



Full wwPDB X-ray Structure Validation Report ⓘ

May 7, 2026 – 08:34 AM EDT

PDB ID : 1OND / pdb_00001ond
Title : THE CRYSTAL STRUCTURE OF THE 50S LARGE RIBOSOMAL SUB-UNIT FROM DEINOCOCCUS RADIODURANS COMPLEXED WITH TROLEANDOMYCIN MACROLIDE ANTIBIOTIC
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Deposited on : 2003-02-27
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

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](#) ①) were used in the production of this report:

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

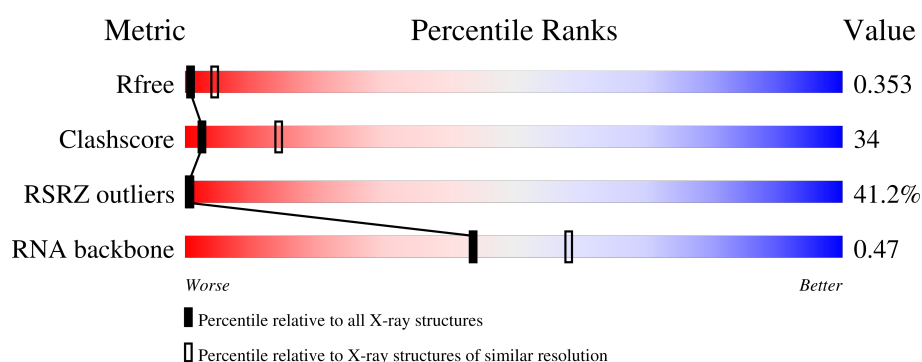
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1001 (3.44-3.36)
Clashscore	190562	1022 (3.44-3.36)
RSRZ outliers	180081	1001 (3.44-3.36)
RNA backbone	3983	1157 (3.80-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	0	2880	
2	Q	134	
3	Z	60	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	TAO	0	2881	-	X	X	-

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 59581 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	2765	Total	C	N	O	P	0	0	0
			59336	26469	10944	19159	2764			

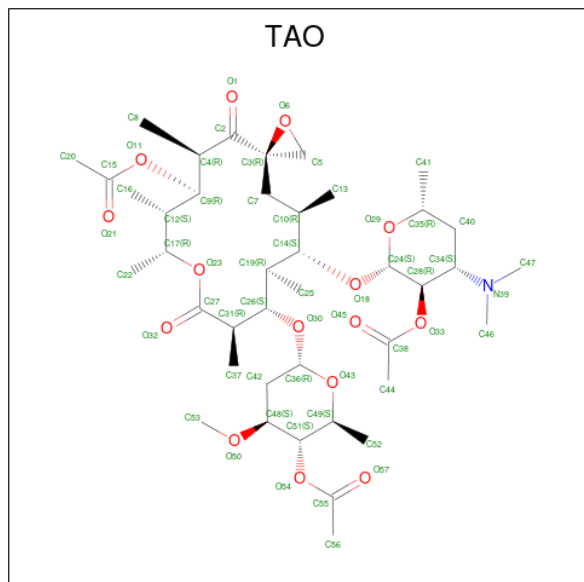
- Molecule 2 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
2	Q	130	Total	C	0	0	130
			130	130			

- Molecule 3 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
3	Z	58	Total	C	0	0	58
			58	58			

- Molecule 4 is TROLEANDOMYCIN (CCD ID: TAO) (formula: $C_{41}H_{67}NO_{15}$).

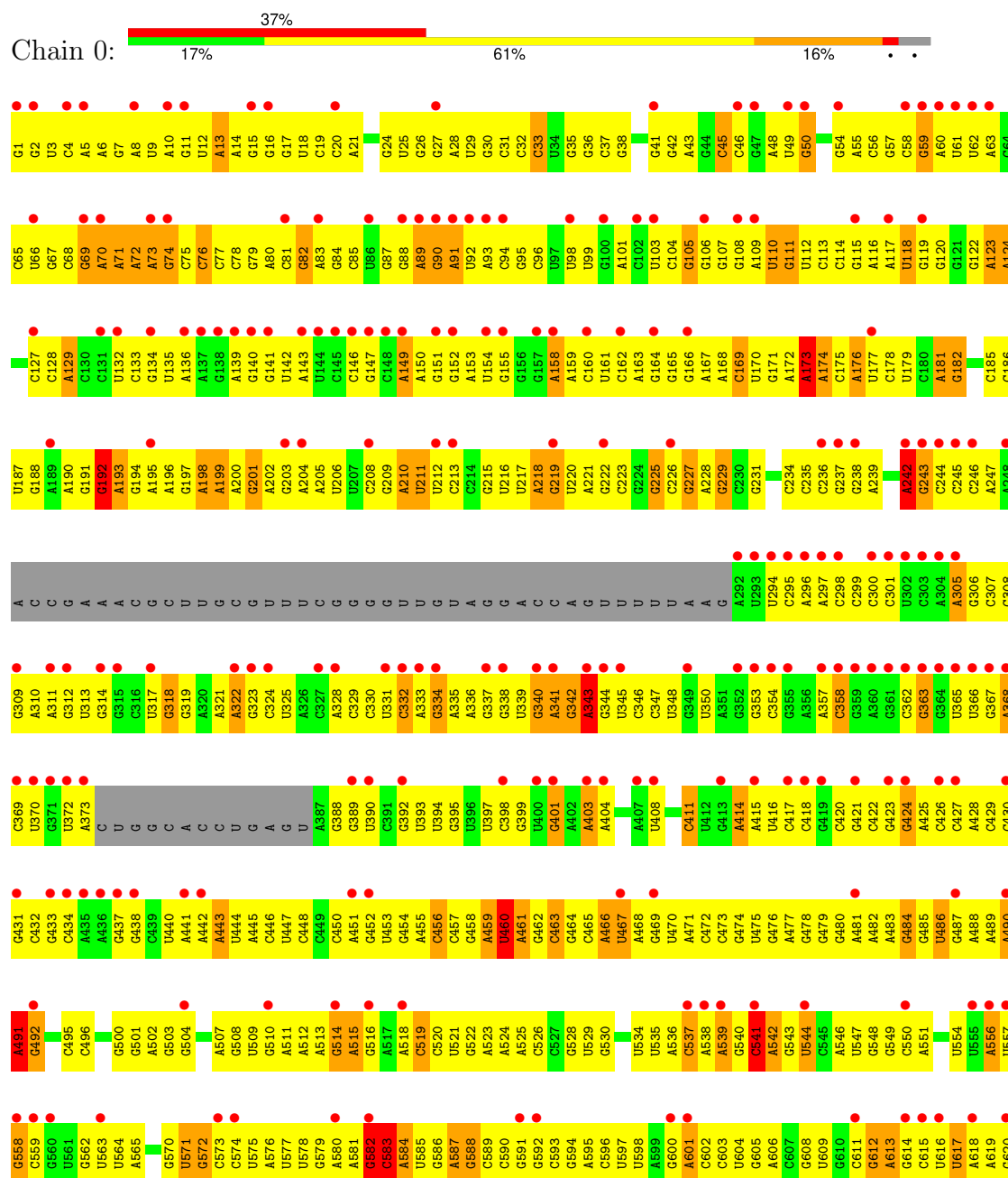


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	0	1	Total	C	N	O	0	0
			57	41	1	15		

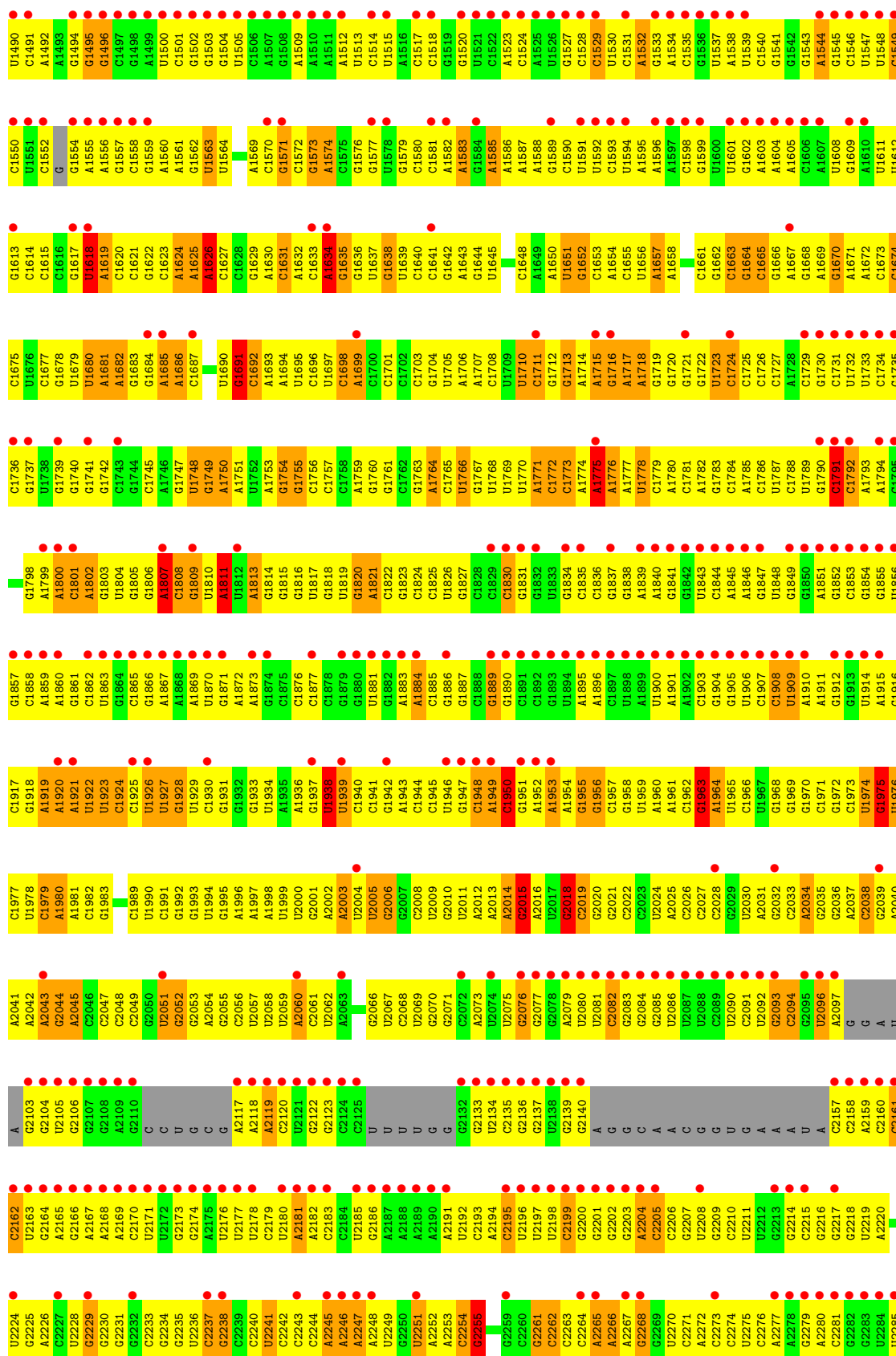
3 Residue-property plots

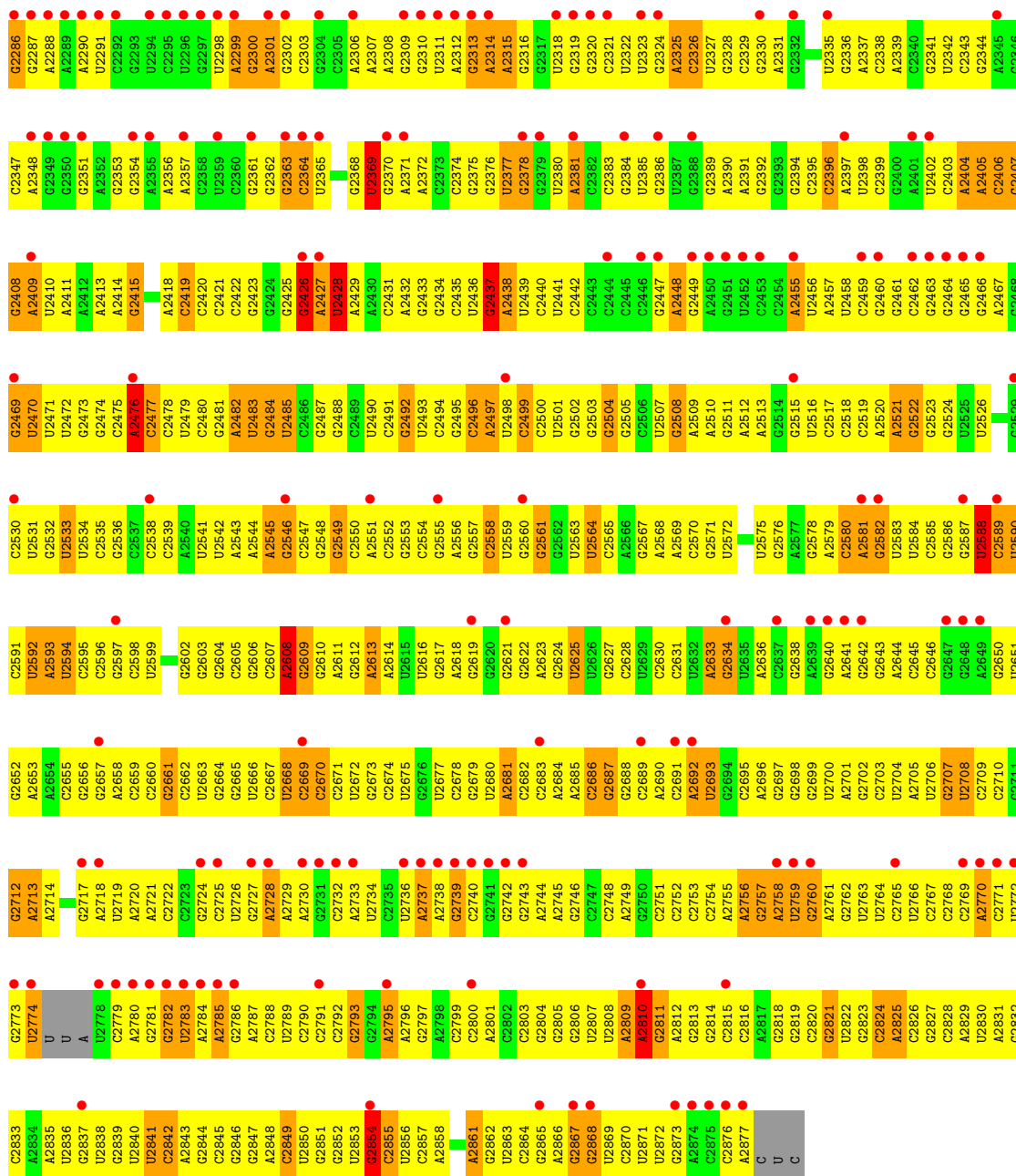
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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: 23S RIBOSOMAL RNA

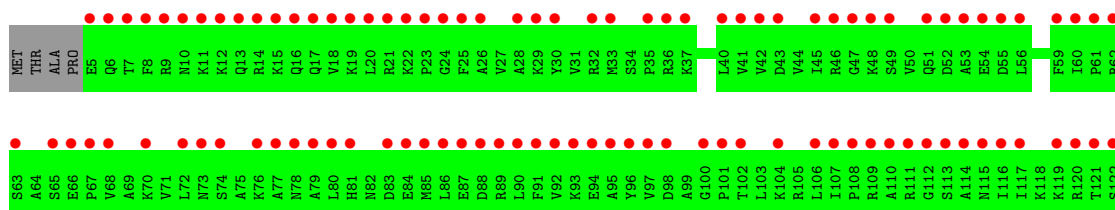
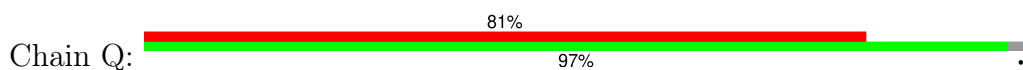


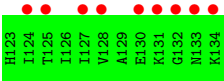
G1430	G1431	G1368	U1307	G1246	C1181	G1117	A1057	A994	G931	G867	C803	G742	U621
U1431	G1369	U1247	C1308	U1247	U1182	G1118	G1058	A995	G932	U868	C804	A743	U622
G1432	U1370	G1248	G1309	G1249	G1183	U1119	A1059	C996	G933	C869	G805	C744	U623
A1433	G1371	G1249	C1310	G1184	C1180	U1120	C1060			C870	G806	C745	A624
U1434	A1372	A1250	C1311	G1185	G1121	G1121	G1061	A999	A936	U871	A807	G746	A625
G1435	G1373	G1251	G1186	G1187	A1187	G1122	G1062	G1000	C937	G872	U810	A747	A626
G1436	G1374	C1252	A1187	A1188	A1188	G1123	C1063	A1001	G938	U873	G811	A748	A627
A1437	A1314	G1253	A1188	A1189	A1189	U1124	C1064	C1002	C939	A874	G812	C749	A628
G1438	G1376	G1254	A1189	A1190	A1190	U1125	A1065	C1003	G940	U875	G813	C750	A629
G1439	G1377	G1255	C1190	G1191	G1191	A1126	G1066	U941	A876	A751	A813	G751	A630
G1440	A1378	C1256	G1191	G1192	G1192	C1127	G1067	U1005	U942	G877	G814	G752	A631
A1441	A1379	U1257	A1192	A1193	A1193	G1128	A1068	U943	C878	C878	U815	G753	A632
C1442	C1380	G1258	G1193	U1194	U1194	A1129	G1069	A1007	A879	U816	U816	U754	A633
G1443	A1320	A1259	U1194	U1195	U1195	U1130	G1070	G1008	C880	G755	A817	C755	A634
A1444	G1382	A1260	G1131	G1132	G1132	C1131	U1071	C1009	A886	C756	G818	C756	A635
A1445	G1322	G1261	G1132	G1196	G1196	U1071	A1072	U1010	G887	U757	C819	U757	A636
A1446	G1384	U1262	G1133	U1197	U1197	G1073	G1074	A1011	G888	G758	U820	G758	A637
U1447	G1385	G1263	G1134	C1198	C1198	G1134	A1075	A1012	G889	C759	A821	C759	A638
A1448	A1386	G1264	C1135	U1199	U1199	C1135	U1075	G1013	C890	U760	G822	U760	A639
C1449	G1387	G1265	G1136	G1200	G1200	U1076	U1076	A951	U890	G761	U823	G761	A640
G1450	C1327	G1266	A1137	G1201	G1201	U1077	A1081	A952	A891	A762	U824	A762	A641
C1451	U1328	U1267	A1138	A1202	A1202	A1078	A1082	G1016	G	A763	C825	A763	A642
G1452	G1390	U1268	A1139	A1203	A1203	G1079	C1017	C1018	G	A764	U826	A764	A643
A1453	A1391	G1269	A1140	G1204	G1204	A1080	U1019	U1019	G	C765	C827	C765	A644
U1454	G1392	C1270	U1141	G1205	G1205	A1081	A1020	A956	G	A766	C828	A766	A645
C1455	G1393	C1271	G1142	G1206	G1206	G1082	A1021	G957	C829	G767	C829	G767	A646
A1456	G1396	G1272	C1145	G1207	G1207	C1083	A1022	G958	C830	U768	C830	U768	A647
A1457	A1397	G1273	G1146	U1212	U1212	A1084	U1023	C959	C831	C769	G831	C769	A648
U1458	G1398	C1274	G1147	U1213	U1213	G1085	G1024	U960	U	A770	A832	A770	A649
U1459	A1399	A1275	G1148	C1214	C1214	C1086	A1025	G961	A	C771	A833	C771	A650
G1460	C1399	G1276	G1149	A1215	A1215	A1087	U1026	C962	C	G772	A834	G772	A651
C1461	A1400	G1277	G1150	G1216	G1216	A1088	C1027	G963	C	G773	U835	G773	A652
G1462	G1401	A1278	C1151	U1217	U1217	C1089	G1028	A964	A	A774	U836	A774	A653
A1463	U1402	G1279	U1151	C1218	C1218	C1091	C1029	G965	C	U775	U837	U775	A654
U1464	U1403	U1280	C1152	G1219	G1219	U1092	U1030	U838	U	A776	U838	A776	A655
G1465	C1404	A1281	A1154	G1220	G1220	U1093	C1031	C968	U	A777	U839	A777	A656
A1466	A1405	G1343	A1154	C1221	C1221	C1094	A1032	U969	U	G778	U840	G778	A657
U1467	C1344	G1284	G1155	G1222	G1222	A1095	G1033	A970	A	A779	G841	A779	A658
A1468	G1407	A1285	U1159	G1223	G1223	A1096	U1034	A971	C	U781	A842	U781	A659
U1469	U1408	U1286	A1224	A1224	A1224	A1097	G1035	C972	C	U782	G843	U782	A660
G1470	U1409	A1287	G1160	G1225	G1225	U1098	U1036	U973	A911	G783	U844	G783	A661
G1471	U1410	A1288	U1161	A1226	A1226	U1099	U1037	U974	A912	U784	U845	U784	A662
C1472	A1411	A1289	A1162	A1227	A1227	A1099	U1038	C975	A913	U785	A846	U785	A663
U1473	C1412	G1290	C1163	G1228	G1228	G1100	A1039	C976	C914	U786	C947	U786	A664
A1474	U1413	G1291	C1164	G1229	G1229	U1101	A1040	G977	C915	A787	A848	A787	A665
U1475	G1414	A1292	G1165	C1230	C1230	G1102	U1041	U978	U916	G788	U852	G788	A666
G1476	G1415	G1293	A1167	C1231	C1231	C1103	U1044	U979	U917	G789	U853	G789	A667
C1477	A1354	U1294	G1167	U1232	U1232	U1105	G1045	A918	A918	A790	C853	A790	A668
U1478	U1355	U1295	G1169	A1233	A1233	U1106	U1046	U919	U919	A791	G854	A791	A669
G1479	G1356	G1296	C1169	C1234	C1234	A1107	G1047	G920	G920	U792	G855	U792	A670
A1480	U1357	A1297	U1170	G1235	G1235	A1107	U1048	A921	A921	G793	G856	G793	A671
U1481	G1359	G1298	A1171	U1172	U1172	U1108	C1049	A922	A922	A794	U857	A794	A672
U1482	G1359	A1299	U1172	G1173	G1173	A1109	G1050	A923	A923	A795	G858	A795	A673
G1483	A1300	A1300	G1174	A1175	A1175	A996	U1051	C924	C924	U796	U859	U796	A674
U1484	C1362	U1301	G1174	A1175	A1175	C1111	U1051	U925	U925	A797	U860	A797	A675
A1485	A1363	C1302	A1241	G1241	G1241	C1112	C1052	C926	C926	U798	G861	U798	A676
U1486	C1364	U1304	A1242	A1242	A1242	C1113	G1053	C927	C927	C799	U862	C799	A677
A1487	U1365	C1305	G1243	G1243	G1243	A1114	C1054	G928	G928	U800	C864	U800	A678
G1488	U1366	U1306	U1244	U1244	U1244	C1115	A1055	A929	A929	A801	A865	A801	A679
A1489	U1367	U1306	G1245	G1245	G1245	U1116	U1056	C993	C993	A802	U866	A802	A680



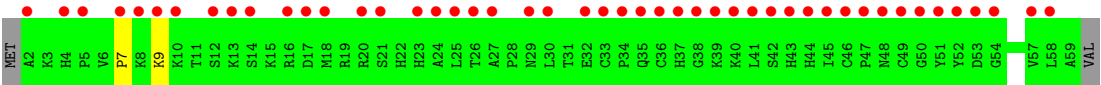
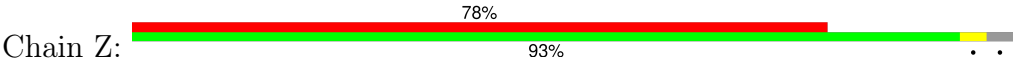


• Molecule 2: 50S ribosomal protein L22





● Molecule 3: 50S ribosomal protein L32



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	170.25Å 411.09Å 695.34Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 3.40 8.00 – 3.40	Depositor EDS
% Data completeness (in resolution range)	(Not available) (8.00-3.40) 80.7 (8.00-3.40)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.62 (at 3.36Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.261 , 0.310 0.352 , 0.353	Depositor DCC
R_{free} test set	14435 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	69.2	Xtriage
Anisotropy	0.502	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.12 , 10.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.70	EDS
Total number of atoms	59581	wwPDB-VP
Average B, all atoms (Å ²)	42.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.19% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.56	2/66440 (0.0%)	0.80	89/103628 (0.1%)

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	0	0	47

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	1549	C	N1-C2	5.65	1.51	1.40
1	0	2590	U	O3'-P	-5.56	1.52	1.61

All (89) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2668	U	C4'-C3'-O3'	-8.43	100.36	113.00
1	0	1279	G	C4'-C3'-O3'	-8.07	100.89	113.00
1	0	2590	U	P-O3'-C3'	-7.66	108.70	120.20
1	0	2588	U	C2'-C3'-O3'	-7.55	102.37	113.70
1	0	2428	U	C4'-C3'-O3'	-7.48	101.77	113.00
1	0	1698	C	C2'-C3'-O3'	-7.42	102.57	113.70
1	0	843	G	C2'-C3'-O3'	7.28	120.42	109.50
1	0	242	A	C2'-C3'-O3'	7.16	120.24	109.50
1	0	2428	U	N1-C1'-C2'	7.06	122.60	112.00
1	0	459	A	N9-C1'-C2'	6.99	122.49	112.00
1	0	466	A	C4'-C3'-O3'	-6.91	102.63	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2660	C	N1-C1'-C2'	6.77	122.15	112.00
1	0	192	G	C2'-C3'-O3'	6.74	119.61	109.50
1	0	1264	C	N1-C1'-C2'	6.47	121.70	112.00
1	0	1333	G	C4'-C3'-O3'	-6.42	103.37	113.00
1	0	2497	A	C2'-C3'-O3'	-6.33	104.20	113.70
1	0	1260	A	C4'-C3'-O3'	-6.29	103.57	113.00
1	0	1313	U	C2'-C3'-O3'	6.22	118.83	109.50
1	0	460	U	C2'-C3'-O3'	-6.20	104.40	113.70
1	0	1279	G	N9-C1'-C2'	6.11	121.17	112.00
1	0	2854	G	C2'-C3'-O3'	-6.08	104.57	113.70
1	0	2810	A	C4'-C3'-O3'	-6.08	103.89	113.00
1	0	1963	G	C4'-C3'-O3'	-6.07	103.90	113.00
1	0	1342	U	N1-C1'-C2'	6.06	121.09	112.00
1	0	2418	A	N9-C1'-C2'	5.96	120.94	112.00
1	0	752	G	C3'-C2'-O2'	5.95	119.62	110.70
1	0	2426	G	C2'-C3'-O3'	5.95	118.42	109.50
1	0	1264	C	C4'-C3'-O3'	-5.88	104.19	113.00
1	0	1325	U	C4'-C3'-O3'	-5.80	104.30	113.00
1	0	1775	A	C2'-C3'-O3'	-5.79	105.02	113.70
1	0	2588	U	C4'-C3'-C2'	5.79	108.39	102.60
1	0	2015	G	C2'-C3'-O3'	5.76	118.14	109.50
1	0	2266	A	C4'-C3'-O3'	-5.75	104.38	113.00
1	0	2363	G	N9-C1'-C2'	5.74	120.60	112.00
1	0	788	G	N9-C1'-C2'	5.70	120.55	112.00
1	0	342	G	C4'-C3'-O3'	-5.64	104.54	113.00
1	0	583	C	C2'-C3'-O3'	5.62	117.92	109.50
1	0	2668	U	N1-C1'-C2'	5.62	120.42	112.00
1	0	1807	A	C4'-C3'-O3'	-5.59	104.61	113.00
1	0	1975	G	C4'-C3'-O3'	-5.58	104.62	113.00
1	0	2363	G	C4'-C3'-O3'	-5.58	104.64	113.00
1	0	1634	A	C2'-C3'-O3'	5.53	117.79	109.50
1	0	2018	G	C2'-C3'-O3'	5.51	117.77	109.50
1	0	879	A	C2'-C3'-O3'	-5.50	105.45	113.70
1	0	2437	G	N9-C1'-C2'	5.50	120.25	112.00
1	0	804	C	C4'-C3'-O3'	-5.47	104.80	113.00
1	0	2476	A	C3'-C2'-O2'	5.46	118.89	110.70
1	0	1355	A	C2'-C3'-O3'	-5.46	105.51	113.70
1	0	1626	A	C2'-C3'-O3'	-5.46	105.51	113.70
1	0	2823	G	C4'-C3'-O3'	-5.45	104.82	113.00
1	0	2580	C	C2'-C3'-O3'	-5.45	105.53	113.70
1	0	2564	U	N1-C1'-C2'	5.44	120.16	112.00
1	0	2496	C	C4'-C3'-O3'	-5.38	104.92	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1975	G	N9-C1'-C2'	5.37	120.06	112.00
1	0	466	A	N9-C1'-C2'	5.37	120.05	112.00
1	0	2237	C	C4'-C3'-O3'	-5.36	104.96	113.00
1	0	2660	C	C4'-C3'-O3'	-5.33	105.00	113.00
1	0	683	A	C3'-C2'-O2'	5.33	118.69	110.70
1	0	805	G	C4'-C3'-O3'	5.32	117.39	109.40
1	0	1777	A	C4'-C3'-O3'	-5.32	105.02	113.00
1	0	596	C	C4'-C3'-O3'	-5.30	105.05	113.00
1	0	2590	U	O4'-C4'-C3'	-5.26	98.74	104.00
1	0	571	U	C4'-C3'-O3'	-5.21	105.18	113.00
1	0	173	A	C2'-C3'-O3'	5.17	117.26	109.50
1	0	840	U	C2'-C3'-O3'	-5.17	105.95	113.70
1	0	2254	C	C4'-C3'-O3'	-5.16	105.27	113.00
1	0	1167	A	C4'-C3'-O3'	-5.14	105.29	113.00
1	0	342	G	N9-C1'-C2'	5.12	119.69	112.00
1	0	842	A	C2'-C3'-O3'	-5.12	106.02	113.70
1	0	985	G	N9-C1'-C2'	5.12	119.68	112.00
1	0	612	G	C2'-C3'-O3'	-5.12	106.03	113.70
1	0	1923	U	N1-C1'-C2'	5.11	119.67	112.00
1	0	2469	G	C2'-C3'-O3'	-5.10	106.05	113.70
1	0	1278	A	C2'-C3'-O3'	5.07	117.11	109.50
1	0	2043	A	C2'-C3'-O3'	-5.07	106.09	113.70
1	0	1919	A	N9-C1'-C2'	5.07	119.60	112.00
1	0	332	C	C4'-C3'-O3'	-5.05	105.42	113.00
1	0	776	G	C4'-C3'-O3'	-5.05	105.43	113.00
1	0	1691	G	N9-C1'-C2'	5.04	119.56	112.00
1	0	1950	C	C2'-C3'-O3'	-5.04	106.14	113.70
1	0	454	G	N9-C1'-C2'	5.04	119.56	112.00
1	0	403	A	C4'-C3'-O3'	-5.04	105.45	113.00
1	0	1469	U	N1-C1'-C2'	5.03	119.54	112.00
1	0	1618	U	C5'-C4'-O4'	-5.03	102.26	109.80
1	0	2437	G	C2'-C3'-O3'	-5.03	106.16	113.70
1	0	111	G	N9-C1'-C2'	5.02	119.54	112.00
1	0	860	U	N1-C1'-C2'	5.01	119.51	112.00
1	0	33	C	N1-C1'-C2'	5.00	119.51	112.00
1	0	2693	U	C2'-C3'-O3'	-5.00	106.20	113.70

There are no chirality outliers.

All (47) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1149	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1249	G	Sidechain
1	0	1264	C	Sidechain
1	0	1265	G	Sidechain
1	0	1322	G	Sidechain
1	0	1342	U	Sidechain
1	0	1345	G	Sidechain
1	0	1471	G	Sidechain
1	0	1619	A	Sidechain
1	0	1674	C	Sidechain
1	0	1682	A	Sidechain
1	0	1723	U	Sidechain
1	0	1766	U	Sidechain
1	0	1791	C	Sidechain
1	0	1811	A	Sidechain
1	0	1938	U	Sidechain
1	0	1963	G	Sidechain
1	0	2036	G	Sidechain
1	0	2043	A	Sidechain
1	0	211	U	Sidechain
1	0	2249	U	Sidechain
1	0	2251	U	Sidechain
1	0	2255	G	Sidechain
1	0	2369	U	Sidechain
1	0	2501	U	Sidechain
1	0	2513	A	Sidechain
1	0	2608	A	Sidechain
1	0	2686	C	Sidechain
1	0	2687	G	Sidechain
1	0	2708	U	Sidechain
1	0	2719	U	Sidechain
1	0	2739	G	Sidechain
1	0	2821	G	Sidechain
1	0	343	A	Sidechain
1	0	470	U	Sidechain
1	0	491	A	Sidechain
1	0	535	U	Sidechain
1	0	541	C	Sidechain
1	0	582	G	Sidechain
1	0	759	C	Sidechain
1	0	788	G	Sidechain
1	0	792	U	Sidechain
1	0	804	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	82	G	Sidechain
1	0	871	U	Sidechain
1	0	950	G	Sidechain
1	0	994	A	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	0	59336	0	29907	3014	0
2	Q	130	0	0	0	0
3	Z	58	0	0	4	0
4	0	57	0	67	22	0
All	All	59581	0	29974	3029	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 34.

All (3029) 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)
4:0:2881:TAO:C31	4:0:2881:TAO:C26	1.82	1.56
4:0:2881:TAO:O18	4:0:2881:TAO:C24	1.65	1.41
1:0:2058:U:H1'	1:0:2576:G:H21	1.09	1.17
1:0:1458:A:H3'	1:0:1459:U:C5'	1.74	1.17
1:0:362:C:H2'	1:0:363:G:H4'	1.29	1.15
1:0:2548:G:H2'	1:0:2549:G:H5''	1.17	1.15
1:0:1900:U:O2'	1:0:1946:U:H5'	1.48	1.13
1:0:918:A:H2'	1:0:919:U:H5''	1.30	1.13
1:0:2299:A:H5'	1:0:2300:G:C4	1.85	1.11
1:0:2548:G:C2'	1:0:2549:G:H5''	1.81	1.11
1:0:1458:A:H3'	1:0:1459:U:H5''	1.24	1.10
1:0:2266:A:N6	1:0:2323:U:H1'	1.64	1.10
1:0:1679:U:H2'	1:0:1680:U:H5''	1.22	1.09
1:0:2014:A:H62	1:0:2477:C:H1'	1.16	1.08
1:0:1976:U:H2'	1:0:1977:C:H5'	1.31	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1908:C:H2'	1:0:1909:U:H4'	1.28	1.07
1:0:2081:U:H2'	1:0:2082:C:H5''	1.36	1.06
1:0:940:G:H3'	1:0:941:U:C5'	1.86	1.04
1:0:104:C:H2'	1:0:105:G:H5''	1.36	1.04
1:0:2059:U:H2'	1:0:2060:A:H5''	1.41	1.03
1:0:1073:G:H2'	1:0:1074:G:H4'	1.36	1.03
1:0:1774:A:H5'	1:0:2587:G:H4'	1.39	1.02
1:0:940:G:H3'	1:0:941:U:H5''	1.06	1.02
1:0:1621:C:H4'	1:0:1626:A:C6	1.95	1.02
1:0:1679:U:C2'	1:0:1680:U:H5''	1.90	1.02
1:0:847:C:H41	1:0:955:G:H21	1.01	1.00
1:0:1921:A:H2'	1:0:1922:U:H5''	1.39	1.00
1:0:857:U:H2'	1:0:858:G:H5'	1.44	0.99
1:0:1280:U:H3	1:0:1996:A:H62	1.04	0.99
1:0:2270:U:O2'	1:0:2353:G:H1'	1.63	0.99
1:0:2691:C:H3'	1:0:2692:A:H5''	1.43	0.98
1:0:616:U:H2'	1:0:617:U:H5''	1.45	0.98
1:0:2761:A:H5''	1:0:2762:G:H5'	1.45	0.98
1:0:976:C:H5'	1:0:2252:A:H1'	1.44	0.98
1:0:716:U:H2'	1:0:717:G:O4'	1.65	0.97
1:0:2498:U:H5''	1:0:2499:C:OP1	1.62	0.97
1:0:941:U:H2'	1:0:942:U:O4'	1.65	0.96
1:0:1463:A:H1'	1:0:1543:G:H22	1.31	0.95
1:0:2266:A:H61	1:0:2323:U:H1'	1.18	0.95
1:0:688:A:H62	1:0:816:U:H3	1.14	0.94
1:0:1748:U:H3	1:0:1753:A:H2	1.00	0.93
1:0:103:U:H2'	1:0:104:C:C6	2.02	0.93
1:0:2414:A:H2'	1:0:2415:G:H5''	1.50	0.93
1:0:590:C:H2'	1:0:591:G:C8	2.03	0.93
1:0:2755:A:O2'	1:0:2756:A:H5'	1.69	0.93
1:0:1900:U:H3'	1:0:1901:A:H8	1.31	0.92
1:0:1313:U:H1'	1:0:1642:G:N2	1.84	0.92
1:0:940:G:C3'	1:0:941:U:H5''	1.98	0.91
1:0:1088:A:H2'	1:0:1089:C:O4'	1.71	0.91
1:0:2636:A:H62	1:0:2643:G:H21	1.17	0.91
1:0:468:A:O2'	1:0:469:G:H4'	1.71	0.91
1:0:2262:C:H2'	1:0:2263:C:O4'	1.70	0.91
1:0:1900:U:H3'	1:0:1901:A:C8	2.06	0.91
1:0:2015:G:H22	1:0:2038:C:H1'	1.35	0.91
1:0:75:C:H2'	1:0:76:C:H5''	1.51	0.91
1:0:2038:C:H2'	1:0:2483:U:H4'	1.50	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2469:G:H5''	1:0:2470:U:OP1	1.72	0.91
1:0:1900:U:H2'	1:0:1901:A:O4'	1.70	0.90
1:0:2569:A:H2'	1:0:2570:C:H6	1.36	0.90
1:0:841:G:H2'	1:0:842:A:C8	2.05	0.90
1:0:460:U:N3	1:0:592:G:H1'	1.87	0.90
1:0:2770:A:H4'	1:0:2867:G:H22	1.35	0.90
1:0:109:A:H2'	1:0:110:U:H5''	1.52	0.90
1:0:2633:A:H61	1:0:2646:C:N4	1.69	0.90
1:0:58:C:H3'	1:0:59:G:H5''	1.51	0.90
1:0:1463:A:H1'	1:0:1543:G:N2	1.85	0.90
1:0:929:A:H3'	1:0:930:A:H5''	1.52	0.89
1:0:1267:A:H5''	1:0:1268:U:O5'	1.72	0.89
1:0:317:U:H2'	1:0:318:G:H5''	1.55	0.89
1:0:699:G:H5'	1:0:700:C:OP2	1.70	0.89
1:0:1922:U:O2	1:0:2571:G:H5'	1.72	0.89
1:0:652:C:H42	1:0:657:A:H61	1.18	0.89
1:0:2509:A:H2'	1:0:2510:A:H5''	1.54	0.89
1:0:2811:G:H2'	1:0:2812:A:C8	2.08	0.89
1:0:759:C:H1'	1:0:761:G:H21	1.38	0.89
1:0:1202:U:H2'	1:0:1203:A:H8	1.37	0.89
1:0:1549:C:N4	1:0:1554:G:O6	2.06	0.89
1:0:2014:A:N6	1:0:2477:C:H1'	1.87	0.88
1:0:2437:G:N1	1:0:2469:G:H2'	1.88	0.88
1:0:83:A:N1	1:0:98:U:H1'	1.88	0.88
1:0:2616:U:H2'	1:0:2617:G:O4'	1.74	0.88
1:0:2811:G:H2'	1:0:2812:A:H8	1.37	0.88
1:0:1312:G:H5'	1:0:1314:A:H1'	1.54	0.88
1:0:1618:U:C5	1:0:1618:U:OP2	2.26	0.88
1:0:1791:C:H2'	1:0:1792:C:H5''	1.53	0.88
1:0:1438:G:H2'	1:0:1439:G:O4'	1.73	0.88
1:0:2096:U:H2'	1:0:2097:A:H5''	1.56	0.88
1:0:215:G:H21	1:0:632:A:H8	1.17	0.87
1:0:1432:G:H21	1:0:1596:A:H62	1.16	0.87
1:0:681:A:H2'	1:0:683:A:N7	1.90	0.87
1:0:1325:U:H4'	1:0:1326:U:C6	2.10	0.87
1:0:2380:U:H2'	1:0:2381:A:H5'	1.54	0.87
1:0:88:G:H3'	1:0:89:A:H5''	1.57	0.87
1:0:2872:U:H2'	1:0:2873:G:C8	2.10	0.87
1:0:2045:A:N1	4:0:2881:TAO:H411	1.88	0.87
1:0:820:U:H2'	1:0:821:A:H8	1.39	0.86
1:0:2713:A:H2'	1:0:2714:A:H8	1.39	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2836:U:H2'	1:0:2837:G:C8	2.11	0.86
1:0:1284:G:N3	1:0:1633:C:H5'	1.91	0.86
1:0:2569:A:H2'	1:0:2570:C:C6	2.09	0.86
1:0:2736:U:O2'	1:0:2737:A:H5'	1.75	0.86
1:0:2594:U:C6	3:Z:7:PRO:CA	2.59	0.86
4:0:2881:TAO:C26	4:0:2881:TAO:H31	2.06	0.86
1:0:2674:C:H2'	1:0:2675:U:H6	1.39	0.86
1:0:357:A:H2'	1:0:358:C:H5'	1.58	0.86
1:0:1445:A:H2'	1:0:1446:U:O4'	1.76	0.86
1:0:2198:U:H3'	1:0:2199:C:H5''	1.57	0.86
1:0:2476:A:O2'	1:0:2477:C:H5	1.59	0.85
1:0:1252:C:C2'	1:0:1253:C:H5''	2.07	0.85
1:0:635:C:H2'	1:0:636:G:H5''	1.56	0.85
1:0:556:A:H2'	1:0:557:U:H5'	1.57	0.85
1:0:1715:A:O2'	1:0:1716:G:H3'	1.77	0.85
1:0:1804:U:H2'	1:0:1805:G:H8	1.41	0.85
1:0:1976:U:C2'	1:0:1977:C:H5'	2.06	0.84
1:0:1459:U:H2'	1:0:1475:U:O2'	1.77	0.84
1:0:1474:A:H3'	1:0:1474:A:N3	1.92	0.84
1:0:28:A:H61	1:0:522:G:H4'	1.42	0.84
1:0:1242:A:H2'	1:0:1243:G:C8	2.11	0.84
1:0:792:U:C2'	1:0:793:G:H5'	2.08	0.84
1:0:2672:U:H2'	1:0:2673:G:H8	1.43	0.84
1:0:2315:A:O2'	1:0:2364:C:H5''	1.78	0.83
1:0:1252:C:H2'	1:0:1253:C:H5''	1.60	0.83
1:0:1656:U:C2'	1:0:1657:A:H5''	2.08	0.83
1:0:509:U:H2'	1:0:510:G:H5'	1.58	0.83
1:0:918:A:C2'	1:0:919:U:H5''	2.07	0.83
1:0:1763:G:N2	1:0:1765:C:H5''	1.93	0.83
1:0:2555:G:H3'	1:0:2555:G:OP1	1.79	0.83
1:0:922:A:H2'	1:0:923:A:C8	2.14	0.83
1:0:460:U:H3	1:0:592:G:H1'	1.43	0.83
1:0:871:U:O2	1:0:2247:A:H2'	1.77	0.83
1:0:652:C:H42	1:0:657:A:N6	1.76	0.83
1:0:1299:A:H2'	1:0:1301:U:OP2	1.79	0.83
1:0:2437:G:H2'	1:0:2469:G:H1	1.44	0.82
1:0:1181:C:H3'	1:0:1182:U:H5''	1.58	0.82
1:0:321:A:H2'	1:0:323:G:N7	1.93	0.82
1:0:558:G:H5''	1:0:559:C:C5	2.14	0.82
1:0:2437:G:H2'	1:0:2469:G:N1	1.94	0.82
1:0:1304:U:O2'	1:0:1305:C:H5'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:170:U:H2'	1:0:171:G:H8	1.42	0.82
1:0:547:U:H2'	1:0:548:G:C8	2.14	0.82
1:0:659:G:H2'	1:0:660:G:H8	1.43	0.82
1:0:1055:A:C2	1:0:1121:G:H2'	2.15	0.82
1:0:2058:U:H1'	1:0:2576:G:N2	1.92	0.82
1:0:2836:U:H2'	1:0:2837:G:H8	1.45	0.82
1:0:942:U:O2'	1:0:943:U:H5'	1.79	0.82
1:0:109:A:C2'	1:0:110:U:H5''	2.10	0.82
1:0:1319:C:H2'	1:0:1320:A:H8	1.43	0.82
1:0:2510:A:H61	1:0:2641:A:H61	1.27	0.82
1:0:367:G:H2'	1:0:368:A:H5''	1.62	0.81
1:0:2318:U:H2'	1:0:2319:G:H8	1.42	0.81
4:0:2881:TAO:H421	4:0:2881:TAO:H373	1.59	0.81
1:0:1182:U:H2'	1:0:1183:C:H5''	1.60	0.81
1:0:50:G:H2'	1:0:117:A:C2	2.15	0.81
1:0:1710:U:H3	1:0:1821:A:H61	1.25	0.81
1:0:1949:A:O2'	1:0:2572:U:H5'	1.80	0.81
1:0:1958:G:H2'	1:0:1959:U:C6	2.15	0.81
1:0:1886:G:H2'	1:0:1887:G:H8	1.45	0.81
1:0:658:G:H4'	1:0:2331:A:H5'	1.61	0.81
1:0:1463:A:C1'	1:0:1543:G:H22	1.94	0.81
1:0:404:A:H1'	1:0:424:G:O2'	1.80	0.81
1:0:1656:U:H2'	1:0:1657:A:H5''	1.62	0.81
1:0:2425:G:H2'	1:0:2480:C:H5	1.46	0.81
1:0:641:G:H4'	1:0:651:C:O2'	1.80	0.80
1:0:1587:A:H2'	1:0:1588:A:C8	2.17	0.80
1:0:734:G:H2'	1:0:735:G:H8	1.44	0.80
1:0:104:C:C2'	1:0:105:G:H5''	2.12	0.80
1:0:1966:C:H4'	1:0:2585:C:H4'	1.63	0.80
1:0:2532:G:C2	1:0:2533:U:H1'	2.17	0.80
1:0:2633:A:H5''	1:0:2634:G:OP1	1.80	0.80
1:0:2781:G:H2'	1:0:2782:G:C1'	2.11	0.80
1:0:681:A:C6	1:0:683:A:H2'	2.17	0.80
1:0:2456:U:H1'	1:0:2460:G:H22	1.46	0.80
1:0:2081:U:C2'	1:0:2082:C:H5''	2.12	0.79
1:0:62:U:H2'	1:0:63:A:C8	2.17	0.79
1:0:2320:G:H2'	1:0:2321:C:O4'	1.80	0.79
1:0:763:A:H2	1:0:765:C:H1'	1.46	0.79
1:0:1608:U:H2'	1:0:1609:G:H8	1.47	0.79
1:0:1698:C:O2'	1:0:1753:A:H2'	1.83	0.79
1:0:2447:G:H22	1:0:2460:G:H2'	1.46	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:652:C:N4	1:0:657:A:H61	1.80	0.79
1:0:1727:C:H4'	1:0:2833:C:N3	1.97	0.79
1:0:2474:G:H2'	1:0:2475:C:O4'	1.82	0.79
1:0:1608:U:H2'	1:0:1609:G:C8	2.18	0.79
1:0:1288:A:H62	1:0:1309:G:C4'	1.96	0.79
1:0:727:U:H2'	1:0:728:G:H5''	1.65	0.79
1:0:1690:U:H2'	1:0:1691:G:H5'	1.63	0.79
1:0:2083:G:H2'	1:0:2084:G:C8	2.17	0.79
1:0:2268:G:H5''	1:0:2363:G:O2'	1.83	0.79
1:0:1458:A:C3'	1:0:1459:U:H5''	2.11	0.78
1:0:2708:U:H2'	1:0:2709:C:C6	2.18	0.78
1:0:1348:C:H2'	1:0:1349:A:C8	2.18	0.78
1:0:1791:C:O2'	1:0:1793:A:H5'	1.83	0.78
1:0:1979:C:H6	1:0:1979:C:OP1	1.66	0.78
1:0:1996:A:O2'	1:0:1997:A:H5'	1.84	0.78
4:0:2881:TAO:C31	4:0:2881:TAO:H26	2.06	0.78
1:0:1223:G:N2	1:0:1225:G:H21	1.81	0.78
1:0:2274:C:H2'	1:0:2275:U:H5''	1.63	0.78
1:0:616:U:C2'	1:0:617:U:H5''	2.13	0.78
1:0:1479:G:H2'	1:0:1480:G:H8	1.47	0.78
1:0:547:U:H2'	1:0:548:G:H8	1.47	0.78
1:0:1066:G:H2'	1:0:1067:G:H4'	1.66	0.78
1:0:416:U:H5''	1:0:417:C:H5'	1.64	0.78
1:0:2308:A:H2'	1:0:2309:G:C8	2.19	0.78
1:0:486:U:H4'	1:0:520:C:H5'	1.64	0.78
1:0:659:G:H2'	1:0:660:G:C8	2.19	0.78
1:0:1479:G:H2'	1:0:1480:G:C8	2.19	0.78
1:0:2476:A:HO2'	1:0:2477:C:H5	0.80	0.78
1:0:2588:U:H5'	1:0:2589:C:OP2	1.84	0.78
1:0:2623:A:H2'	1:0:2624:G:O4'	1.84	0.78
1:0:2634:G:H2'	1:0:2643:G:O6	1.83	0.78
1:0:83:A:C2	1:0:98:U:H1'	2.19	0.78
1:0:542:A:H5''	1:0:542:A:H8	1.49	0.78
1:0:2829:A:H2'	1:0:2830:U:O4'	1.84	0.78
1:0:613:A:H2'	1:0:614:G:H8	1.48	0.77
1:0:651:C:H2'	1:0:652:C:H5''	1.65	0.77
1:0:922:A:H2'	1:0:923:A:H8	1.46	0.77
1:0:1288:A:H62	1:0:1309:G:H4'	1.49	0.77
1:0:1921:A:C2'	1:0:1922:U:H5''	2.15	0.77
1:0:2652:G:H2'	1:0:2653:A:H8	1.49	0.77
1:0:1763:G:H2'	1:0:1764:A:H4'	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1922:U:H1'	1:0:2570:C:O2'	1.83	0.77
1:0:2329:C:H2'	1:0:2330:G:O4'	1.83	0.77
1:0:942:U:C2'	1:0:943:U:H5'	2.15	0.77
1:0:1280:U:H3	1:0:1996:A:N6	1.82	0.77
1:0:2053:G:H2'	1:0:2054:A:C8	2.20	0.77
1:0:792:U:H2'	1:0:793:G:H5'	1.64	0.77
1:0:930:A:H3'	1:0:931:G:C8	2.20	0.77
1:0:2510:A:N6	1:0:2641:A:H61	1.83	0.77
1:0:2783:U:O2'	1:0:2784:A:H4'	1.85	0.77
1:0:1083:C:H42	1:0:1103:C:H41	1.33	0.77
1:0:190:A:H2'	1:0:191:G:C8	2.19	0.77
1:0:70:A:O3'	1:0:71:A:H3'	1.84	0.77
1:0:75:C:C2'	1:0:76:C:H5''	2.15	0.76
1:0:1284:G:C4	1:0:1633:C:H5'	2.20	0.76
1:0:2713:A:H2'	1:0:2714:A:C8	2.19	0.76
1:0:2548:G:H2'	1:0:2549:G:C5'	2.09	0.76
1:0:2059:U:OP2	1:0:2217:G:N2	2.15	0.76
1:0:1994:U:H2'	1:0:1995:G:H5'	1.67	0.76
4:0:2881:TAO:H373	4:0:2881:TAO:C42	2.15	0.76
1:0:1851:A:H61	1:0:1867:A:H1'	1.51	0.76
1:0:2650:G:O2'	1:0:2651:U:H5'	1.84	0.76
1:0:1068:A:H2'	1:0:1069:G:C8	2.20	0.76
1:0:1911:A:H2'	1:0:1912:G:H5'	1.67	0.76
1:0:574:C:H4'	1:0:1266:G:O6	1.85	0.76
1:0:1196:G:C2'	1:0:1197:U:H5'	2.15	0.76
1:0:1976:U:H2'	1:0:1977:C:C5'	2.11	0.76
1:0:462:G:H2'	1:0:463:C:C5'	2.16	0.76
1:0:2437:G:H1	1:0:2469:G:H2'	1.49	0.76
1:0:964:A:H2'	1:0:965:G:H8	1.51	0.76
1:0:185:C:O2'	1:0:186:C:H5'	1.86	0.75
1:0:1139:A:O2'	1:0:2495:G:H4'	1.85	0.75
1:0:2499:C:H41	1:0:2521:A:H2	1.31	0.75
1:0:331:U:H2'	1:0:332:C:H5''	1.68	0.75
1:0:930:A:H3'	1:0:931:G:H8	1.49	0.75
1:0:1032:A:H2'	1:0:1033:G:H4'	1.68	0.75
1:0:699:G:H21	1:0:700:C:H5''	1.51	0.75
1:0:796:A:H5''	1:0:2568:A:OP1	1.85	0.75
1:0:1040:A:H2'	1:0:1041:G:H5'	1.66	0.75
1:0:968:C:H41	1:0:970:A:H1'	1.52	0.75
1:0:2521:A:H5'	1:0:2522:G:OP1	1.86	0.75
1:0:1789:U:H2'	1:0:1790:G:H5'	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1067:G:H21	1:0:1115:C:N4	1.85	0.75
1:0:1467:U:H3'	1:0:1468:A:C5'	2.16	0.75
1:0:139:A:H2'	1:0:140:G:H8	1.52	0.75
1:0:1287:A:N1	1:0:1661:C:O2'	2.19	0.75
1:0:958:G:H2'	1:0:959:C:C6	2.20	0.75
1:0:1748:U:N3	1:0:1753:A:H2	1.82	0.75
1:0:541:C:H42	1:0:572:G:H8	1.33	0.74
1:0:734:G:H2'	1:0:735:G:C8	2.20	0.74
1:0:2158:C:H2'	1:0:2159:A:H8	1.52	0.74
1:0:2199:C:H2'	1:0:2200:G:C8	2.22	0.74
1:0:2691:C:H3'	1:0:2692:A:C5'	2.16	0.74
1:0:2756:A:N6	1:0:2762:G:H1'	2.01	0.74
1:0:2839:G:H2'	1:0:2840:U:C6	2.22	0.74
1:0:1485:U:H2'	1:0:1486:A:C8	2.22	0.74
1:0:1747:G:H4'	1:0:1749:G:H1'	1.67	0.74
1:0:1695:U:H2'	1:0:1696:C:O4'	1.87	0.74
1:0:759:C:C1'	1:0:761:G:H21	2.00	0.74
1:0:2353:G:H2'	1:0:2354:G:C8	2.23	0.74
1:0:187:U:H2'	1:0:188:G:H8	1.53	0.74
1:0:2782:G:H3'	1:0:2783:U:H5''	1.68	0.74
1:0:1336:G:C2'	1:0:1337:G:H5'	2.18	0.74
1:0:2083:G:H2'	1:0:2084:G:H8	1.53	0.74
1:0:2825:A:H2'	1:0:2826:C:C6	2.23	0.74
1:0:1223:G:H21	1:0:1225:G:H21	1.36	0.74
1:0:1617:G:H2'	1:0:1618:U:H5'	1.68	0.74
1:0:2059:U:H2'	1:0:2060:A:C5'	2.17	0.74
1:0:2861:A:H2'	1:0:2862:G:H8	1.53	0.74
1:0:2674:C:H2'	1:0:2675:U:C6	2.23	0.74
1:0:168:A:H2'	1:0:169:C:C6	2.22	0.73
1:0:953:G:H1'	1:0:1203:A:H2	1.53	0.73
1:0:1825:C:O2'	1:0:1826:U:H5'	1.87	0.73
1:0:2787:A:O2'	1:0:2788:C:H5'	1.88	0.73
1:0:2409:A:C2'	1:0:2410:U:H5'	2.18	0.73
1:0:2557:G:H2'	1:0:2557:G:N3	2.04	0.73
1:0:2608:A:O2'	1:0:2609:G:H5'	1.88	0.73
1:0:103:U:H2'	1:0:104:C:H6	1.48	0.73
1:0:2764:U:H2'	1:0:2765:C:C6	2.22	0.73
1:0:76:C:H6	1:0:76:C:H5'	1.52	0.73
1:0:459:A:H1'	1:0:461:A:N6	2.03	0.73
1:0:1197:U:H2'	1:0:1198:C:O4'	1.89	0.73
1:0:37:C:H2'	1:0:38:G:C8	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1459:U:OP1	1:0:1459:U:H3'	1.88	0.73
1:0:2308:A:H2'	1:0:2309:G:H8	1.52	0.73
1:0:591:G:H2'	1:0:592:G:H8	1.53	0.73
1:0:1295:U:H2'	1:0:1296:G:H5'	1.70	0.73
1:0:2176:U:H2'	1:0:2177:U:O4'	1.89	0.73
1:0:2324:G:O2'	1:0:2325:A:H5''	1.88	0.73
1:0:208:C:H2'	1:0:209:G:H5'	1.68	0.73
1:0:762:A:H2'	1:0:763:A:H8	1.52	0.73
1:0:1336:G:H2'	1:0:1337:G:H5'	1.71	0.73
1:0:2185:U:H2'	1:0:2186:G:C8	2.23	0.73
1:0:2409:A:H2'	1:0:2410:U:H5'	1.71	0.73
1:0:873:U:C2	1:0:2246:A:H5''	2.24	0.73
1:0:1073:G:H3'	1:0:1074:G:H5''	1.71	0.73
1:0:1086:C:H2'	1:0:1087:C:H5''	1.69	0.73
1:0:1598:C:H2'	1:0:1599:G:O4'	1.88	0.73
1:0:1789:U:O2'	1:0:1793:A:H1'	1.89	0.72
1:0:1869:A:H2'	1:0:1870:U:O4'	1.89	0.72
1:0:2279:G:H2'	1:0:2280:A:H8	1.53	0.72
1:0:1436:G:H21	1:0:1514:C:H1'	1.53	0.72
1:0:1466:C:H2'	1:0:1467:U:O4'	1.88	0.72
1:0:1055:A:H2	1:0:1121:G:H2'	1.52	0.72
1:0:14:A:H62	1:0:15:G:N2	1.87	0.72
1:0:146:C:H2'	1:0:147:G:C8	2.25	0.72
1:0:195:A:N1	1:0:212:U:H4'	2.05	0.72
1:0:1982:C:H4'	1:0:2703:C:O2	1.88	0.72
1:0:2503:G:H2'	1:0:2504:G:H5''	1.71	0.72
1:0:77:C:H2'	1:0:78:C:C6	2.25	0.72
1:0:2266:A:C2	1:0:2268:G:H1'	2.25	0.72
1:0:2549:G:C2	1:0:2550:C:H1'	2.25	0.72
1:0:2605:C:H2'	1:0:2606:G:O4'	1.90	0.72
1:0:2861:A:H2'	1:0:2862:G:C8	2.25	0.72
1:0:2414:A:C2'	1:0:2415:G:H5''	2.20	0.72
1:0:820:U:H2'	1:0:821:A:C8	2.24	0.72
1:0:2754:C:H2'	1:0:2755:A:C8	2.25	0.72
1:0:163:A:H2'	1:0:164:G:H8	1.54	0.72
1:0:459:A:H1'	1:0:461:A:H62	1.54	0.72
1:0:705:C:H2'	1:0:706:A:C8	2.25	0.72
1:0:1226:A:C2	1:0:1250:A:H1'	2.24	0.72
1:0:1371:G:H1'	1:0:1386:A:N6	2.05	0.72
1:0:1949:A:H1'	1:0:2572:U:H4'	1.71	0.72
1:0:2433:G:H2'	1:0:2434:G:H8	1.55	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1485:U:H2'	1:0:1486:A:H8	1.55	0.71
1:0:2199:C:H2'	1:0:2200:G:H8	1.54	0.71
1:0:2764:U:H2'	1:0:2765:C:H6	1.55	0.71
1:0:69:G:H5''	1:0:70:A:OP1	1.89	0.71
1:0:118:U:H1'	1:0:143:A:C8	2.26	0.71
1:0:843:G:O2'	1:0:844:G:OP1	2.08	0.71
1:0:890:U:H2'	1:0:891:A:C8	2.25	0.71
1:0:929:A:H2'	1:0:930:A:H4'	1.73	0.71
1:0:2617:G:HO2'	1:0:2618:A:H8	1.37	0.71
1:0:857:U:C2'	1:0:858:G:H5'	2.20	0.71
1:0:1685:A:N6	1:0:1691:G:C4	2.59	0.71
1:0:2788:C:O2'	1:0:2789:U:H5'	1.90	0.71
1:0:225:G:C5'	1:0:226:C:H5'	2.21	0.71
1:0:1502:G:O2'	1:0:1503:G:H5'	1.91	0.71
1:0:1838:G:H2'	1:0:1839:A:H5'	1.72	0.71
1:0:2306:A:H2'	1:0:2307:A:C8	2.26	0.71
1:0:37:C:H4'	1:0:463:C:OP1	1.91	0.71
1:0:441:A:H2'	1:0:442:A:O4'	1.90	0.71
1:0:683:A:H5''	1:0:684:C:OP1	1.91	0.71
1:0:1811:A:H1'	1:0:1813:A:C5	2.25	0.71
1:0:1195:U:H2'	1:0:1196:G:C8	2.26	0.71
1:0:28:A:N6	1:0:522:G:H4'	2.05	0.71
1:0:176:A:H3'	1:0:177:U:C5	2.26	0.71
1:0:762:A:H2'	1:0:763:A:C8	2.26	0.71
1:0:451:A:H2'	1:0:452:G:C8	2.26	0.71
1:0:1407:G:H2'	1:0:1408:A:C8	2.26	0.71
1:0:1826:U:O2'	1:0:1952:A:H2'	1.91	0.71
1:0:2691:C:C3'	1:0:2692:A:H5''	2.20	0.71
1:0:58:C:H3'	1:0:59:G:C5'	2.19	0.70
1:0:109:A:C3'	1:0:110:U:H5''	2.21	0.70
1:0:689:A:H8	1:0:2052:G:H21	1.37	0.70
1:0:773:G:C2'	1:0:774:A:H5'	2.21	0.70
1:0:1256:C:H2'	1:0:1257:U:C6	2.26	0.70
1:0:1267:A:H5''	1:0:1268:U:C5'	2.20	0.70
1:0:2158:C:H2'	1:0:2159:A:C8	2.26	0.70
1:0:2642:G:O2'	1:0:2643:G:H5'	1.90	0.70
1:0:37:C:H2'	1:0:38:G:H8	1.56	0.70
1:0:357:A:H3'	1:0:358:C:O4'	1.92	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:718:A:O2'	1:0:719:A:H5'	1.91	0.70
1:0:1774:A:C5'	1:0:2587:G:H4'	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2686:C:H2'	1:0:2687:G:C8	2.26	0.70
1:0:2785:A:H2'	1:0:2786:G:O4'	1.92	0.70
1:0:813:A:O2'	1:0:815:A:H5'	1.90	0.70
1:0:813:A:H1'	1:0:815:A:H4'	1.72	0.70
1:0:979:A:H2'	1:0:980:G:O4'	1.92	0.70
1:0:1271:C:H2'	1:0:1272:G:C8	2.26	0.70
1:0:2053:G:H2'	1:0:2054:A:H8	1.55	0.70
1:0:2642:G:H2'	1:0:2643:G:O4'	1.89	0.70
1:0:2768:C:H1'	1:0:2784:A:N7	2.07	0.70
1:0:17:G:H2'	1:0:18:U:C6	2.27	0.70
1:0:699:G:H3'	1:0:699:G:N3	2.07	0.70
1:0:940:G:N7	1:0:941:U:C6	2.59	0.70
1:0:984:A:H1'	1:0:1202:U:C5	2.27	0.70
1:0:1091:C:H2'	1:0:1092:U:C6	2.26	0.70
1:0:1204:G:H2'	1:0:1205:G:C8	2.25	0.70
1:0:1354:A:O2'	1:0:1355:A:OP1	2.09	0.70
1:0:1953:A:H1'	1:0:1955:G:C1'	2.20	0.70
1:0:508:G:H1	1:0:516:G:H22	1.37	0.70
1:0:976:C:H5'	1:0:2252:A:C1'	2.21	0.70
1:0:1125:G:O2'	1:0:1126:A:H5'	1.92	0.70
1:0:2669:C:O2	1:0:2669:C:H2'	1.91	0.70
1:0:815:A:H2'	1:0:816:U:O4'	1.92	0.70
1:0:930:A:H5'	1:0:931:G:N7	2.06	0.70
1:0:1065:A:H2'	1:0:1066:G:H8	1.55	0.70
1:0:1547:U:H2'	1:0:1548:U:C6	2.27	0.70
1:0:2038:C:H5'	1:0:2039:G:H5''	1.73	0.70
1:0:114:C:O2'	1:0:124:A:H1'	1.92	0.70
1:0:210:A:N6	1:0:442:A:H61	1.89	0.70
1:0:490:A:O2'	1:0:491:A:H5'	1.92	0.70
1:0:1293:A:O2'	1:0:1294:G:H5'	1.92	0.70
1:0:1317:G:O2'	1:0:1318:A:H5'	1.92	0.70
1:0:2618:A:C2	1:0:2619:G:H1'	2.27	0.70
1:0:2658:A:O2'	1:0:2659:C:H5'	1.92	0.70
1:0:83:A:H8	1:0:83:A:O5'	1.74	0.70
1:0:414:A:H2'	1:0:415:A:O4'	1.91	0.70
1:0:1677:C:O2'	1:0:1678:G:H5'	1.92	0.69
1:0:1804:U:H2'	1:0:1805:G:C8	2.26	0.69
1:0:651:C:C2'	1:0:652:C:H5''	2.22	0.69
1:0:2162:C:H2'	1:0:2163:U:C6	2.27	0.69
1:0:2613:A:O2'	1:0:2614:A:H5'	1.92	0.69
1:0:88:G:H3'	1:0:89:A:C5'	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:162:C:H2'	1:0:163:A:C8	2.26	0.69
1:0:1560:A:H2'	1:0:1561:A:O4'	1.93	0.69
1:0:1972:G:H2'	1:0:1973:C:O4'	1.92	0.69
1:0:2038:C:H2'	1:0:2483:U:C4'	2.23	0.69
1:0:2015:G:N2	1:0:2038:C:H1'	2.08	0.69
1:0:2491:C:H2'	1:0:2492:G:O4'	1.91	0.69
1:0:174:A:C4'	1:0:2051:U:H2'	2.23	0.69
1:0:1194:U:H2'	1:0:1195:U:C6	2.27	0.69
1:0:2034:A:H5'	1:0:2557:G:O4'	1.92	0.69
1:0:1991:C:H2'	1:0:1992:G:H8	1.56	0.69
1:0:2030:U:H2'	1:0:2031:A:H8	1.58	0.69
1:0:401:G:H2'	1:0:403:A:N7	2.08	0.69
1:0:564:U:H2'	1:0:565:A:C8	2.28	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.07	0.69
1:0:1284:G:C2	1:0:1633:C:H5'	2.27	0.69
1:0:71:A:N6	1:0:110:U:H4'	2.08	0.69
1:0:73:A:N3	1:0:73:A:H5''	2.08	0.69
1:0:639:G:H2'	1:0:640:C:C6	2.28	0.69
1:0:663:G:H2'	1:0:664:C:O4'	1.92	0.69
1:0:1181:C:C3'	1:0:1182:U:H5''	2.23	0.69
1:0:1301:U:H5''	1:0:1302:C:OP1	1.93	0.69
1:0:1618:U:C6	1:0:1618:U:O5'	2.45	0.69
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.69
1:0:2438:A:N6	1:0:2473:G:C6	2.61	0.69
1:0:2756:A:C6	1:0:2762:G:H1'	2.28	0.69
1:0:2001:G:H2'	1:0:2002:A:C8	2.27	0.69
1:0:2872:U:H2'	1:0:2873:G:H8	1.56	0.69
1:0:681:A:N6	1:0:683:A:H2'	2.07	0.69
1:0:719:A:H2'	1:0:720:A:O4'	1.93	0.69
1:0:870:C:H2'	1:0:871:U:C6	2.29	0.69
1:0:1325:U:H4'	1:0:1326:U:C5	2.27	0.69
1:0:79:G:H2'	1:0:80:A:C8	2.28	0.68
1:0:1429:A:H62	1:0:1601:U:H5''	1.57	0.68
1:0:1471:G:H1	1:0:2682:C:H42	1.39	0.68
1:0:1974:U:H2'	1:0:1975:G:H5''	1.75	0.68
1:0:788:G:N2	1:0:801:A:OP2	2.25	0.68
1:0:811:G:O2'	1:0:812:G:H5'	1.92	0.68
1:0:968:C:N4	1:0:970:A:H1'	2.08	0.68
1:0:1196:G:H2'	1:0:1197:U:O4'	1.94	0.68
1:0:1970:G:O2'	1:0:1971:C:H5'	1.93	0.68
1:0:242:A:N6	1:0:441:A:N7	2.42	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:541:C:N4	1:0:572:G:H8	1.91	0.68
1:0:1440:G:H1'	1:0:1588:A:N6	2.07	0.68
1:0:1587:A:H2'	1:0:1588:A:H8	1.57	0.68
1:0:2595:C:H2'	1:0:2596:C:C6	2.29	0.68
1:0:1102:G:H2'	1:0:1103:C:H6	1.56	0.68
1:0:1191:G:H2'	1:0:1192:A:H8	1.57	0.68
1:0:1727:C:H4'	1:0:2833:C:C2	2.29	0.68
1:0:1763:G:H21	1:0:1765:C:H5''	1.56	0.68
1:0:2549:G:N2	1:0:2550:C:H1'	2.08	0.68
1:0:2678:C:H2'	1:0:2679:G:C8	2.29	0.68
1:0:2791:C:C2	1:0:2806:G:N2	2.61	0.68
1:0:225:G:H5'	1:0:226:C:H5'	1.75	0.68
1:0:612:G:O3'	1:0:613:A:H4'	1.94	0.68
1:0:1162:A:O2'	1:0:1163:C:H5'	1.93	0.68
1:0:1807:A:O2'	1:0:1808:C:H4'	1.94	0.68
1:0:2034:A:N6	1:0:2593:A:N7	2.42	0.68
1:0:2498:U:OP1	1:0:2498:U:H3'	1.93	0.68
1:0:538:A:H2'	1:0:539:A:H5''	1.75	0.68
1:0:931:G:O2'	1:0:932:G:H5'	1.93	0.68
1:0:2456:U:H1'	1:0:2460:G:N2	2.08	0.68
1:0:475:U:H1'	1:0:801:A:N1	2.08	0.68
1:0:861:G:N2	1:0:943:U:O2'	2.27	0.68
1:0:1036:G:H1'	1:0:1145:C:H4'	1.76	0.68
1:0:2261:G:H4'	1:0:2262:C:OP2	1.92	0.68
1:0:2273:C:H2'	1:0:2274:C:H6	1.58	0.68
1:0:462:G:H2'	1:0:463:C:H5''	1.76	0.68
1:0:1141:U:O2'	1:0:1142:G:OP1	2.12	0.68
1:0:685:U:O2'	1:0:686:C:H5'	1.93	0.68
1:0:837:U:H2'	1:0:838:A:C8	2.29	0.68
1:0:1347:C:O2'	1:0:1348:C:H5'	1.93	0.68
1:0:1858:C:H2'	1:0:1859:A:H8	1.59	0.68
1:0:1994:U:C2'	1:0:1995:G:H5'	2.24	0.68
1:0:2781:G:H2'	1:0:2782:G:O4'	1.94	0.68
1:0:1073:G:H2'	1:0:1074:G:C4'	2.19	0.67
1:0:1271:C:H2'	1:0:1272:G:H8	1.59	0.67
1:0:1346:C:H6	1:0:1346:C:P	2.17	0.67
1:0:2194:A:C2'	1:0:2195:C:H5''	2.24	0.67
1:0:2559:U:C2'	1:0:2560:G:H5'	2.23	0.67
1:0:1591:U:H2'	1:0:1592:U:O4'	1.93	0.67
1:0:317:U:H3	1:0:321:A:H62	1.39	0.67
1:0:759:C:H1'	1:0:761:G:N2	2.07	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1456:C:O2'	1:0:1457:A:H5'	1.94	0.67
1:0:1621:C:O2'	1:0:1626:A:N7	2.26	0.67
1:0:1685:A:H1'	1:0:1686:A:C2	2.29	0.67
1:0:2686:C:H2'	1:0:2687:G:H8	1.59	0.67
1:0:1036:G:H1'	1:0:1145:C:C4'	2.25	0.67
1:0:1259:A:O2'	1:0:1260:A:H5'	1.94	0.67
1:0:1653:C:H2'	1:0:1654:A:C8	2.29	0.67
1:0:1319:C:H2'	1:0:1320:A:C8	2.28	0.67
1:0:1437:A:O2'	1:0:1438:G:H5'	1.93	0.67
1:0:1750:A:H1'	1:0:2690:A:C2	2.29	0.67
1:0:2198:U:C3'	1:0:2199:C:H5''	2.25	0.67
1:0:2761:A:H5''	1:0:2762:G:C5'	2.23	0.67
1:0:1259:A:C2'	1:0:1260:A:H5'	2.24	0.67
1:0:1685:A:N6	1:0:1691:G:N3	2.43	0.67
1:0:2549:G:H2'	1:0:2550:C:O4'	1.94	0.67
1:0:2633:A:N6	1:0:2646:C:N4	2.41	0.67
1:0:1313:U:H4'	1:0:1314:A:O5'	1.95	0.67
1:0:1588:A:H2'	1:0:1589:G:H8	1.58	0.67
1:0:1825:C:C2'	1:0:1826:U:H5'	2.25	0.67
1:0:2427:A:H5'	1:0:2428:U:H5''	1.75	0.67
1:0:2870:C:H2'	1:0:2871:U:H6	1.59	0.67
1:0:115:G:C6	1:0:117:A:N6	2.63	0.67
1:0:888:G:H2'	1:0:889:C:O4'	1.95	0.67
1:0:1918:G:H1'	1:0:1947:G:C2	2.30	0.67
1:0:2409:A:O2'	1:0:2410:U:H5'	1.94	0.67
1:0:346:C:O2'	1:0:347:C:H5'	1.95	0.67
1:0:2636:A:H62	1:0:2643:G:N2	1.92	0.67
1:0:425:A:H2'	1:0:426:C:O4'	1.94	0.67
1:0:1194:U:H2'	1:0:1195:U:C5	2.29	0.67
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.66
1:0:597:U:H3	1:0:683:A:HO2'	1.43	0.66
1:0:879:A:H2'	1:0:879:A:N3	2.09	0.66
1:0:2105:U:H2'	1:0:2106:G:C8	2.30	0.66
1:0:2463:G:O2'	1:0:2464:G:H5'	1.95	0.66
1:0:524:A:O2'	1:0:525:A:H5'	1.95	0.66
1:0:873:U:H1'	1:0:2246:A:OP1	1.96	0.66
1:0:1226:A:C4	1:0:1250:A:N3	2.63	0.66
1:0:631:G:H5''	1:0:632:A:OP1	1.95	0.66
1:0:689:A:C8	1:0:2422:C:H1'	2.30	0.66
1:0:1225:G:H2'	1:0:1249:G:H22	1.58	0.66
1:0:2164:G:H2'	1:0:2165:A:H8	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2318:U:H2'	1:0:2319:G:C8	2.28	0.66
1:0:81:C:H2'	1:0:82:G:O4'	1.95	0.66
1:0:692:C:H2'	1:0:693:A:H8	1.60	0.66
1:0:697:G:O2'	1:0:698:A:H5'	1.95	0.66
1:0:1352:G:H2'	1:0:1353:A:C8	2.31	0.66
1:0:1821:A:H3'	1:0:1822:C:H6	1.61	0.66
1:0:313:U:H2'	1:0:314:G:C8	2.30	0.66
1:0:490:A:N7	1:0:492:G:H1'	2.11	0.66
1:0:826:U:O2'	1:0:1238:A:H1'	1.95	0.66
1:0:1459:U:P	1:0:1459:U:H6	2.19	0.66
1:0:1953:A:H1'	1:0:1955:G:H1'	1.75	0.66
1:0:2057:U:H2'	1:0:2058:U:C6	2.30	0.66
1:0:176:A:H3'	1:0:177:U:H5	1.60	0.66
1:0:427:C:H2'	1:0:428:A:H8	1.59	0.66
1:0:632:A:H2'	1:0:633:G:O4'	1.96	0.66
1:0:835:U:H2'	1:0:836:G:C8	2.31	0.66
1:0:837:U:H2'	1:0:838:A:H8	1.60	0.66
1:0:1374:G:O2'	1:0:2193:C:H1'	1.96	0.66
1:0:2678:C:H2'	1:0:2679:G:H8	1.60	0.66
1:0:1196:G:H2'	1:0:1197:U:C5'	2.26	0.66
1:0:1323:G:H1'	1:0:1627:C:C5'	2.26	0.66
1:0:216:U:H5''	1:0:601:A:N6	2.11	0.66
1:0:437:G:O2'	1:0:438:G:H5'	1.96	0.66
1:0:618:A:H2'	1:0:619:A:O4'	1.95	0.66
1:0:1101:U:H3	1:0:1113:C:H1'	1.60	0.66
1:0:1242:A:H2'	1:0:1243:G:H8	1.57	0.66
1:0:1491:C:H2'	1:0:1492:A:H8	1.61	0.66
1:0:1830:C:N4	1:0:1881:U:H3'	2.11	0.66
1:0:2495:G:H2'	1:0:2496:C:O4'	1.95	0.66
1:0:2761:A:C5'	1:0:2762:G:H5'	2.22	0.66
1:0:2770:A:C4'	1:0:2867:G:H22	2.06	0.66
1:0:162:C:H4'	1:0:195:A:H4'	1.77	0.65
1:0:951:G:C3'	1:0:952:A:H5''	2.26	0.65
1:0:2609:G:H21	1:0:2866:A:H2	1.44	0.65
1:0:2754:C:H2'	1:0:2755:A:H8	1.61	0.65
1:0:1055:A:OP1	1:0:1057:A:H5'	1.96	0.65
1:0:1588:A:H2'	1:0:1589:G:C8	2.32	0.65
1:0:2299:A:H5'	1:0:2300:G:C5	2.29	0.65
1:0:2633:A:N6	1:0:2646:C:H42	1.94	0.65
1:0:2770:A:H5'	1:0:2867:G:H1	1.60	0.65
1:0:192:G:C1'	1:0:193:A:H4'	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:362:C:C2'	1:0:363:G:H4'	2.17	0.65
1:0:1958:G:H2'	1:0:1959:U:H6	1.56	0.65
1:0:2657:G:O2'	1:0:2658:A:H5'	1.97	0.65
1:0:705:C:H2'	1:0:706:A:H8	1.62	0.65
1:0:931:G:C2'	1:0:932:G:H5'	2.26	0.65
1:0:1196:G:H2'	1:0:1197:U:H5'	1.77	0.65
1:0:2119:A:O2'	1:0:2120:C:H5'	1.96	0.65
1:0:2273:C:H2'	1:0:2274:C:C6	2.31	0.65
1:0:245:C:H5'	1:0:372:U:O2'	1.96	0.65
1:0:818:G:O6	1:0:2051:U:H5'	1.97	0.65
1:0:1004:A:H2'	1:0:1005:U:C5'	2.26	0.65
1:0:1669:A:N6	1:0:1670:G:H21	1.94	0.65
1:0:2011:U:H2'	1:0:2012:A:C8	2.31	0.65
1:0:174:A:H2	1:0:2413:A:H62	1.44	0.65
1:0:870:C:H2'	1:0:871:U:H6	1.61	0.65
1:0:1680:U:H6	1:0:1680:U:H5'	1.61	0.65
1:0:2466:G:H2'	1:0:2467:A:C8	2.32	0.65
1:0:190:A:H2'	1:0:191:G:H8	1.60	0.65
1:0:1514:C:H5'	1:0:1593:C:C5'	2.27	0.65
1:0:1654:A:H4'	1:0:2690:A:O2'	1.96	0.65
1:0:1683:G:N7	1:0:1684:G:N2	2.45	0.65
1:0:1975:G:N2	1:0:1978:U:H5	1.94	0.65
1:0:2194:A:H2'	1:0:2195:C:H5''	1.79	0.65
1:0:2363:G:H5''	1:0:2365:U:OP1	1.95	0.65
1:0:1679:U:H2'	1:0:1680:U:C5'	2.15	0.65
1:0:133:C:H2'	1:0:134:G:O4'	1.96	0.65
1:0:583:C:O2'	1:0:584:A:OP2	2.14	0.65
1:0:927:C:H2'	1:0:928:G:O4'	1.96	0.65
1:0:1949:A:H1'	1:0:2572:U:C4'	2.27	0.65
1:0:1964:A:OP1	1:0:1965:U:OP2	2.13	0.65
1:0:1356:G:H1'	1:0:1613:G:C2	2.32	0.65
1:0:1594:U:H2'	1:0:1595:A:H8	1.62	0.65
1:0:1811:A:H1'	1:0:1813:A:C4	2.32	0.65
1:0:2757:G:H5'	1:0:2761:A:H1'	1.78	0.65
1:0:208:C:C2'	1:0:209:G:H5'	2.27	0.64
1:0:646:C:O2	1:0:650:U:H4'	1.97	0.64
1:0:669:G:H2'	1:0:670:U:C6	2.32	0.64
1:0:835:U:H2'	1:0:836:G:H8	1.59	0.64
1:0:1253:C:H2'	1:0:1254:G:O4'	1.97	0.64
1:0:2122:G:H2'	1:0:2123:G:C8	2.32	0.64
1:0:2753:C:H2'	1:0:2754:C:H6	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2274:C:H2'	1:0:2275:U:C5'	2.27	0.64
1:0:2375:G:H2'	1:0:2376:G:H8	1.62	0.64
1:0:9:U:H3	1:0:2608:A:N6	1.95	0.64
1:0:139:A:H2'	1:0:140:G:C8	2.32	0.64
1:0:388:G:O2'	1:0:389:G:H5'	1.97	0.64
1:0:483:A:H2'	1:0:484:G:H5'	1.79	0.64
1:0:788:G:H2'	1:0:807:A:C5	2.31	0.64
1:0:1280:U:O2	1:0:1280:U:H2'	1.96	0.64
1:0:1436:G:H2'	1:0:1437:A:C8	2.33	0.64
1:0:1540:C:H2'	1:0:1541:G:O4'	1.97	0.64
1:0:1644:G:O2'	1:0:1645:U:H5'	1.98	0.64
1:0:2484:G:C8	1:0:2555:G:N2	2.65	0.64
1:0:2828:C:O2'	1:0:2829:A:H5'	1.97	0.64
1:0:187:U:H2'	1:0:188:G:C8	2.32	0.64
1:0:792:U:H2'	1:0:793:G:C5'	2.26	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.33	0.64
1:0:1026:U:H2'	1:0:1027:C:C6	2.33	0.64
1:0:1697:U:H2'	1:0:1698:C:O4'	1.96	0.64
1:0:2082:C:H2'	1:0:2083:G:O4'	1.97	0.64
1:0:2497:A:H5''	1:0:2498:U:OP2	1.97	0.64
1:0:777:A:H62	1:0:1767:G:H1'	1.62	0.64
1:0:2510:A:H61	1:0:2641:A:N6	1.94	0.64
1:0:2769:C:O2'	1:0:2866:A:N1	2.30	0.64
1:0:542:A:N6	1:0:570:G:H21	1.96	0.64
1:0:782:U:H2'	1:0:783:G:C8	2.33	0.64
1:0:792:U:O2'	1:0:793:G:H5'	1.97	0.64
1:0:2104:G:H2'	1:0:2105:U:H6	1.63	0.64
1:0:2651:U:O2'	1:0:2652:G:H5'	1.97	0.64
1:0:612:G:H4'	1:0:613:A:O2'	1.98	0.64
1:0:1956:G:H2'	1:0:1957:C:C6	2.33	0.64
1:0:2398:U:H2'	1:0:2399:C:C6	2.32	0.64
1:0:2447:G:C8	1:0:2455:A:N6	2.63	0.64
1:0:2617:G:O2'	1:0:2618:A:H8	1.81	0.64
1:0:2705:A:O2'	1:0:2706:U:C6	2.51	0.64
1:0:165:G:H2'	1:0:166:G:O4'	1.98	0.64
1:0:333:A:O2'	1:0:350:U:H2'	1.98	0.64
1:0:2202:G:H2'	1:0:2203:G:O4'	1.98	0.64
1:0:170:U:H2'	1:0:171:G:C8	2.29	0.64
1:0:587:A:OP1	1:0:1268:U:O2'	2.11	0.64
1:0:755:C:H2'	1:0:756:C:H6	1.63	0.64
1:0:1621:C:H2'	1:0:1622:G:O4'	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1938:U:O2'	1:0:1939:U:OP1	2.15	0.64
1:0:2407:G:H5'	1:0:2408:G:C2	2.33	0.64
1:0:84:G:O2'	1:0:85:C:H5'	1.97	0.63
1:0:114:C:H4'	1:0:124:A:O2'	1.97	0.63
1:0:639:G:H2'	1:0:640:C:H6	1.63	0.63
1:0:1065:A:H2'	1:0:1066:G:C8	2.33	0.63
1:0:1713:G:N7	1:0:1714:A:N7	2.45	0.63
1:0:1871:G:H2'	1:0:1871:G:N3	2.14	0.63
1:0:2204:A:O2'	1:0:2205:C:OP2	2.14	0.63
1:0:2721:A:H2'	1:0:2722:C:O4'	1.97	0.63
1:0:128:C:H2'	1:0:129:A:C4'	2.28	0.63
1:0:1312:G:H5''	1:0:1313:U:C5'	2.28	0.63
1:0:2195:C:H2'	1:0:2196:U:H5'	1.79	0.63
1:0:1534:A:O2'	1:0:1535:C:H5'	1.98	0.63
1:0:2173:G:H2'	1:0:2174:G:O4'	1.98	0.63
1:0:239:A:H4'	1:0:620:G:H5'	1.80	0.63
1:0:760:U:O2	1:0:1997:A:H1'	1.98	0.63
1:0:788:G:H2'	1:0:807:A:N7	2.12	0.63
1:0:246:C:H42	1:0:247:A:H62	1.46	0.63
1:0:443:A:O2'	1:0:444:U:H5'	1.98	0.63
1:0:752:G:H5'	1:0:753:U:OP1	1.99	0.63
1:0:1854:G:H2'	1:0:1855:G:H8	1.63	0.63
1:0:69:G:H4'	1:0:70:A:O5'	1.97	0.63
1:0:308:C:H2'	1:0:309:G:O4'	1.97	0.63
1:0:657:A:H2'	1:0:658:G:C8	2.33	0.63
1:0:692:C:H2'	1:0:693:A:C8	2.33	0.63
1:0:2010:G:H2'	1:0:2011:U:C6	2.33	0.63
1:0:141:G:H2'	1:0:142:U:C6	2.34	0.63
1:0:427:C:H2'	1:0:428:A:C8	2.33	0.63
1:0:584:A:O2'	1:0:585:U:H5'	1.99	0.63
1:0:1681:A:C2	1:0:2706:U:H1'	2.34	0.63
1:0:2160:C:H2'	1:0:2161:C:C6	2.34	0.63
1:0:2546:G:H2'	1:0:2547:C:H6	1.64	0.63
1:0:236:C:H2'	1:0:237:G:H8	1.64	0.63
1:0:995:A:H5''	1:0:996:C:H5	1.63	0.63
1:0:1278:A:O2'	1:0:1279:G:P	2.56	0.63
1:0:1333:G:N2	1:0:1344:C:H41	1.97	0.63
1:0:1459:U:H6	1:0:1459:U:O5'	1.82	0.63
1:0:2104:G:H2'	1:0:2105:U:C6	2.34	0.63
1:0:2243:C:H2'	1:0:2244:C:O4'	1.99	0.63
1:0:2395:C:H2'	1:0:2396:C:H5''	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:651:C:C3'	1:0:652:C:H5''	2.29	0.63
1:0:1101:U:N3	1:0:1113:C:H1'	2.13	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.98	0.63
1:0:1517:C:H2'	1:0:1518:C:C6	2.34	0.63
1:0:746:G:N7	1:0:774:A:C5	2.66	0.62
1:0:1333:G:N7	1:0:1342:U:H5'	2.13	0.62
1:0:2820:C:H2'	1:0:2821:G:H8	1.63	0.62
1:0:38:G:H1	1:0:453:U:H3	1.47	0.62
1:0:1095:A:H2'	1:0:1096:A:O4'	1.99	0.62
1:0:1313:U:H5'	1:0:1314:A:N3	2.14	0.62
1:0:1571:G:H3'	1:0:1571:G:OP2	1.99	0.62
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.62
1:0:2324:G:N3	1:0:2326:C:H5	1.97	0.62
1:0:2712:G:H3'	1:0:2713:A:H5'	1.82	0.62
1:0:71:A:O2'	1:0:72:A:OP1	2.18	0.62
1:0:697:G:H1	1:0:807:A:H2	1.47	0.62
1:0:726:G:H2'	1:0:727:U:O4'	1.98	0.62
1:0:732:G:H8	1:0:732:G:O5'	1.81	0.62
1:0:770:U:O2'	1:0:771:C:H5'	1.99	0.62
1:0:1558:C:C2'	1:0:1559:G:H5'	2.29	0.62
1:0:2470:U:H2'	1:0:2471:U:H6	1.64	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.64	0.62
1:0:334:G:N3	1:0:344:G:H1'	2.15	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62
1:0:1430:G:H2'	1:0:1431:U:C6	2.34	0.62
1:0:1604:A:H2'	1:0:1605:A:O4'	1.99	0.62
1:0:2299:A:H5'	1:0:2300:G:N9	2.15	0.62
1:0:2447:G:H8	1:0:2447:G:O5'	1.81	0.62
1:0:2770:A:C5'	1:0:2867:G:H1	2.13	0.62
1:0:428:A:H2'	1:0:429:C:H6	1.65	0.62
1:0:520:C:O2'	1:0:1249:G:H5'	1.99	0.62
1:0:577:U:H2'	1:0:579:G:OP2	1.99	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.82	0.62
1:0:2002:A:H2'	1:0:2003:A:O5'	2.00	0.62
1:0:2559:U:H2'	1:0:2560:G:H5'	1.79	0.62
1:0:452:G:H2'	1:0:453:U:O4'	1.99	0.62
1:0:757:U:C2	1:0:767:G:N2	2.67	0.62
1:0:831:G:C2'	1:0:832:A:H5''	2.30	0.62
1:0:871:U:H1'	1:0:2248:A:H5''	1.81	0.62
1:0:2002:A:C2'	1:0:2003:A:O5'	2.48	0.62
1:0:2737:A:H2'	1:0:2738:A:H5'	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2759:U:O5'	1:0:2759:U:H6	1.81	0.62
1:0:2770:A:H4'	1:0:2867:G:N2	2.10	0.62
1:0:847:C:H41	1:0:955:G:N2	1.85	0.62
1:0:936:A:H2'	1:0:937:C:C6	2.35	0.62
1:0:1590:C:O5'	1:0:1590:C:H6	1.83	0.62
1:0:1856:U:H2'	1:0:1857:G:O4'	2.00	0.62
1:0:551:A:C2	1:0:562:G:C2	2.88	0.62
1:0:763:A:C2	1:0:765:C:H1'	2.32	0.62
1:0:1388:C:H2'	1:0:1389:C:H6	1.65	0.62
4:0:2881:TAO:H421	4:0:2881:TAO:C37	2.28	0.62
1:0:68:C:O2	1:0:68:C:H2'	1.98	0.62
1:0:485:G:O6	1:0:520:C:N4	2.33	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1281:A:C2	1:0:1996:A:C4	2.88	0.62
1:0:2081:U:H2'	1:0:2082:C:C5'	2.24	0.62
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.61
1:0:2491:C:H2'	1:0:2492:G:C4'	2.30	0.61
1:0:14:A:N6	1:0:15:G:C2	2.68	0.61
1:0:773:G:H2'	1:0:774:A:H5'	1.82	0.61
1:0:1029:C:H3'	1:0:1030:U:H5''	1.82	0.61
1:0:1399:C:O2'	1:0:1400:A:H5'	2.00	0.61
1:0:1602:G:O3'	1:0:1603:A:H8	1.83	0.61
1:0:2177:U:H2'	1:0:2178:U:C6	2.33	0.61
1:0:191:G:O2'	1:0:192:G:H5'	2.01	0.61
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.61
1:0:487:G:H1'	1:0:515:A:C2	2.36	0.61
1:0:542:A:H62	1:0:570:G:N2	1.99	0.61
1:0:1889:G:H2'	1:0:1890:G:C8	2.35	0.61
1:0:2039:G:H2'	1:0:2039:G:N3	2.14	0.61
1:0:457:C:O2'	1:0:458:G:H5'	2.00	0.61
1:0:968:C:H41	1:0:970:A:C1'	2.12	0.61
1:0:1371:G:H1'	1:0:1386:A:H62	1.66	0.61
1:0:1452:U:H5''	1:0:1533:G:H5'	1.83	0.61
1:0:2324:G:H4'	1:0:2326:C:H5''	1.82	0.61
1:0:12:U:H2'	1:0:13:A:O4'	2.01	0.61
1:0:300:C:H2'	1:0:301:C:H5'	1.82	0.61
1:0:1323:G:H1'	1:0:1627:C:H5''	1.81	0.61
1:0:1329:U:H5'	1:0:1405:A:H1'	1.82	0.61
1:0:1341:G:H2'	1:0:1343:C:C5	2.35	0.61
1:0:1791:C:H1'	1:0:1793:A:H5'	1.81	0.61
1:0:1830:C:H42	1:0:1881:U:H3'	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2556:A:C2	1:0:2593:A:H2	2.19	0.61
1:0:2592:U:O2'	1:0:2593:A:OP1	2.16	0.61
1:0:94:C:H2'	1:0:95:G:O4'	2.01	0.61
1:0:213:C:H42	1:0:238:G:H1	1.47	0.61
1:0:475:U:H2'	1:0:476:G:O4'	2.01	0.61
1:0:1618:U:OP2	1:0:1618:U:H5	1.83	0.61
1:0:2546:G:H2'	1:0:2547:C:C6	2.34	0.61
1:0:2800:C:H2'	1:0:2801:A:O4'	2.00	0.61
1:0:513:A:C6	1:0:515:A:N6	2.69	0.61
1:0:743:A:C2	1:0:744:C:C2	2.88	0.61
1:0:859:U:H4'	1:0:860:U:C5	2.36	0.61
1:0:1000:G:P	1:0:1168:G:H4'	2.41	0.61
1:0:1651:U:H5''	1:0:1652:G:OP2	2.00	0.61
1:0:1699:A:N6	1:0:1723:U:H3	1.99	0.61
1:0:482:A:O2'	1:0:483:A:H5'	2.00	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
1:0:829:C:C2	1:0:1206:G:N2	2.69	0.61
1:0:1137:A:H5''	1:0:1138:A:OP1	2.01	0.61
1:0:1272:G:H2'	1:0:1273:G:H8	1.66	0.61
1:0:1956:G:H2'	1:0:1957:C:H6	1.66	0.61
1:0:2803:C:O2'	1:0:2804:G:H5'	2.01	0.61
1:0:2809:A:N7	1:0:2854:G:N7	2.49	0.61
1:0:322:A:H1'	1:0:343:A:C5	2.34	0.61
1:0:640:C:H5''	1:0:660:G:O2'	2.01	0.61
1:0:688:A:H1'	1:0:2422:C:O2'	2.01	0.61
1:0:946:U:O2'	1:0:947:C:H5'	2.00	0.61
1:0:66:U:C2	1:0:67:G:N7	2.69	0.61
1:0:813:A:H2'	1:0:813:A:N3	2.15	0.61
1:0:1816:G:O2'	1:0:1817:U:H5'	1.99	0.61
1:0:1843:U:H2'	1:0:1844:C:H6	1.66	0.61
1:0:2321:C:H2'	1:0:2322:U:O4'	2.01	0.61
1:0:2461:G:H2'	1:0:2462:C:O4'	2.00	0.61
1:0:616:U:H2'	1:0:617:U:C5'	2.27	0.60
1:0:643:A:O2'	1:0:644:A:H5'	2.00	0.60
1:0:653:G:H2'	1:0:654:A:H4'	1.83	0.60
1:0:982:C:H4'	1:0:994:A:O2'	2.01	0.60
1:0:1440:G:H1'	1:0:1588:A:H61	1.65	0.60
1:0:1500:U:H3	1:0:1520:G:H22	1.48	0.60
1:0:1739:G:H2'	1:0:1740:G:H8	1.66	0.60
1:0:2535:C:H2'	1:0:2536:G:O4'	2.01	0.60
1:0:591:G:H2'	1:0:592:G:C8	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:788:G:H5''	1:0:790:A:H1'	1.81	0.60
1:0:2225:G:H2'	1:0:2226:A:H8	1.65	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.00	0.60
1:0:701:U:H4'	1:0:1771:A:H2	1.66	0.60
1:0:243:G:H2'	1:0:244:C:O4'	2.02	0.60
1:0:482:A:C2'	1:0:483:A:H5'	2.31	0.60
1:0:813:A:O2'	1:0:814:G:H8	1.83	0.60
1:0:1300:A:C2	1:0:1301:U:C2	2.89	0.60
1:0:1313:U:H4'	1:0:1314:A:O4'	2.01	0.60
1:0:1342:U:H5''	1:0:1343:C:H5	1.66	0.60
1:0:1467:U:H3'	1:0:1468:A:H5'	1.82	0.60
1:0:2299:A:H5''	1:0:2300:G:O5'	2.02	0.60
1:0:2503:G:C2'	1:0:2504:G:H5''	2.31	0.60
1:0:367:G:C2'	1:0:368:A:H5''	2.31	0.60
1:0:698:A:C1'	1:0:700:C:H41	2.15	0.60
1:0:999:A:H4'	1:0:1166:A:N1	2.17	0.60
1:0:1332:G:O2'	1:0:1333:G:H5'	2.02	0.60
1:0:1353:A:H5''	1:0:1354:A:N7	2.16	0.60
1:0:1440:G:H3'	1:0:1441:A:C5'	2.31	0.60
1:0:1707:A:H2'	1:0:1708:C:H5'	1.83	0.60
1:0:2210:C:H2'	1:0:2211:U:O4'	2.01	0.60
1:0:2436:U:H2'	1:0:2437:G:O4'	2.01	0.60
1:0:755:C:O2'	1:0:756:C:H5'	2.01	0.60
1:0:951:G:H2'	1:0:952:A:H5''	1.83	0.60
1:0:1102:G:H2'	1:0:1103:C:C6	2.36	0.60
1:0:1241:G:O2'	1:0:1242:A:H5'	2.01	0.60
1:0:1685:A:HO2'	1:0:1686:A:P	2.24	0.60
1:0:2390:A:H2'	1:0:2391:A:H8	1.65	0.60
1:0:2866:A:H2'	1:0:2867:G:O4'	2.02	0.60
1:0:54:G:H2'	1:0:55:A:H8	1.67	0.60
1:0:1549:C:N3	1:0:1554:G:N1	2.49	0.60
1:0:1707:A:N7	1:0:1714:A:H2	2.00	0.60
1:0:1861:G:O2'	1:0:1862:C:H5'	2.01	0.60
1:0:2163:U:H2'	1:0:2164:G:C8	2.37	0.60
1:0:688:A:O2'	1:0:689:A:H5'	2.02	0.60
1:0:777:A:N6	1:0:1767:G:H1'	2.16	0.60
1:0:944:A:H2'	1:0:945:G:O4'	2.02	0.60
1:0:1680:U:O2'	1:0:2665:G:H4'	2.00	0.60
1:0:2475:C:H2'	1:0:2476:A:O4'	2.00	0.60
1:0:153:A:H2'	1:0:154:U:C6	2.36	0.60
1:0:955:G:H5'	1:0:956:A:C5'	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1479:G:N2	1:0:1543:G:N2	2.49	0.60
1:0:1760:G:H1'	1:0:1941:C:OP1	2.02	0.60
1:0:1779:C:H2'	1:0:1780:A:O4'	2.02	0.60
1:0:2473:G:N2	1:0:2474:G:C4	2.70	0.60
1:0:2663:U:C4	1:0:2664:G:N7	2.70	0.60
1:0:24:G:H2'	1:0:25:U:C6	2.36	0.60
1:0:799:C:O2'	1:0:800:U:H5'	2.02	0.60
1:0:1135:C:H2'	1:0:1136:G:H8	1.67	0.60
1:0:1223:G:N1	1:0:1250:A:N7	2.50	0.60
1:0:1512:A:H8	1:0:1512:A:O5'	1.84	0.60
1:0:1622:G:H4'	1:0:1624:A:N3	2.16	0.60
1:0:222:G:N2	1:0:231:G:H1'	2.17	0.59
1:0:2672:U:H2'	1:0:2673:G:C8	2.32	0.59
1:0:757:U:H2'	1:0:758:G:O4'	2.02	0.59
1:0:764:A:H2'	1:0:764:A:N3	2.17	0.59
1:0:1007:A:H2'	1:0:1008:G:H8	1.66	0.59
1:0:1225:G:H2'	1:0:1249:G:N2	2.17	0.59
1:0:1430:G:H22	1:0:1599:G:H1'	1.67	0.59
1:0:2030:U:H2'	1:0:2031:A:C8	2.37	0.59
1:0:2162:C:H2'	1:0:2163:U:H6	1.66	0.59
1:0:2195:C:C2'	1:0:2196:U:H5'	2.33	0.59
1:0:1843:U:H2'	1:0:1844:C:C6	2.37	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.32	0.59
1:0:796:A:H4'	1:0:2567:G:O3'	2.02	0.59
1:0:990:A:H3'	1:0:991:A:C5'	2.33	0.59
1:0:1139:A:H1'	1:0:2495:G:O2'	2.01	0.59
1:0:2788:C:H2'	1:0:2789:U:H6	1.66	0.59
1:0:736:G:H2'	1:0:737:C:C6	2.38	0.59
1:0:843:G:HO2'	1:0:844:G:P	2.25	0.59
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.59
1:0:2702:G:C5	1:0:2703:C:C4	2.91	0.59
1:0:868:U:H2'	1:0:869:C:C6	2.38	0.59
1:0:1547:U:H2'	1:0:1548:U:H6	1.67	0.59
1:0:1691:G:H21	1:0:1694:A:H61	1.48	0.59
1:0:2447:G:N2	1:0:2460:G:H2'	2.15	0.59
1:0:2658:A:H2'	1:0:2659:C:O4'	2.01	0.59
1:0:702:A:N3	1:0:792:U:H1'	2.18	0.59
1:0:1196:G:O2'	1:0:1197:U:H5'	2.03	0.59
1:0:1936:A:O2'	1:0:2538:C:H1'	2.02	0.59
1:0:2380:U:C2'	1:0:2381:A:H5'	2.30	0.59
1:0:2824:C:H1'	1:0:2843:A:C2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:216:U:H2'	1:0:217:U:O4'	2.02	0.59
1:0:487:G:H1'	1:0:515:A:H2	1.68	0.59
1:0:1166:A:C3'	1:0:1167:A:H5''	2.33	0.59
1:0:1182:U:C2'	1:0:1183:C:H5''	2.32	0.59
1:0:1300:A:C2	1:0:1666:G:H4'	2.37	0.59
1:0:1312:G:H5''	1:0:1313:U:H5''	1.84	0.59
1:0:2563:U:H2'	1:0:2564:U:H3'	1.83	0.59
1:0:2636:A:N6	1:0:2643:G:H21	1.96	0.59
1:0:2779:C:H2'	1:0:2780:A:C8	2.38	0.59
1:0:369:C:H2'	1:0:370:U:O4'	2.03	0.59
1:0:1004:A:H2'	1:0:1005:U:H5''	1.84	0.59
1:0:1212:U:H2'	1:0:1213:U:C6	2.37	0.59
1:0:1348:C:H2'	1:0:1349:A:H8	1.65	0.59
1:0:1760:G:O2'	1:0:1761:G:H5'	2.03	0.59
1:0:1938:U:O2'	1:0:1939:U:H5'	2.03	0.59
1:0:2594:U:N1	3:Z:7:PRO:CA	2.66	0.59
1:0:523:A:H4'	1:0:1230:C:H5'	1.85	0.58
1:0:1459:U:P	1:0:1459:U:C6	2.97	0.58
1:0:813:A:HO2'	1:0:814:G:H8	1.47	0.58
1:0:1301:U:H2'	1:0:1664:G:H21	1.67	0.58
1:0:1662:G:O5'	1:0:1662:G:H8	1.86	0.58
1:0:2324:G:N2	1:0:2361:G:C4	2.71	0.58
1:0:2622:G:O2'	1:0:2623:A:H5'	2.03	0.58
1:0:2816:C:O2	1:0:2852:G:N2	2.36	0.58
1:0:536:A:C2	1:0:2605:C:H1'	2.37	0.58
1:0:614:G:H2'	1:0:615:C:H6	1.69	0.58
1:0:781:G:H2'	1:0:782:U:O4'	2.03	0.58
1:0:839:U:H5''	1:0:2408:G:P	2.43	0.58
1:0:1250:A:O2'	1:0:1251:G:H4'	2.03	0.58
1:0:1480:G:H2'	1:0:1481:U:H5'	1.85	0.58
1:0:1886:G:H2'	1:0:1887:G:C8	2.33	0.58
1:0:2433:G:O2'	1:0:2434:G:H5'	2.03	0.58
1:0:2544:A:H2'	1:0:2545:A:H1'	1.85	0.58
4:0:2881:TAO:H373	4:0:2881:TAO:C36	2.32	0.58
1:0:543:G:H2'	1:0:544:U:C6	2.38	0.58
1:0:1038:U:H2'	1:0:1039:A:H8	1.68	0.58
1:0:1162:A:H2'	1:0:1163:C:O4'	2.03	0.58
1:0:1226:A:N1	1:0:1250:A:H1'	2.17	0.58
1:0:2327:U:H2'	1:0:2328:G:H8	1.69	0.58
1:0:313:U:H2'	1:0:314:G:H8	1.69	0.58
1:0:915:C:H2'	1:0:916:U:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1529:C:H2'	1:0:1530:U:O4'	2.02	0.58
1:0:1685:A:O2'	1:0:1686:A:H3'	2.04	0.58
1:0:2055:G:O2'	1:0:2056:C:H5'	2.04	0.58
1:0:2663:U:C2	1:0:2664:G:C8	2.92	0.58
1:0:2733:A:O2'	1:0:2734:U:H5'	2.03	0.58
1:0:212:U:O2'	1:0:213:C:H5'	2.03	0.58
1:0:330:C:O2'	1:0:331:U:H5'	2.03	0.58
1:0:509:U:C2'	1:0:510:G:H5'	2.31	0.58
1:0:788:G:H5''	1:0:789:G:OP1	2.03	0.58
1:0:1594:U:H2'	1:0:1595:A:C8	2.38	0.58
1:0:1687:C:H1'	1:0:1976:U:O2	2.02	0.58
1:0:1884:A:O2'	1:0:1885:C:H5'	2.03	0.58
1:0:1994:U:H2'	1:0:1995:G:C5'	2.32	0.58
1:0:2079:A:H2'	1:0:2080:U:C6	2.39	0.58
1:0:2301:A:H2'	1:0:2302:G:O4'	2.04	0.58
1:0:152:G:H2'	1:0:153:A:O4'	2.04	0.58
1:0:733:G:O2'	1:0:734:G:H5'	2.04	0.58
1:0:1537:U:H2'	1:0:1538:A:C8	2.39	0.58
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.58
1:0:2526:U:C5	1:0:2545:A:N7	2.72	0.58
1:0:2548:G:O2'	1:0:2549:G:H5''	2.03	0.58
1:0:2840:U:C6	1:0:2841:U:H5	2.21	0.58
1:0:298:C:H2'	1:0:299:C:H6	1.68	0.58
1:0:459:A:N6	1:0:484:G:H1'	2.18	0.58
1:0:1141:U:O5'	1:0:1141:U:H6	1.87	0.58
1:0:1999:U:H2'	1:0:2000:U:O4'	2.02	0.58
1:0:2225:G:C2	1:0:2405:A:H1'	2.39	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:974:U:O2'	1:0:975:C:H5'	2.04	0.58
1:0:1624:A:C2'	1:0:1625:A:H5'	2.34	0.58
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.58
1:0:597:U:H2'	1:0:598:U:C6	2.38	0.58
1:0:1865:C:H2'	1:0:1866:G:O4'	2.04	0.57
1:0:2085:G:H2'	1:0:2086:U:C6	2.37	0.57
1:0:2499:C:N4	1:0:2521:A:H2	2.01	0.57
1:0:2862:G:O2'	1:0:2863:U:H5'	2.03	0.57
1:0:824:U:H2'	1:0:825:C:H5''	1.86	0.57
1:0:1541:G:N2	1:0:1562:G:N2	2.52	0.57
1:0:1630:A:H8	1:0:1630:A:OP2	1.87	0.57
1:0:1748:U:N3	1:0:1753:A:C2	2.62	0.57
1:0:2503:G:C3'	1:0:2504:G:H5''	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2825:A:H2'	1:0:2826:C:H6	1.67	0.57
1:0:174:A:H4'	1:0:2051:U:H2'	1.86	0.57
1:0:831:G:H2'	1:0:832:A:H5''	1.85	0.57
1:0:1141:U:O2'	1:0:1142:G:P	2.63	0.57
1:0:1791:C:H42	1:0:1809:G:H22	1.52	0.57
1:0:220:U:H2'	1:0:221:A:H8	1.69	0.57
1:0:756:C:H2'	1:0:757:U:C6	2.40	0.57
1:0:932:G:H2'	1:0:933:G:O4'	2.04	0.57
1:0:964:A:H2'	1:0:965:G:C8	2.37	0.57
1:0:1229:C:H2'	1:0:1230:C:H6	1.68	0.57
1:0:1291:G:O2'	1:0:1292:A:H5'	2.04	0.57
1:0:1374:G:N2	1:0:1384:G:H1'	2.19	0.57
1:0:1908:C:H2'	1:0:1909:U:C4'	2.19	0.57
1:0:422:C:H2'	1:0:423:G:O4'	2.05	0.57
1:0:474:G:N2	1:0:476:G:H3'	2.18	0.57
1:0:1035:G:H21	1:0:1155:G:H4'	1.68	0.57
1:0:1057:A:H3'	1:0:1058:G:C5'	2.34	0.57
1:0:1202:U:H2'	1:0:1203:A:C8	2.29	0.57
1:0:403:A:H5''	1:0:404:A:OP1	2.03	0.57
1:0:871:U:H1'	1:0:2248:A:C5'	2.35	0.57
1:0:1073:G:C2'	1:0:1074:G:H4'	2.23	0.57
1:0:1636:G:H2'	1:0:1637:U:C6	2.38	0.57
1:0:115:G:H8	1:0:115:G:O5'	1.88	0.57
1:0:542:A:H62	1:0:570:G:H21	1.52	0.57
1:0:629:C:O2'	1:0:630:G:H5'	2.04	0.57
1:0:670:U:O2'	1:0:671:A:H5'	2.03	0.57
1:0:701:U:H4'	1:0:1771:A:C2	2.40	0.57
1:0:958:G:H2'	1:0:959:C:H6	1.68	0.57
1:0:1040:A:C2'	1:0:1041:G:H5'	2.34	0.57
1:0:1086:C:C2'	1:0:1087:C:H5''	2.33	0.57
1:0:1196:G:H2'	1:0:1197:U:C4'	2.34	0.57
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.57
1:0:1611:U:H2'	1:0:1612:U:O4'	2.05	0.57
1:0:2841:U:H1'	1:0:2843:A:H1'	1.86	0.57
1:0:491:A:N3	1:0:509:U:O2'	2.36	0.57
1:0:608:G:O2'	1:0:609:U:H5'	2.04	0.57
1:0:1112:U:H2'	1:0:1113:C:C6	2.39	0.57
1:0:1372:A:H2'	1:0:1373:G:H5'	1.87	0.57
1:0:1392:U:C2'	1:0:1393:G:H5'	2.35	0.57
1:0:2680:U:H3'	1:0:2681:A:H5'	1.87	0.57
1:0:2751:C:H2'	1:0:2752:C:H6	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2814:G:H1	1:0:2853:U:H3	1.53	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.40	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.05	0.57
1:0:362:C:C4	1:0:363:G:H1'	2.39	0.57
1:0:635:C:C2'	1:0:636:G:H5''	2.31	0.57
1:0:642:A:H2'	1:0:643:A:C8	2.40	0.57
1:0:931:G:H2'	1:0:932:G:C5'	2.34	0.57
1:0:1561:A:H2'	1:0:1562:G:O4'	2.05	0.57
1:0:1692:C:H2'	1:0:1693:A:H5'	1.86	0.57
1:0:2425:G:O2'	1:0:2426:G:H5'	2.04	0.57
1:0:2544:A:H5''	1:0:2545:A:OP2	2.05	0.57
1:0:2671:C:O2'	1:0:2672:U:H5'	2.04	0.57
1:0:931:G:H2'	1:0:932:G:H5'	1.87	0.57
1:0:1373:G:H2'	1:0:1374:G:H5'	1.87	0.57
1:0:1479:G:N2	1:0:1543:G:H21	2.03	0.57
1:0:2555:G:H2'	1:0:2555:G:N3	2.20	0.57
1:0:13:A:H1'	1:0:536:A:N6	2.19	0.56
1:0:942:U:H2'	1:0:943:U:C4'	2.35	0.56
1:0:1661:C:H2'	1:0:1662:G:C8	2.40	0.56
1:0:2042:A:H8	1:0:2042:A:H3'	1.69	0.56
1:0:2311:U:HO2'	1:0:2312:A:H8	1.53	0.56
1:0:2411:A:H8	1:0:2411:A:O5'	1.88	0.56
1:0:575:U:H2'	1:0:576:A:C8	2.40	0.56
1:0:1004:A:H2'	1:0:1005:U:H5'	1.87	0.56
1:0:1008:G:N2	1:0:1009:C:C2	2.73	0.56
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.56
1:0:1436:G:H8	1:0:1436:G:O5'	1.88	0.56
1:0:1809:G:O5'	1:0:1809:G:H8	1.88	0.56
1:0:1981:A:H4'	1:0:2704:U:O2'	2.05	0.56
1:0:2470:U:H2'	1:0:2471:U:C6	2.39	0.56
1:0:2587:G:H8	1:0:2587:G:O5'	1.88	0.56
1:0:20:C:O2'	1:0:21:A:H5'	2.05	0.56
1:0:66:U:H2'	1:0:67:G:C8	2.40	0.56
1:0:186:C:H2'	1:0:187:U:O4'	2.05	0.56
1:0:218:A:O2'	1:0:219:G:H4'	2.05	0.56
1:0:389:G:H2'	1:0:390:U:C6	2.40	0.56
1:0:461:A:C2	1:0:462:G:C8	2.93	0.56
1:0:742:G:C4	1:0:1766:U:O2	2.58	0.56
1:0:781:G:H5'	1:0:1638:G:H4'	1.87	0.56
1:0:829:C:C4	1:0:1206:G:N1	2.74	0.56
1:0:942:U:H2'	1:0:943:U:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:976:C:O2'	1:0:977:G:H5'	2.06	0.56
1:0:1020:A:H2'	1:0:1021:A:C8	2.40	0.56
1:0:1184:G:H2'	1:0:1185:C:H5''	1.88	0.56
1:0:1245:G:H2'	1:0:1246:G:H8	1.69	0.56
1:0:1380:C:C2'	1:0:1381:G:H5'	2.36	0.56
1:0:1625:A:H3'	1:0:1625:A:N3	2.21	0.56
1:0:1725:C:H2'	1:0:1726:C:H6	1.71	0.56
1:0:1754:G:OP1	1:0:1754:G:H4'	2.05	0.56
1:0:1764:A:C2'	1:0:1765:C:H5'	2.35	0.56
1:0:2196:U:H2'	1:0:2197:U:C6	2.40	0.56
1:0:2713:A:O2'	1:0:2714:A:H5'	2.04	0.56
1:0:71:A:O2'	1:0:72:A:P	2.63	0.56
1:0:994:A:N7	1:0:995:A:N3	2.52	0.56
1:0:1164:C:H2'	1:0:1165:G:O4'	2.05	0.56
1:0:1204:G:H2'	1:0:1205:G:H8	1.71	0.56
1:0:1851:A:N6	1:0:1867:A:H1'	2.20	0.56
1:0:1962:C:C2'	1:0:1963:G:H5'	2.35	0.56
1:0:2002:A:C2	1:0:2003:A:H1'	2.41	0.56
1:0:2583:U:O2'	1:0:2584:U:H5'	2.05	0.56
1:0:2813:G:C2'	1:0:2814:G:H5'	2.35	0.56
1:0:14:A:C2	1:0:2604:G:O2'	2.54	0.56
1:0:984:A:H1'	1:0:1202:U:C6	2.40	0.56
1:0:2383:C:H2'	1:0:2384:G:O4'	2.05	0.56
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.56
1:0:79:G:H2'	1:0:80:A:H8	1.71	0.56
1:0:608:G:H2'	1:0:609:U:C6	2.41	0.56
1:0:1353:A:C2	1:0:1618:U:C4	2.94	0.56
1:0:1798:G:O2'	1:0:1800:A:C6	2.58	0.56
1:0:1982:C:H5''	1:0:2703:C:O2'	2.05	0.56
1:0:2663:U:N3	1:0:2664:G:N7	2.53	0.56
1:0:202:A:H2'	1:0:203:G:O4'	2.06	0.56
1:0:847:C:H2'	1:0:848:A:C8	2.40	0.56
1:0:932:G:H2'	1:0:933:G:C8	2.40	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1312:G:H4'	1:0:1314:A:C4	2.40	0.56
1:0:2580:C:H5''	1:0:2581:A:OP2	2.06	0.56
1:0:153:A:H2'	1:0:154:U:C5	2.39	0.56
1:0:319:G:H1'	1:0:511:A:O4'	2.05	0.56
1:0:1838:G:C2'	1:0:1839:A:H5'	2.33	0.56
1:0:338:G:H2'	1:0:339:U:H5'	1.88	0.56
1:0:343:A:N6	1:0:346:C:C5	2.74	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:393:U:H2'	1:0:394:U:H6	1.71	0.56
1:0:696:U:O5'	1:0:696:U:H6	1.89	0.56
1:0:859:U:H4'	1:0:860:U:H5	1.70	0.56
1:0:1110:G:H2'	1:0:1111:C:C6	2.40	0.56
1:0:1213:U:N3	1:0:1260:A:C2	2.73	0.56
1:0:1311:C:H5'	1:0:1315:A:N6	2.21	0.56
1:0:2052:G:O2'	1:0:2053:G:H5'	2.05	0.56
1:0:2059:U:C2'	1:0:2060:A:H5''	2.26	0.56
1:0:2783:U:H2'	1:0:2784:A:O4'	2.05	0.56
1:0:331:U:C2'	1:0:332:C:H5''	2.34	0.56
1:0:464:G:N1	1:0:465:C:N4	2.54	0.56
1:0:990:A:H3'	1:0:991:A:H5''	1.88	0.56
1:0:1234:C:O2'	1:0:1235:C:H5'	2.06	0.56
1:0:1790:G:C8	1:0:1811:A:N6	2.74	0.56
1:0:2517:C:O2'	1:0:2518:C:H5'	2.05	0.56
1:0:10:A:H2'	1:0:11:G:C8	2.41	0.55
1:0:1503:G:C6	1:0:1504:G:C6	2.93	0.55
1:0:2301:A:C2	1:0:2302:G:H1'	2.41	0.55
1:0:2422:C:O2'	1:0:2423:G:H5'	2.06	0.55
4:0:2881:TAO:H163	4:0:2881:TAO:H203	1.88	0.55
1:0:73:A:H4'	1:0:74:G:O4'	2.07	0.55
1:0:195:A:H2'	1:0:196:A:O4'	2.07	0.55
1:0:223:C:H4'	1:0:398:C:H1'	1.88	0.55
1:0:755:C:H2'	1:0:756:C:C6	2.41	0.55
1:0:1408:A:C2	1:0:1411:C:C2	2.94	0.55
1:0:2070:G:H2'	1:0:2071:G:O4'	2.05	0.55
1:0:587:A:H2'	1:0:588:G:H5''	1.88	0.55
1:0:771:C:O2'	1:0:772:G:H5'	2.07	0.55
1:0:775:U:O2	1:0:1445:A:H5''	2.07	0.55
1:0:813:A:H1'	1:0:815:A:C4'	2.36	0.55
1:0:1583:A:H8	1:0:1583:A:O5'	1.88	0.55
1:0:2042:A:H3'	1:0:2042:A:C8	2.42	0.55
1:0:2233:C:O2'	1:0:2234:G:H5'	2.07	0.55
1:0:2395:C:C2'	1:0:2396:C:H5''	2.36	0.55
1:0:2511:G:H2'	1:0:2512:A:O4'	2.07	0.55
1:0:616:U:C3'	1:0:617:U:H5''	2.36	0.55
1:0:1442:C:N4	1:0:1585:A:C8	2.75	0.55
1:0:1685:A:H2'	1:0:1686:A:OP2	2.06	0.55
1:0:2609:G:N2	1:0:2866:A:H2	2.05	0.55
1:0:109:A:H3'	1:0:110:U:H5''	1.87	0.55
1:0:1029:C:C3'	1:0:1030:U:H5''	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.55
1:0:1912:G:H3'	1:0:1912:G:N3	2.22	0.55
1:0:1917:C:H2'	1:0:1918:G:O4'	2.07	0.55
1:0:2024:U:H2'	1:0:2025:A:C8	2.42	0.55
1:0:2202:G:H3'	1:0:2203:G:C8	2.42	0.55
4:0:2881:TAO:H373	4:0:2881:TAO:H36	1.88	0.55
1:0:788:G:N2	1:0:800:U:O3'	2.40	0.55
1:0:810:U:H2'	1:0:811:G:H8	1.70	0.55
1:0:1075:C:H2'	1:0:1076:U:O4'	2.07	0.55
1:0:1198:C:O5'	1:0:1199:U:H4'	2.06	0.55
1:0:1252:C:O2'	1:0:1253:C:H5''	2.05	0.55
1:0:1332:G:N1	1:0:1333:G:N2	2.54	0.55
1:0:1440:G:C6	1:0:1441:A:N7	2.74	0.55
1:0:2177:U:O2'	1:0:2178:U:H5'	2.06	0.55
1:0:2433:G:H2'	1:0:2434:G:C8	2.39	0.55
1:0:2812:A:H2'	1:0:2813:G:H8	1.72	0.55
1:0:7:G:O2'	1:0:8:A:H5'	2.06	0.55
1:0:211:U:O2'	1:0:212:U:H5'	2.07	0.55
1:0:318:G:H5'	1:0:318:G:H8	1.72	0.55
1:0:595:A:H62	1:0:1264:C:H42	1.53	0.55
1:0:1356:G:C4'	1:0:1613:G:H2'	2.37	0.55
1:0:1736:C:H2'	1:0:1737:G:C8	2.42	0.55
1:0:1801:C:H1'	1:0:2208:U:H5'	1.89	0.55
1:0:1943:A:C2'	1:0:1944:C:H5'	2.37	0.55
1:0:2005:U:H2'	1:0:2595:C:O2'	2.05	0.55
1:0:2008:C:O5'	1:0:2008:C:H6	1.90	0.55
1:0:2590:U:O2	4:0:2881:TAO:H442	2.06	0.55
1:0:2633:A:H4'	1:0:2634:G:O5'	2.06	0.55
1:0:2687:G:O2'	1:0:2688:G:H5'	2.06	0.55
1:0:246:C:N4	1:0:247:A:H62	2.04	0.55
1:0:464:G:C2	1:0:465:C:C4	2.94	0.55
1:0:929:A:H8	1:0:2247:A:H61	1.54	0.55
1:0:1003:C:O2'	1:0:1004:A:H5'	2.07	0.55
1:0:1017:C:O2'	1:0:1018:C:H5'	2.07	0.55
1:0:1245:G:H2'	1:0:1246:G:C8	2.41	0.55
1:0:1592:U:O5'	1:0:1592:U:H6	1.90	0.55
1:0:1837:G:H2'	1:0:1838:G:C8	2.41	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.87	0.55
1:0:1976:U:H2'	1:0:1976:U:O2	2.05	0.55
1:0:193:A:H2'	1:0:194:G:O4'	2.06	0.55
1:0:782:U:HO2'	1:0:1392:U:H5	1.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:840:U:H4'	1:0:841:G:N2	2.21	0.55
1:0:1429:A:H1'	1:0:1603:A:C6	2.41	0.55
1:0:1827:G:H1'	1:0:1914:U:N3	2.22	0.55
1:0:2240:C:H2'	1:0:2241:U:H5'	1.89	0.55
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.55
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.55
1:0:2751:C:H2'	1:0:2752:C:C6	2.42	0.55
1:0:1226:A:H2'	1:0:1227:A:C8	2.42	0.55
1:0:1424:U:H2'	1:0:1425:G:C8	2.41	0.55
1:0:1814:G:H2'	1:0:1815:G:C8	2.42	0.55
1:0:2021:G:H2'	1:0:2022:C:C6	2.42	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.72	0.55
1:0:28:A:H5''	1:0:460:U:O4	2.08	0.54
1:0:597:U:H2'	1:0:598:U:H6	1.70	0.54
1:0:852:U:H6	1:0:852:U:O5'	1.90	0.54
1:0:1295:U:C2'	1:0:1296:G:H5'	2.36	0.54
1:0:1821:A:H3'	1:0:1822:C:C6	2.42	0.54
1:0:1871:G:N3	1:0:1871:G:C2'	2.70	0.54
1:0:2180:U:O2'	1:0:2181:A:N7	2.36	0.54
1:0:2669:C:O2	1:0:2669:C:C2'	2.55	0.54
1:0:73:A:H4'	1:0:74:G:C1'	2.37	0.54
1:0:202:A:C2	1:0:203:G:H1'	2.43	0.54
1:0:1698:C:O2'	1:0:1753:A:C2'	2.54	0.54
1:0:471:A:C2	1:0:481:A:C4	2.96	0.54
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.54
1:0:957:G:O2'	1:0:958:G:H5'	2.07	0.54
1:0:1436:G:N2	1:0:1514:C:H1'	2.20	0.54
1:0:1641:C:H2'	1:0:1642:G:O4'	2.07	0.54
1:0:2429:A:H5''	1:0:2476:A:C6	2.41	0.54
1:0:83:A:N1	1:0:98:U:O2'	2.34	0.54
1:0:416:U:C5'	1:0:417:C:H5'	2.35	0.54
1:0:1182:U:H2'	1:0:1183:C:C5'	2.35	0.54
1:0:1354:A:H3'	1:0:1410:U:O2	2.08	0.54
1:0:2276:C:O2'	1:0:2277:A:H5'	2.07	0.54
1:0:357:A:C2'	1:0:358:C:H5'	2.36	0.54
1:0:986:A:H2'	1:0:987:G:H5'	1.88	0.54
1:0:1363:C:H2'	1:0:1364:C:C6	2.43	0.54
1:0:1789:U:C2'	1:0:1790:G:H5'	2.36	0.54
1:0:2727:G:C2'	1:0:2728:A:H5''	2.37	0.54
1:0:2810:A:H2	1:0:2853:U:C5	2.25	0.54
1:0:12:U:O2'	1:0:13:A:H5'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:12:U:C2'	1:0:13:A:H5'	2.37	0.54
1:0:298:C:H2'	1:0:299:C:C6	2.42	0.54
1:0:605:G:H2'	1:0:606:A:C8	2.42	0.54
1:0:706:A:H2'	1:0:707:U:C6	2.43	0.54
1:0:1132:C:H2'	1:0:1133:G:O4'	2.07	0.54
1:0:1463:A:H1'	1:0:1543:G:C2	2.42	0.54
1:0:1631:C:C5	1:0:1633:C:C4	2.95	0.54
1:0:1922:U:O2'	1:0:2571:G:H1'	2.07	0.54
1:0:2427:A:OP1	1:0:2478:C:OP2	2.26	0.54
4:0:2881:TAO:C26	4:0:2881:TAO:C37	2.78	0.54
1:0:226:C:H4'	1:0:227:G:C8	2.42	0.54
1:0:635:C:O2	1:0:670:U:H4'	2.08	0.54
1:0:810:U:H2'	1:0:811:G:C8	2.43	0.54
1:0:929:A:OP1	1:0:929:A:H4'	2.08	0.54
1:0:1392:U:H2'	1:0:1393:G:H5'	1.90	0.54
1:0:1447:U:H1'	1:0:1577:G:H22	1.71	0.54
1:0:1554:G:H2'	1:0:1555:A:O4'	2.08	0.54
1:0:1558:C:O2'	1:0:1559:G:H5'	2.06	0.54
1:0:1624:A:O2'	1:0:1625:A:H5'	2.07	0.54
1:0:2054:A:H2	1:0:2419:C:H41	1.54	0.54
1:0:2394:G:H2'	1:0:2395:C:C6	2.43	0.54
1:0:604:U:H2'	1:0:605:G:C8	2.43	0.54
1:0:940:G:C8	1:0:941:U:H5''	2.43	0.54
1:0:958:G:H2'	1:0:959:C:C5	2.42	0.54
1:0:1058:G:H2'	1:0:1121:G:H1	1.73	0.54
1:0:1763:G:N2	1:0:1765:C:C5'	2.68	0.54
1:0:1764:A:H2'	1:0:1765:C:H5'	1.90	0.54
1:0:2096:U:C2'	1:0:2097:A:H5''	2.33	0.54
1:0:2341:G:O2'	1:0:2342:U:H5'	2.08	0.54
1:0:2870:C:H2'	1:0:2871:U:C6	2.40	0.54
1:0:491:A:C2	1:0:509:U:H2'	2.43	0.54
1:0:570:G:C2'	1:0:571:U:H5''	2.38	0.54
1:0:1171:A:H2'	1:0:1172:U:H6	1.72	0.54
1:0:1267:A:H5''	1:0:1268:U:H5'	1.90	0.54
1:0:1380:C:H2'	1:0:1381:G:H5'	1.90	0.54
1:0:2839:G:C5	1:0:2840:U:C4	2.96	0.54
1:0:2857:C:H2'	1:0:2858:A:O5'	2.08	0.54
1:0:1087:C:H2'	1:0:1088:A:O4'	2.08	0.53
1:0:1178:C:O2'	1:0:1179:A:H5'	2.08	0.53
1:0:1323:G:H1'	1:0:1627:C:H5'	1.90	0.53
1:0:1725:C:O2'	1:0:1726:C:H5'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1872:A:H2'	1:0:1873:A:H8	1.72	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
1:0:2824:C:C2'	1:0:2825:A:OP2	2.57	0.53
1:0:347:C:H2'	1:0:348:U:O4'	2.07	0.53
1:0:514:G:N3	1:0:514:G:H2'	2.23	0.53
1:0:1288:A:H2'	1:0:1289:A:O4'	2.09	0.53
1:0:1802:A:O2'	1:0:1803:G:H5'	2.08	0.53
1:0:242:A:O2'	1:0:243:G:O4'	2.20	0.53
1:0:312:G:H4'	1:0:312:G:OP1	2.09	0.53
1:0:482:A:H2'	1:0:483:A:O4'	2.09	0.53
1:0:620:G:O2'	1:0:621:U:H5'	2.08	0.53
1:0:735:G:O2'	1:0:736:G:H5'	2.09	0.53
1:0:763:A:H5''	1:0:1631:C:N4	2.24	0.53
1:0:847:C:H2'	1:0:848:A:H8	1.73	0.53
1:0:940:G:C8	1:0:941:U:O4'	2.61	0.53
1:0:1302:C:O2'	1:0:1343:C:H4'	2.08	0.53
1:0:1339:U:O4	1:0:1664:G:H1'	2.08	0.53
1:0:1359:G:H5'	1:0:1359:G:H8	1.73	0.53
1:0:1399:C:H2'	1:0:1400:A:C8	2.43	0.53
1:0:1464:A:H2'	1:0:1465:G:O4'	2.08	0.53
1:0:2011:U:H2'	1:0:2012:A:H8	1.73	0.53
1:0:2012:A:C5	1:0:2014:A:H5'	2.43	0.53
1:0:2034:A:N6	1:0:2593:A:C8	2.76	0.53
1:0:2618:A:C6	1:0:2619:G:H1'	2.43	0.53
1:0:461:A:H2'	1:0:461:A:N3	2.21	0.53
1:0:538:A:C2'	1:0:539:A:H5''	2.38	0.53
1:0:818:G:H1	1:0:2051:U:H5''	1.73	0.53
1:0:860:U:H2'	1:0:860:U:O2	2.06	0.53
1:0:872:G:O2'	1:0:2247:A:C4	2.61	0.53
1:0:877:G:O2'	1:0:878:C:H5'	2.07	0.53
1:0:955:G:H5'	1:0:956:A:H5''	1.90	0.53
1:0:1491:C:H2'	1:0:1492:A:C8	2.42	0.53
1:0:2041:A:H2	4:0:2881:TAO:O33	1.90	0.53
1:0:2674:C:C2	1:0:2675:U:C5	2.97	0.53
1:0:539:A:H2'	1:0:540:G:OP2	2.08	0.53
1:0:678:G:O2'	1:0:679:C:H5'	2.08	0.53
1:0:1057:A:H3'	1:0:1058:G:H5''	1.89	0.53
1:0:1064:C:H2'	1:0:1065:A:C8	2.43	0.53
1:0:1147:G:O2'	1:0:1148:G:H5'	2.08	0.53
1:0:1288:A:N6	1:0:1309:G:H5'	2.23	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1424:U:H2'	1:0:1425:G:H8	1.73	0.53
1:0:1657:A:H2'	1:0:1658:A:O4'	2.08	0.53
1:0:1685:A:C2'	1:0:1686:A:OP2	2.55	0.53
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.53
1:0:80:A:O2'	1:0:81:C:H5'	2.09	0.53
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.53
1:0:612:G:H4'	1:0:613:A:H4'	1.89	0.53
1:0:843:G:O2'	1:0:844:G:P	2.66	0.53
1:0:1370:U:O2'	1:0:1371:G:H5'	2.09	0.53
1:0:1514:C:H5'	1:0:1593:C:H5''	1.91	0.53
1:0:2832:G:N2	1:0:2835:A:OP2	2.41	0.53
1:0:29:U:H2'	1:0:30:G:C8	2.44	0.53
1:0:239:A:C5'	1:0:620:G:H5'	2.38	0.53
1:0:927:C:O2'	1:0:928:G:H5'	2.08	0.53
1:0:1227:A:H4'	1:0:1252:C:H4'	1.90	0.53
1:0:1327:C:O5'	1:0:1327:C:H6	1.92	0.53
1:0:1930:C:C4	1:0:1931:G:N7	2.77	0.53
1:0:1937:G:N3	1:0:2530:C:H5'	2.24	0.53
1:0:2390:A:H2'	1:0:2391:A:C8	2.43	0.53
1:0:2785:A:H62	1:0:2865:G:H21	1.57	0.53
1:0:630:G:H5''	1:0:631:G:OP2	2.09	0.53
1:0:968:C:N4	1:0:970:A:C1'	2.71	0.53
1:0:1151:U:H5''	1:0:1153:A:OP1	2.08	0.53
1:0:1229:C:N3	1:0:1247:U:O2	2.42	0.53
1:0:1263:G:O2'	1:0:1264:C:P	2.67	0.53
1:0:1411:C:H2'	1:0:1412:C:H6	1.73	0.53
1:0:2307:A:H2'	1:0:2308:A:C8	2.43	0.53
1:0:167:A:H61	1:0:812:G:HO2'	1.53	0.53
1:0:501:G:H2'	1:0:502:A:H8	1.74	0.53
1:0:629:C:C2'	1:0:630:G:H5'	2.38	0.53
1:0:782:U:H2'	1:0:783:G:H8	1.73	0.53
1:0:1458:A:C3'	1:0:1459:U:C5'	2.68	0.53
1:0:1811:A:H2'	1:0:1811:A:N3	2.24	0.53
1:0:2047:C:H6	1:0:2047:C:H5''	1.73	0.53
1:0:2335:U:H2'	1:0:2336:G:O4'	2.09	0.53
1:0:2588:U:C3'	1:0:2589:C:H5'	2.39	0.53
1:0:187:U:H1'	1:0:1379:A:C2	2.43	0.53
1:0:484:G:O2'	1:0:485:G:H5'	2.09	0.53
1:0:486:U:C2'	1:0:487:G:H5'	2.39	0.53
1:0:502:A:H2'	1:0:503:G:H5'	1.91	0.53
1:0:581:A:C2	1:0:582:G:H1'	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:687:G:O2'	1:0:688:A:H5'	2.08	0.53
1:0:923:A:H2'	1:0:923:A:N3	2.24	0.53
1:0:1680:U:H6	1:0:1680:U:C5'	2.22	0.53
1:0:1715:A:HO2'	1:0:1716:G:H8	1.57	0.53
1:0:2010:G:H2'	1:0:2011:U:H6	1.74	0.53
1:0:2404:A:O2'	1:0:2405:A:OP2	2.22	0.53
1:0:451:A:H2'	1:0:452:G:H8	1.70	0.52
1:0:661:C:O2'	1:0:662:G:H5'	2.08	0.52
1:0:789:G:H1'	1:0:806:A:N7	2.24	0.52
1:0:1010:U:H2'	1:0:1011:A:C8	2.44	0.52
1:0:1655:C:H5''	1:0:2689:C:O2'	2.09	0.52
1:0:1854:G:O2'	1:0:1855:G:H5'	2.08	0.52
1:0:2371:A:H2'	1:0:2372:A:O4'	2.08	0.52
1:0:2396:C:H6	1:0:2396:C:H5'	1.73	0.52
1:0:15:G:N2	1:0:2027:C:O2'	2.42	0.52
1:0:163:A:O2'	1:0:164:G:H5'	2.09	0.52
1:0:198:A:O2'	1:0:199:A:OP2	2.26	0.52
1:0:486:U:O2'	1:0:487:G:H5'	2.08	0.52
1:0:657:A:H2'	1:0:658:G:H8	1.71	0.52
1:0:785:U:H5'	1:0:1368:G:O2'	2.09	0.52
1:0:864:C:O2'	1:0:865:A:H5'	2.09	0.52
1:0:1083:C:H42	1:0:1103:C:N4	2.06	0.52
1:0:1442:C:N4	1:0:1585:A:H8	2.07	0.52
1:0:1535:C:O2	1:0:1535:C:H2'	2.09	0.52
1:0:2052:G:C2'	1:0:2053:G:H5'	2.39	0.52
1:0:2117:A:N6	1:0:2139:G:H21	2.06	0.52
1:0:2630:C:H2'	1:0:2631:C:H6	1.75	0.52
1:0:2760:G:H2'	1:0:2761:A:OP1	2.09	0.52
1:0:41:G:O2'	1:0:42:G:H5'	2.09	0.52
1:0:109:A:H2'	1:0:110:U:C5'	2.33	0.52
1:0:192:G:H4'	1:0:193:A:O5'	2.10	0.52
1:0:215:G:N2	1:0:632:A:H8	1.95	0.52
1:0:222:G:H1'	1:0:397:U:O2	2.10	0.52
1:0:600:G:C6	1:0:602:C:C4	2.97	0.52
1:0:1451:C:H2'	1:0:1452:U:C6	2.44	0.52
1:0:1621:C:H4'	1:0:1626:A:N6	2.23	0.52
1:0:2005:U:H5''	1:0:2006:G:OP1	2.08	0.52
1:0:2182:A:H2'	1:0:2183:C:O4'	2.09	0.52
1:0:2448:A:H2'	1:0:2449:G:O4'	2.08	0.52
1:0:2621:G:O2'	1:0:2622:G:H5'	2.09	0.52
1:0:2668:U:P	1:0:2699:G:H22	2.32	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:163:A:H2'	1:0:164:G:C8	2.41	0.52
1:0:173:A:H2'	1:0:173:A:N3	2.25	0.52
1:0:204:A:N1	1:0:2386:G:H1'	2.24	0.52
1:0:459:A:C4	1:0:466:A:N7	2.78	0.52
1:0:636:G:H2'	1:0:637:G:H5'	1.92	0.52
1:0:951:G:C2'	1:0:952:A:H5''	2.39	0.52
1:0:1123:G:O2'	1:0:1124:U:H5'	2.10	0.52
1:0:1624:A:H2'	1:0:1625:A:H5'	1.90	0.52
1:0:1740:G:O2'	1:0:1741:G:H5'	2.09	0.52
1:0:2579:A:H2'	1:0:2580:C:C6	2.45	0.52
1:0:473:C:C4	1:0:474:G:N7	2.78	0.52
1:0:744:C:N4	1:0:745:C:H41	2.08	0.52
1:0:763:A:C5'	1:0:1631:C:H42	2.22	0.52
1:0:940:G:C3'	1:0:941:U:C5'	2.73	0.52
1:0:1117:G:H2'	1:0:1118:G:C8	2.45	0.52
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.52
1:0:1791:C:H2'	1:0:1792:C:C5'	2.32	0.52
1:0:2094:C:C4	1:0:2103:G:H1'	2.45	0.52
1:0:90:G:H3'	1:0:91:A:C5'	2.39	0.52
1:0:563:U:H6	1:0:563:U:O5'	1.93	0.52
1:0:765:C:O2'	1:0:766:A:O4'	2.27	0.52
1:0:1441:A:H2'	1:0:1441:A:N3	2.23	0.52
1:0:1618:U:C6	1:0:1618:U:P	3.02	0.52
1:0:1739:G:H2'	1:0:1740:G:C8	2.45	0.52
1:0:1974:U:C2'	1:0:1975:G:H5''	2.40	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:941:U:H4'	1:0:941:U:OP1	2.08	0.52
1:0:1664:G:H4'	1:0:1665:C:OP1	2.10	0.52
1:0:2204:A:O2'	1:0:2205:C:P	2.68	0.52
1:0:2624:G:H4'	1:0:2712:G:O2'	2.09	0.52
1:0:195:A:H61	1:0:212:U:H4'	1.75	0.52
1:0:238:G:O4'	1:0:618:A:H2	1.91	0.52
1:0:330:C:C2'	1:0:331:U:H5'	2.39	0.52
1:0:984:A:H2	1:0:1200:G:H1	1.58	0.52
1:0:1198:C:OP1	1:0:1199:U:O4'	2.28	0.52
1:0:1763:G:H2'	1:0:1764:A:C4'	2.35	0.52
1:0:2238:G:H1'	1:0:2406:C:C2	2.45	0.52
1:0:2813:G:O2'	1:0:2814:G:H5'	2.09	0.52
1:0:365:U:H2'	1:0:366:U:C6	2.45	0.52
1:0:805:G:H2'	1:0:2419:C:N3	2.25	0.52
1:0:1998:A:H2'	1:0:1999:U:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2048:C:O2'	1:0:2049:C:H5'	2.09	0.52
1:0:2429:A:OP1	1:0:2476:A:H2'	2.09	0.52
1:0:2466:G:H2'	1:0:2467:A:H8	1.72	0.52
1:0:132:U:H2'	1:0:133:C:C6	2.45	0.52
1:0:158:A:H2'	1:0:159:A:C8	2.45	0.52
1:0:321:A:H2'	1:0:323:G:C8	2.45	0.52
1:0:336:A:H2'	1:0:337:G:O4'	2.09	0.52
1:0:746:G:O6	1:0:774:A:H2'	2.09	0.52
1:0:1004:A:C2'	1:0:1005:U:H5''	2.39	0.52
1:0:1124:U:H2'	1:0:1125:G:H8	1.75	0.52
1:0:1213:U:N3	1:0:1260:A:H2	2.08	0.52
1:0:1257:U:H2'	1:0:1258:G:H8	1.74	0.52
1:0:1312:G:H4'	1:0:1314:A:N3	2.25	0.52
1:0:1429:A:N6	1:0:1602:G:H5'	2.25	0.52
1:0:195:A:C6	1:0:212:U:H4'	2.45	0.51
1:0:573:C:H2'	1:0:574:C:O4'	2.10	0.51
1:0:839:U:C4	1:0:841:G:H1'	2.45	0.51
1:0:1679:U:C3'	1:0:1680:U:H5''	2.39	0.51
1:0:1781:C:H2'	1:0:1782:A:N7	2.26	0.51
1:0:2080:U:H2'	1:0:2081:U:C6	2.45	0.51
1:0:2491:C:H3'	1:0:2492:G:H5''	1.91	0.51
1:0:2708:U:H2'	1:0:2709:C:H6	1.73	0.51
1:0:2795:A:N3	1:0:2795:A:H2'	2.24	0.51
1:0:839:U:OP1	1:0:2408:G:OP2	2.27	0.51
1:0:951:G:H3'	1:0:952:A:H5''	1.92	0.51
1:0:1010:U:C2	1:0:1168:G:N2	2.78	0.51
1:0:1714:A:H3'	1:0:1715:A:N7	2.25	0.51
1:0:1920:A:N6	1:0:1923:U:C6	2.78	0.51
1:0:2225:G:O2'	1:0:2226:A:H5'	2.11	0.51
1:0:2469:G:H4'	1:0:2470:U:C5	2.46	0.51
1:0:2558:C:H2'	1:0:2559:U:O4'	2.11	0.51
1:0:19:C:H5'	1:0:563:U:OP1	2.10	0.51
1:0:446:C:H2'	1:0:447:U:O4'	2.10	0.51
1:0:475:U:C1'	1:0:801:A:N1	2.72	0.51
1:0:492:G:H22	1:0:519:C:H42	1.58	0.51
1:0:757:U:O2	1:0:767:G:N2	2.43	0.51
1:0:821:A:O2'	1:0:1267:A:H4'	2.11	0.51
1:0:837:U:H2'	1:0:838:A:O4'	2.09	0.51
1:0:1038:U:N3	1:0:2467:A:H5'	2.24	0.51
1:0:1072:U:O5'	1:0:1072:U:H6	1.92	0.51
1:0:1462:C:O2'	1:0:1560:A:H1'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1644:G:N2	1:0:1645:U:C2	2.78	0.51
1:0:2505:G:N2	1:0:2517:C:C2	2.78	0.51
1:0:929:A:H3'	1:0:930:A:C5'	2.35	0.51
1:0:975:C:O5'	1:0:975:C:H6	1.93	0.51
1:0:1314:A:N7	1:0:1316:G:C8	2.79	0.51
1:0:1440:G:H3'	1:0:1441:A:H5'	1.91	0.51
1:0:2053:G:C2	1:0:2421:C:C2	2.98	0.51
1:0:2369:U:H2'	1:0:2370:G:C8	2.45	0.51
1:0:139:A:O2'	1:0:140:G:H5'	2.11	0.51
1:0:222:G:O2'	1:0:223:C:H5'	2.11	0.51
1:0:429:C:H2'	1:0:430:C:O4'	2.08	0.51
1:0:583:C:O2'	1:0:584:A:P	2.68	0.51
1:0:688:A:N6	1:0:816:U:H3	1.96	0.51
1:0:698:A:C6	1:0:786:U:C5	2.98	0.51
1:0:788:G:N2	1:0:801:A:P	2.84	0.51
1:0:957:G:N2	1:0:983:G:H1'	2.25	0.51
1:0:1009:C:O5'	1:0:1009:C:H6	1.92	0.51
1:0:1135:C:H2'	1:0:1136:G:C8	2.44	0.51
1:0:1174:G:H2'	1:0:1175:A:C8	2.46	0.51
1:0:1558:C:H2'	1:0:1559:G:H5'	1.92	0.51
1:0:1620:C:O2'	1:0:1621:C:H5'	2.11	0.51
1:0:2321:C:C2'	1:0:2322:U:H5'	2.40	0.51
1:0:27:G:O2'	1:0:28:A:O4'	2.28	0.51
1:0:76:C:H2'	1:0:77:C:C6	2.46	0.51
1:0:178:C:H2'	1:0:179:U:C6	2.46	0.51
1:0:333:A:H2'	1:0:350:U:O2	2.11	0.51
1:0:357:A:H2'	1:0:357:A:N3	2.25	0.51
1:0:813:A:O2'	1:0:814:G:O5'	2.29	0.51
1:0:1220:G:C2	1:0:1221:C:N3	2.79	0.51
1:0:1924:C:H2'	1:0:1925:C:O4'	2.10	0.51
1:0:2169:A:C2'	1:0:2170:C:H5'	2.41	0.51
1:0:2602:G:OP1	1:0:2801:A:O2'	2.28	0.51
1:0:2662:C:H42	1:0:2707:G:H21	1.58	0.51
1:0:475:U:C2	1:0:801:A:C6	2.98	0.51
1:0:818:G:N1	1:0:2051:U:H5''	2.26	0.51
1:0:1318:A:C6	1:0:1319:C:C4	2.99	0.51
1:0:1480:G:C2'	1:0:1481:U:H5'	2.41	0.51
1:0:1730:G:H2'	1:0:1731:C:C6	2.45	0.51
1:0:1783:G:O6	1:0:1820:G:H1'	2.11	0.51
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.51
1:0:2396:C:O2'	1:0:2397:A:H5'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2799:C:H2'	1:0:2800:C:O4'	2.10	0.51
1:0:490:A:N7	1:0:492:G:N3	2.59	0.51
1:0:510:G:H8	1:0:510:G:O5'	1.94	0.51
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:2015:G:N1	1:0:2038:C:O2	2.36	0.51
1:0:2082:C:N4	1:0:2083:G:C6	2.79	0.51
1:0:2507:U:O2'	1:0:2508:G:H3'	2.11	0.51
1:0:322:A:H2	1:0:342:G:OP2	1.94	0.51
1:0:474:G:H22	1:0:476:G:H3'	1.75	0.51
1:0:764:A:N3	1:0:764:A:C2'	2.74	0.51
1:0:1333:G:N2	1:0:1344:C:N4	2.58	0.51
1:0:1494:G:H2'	1:0:1495:G:O4'	2.11	0.51
1:0:2432:A:H4'	1:0:2551:A:O2'	2.10	0.51
1:0:2544:A:H2'	1:0:2545:A:C1'	2.41	0.51
1:0:2594:U:N3	1:0:2595:C:C5	2.79	0.51
1:0:525:A:H2'	1:0:526:C:O4'	2.10	0.51
1:0:537:C:C6	1:0:2759:U:H2'	2.46	0.51
1:0:625:A:O5'	1:0:625:A:H8	1.93	0.51
1:0:790:A:O2'	1:0:791:G:H5'	2.11	0.51
1:0:1026:U:H2'	1:0:1027:C:H6	1.74	0.51
1:0:1363:C:H2'	1:0:1364:C:O4'	2.11	0.51
1:0:1823:G:H2'	1:0:1824:C:C6	2.46	0.51
1:0:1933:G:H8	1:0:1933:G:O5'	1.93	0.51
1:0:2394:G:H2'	1:0:2395:C:H6	1.76	0.51
1:0:2402:U:H5'	1:0:2404:A:C5	2.46	0.51
1:0:2701:A:H2'	1:0:2702:G:O4'	2.10	0.51
1:0:887:G:O2'	1:0:888:G:H5'	2.11	0.50
1:0:1383:C:O2'	1:0:1384:G:H5'	2.11	0.50
1:0:1435:G:N2	1:0:1512:A:C2	2.79	0.50
1:0:186:C:O2'	1:0:187:U:H5'	2.12	0.50
1:0:931:G:N2	1:0:2247:A:C5'	2.72	0.50
1:0:1390:G:H8	1:0:1390:G:O5'	1.93	0.50
1:0:1666:G:H2'	1:0:1667:A:H8	1.75	0.50
1:0:65:C:O2'	1:0:66:U:H5'	2.11	0.50
1:0:159:A:O2'	1:0:160:C:H5'	2.12	0.50
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
1:0:847:C:N4	1:0:955:G:H21	1.86	0.50
1:0:1579:G:H2'	1:0:1580:C:C6	2.46	0.50
1:0:1636:G:H2'	1:0:1637:U:H6	1.76	0.50
1:0:1710:U:H3	1:0:1821:A:N6	2.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1785:A:H2'	1:0:1786:C:C6	2.47	0.50
1:0:2032:G:N2	1:0:2599:U:C2	2.79	0.50
1:0:161:U:H5'	1:0:193:A:N1	2.27	0.50
1:0:305:A:C2'	1:0:306:G:H5'	2.42	0.50
1:0:704:G:O2'	1:0:705:C:H5'	2.11	0.50
1:0:1398:G:O2'	1:0:1399:C:H5'	2.10	0.50
1:0:1729:C:H2'	1:0:1730:G:C8	2.46	0.50
1:0:1732:U:H2'	1:0:1733:U:O5'	2.11	0.50
1:0:2026:C:H2'	1:0:2027:C:H6	1.77	0.50
1:0:2266:A:H62	1:0:2323:U:H1'	1.67	0.50
1:0:2471:U:O2	1:0:2471:U:H2'	2.12	0.50
1:0:2670:C:H4'	1:0:2846:G:O2'	2.11	0.50
1:0:141:G:H2'	1:0:142:U:H6	1.77	0.50
1:0:585:U:H2'	1:0:586:G:C8	2.46	0.50
1:0:588:G:C2	1:0:1275:A:C6	2.99	0.50
1:0:611:C:O2'	1:0:614:G:H5''	2.11	0.50
1:0:691:C:O2'	1:0:692:C:H5'	2.12	0.50
1:0:764:A:N1	1:0:802:A:C4	2.80	0.50
1:0:824:U:H2'	1:0:825:C:C5'	2.40	0.50
1:0:914:C:O2'	1:0:915:C:H5'	2.11	0.50
1:0:1287:A:C5	1:0:1315:A:C2	3.00	0.50
1:0:1304:U:C2'	1:0:1305:C:H5'	2.40	0.50
1:0:1418:C:H2'	1:0:1419:G:C8	2.46	0.50
1:0:1704:G:H8	1:0:1704:G:O5'	1.94	0.50
1:0:1872:A:H1'	1:0:2070:G:H5'	1.92	0.50
1:0:2033:C:H2'	1:0:2034:A:C1'	2.41	0.50
1:0:2060:A:OP1	1:0:2061:C:OP2	2.29	0.50
1:0:2409:A:H2'	1:0:2410:U:C5'	2.40	0.50
1:0:2587:G:H5''	1:0:2588:U:OP1	2.10	0.50
1:0:2683:C:O5'	1:0:2683:C:H6	1.95	0.50
1:0:2703:C:O2'	1:0:2704:U:H5'	2.11	0.50
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.50
1:0:740:A:N6	1:0:741:G:N1	2.60	0.50
1:0:741:G:C5	1:0:743:A:C8	3.00	0.50
1:0:964:A:H1'	1:0:2245:A:OP2	2.11	0.50
1:0:1392:U:H2'	1:0:1392:U:O2	2.11	0.50
1:0:1979:C:H2'	1:0:1979:C:O2	2.10	0.50
1:0:2268:G:H5''	1:0:2363:G:HO2'	1.73	0.50
1:0:2725:C:H2'	1:0:2726:U:C6	2.47	0.50
1:0:2812:A:H2'	1:0:2813:G:C8	2.46	0.50
1:0:108:G:H2'	1:0:109:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:147:G:O5'	1:0:147:G:H8	1.94	0.50
1:0:788:G:H21	1:0:801:A:P	2.34	0.50
1:0:843:G:H3'	1:0:843:G:OP1	2.11	0.50
1:0:1218:C:H2'	1:0:1219:C:O4'	2.11	0.50
1:0:1846:A:H2'	1:0:1847:G:O4'	2.11	0.50
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.50
1:0:2830:U:H2'	1:0:2831:A:H8	1.77	0.50
1:0:538:A:C3'	1:0:539:A:H5''	2.42	0.50
1:0:1252:C:O5'	1:0:1252:C:H6	1.94	0.50
1:0:1259:A:H2'	1:0:1260:A:H5'	1.92	0.50
1:0:1468:A:P	1:0:1468:A:H8	2.33	0.50
1:0:1474:A:N3	1:0:1474:A:C3'	2.70	0.50
1:0:1717:A:H2'	1:0:1718:A:H5'	1.94	0.50
1:0:1959:U:H2'	1:0:1960:A:C8	2.47	0.50
1:0:2272:A:C2	1:0:2273:C:C2	3.00	0.50
1:0:2356:A:O2'	1:0:2357:A:H5'	2.12	0.50
1:0:2790:C:H2'	1:0:2791:C:H6	1.75	0.50
1:0:50:G:H2'	1:0:117:A:N1	2.26	0.50
1:0:58:C:H1'	1:0:72:A:C8	2.47	0.50
1:0:198:A:O2'	1:0:199:A:P	2.70	0.50
1:0:500:G:C6	1:0:1297:A:C2	3.00	0.50
1:0:745:C:H2'	1:0:746:G:C5'	2.42	0.50
1:0:845:U:O2'	1:0:846:A:H5'	2.12	0.50
1:0:959:C:O2'	1:0:960:U:H5'	2.12	0.50
1:0:995:A:H5''	1:0:996:C:C5	2.45	0.50
1:0:1313:U:H1'	1:0:1642:G:C2	2.47	0.50
1:0:1714:A:H5''	1:0:1715:A:C8	2.47	0.50
1:0:2076:G:H2'	1:0:2077:G:C8	2.47	0.50
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.50
1:0:2842:C:H6	1:0:2842:C:H5''	1.77	0.50
1:0:45:C:H2'	1:0:46:C:C6	2.47	0.49
1:0:616:U:N3	1:0:632:A:N1	2.54	0.49
1:0:763:A:H5''	1:0:1631:C:H42	1.76	0.49
1:0:790:A:C2	1:0:791:G:C8	3.00	0.49
1:0:65:C:C2'	1:0:66:U:H5'	2.42	0.49
1:0:93:A:O2'	1:0:94:C:H5'	2.11	0.49
1:0:114:C:H2'	1:0:115:G:C8	2.47	0.49
1:0:202:A:O2'	1:0:234:C:H4'	2.12	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.12	0.49
1:0:889:C:O2'	1:0:890:U:H5'	2.12	0.49
1:0:974:U:C1'	1:0:2229:G:H21	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1458:A:C6	1:0:1460:G:N7	2.80	0.49
1:0:1719:G:O2'	1:0:1720:G:H5'	2.11	0.49
1:0:1799:A:C8	1:0:1800:A:N7	2.80	0.49
1:0:1965:U:C5	1:0:1966:C:H5	2.29	0.49
1:0:2377:U:H2'	1:0:2378:G:C8	2.47	0.49
1:0:2459:C:H2'	1:0:2460:G:H5'	1.94	0.49
1:0:2515:G:H2'	1:0:2516:U:C6	2.47	0.49
1:0:2717:G:H2'	1:0:2718:A:C8	2.47	0.49
1:0:1091:C:H2'	1:0:1092:U:H6	1.74	0.49
1:0:1278:A:O2'	1:0:1279:G:OP2	2.30	0.49
1:0:1310:C:O2'	1:0:1315:A:N1	2.44	0.49
1:0:1680:U:O2'	1:0:1681:A:H5''	2.12	0.49
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.49
1:0:31:C:H2'	1:0:32:C:H6	1.77	0.49
1:0:421:G:O2'	1:0:422:C:H5'	2.12	0.49
1:0:612:G:O3'	1:0:613:A:C4'	2.60	0.49
1:0:745:C:C2'	1:0:746:G:H5'	2.42	0.49
1:0:814:G:H8	1:0:814:G:O5'	1.96	0.49
1:0:833:A:N3	1:0:954:U:O2'	2.46	0.49
1:0:929:A:N7	1:0:2247:A:N1	2.60	0.49
1:0:1226:A:H2'	1:0:1227:A:H8	1.78	0.49
1:0:1721:G:O2'	1:0:1722:G:H5'	2.12	0.49
1:0:1724:C:H1'	1:0:1747:G:C4	2.48	0.49
1:0:1826:U:O2	1:0:1953:A:N7	2.45	0.49
1:0:1904:G:O2'	1:0:1905:G:H5'	2.12	0.49
1:0:1915:A:H2'	1:0:1916:G:O4'	2.12	0.49
1:0:1923:U:O2	1:0:1923:U:H2'	2.11	0.49
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.49
1:0:457:C:C2'	1:0:458:G:H5'	2.42	0.49
1:0:604:U:H2'	1:0:605:G:H8	1.76	0.49
1:0:689:A:H2'	1:0:690:A:H5'	1.93	0.49
1:0:1550:C:O5'	1:0:1550:C:H6	1.96	0.49
1:0:1773:C:O4'	1:0:2588:U:C2	2.65	0.49
1:0:1858:C:H2'	1:0:1859:A:C8	2.44	0.49
1:0:1955:G:H2'	1:0:1956:G:H5'	1.93	0.49
1:0:2498:U:C5'	1:0:2499:C:OP1	2.49	0.49
1:0:2792:C:N3	1:0:2805:G:C2	2.81	0.49
1:0:16:G:O2'	1:0:17:G:H5'	2.12	0.49
1:0:162:C:H2'	1:0:163:A:H8	1.75	0.49
1:0:323:G:OP2	1:0:343:A:H5'	2.12	0.49
1:0:701:U:C4'	1:0:1771:A:H2	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.49
1:0:1540:C:O2'	1:0:1541:G:H5'	2.11	0.49
1:0:1683:G:C2'	1:0:1684:G:H5'	2.42	0.49
1:0:1690:U:C2'	1:0:1691:G:H5'	2.35	0.49
1:0:1895:A:N6	1:0:1900:U:H5	2.10	0.49
1:0:1940:C:H2'	1:0:1941:C:C6	2.47	0.49
1:0:2261:G:H5''	1:0:2262:C:O5'	2.12	0.49
1:0:2441:U:H2'	1:0:2442:C:C6	2.48	0.49
1:0:2705:A:C2'	1:0:2706:U:O5'	2.61	0.49
1:0:218:A:H5'	1:0:220:U:H1'	1.95	0.49
1:0:365:U:H2'	1:0:366:U:H6	1.77	0.49
1:0:699:G:N3	1:0:699:G:C3'	2.75	0.49
1:0:1168:G:H8	1:0:1168:G:O5'	1.96	0.49
1:0:1278:A:HO2'	1:0:1279:G:P	2.35	0.49
1:0:1682:A:N6	1:0:1683:G:C6	2.80	0.49
1:0:1741:G:O2'	1:0:1742:G:H5'	2.11	0.49
1:0:1783:G:O2'	1:0:1784:C:H5'	2.11	0.49
1:0:1818:G:H2'	1:0:1819:U:C6	2.47	0.49
1:0:1989:C:O5'	1:0:1989:C:H6	1.96	0.49
1:0:2019:C:H5'	1:0:2019:C:H6	1.78	0.49
1:0:2245:A:C4	1:0:2251:U:O4	2.65	0.49
1:0:2541:U:H2'	1:0:2542:U:O4'	2.13	0.49
1:0:2608:A:N6	1:0:2869:U:N3	2.60	0.49
1:0:2727:G:H2'	1:0:2728:A:H5''	1.94	0.49
1:0:605:G:C2	1:0:606:A:C5	3.01	0.49
1:0:701:U:O2'	1:0:702:A:H5'	2.13	0.49
1:0:1226:A:N9	1:0:1250:A:C2	2.81	0.49
1:0:1495:G:H2'	1:0:1496:G:C8	2.48	0.49
1:0:1685:A:O2'	1:0:1686:A:P	2.70	0.49
1:0:1919:A:C6	1:0:1928:G:C4	3.01	0.49
1:0:1944:C:H2'	1:0:1945:C:O4'	2.13	0.49
1:0:1957:C:O2'	1:0:1958:G:H5'	2.12	0.49
1:0:2097:A:H5'	1:0:2105:U:OP1	2.13	0.49
1:0:2571:G:N1	1:0:2582:G:C6	2.81	0.49
1:0:65:C:H2'	1:0:66:U:O4'	2.12	0.49
1:0:239:A:C2	1:0:443:A:H1'	2.48	0.49
1:0:466:A:C2'	1:0:467:U:OP2	2.61	0.49
1:0:495:C:H2'	1:0:496:C:C6	2.48	0.49
1:0:578:U:OP1	1:0:956:A:C6	2.66	0.49
1:0:1171:A:H2'	1:0:1172:U:C6	2.46	0.49
1:0:1407:G:C2	1:0:1408:A:C2	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2458:U:OP1	1:0:2516:U:H1'	2.13	0.49
1:0:172:A:N1	1:0:178:C:N3	2.61	0.49
1:0:539:A:C2'	1:0:540:G:OP2	2.61	0.49
1:0:697:G:H2'	1:0:787:A:N1	2.28	0.49
1:0:798:G:H2'	1:0:798:G:N3	2.28	0.49
1:0:953:G:H1'	1:0:1203:A:C2	2.40	0.49
1:0:1083:C:N4	1:0:1103:C:H41	2.07	0.49
1:0:1199:U:O4	1:0:1201:G:O6	2.31	0.49
1:0:1358:C:OP1	1:0:1358:C:H6	1.96	0.49
1:0:1411:C:H2'	1:0:1412:C:C6	2.48	0.49
1:0:2044:G:C8	1:0:2482:A:H1'	2.47	0.49
1:0:2048:C:H2'	1:0:2049:C:O4'	2.12	0.49
1:0:2133:G:H2'	1:0:2134:U:C6	2.47	0.49
1:0:2217:G:H3'	1:0:2217:G:N3	2.27	0.49
1:0:2219:U:O2'	1:0:2220:A:H5'	2.11	0.49
1:0:2264:C:H2'	1:0:2265:A:H5'	1.95	0.49
1:0:2391:A:H2'	1:0:2392:G:O4'	2.13	0.49
1:0:2617:G:N2	1:0:2755:A:H2'	2.27	0.49
1:0:42:G:H2'	1:0:43:A:O4'	2.12	0.48
1:0:75:C:H2'	1:0:76:C:C5'	2.34	0.48
1:0:195:A:N6	1:0:212:U:H4'	2.26	0.48
1:0:837:U:H1'	1:0:2337:A:N7	2.27	0.48
1:0:1062:G:C5	1:0:1063:C:H5	2.30	0.48
1:0:1217:U:H2'	1:0:1218:C:C6	2.48	0.48
1:0:1418:C:H2'	1:0:1419:G:H8	1.76	0.48
1:0:1523:A:H8	1:0:1523:A:O5'	1.95	0.48
1:0:1543:G:H2'	1:0:1544:A:O4'	2.13	0.48
1:0:2585:C:O2'	1:0:2586:G:H5'	2.12	0.48
1:0:2803:C:C2'	1:0:2804:G:H5'	2.43	0.48
1:0:2876:C:H2'	1:0:2877:A:O4'	2.13	0.48
1:0:66:U:H2'	1:0:67:G:H8	1.78	0.48
1:0:627:A:H2'	1:0:628:A:C8	2.48	0.48
1:0:965:G:N3	1:0:2253:A:C2	2.80	0.48
1:0:1000:G:OP1	1:0:1168:G:H4'	2.14	0.48
1:0:1212:U:H2'	1:0:1213:U:H6	1.78	0.48
1:0:1313:U:O5'	1:0:1313:U:H6	1.97	0.48
1:0:1785:A:H2'	1:0:1786:C:H6	1.78	0.48
1:0:1787:U:H2'	1:0:1788:C:H6	1.77	0.48
1:0:2522:G:H21	1:0:2625:U:H5''	1.78	0.48
1:0:2633:A:C2	1:0:2644:A:H5''	2.48	0.48
1:0:2739:G:H2'	1:0:2740:C:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1:G:H2'	1:0:2:G:O4'	2.14	0.48
1:0:181:A:H5''	1:0:182:G:OP1	2.13	0.48
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.48
1:0:459:A:O2'	1:0:461:A:N6	2.37	0.48
1:0:541:C:N4	1:0:572:G:C8	2.72	0.48
1:0:615:C:O2'	1:0:671:A:H4'	2.13	0.48
1:0:791:G:C5	1:0:792:U:C4	3.01	0.48
1:0:814:G:O5'	1:0:814:G:C8	2.66	0.48
1:0:1028:G:H2'	1:0:1029:C:O4'	2.13	0.48
1:0:1058:G:O2'	1:0:1121:G:N2	2.46	0.48
1:0:1643:A:H1'	1:0:1657:A:C2	2.48	0.48
1:0:1940:C:H2'	1:0:1941:C:H6	1.79	0.48
1:0:2020:G:H2'	1:0:2021:G:C8	2.48	0.48
1:0:2769:C:H2'	1:0:2770:A:H5'	1.94	0.48
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.48
1:0:43:A:H61	1:0:446:C:H42	1.61	0.48
1:0:242:A:O2'	1:0:243:G:P	2.71	0.48
1:0:625:A:O5'	1:0:625:A:C8	2.66	0.48
1:0:1781:C:H2'	1:0:1782:A:C8	2.48	0.48
1:0:2026:C:H2'	1:0:2027:C:C6	2.48	0.48
1:0:2655:C:H2'	1:0:2656:G:O4'	2.13	0.48
1:0:2685:A:H4'	1:0:2826:C:H4'	1.95	0.48
1:0:2757:G:OP2	1:0:2761:A:O2'	2.32	0.48
1:0:1166:A:C2'	1:0:1167:A:H5''	2.44	0.48
1:0:1670:G:OP1	1:0:2797:G:N2	2.30	0.48
1:0:1800:A:H5''	1:0:1801:C:OP1	2.12	0.48
1:0:1845:A:N6	1:0:1872:A:N7	2.61	0.48
1:0:1927:U:O2	1:0:1927:U:H2'	2.12	0.48
1:0:1990:U:H4'	1:0:2799:C:H4'	1.95	0.48
1:0:2426:G:O2'	1:0:2427:A:OP2	2.30	0.48
1:0:2594:U:C2	1:0:2595:C:C5	3.02	0.48
1:0:57:G:N2	1:0:69:G:C4	2.81	0.48
1:0:122:G:O2'	1:0:123:A:H5''	2.12	0.48
1:0:223:C:O2'	1:0:398:C:H4'	2.14	0.48
1:0:538:A:O5'	1:0:538:A:H8	1.96	0.48
1:0:580:A:C6	1:0:584:A:C5	3.02	0.48
1:0:594:G:C4	1:0:1264:C:N4	2.82	0.48
1:0:789:G:N3	1:0:806:A:N7	2.60	0.48
1:0:971:A:O2'	1:0:972:C:H3'	2.14	0.48
1:0:1445:A:C2	1:0:1446:U:H1'	2.49	0.48
1:0:2343:C:O2'	1:0:2344:G:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2384:G:H2'	1:0:2390:A:H62	1.79	0.48
1:0:2497:A:O4'	1:0:2497:A:N3	2.47	0.48
1:0:36:G:C1'	1:0:462:G:H21	2.26	0.48
1:0:487:G:O3'	1:0:511:A:N6	2.46	0.48
1:0:605:G:H2'	1:0:606:A:H8	1.77	0.48
1:0:1025:A:O2'	1:0:1026:U:H5'	2.14	0.48
1:0:1153:A:C2	1:0:1155:G:C6	3.01	0.48
1:0:1234:C:H2'	1:0:1235:C:C6	2.48	0.48
1:0:1293:A:C2	1:0:1304:U:N3	2.82	0.48
1:0:1323:G:C1'	1:0:1627:C:H5''	2.43	0.48
1:0:1345:G:H5''	1:0:1346:C:OP1	2.14	0.48
1:0:1496:G:H1	1:0:1527:G:H1	1.61	0.48
1:0:1771:A:C8	1:0:1772:C:H5	2.31	0.48
1:0:1919:A:N6	1:0:1928:G:N3	2.62	0.48
1:0:2034:A:H5'	1:0:2557:G:C4'	2.43	0.48
1:0:2093:G:H2'	1:0:2094:C:H6	1.78	0.48
1:0:2347:C:N4	1:0:2361:G:H1	2.12	0.48
1:0:2455:A:C2'	1:0:2456:U:H5'	2.43	0.48
1:0:2495:G:H2'	1:0:2496:C:C6	2.48	0.48
1:0:2760:G:C2'	1:0:2761:A:OP1	2.62	0.48
1:0:14:A:N6	1:0:15:G:N2	2.59	0.48
1:0:203:G:H5'	1:0:234:C:H4'	1.96	0.48
1:0:488:A:H2'	1:0:489:A:C8	2.49	0.48
1:0:699:G:C5'	1:0:700:C:OP2	2.54	0.48
1:0:1008:G:O2'	1:0:1009:C:H5'	2.13	0.48
1:0:1630:A:OP2	1:0:1630:A:C8	2.65	0.48
1:0:1802:A:H2'	1:0:1803:G:O4'	2.14	0.48
1:0:2425:G:H2'	1:0:2480:C:C5	2.37	0.48
1:0:2471:U:H2'	1:0:2472:U:C6	2.49	0.48
1:0:701:U:C5'	1:0:1771:A:H2	2.27	0.48
1:0:853:C:C2	1:0:950:G:C6	3.02	0.48
1:0:911:A:H8	1:0:911:A:O5'	1.96	0.48
1:0:953:G:H2'	1:0:954:U:H6	1.77	0.48
1:0:978:U:H2'	1:0:979:A:C8	2.48	0.48
1:0:1666:G:H2'	1:0:1667:A:C8	2.49	0.48
1:0:1673:C:H2'	1:0:1674:C:H6	1.78	0.48
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.48
1:0:1782:A:H62	1:0:1820:G:H2'	1.79	0.48
1:0:1835:C:H2'	1:0:1836:C:C6	2.49	0.48
1:0:1962:C:O2'	1:0:1963:G:H5'	2.14	0.48
1:0:2019:C:O2'	1:0:2020:G:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2119:A:H2'	1:0:2120:C:H6	1.78	0.48
1:0:2202:G:H3'	1:0:2203:G:H8	1.79	0.48
1:0:2274:C:C2'	1:0:2275:U:H5''	2.37	0.48
1:0:2407:G:H4'	1:0:2408:G:C5	2.49	0.48
1:0:158:A:C2	1:0:447:U:H4'	2.48	0.48
1:0:443:A:H8	1:0:443:A:O5'	1.97	0.48
1:0:464:G:H8	1:0:464:G:O5'	1.97	0.48
1:0:490:A:C5	1:0:492:G:H1'	2.48	0.48
1:0:600:G:H3'	1:0:601:A:H5''	1.94	0.48
1:0:630:G:H8	1:0:630:G:O5'	1.95	0.48
1:0:651:C:C3'	1:0:652:C:C5'	2.91	0.48
1:0:765:C:O2'	1:0:766:A:P	2.72	0.48
1:0:775:U:H4'	1:0:776:G:C8	2.49	0.48
1:0:1199:U:H3'	1:0:1200:G:H5''	1.96	0.48
1:0:1255:A:H2'	1:0:1256:C:C6	2.49	0.48
1:0:1399:C:O2'	1:0:1400:A:C5'	2.61	0.48
1:0:2627:G:H2'	1:0:2628:C:O4'	2.13	0.48
1:0:115:G:N1	1:0:117:A:N6	2.62	0.47
1:0:743:A:N1	1:0:744:C:C2	2.82	0.47
1:0:1278:A:C8	1:0:1280:U:C4	3.02	0.47
1:0:1315:A:H5''	1:0:1316:G:P	2.54	0.47
1:0:1354:A:H2'	1:0:1410:U:O2	2.15	0.47
1:0:1531:C:H2'	1:0:1532:A:H5'	1.95	0.47
1:0:1691:G:H21	1:0:1694:A:N6	2.13	0.47
1:0:1950:C:H2'	1:0:1951:G:O4'	2.13	0.47
1:0:1992:G:O2'	1:0:1993:G:H5'	2.14	0.47
1:0:2497:A:C5'	1:0:2498:U:OP2	2.60	0.47
1:0:2717:G:H2'	1:0:2718:A:H8	1.78	0.47
1:0:2759:U:H4'	1:0:2760:G:O5'	2.14	0.47
1:0:73:A:H4'	1:0:74:G:H1'	1.95	0.47
1:0:398:C:O2'	1:0:401:G:N2	2.47	0.47
1:0:541:C:O2	1:0:541:C:H2'	2.14	0.47
1:0:644:A:C2'	1:0:645:G:H5'	2.43	0.47
1:0:1004:A:C2'	1:0:1005:U:C5'	2.91	0.47
1:0:1549:C:N4	1:0:1554:G:C6	2.71	0.47
1:0:1910:A:C2	1:0:1911:A:C2	3.03	0.47
1:0:1952:A:O2'	1:0:1955:G:N2	2.46	0.47
1:0:2019:C:H2'	1:0:2020:G:O5'	2.13	0.47
1:0:2170:C:H2'	1:0:2171:U:O4'	2.14	0.47
1:0:2275:U:H3'	1:0:2275:U:H6	1.79	0.47
1:0:2618:A:N1	1:0:2619:G:H1'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2793:G:H1'	1:0:2804:G:H22	1.78	0.47
1:0:2841:U:H1'	1:0:2843:A:C1'	2.45	0.47
1:0:294:U:H2'	1:0:295:C:C6	2.49	0.47
1:0:425:A:N7	1:0:2390:A:H2	2.12	0.47
1:0:428:A:H2'	1:0:429:C:C6	2.46	0.47
1:0:584:A:OP2	1:0:2038:C:C5	2.67	0.47
1:0:927:C:C2'	1:0:928:G:H5'	2.44	0.47
1:0:1101:U:H3	1:0:1113:C:C1'	2.26	0.47
1:0:1101:U:C2	1:0:1113:C:H1'	2.50	0.47
1:0:1312:G:H5''	1:0:1313:U:H5'	1.94	0.47
1:0:1573:G:O6	1:0:1574:A:N6	2.48	0.47
1:0:1775:A:H5''	1:0:1776:A:OP1	2.15	0.47
1:0:16:G:C2'	1:0:17:G:H5'	2.45	0.47
1:0:197:G:H2'	1:0:440:U:O4	2.14	0.47
1:0:295:C:N4	1:0:296:A:N6	2.63	0.47
1:0:310:A:C4	1:0:333:A:N6	2.83	0.47
1:0:474:G:C6	1:0:478:G:O6	2.68	0.47
1:0:708:G:H2'	1:0:709:A:H8	1.79	0.47
1:0:745:C:O2'	1:0:746:G:H5'	2.14	0.47
1:0:828:C:H2'	1:0:829:C:H6	1.79	0.47
1:0:1675:C:O5'	1:0:1675:C:H6	1.97	0.47
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.47
1:0:2585:C:H2'	1:0:2586:G:O4'	2.14	0.47
1:0:122:G:C2'	1:0:123:A:H5''	2.45	0.47
1:0:176:A:H5'	1:0:177:U:OP2	2.14	0.47
1:0:633:G:H8	1:0:633:G:O5'	1.97	0.47
1:0:639:G:O2'	1:0:640:C:H5'	2.14	0.47
1:0:814:G:H3'	1:0:815:A:C5'	2.45	0.47
1:0:873:U:H3'	1:0:874:A:C5'	2.44	0.47
1:0:1219:C:O5'	1:0:1219:C:H6	1.97	0.47
1:0:1251:G:H2'	1:0:1252:C:O4'	2.15	0.47
1:0:1296:G:H2'	1:0:1298:G:OP2	2.14	0.47
1:0:1313:U:O5'	1:0:1313:U:C6	2.67	0.47
1:0:1447:U:H1'	1:0:1577:G:N2	2.29	0.47
1:0:1457:A:H2'	1:0:1458:A:O4'	2.14	0.47
1:0:1634:A:H4'	1:0:1635:G:OP1	2.14	0.47
1:0:1678:G:O2'	1:0:1679:U:H5'	2.13	0.47
1:0:1764:A:C2	1:0:1960:A:N1	2.83	0.47
1:0:1776:A:C8	1:0:1778:U:C5	3.02	0.47
1:0:1806:G:C5	1:0:1807:A:N7	2.83	0.47
1:0:2245:A:N3	1:0:2251:U:O4	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2773:G:H3'	1:0:2774:U:H5''	1.96	0.47
1:0:2826:C:N4	1:0:2827:G:C6	2.83	0.47
1:0:3:U:H6	1:0:3:U:O5'	1.96	0.47
1:0:1034:U:H2'	1:0:1035:G:O4'	2.15	0.47
1:0:1142:G:O6	1:0:2008:C:H1'	2.14	0.47
1:0:1253:C:C2'	1:0:1254:G:H5'	2.44	0.47
1:0:1279:G:H2'	1:0:1995:G:O6	2.14	0.47
1:0:1356:G:O4'	1:0:1613:G:H2'	2.14	0.47
1:0:1479:G:H21	1:0:1543:G:N2	2.11	0.47
1:0:1514:C:H2'	1:0:1515:U:O4'	2.14	0.47
1:0:1556:A:H2'	1:0:1557:G:H8	1.80	0.47
1:0:1684:G:H2'	1:0:1974:U:O4	2.14	0.47
1:0:1714:A:H5'	1:0:1715:A:O5'	2.15	0.47
1:0:1715:A:N3	1:0:1717:A:O4'	2.47	0.47
1:0:1727:C:H4'	1:0:2833:C:O2	2.15	0.47
1:0:1778:U:H4'	1:0:2568:A:O3'	2.14	0.47
1:0:1849:G:H8	1:0:1849:G:O5'	1.97	0.47
1:0:1926:U:O5'	1:0:1926:U:H6	1.97	0.47
1:0:2396:C:H2'	1:0:2397:A:C5'	2.44	0.47
1:0:119:G:H1'	1:0:129:A:C2	2.50	0.47
1:0:204:A:C6	1:0:2386:G:H1'	2.50	0.47
1:0:445:A:C2'	1:0:446:C:H5'	2.45	0.47
1:0:486:U:C4'	1:0:520:C:H5'	2.39	0.47
1:0:486:U:H2'	1:0:487:G:H5'	1.97	0.47
1:0:781:G:H5'	1:0:1638:G:C4'	2.45	0.47
1:0:1356:G:H4'	1:0:1613:G:H2'	1.96	0.47
1:0:1439:G:H2'	1:0:1440:G:C8	2.49	0.47
1:0:1452:U:O2'	1:0:1453:A:H5'	2.13	0.47
1:0:1624:A:N6	1:0:1627:C:C2	2.83	0.47
1:0:1643:A:H2'	1:0:1644:G:H8	1.79	0.47
1:0:1768:U:O2'	1:0:1769:U:H5'	2.14	0.47
1:0:2037:A:N7	1:0:2039:G:H1'	2.29	0.47
1:0:2045:A:C6	4:0:2881:TAO:H411	2.49	0.47
1:0:2093:G:H2'	1:0:2094:C:C6	2.50	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.97	0.47
1:0:2579:A:H2'	1:0:2580:C:H6	1.79	0.47
1:0:2607:C:H3'	1:0:2608:A:H5'	1.96	0.47
1:0:2702:G:H2'	1:0:2703:C:C6	2.50	0.47
1:0:228:A:H2'	1:0:229:G:O4'	2.15	0.47
1:0:305:A:H2'	1:0:306:G:H5'	1.95	0.47
1:0:339:U:O2	1:0:339:U:H2'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:488:A:H8	1:0:488:A:OP1	1.98	0.47
1:0:765:C:O2'	1:0:766:A:O5'	2.32	0.47
1:0:800:U:H3'	1:0:804:C:H41	1.79	0.47
1:0:1005:U:O2	1:0:1007:A:N7	2.47	0.47
1:0:1110:G:H2'	1:0:1111:C:H6	1.79	0.47
1:0:1531:C:O5'	1:0:1531:C:H6	1.98	0.47
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:2235:G:O2'	1:0:2236:U:H5'	2.15	0.47
1:0:2286:G:H21	1:0:2290:A:H62	1.61	0.47
1:0:2726:U:H3'	1:0:2727:G:H8	1.80	0.47
1:0:2818:G:N2	1:0:2850:U:C2	2.83	0.47
1:0:10:A:C2	1:0:2608:A:C2	3.02	0.47
1:0:67:G:N2	1:0:73:A:N3	2.63	0.47
1:0:671:A:H2'	1:0:672:C:C6	2.50	0.47
1:0:697:G:O2'	1:0:801:A:N6	2.48	0.47
1:0:764:A:C2	1:0:802:A:N3	2.83	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1545:G:O2'	1:0:1546:C:H5'	2.14	0.47
1:0:1791:C:H1'	1:0:1793:A:C5'	2.44	0.47
1:0:1791:C:H42	1:0:1809:G:N2	2.12	0.47
1:0:2312:A:H2'	1:0:2312:A:N3	2.30	0.47
1:0:2397:A:H2'	1:0:2398:U:O4'	2.15	0.47
1:0:9:U:H3	1:0:2608:A:H62	1.62	0.47
1:0:201:G:H2'	1:0:202:A:C8	2.50	0.47
1:0:216:U:O5'	1:0:216:U:H6	1.97	0.47
1:0:456:C:O2'	1:0:457:C:H5'	2.14	0.47
1:0:514:G:N3	1:0:514:G:C2'	2.77	0.47
1:0:669:G:H2'	1:0:670:U:H6	1.79	0.47
1:0:987:G:H4'	1:0:1167:A:N7	2.29	0.47
1:0:1090:C:O2'	1:0:1091:C:H5'	2.15	0.47
1:0:1160:C:O2'	1:0:1161:U:H5'	2.15	0.47
1:0:1440:G:C3'	1:0:1441:A:C5'	2.93	0.47
1:0:1686:A:N3	1:0:1686:A:H2'	2.29	0.47
1:0:1745:C:H2'	1:0:1745:C:O2	2.15	0.47
1:0:1852:G:N2	1:0:1853:C:C2	2.83	0.47
1:0:1969:G:O2'	1:0:1970:G:H5'	2.15	0.47
1:0:2042:A:C8	1:0:2042:A:C3'	2.98	0.47
1:0:2772:U:O2'	1:0:2773:G:H5'	2.15	0.47
1:0:2812:A:C2	1:0:2813:G:C5	3.03	0.47
1:0:681:A:C5	1:0:683:A:H2'	2.49	0.46
1:0:915:C:H2'	1:0:916:U:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:942:U:H2'	1:0:943:U:C5'	2.45	0.46
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.46
1:0:1457:A:O2'	1:0:1458:A:H5'	2.15	0.46
1:0:1683:G:H2'	1:0:1684:G:H5'	1.96	0.46
1:0:1918:G:H1'	1:0:1947:G:N2	2.30	0.46
1:0:1920:A:C2	1:0:1922:U:H5	2.33	0.46
1:0:1972:G:O2'	1:0:1973:C:H5'	2.15	0.46
1:0:2311:U:O2'	1:0:2312:A:H8	1.97	0.46
1:0:2426:G:O6	1:0:2479:U:H2'	2.15	0.46
1:0:13:A:H1'	1:0:536:A:H62	1.80	0.46
1:0:171:G:N3	1:0:179:U:O2	2.49	0.46
1:0:228:A:C5	1:0:229:G:H1'	2.50	0.46
1:0:787:A:O2'	1:0:788:G:C8	2.65	0.46
1:0:929:A:H2'	1:0:930:A:C4'	2.42	0.46
1:0:1021:A:H1'	1:0:1164:C:H1'	1.96	0.46
1:0:1928:G:N1	1:0:1929:U:C4	2.84	0.46
1:0:2627:G:O2'	1:0:2628:C:H5'	2.15	0.46
1:0:2724:G:O2'	1:0:2725:C:H5'	2.15	0.46
1:0:210:A:H61	1:0:442:A:H61	1.59	0.46
1:0:580:A:N3	1:0:582:G:N7	2.64	0.46
1:0:912:A:H2'	1:0:913:A:H8	1.81	0.46
1:0:1001:A:C3'	1:0:1002:C:H5''	2.46	0.46
1:0:1167:A:H5'	1:0:1168:G:N7	2.29	0.46
1:0:1226:A:O2'	1:0:1227:A:H5'	2.15	0.46
1:0:1432:G:N2	1:0:1596:A:H62	1.98	0.46
1:0:1436:G:H2'	1:0:1437:A:H8	1.78	0.46
1:0:1477:C:H1'	1:0:2681:A:C2	2.50	0.46
1:0:1662:G:H5''	1:0:1663:C:O4'	2.15	0.46
1:0:2060:A:C2	1:0:2414:A:N7	2.84	0.46
1:0:2240:C:H2'	1:0:2241:U:H5''	1.97	0.46
1:0:2241:U:H4'	1:0:2307:A:C2	2.51	0.46
1:0:2395:C:H2'	1:0:2396:C:C5'	2.46	0.46
1:0:161:U:H5'	1:0:193:A:C2	2.50	0.46
1:0:169:C:H2'	1:0:170:U:H5'	1.97	0.46
1:0:225:G:O5'	1:0:226:C:H5'	2.14	0.46
1:0:689:A:C2'	1:0:690:A:H5'	2.46	0.46
1:0:755:C:H5'	1:0:1692:C:O2'	2.15	0.46
1:0:866:U:O2'	1:0:867:G:H5'	2.15	0.46
1:0:1697:U:O2	1:0:1755:G:H4'	2.15	0.46
1:0:1791:C:N4	1:0:1810:U:O2	2.48	0.46
1:0:1834:G:N2	1:0:1835:C:H1'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1903:C:H2'	1:0:1904:G:C8	2.50	0.46
1:0:2002:A:C2	1:0:2003:A:C1'	2.98	0.46
1:0:2434:G:C6	1:0:2435:C:N4	2.83	0.46
1:0:2437:G:C6	1:0:2469:G:H2'	2.50	0.46
1:0:2594:U:C6	1:0:2594:U:H5'	2.51	0.46
1:0:2813:G:H2'	1:0:2814:G:H5'	1.96	0.46
1:0:1181:C:O5'	1:0:1181:C:H6	1.99	0.46
1:0:1234:C:H2'	1:0:1235:C:H6	1.81	0.46
1:0:1343:C:O2'	1:0:1344:C:H5'	2.15	0.46
1:0:1402:G:H2'	1:0:1403:U:O4'	2.15	0.46
1:0:1429:A:P	1:0:1429:A:H8	2.38	0.46
1:0:1473:U:H4'	1:0:1474:A:C8	2.51	0.46
1:0:1681:A:C4	1:0:2706:U:C2	3.04	0.46
1:0:1783:G:C6	1:0:1820:G:H1'	2.51	0.46
1:0:1792:C:H6	1:0:1792:C:O5'	1.98	0.46
1:0:1872:A:H2'	1:0:1873:A:C8	2.50	0.46
1:0:2447:G:N2	1:0:2461:G:OP2	2.48	0.46
1:0:2665:G:H2'	1:0:2666:U:O4'	2.15	0.46
1:0:2781:G:H2'	1:0:2782:G:C8	2.50	0.46
1:0:2796:A:O2'	1:0:2801:A:N1	2.46	0.46
1:0:711:C:H4'	1:0:748:A:C2	2.51	0.46
1:0:712:A:H2'	1:0:713:G:O4'	2.15	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.96	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.15	0.46
1:0:1467:U:H3'	1:0:1467:U:H6	1.79	0.46
1:0:1656:U:H2'	1:0:1657:A:C5'	2.40	0.46
1:0:1692:C:H2'	1:0:1693:A:C5'	2.45	0.46
1:0:2057:U:C2	1:0:2415:G:C2	3.03	0.46
1:0:2459:C:C2'	1:0:2460:G:H5'	2.46	0.46
1:0:2592:U:O2'	1:0:2593:A:P	2.73	0.46
1:0:32:C:H2'	1:0:33:C:C6	2.51	0.46
1:0:242:A:O2'	1:0:243:G:OP2	2.33	0.46
1:0:791:G:C6	1:0:792:U:C4	3.03	0.46
1:0:1408:A:H2	1:0:1411:C:C2	2.31	0.46
1:0:1653:C:O2	1:0:1751:A:H2	1.98	0.46
1:0:1696:C:O2	1:0:1972:G:N2	2.49	0.46
1:0:1701:C:C2	1:0:1722:G:N2	2.83	0.46
1:0:1706:A:N6	1:0:1714:A:H2'	2.30	0.46
1:0:1753:A:H8	1:0:1753:A:H3'	1.80	0.46
1:0:1926:U:C6	1:0:1926:U:OP1	2.69	0.46
1:0:2343:C:H2'	1:0:2344:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2402:U:H5'	1:0:2404:A:N7	2.30	0.46
1:0:2523:G:H5'	1:0:2624:G:N7	2.30	0.46
1:0:2605:C:C2'	1:0:2606:G:O4'	2.62	0.46
1:0:2652:G:H2'	1:0:2653:A:C8	2.39	0.46
1:0:199:A:N1	1:0:201:G:C2	2.84	0.46
1:0:426:C:O5'	1:0:426:C:H6	1.98	0.46
1:0:573:C:O2'	1:0:574:C:H5'	2.16	0.46
1:0:575:U:H2'	1:0:576:A:H8	1.79	0.46
1:0:582:G:O6	1:0:2013:A:H2'	2.16	0.46
1:0:875:G:C6	1:0:928:G:N2	2.83	0.46
1:0:926:C:H2'	1:0:927:C:H5'	1.97	0.46
1:0:1023:U:H1'	1:0:1154:A:C8	2.49	0.46
1:0:1502:G:H2'	1:0:1503:G:H8	1.81	0.46
1:0:1920:A:C5	1:0:1922:U:H5	2.33	0.46
1:0:2266:A:N6	1:0:2323:U:C1'	2.57	0.46
1:0:2337:A:C6	1:0:2338:C:N3	2.83	0.46
1:0:2482:A:H5'	1:0:2483:U:OP2	2.15	0.46
1:0:2617:G:H21	1:0:2758:A:H62	1.64	0.46
1:0:201:G:C2	1:0:202:A:C4	3.04	0.46
1:0:580:A:N6	1:0:584:A:C5	2.84	0.46
1:0:928:G:H2'	1:0:929:A:O5'	2.16	0.46
1:0:1105:U:O2	1:0:1107:A:N7	2.48	0.46
1:0:1145:C:O2	1:0:1145:C:H2'	2.15	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.81	0.46
1:0:1288:A:N6	1:0:1309:G:C4'	2.72	0.46
1:0:1825:C:H2'	1:0:1826:U:H5'	1.98	0.46
1:0:1900:U:C3'	1:0:1901:A:H8	2.16	0.46
1:0:1920:A:N6	1:0:1923:U:H6	2.14	0.46
1:0:1989:C:O5'	1:0:1989:C:C6	2.68	0.46
1:0:2313:G:H2'	1:0:2314:A:H5'	1.98	0.46
1:0:2428:U:H2'	1:0:2428:U:O2	2.16	0.46
1:0:2484:G:C2'	1:0:2485:U:H5''	2.46	0.46
1:0:2554:C:O5'	1:0:2554:C:H6	1.99	0.46
1:0:2630:C:O2'	1:0:2631:C:H5'	2.16	0.46
1:0:2800:C:O5'	1:0:2800:C:H6	1.98	0.46
1:0:2824:C:O2'	1:0:2825:A:P	2.73	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.50	0.46
1:0:993:C:O5'	1:0:993:C:H6	1.99	0.46
1:0:1223:G:H4'	1:0:1224:A:O5'	2.16	0.46
1:0:1226:A:C1'	1:0:1250:A:H2	2.28	0.46
1:0:1345:G:C4	1:0:1625:A:N6	2.85	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1421:U:H6	1:0:1421:U:O5'	1.99	0.46
1:0:1486:A:H2'	1:0:1487:C:C6	2.51	0.46
1:0:1686:A:H2'	1:0:1687:C:H5'	1.97	0.46
1:0:1859:A:H2'	1:0:1860:A:C8	2.50	0.46
1:0:2039:G:N2	1:0:2040:A:C1'	2.79	0.46
1:0:2607:C:H3'	1:0:2608:A:C5'	2.45	0.46
1:0:82:G:H2'	1:0:83:A:C8	2.51	0.45
1:0:1482:U:H2'	1:0:1483:G:H8	1.81	0.45
1:0:1713:G:N7	1:0:1714:A:C8	2.84	0.45
1:0:1714:A:C5	1:0:1715:A:N6	2.82	0.45
1:0:2235:G:N2	1:0:2254:C:C4	2.84	0.45
1:0:2670:C:C4	1:0:2699:G:N2	2.85	0.45
1:0:2863:U:H2'	1:0:2864:C:H6	1.80	0.45
1:0:539:A:N6	1:0:2006:G:C2	2.84	0.45
1:0:727:U:C2'	1:0:728:G:H5''	2.41	0.45
1:0:929:A:C2	1:0:930:A:H1'	2.51	0.45
1:0:983:G:O6	1:0:984:A:N6	2.49	0.45
1:0:1229:C:H2'	1:0:1230:C:C6	2.50	0.45
1:0:1982:C:O2'	1:0:1983:G:H5'	2.17	0.45
1:0:2209:G:H2'	1:0:2210:C:H6	1.82	0.45
1:0:2262:C:N4	1:0:2368:G:C5	2.84	0.45
1:0:2522:G:H2'	1:0:2523:G:C8	2.50	0.45
1:0:2608:A:N6	1:0:2869:U:C2	2.84	0.45
1:0:2633:A:H2	1:0:2644:A:H5''	1.81	0.45
1:0:2840:U:C5	1:0:2841:U:H5	2.34	0.45
1:0:36:G:H1'	1:0:462:G:H21	1.80	0.45
1:0:192:G:C4'	1:0:193:A:H4'	2.46	0.45
1:0:194:G:C6	1:0:195:A:N7	2.84	0.45
1:0:397:U:H2'	1:0:398:C:H6	1.81	0.45
1:0:477:A:H2'	1:0:478:G:H5'	1.99	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.98	0.45
1:0:825:C:O2'	1:0:826:U:H5'	2.17	0.45
1:0:834:A:N7	1:0:957:G:C5	2.84	0.45
1:0:874:A:H2'	1:0:874:A:N3	2.31	0.45
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.45
1:0:1226:A:N9	1:0:1250:A:H2	2.14	0.45
1:0:1453:A:H2'	1:0:1454:U:H5'	1.98	0.45
1:0:1684:G:O6	1:0:1974:U:OP2	2.35	0.45
1:0:2002:A:N1	1:0:2003:A:C4	2.85	0.45
1:0:2058:U:H4'	1:0:2575:U:O2	2.16	0.45
1:0:2630:C:H2'	1:0:2631:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2838:U:O2'	1:0:2839:G:H5'	2.16	0.45
1:0:2840:U:C5	1:0:2841:U:C5	3.05	0.45
1:0:68:C:C2	1:0:72:A:N3	2.84	0.45
1:0:672:C:O2'	1:0:673:G:H5'	2.15	0.45
1:0:689:A:H1'	1:0:2422:C:O4'	2.16	0.45
1:0:752:G:OP2	1:0:752:G:H8	1.99	0.45
1:0:957:G:H2'	1:0:958:G:H8	1.81	0.45
1:0:1226:A:C4	1:0:1250:A:C2	3.05	0.45
1:0:1374:G:HO2'	1:0:2193:C:H1'	1.82	0.45
1:0:1439:G:N2	1:0:1590:C:H42	2.15	0.45
1:0:1663:C:O5'	1:0:1663:C:H6	2.00	0.45
1:0:1672:A:C2	1:0:1673:C:H1'	2.52	0.45
1:0:1773:C:O4'	1:0:2588:U:N1	2.50	0.45
1:0:2214:G:O2'	1:0:2215:C:H5'	2.17	0.45
1:0:2487:G:C2	1:0:2561:G:C6	3.04	0.45
1:0:2650:G:C2'	1:0:2651:U:H5'	2.46	0.45
1:0:2728:A:N7	1:0:2729:A:N7	2.64	0.45
1:0:192:G:H1'	1:0:193:A:H4'	1.98	0.45
1:0:471:A:C8	1:0:472:C:C5	3.04	0.45
1:0:700:C:H2'	1:0:701:U:C6	2.52	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:811:G:C2'	1:0:812:G:H5'	2.46	0.45
1:0:1090:C:H2'	1:0:1091:C:O4'	2.17	0.45
1:0:2075:U:H1'	1:0:2204:A:C2	2.51	0.45
1:0:2324:G:C4	1:0:2326:C:H5	2.34	0.45
1:0:2487:G:O3'	1:0:2534:U:H5'	2.15	0.45
1:0:90:G:H3'	1:0:91:A:H5'	1.99	0.45
1:0:297:A:H2'	1:0:298:C:C6	2.52	0.45
1:0:473:C:H2'	1:0:474:G:O4'	2.17	0.45
1:0:749:C:H2'	1:0:750:C:C6	2.51	0.45
1:0:956:A:H4'	1:0:956:A:OP2	2.17	0.45
1:0:1230:C:O2'	1:0:1231:A:H5'	2.17	0.45
1:0:1278:A:O2'	1:0:1279:G:O5'	2.35	0.45
1:0:1358:C:OP1	1:0:1358:C:C6	2.69	0.45
1:0:1407:G:C6	1:0:1408:A:N6	2.85	0.45
1:0:1555:A:N6	1:0:1556:A:N6	2.65	0.45
1:0:1681:A:H5'	1:0:1681:A:H8	1.81	0.45
1:0:1782:A:N6	1:0:1820:G:H2'	2.31	0.45
1:0:1801:C:H1'	1:0:2207:G:O2'	2.16	0.45
1:0:1821:A:H5''	1:0:1822:C:C5	2.52	0.45
1:0:1991:C:H2'	1:0:1992:G:C8	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2171:U:O5'	1:0:2171:U:H6	2.00	0.45
1:0:2414:A:C3'	1:0:2415:G:H5''	2.47	0.45
1:0:2504:G:C2	1:0:2518:C:C2	3.05	0.45
1:0:2742:G:O2'	1:0:2743:G:H5'	2.17	0.45
1:0:80:A:H2'	1:0:81:C:O4'	2.17	0.45
1:0:170:U:H5'	1:0:815:A:H2	1.82	0.45
1:0:295:C:N4	1:0:296:A:H62	2.15	0.45
1:0:431:G:H2'	1:0:432:C:C6	2.51	0.45
1:0:539:A:H62	1:0:2024:U:H3	1.64	0.45
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.45
1:0:1032:A:C2'	1:0:1033:G:H4'	2.42	0.45
1:0:1362:A:O5'	1:0:1362:A:H8	1.99	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.32	0.45
1:0:1687:C:O2'	1:0:1977:C:H4'	2.17	0.45
1:0:2181:A:O5'	1:0:2181:A:H8	2.00	0.45
1:0:2182:A:H3'	1:0:2183:C:C6	2.52	0.45
1:0:515:A:C2'	1:0:516:G:H5'	2.47	0.45
1:0:570:G:H2'	1:0:571:U:H5''	1.98	0.45
1:0:708:G:H2'	1:0:709:A:C8	2.52	0.45
1:0:824:U:H4'	1:0:1264:C:H1'	1.97	0.45
1:0:942:U:C2'	1:0:943:U:C5'	2.89	0.45
1:0:1365:U:H1'	1:0:1586:A:H2	1.82	0.45
1:0:1707:A:C2'	1:0:1708:C:H5'	2.47	0.45
1:0:1711:C:H6	1:0:1711:C:OP1	2.00	0.45
1:0:1753:A:H3'	1:0:1753:A:C8	2.51	0.45
1:0:2090:U:H2'	1:0:2091:C:H6	1.80	0.45
1:0:2208:U:H2'	1:0:2209:G:C8	2.52	0.45
1:0:2321:C:H2'	1:0:2322:U:H5'	1.98	0.45
1:0:2824:C:H2'	1:0:2825:A:OP2	2.17	0.45
1:0:10:A:H2'	1:0:11:G:H8	1.80	0.45
1:0:173:A:H61	1:0:844:G:H21	1.65	0.45
1:0:543:G:H2'	1:0:544:U:H6	1.80	0.45
1:0:614:G:O2'	1:0:615:C:H5'	2.17	0.45
1:0:657:A:H8	1:0:657:A:O5'	2.00	0.45
1:0:860:U:H2'	1:0:861:G:H5'	1.99	0.45
1:0:929:A:C6	1:0:930:A:N3	2.84	0.45
1:0:1356:G:H5''	1:0:1614:C:OP2	2.17	0.45
1:0:1366:A:N1	1:0:1391:A:C2	2.84	0.45
1:0:1928:G:N2	1:0:1929:U:C2	2.85	0.45
1:0:2441:U:H2'	1:0:2442:C:H6	1.82	0.45
1:0:2753:C:H2'	1:0:2754:C:C6	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2770:A:C5'	1:0:2867:G:H22	2.30	0.45
1:0:2782:G:H3'	1:0:2783:U:C5'	2.41	0.45
1:0:2855:C:O2'	1:0:2856:U:H5'	2.17	0.45
1:0:28:A:C2	1:0:523:A:C8	3.04	0.45
1:0:309:G:N2	1:0:350:U:C5	2.85	0.45
1:0:464:G:O2'	1:0:465:C:H5'	2.17	0.45
1:0:1279:G:HO2'	1:0:1280:U:P	2.39	0.45
1:0:2034:A:C2	1:0:2035:G:O6	2.70	0.45
1:0:2091:C:H3'	1:0:2092:U:C6	2.52	0.45
1:0:2163:U:H2'	1:0:2164:G:H8	1.81	0.45
1:0:2245:A:O2'	1:0:2246:A:N3	2.47	0.45
1:0:2431:C:N4	1:0:2432:A:C6	2.85	0.45
1:0:2487:G:C2	1:0:2561:G:O6	2.70	0.45
1:0:2545:A:C2'	1:0:2546:G:OP2	2.64	0.45
1:0:2758:A:H2'	1:0:2759:U:OP2	2.17	0.45
1:0:60:A:H2'	1:0:61:U:H5'	1.99	0.44
1:0:95:G:H2'	1:0:96:C:C6	2.52	0.44
1:0:542:A:C8	1:0:542:A:H3'	2.53	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.17	0.44
1:0:1814:G:H2'	1:0:1815:G:H8	1.81	0.44
1:0:2169:A:O2'	1:0:2170:C:H5'	2.17	0.44
1:0:2208:U:H2'	1:0:2209:G:H8	1.82	0.44
1:0:2511:G:N2	1:0:2642:G:O2'	2.50	0.44
1:0:2733:A:H2'	1:0:2734:U:O4'	2.16	0.44
1:0:195:A:C2'	1:0:196:A:H5'	2.48	0.44
1:0:212:U:C2	1:0:443:A:H2	2.36	0.44
1:0:541:C:O2'	1:0:542:A:OP2	2.34	0.44
1:0:677:G:H4'	1:0:952:A:P	2.57	0.44
1:0:698:A:O2'	1:0:700:C:H5	2.00	0.44
1:0:765:C:O2	1:0:766:A:N7	2.49	0.44
1:0:846:A:C8	1:0:847:C:C5	3.05	0.44
1:0:873:U:C3'	1:0:874:A:H5'	2.47	0.44
1:0:952:A:H2'	1:0:953:G:O4'	2.17	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.42	0.44
1:0:1116:U:H2'	1:0:1117:G:C8	2.52	0.44
1:0:1346:C:P	1:0:1346:C:C6	3.04	0.44
1:0:1407:G:C2	1:0:1408:A:N1	2.85	0.44
1:0:1857:G:H2'	1:0:1859:A:OP2	2.17	0.44
1:0:2019:C:C2'	1:0:2020:G:O5'	2.65	0.44
1:0:2045:A:H62	1:0:2482:A:H61	1.65	0.44
1:0:2225:G:H2'	1:0:2226:A:C8	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2495:G:C2	1:0:2548:G:C2	3.05	0.44
1:0:2523:G:H5'	1:0:2624:G:C8	2.52	0.44
1:0:2753:C:O2'	1:0:2754:C:H5'	2.17	0.44
1:0:2795:A:N3	1:0:2795:A:C2'	2.80	0.44
1:0:62:U:C2'	1:0:63:A:C8	2.97	0.44
1:0:154:U:O2	1:0:154:U:H2'	2.16	0.44
1:0:342:G:H2'	1:0:343:A:C5'	2.48	0.44
1:0:471:A:N7	1:0:472:C:C4	2.86	0.44
1:0:476:G:N2	1:0:697:G:N2	2.64	0.44
1:0:513:A:C4	1:0:515:A:N7	2.85	0.44
1:0:600:G:C2'	1:0:601:A:OP1	2.65	0.44
1:0:768:U:C4	1:0:769:C:C4	3.05	0.44
1:0:1721:G:H2'	1:0:1722:G:O4'	2.16	0.44
1:0:2055:G:H2'	1:0:2056:C:O4'	2.18	0.44
1:0:2867:G:O3'	1:0:2868:G:H4'	2.17	0.44
1:0:84:G:N3	1:0:101:A:C2	2.85	0.44
1:0:305:A:H2'	1:0:306:G:C5'	2.47	0.44
1:0:322:A:H2'	1:0:322:A:N3	2.32	0.44
1:0:337:G:H2'	1:0:338:G:H8	1.81	0.44
1:0:338:G:N2	1:0:339:U:H1'	2.31	0.44
1:0:540:G:O6	1:0:2006:G:OP1	2.35	0.44
1:0:556:A:C2'	1:0:557:U:H5'	2.36	0.44
1:0:974:U:H2'	1:0:975:C:O4'	2.18	0.44
1:0:1011:A:N6	1:0:1165:G:H2'	2.32	0.44
1:0:1299:A:N6	1:0:1302:C:C4	2.85	0.44
1:0:1780:A:C5	1:0:1781:C:C5	3.06	0.44
1:0:1975:G:C5	1:0:1980:A:C6	3.06	0.44
1:0:2038:C:H2'	1:0:2483:U:C5'	2.47	0.44
1:0:2229:G:H2'	1:0:2475:C:OP1	2.18	0.44
1:0:2651:U:H2'	1:0:2652:G:O4'	2.17	0.44
1:0:2734:U:H2'	1:0:2736:U:OP1	2.18	0.44
1:0:109:A:C3'	1:0:110:U:C5'	2.95	0.44
1:0:192:G:O4'	1:0:193:A:H4'	2.17	0.44
1:0:420:C:O2'	1:0:421:G:H5'	2.17	0.44
1:0:581:A:N3	1:0:582:G:H1'	2.32	0.44
1:0:750:C:H2'	1:0:751:G:H8	1.82	0.44
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.44
1:0:829:C:H2'	1:0:830:C:O4'	2.16	0.44
1:0:931:G:C2'	1:0:932:G:C5'	2.94	0.44
1:0:1714:A:H3'	1:0:1715:A:C8	2.53	0.44
1:0:1947:G:H5''	1:0:1948:C:OP1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2347:C:H41	1:0:2361:G:H1	1.65	0.44
1:0:2612:G:H5'	1:0:2786:G:O2'	2.17	0.44
1:0:2790:C:H2'	1:0:2791:C:C6	2.51	0.44
1:0:2842:C:C3'	1:0:2842:C:C6	3.01	0.44
1:0:310:A:O2'	1:0:311:A:H5'	2.17	0.44
1:0:475:U:C1'	1:0:801:A:C2	3.01	0.44
1:0:784:U:O2'	1:0:785:U:H5'	2.17	0.44
1:0:829:C:N3	1:0:1206:G:C2	2.85	0.44
1:0:854:G:C6	1:0:949:G:N1	2.86	0.44
1:0:872:G:H22	1:0:929:A:P	2.39	0.44
1:0:978:U:H2'	1:0:979:A:H8	1.83	0.44
1:0:1221:C:O5'	1:0:1221:C:H6	2.01	0.44
1:0:1385:C:C2	1:0:1386:A:C8	3.06	0.44
1:0:1404:C:N4	1:0:1407:G:N7	2.62	0.44
1:0:1780:A:C6	1:0:1781:C:C5	3.06	0.44
1:0:2246:A:N3	1:0:2246:A:H2'	2.32	0.44
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	0.44
1:0:2758:A:C2'	1:0:2759:U:OP2	2.66	0.44
1:0:24:G:H2'	1:0:25:U:H6	1.82	0.44
1:0:158:A:H2'	1:0:159:A:O4'	2.17	0.44
1:0:485:G:O6	1:0:520:C:C4	2.70	0.44
1:0:639:G:H8	1:0:639:G:O5'	2.01	0.44
1:0:921:A:H2'	1:0:924:C:C5	2.53	0.44
1:0:1141:U:OP2	1:0:2549:G:N2	2.51	0.44
1:0:1299:A:C6	1:0:1302:C:C4	3.06	0.44
1:0:1707:A:N7	1:0:1714:A:C2	2.83	0.44
1:0:1793:A:H2'	1:0:1794:A:C8	2.52	0.44
1:0:1809:G:O5'	1:0:1809:G:C8	2.71	0.44
1:0:2499:C:O2'	1:0:2500:C:H5'	2.17	0.44
1:0:2695:C:H2'	1:0:2696:A:H8	1.83	0.44
1:0:4:C:O2'	1:0:5:A:H5'	2.17	0.44
1:0:239:A:H4'	1:0:620:G:C5'	2.48	0.44
1:0:353:G:H2'	1:0:354:C:C6	2.52	0.44
1:0:411:C:OP1	1:0:2073:A:H1'	2.18	0.44
1:0:433:G:N2	1:0:434:C:H1'	2.33	0.44
1:0:507:A:O2'	1:0:508:G:H5'	2.18	0.44
1:0:658:G:C4'	1:0:2331:A:H5'	2.42	0.44
1:0:712:A:C2	1:0:1650:A:N3	2.86	0.44
1:0:763:A:C5'	1:0:1631:C:N4	2.79	0.44
1:0:1355:A:C8	1:0:1410:U:H1'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1479:G:O2'	1:0:1480:G:H5'	2.17	0.44
1:0:1667:A:N1	1:0:1668:G:C5	2.85	0.44
1:0:1715:A:O2'	1:0:1716:G:H8	2.01	0.44
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.44
1:0:2490:U:H2'	1:0:2491:C:C6	2.52	0.44
1:0:2761:A:O5'	1:0:2761:A:H8	2.01	0.44
1:0:2844:G:C2'	1:0:2845:C:H5'	2.47	0.44
1:0:210:A:H61	1:0:442:A:N6	2.16	0.44
1:0:620:G:H2'	1:0:621:U:C6	2.53	0.44
1:0:635:C:O2'	1:0:670:U:H5''	2.18	0.44
1:0:786:U:H2'	1:0:787:A:H5'	2.00	0.44
1:0:1198:C:OP1	1:0:1199:U:C1'	2.66	0.44
1:0:1215:A:C2	1:0:1258:G:C2	3.06	0.44
1:0:1473:U:H4'	1:0:1474:A:C5	2.53	0.44
1:0:1699:A:C5	1:0:1748:U:H1'	2.53	0.44
1:0:1730:G:H2'	1:0:1731:C:H6	1.82	0.44
1:0:1734:C:C5	1:0:1735:G:H1'	2.53	0.44
1:0:2033:C:H2'	1:0:2034:A:O4'	2.18	0.44
1:0:2638:G:O5'	1:0:2638:G:H8	2.01	0.44
1:0:2728:A:C2	1:0:2736:U:H1'	2.53	0.44
1:0:5:A:H2'	1:0:6:A:C8	2.49	0.43
1:0:342:G:H2'	1:0:343:A:H5'	2.00	0.43
1:0:447:U:O2'	1:0:448:C:C6	2.70	0.43
1:0:712:A:N1	1:0:1650:A:N3	2.66	0.43
1:0:765:C:O2	1:0:766:A:C8	2.71	0.43
1:0:788:G:H2'	1:0:807:A:C8	2.53	0.43
1:0:1039:A:N3	1:0:2465:G:O2'	2.47	0.43
1:0:1253:C:H5'	1:0:1253:C:H6	1.82	0.43
1:0:1425:G:H2'	1:0:1426:U:C6	2.53	0.43
1:0:1573:G:C8	1:0:1574:A:N7	2.85	0.43
1:0:2310:G:C2'	1:0:2311:U:H5'	2.48	0.43
1:0:2592:U:H4'	1:0:2593:A:OP1	2.18	0.43
1:0:2644:A:C2	1:0:2645:C:C4	3.06	0.43
1:0:2700:U:H2'	1:0:2701:A:H8	1.83	0.43
1:0:2796:A:O2'	1:0:2801:A:C2	2.66	0.43
1:0:161:U:H2'	1:0:162:C:C6	2.53	0.43
1:0:195:A:H61	1:0:212:U:C4'	2.30	0.43
1:0:309:G:C2	1:0:350:U:H5	2.36	0.43
1:0:312:G:N2	1:0:328:A:H1'	2.33	0.43
1:0:421:G:H2'	1:0:422:C:C6	2.53	0.43
1:0:562:G:H2'	1:0:563:U:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:774:A:H3'	1:0:774:A:H8	1.83	0.43
1:0:787:A:C2'	1:0:788:G:C8	3.01	0.43
1:0:832:A:O2'	1:0:833:A:H5'	2.17	0.43
1:0:1011:A:N7	1:0:1165:G:C2	2.86	0.43
1:0:1012:A:N7	1:0:1013:G:C4	2.86	0.43
1:0:1053:G:H8	1:0:1053:G:O5'	2.01	0.43
1:0:1422:C:H2'	1:0:1423:A:C8	2.53	0.43
1:0:1429:A:H61	1:0:1602:G:H5'	1.83	0.43
1:0:1917:C:O2'	1:0:1918:G:H5'	2.17	0.43
1:0:2034:A:N3	1:0:2035:G:N7	2.65	0.43
1:0:118:U:H5''	1:0:120:G:OP2	2.18	0.43
1:0:201:G:H2'	1:0:202:A:H8	1.83	0.43
1:0:508:G:H22	1:0:516:G:N2	2.17	0.43
1:0:685:U:C2'	1:0:686:C:H5'	2.48	0.43
1:0:798:G:O2'	1:0:1770:U:H4'	2.18	0.43
1:0:929:A:C3'	1:0:930:A:H5''	2.35	0.43
1:0:939:C:H2'	1:0:940:G:C8	2.53	0.43
1:0:1036:G:H1'	1:0:1145:C:O4'	2.17	0.43
1:0:1140:A:O2'	1:0:2494:C:H1'	2.17	0.43
1:0:1327:C:O5'	1:0:1327:C:C6	2.70	0.43
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:1370:U:C2'	1:0:1371:G:H5'	2.48	0.43
1:0:1569:A:C6	1:0:1571:G:H1'	2.53	0.43
1:0:1629:G:C2	1:0:1633:C:N3	2.86	0.43
1:0:1683:G:N7	1:0:1684:G:C2	2.86	0.43
1:0:1714:A:H5''	1:0:1715:A:H8	1.82	0.43
1:0:1725:C:C2	1:0:1742:G:N2	2.86	0.43
1:0:1933:G:O5'	1:0:1933:G:C8	2.72	0.43
1:0:2216:G:O5'	1:0:2216:G:H8	2.01	0.43
1:0:2302:G:H2'	1:0:2303:C:H5'	2.00	0.43
1:0:2617:G:H22	1:0:2755:A:H2'	1.83	0.43
1:0:305:A:H2'	1:0:306:G:O4'	2.19	0.43
1:0:367:G:C3'	1:0:368:A:H5''	2.47	0.43
1:0:649:G:N1	1:0:660:G:N1	2.66	0.43
1:0:658:G:H1'	1:0:2330:G:C5'	2.48	0.43
1:0:1066:G:H3'	1:0:1067:G:H5''	2.01	0.43
1:0:1174:G:H2'	1:0:1175:A:H8	1.83	0.43
1:0:1223:G:N3	1:0:1225:G:N3	2.65	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1563:U:N3	1:0:1564:U:C4	2.87	0.43
1:0:1572:C:H2'	1:0:1573:G:C5'	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	0.43
1:0:1697:U:N3	1:0:1755:G:OP2	2.41	0.43
1:0:2225:G:N1	1:0:2405:A:H1'	2.33	0.43
1:0:2469:G:C5'	1:0:2470:U:OP1	2.57	0.43
1:0:2633:A:C5'	1:0:2634:G:OP1	2.61	0.43
1:0:2856:U:C2'	1:0:2857:C:H5'	2.48	0.43
1:0:450:C:H2'	1:0:451:A:C8	2.54	0.43
1:0:953:G:O2'	1:0:954:U:H5'	2.19	0.43
1:0:1180:A:O2'	1:0:1181:C:H5'	2.19	0.43
1:0:1182:U:C4	1:0:1183:C:C5	3.07	0.43
1:0:1256:C:C4	1:0:1257:U:C4	3.07	0.43
1:0:1342:U:H5''	1:0:1343:C:C5	2.50	0.43
1:0:1636:G:C6	1:0:1637:U:C4	3.06	0.43
1:0:1732:U:C2'	1:0:1733:U:O5'	2.66	0.43
1:0:1756:C:H2'	1:0:1757:C:C6	2.54	0.43
1:0:1810:U:HO2'	1:0:1811:A:H8	1.66	0.43
1:0:1961:A:O2'	1:0:1962:C:H5'	2.18	0.43
1:0:56:C:O5'	1:0:56:C:H6	2.02	0.43
1:0:501:G:H2'	1:0:502:A:C8	2.53	0.43
1:0:652:C:H41	1:0:653:G:N2	2.16	0.43
1:0:666:U:H2'	1:0:668:A:P	2.58	0.43
1:0:796:A:H2	1:0:1770:U:H5'	1.83	0.43
1:0:921:A:H2'	1:0:924:C:H5	1.84	0.43
1:0:1045:G:H2'	1:0:1046:U:O4'	2.18	0.43
1:0:1855:G:H4'	1:0:2390:A:H4'	2.00	0.43
1:0:1997:A:H2'	1:0:1998:A:C8	2.54	0.43
1:0:2094:C:N4	1:0:2103:G:N3	2.67	0.43
1:0:2378:G:N2	1:0:2397:A:H1'	2.34	0.43
1:0:2499:C:C2	1:0:2546:G:C8	3.06	0.43
1:0:2534:U:O5'	1:0:2534:U:H6	2.01	0.43
1:0:2553:G:H8	1:0:2553:G:O5'	2.02	0.43
1:0:965:G:N3	1:0:2253:A:H2	2.16	0.43
1:0:1271:C:C2	1:0:1272:G:C8	3.06	0.43
1:0:1272:G:H2'	1:0:1273:G:C8	2.49	0.43
1:0:1346:C:H6	1:0:1346:C:OP2	2.02	0.43
1:0:1449:C:C4	1:0:1450:G:N7	2.87	0.43
1:0:2230:G:C6	1:0:2231:G:C6	3.07	0.43
1:0:2241:U:H4'	1:0:2307:A:H2	1.83	0.43
1:0:2793:G:H1'	1:0:2804:G:N2	2.33	0.43
1:0:127:C:H5''	1:0:1615:C:O2'	2.19	0.43
1:0:510:G:N3	1:0:512:A:OP2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:776:G:H2'	1:0:778:G:H5''	2.01	0.43
1:0:829:C:C2	1:0:1206:G:C2	3.07	0.43
1:0:1077:U:H6	1:0:1077:U:O5'	2.01	0.43
1:0:1427:G:OP2	1:0:1428:G:C6	2.72	0.43
1:0:1685:A:O2'	1:0:1686:A:O5'	2.35	0.43
1:0:1920:A:C6	1:0:1922:U:C5	3.07	0.43
1:0:2018:G:O2'	1:0:2019:C:OP1	2.32	0.43
1:0:2030:U:O2'	1:0:2031:A:H5'	2.18	0.43
1:0:2166:G:O2'	1:0:2167:A:H5'	2.18	0.43
1:0:2270:U:O5'	1:0:2270:U:H6	2.02	0.43
1:0:2407:G:H5''	1:0:2408:G:OP1	2.19	0.43
1:0:2550:C:O5'	1:0:2550:C:H6	2.01	0.43
1:0:2766:U:H2'	1:0:2767:C:C6	2.54	0.43
1:0:10:A:C2	1:0:2608:A:N1	2.87	0.43
1:0:15:G:H2'	1:0:16:G:H5'	2.01	0.43
1:0:41:G:H2'	1:0:42:G:H8	1.84	0.43
1:0:430:C:H2'	1:0:431:G:O4'	2.19	0.43
1:0:483:A:H2'	1:0:484:G:C5'	2.46	0.43
1:0:600:G:O6	1:0:602:C:N4	2.52	0.43
1:0:1449:C:O2'	1:0:1450:G:H5'	2.18	0.43
1:0:1469:U:OP2	1:0:1471:G:N7	2.50	0.43
1:0:1789:U:O2	1:0:1793:A:H2	2.02	0.43
1:0:1825:C:O2'	1:0:1952:A:C2	2.63	0.43
1:0:1883:A:C2	1:0:1953:A:N6	2.87	0.43
1:0:2082:C:C4	1:0:2083:G:C5	3.06	0.43
1:0:2164:G:H2'	1:0:2165:A:C8	2.47	0.43
1:0:2201:G:O2'	1:0:2202:G:H5'	2.19	0.43
1:0:2523:G:H2'	1:0:2524:G:O4'	2.19	0.43
1:0:2608:A:C6	1:0:2869:U:C2	3.07	0.43
1:0:2814:G:O2'	1:0:2815:C:H5'	2.19	0.43
1:0:28:A:H5''	1:0:460:U:C4	2.54	0.43
1:0:84:G:N3	1:0:101:A:H2	2.17	0.43
1:0:340:G:H1'	1:0:488:A:H1'	2.01	0.43
1:0:843:G:H5'	1:0:956:A:H1'	2.01	0.43
1:0:879:A:N3	1:0:879:A:C2'	2.79	0.43
1:0:1307:U:H2'	1:0:1308:C:O4'	2.19	0.43
1:0:1336:G:H2'	1:0:1337:G:C5'	2.44	0.43
1:0:1621:C:O2'	1:0:1622:G:H5'	2.19	0.43
1:0:2024:U:O5'	1:0:2024:U:H6	2.02	0.43
1:0:2204:A:H1'	1:0:2205:C:C5	2.54	0.43
1:0:2781:G:H2'	1:0:2782:G:H1'	1.95	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2796:A:C6	1:0:2797:G:C5	3.07	0.43
1:0:2820:C:C2	1:0:2821:G:N7	2.86	0.43
1:0:2824:C:H3'	1:0:2824:C:H6	1.84	0.43
1:0:2857:C:C2'	1:0:2858:A:O5'	2.67	0.43
1:0:15:G:C2'	1:0:16:G:H5'	2.49	0.42
1:0:83:A:N1	1:0:98:U:C1'	2.72	0.42
1:0:393:U:H2'	1:0:394:U:C6	2.52	0.42
1:0:641:G:N1	1:0:644:A:OP2	2.42	0.42
1:0:878:C:C2'	1:0:879:A:O5'	2.67	0.42
1:0:972:C:C4	1:0:2014:A:C2	3.06	0.42
1:0:1645:U:O2	1:0:2677:U:H4'	2.19	0.42
1:0:1713:G:C5	1:0:1714:A:C8	3.07	0.42
1:0:1906:U:H2'	1:0:1907:C:C6	2.54	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.01	0.42
1:0:2321:C:O2'	1:0:2353:G:H5''	2.18	0.42
1:0:2519:C:O2	1:0:2720:A:H2	2.02	0.42
1:0:2610:G:C6	1:0:2611:A:C5	3.07	0.42
1:0:2618:A:C4	1:0:2619:G:H1'	2.54	0.42
4:0:2881:TAO:H163	4:0:2881:TAO:C20	2.47	0.42
1:0:500:G:H8	1:0:500:G:OP1	2.01	0.42
1:0:612:G:C4'	1:0:613:A:H4'	2.50	0.42
1:0:619:A:H2'	1:0:620:G:C8	2.54	0.42
1:0:733:G:H2'	1:0:734:G:H8	1.84	0.42
1:0:749:C:H2'	1:0:750:C:H6	1.84	0.42
1:0:1086:C:C3'	1:0:1087:C:H5''	2.49	0.42
1:0:1164:C:O2'	1:0:1165:G:H5'	2.19	0.42
1:0:1312:G:H2'	1:0:1643:A:N6	2.34	0.42
1:0:1341:G:H2'	1:0:1343:C:C4	2.53	0.42
1:0:1366:A:C6	1:0:1367:A:C6	3.06	0.42
1:0:1440:G:C3'	1:0:1441:A:H5''	2.49	0.42
1:0:1541:G:H22	1:0:1561:A:N6	2.17	0.42
1:0:1725:C:H2'	1:0:1726:C:C6	2.51	0.42
1:0:1937:G:N3	1:0:2530:C:C5'	2.82	0.42
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.42
1:0:2502:G:O6	1:0:2520:A:C2	2.72	0.42
1:0:2590:U:O2	4:0:2881:TAO:C44	2.67	0.42
1:0:2697:G:C6	1:0:2698:G:N7	2.87	0.42
1:0:174:A:H4'	1:0:2052:G:OP2	2.19	0.42
1:0:714:G:N2	1:0:745:C:C2	2.87	0.42
1:0:830:C:H2'	1:0:831:G:H8	1.85	0.42
1:0:1284:G:H2'	1:0:1633:C:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1345:G:C5	1:0:1625:A:N6	2.88	0.42
1:0:1487:C:O5'	1:0:1487:C:H6	2.02	0.42
1:0:1625:A:O2'	1:0:1632:A:H4'	2.19	0.42
1:0:1699:A:C6	1:0:1748:U:H1'	2.54	0.42
1:0:1755:G:C6	1:0:1972:G:N1	2.87	0.42
1:0:1905:G:H2'	1:0:1906:U:O4'	2.19	0.42
1:0:2027:C:O2'	1:0:2028:C:H5'	2.19	0.42
1:0:2205:C:C2'	1:0:2206:C:H5'	2.49	0.42
1:0:2640:G:H2'	1:0:2641:A:C8	2.55	0.42
1:0:54:G:N2	1:0:114:C:C2	2.87	0.42
1:0:358:C:O5'	1:0:358:C:H6	2.01	0.42
1:0:430:C:H2'	1:0:431:G:C8	2.53	0.42
1:0:542:A:H5''	1:0:542:A:C8	2.40	0.42
1:0:651:C:H3'	1:0:652:C:C5'	2.49	0.42
1:0:956:A:C5	1:0:2427:A:N3	2.87	0.42
1:0:974:U:H2'	1:0:975:C:C6	2.54	0.42
1:0:982:C:C5	1:0:983:G:N7	2.87	0.42
1:0:1699:A:H61	1:0:1723:U:H3	1.67	0.42
1:0:1820:G:O2'	1:0:1821:A:OP1	2.35	0.42
1:0:1960:A:H2'	1:0:1961:A:C8	2.54	0.42
1:0:1975:G:O2'	1:0:1976:U:P	2.76	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.49	0.42
1:0:2354:G:N2	1:0:2357:A:OP2	2.47	0.42
1:0:2717:G:C2	1:0:2748:C:C2	3.08	0.42
1:0:587:A:H5''	1:0:1268:U:O3'	2.20	0.42
1:0:952:A:O2'	1:0:1204:G:H4'	2.19	0.42
1:0:1077:U:O2	1:0:1079:G:C8	2.73	0.42
1:0:1250:A:O2'	1:0:1251:G:C4'	2.67	0.42
1:0:1373:G:C2'	1:0:1374:G:H5'	2.50	0.42
1:0:1569:A:O2'	1:0:1570:C:C5	2.72	0.42
1:0:1669:A:H61	1:0:1670:G:H21	1.64	0.42
1:0:1979:C:OP1	1:0:1979:C:C6	2.58	0.42
1:0:2290:A:H2'	1:0:2291:U:H5'	2.02	0.42
1:0:2427:A:OP1	1:0:2477:C:O5'	2.37	0.42
1:0:2493:U:O2	1:0:2493:U:H2'	2.19	0.42
1:0:2560:G:N3	1:0:2560:G:C2'	2.82	0.42
1:0:136:A:O5'	1:0:136:A:H8	2.02	0.42
1:0:597:U:N3	1:0:683:A:O2'	2.40	0.42
1:0:619:A:H8	1:0:619:A:O5'	2.02	0.42
1:0:873:U:H2'	1:0:874:A:H5'	2.00	0.42
1:0:983:G:OP2	1:0:985:G:C5'	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:992:A:H2	1:0:2010:G:N3	2.18	0.42
1:0:1618:U:O5'	1:0:1618:U:H6	1.97	0.42
1:0:1817:U:H2'	1:0:1818:G:O4'	2.20	0.42
1:0:1908:C:C4	1:0:1909:U:H1'	2.54	0.42
1:0:1947:G:P	1:0:1947:G:H8	2.43	0.42
1:0:1953:A:C2	1:0:1955:G:N7	2.88	0.42
1:0:2136:G:H2'	1:0:2137:G:C8	2.55	0.42
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.42
1:0:678:G:H2'	1:0:679:C:O4'	2.19	0.42
1:0:697:G:C6	1:0:788:G:C5	3.08	0.42
1:0:761:G:O6	1:0:764:A:H4'	2.19	0.42
1:0:765:C:C2'	1:0:766:A:OP2	2.67	0.42
1:0:867:G:H2'	1:0:868:U:C6	2.55	0.42
1:0:1457:A:C2'	1:0:1458:A:H5'	2.49	0.42
1:0:1931:G:N2	1:0:1942:G:C4	2.88	0.42
1:0:2135:C:O5'	1:0:2135:C:H6	2.02	0.42
1:0:2310:G:O2'	1:0:2311:U:H5'	2.20	0.42
1:0:2319:G:H2'	1:0:2320:G:C8	2.55	0.42
1:0:2543:A:OP1	1:0:2627:G:H4'	2.20	0.42
1:0:2608:A:N6	1:0:2869:U:H3	2.17	0.42
1:0:2661:G:H2'	1:0:2662:C:O4'	2.19	0.42
1:0:2821:G:H2'	1:0:2822:U:O4'	2.20	0.42
1:0:26:G:H1'	1:0:525:A:H61	1.85	0.42
1:0:80:A:H2'	1:0:81:C:C6	2.54	0.42
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.42
1:0:221:A:H2'	1:0:222:G:H5'	2.02	0.42
1:0:318:G:H5'	1:0:318:G:C8	2.53	0.42
1:0:353:G:H2'	1:0:354:C:H6	1.85	0.42
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.42
1:0:521:U:C5	1:0:522:G:N3	2.88	0.42
1:0:742:G:N3	1:0:1766:U:O2	2.53	0.42
1:0:789:G:H4'	1:0:790:A:C8	2.54	0.42
1:0:859:U:C4'	1:0:860:U:C5	3.03	0.42
1:0:1066:G:H3'	1:0:1067:G:C5'	2.50	0.42
1:0:1191:G:O2'	1:0:1192:A:H5'	2.20	0.42
1:0:1278:A:H4'	1:0:1279:G:O5'	2.20	0.42
1:0:1313:U:C4	1:0:1651:U:H5'	2.54	0.42
1:0:1543:G:H2'	1:0:1544:A:C5'	2.48	0.42
1:0:1639:U:O2'	1:0:1640:C:H5'	2.20	0.42
1:0:1799:A:H8	1:0:1800:A:N7	2.17	0.42
1:0:1821:A:H2'	1:0:1821:A:N3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2009:U:H6	1:0:2009:U:O5'	2.03	0.42
1:0:2058:U:H3'	1:0:2217:G:N1	2.35	0.42
1:0:2068:C:H2'	1:0:2069:U:O4'	2.20	0.42
1:0:2327:U:H2'	1:0:2328:G:C8	2.50	0.42
1:0:2696:A:O2'	1:0:2697:G:H5'	2.20	0.42
1:0:2797:G:H4'	1:0:2800:C:H42	1.85	0.42
1:0:117:A:H5'	1:0:118:U:O5'	2.20	0.42
1:0:658:G:H1'	1:0:2330:G:H5''	2.01	0.42
1:0:832:A:N7	1:0:1202:U:O4	2.53	0.42
1:0:1064:C:O5'	1:0:1064:C:H6	2.03	0.42
1:0:1295:U:H2'	1:0:1296:G:C5'	2.46	0.42
1:0:1538:A:O2'	1:0:1539:U:H5'	2.20	0.42
1:0:1895:A:N6	1:0:1900:U:C5	2.88	0.42
1:0:2032:G:O2'	1:0:2033:C:H5'	2.19	0.42
1:0:2058:U:H2'	1:0:2217:G:O6	2.20	0.42
1:0:2241:U:H2'	1:0:2242:C:C6	2.55	0.42
1:0:2324:G:C4	1:0:2326:C:C5	3.08	0.42
1:0:2327:U:C2	1:0:2328:G:C8	3.08	0.42
1:0:2493:U:O2	1:0:2494:C:C5	2.73	0.42
1:0:2709:C:H2'	1:0:2710:C:H6	1.85	0.42
1:0:2763:U:O2'	1:0:2764:U:H5'	2.19	0.42
1:0:106:G:H2'	1:0:107:G:H8	1.84	0.42
1:0:128:C:H2'	1:0:129:A:C5'	2.50	0.42
1:0:160:C:O2'	1:0:445:A:N3	2.51	0.42
1:0:394:U:O2'	1:0:395:G:H5'	2.19	0.42
1:0:760:U:C2	1:0:2592:U:O4	2.73	0.42
1:0:782:U:O2'	1:0:1392:U:H5	2.02	0.42
1:0:1001:A:H5'	1:0:1168:G:OP1	2.20	0.42
1:0:1216:G:H2'	1:0:1217:U:O4'	2.20	0.42
1:0:1461:C:H2'	1:0:1462:C:C6	2.55	0.42
1:0:1540:C:H2'	1:0:1541:G:H8	1.85	0.42
1:0:1704:G:O2'	1:0:1705:U:H5'	2.20	0.42
1:0:1790:G:H4'	1:0:1791:C:C5	2.55	0.42
1:0:1870:U:O5'	1:0:1870:U:H6	2.02	0.42
1:0:2173:G:H2'	1:0:2174:G:C8	2.55	0.42
4:0:2881:TAO:H19	4:0:2881:TAO:H71	1.75	0.42
1:0:119:G:H2'	1:0:120:G:H8	1.84	0.41
1:0:149:A:O2'	1:0:150:A:H5'	2.20	0.41
1:0:163:A:N1	1:0:188:G:C6	2.87	0.41
1:0:343:A:H2'	1:0:345:U:OP2	2.20	0.41
1:0:507:A:H2'	1:0:508:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:520:C:O2'	1:0:1249:G:C5'	2.67	0.41
1:0:542:A:C8	1:0:542:A:C3'	3.03	0.41
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.41
1:0:930:A:H4'	1:0:930:A:OP1	2.21	0.41
1:0:1036:G:N3	1:0:1036:G:H2'	2.35	0.41
1:0:1188:A:H2'	1:0:1189:G:H5'	2.02	0.41
1:0:1273:G:H2'	1:0:1274:C:H6	1.85	0.41
1:0:1323:G:N2	1:0:1621:C:O2	2.53	0.41
1:0:1572:C:H2'	1:0:1573:G:H5'	2.02	0.41
1:0:1574:A:H2	1:0:1576:G:N9	2.18	0.41
1:0:1626:A:C8	1:0:1626:A:OP2	2.74	0.41
1:0:1771:A:H8	1:0:1772:C:H5	1.68	0.41
1:0:1856:U:OP1	1:0:2389:G:O2'	2.36	0.41
1:0:1922:U:O2'	1:0:2571:G:C1'	2.68	0.41
1:0:1939:U:H1'	1:0:2531:U:OP1	2.19	0.41
1:0:2474:G:H8	1:0:2474:G:O5'	2.03	0.41
1:0:2821:G:O6	1:0:2846:G:C6	2.73	0.41
1:0:171:G:O2'	1:0:172:A:H5'	2.20	0.41
1:0:222:G:C6	1:0:231:G:C2	3.08	0.41
1:0:500:G:C5	1:0:1297:A:C2	3.08	0.41
1:0:677:G:H1'	1:0:951:G:OP1	2.20	0.41
1:0:718:A:C8	1:0:740:A:C2	3.08	0.41
1:0:984:A:N3	1:0:984:A:H2'	2.35	0.41
1:0:1276:U:H2'	1:0:1277:G:O4'	2.20	0.41
1:0:2245:A:H2'	1:0:2246:A:OP2	2.21	0.41
1:0:2265:A:H5''	1:0:2266:A:O4'	2.20	0.41
1:0:2439:U:H2'	1:0:2440:C:H5'	2.01	0.41
1:0:2447:G:O2'	1:0:2448:A:H5'	2.19	0.41
1:0:2503:G:H3'	1:0:2504:G:H5''	2.02	0.41
1:0:2597:G:O2'	1:0:2598:C:H5'	2.19	0.41
1:0:2611:A:C2	1:0:2767:C:C2	3.08	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
1:0:321:A:C2	1:0:323:G:H1'	2.55	0.41
1:0:464:G:C4	1:0:469:G:N2	2.88	0.41
1:0:589:C:O2'	1:0:590:C:H5'	2.19	0.41
1:0:675:C:H2'	1:0:676:G:H8	1.86	0.41
1:0:1130:U:O2	1:0:1130:U:H2'	2.19	0.41
1:0:1383:C:H2'	1:0:1384:G:O4'	2.20	0.41
1:0:1388:C:O2'	1:0:1389:C:H5'	2.20	0.41
1:0:1451:C:O2'	1:0:1452:U:H5'	2.20	0.41
1:0:1576:G:H2'	1:0:1577:G:O4'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1820:G:O2'	1:0:1821:A:P	2.78	0.41
1:0:1938:U:C2'	1:0:1939:U:H5'	2.51	0.41
1:0:2253:A:O2'	1:0:2255:G:OP1	2.27	0.41
1:0:2516:U:H2'	1:0:2517:C:H6	1.84	0.41
1:0:2610:G:H5'	1:0:2866:A:H4'	2.02	0.41
1:0:2692:A:OP1	1:0:2692:A:O4'	2.38	0.41
1:0:2696:A:H2'	1:0:2697:G:H8	1.85	0.41
1:0:2705:A:C5	1:0:2707:G:C8	3.08	0.41
1:0:113:C:N4	1:0:114:C:H41	2.18	0.41
1:0:212:U:O2	1:0:443:A:H2	2.01	0.41
1:0:300:C:H2'	1:0:301:C:C5'	2.49	0.41
1:0:310:A:H2	1:0:330:C:O2	2.03	0.41
1:0:483:A:C2'	1:0:484:G:H5'	2.48	0.41
1:0:503:G:H2'	1:0:504:G:C8	2.55	0.41
1:0:822:G:O2'	1:0:823:U:H5'	2.20	0.41
1:0:1312:G:H4'	1:0:1313:U:H5'	2.01	0.41
1:0:1783:G:H1'	1:0:1822:C:P	2.60	0.41
1:0:2015:G:N3	1:0:2015:G:H2'	2.35	0.41
1:0:2041:A:C2	4:0:2881:TAO:O33	2.72	0.41
1:0:2237:C:C2	1:0:2405:A:H4'	2.54	0.41
1:0:2324:G:N7	1:0:2351:G:C2	2.89	0.41
1:0:2464:G:O2'	1:0:2465:G:H5'	2.20	0.41
1:0:2793:G:N3	1:0:2804:G:C2	2.88	0.41
1:0:2848:A:O2'	1:0:2849:C:OP1	2.35	0.41
1:0:76:C:H2'	1:0:77:C:H6	1.83	0.41
1:0:175:C:O2'	1:0:176:A:C8	2.69	0.41
1:0:300:C:C2'	1:0:301:C:H5'	2.48	0.41
1:0:324:C:H2'	1:0:325:U:O4'	2.21	0.41
1:0:836:G:H2'	1:0:837:U:C6	2.56	0.41
1:0:871:U:O2	1:0:2247:A:C2'	2.58	0.41
1:0:983:G:C6	1:0:984:A:N6	2.89	0.41
1:0:1067:G:H21	1:0:1115:C:H41	1.66	0.41
1:0:1246:G:O2'	1:0:1247:U:H5'	2.20	0.41
1:0:1656:U:O2'	1:0:1657:A:H5''	2.19	0.41
1:0:1678:G:H2'	1:0:1679:U:O4'	2.21	0.41
1:0:1876:C:H2'	1:0:1877:C:H5'	2.02	0.41
1:0:2044:G:N7	1:0:2480:C:H4'	2.35	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2370:G:H8	1:0:2370:G:O5'	2.03	0.41
1:0:2550:C:OP2	1:0:2552:C:H4'	2.20	0.41
1:0:2625:U:O5'	1:0:2625:U:H6	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2684:A:N7	1:0:2685:A:C8	2.88	0.41
1:0:2712:G:H5'	1:0:2713:A:C8	2.55	0.41
1:0:2720:A:C6	1:0:2744:A:C8	3.08	0.41
1:0:2809:A:N6	1:0:2854:G:C4	2.88	0.41
1:0:2813:G:H2'	1:0:2814:G:C5'	2.50	0.41
4:0:2881:TAO:H26	4:0:2881:TAO:H222	2.02	0.41
1:0:337:G:H2'	1:0:338:G:C8	2.56	0.41
1:0:462:G:C2'	1:0:463:C:H5''	2.47	0.41
1:0:500:G:C2	1:0:1297:A:C6	3.08	0.41
1:0:515:A:H2'	1:0:516:G:H5'	2.03	0.41
1:0:657:A:H2'	1:0:658:G:O4'	2.20	0.41
1:0:788:G:C5'	1:0:789:G:OP1	2.67	0.41
1:0:925:U:H5''	1:0:926:C:OP1	2.20	0.41
1:0:944:A:O2'	1:0:945:G:H5'	2.20	0.41
1:0:1166:A:H2'	1:0:1167:A:H5''	2.01	0.41
1:0:1279:G:C2'	1:0:1280:U:OP2	2.68	0.41
1:0:1388:C:H2'	1:0:1389:C:C6	2.51	0.41
1:0:1579:G:O2'	1:0:1580:C:H5'	2.21	0.41
1:0:1678:G:C4	1:0:1983:G:N2	2.89	0.41
1:0:2173:G:O2'	1:0:2174:G:H5'	2.20	0.41
1:0:2267:A:H8	1:0:2267:A:O5'	2.04	0.41
1:0:2560:G:N3	1:0:2560:G:H3'	2.35	0.41
1:0:2737:A:H2'	1:0:2738:A:C5'	2.49	0.41
1:0:491:A:C2	1:0:509:U:C2'	3.04	0.41
1:0:502:A:C2'	1:0:503:G:H5'	2.51	0.41
1:0:674:U:H2'	1:0:675:C:C6	2.56	0.41
1:0:742:G:C2	1:0:1766:U:C2	3.08	0.41
1:0:747:A:H2'	1:0:748:A:O4'	2.21	0.41
1:0:764:A:H1'	4:0:2881:TAO:C16	2.51	0.41
1:0:964:A:O2'	1:0:965:G:H5'	2.21	0.41
1:0:974:U:H1'	1:0:2229:G:H21	1.85	0.41
1:0:1008:G:C2	1:0:1170:U:C2	3.09	0.41
1:0:1227:A:C4'	1:0:1252:C:H4'	2.50	0.41
1:0:1332:G:C6	1:0:1333:G:N1	2.89	0.41
1:0:1353:A:H2	1:0:1618:U:C4	2.37	0.41
1:0:1613:G:H5''	1:0:1614:C:H5'	2.02	0.41
1:0:1753:A:C8	1:0:1753:A:C3'	3.03	0.41
1:0:1928:G:C6	1:0:1929:U:O4	2.74	0.41
1:0:1980:A:C2	1:0:1981:A:C4	3.09	0.41
1:0:2119:A:H2'	1:0:2120:C:C6	2.56	0.41
1:0:2157:C:H2'	1:0:2158:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2408:G:OP1	1:0:2408:G:O4'	2.38	0.41
1:0:2509:A:C2'	1:0:2510:A:H5''	2.38	0.41
1:0:2516:U:H2'	1:0:2517:C:C6	2.56	0.41
1:0:2535:C:C2'	1:0:2536:G:H5'	2.50	0.41
1:0:2842:C:C6	1:0:2842:C:H3'	2.56	0.41
1:0:714:G:C2	1:0:745:C:N3	2.89	0.41
1:0:765:C:H2'	1:0:766:A:OP2	2.21	0.41
1:0:790:A:C2	1:0:791:G:N9	2.89	0.41
1:0:828:C:H2'	1:0:829:C:C6	2.56	0.41
1:0:839:U:H5''	1:0:2408:G:OP2	2.21	0.41
1:0:936:A:O2'	1:0:937:C:H5'	2.20	0.41
1:0:1302:C:OP1	1:0:1302:C:C6	2.73	0.41
1:0:1307:U:C2'	1:0:1308:C:H5'	2.51	0.41
1:0:1371:G:O2'	1:0:1386:A:N6	2.53	0.41
1:0:1407:G:O5'	1:0:1407:G:H8	2.04	0.41
1:0:1467:U:H6	1:0:1468:A:H5'	1.85	0.41
1:0:1624:A:O2'	1:0:1625:A:C5'	2.68	0.41
1:0:1823:G:N2	1:0:1958:G:H1'	2.35	0.41
1:0:1896:A:H8	1:0:1896:A:O5'	2.03	0.41
1:0:2002:A:N1	1:0:2003:A:N3	2.69	0.41
1:0:2230:G:C8	1:0:2476:A:N6	2.89	0.41
1:0:2404:A:P	1:0:2406:C:H5'	2.61	0.41
1:0:2520:A:O5'	1:0:2520:A:H8	2.03	0.41
1:0:2533:U:H2'	1:0:2534:U:C6	2.55	0.41
1:0:2594:U:C5	3:Z:7:PRO:CA	3.02	0.41
1:0:2618:A:C5	1:0:2619:G:H1'	2.56	0.41
1:0:2687:G:H2'	1:0:2688:G:O4'	2.20	0.41
1:0:2746:G:H2'	1:0:2746:G:N3	2.36	0.41
1:0:2768:C:O5'	1:0:2768:C:H6	2.04	0.41
1:0:2837:G:H8	1:0:2837:G:O5'	2.03	0.41
1:0:2851:G:H2'	1:0:2852:G:O4'	2.20	0.41
1:0:28:A:O3'	1:0:460:U:O4	2.38	0.41
1:0:81:C:H4'	1:0:307:C:H5'	2.02	0.41
1:0:112:U:C4	1:0:113:C:C4	3.09	0.41
1:0:221:A:N6	1:0:231:G:H21	2.19	0.41
1:0:324:C:O5'	1:0:324:C:H6	2.03	0.41
1:0:603:C:H2'	1:0:604:U:C6	2.56	0.41
1:0:636:G:H2'	1:0:637:G:C5'	2.51	0.41
1:0:700:C:O2	1:0:800:U:O3'	2.38	0.41
1:0:722:C:C4	1:0:723:C:C4	3.09	0.41
1:0:774:A:H3'	1:0:774:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:813:A:O2'	1:0:815:A:C5'	2.66	0.41
1:0:830:C:O2'	1:0:852:U:H5''	2.19	0.41
1:0:878:C:O2'	1:0:879:A:C8	2.74	0.41
1:0:931:G:H8	1:0:931:G:O5'	2.03	0.41
1:0:1010:U:H2'	1:0:1011:A:H8	1.84	0.41
1:0:1087:C:C2'	1:0:1088:A:H5'	2.51	0.41
1:0:1193:G:H2'	1:0:1194:U:H6	1.85	0.41
1:0:1281:A:C2	1:0:1996:A:C5	3.08	0.41
1:0:1322:G:N2	1:0:1627:C:H5'	2.36	0.41
1:0:1337:G:H1'	1:0:1632:A:N6	2.36	0.41
1:0:1443:G:H2'	1:0:1444:C:O4'	2.21	0.41
1:0:1491:C:C2	1:0:1492:A:C8	3.09	0.41
1:0:1495:G:O2'	1:0:1496:G:OP1	2.33	0.41
1:0:1530:U:O5'	1:0:1530:U:H6	2.04	0.41
1:0:1581:C:N4	1:0:1583:A:H1'	2.36	0.41
1:0:1636:G:C5	1:0:1637:U:C4	3.09	0.41
1:0:1703:C:H2'	1:0:1704:G:O4'	2.21	0.41
1:0:1711:C:OP1	1:0:1711:C:C6	2.74	0.41
1:0:1759:A:C6	1:0:1968:G:C6	3.09	0.41
1:0:1781:C:H2'	1:0:1782:A:C5	2.56	0.41
1:0:1895:A:H8	1:0:1895:A:O5'	2.04	0.41
1:0:2182:A:N7	1:0:2183:C:C2	2.89	0.41
1:0:2347:C:H2'	1:0:2348:A:C8	2.56	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.03	0.41
1:0:2456:U:O2	1:0:2456:U:H2'	2.20	0.41
1:0:2473:G:H2'	1:0:2473:G:N3	2.35	0.41
1:0:2499:C:N3	1:0:2546:G:C8	2.89	0.41
1:0:2522:G:H2'	1:0:2523:G:H8	1.84	0.41
1:0:2523:G:H1'	1:0:2625:U:H5'	2.02	0.41
1:0:2557:G:N2	1:0:2558:C:C2	2.89	0.41
1:0:2667:C:N4	1:0:2699:G:H3'	2.36	0.41
1:0:2678:C:C2	1:0:2688:G:N2	2.89	0.41
4:0:2881:TAO:H221	4:0:2881:TAO:H82	2.02	0.41
1:0:150:A:H2'	1:0:151:G:O4'	2.20	0.41
1:0:167:A:H2'	1:0:168:A:O4'	2.20	0.41
1:0:192:G:O2'	1:0:193:A:C5'	2.69	0.41
1:0:366:U:H2'	1:0:367:G:O4'	2.20	0.41
1:0:538:A:O5'	1:0:538:A:C8	2.73	0.41
1:0:546:A:H61	1:0:565:A:N6	2.19	0.41
1:0:546:A:N6	1:0:565:A:N6	2.69	0.41
1:0:559:C:H6	1:0:559:C:O5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:744:C:H6	1:0:744:C:O5'	2.03	0.41
1:0:1139:A:HO2'	1:0:2495:G:C3'	2.34	0.41
1:0:1429:A:N6	1:0:1601:U:H5''	2.28	0.41
1:0:1725:C:H6	1:0:1725:C:O5'	2.03	0.41
1:0:1841:G:H8	1:0:1841:G:O5'	2.03	0.41
1:0:2161:C:O2'	1:0:2162:C:P	2.78	0.41
1:0:2634:G:O2'	1:0:2643:G:C6	2.70	0.41
1:0:2748:C:H2'	1:0:2749:A:O4'	2.21	0.41
1:0:187:U:H1'	1:0:1379:A:H2	1.84	0.40
1:0:234:C:H2'	1:0:235:C:C6	2.56	0.40
1:0:234:C:H2'	1:0:235:C:H6	1.85	0.40
1:0:475:U:C4	1:0:476:G:C6	3.10	0.40
1:0:593:C:C5	1:0:594:G:N7	2.89	0.40
1:0:773:G:O2'	1:0:774:A:H5'	2.21	0.40
1:0:801:A:H5''	1:0:802:A:OP1	2.21	0.40
1:0:843:G:OP1	1:0:843:G:H8	2.04	0.40
1:0:1057:A:C5'	1:0:1058:G:H5'	2.51	0.40
1:0:1147:G:H2'	1:0:1148:G:C8	2.56	0.40
1:0:1372:A:C2'	1:0:1373:G:H5'	2.49	0.40
1:0:1558:C:H2'	1:0:1559:G:C5'	2.51	0.40
1:0:1755:G:C6	1:0:1756:C:N4	2.89	0.40
1:0:1773:C:O5'	1:0:1773:C:H6	2.04	0.40
1:0:2000:U:O2'	3:Z:9:LYS:CA	2.70	0.40
1:0:2091:C:H3'	1:0:2092:U:H6	1.86	0.40
1:0:2195:C:H2'	1:0:2196:U:C5'	2.49	0.40
1:0:2224:U:O2	1:0:2414:A:C8	2.74	0.40
1:0:2426:G:O2'	1:0:2427:A:P	2.80	0.40
1:0:488:A:C6	1:0:489:A:N6	2.89	0.40
1:0:490:A:O2'	1:0:491:A:C8	2.74	0.40
1:0:528:G:O2'	1:0:529:U:H5'	2.21	0.40
1:0:584:A:H2'	1:0:585:U:H6	1.86	0.40
1:0:718:A:C2	1:0:740:A:H1'	2.57	0.40
1:0:754:G:C6	1:0:755:C:N4	2.89	0.40
1:0:921:A:O2'	1:0:923:A:OP2	2.24	0.40
1:0:962:C:C4	1:0:963:G:N7	2.90	0.40
1:0:1455:C:H2'	1:0:1456:C:C6	2.57	0.40
1:0:1903:C:H2'	1:0:1904:G:H8	1.85	0.40
1:0:1920:A:C6	1:0:1922:U:H5	2.39	0.40
1:0:2001:G:H2'	1:0:2002:A:H8	1.84	0.40
1:0:2061:C:O5'	1:0:2061:C:H6	2.04	0.40
1:0:2161:C:O5'	1:0:2161:C:H6	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2338:C:N4	1:0:2339:A:N6	2.69	0.40
1:0:2550:C:C6	1:0:2553:G:O4'	2.75	0.40
1:0:2602:G:O2'	1:0:2603:G:H5'	2.21	0.40
1:0:2608:A:C6	1:0:2869:U:N3	2.89	0.40
1:0:2705:A:H2'	1:0:2706:U:O5'	2.22	0.40
1:0:2866:A:C2'	1:0:2867:G:O4'	2.68	0.40
1:0:369:C:O2'	1:0:370:U:H5'	2.21	0.40
1:0:471:A:C2	1:0:481:A:C5	3.10	0.40
1:0:594:G:C6	1:0:1264:C:C5	3.09	0.40
1:0:732:G:O5'	1:0:732:G:C8	2.69	0.40
1:0:836:G:O2'	1:0:837:U:H5'	2.21	0.40
1:0:1098:G:O2'	1:0:1100:G:OP1	2.39	0.40
1:0:1300:A:C2	1:0:1666:G:C4'	3.04	0.40
1:0:1478:U:H2'	1:0:1479:G:C8	2.56	0.40
1:0:1618:U:H2'	1:0:1619:A:H5'	2.03	0.40
1:0:2280:A:H2'	1:0:2281:C:C6	2.56	0.40
1:0:2500:C:H4'	1:0:2544:A:O4'	2.21	0.40
1:0:2658:A:H8	1:0:2658:A:O5'	2.04	0.40
1:0:2689:C:N4	1:0:2690:A:N6	2.70	0.40
1:0:2791:C:O2'	1:0:2792:C:H5'	2.21	0.40
1:0:91:A:H2'	1:0:92:U:C6	2.56	0.40
1:0:203:G:H4'	1:0:234:C:O2'	2.21	0.40
1:0:226:C:C5	1:0:2374:C:OP1	2.74	0.40
1:0:236:C:H2'	1:0:237:G:C8	2.49	0.40
1:0:329:C:O2'	1:0:330:C:H5'	2.21	0.40
1:0:341:A:C2	1:0:1223:G:N7	2.89	0.40
1:0:392:G:H8	1:0:392:G:O5'	2.05	0.40
1:0:401:G:C2'	1:0:403:A:H62	2.34	0.40
1:0:738:G:H2'	1:0:739:G:O4'	2.21	0.40
1:0:929:A:C8	1:0:2247:A:N6	2.86	0.40
1:0:1179:A:H2'	1:0:1180:A:C8	2.56	0.40
1:0:1223:G:C4	1:0:1250:A:N6	2.90	0.40
1:0:1338:G:H5'	1:0:1339:U:OP2	2.21	0.40
1:0:1501:C:O2'	1:0:1502:G:H5'	2.21	0.40
1:0:1962:C:H2'	1:0:1963:G:H5'	2.04	0.40
1:0:2271:C:O2'	1:0:2354:G:H4'	2.22	0.40
1:0:2337:A:C5	1:0:2338:C:C4	3.10	0.40
1:0:2408:G:H3'	1:0:2409:A:C5'	2.51	0.40
1:0:2432:A:H4'	1:0:2551:A:HO2'	1.86	0.40
1:0:2488:G:C2	1:0:2559:U:O2	2.74	0.40
1:0:2697:G:N1	1:0:2698:G:C5	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2697:G:C4	1:0:2698:G:C8	3.09	0.40
1:0:2756:A:N7	1:0:2762:G:C4	2.90	0.40
1:0:41:G:C2	1:0:451:A:C2	3.10	0.40
1:0:220:U:H2'	1:0:221:A:C8	2.52	0.40
1:0:480:G:H8	1:0:480:G:O5'	2.05	0.40
1:0:529:U:O2'	1:0:530:G:H5'	2.21	0.40
1:0:737:C:H2'	1:0:738:G:O4'	2.22	0.40
1:0:1016:C:H2'	1:0:1017:C:C6	2.57	0.40
1:0:1034:U:H4'	1:0:1134:C:OP1	2.21	0.40
1:0:1199:U:O4	1:0:1201:G:C6	2.75	0.40
1:0:1407:G:C5	1:0:1408:A:N6	2.89	0.40
1:0:1956:G:H5'	1:0:1956:G:H8	1.86	0.40
1:0:1981:A:O3'	1:0:2704:U:H4'	2.22	0.40
1:0:2061:C:C4	1:0:2062:U:C5	3.10	0.40
1:0:2093:G:O2'	1:0:2094:C:P	2.80	0.40
1:0:2181:A:O5'	1:0:2181:A:C8	2.74	0.40
1:0:2686:C:O2'	1:0:2687:G:H5'	2.22	0.40
1:0:2773:G:H3'	1:0:2774:U:C5'	2.52	0.40
1:0:2819:G:H2'	1:0:2820:C:C6	2.56	0.40
1:0:2841:U:O2'	1:0:2842:C:H5'	2.22	0.40
1:0:2842:C:H5''	1:0:2842:C:C6	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein backbone outliers to report in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2755/2880 (95%)	523 (18%)	52 (1%)

All (523) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	74	G
1	0	76	C
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	105	G
1	0	110	U
1	0	111	G
1	0	116	A
1	0	118	U
1	0	123	A
1	0	124	A
1	0	129	A
1	0	135	U
1	0	149	A
1	0	155	G
1	0	158	A
1	0	169	C
1	0	173	A
1	0	174	A
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	201	G
1	0	205	A
1	0	206	U
1	0	210	A

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Mol	Chain	Res	Type
1	0	218	A
1	0	219	G
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	305	A
1	0	318	G
1	0	322	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	341	A
1	0	343	A
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	408	U
1	0	411	C
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A
1	0	455	A
1	0	456	C
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U
1	0	484	G
1	0	486	U
1	0	490	A
1	0	491	A
1	0	492	G
1	0	514	G
1	0	515	A
1	0	518	A
1	0	519	C

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Mol	Chain	Res	Type
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	544	U
1	0	554	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	582	G
1	0	583	C
1	0	584	A
1	0	587	A
1	0	588	G
1	0	601	A
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	655	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G
1	0	740	A
1	0	742	G
1	0	743	A
1	0	753	U
1	0	760	U
1	0	762	A
1	0	766	A
1	0	774	A
1	0	776	G
1	0	778	G

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Mol	Chain	Res	Type
1	0	789	G
1	0	790	A
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	802	A
1	0	803	C
1	0	806	A
1	0	807	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	819	C
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G
1	0	844	G
1	0	859	U
1	0	873	U
1	0	874	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	943	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	985	G
1	0	994	A
1	0	996	C

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Mol	Chain	Res	Type
1	0	1002	C
1	0	1005	U
1	0	1006	C
1	0	1007	A
1	0	1019	U
1	0	1022	A
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1045	G
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1082	G
1	0	1083	C
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1130	U
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1149	G
1	0	1155	G
1	0	1166	A
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1183	C
1	0	1185	C

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Mol	Chain	Res	Type
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1233	A
1	0	1234	C
1	0	1253	C
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1281	A
1	0	1284	G
1	0	1285	A
1	0	1286	U
1	0	1288	A
1	0	1289	A
1	0	1302	C
1	0	1314	A
1	0	1316	G
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1339	U
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1354	A
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G

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Mol	Chain	Res	Type
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1439	G
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1467	U
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1489	C
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1532	A
1	0	1544	A
1	0	1552	C
1	0	1563	U
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1582	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1631	C

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Mol	Chain	Res	Type
1	0	1635	G
1	0	1638	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1663	C
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1710	U
1	0	1711	C
1	0	1712	G
1	0	1713	G
1	0	1715	A
1	0	1716	G
1	0	1717	A
1	0	1718	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1772	C
1	0	1773	C
1	0	1775	A
1	0	1776	A
1	0	1778	U
1	0	1791	C
1	0	1792	C
1	0	1800	A
1	0	1801	C

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Mol	Chain	Res	Type
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1809	G
1	0	1811	A
1	0	1813	A
1	0	1821	A
1	0	1830	C
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G
1	0	1908	C
1	0	1909	U
1	0	1920	A
1	0	1921	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1948	C
1	0	1949	A
1	0	1950	C
1	0	1953	A
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	1980	A
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C

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Mol	Chain	Res	Type
1	0	2034	A
1	0	2038	C
1	0	2044	G
1	0	2045	A
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2238	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2265	A
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2313	G
1	0	2314	A

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Mol	Chain	Res	Type
1	0	2315	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2369	U
1	0	2378	G
1	0	2381	A
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2406	C
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2415	G
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2437	G
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2457	A
1	0	2470	U
1	0	2476	A
1	0	2477	C
1	0	2481	G
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G
1	0	2499	C
1	0	2504	G
1	0	2508	G
1	0	2521	A
1	0	2522	G
1	0	2533	U

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Mol	Chain	Res	Type
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2558	C
1	0	2561	G
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G
1	0	2613	A
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2669	C
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2760	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G

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Mol	Chain	Res	Type
1	0	2783	U
1	0	2785	A
1	0	2793	G
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2810	A
1	0	2811	G
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2855	C
1	0	2861	A
1	0	2867	G
1	0	2868	G

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	69	G
1	0	71	A
1	0	73	A
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A
1	0	340	G
1	0	541	C
1	0	583	C
1	0	765	C
1	0	805	G
1	0	843	G
1	0	972	C
1	0	1141	U
1	0	1154	A
1	0	1193	G
1	0	1194	U

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Mol	Chain	Res	Type
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1313	U
1	0	1338	G
1	0	1354	A
1	0	1355	A
1	0	1410	U
1	0	1495	G
1	0	1634	A
1	0	1651	U
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	1975	G
1	0	2005	U
1	0	2015	G
1	0	2018	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2228	U
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2426	G
1	0	2437	G
1	0	2521	A
1	0	2592	U
1	0	2633	A
1	0	2759	U
1	0	2824	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

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
4	TAO	0	2881	-	59,60,60	4.39	36 (61%)	78,89,89	4.34	47 (60%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	TAO	0	2881	-	-	46/77/113/113	1/4/4/4

All (36) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	2881	TAO	C31-C26	12.08	1.82	1.54
4	0	2881	TAO	O11-C9	10.32	1.60	1.44
4	0	2881	TAO	O11-C15	9.25	1.55	1.35
4	0	2881	TAO	C31-C27	9.05	1.71	1.51
4	0	2881	TAO	O18-C24	8.50	1.65	1.41
4	0	2881	TAO	C51-C49	8.28	1.67	1.52
4	0	2881	TAO	O33-C38	7.97	1.52	1.35
4	0	2881	TAO	C24-C28	7.86	1.72	1.52
4	0	2881	TAO	O23-C17	-7.04	1.35	1.46
4	0	2881	TAO	O23-C27	6.94	1.50	1.34
4	0	2881	TAO	C28-C34	5.18	1.64	1.53
4	0	2881	TAO	O54-C51	5.06	1.52	1.44
4	0	2881	TAO	C7-C10	-4.99	1.47	1.54
4	0	2881	TAO	C51-C48	4.82	1.66	1.52
4	0	2881	TAO	O54-C55	4.42	1.45	1.35
4	0	2881	TAO	O50-C48	4.20	1.54	1.43
4	0	2881	TAO	C42-C48	4.17	1.60	1.52
4	0	2881	TAO	C4-C9	4.01	1.64	1.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	2881	TAO	C19-C26	3.86	1.63	1.54
4	0	2881	TAO	C10-C14	-3.84	1.47	1.53
4	0	2881	TAO	O18-C14	3.40	1.52	1.43
4	0	2881	TAO	C34-N39	3.23	1.55	1.47
4	0	2881	TAO	C52-C49	3.13	1.59	1.51
4	0	2881	TAO	C22-C17	3.00	1.58	1.51
4	0	2881	TAO	C19-C14	2.92	1.61	1.54
4	0	2881	TAO	O32-C27	2.91	1.28	1.21
4	0	2881	TAO	O33-C28	2.87	1.49	1.44
4	0	2881	TAO	C12-C9	2.84	1.61	1.54
4	0	2881	TAO	O1-C2	2.84	1.26	1.21
4	0	2881	TAO	C37-C31	2.80	1.59	1.53
4	0	2881	TAO	C16-C12	2.70	1.58	1.53
4	0	2881	TAO	O6-C3	-2.44	1.40	1.43
4	0	2881	TAO	C25-C19	2.37	1.58	1.53
4	0	2881	TAO	C13-C10	2.35	1.59	1.53
4	0	2881	TAO	C5-C3	2.31	1.51	1.47
4	0	2881	TAO	C40-C35	2.02	1.55	1.52

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	2881	TAO	O23-C27-C31	12.08	137.34	111.53
4	0	2881	TAO	C16-C12-C17	-11.67	97.66	112.22
4	0	2881	TAO	C26-C31-C27	11.35	132.86	109.93
4	0	2881	TAO	O18-C14-C19	9.98	119.99	108.23
4	0	2881	TAO	C16-C12-C9	-8.42	96.58	111.40
4	0	2881	TAO	C9-O11-C15	8.19	130.44	117.72
4	0	2881	TAO	C22-C17-C12	-7.99	103.21	114.46
4	0	2881	TAO	O11-C15-C20	7.88	125.14	111.09
4	0	2881	TAO	O23-C27-O32	-7.72	110.01	123.95
4	0	2881	TAO	O33-C38-C44	7.61	124.66	111.09
4	0	2881	TAO	C13-C10-C14	-7.30	99.22	111.14
4	0	2881	TAO	O54-C55-C56	7.04	123.65	111.09
4	0	2881	TAO	O43-C36-C42	-5.82	101.82	110.84
4	0	2881	TAO	O11-C9-C12	5.74	120.74	107.52
4	0	2881	TAO	C24-O18-C14	5.58	131.20	117.98
4	0	2881	TAO	C52-C49-C51	5.03	120.88	113.39
4	0	2881	TAO	O18-C24-C28	5.02	118.85	109.09
4	0	2881	TAO	C25-C19-C14	4.64	119.57	111.40
4	0	2881	TAO	O32-C27-C31	-4.41	112.63	124.11
4	0	2881	TAO	O30-C36-C42	4.31	116.57	108.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	2881	TAO	C14-C19-C26	-4.02	101.81	112.70
4	0	2881	TAO	C36-O30-C26	3.86	122.40	114.72
4	0	2881	TAO	O30-C26-C19	-3.81	103.74	108.23
4	0	2881	TAO	C31-C26-C19	3.64	123.39	112.91
4	0	2881	TAO	O18-C24-O29	-3.58	101.27	110.69
4	0	2881	TAO	C41-C35-C40	-3.54	107.92	113.27
4	0	2881	TAO	C13-C10-C7	-3.39	104.74	112.45
4	0	2881	TAO	O29-C24-C28	-3.37	102.94	109.49
4	0	2881	TAO	O30-C26-C31	3.36	116.83	111.16
4	0	2881	TAO	O11-C15-O21	-3.24	116.74	122.99
4	0	2881	TAO	C25-C19-C26	3.10	116.86	111.40
4	0	2881	TAO	O33-C28-C24	3.00	115.21	108.36
4	0	2881	TAO	C48-C51-C49	-2.92	106.44	110.56
4	0	2881	TAO	O33-C38-O45	-2.68	117.82	122.99
4	0	2881	TAO	O54-C55-O57	-2.64	117.89	122.99
4	0	2881	TAO	C3-C7-C10	2.46	121.90	117.50
4	0	2881	TAO	O1-C2-C3	-2.44	114.49	120.31
4	0	2881	TAO	C17-O23-C27	2.40	121.11	117.55
4	0	2881	TAO	C47-N39-C46	-2.40	103.43	110.49
4	0	2881	TAO	O21-C15-C20	-2.38	116.34	124.77
4	0	2881	TAO	O1-C2-C4	-2.33	113.01	120.51
4	0	2881	TAO	O45-C38-C44	-2.24	116.83	124.77
4	0	2881	TAO	C40-C34-N39	-2.23	109.33	115.59
4	0	2881	TAO	O43-C49-C52	-2.14	101.99	106.74
4	0	2881	TAO	O57-C55-C56	-2.07	117.42	124.77
4	0	2881	TAO	O43-C49-C51	2.06	113.01	109.19
4	0	2881	TAO	O29-C35-C40	2.01	112.22	109.34

There are no chirality outliers.

All (46) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C31-C26-O30-C36
4	0	2881	TAO	C19-C26-O30-C36
4	0	2881	TAO	C31-C27-O23-C17
4	0	2881	TAO	O32-C27-O23-C17
4	0	2881	TAO	C16-C12-C17-O23
4	0	2881	TAO	C9-C12-C17-O23
4	0	2881	TAO	C16-C12-C17-C22
4	0	2881	TAO	C9-C12-C17-C22
4	0	2881	TAO	C17-C12-C9-O11
4	0	2881	TAO	C17-C12-C9-C4

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Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C8-C4-C9-C12
4	0	2881	TAO	C8-C4-C9-O11
4	0	2881	TAO	O21-C15-O11-C9
4	0	2881	TAO	C20-C15-O11-C9
4	0	2881	TAO	C3-C2-C4-C9
4	0	2881	TAO	O1-C2-C4-C8
4	0	2881	TAO	O1-C2-C3-C5
4	0	2881	TAO	O1-C2-C3-C7
4	0	2881	TAO	C19-C14-O18-C24
4	0	2881	TAO	C40-C34-N39-C46
4	0	2881	TAO	C40-C34-N39-C47
4	0	2881	TAO	C28-C34-N39-C47
4	0	2881	TAO	C56-C55-O54-C51
4	0	2881	TAO	O57-C55-O54-C51
4	0	2881	TAO	C44-C38-O33-C28
4	0	2881	TAO	O45-C38-O33-C28
4	0	2881	TAO	C22-C17-O23-C27
4	0	2881	TAO	C19-C26-C31-C27
4	0	2881	TAO	O29-C24-O18-C14
4	0	2881	TAO	C24-C28-O33-C38
4	0	2881	TAO	O6-C3-C7-C10
4	0	2881	TAO	C42-C36-O30-C26
4	0	2881	TAO	C16-C12-C9-O11
4	0	2881	TAO	O23-C27-C31-C26
4	0	2881	TAO	C28-C34-N39-C46
4	0	2881	TAO	C16-C12-C9-C4
4	0	2881	TAO	O32-C27-C31-C26
4	0	2881	TAO	O43-C36-O30-C26
4	0	2881	TAO	C3-C2-C4-C8
4	0	2881	TAO	C2-C4-C9-C12
4	0	2881	TAO	C12-C17-O23-C27
4	0	2881	TAO	O1-C2-C3-O6
4	0	2881	TAO	C28-C24-O18-C14
4	0	2881	TAO	O1-C2-C4-C9
4	0	2881	TAO	C34-C28-O33-C38
4	0	2881	TAO	C10-C14-C19-C26

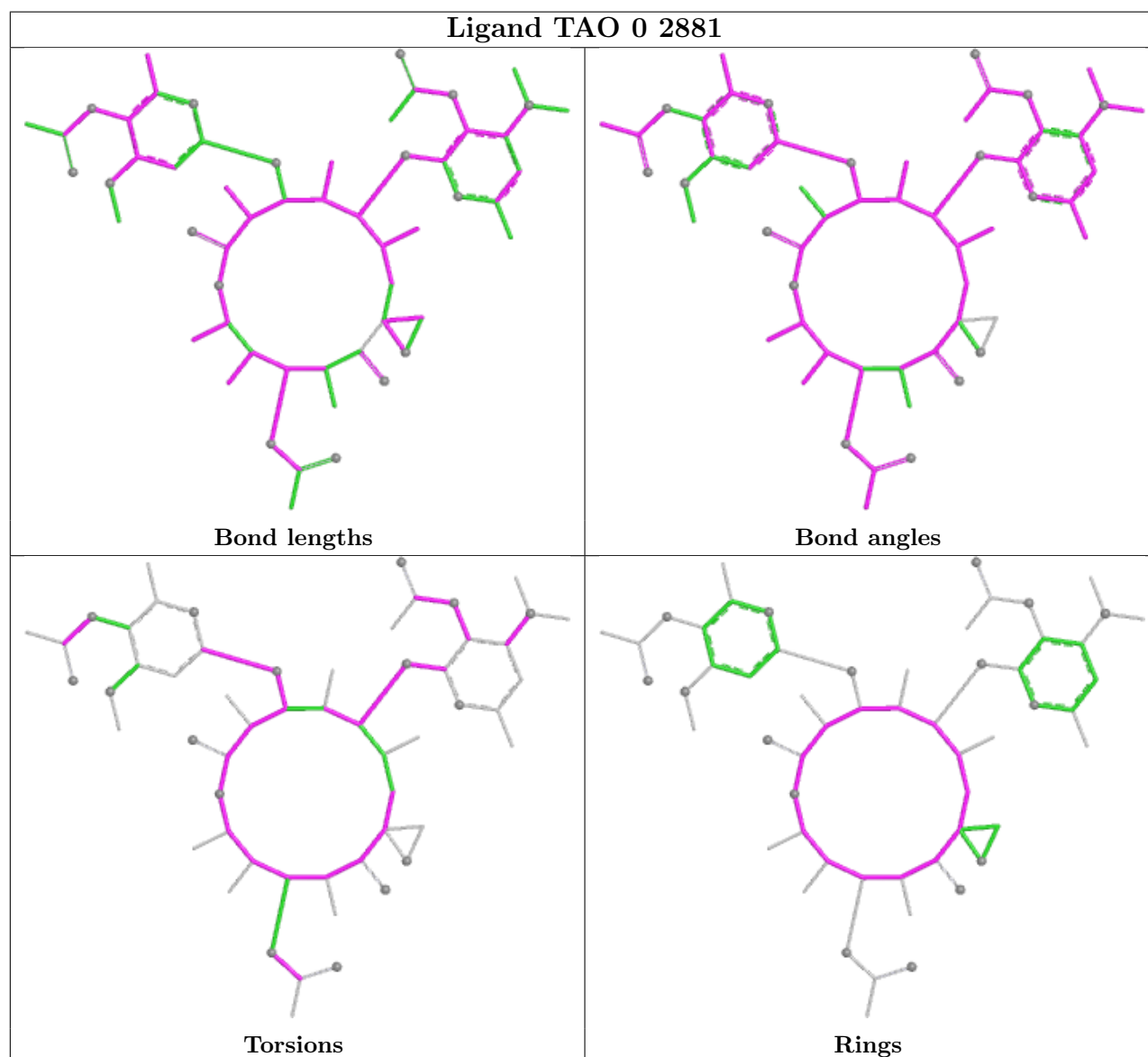
All (1) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C10-C12-C14-C17-C19-C2-C26-C27-C3-C31-C4-C7-C9-O23

1 monomer is involved in 22 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	0	2881	TAO	22	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	2765/2880 (96%)	1.89	1061 (38%)  	10, 30, 100, 100	0
2	Q	130/134 (97%)	7.35	109 (83%)  	10, 28, 83, 167	0
3	Z	58/60 (96%)	5.72	47 (81%)  	10, 18, 60, 89	0
All	All	2953/3074 (96%)	2.21	1217 (41%)  	10, 30, 100, 167	0

All (1217) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	Q	5	GLU	56.7
2	Q	17	GLN	31.5
2	Q	132	GLY	29.4
3	Z	2	ALA	26.5
2	Q	76	LYS	24.8
3	Z	35	GLN	23.5
2	Q	83	ASP	21.8
2	Q	6	GLN	20.4
2	Q	40	LEU	19.6
2	Q	59	PHE	19.5
2	Q	66	GLU	18.2
2	Q	134	LYS	17.3
2	Q	114	ALA	17.3
3	Z	47	PRO	16.8
2	Q	23	PRO	16.4
3	Z	12	SER	16.4
2	Q	73	ASN	16.2
2	Q	108	PRO	15.1
2	Q	22	LYS	14.3
2	Q	133	ASN	13.6
2	Q	20	LEU	13.3
2	Q	121	THR	13.0
3	Z	36	CYS	13.0

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Mol	Chain	Res	Type	RSRZ
2	Q	13	GLN	12.8
2	Q	102	THR	12.5
2	Q	109	ARG	12.3
2	Q	131	LYS	12.1
3	Z	44	HIS	12.1
2	Q	84	GLU	12.1
2	Q	86	LEU	11.8
2	Q	110	ALA	11.6
3	Z	38	GLY	10.8
3	Z	14	SER	10.6
3	Z	57	VAL	10.5
2	Q	113	SER	10.4
2	Q	106	LEU	10.3
2	Q	122	SER	10.3
2	Q	92	VAL	10.1
3	Z	27	ALA	9.9
2	Q	104	LYS	9.4
3	Z	32	GLU	9.1
2	Q	124	ILE	8.9
2	Q	87	GLU	8.9
3	Z	16	ARG	8.8
1	0	1459	U	8.7
3	Z	20	ARG	8.5
2	Q	43	ASP	8.4
2	Q	51	GLN	8.4
2	Q	81	HIS	8.4
2	Q	61	PRO	8.2
1	0	789	G	8.2
2	Q	130	GLU	8.1
1	0	2589	C	8.1
3	Z	39	LYS	8.1
2	Q	85	MET	8.0
1	0	2781	G	8.0
2	Q	115	ASN	7.9
2	Q	8	PHE	7.9
2	Q	32	ARG	7.9
2	Q	54	GLU	7.8
1	0	943	U	7.6
3	Z	48	ASN	7.6
2	Q	60	ILE	7.6
2	Q	42	VAL	7.5
3	Z	54	GLY	7.4

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Mol	Chain	Res	Type	RSRZ
1	0	343	A	7.4
2	Q	93	LYS	7.3
3	Z	50	GLY	7.2
1	0	2427	A	7.2
1	0	69	G	7.1
1	0	344	G	7.1
1	0	1890	G	7.1
1	0	2174	G	7.1
1	0	1036	G	7.0
1	0	2122	G	6.9
1	0	2091	C	6.9
1	0	2107	G	6.9
2	Q	35	PRO	6.9
2	Q	33	MET	6.9
1	0	625	A	6.8
1	0	2136	G	6.8
2	Q	88	ASP	6.7
2	Q	112	GLY	6.6
2	Q	111	ARG	6.6
2	Q	100	GLY	6.6
1	0	1474	A	6.5
3	Z	23	HIS	6.5
1	0	698	A	6.5
2	Q	80	LEU	6.5
2	Q	14	ARG	6.5
1	0	803	C	6.5
2	Q	7	THR	6.4
1	0	788	G	6.4
3	Z	51	TYR	6.3
2	Q	16	GLN	6.3
2	Q	25	PHE	6.3
1	0	295	C	6.3
3	Z	9	LYS	6.2
1	0	2104	G	6.2
2	Q	63	SER	6.2
2	Q	101	PRO	6.2
1	0	62	U	6.2
1	0	1074	G	6.1
1	0	370	U	6.1
1	0	765	C	6.0
1	0	624	A	6.0
1	0	1187	A	6.0

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Mol	Chain	Res	Type	RSRZ
1	0	1197	U	6.0
1	0	2170	C	5.9
2	Q	119	LYS	5.9
1	0	1948	C	5.9
1	0	2780	A	5.9
2	Q	9	ARG	5.9
1	0	2875	C	5.8
1	0	1904	G	5.8
1	0	1088	A	5.8
1	0	151	G	5.8
1	0	2123	G	5.8
1	0	2283	G	5.8
1	0	1795	C	5.8
1	0	2649	A	5.8
1	0	369	C	5.7
1	0	1792	C	5.7
1	0	1866	G	5.7
2	Q	29	LYS	5.7
1	0	1111	C	5.7
1	0	1791	C	5.7
2	Q	70	LYS	5.7
1	0	1182	U	5.6
2	Q	116	ILE	5.6
1	0	700	C	5.6
1	0	2161	C	5.6
1	0	360	A	5.6
1	0	2426	G	5.6
1	0	138	G	5.6
1	0	1436	G	5.6
2	Q	72	LEU	5.6
1	0	2198	U	5.6
1	0	1065	A	5.6
1	0	940	G	5.5
1	0	1100	G	5.5
1	0	1123	G	5.5
2	Q	28	ALA	5.5
2	Q	125	THR	5.5
1	0	2160	C	5.5
1	0	1603	A	5.5
1	0	1498	G	5.5
1	0	1737	G	5.5
1	0	2201	G	5.5

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Mol	Chain	Res	Type	RSRZ
2	Q	21	ARG	5.5
1	0	373	A	5.4
1	0	879	A	5.4
1	0	1119	U	5.4
1	0	752	G	5.4
1	0	1867	A	5.4
1	0	2188	A	5.4
1	0	2105	U	5.4
1	0	938	G	5.4
1	0	1734	C	5.4
2	Q	107	ILE	5.4
2	Q	47	GLY	5.3
1	0	514	G	5.3
1	0	315	G	5.3
1	0	539	A	5.3
1	0	1437	A	5.3
1	0	1060	C	5.3
1	0	1514	C	5.3
1	0	2085	G	5.3
2	Q	74	SER	5.2
3	Z	21	SER	5.2
2	Q	46	ARG	5.2
1	0	1069	G	5.2
1	0	1577	G	5.2
1	0	1905	G	5.2
1	0	1101	U	5.2
1	0	1078	A	5.2
1	0	1895	A	5.2
1	0	813	A	5.2
1	0	1609	G	5.2
1	0	1093	U	5.2
1	0	559	C	5.1
1	0	2229	G	5.1
1	0	701	U	5.1
1	0	1354	A	5.1
1	0	1550	C	5.1
1	0	1189	G	5.1
1	0	1495	G	5.1
1	0	699	G	5.1
1	0	2176	U	5.1
1	0	926	C	5.1
1	0	2120	C	5.1

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Mol	Chain	Res	Type	RSRZ
1	0	1062	G	5.0
1	0	1557	G	5.0
1	0	1104	G	5.0
1	0	1506	C	5.0
3	Z	25	LEU	5.0
1	0	2106	G	5.0
1	0	2139	G	5.0
1	0	1897	C	5.0
1	0	1908	C	5.0
1	0	66	U	5.0
1	0	2783	U	5.0
2	Q	10	ASN	5.0
1	0	1061	A	4.9
1	0	1529	C	4.9
1	0	2312	A	4.9
1	0	1090	C	4.9
1	0	726	G	4.9
1	0	1121	G	4.9
1	0	1545	G	4.9
1	0	1947	G	4.9
1	0	2634	G	4.9
2	Q	89	ARG	4.9
1	0	1907	C	4.9
1	0	2779	C	4.9
1	0	1790	G	4.9
2	Q	52	ASP	4.9
1	0	556	A	4.9
1	0	1075	C	4.9
1	0	2135	C	4.9
1	0	1033	G	4.9
1	0	1058	G	4.9
1	0	2782	G	4.9
1	0	1115	C	4.8
1	0	555	U	4.8
1	0	2178	U	4.8
1	0	2213	G	4.8
1	0	2324	G	4.8
1	0	1083	C	4.8
1	0	1711	C	4.8
1	0	2167	A	4.8
1	0	2737	A	4.8
1	0	15	G	4.8

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Mol	Chain	Res	Type	RSRZ
1	0	469	G	4.8
1	0	1096	A	4.8
1	0	2877	A	4.8
1	0	1071	U	4.7
3	Z	7	PRO	4.7
1	0	1079	G	4.7
1	0	2004	U	4.7
3	Z	58	LEU	4.7
1	0	1439	G	4.7
1	0	1900	U	4.7
1	0	2196	U	4.7
1	0	2772	U	4.7
1	0	1183	C	4.7
1	0	1598	C	4.7
1	0	106	G	4.7
1	0	623	G	4.7
1	0	1527	G	4.7
1	0	2731	G	4.7
1	0	1570	C	4.7
1	0	2740	C	4.7
2	Q	96	TYR	4.6
1	0	1050	G	4.6
1	0	1425	G	4.6
1	0	1730	G	4.6
1	0	2354	G	4.6
1	0	2854	G	4.6
1	0	70	A	4.6
1	0	2109	A	4.6
1	0	2168	A	4.6
2	Q	117	ILE	4.6
1	0	1181	C	4.6
1	0	1552	C	4.6
1	0	2125	C	4.6
2	Q	79	ALA	4.6
1	0	2086	U	4.6
1	0	2311	U	4.6
2	Q	11	LYS	4.6
1	0	1122	A	4.6
1	0	2265	A	4.6
1	0	1152	C	4.6
1	0	366	U	4.6
1	0	1199	U	4.6

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Mol	Chain	Res	Type	RSRZ
1	0	2778	U	4.6
1	0	2190	A	4.6
1	0	1419	G	4.6
1	0	1438	G	4.6
2	Q	49	SER	4.6
1	0	1072	U	4.5
1	0	1500	U	4.5
1	0	1099	A	4.5
1	0	1523	A	4.5
1	0	1113	C	4.5
3	Z	52	TYR	4.5
1	0	1909	U	4.5
1	0	91	A	4.5
1	0	2093	G	4.5
1	0	2137	G	4.5
1	0	638	A	4.5
1	0	1086	C	4.5
1	0	1633	C	4.5
1	0	1865	C	4.5
1	0	1098	G	4.5
1	0	1117	G	4.5
1	0	1435	G	4.5
1	0	668	A	4.5
1	0	911	A	4.5
1	0	1091	C	4.4
1	0	942	U	4.4
1	0	1053	G	4.4
1	0	1118	G	4.4
1	0	1842	G	4.4
2	Q	91	PHE	4.4
1	0	2119	A	4.4
1	0	1110	G	4.4
1	0	1925	C	4.4
1	0	1434	U	4.4
1	0	1591	U	4.4
1	0	1191	G	4.4
1	0	1356	G	4.4
1	0	2868	G	4.4
2	Q	26	ALA	4.4
1	0	146	C	4.4
1	0	541	C	4.4
1	0	2157	C	4.4

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Mol	Chain	Res	Type	RSRZ
1	0	727	U	4.4
1	0	1926	U	4.4
1	0	363	G	4.3
1	0	1234	C	4.3
1	0	2199	C	4.3
1	0	1070	G	4.3
1	0	1023	U	4.3
1	0	2051	U	4.3
2	Q	77	ALA	4.3
1	0	243	G	4.3
1	0	2279	G	4.3
1	0	611	C	4.3
1	0	1528	C	4.3
1	0	2158	C	4.3
1	0	2197	U	4.3
2	Q	68	VAL	4.3
1	0	1019	U	4.2
1	0	1186	G	4.2
1	0	1427	G	4.2
1	0	1430	G	4.2
1	0	2079	A	4.2
1	0	2140	G	4.2
1	0	2163	U	4.2
1	0	2759	U	4.2
1	0	208	C	4.2
1	0	1031	C	4.2
1	0	2082	C	4.2
1	0	2097	A	4.2
1	0	413	G	4.2
1	0	646	C	4.2
1	0	1064	C	4.2
1	0	1893	G	4.2
1	0	2089	C	4.2
1	0	2273	C	4.2
1	0	2648	G	4.2
1	0	775	U	4.2
1	0	2348	A	4.2
3	Z	29	ASN	4.2
1	0	358	C	4.2
1	0	88	G	4.2
1	0	1496	G	4.2
1	0	1520	G	4.2

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Mol	Chain	Res	Type	RSRZ
1	0	1716	G	4.2
1	0	1510	A	4.2
1	0	2784	A	4.2
1	0	134	G	4.2
1	0	492	G	4.2
1	0	2286	G	4.2
3	Z	24	ALA	4.1
1	0	683	A	4.1
1	0	1028	G	4.1
1	0	1913	G	4.1
1	0	365	U	4.1
1	0	83	A	4.1
1	0	2165	A	4.1
1	0	2290	A	4.1
1	0	367	G	4.1
1	0	1465	G	4.1
1	0	1850	G	4.1
1	0	2110	G	4.1
1	0	1548	U	4.1
1	0	1499	A	4.1
1	0	1052	C	4.1
1	0	1120	C	4.1
1	0	1185	C	4.1
1	0	1522	C	4.1
1	0	1829	C	4.1
2	Q	45	ILE	4.1
1	0	636	G	4.1
1	0	1428	G	4.1
1	0	1879	G	4.1
1	0	1605	A	4.0
1	0	1869	A	4.0
1	0	2169	A	4.0
1	0	1089	C	4.0
1	0	353	G	4.0
1	0	2718	A	4.0
1	0	1487	C	4.0
1	0	1112	U	4.0
1	0	1547	U	4.0
1	0	1863	U	4.0
1	0	2282	G	4.0
2	Q	15	LYS	4.0
2	Q	24	GLY	4.0

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Mol	Chain	Res	Type	RSRZ
1	0	1132	C	4.0
1	0	1518	C	4.0
1	0	2124	C	4.0
1	0	2195	C	4.0
1	0	1105	U	4.0
1	0	1102	G	4.0
1	0	2108	G	4.0
1	0	2739	G	4.0
2	Q	120	ARG	4.0
1	0	1318	A	4.0
1	0	2476	A	4.0
1	0	2462	C	4.0
3	Z	13	LYS	4.0
1	0	621	U	3.9
1	0	2177	U	3.9
1	0	100	G	3.9
1	0	431	G	3.9
1	0	1533	G	3.9
1	0	490	A	3.9
1	0	1404	C	3.9
1	0	1092	U	3.9
2	Q	56	LEU	3.9
1	0	296	A	3.9
1	0	1153	A	3.9
1	0	1852	G	3.9
1	0	1912	G	3.9
1	0	2173	G	3.9
1	0	1524	C	3.9
1	0	92	U	3.9
1	0	1812	U	3.9
1	0	60	A	3.9
1	0	357	A	3.9
1	0	1192	A	3.9
1	0	1902	A	3.9
1	0	226	C	3.9
1	0	312	G	3.9
1	0	1024	G	3.9
1	0	1103	C	3.9
1	0	1374	G	3.9
1	0	1124	U	3.9
1	0	654	A	3.8
1	0	1095	A	3.8

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Mol	Chain	Res	Type	RSRZ
1	0	1921	A	3.8
1	0	301	C	3.8
1	0	1501	C	3.8
1	0	2876	C	3.8
1	0	816	U	3.8
1	0	941	U	3.8
2	Q	97	VAL	3.8
1	0	148	C	3.8
1	0	972	C	3.8
1	0	1127	C	3.8
1	0	2205	C	3.8
1	0	2669	C	3.8
1	0	658	G	3.8
1	0	728	G	3.8
1	0	2642	G	3.8
2	Q	67	PRO	3.8
1	0	441	A	3.8
1	0	1056	U	3.8
1	0	1491	C	3.8
2	Q	30	TYR	3.8
2	Q	55	ASP	3.8
1	0	154	U	3.8
1	0	787	A	3.8
1	0	956	A	3.8
1	0	2692	A	3.8
1	0	640	C	3.7
2	Q	53	ALA	3.7
1	0	219	G	3.7
1	0	510	G	3.7
1	0	1261	G	3.7
1	0	1602	G	3.7
1	0	2166	G	3.7
1	0	297	A	3.7
1	0	1807	A	3.7
1	0	300	C	3.7
1	0	1862	C	3.7
1	0	2446	C	3.7
1	0	361	G	3.7
1	0	858	G	3.7
1	0	1073	G	3.7
1	0	1317	G	3.7
1	0	1554	G	3.7

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Mol	Chain	Res	Type	RSRZ
1	0	2083	G	3.7
1	0	408	U	3.7
1	0	2291	U	3.7
1	0	1129	A	3.7
1	0	1851	A	3.7
1	0	2409	A	3.7
3	Z	53	ASP	3.7
1	0	725	C	3.7
1	0	1396	C	3.7
1	0	349	G	3.7
1	0	359	G	3.7
1	0	438	G	3.7
1	0	582	G	3.7
1	0	1450	G	3.7
1	0	891	A	3.7
1	0	2204	A	3.7
1	0	2455	A	3.7
1	0	1054	C	3.7
1	0	157	G	3.6
1	0	814	G	3.6
1	0	1432	G	3.6
1	0	1684	G	3.6
1	0	1116	U	3.6
1	0	2251	U	3.6
1	0	158	A	3.6
1	0	1507	A	3.6
1	0	2117	A	3.6
3	Z	41	LEU	3.6
1	0	722	C	3.6
1	0	2162	C	3.6
1	0	871	U	3.6
1	0	1051	U	3.6
1	0	11	G	3.6
1	0	1066	G	3.6
1	0	1504	G	3.6
1	0	2164	G	3.6
1	0	1555	A	3.6
1	0	332	C	3.6
1	0	1601	U	3.6
1	0	2134	U	3.6
1	0	872	G	3.6
1	0	1871	G	3.6

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Mol	Chain	Res	Type	RSRZ
1	0	2386	G	3.6
1	0	304	A	3.6
1	0	729	A	3.6
1	0	2581	A	3.6
1	0	1731	C	3.6
2	Q	18	VAL	3.6
1	0	697	G	3.5
1	0	1128	G	3.5
1	0	2319	G	3.5
1	0	737	C	3.5
1	0	1094	C	3.5
1	0	2771	C	3.5
1	0	2402	U	3.5
1	0	665	A	3.5
1	0	1378	A	3.5
1	0	1884	A	3.5
3	Z	5	PRO	3.5
1	0	90	G	3.5
1	0	314	G	3.5
1	0	678	G	3.5
1	0	1085	G	3.5
1	0	1488	G	3.5
1	0	2379	G	3.5
1	0	1256	C	3.5
1	0	1898	U	3.5
1	0	2284	U	3.5
2	Q	127	ILE	3.5
2	Q	36	ARG	3.5
1	0	195	A	3.5
1	0	341	A	3.5
1	0	81	C	3.5
1	0	1880	G	3.5
1	0	1946	U	3.5
1	0	1883	A	3.5
1	0	1830	C	3.5
1	0	237	G	3.5
1	0	742	G	3.5
1	0	1414	G	3.5
1	0	2287	G	3.5
1	0	1108	U	3.5
1	0	1161	U	3.5
1	0	1409	U	3.5

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Mol	Chain	Res	Type	RSRZ
1	0	149	A	3.4
1	0	648	A	3.4
1	0	1107	A	3.4
1	0	1910	A	3.4
1	0	2175	A	3.4
1	0	244	C	3.4
1	0	298	C	3.4
1	0	1549	C	3.4
1	0	2	G	3.4
1	0	155	G	3.4
1	0	323	G	3.4
1	0	622	U	3.4
1	0	985	G	3.4
1	0	1168	G	3.4
1	0	2076	G	3.4
1	0	2214	G	3.4
1	0	1896	A	3.4
1	0	1076	U	3.4
1	0	1505	U	3.4
3	Z	37	HIS	3.4
1	0	1841	G	3.4
1	0	1604	A	3.4
1	0	1606	C	3.4
1	0	372	U	3.4
1	0	1894	U	3.4
1	0	1571	G	3.4
1	0	2741	G	3.4
2	Q	48	LYS	3.4
3	Z	8	LYS	3.4
1	0	2090	U	3.3
1	0	2769	C	3.3
3	Z	42	SER	3.3
1	0	600	G	3.3
1	0	614	G	3.3
1	0	1246	G	3.3
1	0	2370	G	3.3
1	0	435	A	3.3
1	0	1068	A	3.3
1	0	1154	A	3.3
1	0	1188	A	3.3
1	0	1618	U	3.3
1	0	246	C	3.3

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Mol	Chain	Res	Type	RSRZ
1	0	1422	C	3.3
1	0	1497	C	3.3
1	0	74	G	3.3
1	0	433	G	3.3
1	0	717	G	3.3
1	0	1503	G	3.3
1	0	1599	G	3.3
1	0	1847	G	3.3
1	0	2084	G	3.3
1	0	1391	A	3.3
1	0	2288	A	3.3
1	0	2301	A	3.3
3	Z	34	PRO	3.3
1	0	1030	U	3.3
1	0	1037	U	3.3
1	0	1301	U	3.3
1	0	1515	U	3.3
1	0	927	C	3.3
1	0	309	G	3.3
1	0	2103	G	3.3
1	0	2133	G	3.3
1	0	2760	G	3.3
1	0	109	A	3.3
1	0	1139	A	3.3
1	0	1699	A	3.3
1	0	1953	A	3.3
1	0	2118	A	3.3
1	0	2355	A	3.3
1	0	2728	A	3.3
3	Z	30	LEU	3.2
1	0	873	U	3.2
1	0	877	G	3.2
1	0	1440	G	3.2
1	0	2363	G	3.2
1	0	2647	G	3.2
1	0	117	A	3.2
1	0	137	A	3.2
1	0	618	A	3.2
1	0	913	A	3.2
1	0	1525	A	3.2
1	0	2043	A	3.2
1	0	127	C	3.2

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Mol	Chain	Res	Type	RSRZ
1	0	417	C	3.2
1	0	629	C	3.2
1	0	2172	U	3.2
1	0	333	A	3.2
1	0	355	G	3.2
1	0	734	G	3.2
1	0	1059	A	3.2
1	0	1285	A	3.2
1	0	2621	G	3.2
1	0	2773	G	3.2
1	0	398	C	3.2
2	Q	19	LYS	3.2
3	Z	18	MET	3.2
1	0	328	A	3.2
1	0	1538	A	3.2
1	0	2639	A	3.2
1	0	238	G	3.2
1	0	1067	G	3.2
1	0	1849	G	3.2
1	0	2217	G	3.2
1	0	2361	G	3.2
1	0	131	C	3.2
1	0	1087	C	3.2
1	0	1190	C	3.2
1	0	1346	C	3.2
1	0	212	U	3.1
1	0	1044	U	3.1
1	0	1	G	3.1
1	0	4	C	3.1
1	0	140	G	3.1
1	0	430	C	3.1
1	0	637	G	3.1
1	0	730	C	3.1
1	0	1858	C	3.1
1	0	2243	C	3.1
1	0	2466	G	3.1
1	0	1733	U	3.1
1	0	2498	U	3.1
1	0	2450	A	3.1
1	0	2730	A	3.1
1	0	303	C	3.1
1	0	1517	C	3.1

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Mol	Chain	Res	Type	RSRZ
1	0	424	G	3.1
1	0	660	G	3.1
1	0	1082	G	3.1
1	0	2087	U	3.1
1	0	2088	U	3.1
1	0	2180	U	3.1
1	0	10	A	3.1
1	0	415	A	3.1
1	0	2182	A	3.1
1	0	2289	A	3.1
1	0	1546	C	3.1
1	0	1892	C	3.1
3	Z	10	LYS	3.1
1	0	1184	G	3.1
1	0	1196	G	3.1
1	0	2742	G	3.1
1	0	557	U	3.1
1	0	1490	U	3.1
1	0	1881	U	3.1
1	0	2171	U	3.1
1	0	1486	A	3.1
1	0	2277	A	3.1
1	0	664	C	3.0
1	0	1489	C	3.0
1	0	1581	C	3.0
1	0	1930	C	3.0
1	0	2292	C	3.0
1	0	364	G	3.0
1	0	558	G	3.0
1	0	1084	A	3.0
1	0	1511	A	3.0
1	0	2758	A	3.0
1	0	1198	C	3.0
1	0	1906	U	3.0
1	0	2092	U	3.0
1	0	2323	U	3.0
1	0	334	G	3.0
1	0	338	G	3.0
1	0	419	G	3.0
1	0	1864	G	3.0
1	0	2202	G	3.0
1	0	2349	G	3.0

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Mol	Chain	Res	Type	RSRZ
1	0	1242	A	3.0
1	0	1899	A	3.0
1	0	2278	A	3.0
1	0	2306	A	3.0
1	0	550	C	3.0
1	0	2281	C	3.0
1	0	2459	C	3.0
1	0	1421	U	3.0
1	0	1446	U	3.0
1	0	452	G	3.0
1	0	1220	G	3.0
1	0	1951	G	3.0
1	0	1794	A	3.0
1	0	2641	A	3.0
1	0	724	C	3.0
1	0	293	U	3.0
1	0	1594	U	3.0
1	0	601	A	2.9
1	0	626	A	2.9
1	0	1556	A	2.9
1	0	2267	A	2.9
3	Z	43	HIS	2.9
1	0	162	C	2.9
1	0	1442	C	2.9
1	0	1558	C	2.9
1	0	2072	C	2.9
1	0	620	G	2.9
1	0	659	G	2.9
1	0	1047	G	2.9
1	0	1223	G	2.9
1	0	1494	G	2.9
1	0	2095	G	2.9
1	0	63	A	2.9
1	0	136	A	2.9
1	0	442	A	2.9
1	0	451	A	2.9
1	0	1097	A	2.9
1	0	1597	A	2.9
1	0	2187	A	2.9
1	0	2810	A	2.9
2	Q	90	LEU	2.9
1	0	723	C	2.9

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Mol	Chain	Res	Type	RSRZ
1	0	1063	C	2.9
1	0	1375	C	2.9
1	0	1593	C	2.9
1	0	1891	C	2.9
1	0	1038	U	2.9
1	0	1613	G	2.9
1	0	1886	G	2.9
1	0	139	A	2.9
1	0	2181	A	2.9
1	0	615	C	2.9
1	0	2800	C	2.9
3	Z	45	ILE	2.9
1	0	1508	G	2.9
1	0	1882	G	2.9
1	0	2320	G	2.9
1	0	2465	G	2.9
1	0	2582	G	2.9
1	0	1424	U	2.8
1	0	1475	U	2.8
1	0	1521	U	2.8
1	0	1531	C	2.8
1	0	1715	A	2.8
1	0	1840	A	2.8
1	0	1860	A	2.8
1	0	1868	A	2.8
1	0	2246	A	2.8
1	0	735	G	2.8
1	0	2463	G	2.8
1	0	2515	G	2.8
1	0	1389	C	2.8
1	0	2295	C	2.8
1	0	1162	A	2.8
1	0	1429	A	2.8
1	0	317	U	2.8
1	0	857	U	2.8
1	0	2096	U	2.8
1	0	46	C	2.8
1	0	1443	G	2.8
1	0	1874	G	2.8
1	0	436	A	2.8
1	0	2294	U	2.8
1	0	94	C	2.8

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Mol	Chain	Res	Type	RSRZ
1	0	1364	C	2.8
1	0	337	G	2.8
1	0	783	G	2.8
1	0	875	G	2.8
1	0	1889	G	2.8
1	0	292	A	2.7
1	0	518	A	2.7
1	0	627	A	2.7
1	0	1551	U	2.7
1	0	1901	A	2.7
1	0	2159	A	2.7
1	0	2296	U	2.7
1	0	145	C	2.7
1	0	362	C	2.7
1	0	2725	C	2.7
1	0	401	G	2.7
1	0	1193	G	2.7
1	0	1382	G	2.7
1	0	1384	G	2.7
3	Z	46	CYS	2.7
1	0	144	U	2.7
1	0	1914	U	2.7
1	0	2081	U	2.7
1	0	1032	A	2.7
1	0	1055	A	2.7
1	0	1607	A	2.7
2	Q	62	ARG	2.7
1	0	889	C	2.7
1	0	1641	C	2.7
1	0	50	G	2.7
1	0	633	G	2.7
1	0	2200	G	2.7
1	0	2309	G	2.7
1	0	2640	G	2.7
1	0	132	U	2.7
1	0	2080	U	2.7
1	0	2121	U	2.7
1	0	481	A	2.7
1	0	2738	A	2.7
1	0	418	C	2.7
1	0	1018	C	2.7
1	0	1877	C	2.7

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Mol	Chain	Res	Type	RSRZ
1	0	423	G	2.7
1	0	1739	G	2.7
1	0	2078	G	2.7
1	0	2318	U	2.7
1	0	403	A	2.6
1	0	1839	A	2.6
1	0	574	C	2.6
1	0	1535	C	2.6
1	0	1801	C	2.6
1	0	27	G	2.6
1	0	859	U	2.6
1	0	1080	A	2.6
1	0	2795	A	2.6
3	Z	4	HIS	2.6
1	0	1856	U	2.6
1	0	560	G	2.6
1	0	1146	G	2.6
1	0	1265	G	2.6
1	0	2873	G	2.6
1	0	86	U	2.6
1	0	98	U	2.6
1	0	2138	U	2.6
3	Z	33	CYS	2.6
1	0	59	G	2.6
1	0	663	G	2.6
1	0	1045	G	2.6
1	0	1174	G	2.6
1	0	1502	G	2.6
1	0	2238	G	2.6
1	0	2297	G	2.6
1	0	2464	G	2.6
1	0	73	A	2.6
1	0	93	A	2.6
1	0	1126	A	2.6
1	0	1509	A	2.6
1	0	1610	A	2.6
1	0	427	C	2.6
1	0	880	C	2.6
1	0	939	C	2.6
1	0	1853	C	2.6
1	0	2637	C	2.6
1	0	294	U	2.5

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Mol	Chain	Res	Type	RSRZ
1	0	544	U	2.5
1	0	1387	G	2.5
1	0	1584	G	2.5
1	0	2132	G	2.5
1	0	2546	G	2.5
1	0	2724	G	2.5
1	0	311	A	2.5
1	0	1081	A	2.5
1	0	2371	A	2.5
1	0	58	C	2.5
1	0	2298	U	2.5
1	0	2359	U	2.5
2	Q	37	LYS	2.5
3	Z	26	THR	2.5
1	0	248	A	2.5
1	0	1667	A	2.5
1	0	1799	A	2.5
1	0	630	G	2.5
1	0	778	G	2.5
1	0	1131	G	2.5
1	0	1173	G	2.5
1	0	1937	G	2.5
1	0	2330	G	2.5
1	0	2727	G	2.5
1	0	324	C	2.5
1	0	968	C	2.5
1	0	1219	C	2.5
1	0	1903	C	2.5
1	0	2215	C	2.5
1	0	49	U	2.5
1	0	2774	U	2.5
1	0	681	A	2.5
1	0	815	A	2.5
1	0	1372	A	2.5
1	0	1405	A	2.5
1	0	1512	A	2.5
1	0	1534	A	2.5
1	0	1952	A	2.5
1	0	2060	A	2.5
1	0	2397	A	2.5
2	Q	41	VAL	2.5
1	0	141	G	2.5

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Mol	Chain	Res	Type	RSRZ
1	0	147	G	2.5
1	0	933	G	2.5
1	0	1559	G	2.5
1	0	2304	G	2.5
1	0	878	C	2.5
1	0	2683	C	2.5
1	0	467	U	2.5
1	0	1325	U	2.5
1	0	1365	U	2.5
1	0	89	A	2.4
1	0	1179	A	2.4
1	0	1596	A	2.4
1	0	1846	A	2.4
1	0	2189	A	2.4
1	0	426	C	2.4
1	0	437	G	2.4
1	0	645	G	2.4
1	0	1049	C	2.4
1	0	1125	G	2.4
1	0	1222	G	2.4
1	0	1330	G	2.4
1	0	2451	G	2.4
1	0	2560	G	2.4
1	0	643	A	2.4
1	0	2280	A	2.4
1	0	2691	C	2.4
1	0	119	G	2.4
1	0	164	G	2.4
1	0	222	G	2.4
1	0	1480	G	2.4
1	0	1536	G	2.4
1	0	1837	G	2.4
1	0	2310	G	2.4
1	0	2313	G	2.4
2	Q	128	VAL	2.4
1	0	322	A	2.4
1	0	407	A	2.4
1	0	1137	A	2.4
1	0	1420	A	2.4
1	0	1920	A	2.4
1	0	2247	A	2.4
1	0	2785	A	2.4

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Mol	Chain	Res	Type	RSRZ
1	0	331	U	2.4
1	0	1729	C	2.4
1	0	2538	C	2.4
1	0	392	G	2.4
1	0	1407	G	2.4
1	0	2077	G	2.4
1	0	856	A	2.4
1	0	1775	A	2.4
1	0	2063	A	2.4
1	0	2248	A	2.4
1	0	345	U	2.4
1	0	1077	U	2.4
1	0	1195	U	2.4
1	0	1539	U	2.4
1	0	327	C	2.3
1	0	1736	C	2.3
1	0	1844	C	2.3
2	Q	78	ASN	2.3
1	0	1371	G	2.3
1	0	1735	G	2.3
1	0	2332	G	2.3
1	0	2350	G	2.3
1	0	1845	A	2.3
2	Q	95	ALA	2.3
1	0	670	U	2.3
1	0	1403	U	2.3
1	0	1592	U	2.3
1	0	1732	U	2.3
1	0	573	C	2.3
1	0	1415	C	2.3
1	0	2183	C	2.3
1	0	115	G	2.3
1	0	389	G	2.3
1	0	708	G	2.3
1	0	1008	G	2.3
1	0	5	A	2.3
1	0	865	A	2.3
1	0	929	A	2.3
1	0	936	A	2.3
1	0	890	U	2.3
1	0	1469	U	2.3
1	0	1578	U	2.3

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Mol	Chain	Res	Type	RSRZ
1	0	2185	U	2.3
1	0	2028	C	2.3
1	0	2765	C	2.3
1	0	47	G	2.3
1	0	487	G	2.3
1	0	669	G	2.3
1	0	928	G	2.3
1	0	1377	G	2.3
1	0	1831	G	2.3
1	0	1854	G	2.3
1	0	1855	G	2.3
1	0	2351	G	2.3
1	0	2867	G	2.3
3	Z	17	ASP	2.3
3	Z	40	LYS	2.3
1	0	204	A	2.3
1	0	242	A	2.3
1	0	743	A	2.3
1	0	1224	A	2.3
1	0	1526	U	2.3
1	0	1939	U	2.3
1	0	537	C	2.3
1	0	1687	C	2.3
2	Q	12	LYS	2.3
1	0	54	G	2.2
1	0	421	G	2.2
1	0	736	G	2.2
1	0	867	G	2.2
1	0	1402	G	2.2
1	0	2186	G	2.2
1	0	2268	G	2.2
1	0	2447	G	2.2
1	0	2587	G	2.2
1	0	2743	G	2.2
1	0	2786	G	2.2
1	0	400	U	2.2
1	0	404	A	2.2
1	0	616	U	2.2
1	0	1915	A	2.2
1	0	2208	U	2.2
1	0	2335	U	2.2
1	0	2452	U	2.2

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Mol	Chain	Res	Type	RSRZ
1	0	2770	A	2.2
1	0	1449	C	2.2
1	0	2530	C	2.2
2	Q	98	ASP	2.2
1	0	166	G	2.2
1	0	352	G	2.2
1	0	631	G	2.2
1	0	677	G	2.2
1	0	1254	G	2.2
1	0	1589	G	2.2
1	0	1617	G	2.2
1	0	1809	G	2.2
1	0	1857	G	2.2
1	0	2302	G	2.2
1	0	2837	G	2.2
1	0	103	U	2.2
1	0	390	U	2.2
1	0	1843	U	2.2
1	0	2285	U	2.2
1	0	580	A	2.2
1	0	1582	A	2.2
1	0	1949	A	2.2
1	0	2381	A	2.2
1	0	2733	A	2.2
1	0	245	C	2.2
1	0	1835	C	2.2
1	0	2264	C	2.2
1	0	2364	C	2.2
1	0	305	A	2.2
1	0	368	A	2.2
1	0	798	G	2.2
1	0	1149	G	2.2
1	0	1544	A	2.2
1	0	1800	A	2.2
1	0	2314	A	2.2
1	0	2449	G	2.2
1	0	2460	G	2.2
1	0	434	C	2.2
1	0	652	C	2.2
1	0	1743	C	2.2
1	0	2321	C	2.2
2	Q	65	SER	2.2

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Mol	Chain	Res	Type	RSRZ
1	0	177	U	2.2
1	0	302	U	2.2
1	0	563	U	2.2
1	0	1431	U	2.2
1	0	189	A	2.2
1	0	644	A	2.2
1	0	912	A	2.2
1	0	1634	A	2.2
1	0	1685	A	2.2
1	0	2245	A	2.2
1	0	2357	A	2.2
1	0	2401	A	2.2
1	0	152	G	2.2
1	0	340	G	2.2
1	0	1201	G	2.2
1	0	1942	G	2.2
1	0	2039	G	2.2
1	0	2232	G	2.2
1	0	2388	G	2.2
1	0	2555	G	2.2
1	0	20	C	2.1
1	0	213	C	2.1
1	0	2732	C	2.1
1	0	2815	C	2.1
1	0	2365	U	2.1
1	0	538	A	2.1
1	0	2299	A	2.1
1	0	108	G	2.1
1	0	591	G	2.1
1	0	592	G	2.1
1	0	1272	G	2.1
1	0	1393	G	2.1
1	0	1721	G	2.1
1	0	1832	G	2.1
1	0	2469	G	2.1
1	0	2597	G	2.1
1	0	2657	G	2.1
1	0	2717	G	2.1
1	0	2791	C	2.1
3	Z	49	CYS	2.1
1	0	1392	U	2.1
1	0	2074	U	2.1

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Mol	Chain	Res	Type	RSRZ
1	0	2224	U	2.1
1	0	1859	A	2.1
1	0	2345	A	2.1
1	0	516	G	2.1
1	0	354	C	2.1
1	0	661	C	2.1
1	0	2237	C	2.1
1	0	2453	C	2.1
1	0	1194	U	2.1
1	0	1537	U	2.1
1	0	1870	U	2.1
2	Q	94	GLU	2.1
1	0	8	A	2.1
1	0	143	A	2.1
1	0	795	A	2.1
1	0	1057	A	2.1
1	0	1106	A	2.1
1	0	1109	A	2.1
1	0	1180	A	2.1
1	0	1353	A	2.1
1	0	1433	A	2.1
1	0	2551	A	2.1
1	0	2874	A	2.1
1	0	236	C	2.1
1	0	1418	C	2.1
1	0	1724	C	2.1
1	0	203	G	2.1
1	0	854	G	2.1
1	0	1155	G	2.1
1	0	1741	G	2.1
1	0	2259	G	2.1
1	0	2529	G	2.1
1	0	61	U	2.0
1	0	667	U	2.0
1	0	1159	U	2.0
1	0	1286	U	2.0
1	0	1481	U	2.0
1	0	995	A	2.0
1	0	1231	A	2.0
1	0	2191	A	2.0
1	0	160	C	2.0
1	0	2227	C	2.0

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Mol	Chain	Res	Type	RSRZ
1	0	2689	C	2.0
1	0	16	G	2.0
1	0	41	G	2.0
1	0	371	G	2.0
1	0	504	G	2.0
1	0	1381	G	2.0
1	0	1834	G	2.0
1	0	2032	G	2.0
1	0	2203	G	2.0
1	0	2378	G	2.0
1	0	2384	G	2.0
1	0	2619	G	2.0
1	0	2865	G	2.0
1	0	1313	U	2.0
1	0	2736	U	2.0
1	0	1873	A	2.0
1	0	102	C	2.0
1	0	2444	C	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

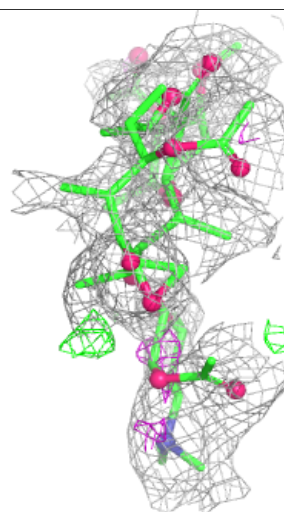
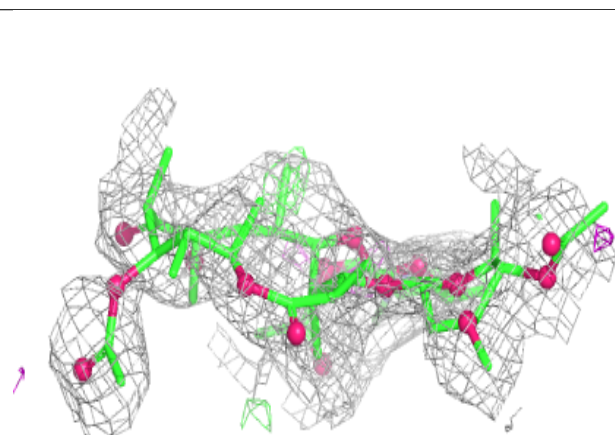
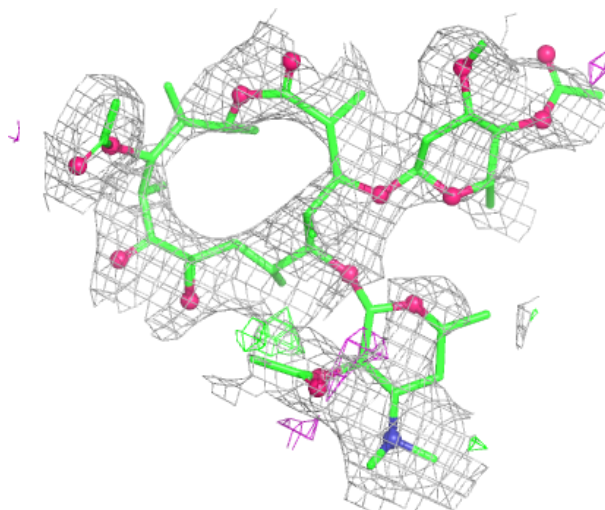
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	TAO	0	2881	57/57	0.65	0.19	27,27,27,27	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around TAO 0 2881:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.