



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 7, 2023 – 11:30 PM EDT

PDB ID : 1NWX
Title : COMPLEX OF THE LARGE RIBOSOMAL SUBUNIT FROM DEINOCOCCUS RADIODURANS WITH ABT-773
Authors : Schluenzen, F.; Harms, J.; Franceschi, F.; Hansen, H.A.S.; Bartels, H.; Zarivach, R.; Yonath, A.
Deposited on : 2003-02-07
Resolution : 3.50 Å(reported)

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

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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) : 2.35

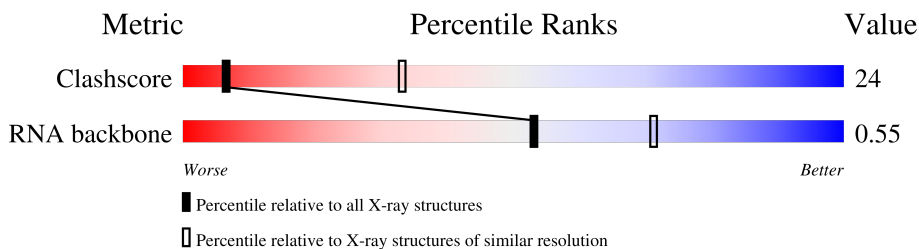
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 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	1036 (3.58-3.42)
RNA backbone	3102	1002 (4.00-3.00)

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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	
2	9	124	
3	A	274	
4	B	211	
5	C	204	
6	D	180	
7	E	185	
8	F	146	
9	G	144	

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Mol	Chain	Length	Quality of chain
10	H	174	82% 18%
11	I	134	99%
12	J	156	90% 10%
13	K	141	87% 12%
14	L	116	97% ..
15	M	113	97% ..
16	N	166	75% 25%
17	O	118	99%
18	P	100	100%
19	Q	134	97%
20	R	94	99%
21	S	115	98%
22	T	237	94% 6%
23	U	91	95% 5%
24	W	67	97%
25	X	55	100%
26	Y	73	100%
27	Z	59	97% ..
28	1	55	96%
29	2	47	98%
30	3	65	97%
31	4	37	95% 5%

2 Entry composition [i](#)

There are 32 unique types of molecules in this entry. The entry contains 65355 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
			Total	C	N	O	P			
1	0	2766	59359	26479	10949	19166	2765	0	0	0

- Molecule 2 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	118	2519	1124	464	813	118	0	0	0

- Molecule 3 is a protein called ribosomal protein L2.

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

- Molecule 4 is a protein called ribosomal protein L3.

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

- Molecule 5 is a protein called ribosomal protein L4.

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

- Molecule 6 is a protein called ribosomal protein L5.

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

- Molecule 7 is a protein called ribosomal protein L6.

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

- Molecule 8 is a protein called ribosomal protein L9.

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

- Molecule 9 is a protein called ribosomal protein L11.

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

- Molecule 10 is a protein called ribosomal protein L13.

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

- Molecule 11 is a protein called ribosomal protein L14.

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

- Molecule 12 is a protein called ribosomal protein L15.

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

- Molecule 13 is a protein called ribosomal protein L16.

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

- Molecule 14 is a protein called ribosomal protein L17.

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

- Molecule 15 is a protein called ribosomal protein L18.

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

- Molecule 16 is a protein called ribosomal protein L19.

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

- Molecule 17 is a protein called ribosomal protein L20.

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

- Molecule 18 is a protein called ribosomal protein L21.

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

- Molecule 19 is a protein called ribosomal protein L22.

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

- Molecule 20 is a protein called ribosomal protein L23.

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

- Molecule 21 is a protein called ribosomal protein L24.

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

- Molecule 22 is a protein called general stress protein Ctc.

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

- Molecule 23 is a protein called ribosomal protein L27.

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

- Molecule 24 is a protein called ribosomal protein L29.

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

- Molecule 25 is a protein called ribosomal protein L30.

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

- Molecule 26 is a protein called ribosomal protein L31.

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

- Molecule 27 is a protein called ribosomal protein L32.

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

- Molecule 28 is a protein called ribosomal protein L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	1	53	Total C 53 53	0	0	53

- Molecule 29 is a protein called ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	2	46	Total C 46 46	0	0	46

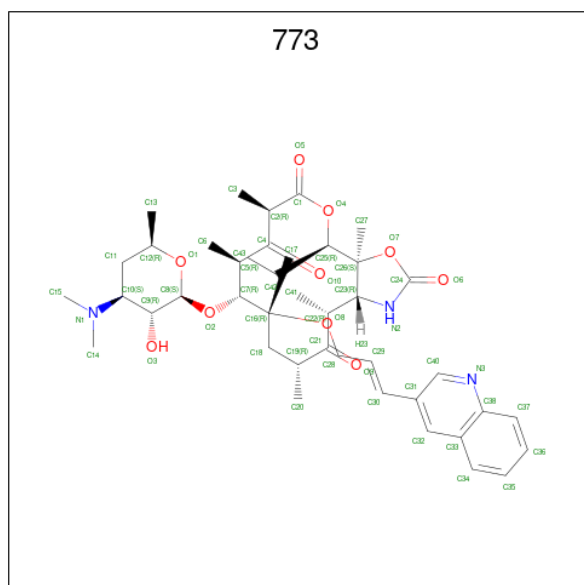
- Molecule 30 is a protein called ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	3	63	Total C 63 63	0	0	63

- Molecule 31 is a protein called ribosomal protein L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	4	35	Total C 35 35	0	0	35

- Molecule 32 is CETHROMYCIN (three-letter code: 773) (formula: $C_{42}H_{59}N_3O_{10}$).



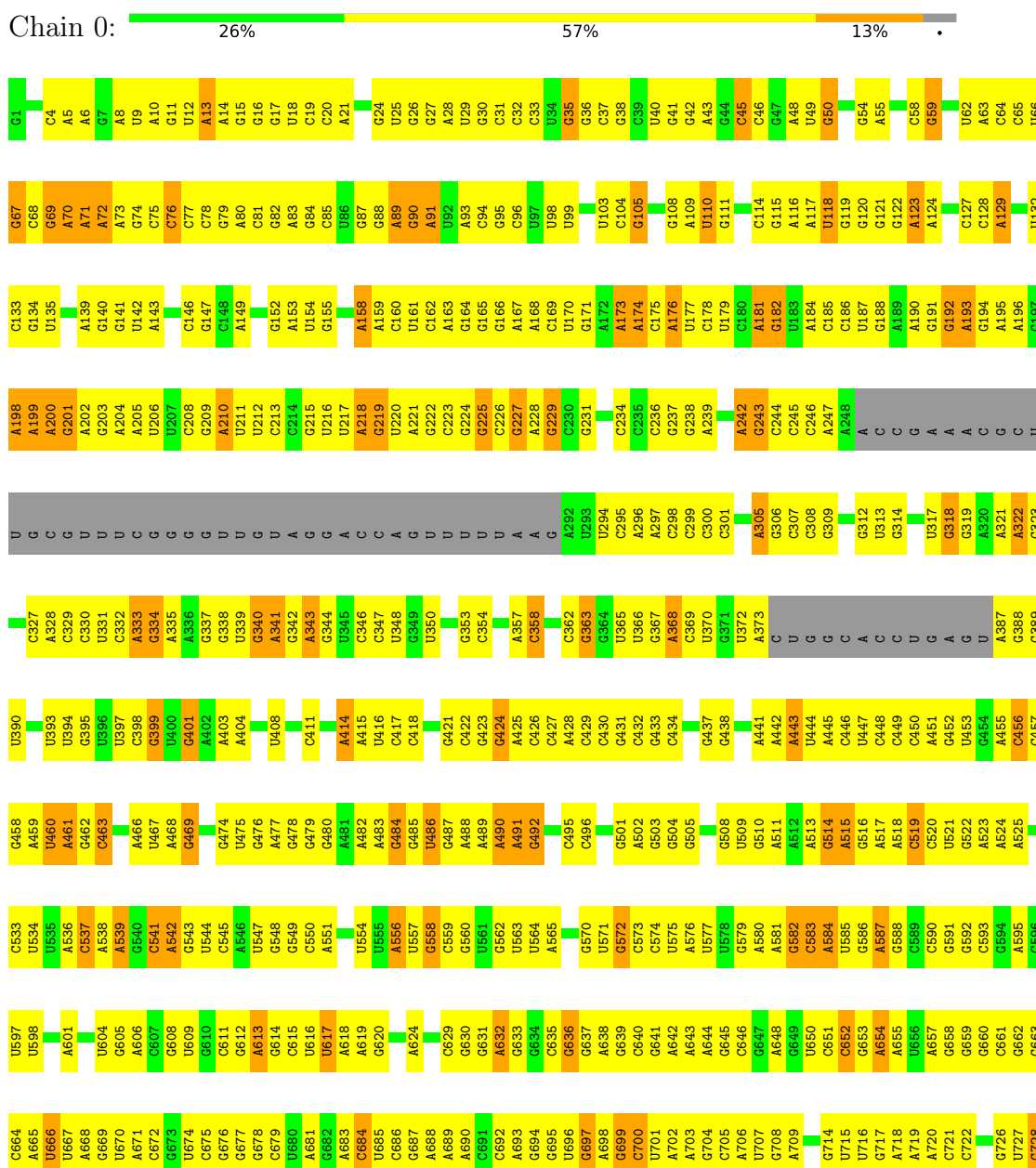
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	0	1	Total C N O 55 42 3 10	0	0

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.

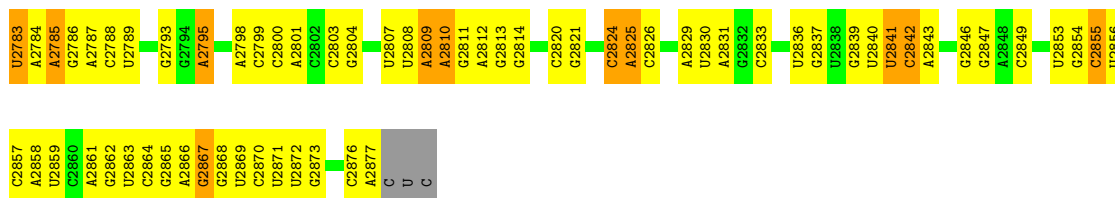
Note EDS was not executed.

- Molecule 1: 23S RIBOSOMAL RNA

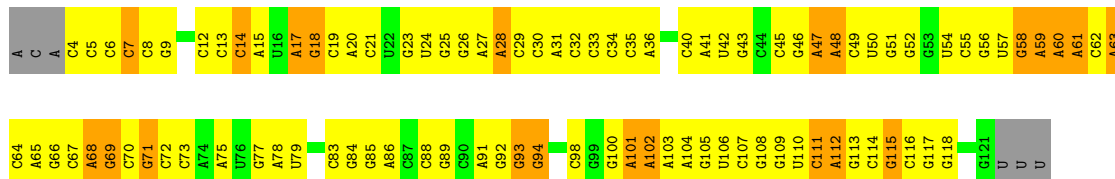
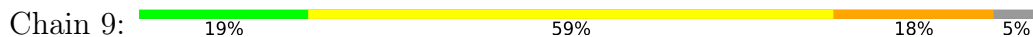


G1891	C1621	G1488	G1296	C1280	G1155	G1082	C1002	G993	C864	A794	G732
C1692	G1622	C1489	A1297	A1233	U1156	C1083	C1003	A936	A865	A796	G733
A1693	G1623	U1490	G1298	C1234	A1162	C1086	U1005	A937	G867	A797	G734
A1694	A1624	C1491	A1299	C1235	C1163	A1087	A1006	G938	G868	G798	G735
U1695	A1625	A1492	A1300	A1236	C1164	A1088	C1007	G939	U868	C799	G736
C1696	A1626	A1493	U1301	A1238	G1165	C1089	G1008	G940	C869	U800	C737
U1697	G1432	U1365	C1302	A1288	A1166	C1090	C1009	U941	C870	A801	G738
C1698	A1433	G1368	U1303	G1241	A1167	U1091	U1010	U942	C871	A802	G739
A1699	G1436	G1371	C1304	G1242	A1168	U1092	A1011	U943	G872	C803	A740
C1703	A1437	A1372	U1305	G1243	C1169	U1093	U1012	U944	U873	G804	G741
G1704	G1438	A1373	U1306	G1244	U1170	A1095	A1013	A945	A874	G805	G742
U1705	G1439	G1374	C1308	G1246	U1171	A1096	A1014	G946	G875	A806	G743
A1706	G1440	C1375	G1309	U1247	U1172	A1099	G1016	G951	A876	A807	C744
C1707	A1441	C1376	C1310	U1248	A1179	A1100	C1017	A952	C808	A808	G745
C1708	G1442	C1377	C1311	G1249	U1179	G1109	U1018	A953	C809	C809	G746
U1709	G1443	A1378	C1312	A1250	A1180	U1110	A1019	G954	U810	U810	U810
G1710	C1444	A1379	U1313	G1251	C1181	G1111	A1020	G955	G887	G811	C750
A1643	A1445	C1380	A1314	G1252	U1182	U1112	A1021	A956	G888	G812	G751
C1644	U1446	C1381	A1315	C1282	C1183	G1113	U1022	G957	C889	A813	G752
G1644	U1447	C1382	A1316	C1283	G1184	U1114	G1024	G958	G890	G814	U753
U1645	A1448	C1383	G1317	A1284	C1185	U1115	U1025	C959	A815	A815	G754
A1582	A1449	C1384	A1318	A1285	U1190	U1116	A1026	U960	C816	U816	C755
C1648	G1450	G1385	C1319	C1256	C1191	A1114	C1027	G961	C817	G817	C756
A1583	C1451	A1386	A1320	U1257	A1192	C1115	G1028	A964	G818	U757	C757
G1584	C1452	C1387	A1321	G1288	A1193	C1116	C1029	G965	C819	G819	C758
A1585	C1455	G1388	G1322	A1289	G1193	U1116	U1030	G966	U820	U820	C759
C1586	C1456	C1389	G1323	A1290	U1194	G1117	C1031	G968	C821	U821	U760
U1587	A1456	G1390	G1324	A1291	U1195	U1118	A1032	C969	U824	U824	G761
A1588	C1457	C1391	U1325	G1281	U1196	C1119	U1033	U970	C825	A762	G762
C1524	U1458	A1392	U1326	A1282	G1197	U1120	G1034	A971	U826	A763	C763
U1591	U1459	C1393	C1327	G1285	C1198	G1123	U1035	A972	C826	A764	C764
C1527	G1460	G1394	G1328	A1286	U1199	U1124	G1036	C972	C829	C765	C765
U1528	C1461	A1395	U1329	A1287	G1200	U1125	U1037	U973	A832	A766	A766
C1529	A1462	C1398	U1332	A1288	U1202	A1126	U1038	U974	C830	G767	G767
U1530	A1463	C1399	G1333	U1289	U1203	U1130	A1039	U975	G831	U768	U768
C1531	A1464	A1400	A1334	G1270	A1203	G1131	A1040	C976	C832	C769	C769
U1532	G1465	G1401	A1335	C1271	G1204	C1132	G1041	G977	C833	U770	U770
G1533	C1466	U1402	U1336	C1272	G1205	U1133	G1044	U978	C834	C771	C771
A1534	U1467	U1403	G1337	G1273	G1206	C1134	U1044	A979	A838	G772	G772
G1536	A1468	A1404	U1338	G1274	U1207	C1135	C1064	C980	U839	U839	G773
U1537	U1469	C1405	G1339	A1277	U1212	G1136	A1055	C981	U840	U840	G774
A1538	G1470	A1406	U1340	G1278	U1213	A1137	U1056	C982	G841	A774	A774
U1539	C1471	G1407	G1341	A1279	C1214	A1138	A1057	A984	A842	U775	U775
C1540	C1472	U1408	U1342	U1280	A1215	A1139	G1058	G985	G843	A776	A776
G1541	U1473	U1409	C1343	A1281	G1216	A1140	U1058	A986	G844	A777	G778
U1542	A1474	U1410	C1344	A1282	U1217	G1141	C1064	A987	C847	C847	G781
A1543	G1475	C1411	G1345	G1284	U1218	U1142	A1065	G988	A848	A848	U782
C1544	G1476	C1412	C1346	A1285	C1219	G1143	G1066	A991	U852	U852	G783
G1545	U1477	U1416	C1347	U1286	G1220	G1145	G1067	A992	U853	U853	U784
U1546	U1478	A1417	C1348	A1287	C1221	G1146	A1068	A994	C926	C926	U785
A1547	G1479	C1418	A1349	A1288	G1222	G1147	G1069	A995	G854	G854	U786
U1548	G1480	U1419	G1350	A1289	G1223	G1148	U1069	A996	G855	G855	A787
C1549	U1481	G1419	C1351	A1290	A1224	G1149	G1073	C996	C927	C927	G788
G1552	U1482	G1419	G1352	A1291	G1225	C1150	U1074	C997	U857	U857	G789
U1553	U1483	C1422	A1353	A1292	A1226	U1151	C1075	C998	G858	G858	G790
C1554	G1484	A1423	A1354	A1293	A1227	C1152	U1076	A999	U859	U859	A791
A1555	U1485	U1424	A1355	A1294	G1228	U1153	U1076	A999	U860	U860	U792
U1556	A1486	G1425	A1356	A1295	C1229	A1154	A1081	A1001	G861	G861	G793
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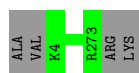
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C2723	C2656	C2589	G2511	G2446	U2377	C2302	A2226	C2160	U2096	A1901	A1964	G1823	G1762
C2725	A2488	U2590	U2516	A2448	G2378	A2306	C2227	C2161	G	C2033	G1904	G1763	G1764
C2726	C2659	C2591	C2517	G2449	G2379	A2307	U2228	C2162	A	G2034	G1905	U1826	A1764
G2727	C2660	U2592	C2518	A2450	U2380	A2308	G2229	U2163	U	G2035	G1906	C1765	U1766
A2728	C2662	U2594	C2519	C2454	A2382	G2309	G2230	G2164	A	A2036	C1907	U1767	U1768
A2730	G2665	C2595	A2521	A2455	C2383	G2310	C2233	G2166	G2103	C2038	U1908	U1769	U1770
C2732	U2666	C2596	G2522	U2456	G2384	U2311	G2234	A2167	G1972	G2039	C1909	G1836	C1837
A2733	G2667	G2597	G2523	A2457	U2385	A2312	G2235	A2168	U2105	A2040	U1910	C1835	A1771
A2734	C2669	C2598	G2524	U2458	U2386	G2313	G2236	A2169	G2106	A2041	G1911	C1836	A1772
C2735	C2670	U2599	C2525	C2459	A2390	A2314	G2237	C2170	G2107	A2042	G1912	G1837	C1772
U2736	C2671	A2600	C2530	G2460	A2391	A2315	U2241	U2171	G2110	A2043	G1913	G1838	C1773
C2737	C2672	U2531	U2531	G2461	A2392	G2316	U2242	U2172	C	G2044	U1914	A1839	A1774
A2737	G2673	G2604	G2532	C2462	G2394	G2317	C2242	G2173	C	A2045	U1915	A1840	A1775
C2739	C2674	C2605	U2533	G2463	C2395	U2318	C2243	G2174	A2117	A2046	G1916	A1841	A1776
C2740	C2675	G2606	U2534	A2464	C2396	G2319	C2244	A2175	U	C2047	G1917	G1842	A1777
G2741	U2675	C2607	C2535	G2465	A2397	G2320	A2245	U2176	C	C2048	C1918	U1843	U1778
G2741	G2676	A2608	G2536	U2466	U2398	C2321	A2246	U2177	G	C2049	G1919	C1844	C1781
C2742	U2677	G2609	C2537	A2467	C2399	U2322	A2247	U2178	A2118	G2050	A1920	A1845	A1782
G2743	C2678	G2610	G2538	G2468	A2402	U2323	A2248	C2179	A2119	U2051	U1990	A1846	A1783
A2744	U2679	G2611	C2539	G2469	U2403	G2324	A2249	U2180	A2120	U1922	G1922	G1847	G1783
A2745	U2680	A2613	A2640	U2470	C2403	A2325	U2249	U2181	C2120	C1925	C1924	U1848	A1785
A2881	A2614	A2614	U2541	U2471	A2404	C2326	U2251	A2182	C2121	A2054	G1849	G1850	A1786
C2882	U2615	U2615	U2542	U2472	A2405	U2327	A2252	C2183	U2121	G2055	A1851	A1851	G1786
A2749	U2616	G2474	A2543	G2474	C2406	U2328	A2253	C2184	G2122	C2056	U1926	G1854	U1787
G2750	C2685	A2475	A2544	A2475	G2407	G2329	G2254	U2185	G2123	U2057	G1927	G1854	U1788
C2751	C2686	A2618	A2545	A2476	G2408	C2330	G2255	G2186	C2124	U2058	A1997	U1789	U1789
C2752	G2687	G2619	G2546	C2477	A2409	A2331	G2255	G2186	C2125	U2059	U1998	G1855	G1790
C2753	G2688	G2690	C2547	C2478	U2410	A2332	G2261	A2191	U	A2060	U1999	U1856	C1791
C2754	C2689	G2691	G2548	U2479	U2335	U2336	C2262	U2192	U	G2070	U2000	G1857	C1792
A2755	A2690	A2622	G2549	C2480	G2336	G2337	C2263	C2193	U	U2064	G2001	C1858	A1793
C2756	G2691	G2623	C2623	G2481	A2337	A2337	C2264	A2194	U	A2065	A1859	A1860	A1794
A2757	A2692	G2624	A2551	A2482	G2341	U2342	A2265	C2195	C	G2066	A2003	A1861	G1797
U2759	U2693	U2695	U2559	U2483	U2342	U2342	A2266	U2196	G	U2067	U2004	G1861	G1798
G2760	C2694	G2626	U2560	G2484	C2343	G2343	G2268	U2197	G2132	G2006	G2006	C1862	C1799
A2761	C2695	G2627	G2561	G2487	C2420	G2344	G2269	U2198	G2136	G2071	C1940	G1863	A1800
G2762	U2700	U2629	G2562	G2488	C2421	A2345	U2270	G2200	G2137	C2072	G1942	G1864	A1800
U2763	C2630	C2489	U2563	C2489	C2422	G2346	U2271	G2201	U2138	A2073	A1943	C1865	C1801
A2764	U2631	U2490	U2563	U2490	G2423	C2347	C2273	G2202	G2139	U2074	C1944	G1866	A1802
C2765	C2632	C2491	C2565	G2492	G2424	A2348	C2274	G2203	G2140	U2075	C1945	A1867	G1803
C2703	A2633	G2492	A2566	G2492	G2425	A2348	U2275	G2204	A	G2076	U1946	A1868	G1804
U2704	G2634	U2493	A2569	G2493	G2426	G2351	U2276	A2204	G	G2077	C1947	A1869	G1806
A2705	U2635	C2494	C2570	C2494	A2427	A2352	A2277	C2206	G	G2078	G1948	U1870	G1806
A2636	A2636	G2495	G2571	G2495	U2428	G2353	A2278	G2207	C	A2079	A1949	G1871	A1807
G2640	G2640	C2496	U2572	C2496	A2429	G2354	G2279	U2208	A	U2080	C1950	A1872	C1808
A2641	A2641	A2497	U2572	A2497	A2430	G2354	A2280	G2209	C	U2081	G1951	A1873	G1809
A2642	A2642	U2498	C2573	U2498	C2431	G2361	U2285	C2210	C	C2082	A1952	U1881	U1810
G2574	G2574	A2499	G2574	A2499	A2432	G2362	U2285	U2211	G	G2083	A1953	G1882	U1812
G2575	G2575	G2500	U2575	G2500	G2433	G2363	G2286	U2212	G	G2084	A1954	A1883	A1813
A2643	A2643	U2501	G2576	G2501	G2434	C2364	G2287	G2213	U	G2085	G1955	A1884	G1814
A2577	A2577	G2435	G2502	G2435	U2365	U2365	A2288	G2214	A	U2086	C1956	C1885	G1815
G2578	G2578	U2437	U2578	U2437	U2366	A2366	A2289	G2215	G	U2087	C1957	G1886	G1816
A2581	A2581	A2438	G2370	A2438	U2367	G2370	A2290	G2216	A	U2088	G1958	G1887	U1817
G2651	G2651	A2371	A2371	A2371	U2298	G2371	U2298	G2217	U	U2091	U1959	C1888	G1818
A2653	A2653	C2443	A2372	A2372	A2299	A2372	A2299	G2218	A	G2092	A1960	G1889	U1819
G2658	G2658	C2443	A2372	A2372	A2299	A2372	A2299	G2219	A	G2093	A1961	G1890	G1820



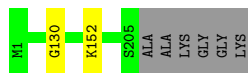
• Molecule 2: 5S RIBOSOMAL RNA



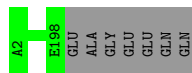
• Molecule 3: ribosomal protein L2



• Molecule 4: ribosomal protein L3



• Molecule 5: ribosomal protein L4



• Molecule 6: ribosomal protein L5

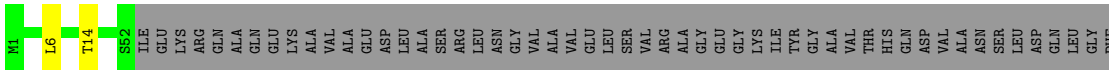


• Molecule 7: ribosomal protein L6





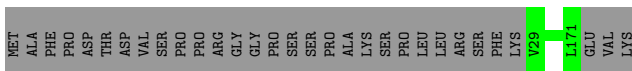
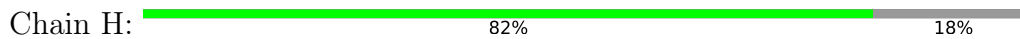
- Molecule 8: ribosomal protein L9



- Molecule 9: ribosomal protein L11



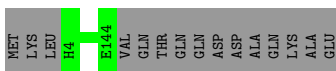
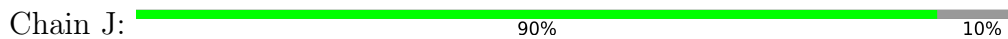
- Molecule 10: ribosomal protein L13



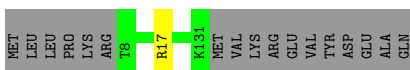
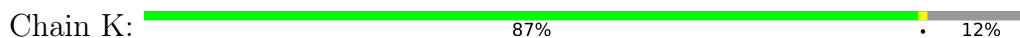
- Molecule 11: ribosomal protein L14



- Molecule 12: ribosomal protein L15



- Molecule 13: ribosomal protein L16



- Molecule 14: ribosomal protein L17

Chain L:  97% ..




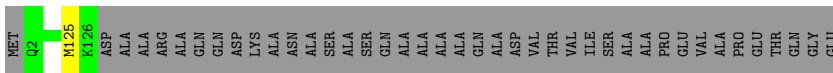
- Molecule 15: ribosomal protein L18

Chain M:  97% ..



- Molecule 16: ribosomal protein L19

Chain N:  75% • 25%



- Molecule 17: ribosomal protein L20

Chain O:  99% .



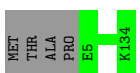
- Molecule 18: ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: ribosomal protein L22

Chain Q:  97% .



- Molecule 20: ribosomal protein L23

Chain R:  99% .



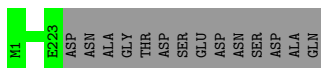
- Molecule 21: ribosomal protein L24

Chain S:  98% .



- Molecule 22: general stress protein Ctc

Chain T: 94% 6%



- Molecule 23: ribosomal protein L27

Chain U: 95% 5%



- Molecule 24: ribosomal protein L29

Chain W: 97%



- Molecule 25: ribosomal protein L30

Chain X: 100%

There are no outlier residues recorded for this chain.

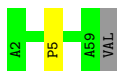
- Molecule 26: ribosomal protein L31

Chain Y: 100%

There are no outlier residues recorded for this chain.

- Molecule 27: ribosomal protein L32

Chain Z: 97%



- Molecule 28: ribosomal protein L33

Chain 1: 96%



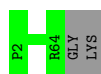
- Molecule 29: ribosomal protein L34

Chain 2:  98% .



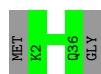
• Molecule 30: ribosomal protein L35

Chain 3:  97% .



• Molecule 31: ribosomal protein L36

Chain 4:  95%  5%



4 Data and refinement statistics

Xtrriage (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	171.00Å 409.50Å 695.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.50)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.13	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.285 , 0.313	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	65355	wwPDB-VP
Average B, all atoms (Å ²)	54.0	wwPDB-VP

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: 773

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	0.23	0/66467	0.67	0/103673
2	9	0.59	0/2816	0.81	1/4388 (0.0%)
All	All	0.25	0/69283	0.67	1/108061 (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	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
2	9	94	G	N9-C1'-C2'	-6.58	104.76	112.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1342	U	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	2141	0
2	9	2519	0	1285	147	0
3	A	270	0	0	0	0
4	B	205	0	0	2	0
5	C	197	0	0	0	0
6	D	178	0	0	1	0
7	E	177	0	0	1	0
8	F	52	0	0	1	0
9	G	143	0	0	0	0
10	H	143	0	0	0	0
11	I	132	0	0	0	0
12	J	141	0	0	0	0
13	K	124	0	0	1	0
14	L	114	0	0	1	0
15	M	111	0	0	1	0
16	N	125	0	0	1	0
17	O	117	0	0	0	0
18	P	100	0	0	0	0
19	Q	130	0	0	0	0
20	R	93	0	0	0	0
21	S	113	0	0	0	0
22	T	223	0	0	0	0
23	U	86	0	0	0	0
24	W	65	0	0	0	0
25	X	55	0	0	0	0
26	Y	73	0	0	0	0
27	Z	58	0	0	1	0
28	1	53	0	0	0	0
29	2	46	0	0	0	0
30	3	63	0	0	0	0
31	4	35	0	0	0	0
32	0	55	0	59	9	0
All	All	65355	0	31261	2286	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 24.

All (2286) 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)
1:0:2041:A:N6	32:0:2881:773:H143	1.54	1.19
1:0:2548:G:H2'	1:0:2549:G:H5''	1.21	1.17
1:0:1679:U:H2'	1:0:1680:U:H5''	1.27	1.16
1:0:2041:A:H61	32:0:2881:773:C14	1.58	1.16
1:0:1966:C:H4'	1:0:2585:C:H4'	1.22	1.14
1:0:2058:U:H1'	1:0:2576:G:H21	1.11	1.14
1:0:1908:C:H2'	1:0:1909:U:H4'	1.30	1.09
1:0:940:G:H3'	1:0:941:U:H5''	1.08	1.08
1:0:1747:G:H4'	1:0:1749:G:H1'	1.34	1.05
1:0:362:C:H2'	1:0:363:G:H4'	1.39	1.05
1:0:104:C:H2'	1:0:105:G:H5''	1.35	1.03
1:0:940:G:H3'	1:0:941:U:C5'	1.89	1.03
1:0:918:A:H2'	1:0:919:U:H5''	1.35	1.02
1:0:1458:A:H3'	1:0:1459:U:C5'	1.91	1.01
1:0:1976:U:H2'	1:0:1977:C:H5'	1.37	0.99
1:0:929:A:H3'	1:0:930:A:H5''	1.44	0.99
1:0:1073:G:H2'	1:0:1074:G:H4'	1.43	0.98
1:0:1280:U:H3	1:0:1996:A:H62	1.06	0.97
1:0:1182:U:H2'	1:0:1183:C:H5''	1.43	0.97
1:0:1900:U:O2'	1:0:1946:U:H5'	1.64	0.97
1:0:2299:A:H5'	1:0:2300:G:C4	2.00	0.96
1:0:2081:U:H2'	1:0:2082:C:H5''	1.44	0.96
1:0:688:A:H62	1:0:816:U:H3	1.05	0.95
1:0:2548:G:C2'	1:0:2549:G:H5''	1.95	0.95
1:0:2266:A:N6	1:0:2323:U:H1'	1.81	0.95
1:0:1679:U:C2'	1:0:1680:U:H5''	1.96	0.94
2:9:54:U:H2'	2:9:55:C:C6	2.03	0.94
1:0:75:C:H2'	1:0:76:C:H5''	1.49	0.94
1:0:1432:G:H21	1:0:1596:A:H62	1.13	0.94
1:0:1656:U:H2'	1:0:1657:A:H5''	1.50	0.94
1:0:941:U:H2'	1:0:942:U:O4'	1.69	0.93
1:0:2380:U:H2'	1:0:2381:A:H5'	1.49	0.92
1:0:58:C:H3'	1:0:59:G:H5''	1.50	0.92
2:9:25:G:H2'	2:9:26:G:O4'	1.69	0.92
1:0:2476:A:HO2'	1:0:2477:C:H5	0.97	0.92
2:9:84:G:H2'	2:9:85:G:H8	1.34	0.92
1:0:2599:U:H2'	1:0:2600:A:H5''	1.51	0.92
1:0:508:G:H1	1:0:516:G:H22	1.19	0.91
1:0:847:C:H41	1:0:955:G:H21	1.16	0.91
1:0:317:U:H2'	1:0:318:G:H5''	1.51	0.91
1:0:2014:A:H62	1:0:2477:C:H1'	1.34	0.90
1:0:2198:U:H3'	1:0:2199:C:H5''	1.53	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2266:A:H61	1:0:2323:U:H1'	1.32	0.90
1:0:716:U:H2'	1:0:717:G:O4'	1.71	0.90
1:0:28:A:H61	1:0:522:G:H4'	1.37	0.89
2:9:100:G:H2'	2:9:101:A:O4'	1.72	0.89
2:9:67:C:H2'	2:9:68:A:H5'	1.54	0.88
1:0:1791:C:H2'	1:0:1792:C:H5''	1.54	0.88
2:9:42:U:H2'	2:9:45:C:H41	1.35	0.88
1:0:317:U:H3	1:0:321:A:H62	1.20	0.88
2:9:4:C:H2'	2:9:5:C:C6	2.08	0.88
1:0:2059:U:H2'	1:0:2060:A:H5''	1.54	0.87
1:0:2096:U:H2'	1:0:2097:A:H5''	1.54	0.87
1:0:367:G:H2'	1:0:368:A:H5''	1.57	0.87
1:0:651:C:H2'	1:0:652:C:H5''	1.57	0.87
1:0:1312:G:H5'	1:0:1314:A:H1'	1.56	0.87
1:0:2691:C:H3'	1:0:2692:A:H5''	1.57	0.86
1:0:1748:U:H3	1:0:1753:A:H2	1.23	0.86
1:0:2737:A:H61	7:E:60:LYS:CA	1.88	0.86
1:0:857:U:H2'	1:0:858:G:H5'	1.57	0.86
1:0:2014:A:N6	1:0:2477:C:H1'	1.90	0.86
1:0:2636:A:H62	1:0:2643:G:H21	1.23	0.86
2:9:102:A:C2'	2:9:103:A:H5'	2.06	0.85
1:0:1252:C:C2'	1:0:1253:C:H5''	2.06	0.85
1:0:1621:C:H4'	1:0:1626:A:C6	2.12	0.85
1:0:2432:A:H4'	1:0:2551:A:O2'	1.75	0.85
1:0:1252:C:H2'	1:0:1253:C:H5''	1.59	0.85
1:0:2510:A:H61	1:0:2641:A:H61	1.24	0.85
1:0:1900:U:H2'	1:0:1901:A:O4'	1.77	0.85
1:0:763:A:H2	1:0:765:C:H1'	1.40	0.85
1:0:2509:A:H2'	1:0:2510:A:H5''	1.59	0.85
1:0:976:C:H5'	1:0:2252:A:H1'	1.58	0.84
1:0:658:G:H4'	1:0:2331:A:H5'	1.60	0.84
2:9:67:C:C2'	2:9:68:A:H5'	2.07	0.84
1:0:2324:G:H4'	1:0:2326:C:H5''	1.60	0.84
1:0:616:U:H2'	1:0:617:U:H5''	1.58	0.83
1:0:1463:A:H1'	1:0:1543:G:H22	1.40	0.83
1:0:2623:A:H2'	1:0:2624:G:O4'	1.76	0.83
1:0:1922:U:H1'	1:0:2570:C:O2'	1.79	0.83
1:0:1458:A:H3'	1:0:1459:U:H5''	1.60	0.83
2:9:102:A:O2'	2:9:103:A:H5'	1.77	0.83
1:0:88:G:H3'	1:0:89:A:H5''	1.61	0.83
1:0:1976:U:C2'	1:0:1977:C:H5'	2.07	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:762:A:H2'	1:0:763:A:H8	1.43	0.82
2:9:93:G:H2'	2:9:94:G:H8	1.42	0.82
1:0:641:G:H4'	1:0:651:C:O2'	1.79	0.82
1:0:2598:C:H4'	4:B:152:LYS:CA	2.10	0.82
1:0:681:A:H2'	1:0:683:A:N7	1.95	0.81
1:0:929:A:H2'	1:0:930:A:H4'	1.62	0.81
1:0:2498:U:H5''	1:0:2499:C:OP1	1.80	0.81
1:0:1181:C:H3'	1:0:1182:U:H5''	1.59	0.81
1:0:1900:U:H3'	1:0:1901:A:H8	1.43	0.81
1:0:1438:G:H2'	1:0:1439:G:O4'	1.81	0.81
2:9:92:G:H2'	2:9:93:G:H5'	1.62	0.81
1:0:1922:U:O2	1:0:2571:G:H5'	1.79	0.81
1:0:1974:U:H2'	1:0:1975:G:H5''	1.63	0.81
1:0:2058:U:H1'	1:0:2576:G:N2	1.94	0.81
2:9:12:C:H2'	2:9:13:C:O4'	1.81	0.81
1:0:922:A:H2'	1:0:923:A:H8	1.46	0.81
2:9:7:C:O2'	2:9:8:C:H5'	1.80	0.81
1:0:1463:A:H1'	1:0:1543:G:N2	1.95	0.81
1:0:556:A:H2'	1:0:557:U:H5'	1.62	0.80
1:0:542:A:H2'	1:0:543:G:H5'	1.63	0.80
1:0:70:A:O3'	1:0:71:A:H3'	1.80	0.80
1:0:2006:G:H4'	1:0:2596:C:O2'	1.82	0.80
1:0:2755:A:O2'	1:0:2756:A:H5'	1.80	0.80
1:0:1804:U:H2'	1:0:1805:G:H8	1.46	0.80
1:0:699:G:H21	1:0:700:C:H5''	1.47	0.80
1:0:1791:C:H1'	1:0:1793:A:H5'	1.64	0.80
1:0:2499:C:H41	1:0:2521:A:H2	1.26	0.80
1:0:1223:G:H21	1:0:1225:G:H21	1.30	0.80
1:0:1715:A:O2'	1:0:1716:G:H3'	1.82	0.80
1:0:1182:U:C2'	1:0:1183:C:H5''	2.13	0.79
1:0:930:A:H3'	1:0:931:G:H8	1.46	0.79
1:0:2041:A:H61	32:0:2881:773:H143	0.68	0.79
2:9:28:A:C2	2:9:29:C:H1'	2.18	0.79
1:0:558:G:H5''	1:0:559:C:C5	2.16	0.79
1:0:1656:U:C2'	1:0:1657:A:H5''	2.12	0.79
1:0:547:U:H2'	1:0:548:G:C8	2.17	0.79
1:0:2599:U:C2'	1:0:2600:A:H5''	2.11	0.79
2:9:65:A:H2'	2:9:66:G:C8	2.17	0.79
1:0:873:U:C2	1:0:2246:A:H5''	2.17	0.79
1:0:1886:G:H2'	1:0:1887:G:H8	1.46	0.79
1:0:2872:U:H2'	1:0:2873:G:C8	2.18	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1811:A:H1'	1:0:1813:A:C5	2.18	0.79
1:0:590:C:H2'	1:0:591:G:C8	2.17	0.79
1:0:752:G:H5'	1:0:1775:A:H61	1.47	0.79
1:0:652:C:H42	1:0:657:A:H61	1.27	0.79
1:0:873:U:H1'	1:0:2246:A:OP1	1.83	0.79
1:0:635:C:H2'	1:0:636:G:H5''	1.64	0.78
1:0:357:A:H2'	1:0:358:C:H5'	1.63	0.78
1:0:792:U:H2'	1:0:793:G:H5'	1.65	0.78
1:0:2672:U:H2'	1:0:2673:G:H8	1.47	0.78
1:0:416:U:H5''	1:0:417:C:H5'	1.65	0.78
1:0:1088:A:H2'	1:0:1089:C:O4'	1.83	0.78
1:0:1807:A:O2'	1:0:1808:C:H4'	1.83	0.78
1:0:1900:U:H3'	1:0:1901:A:C8	2.19	0.78
2:9:78:A:H2'	2:9:79:U:C6	2.19	0.78
1:0:1195:U:H2'	1:0:1196:G:C8	2.19	0.78
1:0:1299:A:H2'	1:0:1301:U:OP2	1.83	0.78
2:9:92:G:C2'	2:9:93:G:H5'	2.14	0.78
1:0:1319:C:H2'	1:0:1320:A:H8	1.47	0.78
2:9:58:G:H4'	2:9:59:A:H5'	1.64	0.78
1:0:187:U:H2'	1:0:188:G:H8	1.49	0.77
1:0:762:A:H2'	1:0:763:A:C8	2.19	0.77
1:0:218:A:O2'	1:0:219:G:H4'	1.84	0.77
1:0:1697:U:H2'	1:0:1698:C:O4'	1.84	0.77
1:0:2861:A:H2'	1:0:2862:G:H8	1.49	0.77
1:0:168:A:H2'	1:0:169:C:C6	2.20	0.77
1:0:689:A:H8	1:0:2052:G:H21	1.32	0.77
1:0:1086:C:H2'	1:0:1087:C:H5''	1.65	0.77
1:0:613:A:H2'	1:0:614:G:H8	1.49	0.77
1:0:2447:G:H22	1:0:2460:G:H2'	1.49	0.77
2:9:69:G:H2'	2:9:70:C:O4'	1.84	0.77
1:0:1032:A:H2'	1:0:1033:G:H4'	1.63	0.77
1:0:2437:G:N1	1:0:2469:G:H2'	2.00	0.77
1:0:1825:C:O2'	1:0:1826:U:H5'	1.85	0.77
1:0:918:A:C2'	1:0:919:U:H5''	2.11	0.77
2:9:65:A:H2'	2:9:66:G:H8	1.50	0.77
1:0:951:G:H2'	1:0:952:A:H5''	1.65	0.77
1:0:1066:G:H2'	1:0:1067:G:H4'	1.67	0.77
1:0:2262:C:H2'	1:0:2263:C:O4'	1.85	0.77
1:0:2474:G:H2'	1:0:2475:C:O4'	1.85	0.77
1:0:75:C:C2'	1:0:76:C:H5''	2.15	0.76
1:0:2770:A:H4'	1:0:2867:G:H22	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1459:U:H2'	1:0:1475:U:O2'	1.84	0.76
1:0:1911:A:H2'	1:0:1912:G:H5'	1.67	0.76
1:0:2320:G:H2'	1:0:2321:C:O4'	1.85	0.76
1:0:103:U:H2'	1:0:104:C:C6	2.20	0.76
1:0:1242:A:H2'	1:0:1243:G:C8	2.21	0.76
1:0:1608:U:H2'	1:0:1609:G:H8	1.51	0.76
2:9:77:G:H2'	2:9:78:A:O4'	1.84	0.76
1:0:37:C:H2'	1:0:38:G:C8	2.20	0.76
1:0:1763:G:H2'	1:0:1764:A:H4'	1.67	0.75
1:0:2633:A:H61	1:0:2646:C:N4	1.83	0.75
1:0:37:C:H2'	1:0:38:G:H8	1.51	0.75
1:0:468:A:O2'	1:0:469:G:H4'	1.86	0.75
1:0:215:G:H21	1:0:632:A:H8	1.31	0.75
1:0:2436:U:H2'	1:0:2437:G:O4'	1.86	0.75
1:0:547:U:H2'	1:0:548:G:H8	1.51	0.75
1:0:1036:G:H1'	1:0:1145:C:C4'	2.16	0.75
1:0:404:A:H1'	1:0:424:G:O2'	1.85	0.75
1:0:930:A:H3'	1:0:931:G:C8	2.22	0.75
1:0:1036:G:H1'	1:0:1145:C:H4'	1.68	0.75
1:0:2861:A:H2'	1:0:2862:G:C8	2.21	0.75
1:0:1440:G:H1'	1:0:1588:A:N6	2.01	0.75
1:0:1587:A:H2'	1:0:1588:A:C8	2.22	0.75
1:0:755:C:H5'	1:0:1692:C:O2'	1.86	0.75
1:0:1035:G:H21	1:0:1155:G:H4'	1.50	0.75
1:0:1055:A:C2	1:0:1121:G:H2'	2.22	0.75
1:0:2652:G:H2'	1:0:2653:A:H8	1.50	0.74
1:0:727:U:H2'	1:0:728:G:H5''	1.69	0.74
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.74
1:0:2498:U:OP1	1:0:2498:U:H3'	1.87	0.74
1:0:114:C:H4'	1:0:124:A:O2'	1.88	0.74
1:0:1463:A:C1'	1:0:1543:G:H22	2.01	0.74
1:0:2270:U:O2'	1:0:2353:G:H1'	1.88	0.74
1:0:2616:U:H2'	1:0:2617:G:O4'	1.87	0.74
1:0:922:A:H2'	1:0:923:A:C8	2.22	0.74
1:0:1223:G:N2	1:0:1225:G:H21	1.85	0.74
1:0:2329:C:H2'	1:0:2330:G:O4'	1.87	0.74
1:0:28:A:N6	1:0:522:G:H4'	2.02	0.74
1:0:1348:C:H2'	1:0:1349:A:C8	2.22	0.74
1:0:1284:G:C4	1:0:1633:C:H5'	2.23	0.73
1:0:1681:A:C2	1:0:2706:U:H1'	2.23	0.73
1:0:1750:A:H1'	1:0:2690:A:C2	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:31:A:H2'	2:9:32:C:O4'	1.89	0.73
1:0:1608:U:H2'	1:0:1609:G:C8	2.24	0.73
1:0:2299:A:H5'	1:0:2300:G:C5	2.23	0.73
1:0:2318:U:H2'	1:0:2319:G:H8	1.51	0.73
1:0:169:C:H2'	1:0:170:U:H5'	1.71	0.73
1:0:940:G:C3'	1:0:941:U:H5''	2.04	0.73
1:0:612:G:O3'	1:0:613:A:H4'	1.89	0.73
1:0:821:A:O2'	1:0:1267:A:H4'	1.89	0.73
1:0:1747:G:H4'	1:0:1749:G:C1'	2.18	0.73
1:0:2268:G:H5''	1:0:2363:G:O2'	1.89	0.73
1:0:1471:G:H1	1:0:2682:C:H42	1.35	0.73
2:9:48:A:O2'	2:9:49:C:H5'	1.88	0.72
1:0:1982:C:H4'	1:0:2703:C:O2	1.88	0.72
1:0:763:A:C2	1:0:765:C:H1'	2.23	0.72
1:0:841:G:H2'	1:0:842:A:C8	2.25	0.72
1:0:1202:U:H2'	1:0:1203:A:H8	1.52	0.72
1:0:792:U:C2'	1:0:793:G:H5'	2.19	0.72
1:0:162:C:H2'	1:0:163:A:C8	2.23	0.72
1:0:2456:U:H1'	1:0:2460:G:H22	1.53	0.72
1:0:81:C:H2'	1:0:82:G:O4'	1.89	0.72
1:0:2669:C:H41	14:L:15:SER:CA	2.03	0.72
1:0:1267:A:H5''	1:0:1268:U:O5'	1.88	0.72
1:0:1295:U:H2'	1:0:1296:G:H5'	1.71	0.71
1:0:2670:C:H4'	1:0:2846:G:O2'	1.90	0.71
1:0:208:C:H2'	1:0:209:G:H5'	1.70	0.71
1:0:2599:U:C3'	1:0:2600:A:H5''	2.20	0.71
1:0:1040:A:H2'	1:0:1041:G:H5'	1.70	0.71
1:0:1225:G:H2'	1:0:1249:G:H22	1.53	0.71
1:0:1445:A:H2'	1:0:1446:U:O4'	1.90	0.71
2:9:61:A:H8	2:9:61:A:O5'	1.73	0.71
1:0:1654:A:H4'	1:0:2690:A:O2'	1.89	0.71
1:0:2503:G:H2'	1:0:2504:G:H5''	1.70	0.71
1:0:2674:C:H2'	1:0:2675:U:H6	1.54	0.71
1:0:1429:A:H62	1:0:1601:U:H5''	1.55	0.71
1:0:331:U:H2'	1:0:332:C:H5''	1.71	0.71
1:0:651:C:C2'	1:0:652:C:H5''	2.20	0.71
1:0:58:C:H3'	1:0:59:G:C5'	2.19	0.71
1:0:19:C:H5'	1:0:563:U:OP1	1.90	0.71
1:0:1976:U:H2'	1:0:1977:C:C5'	2.17	0.71
2:9:28:A:H3'	2:9:29:C:H6	1.55	0.71
2:9:36:A:H2'	2:9:46:G:O6	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2198:U:C3'	1:0:2199:C:H5''	2.21	0.71
1:0:2324:G:O2'	1:0:2325:A:H5''	1.90	0.71
1:0:1466:C:H2'	1:0:1467:U:O4'	1.89	0.71
1:0:2176:U:H2'	1:0:2177:U:O4'	1.91	0.71
1:0:618:A:H2'	1:0:619:A:O4'	1.89	0.70
1:0:2185:U:H2'	1:0:2186:G:C8	2.26	0.70
1:0:1479:G:H2'	1:0:1480:G:H8	1.55	0.70
1:0:2315:A:O2'	1:0:2364:C:H5''	1.91	0.70
1:0:2321:C:H2'	1:0:2322:U:O4'	1.91	0.70
1:0:162:C:H4'	1:0:195:A:H4'	1.71	0.70
1:0:460:U:N3	1:0:592:G:H1'	2.06	0.70
1:0:1762:C:O2'	1:0:1777:A:H1'	1.91	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:523:A:H4'	1:0:1230:C:H5''	1.74	0.70
2:9:71:G:N2	2:9:72:C:H1'	2.07	0.70
1:0:953:G:H1'	1:0:1203:A:H2	1.55	0.70
1:0:1068:A:H2'	1:0:1069:G:C8	2.27	0.70
1:0:1479:G:H2'	1:0:1480:G:C8	2.27	0.70
1:0:1598:C:H2'	1:0:1599:G:O4'	1.91	0.70
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.70
1:0:245:C:H5'	1:0:372:U:O2'	1.91	0.70
1:0:814:G:H3'	1:0:815:A:H5'	1.73	0.70
1:0:1280:U:H3	1:0:1996:A:N6	1.85	0.70
1:0:1617:G:H2'	1:0:1618:U:H5''	1.72	0.70
2:9:84:G:O2'	2:9:85:G:H5''	1.91	0.70
1:0:236:C:H2'	1:0:237:G:H8	1.57	0.70
1:0:734:G:H2'	1:0:735:G:H8	1.57	0.70
1:0:1284:G:N3	1:0:1633:C:H5''	2.07	0.70
1:0:1789:U:H2'	1:0:1790:G:H5''	1.74	0.70
1:0:1436:G:H21	1:0:1514:C:H1''	1.57	0.69
1:0:2202:G:H2'	1:0:2203:G:O4'	1.92	0.69
1:0:2469:G:H5''	1:0:2470:U:OP1	1.91	0.69
1:0:2841:U:H1'	1:0:2843:A:H1''	1.72	0.69
1:0:109:A:C3'	1:0:110:U:H5''	2.22	0.69
1:0:2836:U:H2'	1:0:2837:G:C8	2.26	0.69
2:9:4:C:H2'	2:9:5:C:H6	1.57	0.69
1:0:109:A:H2'	1:0:110:U:H5''	1.72	0.69
1:0:486:U:H4'	1:0:520:C:H5''	1.74	0.69
1:0:541:C:H42	1:0:572:G:H8	1.40	0.69
1:0:652:C:H42	1:0:657:A:N6	1.89	0.69
1:0:964:A:H2'	1:0:965:G:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1091:C:H2'	1:0:1092:U:C6	2.27	0.69
1:0:1869:A:H2'	1:0:1870:U:O4'	1.92	0.69
1:0:760:U:O2	1:0:1997:A:H1'	1.92	0.69
1:0:2510:A:N6	1:0:2641:A:H61	1.89	0.69
1:0:616:U:C2'	1:0:617:U:H5''	2.23	0.69
1:0:798:G:H2'	1:0:799:C:H5'	1.75	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.08	0.69
1:0:1653:C:H2'	1:0:1654:A:C8	2.28	0.69
1:0:2836:U:H2'	1:0:2837:G:H8	1.57	0.69
2:9:6:C:H2'	2:9:7:C:C6	2.26	0.69
1:0:50:G:H2'	1:0:117:A:C2	2.28	0.69
1:0:69:G:H5''	1:0:70:A:OP1	1.93	0.69
1:0:462:G:H2'	1:0:463:C:C5'	2.22	0.69
1:0:939:C:H2'	1:0:940:G:C8	2.28	0.69
1:0:1695:U:H2'	1:0:1696:C:O4'	1.93	0.69
1:0:2308:A:H2'	1:0:2309:G:C8	2.28	0.68
1:0:2466:G:H2'	1:0:2467:A:C8	2.28	0.68
2:9:84:G:H2'	2:9:85:G:C8	2.22	0.68
1:0:216:U:H5''	1:0:601:A:N6	2.08	0.68
1:0:1194:U:H2'	1:0:1195:U:C6	2.28	0.68
1:0:1467:U:H3'	1:0:1468:A:C5'	2.23	0.68
1:0:77:C:H2'	1:0:78:C:C6	2.29	0.68
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.68
1:0:187:U:H2'	1:0:188:G:C8	2.28	0.68
1:0:2041:A:N1	32:0:2881:773:H9	2.07	0.68
1:0:459:A:H1'	1:0:461:A:N6	2.08	0.68
1:0:490:A:O2'	1:0:491:A:H5'	1.93	0.68
1:0:1325:U:H4'	1:0:1326:U:C6	2.29	0.68
1:0:1953:A:H1'	1:0:1955:G:C1'	2.23	0.68
1:0:475:U:H2'	1:0:476:G:O4'	1.94	0.68
1:0:2757:G:H5'	1:0:2761:A:H1'	1.76	0.68
1:0:71:A:N6	1:0:110:U:H4'	2.09	0.68
1:0:239:A:H4'	1:0:620:G:H5'	1.75	0.68
1:0:1474:A:H3'	1:0:1474:A:N3	2.09	0.68
1:0:1727:C:H4'	1:0:2833:C:N3	2.09	0.67
1:0:2199:C:H2'	1:0:2200:G:C8	2.29	0.67
1:0:1197:U:H2'	1:0:1198:C:O4'	1.94	0.67
1:0:2469:G:H4'	1:0:2470:U:C5	2.30	0.67
1:0:2829:A:H2'	1:0:2830:U:O4'	1.94	0.67
1:0:1791:C:O2'	1:0:1793:A:H5'	1.94	0.67
1:0:2491:C:H3'	1:0:2492:G:H5''	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2532:G:C2	1:0:2533:U:H1'	2.30	0.67
1:0:2761:A:H5''	1:0:2762:G:H5'	1.77	0.67
1:0:13:A:H1'	1:0:536:A:N6	2.09	0.67
1:0:1949:A:O2'	1:0:2572:U:H5'	1.95	0.67
1:0:951:G:C2'	1:0:952:A:H5''	2.24	0.67
1:0:1312:G:H5''	1:0:1313:U:C5'	2.25	0.67
1:0:652:C:N4	1:0:657:A:H61	1.92	0.67
1:0:2781:G:H2'	1:0:2782:G:O4'	1.94	0.67
1:0:1271:C:H2'	1:0:1272:G:C8	2.30	0.67
1:0:1588:A:H2'	1:0:1589:G:H8	1.60	0.67
1:0:2691:C:H3'	1:0:2692:A:C5'	2.24	0.67
1:0:2708:U:H2'	1:0:2709:C:C6	2.30	0.67
1:0:313:U:H2'	1:0:314:G:C8	2.29	0.66
1:0:1302:C:O2'	1:0:1343:C:H4'	1.94	0.66
1:0:175:C:H1'	1:0:2413:A:H61	1.59	0.66
1:0:170:U:H2'	1:0:171:G:H8	1.60	0.66
1:0:2274:C:H2'	1:0:2275:U:H5''	1.75	0.66
2:9:29:C:H2'	2:9:30:C:C6	2.31	0.66
1:0:427:C:H2'	1:0:428:A:H8	1.59	0.66
1:0:951:G:C3'	1:0:952:A:H5''	2.25	0.66
1:0:1029:C:H3'	1:0:1030:U:H5''	1.76	0.66
1:0:1325:U:H4'	1:0:1326:U:C5	2.30	0.66
1:0:1547:U:H2'	1:0:1548:U:C6	2.30	0.66
1:0:1763:G:N2	1:0:1765:C:H5''	2.10	0.66
1:0:999:A:H4'	1:0:1166:A:N1	2.11	0.66
1:0:1371:G:H1'	1:0:1386:A:N6	2.10	0.66
1:0:2785:A:H2'	1:0:2786:G:O4'	1.96	0.66
2:9:40:C:H2'	2:9:41:A:O4'	1.96	0.66
1:0:9:U:H3	1:0:2608:A:N6	1.93	0.66
1:0:88:G:H3'	1:0:89:A:C5'	2.24	0.66
1:0:118:U:H1'	1:0:143:A:C8	2.31	0.66
1:0:734:G:H2'	1:0:735:G:C8	2.30	0.66
1:0:1440:G:H1'	1:0:1588:A:H61	1.60	0.66
1:0:1452:U:H5''	1:0:1533:G:H5'	1.78	0.66
1:0:2390:A:H2'	1:0:2391:A:H8	1.60	0.66
1:0:2523:G:H1'	1:0:2625:U:H5'	1.77	0.66
1:0:2674:C:H2'	1:0:2675:U:C6	2.31	0.66
1:0:109:A:C2'	1:0:110:U:H5''	2.26	0.66
1:0:174:A:C4'	1:0:2051:U:H2'	2.26	0.66
1:0:930:A:H5'	1:0:931:G:N7	2.10	0.66
1:0:2308:A:H2'	1:0:2309:G:H8	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2491:C:H2'	1:0:2492:G:C4'	2.26	0.66
1:0:2783:U:O2'	1:0:2784:A:H4'	1.95	0.66
1:0:705:C:H2'	1:0:706:A:C8	2.31	0.66
1:0:942:U:C2'	1:0:943:U:H5'	2.26	0.66
1:0:1851:A:H61	1:0:1867:A:H1'	1.60	0.66
1:0:2081:U:C2'	1:0:2082:C:H5''	2.21	0.66
1:0:2811:G:H2'	1:0:2812:A:C8	2.31	0.66
1:0:1055:A:H2	1:0:1121:G:H2'	1.60	0.66
2:9:62:C:N4	2:9:63:A:H62	1.93	0.66
1:0:367:G:C2'	1:0:368:A:H5''	2.26	0.65
1:0:2375:G:H2'	1:0:2376:G:H8	1.60	0.65
1:0:632:A:H2'	1:0:633:G:O4'	1.96	0.65
1:0:1301:U:H2'	1:0:1664:G:H21	1.61	0.65
1:0:2158:C:H2'	1:0:2159:A:H8	1.61	0.65
1:0:2522:G:H21	1:0:2625:U:H5''	1.60	0.65
1:0:564:U:H2'	1:0:565:A:C8	2.31	0.65
1:0:1811:A:H1'	1:0:1813:A:C4	2.30	0.65
1:0:2483:U:H3'	1:0:2484:G:C5'	2.26	0.65
1:0:2605:C:H2'	1:0:2606:G:O4'	1.95	0.65
1:0:1958:G:H2'	1:0:1959:U:C6	2.31	0.65
1:0:2510:A:H61	1:0:2641:A:N6	1.95	0.65
1:0:2199:C:H2'	1:0:2200:G:H8	1.61	0.65
1:0:2240:C:H2'	1:0:2241:U:H5'	1.78	0.65
1:0:2279:G:H2'	1:0:2280:A:H8	1.61	0.65
1:0:1480:G:H2'	1:0:1481:U:H5'	1.78	0.65
1:0:1529:C:H2'	1:0:1530:U:O4'	1.97	0.65
1:0:509:U:H2'	1:0:510:G:H5'	1.77	0.65
1:0:190:A:H2'	1:0:191:G:C8	2.32	0.65
1:0:492:G:H22	1:0:519:C:H42	1.43	0.65
1:0:804:C:O2'	1:0:806:A:H4'	1.97	0.65
1:0:1388:C:H2'	1:0:1389:C:H6	1.62	0.65
1:0:2122:G:H2'	1:0:2123:G:C8	2.32	0.65
1:0:2480:C:H4'	1:0:2482:A:O4'	1.97	0.65
2:9:115:G:O2'	2:9:116:C:H5'	1.97	0.65
1:0:459:A:N6	1:0:484:G:H1'	2.12	0.64
1:0:669:G:H2'	1:0:670:U:C6	2.32	0.64
1:0:995:A:H5''	1:0:996:C:H5	1.62	0.64
1:0:17:G:H2'	1:0:18:U:C6	2.33	0.64
1:0:2045:A:N6	32:0:2881:773:H131	2.12	0.64
1:0:2476:A:O2'	1:0:2477:C:H5	1.74	0.64
1:0:2437:G:H2'	1:0:2469:G:N1	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2609:G:H21	1:0:2866:A:H2	1.46	0.64
1:0:1181:C:C3'	1:0:1182:U:H5''	2.28	0.64
1:0:1561:A:H2'	1:0:1562:G:O4'	1.98	0.64
1:0:1838:G:H2'	1:0:1839:A:H5'	1.80	0.64
1:0:414:A:H2'	1:0:415:A:O4'	1.97	0.64
1:0:1680:U:O2'	1:0:2665:G:H4'	1.97	0.64
1:0:1804:U:H2'	1:0:1805:G:C8	2.31	0.64
1:0:2261:G:H4'	1:0:2262:C:OP2	1.95	0.64
2:9:42:U:C2'	2:9:45:C:H41	2.08	0.64
1:0:114:C:O2'	1:0:124:A:H1'	1.96	0.64
1:0:509:U:H3	1:0:513:A:H62	1.43	0.64
1:0:2057:U:H2'	1:0:2058:U:C6	2.33	0.64
1:0:2273:C:H2'	1:0:2274:C:C6	2.32	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.33	0.64
1:0:764:A:H2'	1:0:764:A:N3	2.12	0.64
1:0:890:U:H2'	1:0:891:A:C8	2.32	0.64
1:0:929:A:C3'	1:0:930:A:H5''	2.26	0.64
2:9:63:A:H2'	2:9:64:C:H6	1.63	0.64
1:0:1591:U:H2'	1:0:1592:U:O4'	1.98	0.64
1:0:2158:C:H2'	1:0:2159:A:C8	2.33	0.64
1:0:109:A:H3'	1:0:110:U:H5''	1.78	0.64
1:0:987:G:H5'	1:0:1167:A:N6	2.13	0.64
1:0:1495:G:H2'	1:0:1496:G:C8	2.32	0.64
1:0:1502:G:O2'	1:0:1503:G:H5'	1.98	0.64
1:0:2490:U:H2'	1:0:2491:C:C6	2.33	0.64
1:0:1029:C:C3'	1:0:1030:U:H5''	2.28	0.63
1:0:2082:C:H2'	1:0:2083:G:O4'	1.98	0.63
1:0:2395:C:H2'	1:0:2396:C:H5''	1.79	0.63
1:0:820:U:H2'	1:0:821:A:H8	1.63	0.63
1:0:1073:G:H3'	1:0:1074:G:H5''	1.81	0.63
1:0:2507:U:O2'	1:0:2508:G:H3'	1.98	0.63
1:0:208:C:C2'	1:0:209:G:H5'	2.28	0.63
1:0:520:C:O2'	1:0:1249:G:H5'	1.99	0.63
1:0:824:U:H4'	1:0:1264:C:H1'	1.80	0.63
1:0:968:C:H41	1:0:970:A:H1'	1.63	0.63
1:0:2491:C:H2'	1:0:2492:G:O4'	1.99	0.63
1:0:427:C:H2'	1:0:428:A:C8	2.33	0.63
1:0:1139:A:O2'	1:0:2495:G:H4'	1.98	0.63
1:0:2770:A:C4'	1:0:2867:G:H22	2.12	0.63
1:0:165:G:H2'	1:0:166:G:O4'	1.99	0.63
1:0:1587:A:H2'	1:0:1588:A:H8	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2866:A:H2'	1:0:2867:G:O4'	1.99	0.63
1:0:139:A:H2'	1:0:140:G:H8	1.64	0.63
1:0:752:G:H5'	1:0:1775:A:N6	2.14	0.63
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.63
1:0:2380:U:C2'	1:0:2381:A:H5'	2.26	0.63
1:0:163:A:H2'	1:0:164:G:H8	1.63	0.63
1:0:441:A:H2'	1:0:442:A:O4'	1.99	0.63
1:0:1004:A:H2'	1:0:1005:U:H5''	1.80	0.63
1:0:1974:U:C2'	1:0:1975:G:H5''	2.29	0.63
1:0:2781:G:H2'	1:0:2782:G:C1'	2.29	0.63
1:0:2787:A:O2'	1:0:2788:C:H5'	1.99	0.63
1:0:792:U:H2'	1:0:793:G:C5'	2.27	0.63
1:0:1641:C:H2'	1:0:1642:G:O4'	1.99	0.63
1:0:1918:G:H1'	1:0:1947:G:C2	2.33	0.63
1:0:2456:U:H1'	1:0:2460:G:N2	2.13	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.99	0.63
1:0:2633:A:H2	1:0:2644:A:H5''	1.64	0.63
1:0:1268:U:H5'	1:0:1269:G:H5''	1.81	0.62
1:0:1690:U:H2'	1:0:1691:G:H5'	1.80	0.62
1:0:2839:G:H2'	1:0:2840:U:C6	2.33	0.62
1:0:401:G:H2'	1:0:403:A:N7	2.15	0.62
1:0:1473:U:H4'	1:0:1474:A:C5	2.34	0.62
1:0:1770:U:H2'	1:0:1774:A:H62	1.64	0.62
1:0:1972:G:H2'	1:0:1973:C:O4'	1.99	0.62
1:0:2085:G:H2'	1:0:2086:U:C6	2.34	0.62
2:9:18:G:H2'	2:9:19:C:H6	1.63	0.62
2:9:30:C:O5'	2:9:30:C:H6	1.80	0.62
1:0:1329:U:H5'	1:0:1405:A:H1'	1.79	0.62
1:0:1743:C:H41	16:N:125:MET:CA	2.11	0.62
1:0:1789:U:O2'	1:0:1793:A:H1'	2.00	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.63	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.81	0.62
1:0:2012:A:C5	1:0:2014:A:H5'	2.35	0.62
1:0:2495:G:H2'	1:0:2496:C:C6	2.35	0.62
1:0:2507:U:HO2'	1:0:2508:G:H8	1.47	0.62
1:0:2521:A:H5'	1:0:2522:G:OP1	1.99	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1204:G:H2'	1:0:1205:G:C8	2.34	0.62
1:0:1313:U:H1'	1:0:1642:G:N2	2.14	0.62
1:0:2273:C:H2'	1:0:2274:C:H6	1.65	0.62
1:0:223:C:H4'	1:0:398:C:H1'	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.62
1:0:683:A:H5''	1:0:684:C:OP1	2.00	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62
1:0:1319:C:H2'	1:0:1320:A:C8	2.32	0.62
1:0:2672:U:H2'	1:0:2673:G:C8	2.33	0.62
1:0:1560:A:H2'	1:0:1561:A:O4'	2.00	0.62
1:0:1707:A:N7	1:0:1714:A:H2	1.98	0.62
1:0:782:U:H2'	1:0:783:G:C8	2.35	0.62
1:0:927:C:H2'	1:0:928:G:O4'	1.99	0.62
1:0:2377:U:H2'	1:0:2378:G:C8	2.34	0.62
1:0:2770:A:C5'	1:0:2867:G:H1	2.13	0.62
1:0:888:G:H2'	1:0:889:C:O4'	2.00	0.62
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.62
1:0:2001:G:H2'	1:0:2002:A:C8	2.35	0.62
1:0:2011:U:H2'	1:0:2012:A:C8	2.35	0.62
2:9:114:C:O5'	2:9:114:C:H6	1.82	0.62
1:0:210:A:N6	1:0:442:A:H61	1.97	0.61
1:0:460:U:H3	1:0:592:G:H1'	1.64	0.61
1:0:942:U:O2'	1:0:943:U:H5'	2.00	0.61
1:0:1191:G:H2'	1:0:1192:A:H8	1.65	0.61
1:0:1429:A:N6	1:0:1602:G:H5'	2.15	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
1:0:1352:G:H2'	1:0:1353:A:C8	2.35	0.61
1:0:2426:G:O6	1:0:2479:U:H2'	2.00	0.61
2:9:56:G:H2'	2:9:57:U:O4'	1.99	0.61
1:0:1730:G:H2'	1:0:1731:C:C6	2.35	0.61
1:0:2045:A:H61	32:0:2881:773:H131	1.63	0.61
1:0:321:A:H2'	1:0:323:G:N7	2.15	0.61
1:0:483:A:H2'	1:0:484:G:H5'	1.82	0.61
1:0:1057:A:H3'	1:0:1058:G:C5'	2.31	0.61
1:0:614:G:H2'	1:0:615:C:H6	1.64	0.61
1:0:929:A:H2'	1:0:930:A:C4'	2.31	0.61
1:0:2764:U:H2'	1:0:2765:C:C6	2.36	0.61
1:0:141:G:H2'	1:0:142:U:C6	2.36	0.61
1:0:857:U:C2'	1:0:858:G:H5'	2.31	0.61
1:0:870:C:H2'	1:0:871:U:C6	2.36	0.61
1:0:1196:G:C2'	1:0:1197:U:H5'	2.30	0.61
1:0:1717:A:H2'	1:0:1718:A:H5'	1.81	0.61
1:0:1760:G:O2'	1:0:1761:G:H5'	2.01	0.61
1:0:2686:C:H2'	1:0:2687:G:C8	2.35	0.61
1:0:1937:G:N3	1:0:2530:C:H5'	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2437:G:H1	1:0:2469:G:H2'	1.64	0.61
1:0:2713:A:H2'	1:0:2714:A:C8	2.36	0.61
1:0:2721:A:H2'	1:0:2722:C:O4'	2.01	0.61
1:0:2872:U:H2'	1:0:2873:G:H8	1.63	0.61
2:9:14:C:H4'	2:9:17:A:H61	1.65	0.61
2:9:62:C:N4	2:9:63:A:N6	2.48	0.61
1:0:202:A:H2'	1:0:203:G:O4'	2.01	0.61
1:0:657:A:H2'	1:0:658:G:C8	2.36	0.61
1:0:775:U:O2	1:0:1445:A:H5''	2.00	0.61
1:0:1194:U:H2'	1:0:1195:U:C5	2.35	0.61
1:0:1514:C:H5'	1:0:1593:C:C5'	2.31	0.61
1:0:1588:A:H2'	1:0:1589:G:C8	2.36	0.61
1:0:1710:U:H3	1:0:1821:A:H61	1.48	0.61
1:0:146:C:H2'	1:0:147:G:C8	2.36	0.60
1:0:1225:G:H2'	1:0:1249:G:N2	2.16	0.60
2:9:58:G:H4'	2:9:59:A:C5'	2.29	0.60
1:0:62:U:H2'	1:0:63:A:C8	2.36	0.60
1:0:574:C:H4'	1:0:1266:G:O6	2.01	0.60
1:0:639:G:H2'	1:0:640:C:C6	2.36	0.60
1:0:2463:G:O2'	1:0:2464:G:H5'	2.01	0.60
1:0:2633:A:H5''	1:0:2634:G:OP1	2.02	0.60
1:0:2177:U:H2'	1:0:2178:U:C6	2.35	0.60
2:9:113:G:H2'	2:9:114:C:C6	2.36	0.60
1:0:330:C:O2'	1:0:331:U:H5'	2.00	0.60
1:0:976:C:H5'	1:0:2252:A:C1'	2.31	0.60
1:0:1889:G:H2'	1:0:1890:G:C8	2.37	0.60
1:0:1672:A:C2	1:0:2032:G:H4'	2.36	0.60
1:0:2617:G:H21	1:0:2758:A:H62	1.48	0.60
1:0:2713:A:H2'	1:0:2714:A:H8	1.67	0.60
1:0:2770:A:H5'	1:0:2867:G:H1	1.67	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.01	0.60
1:0:1295:U:C2'	1:0:1296:G:H5'	2.31	0.60
1:0:2005:U:H5''	1:0:2006:G:OP1	2.00	0.60
1:0:2194:A:C2'	1:0:2195:C:H5''	2.32	0.60
2:9:42:U:O5'	2:9:42:U:H6	1.83	0.60
1:0:538:A:H2'	1:0:539:A:H5''	1.82	0.60
1:0:542:A:C2'	1:0:543:G:H5'	2.32	0.60
1:0:2398:U:H2'	1:0:2399:C:C6	2.36	0.60
1:0:2754:C:H2'	1:0:2755:A:C8	2.36	0.60
1:0:108:G:H2'	1:0:109:A:C8	2.37	0.60
1:0:1086:C:C2'	1:0:1087:C:H5''	2.29	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2173:G:H2'	1:0:2174:G:O4'	2.01	0.60
1:0:2768:C:H1'	1:0:2784:A:N7	2.17	0.60
1:0:1184:G:H2'	1:0:1185:C:H5''	1.83	0.60
1:0:1782:A:H62	1:0:1820:G:H2'	1.67	0.60
1:0:2307:A:H2'	1:0:2308:A:C8	2.36	0.60
1:0:2429:A:OP1	1:0:2476:A:H2'	2.02	0.60
1:0:2691:C:C3'	1:0:2692:A:H5''	2.31	0.60
1:0:411:C:OP1	1:0:2073:A:H1'	2.02	0.59
1:0:2029:G:H2'	1:0:2030:U:C6	2.36	0.59
1:0:2096:U:C2'	1:0:2097:A:H5''	2.28	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.31	0.59
2:9:102:A:H2'	2:9:103:A:H5'	1.84	0.59
1:0:1517:C:H2'	1:0:1518:C:C6	2.37	0.59
1:0:1540:C:H2'	1:0:1541:G:O4'	2.02	0.59
1:0:2549:G:N2	1:0:2550:C:H1'	2.17	0.59
1:0:2736:U:O2'	1:0:2737:A:H5'	2.02	0.59
1:0:1067:G:H21	1:0:1115:C:N4	2.00	0.59
1:0:1312:G:H4'	1:0:1314:A:C4	2.37	0.59
1:0:2800:C:H2'	1:0:2801:A:O4'	2.02	0.59
1:0:761:G:O6	1:0:764:A:H4'	2.01	0.59
1:0:1604:A:H2'	1:0:1605:A:O4'	2.02	0.59
1:0:1790:G:H4'	1:0:1791:C:C5	2.38	0.59
1:0:2083:G:H2'	1:0:2084:G:C8	2.37	0.59
1:0:2274:C:H2'	1:0:2275:U:C5'	2.32	0.59
1:0:837:U:H1'	1:0:2337:A:N7	2.18	0.59
1:0:2119:A:O2'	1:0:2120:C:H5'	2.02	0.59
1:0:451:A:H2'	1:0:452:G:C8	2.38	0.59
1:0:1055:A:OP1	1:0:1057:A:H5'	2.03	0.59
1:0:681:A:C6	1:0:683:A:H2'	2.38	0.59
1:0:1921:A:H2'	1:0:1922:U:H5''	1.83	0.59
2:9:55:C:O5'	2:9:55:C:H6	1.85	0.59
1:0:581:A:C2	1:0:582:G:H1'	2.38	0.59
1:0:1259:A:O2'	1:0:1260:A:H5'	2.03	0.59
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.59
1:0:2299:A:H5''	1:0:2300:G:O5'	2.02	0.59
1:0:2678:C:H2'	1:0:2679:G:C8	2.38	0.59
2:9:78:A:H2'	2:9:79:U:C5	2.38	0.59
1:0:340:G:H1'	1:0:488:A:H1'	1.84	0.59
1:0:775:U:H4'	1:0:776:G:C8	2.38	0.59
1:0:973:U:H4'	1:0:2475:C:O2'	2.03	0.59
1:0:1245:G:H2'	1:0:1246:G:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1259:A:C2'	1:0:1260:A:H5'	2.32	0.59
1:0:1707:A:H2'	1:0:1708:C:H5'	1.85	0.59
1:0:2163:U:H2'	1:0:2164:G:C8	2.38	0.59
1:0:313:U:H2'	1:0:314:G:H8	1.68	0.58
1:0:646:C:O2	1:0:650:U:H4'	2.03	0.58
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.58
1:0:979:A:H2'	1:0:980:G:O4'	2.04	0.58
1:0:982:C:H4'	1:0:994:A:O2'	2.02	0.58
1:0:1644:G:O2'	1:0:1645:U:H5'	2.04	0.58
1:0:1679:U:C3'	1:0:1680:U:H5''	2.33	0.58
2:9:111:C:H5''	2:9:112:A:O5'	2.03	0.58
1:0:66:U:H2'	1:0:67:G:C8	2.38	0.58
1:0:462:G:H2'	1:0:463:C:H5''	1.83	0.58
1:0:1065:A:H2'	1:0:1066:G:H8	1.68	0.58
1:0:1691:G:H21	1:0:1694:A:H61	1.51	0.58
1:0:1949:A:H1'	1:0:2572:U:H4'	1.86	0.58
1:0:76:C:H6	1:0:76:C:H5'	1.68	0.58
1:0:1252:C:O2'	1:0:1253:C:H5''	2.03	0.58
1:0:2492:G:H1	1:0:2550:C:H42	1.49	0.58
1:0:168:A:H2'	1:0:169:C:H6	1.68	0.58
1:0:425:A:H2'	1:0:426:C:O4'	2.02	0.58
1:0:705:C:H2'	1:0:706:A:H8	1.69	0.58
1:0:1004:A:H2'	1:0:1005:U:C5'	2.32	0.58
1:0:1217:U:H2'	1:0:1218:C:C6	2.37	0.58
1:0:2660:C:O2'	1:0:2661:G:H5'	2.04	0.58
2:9:20:A:O2'	2:9:21:C:H5'	2.03	0.58
1:0:114:C:H2'	1:0:115:G:C8	2.39	0.58
1:0:799:C:O2'	1:0:800:U:H5'	2.03	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.03	0.58
1:0:1436:G:N2	1:0:1514:C:H1'	2.19	0.58
1:0:2466:G:H2'	1:0:2467:A:H8	1.67	0.58
1:0:2779:C:H2'	1:0:2780:A:C8	2.39	0.58
2:9:18:G:H2'	2:9:19:C:C6	2.38	0.58
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.58
1:0:357:A:H3'	1:0:358:C:O4'	2.04	0.58
1:0:595:A:H62	1:0:1264:C:H42	1.52	0.58
1:0:1253:C:H2'	1:0:1254:G:O4'	2.03	0.58
1:0:1278:A:H4'	1:0:1279:G:O5'	2.04	0.58
1:0:1537:U:H2'	1:0:1538:A:C8	2.39	0.58
1:0:1975:G:N2	1:0:1978:U:H5	2.00	0.58
1:0:2053:G:H2'	1:0:2054:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2437:G:H2'	1:0:2469:G:H1	1.68	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:616:U:C3'	1:0:617:U:H5''	2.34	0.58
1:0:1336:G:H2'	1:0:1337:G:H5'	1.86	0.58
1:0:2470:U:H2'	1:0:2471:U:H6	1.68	0.58
1:0:312:G:H4'	1:0:312:G:OP1	2.03	0.58
1:0:1699:A:N6	1:0:1723:U:H3	2.02	0.58
1:0:1763:G:H2'	1:0:1764:A:C4'	2.34	0.58
1:0:1991:C:H2'	1:0:1992:G:H8	1.68	0.58
1:0:1994:U:H2'	1:0:1995:G:H5'	1.86	0.58
1:0:2318:U:H2'	1:0:2319:G:C8	2.36	0.58
1:0:226:C:H4'	1:0:227:G:C8	2.38	0.58
1:0:487:G:H1'	1:0:515:A:C2	2.39	0.58
1:0:663:G:H2'	1:0:664:C:O4'	2.03	0.58
1:0:789:G:H21	1:0:806:A:H62	1.52	0.58
1:0:871:U:H1'	1:0:2248:A:H5''	1.85	0.58
1:0:1057:A:H3'	1:0:1058:G:H5''	1.85	0.58
1:0:1196:G:H2'	1:0:1197:U:O4'	2.04	0.58
1:0:2164:G:H2'	1:0:2165:A:H8	1.69	0.58
1:0:459:A:H1'	1:0:461:A:H62	1.67	0.57
1:0:692:C:H2'	1:0:693:A:H8	1.69	0.57
1:0:770:U:O2'	1:0:771:C:H5'	2.03	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.04	0.57
1:0:1281:A:H4'	1:0:2592:U:O2	2.04	0.57
1:0:1346:C:H6	1:0:1346:C:P	2.27	0.57
1:0:1791:C:H1'	1:0:1793:A:C5'	2.33	0.57
1:0:2194:A:H2'	1:0:2195:C:H5''	1.86	0.57
1:0:1195:U:H2'	1:0:1196:G:H8	1.69	0.57
1:0:1333:G:C6	1:0:1342:U:H5'	2.38	0.57
1:0:1830:C:H42	1:0:1881:U:H3'	1.69	0.57
1:0:2020:G:H2'	1:0:2021:G:C8	2.39	0.57
1:0:2727:G:C2'	1:0:2728:A:H5''	2.34	0.57
1:0:2737:A:H2'	1:0:2738:A:H5'	1.85	0.57
1:0:2788:C:O2'	1:0:2789:U:H5'	2.04	0.57
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.57
1:0:1621:C:H2'	1:0:1622:G:O4'	2.05	0.57
1:0:1785:A:H2'	1:0:1786:C:C6	2.39	0.57
1:0:2390:A:H2'	1:0:2391:A:C8	2.39	0.57
1:0:2782:G:H3'	1:0:2783:U:H5''	1.86	0.57
1:0:758:G:H2'	1:0:759:C:H5'	1.85	0.57
1:0:1418:C:H2'	1:0:1419:G:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1480:G:C2'	1:0:1481:U:H5'	2.34	0.57
1:0:1558:C:C2'	1:0:1559:G:H5'	2.34	0.57
1:0:1583:A:H8	1:0:1583:A:O5'	1.87	0.57
1:0:1816:G:O2'	1:0:1817:U:H5'	2.05	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.04	0.57
1:0:1313:U:C4	1:0:1651:U:H5'	2.40	0.57
1:0:2243:C:H2'	1:0:2244:C:O4'	2.04	0.57
1:0:2799:C:H2'	1:0:2800:C:O4'	2.04	0.57
1:0:958:G:H2'	1:0:959:C:C6	2.39	0.57
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.57
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.57
1:0:54:G:H2'	1:0:55:A:H8	1.70	0.57
1:0:941:U:H4'	1:0:941:U:OP1	2.04	0.57
1:0:36:G:H1'	1:0:462:G:H21	1.69	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.39	0.57
1:0:185:C:O2'	1:0:186:C:H5'	2.04	0.57
1:0:659:G:H2'	1:0:660:G:C8	2.40	0.57
1:0:936:A:H2'	1:0:937:C:C6	2.40	0.57
1:0:1271:C:H2'	1:0:1272:G:H8	1.68	0.57
1:0:1736:C:H2'	1:0:1737:G:C8	2.39	0.57
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.57
1:0:2503:G:C2'	1:0:2504:G:H5''	2.34	0.57
1:0:2633:A:C2	1:0:2644:A:H5''	2.39	0.57
1:0:1312:G:H4'	1:0:1314:A:N3	2.20	0.57
1:0:1729:C:H2'	1:0:1730:G:C8	2.40	0.57
1:0:2607:C:H3'	1:0:2608:A:H5'	1.86	0.57
1:0:2841:U:H1'	1:0:2843:A:C1'	2.35	0.57
1:0:1392:U:H2'	1:0:1393:G:H5'	1.87	0.57
1:0:1727:C:H4'	1:0:2833:C:C2	2.40	0.57
1:0:2426:G:H22	1:0:2431:C:N4	2.03	0.57
1:0:2756:A:C6	1:0:2762:G:H1'	2.39	0.57
2:9:102:A:H8	2:9:102:A:OP2	1.88	0.57
1:0:334:G:N3	1:0:344:G:H1'	2.20	0.56
1:0:929:A:O2'	2:9:101:A:H4'	2.05	0.56
1:0:1311:C:H5'	1:0:1315:A:N6	2.20	0.56
1:0:1336:G:C2'	1:0:1337:G:H5'	2.35	0.56
1:0:1825:C:C2'	1:0:1826:U:H5'	2.35	0.56
1:0:1958:G:H2'	1:0:1959:U:H6	1.70	0.56
1:0:195:A:N1	1:0:212:U:H4'	2.20	0.56
1:0:692:C:H2'	1:0:693:A:C8	2.40	0.56
1:0:2769:C:H2'	1:0:2770:A:H5'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:C2'	2:9:35:C:H5'	2.35	0.56
1:0:128:C:H2'	1:0:129:A:C4'	2.35	0.56
1:0:572:G:OP2	1:0:581:A:H5'	2.06	0.56
1:0:585:U:H2'	1:0:586:G:C8	2.40	0.56
1:0:604:U:H2'	1:0:605:G:C8	2.40	0.56
1:0:978:U:H2'	1:0:979:A:C8	2.40	0.56
1:0:1039:A:H61	1:0:1136:G:H2'	1.70	0.56
1:0:1196:G:H2'	1:0:1197:U:H5'	1.86	0.56
1:0:1322:G:H21	1:0:1627:C:H5'	1.70	0.56
1:0:1441:A:H2'	1:0:1441:A:N3	2.21	0.56
1:0:1677:C:O2'	1:0:1678:G:H5'	2.04	0.56
1:0:1698:C:O2'	1:0:1753:A:H2'	2.06	0.56
1:0:2261:G:H5''	1:0:2262:C:O5'	2.04	0.56
1:0:2266:A:C2	1:0:2268:G:H1'	2.40	0.56
1:0:2642:G:O2'	1:0:2643:G:H5'	2.05	0.56
2:9:93:G:H2'	2:9:94:G:C8	2.32	0.56
1:0:1182:U:C3'	1:0:1183:C:H5''	2.35	0.56
1:0:1374:G:O2'	1:0:2193:C:H1'	2.05	0.56
1:0:1763:G:H21	1:0:1765:C:H5''	1.71	0.56
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.56
1:0:2686:C:H2'	1:0:2687:G:H8	1.70	0.56
1:0:178:C:H2'	1:0:179:U:C6	2.40	0.56
1:0:308:C:H2'	1:0:309:G:O4'	2.05	0.56
1:0:452:G:H2'	1:0:453:U:O4'	2.06	0.56
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.56
1:0:831:G:C2'	1:0:832:A:H5''	2.36	0.56
1:0:1313:U:H4'	1:0:1314:A:O5'	2.05	0.56
1:0:2495:G:H2'	1:0:2496:C:O4'	2.05	0.56
2:9:34:C:H2'	2:9:35:C:O4'	2.05	0.56
1:0:12:U:H2'	1:0:13:A:O4'	2.06	0.56
1:0:653:G:H2'	1:0:654:A:H4'	1.86	0.56
1:0:847:C:H2'	1:0:848:A:C8	2.40	0.56
1:0:1095:A:H2'	1:0:1096:A:O4'	2.06	0.56
1:0:1356:G:H5''	1:0:1614:C:OP2	2.05	0.56
1:0:1430:G:H22	1:0:1599:G:H1'	1.71	0.56
1:0:1683:G:C2'	1:0:1684:G:H5'	2.35	0.56
1:0:1826:U:O2'	1:0:1952:A:H2'	2.05	0.56
1:0:777:A:H62	1:0:1767:G:H1'	1.70	0.56
1:0:1288:A:H62	1:0:1309:G:C4'	2.19	0.56
1:0:1300:A:C2	1:0:1666:G:H4'	2.41	0.56
1:0:1333:G:N2	1:0:1344:C:H41	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1770:U:H5''	1:0:1771:A:H4'	1.86	0.56
1:0:1790:G:HO2'	1:0:1791:C:H5	1.52	0.56
1:0:2105:U:H2'	1:0:2106:G:C8	2.41	0.56
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.56
2:9:59:A:H2'	2:9:60:A:H5'	1.87	0.56
2:9:62:C:C4	2:9:63:A:N7	2.74	0.56
1:0:24:G:H2'	1:0:25:U:C6	2.40	0.56
1:0:191:G:O2'	1:0:192:G:H5'	2.06	0.56
1:0:346:C:O2'	1:0:347:C:H5'	2.05	0.56
1:0:746:G:O6	1:0:774:A:H2'	2.05	0.56
1:0:931:G:O2'	1:0:932:G:H5'	2.06	0.56
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.56
1:0:719:A:H2'	1:0:720:A:O4'	2.06	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1162:A:H2'	1:0:1163:C:O4'	2.06	0.56
1:0:1312:G:H5''	1:0:1313:U:H5'	1.86	0.56
1:0:1594:U:H2'	1:0:1595:A:H8	1.71	0.56
1:0:1843:U:H2'	1:0:1844:C:C6	2.41	0.56
1:0:1953:A:H1'	1:0:1955:G:H1'	1.87	0.56
1:0:2080:U:H2'	1:0:2081:U:C6	2.41	0.56
1:0:2475:C:H2'	1:0:2476:A:O4'	2.06	0.56
1:0:2678:C:H2'	1:0:2679:G:H8	1.69	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.06	0.56
1:0:337:G:H2'	1:0:338:G:H8	1.71	0.56
1:0:738:G:H2'	1:0:739:G:O4'	2.06	0.56
1:0:871:U:H1'	1:0:2248:A:C5'	2.36	0.56
1:0:1245:G:H2'	1:0:1246:G:C8	2.40	0.56
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.56
1:0:1439:G:N2	1:0:1590:C:H42	2.04	0.56
1:0:1467:U:H3'	1:0:1468:A:H5'	1.88	0.56
1:0:1865:C:H2'	1:0:1866:G:O4'	2.06	0.56
1:0:2210:C:H2'	1:0:2211:U:O4'	2.06	0.56
1:0:2870:C:H2'	1:0:2871:U:H6	1.71	0.56
2:9:17:A:H1'	2:9:112:A:C8	2.40	0.56
2:9:101:A:H2'	2:9:102:A:C8	2.41	0.56
1:0:1021:A:H1'	1:0:1164:C:H1'	1.88	0.55
1:0:1226:A:C2	1:0:1250:A:H1'	2.41	0.55
1:0:1333:G:HO2'	1:0:1334:A:H8	1.52	0.55
1:0:1348:C:H2'	1:0:1349:A:H8	1.68	0.55
1:0:1949:A:H1'	1:0:2572:U:C4'	2.36	0.55
1:0:2811:G:H2'	1:0:2812:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:868:U:H2'	1:0:869:C:C6	2.41	0.55
1:0:1010:U:H2'	1:0:1011:A:C8	2.41	0.55
2:9:32:C:H4'	2:9:60:A:H2	1.70	0.55
1:0:10:A:H2'	1:0:11:G:C8	2.42	0.55
1:0:216:U:H2'	1:0:217:U:O4'	2.06	0.55
1:0:1038:U:H2'	1:0:1039:A:H8	1.70	0.55
1:0:1764:A:C2'	1:0:1765:C:H5'	2.36	0.55
1:0:1785:A:H2'	1:0:1786:C:H6	1.71	0.55
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.55
1:0:2052:G:O2'	1:0:2053:G:H5'	2.07	0.55
1:0:2618:A:C6	1:0:2619:G:H1'	2.41	0.55
1:0:2803:C:O2'	1:0:2804:G:H5'	2.06	0.55
1:0:153:A:H2'	1:0:154:U:C6	2.41	0.55
1:0:826:U:O2'	1:0:1238:A:H1'	2.06	0.55
1:0:929:A:H3'	1:0:930:A:C5'	2.30	0.55
1:0:1966:C:C4'	1:0:2585:C:H4'	2.15	0.55
1:0:687:G:O2'	1:0:688:A:H5'	2.06	0.55
1:0:839:U:C4	1:0:841:G:H1'	2.42	0.55
1:0:843:G:O2'	1:0:844:G:OP1	2.20	0.55
1:0:990:A:H3'	1:0:991:A:C5'	2.37	0.55
1:0:1164:C:H2'	1:0:1165:G:O4'	2.07	0.55
1:0:1436:G:H2'	1:0:1437:A:C8	2.42	0.55
1:0:1782:A:N6	1:0:1820:G:H2'	2.21	0.55
1:0:831:G:H2'	1:0:832:A:H5''	1.87	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.71	0.55
1:0:243:G:H2'	1:0:244:C:O4'	2.07	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.37	0.55
1:0:1821:A:H3'	1:0:1822:C:H6	1.72	0.55
1:0:2404:A:P	1:0:2406:C:H5'	2.47	0.55
1:0:2636:A:H62	1:0:2643:G:N2	1.99	0.55
1:0:677:G:H4'	1:0:952:A:P	2.46	0.55
1:0:820:U:H2'	1:0:821:A:C8	2.41	0.55
1:0:2276:C:O2'	1:0:2277:A:H5'	2.05	0.55
1:0:38:G:H1	1:0:453:U:H3	1.53	0.55
1:0:824:U:H2'	1:0:825:C:H5''	1.89	0.55
1:0:2642:G:H2'	1:0:2643:G:O4'	2.05	0.55
1:0:2770:A:H4'	1:0:2867:G:N2	2.21	0.55
1:0:162:C:H2'	1:0:163:A:H8	1.69	0.55
1:0:192:G:C1'	1:0:193:A:H4'	2.37	0.55
1:0:330:C:C2'	1:0:331:U:H5'	2.36	0.55
1:0:514:G:N3	1:0:514:G:H2'	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:591:G:H2'	1:0:592:G:H8	1.71	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.88	0.55
2:9:42:U:H2'	2:9:45:C:N4	2.16	0.55
1:0:1040:A:C2'	1:0:1041:G:H5'	2.36	0.54
1:0:1101:U:N3	1:0:1113:C:H1'	2.23	0.54
1:0:1251:G:H2'	1:0:1252:C:O4'	2.07	0.54
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.54
1:0:1500:U:H3	1:0:1520:G:H22	1.55	0.54
1:0:1861:G:O2'	1:0:1862:C:H5'	2.07	0.54
1:0:2083:G:H2'	1:0:2084:G:H8	1.73	0.54
1:0:213:C:H42	1:0:238:G:H1	1.54	0.54
1:0:225:G:C5'	1:0:226:C:H5'	2.37	0.54
1:0:437:G:O2'	1:0:438:G:H5'	2.06	0.54
1:0:929:A:HO2'	2:9:101:A:H4'	1.73	0.54
1:0:932:G:H2'	1:0:933:G:C8	2.42	0.54
1:0:2195:C:H2'	1:0:2196:U:H5'	1.87	0.54
1:0:2544:A:H2'	1:0:2545:A:H1'	1.89	0.54
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.54
1:0:174:A:H4'	1:0:2051:U:H2'	1.89	0.54
1:0:785:U:H5'	1:0:1368:G:O2'	2.07	0.54
1:0:1116:U:H2'	1:0:1117:G:C8	2.42	0.54
1:0:1312:G:H5''	1:0:1313:U:H5''	1.88	0.54
1:0:2058:U:H4'	1:0:2575:U:O2	2.08	0.54
1:0:2315:A:HO2'	1:0:2364:C:H5''	1.72	0.54
1:0:2408:G:H3'	1:0:2409:A:C5'	2.37	0.54
1:0:2478:C:H2'	1:0:2479:U:H5'	1.90	0.54
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.54
1:0:2855:C:O2'	1:0:2856:U:H5'	2.07	0.54
1:0:536:A:C2	1:0:2605:C:H1'	2.42	0.54
1:0:964:A:H2'	1:0:965:G:C8	2.40	0.54
1:0:1065:A:H2'	1:0:1066:G:C8	2.42	0.54
1:0:1250:A:O2'	1:0:1251:G:H4'	2.07	0.54
1:0:1291:G:O2'	1:0:1292:A:H5'	2.07	0.54
1:0:1531:C:H2'	1:0:1532:A:H5'	1.89	0.54
1:0:1837:G:H2'	1:0:1838:G:C8	2.42	0.54
1:0:2369:U:H2'	1:0:2370:G:C8	2.43	0.54
1:0:2633:A:H61	1:0:2646:C:H42	1.55	0.54
1:0:2756:A:N6	1:0:2762:G:H1'	2.22	0.54
1:0:36:G:C1'	1:0:462:G:H21	2.20	0.54
1:0:575:U:H2'	1:0:576:A:C8	2.43	0.54
1:0:790:A:O2'	1:0:791:G:H5'	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1124:U:H2'	1:0:1125:G:H8	1.73	0.54
2:9:62:C:N3	2:9:63:A:N7	2.55	0.54
2:9:71:G:N2	2:9:72:C:C1'	2.70	0.54
1:0:671:A:H2'	1:0:672:C:C6	2.43	0.54
1:0:804:C:O2	1:0:807:A:H5'	2.08	0.54
1:0:1125:G:O2'	1:0:1126:A:H5'	2.07	0.54
1:0:1242:A:H2'	1:0:1243:G:H8	1.72	0.54
1:0:2535:C:H2'	1:0:2536:G:O4'	2.08	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.07	0.54
1:0:338:G:O2'	1:0:339:U:H5'	2.08	0.54
1:0:577:U:H2'	1:0:579:G:OP2	2.08	0.54
1:0:659:G:H2'	1:0:660:G:H8	1.72	0.54
1:0:1451:C:H2'	1:0:1452:U:C6	2.43	0.54
1:0:1685:A:H1'	1:0:1686:A:C2	2.43	0.54
1:0:1998:A:H2'	1:0:1999:U:H5'	1.88	0.54
1:0:2447:G:N2	1:0:2460:G:H2'	2.20	0.54
1:0:2618:A:C2	1:0:2619:G:H1'	2.43	0.54
1:0:2759:U:O5'	1:0:2759:U:H6	1.90	0.54
1:0:504:G:O2'	1:0:505:G:H5'	2.08	0.54
1:0:1374:G:N2	1:0:1384:G:H1'	2.23	0.54
1:0:1672:A:C2	1:0:1673:C:H1'	2.43	0.54
1:0:1854:G:H2'	1:0:1855:G:H8	1.72	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.08	0.54
1:0:616:U:H2'	1:0:617:U:C5'	2.34	0.54
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.54
1:0:2034:A:N6	1:0:2593:A:H62	2.06	0.54
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.54
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.54
1:0:1392:U:C2'	1:0:1393:G:H5'	2.38	0.54
1:0:1482:U:H2'	1:0:1483:G:H8	1.73	0.54
1:0:2562:G:H2'	1:0:2563:U:O4'	2.08	0.54
1:0:968:C:N4	1:0:970:A:H1'	2.24	0.53
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.53
1:0:1602:G:O3'	1:0:1603:A:H8	1.91	0.53
1:0:584:A:O2'	1:0:585:U:H5'	2.07	0.53
1:0:1962:C:O2'	1:0:1963:G:H5'	2.07	0.53
1:0:2041:A:N6	32:0:2881:773:C14	2.38	0.53
1:0:2487:G:O3'	1:0:2534:U:H5'	2.07	0.53
1:0:2640:G:H2'	1:0:2641:A:C8	2.44	0.53
1:0:153:A:H2'	1:0:154:U:C5	2.44	0.53
1:0:215:G:N2	1:0:632:A:H8	2.04	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:242:A:O2'	1:0:243:G:O4'	2.27	0.53
1:0:635:C:C2'	1:0:636:G:H5''	2.36	0.53
1:0:1669:A:N6	1:0:1670:G:H21	2.05	0.53
1:0:2321:C:C2'	1:0:2322:U:H5'	2.38	0.53
1:0:94:C:H2'	1:0:95:G:O4'	2.09	0.53
1:0:139:A:H2'	1:0:140:G:C8	2.43	0.53
1:0:239:A:C2	1:0:443:A:H1'	2.43	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:1684:G:H2'	1:0:1974:U:O4	2.07	0.53
1:0:1739:G:H2'	1:0:1740:G:H8	1.74	0.53
1:0:1748:U:N3	1:0:1753:A:H2	2.01	0.53
1:0:1915:A:H2'	1:0:1916:G:O4'	2.09	0.53
1:0:2395:C:C2'	1:0:2396:C:H5''	2.39	0.53
1:0:66:U:H2'	1:0:67:G:H8	1.73	0.53
1:0:202:A:O2'	1:0:234:C:H4'	2.09	0.53
1:0:1337:G:H1'	1:0:1632:A:N6	2.24	0.53
1:0:1683:G:H2'	1:0:1684:G:H5'	1.90	0.53
1:0:2343:C:H2'	1:0:2344:G:O4'	2.09	0.53
1:0:2546:G:H2'	1:0:2547:C:C6	2.43	0.53
1:0:2607:C:H3'	1:0:2608:A:C5'	2.38	0.53
1:0:159:A:O2'	1:0:160:C:H5'	2.08	0.53
1:0:1196:G:H2'	1:0:1197:U:C4'	2.38	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53
1:0:1871:G:H2'	1:0:1871:G:N3	2.24	0.53
1:0:2026:C:H2'	1:0:2027:C:H6	1.73	0.53
1:0:13:A:H1'	1:0:536:A:H62	1.72	0.53
1:0:651:C:C3'	1:0:652:C:H5''	2.39	0.53
1:0:1137:A:H5''	1:0:1138:A:OP1	2.09	0.53
1:0:1196:G:H2'	1:0:1197:U:C5'	2.38	0.53
1:0:2035:G:H2'	1:0:2036:G:H8	1.73	0.53
1:0:2461:G:H2'	1:0:2462:C:O4'	2.08	0.53
1:0:2634:G:H2'	1:0:2643:G:O6	2.09	0.53
1:0:15:G:N2	1:0:2027:C:O2'	2.41	0.53
1:0:1323:G:H1'	1:0:1627:C:C5'	2.39	0.53
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
1:0:1999:U:H2'	1:0:2000:U:O4'	2.08	0.53
2:9:85:G:C2'	2:9:86:A:H5'	2.38	0.53
1:0:1418:C:H2'	1:0:1419:G:C8	2.43	0.53
1:0:1741:G:O2'	1:0:1742:G:H5'	2.09	0.53
1:0:1823:G:H2'	1:0:1824:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1943:A:C2'	1:0:1944:C:H5'	2.39	0.53
1:0:2038:C:H5'	1:0:2039:G:H5''	1.91	0.53
1:0:2324:G:C4'	1:0:2326:C:H5''	2.37	0.53
1:0:2383:C:H2'	1:0:2384:G:O4'	2.09	0.53
1:0:2733:A:O2'	1:0:2734:U:H5'	2.09	0.53
1:0:477:A:H2'	1:0:478:G:H5'	1.92	0.53
1:0:1102:G:H2'	1:0:1103:C:H6	1.74	0.53
1:0:1380:C:C2'	1:0:1381:G:H5'	2.39	0.53
1:0:1429:A:N6	1:0:1601:U:H5''	2.23	0.53
1:0:1459:U:O5'	1:0:1459:U:H6	1.91	0.53
1:0:1514:C:H5'	1:0:1593:C:H5''	1.91	0.53
1:0:1811:A:O2'	1:0:1812:U:H5''	2.09	0.53
1:0:1830:C:N4	1:0:1881:U:H3'	2.24	0.53
1:0:1872:A:H1'	1:0:2070:G:H5'	1.90	0.53
1:0:1917:C:H2'	1:0:1918:G:O4'	2.09	0.53
1:0:2662:C:H42	1:0:2707:G:H21	1.56	0.53
1:0:193:A:H2'	1:0:194:G:O4'	2.09	0.52
1:0:294:U:H2'	1:0:295:C:C6	2.44	0.52
1:0:726:G:H2'	1:0:727:U:O4'	2.08	0.52
1:0:1558:C:H2'	1:0:1559:G:H5'	1.90	0.52
1:0:2026:C:H2'	1:0:2027:C:C6	2.45	0.52
1:0:2377:U:H2'	1:0:2378:G:H8	1.74	0.52
1:0:2407:G:H5'	1:0:2408:G:C2	2.44	0.52
2:9:23:G:C6	2:9:24:U:C4	2.98	0.52
1:0:76:C:H2'	1:0:77:C:C6	2.43	0.52
1:0:852:U:H6	1:0:852:U:O5'	1.92	0.52
1:0:876:A:H4'	2:9:103:A:N3	2.24	0.52
1:0:932:G:H2'	1:0:933:G:O4'	2.08	0.52
1:0:1571:G:H3'	1:0:1571:G:OP2	2.08	0.52
1:0:1814:G:H2'	1:0:1815:G:C8	2.45	0.52
1:0:1886:G:H2'	1:0:1887:G:C8	2.36	0.52
1:0:2021:G:H2'	1:0:2022:C:C6	2.43	0.52
1:0:2617:G:HO2'	1:0:2618:A:H8	1.54	0.52
1:0:2627:G:H2'	1:0:2628:C:O4'	2.10	0.52
2:9:72:C:H2'	2:9:73:C:O4'	2.10	0.52
1:0:9:U:H3	1:0:2608:A:H62	1.57	0.52
1:0:246:C:H42	1:0:247:A:H62	1.56	0.52
1:0:543:G:H2'	1:0:544:U:C6	2.45	0.52
1:0:1313:U:H5'	1:0:1314:A:N3	2.25	0.52
1:0:1371:G:H1'	1:0:1386:A:H62	1.74	0.52
1:0:2825:A:H2'	1:0:2826:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1166:A:C3'	1:0:1167:A:H5''	2.40	0.52
1:0:1680:U:O2'	1:0:1681:A:H5''	2.09	0.52
1:0:1994:U:C2'	1:0:1995:G:H5'	2.40	0.52
1:0:2633:A:N6	1:0:2646:C:N4	2.55	0.52
1:0:837:U:H2'	1:0:838:A:C8	2.45	0.52
1:0:1316:G:H8	1:0:1316:G:OP2	1.93	0.52
1:0:1835:C:H2'	1:0:1836:C:C6	2.45	0.52
1:0:2327:U:H2'	1:0:2328:G:H8	1.74	0.52
1:0:2363:G:H5''	1:0:2365:U:OP1	2.10	0.52
2:9:41:A:H8	2:9:41:A:O5'	1.93	0.52
1:0:8:A:H2'	1:0:9:U:C6	2.44	0.52
1:0:10:A:H2'	1:0:11:G:H8	1.74	0.52
1:0:93:A:O2'	1:0:94:C:H5'	2.09	0.52
1:0:482:A:O2'	1:0:483:A:H5'	2.10	0.52
1:0:887:G:O2'	1:0:888:G:H5'	2.10	0.52
1:0:956:A:C6	1:0:2427:A:H1'	2.45	0.52
1:0:1204:G:H2'	1:0:1205:G:H8	1.74	0.52
1:0:1661:C:H2'	1:0:1662:G:C8	2.44	0.52
1:0:5:A:H2'	1:0:6:A:C8	2.43	0.52
1:0:758:G:O2'	1:0:761:G:H1'	2.10	0.52
1:0:1556:A:H2'	1:0:1557:G:H8	1.75	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:2633:A:H4'	1:0:2634:G:O5'	2.09	0.52
1:0:2756:A:H4'	1:0:2758:A:OP1	2.09	0.52
1:0:152:G:H2'	1:0:153:A:O4'	2.09	0.52
1:0:847:C:H2'	1:0:848:A:H8	1.73	0.52
1:0:929:A:H8	1:0:2247:A:H61	1.56	0.52
1:0:2035:G:H2'	1:0:2036:G:C8	2.44	0.52
1:0:2169:A:O2'	1:0:2170:C:H5'	2.10	0.52
1:0:2324:G:N2	1:0:2361:G:C4	2.78	0.52
1:0:2487:G:H2'	1:0:2488:G:H8	1.74	0.52
1:0:1036:G:H1'	1:0:1145:C:O4'	2.09	0.52
1:0:1288:A:H62	1:0:1309:G:H4'	1.75	0.52
1:0:2169:A:C2'	1:0:2170:C:H5'	2.40	0.52
1:0:2560:G:H3'	1:0:2560:G:N3	2.25	0.52
1:0:2599:U:H2'	1:0:2600:A:C5'	2.33	0.52
1:0:2705:A:O2'	1:0:2706:U:C6	2.60	0.52
1:0:202:A:C2	1:0:203:G:H1'	2.45	0.52
1:0:474:G:N2	1:0:476:G:H3'	2.24	0.52
1:0:579:G:H2'	1:0:2013:A:N7	2.24	0.52
1:0:608:G:H2'	1:0:609:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1039:A:N6	1:0:1136:G:H2'	2.25	0.52
1:0:1491:C:H2'	1:0:1492:A:H8	1.75	0.52
1:0:1912:G:H3'	1:0:1912:G:N3	2.25	0.52
1:0:2324:G:N3	1:0:2326:C:H5	2.08	0.52
1:0:2394:G:H2'	1:0:2395:C:C6	2.45	0.52
1:0:2809:A:O2'	1:0:2810:A:H5'	2.10	0.52
1:0:35:G:O4'	1:0:466:A:H1'	2.10	0.51
1:0:41:G:H2'	1:0:42:G:H8	1.75	0.51
1:0:362:C:C4	1:0:363:G:H1'	2.45	0.51
1:0:389:G:H2'	1:0:390:U:C6	2.44	0.51
1:0:1083:C:H42	1:0:1103:C:H41	1.56	0.51
1:0:1151:U:H5''	1:0:1153:A:OP1	2.10	0.51
1:0:1272:G:H2'	1:0:1273:G:H8	1.76	0.51
1:0:1416:A:O2'	1:0:1417:C:H5'	2.10	0.51
1:0:1996:A:O2'	1:0:1997:A:H5'	2.09	0.51
1:0:2265:A:H5''	1:0:2266:A:O4'	2.10	0.51
1:0:764:A:C2	1:0:802:A:C2	2.98	0.51
1:0:922:A:H62	13:K:17:ARG:CA	2.24	0.51
1:0:978:U:H2'	1:0:979:A:H8	1.76	0.51
1:0:1485:U:H2'	1:0:1486:A:C8	2.45	0.51
1:0:1843:U:H2'	1:0:1844:C:H6	1.74	0.51
1:0:2353:G:H2'	1:0:2354:G:C8	2.46	0.51
2:9:116:C:H2'	2:9:117:G:O4'	2.10	0.51
1:0:604:U:H2'	1:0:605:G:H8	1.74	0.51
1:0:1293:A:O2'	1:0:1294:G:H5'	2.10	0.51
1:0:1621:C:H4'	1:0:1626:A:N6	2.24	0.51
1:0:2541:U:H2'	1:0:2542:U:O4'	2.10	0.51
1:0:95:G:H2'	1:0:96:C:C6	2.46	0.51
1:0:782:U:H2'	1:0:783:G:H8	1.72	0.51
1:0:1662:G:H5''	1:0:1663:C:O4'	2.11	0.51
1:0:1944:C:H2'	1:0:1945:C:O4'	2.10	0.51
1:0:2717:G:H2'	1:0:2718:A:H8	1.75	0.51
1:0:15:G:H2'	1:0:16:G:H5'	1.93	0.51
1:0:119:G:H1'	1:0:129:A:C2	2.45	0.51
1:0:300:C:H2'	1:0:301:C:H5'	1.92	0.51
1:0:430:C:H2'	1:0:431:G:C8	2.45	0.51
1:0:484:G:O2'	1:0:485:G:H5'	2.11	0.51
1:0:984:A:H2	1:0:1200:G:H1	1.57	0.51
1:0:1010:U:H2'	1:0:1011:A:H8	1.76	0.51
1:0:2301:A:H2'	1:0:2302:G:O4'	2.11	0.51
2:9:78:A:H2'	2:9:79:U:H6	1.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:678:G:O2'	1:0:679:C:H5'	2.11	0.51
1:0:706:A:H2'	1:0:707:U:C6	2.46	0.51
1:0:773:G:C2'	1:0:774:A:H5'	2.41	0.51
1:0:830:C:H2'	1:0:831:G:H8	1.76	0.51
1:0:837:U:H2'	1:0:838:A:O4'	2.10	0.51
1:0:859:U:H4'	1:0:860:U:C5	2.46	0.51
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:1579:G:H2'	1:0:1580:C:C6	2.45	0.51
1:0:2503:G:C3'	1:0:2504:G:H5''	2.40	0.51
1:0:2613:A:O2'	1:0:2614:A:H5'	2.10	0.51
1:0:2633:A:H5'	1:0:2635:U:O4'	2.11	0.51
1:0:2658:A:O2'	1:0:2659:C:H5'	2.11	0.51
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.51
1:0:583:C:O2'	1:0:584:A:OP2	2.27	0.51
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:931:G:C2'	1:0:932:G:H5'	2.40	0.51
1:0:1540:C:O2'	1:0:1541:G:H5'	2.10	0.51
1:0:1714:A:H3'	1:0:1715:A:C8	2.45	0.51
1:0:1818:G:H2'	1:0:1819:U:C6	2.46	0.51
1:0:1856:U:H2'	1:0:1857:G:O4'	2.11	0.51
1:0:2490:U:H2'	1:0:2491:C:H6	1.76	0.51
2:9:42:U:C2	2:9:45:C:C5	2.99	0.51
1:0:29:U:H2'	1:0:30:G:C8	2.46	0.51
1:0:174:A:C2	1:0:2413:A:N6	2.79	0.51
1:0:781:G:H5'	1:0:1638:G:H4'	1.93	0.51
1:0:800:U:H3'	1:0:804:C:H41	1.74	0.51
1:0:1218:C:H2'	1:0:1219:C:O4'	2.10	0.51
1:0:952:A:O2'	1:0:1204:G:H4'	2.11	0.51
1:0:1227:A:H4'	1:0:1252:C:H4'	1.93	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.45	0.51
1:0:1590:C:O5'	1:0:1590:C:H6	1.94	0.51
1:0:1611:U:H2'	1:0:1612:U:O4'	2.10	0.51
1:0:1790:G:C8	1:0:1811:A:N6	2.79	0.51
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.51
1:0:2076:G:H2'	1:0:2077:G:C8	2.46	0.51
2:9:6:C:H2'	2:9:7:C:H6	1.72	0.51
2:9:26:G:N7	2:9:58:G:C4	2.78	0.51
2:9:71:G:C2'	2:9:72:C:H5'	2.41	0.51
1:0:37:C:H4'	1:0:463:C:OP1	2.11	0.51
1:0:612:G:H4'	1:0:613:A:O2'	2.10	0.51
1:0:754:G:N2	1:0:770:U:H1'	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:765:C:O2'	1:0:766:A:O4'	2.29	0.51
1:0:789:G:H4'	1:0:790:A:C8	2.46	0.51
1:0:1000:G:P	1:0:1168:G:H4'	2.51	0.51
1:0:1457:A:O2'	1:0:1458:A:H5'	2.11	0.51
1:0:1592:U:O5'	1:0:1592:U:H6	1.94	0.51
1:0:2246:A:H2'	1:0:2246:A:N3	2.26	0.51
1:0:2870:C:H2'	1:0:2871:U:C6	2.46	0.51
2:9:4:C:H2'	2:9:5:C:C5	2.43	0.51
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:685:U:O2'	1:0:686:C:H5'	2.11	0.50
1:0:1066:G:H3'	1:0:1067:G:H5''	1.93	0.50
1:0:1132:C:H2'	1:0:1133:G:O4'	2.10	0.50
1:0:1179:A:H2'	1:0:1180:A:C8	2.45	0.50
1:0:2565:C:O2'	1:0:2566:A:H5'	2.11	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
1:0:1226:A:H2'	1:0:1227:A:C8	2.46	0.50
1:0:2422:C:H2'	1:0:2423:G:C8	2.46	0.50
2:9:50:U:H2'	2:9:51:G:C8	2.45	0.50
1:0:322:A:H2'	1:0:322:A:N3	2.26	0.50
1:0:357:A:C2'	1:0:358:C:H5'	2.37	0.50
1:0:636:G:H2'	1:0:637:G:H5'	1.94	0.50
1:0:2160:C:H2'	1:0:2161:C:C6	2.47	0.50
1:0:2487:G:H2'	1:0:2488:G:C8	2.47	0.50
1:0:2751:C:H2'	1:0:2752:C:H6	1.75	0.50
1:0:2772:U:O2'	1:0:2773:G:H5'	2.11	0.50
1:0:502:A:H2'	1:0:503:G:H5'	1.93	0.50
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.50
1:0:1411:C:H2'	1:0:1412:C:H6	1.75	0.50
1:0:1625:A:C8	1:0:1632:A:H1'	2.46	0.50
1:0:2104:G:H2'	1:0:2105:U:C6	2.47	0.50
1:0:2238:G:H1'	1:0:2406:C:C2	2.46	0.50
1:0:2770:A:C5'	1:0:2867:G:H22	2.25	0.50
1:0:630:G:H8	1:0:630:G:O5'	1.94	0.50
1:0:860:U:H2'	1:0:860:U:O2	2.10	0.50
1:0:1101:U:H3	1:0:1113:C:H1'	1.77	0.50
1:0:1572:C:H2'	1:0:1573:G:C5'	2.42	0.50
1:0:1624:A:H2'	1:0:1625:A:H5'	1.94	0.50
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.50
1:0:2458:U:OP1	1:0:2516:U:H1'	2.11	0.50
1:0:2546:G:H2'	1:0:2547:C:H6	1.76	0.50
1:0:2651:U:O2'	1:0:2652:G:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:111:C:H5''	2:9:112:A:H4'	1.93	0.50
1:0:923:A:H2'	1:0:923:A:N3	2.26	0.50
1:0:1090:C:O2'	1:0:1091:C:H5'	2.11	0.50
1:0:1411:C:H2'	1:0:1412:C:C6	2.47	0.50
1:0:2559:U:H2'	1:0:2560:G:H5'	1.94	0.50
1:0:2717:G:H2'	1:0:2718:A:C8	2.46	0.50
2:9:29:C:H2'	2:9:30:C:C5	2.45	0.50
1:0:14:A:C2	1:0:2604:G:O2'	2.65	0.50
1:0:41:G:O2'	1:0:42:G:H5'	2.12	0.50
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.50
1:0:597:U:H2'	1:0:598:U:C6	2.46	0.50
1:0:697:G:H1	1:0:807:A:H2	1.55	0.50
1:0:788:G:H5''	1:0:790:A:H1'	1.94	0.50
1:0:1287:A:N1	1:0:1661:C:O2'	2.40	0.50
1:0:1313:U:H4'	1:0:1314:A:O4'	2.11	0.50
1:0:1430:G:H2'	1:0:1431:U:C6	2.47	0.50
1:0:1514:C:H2'	1:0:1515:U:O4'	2.11	0.50
1:0:1594:U:H2'	1:0:1595:A:C8	2.47	0.50
1:0:2341:G:O2'	1:0:2342:U:H5'	2.12	0.50
1:0:2609:G:N2	1:0:2866:A:H2	2.09	0.50
1:0:73:A:N3	1:0:73:A:H5''	2.26	0.50
1:0:221:A:H2'	1:0:222:G:H5'	1.94	0.50
1:0:509:U:H3	1:0:513:A:N6	2.09	0.50
1:0:1026:U:H2'	1:0:1027:C:C6	2.47	0.50
1:0:1038:U:N3	1:0:2467:A:H5'	2.25	0.50
1:0:1199:U:H3'	1:0:1200:G:H5''	1.93	0.50
1:0:1229:C:H2'	1:0:1230:C:H6	1.77	0.50
1:0:1429:A:H1'	1:0:1603:A:C6	2.46	0.50
1:0:1440:G:H3'	1:0:1441:A:C5'	2.41	0.50
1:0:18:U:O2'	1:0:563:U:H5''	2.12	0.50
1:0:75:C:H2'	1:0:76:C:C5'	2.33	0.50
1:0:813:A:O2'	1:0:815:A:H5'	2.12	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:1982:C:H5''	1:0:2703:C:O2'	2.12	0.50
1:0:2170:C:H2'	1:0:2171:U:O4'	2.12	0.50
2:9:105:G:C2	2:9:106:U:C4	2.99	0.50
1:0:337:G:H2'	1:0:338:G:C8	2.47	0.49
1:0:611:C:O2'	1:0:614:G:H5''	2.12	0.49
1:0:820:U:H1'	1:0:2424:G:OP1	2.12	0.49
1:0:1353:A:H5''	1:0:1354:A:N7	2.26	0.49
1:0:1399:C:H2'	1:0:1400:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1872:A:H2'	1:0:1873:A:H8	1.77	0.49
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.49
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.49
1:0:1058:G:H2'	1:0:1121:G:H1	1.77	0.49
1:0:1315:A:H5''	1:0:1316:G:OP1	2.11	0.49
1:0:2028:C:O2'	1:0:2029:G:H5'	2.12	0.49
1:0:2195:C:C2'	1:0:2196:U:H5'	2.42	0.49
1:0:2230:G:H1'	1:0:2429:A:O4'	2.12	0.49
1:0:2544:A:H5''	1:0:2545:A:OP2	2.12	0.49
1:0:2608:A:O2'	1:0:2609:G:H5'	2.11	0.49
1:0:329:C:O2'	1:0:330:C:H5'	2.11	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:541:C:N4	1:0:572:G:H8	2.06	0.49
1:0:1001:A:C3'	1:0:1002:C:H5''	2.42	0.49
1:0:1310:C:OP1	1:0:2689:C:H4'	2.11	0.49
1:0:2680:U:H3'	1:0:2681:A:H5'	1.95	0.49
1:0:2733:A:H2'	1:0:2734:U:O4'	2.11	0.49
2:9:104:A:C2	2:9:105:G:H1'	2.47	0.49
1:0:751:G:H1'	1:0:772:G:N2	2.28	0.49
1:0:1807:A:H1'	1:0:1809:G:N7	2.26	0.49
1:0:2212:U:H2'	1:0:2213:G:C8	2.47	0.49
1:0:2395:C:H2'	1:0:2396:C:C5'	2.43	0.49
1:0:2599:U:H3'	1:0:2600:A:H5''	1.93	0.49
1:0:2764:U:H2'	1:0:2765:C:H6	1.75	0.49
2:9:111:C:H5''	2:9:112:A:C5'	2.42	0.49
1:0:212:U:O2'	1:0:213:C:H5'	2.13	0.49
1:0:242:A:N6	1:0:441:A:N7	2.60	0.49
1:0:298:C:H2'	1:0:299:C:H6	1.78	0.49
1:0:338:G:H2'	1:0:339:U:H5'	1.94	0.49
1:0:1073:G:H2'	1:0:1074:G:C4'	2.29	0.49
1:0:1345:G:H5''	1:0:1346:C:OP1	2.12	0.49
1:0:1534:A:O2'	1:0:1535:C:H5'	2.12	0.49
1:0:1703:C:H2'	1:0:1704:G:O4'	2.12	0.49
1:0:1979:C:H6	1:0:1979:C:OP1	1.95	0.49
1:0:2196:U:H2'	1:0:2197:U:C6	2.47	0.49
1:0:2544:A:H2'	1:0:2545:A:C1'	2.42	0.49
1:0:45:C:H2'	1:0:46:C:C6	2.48	0.49
1:0:228:A:C5	1:0:229:G:H1'	2.47	0.49
1:0:298:C:H2'	1:0:299:C:C6	2.46	0.49
1:0:843:G:H8	1:0:843:G:OP1	1.95	0.49
1:0:1166:A:C2'	1:0:1167:A:H5''	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1479:G:N2	1:0:1543:G:H21	2.11	0.49
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.49
1:0:29:U:O5'	1:0:29:U:H6	1.96	0.49
1:0:79:G:H2'	1:0:80:A:C8	2.46	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.12	0.49
1:0:1380:C:H2'	1:0:1381:G:H5'	1.95	0.49
1:0:1730:G:H2'	1:0:1731:C:H6	1.76	0.49
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:1936:A:O2'	1:0:2538:C:H1'	2.13	0.49
1:0:2523:G:H1'	1:0:2625:U:C5'	2.42	0.49
1:0:1212:U:H2'	1:0:1213:U:C6	2.48	0.49
1:0:1980:A:O2'	1:0:1981:A:H5'	2.13	0.49
1:0:2054:A:H2'	1:0:2055:G:H8	1.77	0.49
1:0:2122:G:H2'	1:0:2123:G:H8	1.77	0.49
1:0:2754:C:H2'	1:0:2755:A:H8	1.77	0.49
2:9:28:A:OP2	2:9:29:C:H5	1.95	0.49
2:9:59:A:C4	6:D:27:ALA:CA	2.95	0.49
2:9:116:C:O2'	15:M:50:THR:CA	2.60	0.49
1:0:132:U:H2'	1:0:133:C:C6	2.48	0.49
1:0:333:A:O2'	1:0:350:U:H2'	2.12	0.49
1:0:782:U:HO2'	1:0:1392:U:H5	1.60	0.49
1:0:931:G:C5'	2:9:83:C:H1'	2.43	0.49
1:0:1073:G:C2'	1:0:1074:G:H4'	2.30	0.49
1:0:1284:G:C2	1:0:1633:C:H5'	2.48	0.49
1:0:1288:A:H2'	1:0:1289:A:O4'	2.13	0.49
1:0:1341:G:H2'	1:0:1343:C:C5	2.48	0.49
1:0:1429:A:H61	1:0:1602:G:H5'	1.78	0.49
1:0:1687:C:H1'	1:0:1976:U:O2	2.13	0.49
1:0:1888:C:H2'	1:0:1913:G:C5	2.48	0.49
1:0:2039:G:OP2	1:0:2483:U:H4'	2.13	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
2:9:23:G:C2	2:9:24:U:C2	3.01	0.49
2:9:28:A:H3'	2:9:29:C:C6	2.43	0.49
1:0:446:C:H2'	1:0:447:U:O4'	2.13	0.49
1:0:605:G:H2'	1:0:606:A:C8	2.48	0.49
1:0:870:C:H2'	1:0:871:U:H6	1.77	0.49
1:0:1811:A:H2'	1:0:1811:A:N3	2.27	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:805:G:H5''	1:0:806:A:O5'	2.13	0.48
1:0:1347:C:O2'	1:0:1348:C:H5'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.48
1:0:2010:G:H2'	1:0:2011:U:C6	2.48	0.48
1:0:2426:G:N2	1:0:2430:A:H62	2.11	0.48
2:9:67:C:C3'	2:9:68:A:H5'	2.43	0.48
2:9:92:G:C3'	2:9:93:G:H5'	2.42	0.48
1:0:220:U:H2'	1:0:221:A:H8	1.79	0.48
1:0:681:A:N6	1:0:683:A:H2'	2.28	0.48
1:0:1482:U:H2'	1:0:1483:G:C8	2.48	0.48
2:9:71:G:H2'	2:9:72:C:H5'	1.95	0.48
2:9:89:G:N2	2:9:91:A:C8	2.81	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:612:G:H4'	1:0:613:A:H4'	1.94	0.48
1:0:702:A:N3	1:0:792:U:H1'	2.27	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.77	0.48
1:0:843:G:HO2'	1:0:844:G:P	2.35	0.48
1:0:1087:C:H2'	1:0:1088:A:O4'	2.13	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:1940:C:H2'	1:0:1941:C:C6	2.48	0.48
1:0:80:A:H2'	1:0:81:C:C6	2.47	0.48
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.48
1:0:583:C:O2'	1:0:584:A:P	2.72	0.48
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.48	0.48
1:0:1622:G:H4'	1:0:1624:A:N3	2.29	0.48
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.48
1:0:2217:G:H3'	1:0:2217:G:N3	2.28	0.48
1:0:2225:G:H2'	1:0:2226:A:H8	1.79	0.48
1:0:2671:C:O2'	1:0:2672:U:H5'	2.13	0.48
1:0:2761:A:C5'	1:0:2762:G:H5'	2.44	0.48
2:9:63:A:H2'	2:9:64:C:C6	2.47	0.48
2:9:107:C:H3'	2:9:107:C:C6	2.47	0.48
1:0:347:C:H2'	1:0:348:U:O4'	2.14	0.48
1:0:475:U:H1'	1:0:801:A:N1	2.28	0.48
1:0:1023:U:H1'	1:0:1154:A:C8	2.48	0.48
1:0:1141:U:OP2	1:0:2549:G:N2	2.47	0.48
1:0:1339:U:O4	1:0:1664:G:H1'	2.14	0.48
1:0:1424:U:H2'	1:0:1425:G:H8	1.78	0.48
1:0:1692:C:H2'	1:0:1693:A:H5'	1.95	0.48
1:0:1955:G:H2'	1:0:1956:G:H5'	1.94	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2469:G:H4'	1:0:2470:U:H5	1.77	0.48
1:0:2508:G:H5''	1:0:2509:A:H5''	1.95	0.48
1:0:117:A:H5'	1:0:118:U:O5'	2.14	0.48
1:0:195:A:H2'	1:0:196:A:O4'	2.13	0.48
1:0:696:U:O5'	1:0:696:U:H6	1.97	0.48
1:0:781:G:H2'	1:0:782:U:O4'	2.13	0.48
1:0:839:U:H5'	1:0:2407:G:H2'	1.95	0.48
1:0:957:G:O2'	1:0:958:G:H5'	2.14	0.48
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.48
1:0:1402:G:H2'	1:0:1403:U:O4'	2.13	0.48
1:0:1461:C:H2'	1:0:1462:C:C6	2.49	0.48
1:0:1626:A:C8	1:0:1626:A:OP2	2.66	0.48
1:0:2048:C:H2'	1:0:2049:C:C6	2.48	0.48
1:0:2059:U:H2'	1:0:2060:A:C5'	2.36	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.49	0.48
1:0:2468:G:H2'	1:0:2469:G:O4'	2.14	0.48
1:0:2480:C:H5''	1:0:2482:A:H5'	1.95	0.48
1:0:2488:G:N2	1:0:2559:U:H1'	2.28	0.48
1:0:2712:G:H5'	1:0:2713:A:C8	2.49	0.48
1:0:2795:A:N3	1:0:2795:A:H2'	2.28	0.48
2:9:85:G:O2'	2:9:86:A:H5'	2.13	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:717:G:H1'	1:0:740:A:H61	1.79	0.48
1:0:1001:A:H62	1:0:1200:G:H1'	1.79	0.48
1:0:1307:U:H2'	1:0:1308:C:O4'	2.13	0.48
1:0:1432:G:N2	1:0:1596:A:H62	1.95	0.48
1:0:1442:C:N4	1:0:1585:A:C8	2.82	0.48
1:0:2478:C:C2'	1:0:2479:U:H5'	2.44	0.48
2:9:32:C:H4'	2:9:60:A:C2	2.47	0.48
2:9:91:A:H8	2:9:91:A:O5'	1.97	0.48
1:0:242:A:O2'	1:0:243:G:P	2.72	0.48
1:0:486:U:C4'	1:0:520:C:H5'	2.43	0.48
1:0:539:A:H62	1:0:2024:U:H3	1.61	0.48
1:0:657:A:H8	1:0:657:A:O5'	1.96	0.48
1:0:777:A:N6	1:0:1767:G:H1'	2.28	0.48
1:0:942:U:H2'	1:0:943:U:O4'	2.14	0.48
1:0:990:A:H3'	1:0:991:A:H5''	1.96	0.48
1:0:1327:C:OP1	1:0:1345:G:H5'	2.14	0.48
1:0:1541:G:H22	1:0:1561:A:N6	2.11	0.48
1:0:1756:C:H2'	1:0:1757:C:C6	2.49	0.48
1:0:2011:U:H2'	1:0:2012:A:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2447:G:H8	1:0:2447:G:O5'	1.97	0.48
1:0:2820:C:H2'	1:0:2821:G:H8	1.78	0.48
1:0:13:A:O2'	1:0:14:A:C2	2.67	0.48
1:0:15:G:C2'	1:0:16:G:H5'	2.44	0.48
1:0:614:G:H2'	1:0:615:C:C6	2.47	0.48
1:0:995:A:H5''	1:0:996:C:C5	2.47	0.48
1:0:1066:G:H3'	1:0:1067:G:C5'	2.44	0.48
1:0:1226:A:N1	1:0:1250:A:H1'	2.29	0.48
1:0:1458:A:C3'	1:0:1459:U:H5''	2.38	0.48
1:0:1969:G:O2'	1:0:1970:G:H5'	2.14	0.48
1:0:2053:G:H2'	1:0:2054:A:H8	1.76	0.48
1:0:2117:A:N6	1:0:2139:G:H21	2.11	0.48
1:0:2810:A:H2	1:0:2853:U:C5	2.31	0.48
1:0:581:A:N3	1:0:582:G:H1'	2.28	0.48
1:0:736:G:H2'	1:0:737:C:C6	2.49	0.48
1:0:824:U:H2'	1:0:825:C:C5'	2.43	0.48
1:0:860:U:H2'	1:0:861:G:H5'	1.95	0.48
1:0:1721:G:O2'	1:0:1722:G:H5'	2.13	0.48
1:0:1740:G:O2'	1:0:1741:G:H5'	2.14	0.48
1:0:1858:C:H2'	1:0:1859:A:H8	1.79	0.48
1:0:2311:U:HO2'	1:0:2312:A:H8	1.60	0.48
1:0:2665:G:H2'	1:0:2666:U:O4'	2.14	0.48
2:9:42:U:H3'	2:9:43:G:H5''	1.96	0.48
1:0:195:A:C2'	1:0:196:A:H5'	2.44	0.47
1:0:353:G:H2'	1:0:354:C:C6	2.48	0.47
1:0:521:U:H5''	1:0:1248:G:H4'	1.96	0.47
1:0:562:G:H2'	1:0:563:U:O4'	2.14	0.47
1:0:633:G:H8	1:0:633:G:O5'	1.97	0.47
1:0:735:G:O2'	1:0:736:G:H5'	2.14	0.47
1:0:788:G:H5''	1:0:789:G:OP1	2.13	0.47
1:0:915:C:H2'	1:0:916:U:C6	2.49	0.47
1:0:953:G:H1'	1:0:1203:A:C2	2.43	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1139:A:H1'	1:0:2496:C:H5'	1.96	0.47
1:0:1162:A:O2'	1:0:1163:C:H5'	2.13	0.47
1:0:1425:G:H2'	1:0:1426:U:C6	2.49	0.47
1:0:1906:U:H2'	1:0:1907:C:C6	2.49	0.47
1:0:2070:G:H2'	1:0:2071:G:O4'	2.14	0.47
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.47
1:0:147:G:O5'	1:0:147:G:H8	1.97	0.47
1:0:365:U:H2'	1:0:366:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:524:A:O2'	1:0:525:A:H5'	2.13	0.47
1:0:537:C:C6	1:0:2759:U:H2'	2.48	0.47
1:0:699:G:H5'	1:0:700:C:OP2	2.14	0.47
1:0:964:A:H1'	1:0:2245:A:OP2	2.14	0.47
1:0:1007:A:H2'	1:0:1008:G:H8	1.79	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.97	0.47
1:0:1257:U:H2'	1:0:1258:G:H8	1.77	0.47
1:0:1301:U:H5''	1:0:1302:C:OP1	2.14	0.47
1:0:1666:G:H2'	1:0:1667:A:H8	1.77	0.47
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.47
1:0:1783:G:O6	1:0:1820:G:H1'	2.14	0.47
1:0:2396:C:O2'	1:0:2397:A:H5'	2.14	0.47
1:0:297:A:H2'	1:0:298:C:C6	2.49	0.47
1:0:788:G:H5'	1:0:790:A:N3	2.29	0.47
1:0:926:C:H2'	1:0:927:C:H5'	1.96	0.47
1:0:956:A:H2'	1:0:956:A:N3	2.29	0.47
1:0:1032:A:C2'	1:0:1033:G:H4'	2.39	0.47
1:0:1630:A:H8	1:0:1630:A:OP2	1.97	0.47
1:0:2182:A:H2'	1:0:2183:C:O4'	2.14	0.47
1:0:2424:G:H2'	1:0:2425:G:O4'	2.13	0.47
2:9:35:C:H2'	2:9:36:A:O4'	2.14	0.47
1:0:236:C:H2'	1:0:237:G:C8	2.43	0.47
1:0:305:A:H2'	1:0:306:G:O4'	2.14	0.47
1:0:592:G:H2'	1:0:593:C:C6	2.49	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.96	0.47
1:0:2425:G:H2'	1:0:2480:C:N4	2.29	0.47
1:0:2426:G:N2	1:0:2431:C:H41	2.12	0.47
1:0:2459:C:C2'	1:0:2460:G:H5'	2.45	0.47
1:0:2658:A:H2'	1:0:2659:C:O4'	2.14	0.47
2:9:8:C:O2'	2:9:9:G:H5'	2.14	0.47
2:9:117:G:O2'	2:9:118:G:H5'	2.14	0.47
1:0:167:A:N6	1:0:812:G:O2'	2.45	0.47
1:0:192:G:H4'	1:0:193:A:O5'	2.14	0.47
1:0:974:U:H5'	1:0:2476:A:OP1	2.14	0.47
1:0:1166:A:H2'	1:0:1167:A:H5''	1.95	0.47
1:0:1277:G:H2'	1:0:1997:A:N6	2.30	0.47
1:0:1407:G:H2'	1:0:1408:A:C8	2.49	0.47
1:0:1456:C:O2'	1:0:1457:A:H5'	2.14	0.47
1:0:1764:A:H2'	1:0:1765:C:H5'	1.95	0.47
1:0:1956:G:H2'	1:0:1957:C:C6	2.49	0.47
1:0:1959:U:H2'	1:0:1960:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:O5'	2:9:34:C:H6	1.98	0.47
1:0:457:C:O2'	1:0:458:G:H5'	2.13	0.47
1:0:701:U:O2'	1:0:702:A:H5'	2.14	0.47
1:0:1102:G:H2'	1:0:1103:C:C6	2.48	0.47
1:0:1141:U:O2'	1:0:1142:G:OP1	2.27	0.47
1:0:1487:C:H2'	1:0:1488:G:H8	1.80	0.47
1:0:1719:G:O2'	1:0:1720:G:H5'	2.14	0.47
1:0:1857:G:H2'	1:0:1859:A:OP2	2.14	0.47
1:0:1915:A:N1	1:0:1956:G:H1'	2.29	0.47
1:0:1957:C:O2'	1:0:1958:G:H5'	2.14	0.47
1:0:2094:C:C4	1:0:2103:G:H1'	2.50	0.47
1:0:2727:G:H2'	1:0:2728:A:H5''	1.95	0.47
1:0:2814:G:H1	1:0:2853:U:H3	1.62	0.47
1:0:482:A:C2'	1:0:483:A:H5'	2.45	0.47
1:0:587:A:OP2	1:0:587:A:H8	1.98	0.47
1:0:640:C:H5''	1:0:660:G:O2'	2.13	0.47
1:0:657:A:H2'	1:0:658:G:H8	1.78	0.47
1:0:957:G:N2	1:0:983:G:H1'	2.29	0.47
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.47
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.47
1:0:1365:U:H1'	1:0:1586:A:H2	1.79	0.47
1:0:1373:G:H2'	1:0:1374:G:H5'	1.97	0.47
1:0:1437:A:O2'	1:0:1438:G:H5'	2.14	0.47
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:2048:C:H2'	1:0:2049:C:H6	1.80	0.47
1:0:2245:A:C2'	1:0:2246:A:OP2	2.62	0.47
1:0:2384:G:H2'	1:0:2390:A:H62	1.80	0.47
1:0:2433:G:H2'	1:0:2434:G:H8	1.80	0.47
1:0:2617:G:O2'	1:0:2618:A:H8	1.97	0.47
1:0:2862:G:O2'	1:0:2863:U:H5'	2.15	0.47
2:9:88:C:H2'	2:9:89:G:O4'	2.15	0.47
2:9:108:G:H2'	2:9:109:G:H8	1.79	0.47
1:0:174:A:H4'	1:0:2052:G:OP2	2.15	0.47
1:0:305:A:C2'	1:0:306:G:H5'	2.45	0.47
1:0:397:U:H2'	1:0:398:C:H6	1.79	0.47
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:605:G:H2'	1:0:606:A:H8	1.80	0.47
1:0:1253:C:C2'	1:0:1254:G:H5'	2.44	0.47
1:0:1317:G:O2'	1:0:1318:A:H5'	2.14	0.47
1:0:1322:G:N2	1:0:1627:C:H5'	2.28	0.47
1:0:1668:G:O2'	1:0:1669:A:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2470:U:H2'	1:0:2471:U:C6	2.50	0.47
1:0:2739:G:H2'	1:0:2740:C:O4'	2.15	0.47
2:9:24:U:H2'	2:9:25:G:O5'	2.14	0.47
1:0:4:C:H2'	1:0:5:A:C8	2.50	0.47
1:0:181:A:H5''	1:0:182:G:OP1	2.14	0.47
1:0:550:C:H2'	1:0:551:A:H8	1.80	0.47
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.47
1:0:1802:A:H2'	1:0:1803:G:O4'	2.15	0.47
1:0:2204:A:H1'	1:0:2205:C:C5	2.49	0.47
1:0:211:U:O2'	1:0:212:U:H5'	2.15	0.47
1:0:422:C:H2'	1:0:423:G:O4'	2.15	0.47
1:0:450:C:H2'	1:0:451:A:C8	2.51	0.47
1:0:461:A:H2'	1:0:461:A:N3	2.30	0.47
1:0:912:A:H2'	1:0:913:A:H8	1.80	0.47
1:0:1680:U:H6	1:0:1680:U:H5'	1.80	0.47
1:0:1940:C:H2'	1:0:1941:C:H6	1.80	0.47
1:0:2045:A:H4'	1:0:2421:C:OP2	2.13	0.47
1:0:2227:C:H2'	1:0:2228:U:H5'	1.96	0.47
1:0:2404:A:O2'	1:0:2405:A:OP2	2.28	0.47
1:0:2446:C:H2'	1:0:2447:G:C8	2.50	0.47
2:9:42:U:O4	2:9:45:C:OP2	2.33	0.47
1:0:433:G:N2	1:0:434:C:H1'	2.30	0.46
1:0:538:A:C2'	1:0:539:A:H5''	2.44	0.46
1:0:786:U:H2'	1:0:787:A:H5'	1.97	0.46
1:0:1621:C:O2'	1:0:1626:A:N7	2.45	0.46
1:0:1871:G:N3	1:0:1871:G:C2'	2.78	0.46
1:0:1970:G:O2'	1:0:1971:C:H5'	2.15	0.46
1:0:2204:A:O2'	1:0:2205:C:OP2	2.30	0.46
1:0:2286:G:H21	1:0:2290:A:H62	1.63	0.46
1:0:2396:C:H6	1:0:2396:C:H5'	1.80	0.46
1:0:2492:G:H1	1:0:2550:C:N4	2.13	0.46
1:0:2598:C:H2'	1:0:2599:U:C6	2.50	0.46
1:0:2617:G:N2	1:0:2755:A:H2'	2.30	0.46
2:9:68:A:C2	2:9:110:U:C4	3.03	0.46
1:0:83:A:N1	1:0:98:U:H1'	2.31	0.46
1:0:246:C:N4	1:0:247:A:H62	2.13	0.46
1:0:487:G:H1'	1:0:515:A:H2	1.79	0.46
1:0:538:A:C3'	1:0:539:A:H5''	2.45	0.46
1:0:785:U:O2'	1:0:786:U:H5'	2.15	0.46
1:0:1139:A:H1'	1:0:2495:G:O2'	2.15	0.46
1:0:1442:C:N4	1:0:1585:A:H8	2.13	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1793:A:H2'	1:0:1794:A:C8	2.50	0.46
1:0:2624:G:H4'	1:0:2712:G:O2'	2.15	0.46
1:0:2785:A:H62	1:0:2865:G:H21	1.63	0.46
1:0:2830:U:H2'	1:0:2831:A:C8	2.51	0.46
2:9:45:C:H42	2:9:47:A:H62	1.63	0.46
1:0:31:C:H5''	1:0:1252:C:OP1	2.14	0.46
1:0:429:C:H2'	1:0:430:C:O4'	2.15	0.46
1:0:631:G:H5''	1:0:632:A:OP1	2.16	0.46
1:0:1715:A:H1'	1:0:1717:A:O4'	2.14	0.46
1:0:225:G:H5'	1:0:226:C:H5'	1.97	0.46
1:0:514:G:N3	1:0:514:G:C2'	2.78	0.46
1:0:515:A:C2'	1:0:516:G:H5'	2.46	0.46
1:0:612:G:O3'	1:0:613:A:C4'	2.59	0.46
1:0:984:A:H1'	1:0:1202:U:C5	2.51	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.80	0.46
1:0:1964:A:OP1	1:0:1965:U:OP2	2.33	0.46
1:0:2225:G:C2	1:0:2405:A:H1'	2.50	0.46
1:0:2402:U:H5'	1:0:2404:A:C5	2.51	0.46
2:9:5:C:H2'	2:9:6:C:O4'	2.15	0.46
2:9:30:C:C6	2:9:30:C:O5'	2.64	0.46
1:0:65:C:C2'	1:0:66:U:H5'	2.45	0.46
1:0:69:G:H4'	1:0:70:A:O5'	2.16	0.46
1:0:393:U:H2'	1:0:394:U:H6	1.80	0.46
1:0:474:G:H22	1:0:476:G:H3'	1.80	0.46
1:0:619:A:H2'	1:0:620:G:C8	2.50	0.46
1:0:732:G:H8	1:0:732:G:O5'	1.99	0.46
1:0:1337:G:H4'	1:0:1632:A:N7	2.31	0.46
1:0:1472:C:HO2'	1:0:1474:A:H8	1.62	0.46
1:0:2055:G:O2'	1:0:2056:C:H5'	2.15	0.46
1:0:2523:G:H2'	1:0:2524:G:O4'	2.16	0.46
1:0:2858:A:H3'	1:0:2859:U:H5'	1.97	0.46
1:0:482:A:H2'	1:0:483:A:O4'	2.16	0.46
1:0:591:G:H2'	1:0:592:G:C8	2.49	0.46
1:0:699:G:H3'	1:0:699:G:N3	2.30	0.46
1:0:810:U:H2'	1:0:811:G:C8	2.51	0.46
1:0:1221:C:O5'	1:0:1221:C:H6	1.99	0.46
1:0:1496:G:H1	1:0:1527:G:H1	1.64	0.46
1:0:1669:A:H2'	1:0:1670:G:H4'	1.98	0.46
1:0:2407:G:H5''	1:0:2408:G:OP1	2.15	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	0.46
1:0:221:A:N6	1:0:231:G:H21	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:646:C:O2'	1:0:650:U:H5''	2.16	0.46
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.46
1:0:1002:C:O5'	1:0:1002:C:H6	1.99	0.46
1:0:1216:G:H2'	1:0:1217:U:O4'	2.16	0.46
1:0:1447:U:H1'	1:0:1577:G:H22	1.79	0.46
1:0:1671:A:O4'	1:0:2798:A:H5'	2.16	0.46
1:0:1714:A:C5	1:0:1715:A:N6	2.79	0.46
1:0:1827:G:H1'	1:0:1914:U:N3	2.31	0.46
2:9:23:G:H2'	2:9:24:U:C6	2.51	0.46
2:9:51:G:O2'	2:9:52:G:H5'	2.15	0.46
1:0:40:U:H2'	1:0:41:G:C8	2.50	0.46
1:0:170:U:H2'	1:0:171:G:C8	2.46	0.46
1:0:299:C:H2'	1:0:300:C:C5	2.51	0.46
1:0:394:U:O2'	1:0:395:G:H5'	2.16	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.51	0.46
1:0:635:C:O2	1:0:670:U:H4'	2.16	0.46
1:0:839:U:H5''	1:0:2408:G:P	2.55	0.46
1:0:931:G:H2'	1:0:932:G:C5'	2.46	0.46
1:0:1034:U:H4'	1:0:1134:C:OP1	2.15	0.46
1:0:1478:U:H2'	1:0:1479:G:C8	2.51	0.46
1:0:1624:A:C2'	1:0:1625:A:H5'	2.45	0.46
1:0:2015:G:O2'	1:0:2016:A:OP1	2.28	0.46
1:0:115:G:C6	1:0:117:A:N6	2.84	0.46
1:0:642:A:H2'	1:0:643:A:C8	2.51	0.46
1:0:643:A:O2'	1:0:644:A:H5'	2.15	0.46
1:0:764:A:N3	1:0:764:A:C2'	2.77	0.46
1:0:872:G:O2'	1:0:2247:A:C4	2.69	0.46
1:0:974:U:H2'	1:0:975:C:O4'	2.16	0.46
1:0:1356:G:H1'	1:0:1613:G:C2	2.51	0.46
1:0:1494:G:H2'	1:0:1495:G:O4'	2.16	0.46
1:0:1784:C:O2'	1:0:1785:A:H5'	2.16	0.46
1:0:1918:G:H4'	1:0:1920:A:C2	2.51	0.46
1:0:2093:G:H2'	1:0:2094:C:H6	1.80	0.46
1:0:2225:G:O2'	1:0:2226:A:H5'	2.16	0.46
1:0:2397:A:H2'	1:0:2398:U:O4'	2.16	0.46
1:0:2511:G:N2	1:0:2642:G:O2'	2.49	0.46
1:0:2751:C:H2'	1:0:2752:C:C6	2.50	0.46
1:0:367:G:C3'	1:0:368:A:H5''	2.46	0.46
1:0:490:A:N7	1:0:492:G:H1'	2.31	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1322:G:O2'	1:0:1323:G:H5'	2.16	0.46
1:0:1715:A:HO2'	1:0:1716:G:H8	1.64	0.46
1:0:1790:G:O3'	1:0:1791:C:H6	1.99	0.46
1:0:1923:U:O2	1:0:1923:U:H2'	2.16	0.46
1:0:1952:A:O2'	1:0:1955:G:N2	2.49	0.46
1:0:2245:A:H2'	1:0:2246:A:OP2	2.16	0.46
1:0:2264:C:H2'	1:0:2265:A:H5'	1.98	0.46
1:0:2321:C:O2'	1:0:2353:G:H5''	2.16	0.46
1:0:2687:G:O2'	1:0:2688:G:H5'	2.17	0.46
2:9:94:G:H2'	2:9:94:G:N3	2.30	0.46
1:0:20:C:H2'	1:0:21:A:H8	1.81	0.45
1:0:141:G:H2'	1:0:142:U:H6	1.81	0.45
1:0:674:U:H2'	1:0:675:C:C6	2.52	0.45
1:0:677:G:H4'	1:0:951:G:O3'	2.16	0.45
1:0:840:U:H4'	1:0:841:G:N2	2.31	0.45
1:0:1226:A:H2'	1:0:1227:A:H8	1.80	0.45
1:0:1356:G:H4'	1:0:1613:G:H2'	1.98	0.45
1:0:1855:G:H4'	1:0:2390:A:H4'	1.98	0.45
1:0:2045:A:H3'	1:0:2046:C:C5'	2.46	0.45
1:0:2753:C:H2'	1:0:2754:C:H6	1.79	0.45
1:0:455:A:H4'	1:0:1214:C:O2'	2.15	0.45
1:0:718:A:O2'	1:0:719:A:H5'	2.14	0.45
1:0:942:U:H2'	1:0:943:U:C4'	2.46	0.45
1:0:1147:G:O2'	1:0:1148:G:H5'	2.16	0.45
1:0:1171:A:H2'	1:0:1172:U:C6	2.51	0.45
1:0:1739:G:H2'	1:0:1740:G:C8	2.51	0.45
1:0:1787:U:H2'	1:0:1788:C:H6	1.81	0.45
1:0:2307:A:H2'	1:0:2308:A:H8	1.79	0.45
1:0:190:A:H2'	1:0:191:G:H8	1.81	0.45
1:0:195:A:H2'	1:0:196:A:H5'	1.98	0.45
1:0:239:A:C5'	1:0:620:G:H5'	2.46	0.45
1:0:544:U:H2'	1:0:545:C:O4'	2.16	0.45
1:0:871:U:O2	1:0:2247:A:H2'	2.16	0.45
1:0:981:C:H2'	1:0:982:C:C6	2.52	0.45
1:0:1001:A:H5'	1:0:1168:G:OP1	2.17	0.45
1:0:1281:A:C4'	1:0:2592:U:O2	2.65	0.45
1:0:1333:G:N2	1:0:1344:C:N4	2.64	0.45
1:0:1715:A:HO2'	1:0:1716:G:H3'	1.81	0.45
1:0:2324:G:HO2'	1:0:2325:A:H5''	1.81	0.45
1:0:2511:G:H2'	1:0:2512:A:O4'	2.17	0.45
2:9:92:G:H2'	2:9:93:G:C5'	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:112:A:H2'	2:9:113:G:C8	2.51	0.45
1:0:50:G:H2'	1:0:117:A:N1	2.30	0.45
1:0:305:A:H2'	1:0:306:G:H5'	1.97	0.45
1:0:669:G:H2'	1:0:670:U:H6	1.80	0.45
1:0:675:C:H2'	1:0:676:G:H8	1.82	0.45
1:0:697:G:O2'	1:0:698:A:H5'	2.15	0.45
1:0:986:A:H2'	1:0:987:G:H5'	1.98	0.45
1:0:1685:A:N6	1:0:1691:G:N3	2.64	0.45
1:0:2019:C:H5'	1:0:2019:C:H6	1.82	0.45
1:0:2396:C:H2'	1:0:2397:A:C5'	2.46	0.45
1:0:2504:G:O4'	1:0:2721:A:H2	1.99	0.45
1:0:2617:G:H22	1:0:2755:A:H2'	1.82	0.45
1:0:2652:G:H2'	1:0:2653:A:C8	2.40	0.45
1:0:462:G:H2'	1:0:463:C:H5'	1.99	0.45
1:0:733:G:O2'	1:0:734:G:H5'	2.17	0.45
1:0:2104:G:H2'	1:0:2105:U:H6	1.81	0.45
1:0:2459:C:H2'	1:0:2460:G:O4'	2.17	0.45
1:0:2713:A:O2'	1:0:2714:A:H5'	2.16	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:745:C:C2'	1:0:746:G:H5'	2.47	0.45
1:0:1473:U:H4'	1:0:1474:A:C8	2.52	0.45
1:0:1479:G:N2	1:0:1543:G:N2	2.64	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.31	0.45
1:0:1538:A:O2'	1:0:1539:U:H5'	2.17	0.45
1:0:1821:A:H3'	1:0:1822:C:C6	2.52	0.45
1:0:1854:G:O2'	1:0:1855:G:H5'	2.16	0.45
1:0:2249:U:H2'	1:0:2250:G:H5'	1.99	0.45
1:0:2274:C:C2'	1:0:2275:U:H5''	2.46	0.45
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.45
1:0:362:C:C2'	1:0:363:G:H4'	2.27	0.45
1:0:393:U:O2'	1:0:394:U:H5'	2.17	0.45
1:0:665:A:H3'	1:0:666:U:H5''	1.97	0.45
1:0:889:C:O2'	1:0:890:U:H5'	2.17	0.45
1:0:930:A:H4'	1:0:930:A:OP1	2.15	0.45
1:0:1388:C:H2'	1:0:1389:C:C6	2.47	0.45
1:0:1666:G:H2'	1:0:1667:A:C8	2.52	0.45
1:0:1789:U:O2	1:0:1793:A:H2	1.99	0.45
1:0:1849:G:H8	1:0:1849:G:O5'	2.00	0.45
1:0:1947:G:H5''	1:0:1948:C:OP1	2.16	0.45
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.45
2:9:114:C:O5'	2:9:114:C:C6	2.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:70:A:OP2	1:0:111:G:O5'	2.34	0.45
1:0:341:A:H1'	1:0:1223:G:O6	2.17	0.45
1:0:403:A:H5''	1:0:404:A:OP1	2.17	0.45
1:0:824:U:O2'	1:0:1264:C:O4'	2.34	0.45
1:0:1227:A:C4'	1:0:1252:C:H4'	2.47	0.45
1:0:1356:G:C4'	1:0:1613:G:H2'	2.47	0.45
1:0:1429:A:C6	1:0:1602:G:H5'	2.50	0.45
1:0:1699:A:C6	1:0:1748:U:H1'	2.52	0.45
1:0:1846:A:H2'	1:0:1847:G:O4'	2.17	0.45
1:0:1933:G:H8	1:0:1933:G:O5'	2.00	0.45
1:0:322:A:H2	1:0:342:G:OP2	2.00	0.45
1:0:486:U:H2'	1:0:487:G:H5'	1.99	0.45
1:0:745:C:H2'	1:0:746:G:C5'	2.47	0.45
1:0:931:G:H2'	1:0:932:G:H5'	1.99	0.45
1:0:1278:A:O2'	1:0:1279:G:P	2.75	0.45
1:0:1706:A:N6	1:0:1714:A:H2'	2.32	0.45
1:0:2230:G:C8	1:0:2476:A:N6	2.85	0.45
2:9:104:A:C8	2:9:105:G:N7	2.85	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.99	0.45
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.45
1:0:1449:C:O2'	1:0:1450:G:H5'	2.17	0.45
1:0:1950:C:H2'	1:0:1951:G:O4'	2.16	0.45
1:0:2407:G:H4'	1:0:2408:G:C5	2.52	0.45
1:0:2483:U:H3'	1:0:2484:G:H5''	1.97	0.45
1:0:2533:U:H2'	1:0:2534:U:C6	2.52	0.45
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.44
1:0:115:G:H8	1:0:115:G:O5'	2.00	0.44
1:0:127:C:H5''	1:0:1615:C:O2'	2.16	0.44
1:0:343:A:N6	1:0:346:C:C5	2.85	0.44
1:0:930:A:H5'	1:0:931:G:C8	2.52	0.44
1:0:1008:G:O2'	1:0:1009:C:H5'	2.17	0.44
1:0:1363:C:H2'	1:0:1364:C:O4'	2.17	0.44
1:0:1540:C:H2'	1:0:1541:G:H8	1.83	0.44
1:0:2347:C:H2'	1:0:2348:A:C8	2.52	0.44
1:0:2454:C:H42	1:0:2508:G:H22	1.65	0.44
1:0:2633:A:H4'	1:0:2634:G:H4'	1.98	0.44
1:0:2841:U:O2'	1:0:2842:C:H5'	2.17	0.44
1:0:225:G:H3'	1:0:226:C:H5'	2.00	0.44
1:0:538:A:N1	1:0:2026:C:H5''	2.32	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.18	0.44
1:0:1064:C:H2'	1:0:1065:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1802:A:O2'	1:0:1803:G:H5'	2.16	0.44
1:0:1884:A:O2'	1:0:1885:C:H5'	2.17	0.44
1:0:2002:A:C2	1:0:2003:A:H1'	2.53	0.44
1:0:2024:U:H2'	1:0:2025:A:C8	2.52	0.44
1:0:2163:U:H2'	1:0:2164:G:H8	1.82	0.44
1:0:2572:U:H2'	1:0:2573:C:H6	1.83	0.44
1:0:2748:C:H2'	1:0:2749:A:O4'	2.18	0.44
1:0:416:U:C5'	1:0:417:C:H5'	2.42	0.44
1:0:560:G:H21	1:0:1233:A:H2	1.65	0.44
1:0:815:A:H2'	1:0:816:U:O4'	2.17	0.44
1:0:960:U:H2'	1:0:961:G:C8	2.51	0.44
1:0:1132:C:O2'	1:0:1133:G:H5'	2.17	0.44
1:0:1426:U:H2'	1:0:1427:G:O4'	2.17	0.44
1:0:1512:A:H8	1:0:1512:A:O5'	1.99	0.44
1:0:1541:G:N2	1:0:1562:G:N2	2.65	0.44
1:0:1685:A:H2	1:0:1687:C:C2	2.35	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	1.99	0.44
1:0:1937:G:H21	1:0:2530:C:H5''	1.82	0.44
1:0:2784:A:H3'	1:0:2785:A:H8	1.82	0.44
2:9:33:C:H2'	2:9:34:C:C6	2.52	0.44
2:9:64:C:N4	2:9:65:A:C6	2.86	0.44
2:9:73:C:O2	2:9:109:G:C2	2.70	0.44
1:0:83:A:H8	1:0:83:A:O5'	2.00	0.44
1:0:424:G:N7	1:0:2385:U:N3	2.65	0.44
1:0:859:U:H4'	1:0:860:U:H5	1.82	0.44
1:0:1459:U:H2'	1:0:1475:U:HO2'	1.80	0.44
1:0:1462:C:O2'	1:0:1560:A:H1'	2.17	0.44
1:0:118:U:H5''	1:0:120:G:OP2	2.17	0.44
1:0:608:G:O2'	1:0:609:U:H5'	2.18	0.44
1:0:699:G:N1	1:0:801:A:C2	2.83	0.44
1:0:768:U:H5'	1:0:1285:A:N1	2.33	0.44
1:0:805:G:H4'	1:0:806:A:OP2	2.14	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.43	0.44
1:0:1669:A:H61	1:0:1670:G:H21	1.66	0.44
1:0:1748:U:N3	1:0:1753:A:C2	2.75	0.44
1:0:1750:A:C8	1:0:2675:U:H1'	2.53	0.44
1:0:1872:A:H2'	1:0:1873:A:C8	2.52	0.44
1:0:1938:U:O2'	1:0:1939:U:H5'	2.18	0.44
1:0:2136:G:H2'	1:0:2137:G:C8	2.53	0.44
1:0:2177:U:O2'	1:0:2178:U:H5'	2.18	0.44
1:0:2202:G:H3'	1:0:2203:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2215:C:H2'	1:0:2216:G:O4'	2.18	0.44
2:9:61:A:O5'	2:9:61:A:C8	2.60	0.44
1:0:128:C:H2'	1:0:129:A:H5''	2.00	0.44
1:0:161:U:H5'	1:0:193:A:N1	2.33	0.44
1:0:187:U:H1'	1:0:1379:A:C2	2.53	0.44
1:0:221:A:C2'	1:0:222:G:H5'	2.47	0.44
1:0:323:G:OP2	1:0:343:A:H5'	2.18	0.44
1:0:533:C:H2'	1:0:534:U:O4'	2.18	0.44
1:0:1223:G:N1	1:0:1250:A:N7	2.66	0.44
1:0:1295:U:H2'	1:0:1296:G:C5'	2.43	0.44
1:0:1792:C:H6	1:0:1792:C:O5'	2.00	0.44
1:0:1849:G:H21	1:0:1868:A:H62	1.65	0.44
1:0:2409:A:C2'	1:0:2410:U:H5'	2.47	0.44
1:0:2426:G:H22	1:0:2431:C:H41	1.64	0.44
1:0:2488:G:H2'	1:0:2489:C:C6	2.53	0.44
2:9:104:A:C4	2:9:105:G:C8	3.06	0.44
1:0:484:G:H2'	1:0:485:G:O4'	2.17	0.44
1:0:570:G:C2'	1:0:571:U:H5''	2.48	0.44
1:0:1363:C:H2'	1:0:1364:C:C6	2.53	0.44
1:0:1707:A:C2'	1:0:1708:C:H5'	2.48	0.44
1:0:1947:G:P	1:0:1947:G:H8	2.40	0.44
1:0:2166:G:O2'	1:0:2167:A:H5'	2.17	0.44
1:0:2535:C:C2'	1:0:2536:G:H5'	2.47	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	0.44
1:0:2770:A:H5''	1:0:2867:G:H1	1.81	0.44
1:0:158:A:H2'	1:0:159:A:C8	2.52	0.44
1:0:940:G:C3'	1:0:941:U:C5'	2.79	0.44
1:0:1135:C:H2'	1:0:1136:G:H8	1.83	0.44
1:0:1685:A:C2	1:0:1976:U:C2	3.06	0.44
1:0:1710:U:H6	1:0:1710:U:O5'	2.00	0.44
1:0:2064:U:H2'	1:0:2065:A:H8	1.83	0.44
1:0:2070:G:H2'	1:0:2071:G:C8	2.52	0.44
1:0:2090:U:H2'	1:0:2091:C:H6	1.83	0.44
1:0:2182:A:H3'	1:0:2183:C:C6	2.53	0.44
1:0:2321:C:H2'	1:0:2322:U:H5'	1.99	0.44
1:0:2474:G:H8	1:0:2474:G:O5'	2.01	0.44
1:0:2685:A:H5''	1:0:2826:C:H5''	2.00	0.44
1:0:2725:C:H2'	1:0:2726:U:C6	2.53	0.44
1:0:2783:U:H2'	1:0:2784:A:C4'	2.47	0.44
1:0:26:G:H1'	1:0:525:A:H61	1.83	0.44
1:0:32:C:H2'	1:0:33:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:486:U:C2'	1:0:487:G:H5'	2.48	0.44
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.44
1:0:1654:A:H4'	1:0:2690:A:HO2'	1.80	0.44
1:0:1680:U:HO2'	1:0:2665:G:H4'	1.82	0.44
1:0:1724:C:H1'	1:0:1747:G:C4	2.53	0.44
1:0:2327:U:H2'	1:0:2328:G:C8	2.53	0.44
1:0:83:A:H5''	1:0:84:G:OP1	2.18	0.43
1:0:222:G:O2'	1:0:223:C:H5'	2.18	0.43
1:0:1000:G:OP1	1:0:1168:G:H4'	2.18	0.43
1:0:1229:C:H2'	1:0:1230:C:C6	2.53	0.43
1:0:1962:C:C2'	1:0:1963:G:H5'	2.47	0.43
1:0:2070:G:H2'	1:0:2071:G:H8	1.83	0.43
1:0:2610:G:H5'	1:0:2866:A:H4'	1.99	0.43
1:0:2712:G:H3'	1:0:2713:A:H5'	1.99	0.43
1:0:27:G:HO2'	1:0:28:A:H8	1.65	0.43
1:0:508:G:H22	1:0:516:G:N2	2.16	0.43
1:0:541:C:O2	1:0:541:C:H2'	2.18	0.43
1:0:630:G:H5''	1:0:631:G:OP2	2.18	0.43
1:0:632:A:H3'	1:0:632:A:N3	2.33	0.43
1:0:929:A:C3'	1:0:930:A:C5'	2.95	0.43
1:0:1263:G:O2'	1:0:1264:C:P	2.76	0.43
1:0:1310:C:P	1:0:2689:C:H4'	2.58	0.43
1:0:1485:U:H2'	1:0:1486:A:H8	1.82	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1622:G:H5''	1:0:1624:A:O4'	2.18	0.43
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	0.43
1:0:1801:C:H1'	1:0:2207:G:O2'	2.17	0.43
1:0:2079:A:H2'	1:0:2080:U:C6	2.53	0.43
1:0:2214:G:O2'	1:0:2215:C:H5'	2.18	0.43
1:0:2633:A:OP1	1:0:2635:U:H1'	2.18	0.43
1:0:2695:C:H2'	1:0:2696:A:H8	1.83	0.43
1:0:163:A:H2'	1:0:164:G:C8	2.50	0.43
1:0:951:G:H3'	1:0:952:A:H5''	1.99	0.43
1:0:968:C:H41	1:0:970:A:C1'	2.31	0.43
1:0:1011:A:N6	1:0:1165:G:H2'	2.33	0.43
1:0:1572:C:H2'	1:0:1573:G:H5''	1.99	0.43
1:0:1764:A:H62	1:0:1821:A:H1'	1.83	0.43
1:0:1781:C:H2'	1:0:1782:A:C8	2.53	0.43
1:0:1908:C:H2'	1:0:1909:U:C4'	2.22	0.43
1:0:2106:G:H2'	1:0:2107:G:C8	2.53	0.43
1:0:2219:U:O2'	1:0:2220:A:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:629:C:C2'	1:0:630:G:H5'	2.48	0.43
1:0:1300:A:H2	1:0:1666:G:H4'	1.81	0.43
1:0:1783:G:H1'	1:0:1822:C:P	2.59	0.43
1:0:2324:G:N7	1:0:2351:G:C2	2.86	0.43
1:0:2433:G:O2'	1:0:2434:G:H5'	2.19	0.43
2:9:48:A:C5	2:9:49:C:C5	3.06	0.43
1:0:192:G:O2'	1:0:193:A:OP2	2.33	0.43
1:0:431:G:H2'	1:0:432:C:C6	2.54	0.43
1:0:698:A:C1'	1:0:700:C:H41	2.31	0.43
1:0:737:C:H2'	1:0:738:G:O4'	2.18	0.43
1:0:784:U:H2'	1:0:785:U:C6	2.54	0.43
1:0:1226:A:C4	1:0:1250:A:N3	2.86	0.43
1:0:1558:C:H2'	1:0:1559:G:C5'	2.49	0.43
1:0:1572:C:C2'	1:0:1573:G:H5''	2.48	0.43
1:0:1974:U:H2'	1:0:1975:G:C5'	2.42	0.43
1:0:2252:A:H2'	1:0:2253:A:C8	2.54	0.43
1:0:2319:G:H2'	1:0:2320:G:C8	2.54	0.43
1:0:2335:U:H2'	1:0:2336:G:O4'	2.19	0.43
1:0:2426:G:N2	1:0:2431:C:N4	2.67	0.43
1:0:2488:G:H2'	1:0:2489:C:H6	1.83	0.43
1:0:2863:U:H2'	1:0:2864:C:H6	1.84	0.43
2:9:88:C:H2'	2:9:89:G:C8	2.53	0.43
1:0:158:A:H2'	1:0:159:A:O4'	2.19	0.43
1:0:295:C:N4	1:0:296:A:N6	2.67	0.43
1:0:305:A:H2'	1:0:306:G:C5'	2.48	0.43
1:0:456:C:O2'	1:0:457:C:H5'	2.18	0.43
1:0:688:A:N6	1:0:816:U:H3	1.90	0.43
1:0:714:G:O2'	1:0:715:U:H5'	2.18	0.43
1:0:1155:G:H2'	1:0:1156:U:O4'	2.19	0.43
1:0:1256:C:H2'	1:0:1257:U:C6	2.54	0.43
1:0:1422:C:H2'	1:0:1423:A:C8	2.54	0.43
1:0:1554:G:H2'	1:0:1555:A:C8	2.53	0.43
1:0:1558:C:H2'	1:0:1559:G:O4'	2.19	0.43
1:0:1625:A:H2'	1:0:1625:A:N3	2.33	0.43
1:0:2345:A:H2'	1:0:2346:G:H5'	2.01	0.43
1:0:2448:A:H2'	1:0:2449:G:O4'	2.19	0.43
2:9:59:A:H2'	2:9:60:A:C5'	2.48	0.43
1:0:41:G:H2'	1:0:42:G:C8	2.53	0.43
1:0:65:C:O2'	1:0:66:U:H5'	2.19	0.43
1:0:203:G:H4'	1:0:234:C:O2'	2.18	0.43
1:0:746:G:N7	1:0:774:A:C5	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:873:U:N3	1:0:2246:A:H5''	2.34	0.43
1:0:1296:G:H2'	1:0:1298:G:OP2	2.19	0.43
1:0:1699:A:H61	1:0:1723:U:H3	1.65	0.43
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.43
1:0:1981:A:H4'	1:0:2704:U:O2'	2.18	0.43
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.43
1:0:2095:G:H2'	1:0:2096:U:H5''	2.01	0.43
1:0:2618:A:N1	1:0:2619:G:H1'	2.34	0.43
1:0:2655:C:H2'	1:0:2656:G:O4'	2.19	0.43
1:0:2727:G:O2'	1:0:2728:A:H5''	2.19	0.43
1:0:2876:C:H2'	1:0:2877:A:O4'	2.19	0.43
1:0:426:C:O5'	1:0:426:C:H6	2.00	0.43
1:0:580:A:N3	1:0:582:G:N7	2.66	0.43
1:0:1455:C:H2'	1:0:1456:C:C6	2.54	0.43
1:0:2205:C:O2'	1:0:2206:C:H5'	2.17	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.19	0.43
1:0:353:G:H2'	1:0:354:C:H6	1.83	0.43
1:0:952:A:H2'	1:0:953:G:O4'	2.19	0.43
1:0:1021:A:H8	1:0:1021:A:O5'	2.02	0.43
1:0:1086:C:C3'	1:0:1087:C:H5''	2.48	0.43
1:0:1448:A:H2'	1:0:1449:C:C6	2.54	0.43
1:0:2306:A:H2'	1:0:2307:A:C8	2.54	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.02	0.43
1:0:81:C:H4'	1:0:307:C:C5'	2.48	0.43
1:0:192:G:O2'	1:0:193:A:C5'	2.67	0.43
1:0:708:G:H2'	1:0:709:A:H8	1.84	0.43
1:0:758:G:C2'	1:0:759:C:H5'	2.49	0.43
1:0:1020:A:H2'	1:0:1021:A:C8	2.54	0.43
1:0:1091:C:H2'	1:0:1092:U:H6	1.79	0.43
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:1474:A:H2'	1:0:1476:G:OP1	2.19	0.43
1:0:1766:U:H2'	1:0:1767:G:O4'	2.19	0.43
1:0:2054:A:H61	1:0:2417:U:H3	1.65	0.43
1:0:2124:C:O2'	1:0:2125:C:H5'	2.18	0.43
1:0:2449:G:H2'	1:0:2450:A:H8	1.83	0.43
1:0:2651:U:H2'	1:0:2652:G:O4'	2.19	0.43
1:0:2783:U:OP1	1:0:2783:U:O4'	2.37	0.43
2:9:108:G:H8	2:9:108:G:O5'	2.01	0.43
1:0:14:A:N6	1:0:15:G:C2	2.87	0.42
1:0:428:A:H2'	1:0:429:C:C6	2.54	0.42
1:0:475:U:C1'	1:0:801:A:N1	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:556:A:C2'	1:0:557:U:H5'	2.40	0.42
1:0:586:G:OP1	1:0:2481:G:H2'	2.19	0.42
1:0:789:G:N2	1:0:806:A:H62	2.15	0.42
1:0:1543:G:H2'	1:0:1544:A:C5'	2.49	0.42
2:9:7:C:H2'	2:9:8:C:C6	2.54	0.42
2:9:72:C:O2'	2:9:73:C:H5'	2.19	0.42
1:0:515:A:H2'	1:0:516:G:H5'	2.01	0.42
1:0:708:G:H2'	1:0:709:A:C8	2.54	0.42
1:0:781:G:H5'	1:0:1638:G:C4'	2.49	0.42
1:0:864:C:O2'	1:0:865:A:H5'	2.19	0.42
1:0:975:C:O5'	1:0:975:C:H6	2.02	0.42
1:0:977:G:H5''	1:0:2251:U:O2	2.19	0.42
1:0:1302:C:OP1	1:0:1302:C:C6	2.71	0.42
1:0:1776:A:H4'	1:0:1965:U:O2'	2.18	0.42
1:0:2302:G:N2	1:0:2314:A:H2	2.16	0.42
1:0:2475:C:C2'	1:0:2476:A:H5'	2.48	0.42
1:0:2759:U:H4'	1:0:2760:G:O5'	2.18	0.42
2:9:108:G:H2'	2:9:109:G:C8	2.55	0.42
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.42
1:0:1168:G:H2'	1:0:1169:C:C6	2.54	0.42
1:0:1258:G:H2'	1:0:1259:A:C8	2.54	0.42
1:0:1302:C:P	1:0:1302:C:H6	2.41	0.42
1:0:1725:C:O2'	1:0:1726:C:H5'	2.20	0.42
1:0:1769:U:H3	1:0:1778:U:H3	1.66	0.42
1:0:1790:G:O2'	1:0:1791:C:H5	2.01	0.42
1:0:1801:C:H1'	1:0:2208:U:H5'	2.02	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.02	0.42
1:0:2205:C:C2'	1:0:2206:C:H5'	2.50	0.42
1:0:2501:U:O2'	1:0:2626:U:H5''	2.19	0.42
1:0:2770:A:H5'	1:0:2867:G:H22	1.84	0.42
1:0:26:G:O3'	1:0:1273:G:H4'	2.19	0.42
1:0:27:G:O2'	1:0:28:A:O4'	2.35	0.42
1:0:63:A:O2'	1:0:64:C:H5'	2.19	0.42
1:0:421:G:O2'	1:0:422:C:H5'	2.20	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.19	0.42
1:0:661:C:O2'	1:0:662:G:H5'	2.20	0.42
1:0:694:G:H2'	1:0:695:G:H8	1.85	0.42
1:0:1028:G:H2'	1:0:1029:C:O4'	2.19	0.42
1:0:1110:G:H2'	1:0:1111:C:C6	2.53	0.42
1:0:1123:G:O2'	1:0:1124:U:H5'	2.20	0.42
1:0:1398:G:O2'	1:0:1399:C:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1552:C:H2'	1:0:1553:G:O4'	2.20	0.42
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.42
1:0:2075:U:H1'	1:0:2204:A:C2	2.54	0.42
1:0:2517:C:O2'	1:0:2518:C:H5'	2.19	0.42
1:0:2788:C:H2'	1:0:2789:U:H6	1.84	0.42
1:0:537:C:N1	1:0:2759:U:H2'	2.35	0.42
1:0:825:C:O2'	1:0:826:U:H5'	2.20	0.42
1:0:1135:C:H2'	1:0:1136:G:C8	2.54	0.42
1:0:1455:C:H2'	1:0:1456:C:H6	1.85	0.42
1:0:1920:A:N6	1:0:1923:U:C6	2.87	0.42
1:0:1938:U:O2'	1:0:1939:U:OP1	2.30	0.42
1:0:2229:G:H2'	1:0:2475:C:OP1	2.20	0.42
1:0:2233:C:O2'	1:0:2234:G:H5'	2.19	0.42
1:0:2427:A:OP2	1:0:2478:C:OP2	2.38	0.42
1:0:2662:C:N4	1:0:2707:G:H21	2.16	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:176:A:H3'	1:0:177:U:C5	2.55	0.42
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.55	0.42
1:0:698:A:H1'	1:0:700:C:H41	1.85	0.42
1:0:843:G:H5'	1:0:956:A:H1'	2.02	0.42
1:0:1001:A:N6	1:0:1200:G:H1'	2.34	0.42
1:0:1308:C:H2'	1:0:1309:G:C8	2.54	0.42
1:0:1310:C:O2'	1:0:1315:A:N1	2.49	0.42
1:0:1566:G:O2'	1:0:1567:A:H5'	2.20	0.42
1:0:1679:U:H2'	1:0:1680:U:C5'	2.20	0.42
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.42
1:0:1972:G:O2'	1:0:1973:C:H5'	2.19	0.42
1:0:2677:U:O2'	1:0:2678:C:H5'	2.20	0.42
1:0:2710:C:O2'	1:0:2711:G:H5'	2.20	0.42
1:0:2724:G:O2'	1:0:2725:C:H5'	2.20	0.42
2:9:104:A:C8	2:9:105:G:C8	3.07	0.42
8:F:6:LEU:CA	8:F:14:THR:CA	2.98	0.42
1:0:173:A:H2'	1:0:173:A:N3	2.35	0.42
1:0:186:C:H2'	1:0:187:U:O4'	2.20	0.42
1:0:333:A:HO2'	1:0:350:U:H2'	1.83	0.42
1:0:445:A:C2'	1:0:446:C:H5'	2.49	0.42
1:0:475:U:C2	1:0:801:A:C6	3.07	0.42
1:0:597:U:H2'	1:0:598:U:H6	1.82	0.42
1:0:1223:G:O2'	1:0:1224:A:OP2	2.35	0.42
1:0:1259:A:H2'	1:0:1260:A:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42
1:0:1937:G:N3	1:0:2530:C:C5'	2.80	0.42
1:0:2059:U:C2'	1:0:2060:A:H5''	2.39	0.42
1:0:2402:U:H5'	1:0:2404:A:N7	2.34	0.42
1:0:2422:C:H2'	1:0:2423:G:H8	1.84	0.42
1:0:2630:C:H2'	1:0:2631:C:C6	2.55	0.42
1:0:226:C:H4'	1:0:227:G:H8	1.83	0.42
1:0:573:C:O2'	1:0:574:C:H5'	2.19	0.42
1:0:670:U:O2'	1:0:671:A:H5'	2.20	0.42
1:0:1619:A:O5'	1:0:1619:A:N3	2.52	0.42
1:0:1653:C:O2	1:0:1751:A:H2	2.03	0.42
1:0:2321:C:H2'	1:0:2322:U:C5'	2.50	0.42
1:0:90:G:H3'	1:0:91:A:C5'	2.50	0.42
1:0:459:A:C4	1:0:466:A:N7	2.88	0.42
1:0:573:C:H2'	1:0:574:C:O4'	2.20	0.42
1:0:651:C:C3'	1:0:652:C:C5'	2.98	0.42
1:0:1491:C:H2'	1:0:1492:A:C8	2.53	0.42
1:0:1714:A:H5''	1:0:1715:A:H8	1.85	0.42
1:0:1851:A:N6	1:0:1867:A:H1'	2.31	0.42
1:0:1870:U:O5'	1:0:1870:U:H6	2.02	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.50	0.42
2:9:88:C:H2'	2:9:89:G:H8	1.84	0.42
1:0:167:A:H2'	1:0:168:A:O4'	2.18	0.42
1:0:777:A:N6	1:0:1766:U:N3	2.68	0.42
1:0:792:U:O2'	1:0:793:G:H5'	2.20	0.42
1:0:1023:U:H1'	1:0:1154:A:N7	2.35	0.42
1:0:1029:C:H2'	1:0:1030:U:H5''	2.02	0.42
1:0:1167:A:H5'	1:0:1168:G:N7	2.34	0.42
1:0:1332:G:O2'	1:0:1333:G:H5'	2.20	0.42
1:0:1545:G:O2'	1:0:1546:C:H5'	2.19	0.42
1:0:1773:C:H1'	1:0:2588:U:O4'	2.19	0.42
1:0:1791:C:C1'	1:0:1793:A:H5'	2.43	0.42
1:0:1814:G:H2'	1:0:1815:G:H8	1.84	0.42
1:0:2491:C:H2'	1:0:2492:G:H4'	1.98	0.42
1:0:2627:G:O2'	1:0:2628:C:H5'	2.20	0.42
2:9:42:U:H3'	2:9:43:G:C5'	2.50	0.42
1:0:198:A:O2'	1:0:199:A:OP2	2.36	0.41
1:0:224:G:H4'	1:0:399:G:C5	2.55	0.41
1:0:393:U:H2'	1:0:394:U:O4'	2.19	0.41
1:0:495:C:H2'	1:0:496:C:C6	2.55	0.41
1:0:570:G:H2'	1:0:571:U:H5''	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.41
1:0:750:C:H2'	1:0:751:G:C8	2.55	0.41
1:0:1025:A:O2'	1:0:1026:U:H5'	2.20	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.50	0.41
1:0:1459:U:OP1	1:0:1459:U:H3'	2.19	0.41
1:0:1725:C:H2'	1:0:1726:C:H6	1.85	0.41
1:0:1921:A:C3'	1:0:1922:U:H5''	2.50	0.41
32:0:2881:773:H19	32:0:2881:773:H171	1.90	0.41
1:0:58:C:H1'	1:0:72:A:C8	2.55	0.41
1:0:66:U:C2	1:0:67:G:N7	2.89	0.41
1:0:161:U:H2'	1:0:162:C:C6	2.54	0.41
1:0:717:G:H1'	1:0:740:A:N6	2.35	0.41
1:0:750:C:H2'	1:0:751:G:H8	1.85	0.41
1:0:953:G:H2'	1:0:954:U:H6	1.85	0.41
1:0:1904:G:O2'	1:0:1905:G:H5'	2.19	0.41
1:0:1976:U:H2'	1:0:1976:U:O2	2.19	0.41
1:0:2245:A:C4	1:0:2251:U:O4	2.73	0.41
1:0:2475:C:H2'	1:0:2476:A:C4'	2.50	0.41
1:0:2559:U:C2'	1:0:2560:G:H5'	2.50	0.41
32:0:2881:773:H433	32:0:2881:773:H272	2.02	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:430:C:H2'	1:0:431:G:O4'	2.20	0.41
1:0:1003:C:O2'	1:0:1004:A:H5'	2.20	0.41
1:0:1487:C:H2'	1:0:1488:G:C8	2.54	0.41
1:0:1581:C:N4	1:0:1583:A:H1'	2.36	0.41
1:0:1727:C:H4'	1:0:2833:C:O2	2.20	0.41
1:0:1797:C:H2'	1:0:1798:G:O4'	2.20	0.41
1:0:1960:A:H2'	1:0:1961:A:C8	2.55	0.41
1:0:1991:C:H2'	1:0:1992:G:C8	2.51	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2630:C:H2'	1:0:2631:C:H6	1.85	0.41
1:0:2700:U:H2'	1:0:2701:A:H8	1.85	0.41
1:0:646:C:HO2'	1:0:650:U:H5''	1.84	0.41
1:0:666:U:H2'	1:0:668:A:P	2.60	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.55	0.41
1:0:1009:C:O5'	1:0:1009:C:H6	2.02	0.41
1:0:1699:A:C5	1:0:1748:U:H1'	2.55	0.41
1:0:2039:G:N2	27:Z:5:PRO:CA	2.83	0.41
1:0:2362:G:C2'	1:0:2363:G:O5'	2.69	0.41
1:0:128:C:H2'	1:0:129:A:C5'	2.50	0.41
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:365:U:H2'	1:0:366:U:H6	1.85	0.41
1:0:612:G:C4'	1:0:613:A:H4'	2.51	0.41
1:0:1612:U:H2'	1:0:1613:G:C8	2.55	0.41
1:0:1721:G:H2'	1:0:1722:G:O4'	2.21	0.41
1:0:2824:C:C2'	1:0:2825:A:OP2	2.68	0.41
2:9:63:A:O2'	2:9:64:C:H5'	2.19	0.41
1:0:221:A:H2'	1:0:222:G:C5'	2.50	0.41
1:0:357:A:H2'	1:0:357:A:N3	2.34	0.41
1:0:480:G:H8	1:0:480:G:O5'	2.04	0.41
1:0:541:C:HO2'	1:0:542:A:P	2.44	0.41
1:0:583:C:C4	1:0:2016:A:H4'	2.56	0.41
1:0:688:A:O2'	1:0:689:A:H5'	2.21	0.41
1:0:929:A:C2	1:0:930:A:H1'	2.56	0.41
1:0:1016:C:H2'	1:0:1017:C:C6	2.56	0.41
1:0:1471:G:H1	1:0:2682:C:N4	2.10	0.41
1:0:1783:G:C6	1:0:1820:G:H1'	2.56	0.41
1:0:1989:C:O5'	1:0:1989:C:H6	2.04	0.41
1:0:2162:C:H2'	1:0:2163:U:H6	1.85	0.41
1:0:2447:G:C8	1:0:2455:A:N6	2.81	0.41
1:0:2569:A:H2'	1:0:2570:C:C6	2.54	0.41
1:0:2778:U:O2'	1:0:2779:C:H5'	2.21	0.41
2:9:8:C:OP1	2:9:63:A:H5'	2.21	0.41
2:9:28:A:H2'	2:9:28:A:N3	2.35	0.41
2:9:100:G:C2'	2:9:101:A:H5'	2.51	0.41
1:0:35:G:O4'	1:0:466:A:C1'	2.69	0.41
1:0:492:G:H2'	1:0:517:A:C2	2.56	0.41
1:0:1034:U:H2'	1:0:1035:G:O4'	2.20	0.41
1:0:1572:C:H2'	1:0:1573:G:H5'	2.03	0.41
1:0:1664:G:H3'	1:0:1664:G:OP2	2.20	0.41
1:0:1756:C:H2'	1:0:1757:C:H6	1.85	0.41
1:0:2006:G:H2'	1:0:2007:G:H8	1.86	0.41
1:0:2443:C:H2'	1:0:2444:C:C6	2.56	0.41
1:0:2636:A:N6	1:0:2643:G:H21	2.04	0.41
2:9:6:C:C4	2:9:7:C:N4	2.88	0.41
2:9:75:A:N6	2:9:106:U:C4	2.88	0.41
1:0:4:C:O2'	1:0:5:A:H5'	2.20	0.41
1:0:16:G:O2'	1:0:17:G:H5'	2.21	0.41
1:0:42:G:H2'	1:0:43:A:O4'	2.20	0.41
1:0:843:G:OP1	1:0:843:G:H3'	2.20	0.41
1:0:1328:C:O2'	1:0:1329:U:H5'	2.21	0.41
1:0:1556:A:H2'	1:0:1557:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1665:C:H2'	1:0:1666:G:O4'	2.21	0.41
1:0:1751:A:H2'	1:0:1752:U:O4'	2.21	0.41
1:0:1883:A:C2	1:0:1953:A:N6	2.89	0.41
1:0:2024:U:O5'	1:0:2024:U:H6	2.04	0.41
1:0:2058:U:H5'	1:0:2576:G:H1'	2.03	0.41
1:0:2204:A:O2'	1:0:2205:C:P	2.79	0.41
1:0:2279:G:H2'	1:0:2280:A:C8	2.48	0.41
1:0:2574:G:N2	1:0:2577:A:OP2	2.54	0.41
1:0:67:G:C6	1:0:72:A:C2	3.08	0.41
1:0:80:A:O2'	1:0:81:C:H5'	2.21	0.41
1:0:218:A:O2'	1:0:219:G:C4'	2.64	0.41
1:0:353:G:O2'	1:0:354:C:H5'	2.21	0.41
1:0:448:C:H2'	1:0:449:C:H5'	2.02	0.41
1:0:629:C:O2'	1:0:630:G:H5'	2.21	0.41
1:0:639:G:H2'	1:0:640:C:H6	1.82	0.41
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.41
1:0:744:C:N4	1:0:745:C:H41	2.19	0.41
1:0:754:G:H22	1:0:770:U:H1'	1.84	0.41
1:0:955:G:H5'	1:0:956:A:C5'	2.50	0.41
1:0:996:C:H2'	1:0:997:C:C6	2.56	0.41
1:0:1234:C:O2'	1:0:1235:C:H5'	2.20	0.41
1:0:1440:G:C3'	1:0:1441:A:C5'	2.99	0.41
1:0:1459:U:H6	1:0:1459:U:P	2.44	0.41
1:0:1471:G:O2'	1:0:1472:C:H5'	2.21	0.41
1:0:1486:A:H2'	1:0:1487:C:C6	2.55	0.41
1:0:1661:C:H2'	1:0:1662:G:H8	1.86	0.41
1:0:1714:A:H5'	1:0:1715:A:O5'	2.21	0.41
1:0:1903:C:H2'	1:0:1904:G:C8	2.55	0.41
1:0:1923:U:H4'	1:0:1948:C:N4	2.36	0.41
1:0:1990:U:H4'	1:0:2799:C:H4'	2.02	0.41
1:0:2227:C:C2'	1:0:2228:U:H5'	2.51	0.41
1:0:2249:U:C2'	1:0:2250:G:H5'	2.51	0.41
1:0:2302:G:H2'	1:0:2303:C:H5'	2.02	0.41
1:0:2409:A:O2'	1:0:2410:U:H5'	2.21	0.41
1:0:2455:A:C2'	1:0:2456:U:H5'	2.50	0.41
1:0:2728:A:C2	1:0:2736:U:H1'	2.55	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
2:9:23:G:H2'	2:9:24:U:O4'	2.21	0.41
2:9:103:A:N7	2:9:104:A:N7	2.69	0.41
1:0:184:A:H4'	1:0:812:G:H4'	2.03	0.41
1:0:689:A:C2'	1:0:690:A:H5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:727:U:C2'	1:0:728:G:H5''	2.46	0.41
1:0:1625:A:N3	1:0:1625:A:C2'	2.84	0.41
1:0:1645:U:O2	1:0:2677:U:H4'	2.21	0.41
1:0:2181:A:H2'	1:0:2182:A:H5'	2.02	0.41
1:0:2313:G:H2'	1:0:2314:A:H5'	2.03	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.04	0.41
1:0:2559:U:H5''	4:B:130:GLY:CA	2.51	0.41
1:0:2569:A:H2'	1:0:2570:C:O4'	2.21	0.41
1:0:2622:G:O2'	1:0:2623:A:H5'	2.20	0.41
1:0:699:G:N2	1:0:801:A:C2	2.86	0.40
1:0:867:G:H2'	1:0:868:U:C6	2.56	0.40
1:0:1714:A:H3'	1:0:1715:A:N7	2.36	0.40
1:0:1921:A:C2'	1:0:1922:U:H5''	2.48	0.40
1:0:2813:G:O2'	1:0:2814:G:H5'	2.21	0.40
1:0:2869:U:O5'	1:0:2869:U:H6	2.05	0.40
1:0:121:G:O3'	1:0:1389:C:H4'	2.21	0.40
1:0:509:U:C2'	1:0:510:G:H5'	2.50	0.40
1:0:805:G:C6	1:0:2419:C:H1'	2.55	0.40
1:0:829:C:O2'	1:0:830:C:H5'	2.21	0.40
1:0:1569:A:C6	1:0:1571:G:H1'	2.56	0.40
1:0:1576:G:H2'	1:0:1577:G:O4'	2.22	0.40
1:0:1789:U:HO2'	1:0:1793:A:H1'	1.84	0.40
1:0:1791:C:H1'	1:0:1793:A:O4'	2.21	0.40
1:0:2204:A:H4'	1:0:2205:C:O4'	2.21	0.40
1:0:2394:G:H2'	1:0:2395:C:H6	1.84	0.40
1:0:2409:A:H2'	1:0:2410:U:H5'	2.02	0.40
1:0:2569:A:H2'	1:0:2570:C:H6	1.86	0.40
1:0:2841:U:O2'	1:0:2842:C:C5'	2.69	0.40
1:0:68:C:C2	1:0:72:A:N3	2.90	0.40
1:0:73:A:H4'	1:0:74:G:C1'	2.51	0.40
1:0:122:G:C2'	1:0:123:A:H5''	2.52	0.40
1:0:340:G:C1'	1:0:488:A:H1'	2.51	0.40
1:0:451:A:H2'	1:0:452:G:H8	1.83	0.40
1:0:861:G:N2	1:0:943:U:O2'	2.54	0.40
1:0:1073:G:H3'	1:0:1074:G:C5'	2.51	0.40
1:0:1221:C:H2'	1:0:1222:G:C8	2.57	0.40
1:0:1383:C:O2'	1:0:1384:G:H5'	2.21	0.40
1:0:1528:C:C3'	1:0:1529:C:H5''	2.51	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	0.40
1:0:2542:U:H2'	1:0:2544:A:OP2	2.22	0.40
1:0:68:C:O2	1:0:68:C:H2'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:200:A:N6	1:0:387:A:O2'	2.54	0.40
1:0:201:G:C2	1:0:202:A:C4	3.10	0.40
1:0:317:U:C3'	1:0:318:G:H5''	2.51	0.40
1:0:398:C:O2'	1:0:401:G:N2	2.54	0.40
1:0:616:U:H3'	1:0:617:U:H5''	2.03	0.40
1:0:690:A:H4'	1:0:2053:G:O2'	2.22	0.40
1:0:831:G:H5'	1:0:852:U:OP1	2.22	0.40
1:0:931:G:H5'	2:9:83:C:H1'	2.03	0.40
1:0:1473:U:H4'	1:0:1474:A:C4	2.56	0.40
1:0:1519:G:O2'	1:0:1520:G:H5'	2.21	0.40
1:0:1791:C:C2'	1:0:1792:C:H5''	2.39	0.40
1:0:1981:A:O3'	1:0:2704:U:H4'	2.22	0.40
1:0:2047:C:H42	1:0:2425:G:H1	1.70	0.40
1:0:28:A:O3'	1:0:460:U:O4	2.40	0.40
1:0:215:G:H2'	1:0:216:U:C6	2.57	0.40
1:0:501:G:H2'	1:0:502:A:H8	1.87	0.40
1:0:503:G:H2'	1:0:504:G:C8	2.56	0.40
1:0:665:A:H3'	1:0:666:U:C5'	2.51	0.40
1:0:771:C:O2'	1:0:772:G:H5'	2.21	0.40
1:0:1148:G:H2'	1:0:1149:G:O4'	2.22	0.40
1:0:1190:C:H2'	1:0:1191:G:C8	2.57	0.40
1:0:1323:G:C1'	1:0:1627:C:H5''	2.52	0.40
1:0:1358:C:H2'	1:0:1359:G:H5'	2.03	0.40
1:0:1403:U:O2	1:0:1408:A:N6	2.54	0.40
1:0:2138:U:H2'	1:0:2139:G:H5'	2.04	0.40
1:0:2240:C:C2'	1:0:2241:U:C5'	2.97	0.40
1:0:2494:C:H2'	1:0:2495:G:C8	2.56	0.40
1:0:2570:C:H2'	1:0:2571:G:C8	2.57	0.40
1:0:2857:C:H2'	1:0:2858:A:O5'	2.21	0.40
2:9:12:C:H3'	2:9:13:C:H6	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [\(i\)](#)

5.3.1 Protein backbone [\(i\)](#)

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	482 (17%)	41 (1%)
2	9	117/124 (94%)	23 (19%)	1 (0%)
All	All	2874/3004 (95%)	505 (17%)	42 (1%)

All (505) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	67	G
1	0	70	A
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	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	149	A
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A

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Mol	Chain	Res	Type
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	201	G
1	0	205	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	305	A
1	0	318	G
1	0	322	A
1	0	333	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	341	A
1	0	343	A
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	408	U
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A
1	0	456	C
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U

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Mol	Chain	Res	Type
1	0	469	G
1	0	484	G
1	0	486	U
1	0	490	A
1	0	491	A
1	0	492	G
1	0	514	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	554	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	582	G
1	0	583	C
1	0	584	A
1	0	587	A
1	0	588	G
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	655	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G
1	0	740	A
1	0	742	G

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Mol	Chain	Res	Type
1	0	743	A
1	0	760	U
1	0	765	C
1	0	766	A
1	0	776	G
1	0	778	G
1	0	789	G
1	0	790	A
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	801	A
1	0	804	C
1	0	806	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G
1	0	844	G
1	0	859	U
1	0	873	U
1	0	874	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	943	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U

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Mol	Chain	Res	Type
1	0	984	A
1	0	985	G
1	0	994	A
1	0	996	C
1	0	1002	C
1	0	1005	U
1	0	1006	C
1	0	1019	U
1	0	1022	A
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1082	G
1	0	1083	C
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1130	U
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1155	G
1	0	1166	A
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1183	C

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Mol	Chain	Res	Type
1	0	1185	C
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1225	G
1	0	1234	C
1	0	1253	C
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1284	G
1	0	1285	A
1	0	1286	U
1	0	1288	A
1	0	1289	A
1	0	1302	C
1	0	1314	A
1	0	1316	G
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1339	U
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1354	A
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G

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Mol	Chain	Res	Type
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1474	A
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1544	A
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	1631	C
1	0	1635	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1664	G

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Mol	Chain	Res	Type
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1710	U
1	0	1712	G
1	0	1713	G
1	0	1715	A
1	0	1717	A
1	0	1718	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1772	C
1	0	1773	C
1	0	1776	A
1	0	1778	U
1	0	1791	C
1	0	1792	C
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1811	A
1	0	1813	A
1	0	1821	A
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G

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Mol	Chain	Res	Type
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	1948	C
1	0	1949	A
1	0	1950	C
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2035	G
1	0	2038	C
1	0	2043	A
1	0	2044	G
1	0	2045	A
1	0	2046	C
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G

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Mol	Chain	Res	Type
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2238	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2265	A
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2313	G
1	0	2314	A
1	0	2315	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2369	U
1	0	2378	G
1	0	2385	U
1	0	2396	C
1	0	2402	U
1	0	2403	C
1	0	2405	A
1	0	2406	C

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Mol	Chain	Res	Type
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2414	A
1	0	2427	A
1	0	2428	U
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2457	A
1	0	2470	U
1	0	2476	A
1	0	2477	C
1	0	2482	A
1	0	2483	U
1	0	2492	G
1	0	2499	C
1	0	2504	G
1	0	2508	G
1	0	2522	G
1	0	2533	U
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2594	U
1	0	2600	A
1	0	2608	A
1	0	2609	G
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U

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Mol	Chain	Res	Type
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2760	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G
1	0	2783	U
1	0	2785	A
1	0	2793	G
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2810	A
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2855	C
1	0	2867	G
1	0	2868	G
2	9	7	C
2	9	14	C
2	9	15	A
2	9	17	A
2	9	18	G
2	9	27	A
2	9	28	A
2	9	47	A
2	9	48	A

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Mol	Chain	Res	Type
2	9	59	A
2	9	60	A
2	9	61	A
2	9	63	A
2	9	68	A
2	9	69	G
2	9	71	G
2	9	93	G
2	9	98	C
2	9	101	A
2	9	102	A
2	9	111	C
2	9	112	A
2	9	115	G

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	69	G
1	0	71	A
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A
1	0	541	C
1	0	583	C
1	0	765	C
1	0	805	G
1	0	843	G
1	0	1141	U
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1313	U
1	0	1354	A
1	0	1410	U
1	0	1495	G
1	0	1634	A
1	0	1651	U

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Mol	Chain	Res	Type
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	1975	G
1	0	2015	G
1	0	2018	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2245	A
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2633	A
1	0	2759	U
1	0	2824	C
2	9	58	G

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

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

5.5 Carbohydrates [i](#)

There are no 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
32	773	0	2881	-	57,59,59	1.81	12 (21%)	75,88,88	1.36	10 (13%)

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
32	773	0	2881	-	-	2/67/98/98	0/4/5/5

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	2881	773	C5-C4	-5.48	1.44	1.52
32	0	2881	773	C35-C34	-5.27	1.24	1.36
32	0	2881	773	C37-C38	-5.13	1.33	1.41
32	0	2881	773	C2-C4	4.07	1.58	1.52
32	0	2881	773	C22-C21	-3.12	1.47	1.52
32	0	2881	773	O8-C16	2.89	1.48	1.45
32	0	2881	773	C6-C5	-2.70	1.47	1.53
32	0	2881	773	O9-C21	-2.41	1.17	1.21
32	0	2881	773	C19-C21	2.32	1.59	1.52
32	0	2881	773	C30-C29	-2.30	1.24	1.31
32	0	2881	773	C24-N2	2.13	1.36	1.33
32	0	2881	773	C10-N1	-2.04	1.43	1.48

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	0	2881	773	O7-C24-N2	-4.65	105.73	109.73
32	0	2881	773	O6-C24-N2	4.13	134.05	129.22
32	0	2881	773	O9-C21-C22	2.99	124.85	120.60
32	0	2881	773	C42-C25-C26	2.81	119.11	115.23
32	0	2881	773	C43-C42-C25	2.59	119.58	113.13
32	0	2881	773	C6-C5-C7	2.49	116.34	112.90
32	0	2881	773	C41-C22-C21	-2.32	104.05	108.08
32	0	2881	773	C18-C16-C7	2.28	113.00	110.25
32	0	2881	773	C19-C21-C22	-2.07	115.50	119.10
32	0	2881	773	C18-C19-C21	2.03	116.80	113.32

There are no chirality outliers.

All (2) torsion outliers are listed below:

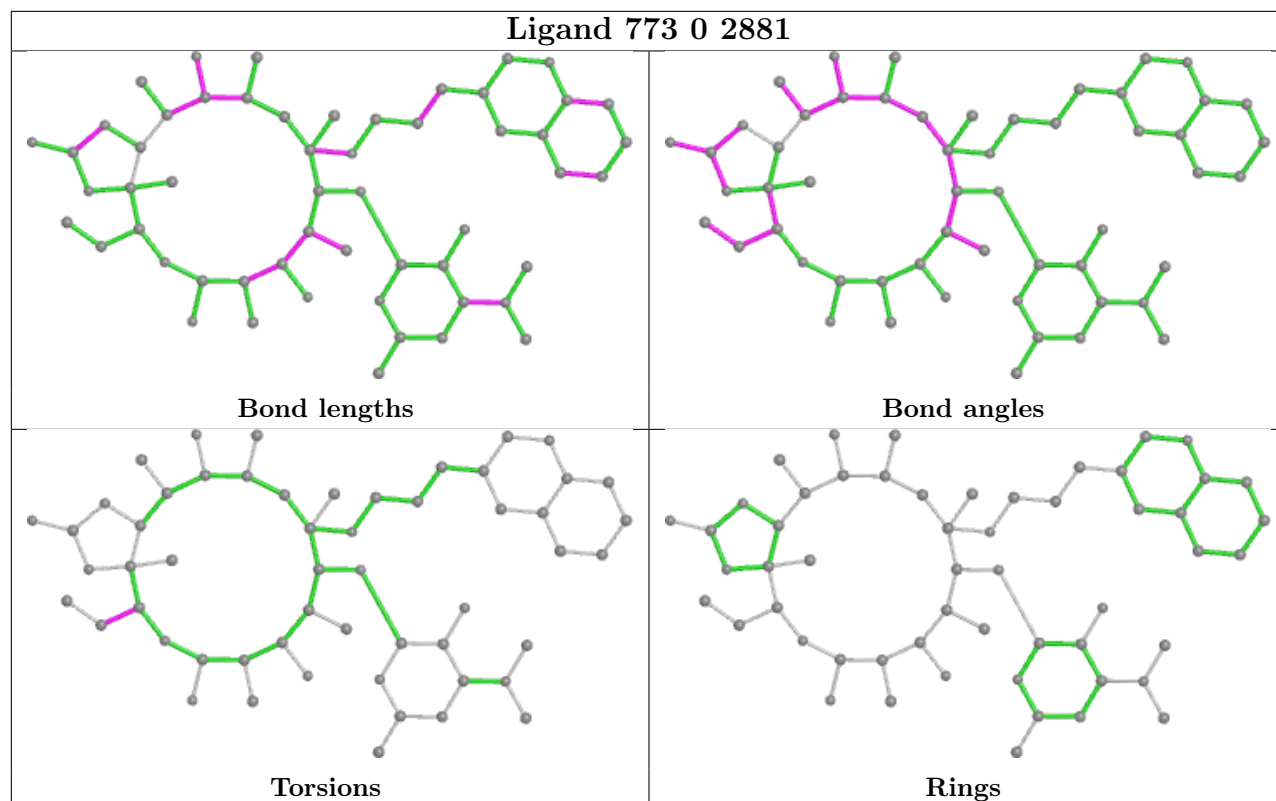
Mol	Chain	Res	Type	Atoms
32	0	2881	773	O4-C25-C42-C43
32	0	2881	773	C26-C25-C42-C43

There are no ring outliers.

1 monomer is involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	0	2881	773	9	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.