	N	1384	C	Sidechain
1	N	1385	G	Sidechain
1	N	1387	G	Sidechain
1	N	1389	C	Sidechain
1	N	139	A	Sidechain
1	N	1390	U	Sidechain
1	N	1392	G	Sidechain
1	N	1399	C	Sidechain
1	N	14	U	Sidechain
1	N	140	U	Sidechain
1	N	1400	C	Sidechain
1	N	1401	G	Sidechain
1	N	1403	C	Sidechain
1	N	1405	G	Sidechain
1	N	1406	U	Sidechain
1	N	1409	C	Sidechain
1	N	141	G	Sidechain
1	N	1410	A	Sidechain
1	N	1411	C	Sidechain
1	N	1413	A	Sidechain
1	N	1416	G	Sidechain
1	N	1417	G	Sidechain
1	N	1418	A	Sidechain
1	N	1419	G	Sidechain
1	N	142	G	Sidechain
1	N	1420	U	Sidechain
1	N	1423	G	Sidechain
1	N	1424	U	Sidechain
1	N	1429	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	1438	G	Sidechain
1	N	1439	G	Sidechain
1	N	144	G	Sidechain
1	N	1440	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1441	A	Sidechain
1	N	1442	G	Sidechain
1	N	1443	C	Sidechain
1	N	1444	U	Sidechain
1	N	1445	U	Sidechain
1	N	1446	A	Sidechain
1	N	145	G	Sidechain
1	N	1450	U	Sidechain
1	N	1451	U	Sidechain
1	N	1453	G	Sidechain
1	N	1454	G	Sidechain
1	N	1455	G	Sidechain
1	N	1456	A	Sidechain
1	N	1457	G	Sidechain
1	N	1459	G	Sidechain
1	N	146	G	Sidechain
1	N	1460	C	Sidechain
1	N	1461	G	Sidechain
1	N	1463	U	Sidechain
1	N	1464	U	Sidechain
1	N	1466	C	Sidechain
1	N	1468	A	Sidechain
1	N	1469	C	Sidechain
1	N	1470	U	Sidechain
1	N	1472	U	Sidechain
1	N	1474	U	Sidechain
1	N	1475	G	Sidechain
1	N	1477	U	Sidechain
1	N	1479	C	Sidechain
1	N	148	G	Sidechain
1	N	1481	U	Sidechain
1	N	1482	G	Sidechain
1	N	1483	A	Sidechain
1	N	1485	U	Sidechain
1	N	1486	G	Sidechain
1	N	149	A	Sidechain
1	N	1490	U	Sidechain
1	N	1491	G	Sidechain
1	N	1495	U	Sidechain
1	N	1496	C	Sidechain
1	N	1497	G	Sidechain
1	N	1498	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	1499	A	Sidechain
1	N	150	U	Sidechain
1	N	1503	A	Sidechain
1	N	1504	G	Sidechain
1	N	1509	C	Sidechain
1	N	151	A	Sidechain
1	N	1512	U	Sidechain
1	N	1515	G	Sidechain
1	N	1516	G	Sidechain
1	N	1517	G	Sidechain
1	N	1519	A	Sidechain
1	N	152	A	Sidechain
1	N	1520	C	Sidechain
1	N	1522	U	Sidechain
1	N	1523	G	Sidechain
1	N	1524	C	Sidechain
1	N	1525	G	Sidechain
1	N	1526	G	Sidechain
1	N	1527	U	Sidechain
1	N	1529	G	Sidechain
1	N	1530	G	Sidechain
1	N	1531	A	Sidechain
1	N	1532	U	Sidechain
1	N	157	U	Sidechain
1	N	159	G	Sidechain
1	N	16	A	Sidechain
1	N	160	A	Sidechain
1	N	161	A	Sidechain
1	N	165	G	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	176	C	Sidechain
1	N	179	A	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	186	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	187	G	Sidechain
1	N	188	C	Sidechain
1	N	190	A	Sidechain
1	N	191	G	Sidechain
1	N	192	A	Sidechain
1	N	193	C	Sidechain
1	N	194	C	Sidechain
1	N	196	A	Sidechain
1	N	197	A	Sidechain
1	N	199	A	Sidechain
1	N	2	A	Sidechain
1	N	20	U	Sidechain
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	208	U	Sidechain
1	N	21	G	Sidechain
1	N	210	C	Sidechain
1	N	212	G	Sidechain
1	N	214	C	Sidechain
1	N	216	U	Sidechain
1	N	217	C	Sidechain
1	N	218	U	Sidechain
1	N	220	G	Sidechain
1	N	221	C	Sidechain
1	N	223	A	Sidechain
1	N	224	U	Sidechain
1	N	227	G	Sidechain
1	N	23	C	Sidechain
1	N	230	G	Sidechain
1	N	231	U	Sidechain
1	N	232	G	Sidechain
1	N	234	C	Sidechain
1	N	236	A	Sidechain
1	N	237	G	Sidechain
1	N	239	U	Sidechain
1	N	24	U	Sidechain
1	N	240	G	Sidechain
1	N	241	G	Sidechain
1	N	243	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	244	U	Sidechain
1	N	246	A	Sidechain
1	N	247	G	Sidechain
1	N	248	C	Sidechain
1	N	25	C	Sidechain
1	N	251	G	Sidechain
1	N	252	U	Sidechain
1	N	255	G	Sidechain
1	N	26	A	Sidechain
1	N	262	A	Sidechain
1	N	264	C	Sidechain
1	N	265	G	Sidechain
1	N	266	G	Sidechain
1	N	267	C	Sidechain
1	N	269	C	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	277	C	Sidechain
1	N	278	G	Sidechain
1	N	279	A	Sidechain
1	N	282	A	Sidechain
1	N	283	U	Sidechain
1	N	284	C	Sidechain
1	N	285	C	Sidechain
1	N	286	C	Sidechain
1	N	287	U	Sidechain
1	N	288	A	Sidechain
1	N	289	G	Sidechain
1	N	29	U	Sidechain
1	N	290	C	Sidechain
1	N	291	U	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	298	A	Sidechain
1	N	299	G	Sidechain
1	N	30	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	300	A	Sidechain
1	N	301	G	Sidechain
1	N	302	G	Sidechain
1	N	305	G	Sidechain
1	N	308	C	Sidechain
1	N	313	A	Sidechain
1	N	314	C	Sidechain
1	N	315	A	Sidechain
1	N	317	U	Sidechain
1	N	318	G	Sidechain
1	N	319	G	Sidechain
1	N	32	A	Sidechain
1	N	320	A	Sidechain
1	N	321	A	Sidechain
1	N	322	C	Sidechain
1	N	323	U	Sidechain
1	N	324	G	Sidechain
1	N	326	G	Sidechain
1	N	327	A	Sidechain
1	N	328	C	Sidechain
1	N	330	C	Sidechain
1	N	331	G	Sidechain
1	N	333	U	Sidechain
1	N	334	C	Sidechain
1	N	337	G	Sidechain
1	N	338	A	Sidechain
1	N	340	U	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	348	G	Sidechain
1	N	349	A	Sidechain
1	N	35	G	Sidechain
1	N	352	C	Sidechain
1	N	353	A	Sidechain
1	N	354	G	Sidechain
1	N	355	C	Sidechain
1	N	356	A	Sidechain
1	N	358	U	Sidechain
1	N	359	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	36	C	Sidechain
1	N	360	G	Sidechain
1	N	362	G	Sidechain
1	N	363	A	Sidechain
1	N	364	A	Sidechain
1	N	365	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	373	A	Sidechain
1	N	377	G	Sidechain
1	N	378	G	Sidechain
1	N	379	C	Sidechain
1	N	38	G	Sidechain
1	N	381	C	Sidechain
1	N	382	A	Sidechain
1	N	384	G	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	395	C	Sidechain
1	N	396	C	Sidechain
1	N	397	A	Sidechain
1	N	4	U	Sidechain
1	N	40	C	Sidechain
1	N	400	C	Sidechain
1	N	402	G	Sidechain
1	N	403	C	Sidechain
1	N	404	G	Sidechain
1	N	405	U	Sidechain
1	N	406	G	Sidechain
1	N	407	U	Sidechain
1	N	41	G	Sidechain
1	N	410	G	Sidechain
1	N	413	G	Sidechain
1	N	417	G	Sidechain
1	N	419	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	420	U	Sidechain
1	N	423	G	Sidechain
1	N	424	G	Sidechain
1	N	425	G	Sidechain
1	N	426	U	Sidechain
1	N	427	U	Sidechain
1	N	428	G	Sidechain
1	N	429	U	Sidechain
1	N	43	C	Sidechain
1	N	431	A	Sidechain
1	N	432	A	Sidechain
1	N	435	A	Sidechain
1	N	437	U	Sidechain
1	N	438	U	Sidechain
1	N	440	C	Sidechain
1	N	442	G	Sidechain
1	N	443	C	Sidechain
1	N	447	G	Sidechain
1	N	448	A	Sidechain
1	N	449	G	Sidechain
1	N	45	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	46	G	Sidechain
1	N	462	G	Sidechain
1	N	464	U	Sidechain
1	N	465	A	Sidechain
1	N	466	A	Sidechain
1	N	468	A	Sidechain
1	N	471	U	Sidechain
1	N	472	U	Sidechain
1	N	473	U	Sidechain
1	N	474	G	Sidechain
1	N	475	C	Sidechain
1	N	48	C	Sidechain
1	N	480	U	Sidechain
1	N	482	A	Sidechain
1	N	484	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	486	U	Sidechain
1	N	487	A	Sidechain
1	N	488	C	Sidechain
1	N	489	C	Sidechain
1	N	49	U	Sidechain
1	N	490	C	Sidechain
1	N	491	G	Sidechain
1	N	494	G	Sidechain
1	N	495	A	Sidechain
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	501	C	Sidechain
1	N	503	C	Sidechain
1	N	504	C	Sidechain
1	N	506	G	Sidechain
1	N	507	C	Sidechain
1	N	508	U	Sidechain
1	N	509	A	Sidechain
1	N	510	A	Sidechain
1	N	513	C	Sidechain
1	N	514	C	Sidechain
1	N	516	U	Sidechain
1	N	517	G	Sidechain
1	N	519	C	Sidechain
1	N	52	C	Sidechain
1	N	521	G	Sidechain
1	N	522	C	Sidechain
1	N	523	A	Sidechain
1	N	524	G	Sidechain
1	N	525	C	Sidechain
1	N	526	C	Sidechain
1	N	527	G	Sidechain
1	N	529	G	Sidechain
1	N	530	G	Sidechain
1	N	531	U	Sidechain
1	N	533	A	Sidechain
1	N	536	C	Sidechain
1	N	537	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	538	G	Sidechain
1	N	540	G	Sidechain
1	N	544	G	Sidechain
1	N	547	A	Sidechain
1	N	548	G	Sidechain
1	N	55	A	Sidechain
1	N	550	G	Sidechain
1	N	552	U	Sidechain
1	N	555	U	Sidechain
1	N	557	G	Sidechain
1	N	558	G	Sidechain
1	N	56	U	Sidechain
1	N	564	C	Sidechain
1	N	565	U	Sidechain
1	N	566	G	Sidechain
1	N	568	G	Sidechain
1	N	569	C	Sidechain
1	N	571	U	Sidechain
1	N	573	A	Sidechain
1	N	574	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	588	G	Sidechain
1	N	59	A	Sidechain
1	N	590	U	Sidechain
1	N	592	G	Sidechain
1	N	594	U	Sidechain
1	N	595	A	Sidechain
1	N	596	A	Sidechain
1	N	598	U	Sidechain
1	N	6	G	Sidechain
1	N	60	A	Sidechain
1	N	600	A	Sidechain
1	N	601	G	Sidechain
1	N	602	A	Sidechain
1	N	604	G	Sidechain
1	N	605	U	Sidechain
1	N	606	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	607	A	Sidechain
1	N	608	A	Sidechain
1	N	609	A	Sidechain
1	N	61	G	Sidechain
1	N	610	U	Sidechain
1	N	614	C	Sidechain
1	N	616	G	Sidechain
1	N	618	C	Sidechain
1	N	619	U	Sidechain
1	N	620	C	Sidechain
1	N	621	A	Sidechain
1	N	622	A	Sidechain
1	N	626	G	Sidechain
1	N	627	G	Sidechain
1	N	63	C	Sidechain
1	N	632	U	Sidechain
1	N	633	G	Sidechain
1	N	634	C	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	648	A	Sidechain
1	N	649	A	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	664	G	Sidechain
1	N	665	A	Sidechain
1	N	667	G	Sidechain
1	N	668	G	Sidechain
1	N	669	G	Sidechain
1	N	671	G	Sidechain
1	N	672	U	Sidechain

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Mol	Chain	Res	Type	Group
1	N	673	A	Sidechain
1	N	674	G	Sidechain
1	N	678	U	Sidechain
1	N	679	C	Sidechain
1	N	68	G	Sidechain
1	N	681	A	Sidechain
1	N	683	G	Sidechain
1	N	684	U	Sidechain
1	N	687	A	Sidechain
1	N	688	G	Sidechain
1	N	69	G	Sidechain
1	N	692	U	Sidechain
1	N	693	G	Sidechain
1	N	695	A	Sidechain
1	N	696	A	Sidechain
1	N	697	U	Sidechain
1	N	698	G	Sidechain
1	N	70	U	Sidechain
1	N	700	G	Sidechain
1	N	701	U	Sidechain
1	N	703	G	Sidechain
1	N	705	G	Sidechain
1	N	708	C	Sidechain
1	N	709	U	Sidechain
1	N	71	A	Sidechain
1	N	710	G	Sidechain
1	N	713	G	Sidechain
1	N	714	G	Sidechain
1	N	717	U	Sidechain
1	N	719	C	Sidechain
1	N	72	A	Sidechain
1	N	720	C	Sidechain
1	N	722	G	Sidechain
1	N	723	U	Sidechain
1	N	727	G	Sidechain
1	N	728	A	Sidechain
1	N	73	C	Sidechain
1	N	732	C	Sidechain
1	N	733	G	Sidechain
1	N	735	C	Sidechain
1	N	738	C	Sidechain
1	N	739	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	74	A	Sidechain
1	N	740	U	Sidechain
1	N	741	G	Sidechain
1	N	743	A	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	752	G	Sidechain
1	N	753	A	Sidechain
1	N	754	C	Sidechain
1	N	755	G	Sidechain
1	N	757	U	Sidechain
1	N	758	C	Sidechain
1	N	759	A	Sidechain
1	N	760	G	Sidechain
1	N	761	G	Sidechain
1	N	762	U	Sidechain
1	N	763	G	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	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	779	C	Sidechain
1	N	78	A	Sidechain
1	N	780	A	Sidechain
1	N	782	A	Sidechain
1	N	783	C	Sidechain
1	N	788	U	Sidechain
1	N	79	G	Sidechain
1	N	791	G	Sidechain
1	N	793	U	Sidechain
1	N	794	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	795	C	Sidechain
1	N	796	C	Sidechain
1	N	798	U	Sidechain
1	N	80	A	Sidechain
1	N	800	G	Sidechain
1	N	801	U	Sidechain
1	N	802	A	Sidechain
1	N	803	G	Sidechain
1	N	804	U	Sidechain
1	N	805	C	Sidechain
1	N	807	A	Sidechain
1	N	808	C	Sidechain
1	N	81	A	Sidechain
1	N	810	C	Sidechain
1	N	811	C	Sidechain
1	N	814	A	Sidechain
1	N	817	C	Sidechain
1	N	818	G	Sidechain
1	N	82	G	Sidechain
1	N	821	G	Sidechain
1	N	822	U	Sidechain
1	N	824	G	Sidechain
1	N	825	A	Sidechain
1	N	827	U	Sidechain
1	N	828	U	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	837	U	Sidechain
1	N	839	C	Sidechain
1	N	841	C	Sidechain
1	N	842	U	Sidechain
1	N	844	G	Sidechain
1	N	845	A	Sidechain
1	N	847	G	Sidechain
1	N	848	C	Sidechain
1	N	849	G	Sidechain
1	N	850	U	Sidechain
1	N	851	G	Sidechain
1	N	852	G	Sidechain

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Mol	Chain	Res	Type	Group
1	N	853	C	Sidechain
1	N	855	U	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	864	A	Sidechain
1	N	865	A	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	879	C	Sidechain
1	N	880	C	Sidechain
1	N	881	G	Sidechain
1	N	883	C	Sidechain
1	N	884	U	Sidechain
1	N	885	G	Sidechain
1	N	886	G	Sidechain
1	N	888	G	Sidechain
1	N	890	G	Sidechain
1	N	892	A	Sidechain
1	N	895	G	Sidechain
1	N	896	C	Sidechain
1	N	898	G	Sidechain
1	N	899	C	Sidechain
1	N	900	A	Sidechain
1	N	901	A	Sidechain
1	N	902	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	91	U	Sidechain
1	N	912	C	Sidechain
1	N	914	A	Sidechain
1	N	915	A	Sidechain

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Mol	Chain	Res	Type	Group
1	N	917	G	Sidechain
1	N	92	U	Sidechain
1	N	920	U	Sidechain
1	N	921	U	Sidechain
1	N	922	G	Sidechain
1	N	923	A	Sidechain
1	N	925	G	Sidechain
1	N	926	G	Sidechain
1	N	927	G	Sidechain
1	N	928	G	Sidechain
1	N	929	G	Sidechain
1	N	930	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	944	G	Sidechain
1	N	945	G	Sidechain
1	N	946	A	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
1	N	957	U	Sidechain
1	N	961	U	Sidechain
1	N	969	A	Sidechain
1	N	97	G	Sidechain
1	N	971	G	Sidechain
1	N	972	C	Sidechain
1	N	973	G	Sidechain
1	N	974	A	Sidechain
1	N	975	A	Sidechain
1	N	976	G	Sidechain
1	N	977	A	Sidechain
1	N	978	A	Sidechain
1	N	98	A	Sidechain
1	N	982	U	Sidechain
1	N	984	C	Sidechain

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Mol	Chain	Res	Type	Group
1	N	985	C	Sidechain
1	N	987	G	Sidechain
1	N	988	G	Sidechain
1	N	99	C	Sidechain
1	N	991	U	Sidechain
1	N	992	U	Sidechain
1	N	993	G	Sidechain
1	N	995	C	Sidechain
1	N	996	A	Sidechain
1	N	998	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	16511	547	0
All	All	32892	16554	16511	547	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 11.

All (547) 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:664:G:H22	1:N:741:G:H1	1.31	0.76
1:N:596:A:H61	1:N:644:U:H3	1.37	0.73
1:N:116:A:H61	1:N:313:A:H1'	1.56	0.70
1:N:67:C:H2'	1:N:68:G:C8	2.26	0.70
1:N:381:C:C5	1:N:382:A:C5	2.81	0.69
1:N:410:G:H2'	1:N:429:U:C5	2.28	0.68
1:N:50:A:H1'	1:N:52:C:C6	2.28	0.68
1:N:1343:G:C5	1:N:1344:C:C4	2.82	0.68
1:N:411:A:H61	1:N:428:G:H1'	1.60	0.66
1:N:32:A:H4'	1:N:48:C:H42	1.61	0.65
1:N:25:C:H41	1:N:559:A:H61	1.45	0.64
1:N:507:C:H3'	1:N:508:U:H5''	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1210:C:C5	1:N:1211:U:C5	2.86	0.64
1:N:1066:C:C6	1:N:1066:C:H5''	2.33	0.64
1:N:1385:G:C6	1:N:1386:G:C6	2.86	0.63
1:N:120:A:C2	1:N:122:G:C6	2.87	0.63
1:N:424:G:C6	1:N:425:G:C6	2.87	0.63
1:N:73:C:C6	1:N:73:C:H5''	2.33	0.63
1:N:1315:U:C4	1:N:1316:G:C6	2.87	0.63
1:N:655:A:C2	1:N:656:G:C4	2.87	0.62
1:N:669:G:C6	1:N:670:G:C6	2.88	0.62
1:N:1244:G:C6	1:N:1294:G:C6	2.87	0.62
1:N:486:U:C6	1:N:486:U:H5''	2.35	0.62
1:N:558:G:H2'	1:N:559:A:C2	2.35	0.61
1:N:807:A:C2	1:N:808:C:C2	2.89	0.61
1:N:1041:G:C6	1:N:1042:A:C6	2.88	0.61
1:N:1294:G:C5	1:N:1295:U:C5	2.89	0.61
1:N:584:G:C6	1:N:585:G:C6	2.89	0.61
1:N:169:C:C4	1:N:170:U:C4	2.88	0.60
1:N:594:U:C4	1:N:595:A:C6	2.89	0.60
1:N:1261:A:H61	1:N:1274:A:H2'	1.66	0.60
1:N:1065:U:H1'	1:N:1067:A:H61	1.65	0.60
1:N:78:A:C6	1:N:79:G:C6	2.90	0.60
1:N:247:G:C5	1:N:278:G:C2	2.90	0.60
1:N:1240:U:C2	1:N:1240:U:OP1	2.55	0.60
1:N:655:A:C4	1:N:656:G:C8	2.90	0.59
1:N:1383:C:C4	1:N:1384:C:C4	2.90	0.59
1:N:209:U:C4	1:N:211:G:N1	2.70	0.59
1:N:372:C:H4'	1:N:373:A:OP1	2.03	0.59
1:N:243:A:H4'	1:N:244:U:H5''	1.84	0.59
1:N:410:G:H2'	1:N:429:U:C4	2.37	0.59
1:N:1433:A:H3'	1:N:1434:A:H8	1.67	0.58
1:N:160:A:H2'	1:N:161:A:C8	2.38	0.58
1:N:595:A:C2	1:N:596:A:N6	2.72	0.58
1:N:668:G:C6	1:N:669:G:C6	2.91	0.58
1:N:1256:A:C2	1:N:1258:G:C6	2.91	0.58
1:N:44:A:H2	1:N:398:U:H3	1.52	0.57
1:N:581:G:C6	1:N:758:C:C5	2.92	0.57
1:N:171:A:C2	1:N:172:A:C2	2.92	0.57
1:N:804:U:H5	1:N:805:C:C4	2.22	0.57
1:N:858:G:H1	1:N:869:G:H2'	1.69	0.57
1:N:804:U:C6	1:N:805:C:C5	2.91	0.57
1:N:301:G:C6	1:N:302:G:C5	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1095:U:C4	1:N:1096:C:C4	2.93	0.57
1:N:1340:A:H2'	1:N:1341:U:C6	2.40	0.57
1:N:91:U:C5	1:N:92:U:C2	2.94	0.56
1:N:1240:U:C6	1:N:1241:G:H5'	2.41	0.56
1:N:904:U:C4	1:N:905:U:C4	2.93	0.56
1:N:243:A:C2	1:N:282:A:N6	2.73	0.56
1:N:322:C:C6	1:N:323:U:C5	2.93	0.56
1:N:301:G:C6	1:N:302:G:C6	2.93	0.56
1:N:979:C:C5	1:N:980:C:C6	2.94	0.56
1:N:69:G:C6	1:N:70:U:C4	2.94	0.56
1:N:373:A:C2	1:N:374:A:C4	2.93	0.56
1:N:425:G:C5	1:N:426:U:C4	2.93	0.55
1:N:384:G:C6	1:N:385:C:C4	2.94	0.55
1:N:49:U:C2	1:N:362:G:H1'	2.42	0.55
1:N:920:U:H2'	1:N:921:U:C6	2.42	0.55
1:N:1436:U:H2'	1:N:1437:A:C8	2.40	0.55
1:N:173:U:H3	1:N:198:G:H21	1.55	0.55
1:N:782:A:C8	1:N:783:C:C5	2.93	0.55
1:N:626:G:H2'	1:N:627:G:C8	2.41	0.55
1:N:969:A:H62	1:N:1230:C:H1'	1.72	0.55
1:N:1292:G:C6	1:N:1293:C:C4	2.94	0.55
1:N:986:U:H3	1:N:1219:A:H61	1.54	0.55
1:N:1349:A:N1	1:N:1374:A:H1'	2.22	0.54
1:N:596:A:N6	1:N:644:U:H3	2.04	0.54
1:N:1438:G:C6	1:N:1464:U:N3	2.76	0.54
1:N:818:G:H3'	1:N:819:A:C5'	2.37	0.54
1:N:251:G:C6	1:N:266:G:C6	2.96	0.54
1:N:354:G:C6	1:N:355:C:C4	2.96	0.54
1:N:776:G:H21	1:N:779:C:N4	2.06	0.54
1:N:663:A:C2	1:N:743:A:C2	2.95	0.54
1:N:39:G:H1'	1:N:497:G:H21	1.71	0.53
1:N:1434:A:C5	1:N:1435:G:C5	2.96	0.53
1:N:150:U:C5	1:N:170:U:C5	2.97	0.53
1:N:922:G:H2'	1:N:923:A:C8	2.43	0.53
1:N:1140:C:HO2'	1:N:1141:C:H5	1.56	0.53
1:N:223:A:H2'	1:N:224:U:H6	1.74	0.53
1:N:94:G:H4'	1:N:95:C:H5''	1.90	0.53
1:N:1225:A:H2'	1:N:1226:C:C6	2.42	0.53
1:N:1511:G:C6	1:N:1525:G:C6	2.97	0.53
1:N:69:G:C4	1:N:70:U:C5	2.96	0.53
1:N:397:A:H4'	1:N:398:U:C5	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:450:G:H1	1:N:483:C:H42	1.53	0.53
1:N:776:G:H21	1:N:779:C:H42	1.56	0.53
1:N:932:C:H2'	1:N:933:G:C8	2.44	0.53
1:N:1219:A:C6	1:N:1220:G:C6	2.97	0.53
1:N:1255:G:H2'	1:N:1279:G:H1	1.74	0.53
1:N:949:A:H61	1:N:1232:U:H3	1.55	0.53
1:N:17:U:H2'	1:N:18:C:C5	2.44	0.53
1:N:803:G:C6	1:N:804:U:C4	2.97	0.53
1:N:894:G:C4	1:N:895:G:C8	2.97	0.53
1:N:1058:G:C5	1:N:1059:C:C5	2.96	0.53
1:N:1501:C:C5	1:N:1504:G:C4	2.96	0.53
1:N:780:A:C2	1:N:801:U:C5	2.97	0.53
1:N:1058:G:C6	1:N:1059:C:C4	2.97	0.53
1:N:1071:C:H2'	1:N:1072:G:C8	2.45	0.53
1:N:581:G:C6	1:N:758:C:C6	2.96	0.52
1:N:78:A:C5	1:N:79:G:C6	2.98	0.52
1:N:1144:G:H21	1:N:1146:A:H62	1.58	0.52
1:N:1170:A:C5	1:N:1171:A:C4	2.97	0.52
1:N:98:A:H2'	1:N:99:C:O4'	2.09	0.52
1:N:179:A:C2	1:N:180:U:C2	2.98	0.52
1:N:803:G:C5	1:N:804:U:C5	2.98	0.52
1:N:1147:C:H2'	1:N:1148:U:C6	2.44	0.52
1:N:738:C:C4	1:N:739:C:C4	2.98	0.52
1:N:168:G:C6	1:N:169:C:C5	2.97	0.52
1:N:579:A:C2	1:N:763:G:C4	2.98	0.52
1:N:208:U:C6	1:N:210:C:C6	2.98	0.52
1:N:1125:U:C5	1:N:1127:G:C6	2.98	0.52
1:N:1423:G:C5	1:N:1424:U:C4	2.98	0.52
1:N:1433:A:H3'	1:N:1434:A:C8	2.45	0.52
1:N:1072:G:C2	1:N:1073:U:C2	2.98	0.52
1:N:697:U:H3'	1:N:698:G:H8	1.74	0.52
1:N:1261:A:C2	1:N:1274:A:C2	2.97	0.52
1:N:79:G:H2'	1:N:80:A:C8	2.46	0.51
1:N:585:G:C6	1:N:586:C:N3	2.78	0.51
1:N:793:U:H2'	1:N:1519:A:H61	1.75	0.51
1:N:1058:G:C5	1:N:1059:C:C4	2.98	0.51
1:N:13:U:C5	1:N:21:G:C2	2.98	0.51
1:N:17:U:C2	1:N:919:A:C2	2.98	0.51
1:N:301:G:C2	1:N:302:G:C4	2.98	0.51
1:N:322:C:H3'	1:N:323:U:C6	2.45	0.51
1:N:859:G:C6	1:N:860:A:C6	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1146:A:C2	1:N:1147:C:H1'	2.45	0.51
1:N:322:C:C5	1:N:323:U:C4	2.98	0.51
1:N:665:A:C8	1:N:733:G:C2	2.98	0.51
1:N:1394:A:H3'	1:N:1395:C:H5'	1.92	0.51
1:N:65:A:H4'	1:N:66:A:H5'	1.92	0.51
1:N:160:A:H2'	1:N:161:A:O4'	2.10	0.51
1:N:1350:A:N1	1:N:1373:G:C2	2.79	0.51
1:N:1218:C:H2'	1:N:1219:A:C8	2.46	0.51
1:N:598:U:H3	1:N:640:A:H61	1.59	0.51
1:N:840:C:H1'	1:N:843:U:H3	1.76	0.51
1:N:811:C:H2'	1:N:812:G:H5'	1.93	0.51
1:N:1315:U:H2'	1:N:1316:G:C8	2.46	0.51
1:N:1366:C:C4	1:N:1367:C:C4	2.99	0.51
1:N:507:C:C3'	1:N:508:U:H5''	2.41	0.51
1:N:98:A:C5	1:N:99:C:C4	2.99	0.50
1:N:1104:G:C6	1:N:1105:A:C6	2.99	0.50
1:N:73:C:H5'	1:N:91:U:OP1	2.11	0.50
1:N:1239:A:C4	1:N:1241:G:C5	2.99	0.50
1:N:675:A:N1	1:N:716:A:C2	2.79	0.50
1:N:870:U:OP1	1:N:871:U:C5	2.64	0.50
1:N:985:C:C4	1:N:986:U:C4	2.99	0.50
1:N:1074:G:C5	1:N:1075:U:C4	3.00	0.50
1:N:1249:C:H3'	1:N:1250:A:H5''	1.93	0.50
1:N:1294:G:C6	1:N:1295:U:C4	3.00	0.50
1:N:500:G:C6	1:N:501:C:C4	3.00	0.50
1:N:803:G:C2	1:N:804:U:C2	3.00	0.50
1:N:925:G:H2'	1:N:927:G:C8	2.47	0.50
1:N:141:G:H22	1:N:195:A:H2	1.59	0.50
1:N:807:A:C6	1:N:808:C:C4	2.99	0.50
1:N:1049:U:H4'	1:N:1050:G:H5'	1.93	0.50
1:N:1241:G:C8	1:N:1241:G:O5'	2.64	0.50
1:N:80:A:C4	1:N:81:A:H1'	2.46	0.50
1:N:525:C:C4	1:N:526:C:C4	2.99	0.50
1:N:686:U:HO2'	1:N:687:A:H8	1.60	0.50
1:N:703:G:H3'	1:N:704:A:H5'	1.93	0.50
1:N:818:G:H3'	1:N:819:A:H5''	1.93	0.50
1:N:941:G:N1	1:N:1343:G:C6	2.80	0.50
1:N:25:C:H41	1:N:559:A:N6	2.08	0.49
1:N:272:C:H2'	1:N:273:U:O4'	2.12	0.49
1:N:557:G:C2	1:N:558:G:C2	3.00	0.49
1:N:791:G:H21	1:N:1519:A:H2'	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1255:G:H3'	1:N:1279:G:H22	1.75	0.49
1:N:64:G:C5	1:N:99:C:C2	3.00	0.49
1:N:1160:G:O6	1:N:1181:G:C6	2.65	0.49
1:N:1305:G:H22	1:N:1331:G:H2'	1.78	0.49
1:N:251:G:N1	1:N:266:G:C6	2.80	0.49
1:N:1239:A:C4	1:N:1241:G:C6	3.00	0.49
1:N:1343:G:C6	1:N:1344:C:C4	3.00	0.49
1:N:513:C:H2'	1:N:514:C:C6	2.48	0.49
1:N:592:G:C6	1:N:648:A:C6	3.00	0.49
1:N:1240:U:H6	1:N:1241:G:H5'	1.76	0.49
1:N:503:C:O2	1:N:510:A:C2	2.66	0.49
1:N:1125:U:C5	1:N:1127:G:C5	3.01	0.49
1:N:16:A:C2	1:N:17:U:C6	3.00	0.49
1:N:68:G:C8	1:N:69:G:C8	3.01	0.49
1:N:142:G:N2	1:N:222:C:C6	2.81	0.49
1:N:1316:G:C2	1:N:1319:A:C8	3.01	0.49
1:N:533:A:H2	1:N:535:A:H3'	1.77	0.49
1:N:68:G:C4	1:N:69:G:H1'	2.48	0.49
1:N:318:G:H21	1:N:1468:A:H1'	1.78	0.49
1:N:677:U:C5	1:N:678:U:C5	3.01	0.49
1:N:1246:A:C2	1:N:1292:G:C4	3.01	0.49
1:N:272:C:C4	1:N:273:U:C4	3.01	0.48
1:N:934:C:C5	1:N:1344:C:H2'	2.48	0.48
1:N:109:A:C5	1:N:326:G:C5	3.00	0.48
1:N:677:U:C4	1:N:678:U:C4	3.01	0.48
1:N:39:G:C4	1:N:498:A:C2	3.02	0.48
1:N:1102:A:C2	1:N:1103:C:C2	3.01	0.48
1:N:1342:C:H2'	1:N:1343:G:H8	1.78	0.48
1:N:661:G:C6	1:N:662:U:C4	3.02	0.48
1:N:1268:G:C6	1:N:1269:A:C6	3.02	0.48
1:N:321:A:C4	1:N:322:C:C5	3.01	0.48
1:N:856:C:H2'	1:N:857:C:C6	2.48	0.48
1:N:236:A:C6	1:N:237:G:C5	3.02	0.48
1:N:145:G:C2	1:N:178:C:C2	3.01	0.48
1:N:57:G:C6	1:N:58:C:C4	3.02	0.48
1:N:451:A:C8	1:N:480:U:H2'	2.49	0.48
1:N:804:U:C5	1:N:805:C:C4	3.01	0.48
1:N:124:C:C2	1:N:238:A:C2	3.02	0.48
1:N:627:G:C6	1:N:628:G:C6	3.02	0.48
1:N:1065:U:C5	1:N:1190:G:H4'	2.49	0.48
1:N:1239:A:N3	1:N:1241:G:C6	2.82	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:474:G:C5	1:N:475:C:C4	3.02	0.47
1:N:858:G:H22	1:N:869:G:H2'	1.79	0.47
1:N:197:A:C2	1:N:198:G:C4	3.02	0.47
1:N:430:A:C5	1:N:431:A:C8	3.02	0.47
1:N:613:C:H2'	1:N:614:C:O4'	2.14	0.47
1:N:917:G:C6	1:N:918:A:C6	3.02	0.47
1:N:1266:G:N2	1:N:1269:A:C8	2.82	0.47
1:N:50:A:C2	1:N:52:C:N3	2.82	0.47
1:N:282:A:C2	1:N:283:U:H1'	2.49	0.47
1:N:300:A:C5	1:N:301:G:H1'	2.49	0.47
1:N:1268:G:H2'	1:N:1269:A:O4'	2.14	0.47
1:N:291:U:H3'	1:N:305:G:H22	1.80	0.47
1:N:604:G:C6	1:N:605:U:N3	2.82	0.47
1:N:933:G:C2	1:N:1385:G:C2	3.02	0.47
1:N:173:U:H3'	1:N:174:A:C5'	2.45	0.47
1:N:804:U:C5	1:N:805:C:C5	3.03	0.47
1:N:824:G:N1	1:N:877:G:C6	2.83	0.47
1:N:413:G:H4'	1:N:428:G:C2	2.50	0.47
1:N:635:A:C2	1:N:636:U:C2	3.03	0.47
1:N:701:U:H5''	1:N:703:G:H5'	1.97	0.47
1:N:777:A:C8	1:N:777:A:H3'	2.49	0.47
1:N:1038:C:H2'	1:N:1039:G:C8	2.50	0.47
1:N:1100:C:H4'	1:N:1102:A:H4'	1.97	0.47
1:N:1244:G:C6	1:N:1245:C:C4	3.02	0.47
1:N:425:G:C6	1:N:426:U:N3	2.83	0.47
1:N:894:G:H2'	1:N:895:G:O4'	2.15	0.47
1:N:449:G:C6	1:N:450:G:C6	3.03	0.47
1:N:1009:U:C2	1:N:1021:A:C2	3.03	0.47
1:N:1290:G:H3'	1:N:1291:U:H6	1.79	0.47
1:N:273:U:C4	1:N:274:A:C6	3.03	0.46
1:N:669:G:C6	1:N:670:G:C5	3.02	0.46
1:N:1423:G:C5	1:N:1424:U:C5	3.03	0.46
1:N:1423:G:C6	1:N:1424:U:C4	3.04	0.46
1:N:1254:A:C2	1:N:1255:G:C4	3.03	0.46
1:N:1416:G:C6	1:N:1417:G:C4	3.04	0.46
1:N:68:G:C5	1:N:69:G:H1'	2.51	0.46
1:N:255:G:C5	1:N:256:U:C4	3.04	0.46
1:N:738:C:H2'	1:N:739:C:C6	2.51	0.46
1:N:411:A:C4	1:N:429:U:C4	3.03	0.46
1:N:482:A:C6	1:N:483:C:C2	3.03	0.46
1:N:982:U:H4'	1:N:983:A:O5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:761:G:C6	1:N:762:U:C4	3.04	0.46
1:N:64:G:N2	1:N:69:G:C5	2.84	0.46
1:N:112:G:C2	1:N:330:C:C5	3.03	0.46
1:N:174:A:C5	1:N:175:C:C5	3.03	0.46
1:N:204:G:H3'	1:N:204:G:C8	2.50	0.46
1:N:226:G:C6	1:N:227:G:C6	3.03	0.46
1:N:512:U:C5	1:N:534:U:H4'	2.50	0.46
1:N:603:U:H2'	1:N:604:G:C8	2.51	0.46
1:N:761:G:C5	1:N:762:U:C4	3.04	0.46
1:N:1009:U:C2	1:N:1021:A:N1	2.84	0.46
1:N:1191:A:H5'	1:N:1191:A:C8	2.51	0.46
1:N:142:G:H2'	1:N:196:A:H2	1.80	0.46
1:N:214:C:C5	1:N:215:C:C5	3.04	0.46
1:N:1385:G:C6	1:N:1386:G:C5	3.04	0.46
1:N:1484:C:C4	1:N:1485:U:N3	2.83	0.46
1:N:369:G:C2	1:N:393:A:C2	3.04	0.46
1:N:391:G:C6	1:N:392:C:C4	3.04	0.46
1:N:784:A:H2'	1:N:785:G:H8	1.79	0.46
1:N:1060:U:H3	1:N:1197:A:H61	1.63	0.46
1:N:43:C:H2'	1:N:44:A:H8	1.80	0.46
1:N:445:G:C2	1:N:490:C:C2	3.04	0.46
1:N:459:A:C4	1:N:460:A:C8	3.04	0.46
1:N:474:G:H2'	1:N:475:C:O4'	2.16	0.46
1:N:1125:U:H2'	1:N:1126:U:H2'	1.97	0.46
1:N:141:G:H21	1:N:182:A:H61	1.64	0.45
1:N:955:U:H3	1:N:1225:A:H2	1.56	0.45
1:N:981:U:C2	1:N:982:U:C5	3.04	0.45
1:N:1068:G:C6	1:N:1069:C:C5	3.04	0.45
1:N:179:A:C5	1:N:180:U:C4	3.04	0.45
1:N:17:U:H2'	1:N:18:C:C6	2.52	0.45
1:N:98:A:C6	1:N:99:C:C4	3.04	0.45
1:N:547:A:H4'	1:N:548:G:O5'	2.15	0.45
1:N:677:U:C5	1:N:678:U:C4	3.04	0.45
1:N:803:G:C5	1:N:804:U:C4	3.04	0.45
1:N:840:C:C1'	1:N:843:U:H3	2.29	0.45
1:N:934:C:H2'	1:N:1344:C:C5	2.52	0.45
1:N:1206:G:C6	1:N:1207:G:C5	3.04	0.45
1:N:1341:U:N3	1:N:1342:C:C5	2.85	0.45
1:N:81:A:OP2	1:N:83:C:C5	2.70	0.45
1:N:139:A:C2'	1:N:140:U:H5'	2.46	0.45
1:N:439:U:C5	1:N:440:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:585:G:C2	1:N:586:C:C2	3.04	0.45
1:N:1129:C:N3	1:N:1144:G:C6	2.85	0.45
1:N:1433:A:H1'	1:N:1468:A:C2	2.52	0.45
1:N:668:G:C5	1:N:669:G:C5	3.05	0.45
1:N:669:G:C5	1:N:670:G:C5	3.05	0.45
1:N:1019:A:C2	1:N:1020:G:C8	3.04	0.45
1:N:1072:G:C6	1:N:1073:U:N3	2.85	0.45
1:N:1468:A:C2	1:N:1469:C:C2	3.05	0.45
1:N:126:G:N1	1:N:127:G:C5	2.85	0.45
1:N:181:A:H4'	1:N:182:A:O5'	2.17	0.45
1:N:218:U:C5	1:N:219:U:C4	3.05	0.45
1:N:300:A:C4	1:N:301:G:H1'	2.52	0.45
1:N:620:C:H3'	1:N:621:A:C8	2.52	0.45
1:N:1003:G:C6	1:N:1005:A:OP1	2.70	0.45
1:N:1269:A:C5	1:N:1270:G:H1'	2.52	0.45
1:N:1343:G:C8	1:N:1344:C:C5	3.04	0.45
1:N:236:A:C6	1:N:237:G:C6	3.04	0.44
1:N:771:G:C5	1:N:772:U:C4	3.05	0.44
1:N:779:C:H2'	1:N:780:A:C8	2.53	0.44
1:N:1098:C:C4	1:N:1099:G:C5	3.05	0.44
1:N:1273:C:N4	1:N:1274:A:C2	2.85	0.44
1:N:70:U:C5	1:N:94:G:H2'	2.52	0.44
1:N:130:A:H2	1:N:232:G:H22	1.66	0.44
1:N:198:G:H2'	1:N:199:A:C8	2.52	0.44
1:N:832:G:H3'	1:N:832:G:C8	2.53	0.44
1:N:1130:A:C2	1:N:1131:G:C5	3.05	0.44
1:N:1406:U:H2'	1:N:1407:C:H5'	1.99	0.44
1:N:62:U:N3	1:N:63:C:C4	2.86	0.44
1:N:296:U:H2'	1:N:297:G:C8	2.52	0.44
1:N:78:A:C6	1:N:79:G:N1	2.85	0.44
1:N:129:A:H2	1:N:232:G:H1	1.65	0.44
1:N:455:G:H22	1:N:478:A:H1'	1.82	0.44
1:N:778:G:H22	1:N:804:U:H2'	1.83	0.44
1:N:856:C:C4	1:N:857:C:C4	3.06	0.44
1:N:962:C:C2	1:N:963:G:C8	3.06	0.44
1:N:1066:C:H5''	1:N:1066:C:H6	1.82	0.44
1:N:620:C:C5	1:N:621:A:C5	3.05	0.44
1:N:708:C:H2'	1:N:709:U:C6	2.52	0.44
1:N:1149:C:H2'	1:N:1150:A:C8	2.52	0.44
1:N:829:G:C6	1:N:830:G:C5	3.06	0.44
1:N:830:G:C6	1:N:831:A:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:1345:U:C1'	1:N:1375:A:H61	2.31	0.44
1:N:102:G:C6	1:N:103:U:C4	3.06	0.44
1:N:585:G:C6	1:N:586:C:C4	3.06	0.44
1:N:723:U:H3	1:N:832:G:N2	2.15	0.44
1:N:939:G:C6	1:N:940:C:N3	2.85	0.44
1:N:1456:A:H3'	1:N:1457:G:C5'	2.48	0.44
1:N:260:G:H2'	1:N:261:U:C6	2.53	0.44
1:N:894:G:C5	1:N:895:G:N7	2.86	0.44
1:N:901:A:C5	1:N:902:G:H1'	2.53	0.44
1:N:1523:G:C6	1:N:1524:C:C4	3.06	0.44
1:N:27:G:C5	1:N:557:G:C2	3.06	0.43
1:N:27:G:C6	1:N:28:A:C5	3.06	0.43
1:N:36:C:C4	1:N:37:U:C5	3.06	0.43
1:N:243:A:C2	1:N:245:U:N3	2.86	0.43
1:N:282:A:H3'	1:N:283:U:C6	2.53	0.43
1:N:292:G:C5	1:N:293:G:H1'	2.52	0.43
1:N:537:G:C2	1:N:538:G:C4	3.06	0.43
1:N:1144:G:O6	1:N:1145:A:C6	2.70	0.43
1:N:1239:A:C5	1:N:1241:G:C2	3.06	0.43
1:N:1261:A:H61	1:N:1274:A:C2'	2.29	0.43
1:N:107:G:H1'	1:N:379:C:H5'	2.00	0.43
1:N:246:A:C6	1:N:279:A:C4	3.06	0.43
1:N:254:G:C2	1:N:273:U:O2	2.71	0.43
1:N:1285:A:H61	1:N:1355:G:H4'	1.83	0.43
1:N:1501:C:H3'	1:N:1504:G:C8	2.52	0.43
1:N:80:A:H61	1:N:89:U:H3	1.64	0.43
1:N:383:A:C5	1:N:384:G:H1'	2.53	0.43
1:N:439:U:C5	1:N:440:C:C4	3.06	0.43
1:N:604:G:C2	1:N:605:U:C2	3.06	0.43
1:N:668:G:C6	1:N:669:G:C5	3.06	0.43
1:N:232:G:C5	1:N:233:C:C5	3.07	0.43
1:N:215:C:C5	1:N:216:U:C4	3.07	0.43
1:N:223:A:H2'	1:N:224:U:C6	2.54	0.43
1:N:299:G:O2'	1:N:300:A:H5'	2.18	0.43
1:N:579:A:C4	1:N:763:G:C2	3.06	0.43
1:N:720:C:C4	1:N:733:G:H2'	2.54	0.43
1:N:914:A:H8	1:N:914:A:H5''	1.82	0.43
1:N:1366:C:C5	1:N:1367:C:C4	3.06	0.43
1:N:130:A:N1	1:N:233:C:O2	2.51	0.43
1:N:301:G:C4	1:N:302:G:C8	3.07	0.43
1:N:465:A:C2	1:N:466:A:C4	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:693:G:O6	1:N:694:A:C6	2.71	0.43
1:N:802:A:H3'	1:N:803:G:C8	2.53	0.43
1:N:1009:U:O2	1:N:1021:A:C2	2.72	0.43
1:N:1416:G:H2'	1:N:1417:G:H5'	2.01	0.43
1:N:1495:U:N3	1:N:1496:C:C4	2.87	0.43
1:N:453:G:O6	1:N:480:U:C4	2.71	0.43
1:N:255:G:N1	1:N:272:C:C2	2.87	0.43
1:N:506:G:C2	1:N:507:C:C2	3.07	0.43
1:N:693:G:C6	1:N:694:A:C6	3.06	0.43
1:N:804:U:H6	1:N:805:C:C5	2.35	0.43
1:N:80:A:C5	1:N:81:A:H1'	2.54	0.43
1:N:100:G:C6	1:N:101:A:C6	3.06	0.43
1:N:265:G:H3'	1:N:267:C:C5	2.54	0.43
1:N:406:G:C8	1:N:495:A:H3'	2.54	0.43
1:N:597:G:C6	1:N:598:U:C2	3.07	0.43
1:N:785:G:C2	1:N:786:G:C8	3.07	0.43
1:N:949:A:N6	1:N:1232:U:H3	2.16	0.43
1:N:951:G:C6	1:N:1231:G:C6	3.07	0.43
1:N:1389:C:H2'	1:N:1390:U:O4'	2.19	0.43
1:N:61:G:N2	1:N:105:G:H22	2.17	0.43
1:N:474:G:C6	1:N:475:C:N3	2.87	0.43
1:N:862:C:H1'	1:N:874:G:H5''	2.01	0.43
1:N:941:G:C6	1:N:1343:G:C6	3.07	0.43
1:N:201:G:N2	1:N:468:A:H62	2.17	0.42
1:N:828:U:H2'	1:N:829:G:C8	2.54	0.42
1:N:898:G:C2	1:N:902:G:C5	3.07	0.42
1:N:1097:C:H2'	1:N:1098:C:H6	1.82	0.42
1:N:54:C:O2	1:N:54:C:H2'	2.19	0.42
1:N:173:U:H3'	1:N:174:A:H5'	2.00	0.42
1:N:584:G:C6	1:N:585:G:C5	3.08	0.42
1:N:749:A:H2'	1:N:750:C:C6	2.54	0.42
1:N:925:G:C6	1:N:927:G:C6	3.07	0.42
1:N:1127:G:H22	1:N:1145:A:H2	1.67	0.42
1:N:662:U:H2'	1:N:663:A:C8	2.55	0.42
1:N:1072:G:C2	1:N:1104:G:C2	3.07	0.42
1:N:1363:A:H2'	1:N:1363:A:H5''	1.94	0.42
1:N:171:A:C5	1:N:172:A:C6	3.07	0.42
1:N:211:G:N2	1:N:213:G:C8	2.87	0.42
1:N:1023:U:H2'	1:N:1024:G:C8	2.54	0.42
1:N:1102:A:C2	1:N:1103:C:N3	2.87	0.42
1:N:322:C:H3'	1:N:323:U:H6	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:335:C:C2	1:N:336:A:C8	3.08	0.42
1:N:361:G:C8	1:N:362:G:N7	2.88	0.42
1:N:594:U:H3'	1:N:595:A:C8	2.55	0.42
1:N:597:G:C2	1:N:644:U:C2	3.07	0.42
1:N:781:A:H4'	1:N:1522:U:O2'	2.20	0.42
1:N:1061:G:C5	1:N:1197:A:C6	3.07	0.42
1:N:1148:U:N3	1:N:1149:C:C2	2.87	0.42
1:N:1183:U:H3'	1:N:1183:U:C6	2.54	0.42
1:N:1268:G:C5	1:N:1269:A:C5	3.07	0.42
1:N:223:A:C5	1:N:224:U:C5	3.07	0.42
1:N:340:U:H2'	1:N:341:C:C6	2.55	0.42
1:N:479:U:N3	1:N:480:U:C5	2.87	0.42
1:N:1262:C:C5	1:N:1263:C:C6	3.08	0.42
1:N:64:G:N1	1:N:69:G:C2	2.87	0.42
1:N:139:A:C6	1:N:140:U:C4	3.07	0.42
1:N:335:C:H2'	1:N:336:A:C8	2.54	0.42
1:N:309:A:H1'	1:N:608:A:C2	2.55	0.42
1:N:1287:A:C6	1:N:1288:A:C6	3.08	0.42
1:N:127:G:N2	1:N:128:G:H1'	2.35	0.42
1:N:139:A:H2'	1:N:140:U:O4'	2.20	0.42
1:N:462:G:N3	1:N:462:G:H2'	2.35	0.42
1:N:723:U:N3	1:N:855:U:H1'	2.34	0.42
1:N:1360:A:H3'	1:N:1361:G:H8	1.83	0.42
1:N:1365:G:C6	1:N:1366:C:C4	3.08	0.42
1:N:64:G:C4	1:N:99:C:C4	3.08	0.42
1:N:112:G:H22	1:N:315:A:H2	1.68	0.42
1:N:615:G:C2	1:N:626:G:C2	3.07	0.42
1:N:701:U:C5'	1:N:703:G:H5'	2.50	0.42
1:N:941:G:C5	1:N:942:G:H1'	2.55	0.42
1:N:1042:A:C2	1:N:1043:G:N1	2.88	0.42
1:N:1415:G:C2	1:N:1486:G:C5	3.07	0.42
1:N:145:G:C6	1:N:146:G:N7	2.88	0.41
1:N:160:A:H4'	1:N:344:A:C6	2.55	0.41
1:N:255:G:C4	1:N:256:U:C6	3.07	0.41
1:N:417:G:C5	1:N:418:C:C4	3.08	0.41
1:N:1159:U:H5	1:N:1162:C:H42	1.67	0.41
1:N:118:U:H2'	1:N:121:U:C6	2.55	0.41
1:N:155:A:H2'	1:N:156:C:C6	2.54	0.41
1:N:245:U:O2	1:N:284:C:C2	2.73	0.41
1:N:322:C:N4	1:N:327:A:C8	2.88	0.41
1:N:524:G:C2	1:N:525:C:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:584:G:C5	1:N:585:G:C5	3.07	0.41
1:N:595:A:H4'	1:N:596:A:H5'	2.02	0.41
1:N:804:U:C6	1:N:805:C:C6	3.08	0.41
1:N:900:A:C6	1:N:901:A:C6	3.08	0.41
1:N:453:G:C6	1:N:454:G:C6	3.08	0.41
1:N:1104:G:C6	1:N:1105:A:C5	3.08	0.41
1:N:57:G:C6	1:N:356:A:N1	2.89	0.41
1:N:141:G:C6	1:N:223:A:C6	3.08	0.41
1:N:655:A:C2	1:N:754:C:N4	2.88	0.41
1:N:917:G:H2'	1:N:918:A:C8	2.55	0.41
1:N:1266:G:N2	1:N:1269:A:H8	2.19	0.41
1:N:1375:A:H2'	1:N:1376:U:O4'	2.20	0.41
1:N:103:U:C4	1:N:104:G:N7	2.88	0.41
1:N:160:A:C5	1:N:161:A:C6	3.08	0.41
1:N:197:A:H2	1:N:198:G:C4	2.37	0.41
1:N:203:G:H1'	1:N:465:A:H61	1.86	0.41
1:N:310:G:C6	1:N:311:C:C4	3.08	0.41
1:N:486:U:H5''	1:N:486:U:H6	1.82	0.41
1:N:646:G:C5	1:N:647:C:C4	3.08	0.41
1:N:795:C:C5	1:N:796:C:C4	3.09	0.41
1:N:171:A:C6	1:N:172:A:N1	2.89	0.41
1:N:755:G:C6	1:N:756:C:C4	3.08	0.41
1:N:1007:U:H2'	1:N:1008:U:H5''	2.02	0.41
1:N:1105:A:H2'	1:N:1106:G:H8	1.86	0.41
1:N:1215:G:H2'	1:N:1216:A:H5'	2.03	0.41
1:N:1282:C:H2'	1:N:1283:U:C6	2.56	0.41
1:N:1342:C:H2'	1:N:1343:G:C8	2.55	0.41
1:N:18:C:C6	1:N:18:C:H3'	2.56	0.41
1:N:269:C:H2'	1:N:270:A:C8	2.55	0.41
1:N:272:C:H2'	1:N:273:U:C6	2.55	0.41
1:N:369:G:C6	1:N:370:C:C4	3.08	0.41
1:N:414:A:H8	1:N:428:G:H22	1.68	0.41
1:N:895:G:C6	1:N:896:C:C4	3.08	0.41
1:N:186:C:N3	1:N:187:G:C5	2.89	0.41
1:N:275:G:C8	1:N:275:G:H5''	2.56	0.41
1:N:923:A:C2	1:N:924:C:C2	3.09	0.41
1:N:1068:G:C2	1:N:1069:C:C6	3.08	0.41
1:N:1256:A:C2	1:N:1258:G:O6	2.74	0.41
1:N:1345:U:C2	1:N:1375:A:N1	2.88	0.41
1:N:21:G:H1'	1:N:914:A:H61	1.85	0.41
1:N:27:G:C6	1:N:28:A:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:64:G:N2	1:N:69:G:C6	2.89	0.41
1:N:160:A:C2	1:N:346:G:N1	2.89	0.41
1:N:832:G:C5	1:N:855:U:N3	2.89	0.41
1:N:934:C:C4	1:N:1344:C:C2	3.09	0.41
1:N:1006:G:N2	1:N:1024:G:H1'	2.36	0.41
1:N:1047:G:C2	1:N:1213:A:C2	3.09	0.41
1:N:1053:G:H5''	1:N:1200:C:C5	2.55	0.41
1:N:1069:C:N4	1:N:1094:G:C2	2.89	0.41
1:N:1083:U:C5	1:N:1084:G:C6	3.09	0.41
1:N:1223:C:H5''	1:N:1224:U:H3'	2.02	0.41
1:N:1502:A:H5'	1:N:1504:G:N7	2.36	0.41
1:N:109:A:C6	1:N:326:G:C6	3.09	0.41
1:N:1095:U:H2'	1:N:1096:C:O4'	2.21	0.41
1:N:165:G:C2	1:N:166:U:C2	3.10	0.40
1:N:321:A:H2'	1:N:322:C:C6	2.56	0.40
1:N:438:U:C4	1:N:494:G:C8	3.09	0.40
1:N:780:A:H1'	1:N:803:G:H22	1.86	0.40
1:N:651:C:C4	1:N:652:U:C4	3.09	0.40
1:N:750:C:N3	1:N:751:U:C4	2.89	0.40
1:N:1299:A:C2	1:N:1301:U:C2	3.09	0.40
1:N:1357:A:N1	1:N:1363:A:C6	2.90	0.40
1:N:1371:G:C6	1:N:1372:U:C4	3.09	0.40
1:N:895:G:H2'	1:N:896:C:O4'	2.21	0.40
1:N:1266:G:N2	1:N:1268:G:H3'	2.36	0.40
1:N:1299:A:C2	1:N:1301:U:N3	2.89	0.40
1:N:1476:A:C6	1:N:1477:U:C4	3.10	0.40
1:N:295:C:C4	1:N:296:U:C4	3.10	0.40
1:N:465:A:C6	1:N:466:A:C6	3.09	0.40
1:N:507:C:C4	1:N:508:U:C2	3.09	0.40
1:N:563:A:C2	1:N:567:G:C5	3.09	0.40
1:N:646:G:C5	1:N:647:C:C5	3.09	0.40
1:N:782:A:N7	1:N:783:C:C4	2.89	0.40
1:N:837:U:H2'	1:N:838:G:H8	1.87	0.40
1:N:1021:A:H2'	1:N:1022:A:H5''	2.04	0.40
1:N:1117:A:C2	1:N:1184:G:C6	3.09	0.40
1:N:1258:G:H2'	1:N:1259:C:C6	2.57	0.40
1:N:64:G:C2	1:N:69:G:C6	3.09	0.40
1:N:208:U:H2'	1:N:209:U:C6	2.57	0.40
1:N:295:C:H2'	1:N:296:U:C6	2.57	0.40
1:N:300:A:H1'	1:N:565:U:O2	2.22	0.40
1:N:330:C:H2'	1:N:331:G:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:591:U:H6	1:N:591:U:O5'	2.05	0.40
1:N:1326:U:H2'	1:N:1327:C:C6	2.57	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%)	469 (30%)	150 (9%)

All (469) 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	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

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Mol	Chain	Res	Type
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
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	84	U
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	93	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	129	A

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Mol	Chain	Res	Type
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	142	G
1	N	143	A
1	N	159	G
1	N	160	A
1	N	161	A
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	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	250	A
1	N	251	G

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Mol	Chain	Res	Type
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	281	G
1	N	285	C
1	N	289	G
1	N	305	G
1	N	306	A
1	N	316	C
1	N	321	A
1	N	328	C
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	368	U
1	N	372	C
1	N	373	A
1	N	384	G
1	N	389	A
1	N	390	U
1	N	392	C
1	N	398	U
1	N	406	G
1	N	411	A
1	N	412	A
1	N	413	G

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Mol	Chain	Res	Type
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
1	N	431	A
1	N	439	U
1	N	441	A
1	N	448	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	523	A
1	N	527	G
1	N	530	G
1	N	531	U

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Mol	Chain	Res	Type
1	N	532	A
1	N	533	A
1	N	534	U
1	N	535	A
1	N	536	C
1	N	537	G
1	N	548	G
1	N	556	C
1	N	559	A
1	N	560	A
1	N	561	U
1	N	562	U
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	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

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Mol	Chain	Res	Type
1	N	722	G
1	N	723	U
1	N	724	G
1	N	731	G
1	N	748	G
1	N	754	C
1	N	755	G
1	N	767	A
1	N	768	A
1	N	774	G
1	N	776	G
1	N	777	A
1	N	787	A
1	N	788	U
1	N	792	A
1	N	793	U
1	N	794	A
1	N	811	C
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	820	U
1	N	821	G
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	849	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

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Mol	Chain	Res	Type
1	N	914	A
1	N	915	A
1	N	926	G
1	N	927	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	967	C
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	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	1037	C
1	N	1050	G
1	N	1052	U

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Mol	Chain	Res	Type
1	N	1053	G
1	N	1054	C
1	N	1055	A
1	N	1064	G
1	N	1065	U
1	N	1066	C
1	N	1067	A
1	N	1078	U
1	N	1085	U
1	N	1086	U
1	N	1087	G
1	N	1088	G
1	N	1091	U
1	N	1092	A
1	N	1093	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	1112	C
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	1136	C
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

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Mol	Chain	Res	Type
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	1185	G
1	N	1186	G
1	N	1189	U
1	N	1190	G
1	N	1191	A
1	N	1192	C
1	N	1194	U
1	N	1196	A
1	N	1197	A
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	1252	A
1	N	1256	A
1	N	1258	G
1	N	1275	A
1	N	1278	G
1	N	1279	G

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Mol	Chain	Res	Type
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	1302	C
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
1	N	1322	C
1	N	1323	G
1	N	1332	A
1	N	1336	C
1	N	1337	G
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	1394	A
1	N	1396	A
1	N	1397	C
1	N	1398	A

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Mol	Chain	Res	Type
1	N	1399	C
1	N	1400	C
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	1451	U
1	N	1452	C
1	N	1453	G
1	N	1456	A
1	N	1457	G
1	N	1469	C
1	N	1470	U
1	N	1482	G
1	N	1492	A
1	N	1493	A
1	N	1494	G
1	N	1497	G
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	1520	C
1	N	1529	G
1	N	1530	G
1	N	1531	A
1	N	1533	C
1	N	1534	A

All (150) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	N	5	U
1	N	13	U
1	N	30	U
1	N	47	C
1	N	51	A

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Mol	Chain	Res	Type
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	92	U
1	N	94	G
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	166	U
1	N	167	A
1	N	181	A
1	N	197	A
1	N	198	G
1	N	203	G
1	N	204	G
1	N	210	C
1	N	243	A
1	N	246	A
1	N	251	G
1	N	266	G
1	N	267	C
1	N	274	A
1	N	279	A
1	N	280	C
1	N	305	G
1	N	327	A
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	412	A

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Mol	Chain	Res	Type
1	N	421	U
1	N	428	G
1	N	429	U
1	N	430	A
1	N	438	U
1	N	451	A
1	N	467	U
1	N	481	G
1	N	484	G
1	N	485	U
1	N	495	A
1	N	496	A
1	N	499	A
1	N	500	G
1	N	505	G
1	N	508	U
1	N	511	C
1	N	531	U
1	N	532	A
1	N	533	A
1	N	535	A
1	N	547	A
1	N	559	A
1	N	563	A
1	N	566	G
1	N	575	G
1	N	637	C
1	N	641	U
1	N	686	U
1	N	695	A
1	N	717	U
1	N	720	C
1	N	721	G
1	N	723	U
1	N	733	G
1	N	754	C
1	N	774	G
1	N	792	A
1	N	811	C
1	N	817	C
1	N	820	U
1	N	865	A

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Mol	Chain	Res	Type
1	N	870	U
1	N	884	U
1	N	913	A
1	N	914	A
1	N	934	C
1	N	960	U
1	N	974	A
1	N	982	U
1	N	991	U
1	N	1049	U
1	N	1053	G
1	N	1064	G
1	N	1066	C
1	N	1087	G
1	N	1094	G
1	N	1101	A
1	N	1112	C
1	N	1129	C
1	N	1136	C
1	N	1140	C
1	N	1151	A
1	N	1156	G
1	N	1167	A
1	N	1168	U
1	N	1185	G
1	N	1188	A
1	N	1190	G
1	N	1191	A
1	N	1196	A
1	N	1197	A
1	N	1201	A
1	N	1214	C
1	N	1223	C
1	N	1224	U
1	N	1228	C
1	N	1239	A
1	N	1263	C
1	N	1282	C
1	N	1285	A
1	N	1299	A
1	N	1303	C
1	N	1319	A

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Mol	Chain	Res	Type
1	N	1331	G
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	1498	U
1	N	1502	A
1	N	1505	G
1	N	1506	U
1	N	1530	G
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.

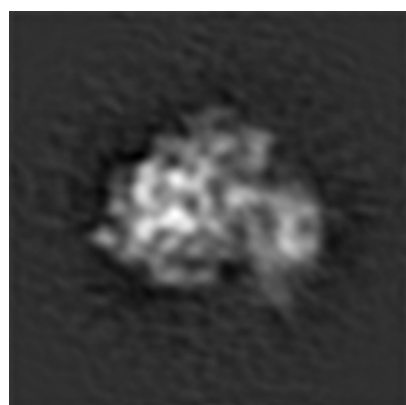
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-5500. These allow visual inspection of the internal detail of the map and identification of artifacts.

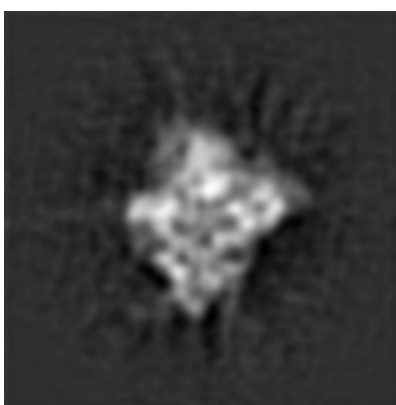
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

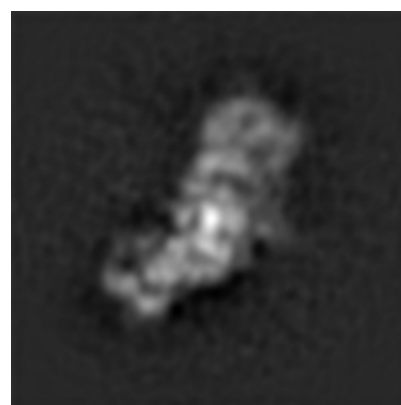
6.1.1 Primary map



X



Y

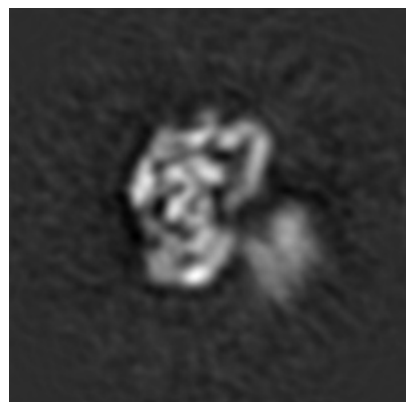


Z

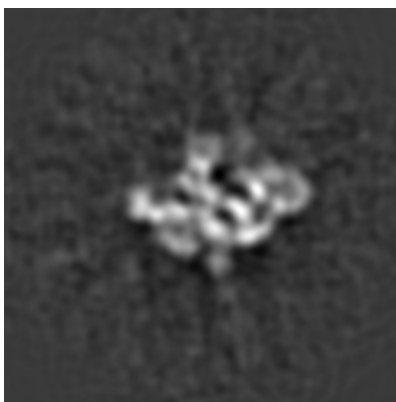
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

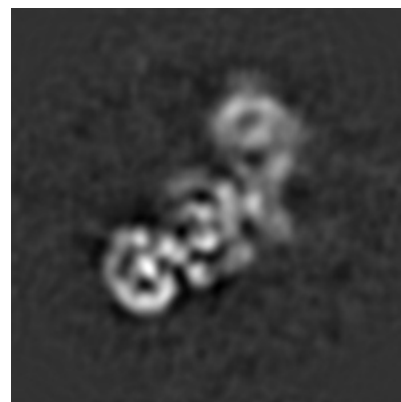
6.2.1 Primary map



X Index: 62



Y Index: 62

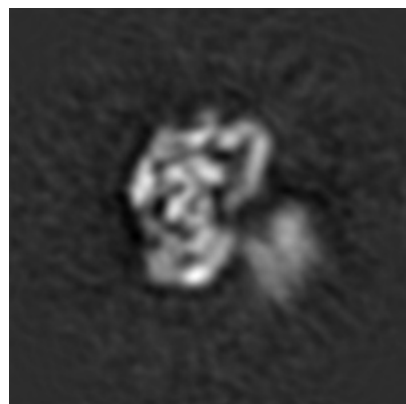


Z Index: 62

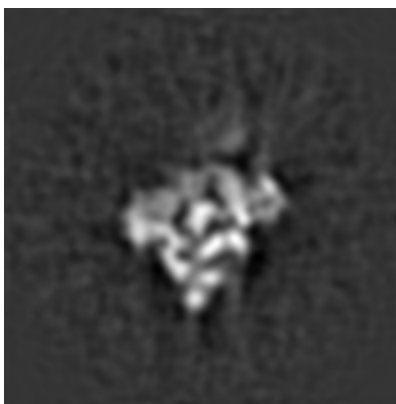
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

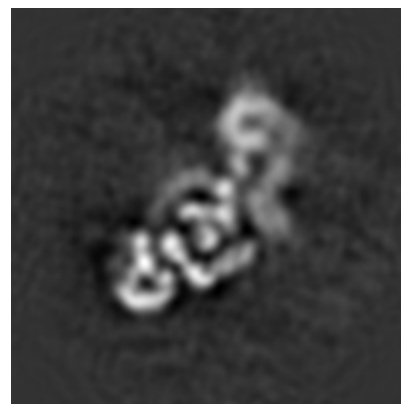
6.3.1 Primary map



X Index: 62



Y Index: 51



Z Index: 64

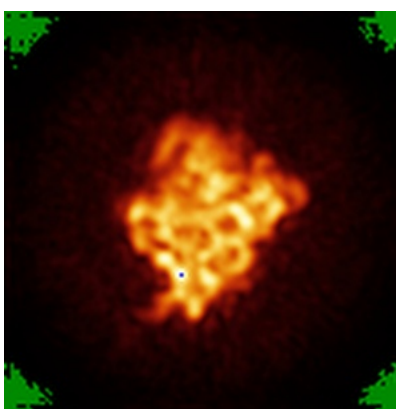
The images above show the largest variance slices of the map in three orthogonal directions.

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

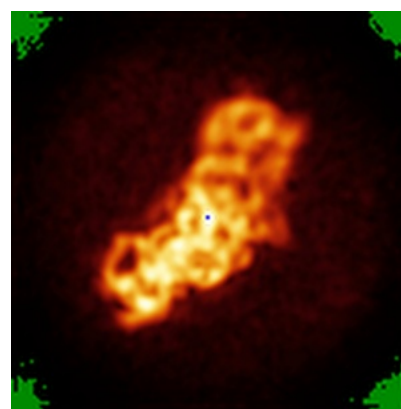
6.4.1 Primary map



X



Y

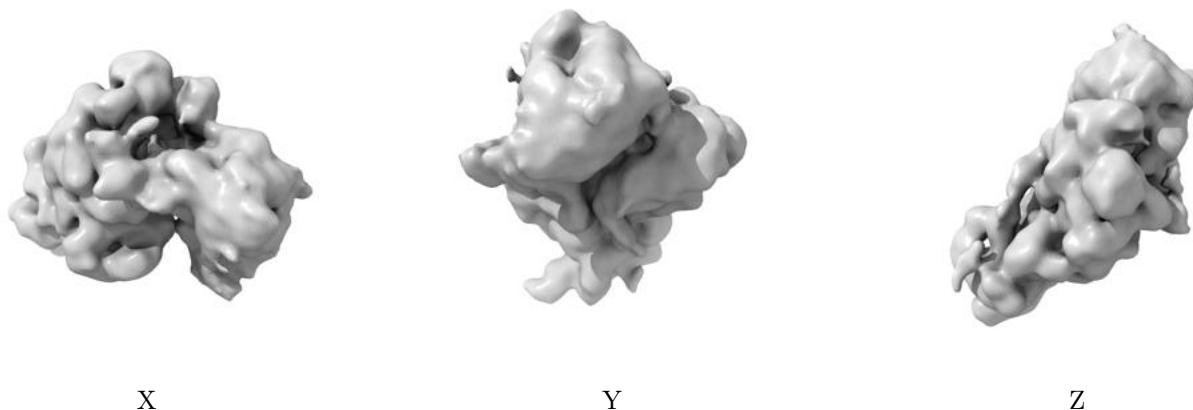


Z

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

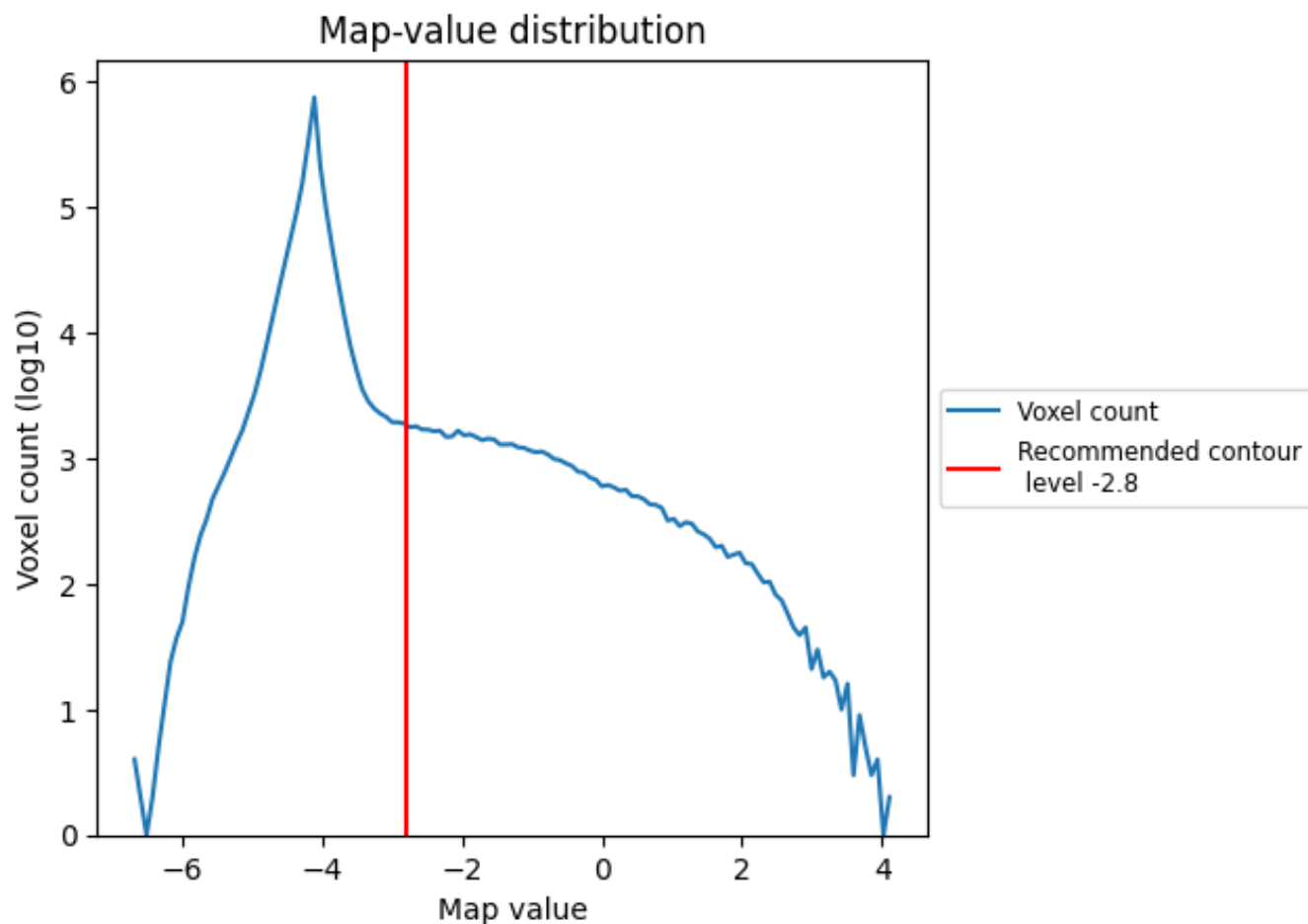
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

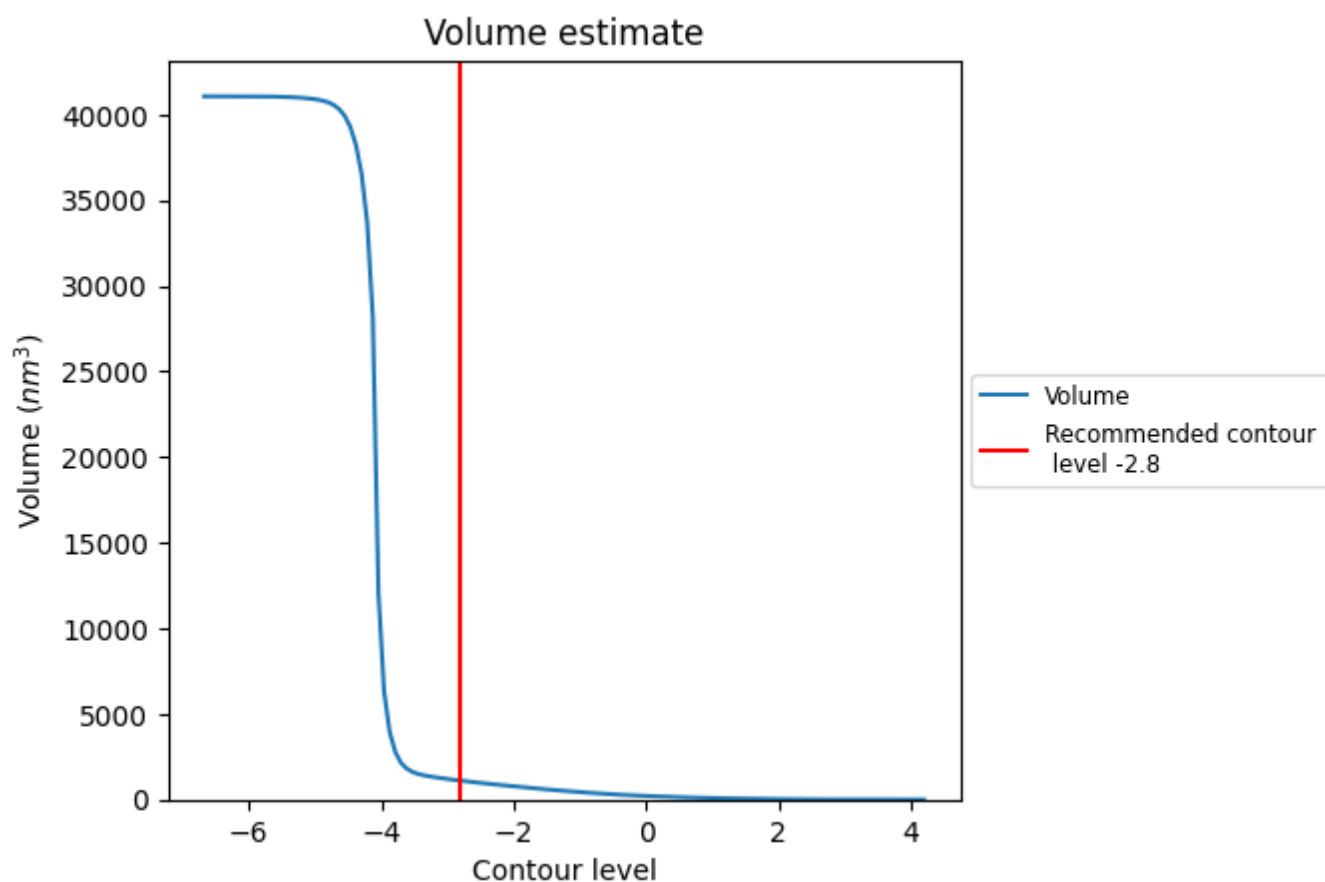
This section contains the results of statistical analysis of the map.

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.

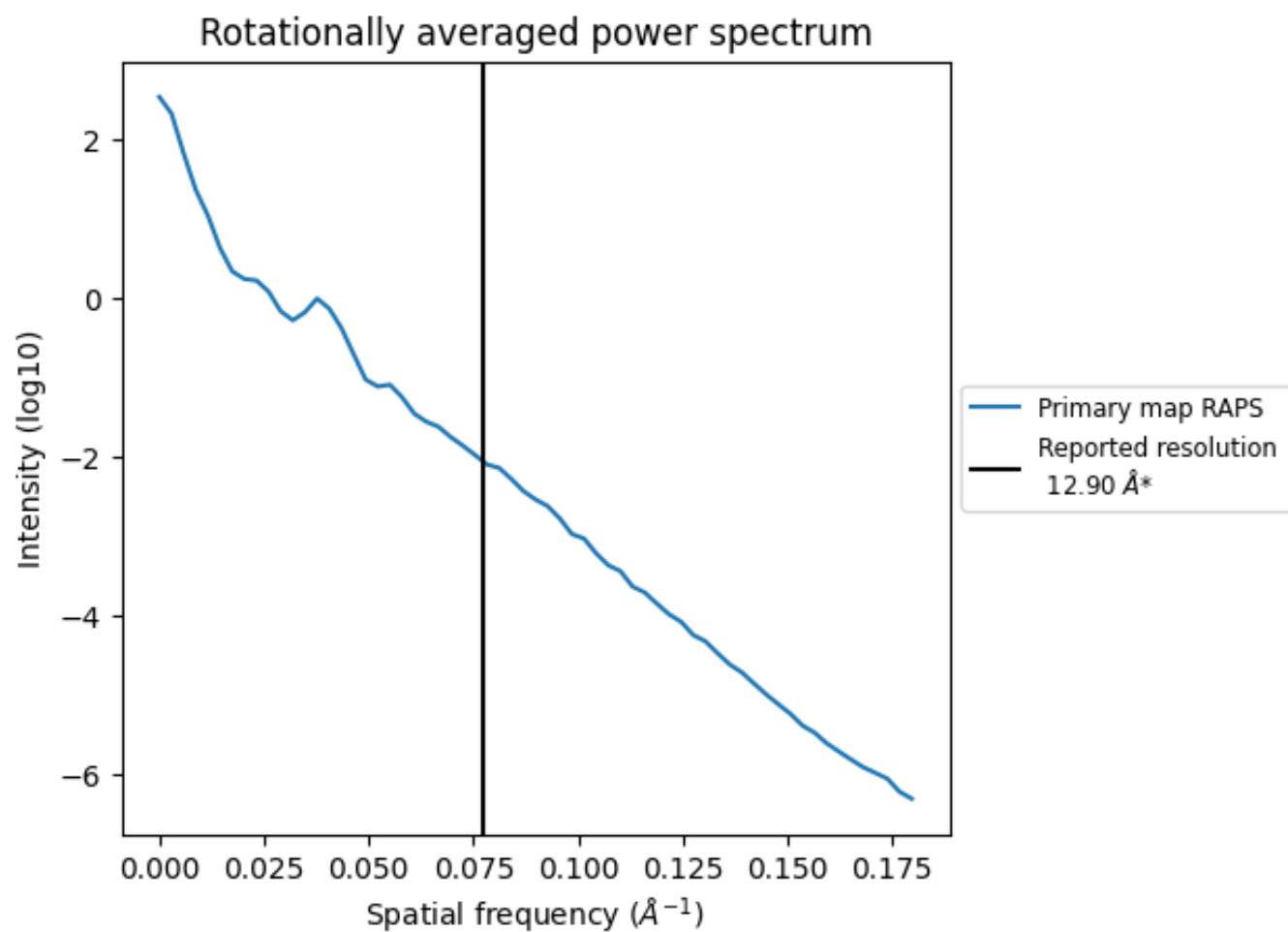
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1102 nm^3 ; this corresponds to an approximate mass of 995 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 0.078 Å⁻¹

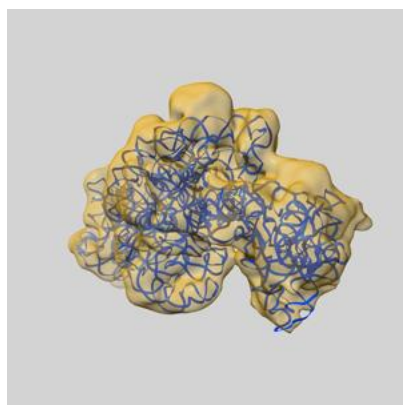
8 Fourier-Shell correlation ⓘ

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

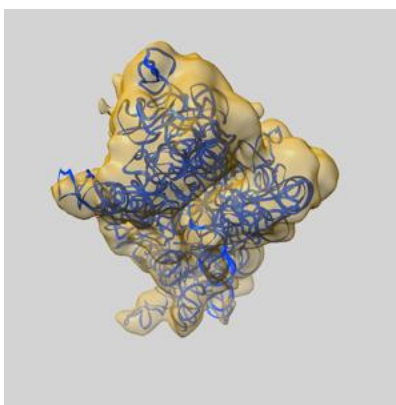
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-5500 and PDB model 3J28. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

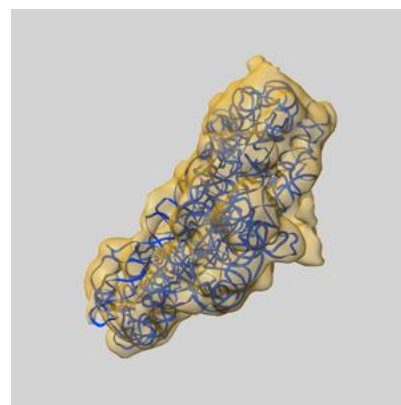
9.1 Map-model overlay [i](#)



X



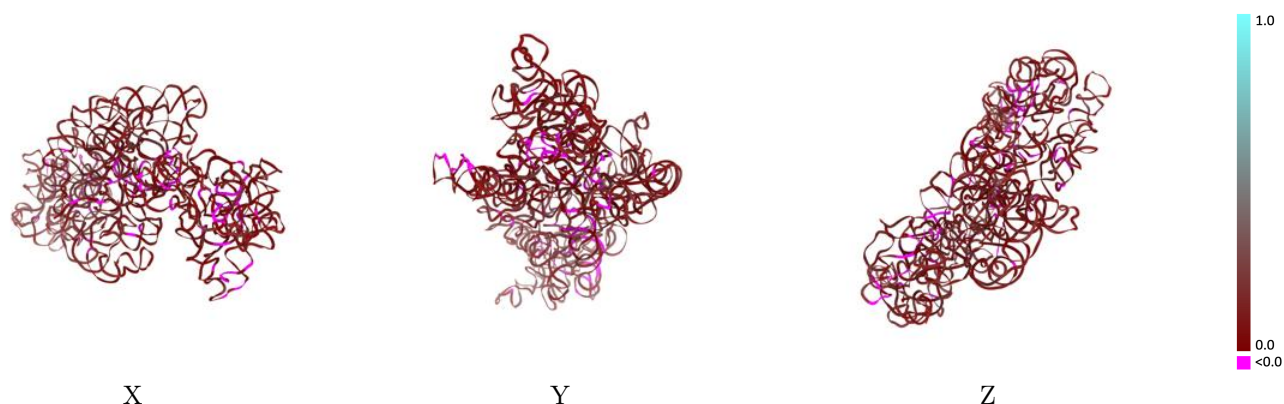
Y



Z

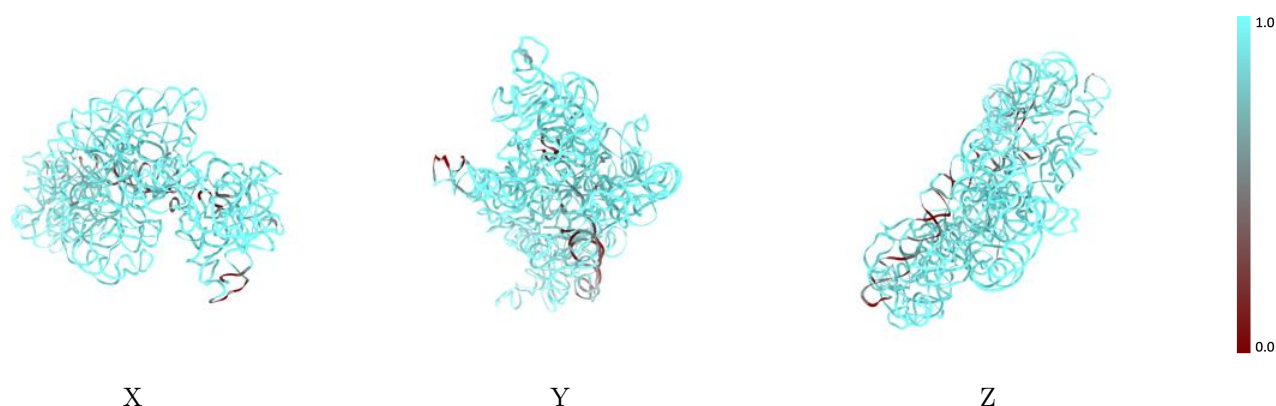
The images above show the 3D surface view of the map at the recommended contour level -2.8 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



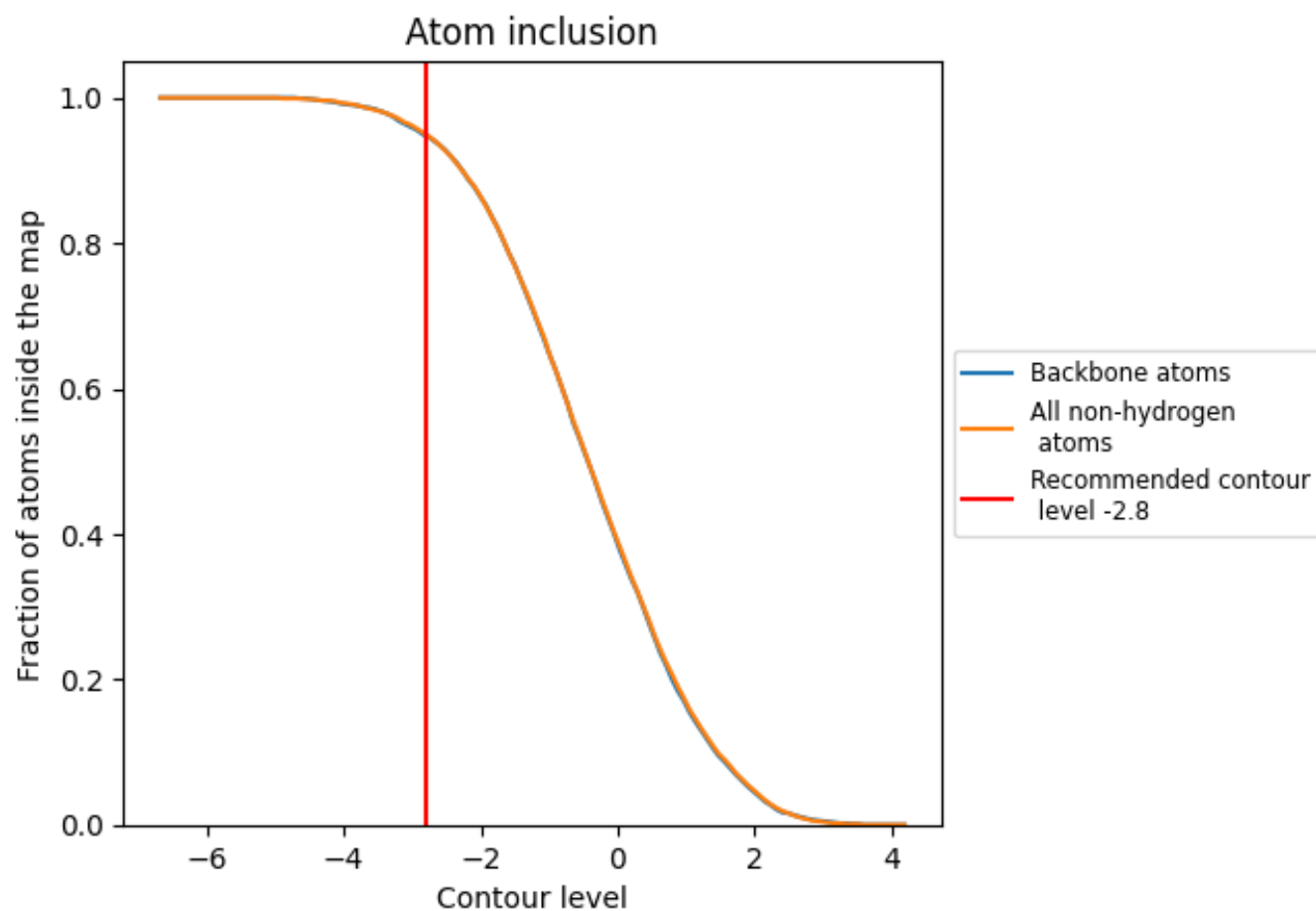
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (-2.8).

9.4 Atom inclusion ⓘ



At the recommended contour level, 95% of all backbone atoms, 95% 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 (-2.8) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9500	0.1010
N	0.9500	0.1010

