



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 3, 2024 – 02:50 PM EDT

PDB ID : 1SM1
Title : COMPLEX OF THE LARGE RIBOSOMAL SUBUNIT FROM DEINOCOC-
CUS RADIODURANS WITH QUINUPRISTIN AND DALFOPRISTIN
Authors : Harms, J.M.; Schlutzen, F.; Fucini, P.; Bartels, H.; Yonath, A.
Deposited on : 2004-03-08
Resolution : 3.42 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 ⓘ](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

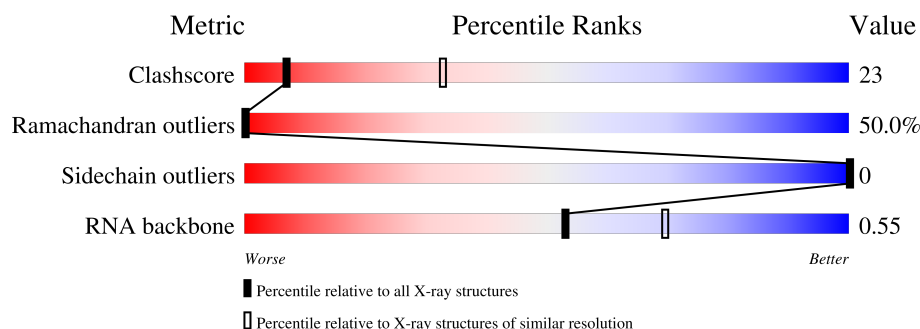
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.42 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1572 (3.50-3.34)
Ramachandran outliers	138981	1534 (3.50-3.34)
Sidechain outliers	138945	1535 (3.50-3.34)
RNA backbone	3102	1012 (3.88-2.96)


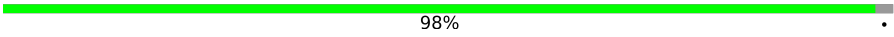
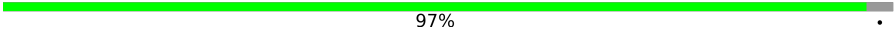
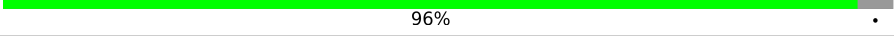
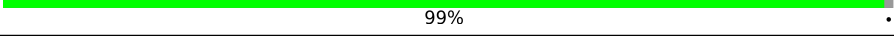


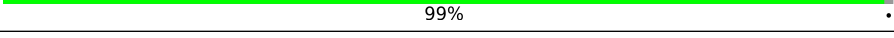
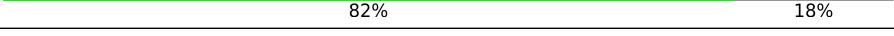
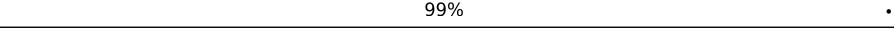
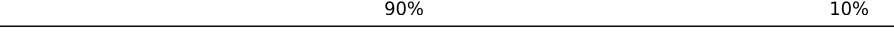
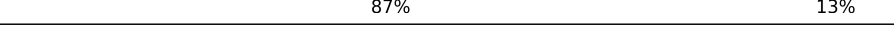
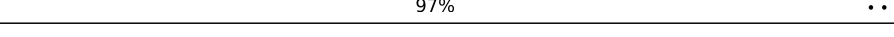
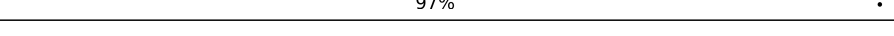

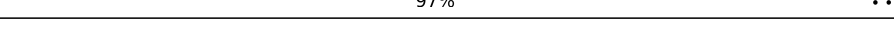
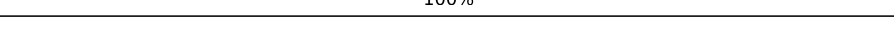
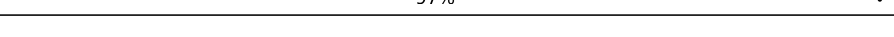
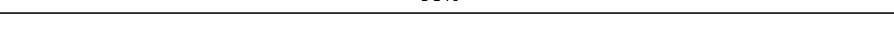






The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. 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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	<div> <div>29%</div> <div>53%</div> <div>13%</div> <div>••</div> </div>
2	1	82	<div> <div>65%</div> <div>35%</div> </div>
3	2	47	<div> <div>98%</div> <div>•</div> </div>
4	3	66	<div> <div>95%</div> <div>5%</div> </div>
5	4	37	<div> <div>95%</div> <div>5%</div> </div>
6	5	8	<div> <div>25%</div> <div>50%</div> <div>12%</div> <div>12%</div> </div>

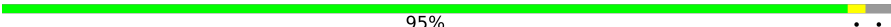
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Mol	Chain	Length	Quality of chain
7	9	124	 36%54%5%5%
8	A	275	 98%.
9	B	211	 97%.
10	C	205	 96%.
11	D	180	 99%.
12	E	212	 83%17%
13	F	146	 36%64%
14	G	144	 99%.
15	H	174	 82%18%
16	I	134	 99%.
17	J	156	 90%10%
18	K	142	 87%13%
19	L	116	 97%..
20	M	114	 97%.
21	N	166	 75%25%
22	O	118	 97%..
23	P	100	 100%
24	Q	134	 97%.
25	R	95	 98%.
26	S	115	 98%.
27	T	253	 88%12%
28	U	91	 95%5%
29	W	67	 97%.
30	X	55	 100%
31	Y	73	 100%

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Mol	Chain	Length	Quality of chain
32	Z	60	 95%

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
33	DOL	0	2882	X	-	-	-
6	DBB	5	3	-	-	X	-

2 Entry composition

There are 33 unique types of molecules in this entry. The entry contains 65418 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	2766	Total	C	N	O	P	0	0	0
			59359	26479	10949	19166	2765			

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
2	1	53	Total	C	0	0	53
			53	53			

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
3	2	46	Total	C	0	0	46
			46	46			

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
4	3	63	Total	C	0	0	63
			63	63			

- Molecule 5 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
5	4	35	Total	C	0	0	35
			35	35			

- Molecule 6 is a protein called QUINUPRISTIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	5	8	Total	C	N	O	S	0	0	0
			73	53	9	10	1			

- Molecule 7 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	9	118	Total	C	N	O	P	0	0	0
			2516	1124	464	811	117			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
8	A	270	Total	C	0	0	270
			270	270			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
9	B	205	Total	C	0	0	205
			205	205			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
10	C	197	Total	C	0	0	197
			197	197			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
11	D	178	Total	C	0	0	178
			178	178			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
12	E	177	Total	C	0	0	177
			177	177			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L9.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
13	F	52	Total	C	0	0	52
			52	52			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
14	G	143	Total C 143 143	0	0	143

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
15	H	143	Total C 143 143	0	0	143

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
16	I	132	Total C 132 132	0	0	132

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
17	J	141	Total C 141 141	0	0	141

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
18	K	124	Total C 124 124	0	0	124

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
19	L	114	Total C 114 114	0	0	114

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
20	M	111	Total C 111 111	8	0	111

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
21	N	125	Total	C	0	0	125
			125	125			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
22	O	117	Total	C	16	0	117
			117	117			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
23	P	100	Total	C	0	0	100
			100	100			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L22.

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

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
25	R	93	Total	C	0	0	93
			93	93			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
26	S	113	Total	C	0	0	113
			113	113			

- Molecule 27 is a protein called GENERAL STRESS PROTEIN CTC.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
27	T	223	Total	C	43	0	223
			223	223			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	U	86	Total C 86 86	0	0	86

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	W	65	Total C 65 65	0	0	65

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	X	55	Total C 55 55	4	0	55

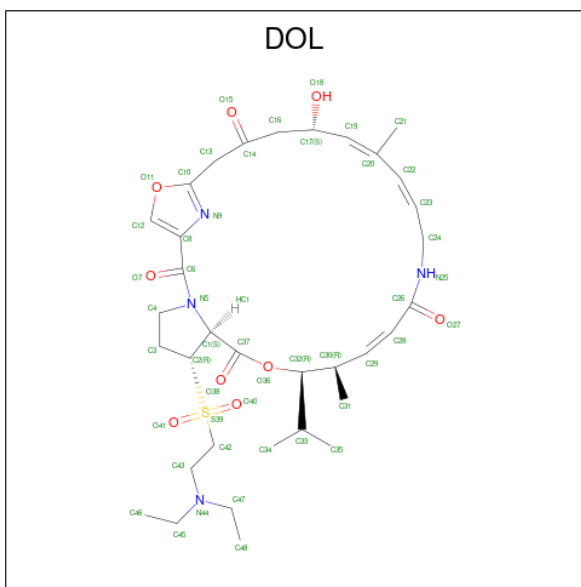
- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	Y	73	Total C 73 73	0	0	73

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L32.

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

- Molecule 33 is 5-(2-DIETHYLAMINO-ETHANESULFONYL)-21-HYDROXY-10-ISOPROPYL-11,19-DIMETHYL-9,26-DIOXA-3,15,28-TRIAZA-TRICYCLO[23.2.1.00,255]OCTACOSA-1(27),12,17,19,25(28)-PENTAENE-2,8,14,23-TETRAONE (three-letter code: DOL) (formula: C₃₄H₅₀N₄O₉S).



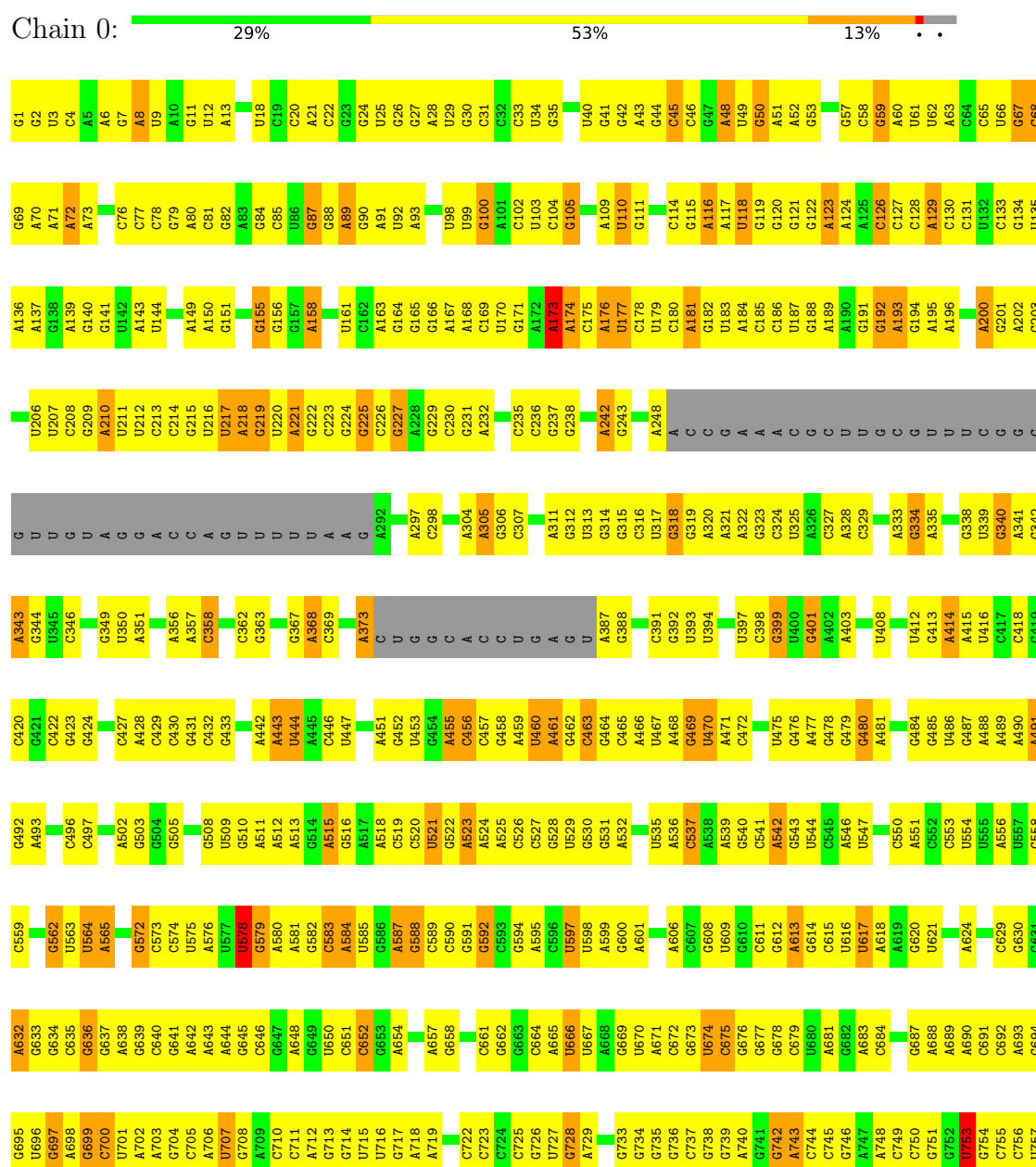
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
33	0	1	Total	C	N	O	S	0	0
			48	34	4	9	1		

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. 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. 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.

Note EDS was not executed.

• Molecule 1: 23S RIBOSOMAL RNA

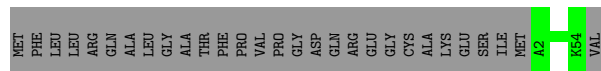


U1770	C1698	U1637	G1398	G1331	A1267	U1199	A1126	C1018	G957	G	A821	G758
A1771	A1699	G1638	C1399	G1332	U1268	G1200	G1131	A1022	G958	G	G822	C759
C1772	C1702	U1639	A1400	C1333	G1269	G1201	G1132	U1023	C959	G	U823	U760
A1773	C1702	U1473	G1401	A1334	C1270	U1202	G1133	G1024	U960	G	U824	G761
A1774	A1706	C1641	G1402	G1338	C1271	G1203	G1133	A1025	G961	G	C825	A762
A1775	A1707	G1642	U1403	U1339	G1272	G1204	G1136	U1026	C962	C	U826	A763
U1776	C1708	U1643	A1406	U1340	G1273	G1205	G1137	C1027	G963	C	C827	A764
U1777	U1709	G1644	G1407	G1341	C1274	G1206	A1137	U1028	A964	U	C828	C765
C1778	U1710	G1645	U1408	U1342	A1275	G1207	A1138	G1029	G965	A	C829	
U1779	C1711	G1646	U1409	C1343	U1276	A1208	A1139	U1030	A966	C	C830	
A1782	C1712	U1647	U1410	C1344	G1277	G1209	A1140	C1031	C967	C	G831	
G1783	G1713	U1648	G1483	G1345	A1278	U1212	U1341	C1032	C968	A	A832	C771
C1784	A1714	A1649	G1484	C1346	C1279	U1213	A1142	G1033	U969	G	A833	G772
A1785	A1715	U1651	U1485	C1347	A1281	U1214	A1143	G1034	A970	C	A834	A774
C1786	G1716	U1652	C1417	C1348	A1282	A1215	U1144	G1035	U975	U	U835	U775
U1787	C1717	G1653	C1418	A1349	U1283	A1216	C1145	U1036	C972	U	G836	G776
C1788	A1718	C1487	G1488	G1352	G1284	G1218	G1146	U1037	U973	A	U837	A777
U1789	G1719	U1489	U1426	A1353	A1285	C1219	G1147	U1038	U974	C	A838	G778
G1790	G1720	U1490	G1427	A1354	U1286	G1222	G1148	A1039	C975	C	U839	U779
C1791	A1657	A1583	G1428	A1355	A1287	G1223	G1149	A1040	C976	G	U840	U780
G1792	U1657	G1584	A1429	A1356	A1288	G1224	C1150	G1041	G977	G	G841	G781
A1793	A1658	A1585	G1430	G1357	A1289	U1225	U1151		C914	C	A842	U782
C1794	U1723	A1586	U1431	A1358	A1290	A1226	C1152	U1044	C915	U	G843	G783
C1795	G1724	A1587	G1432	U1357	G1291	A1227	A1153	G1045	C916	U	U844	U784
A1796	C1725	A1588	G1433	G1358	A1292	A1228	A1154	U1046	C981	U	U845	U785
C1797	G1726	U1500	A1434	G1359	A1293	A1229	A1155	G1047	C982	A	A846	U786
G1798	C1727	C1501	U1435	G1360	A1294	G1230			G983	C	C847	A787
A1799	U1653	G1664	G1436	C1363	A1299	A1231	A1158	C1052	A984	G	A848	G788
C1800	G1665	C1502	A1437	C1364	A1300	U1232	U1159	G1053	G985	A	U852	G789
A1801	U1666	G1503	G1438	C1365	U1301	U1233	U1161	C1054	G987	G	A853	A790
C1802	A1667	C1504	U1439	A1366	U1302	C1235	A1162	A1055	G988	G	G854	G791
G1803	G1668	U1505	A1441	U1367	U1303	A1234	C1163	U1056	A991	C	G855	U792
U1804	A1669	A1604	G1442	G1368	U1304	G1241	C1164	A1057	C992	C	U856	A794
C1805	G1670	A1605	G1443	U1370	U1306	U1242	A1166	U1058	A993	G	G857	A795
A1806	A1671	G1613	C1444	U1371	U1307	G1243	A1167	A1059	C994	C	U858	U796
C1807	C1672	G1614	U1445	A1372	U1308	U1244	G1168		A995	G	U859	A797
A1808	U1673	C1615	U1446	U1373	C1309	U1245		G1066	C996	G	U860	G798
G1809	G1674	G1616	U1447	G1374	C1310	U1246	U1172	G1067	C997	C	C864	C799
U1810	U1748	U1617	A1448	U1375	C1311	U1247	G1173	A1068	C998	G	A865	U800
A1811	G1749	U1618	G1449	A1376	G1312	G1248	G1174	G1069	A999	G	U866	A801
C1812	A1751	A1619	U1450	C1380	U1313	G1249	G1175		U867	C	G867	A802
U1813	U1752	C1620	A1453	G1381	A1314	A1250	U1176	G1073	G1000	G	U868	C803
G1816	A1753	G1621	U1454	G1382	A1315	G1251	U1177	G1074	A1001	C	C869	G804
U1817	G1754	C1622	C1455	C1383	G1316	G1252	A1178		C1002	G	C870	G805
C1818	G1755	G1623	C1456	C1384	G1317	C1253	A1179	G1082	A1003	C	U871	A806
U1819	C1756	C1624	A1457	C1385	U1318	G1254	A1180		U1005	G	G872	C807
C1820	C1757	A1625	A1458	C1386	C1319	A1255	C1181	C1086	U1006	C	U873	C808
A1821	U1685	A1626	U1459	G1387	U1320	C1256	U1182	G1087	A1007	G	A874	C809
G1822	C1687	C1627	G1460	C1388	A1321	U1257	C1183		C1008	C	G875	U810
C1823	U1688	C1628	C1461	C1389	G1322	U1258	G1184	C1090	C1009	G	A876	G811
U1824	G1689	G1629	G1462	C1390	G1323	A1259	C1185	C1091	C947	C	G877	G812
C1825	G1690	A1630	A1463	A1391	G1324	G1260	G1186	U1092	C948	G	G878	A813
U1826	G1691	C1631	A1464	U1392	U1325	G1261	A1187		G951	C	A879	G814
A1827	C1692	A1632	G1465	G1393	U1326	C1262	A1188	A1099	A952	G	U883	A815
C1828	U1693	C1633	C1466	G1394	C1327	G1263	A1189		C953	C	C884	U816
U1829	A1694	A1634	U1467	C1395	U1328	C1264	G1196		U954	G		A817
A1831	C1765	C1635	U1468	C1396	U1329	G1265	U1123		C889	C	G889	G818
G1832	U1766	C1636	C1469	A1397	U1330	G1266	U1124		U955	G	U890	C819
C1833	G1837	U1697	U1469	A1397	G1330		C1198	G1125	C1017	G	A891	U820

C2824	C2825	G2760	G2695	A2568	C2506	C2435	U2365	U2222	A	A2063	U1999	U1939	G1854
A2826	A2827	A2761	A2696	A2569	U2507	U2436	U2366	U2223	C	U2064	U2000	C1940	G1855
C2826	C2827	G2762	G2697	C2570	G2508	G2437	A2367	G2225	G	U2067	A2003	C1941	U1856
A2828	A2829	U2763	G2698	G2571	A2509	A2438	G2368	A2226	U	C2068	U2005	A1943	G1860
C2829	C2830	G2765	G2699	U2572	G2510	U2441	U2369	G2229	G	G2071	U2006	C1945	G1861
U2830	U2831	U2766	G2700	C2573	A2512	C2442	A2371	G2230	A	U2076	G2007	U1946	G1862
A2831	A2832	C2767	G2702	U2575	G2515	C2443	G2376	G2231	A	G2077	C2008	C1948	U1863
C2832	C2833	G2768	C2703	A2577	C2516	C2444	U2377	G2232	U	U2078	U2009	A1949	C1865
A2834	A2835	U2769	U2704	G2578	C2517	C2445	G2378	A2227	A	G2079	G2010	C1950	G1866
U2835	U2836	G2770	G2705	A2579	C2518	G2446	G2379	G2235	A	U2080	U2011	G1951	A1869
C2837	C2838	U2771	U2706	C2580	C2519	U2447	U2380	U2236	C2158	U2081	A2012	A1952	U1870
U2839	U2840	U	G2711	A2581	A2520	G2448	A2381	G2237	A2159	C2082	A2013	A1953	U1881
C2840	C2841	U	G2712	G2582	A2521	A2450	U2385	G2238	G2164	U2091	G2015	A1954	U1882
A2842	A2843	A	U2778	C2585	G2522	G2451	U2386	C2240	A2165	U2092	A2016	G1955	A1883
C2844	C2845	G2782	G2715	G2586	G2523	A2455	G2389	U2241	A2168	G2093	C2019	G1956	A1884
U2846	U2847	U2783	C2716	U2587	U2525	G2463	A2390	G2242	A2169	C2094	G2020	C1957	G1885
C2848	C2849	A2784	G2717	U2590	G2528	G2464	G2391	C2243	G2170	U2096	G2021	U1959	G1886
U2850	U2851	A2785	A2718	C2591	G2529	G2465	G2393	A2245	G2173	A2097	C2022	A1960	G1887
C2852	C2853	G2786	G2721	U2592	U2530	A2467	G2395	A2247	G2174	G	U2024	C1962	C1888
U2854	U2855	A2787	C2722	A2593	U2531	G2468	G2396	G2248	A2177	A	A2025	G1963	G1889
C2856	C2857	U2789	G2725	U2594	G2532	G2469	A2397	U2249	U2178	C2026	C2026	A1964	A1901
U2858	U2859	C2790	U2726	C2595	U2533	U2470	U2398	U2250	U2178	U	C2027	C1965	A1902
C2860	C2861	G2791	G2727	G2597	U2534	U2471	G2394	U2251	A	C2028	C2028	U1967	G1905
U2862	U2863	C2792	U2728	U2599	C2535	G2474	A2401	U2252	A2181	G2103	G2029	G1968	U1906
C2864	C2865	A2795	A2735	G2602	C2538	C2475	C2403	A2253	A2182	G2104	U2030	C1969	C1907
U2867	U2868	A2796	U2736	G2603	C2539	A2476	A2404	G2254	C2183	U2105	A2031	G1970	C1908
C2870	C2871	G2797	A2737	G2604	U2541	C2477	A2405	G2255	C2184	G2106	C2032	C1971	U1909
U2872	U2873	U2798	G2738	G2605	U2542	G2478	G2406	G2256	U2185	G2107	C2033	C1972	G1911
C2874	C2875	C2799	C2732	C2606	A2543	U2479	G2407	G2257	G2186	G2110	A2036	U1974	G1912
U2876	U2877	G2741	G2735	G2607	A2544	G2481	A2408	G2258	C2193	C	G2037	G1975	G1913
C2878	C2879	U2742	U2736	C2608	A2545	A2482	A2409	G2261	U2192	C	A2040	U1976	U1914
U2880	U2881	G2743	A2737	G2609	G2546	U2483	U2410	C2262	U2196	U	G2041	C1977	U1915
C2882	C2883	A2744	A2745	G2610	C2547	G2484	A2413	C2263	C2195	C	A2042	U1978	G1916
U2884	U2885	G2745	U2746	G2611	G2548	U2485	A2414	A2267	U2197	A2117	G2043	A1981	C1917
C2886	C2887	A2881	A2881	G2612	G2549	G2487	G2415	G2268	U2198	A2118	C2044	A1982	A1919
U2888	U2889	G2748	G2749	G2613	C2550	G2488	A2418	G2269	C2199	A2119	C2045	C1983	A1920
C2890	C2891	A2749	A2750	G2614	C2551	U2490	C2419	U2270	G2200	C2125	A2046	G1985	U1922
U2892	U2893	G2751	G2752	A2615	G2552	C2491	C2420	C2271	G2201	U	G2047	A1986	U1923
C2894	C2895	A2753	C2753	U2616	C2553	G2492	G2421	A2272	G2213	G	U2050	C1987	C1924
U2896	U2897	G2754	G2755	G2617	G2554	U2493	C2422	C2273	G2214	U	G2051	C1988	C1925
C2898	C2899	U2756	U2757	A2618	G2555	G2494	G2423	C2274	G2215	U	G2052	C1989	U1926
U2900	U2901	A2758	A2759	G2619	G2556	G2495	G2424	U2275	G2216	U	A2053	C1990	U1927
C2902	C2903	G2759	G2760	G2620	C2557	C2496	C2425	C2276	U2211	G	A2054	C1991	G1928
U2904	U2905	A2760	A2761	G2621	C2558	A2497	G2426	A2277	G2212	U	G2055	C1992	U1929
C2906	C2907	G2762	G2763	G2622	U2559	A2498	A2427	A2278	G2213	G	G2056	C1993	G1930
U2908	U2909	U2764	U2765	G2623	G2560	U2499	U2428	G2279	G2214	U	U2057	C1994	G1931
C2910	C2911	G2766	G2767	G2624	U2561	C2500	A2429	A2280	G2217	A	U2058	C1995	A1936
U2912	U2913	U2768	U2769	G2625	G2562	U2501	A2430	U2285	G2218	G	U2059	A1996	U1938
C2914	C2915	A2770	A2771	U2626	U2563	G2502	C2431	G2286	U2219	C	A2060	C1997	A1939
U2916	U2917	G2771	G2772	C2627	C2564	G2503	A2432	A2287	G2220	G	C2061	A1998	U1940
C2918	C2919	U2772	U2773	U2628	A2565	G2504	G2433	A2288	G2221	A	U2062		
U2920	U2921	U	U	U2629	G2566	G2505	G2434						
C2922	C2923	A	A	C2630	G2567	G2505							

- Molecule 2: 50S RIBOSOMAL PROTEIN L33

Chain 1: 



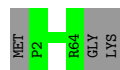
- Molecule 3: 50S RIBOSOMAL PROTEIN L34

Chain 2: 



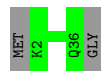
- Molecule 4: 50S RIBOSOMAL PROTEIN L35

Chain 3: 



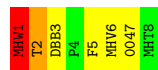
- Molecule 5: 50S RIBOSOMAL PROTEIN L36

Chain 4: 



- Molecule 6: QUINUPRISTIN

Chain 5: 



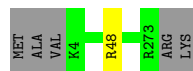
- Molecule 7: 5S RIBOSOMAL RNA

Chain 9: 



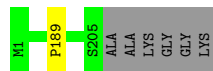
- Molecule 8: 50S RIBOSOMAL PROTEIN L2

Chain A: 



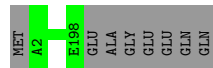
- Molecule 9: 50S RIBOSOMAL PROTEIN L3

Chain B:  97%



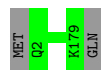
- Molecule 10: 50S RIBOSOMAL PROTEIN L4

Chain C:  96%




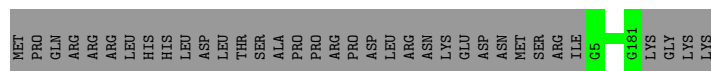
- Molecule 11: 50S RIBOSOMAL PROTEIN L5

Chain D:  99%



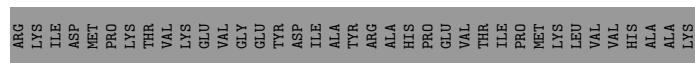
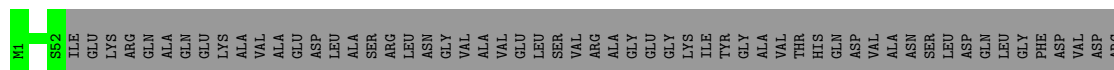
- Molecule 12: 50S RIBOSOMAL PROTEIN L6

Chain E:  83% 17%



- Molecule 13: 50S RIBOSOMAL PROTEIN L9

Chain F:  36% 64%




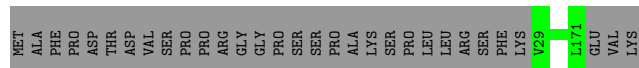
- Molecule 14: 50S RIBOSOMAL PROTEIN L11

Chain G:  99%



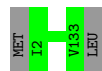
- Molecule 15: 50S RIBOSOMAL PROTEIN L13

Chain H:  82% 18%




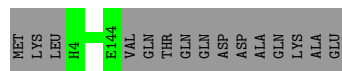
- Molecule 16: 50S RIBOSOMAL PROTEIN L14

Chain I:  99%




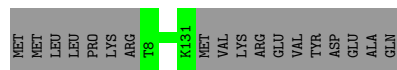
- Molecule 17: 50S RIBOSOMAL PROTEIN L15

Chain J:  90% 10%



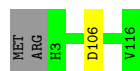
- Molecule 18: 50S RIBOSOMAL PROTEIN L16

Chain K:  87% 13%



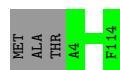
- Molecule 19: 50S RIBOSOMAL PROTEIN L17

Chain L:  97% ..




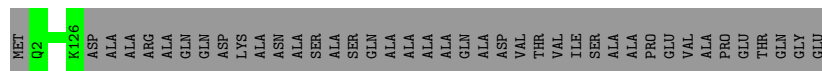
- Molecule 20: 50S RIBOSOMAL PROTEIN L18

Chain M:  97% .



- Molecule 21: 50S RIBOSOMAL PROTEIN L19

Chain N:  75% 25%



- Molecule 22: 50S RIBOSOMAL PROTEIN L20

Chain O:  97% ..



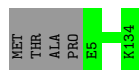
- Molecule 23: 50S RIBOSOMAL PROTEIN L21

Chain P:  100%

There are no outlier residues recorded for this chain.

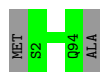
- Molecule 24: 50S RIBOSOMAL PROTEIN L22

Chain Q:  97%



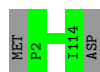
- Molecule 25: 50S RIBOSOMAL PROTEIN L23

Chain R:  98%




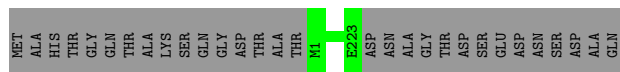
- Molecule 26: 50S RIBOSOMAL PROTEIN L24

Chain S:  98%



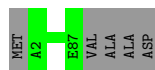
- Molecule 27: GENERAL STRESS PROTEIN CTC

Chain T:  88% 12%



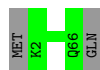
- Molecule 28: 50S RIBOSOMAL PROTEIN L27

Chain U:  95% 5%



- Molecule 29: 50S RIBOSOMAL PROTEIN L29

Chain W:  97%



- Molecule 30: 50S RIBOSOMAL PROTEIN L30

Chain X:  100%

There are no outlier residues recorded for this chain.

- Molecule 31: 50S RIBOSOMAL PROTEIN L31

Chain Y:  100%

There are no outlier residues recorded for this chain.

- Molecule 32: 50S RIBOSOMAL PROTEIN L32

Chain Z:  95% ..



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	168.50 Å 406.00 Å 693.00 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.42	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.42)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.16	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.278 , 0.348	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	65418	wwPDB-VP
Average B, all atoms (Å ²)	80.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: DOL, MHV, MHU, 004, DBB, MHT, MHW

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	0.70	16/66467 (0.0%)	0.74	12/103673 (0.0%)
6	5	0.85	0/13	0.67	0/15
7	9	0.50	0/2813	0.65	0/4384
All	All	0.70	16/69293 (0.0%)	0.73	12/108072 (0.0%)

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	146
6	5	1	1
7	9	0	1
All	All	1	148

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	1962	C	N1-C2	-7.46	1.32	1.40
1	0	2255	G	C5-C6	-7.28	1.35	1.42
1	0	2789	U	N1-C2	6.94	1.44	1.38
1	0	868	U	N1-C2	6.93	1.44	1.38
1	0	806	A	C5-C6	6.88	1.47	1.41
1	0	564	U	N1-C2	6.81	1.44	1.38
1	0	2557	G	C5-C6	-6.47	1.35	1.42
1	0	2039	G	C5-C6	-6.38	1.35	1.42
1	0	1141	U	N1-C2	6.17	1.44	1.38
1	0	1201	G	C5-C6	-6.08	1.36	1.42
1	0	1629	G	C5-C6	-6.06	1.36	1.42
1	0	578	U	C4-O4	-5.88	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	530	G	C5-C6	-5.76	1.36	1.42
1	0	578	U	C4-C5	-5.35	1.38	1.43
1	0	823	U	C4-O4	5.15	1.27	1.23
1	0	833	A	C5-C6	-5.02	1.36	1.41

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	994	A	N9-C1'-C2'	-6.36	105.00	112.00
1	0	800	U	OP2-P-O3'	6.27	119.00	105.20
1	0	2056	C	N1-C1'-C2'	-6.04	105.36	112.00
1	0	1686	A	C5'-C4'-O4'	5.86	116.13	109.10
1	0	1938	U	C2'-C3'-O3'	5.75	122.90	113.70
1	0	173	A	C2'-C3'-O3'	5.37	122.30	113.70
1	0	1820	G	C2'-C3'-O3'	5.37	122.30	113.70
1	0	801	A	O5'-P-OP2	-5.26	100.97	105.70
1	0	823	U	N1-C1'-C2'	5.21	120.78	114.00
1	0	1927	U	O5'-P-OP1	-5.17	101.05	105.70
1	0	173	A	OP1-P-O3'	5.13	116.48	105.20
1	0	2044	G	N9-C1'-C2'	5.03	120.54	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	5	8	MHT	C3

All (148) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1004	A	Sidechain
1	0	1133	G	Sidechain
1	0	1139	A	Sidechain
1	0	1141	U	Sidechain
1	0	1146	G	Sidechain
1	0	1197	U	Sidechain
1	0	1199	U	Sidechain
1	0	1201	G	Sidechain
1	0	1209	G	Sidechain
1	0	1222	G	Sidechain
1	0	1226	A	Sidechain
1	0	1232	U	Sidechain
1	0	1253	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1257	U	Sidechain
1	0	126	C	Sidechain
1	0	1262	U	Sidechain
1	0	1263	G	Sidechain
1	0	1268	U	Sidechain
1	0	1269	G	Sidechain
1	0	1277	G	Sidechain
1	0	1280	U	Sidechain
1	0	1301	U	Sidechain
1	0	1326	U	Sidechain
1	0	1341	G	Sidechain
1	0	1467	U	Sidechain
1	0	1470	G	Sidechain
1	0	1629	G	Sidechain
1	0	1631	C	Sidechain
1	0	1637	U	Sidechain
1	0	1658	A	Sidechain
1	0	1664	G	Sidechain
1	0	1666	G	Sidechain
1	0	1680	U	Sidechain
1	0	1685	A	Sidechain
1	0	1706	A	Sidechain
1	0	1709	U	Sidechain
1	0	1710	U	Sidechain
1	0	1712	G	Sidechain
1	0	1720	G	Sidechain
1	0	174	A	Sidechain
1	0	1761	G	Sidechain
1	0	1922	U	Sidechain
1	0	1923	U	Sidechain
1	0	1947	G	Sidechain
1	0	1974	U	Sidechain
1	0	1977	C	Sidechain
1	0	1978	U	Sidechain
1	0	1980	A	Sidechain
1	0	1983	G	Sidechain
1	0	1989	C	Sidechain
1	0	1990	U	Sidechain
1	0	1996	A	Sidechain
1	0	2000	U	Sidechain
1	0	2003	A	Sidechain
1	0	2033	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2038	C	Sidechain
1	0	2039	G	Sidechain
1	0	2044	G	Sidechain
1	0	2047	C	Sidechain
1	0	2050	G	Sidechain
1	0	2059	U	Sidechain
1	0	211	U	Sidechain
1	0	217	U	Sidechain
1	0	2241	U	Sidechain
1	0	2253	A	Sidechain
1	0	2255	G	Sidechain
1	0	2366	U	Sidechain
1	0	2369	U	Sidechain
1	0	2398	U	Sidechain
1	0	2428	U	Sidechain
1	0	2431	C	Sidechain
1	0	2432	A	Sidechain
1	0	2441	U	Sidechain
1	0	2479	U	Sidechain
1	0	2492	G	Sidechain
1	0	2512	A	Sidechain
1	0	2516	U	Sidechain
1	0	2526	U	Sidechain
1	0	2541	U	Sidechain
1	0	2549	G	Sidechain
1	0	2556	A	Sidechain
1	0	2566	A	Sidechain
1	0	2570	C	Sidechain
1	0	2572	U	Sidechain
1	0	2581	A	Sidechain
1	0	2592	U	Sidechain
1	0	2594	U	Sidechain
1	0	2599	U	Sidechain
1	0	2606	G	Sidechain
1	0	2614	A	Sidechain
1	0	2626	U	Sidechain
1	0	2629	U	Sidechain
1	0	2666	U	Sidechain
1	0	2677	U	Sidechain
1	0	2681	A	Sidechain
1	0	2687	G	Sidechain
1	0	2704	U	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2786	G	Sidechain
1	0	2799	C	Sidechain
1	0	2822	U	Sidechain
1	0	2830	U	Sidechain
1	0	2840	U	Sidechain
1	0	2872	U	Sidechain
1	0	33	C	Sidechain
1	0	444	U	Sidechain
1	0	470	U	Sidechain
1	0	480	G	Sidechain
1	0	521	U	Sidechain
1	0	535	U	Sidechain
1	0	562	G	Sidechain
1	0	565	A	Sidechain
1	0	578	U	Sidechain
1	0	579	G	Sidechain
1	0	587	A	Sidechain
1	0	588	G	Sidechain
1	0	592	G	Sidechain
1	0	597	U	Sidechain
1	0	674	U	Sidechain
1	0	675	C	Sidechain
1	0	707	U	Sidechain
1	0	743	A	Sidechain
1	0	753	U	Sidechain
1	0	759	C	Sidechain
1	0	760	U	Sidechain
1	0	773	G	Sidechain
1	0	777	A	Sidechain
1	0	780	U	Sidechain
1	0	790	A	Sidechain
1	0	794	A	Sidechain
1	0	8	A	Sidechain
1	0	800	U	Sidechain
1	0	804	C	Sidechain
1	0	818	G	Sidechain
1	0	820	U	Sidechain
1	0	823	U	Sidechain
1	0	839	U	Sidechain
1	0	845	U	Sidechain
1	0	847	C	Sidechain
1	0	864	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	871	U	Sidechain
1	0	917	U	Sidechain
1	0	957	G	Sidechain
1	0	960	U	Sidechain
1	0	983	G	Sidechain
1	0	993	C	Sidechain
1	0	994	A	Sidechain
6	5	1	MHW	Peptide
7	9	94	G	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2138	0
2	1	53	0	0	0	0
3	2	46	0	0	0	0
4	3	63	0	0	0	0
5	4	35	0	0	0	0
6	5	73	0	64	6	0
7	9	2516	0	1286	66	0
8	A	270	0	0	1	0
9	B	205	0	0	1	0
10	C	197	0	0	0	0
11	D	178	0	0	0	0
12	E	177	0	0	0	0
13	F	52	0	0	0	0
14	G	143	0	0	0	0
15	H	143	0	0	0	0
16	I	132	0	0	0	0
17	J	141	0	0	0	0
18	K	124	0	0	0	0
19	L	114	0	0	1	0
20	M	111	0	0	0	0
21	N	125	0	0	0	0
22	O	117	0	0	2	0
23	P	100	0	0	0	0
24	Q	130	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	R	93	0	0	0	0
26	S	113	0	0	0	0
27	T	223	0	0	0	0
28	U	86	0	0	0	0
29	W	65	0	0	0	0
30	X	55	0	0	0	0
31	Y	73	0	0	0	0
32	Z	58	0	0	2	0
33	O	48	0	47	16	0
All	All	65418	0	31314	2213	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 23.

All (2213) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1463:A:H1'	1:0:1543:G:H22	1.05	1.14
1:0:128:C:H2'	1:0:129:A:H5''	1.19	1.10
1:0:1656:U:H2'	1:0:1657:A:H5''	1.34	1.10
1:0:940:G:H3'	1:0:941:U:H5''	1.23	1.09
1:0:2607:C:H3'	1:0:2608:A:H5'	1.10	1.08
1:0:2548:G:H2'	1:0:2549:G:H5''	1.37	1.07
1:0:1572:C:H2'	1:0:1573:G:H5''	1.31	1.06
1:0:1747:G:H4'	1:0:1749:G:H1'	1.39	1.05
1:0:170:U:H2'	1:0:171:G:H8	1.20	1.04
1:0:58:C:H3'	1:0:59:G:H5''	1.39	1.03
1:0:104:C:H2'	1:0:105:G:H5''	1.36	1.03
1:0:1312:G:H5''	1:0:1313:U:H5'	1.04	1.02
1:0:1055:A:H4'	1:0:1058:G:H4'	1.41	1.01
1:0:1953:A:H1'	1:0:1955:G:H1'	1.39	1.00
1:0:1312:G:C5'	1:0:1313:U:H5'	1.91	0.99
1:0:2548:G:C2'	1:0:2549:G:H5''	1.92	0.99
1:0:1749:G:O6	1:0:2674:C:H4'	1.65	0.97
1:0:1289:A:H62	1:0:1662:G:H1	1.13	0.96
1:0:1312:G:H5''	1:0:1313:U:C5'	1.94	0.96
1:0:1250:A:O2'	1:0:1251:G:H4'	1.65	0.96
1:0:1888:C:H5''	1:0:1889:G:H5''	1.45	0.95
1:0:587:A:H2	1:0:1266:G:H21	1.14	0.95
1:0:2607:C:H3'	1:0:2608:A:C5'	1.96	0.94
1:0:579:G:H2'	1:0:2013:A:N6	1.82	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:763:A:C2	1:0:766:A:H1'	2.02	0.94
1:0:1018:C:H1'	1:0:1147:G:N2	1.83	0.93
1:0:2783:U:H2'	1:0:2784:A:H4'	1.47	0.93
1:0:128:C:C2'	1:0:129:A:H5''	1.98	0.93
1:0:708:G:H1	1:0:780:U:H3	1.13	0.92
1:0:2809:A:N6	1:0:2854:G:H1'	1.83	0.92
1:0:1921:A:H2'	1:0:1922:U:H5''	1.51	0.92
1:0:1791:C:H2'	1:0:1792:C:H5''	1.51	0.92
1:0:1572:C:C2'	1:0:1573:G:H5''	1.99	0.92
1:0:1621:C:H2'	1:0:1622:G:O4'	1.72	0.90
1:0:867:G:H2'	1:0:868:U:H6	1.36	0.90
1:0:940:G:C3'	1:0:941:U:H5''	2.02	0.89
1:0:1242:A:H2'	1:0:1243:G:H8	1.37	0.89
1:0:2561:G:H8	1:0:2561:G:OP1	1.55	0.88
1:0:2012:A:N7	1:0:2014:A:H5'	1.87	0.88
1:0:1938:U:C2'	1:0:1939:U:H5'	2.03	0.88
1:0:1989:C:O5'	1:0:1989:C:H6	1.57	0.88
1:0:1408:A:H1'	1:0:1410:U:H5	1.38	0.87
1:0:1252:C:C2'	1:0:1253:C:H5''	2.04	0.87
1:0:1656:U:C2'	1:0:1657:A:H5''	2.04	0.87
1:0:941:U:H2'	1:0:942:U:O4'	1.75	0.87
1:0:176:A:H5''	1:0:177:U:H5	1.40	0.86
1:0:929:A:H3'	1:0:930:A:H5''	1.56	0.86
1:0:1818:G:H2'	1:0:1819:U:C6	2.09	0.86
1:0:1463:A:H1'	1:0:1543:G:N2	1.90	0.85
1:0:942:U:O2'	1:0:943:U:H5'	1.76	0.85
1:0:579:G:H2'	1:0:2013:A:H62	1.38	0.85
1:0:918:A:H2'	1:0:919:U:H5''	1.56	0.85
1:0:805:G:H2'	1:0:2419:C:N3	1.91	0.85
1:0:1715:A:H1'	1:0:1717:A:O4'	1.76	0.84
1:0:2526:U:C5	1:0:2545:A:N7	2.45	0.84
1:0:1791:C:H1'	1:0:1793:A:H5'	1.56	0.84
1:0:1458:A:H3'	1:0:1459:U:C5'	2.07	0.84
1:0:2033:C:H2'	1:0:2034:A:O4'	1.78	0.84
1:0:703:A:H2'	1:0:704:G:H8	1.42	0.83
1:0:392:G:H22	1:0:408:U:H3	1.23	0.83
1:0:796:A:H2	1:0:1770:U:O4'	1.62	0.83
1:0:2691:C:H3'	1:0:2692:A:H5''	1.58	0.83
1:0:951:G:H2'	1:0:952:A:H5''	1.59	0.83
1:0:170:U:H2'	1:0:171:G:C8	2.12	0.83
1:0:2447:G:O2'	1:0:2448:A:H5''	1.78	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1917:C:H2'	1:0:1918:G:O4'	1.79	0.83
1:0:2595:C:H2'	1:0:2596:C:C6	2.13	0.83
1:0:1455:C:H2'	1:0:1456:C:H6	1.44	0.82
1:0:871:U:O2	1:0:2247:A:H2'	1.78	0.82
1:0:1252:C:H2'	1:0:1253:C:H5''	1.62	0.82
1:0:2633:A:H4'	1:0:2634:G:H4'	1.59	0.82
1:0:1971:C:H2'	1:0:1972:G:H8	1.43	0.82
1:0:1938:U:H2'	1:0:1939:U:H5'	1.60	0.82
1:0:2319:G:H2'	1:0:2320:G:C8	2.15	0.82
1:0:2409:A:H2'	1:0:2410:U:H5'	1.61	0.81
1:0:2713:A:H2'	1:0:2714:A:H8	1.45	0.81
1:0:2503:G:H2'	1:0:2504:G:H5''	1.63	0.81
1:0:976:C:H5'	1:0:2252:A:H1'	1.62	0.81
1:0:1908:C:H2'	1:0:1909:U:H4'	1.61	0.81
1:0:109:A:H3'	1:0:110:U:H5''	1.63	0.80
1:0:1971:C:H2'	1:0:1972:G:C8	2.15	0.80
1:0:2433:G:O2'	1:0:2434:G:H5'	1.81	0.80
1:0:2841:U:O2	1:0:2843:A:H1'	1.81	0.80
1:0:1018:C:H1'	1:0:1147:G:H22	1.44	0.80
1:0:1289:A:O2'	1:0:1290:A:H5'	1.82	0.80
1:0:2594:U:H6	1:0:2594:U:H5'	1.46	0.80
1:0:2607:C:C3'	1:0:2608:A:H5'	2.05	0.80
1:0:2721:A:H62	1:0:2743:G:H21	1.30	0.80
1:0:1242:A:H2'	1:0:1243:G:C8	2.17	0.80
1:0:727:U:H2'	1:0:728:G:H5''	1.61	0.80
1:0:1414:G:H21	1:0:1484:G:H21	1.28	0.79
1:0:1692:C:O2'	1:0:1693:A:H5'	1.82	0.79
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.79
1:0:1692:C:C2'	1:0:1693:A:H5'	2.13	0.79
1:0:357:A:H3'	1:0:358:C:H5'	1.63	0.79
1:0:2548:G:H2'	1:0:2549:G:C5'	2.12	0.79
1:0:1964:A:H3'	1:0:1965:U:H5'	1.66	0.78
1:0:2058:U:H3'	1:0:2217:G:N1	1.98	0.78
1:0:2839:G:H2'	1:0:2840:U:O4'	1.83	0.78
1:0:2431:C:O2'	1:0:2432:A:H5'	1.83	0.78
1:0:317:U:H3'	1:0:318:G:H5''	1.64	0.78
1:0:195:A:H61	1:0:212:U:H4'	1.49	0.78
1:0:317:U:H3	1:0:321:A:N6	1.81	0.78
33:0:2882:DOL:H463	33:0:2882:DOL:H421	1.66	0.78
1:0:195:A:H2'	1:0:196:A:O4'	1.84	0.77
1:0:1924:C:H2'	1:0:1925:C:O4'	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2257:A:O2'	1:0:2258:G:H5'	1.84	0.77
1:0:1804:U:H2'	1:0:1805:G:H8	1.48	0.77
1:0:175:C:H1'	1:0:2413:A:H61	1.49	0.77
1:0:573:C:H2'	1:0:574:C:O4'	1.85	0.77
1:0:1922:U:O2	1:0:2571:G:H5'	1.85	0.77
1:0:317:U:H3	1:0:321:A:H62	1.33	0.77
1:0:455:A:H4'	1:0:1214:C:O2'	1.83	0.77
1:0:1964:A:C3'	1:0:1965:U:H5'	2.16	0.76
7:9:92:G:H2'	7:9:93:G:H5'	1.66	0.76
1:0:24:G:H2'	1:0:25:U:C6	2.21	0.76
1:0:2642:G:H2'	1:0:2643:G:O4'	1.84	0.76
1:0:216:U:H2'	1:0:217:U:O4'	1.85	0.76
1:0:2270:U:O2'	1:0:2353:G:H1'	1.84	0.76
1:0:2230:G:H1'	1:0:2429:A:O4'	1.85	0.76
1:0:2788:C:O2'	1:0:2789:U:H5'	1.85	0.76
1:0:590:C:H2'	1:0:591:G:H8	1.50	0.76
1:0:601:A:H61	1:0:633:G:N2	1.83	0.76
1:0:706:A:H2'	1:0:707:U:C6	2.20	0.76
1:0:753:U:H2'	1:0:754:G:H5'	1.66	0.75
1:0:1944:C:H2'	1:0:1945:C:O4'	1.86	0.75
1:0:88:G:H3'	1:0:89:A:H5''	1.69	0.75
1:0:940:G:H3'	1:0:941:U:C5'	2.09	0.75
1:0:703:A:H2'	1:0:704:G:C8	2.20	0.75
1:0:1458:A:H3'	1:0:1459:U:H5''	1.67	0.75
1:0:2468:G:H2'	1:0:2469:G:O4'	1.87	0.75
1:0:1640:C:H2'	1:0:1641:C:H6	1.52	0.75
1:0:2199:C:H2'	1:0:2200:G:C8	2.22	0.75
1:0:2523:G:O2'	1:0:2524:G:H5'	1.87	0.74
1:0:1818:G:H2'	1:0:1819:U:H6	1.49	0.74
1:0:2658:A:H2'	1:0:2659:C:H6	1.52	0.74
1:0:688:A:O2'	1:0:2422:C:H4'	1.87	0.74
1:0:2505:G:H5'	1:0:2722:C:O2'	1.86	0.74
1:0:2822:U:H2'	1:0:2823:G:H5'	1.69	0.74
1:0:867:G:H2'	1:0:868:U:C6	2.20	0.74
1:0:2484:G:H4'	33:0:2882:DOL:O15	1.86	0.74
1:0:2811:G:H2'	1:0:2812:A:C8	2.23	0.74
1:0:608:G:O2'	1:0:609:U:H5'	1.87	0.73
1:0:1254:G:H2'	1:0:1255:A:H8	1.51	0.73
1:0:1619:A:H2	1:0:1620:C:C5	2.07	0.73
1:0:1763:G:H2'	1:0:1764:A:H4'	1.70	0.73
1:0:1953:A:H1'	1:0:1955:G:C1'	2.16	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1974:U:H2'	1:0:1975:G:H5''	1.70	0.73
1:0:831:G:C2'	1:0:832:A:H5''	2.18	0.73
7:9:88:C:H2'	7:9:89:G:H8	1.52	0.73
1:0:161:U:H5'	1:0:193:A:H2	1.53	0.73
1:0:2058:U:H3'	1:0:2217:G:H1	1.54	0.73
1:0:2498:U:H2'	1:0:2520:A:N1	2.03	0.73
1:0:2464:G:O2'	1:0:2465:G:H5'	1.89	0.73
1:0:2691:C:H3'	1:0:2692:A:C5'	2.19	0.73
7:9:7:C:H2'	7:9:8:C:H6	1.54	0.73
1:0:304:A:H2'	1:0:305:A:H5''	1.69	0.73
1:0:1392:U:H2'	1:0:1393:G:H5'	1.70	0.73
1:0:2557:G:H2'	1:0:2558:C:C6	2.24	0.73
1:0:2872:U:H2'	1:0:2873:G:C8	2.23	0.73
7:9:45:C:H3'	7:9:46:G:H5'	1.70	0.73
1:0:2660:C:O2'	1:0:2661:G:H5'	1.89	0.73
1:0:688:A:H1'	1:0:2422:C:O2'	1.88	0.72
1:0:1086:C:H2'	1:0:1087:C:H5''	1.69	0.72
33:0:2882:DOL:H463	33:0:2882:DOL:C42	2.19	0.72
1:0:572:G:H1	1:0:587:A:H61	1.36	0.72
1:0:1014:G:N2	1:0:1015:U:C2	2.57	0.72
1:0:1198:C:H5''	1:0:1199:U:H4'	1.72	0.72
1:0:2678:C:O2'	1:0:2679:G:H5'	1.89	0.72
1:0:1922:U:H1'	1:0:2570:C:O2'	1.89	0.72
1:0:1401:G:O2'	1:0:1541:G:H5'	1.89	0.72
1:0:1745:C:O2	1:0:2697:G:H4'	1.90	0.72
1:0:1981:A:H4'	1:0:2704:U:O2'	1.88	0.72
1:0:2436:U:O2'	1:0:2437:G:H5'	1.89	0.72
1:0:1054:C:H2'	1:0:1055:A:H5'	1.71	0.72
1:0:1976:U:H2'	1:0:1977:C:H5'	1.71	0.72
33:0:2882:DOL:H313	6:5:3:DBB:HG1	1.72	0.72
1:0:753:U:H2'	1:0:754:G:C5'	2.20	0.72
1:0:2680:U:H3'	1:0:2681:A:H5'	1.72	0.72
1:0:2755:A:O2'	1:0:2756:A:H5'	1.89	0.72
1:0:1914:U:H3	1:0:1952:A:H62	1.37	0.71
1:0:215:G:O2'	1:0:617:U:H1'	1.89	0.71
1:0:1353:A:H4'	1:0:1410:U:H3	1.55	0.71
1:0:79:G:H2'	1:0:80:A:C8	2.24	0.71
1:0:1288:A:H2'	1:0:1289:A:O4'	1.90	0.71
1:0:236:C:H2'	1:0:237:G:H8	1.56	0.71
1:0:2818:G:N2	1:0:2850:U:C2	2.58	0.71
1:0:776:G:O2'	1:0:778:G:H5''	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:930:A:H5'	1:0:931:G:C8	2.26	0.71
1:0:1007:A:H2'	1:0:1008:G:H8	1.55	0.71
1:0:2217:G:H5''	1:0:2218:G:N7	2.05	0.71
1:0:2480:C:H5''	1:0:2482:A:H5'	1.71	0.71
1:0:2499:C:H41	1:0:2521:A:H2	1.38	0.71
1:0:587:A:H2	1:0:1266:G:N2	1.87	0.71
1:0:1747:G:C4'	1:0:1749:G:H1'	2.18	0.71
1:0:798:G:O2'	1:0:1770:U:H4'	1.91	0.71
1:0:1455:C:H2'	1:0:1456:C:C6	2.24	0.71
1:0:2475:C:H2'	1:0:2476:A:H5'	1.72	0.71
33:0:2882:DOL:H421	33:0:2882:DOL:C46	2.21	0.71
1:0:248:A:H62	1:0:373:A:H2'	1.56	0.71
1:0:2516:U:H2'	1:0:2517:C:C6	2.26	0.71
1:0:45:C:H2'	1:0:46:C:C6	2.26	0.70
1:0:2199:C:H2'	1:0:2200:G:H8	1.55	0.70
1:0:1715:A:H1'	1:0:1717:A:C4'	2.21	0.70
1:0:2510:A:H61	1:0:2641:A:H61	1.39	0.70
1:0:2823:G:H5''	1:0:2824:C:OP1	1.91	0.70
1:0:933:G:O2'	1:0:934:G:H5'	1.91	0.70
1:0:1391:A:H2'	1:0:1392:U:H5	1.54	0.70
1:0:2055:G:H2'	1:0:2056:C:O4'	1.90	0.70
1:0:464:G:H2'	1:0:465:C:C6	2.27	0.70
1:0:1692:C:H2'	1:0:1693:A:H5'	1.74	0.70
1:0:2713:A:H2'	1:0:2714:A:C8	2.27	0.70
1:0:2818:G:O2'	1:0:2819:G:H5'	1.91	0.70
1:0:1321:A:H62	1:0:1622:G:H21	1.35	0.70
1:0:515:A:H2'	1:0:516:G:H5'	1.73	0.70
1:0:984:A:H2'	1:0:1200:G:N2	2.06	0.70
1:0:1284:G:H2'	1:0:1633:C:H4'	1.73	0.70
1:0:1823:G:C6	1:0:1824:C:N4	2.60	0.70
7:9:64:C:C3'	7:9:65:A:H5''	2.22	0.70
1:0:1345:G:N2	1:0:1625:A:H2'	2.07	0.70
1:0:158:A:H2	1:0:447:U:H4'	1.56	0.70
1:0:563:U:H2'	1:0:564:U:O4'	1.92	0.69
33:0:2882:DOL:H313	6:5:3:DBB:CG	2.22	0.69
1:0:1975:G:N2	1:0:1978:U:H5	1.89	0.69
1:0:221:A:H62	1:0:231:G:H21	1.40	0.69
1:0:857:U:H2'	1:0:858:G:H5'	1.74	0.69
1:0:1277:G:N7	1:0:1278:A:N7	2.41	0.69
1:0:1450:G:H1'	1:0:1493:A:N3	2.07	0.69
1:0:2437:G:C6	1:0:2469:G:H2'	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2657:G:O2'	1:0:2658:A:H5'	1.92	0.69
1:0:942:U:H2'	1:0:943:U:O4'	1.93	0.69
1:0:1643:A:H1'	1:0:1657:A:C2	2.28	0.69
7:9:64:C:H3'	7:9:65:A:H5''	1.75	0.69
1:0:706:A:H2'	1:0:707:U:H6	1.57	0.69
1:0:2319:G:H2'	1:0:2320:G:H8	1.56	0.69
1:0:2407:G:H5''	1:0:2408:G:OP1	1.93	0.69
1:0:2811:G:H2'	1:0:2812:A:H8	1.57	0.69
1:0:788:G:H5''	1:0:790:A:H1'	1.75	0.69
1:0:1066:G:H2'	1:0:1067:G:H4'	1.73	0.69
1:0:1293:A:O2'	1:0:1294:G:H5'	1.93	0.69
1:0:1560:A:H2'	1:0:1561:A:O4'	1.92	0.69
1:0:2532:G:H21	1:0:2561:G:N2	1.90	0.69
1:0:1016:C:C6	1:0:1154:A:H1'	2.28	0.69
1:0:2532:G:H21	1:0:2561:G:H21	1.40	0.69
1:0:2613:A:H2'	1:0:2614:A:H8	1.57	0.69
1:0:176:A:H5''	1:0:177:U:C5	2.27	0.69
1:0:542:A:OP2	1:0:2003:A:H1'	1.92	0.69
1:0:931:G:H5''	7:9:83:C:O2'	1.92	0.69
1:0:1001:A:H4'	1:0:1168:G:OP2	1.93	0.69
1:0:44:G:H21	1:0:192:G:H21	1.39	0.68
1:0:1299:A:H2'	1:0:1301:U:OP2	1.93	0.68
1:0:2570:C:H2'	1:0:2571:G:C8	2.27	0.68
1:0:763:A:H2	1:0:766:A:H1'	1.54	0.68
1:0:1664:G:H4'	1:0:1665:C:OP1	1.92	0.68
1:0:161:U:H5'	1:0:193:A:C2	2.28	0.68
1:0:191:G:O2'	1:0:192:G:H5'	1.92	0.68
1:0:590:C:H2'	1:0:591:G:C8	2.28	0.68
1:0:1618:U:O5'	1:0:1618:U:H6	1.76	0.68
1:0:651:C:H2'	1:0:652:C:H5''	1.76	0.68
1:0:788:G:N2	1:0:801:A:OP2	2.26	0.68
1:0:763:A:H2'	1:0:764:A:H5''	1.76	0.68
1:0:2299:A:H5'	1:0:2300:G:C5	2.29	0.68
1:0:2474:G:C6	1:0:2475:C:C4	2.81	0.68
1:0:2652:G:H2'	1:0:2653:A:H8	1.59	0.68
7:9:24:U:H2'	7:9:25:G:H5''	1.75	0.68
1:0:831:G:H2'	1:0:832:A:H5''	1.75	0.68
1:0:1947:G:H2'	1:0:1950:C:OP1	1.94	0.68
1:0:2261:G:H4'	1:0:2262:C:OP2	1.94	0.67
7:9:7:C:H2'	7:9:8:C:C6	2.29	0.67
1:0:581:A:C2	1:0:582:G:H1'	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:749:C:H2'	1:0:750:C:C6	2.29	0.67
1:0:1200:G:C2'	1:0:1201:G:H5'	2.25	0.67
1:0:2672:U:H2'	1:0:2673:G:H8	1.57	0.67
1:0:2872:U:H2'	1:0:2873:G:H8	1.59	0.67
1:0:785:U:H5'	1:0:1368:G:O2'	1.94	0.67
1:0:2052:G:O2'	1:0:2053:G:H5'	1.94	0.67
1:0:2802:C:H2'	1:0:2803:C:H6	1.59	0.67
1:0:58:C:H3'	1:0:59:G:C5'	2.20	0.67
1:0:652:C:N4	1:0:657:A:H61	1.92	0.67
1:0:1807:A:O2'	1:0:1808:C:H4'	1.94	0.67
1:0:2835:A:H8	1:0:2835:A:O5'	1.75	0.67
1:0:1800:A:H2'	1:0:1802:A:C6	2.29	0.67
1:0:1854:G:H1	1:0:1863:U:H3	1.43	0.67
1:0:2727:G:H22	1:0:2735:C:H5''	1.58	0.67
1:0:1486:A:H2'	1:0:1487:C:C6	2.30	0.67
1:0:1572:C:H2'	1:0:1573:G:C5'	2.17	0.67
1:0:1655:C:H4'	1:0:2689:C:O2	1.95	0.67
1:0:2409:A:C2'	1:0:2410:U:H5'	2.25	0.67
1:0:456:C:O2'	1:0:457:C:H5'	1.94	0.67
1:0:1572:C:C3'	1:0:1573:G:H5''	2.24	0.67
1:0:2076:G:H2'	1:0:2077:G:H8	1.58	0.67
1:0:2548:G:O2'	1:0:2549:G:H5''	1.94	0.67
1:0:1141:U:O2'	1:0:1142:G:P	2.52	0.67
1:0:1921:A:C2'	1:0:1922:U:H5''	2.25	0.67
1:0:1937:G:N3	1:0:2530:C:H5'	2.09	0.67
1:0:2397:A:H2'	1:0:2398:U:O4'	1.94	0.67
1:0:70:A:OP1	1:0:111:G:H4'	1.94	0.67
1:0:313:U:H2'	1:0:314:G:C8	2.29	0.67
1:0:452:G:H2'	1:0:453:U:O4'	1.95	0.67
1:0:1785:A:H4'	1:0:1883:A:C2	2.29	0.67
1:0:2451:G:H2'	1:0:2508:G:N2	2.10	0.67
1:0:1319:C:H2'	1:0:1320:A:H8	1.58	0.66
1:0:1640:C:H2'	1:0:1641:C:C6	2.29	0.66
1:0:1272:G:H2'	1:0:1273:G:C8	2.31	0.66
1:0:1558:C:H2'	1:0:1559:G:H5'	1.78	0.66
7:9:23:G:H2'	7:9:24:U:H6	1.60	0.66
1:0:852:U:H2'	1:0:853:C:H6	1.61	0.66
1:0:918:A:H2'	1:0:919:U:C5'	2.25	0.66
1:0:1437:A:H2'	1:0:1438:G:H8	1.60	0.66
1:0:2463:G:O2'	1:0:2464:G:H5'	1.95	0.66
1:0:173:A:H61	1:0:844:G:H21	1.43	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:342:G:H2'	1:0:343:A:H5'	1.77	0.66
1:0:1029:C:H3'	1:0:1030:U:H5''	1.78	0.66
1:0:2684:A:C8	1:0:2685:A:C8	2.84	0.66
7:9:8:C:O2'	7:9:9:G:H5'	1.96	0.66
1:0:643:A:H2'	1:0:644:A:H8	1.59	0.66
1:0:672:C:O2'	1:0:673:G:H5'	1.95	0.66
1:0:2324:G:N3	1:0:2326:C:H5	1.93	0.66
1:0:2847:G:O2'	1:0:2848:A:H5'	1.94	0.66
1:0:464:G:H2'	1:0:465:C:H6	1.58	0.66
1:0:757:U:C2'	1:0:758:G:H5'	2.26	0.66
1:0:1333:G:N2	1:0:1344:C:N4	2.44	0.66
1:0:215:G:HO2'	1:0:617:U:H1'	1.60	0.66
1:0:1408:A:H1'	1:0:1410:U:C5	2.26	0.66
1:0:1619:A:C2	1:0:1620:C:C5	2.83	0.66
1:0:2194:A:H2'	1:0:2195:C:H5''	1.78	0.66
1:0:2401:A:O2'	1:0:2403:C:H5''	1.95	0.66
1:0:2475:C:C2'	1:0:2476:A:H5'	2.26	0.66
1:0:2666:U:C4	1:0:2667:C:N4	2.64	0.66
1:0:3:U:H2'	1:0:4:C:C6	2.31	0.66
1:0:797:A:H4'	1:0:798:G:C8	2.30	0.66
1:0:815:A:H2'	1:0:816:U:C6	2.30	0.66
1:0:951:G:C2'	1:0:952:A:H5''	2.24	0.66
1:0:1254:G:H2'	1:0:1255:A:C8	2.31	0.66
1:0:1449:C:O2'	1:0:1450:G:H5'	1.96	0.66
1:0:2809:A:H61	1:0:2854:G:H1'	1.58	0.66
1:0:367:G:H2'	1:0:368:A:H5''	1.78	0.66
1:0:584:A:O2'	1:0:585:U:H5'	1.96	0.66
1:0:1345:G:H22	1:0:1625:A:H2'	1.60	0.66
1:0:1699:A:C5	1:0:1748:U:H1'	2.31	0.66
1:0:1976:U:C2'	1:0:1977:C:H5'	2.26	0.66
1:0:163:A:H2'	1:0:164:G:H8	1.61	0.66
1:0:1312:G:H8	1:0:1312:G:O5'	1.79	0.66
1:0:1679:U:H3'	1:0:1680:U:H5''	1.78	0.66
1:0:1938:U:O2'	1:0:1939:U:H5'	1.96	0.66
1:0:2787:A:O2'	1:0:2788:C:H5'	1.96	0.66
1:0:1528:C:H2'	1:0:1529:C:H5''	1.77	0.65
1:0:2491:C:C3'	1:0:2492:G:H5''	2.26	0.65
1:0:109:A:C3'	1:0:110:U:H5''	2.25	0.65
1:0:1007:A:H2'	1:0:1008:G:C8	2.31	0.65
1:0:2053:G:C2	1:0:2054:A:C4	2.83	0.65
1:0:2324:G:H4'	1:0:2326:C:H5''	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:81:C:H2'	1:0:82:G:O4'	1.96	0.65
1:0:859:U:H4'	1:0:860:U:H5	1.60	0.65
1:0:2266:A:H2'	1:0:2268:G:C8	2.31	0.65
1:0:875:G:H2'	1:0:876:A:O4'	1.96	0.65
1:0:687:G:O2'	1:0:688:A:H5'	1.96	0.65
1:0:776:G:H2'	1:0:777:A:H5''	1.79	0.65
1:0:1911:A:H2'	1:0:1912:G:H5'	1.79	0.65
1:0:1227:A:H62	1:0:1248:G:H21	1.45	0.65
1:0:1690:U:H2'	1:0:1691:G:H5'	1.79	0.65
1:0:2006:G:C2	1:0:2024:U:O2	2.49	0.65
1:0:2787:A:H2'	1:0:2788:C:H6	1.61	0.65
1:0:2279:G:H2'	1:0:2280:A:H8	1.61	0.65
1:0:2437:G:N1	1:0:2469:G:H2'	2.12	0.65
1:0:2503:G:C2'	1:0:2504:G:H5''	2.27	0.65
1:0:2555:G:H3'	1:0:2555:G:OP1	1.97	0.65
1:0:652:C:H42	1:0:657:A:H61	1.45	0.64
1:0:1380:C:H2'	1:0:1381:G:H5'	1.80	0.64
1:0:521:U:C5	1:0:522:G:N3	2.65	0.64
1:0:1800:A:H2'	1:0:1802:A:N6	2.12	0.64
1:0:1727:C:H4'	1:0:2833:C:O2	1.97	0.64
1:0:2446:C:H2'	1:0:2447:G:O4'	1.97	0.64
1:0:2593:A:H8	1:0:2593:A:H3'	1.62	0.64
1:0:1970:G:O2'	1:0:1971:C:H5'	1.97	0.64
1:0:2327:U:O5'	1:0:2327:U:H6	1.79	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.32	0.64
1:0:128:C:H2'	1:0:129:A:C5'	2.12	0.64
1:0:1489:C:H3'	1:0:1490:U:H5'	1.78	0.64
1:0:26:G:C6	1:0:27:G:N1	2.66	0.64
1:0:643:A:H2'	1:0:644:A:C8	2.33	0.64
1:0:1272:G:O2'	1:0:1273:G:H5'	1.98	0.64
1:0:1352:G:H2'	1:0:1353:A:C8	2.32	0.64
1:0:2213:G:H2'	1:0:2214:G:C8	2.33	0.64
1:0:1273:G:H2'	1:0:1274:C:C6	2.33	0.64
1:0:1678:G:C4	1:0:1983:G:N2	2.66	0.64
1:0:1941:C:O2'	1:0:1942:G:H5'	1.98	0.64
1:0:614:G:H2'	1:0:615:C:C6	2.33	0.63
1:0:1041:G:O2'	1:0:2445:C:H4'	1.98	0.63
1:0:1398:G:H2'	1:0:1399:C:C6	2.32	0.63
1:0:2273:C:H2'	1:0:2274:C:C6	2.33	0.63
1:0:874:A:H62	1:0:928:G:H21	1.46	0.63
1:0:964:A:H2'	1:0:965:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:9:64:C:H2'	7:9:65:A:H5''	1.80	0.63
1:0:579:G:O2'	1:0:580:A:H5'	1.99	0.63
1:0:1073:G:H2'	1:0:1074:G:H5''	1.80	0.63
1:0:188:G:O2'	1:0:189:A:H5'	1.98	0.63
1:0:521:U:H5	1:0:522:G:N3	1.96	0.63
1:0:1016:C:H5''	1:0:1023:U:P	2.39	0.63
1:0:1437:A:H2'	1:0:1438:G:C8	2.33	0.63
1:0:2059:U:P	1:0:2217:G:H1	2.21	0.63
1:0:1028:G:H2'	1:0:1029:C:H6	1.63	0.63
1:0:2825:A:H62	1:0:2841:U:H3	1.46	0.63
1:0:68:C:O2'	1:0:69:G:H5'	1.98	0.63
1:0:357:A:H3'	1:0:358:C:C5'	2.26	0.63
1:0:755:C:O2'	1:0:756:C:H5'	1.99	0.63
1:0:820:U:H2'	1:0:821:A:C8	2.34	0.63
1:0:1881:U:H2'	1:0:1882:G:H5'	1.79	0.63
1:0:2310:G:H2'	1:0:2311:U:H5'	1.81	0.63
1:0:536:A:O2'	1:0:2026:C:H1'	1.98	0.63
1:0:1271:C:O2'	1:0:1272:G:H5'	1.99	0.63
1:0:1496:G:H1	1:0:1527:G:H1	1.47	0.63
1:0:1969:G:H2'	1:0:1970:G:H8	1.63	0.63
1:0:2185:U:H2'	1:0:2186:G:C8	2.33	0.63
1:0:542:A:H2'	1:0:543:G:H5'	1.81	0.63
1:0:984:A:O2'	1:0:1201:G:H1'	1.99	0.63
1:0:1175:A:H8	1:0:1175:A:O5'	1.82	0.63
1:0:1685:A:N6	1:0:1691:G:N3	2.47	0.63
1:0:1724:C:H2'	1:0:1725:C:C6	2.33	0.63
1:0:2059:U:H2'	1:0:2060:A:H5''	1.81	0.63
1:0:207:U:H2'	1:0:208:C:C6	2.34	0.62
1:0:722:C:H2'	1:0:723:C:C6	2.34	0.62
1:0:1466:C:O2'	1:0:1467:U:H5'	1.98	0.62
1:0:2627:G:H2'	1:0:2628:C:O4'	1.99	0.62
1:0:88:G:H3'	1:0:89:A:C5'	2.28	0.62
1:0:629:C:C2'	1:0:630:G:H5'	2.30	0.62
1:0:962:C:H2'	1:0:963:G:H8	1.64	0.62
1:0:2250:G:O2'	1:0:2251:U:H5'	1.99	0.62
1:0:1182:U:H3'	1:0:1183:C:H5''	1.82	0.62
1:0:1196:G:H2'	1:0:1197:U:H5'	1.80	0.62
1:0:1198:C:C5'	1:0:1199:U:H4'	2.29	0.62
1:0:2634:G:H2'	1:0:2643:G:C6	2.35	0.62
1:0:2809:A:H62	1:0:2854:G:H1'	1.63	0.62
1:0:697:G:O2'	1:0:698:A:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1436:G:H1'	1:0:1508:G:H21	1.63	0.62
7:9:111:C:H5''	7:9:112:A:H5''	1.81	0.62
1:0:2308:A:H2'	1:0:2309:G:C8	2.34	0.62
1:0:12:U:H2'	1:0:13:A:O4'	2.00	0.62
1:0:831:G:H21	1:0:1203:A:H62	1.47	0.62
1:0:1457:A:O2'	1:0:1458:A:H5'	1.99	0.62
1:0:2634:G:H2'	1:0:2643:G:O6	1.99	0.62
1:0:181:A:H5'	1:0:183:U:H1'	1.82	0.62
1:0:513:A:H4'	1:0:515:A:OP1	1.99	0.62
1:0:1014:G:O2'	1:0:1015:U:H5'	2.00	0.62
1:0:1197:U:H2'	1:0:1198:C:O4'	2.00	0.62
1:0:1989:C:H1'	1:0:2798:A:O2'	1.98	0.62
1:0:2405:A:H8	1:0:2405:A:OP1	1.82	0.62
1:0:2502:G:H2'	1:0:2503:G:H8	1.64	0.62
1:0:1200:G:O2'	1:0:1201:G:H5'	1.99	0.61
1:0:2046:C:H42	1:0:2429:A:H61	1.48	0.61
1:0:1466:C:H2'	1:0:1467:U:O4'	1.99	0.61
1:0:1826:U:O2'	1:0:1952:A:H2'	2.00	0.61
1:0:1938:U:O2'	1:0:1939:U:C5'	2.48	0.61
1:0:2313:G:H3'	1:0:2314:A:H5'	1.80	0.61
1:0:2515:G:H2'	1:0:2516:U:C6	2.34	0.61
1:0:999:A:H4'	1:0:1166:A:N1	2.16	0.61
1:0:1289:A:N7	1:0:1662:G:N2	2.48	0.61
1:0:1791:C:H2'	1:0:1792:C:C5'	2.29	0.61
1:0:1996:A:O2'	1:0:1997:A:H5'	1.99	0.61
1:0:2425:G:O2'	1:0:2426:G:H5'	1.99	0.61
1:0:2524:G:O2'	1:0:2525:U:H5'	2.01	0.61
1:0:2622:G:H2'	1:0:2623:A:C8	2.35	0.61
1:0:2861:A:H2'	1:0:2862:G:H8	1.66	0.61
1:0:2604:G:H8	1:0:2604:G:H5''	1.64	0.61
1:0:2624:G:H4'	1:0:2712:G:H2'	1.82	0.61
1:0:225:G:H5'	1:0:226:C:H5'	1.83	0.61
1:0:693:A:H2'	1:0:694:G:H8	1.64	0.61
1:0:956:A:C2	1:0:2427:A:O2'	2.54	0.61
1:0:2476:A:HO2'	1:0:2477:C:H5	1.48	0.61
1:0:2664:G:O2'	1:0:2665:G:H5'	2.01	0.61
7:9:23:G:H2'	7:9:24:U:C6	2.35	0.61
1:0:2633:A:H61	1:0:2646:C:H42	1.48	0.61
1:0:79:G:H2'	1:0:80:A:H8	1.66	0.61
1:0:222:G:O2'	1:0:223:C:H5'	2.00	0.61
1:0:616:U:H2'	1:0:617:U:H5''	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:675:C:H2'	1:0:676:G:C8	2.36	0.61
1:0:964:A:H2'	1:0:965:G:H8	1.64	0.61
1:0:1004:A:H2'	1:0:1005:U:H5''	1.82	0.61
1:0:1226:A:N1	1:0:1250:A:H1'	2.16	0.61
1:0:1683:G:H2'	1:0:1684:G:H5'	1.82	0.61
1:0:2321:C:H2'	1:0:2322:U:O4'	2.01	0.61
1:0:701:U:H2'	1:0:702:A:O4'	2.01	0.61
1:0:734:G:H2'	1:0:735:G:H8	1.66	0.61
1:0:946:U:H2'	1:0:947:C:H6	1.66	0.61
1:0:21:A:O2'	1:0:22:C:H5'	2.00	0.61
1:0:820:U:H2'	1:0:821:A:H8	1.64	0.61
1:0:830:C:O2'	1:0:852:U:H5''	2.00	0.61
1:0:1699:A:N7	1:0:1748:U:H1'	2.15	0.61
1:0:1719:G:H2'	1:0:1720:G:H8	1.66	0.61
1:0:2598:C:O2'	1:0:2599:U:H5'	2.01	0.61
1:0:45:C:H2'	1:0:46:C:H6	1.66	0.60
1:0:675:C:H2'	1:0:676:G:H8	1.66	0.60
1:0:765:C:C5	1:0:1772:C:H1'	2.36	0.60
1:0:790:A:C2	1:0:791:G:C4	2.89	0.60
1:0:2008:C:O5'	1:0:2008:C:H6	1.84	0.60
1:0:2026:C:N3	1:0:2757:G:N2	2.48	0.60
1:0:2198:U:C3'	1:0:2199:C:H5''	2.31	0.60
1:0:2701:A:O2'	1:0:2702:G:H5'	2.01	0.60
7:9:88:C:H2'	7:9:89:G:C8	2.35	0.60
1:0:455:A:H5'	1:0:1215:A:H5'	1.84	0.60
1:0:959:C:O2'	1:0:960:U:H5'	2.00	0.60
1:0:2593:A:H3'	1:0:2593:A:C8	2.35	0.60
1:0:2736:U:O2'	1:0:2737:A:H5'	2.01	0.60
1:0:718:A:O2'	1:0:719:A:H5'	2.01	0.60
1:0:2096:U:H2'	1:0:2097:A:H5''	1.81	0.60
1:0:2672:U:H2'	1:0:2673:G:C8	2.36	0.60
1:0:35:G:O4'	1:0:466:A:H1'	2.01	0.60
1:0:1707:A:H2'	1:0:1708:C:H5'	1.84	0.60
1:0:2476:A:H5''	1:0:2477:C:OP1	2.02	0.60
33:0:2882:DOL:H313	6:5:3:DBB:HB3	1.84	0.60
1:0:706:A:O2'	1:0:707:U:H5'	2.01	0.60
1:0:773:G:H2'	1:0:774:A:H5'	1.82	0.60
1:0:833:A:H8	1:0:833:A:O5'	1.84	0.60
1:0:1223:G:C2	1:0:1250:A:N6	2.69	0.60
1:0:1235:C:O2	1:0:1241:G:N2	2.34	0.60
1:0:1665:C:O2'	1:0:1666:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2012:A:C5	1:0:2014:A:H5'	2.36	0.60
1:0:2431:C:HO2'	1:0:2432:A:H5'	1.64	0.60
1:0:2438:A:N3	1:0:2438:A:H2'	2.16	0.60
1:0:2717:G:H2'	1:0:2718:A:C8	2.37	0.60
1:0:717:G:H21	1:0:739:G:H2'	1.67	0.60
1:0:788:G:H2'	1:0:807:A:C5	2.37	0.60
1:0:1391:A:H2'	1:0:1392:U:C5	2.36	0.60
1:0:2825:A:H2'	1:0:2826:C:H6	1.65	0.60
1:0:633:G:O2'	1:0:634:G:H5'	2.01	0.60
1:0:2235:G:O2'	1:0:2236:U:H5'	2.01	0.60
1:0:2466:G:O2'	1:0:2467:A:H5'	2.02	0.60
1:0:674:U:H2'	1:0:675:C:C6	2.36	0.59
1:0:2198:U:H3'	1:0:2199:C:H5''	1.82	0.59
1:0:2605:C:H2'	1:0:2606:G:C8	2.36	0.59
1:0:2822:U:C2'	1:0:2823:G:H5'	2.31	0.59
1:0:798:G:H2'	1:0:798:G:N3	2.17	0.59
1:0:839:U:H2'	1:0:841:G:O4'	2.02	0.59
1:0:991:A:N7	1:0:1146:G:H5''	2.17	0.59
1:0:2245:A:H4'	1:0:2246:A:C5	2.37	0.59
1:0:2843:A:O2'	1:0:2844:G:H5'	2.01	0.59
1:0:2749:A:O2'	1:0:2750:G:H5'	2.02	0.59
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.59
1:0:2658:A:H2'	1:0:2659:C:C6	2.35	0.59
1:0:2678:C:O2	1:0:2688:G:N2	2.36	0.59
1:0:225:G:C5'	1:0:226:C:H5'	2.33	0.59
1:0:1966:C:H4'	1:0:2585:C:H4'	1.84	0.59
1:0:2057:U:O2'	1:0:2576:G:H1'	2.02	0.59
1:0:2487:G:C2	1:0:2561:G:O6	2.56	0.59
1:0:2498:U:OP1	1:0:2498:U:H3'	2.02	0.59
1:0:2640:G:H2'	1:0:2641:A:C8	2.38	0.59
1:0:210:A:N6	1:0:442:A:H61	2.00	0.59
1:0:575:U:H2'	1:0:576:A:C8	2.38	0.59
1:0:689:A:H2'	1:0:690:A:H5'	1.85	0.59
1:0:2678:C:C2	1:0:2688:G:N2	2.71	0.59
1:0:2814:G:O2'	1:0:2815:C:H5'	2.02	0.59
1:0:693:A:H2'	1:0:694:G:C8	2.38	0.59
1:0:870:C:H2'	1:0:871:U:C6	2.38	0.59
1:0:1920:A:H2'	1:0:1921:A:C8	2.38	0.59
1:0:2757:G:OP2	1:0:2761:A:O2'	2.21	0.59
1:0:1141:U:H5''	1:0:2494:C:O2'	2.02	0.59
1:0:1352:G:H2'	1:0:1353:A:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1773:C:N4	1:0:2566:A:H2	2.00	0.59
1:0:1982:C:H4'	1:0:2703:C:O2	2.03	0.59
1:0:2033:C:C2'	1:0:2034:A:O4'	2.50	0.59
1:0:1321:A:H62	1:0:1622:G:N2	2.00	0.59
1:0:1997:A:H2'	1:0:1998:A:C8	2.38	0.59
1:0:2245:A:H4'	1:0:2246:A:N7	2.18	0.59
1:0:2509:A:H2'	1:0:2510:A:H5''	1.83	0.59
1:0:2782:G:H3'	1:0:2783:U:H5''	1.84	0.59
33:0:2882:DOL:H313	6:5:3:DBB:CB	2.32	0.59
1:0:24:G:H2'	1:0:25:U:H6	1.64	0.59
1:0:311:A:H2	1:0:334:G:H21	1.51	0.59
1:0:789:G:H2'	1:0:789:G:N3	2.18	0.59
1:0:1198:C:H5''	1:0:1199:U:C4'	2.33	0.59
1:0:1332:G:O2'	1:0:1333:G:H5'	2.03	0.59
1:0:1765:C:O5'	1:0:1765:C:H6	1.85	0.59
1:0:2769:C:H2'	1:0:2770:A:H5'	1.85	0.59
1:0:2827:G:H2'	1:0:2828:C:C6	2.37	0.59
1:0:202:A:H2'	1:0:203:G:O4'	2.03	0.58
1:0:698:A:H61	1:0:786:U:H3'	1.68	0.58
1:0:1300:A:H62	19:L:106:ASP:CA	2.15	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.03	0.58
1:0:1672:A:H2'	1:0:1673:C:O4'	2.03	0.58
1:0:523:A:O2'	1:0:1230:C:OP1	2.21	0.58
1:0:822:G:O2'	1:0:823:U:H5'	2.02	0.58
1:0:2201:G:H2'	1:0:2202:G:H8	1.68	0.58
1:0:852:U:H2'	1:0:853:C:C6	2.37	0.58
1:0:305:A:H2'	1:0:306:G:O4'	2.03	0.58
1:0:564:U:H2'	1:0:565:A:C8	2.39	0.58
1:0:918:A:C2'	1:0:919:U:H5''	2.30	0.58
1:0:1686:A:N3	1:0:1686:A:H2'	2.18	0.58
1:0:1920:A:C2	1:0:1922:U:C5	2.91	0.58
1:0:2491:C:H3'	1:0:2492:G:H5''	1.84	0.58
1:0:2832:G:N2	1:0:2835:A:OP2	2.36	0.58
1:0:1514:C:H5'	1:0:1593:C:H4'	1.86	0.58
1:0:1952:A:H1'	1:0:1955:G:H21	1.67	0.58
1:0:2822:U:H2'	1:0:2823:G:C5'	2.33	0.58
1:0:1235:C:C2	1:0:1241:G:N2	2.72	0.58
1:0:1804:U:H2'	1:0:1805:G:C8	2.35	0.58
1:0:431:G:H2'	1:0:432:C:C6	2.39	0.58
1:0:859:U:H4'	1:0:860:U:C5	2.39	0.58
1:0:867:G:O2'	1:0:868:U:H5'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:412:U:H2'	1:0:413:G:H5'	1.85	0.58
1:0:753:U:C2'	1:0:754:G:H5'	2.33	0.58
1:0:1353:A:H4'	1:0:1410:U:N3	2.17	0.58
1:0:1778:U:H2'	1:0:1779:C:O4'	2.04	0.58
1:0:2611:A:C2	1:0:2767:C:N3	2.71	0.58
1:0:493:A:N3	1:0:516:G:C2	2.72	0.58
1:0:613:A:H2'	1:0:614:G:C8	2.38	0.58
1:0:1764:A:C5	1:0:1821:A:H1'	2.39	0.58
1:0:2610:G:O2'	1:0:2785:A:C2	2.56	0.58
1:0:92:U:H2'	1:0:93:A:C8	2.38	0.58
1:0:118:U:H4'	1:0:120:G:OP2	2.03	0.58
1:0:1066:G:H3'	1:0:1067:G:H5''	1.84	0.58
1:0:1339:U:O2'	1:0:1993:G:H1'	2.03	0.58
1:0:847:C:H41	1:0:955:G:H21	1.51	0.57
1:0:951:G:C3'	1:0:952:A:H5''	2.34	0.57
1:0:2318:U:H2'	1:0:2319:G:C8	2.39	0.57
1:0:788:G:N2	1:0:801:A:P	2.78	0.57
1:0:800:U:H3'	1:0:804:C:H41	1.68	0.57
1:0:2058:U:H2'	1:0:2217:G:O6	2.04	0.57
1:0:788:G:H21	1:0:801:A:P	2.27	0.57
1:0:2038:C:H2'	1:0:2483:U:O4'	2.03	0.57
1:0:2500:C:H4'	1:0:2544:A:O4'	2.03	0.57
1:0:2691:C:H41	1:0:2693:U:H5	1.50	0.57
1:0:2830:U:H2'	1:0:2831:A:C8	2.39	0.57
1:0:2836:U:H2'	1:0:2837:G:H8	1.69	0.57
1:0:712:A:H4'	1:0:1651:U:C4	2.38	0.57
1:0:103:U:H2'	1:0:104:C:C6	2.39	0.57
1:0:187:U:H1'	1:0:1379:A:N3	2.20	0.57
1:0:717:G:N2	1:0:739:G:H2'	2.19	0.57
1:0:749:C:O2'	1:0:750:C:H5'	2.04	0.57
1:0:870:C:H2'	1:0:871:U:H6	1.69	0.57
1:0:1881:U:C2'	1:0:1882:G:H5'	2.34	0.57
1:0:2081:U:H2'	1:0:2082:C:H5''	1.85	0.57
1:0:2299:A:H5''	1:0:2300:G:C4	2.39	0.57
1:0:2397:A:O2'	1:0:2398:U:H5'	2.04	0.57
1:0:2802:C:H2'	1:0:2803:C:C6	2.40	0.57
1:0:632:A:C2'	1:0:633:G:H5'	2.34	0.57
1:0:773:G:C2'	1:0:774:A:H5'	2.34	0.57
1:0:815:A:H2'	1:0:816:U:H6	1.69	0.57
1:0:1883:A:H1'	1:0:1953:A:H62	1.69	0.57
1:0:318:G:H21	1:0:341:A:H62	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:874:A:H62	1:0:928:G:N2	2.02	0.57
1:0:1052:C:H2'	1:0:1053:G:C8	2.40	0.57
1:0:1621:C:C4'	1:0:1626:A:H62	2.17	0.57
1:0:1947:G:H3'	1:0:1947:G:OP1	2.03	0.57
1:0:2510:A:H61	1:0:2641:A:N6	2.03	0.57
1:0:580:A:C2	1:0:582:G:N7	2.73	0.57
1:0:620:G:O2'	1:0:621:U:H5'	2.05	0.57
1:0:738:G:H2'	1:0:739:G:O4'	2.05	0.57
1:0:2493:U:H2'	1:0:2494:C:C6	2.40	0.57
1:0:2687:G:O2'	1:0:2688:G:H5'	2.04	0.57
1:0:2785:A:O2'	1:0:2786:G:H5'	2.05	0.57
1:0:2861:A:O2'	1:0:2862:G:H5'	2.05	0.57
1:0:1679:U:H2'	1:0:1680:U:C4'	2.35	0.57
1:0:2661:G:C2'	1:0:2662:C:H5'	2.34	0.57
1:0:428:A:H2'	1:0:429:C:C6	2.40	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.05	0.57
1:0:977:G:H1'	1:0:2246:A:C5	2.40	0.57
1:0:1016:C:H2'	1:0:1017:C:H6	1.70	0.57
1:0:1598:C:H2'	1:0:1599:G:O4'	2.05	0.57
1:0:1920:A:C2	1:0:1922:U:H5	2.22	0.57
1:0:1950:C:H2'	1:0:1951:G:O4'	2.05	0.57
1:0:2425:G:H2'	1:0:2480:C:C5	2.40	0.57
1:0:181:A:H5'	1:0:183:U:C1'	2.35	0.56
1:0:327:C:O2'	1:0:328:A:H5'	2.05	0.56
1:0:524:A:O2'	1:0:525:A:H5'	2.05	0.56
1:0:582:G:H2'	1:0:583:C:H3'	1.86	0.56
1:0:876:A:O2'	1:0:877:G:H5'	2.05	0.56
1:0:1821:A:H3'	1:0:1822:C:H6	1.70	0.56
1:0:2027:C:H2'	1:0:2028:C:H6	1.70	0.56
1:0:2054:A:H2'	1:0:2055:G:H8	1.70	0.56
1:0:2277:A:H2'	1:0:2278:A:O4'	2.05	0.56
7:9:73:C:H2'	7:9:74:A:O4'	2.05	0.56
1:0:629:C:H2'	1:0:630:G:H5'	1.87	0.56
1:0:1028:G:H2'	1:0:1029:C:C6	2.40	0.56
1:0:1125:G:H2'	1:0:1126:A:H8	1.70	0.56
1:0:1399:C:O2'	1:0:1400:A:H5'	2.05	0.56
1:0:25:U:H3	1:0:525:A:N6	2.03	0.56
1:0:44:G:N2	1:0:192:G:H21	2.03	0.56
1:0:315:G:H2'	1:0:316:C:C6	2.40	0.56
1:0:515:A:C2'	1:0:516:G:H5'	2.36	0.56
1:0:597:U:H2'	1:0:598:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:640:C:H2'	1:0:641:G:C8	2.40	0.56
1:0:742:G:C4	1:0:1766:U:O2	2.58	0.56
1:0:757:U:O2'	1:0:758:G:H5'	2.05	0.56
1:0:826:U:H2'	1:0:827:C:C6	2.39	0.56
1:0:1199:U:H3'	1:0:1200:G:H5''	1.88	0.56
1:0:1645:U:O2'	1:0:2677:U:H5''	2.04	0.56
1:0:1888:C:H5''	1:0:1889:G:C5'	2.30	0.56
1:0:2213:G:H2'	1:0:2214:G:H8	1.68	0.56
1:0:2490:U:O5'	1:0:2490:U:H6	1.88	0.56
1:0:2654:A:C2	1:0:2655:C:C2	2.93	0.56
1:0:2766:U:H2'	1:0:2767:C:C6	2.41	0.56
1:0:611:C:H2'	1:0:612:G:H5'	1.88	0.56
1:0:1141:U:O2'	1:0:1142:G:OP1	2.24	0.56
1:0:1621:C:C4'	1:0:1626:A:N6	2.68	0.56
1:0:1688:U:HO2'	1:0:1690:U:H5	1.53	0.56
1:0:1726:C:H6	1:0:1726:C:O5'	1.88	0.56
1:0:69:G:H5''	1:0:70:A:O5'	2.06	0.56
1:0:1268:U:H5'	1:0:1269:G:H5''	1.87	0.56
1:0:1668:G:C2	1:0:1990:U:C2	2.93	0.56
1:0:18:U:O2'	1:0:563:U:H5''	2.06	0.56
1:0:1789:U:C4	1:0:1811:A:H2	2.24	0.56
1:0:1825:C:O2'	1:0:1826:U:H5'	2.06	0.56
1:0:2032:G:O2'	1:0:2033:C:H5'	2.05	0.56
1:0:831:G:H21	1:0:1203:A:N6	2.03	0.56
1:0:1125:G:H2'	1:0:1126:A:C8	2.41	0.56
1:0:1252:C:O2'	1:0:1253:C:H5''	2.05	0.56
1:0:1284:G:C2'	1:0:1633:C:H4'	2.36	0.56
1:0:1787:U:H2'	1:0:1788:C:C6	2.40	0.56
1:0:30:G:O2'	1:0:31:C:H5'	2.05	0.56
1:0:104:C:H2'	1:0:105:G:C5'	2.24	0.56
1:0:804:C:O2	1:0:804:C:H2'	2.05	0.56
1:0:822:G:C2'	1:0:823:U:H5'	2.36	0.56
1:0:1429:A:O2'	1:0:1430:G:H4'	2.05	0.56
1:0:1911:A:C2'	1:0:1912:G:H5'	2.35	0.56
1:0:2474:G:C5	1:0:2475:C:C4	2.94	0.56
1:0:825:C:O2'	1:0:826:U:H5'	2.05	0.56
1:0:1183:C:H2'	1:0:1184:G:C8	2.41	0.56
1:0:1260:A:C6	1:0:1262:U:H1'	2.41	0.56
1:0:1724:C:H2'	1:0:1725:C:H6	1.70	0.56
1:0:2257:A:C2'	1:0:2258:G:H5'	2.36	0.56
1:0:44:G:H21	1:0:192:G:N2	2.03	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:962:C:H2'	1:0:963:G:C8	2.41	0.55
1:0:1277:G:C8	1:0:1278:A:N7	2.74	0.55
1:0:1301:U:H3	1:0:1339:U:H3	1.54	0.55
1:0:1666:G:H2'	1:0:1667:A:H8	1.71	0.55
1:0:1697:U:O4	1:0:1755:G:OP2	2.24	0.55
1:0:2520:A:H8	1:0:2520:A:O5'	1.89	0.55
1:0:1046:U:H2'	1:0:1047:G:C8	2.42	0.55
1:0:1975:G:H1'	1:0:1977:C:H5	1.70	0.55
1:0:2433:G:C2'	1:0:2434:G:H5'	2.36	0.55
1:0:28:A:C2	1:0:523:A:C8	2.95	0.55
1:0:665:A:H3'	1:0:666:U:C5'	2.37	0.55
1:0:947:C:H2'	1:0:948:C:C6	2.42	0.55
1:0:1373:G:H2'	1:0:1374:G:H5'	1.88	0.55
1:0:1644:G:O2'	1:0:1645:U:H5'	2.06	0.55
1:0:1999:U:H2'	1:0:2000:U:O4'	2.07	0.55
1:0:2046:C:OP1	1:0:2046:C:H3'	2.06	0.55
1:0:2321:C:O2'	1:0:2353:G:H5''	2.06	0.55
1:0:2368:G:H5''	1:0:2369:U:O4'	2.06	0.55
7:9:64:C:C2'	7:9:65:A:H5''	2.35	0.55
1:0:783:G:H1'	1:0:1391:A:C2	2.41	0.55
1:0:1474:A:H3'	1:0:1474:A:N3	2.21	0.55
1:0:2052:G:C2'	1:0:2053:G:H5'	2.36	0.55
1:0:2474:G:H2'	1:0:2475:C:O4'	2.07	0.55
1:0:2561:G:OP1	1:0:2561:G:C8	2.48	0.55
1:0:2782:G:H3'	1:0:2783:U:C5'	2.36	0.55
7:9:30:C:H2'	7:9:31:A:C8	2.41	0.55
7:9:31:A:H2'	7:9:32:C:H6	1.72	0.55
1:0:451:A:H2'	1:0:452:G:C8	2.41	0.55
1:0:651:C:C2'	1:0:652:C:H5''	2.36	0.55
1:0:964:A:H1'	1:0:2245:A:OP2	2.07	0.55
1:0:977:G:H5'	1:0:2251:U:O2	2.05	0.55
1:0:1480:G:H2'	1:0:1481:U:H5'	1.88	0.55
1:0:1783:G:O2'	1:0:1784:C:H5'	2.07	0.55
1:0:2308:A:H2'	1:0:2309:G:H8	1.70	0.55
7:9:24:U:C2'	7:9:25:G:H5''	2.36	0.55
1:0:674:U:H2'	1:0:675:C:H6	1.72	0.55
1:0:714:G:O2'	1:0:715:U:H5'	2.06	0.55
1:0:742:G:H2'	1:0:742:G:N3	2.22	0.55
1:0:1469:U:OP2	1:0:1471:G:N7	2.40	0.55
1:0:1643:A:C2	1:0:1644:G:C8	2.95	0.55
1:0:1474:A:H2'	1:0:1475:U:H5''	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2038:C:H2'	1:0:2483:U:C4'	2.36	0.55
1:0:2560:G:C4	1:0:2589:C:N4	2.67	0.55
7:9:18:G:N2	7:9:71:G:H1'	2.21	0.55
1:0:362:C:H2'	1:0:363:G:H4'	1.89	0.55
1:0:412:U:C2'	1:0:413:G:H5'	2.36	0.55
1:0:521:U:OP2	1:0:522:G:C5	2.60	0.55
1:0:1346:C:H6	1:0:1346:C:O5'	1.89	0.55
1:0:940:G:H8	1:0:940:G:O5'	1.90	0.55
1:0:1653:C:H2'	1:0:1654:A:C8	2.42	0.55
1:0:1974:U:C2'	1:0:1975:G:H5''	2.37	0.55
1:0:2054:A:H2'	1:0:2055:G:C8	2.41	0.55
1:0:2491:C:H2'	1:0:2492:G:H5''	1.88	0.55
1:0:2843:A:H2'	1:0:2844:G:O4'	2.07	0.55
1:0:207:U:H2'	1:0:208:C:H6	1.70	0.54
1:0:214:C:H2'	1:0:215:G:H8	1.72	0.54
1:0:710:C:H2'	1:0:711:C:H6	1.72	0.54
1:0:979:A:H2'	1:0:980:G:C8	2.42	0.54
1:0:1018:C:C1'	1:0:1147:G:H22	2.17	0.54
1:0:1921:A:H2'	1:0:1922:U:C5'	2.33	0.54
1:0:2310:G:N2	1:0:2364:C:N3	2.54	0.54
1:0:2592:U:H2'	1:0:2593:A:H5'	1.88	0.54
7:9:36:A:H1'	7:9:51:G:N2	2.22	0.54
1:0:98:U:OP1	1:0:100:G:H4'	2.06	0.54
1:0:644:A:H2'	1:0:645:G:H5'	1.88	0.54
1:0:998:C:H2'	1:0:999:A:O4'	2.07	0.54
1:0:1695:U:O2'	1:0:1696:C:H5'	2.07	0.54
1:0:2661:G:O2'	1:0:2662:C:H5'	2.07	0.54
1:0:2817:A:C2	1:0:2851:G:C2	2.96	0.54
1:0:883:A:H2'	1:0:884:C:O4'	2.08	0.54
1:0:1175:A:H2'	1:0:1176:U:C6	2.42	0.54
1:0:1654:A:H4'	1:0:2690:A:O2'	2.06	0.54
1:0:1768:U:O2'	1:0:1769:U:H5'	2.08	0.54
1:0:2217:G:H3'	1:0:2217:G:N3	2.22	0.54
1:0:1363:C:O2'	1:0:1364:C:H5'	2.08	0.54
1:0:2034:A:N6	1:0:2593:A:N7	2.56	0.54
1:0:2177:U:H2'	1:0:2178:U:C6	2.42	0.54
1:0:2756:A:C6	1:0:2762:G:H1'	2.42	0.54
1:0:2787:A:H2'	1:0:2788:C:C6	2.41	0.54
1:0:357:A:C3'	1:0:358:C:H5'	2.36	0.54
1:0:811:G:O2'	1:0:812:G:H5'	2.07	0.54
1:0:2526:U:C6	1:0:2545:A:N7	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:462:G:H2'	1:0:463:C:H5'	1.89	0.54
1:0:475:U:H1'	1:0:699:G:O6	2.06	0.54
1:0:695:G:O2'	1:0:696:U:H5'	2.08	0.54
1:0:2037:A:N6	1:0:2039:G:H1'	2.23	0.54
1:0:1141:U:H4'	1:0:2494:C:H4'	1.89	0.54
1:0:1279:G:HO2'	1:0:1995:G:H1	1.56	0.54
1:0:1288:A:H62	1:0:1309:G:C4'	2.20	0.54
1:0:1661:C:O2'	1:0:1662:G:H5'	2.07	0.54
1:0:1782:A:C2	1:0:1821:A:H4'	2.43	0.54
1:0:1992:G:O2'	1:0:1993:G:H5'	2.08	0.54
1:0:2279:G:H2'	1:0:2280:A:C8	2.43	0.54
1:0:2436:U:H2'	1:0:2437:G:O4'	2.08	0.54
1:0:30:G:N2	1:0:521:U:H1'	2.22	0.54
1:0:1247:U:H2'	1:0:1248:G:O4'	2.07	0.54
1:0:1317:G:O2'	1:0:1318:A:H5'	2.08	0.54
1:0:1502:G:H2'	1:0:1503:G:H8	1.72	0.54
1:0:2007:G:O2'	1:0:2008:C:H5'	2.08	0.54
1:0:2198:U:H2'	1:0:2199:C:H5''	1.89	0.54
1:0:2212:U:H2'	1:0:2213:G:C8	2.43	0.54
1:0:2396:C:H6	1:0:2396:C:H5'	1.73	0.54
1:0:2739:G:O5'	1:0:2739:G:H8	1.90	0.54
1:0:617:U:H2'	1:0:618:A:O4'	2.08	0.54
1:0:639:G:H2'	1:0:640:C:C6	2.43	0.54
1:0:780:U:H2'	1:0:781:G:C8	2.43	0.54
1:0:1408:A:C1'	1:0:1410:U:H5	2.15	0.54
1:0:1624:A:O2'	1:0:1625:A:H5''	2.08	0.54
1:0:1636:G:H2'	1:0:1637:U:H6	1.72	0.54
1:0:1764:A:OP1	1:0:1820:G:H3'	2.08	0.54
1:0:2220:A:O2'	1:0:2221:G:H5'	2.07	0.54
1:0:543:G:H2'	1:0:544:U:C6	2.43	0.53
1:0:713:G:O6	1:0:746:G:C2	2.61	0.53
1:0:796:A:C2	1:0:1770:U:O4'	2.53	0.53
1:0:1617:G:H2'	1:0:1618:U:H5'	1.90	0.53
1:0:2320:G:H2'	1:0:2321:C:O4'	2.08	0.53
1:0:2709:C:N4	1:0:2710:C:N4	2.56	0.53
1:0:2725:C:H2'	1:0:2726:U:C6	2.43	0.53
1:0:716:U:H2'	1:0:717:G:O4'	2.08	0.53
1:0:749:C:H2'	1:0:750:C:H6	1.73	0.53
1:0:977:G:H1'	1:0:2246:A:C4	2.43	0.53
1:0:1086:C:C2'	1:0:1087:C:H5''	2.38	0.53
1:0:1586:A:H2'	1:0:1587:A:C8	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1778:U:H2'	1:0:1779:C:C6	2.42	0.53
1:0:2038:C:N4	1:0:2479:U:H4'	2.24	0.53
1:0:2222:U:H2'	1:0:2223:U:C6	2.43	0.53
1:0:2549:G:O2'	1:0:2550:C:H5'	2.08	0.53
1:0:2812:A:H2'	1:0:2813:G:H8	1.73	0.53
1:0:236:C:H2'	1:0:237:G:C8	2.39	0.53
1:0:1715:A:C8	1:0:1717:A:H1'	2.42	0.53
1:0:2038:C:H41	1:0:2479:U:H4'	1.73	0.53
1:0:2425:G:H2'	1:0:2480:C:H41	1.73	0.53
1:0:632:A:H2'	1:0:633:G:H5'	1.91	0.53
1:0:984:A:C2'	1:0:1200:G:N2	2.72	0.53
1:0:2593:A:C8	1:0:2593:A:C3'	2.92	0.53
33:0:2882:DOL:C42	33:0:2882:DOL:C46	2.83	0.53
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.53
1:0:459:A:H62	1:0:484:G:H1'	1.73	0.53
1:0:1621:C:O2'	1:0:1622:G:H5'	2.08	0.53
1:0:1861:G:O2'	1:0:1862:C:H5'	2.09	0.53
1:0:2713:A:O2'	1:0:2714:A:H5'	2.07	0.53
1:0:2862:G:O2'	1:0:2863:U:H5'	2.08	0.53
1:0:591:G:H2'	1:0:592:G:H8	1.73	0.53
1:0:1226:A:C6	1:0:1250:A:H1'	2.43	0.53
1:0:2225:G:H2'	1:0:2226:A:H8	1.73	0.53
1:0:2621:G:O2'	1:0:2622:G:H5'	2.09	0.53
1:0:181:A:O4'	1:0:183:U:C2	2.61	0.53
1:0:1010:U:O2'	1:0:1011:A:H5'	2.09	0.53
1:0:1046:U:H2'	1:0:1047:G:H8	1.73	0.53
1:0:1489:C:H3'	1:0:1490:U:C5'	2.38	0.53
1:0:1541:G:N2	1:0:1562:G:H22	2.06	0.53
1:0:2246:A:H2'	1:0:2246:A:N3	2.24	0.53
1:0:2595:C:H2'	1:0:2596:C:H6	1.69	0.53
1:0:2785:A:H62	1:0:2865:G:H21	1.57	0.53
1:0:484:G:O2'	1:0:485:G:H5'	2.09	0.53
1:0:512:A:N6	1:0:515:A:C6	2.76	0.53
1:0:616:U:H5	1:0:630:G:C4	2.27	0.53
1:0:1543:G:H2'	1:0:1544:A:O4'	2.09	0.53
1:0:1989:C:O2'	1:0:1990:U:H5'	2.09	0.53
1:0:2491:C:C2'	1:0:2492:G:H5''	2.38	0.53
1:0:2628:C:H2'	1:0:2629:U:H6	1.73	0.53
1:0:2811:G:C6	1:0:2812:A:N6	2.77	0.53
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.53
1:0:446:C:H2'	1:0:447:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1040:A:H2'	1:0:1041:G:H5'	1.90	0.53
1:0:2051:U:H3	1:0:2409:A:H61	1.57	0.53
1:0:2785:A:H2'	1:0:2786:G:C8	2.44	0.53
7:9:67:C:H2'	7:9:68:A:H5'	1.91	0.53
1:0:225:G:H3'	1:0:226:C:H5'	1.90	0.53
1:0:242:A:H2'	1:0:243:G:H4'	1.89	0.53
1:0:313:U:H2'	1:0:314:G:H8	1.72	0.53
1:0:320:A:H2	1:0:340:G:HO2'	1.53	0.53
1:0:525:A:C2'	1:0:526:C:H5'	2.38	0.53
1:0:1039:A:H61	1:0:1136:G:H2'	1.74	0.53
1:0:1196:G:C2'	1:0:1197:U:H5'	2.38	0.53
1:0:1649:A:N6	1:0:1650:A:N1	2.56	0.53
1:0:2007:G:H2'	1:0:2008:C:C6	2.44	0.53
1:0:2717:G:H2'	1:0:2718:A:H8	1.73	0.53
1:0:2810:A:H5''	1:0:2811:G:OP1	2.08	0.53
1:0:701:U:O2'	1:0:702:A:H5'	2.09	0.52
1:0:980:G:C2	1:0:981:C:O2	2.62	0.52
1:0:1662:G:O5'	1:0:1662:G:H8	1.91	0.52
1:0:2266:A:N6	1:0:2323:U:H1'	2.25	0.52
1:0:2615:U:H2'	1:0:2616:U:C6	2.43	0.52
1:0:2691:C:C3'	1:0:2692:A:H5''	2.35	0.52
1:0:2827:G:C5	1:0:2828:C:C4	2.96	0.52
1:0:591:G:H2'	1:0:592:G:C8	2.43	0.52
1:0:763:A:H2	1:0:766:A:C1'	2.19	0.52
1:0:2076:G:H2'	1:0:2077:G:C8	2.42	0.52
1:0:2829:A:H2'	1:0:2830:U:O4'	2.10	0.52
7:9:65:A:O2'	7:9:66:G:H5'	2.09	0.52
1:0:225:G:H3'	1:0:226:C:C5'	2.39	0.52
1:0:508:G:H2'	1:0:509:U:C6	2.43	0.52
1:0:984:A:H2'	1:0:1200:G:H22	1.74	0.52
1:0:2437:G:O6	1:0:2469:G:H2'	2.08	0.52
1:0:2502:G:H2'	1:0:2503:G:C8	2.43	0.52
1:0:2689:C:N4	1:0:2690:A:N6	2.57	0.52
1:0:733:G:H2'	1:0:734:G:H8	1.74	0.52
1:0:755:C:H2'	1:0:756:C:C6	2.43	0.52
1:0:2095:G:H2'	1:0:2096:U:H5''	1.91	0.52
1:0:2240:C:H2'	1:0:2241:U:H5''	1.91	0.52
1:0:2322:U:H2'	1:0:2323:U:H5'	1.90	0.52
1:0:1621:C:O4'	1:0:1626:A:N6	2.42	0.52
1:0:2797:G:O5'	1:0:2797:G:H8	1.92	0.52
7:9:51:G:H2'	7:9:52:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:639:G:O2'	1:0:640:C:H5'	2.09	0.52
1:0:772:G:O2'	1:0:773:G:H5'	2.10	0.52
1:0:807:A:O2'	1:0:808:C:H5'	2.09	0.52
1:0:1218:C:H2'	1:0:1219:C:C6	2.44	0.52
1:0:2534:U:C5	1:0:2535:C:C4	2.98	0.52
1:0:2748:C:H2'	1:0:2749:A:C8	2.44	0.52
1:0:819:C:C2	1:0:820:U:C5	2.98	0.52
1:0:1886:G:H2'	1:0:1887:G:H8	1.75	0.52
1:0:2587:G:H8	1:0:2587:G:O5'	1.93	0.52
1:0:2859:U:C5	1:0:2860:C:C4	2.97	0.52
7:9:92:G:C2'	7:9:93:G:H5'	2.36	0.52
1:0:65:C:H2'	1:0:66:U:O4'	2.10	0.52
1:0:639:G:H2'	1:0:640:C:H6	1.74	0.52
1:0:953:G:C5	1:0:954:U:C4	2.98	0.52
1:0:1001:A:H4'	1:0:1168:G:P	2.50	0.52
1:0:1141:U:H3	1:0:2008:C:H5''	1.74	0.52
1:0:1242:A:O2'	1:0:1243:G:H5'	2.10	0.52
1:0:1687:C:C4	1:0:1688:U:C2	2.98	0.52
1:0:2016:A:N6	1:0:2019:C:C2	2.77	0.52
1:0:2039:G:P	1:0:2483:U:H5''	2.50	0.52
1:0:1002:C:N4	1:0:1003:C:N4	2.57	0.52
1:0:1825:C:C2'	1:0:1826:U:H5'	2.40	0.52
1:0:2249:U:O2'	1:0:2250:G:H5'	2.10	0.52
1:0:2611:A:H2'	1:0:2612:G:H8	1.75	0.52
1:0:2661:G:H2'	1:0:2662:C:H5'	1.91	0.52
1:0:702:A:N6	1:0:703:A:C5	2.78	0.52
1:0:725:C:H2'	1:0:726:G:C8	2.45	0.52
1:0:818:G:O2'	1:0:844:G:H4'	2.10	0.52
1:0:1013:G:C6	1:0:1165:G:N2	2.78	0.52
1:0:1471:G:C6	1:0:1472:C:C4	2.98	0.52
1:0:1615:C:H2'	1:0:1616:C:C6	2.44	0.52
1:0:1679:U:C3'	1:0:1680:U:H5''	2.40	0.52
1:0:2030:U:H2'	1:0:2031:A:H8	1.75	0.52
1:0:2299:A:C5'	1:0:2300:G:C4	2.92	0.52
1:0:2394:G:H2'	1:0:2395:C:C6	2.45	0.52
1:0:2602:G:O2'	1:0:2603:G:H5'	2.09	0.52
7:9:24:U:C3'	7:9:25:G:H5''	2.40	0.52
7:9:117:G:H2'	7:9:118:G:C8	2.45	0.52
1:0:460:U:H3	1:0:592:G:H1'	1.75	0.51
1:0:757:U:H2'	1:0:758:G:H5'	1.92	0.51
1:0:2058:U:H4'	1:0:2575:U:O2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2071:G:N2	1:0:2211:U:H1'	2.25	0.51
1:0:2181:A:H2'	1:0:2182:A:H5'	1.91	0.51
7:9:79:U:H3	7:9:103:A:H62	1.58	0.51
1:0:67:G:H21	1:0:72:A:H2'	1.75	0.51
1:0:167:A:C2	1:0:184:A:C2	2.98	0.51
1:0:1196:G:H2'	1:0:1197:U:C5'	2.40	0.51
1:0:1445:A:H2'	1:0:1446:U:O4'	2.10	0.51
1:0:2712:G:H3'	1:0:2713:A:H5'	1.93	0.51
1:0:2769:C:H2'	1:0:2867:G:H22	1.75	0.51
1:0:193:A:N6	1:0:444:U:O2	2.43	0.51
1:0:930:A:OP1	1:0:930:A:H4'	2.10	0.51
1:0:1793:A:H62	1:0:1806:G:H2'	1.76	0.51
1:0:2262:C:C5	1:0:2263:C:C5	2.99	0.51
1:0:2570:C:H2'	1:0:2571:G:H8	1.71	0.51
1:0:2846:G:H2'	1:0:2847:G:H5''	1.92	0.51
1:0:217:U:N3	1:0:218:A:N6	2.58	0.51
1:0:342:G:H2'	1:0:343:A:C5'	2.40	0.51
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.51
1:0:722:C:H2'	1:0:723:C:H6	1.71	0.51
1:0:807:A:C6	1:0:808:C:C4	2.99	0.51
1:0:1174:G:O2'	1:0:1175:A:H5'	2.11	0.51
1:0:1697:U:O2	1:0:1754:G:C8	2.63	0.51
1:0:1887:G:O2'	1:0:1911:A:H2	1.93	0.51
1:0:1956:G:H8	1:0:1956:G:H5'	1.75	0.51
1:0:2276:C:O2'	1:0:2277:A:H5'	2.09	0.51
1:0:2324:G:O2'	1:0:2325:A:H5''	2.11	0.51
1:0:594:G:H2'	1:0:595:A:C8	2.45	0.51
1:0:763:A:C2	1:0:766:A:C1'	2.87	0.51
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:2324:G:N3	1:0:2326:C:C5	2.76	0.51
1:0:2549:G:H2'	1:0:2550:C:C5'	2.40	0.51
1:0:187:U:H2'	1:0:188:G:C8	2.46	0.51
1:0:562:G:C6	1:0:563:U:N3	2.79	0.51
1:0:580:A:N3	1:0:582:G:N7	2.59	0.51
1:0:594:G:N2	1:0:1269:G:C6	2.79	0.51
1:0:791:G:N2	1:0:800:U:C2	2.78	0.51
1:0:956:A:N1	1:0:2427:A:O2'	2.41	0.51
1:0:1212:U:H2'	1:0:1213:U:C6	2.46	0.51
1:0:1697:U:O2	1:0:1755:G:H4'	2.11	0.51
1:0:1764:A:H2'	1:0:1765:C:H5'	1.92	0.51
1:0:1976:U:H2'	1:0:1977:C:C5'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2426:G:O6	1:0:2479:U:H2'	2.11	0.51
1:0:2825:A:H2'	1:0:2826:C:C6	2.45	0.51
1:0:334:G:N3	1:0:344:G:H1'	2.25	0.51
1:0:710:C:H2'	1:0:711:C:C6	2.46	0.51
1:0:414:A:H2'	1:0:415:A:O4'	2.10	0.51
1:0:734:G:H2'	1:0:735:G:C8	2.45	0.51
1:0:946:U:H2'	1:0:947:C:C6	2.44	0.51
1:0:1010:U:H2'	1:0:1011:A:C8	2.46	0.51
1:0:2222:U:H2'	1:0:2223:U:H6	1.74	0.51
1:0:2549:G:C2'	1:0:2550:C:H5'	2.40	0.51
1:0:2677:U:H2'	1:0:2678:C:C6	2.46	0.51
1:0:367:G:C3'	1:0:368:A:H5''	2.41	0.51
1:0:502:A:H2'	1:0:503:G:O4'	2.11	0.51
1:0:589:C:N4	1:0:590:C:N4	2.59	0.51
1:0:778:G:O2'	1:0:779:U:H5'	2.11	0.51
1:0:1200:G:H2'	1:0:1201:G:H5'	1.93	0.51
1:0:1669:A:H2'	1:0:1670:G:H4'	1.93	0.51
1:0:2610:G:HO2'	1:0:2785:A:H2	1.50	0.51
1:0:80:A:O2'	1:0:81:C:H5'	2.10	0.51
1:0:847:C:H2'	1:0:848:A:O4'	2.11	0.51
1:0:1355:A:O4'	1:0:1410:U:H4'	2.10	0.51
1:0:1831:G:C2'	1:0:1832:G:H5'	2.41	0.51
1:0:1831:G:H2'	1:0:1832:G:H5'	1.93	0.51
1:0:2225:G:H2'	1:0:2226:A:C8	2.45	0.51
1:0:2243:C:H2'	1:0:2244:C:O4'	2.11	0.51
1:0:2340:C:C2'	1:0:2341:G:H5'	2.41	0.51
1:0:2721:A:H62	1:0:2743:G:N2	2.05	0.51
1:0:129:A:H2'	1:0:130:C:C6	2.46	0.50
1:0:691:C:O2'	1:0:692:C:H5'	2.11	0.50
1:0:1213:U:H2'	1:0:1214:C:C6	2.46	0.50
1:0:1403:U:O5'	1:0:1403:U:H6	1.93	0.50
1:0:1453:A:H2'	1:0:1454:U:H5'	1.94	0.50
1:0:1695:U:C2'	1:0:1696:C:H5'	2.40	0.50
1:0:2437:G:H1	1:0:2469:G:H2'	1.76	0.50
1:0:2628:C:H2'	1:0:2629:U:C6	2.46	0.50
1:0:2811:G:O6	1:0:2812:A:N6	2.44	0.50
1:0:323:G:H5''	1:0:342:G:O6	2.11	0.50
1:0:367:G:C2'	1:0:368:A:H5''	2.40	0.50
1:0:509:U:H2'	1:0:510:G:O4'	2.12	0.50
1:0:780:U:H2'	1:0:781:G:H8	1.76	0.50
1:0:1282:A:N6	1:0:1995:G:N2	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2337:A:C6	1:0:2338:C:N3	2.79	0.50
1:0:2766:U:O2'	1:0:2767:C:H5'	2.12	0.50
1:0:2783:U:H2'	1:0:2784:A:C4'	2.33	0.50
7:9:56:G:H2'	7:9:57:U:C6	2.47	0.50
1:0:475:U:H1'	1:0:699:G:C6	2.46	0.50
1:0:814:G:H3'	1:0:815:A:H5'	1.94	0.50
1:0:1398:G:H2'	1:0:1399:C:H6	1.75	0.50
1:0:1577:G:H8	1:0:1577:G:O5'	1.93	0.50
1:0:1621:C:C5	1:0:1622:G:C5	3.00	0.50
1:0:1746:A:H61	1:0:2674:C:C4'	2.24	0.50
1:0:1984:A:H1'	1:0:2668:U:C4	2.46	0.50
1:0:2491:C:H2'	1:0:2492:G:C4'	2.42	0.50
1:0:2645:C:O5'	1:0:2645:C:H6	1.95	0.50
7:9:106:U:O2'	7:9:107:C:H5'	2.12	0.50
1:0:168:A:H2'	1:0:169:C:C6	2.47	0.50
1:0:427:C:H2'	1:0:428:A:C8	2.47	0.50
1:0:578:U:H1'	1:0:958:G:O4'	2.12	0.50
1:0:985:G:N3	1:0:985:G:H3'	2.27	0.50
1:0:1380:C:C2'	1:0:1381:G:H5'	2.42	0.50
1:0:2026:C:H2'	1:0:2027:C:C6	2.47	0.50
1:0:2061:C:C4	1:0:2062:U:C5	3.00	0.50
1:0:2080:U:H2'	1:0:2081:U:C6	2.47	0.50
1:0:2185:U:H2'	1:0:2186:G:H8	1.73	0.50
1:0:2355:A:H2'	1:0:2356:A:O4'	2.11	0.50
1:0:2825:A:O2'	1:0:2826:C:H5'	2.11	0.50
7:9:37:C:H2'	7:9:38:C:H5'	1.94	0.50
1:0:139:A:H2'	1:0:140:G:C8	2.47	0.50
1:0:789:G:H1'	1:0:806:A:C8	2.46	0.50
1:0:824:U:H5''	1:0:1264:C:C2	2.47	0.50
1:0:883:A:O2'	1:0:884:C:H5'	2.11	0.50
1:0:946:U:C2	1:0:947:C:C5	2.99	0.50
1:0:997:C:N4	1:0:998:C:N4	2.59	0.50
1:0:1462:C:H1'	1:0:1561:A:H1'	1.94	0.50
1:0:1677:C:H2'	1:0:1678:G:H8	1.77	0.50
1:0:1698:C:H2'	1:0:1753:A:N3	2.26	0.50
1:0:1967:U:O2'	1:0:1968:G:H5'	2.12	0.50
1:0:1975:G:H2'	1:0:1980:A:N6	2.27	0.50
1:0:50:G:H2'	1:0:117:A:H2	1.75	0.50
1:0:175:C:H42	1:0:225:G:H1	1.60	0.50
1:0:180:C:N3	1:0:181:A:N6	2.58	0.50
1:0:218:A:H1'	1:0:220:U:C2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:497:C:C2	1:0:505:G:C2	3.00	0.50
1:0:658:G:H4'	1:0:2331:A:H5'	1.94	0.50
1:0:661:C:O2'	1:0:662:G:H5'	2.12	0.50
1:0:951:G:H2'	1:0:952:A:C5'	2.38	0.50
1:0:1234:C:O2'	1:0:1235:C:H5'	2.11	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:1392:U:C2'	1:0:1393:G:H5'	2.41	0.50
1:0:1459:U:O2	1:0:1476:G:OP2	2.30	0.50
1:0:1469:U:H5'	1:0:1470:G:N7	2.26	0.50
1:0:2542:U:C6	1:0:2544:A:OP2	2.65	0.50
1:0:2608:A:O2'	1:0:2609:G:H5'	2.11	0.50
1:0:2801:A:C2'	1:0:2802:C:H5'	2.41	0.50
1:0:2838:U:O2'	1:0:2839:G:H5'	2.10	0.50
1:0:343:A:H62	1:0:346:C:H5	1.59	0.50
1:0:531:G:H2'	1:0:532:A:C8	2.47	0.50
1:0:821:A:O2'	1:0:1267:A:H4'	2.11	0.50
1:0:1322:G:H2'	1:0:1323:G:C8	2.47	0.50
1:0:1356:G:H1'	1:0:1613:G:C2	2.46	0.50
1:0:1621:C:H4'	1:0:1626:A:N6	2.27	0.50
1:0:1755:G:C6	1:0:1972:G:C6	3.00	0.50
1:0:1816:G:O2'	1:0:1817:U:H5'	2.12	0.50
1:0:1947:G:O2'	1:0:1950:C:OP2	2.26	0.50
1:0:2426:G:N2	1:0:2430:A:H62	2.10	0.50
1:0:2559:U:H3'	1:0:2560:G:C4'	2.41	0.50
1:0:67:G:N2	1:0:72:A:H2'	2.26	0.50
1:0:224:G:N7	1:0:226:C:O2	2.45	0.50
1:0:601:A:H61	1:0:633:G:H21	1.59	0.50
1:0:689:A:C2'	1:0:690:A:H5'	2.41	0.50
1:0:792:U:H2'	1:0:793:G:O4'	2.11	0.50
1:0:961:G:C6	1:0:962:C:C4	3.00	0.50
1:0:1054:C:C2'	1:0:1055:A:H5'	2.41	0.50
1:0:1182:U:C3'	1:0:1183:C:H5''	2.41	0.50
1:0:1435:G:H22	1:0:1512:A:H2	1.59	0.50
1:0:1587:A:H2'	1:0:1588:A:C8	2.47	0.50
1:0:1949:A:H1'	1:0:2572:U:H4'	1.93	0.50
1:0:2445:C:N4	1:0:2446:C:H41	2.09	0.50
1:0:525:A:H2'	1:0:526:C:H5'	1.93	0.49
1:0:635:C:H3'	1:0:636:G:H5''	1.93	0.49
1:0:979:A:H2'	1:0:980:G:H8	1.77	0.49
1:0:1141:U:HO2'	1:0:1142:G:P	2.31	0.49
1:0:1479:G:H2'	1:0:1480:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1711:C:O5'	1:0:1711:C:H6	1.95	0.49
1:0:2806:G:H1'	1:0:2858:A:H2'	1.93	0.49
1:0:26:G:H2'	1:0:27:G:O4'	2.12	0.49
1:0:180:C:C4	1:0:181:A:C5	3.01	0.49
1:0:587:A:C2	1:0:1266:G:N2	2.75	0.49
1:0:1256:C:H2'	1:0:1257:U:O4'	2.12	0.49
1:0:2240:C:HO2'	1:0:2306:A:H2	1.59	0.49
1:0:2652:G:H2'	1:0:2653:A:C8	2.45	0.49
7:9:33:C:O5'	7:9:33:C:H6	1.95	0.49
1:0:1:G:H2'	1:0:2:G:C8	2.47	0.49
1:0:215:G:H2'	1:0:216:U:O4'	2.12	0.49
1:0:468:A:O2'	1:0:469:G:H4'	2.12	0.49
1:0:788:G:C5'	1:0:790:A:H1'	2.40	0.49
1:0:1323:G:H2'	1:0:1324:G:H4'	1.94	0.49
1:0:1358:C:H2'	1:0:1359:G:C5'	2.41	0.49
1:0:1479:G:H21	1:0:1543:G:N2	2.09	0.49
1:0:2235:G:N2	1:0:2254:C:C4	2.79	0.49
1:0:2418:A:H2	1:0:2564:U:H5'	1.77	0.49
1:0:2748:C:H2'	1:0:2749:A:H8	1.76	0.49
7:9:42:U:H3	7:9:45:C:H5	1.59	0.49
1:0:57:G:N2	1:0:72:A:N7	2.60	0.49
1:0:1284:G:C4	1:0:1633:C:H5'	2.48	0.49
1:0:1757:C:O2'	1:0:1758:C:H5'	2.12	0.49
1:0:1958:G:H2'	1:0:1959:U:O4'	2.12	0.49
1:0:2560:G:H2'	1:0:2561:G:C8	2.47	0.49
1:0:324:C:O2'	1:0:325:U:H5'	2.11	0.49
1:0:460:U:C2'	1:0:461:A:OP1	2.61	0.49
1:0:490:A:O2'	1:0:491:A:H5'	2.12	0.49
1:0:675:C:O2'	1:0:676:G:H5'	2.12	0.49
1:0:701:U:H2'	1:0:702:A:H8	1.78	0.49
1:0:981:C:OP1	1:0:1000:G:N2	2.45	0.49
1:0:1010:U:H2'	1:0:1011:A:H8	1.77	0.49
1:0:1528:C:C2'	1:0:1529:C:H5''	2.42	0.49
1:0:1773:C:C4	1:0:2566:A:H2	2.31	0.49
1:0:1793:A:H2'	1:0:1794:A:C8	2.47	0.49
1:0:2633:A:H5'	1:0:2635:U:O4'	2.12	0.49
7:9:31:A:H2'	7:9:32:C:C6	2.48	0.49
7:9:42:U:N3	7:9:45:C:H5	2.10	0.49
1:0:66:U:O2	1:0:67:G:N7	2.45	0.49
1:0:166:G:H21	1:0:184:A:H62	1.60	0.49
1:0:217:U:H1'	1:0:235:C:H42	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:652:C:H42	1:0:657:A:N6	2.10	0.49
1:0:874:A:N6	1:0:928:G:H21	2.10	0.49
1:0:1558:C:C2'	1:0:1559:G:H5'	2.42	0.49
1:0:2034:A:N6	1:0:2593:A:H62	2.09	0.49
1:0:2079:A:H2'	1:0:2080:U:C6	2.47	0.49
1:0:2498:U:H5''	1:0:2499:C:OP1	2.12	0.49
1:0:2499:C:C2	1:0:2546:G:C8	3.00	0.49
1:0:2550:C:C5	1:0:2553:G:O4'	2.65	0.49
1:0:2824:C:H6	1:0:2824:C:O5'	1.95	0.49
7:9:80:A:H2'	7:9:81:C:O4'	2.11	0.49
1:0:171:G:C2	1:0:179:U:N3	2.80	0.49
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.49
1:0:1159:U:H2'	1:0:1160:C:C6	2.47	0.49
1:0:2380:U:H2'	1:0:2381:A:H5'	1.94	0.49
1:0:2443:C:O2'	1:0:2444:C:H5'	2.13	0.49
1:0:2445:C:C4	1:0:2446:C:N4	2.80	0.49
1:0:2796:A:H8	1:0:2796:A:OP1	1.96	0.49
1:0:2836:U:H2'	1:0:2837:G:C8	2.46	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.13	0.49
1:0:947:C:N3	1:0:948:C:C4	2.80	0.49
1:0:1139:A:H1'	1:0:2496:C:H5'	1.94	0.49
1:0:1162:A:H2'	1:0:1163:C:H6	1.77	0.49
1:0:2071:G:H22	1:0:2211:U:H1'	1.77	0.49
1:0:2198:U:C2'	1:0:2199:C:H5''	2.43	0.49
1:0:2240:C:H2'	1:0:2241:U:C5'	2.43	0.49
1:0:2377:U:H2'	1:0:2378:G:C8	2.48	0.49
1:0:2617:G:N2	1:0:2755:A:H2'	2.28	0.49
1:0:2642:G:O2'	1:0:2643:G:H5'	2.12	0.49
1:0:931:G:H2'	1:0:932:G:O4'	2.13	0.49
1:0:1809:G:P	1:0:1809:G:H8	2.36	0.49
1:0:2223:U:H2'	1:0:2224:U:O4'	2.13	0.49
1:0:2543:A:H5'	1:0:2627:G:H4'	1.94	0.49
1:0:597:U:N3	1:0:683:A:O2'	2.44	0.49
1:0:1147:G:C4'	1:0:2022:C:H5'	2.43	0.49
1:0:1263:G:O2'	1:0:1264:C:P	2.71	0.49
1:0:1364:C:C2	1:0:1394:G:C2	3.01	0.49
1:0:1696:C:H2'	1:0:1697:U:C6	2.48	0.49
1:0:2717:G:O2'	1:0:2718:A:H5'	2.13	0.49
7:9:36:A:H2'	7:9:46:G:O6	2.13	0.49
1:0:177:U:H2'	1:0:178:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:677:G:C1'	1:0:951:G:H5''	2.43	0.48
1:0:1142:G:O6	1:0:2008:C:H1'	2.12	0.48
1:0:1145:C:C5	1:0:1147:G:OP2	2.66	0.48
1:0:1272:G:O2'	1:0:1273:G:C5'	2.61	0.48
1:0:1340:C:C5	1:0:1341:G:N7	2.80	0.48
1:0:1548:U:H2'	1:0:1549:C:C6	2.48	0.48
1:0:1998:A:C2	32:Z:6:VAL:CA	2.96	0.48
1:0:2611:A:H2'	1:0:2612:G:C8	2.47	0.48
1:0:2768:C:H2'	1:0:2769:C:H4'	1.95	0.48
1:0:2847:G:C6	1:0:2848:A:N6	2.81	0.48
1:0:166:G:N2	1:0:185:C:N4	2.61	0.48
1:0:210:A:H62	1:0:442:A:H61	1.61	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:864:C:O2'	1:0:865:A:H5'	2.13	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.48	0.48
1:0:2474:G:C5	1:0:2475:C:C5	3.01	0.48
1:0:2745:A:H2'	1:0:2745:A:N3	2.29	0.48
1:0:2788:C:O2'	1:0:2789:U:C5'	2.58	0.48
7:9:77:G:O2'	7:9:78:A:H5'	2.13	0.48
1:0:173:A:H2'	1:0:173:A:N3	2.28	0.48
1:0:546:A:H2'	1:0:547:U:C6	2.48	0.48
1:0:633:G:H2'	1:0:634:G:O4'	2.13	0.48
1:0:1500:U:H3	1:0:1520:G:H22	1.60	0.48
1:0:1754:G:OP1	1:0:1754:G:H4'	2.13	0.48
1:0:2051:U:H3	1:0:2409:A:N6	2.10	0.48
1:0:2425:G:H2'	1:0:2480:C:N4	2.29	0.48
1:0:2821:G:H2'	1:0:2822:U:C6	2.48	0.48
7:9:102:A:H2'	7:9:103:A:H8	1.78	0.48
1:0:401:G:N3	1:0:403:A:N7	2.62	0.48
1:0:563:U:H6	1:0:563:U:O5'	1.95	0.48
1:0:599:A:H2'	1:0:600:G:H8	1.78	0.48
1:0:1187:A:H2'	1:0:1188:A:C8	2.48	0.48
1:0:1272:G:H2'	1:0:1273:G:H8	1.75	0.48
1:0:1720:G:N1	1:0:1721:G:C5	2.82	0.48
1:0:1755:G:C6	1:0:1972:G:N1	2.81	0.48
1:0:1994:U:O5'	1:0:1994:U:H6	1.96	0.48
1:0:2027:C:H2'	1:0:2028:C:C6	2.47	0.48
1:0:2403:C:H5'	1:0:2404:A:OP1	2.13	0.48
1:0:2594:U:H5'	1:0:2594:U:C6	2.37	0.48
1:0:2856:U:C4	1:0:2857:C:N4	2.82	0.48
1:0:68:C:N3	1:0:69:G:C5	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:O2'	1:0:339:U:H5'	2.13	0.48
1:0:701:U:H2'	1:0:702:A:C8	2.49	0.48
1:0:1791:C:C1'	1:0:1793:A:H5'	2.36	0.48
1:0:1807:A:H1'	1:0:1809:G:H1'	1.95	0.48
1:0:2209:G:C5	1:0:2210:C:C5	3.01	0.48
1:0:2470:U:C2'	1:0:2471:U:O5'	2.61	0.48
1:0:2559:U:C2'	1:0:2560:G:OP1	2.62	0.48
7:9:85:G:O2'	7:9:86:A:H5'	2.12	0.48
1:0:612:G:O3'	1:0:613:A:H4'	2.13	0.48
1:0:674:U:O2'	1:0:675:C:H5'	2.13	0.48
1:0:835:U:O2'	1:0:836:G:H5'	2.13	0.48
1:0:2812:A:H2'	1:0:2813:G:C8	2.49	0.48
33:0:2882:DOL:H463	33:0:2882:DOL:HC33	1.95	0.48
1:0:328:A:O2'	1:0:329:C:H5'	2.14	0.48
1:0:699:G:H2'	1:0:699:G:N3	2.29	0.48
1:0:992:A:H2	1:0:2010:G:N3	2.11	0.48
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.48
1:0:2024:U:O5'	1:0:2024:U:H6	1.96	0.48
1:0:2193:C:H2'	1:0:2194:A:O4'	2.12	0.48
1:0:2448:A:H2'	1:0:2449:G:H5'	1.96	0.48
1:0:2470:U:H2'	1:0:2471:U:O5'	2.14	0.48
1:0:242:A:C2'	1:0:243:G:H4'	2.44	0.48
1:0:459:A:N7	1:0:484:G:N9	2.62	0.48
1:0:537:C:C2	1:0:2759:U:O2'	2.64	0.48
1:0:573:C:N4	1:0:582:G:OP1	2.47	0.48
1:0:1339:U:C5'	1:0:1994:U:H1'	2.44	0.48
1:0:2560:G:N9	1:0:2589:C:N4	2.62	0.48
1:0:2624:G:OP1	1:0:2712:G:N2	2.46	0.48
1:0:2702:G:H2'	1:0:2703:C:C6	2.48	0.48
1:0:155:G:O2'	1:0:156:G:H5'	2.14	0.48
1:0:645:G:H2'	1:0:646:C:C6	2.49	0.48
1:0:665:A:H3'	1:0:666:U:H5'	1.95	0.48
1:0:690:A:O2'	1:0:691:C:H5'	2.14	0.48
1:0:712:A:C8	1:0:713:G:C8	3.02	0.48
1:0:1283:C:H5''	1:0:1284:G:O5'	2.14	0.48
1:0:1641:C:N4	1:0:1642:G:C2	2.82	0.48
1:0:2034:A:H2'	1:0:2035:G:C8	2.49	0.48
1:0:692:C:H2'	1:0:693:A:H8	1.79	0.48
1:0:727:U:C2'	1:0:728:G:H5''	2.39	0.48
1:0:773:G:H4'	1:0:1767:G:OP1	2.13	0.48
1:0:1331:G:C6	1:0:1332:G:C6	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1645:U:H2'	1:0:1646:G:C8	2.49	0.48
1:0:1666:G:O2'	1:0:1667:A:H5'	2.14	0.48
1:0:1692:C:H2'	1:0:1693:A:C5'	2.43	0.48
1:0:2555:G:H5'	1:0:2558:C:H41	1.79	0.48
1:0:306:G:O2'	1:0:307:C:H5'	2.14	0.47
1:0:1202:U:H2'	1:0:1203:A:H8	1.79	0.47
1:0:1348:C:H2'	1:0:1349:A:C8	2.49	0.47
1:0:2268:G:H5'	1:0:2363:G:O2'	2.14	0.47
1:0:2429:A:O2'	1:0:2430:A:H5'	2.13	0.47
1:0:2785:A:H2'	1:0:2786:G:O4'	2.14	0.47
1:0:2792:C:C2	1:0:2805:G:N2	2.82	0.47
1:0:349:G:H2'	1:0:350:U:C6	2.49	0.47
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:698:A:C1'	1:0:700:C:H41	2.26	0.47
1:0:704:G:O2'	1:0:705:C:H5'	2.14	0.47
1:0:1660:G:H2'	1:0:1661:C:O4'	2.14	0.47
1:0:1666:G:O2'	1:0:1667:A:C5'	2.62	0.47
1:0:2569:A:O2'	1:0:2570:C:H5'	2.13	0.47
1:0:2667:C:H2'	1:0:2699:G:N2	2.29	0.47
1:0:2788:C:H2'	1:0:2789:U:H6	1.79	0.47
1:0:632:A:H3'	1:0:632:A:N3	2.29	0.47
1:0:858:G:H5''	1:0:859:U:H5'	1.96	0.47
1:0:929:A:H3'	1:0:930:A:C5'	2.36	0.47
1:0:1683:G:C2'	1:0:1684:G:H5'	2.43	0.47
1:0:2014:A:C2	1:0:2435:C:H5'	2.49	0.47
1:0:2276:C:H1'	1:0:2301:A:N3	2.29	0.47
1:0:476:G:H2'	1:0:477:A:C8	2.49	0.47
1:0:550:C:O2'	1:0:551:A:H5'	2.14	0.47
1:0:728:G:H2'	1:0:729:A:O4'	2.13	0.47
1:0:958:G:H2'	1:0:959:C:H6	1.78	0.47
1:0:1502:G:O2'	1:0:1503:G:H5'	2.14	0.47
1:0:1671:A:O4'	1:0:2798:A:H5'	2.15	0.47
1:0:1722:G:O2'	1:0:1723:U:H5'	2.15	0.47
1:0:1797:C:H2'	1:0:1798:G:O4'	2.13	0.47
1:0:1905:G:H2'	1:0:1906:U:C6	2.49	0.47
1:0:2238:G:H8	1:0:2238:G:OP1	1.97	0.47
1:0:2268:G:H2'	1:0:2269:G:C8	2.50	0.47
1:0:2468:G:H2'	1:0:2469:G:C5'	2.43	0.47
1:0:2658:A:O2'	9:B:189:PRO:CA	2.63	0.47
1:0:30:G:N1	1:0:521:U:O2	2.48	0.47
1:0:163:A:H2'	1:0:164:G:C8	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:368:A:H2'	1:0:369:C:O4'	2.15	0.47
1:0:658:G:H1'	1:0:2330:G:OP1	2.14	0.47
1:0:929:A:HO2'	7:9:101:A:HO2'	1.59	0.47
1:0:1031:C:H4'	1:0:1032:A:C8	2.50	0.47
1:0:1314:A:N7	1:0:1316:G:N7	2.62	0.47
1:0:1341:G:N2	1:0:1343:C:O2	2.47	0.47
1:0:1676:U:O2'	1:0:1677:C:H5'	2.14	0.47
1:0:1712:G:N2	1:0:1713:G:C4	2.82	0.47
1:0:1985:G:O2'	1:0:1986:G:H5'	2.14	0.47
1:0:2240:C:C2'	1:0:2241:U:H5''	2.44	0.47
1:0:2313:G:C3'	1:0:2314:A:H5'	2.44	0.47
1:0:2335:U:O2'	1:0:2336:G:H5'	2.15	0.47
1:0:2371:A:C2	1:0:2408:G:C6	3.02	0.47
1:0:2593:A:H2'	1:0:2594:U:H5'	1.95	0.47
7:9:9:G:H2'	7:9:10:U:O4'	2.14	0.47
1:0:333:A:H1'	1:0:351:A:C1'	2.44	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.97	0.47
1:0:1299:A:C5	1:0:1342:U:O4	2.67	0.47
1:0:1370:U:O2'	1:0:1371:G:H5'	2.15	0.47
1:0:1789:U:C4	1:0:1811:A:C2	3.03	0.47
1:0:2231:G:O2'	1:0:2232:G:H5'	2.14	0.47
1:0:2245:A:O3'	1:0:2246:A:C8	2.67	0.47
1:0:43:A:O2'	1:0:44:G:H5'	2.15	0.47
1:0:80:A:H2'	1:0:81:C:O4'	2.15	0.47
1:0:217:U:H3	1:0:218:A:N6	2.13	0.47
1:0:415:A:H2'	1:0:416:U:H5'	1.97	0.47
1:0:459:A:C2	1:0:466:A:C8	3.02	0.47
1:0:588:G:C2	1:0:1275:A:C6	3.03	0.47
1:0:595:A:N6	1:0:1264:C:H41	2.12	0.47
1:0:762:A:H61	1:0:766:A:H2	1.63	0.47
1:0:889:C:O2'	1:0:890:U:H5'	2.15	0.47
1:0:916:U:N3	1:0:917:U:C4	2.83	0.47
1:0:985:G:N3	1:0:985:G:H5''	2.30	0.47
1:0:1348:C:H2'	1:0:1349:A:H8	1.78	0.47
1:0:1386:A:H2'	1:0:1387:G:O4'	2.14	0.47
1:0:1596:A:H2'	1:0:1597:A:O4'	2.15	0.47
1:0:1683:G:N7	1:0:1684:G:N2	2.62	0.47
1:0:1981:A:O2'	1:0:1982:C:H5'	2.14	0.47
1:0:2006:G:N2	1:0:2024:U:O2	2.47	0.47
1:0:2034:A:C2	1:0:2035:G:O6	2.68	0.47
1:0:2039:G:OP2	1:0:2483:U:H5''	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2194:A:C2'	1:0:2195:C:H5''	2.44	0.47
1:0:2262:C:C4	1:0:2368:G:C2	3.03	0.47
1:0:2610:G:O2'	1:0:2785:A:H2	1.96	0.47
1:0:2624:G:H4'	1:0:2712:G:C2'	2.44	0.47
1:0:2633:A:H5''	1:0:2634:G:OP1	2.14	0.47
1:0:579:G:N2	1:0:2013:A:O4'	2.48	0.47
1:0:761:G:C2	1:0:763:A:N6	2.82	0.47
1:0:958:G:H2'	1:0:959:C:C6	2.50	0.47
1:0:2181:A:C2'	1:0:2182:A:H5'	2.44	0.47
1:0:2565:C:N3	6:5:2:THR:HB	2.29	0.47
1:0:158:A:C2	1:0:447:U:H4'	2.44	0.47
1:0:974:U:O2'	1:0:975:C:H5'	2.15	0.47
1:0:1002:C:C6	1:0:1198:C:N3	2.83	0.47
1:0:1073:G:C3'	1:0:1074:G:H5''	2.45	0.47
1:0:1333:G:HO2'	1:0:1334:A:H8	1.63	0.47
1:0:1782:A:N6	1:0:1820:G:H2'	2.30	0.47
1:0:2019:C:N3	1:0:2020:G:N7	2.63	0.47
1:0:2408:G:H3'	1:0:2409:A:C5'	2.45	0.47
1:0:2559:U:H3'	1:0:2560:G:H4'	1.96	0.47
1:0:469:G:H2'	1:0:480:G:C6	2.50	0.47
1:0:520:C:O2	1:0:520:C:H2'	2.13	0.47
1:0:528:G:O2'	1:0:529:U:H5'	2.15	0.47
1:0:669:G:H2'	1:0:670:U:C6	2.50	0.47
1:0:1004:A:C2'	1:0:1005:U:H5''	2.44	0.47
1:0:1273:G:H2'	1:0:1274:C:H6	1.78	0.47
1:0:1736:C:H2'	1:0:1737:G:C8	2.50	0.47
1:0:1939:U:O2	1:0:1968:G:H4'	2.15	0.47
1:0:2038:C:N4	1:0:2479:U:C4'	2.78	0.47
1:0:2331:A:C5	1:0:2345:A:N1	2.83	0.47
1:0:2497:A:N6	1:0:2547:C:H1'	2.30	0.47
1:0:2664:G:C2'	1:0:2665:G:H5'	2.44	0.47
7:9:7:C:O2'	7:9:8:C:H5'	2.15	0.47
1:0:115:G:C2	1:0:117:A:N6	2.83	0.46
1:0:140:G:H2'	1:0:141:G:C8	2.50	0.46
1:0:333:A:O2'	1:0:350:U:H2'	2.15	0.46
1:0:1269:G:C6	1:0:1270:C:C4	3.03	0.46
1:0:1690:U:C2'	1:0:1691:G:H5'	2.44	0.46
1:0:2394:G:H2'	1:0:2395:C:H6	1.79	0.46
1:0:2688:G:O2'	1:0:2689:C:H5'	2.14	0.46
1:0:2815:C:H2'	1:0:2816:C:O4'	2.15	0.46
33:0:2882:DOL:C46	33:0:2882:DOL:HC33	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:119:G:H1'	1:0:129:A:C2	2.50	0.46
1:0:841:G:H2'	1:0:842:A:C8	2.50	0.46
1:0:1073:G:C2'	1:0:1074:G:H5''	2.44	0.46
1:0:1202:U:C2	1:0:1203:A:C8	3.03	0.46
1:0:1407:G:O2'	1:0:1408:A:H5'	2.15	0.46
1:0:2550:C:C6	1:0:2553:G:O4'	2.68	0.46
1:0:2564:U:H3'	1:0:2565:C:H5''	1.98	0.46
1:0:200:A:H2	1:0:420:C:HO2'	1.59	0.46
1:0:597:U:H3	1:0:683:A:C2'	2.28	0.46
1:0:613:A:H2'	1:0:614:G:H8	1.79	0.46
1:0:617:U:O2'	1:0:618:A:H5'	2.16	0.46
1:0:1008:G:O2'	1:0:1009:C:H5'	2.13	0.46
1:0:1385:C:C2	1:0:1386:A:C8	3.03	0.46
1:0:1666:G:H2'	1:0:1667:A:C8	2.49	0.46
1:0:1764:A:H2	1:0:1960:A:N1	2.14	0.46
1:0:1816:G:H2'	1:0:1817:U:C6	2.50	0.46
1:0:1860:A:H2'	1:0:1861:G:O4'	2.16	0.46
1:0:2322:U:C2'	1:0:2323:U:H5'	2.46	0.46
1:0:2340:C:H2'	1:0:2341:G:O4'	2.15	0.46
1:0:2611:A:C2	1:0:2767:C:C2	3.03	0.46
1:0:12:U:H3	1:0:536:A:H62	1.63	0.46
1:0:43:A:H8	1:0:43:A:O5'	1.97	0.46
1:0:712:A:N7	1:0:713:G:C5	2.83	0.46
1:0:813:A:H2'	1:0:813:A:N3	2.30	0.46
1:0:835:U:OP2	1:0:957:G:OP2	2.34	0.46
1:0:1311:C:H4'	1:0:1315:A:C6	2.50	0.46
1:0:1328:C:H4'	1:0:1406:A:C4'	2.45	0.46
1:0:1460:G:O2'	1:0:1461:C:H5'	2.15	0.46
1:0:1646:G:C4'	1:0:2677:U:OP1	2.64	0.46
1:0:1652:G:C2	1:0:1653:C:C2	3.04	0.46
1:0:1720:G:O2'	1:0:1721:G:H5'	2.16	0.46
1:0:1969:G:H2'	1:0:1970:G:C8	2.47	0.46
1:0:2006:G:H2'	1:0:2007:G:C8	2.50	0.46
1:0:2217:G:N3	1:0:2217:G:C2'	2.79	0.46
1:0:2503:G:C3'	1:0:2504:G:H5''	2.46	0.46
1:0:2544:A:H2'	1:0:2545:A:O4'	2.15	0.46
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.46
1:0:460:U:H2'	1:0:461:A:OP1	2.15	0.46
1:0:736:G:O2'	1:0:737:C:H5'	2.15	0.46
1:0:977:G:O2'	1:0:978:U:H5'	2.15	0.46
1:0:1016:C:H6	1:0:1154:A:H1'	1.75	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1482:U:O2	1:0:1541:G:N2	2.49	0.46
1:0:1865:C:H2'	1:0:1866:G:O4'	2.15	0.46
1:0:2058:U:H1'	1:0:2576:G:H21	1.81	0.46
1:0:2560:G:H2'	1:0:2561:G:N7	2.30	0.46
7:9:16:U:O2'	7:9:110:U:H1'	2.16	0.46
1:0:170:U:O2'	1:0:171:G:H5'	2.16	0.46
1:0:468:A:H1'	1:0:470:U:C2	2.51	0.46
1:0:856:A:H2'	1:0:857:U:O4'	2.16	0.46
1:0:859:U:H2'	1:0:860:U:OP2	2.15	0.46
1:0:997:C:N4	1:0:998:C:H41	2.13	0.46
1:0:1312:G:O4'	1:0:1314:A:H2	1.99	0.46
1:0:1453:A:C2'	1:0:1454:U:H5'	2.46	0.46
1:0:1679:U:H2'	1:0:1680:U:O4'	2.16	0.46
1:0:2063:A:C2	1:0:2064:U:C2	3.04	0.46
1:0:2495:G:C2	1:0:2548:G:C2	3.04	0.46
1:0:2541:U:H2'	1:0:2542:U:O4'	2.15	0.46
1:0:2627:G:O2'	1:0:2628:C:H5'	2.16	0.46
1:0:2791:C:O2'	1:0:2792:C:H5'	2.15	0.46
1:0:34:U:H2'	1:0:35:G:H5'	1.98	0.46
1:0:693:A:O2'	1:0:694:G:H5'	2.15	0.46
1:0:953:G:H2'	1:0:954:U:C6	2.51	0.46
1:0:987:G:H2'	1:0:988:G:H8	1.81	0.46
1:0:1686:A:O2'	1:0:2528:G:OP1	2.27	0.46
1:0:1837:G:O2'	1:0:1838:G:H5'	2.15	0.46
1:0:1947:G:OP1	1:0:1947:G:H8	1.99	0.46
1:0:2427:A:O5'	1:0:2477:C:OP2	2.34	0.46
1:0:2495:G:H2'	1:0:2496:C:O4'	2.15	0.46
1:0:2586:G:H8	1:0:2586:G:O5'	1.99	0.46
1:0:2762:G:C2	1:0:2763:U:C2	3.03	0.46
1:0:2764:U:O2'	1:0:2765:C:H5'	2.16	0.46
1:0:8:A:H2'	1:0:9:U:C6	2.51	0.46
1:0:62:U:H2'	1:0:63:A:C8	2.51	0.46
1:0:526:C:H1'	1:0:1274:C:O2'	2.16	0.46
1:0:1199:U:O5'	1:0:1200:G:H5'	2.16	0.46
1:0:1509:A:O2'	1:0:1510:A:H5'	2.16	0.46
1:0:2468:G:C2'	1:0:2469:G:H5'	2.46	0.46
1:0:2510:A:N6	1:0:2641:A:H61	2.09	0.46
1:0:2658:A:C5	1:0:2659:C:C5	3.04	0.46
33:0:2882:DOL:C46	33:0:2882:DOL:H311	2.45	0.46
1:0:6:A:H2'	1:0:7:G:C8	2.50	0.46
1:0:201:G:H2'	1:0:202:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:733:G:H2'	1:0:734:G:C8	2.51	0.46
1:0:941:U:O2'	1:0:942:U:H5'	2.15	0.46
1:0:1225:G:H2'	1:0:1249:G:N2	2.31	0.46
1:0:1343:C:H2'	1:0:1344:C:H6	1.80	0.46
1:0:1665:C:H2'	1:0:1666:G:H8	1.80	0.46
1:0:1970:G:C2	1:0:1971:C:C2	3.03	0.46
1:0:2046:C:H1'	33:0:2882:DOL:HC32	1.97	0.46
1:0:2740:C:O2'	1:0:2741:G:H5'	2.16	0.46
1:0:136:A:N6	1:0:137:A:C2	2.84	0.46
1:0:193:A:N7	1:0:444:U:C4	2.84	0.46
1:0:391:C:H2'	1:0:392:G:C8	2.51	0.46
1:0:692:C:H2'	1:0:693:A:C8	2.51	0.46
1:0:742:G:C1'	1:0:777:A:OP1	2.64	0.46
1:0:1178:C:O2'	1:0:1179:A:H5'	2.16	0.46
1:0:1206:G:O2'	1:0:1207:G:H5'	2.16	0.46
1:0:1319:C:H2'	1:0:1320:A:C8	2.46	0.46
1:0:1359:G:O2'	1:0:1360:G:H5'	2.16	0.46
1:0:2006:G:O2'	1:0:2007:G:H5'	2.15	0.46
1:0:2230:G:O4'	1:0:2429:A:H5'	2.16	0.46
1:0:2549:G:H2'	1:0:2550:C:H5'	1.97	0.46
7:9:65:A:H2'	7:9:66:G:O4'	2.16	0.46
1:0:3:U:H2'	1:0:4:C:H6	1.77	0.45
1:0:67:G:C4	1:0:73:A:H8	2.34	0.45
1:0:165:G:H2'	1:0:166:G:O4'	2.16	0.45
1:0:459:A:N3	1:0:466:A:C8	2.85	0.45
1:0:587:A:H2'	1:0:588:G:H5''	1.98	0.45
1:0:936:A:H2'	1:0:937:C:O4'	2.16	0.45
1:0:976:C:C5'	1:0:2252:A:H1'	2.41	0.45
1:0:1159:U:H2'	1:0:1160:C:H6	1.81	0.45
1:0:1448:A:H2'	1:0:1449:C:C6	2.51	0.45
1:0:1635:G:C2'	1:0:1636:G:H5'	2.46	0.45
1:0:1635:G:O2'	1:0:1636:G:H5'	2.15	0.45
1:0:1749:G:O6	1:0:2674:C:C4'	2.51	0.45
1:0:1936:A:H2'	1:0:1937:G:H5'	1.98	0.45
1:0:2012:A:C8	1:0:2014:A:OP1	2.69	0.45
1:0:2015:G:O2'	1:0:2016:A:OP1	2.25	0.45
1:0:2333:A:C6	1:0:2343:C:N4	2.84	0.45
1:0:2498:U:H2'	1:0:2520:A:C6	2.50	0.45
1:0:477:A:H2'	1:0:478:G:H5'	1.99	0.45
1:0:800:U:H3'	1:0:804:C:N4	2.31	0.45
1:0:931:G:N2	1:0:932:G:H1'	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:935:C:O2'	1:0:936:A:H5'	2.16	0.45
1:0:966:A:N6	1:0:967:G:C2	2.84	0.45
1:0:1313:U:P	1:0:1313:U:H6	2.39	0.45
1:0:1856:U:OP1	1:0:2389:G:O2'	2.34	0.45
1:0:2475:C:C3'	1:0:2476:A:H5'	2.46	0.45
1:0:2559:U:O2'	1:0:2560:G:OP1	2.28	0.45
1:0:2589:C:H5''	1:0:2590:U:H5''	1.97	0.45
1:0:41:G:O2'	1:0:42:G:H5'	2.16	0.45
1:0:126:C:H2'	1:0:127:C:C6	2.52	0.45
1:0:218:A:O2'	1:0:219:G:H4'	2.16	0.45
1:0:297:A:H2'	1:0:298:C:C6	2.52	0.45
1:0:319:G:H1'	1:0:511:A:O4'	2.16	0.45
1:0:393:U:H2'	1:0:394:U:C6	2.51	0.45
1:0:594:G:H1'	1:0:1267:A:H61	1.82	0.45
1:0:636:G:H2'	1:0:637:G:H5'	1.98	0.45
1:0:791:G:H2'	1:0:792:U:O4'	2.16	0.45
1:0:1329:U:H2'	1:0:1330:G:H8	1.81	0.45
1:0:1470:G:C6	1:0:2684:A:C2	3.04	0.45
1:0:1749:G:O6	1:0:2674:C:O3'	2.33	0.45
1:0:2499:C:N4	1:0:2521:A:H2	2.11	0.45
1:0:2563:U:N3	33:0:2882:DOL:H471	2.30	0.45
1:0:59:G:N2	1:0:87:G:N7	2.65	0.45
1:0:651:C:C3'	1:0:652:C:H5''	2.45	0.45
1:0:783:G:H1'	1:0:1391:A:H2	1.81	0.45
1:0:931:G:C2	1:0:932:G:H1'	2.52	0.45
1:0:947:C:O2'	1:0:948:C:H5'	2.16	0.45
1:0:1794:A:C2'	1:0:1795:C:H5'	2.46	0.45
1:0:2820:C:H2'	1:0:2821:G:C8	2.51	0.45
1:0:167:A:C2	1:0:184:A:H2	2.34	0.45
1:0:195:A:H3'	1:0:196:A:C8	2.52	0.45
1:0:327:C:C2'	1:0:328:A:H5'	2.47	0.45
1:0:471:A:H2'	1:0:472:C:H5'	1.97	0.45
1:0:526:C:H2'	1:0:527:C:C6	2.52	0.45
1:0:822:G:H2'	1:0:823:U:O4'	2.17	0.45
1:0:860:U:H3	1:0:945:G:N2	2.14	0.45
1:0:873:U:H3'	1:0:874:A:C5'	2.45	0.45
1:0:883:A:H2'	1:0:884:C:C6	2.51	0.45
1:0:1436:G:H21	1:0:1514:C:H1'	1.82	0.45
1:0:1974:U:C3'	1:0:1975:G:C5'	2.94	0.45
1:0:1980:A:O2'	1:0:1981:A:H5'	2.17	0.45
1:0:2026:C:C4	1:0:2757:G:N3	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2506:C:H2'	1:0:2507:U:C6	2.52	0.45
1:0:914:C:O2'	1:0:915:C:H5'	2.17	0.45
1:0:1228:G:C6	1:0:1229:C:C4	3.04	0.45
1:0:1243:G:C6	1:0:1244:U:C4	3.04	0.45
1:0:1467:U:O2'	1:0:2681:A:N7	2.50	0.45
1:0:1502:G:H2'	1:0:1503:G:C8	2.51	0.45
1:0:1563:U:H2'	1:0:1564:U:C6	2.52	0.45
1:0:173:A:C2	1:0:818:G:N2	2.84	0.45
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.45
1:0:980:G:C2	1:0:981:C:C2	3.05	0.45
1:0:1068:A:H2'	1:0:1069:G:C8	2.52	0.45
1:0:1131:G:C6	1:0:1132:C:N4	2.85	0.45
1:0:1282:A:C6	1:0:1283:C:N4	2.85	0.45
1:0:1329:U:N3	1:0:1330:G:N7	2.64	0.45
1:0:1459:U:C2	1:0:1476:G:OP2	2.70	0.45
1:0:1686:A:N3	1:0:1686:A:C2'	2.80	0.45
1:0:1961:A:O2'	1:0:1962:C:H5'	2.16	0.45
1:0:2325:A:O4'	1:0:2362:G:H1'	2.16	0.45
1:0:2875:C:H2'	1:0:2876:C:C6	2.51	0.45
1:0:562:G:C6	1:0:563:U:C2	3.05	0.45
1:0:829:C:H2'	1:0:830:C:C6	2.51	0.45
1:0:1248:G:C6	1:0:1249:G:N1	2.85	0.45
1:0:1652:G:H8	1:0:1652:G:OP1	2.00	0.45
1:0:1677:C:N3	1:0:1984:A:N1	2.65	0.45
1:0:1884:A:O2'	1:0:1885:C:H5'	2.16	0.45
1:0:2502:G:C1'	1:0:2745:A:N7	2.79	0.45
1:0:2702:G:C5	1:0:2703:C:C4	3.04	0.45
1:0:2817:A:C2	1:0:2851:G:C4	3.05	0.45
1:0:26:G:C5	1:0:27:G:C6	3.05	0.45
1:0:40:U:H2'	1:0:41:G:C8	2.51	0.45
1:0:455:A:H5'	1:0:1215:A:C5'	2.47	0.45
1:0:763:A:H5''	1:0:1631:C:H41	1.82	0.45
1:0:830:C:H2'	1:0:831:G:O4'	2.17	0.45
1:0:831:G:O2'	1:0:832:A:H5''	2.17	0.45
1:0:931:G:O2'	1:0:932:G:H5'	2.17	0.45
1:0:1144:U:H6	1:0:1144:U:O5'	2.00	0.45
1:0:1280:U:H3	1:0:1996:A:N6	2.14	0.45
1:0:1322:G:C6	1:0:1323:G:C6	3.05	0.45
1:0:1566:G:O2'	1:0:1567:A:H5'	2.17	0.45
1:0:1586:A:H2'	1:0:1587:A:H8	1.82	0.45
1:0:1811:A:H1'	1:0:1813:A:C5	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2093:G:H2'	1:0:2094:C:H6	1.81	0.45
1:0:2817:A:C2	1:0:2851:G:N3	2.85	0.45
1:0:168:A:OP2	1:0:181:A:N1	2.50	0.45
1:0:214:C:H2'	1:0:215:G:C8	2.52	0.45
1:0:977:G:H4'	1:0:2246:A:C2	2.52	0.45
1:0:1713:G:O6	1:0:1714:A:C6	2.70	0.45
1:0:2030:U:H2'	1:0:2031:A:C8	2.52	0.45
1:0:2105:U:H2'	1:0:2106:G:C8	2.52	0.45
1:0:2694:G:C6	1:0:2695:C:C4	3.05	0.45
1:0:2756:A:N6	1:0:2762:G:N3	2.65	0.45
1:0:2786:G:O2'	1:0:2787:A:H5'	2.18	0.45
1:0:2861:A:H2'	1:0:2862:G:C8	2.49	0.45
1:0:180:C:O5'	1:0:180:C:H6	2.00	0.44
1:0:334:G:C2	1:0:344:G:H1'	2.52	0.44
1:0:1131:G:C6	1:0:1132:C:C4	3.05	0.44
1:0:1352:G:N2	1:0:1619:A:C8	2.85	0.44
1:0:2053:G:N2	1:0:2054:A:N3	2.64	0.44
1:0:2093:G:HO2'	1:0:2094:C:P	2.40	0.44
1:0:2268:G:H2'	1:0:2269:G:H8	1.81	0.44
1:0:2542:U:H2'	1:0:2544:A:OP2	2.17	0.44
1:0:2764:U:H2'	1:0:2765:C:C6	2.52	0.44
6:5:1:MHW:C	6:5:3:DBB:N	2.79	0.44
7:9:30:C:H2'	7:9:31:A:H8	1.81	0.44
7:9:113:G:H2'	7:9:114:C:C6	2.52	0.44
1:0:123:A:H3'	1:0:124:A:C5'	2.47	0.44
1:0:525:A:H2'	1:0:526:C:C5'	2.47	0.44
1:0:805:G:H4'	1:0:806:A:OP2	2.18	0.44
1:0:980:G:N2	1:0:981:C:O2	2.50	0.44
1:0:1644:G:C2	1:0:1645:U:C2	3.06	0.44
1:0:1944:C:O2'	1:0:1945:C:H5'	2.17	0.44
1:0:1972:G:C2'	1:0:1973:C:H5'	2.46	0.44
1:0:2324:G:C4	1:0:2326:C:C5	3.05	0.44
1:0:2331:A:C6	1:0:2345:A:C2	3.05	0.44
1:0:2502:G:C4	1:0:2745:A:N6	2.85	0.44
1:0:2655:C:O2'	1:0:2656:G:H5'	2.17	0.44
7:9:45:C:H3'	7:9:46:G:C5'	2.45	0.44
7:9:117:G:H2'	7:9:118:G:H8	1.82	0.44
1:0:401:G:H2'	1:0:403:A:N7	2.33	0.44
1:0:736:G:H2'	1:0:737:C:O4'	2.17	0.44
1:0:1091:C:O2'	1:0:1092:U:H5'	2.17	0.44
1:0:1340:C:N4	1:0:1341:G:C6	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1504:G:H1	1:0:1516:A:H61	1.65	0.44
1:0:1614:C:H2'	1:0:1615:C:C6	2.52	0.44
1:0:1655:C:H5''	1:0:2689:C:O2'	2.17	0.44
1:0:1682:A:H61	1:0:1977:C:H42	1.66	0.44
1:0:1715:A:O2'	1:0:1716:G:H3'	2.17	0.44
1:0:1763:G:H2'	1:0:1764:A:C4'	2.41	0.44
1:0:1811:A:O2'	1:0:1813:A:N7	2.46	0.44
1:0:1936:A:C2'	1:0:1937:G:H5'	2.47	0.44
1:0:2173:G:H2'	1:0:2174:G:O4'	2.17	0.44
1:0:2184:C:H2'	1:0:2185:U:C6	2.52	0.44
1:0:2491:C:H2'	1:0:2492:G:C5'	2.47	0.44
1:0:2661:G:H2'	1:0:2662:C:C5'	2.48	0.44
1:0:48:A:H2	1:0:118:U:O4	2.00	0.44
1:0:180:C:C4	1:0:181:A:C6	3.05	0.44
1:0:356:A:H2'	1:0:357:A:C8	2.52	0.44
1:0:775:U:N3	1:0:1446:U:OP1	2.47	0.44
1:0:800:U:C6	1:0:804:C:N4	2.85	0.44
1:0:805:G:C5	1:0:2419:C:H1'	2.52	0.44
1:0:1793:A:C8	1:0:1806:G:N2	2.85	0.44
1:0:2019:C:C2	1:0:2020:G:N7	2.85	0.44
1:0:488:A:H2'	1:0:489:A:C8	2.53	0.44
1:0:531:G:O2'	1:0:532:A:H5'	2.16	0.44
1:0:646:C:O2'	1:0:650:U:H5''	2.18	0.44
1:0:703:A:C2	1:0:704:G:C5	3.06	0.44
1:0:748:A:C6	1:0:749:C:O2	2.71	0.44
1:0:992:A:H1'	1:0:2020:G:H1'	2.00	0.44
1:0:1355:A:C1'	1:0:1410:U:H4'	2.47	0.44
1:0:1883:A:H1'	1:0:1953:A:N6	2.32	0.44
1:0:1956:G:H2'	1:0:1957:C:O4'	2.17	0.44
1:0:2033:C:C4	1:0:2034:A:C2	3.05	0.44
1:0:2033:C:N3	1:0:2034:A:C2	2.86	0.44
1:0:2407:G:H4'	1:0:2408:G:C8	2.53	0.44
1:0:2523:G:H2'	1:0:2524:G:H8	1.83	0.44
1:0:2649:A:O2'	1:0:2650:G:H5'	2.18	0.44
1:0:635:C:H2'	1:0:636:G:H5''	1.98	0.44
1:0:642:A:N1	1:0:643:A:C2	2.86	0.44
1:0:796:A:H2'	1:0:797:A:H5'	2.00	0.44
1:0:929:A:C2	1:0:930:A:H1'	2.52	0.44
1:0:1671:A:N1	1:0:2031:A:O2'	2.51	0.44
1:0:1821:A:H3'	1:0:1822:C:C6	2.51	0.44
1:0:1998:A:H2	32:Z:6:VAL:CA	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2494:C:H2'	1:0:2495:G:C8	2.53	0.44
1:0:2534:U:C4	1:0:2535:C:C2	3.05	0.44
1:0:2613:A:H2'	1:0:2614:A:C8	2.45	0.44
1:0:2618:A:N7	1:0:2758:A:C6	2.86	0.44
1:0:443:A:H3'	1:0:443:A:OP2	2.18	0.44
1:0:1068:A:H2'	1:0:1069:G:H8	1.81	0.44
1:0:1625:A:HO2'	1:0:1632:A:C4'	2.30	0.44
1:0:2225:G:H2'	1:0:2226:A:O4'	2.17	0.44
1:0:2714:A:H2'	1:0:2715:C:O4'	2.18	0.44
1:0:2817:A:N1	1:0:2851:G:C6	2.86	0.44
1:0:2855:C:O2'	1:0:2856:U:H5'	2.17	0.44
1:0:2856:U:C4	1:0:2857:C:C4	3.05	0.44
1:0:213:C:H42	1:0:238:G:H22	1.66	0.44
1:0:597:U:H2'	1:0:598:U:H6	1.81	0.44
1:0:599:A:H2'	1:0:600:G:C8	2.53	0.44
1:0:635:C:C3'	1:0:636:G:H5''	2.48	0.44
1:0:702:A:N6	1:0:703:A:C6	2.86	0.44
1:0:876:A:H4'	7:9:103:A:N3	2.33	0.44
1:0:1381:G:O2'	1:0:1382:G:H5'	2.18	0.44
1:0:2196:U:H2'	1:0:2197:U:C6	2.52	0.44
1:0:2768:C:O5'	1:0:2768:C:H6	2.01	0.44
1:0:2817:A:C6	1:0:2851:G:C6	3.06	0.44
1:0:114:C:H2'	1:0:115:G:O4'	2.18	0.44
1:0:575:U:O2'	1:0:576:A:H5'	2.17	0.44
1:0:708:G:H1'	1:0:1392:U:O2	2.17	0.44
1:0:818:G:N1	1:0:2051:U:OP1	2.51	0.44
1:0:1010:U:O2'	1:0:1011:A:C5'	2.66	0.44
1:0:1289:A:N6	1:0:1662:G:H1	1.97	0.44
1:0:1325:U:H5''	1:0:1326:U:C4	2.53	0.44
1:0:1342:U:OP2	1:0:1343:C:N4	2.51	0.44
1:0:1358:C:H2'	1:0:1359:G:H5'	1.99	0.44
1:0:1358:C:H2'	1:0:1359:G:H5''	2.00	0.44
1:0:1715:A:H1'	1:0:1717:A:H4'	2.00	0.44
1:0:1722:G:H2'	1:0:1723:U:C6	2.53	0.44
1:0:2445:C:H2'	1:0:2446:C:C6	2.53	0.44
1:0:2451:G:H2'	1:0:2508:G:H21	1.81	0.44
1:0:2594:U:H2'	1:0:2595:C:O4'	2.18	0.44
1:0:717:G:O2'	1:0:740:A:N6	2.51	0.43
1:0:867:G:H2'	1:0:868:U:O4'	2.17	0.43
1:0:1200:G:H2'	1:0:1201:G:O4'	2.18	0.43
1:0:1379:A:C8	1:0:1380:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1480:G:C2'	1:0:1481:U:H5'	2.48	0.43
1:0:1529:C:H2'	1:0:1530:U:O4'	2.18	0.43
1:0:2318:U:H2'	1:0:2319:G:H8	1.81	0.43
1:0:2658:A:O2'	1:0:2659:C:H5'	2.18	0.43
1:0:2785:A:N6	1:0:2865:G:H21	2.14	0.43
1:0:181:A:H4'	1:0:183:U:C6	2.53	0.43
1:0:614:G:H2'	1:0:615:C:H6	1.82	0.43
1:0:706:A:H2'	1:0:707:U:O4'	2.18	0.43
1:0:742:G:H4'	1:0:776:G:H5'	1.99	0.43
1:0:952:A:O2'	1:0:1204:G:H4'	2.17	0.43
1:0:1142:G:O6	1:0:2008:C:C1'	2.66	0.43
1:0:1328:C:H4'	1:0:1406:A:O4'	2.18	0.43
1:0:1621:C:C2'	1:0:1622:G:O4'	2.56	0.43
1:0:1794:A:H2'	1:0:1795:C:O4'	2.18	0.43
1:0:2307:A:H2'	1:0:2308:A:C8	2.53	0.43
1:0:2333:A:N1	1:0:2343:C:C4	2.86	0.43
1:0:2610:G:H5'	1:0:2866:A:H1'	2.00	0.43
1:0:2813:G:O6	1:0:2814:G:C6	2.71	0.43
1:0:40:U:H2'	1:0:41:G:H8	1.83	0.43
1:0:223:C:H4'	1:0:398:C:H1'	2.00	0.43
1:0:1215:A:N3	1:0:1258:G:C2	2.86	0.43
1:0:1668:G:C2	1:0:1990:U:O2	2.71	0.43
1:0:1697:U:C2	1:0:1755:G:H4'	2.53	0.43
1:0:1707:A:C2'	1:0:1708:C:H5'	2.47	0.43
1:0:2006:G:H2'	1:0:2007:G:H8	1.83	0.43
1:0:2015:G:O2'	1:0:2016:A:H5'	2.18	0.43
1:0:2185:U:H3	1:0:2200:G:H1	1.67	0.43
1:0:2414:A:H2'	1:0:2415:G:H5''	2.00	0.43
1:0:2493:U:H2'	1:0:2494:C:H6	1.83	0.43
1:0:2566:A:H61	1:0:2587:G:H1'	1.84	0.43
7:9:42:U:C2	7:9:45:C:H5	2.36	0.43
1:0:588:G:C4	1:0:1275:A:N1	2.87	0.43
1:0:640:C:H2'	1:0:641:G:H8	1.81	0.43
1:0:677:G:H1'	1:0:951:G:H5''	2.00	0.43
1:0:695:G:N2	1:0:809:C:O2	2.52	0.43
1:0:799:C:H2'	1:0:800:U:C6	2.54	0.43
1:0:1528:C:C3'	1:0:1529:C:H5''	2.48	0.43
1:0:1774:A:O5'	1:0:1774:A:H8	2.00	0.43
1:0:1807:A:C1'	1:0:1809:G:H1'	2.48	0.43
1:0:1973:C:O5'	1:0:1973:C:H6	2.01	0.43
1:0:2067:U:H2'	1:0:2068:C:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2480:C:C5'	1:0:2482:A:H5'	2.43	0.43
1:0:2859:U:C4	1:0:2860:C:C2	3.06	0.43
1:0:343:A:N6	1:0:346:C:C5	2.85	0.43
1:0:422:C:H2'	1:0:423:G:C8	2.53	0.43
1:0:459:A:N7	1:0:484:G:C4	2.86	0.43
1:0:485:G:O6	1:0:520:C:C4	2.72	0.43
1:0:742:G:H1'	1:0:777:A:OP1	2.18	0.43
1:0:953:G:C6	1:0:954:U:N3	2.87	0.43
1:0:1172:U:H2'	1:0:1173:G:H8	1.83	0.43
1:0:1417:C:O2'	1:0:1418:C:H5'	2.18	0.43
1:0:1463:A:C1'	1:0:1543:G:H22	1.98	0.43
1:0:1469:U:OP2	1:0:1472:C:N4	2.50	0.43
1:0:2564:U:H3'	1:0:2565:C:C5'	2.49	0.43
1:0:2573:C:O5'	1:0:2573:C:H6	2.01	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.01	0.43
7:9:31:A:C4	7:9:58:G:N2	2.87	0.43
1:0:230:C:H2'	1:0:231:G:O4'	2.19	0.43
1:0:802:A:H8	1:0:802:A:O5'	2.00	0.43
1:0:1312:G:O4'	1:0:1314:A:C2	2.72	0.43
1:0:1639:U:H2'	1:0:1640:C:H6	1.83	0.43
1:0:1665:C:C2	1:0:1666:G:C8	3.07	0.43
1:0:1677:C:N4	1:0:1984:A:H61	2.16	0.43
1:0:1751:A:H4'	1:0:2691:C:OP1	2.19	0.43
1:0:2106:G:H2'	1:0:2107:G:C8	2.53	0.43
1:0:2241:U:H5'	1:0:2241:U:H6	1.83	0.43
1:0:2271:C:P	1:0:2353:G:H21	2.42	0.43
1:0:2597:G:C2	1:0:2598:C:C2	3.06	0.43
1:0:2785:A:H62	1:0:2865:G:N2	2.15	0.43
1:0:150:A:C2'	1:0:151:G:H5'	2.48	0.43
1:0:1636:G:C5	1:0:1637:U:C5	3.06	0.43
1:0:1802:A:O2'	1:0:1803:G:H5'	2.19	0.43
1:0:1928:G:C2	1:0:1929:U:C2	3.07	0.43
1:0:1953:A:C1'	1:0:1955:G:H1'	2.30	0.43
1:0:2329:C:O2'	1:0:2330:G:H5'	2.18	0.43
1:0:2490:U:H2'	1:0:2491:C:H6	1.84	0.43
1:0:317:U:H3'	1:0:318:G:C5'	2.41	0.43
1:0:457:C:O2'	1:0:458:G:H5'	2.19	0.43
1:0:575:U:C4	1:0:576:A:C6	3.07	0.43
1:0:588:G:H2'	1:0:589:C:C6	2.53	0.43
1:0:702:A:C6	1:0:703:A:C5	3.07	0.43
1:0:787:A:H2'	1:0:788:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:958:G:C2	1:0:982:C:C2	3.07	0.43
1:0:1640:C:C2	1:0:1641:C:C5	3.07	0.43
1:0:2230:G:C1'	1:0:2429:A:O4'	2.62	0.43
1:0:2543:A:C6	1:0:2626:U:H4'	2.54	0.43
1:0:2555:G:OP1	1:0:2555:G:C3'	2.66	0.43
1:0:2636:A:H62	1:0:2643:G:H21	1.67	0.43
1:0:2769:C:H2'	1:0:2867:G:N2	2.34	0.43
1:0:2788:C:HO2'	1:0:2789:U:H5'	1.80	0.43
1:0:2813:G:C6	1:0:2814:G:C5	3.07	0.43
1:0:139:A:H2'	1:0:140:G:H8	1.84	0.43
1:0:343:A:N6	1:0:346:C:H5	2.17	0.43
1:0:646:C:O2	1:0:650:U:H4'	2.18	0.43
1:0:786:U:H4'	8:A:48:ARG:CA	2.49	0.43
1:0:1267:A:OP2	1:0:1269:G:H5''	2.18	0.43
1:0:1300:A:C2	1:0:1301:U:C2	3.06	0.43
1:0:1460:G:C6	1:0:1461:C:C4	3.07	0.43
1:0:1686:A:H2'	1:0:1687:C:H5'	2.00	0.43
1:0:1773:C:O5'	1:0:1773:C:H6	2.00	0.43
1:0:2432:A:H4'	1:0:2551:A:O3'	2.19	0.43
1:0:2442:C:C2	1:0:2467:A:C2	3.07	0.43
1:0:2474:G:C6	1:0:2475:C:N3	2.87	0.43
1:0:2564:U:H3	1:0:2568:A:H62	1.65	0.43
1:0:2645:C:OP2	1:0:2646:C:N4	2.51	0.43
1:0:2709:C:C4	1:0:2710:C:C4	3.06	0.43
1:0:165:G:N2	1:0:186:C:C2	2.87	0.43
1:0:521:U:C5	1:0:522:G:C4	3.06	0.43
1:0:562:G:H2'	1:0:563:U:O4'	2.18	0.43
1:0:681:A:C4	1:0:683:A:N7	2.87	0.43
1:0:1016:C:H2'	1:0:1017:C:C6	2.53	0.43
1:0:1147:G:O4'	1:0:2022:C:H5'	2.19	0.43
1:0:1306:U:H2'	1:0:1307:U:O5'	2.19	0.43
1:0:1339:U:O5'	1:0:1339:U:H6	2.02	0.43
1:0:1679:U:C4	1:0:1680:U:C6	3.06	0.43
1:0:1793:A:N6	1:0:1806:G:H2'	2.34	0.43
1:0:1975:G:H2'	1:0:1980:A:H62	1.81	0.43
1:0:2005:U:O5'	1:0:2005:U:H6	2.01	0.43
1:0:2378:G:O2'	1:0:2379:G:H5'	2.19	0.43
1:0:2686:C:O2'	1:0:2687:G:H5'	2.19	0.43
7:9:37:C:C2'	7:9:38:C:H5'	2.48	0.43
1:0:367:G:H3'	1:0:368:A:H5''	2.01	0.42
1:0:542:A:OP2	1:0:2003:A:C1'	2.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1312:G:C4'	1:0:1313:U:H5'	2.45	0.42
1:0:1414:G:N2	1:0:1484:G:H21	2.05	0.42
1:0:1974:U:H3'	1:0:1975:G:C5'	2.49	0.42
1:0:2082:C:C4	1:0:2174:G:N2	2.87	0.42
1:0:2422:C:O2'	1:0:2423:G:H5'	2.19	0.42
1:0:2563:U:C4	33:0:2882:DOL:H471	2.53	0.42
1:0:2663:U:C4	1:0:2664:G:N7	2.87	0.42
1:0:446:C:H2'	1:0:447:U:O4'	2.19	0.42
1:0:471:A:C2	1:0:481:A:C5	3.07	0.42
1:0:575:U:H2'	1:0:576:A:O4'	2.19	0.42
1:0:742:G:O4'	1:0:777:A:OP1	2.37	0.42
1:0:1281:A:N6	1:0:1282:A:C6	2.88	0.42
1:0:1379:A:C5	1:0:1380:C:C4	3.06	0.42
1:0:1888:C:C5'	1:0:1889:G:H5''	2.32	0.42
1:0:2022:C:N4	1:0:2023:C:N4	2.68	0.42
1:0:2727:G:O5'	1:0:2727:G:H8	2.02	0.42
1:0:2816:C:C2	1:0:2852:G:N2	2.87	0.42
1:0:2858:A:H3'	1:0:2859:U:H5'	2.01	0.42
1:0:25:U:H3	1:0:525:A:H61	1.66	0.42
1:0:180:C:C4	1:0:181:A:N7	2.87	0.42
1:0:180:C:N4	1:0:181:A:C6	2.86	0.42
1:0:304:A:C2'	1:0:305:A:H5''	2.45	0.42
1:0:643:A:O2'	1:0:644:A:H5'	2.19	0.42
1:0:867:G:C8	1:0:868:U:C5	3.07	0.42
1:0:1778:U:H2'	1:0:1779:C:H6	1.83	0.42
1:0:1787:U:H2'	1:0:1788:C:H6	1.84	0.42
1:0:1791:C:O2'	1:0:1793:A:H5'	2.18	0.42
1:0:1931:G:N2	1:0:1942:G:C4	2.87	0.42
1:0:2468:G:O2'	1:0:2469:G:H5'	2.19	0.42
1:0:2818:G:C2	1:0:2850:U:C2	3.06	0.42
1:0:576:A:H2	1:0:580:A:H62	1.67	0.42
1:0:594:G:H2'	1:0:595:A:N7	2.34	0.42
1:0:717:G:H1'	1:0:740:A:H62	1.84	0.42
1:0:771:C:H2'	1:0:772:G:H8	1.83	0.42
1:0:954:U:H6	1:0:954:U:O5'	2.01	0.42
1:0:1025:A:H2'	1:0:1026:U:C6	2.53	0.42
1:0:1309:G:H2'	1:0:1310:C:C6	2.55	0.42
1:0:1401:G:HO2'	1:0:1541:G:H5'	1.79	0.42
1:0:2169:A:O2'	1:0:2170:C:H5'	2.19	0.42
1:0:2357:A:H2'	1:0:2358:C:H5'	2.01	0.42
1:0:2677:U:H2'	1:0:2678:C:H6	1.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:51:A:N6	1:0:116:A:N7	2.67	0.42
1:0:52:A:C2'	1:0:53:G:H5'	2.49	0.42
1:0:221:A:H62	1:0:231:G:N2	2.14	0.42
1:0:575:U:O4	1:0:576:A:C6	2.73	0.42
1:0:575:U:O4	1:0:576:A:N6	2.53	0.42
1:0:1367:A:H62	1:0:1390:G:H21	1.68	0.42
1:0:2570:C:N4	1:0:2571:G:O6	2.52	0.42
1:0:2700:U:O5'	1:0:2700:U:H6	2.03	0.42
7:9:71:G:N2	7:9:72:C:H1'	2.35	0.42
1:0:225:G:C3'	1:0:226:C:H5'	2.50	0.42
1:0:340:G:C4	1:0:488:A:C2	3.07	0.42
1:0:696:U:O5'	1:0:696:U:H6	2.02	0.42
1:0:839:U:C5	1:0:841:G:H1'	2.54	0.42
1:0:940:G:C3'	1:0:941:U:C5'	2.83	0.42
1:0:1012:A:H2'	1:0:1013:G:O4'	2.20	0.42
1:0:1327:C:O5'	1:0:1327:C:H6	2.02	0.42
1:0:1624:A:C2'	1:0:1625:A:H5''	2.49	0.42
1:0:1744:G:N1	1:0:1747:G:C6	2.88	0.42
1:0:1956:G:O2'	1:0:1957:C:H5'	2.19	0.42
1:0:2006:G:H5'	1:0:2596:C:H4'	2.02	0.42
1:0:2219:U:C6	1:0:2219:U:H3'	2.55	0.42
1:0:2249:U:C2'	1:0:2250:G:H5'	2.50	0.42
1:0:2447:G:C2'	1:0:2448:A:H5''	2.50	0.42
1:0:2751:C:H2'	1:0:2752:C:C6	2.55	0.42
1:0:24:G:C4	1:0:25:U:C5	3.07	0.42
1:0:102:C:H2'	1:0:103:U:O4'	2.20	0.42
1:0:140:G:O2'	1:0:141:G:H5'	2.19	0.42
1:0:149:A:O2'	1:0:150:A:H5'	2.20	0.42
1:0:224:G:HO2'	1:0:399:G:H1	1.68	0.42
1:0:664:C:H2'	1:0:665:A:C8	2.54	0.42
1:0:778:G:H2'	1:0:779:U:C6	2.55	0.42
1:0:943:U:H6	1:0:943:U:O5'	2.03	0.42
1:0:999:A:H1'	1:0:1166:A:H2	1.85	0.42
1:0:2817:A:N1	1:0:2851:G:C5	2.87	0.42
7:9:9:G:C2	7:9:117:G:C2	3.07	0.42
7:9:108:G:O2'	7:9:109:G:H5'	2.20	0.42
1:0:24:G:H2'	1:0:25:U:C5	2.53	0.42
1:0:80:A:H2'	1:0:81:C:C6	2.55	0.42
1:0:525:A:O2'	1:0:526:C:H5'	2.19	0.42
1:0:573:C:C4	1:0:574:C:C5	3.07	0.42
1:0:745:C:H2'	1:0:746:G:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:938:G:C2	1:0:939:C:C4	3.07	0.42
1:0:1287:A:N1	1:0:1661:C:O2'	2.41	0.42
1:0:2394:G:H2'	1:0:2395:C:O4'	2.19	0.42
1:0:2818:G:C2'	1:0:2819:G:H5'	2.49	0.42
1:0:59:G:N7	1:0:61:U:H5	2.18	0.42
1:0:616:U:H5	1:0:630:G:C5	2.38	0.42
1:0:688:A:HO2'	1:0:2422:C:H4'	1.82	0.42
1:0:763:A:H5''	1:0:1631:C:N4	2.35	0.42
1:0:1198:C:O5'	1:0:1199:U:H4'	2.20	0.42
1:0:1319:C:O2'	1:0:1320:A:H5'	2.20	0.42
1:0:1339:U:H5''	1:0:1994:U:H1'	2.01	0.42
1:0:1730:G:H2'	1:0:1731:C:C6	2.55	0.42
1:0:2699:G:H2'	1:0:2700:U:H5	1.85	0.42
1:0:2714:A:O2'	1:0:2715:C:H5'	2.20	0.42
1:0:339:U:H3'	1:0:340:G:C5'	2.50	0.42
1:0:387:A:H2'	1:0:388:G:O4'	2.19	0.42
1:0:940:G:N7	1:0:941:U:C6	2.88	0.42
1:0:942:U:C2'	1:0:943:U:H5'	2.48	0.42
1:0:1223:G:H1'	1:0:1225:G:O4'	2.19	0.42
1:0:1333:G:N2	1:0:1344:C:H41	2.18	0.42
1:0:1628:C:C2	1:0:1636:G:N2	2.88	0.42
1:0:1775:A:P	1:0:1775:A:C8	3.13	0.42
1:0:2499:C:C2'	1:0:2500:C:O5'	2.68	0.42
1:0:2586:G:C6	1:0:2587:G:C6	3.08	0.42
1:0:2813:G:C6	1:0:2814:G:C6	3.08	0.42
7:9:26:G:C4	7:9:58:G:C6	3.08	0.42
7:9:77:G:H1	7:9:105:G:H22	1.68	0.42
1:0:140:G:H2'	1:0:141:G:H8	1.84	0.41
1:0:177:U:O5'	1:0:177:U:H6	2.03	0.41
1:0:191:G:O2'	1:0:194:G:OP1	2.38	0.41
1:0:581:A:N3	1:0:581:A:H2'	2.35	0.41
1:0:615:C:H1'	1:0:671:A:H4'	2.01	0.41
1:0:762:A:C8	1:0:1634:A:N6	2.88	0.41
1:0:960:U:H2'	1:0:961:G:H8	1.84	0.41
1:0:1333:G:O6	1:0:1342:U:H5'	2.19	0.41
1:0:1343:C:H2'	1:0:1344:C:C6	2.54	0.41
1:0:1358:C:C2'	1:0:1359:G:H5''	2.49	0.41
1:0:1389:C:H2'	1:0:1390:G:O4'	2.20	0.41
1:0:1619:A:C2	1:0:1620:C:C6	3.08	0.41
1:0:1677:C:H2'	1:0:1678:G:C8	2.55	0.41
1:0:1953:A:H2'	1:0:1954:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2239:C:O2'	1:0:2240:C:H5'	2.19	0.41
1:0:2629:U:O2'	1:0:2630:C:H5'	2.20	0.41
1:0:69:G:H5''	1:0:70:A:P	2.60	0.41
1:0:226:C:H4'	1:0:227:G:C8	2.55	0.41
1:0:692:C:O2'	1:0:693:A:H5'	2.19	0.41
1:0:742:G:N3	1:0:742:G:C2'	2.83	0.41
1:0:860:U:N3	1:0:945:G:N2	2.68	0.41
1:0:1248:G:N1	1:0:1249:G:N2	2.68	0.41
1:0:1279:G:O2'	1:0:1995:G:N1	2.53	0.41
1:0:1284:G:C5	1:0:1633:C:H5'	2.55	0.41
1:0:1288:A:O2'	1:0:1289:A:H5'	2.20	0.41
1:0:1364:C:H2'	1:0:1365:U:C6	2.54	0.41
1:0:1396:C:O5'	1:0:1396:C:H6	2.03	0.41
1:0:1455:C:O2'	1:0:1644:G:H5''	2.20	0.41
1:0:1463:A:H2'	1:0:1464:A:C8	2.55	0.41
1:0:1666:G:C6	1:0:1992:G:O6	2.74	0.41
1:0:1982:C:O2'	1:0:1983:G:H5'	2.21	0.41
1:0:2266:A:N6	1:0:2323:U:C1'	2.83	0.41
1:0:429:C:H2'	1:0:430:C:C6	2.54	0.41
1:0:1352:G:N2	1:0:1619:A:H1'	2.35	0.41
1:0:1511:A:H2'	1:0:1512:A:O4'	2.20	0.41
1:0:1901:A:H2'	1:0:1902:A:O4'	2.20	0.41
1:0:1981:A:H2'	1:0:1982:C:C6	2.55	0.41
1:0:2840:U:C4	1:0:2841:U:C5	3.08	0.41
1:0:11:G:O2'	1:0:12:U:H5'	2.20	0.41
1:0:476:G:N2	1:0:697:G:N2	2.68	0.41
1:0:600:G:H2'	1:0:601:A:OP1	2.19	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.56	0.41
1:0:1034:U:H2'	1:0:1035:G:H5'	2.02	0.41
1:0:1073:G:H2'	1:0:1074:G:C5'	2.49	0.41
1:0:1281:A:C2	1:0:1996:A:C2	3.08	0.41
1:0:1291:G:H2'	1:0:1292:A:H8	1.85	0.41
1:0:1987:G:H2'	1:0:1988:A:H5'	2.01	0.41
1:0:2058:U:O2	1:0:2414:A:C2	2.73	0.41
1:0:2299:A:C5'	1:0:2300:G:C5	3.03	0.41
1:0:2431:C:O2'	1:0:2432:A:C5'	2.63	0.41
1:0:543:G:H2'	1:0:544:U:H6	1.84	0.41
1:0:597:U:H3	1:0:683:A:HO2'	1.61	0.41
1:0:692:C:N4	1:0:693:A:H62	2.18	0.41
1:0:695:G:N2	1:0:809:C:C2	2.88	0.41
1:0:738:G:O5'	1:0:738:G:H8	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:839:U:H5'	1:0:2407:G:H2'	2.00	0.41
1:0:864:C:H3'	1:0:864:C:H6	1.86	0.41
1:0:1223:G:N3	1:0:1250:A:N6	2.69	0.41
1:0:1393:G:O5'	1:0:1393:G:H8	2.03	0.41
1:0:1431:U:H2'	1:0:1432:G:O4'	2.21	0.41
1:0:1543:G:H8	1:0:1543:G:O5'	2.04	0.41
1:0:1820:G:HO2'	1:0:1821:A:P	2.44	0.41
1:0:1869:A:H2'	1:0:1870:U:O4'	2.20	0.41
1:0:2426:G:N7	1:0:2479:U:C6	2.88	0.41
1:0:2591:C:O2'	1:0:2592:U:H5'	2.21	0.41
7:9:88:C:H2'	7:9:89:G:O4'	2.21	0.41
1:0:50:G:H2'	1:0:117:A:C2	2.56	0.41
1:0:84:G:O2'	1:0:85:C:H5'	2.21	0.41
1:0:130:C:H2'	1:0:131:C:C6	2.55	0.41
1:0:143:A:H2'	1:0:144:U:O4'	2.20	0.41
1:0:238:G:O4'	1:0:618:A:H2	2.03	0.41
1:0:443:A:H3'	1:0:443:A:P	2.60	0.41
1:0:713:G:H2'	1:0:714:G:O4'	2.21	0.41
1:0:774:A:H8	1:0:774:A:O5'	2.03	0.41
1:0:1125:G:O2'	1:0:1126:A:H5'	2.21	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.51	0.41
1:0:1656:U:H2'	1:0:1657:A:C5'	2.26	0.41
1:0:1702:C:C2	1:0:1721:G:C2	3.09	0.41
1:0:1760:G:O2'	1:0:1761:G:H5'	2.20	0.41
1:0:1798:G:O5'	1:0:1798:G:H8	2.04	0.41
1:0:2379:G:H2'	1:0:2380:U:O4'	2.20	0.41
1:0:2466:G:H2'	1:0:2467:A:H8	1.85	0.41
1:0:2597:G:O2'	1:0:2598:C:H5'	2.21	0.41
1:0:2800:C:C2'	1:0:2801:A:H5'	2.51	0.41
1:0:2829:A:C2	1:0:2839:G:C2	3.08	0.41
1:0:29:U:H5''	22:O:7:GLY:CA	2.50	0.41
1:0:232:A:H1'	1:0:397:U:C6	2.55	0.41
1:0:242:A:H2'	1:0:243:G:C4'	2.50	0.41
1:0:496:C:O2'	1:0:497:C:H5'	2.21	0.41
1:0:525:A:C8	1:0:526:C:C6	3.09	0.41
1:0:936:A:O2'	1:0:937:C:H5'	2.21	0.41
1:0:1333:G:C6	1:0:1342:U:H5'	2.55	0.41
1:0:1566:G:H2'	1:0:1567:A:H8	1.85	0.41
1:0:1761:G:O5'	1:0:1761:G:H8	2.02	0.41
1:0:1919:A:H5''	1:0:1920:A:O5'	2.21	0.41
1:0:1972:G:H2'	1:0:1973:C:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1993:G:H2'	1:0:1994:U:C6	2.55	0.41
1:0:2058:U:C5	1:0:2217:G:C4	3.09	0.41
1:0:2091:C:H2'	1:0:2092:U:O4'	2.21	0.41
1:0:2158:C:H2'	1:0:2159:A:C8	2.55	0.41
1:0:2201:G:H2'	1:0:2202:G:C8	2.51	0.41
1:0:2218:G:H8	1:0:2218:G:O5'	2.03	0.41
1:0:2769:C:HO2'	1:0:2784:A:H2	1.67	0.41
7:9:77:G:H1	7:9:105:G:N2	2.19	0.41
1:0:200:A:H1'	1:0:433:G:H21	1.86	0.41
1:0:218:A:H8	1:0:218:A:OP1	2.03	0.41
1:0:616:U:H5''	1:0:630:G:O6	2.21	0.41
1:0:845:U:OP2	1:0:955:G:O6	2.39	0.41
1:0:1181:C:H2'	1:0:1182:U:H5''	2.02	0.41
1:0:1280:U:O2'	1:0:1281:A:H5'	2.20	0.41
1:0:1333:G:N2	1:0:1346:C:C2	2.89	0.41
1:0:1445:A:H2'	1:0:1446:U:H6	1.85	0.41
1:0:1604:A:H2'	1:0:1605:A:O4'	2.21	0.41
1:0:2164:G:H2'	1:0:2165:A:C8	2.56	0.41
1:0:2817:A:O2'	1:0:2818:G:H5'	2.21	0.41
7:9:59:A:H2'	7:9:60:A:H5'	2.02	0.41
7:9:118:G:O2'	7:9:119:G:H5'	2.21	0.41
1:0:9:U:H3	1:0:2608:A:H62	1.69	0.41
1:0:165:G:O6	1:0:166:G:C2	2.73	0.41
1:0:401:G:C2'	1:0:403:A:N7	2.84	0.41
1:0:475:U:H1'	1:0:699:G:N1	2.35	0.41
1:0:575:U:C4	1:0:576:A:C5	3.09	0.41
1:0:606:A:C2	1:0:675:C:C2	3.08	0.41
1:0:789:G:N3	1:0:806:A:N7	2.69	0.41
1:0:837:U:H2'	1:0:838:A:O4'	2.21	0.41
1:0:873:U:C3'	1:0:874:A:H5'	2.51	0.41
1:0:1027:C:H42	1:0:1158:A:N6	2.19	0.41
1:0:1151:U:H5''	1:0:1153:A:OP1	2.20	0.41
1:0:1200:G:H2'	1:0:1201:G:C5'	2.51	0.41
1:0:1286:U:O3'	1:0:1288:A:OP1	2.39	0.41
1:0:1307:U:H2'	1:0:1308:C:O4'	2.21	0.41
1:0:1312:G:H4'	1:0:1314:A:N3	2.36	0.41
1:0:1313:U:O2'	1:0:1314:A:O5'	2.30	0.41
1:0:1383:C:H2'	1:0:1384:G:H8	1.86	0.41
1:0:1794:A:H2'	1:0:1795:C:H5'	2.03	0.41
1:0:1984:A:O2'	1:0:1985:G:H5'	2.21	0.41
1:0:2015:G:O6	1:0:2038:C:O2	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2333:A:N1	1:0:2343:C:N4	2.69	0.41
1:0:2340:C:H2'	1:0:2341:G:H5'	2.03	0.41
1:0:2430:A:C5	33:0:2882:DOL:HC12	2.56	0.41
1:0:2505:G:H5'	1:0:2722:C:HO2'	1.84	0.41
1:0:2814:G:H2'	1:0:2815:C:C6	2.56	0.41
7:9:40:C:H2'	7:9:41:A:H5'	2.03	0.41
1:0:77:C:H2'	1:0:78:C:C6	2.55	0.41
1:0:121:G:H2'	1:0:122:G:O4'	2.21	0.41
1:0:422:C:H2'	1:0:423:G:H8	1.86	0.41
1:0:583:C:O2'	1:0:584:A:P	2.79	0.41
1:0:750:C:H2'	1:0:751:G:O4'	2.21	0.41
1:0:1232:U:H6	1:0:1232:U:O5'	2.04	0.41
1:0:2271:C:N4	1:0:2272:A:N6	2.69	0.41
1:0:2651:U:O2'	1:0:2652:G:H5'	2.21	0.41
1:0:2668:U:P	1:0:2699:G:H22	2.43	0.41
1:0:2679:G:C2	1:0:2687:G:C2	3.08	0.41
1:0:2696:A:O2'	1:0:2697:G:H5'	2.21	0.41
1:0:24:G:C6	1:0:25:U:O4	2.74	0.40
1:0:356:A:H2'	1:0:357:A:H8	1.86	0.40
1:0:488:A:H8	1:0:488:A:O5'	2.04	0.40
1:0:589:C:C4	1:0:590:C:N4	2.89	0.40
1:0:742:G:OP2	1:0:776:G:OP2	2.38	0.40
1:0:938:G:N2	1:0:939:C:C4	2.90	0.40
1:0:1624:A:H2'	1:0:1625:A:H5'	2.03	0.40
1:0:1949:A:H1'	1:0:2572:U:C5'	2.51	0.40
1:0:1984:A:H2'	1:0:1985:G:H8	1.85	0.40
1:0:2516:U:O5'	1:0:2516:U:H6	2.05	0.40
1:0:2578:G:H2'	1:0:2579:A:O4'	2.21	0.40
1:0:2676:G:C5	1:0:2677:U:C4	3.10	0.40
1:0:2808:U:H3'	1:0:2809:A:H5'	2.03	0.40
7:9:23:G:C6	7:9:24:U:C4	3.09	0.40
1:0:92:U:H2'	1:0:93:A:H8	1.83	0.40
1:0:797:A:H4'	1:0:798:G:H8	1.79	0.40
1:0:1013:G:C6	1:0:1014:G:C5	3.09	0.40
1:0:1287:A:H1'	1:0:1310:C:O2'	2.21	0.40
1:0:1486:A:H2'	1:0:1487:C:H6	1.82	0.40
1:0:1672:A:C2	1:0:2032:G:H5''	2.56	0.40
1:0:1702:C:C2	1:0:1721:G:N2	2.89	0.40
1:0:2036:G:O2'	1:0:2037:A:H5'	2.21	0.40
1:0:2518:C:N3	1:0:2519:C:C4	2.89	0.40
1:0:2695:C:H2'	1:0:2696:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:180:C:C4	1:0:181:A:N6	2.89	0.40
1:0:208:C:H2'	1:0:209:G:H5'	2.03	0.40
1:0:322:A:N6	1:0:339:U:H3	2.19	0.40
1:0:333:A:H2'	1:0:350:U:O2	2.20	0.40
1:0:744:C:C2	1:0:745:C:C5	3.09	0.40
1:0:788:G:N2	1:0:800:U:O3'	2.54	0.40
1:0:953:G:H8	1:0:953:G:O5'	2.04	0.40
1:0:1016:C:N4	1:0:1149:G:N2	2.69	0.40
1:0:1426:U:H2'	1:0:1427:G:O4'	2.21	0.40
1:0:1446:U:H2'	1:0:1447:U:C6	2.56	0.40
1:0:1587:A:H2'	1:0:1588:A:H8	1.86	0.40
1:0:2219:U:C6	1:0:2219:U:C3'	3.05	0.40
1:0:2238:G:OP1	1:0:2238:G:C8	2.74	0.40
1:0:2293:G:O2'	1:0:2294:U:H5'	2.21	0.40
1:0:2369:U:H2'	1:0:2370:G:C8	2.56	0.40
1:0:2376:G:H2'	1:0:2377:U:C6	2.56	0.40
1:0:2391:A:H2'	1:0:2392:G:O4'	2.22	0.40
1:0:2490:U:H2'	1:0:2491:C:C6	2.57	0.40
1:0:2579:A:C5	1:0:2580:C:C5	3.09	0.40
1:0:2800:C:H2'	1:0:2801:A:H5'	2.03	0.40
1:0:213:C:N4	1:0:238:G:H22	2.19	0.40
1:0:324:C:H2'	1:0:325:U:O4'	2.22	0.40
1:0:540:G:N2	1:0:2005:U:H5''	2.36	0.40
1:0:543:G:OP1	22:O:24:PHE:CA	2.69	0.40
1:0:814:G:H8	1:0:814:G:O5'	2.05	0.40
1:0:831:G:O2'	1:0:832:A:C4'	2.70	0.40
1:0:852:U:O2'	1:0:853:C:H5'	2.21	0.40
1:0:976:C:O2'	1:0:977:G:H5'	2.22	0.40
1:0:991:A:C8	1:0:1146:G:H5''	2.56	0.40
1:0:1005:U:H3	1:0:1007:A:H62	1.68	0.40
1:0:1223:G:H1'	1:0:1225:G:C1'	2.51	0.40
1:0:1347:C:H6	1:0:1347:C:O5'	2.05	0.40
1:0:1887:G:O2'	1:0:1888:C:H5'	2.22	0.40
1:0:1916:G:O5'	1:0:1916:G:H8	2.05	0.40
1:0:1928:G:H2'	1:0:1929:U:C6	2.57	0.40
1:0:2019:C:H2'	1:0:2020:G:H8	1.86	0.40
1:0:2391:A:N6	1:0:2392:G:C2	2.89	0.40
1:0:2538:C:O2'	1:0:2539:C:H5'	2.21	0.40
1:0:2753:C:N4	1:0:2754:C:N4	2.69	0.40
1:0:2762:G:N2	1:0:2763:U:H1'	2.37	0.40
1:0:51:A:OP2	1:0:117:A:N1	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:168:A:O2'	1:0:169:C:H5'	2.21	0.40
1:0:678:G:H2'	1:0:679:C:H6	1.85	0.40
1:0:827:C:O2'	1:0:828:C:H5'	2.21	0.40
1:0:933:G:HO2'	1:0:934:G:H5'	1.83	0.40
1:0:1339:U:C4	1:0:1340:C:N4	2.89	0.40
1:0:1624:A:N6	1:0:1627:C:H1'	2.37	0.40
1:0:1864:G:H2'	1:0:1865:C:C6	2.56	0.40
1:0:2026:C:N3	1:0:2757:G:C2	2.90	0.40
1:0:2039:G:P	1:0:2483:U:C5'	3.09	0.40
1:0:2040:A:C2'	1:0:2041:A:H5'	2.51	0.40
1:0:2054:A:H8	1:0:2054:A:O5'	2.04	0.40
1:0:2218:G:C6	1:0:2219:U:N3	2.90	0.40
1:0:2218:G:C2	1:0:2219:U:C2	3.10	0.40
1:0:2605:C:N4	1:0:2606:G:O6	2.55	0.40
1:0:2700:U:C2'	1:0:2701:A:H5'	2.52	0.40
7:9:36:A:H1'	7:9:51:G:H22	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
6	5	2/8 (25%)	1 (50%)	0	1 (50%)	0 0

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	5	2	THR

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	5	2/2 (100%)	2 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	433 (15%)	19 (0%)
7	9	117/124 (94%)	12 (10%)	0
All	All	2874/3004 (95%)	445 (15%)	19 (0%)

All (445) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	60	A
1	0	67	G
1	0	68	C
1	0	71	A
1	0	72	A
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	100	G

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Mol	Chain	Res	Type
1	0	105	G
1	0	110	U
1	0	116	A
1	0	118	U
1	0	123	A
1	0	129	A
1	0	135	U
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A
1	0	176	A
1	0	177	U
1	0	181	A
1	0	182	G
1	0	193	A
1	0	200	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	221	A
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	305	A
1	0	312	G
1	0	318	G
1	0	334	G
1	0	335	A
1	0	340	G
1	0	343	A
1	0	358	C
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A

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Mol	Chain	Res	Type
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	469	G
1	0	486	U
1	0	487	G
1	0	491	A
1	0	492	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	523	A
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	553	C
1	0	554	U
1	0	556	A
1	0	558	G
1	0	559	C
1	0	572	G
1	0	584	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	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

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Mol	Chain	Res	Type
1	0	742	G
1	0	743	A
1	0	753	U
1	0	760	U
1	0	761	G
1	0	778	G
1	0	789	G
1	0	794	A
1	0	795	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	806	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	844	G
1	0	860	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	944	A
1	0	952	A
1	0	955	G
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	994	A

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Mol	Chain	Res	Type
1	0	996	C
1	0	1000	G
1	0	1005	U
1	0	1006	C
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	1055	A
1	0	1056	U
1	0	1057	A
1	0	1059	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1081	A
1	0	1082	G
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1123	G
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1152	C
1	0	1155	G
1	0	1167	A
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1199	U
1	0	1200	G
1	0	1233	A
1	0	1250	A
1	0	1253	C

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Mol	Chain	Res	Type
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	1271	C
1	0	1278	A
1	0	1279	G
1	0	1284	G
1	0	1285	A
1	0	1288	A
1	0	1313	U
1	0	1314	A
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1398	G
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1475	U
1	0	1482	U
1	0	1490	U
1	0	1505	U
1	0	1508	G
1	0	1509	A
1	0	1513	U

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Mol	Chain	Res	Type
1	0	1524	C
1	0	1529	C
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	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	1635	G
1	0	1648	C
1	0	1651	U
1	0	1652	G
1	0	1657	A
1	0	1664	G
1	0	1665	C
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	1712	G
1	0	1717	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	1773	C
1	0	1775	A
1	0	1778	U
1	0	1793	A
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	1821	A
1	0	1831	G
1	0	1884	A
1	0	1889	G
1	0	1909	U
1	0	1920	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	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	1966	C
1	0	1976	U
1	0	1979	C
1	0	1980	A
1	0	2004	U
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2038	C
1	0	2044	G
1	0	2045	A
1	0	2047	C
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2063	A
1	0	2076	G
1	0	2082	C
1	0	2094	C

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Mol	Chain	Res	Type
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2192	U
1	0	2195	C
1	0	2199	C
1	0	2218	G
1	0	2229	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	2267	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	2306	A
1	0	2314	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2378	G
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2406	C
1	0	2407	G

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Mol	Chain	Res	Type
1	0	2408	G
1	0	2409	A
1	0	2414	A
1	0	2415	G
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2448	A
1	0	2455	A
1	0	2470	U
1	0	2471	U
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	2500	C
1	0	2504	G
1	0	2522	G
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2559	U
1	0	2560	G
1	0	2561	G
1	0	2564	U
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	2590	U
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G

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Mol	Chain	Res	Type
1	0	2625	U
1	0	2632	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2668	U
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2700	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	2760	G
1	0	2761	A
1	0	2770	A
1	0	2771	C
1	0	2783	U
1	0	2784	A
1	0	2785	A
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2811	G
1	0	2823	G
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2859	U
7	9	16	U
7	9	17	A
7	9	18	G
7	9	25	G

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Mol	Chain	Res	Type
7	9	27	A
7	9	47	A
7	9	54	U
7	9	55	C
7	9	59	A
7	9	65	A
7	9	84	G
7	9	112	A

All (19) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	173	A
1	0	192	G
1	0	583	C
1	0	805	G
1	0	1141	U
1	0	1249	G
1	0	1263	G
1	0	1313	U
1	0	1354	A
1	0	1634	A
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	2015	G
1	0	2093	G
1	0	2261	G
1	0	2377	U
1	0	2404	A

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

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

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

RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	004	5	7	6	9,10,11	1.69	2 (22%)	9,12,14	1.27	1 (11%)
6	MHU	5	5	6	14,15,16	1.14	1 (7%)	18,19,21	1.11	1 (5%)
6	MHV	5	6	6	7,9,10	0.67	0	7,11,13	1.68	2 (28%)
6	MHW	5	1	6	9,9,10	0.76	0	10,11,13	1.56	1 (10%)
6	DBB	5	3	6	4,5,6	0.58	0	1,5,7	0.06	0

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
6	004	5	7	6	-	2/4/6/8	0/1/1/1
6	MHU	5	5	6	-	2/9/12/14	0/1/1/1
6	MHV	5	6	6	-	0/1/12/14	0/1/1/1
6	MHW	5	1	6	-	2/2/2/4	0/1/1/1
6	DBB	5	3	6	-	1/3/4/6	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	5	7	004	CB-CA	3.12	1.55	1.52
6	5	7	004	CG2-CB	-2.70	1.34	1.39
6	5	5	MHU	CZ1-NZ	-2.59	1.39	1.45

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	5	1	MHW	O-C-CA	-4.20	120.24	124.22
6	5	6	MHV	CE-CD2-CG	3.22	117.29	111.89
6	5	5	MHU	O-C-CA	-2.83	117.37	124.78
6	5	7	004	CG2-CB-CA	2.31	124.38	120.65
6	5	6	MHV	CB-CA-N	-2.02	108.33	112.50

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	5	1	MHW	O-C-CA-N
6	5	1	MHW	O-C-CA-CB
6	5	3	DBB	O-C-CA-CB
6	5	5	MHU	N-CA-CB-CG
6	5	5	MHU	C-CA-CB-CG
6	5	7	004	C-CA-CB-CG1
6	5	7	004	C-CA-CB-CG2

There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	5	1	MHW	1	0
6	5	3	DBB	5	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
33	DOL	0	2882	-	43,50,50	4.58	11 (25%)	51,70,70	3.94	18 (35%)

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
33	DOL	0	2882	-	2/2/14/20	20/58/77/77	0/2/3/3

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	0	2882	DOL	O40-S39	18.61	1.77	1.44
33	0	2882	DOL	O41-S39	18.41	1.76	1.44
33	0	2882	DOL	C28-C29	-8.71	1.11	1.32
33	0	2882	DOL	C1-C37	4.83	1.62	1.52
33	0	2882	DOL	C8-C6	-4.51	1.42	1.50
33	0	2882	DOL	C28-C26	4.51	1.57	1.48
33	0	2882	DOL	C30-C29	3.66	1.60	1.51
33	0	2882	DOL	C1-N5	3.56	1.50	1.46
33	0	2882	DOL	O36-C32	3.15	1.49	1.44
33	0	2882	DOL	C30-C32	2.73	1.61	1.54
33	0	2882	DOL	C22-C23	2.59	1.38	1.32

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	0	2882	DOL	C4-N5-C1	-14.71	94.37	112.45
33	0	2882	DOL	O18-C17-C16	13.82	145.78	109.73
33	0	2882	DOL	C28-C26-N25	-9.38	97.30	114.97
33	0	2882	DOL	O40-S39-O41	-7.23	109.95	118.19
33	0	2882	DOL	O27-C26-C28	6.58	138.02	123.03
33	0	2882	DOL	C23-C22-C20	-4.90	118.48	125.89
33	0	2882	DOL	O36-C32-C30	4.73	115.00	107.09
33	0	2882	DOL	C30-C29-C28	4.73	139.36	126.44
33	0	2882	DOL	C3-C4-N5	4.61	108.08	103.33
33	0	2882	DOL	C16-C17-C19	-3.78	103.99	111.10
33	0	2882	DOL	O15-C14-C13	-3.36	115.75	120.77
33	0	2882	DOL	O36-C32-C33	-3.08	101.99	107.31
33	0	2882	DOL	C4-N5-C6	-2.80	114.60	125.48
33	0	2882	DOL	O7-C6-N5	-2.78	117.08	121.59
33	0	2882	DOL	C3-C2-C1	-2.71	98.63	103.13
33	0	2882	DOL	C1-N5-C6	-2.32	112.43	120.88
33	0	2882	DOL	C31-C30-C32	-2.27	106.90	111.11
33	0	2882	DOL	C43-N44-C45	2.14	120.88	111.69

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
33	0	2882	DOL	C2
33	0	2882	DOL	C17

All (20) torsion outliers are listed below:

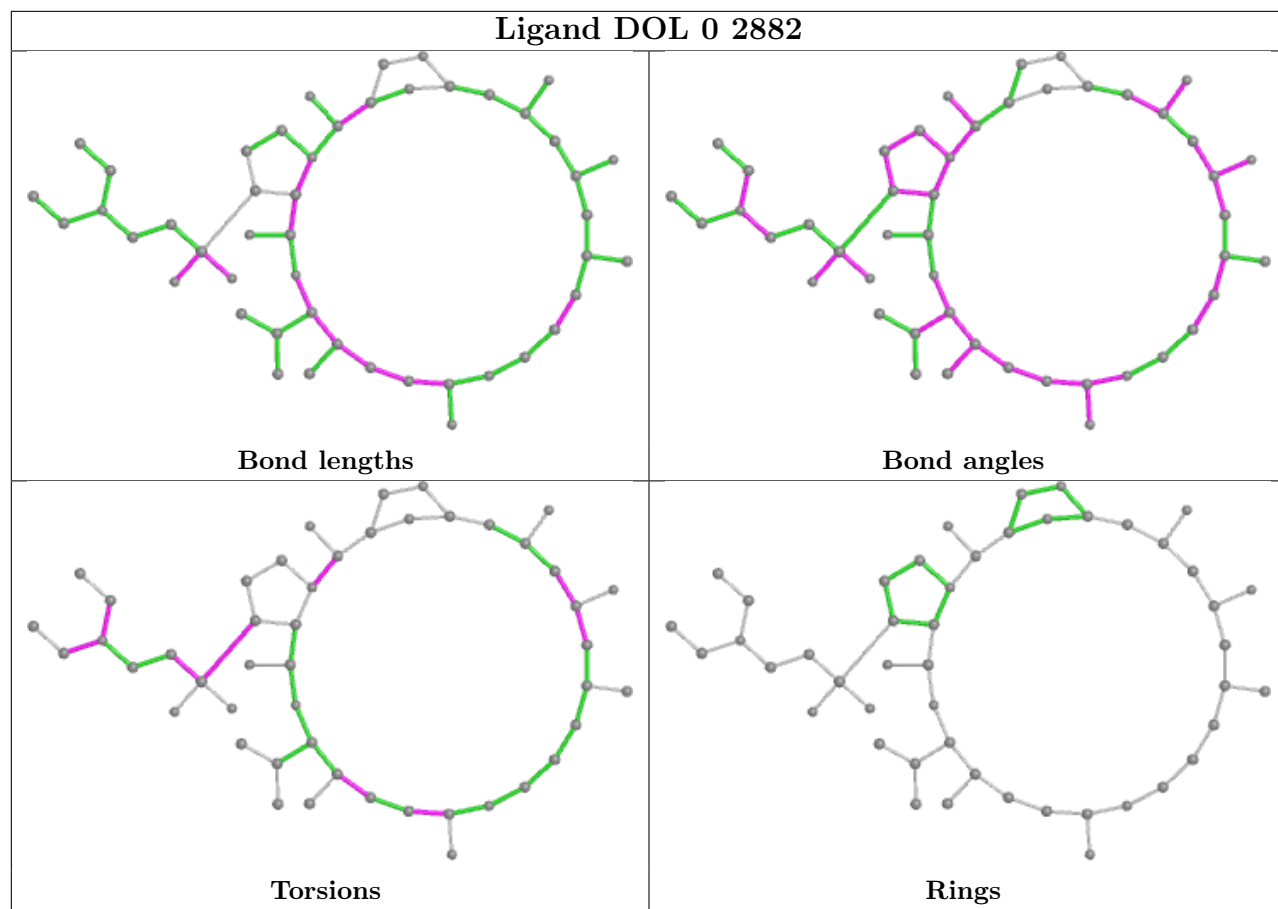
Mol	Chain	Res	Type	Atoms
33	0	2882	DOL	O7-C6-N5-C1
33	0	2882	DOL	C8-C6-N5-C1
33	0	2882	DOL	C1-C2-S39-O41
33	0	2882	DOL	C1-C2-S39-O40
33	0	2882	DOL	C1-C2-S39-C42
33	0	2882	DOL	C43-C42-S39-C2
33	0	2882	DOL	C43-C42-S39-O41
33	0	2882	DOL	C43-C42-S39-O40
33	0	2882	DOL	C14-C16-C17-C19
33	0	2882	DOL	N25-C26-C28-C29
33	0	2882	DOL	O27-C26-C28-C29
33	0	2882	DOL	C48-C47-N44-C43
33	0	2882	DOL	C3-C2-S39-O41
33	0	2882	DOL	C46-C45-N44-C47
33	0	2882	DOL	C3-C2-S39-O40
33	0	2882	DOL	C3-C2-S39-C42
33	0	2882	DOL	C28-C29-C30-C31
33	0	2882	DOL	O18-C17-C19-C20
33	0	2882	DOL	C8-C6-N5-C4
33	0	2882	DOL	O7-C6-N5-C4

There are no ring outliers.

1 monomer is involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
33	0	2882	DOL	16	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

EDS was not executed - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.