



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 8, 2023 – 01:31 AM EDT

PDB ID : 1NKW  
Title : Crystal Structure Of The Large Ribosomal Subunit From Deinococcus Radiodurans  
Authors : Harms, J.M.; Schluenzen, F.; Zarivach, R.; Bashan, A.; Gat, S.; Agmon, I.; Bartels, H.; Franceschi, F.; Yonath, A.  
Deposited on : 2003-01-05  
Resolution : 3.10 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Xtrriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
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

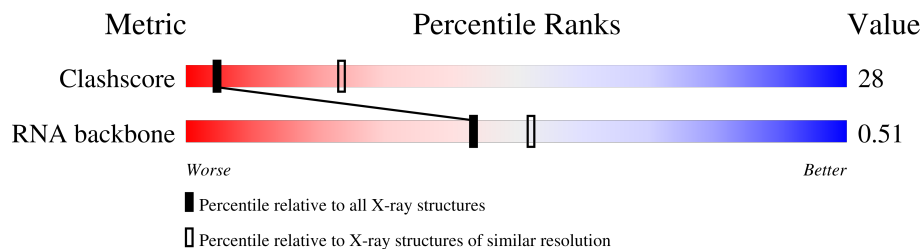
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 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))
Clashescore	141614	1184 (3.10-3.10)
RNA backbone	3102	1116 (3.40-2.80)


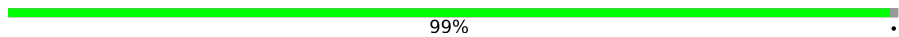


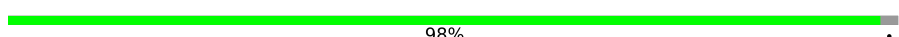
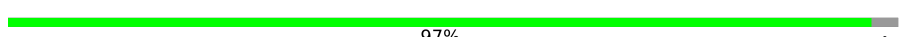




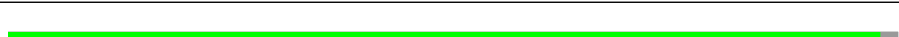


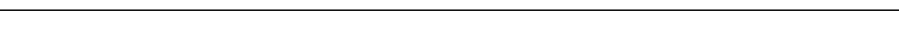
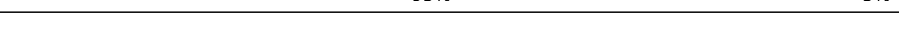
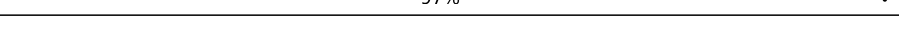
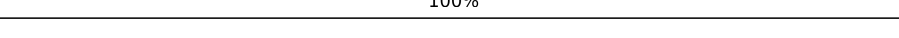
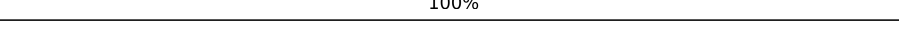
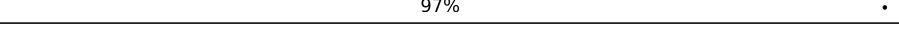

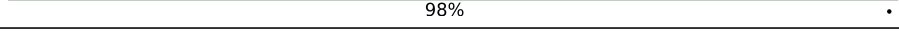
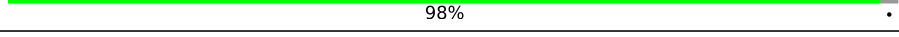
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria 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	275	
4	B	211	
5	C	205	
6	D	180	
7	E	212	
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	142	 87% 13%
14	L	116	 98%
15	M	114	 97%
16	N	166	 74% 25%
17	O	118	 99%
18	P	100	 100%
19	Q	134	 97%
20	R	95	 98%
21	S	115	 98%
22	T	253	 88% 12%
23	U	91	 95% 5%
24	W	67	 97%
25	X	55	 100%
26	Y	73	 100%
27	Z	60	 97%
28	1	82	 65% 35%
29	2	47	 98%
30	3	64	 98%
31	4	36	 97%

## 2 Entry composition [i](#)

There are 31 unique types of molecules in this entry. The entry contains 65300 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S 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 50S ribosomal protein L36.

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

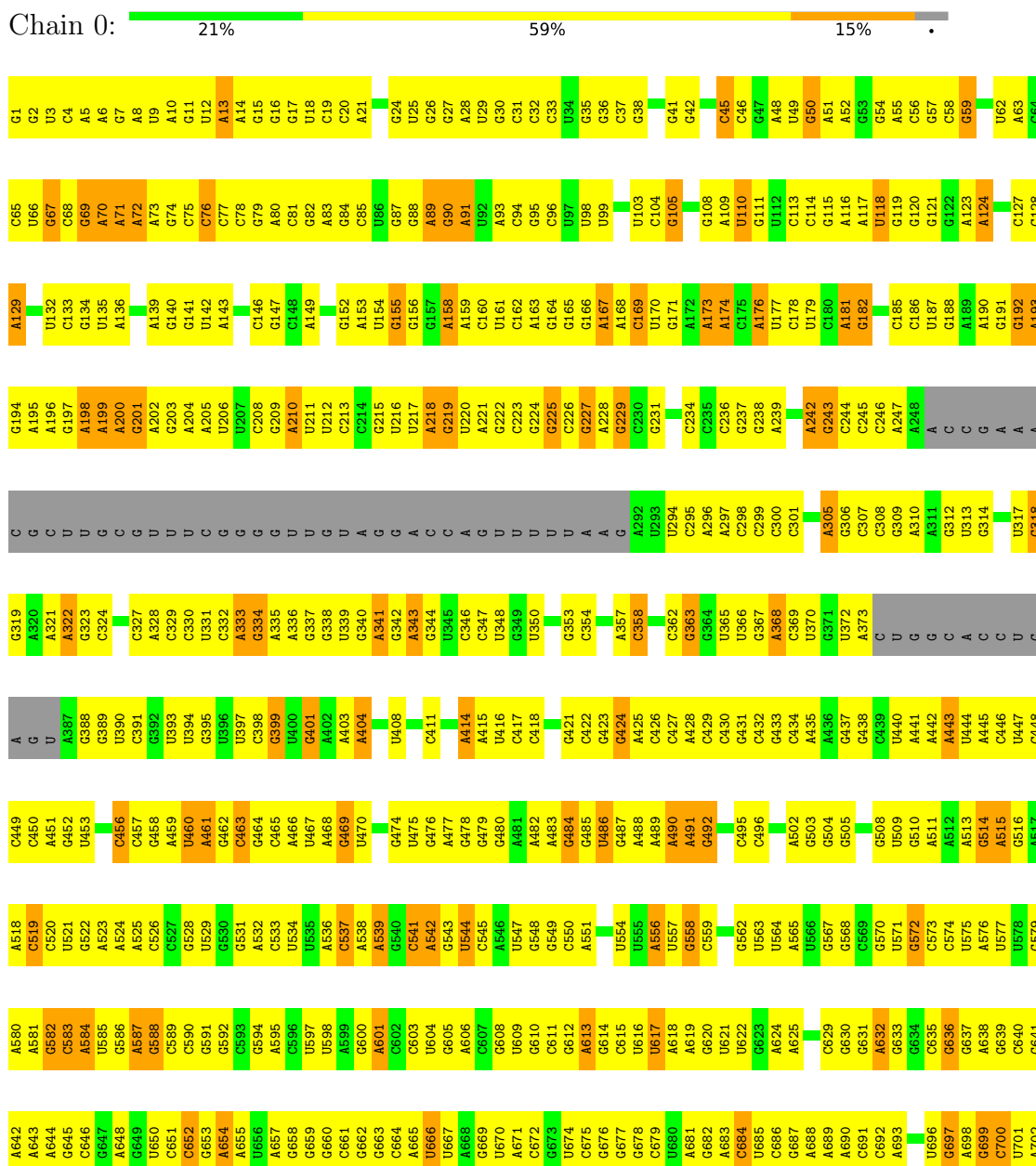


### 3 Residue-property plots

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.

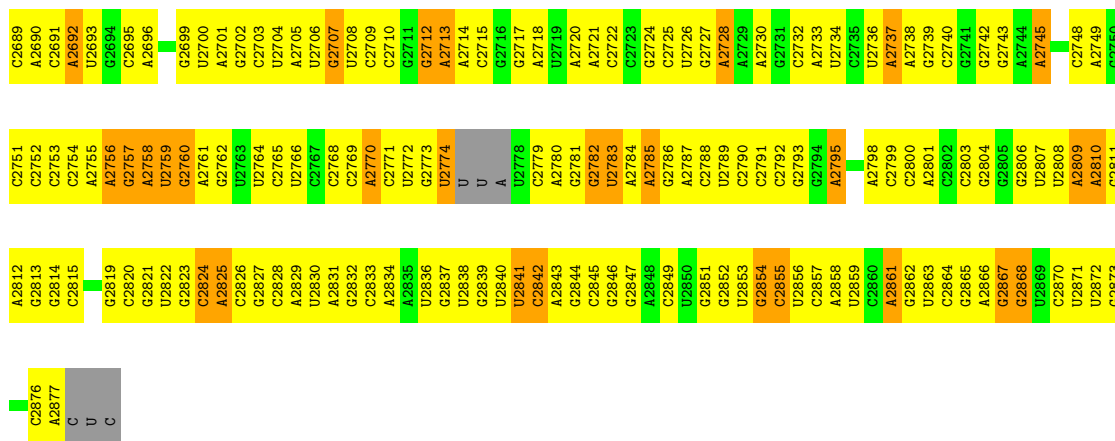
Note EDS was not executed.

- Molecule 1: 23S ribosomal RNA

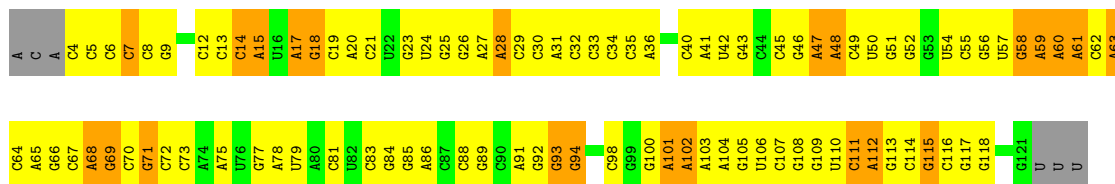


C1633	A1437	G1374	C1310	A1179	A1106	U1034	C968	C	A911	A834	C771	A703
A1634	G1438	C1375	C1311	A1180	A1107	G1035	U969	U	A912	U835	G772	G704
G1635	G1439	C1376	C1312	C1181	G1110	U1036	A970	U	A913	G836	G773	C706
G1636	G1440	G1377	U1313	U1182	G1111	U1037	A971	A	C914	U837	A774	A706
U1637	A1441	A1378	A1314	C1183	C1111	U1038	CS72	C	U914	A838	U775	U707
G1638	A1442	A1379	A1315	C1184	C1112	A1039	U973	C	U915	U839	G776	A712
U1639	G1443	C1380	G1316	C1185	C1113	A1040	U974	C	A916	U840	A777	A720
C1640	G1444	G1381	G1317	C1186	A1114	G1041	CS76	C	A917	G841	G778	G713
C1641	A1445	G1382	A1318	C1190	C1115	U1044	C977	C	A918	G842	G781	U716
A1642	U1446	C1383	C1319	G1191	G1116	U1045	U978	C	C915	G843	U782	G717
G1643	U1447	G1384	A1320	A1192	G1117	G1046	U979	C	U916	G844	G783	A718
G1644	A1448	C1385	A1321	G1193	C1118	U1047	U980	C	U917	U845	U784	A719
U1645	C1449	A1386	G1322	U1194	G1121	G1048	CS81	C	A918	C847	U785	A720
C1648	G1450	G1387	G1323	U1195	A1122	U1048	C982	C	U919	A848	U786	A720
U1651	C1451	C1388	G1324	G1196	G1123	G1053	C983	C	A922	U852	U787	C722
A1652	U1452	G1389	U1325	U1197	U1124	G1054	U984	C	A923	U853	G788	G726
C1653	A1453	C1390	U1326	C1198	G1125	A1055	A985	C	A924	C853	G789	U727
U1654	U1454	A1391	U1327	U1199	A1126	U1056	A986	C	A925	U854	A790	U727
C1658	G1455	U1392	C1328	G1200	G1130	A1057	U987	C	C926	U857	G791	G728
A1659	C1456	G1393	U1329	G1201	U1131	G1058	C987	C	C927	G858	U792	G732
U1660	A1457	A1397	G1332	U1202	G1132	U1062	A990	C	C928	U859	G793	G732
G1661	U1458	G1398	C1333	A1203	C1133	G1063	A991	C	A929	U860	U794	G733
C1662	U1459	C1399	G1334	G1204	G1134	C1063	A992	C	A930	U861	A795	G734
U1663	G1460	A1400	A1335	G1205	C1135	C1064	A994	C	G931	U862	G796	G735
G1664	C1461	A1401	G1336	G1206	G1136	A1065	A995	C	C932	C864	A797	G736
A1665	C1462	G1401	G1337	U1207	U1137	U1066	C996	C	C933	U865	G798	G737
C1666	A1463	U1402	U1338	G1208	A1138	G1067	A999	C	G934	U866	C799	G738
G1667	U1464	G1403	C1339	U1212	A1139	A1068	A999	C	A935	G867	U800	G739
U1668	G1465	C1404	U1340	U1213	A1140	C1069	A999	C	A936	U868	A801	A740
A1669	U1466	A1406	G1341	U1213	U1141	U1070	A999	C	C937	U869	G802	G741
G1670	A1467	G1407	U1342	U1217	G1142	U1072	C1002	C	G938	C870	C803	G742
U1671	U1468	U1408	C1343	U1218	C1145	G1073	C1003	C	C939	U871	C804	A743
C1672	G1470	U1409	G1344	C1218	G1146	G1074	C1004	C	G940	U872	G805	A744
G1673	A1471	U1410	C1345	C1219	U1147	U1075	U1005	C	A941	U873	A806	C745
U1674	C1472	C1411	U1346	G1220	G1147	U1076	C1006	C	U942	U874	A807	G746
C1675	G1473	G1412	C1347	C1221	G1148	U1077	U1007	C	U943	G875	G747	A747
G1676	A1474	U1413	C1348	C1222	G1149	U1081	G1008	C	A944	U876	U810	A748
U1677	U1475	U1414	A1349	G1223	C1150	A1082	C1009	C	G945	U879	G811	C749
A1678	G1476	C1415	G1350	A1224	C1152	G1082	C1083	C	U946	A879	G812	C750
C1679	C1477	U1416	C1351	G1225	C1153	C1083	C1083	C	U947	U886	A813	A751
U1680	U1478	G1417	G1352	A1226	A1154	C1091	C1091	C	C948	U887	G814	G752
G1681	G1479	C1418	U1353	A1227	G1155	U1092	A1022	C	U954	U888	U815	U753
C1682	U1480	G1419	A1354	G1228	G1156	U1092	A1022	C	U955	C889	A816	G754
U1683	U1481	G1419	A1355	G1229	U1156	C1086	C1017	C	U956	C890	U817	C755
A1684	U1482	C1422	G1356	C1230	A1162	A1086	C1018	C	A957	C891	U818	C756
G1685	G1483	A1423	G1359	A1233	C1163	C1089	U1019	C	U958	U890	G819	U757
U1686	U1484	G1425	C1362	G1234	C1164	C1091	A1020	C	U959	U891	U820	G758
A1687	A1486	U1426	A1363	C1235	G1165	U1092	A1022	C	U956	C892	A821	C759
C1688	C1487	G1427	C1364	C1235	A1166	A1095	U1023	C	G957	U893	U824	U760
U1689	G1488	G1428	U1365	A1238	A1167	A1096	G1024	C	U958	U894	C825	G761
G1690	C1489	U1429	U1366	A1239	G1168	A1099	U1026	C	U959	U895	U826	A762
A1691	U1490	G1430	U1367	G1240	C1169	A1099	U1027	C	U960	U960	A763	A763
C1692	C1491	A1431	G1368	U1303	A1171	G1100	C1027	C	U961	C827	G961	A764
U1693	A1492	G1432	U1369	U1304	G1172	U1101	G1028	C	U962	U962	C828	G765
C1694	A1493	U1370	U1370	A1305	G1173	G1102	G1029	C	U963	U963	A829	A766
A1695	U1494	G1371	C1307	U1306	A1175	G1103	U1030	C	A964	C830	G767	G767
G1696	G1495	A1372	C1308	U1307	A1176	G1104	C1031	C	U965	G851	U768	C830
U1697	U1496	G1373	G1309	G1309	G1246	U1105	A1032	C	A966	U852	G769	U770

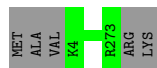
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A1699	A1763	A1826	G1903	G1963	G2095	G2095	A	A2220	U2296	U2365	C2431	C2500	U2564	G2628
C1703	A1764	G1827	G1904	G1964	G2096	A2097	C2157	A2220	G2297	U2365	A2432	G2502	U2565	U2629
G1704	U1765	C1830	G1905	A2031	C2158	G	A2159	G2225	U2298	U2369	G2433	G2503	G2566	C2630
U1706	U1766	G1831	G1906	C1966	G2032	G	A2159	A2226	G2300	G3370	G2434	G2504	A2568	G2631
A1707	U1767	G1831	C1907	U1967	C2033	U	C2160	C2227	A2301	G2371	G2435	G2504	A2569	U2632
U1769	U1768	G1834	C1908	G1968	A2034	A	C2161	C2228	G2302	A2371	U2436	U2507	A2569	A2633
A1708	U1770	G1835	G1909	G1969	G2038	A	C2162	U2228	G2302	A2372	A2437	G2508	C2570	G2634
U1709	A1771	C1836	A1910	G1970	G2039	A	U2163	G2229	C2303	G2375	A2438	G2509	G2571	U2635
U1710	U1710	A1837	A1911	C1971	G2039	G2103	C2164	G2230	A2306	G2376	C2446	G2510	G2572	U2636
C1772	C1772	G1837	G1912	G1972	A2040	G2104	A2165	G2233	A2307	U2377	G2447	G2511	C2573	G2637
C1711	C1773	A1838	G1913	C1973	A2041	U2105	C2166	G2234	A2308	G2378	A2448	A2512	G2574	A2638
G1712	A1774	A1839	G1914	U1974	A2042	G2106	A2167	G2234	A2309	U2379	G2449	A2512	G2575	A2639
G1713	A1775	A1840	A1915	U1975	A2043	G2107	A2168	G2238	G2309	U2380	G2449	G2515	G2576	C2640
A1776	A1776	G1841	G1916	U1976	A2044	G2110	A2169	G2239	G2310	U2381	C2454	G2516	G2577	A2641
U1777	U1777	G1842	C1917	U1977	C2045	C	C2170	C2239	U2311	A2382	A2455	U2517	G2578	G2642
G1716	A1778	A1843	G1918	U1978	A2046	G	U2171	C2240	A2312	C2383	A2456	G2518	A2579	G2643
A1717	C1779	C1844	A1919	U1979	C2047	C	U2172	U2241	G2313	C2383	U2457	C2518	C2580	A2644
A1718	A1780	A1845	A1920	U1980	C2048	U	G2173	C2242	A2314	G2384	A2457	C2519	A2581	C2645
G1719	C1781	A1846	A1921	U1981	C2049	G	G2174	C2244	A2315	U2385	U2458	A2520	A2582	C2646
G1720	A1782	G1847	U1922	U1982	G2050	G	A2175	C2244	A2316	G2386	C2459	A2521	U2583	G2650
G1721	G1783	A1848	U1923	G1983	A2051	A2118	U2176	A2245	U2318	G2387	G2460	G2522	U2584	G2651
C1784	C1784	G1849	G1924	U1984	G2052	A2119	U2177	A2246	G2319	A2390	G2461	G2523	C2585	G2652
A1785	A1785	G1850	C1925	U1985	G2053	A2120	U2178	A2247	G2320	A2391	G2462	G2524	C2586	A2653
U1723	A1786	A1851	U1926	U1986	A2054	A2121	C2179	A2248	G2321	G2392	G2464	U2526	G2587	C2654
C1724	C1787	G1852	U1927	U1987	C2055	A2122	U2180	A2251	C2322	G2393	G2465	U2527	U2588	A2655
C1725	U1787	G1853	G1928	U1988	C2056	U2121	A2181	U2252	G2323	G2394	G2466	U2530	C2589	G2656
C1726	C1788	A1854	U1929	U1989	U2057	G2122	A2182	A2252	U2324	G2395	G2467	U2531	U2590	G2657
U1736	U1789	A1855	G1930	U1990	U2058	G2123	C2183	A2253	G2325	C2396	A2467	U2532	C2591	G2658
U1737	G1790	A1856	G1931	U1991	U2059	C2124	C2184	G2255	A2326	G2397	G2468	U2533	U2592	A2659
U1738	C1792	A1857	G1932	U1992	A2060	C2125	U2185	G2256	C2327	A2398	G2469	U2534	U2593	C2660
G1803	A1793	C1865	G1933	U1993	C2068	U	G2186	G2261	U2328	U2399	U2470	U2534	U2594	C2661
U1804	A1794	A1860	U1934	U1994	U2069	U	A2191	C2262	G2329	G2400	U2471	C2535	C2595	C2662
G1739	U1799	A1861	A1935	U2000	G2070	U	A2192	C2263	G2330	U2402	U2472	G2536	C2596	G2663
G1740	G1805	C1862	A1936	G2001	G2071	U	C2193	C2264	G2331	C2403	G2473	G2537	C2597	G2664
G1741	G1806	U1863	G1937	G2002	U2067	G	A2194	A2265	A2331	A2404	G2474	G2538	C2598	G2665
G1742	A1807	G1864	U1938	A2003	U2067	C	A2194	A2266	A2332	A2405	G2475	G2539	U2599	C2666
C1743	C1808	C1864	U1939	G2004	C2068	G2132	C2195	A2267	U2335	A2406	A2476	G2540	G2667	C2667
G1747	G1809	A1873	G1940	U2005	U2069	G2133	U2196	A2268	G2336	A2407	C2477	A2541	U2668	C2668
U1748	A1811	U1881	C1941	G2006	G2070	U2134	U2197	G2269	G2337	G2408	C2478	U2542	C2669	C2669
G1749	U1812	A1882	G1942	G2007	G2071	C2135	U2198	U2270	A2337	G2409	U2479	A2543	C2670	C2670
A1750	A1813	G1883	G1943	G2008	C2072	G2136	C2199	C2271	G2341	A2409	C2480	A2544	C2671	C2671
U1751	G1814	A1884	A1949	C2009	A2073	G2137	G2200	C2272	U2342	U2410	G2481	A2545	C2672	U2672
U1752	G1815	A1884	A1952	G2010	G2076	U2138	G2201	C2273	U2343	U2411	A2482	G2546	A2673	G2673
A1753	G1816	G1885	G1951	G2011	G2077	G2140	G2202	C2274	G2344	A2412	U2483	C2547	C2674	G2674
G1754	A1817	A1886	A1952	A2012	G2077	G2140	G2203	C2275	G2345	A2413	U2484	G2548	U2675	U2675
G1755	G1818	G1887	A1953	A2013	G2078	A	A2204	C2276	G2346	A2414	U2485	G2549	C2676	C2676
G1756	G1818	G1888	G1954	C2019	G2083	A	C2205	A2277	C2347	G2415	U2486	C2550	U2677	C2677
C1757	U1819	G1889	G1955	G2020	U2080	C	C2206	A2278	C2347	G2415	G2487	A2551	G2678	C2678
C1757	G1820	U1889	G1956	G2021	C2082	C	G2207	G2279	A2348	G2419	C2488	C2552	G2679	C2679
C1788	A1821	G1890	C1957	C2022	U2081	A	U2208	A2280	G2351	C2420	C2489	G2553	U2680	U2680
C1822	U1759	G1890	G1958	C2023	G2076	A	G2209	C2281	A2352	C2421	U2490	G2554	A2681	C2681
G1823	A1822	U1900	U1959	A2025	U2090	A	G2210	C2282	A2353	C2422	U2491	G2555	C2682	C2682
					C2091	A	U2211	G2285	G2354	G2423	G2492	A2556	C2683	C2683
					U2092	A	U2212	U2286	A2355	G2424	U2493	G2557	A2684	C2684
							G2213	G2287	A2356	G2425	C2494	G2558	A2685	A2685
							G2214	A2288	A2357	G2426	G2495	C2559	C2686	C2686
							G2215	A2289	A2357	G2427	G2496	G2560	C2687	C2687
							G2216	A2290	G2361	U2428	A2497	G2561	C2688	C2688



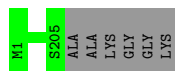
• Molecule 2: 5S ribosomal RNA



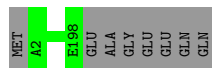
• Molecule 3: 50S ribosomal protein L2



• Molecule 4: 50S ribosomal protein L3



• Molecule 5: 50S ribosomal protein L4



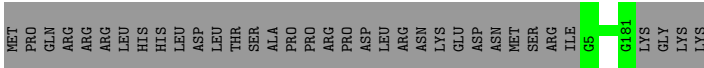
• Molecule 6: 50S ribosomal protein L5





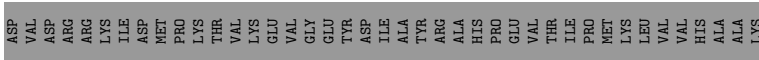
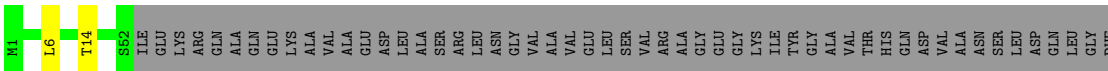
- Molecule 7: 50S ribosomal protein L6

Chain E: 83% 17%



- Molecule 8: 50S ribosomal protein L9

Chain F: 34% 64%



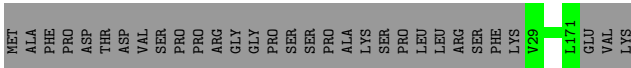
- Molecule 9: 50S ribosomal protein L11

Chain G: 99%



- Molecule 10: 50S ribosomal protein L13

Chain H: 82% 18%



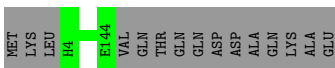
- Molecule 11: 50S ribosomal protein L14

Chain I: 99%




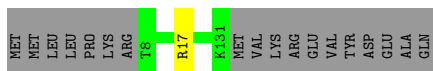
- Molecule 12: 50S ribosomal protein L15

Chain J: 90% 10%



- Molecule 13: 50S ribosomal protein L16

Chain K:  87% 13%



- Molecule 14: 50S ribosomal protein L17

Chain L:  98%



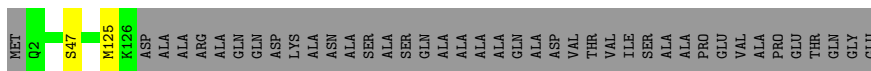
- Molecule 15: 50S ribosomal protein L18

Chain M:  97%



- Molecule 16: 50S ribosomal protein L19

Chain N:  74% 25%



- Molecule 17: 50S ribosomal protein L20

Chain O:  99%



- Molecule 18: 50S ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: 50S ribosomal protein L22

Chain Q:  97%



- Molecule 20: 50S ribosomal protein L23

Chain R:  98%



- Molecule 21: 50S ribosomal protein L24

Chain S: 98%



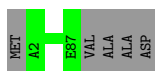
- Molecule 22: general stress protein CTC

Chain T: 88%



- Molecule 23: 50S ribosomal protein L27

Chain U: 95%



- Molecule 24: 50S ribosomal protein L29

Chain W: 97%



- Molecule 25: 50S ribosomal protein L30

Chain X: 100%

There are no outlier residues recorded for this chain.

- Molecule 26: 50S ribosomal protein L31

Chain Y: 100%

There are no outlier residues recorded for this chain.

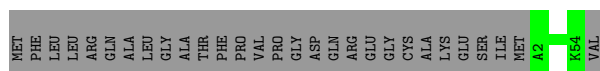
- Molecule 27: 50S ribosomal protein L32

Chain Z: 97%



- Molecule 28: 50S ribosomal protein L33

Chain 1:  65% 35%



- Molecule 29: 50S ribosomal protein L34

Chain 2:  98%



- Molecule 30: 50S ribosomal protein L35

Chain 3:  98%



- Molecule 31: 50S ribosomal protein L36

Chain 4:  97%





## 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, $\alpha$ , $\beta$ , $\gamma$	170.00Å 410.00Å 697.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.10	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.10)	Depositor
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	CNS	Depositor
R, $R_{free}$	0.240 , 0.274	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	65300	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	47.0	wwPDB-VP

## 5 Model quality i

### 5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	0	0.25	0/66467	0.70	6/103673 (0.0%)
2	9	0.59	0/2816	0.81	1/4388 (0.0%)
All	All	0.27	0/69283	0.70	7/108061 (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	5

There are no bond length outliers.

All (7) 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
1	0	2428	U	N1-C1'-C2'	6.19	122.04	114.00
1	0	1279	G	N9-C1'-C2'	5.63	121.32	114.00
1	0	843	G	C2'-C3'-O3'	5.44	122.40	113.70
1	0	2660	C	N1-C1'-C2'	5.26	120.84	114.00
1	0	1264	C	N1-C1'-C2'	5.24	120.81	114.00
1	0	1342	U	N1-C1'-C2'	5.21	120.77	114.00

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1264	C	Sidechain
1	0	1342	U	Sidechain
1	0	2251	U	Sidechain
1	0	2668	U	Sidechain

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Mol	Chain	Res	Type	Group
1	0	788	G	Sidechain

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2555	1
2	9	2519	0	1285	147	0
3	A	270	0	0	0	0
4	B	205	0	0	0	0
5	C	197	0	0	0	0
6	D	178	0	0	0	0
7	E	177	0	0	0	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	0	0
15	M	111	0	0	0	0
16	N	125	0	0	1	1
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	0	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
All	All	65300	0	31202	2696	1

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 28.

All (2696) 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)
1:0:1679:U:H2'	1:0:1680:U:H5''	1.22	1.12
1:0:362:C:H2'	1:0:363:G:H4'	1.34	1.10
1:0:918:A:H2'	1:0:919:U:H5''	1.29	1.10
1:0:2548:G:H2'	1:0:2549:G:H5''	1.10	1.09
1:0:2058:U:H1'	1:0:2576:G:H21	1.08	1.08
1:0:1908:C:H2'	1:0:1909:U:H4'	1.25	1.08
1:0:1976:U:H2'	1:0:1977:C:H5'	1.28	1.08
1:0:2014:A:H62	1:0:2477:C:H1'	1.17	1.06
1:0:2548:G:C2'	1:0:2549:G:H5''	1.85	1.06
1:0:940:G:H3'	1:0:941:U:C5'	1.86	1.05
1:0:940:G:H3'	1:0:941:U:H5''	1.06	1.05
1:0:2299:A:H5'	1:0:2300:G:C4	1.91	1.05
1:0:1900:U:O2'	1:0:1946:U:H5'	1.55	1.05
1:0:1458:A:H3'	1:0:1459:U:C5'	1.85	1.04
1:0:104:C:H2'	1:0:105:G:H5''	1.35	1.04
1:0:716:U:H2'	1:0:717:G:O4'	1.55	1.03
1:0:2081:U:H2'	1:0:2082:C:H5''	1.36	1.02
1:0:2266:A:N6	1:0:2323:U:H1'	1.74	1.01
1:0:1073:G:H2'	1:0:1074:G:H4'	1.40	0.99
1:0:2038:C:H2'	1:0:2483:U:H4'	1.41	0.99
1:0:1900:U:H2'	1:0:1901:A:O4'	1.61	0.99
1:0:2414:A:H2'	1:0:2415:G:H5''	1.44	0.99
1:0:1679:U:C2'	1:0:1680:U:H5''	1.92	0.99
1:0:1900:U:H3'	1:0:1901:A:H8	1.23	0.98
1:0:468:A:O2'	1:0:469:G:H4'	1.63	0.98
1:0:2059:U:H2'	1:0:2060:A:H5''	1.44	0.98
1:0:75:C:H2'	1:0:76:C:H5''	1.44	0.97
1:0:1458:A:H3'	1:0:1459:U:H5''	1.47	0.96
1:0:1747:G:H4'	1:0:1749:G:H1'	1.46	0.96
1:0:2761:A:H5''	1:0:2762:G:H5'	1.47	0.96
1:0:688:A:H62	1:0:816:U:H3	1.14	0.95
1:0:941:U:H2'	1:0:942:U:O4'	1.64	0.95
1:0:616:U:H2'	1:0:617:U:H5''	1.46	0.95
1:0:1748:U:H3	1:0:1753:A:H2	1.11	0.94
1:0:2014:A:N6	1:0:2477:C:H1'	1.82	0.94
1:0:1900:U:H3'	1:0:1901:A:C8	2.02	0.94
2:9:54:U:H2'	2:9:55:C:C6	2.03	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2425:G:H2'	1:0:2480:C:H5	1.32	0.94
1:0:1621:C:H4'	1:0:1626:A:C6	2.03	0.94
1:0:2509:A:H2'	1:0:2510:A:H5''	1.50	0.93
1:0:1432:G:H21	1:0:1596:A:H62	1.07	0.93
1:0:1656:U:H2'	1:0:1657:A:H5''	1.50	0.93
1:0:1804:U:H2'	1:0:1805:G:H8	1.33	0.93
2:9:25:G:H2'	2:9:26:G:O4'	1.69	0.92
1:0:1463:A:H1'	1:0:1543:G:H22	1.34	0.92
2:9:84:G:H2'	2:9:85:G:H8	1.34	0.92
1:0:1280:U:H3	1:0:1996:A:H62	1.09	0.92
1:0:28:A:H61	1:0:522:G:H4'	1.35	0.92
1:0:976:C:H5'	1:0:2252:A:H1'	1.49	0.91
1:0:763:A:H2	1:0:765:C:H1'	1.35	0.90
1:0:792:U:H2'	1:0:793:G:H5'	1.53	0.90
1:0:857:U:H2'	1:0:858:G:H5'	1.52	0.90
1:0:1438:G:H2'	1:0:1439:G:O4'	1.73	0.89
1:0:2623:A:H2'	1:0:2624:G:O4'	1.71	0.89
2:9:100:G:H2'	2:9:101:A:O4'	1.72	0.89
1:0:508:G:H1	1:0:516:G:H22	1.20	0.89
1:0:317:U:H2'	1:0:318:G:H5''	1.54	0.89
1:0:2266:A:H61	1:0:2323:U:H1'	1.37	0.89
1:0:2380:U:H2'	1:0:2381:A:H5'	1.53	0.89
1:0:1976:U:C2'	1:0:1977:C:H5'	2.03	0.88
2:9:67:C:H2'	2:9:68:A:H5'	1.54	0.88
1:0:929:A:H3'	1:0:930:A:H5''	1.53	0.88
1:0:1088:A:H2'	1:0:1089:C:O4'	1.74	0.88
2:9:42:U:H2'	2:9:45:C:H41	1.35	0.88
1:0:841:G:H2'	1:0:842:A:C8	2.07	0.88
2:9:4:C:H2'	2:9:5:C:C6	2.08	0.88
1:0:317:U:H3	1:0:321:A:H62	1.22	0.87
1:0:762:A:H2'	1:0:763:A:H8	1.38	0.87
1:0:940:G:C3'	1:0:941:U:H5''	2.01	0.87
1:0:2872:U:H2'	1:0:2873:G:C8	2.10	0.87
1:0:1299:A:H2'	1:0:1301:U:OP2	1.72	0.87
1:0:2096:U:H2'	1:0:2097:A:H5''	1.53	0.87
1:0:1463:A:H1'	1:0:1543:G:N2	1.88	0.87
1:0:2636:A:H62	1:0:2643:G:H21	1.22	0.87
1:0:2691:C:H3'	1:0:2692:A:H5''	1.57	0.87
1:0:88:G:H3'	1:0:89:A:H5''	1.57	0.87
1:0:1032:A:H2'	1:0:1033:G:H4'	1.56	0.86
1:0:658:G:H4'	1:0:2331:A:H5'	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1791:C:H2'	1:0:1792:C:H5''	1.55	0.86
1:0:2270:U:O2'	1:0:2353:G:H1'	1.76	0.86
1:0:847:C:H41	1:0:955:G:H21	1.19	0.86
1:0:58:C:H3'	1:0:59:G:H5''	1.55	0.86
1:0:1312:G:H5'	1:0:1314:A:H1'	1.55	0.86
1:0:1459:U:H2'	1:0:1475:U:O2'	1.75	0.86
1:0:2510:A:H61	1:0:2641:A:H61	1.21	0.86
1:0:2198:U:H3'	1:0:2199:C:H5''	1.57	0.85
2:9:102:A:C2'	2:9:103:A:H5'	2.06	0.85
1:0:590:C:H2'	1:0:591:G:C8	2.10	0.85
1:0:2672:U:H2'	1:0:2673:G:H8	1.40	0.85
1:0:2474:G:H2'	1:0:2475:C:O4'	1.76	0.85
1:0:215:G:H21	1:0:632:A:H8	1.20	0.85
1:0:1182:U:H2'	1:0:1183:C:H5''	1.57	0.85
1:0:1966:C:H4'	1:0:2585:C:H4'	1.56	0.85
1:0:1252:C:C2'	1:0:1253:C:H5''	2.06	0.85
1:0:103:U:H2'	1:0:104:C:C6	2.11	0.85
1:0:813:A:H1'	1:0:815:A:H4'	1.59	0.84
1:0:2755:A:O2'	1:0:2756:A:H5'	1.75	0.84
1:0:2770:A:H4'	1:0:2867:G:H22	1.42	0.84
1:0:762:A:H2'	1:0:763:A:C8	2.13	0.84
1:0:2861:A:H2'	1:0:2862:G:H8	1.43	0.84
1:0:2476:A:HO2'	1:0:2477:C:H5	0.87	0.84
1:0:2674:C:H2'	1:0:2675:U:H6	1.43	0.84
2:9:67:C:C2'	2:9:68:A:H5'	2.07	0.84
1:0:357:A:H2'	1:0:358:C:H5'	1.59	0.83
1:0:1252:C:H2'	1:0:1253:C:H5''	1.61	0.83
1:0:558:G:H5''	1:0:559:C:C5	2.13	0.83
1:0:2476:A:O2'	1:0:2477:C:H5	1.61	0.83
2:9:102:A:O2'	2:9:103:A:H5'	1.77	0.83
1:0:681:A:H2'	1:0:683:A:N7	1.93	0.83
1:0:1976:U:H2'	1:0:1977:C:C5'	2.09	0.83
1:0:2058:U:H1'	1:0:2576:G:N2	1.93	0.83
1:0:2318:U:H2'	1:0:2319:G:H8	1.44	0.83
1:0:652:C:H42	1:0:657:A:H61	1.24	0.82
1:0:2409:A:H2'	1:0:2410:U:H5'	1.58	0.82
1:0:187:U:H2'	1:0:188:G:H8	1.44	0.82
1:0:547:U:H2'	1:0:548:G:C8	2.14	0.82
1:0:2499:C:H41	1:0:2521:A:H2	1.25	0.82
1:0:460:U:N3	1:0:592:G:H1'	1.94	0.82
1:0:918:A:C2'	1:0:919:U:H5''	2.07	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1242:A:H2'	1:0:1243:G:C8	2.14	0.82
1:0:1656:U:C2'	1:0:1657:A:H5''	2.08	0.82
1:0:922:A:H2'	1:0:923:A:H8	1.41	0.82
1:0:1922:U:H1'	1:0:2570:C:O2'	1.79	0.82
2:9:93:G:H2'	2:9:94:G:H8	1.42	0.82
1:0:1295:U:H2'	1:0:1296:G:H5'	1.60	0.82
1:0:556:A:H2'	1:0:557:U:H5'	1.58	0.82
1:0:1181:C:H3'	1:0:1182:U:H5''	1.59	0.81
1:0:367:G:H2'	1:0:368:A:H5''	1.62	0.81
1:0:37:C:H2'	1:0:38:G:H8	1.45	0.81
1:0:759:C:H1'	1:0:761:G:H21	1.45	0.81
1:0:1608:U:H2'	1:0:1609:G:H8	1.45	0.81
1:0:2861:A:H2'	1:0:2862:G:C8	2.16	0.81
1:0:28:A:N6	1:0:522:G:H4'	1.96	0.81
1:0:734:G:H2'	1:0:735:G:H8	1.43	0.81
1:0:1982:C:H4'	1:0:2703:C:O2	1.80	0.81
1:0:635:C:H2'	1:0:636:G:H5''	1.60	0.81
2:9:92:G:H2'	2:9:93:G:H5'	1.62	0.81
1:0:641:G:H4'	1:0:651:C:O2'	1.80	0.81
1:0:1325:U:H4'	1:0:1326:U:C6	2.15	0.81
1:0:2262:C:H2'	1:0:2263:C:O4'	1.81	0.81
2:9:12:C:H2'	2:9:13:C:O4'	1.81	0.81
1:0:651:C:H2'	1:0:652:C:H5''	1.61	0.81
1:0:1055:A:C2	1:0:1121:G:H2'	2.16	0.81
1:0:1223:G:H21	1:0:1225:G:H21	1.29	0.81
2:9:7:C:O2'	2:9:8:C:H5'	1.80	0.81
1:0:1040:A:H2'	1:0:1041:G:H5'	1.59	0.81
1:0:1587:A:H2'	1:0:1588:A:C8	2.16	0.81
1:0:1922:U:O2	1:0:2571:G:H5'	1.81	0.80
1:0:170:U:H2'	1:0:171:G:H8	1.45	0.80
1:0:1348:C:H2'	1:0:1349:A:C8	2.16	0.80
1:0:1267:A:H5''	1:0:1268:U:O5'	1.81	0.80
1:0:1710:U:H3	1:0:1821:A:H61	1.26	0.80
1:0:1202:U:H2'	1:0:1203:A:H8	1.45	0.80
1:0:613:A:H2'	1:0:614:G:H8	1.46	0.80
1:0:2616:U:H2'	1:0:2617:G:O4'	1.81	0.80
1:0:727:U:H2'	1:0:728:G:H5''	1.64	0.80
1:0:1774:A:H5'	1:0:2587:G:H4'	1.62	0.80
1:0:37:C:H2'	1:0:38:G:C8	2.16	0.79
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.79
1:0:930:A:H3'	1:0:931:G:C8	2.17	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1284:G:N3	1:0:1633:C:H5'	1.97	0.79
1:0:2491:C:H2'	1:0:2492:G:O4'	1.81	0.79
1:0:75:C:C2'	1:0:76:C:H5''	2.11	0.79
1:0:2030:U:H2'	1:0:2031:A:H8	1.46	0.79
2:9:28:A:C2	2:9:29:C:H1'	2.18	0.79
1:0:70:A:O3'	1:0:71:A:H3'	1.82	0.79
1:0:1479:G:H2'	1:0:1480:G:H8	1.46	0.79
1:0:922:A:H2'	1:0:923:A:C8	2.17	0.79
1:0:1066:G:H2'	1:0:1067:G:H4'	1.65	0.79
1:0:1313:U:H1'	1:0:1642:G:N2	1.97	0.79
1:0:1445:A:H2'	1:0:1446:U:O4'	1.82	0.79
1:0:1319:C:H2'	1:0:1320:A:H8	1.45	0.79
1:0:2038:C:H2'	1:0:2483:U:C4'	2.13	0.79
2:9:65:A:H2'	2:9:66:G:C8	2.17	0.79
1:0:792:U:C2'	1:0:793:G:H5'	2.11	0.79
1:0:1825:C:O2'	1:0:1826:U:H5'	1.83	0.79
1:0:2081:U:C2'	1:0:2082:C:H5''	2.13	0.79
1:0:930:A:H3'	1:0:931:G:H8	1.45	0.79
1:0:1463:A:C1'	1:0:1543:G:H22	1.96	0.79
1:0:2414:A:C2'	1:0:2415:G:H5''	2.12	0.79
1:0:1750:A:H1'	1:0:2690:A:C2	2.18	0.79
1:0:2034:A:H5'	1:0:2557:G:O4'	1.83	0.79
1:0:2498:U:H5''	1:0:2499:C:OP1	1.82	0.79
1:0:2158:C:H2'	1:0:2159:A:H8	1.48	0.78
1:0:1223:G:N2	1:0:1225:G:H21	1.80	0.78
1:0:1974:U:H2'	1:0:1975:G:H5''	1.65	0.78
1:0:2315:A:O2'	1:0:2364:C:H5''	1.83	0.78
1:0:50:G:H2'	1:0:117:A:C2	2.18	0.78
1:0:1608:U:H2'	1:0:1609:G:C8	2.19	0.78
1:0:1715:A:O2'	1:0:1716:G:H3'	1.83	0.78
1:0:1911:A:H2'	1:0:1912:G:H5'	1.66	0.78
1:0:2324:G:O2'	1:0:2325:A:H5''	1.83	0.78
1:0:820:U:H2'	1:0:821:A:H8	1.49	0.78
1:0:1921:A:H2'	1:0:1922:U:H5''	1.65	0.78
1:0:2652:G:H2'	1:0:2653:A:H8	1.48	0.78
2:9:78:A:H2'	2:9:79:U:C6	2.19	0.78
1:0:2015:G:H22	1:0:2038:C:H1'	1.49	0.78
1:0:1789:U:H2'	1:0:1790:G:H5'	1.66	0.78
2:9:92:G:C2'	2:9:93:G:H5'	2.14	0.78
2:9:58:G:H4'	2:9:59:A:H5'	1.64	0.78
1:0:1886:G:H2'	1:0:1887:G:H8	1.46	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:953:G:H1'	1:0:1203:A:H2	1.49	0.77
1:0:331:U:H2'	1:0:332:C:H5''	1.65	0.77
1:0:541:C:H42	1:0:572:G:H8	1.32	0.77
1:0:1791:C:H1'	1:0:1793:A:H5'	1.67	0.77
1:0:2437:G:N1	1:0:2469:G:H2'	1.98	0.77
1:0:2308:A:H2'	1:0:2309:G:C8	2.19	0.77
1:0:2510:A:N6	1:0:2641:A:H61	1.83	0.77
1:0:2736:U:O2'	1:0:2737:A:H5'	1.85	0.77
2:9:69:G:H2'	2:9:70:C:O4'	1.84	0.77
1:0:404:A:H1'	1:0:424:G:O2'	1.83	0.77
1:0:2605:C:H2'	1:0:2606:G:O4'	1.84	0.77
1:0:509:U:H2'	1:0:510:G:H5'	1.66	0.77
1:0:612:G:O3'	1:0:613:A:H4'	1.85	0.77
1:0:616:U:C2'	1:0:617:U:H5''	2.14	0.77
2:9:65:A:H2'	2:9:66:G:H8	1.50	0.77
1:0:19:C:H5'	1:0:563:U:OP1	1.85	0.77
1:0:2324:G:H4'	1:0:2326:C:H5''	1.67	0.77
1:0:1479:G:H2'	1:0:1480:G:C8	2.21	0.76
1:0:2811:G:H2'	1:0:2812:A:C8	2.20	0.76
1:0:1091:C:H2'	1:0:1092:U:C6	2.20	0.76
1:0:1763:G:H2'	1:0:1764:A:H4'	1.66	0.76
1:0:2555:G:H3'	1:0:2555:G:OP1	1.85	0.76
1:0:669:G:H2'	1:0:670:U:C6	2.21	0.76
1:0:321:A:H2'	1:0:323:G:N7	1.99	0.76
1:0:873:U:C2	1:0:2246:A:H5''	2.19	0.76
1:0:1474:A:H3'	1:0:1474:A:N3	2.00	0.76
1:0:1811:A:H1'	1:0:1813:A:C5	2.20	0.76
1:0:2329:C:H2'	1:0:2330:G:O4'	1.85	0.76
1:0:2633:A:H61	1:0:2646:C:N4	1.82	0.76
1:0:2308:A:H2'	1:0:2309:G:H8	1.48	0.76
1:0:2836:U:H2'	1:0:2837:G:C8	2.19	0.76
2:9:77:G:H2'	2:9:78:A:O4'	1.84	0.76
1:0:873:U:H1'	1:0:2246:A:OP1	1.86	0.76
1:0:2320:G:H2'	1:0:2321:C:O4'	1.83	0.76
1:0:174:A:C4'	1:0:2051:U:H2'	2.16	0.76
1:0:689:A:H8	1:0:2052:G:H21	1.32	0.76
1:0:1697:U:H2'	1:0:1698:C:O4'	1.86	0.76
1:0:547:U:H2'	1:0:548:G:H8	1.51	0.76
1:0:1036:G:H1'	1:0:1145:C:C4'	2.16	0.76
1:0:2447:G:H22	1:0:2460:G:H2'	1.51	0.76
1:0:427:C:H2'	1:0:428:A:H8	1.51	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:462:G:H2'	1:0:463:C:H5''	1.68	0.75
1:0:734:G:H2'	1:0:735:G:C8	2.20	0.75
1:0:1763:G:N2	1:0:1765:C:H5''	2.00	0.75
1:0:2836:U:H2'	1:0:2837:G:H8	1.51	0.75
1:0:1471:G:H1	1:0:2682:C:H42	1.31	0.75
1:0:1280:U:H3	1:0:1996:A:N6	1.83	0.75
1:0:2569:A:H2'	1:0:2570:C:C6	2.20	0.75
1:0:2829:A:H2'	1:0:2830:U:O4'	1.87	0.75
1:0:77:C:H2'	1:0:78:C:C6	2.22	0.75
1:0:2321:C:H2'	1:0:2322:U:O4'	1.87	0.75
1:0:800:U:H3'	1:0:804:C:H41	1.52	0.75
1:0:2053:G:H2'	1:0:2054:A:C8	2.22	0.75
1:0:2199:C:H2'	1:0:2200:G:H8	1.52	0.75
1:0:2268:G:H5''	1:0:2363:G:O2'	1.86	0.75
1:0:162:C:H2'	1:0:163:A:C8	2.21	0.75
1:0:1727:C:H4'	1:0:2833:C:N3	2.02	0.75
1:0:699:G:H21	1:0:700:C:H5''	1.51	0.75
1:0:2456:U:H1'	1:0:2460:G:H22	1.50	0.75
1:0:1055:A:H2	1:0:1121:G:H2'	1.52	0.74
1:0:416:U:H5''	1:0:417:C:H5'	1.68	0.74
1:0:1195:U:H2'	1:0:1196:G:C8	2.23	0.74
1:0:1691:G:H21	1:0:1694:A:H61	1.34	0.74
1:0:2199:C:H2'	1:0:2200:G:C8	2.21	0.74
1:0:705:C:H2'	1:0:706:A:C8	2.22	0.74
1:0:1807:A:O2'	1:0:1808:C:H4'	1.88	0.74
1:0:2176:U:H2'	1:0:2177:U:O4'	1.88	0.74
1:0:763:A:C2	1:0:765:C:H1'	2.22	0.74
1:0:1388:C:H2'	1:0:1389:C:H6	1.52	0.74
1:0:632:A:H2'	1:0:633:G:O4'	1.88	0.74
1:0:218:A:O2'	1:0:219:G:H4'	1.88	0.74
1:0:652:C:H42	1:0:657:A:N6	1.84	0.74
1:0:929:A:H2'	1:0:930:A:H4'	1.70	0.74
1:0:2279:G:H2'	1:0:2280:A:H8	1.52	0.74
1:0:118:U:H1'	1:0:143:A:C8	2.23	0.74
1:0:1035:G:H21	1:0:1155:G:H4'	1.52	0.74
1:0:1598:C:H2'	1:0:1599:G:O4'	1.87	0.74
1:0:870:C:H2'	1:0:871:U:C6	2.23	0.74
1:0:1068:A:H2'	1:0:1069:G:C8	2.23	0.74
1:0:1695:U:H2'	1:0:1696:C:O4'	1.88	0.74
1:0:441:A:H2'	1:0:442:A:O4'	1.88	0.73
1:0:813:A:O2'	1:0:815:A:H5'	1.86	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1197:U:H2'	1:0:1198:C:O4'	1.88	0.73
1:0:1869:A:H2'	1:0:1870:U:O4'	1.88	0.73
1:0:486:U:H4'	1:0:520:C:H5'	1.70	0.73
1:0:760:U:O2	1:0:1997:A:H1'	1.88	0.73
1:0:1654:A:H4'	1:0:2690:A:O2'	1.87	0.73
1:0:2437:G:H2'	1:0:2469:G:N1	2.02	0.73
1:0:2469:G:H5''	1:0:2470:U:OP1	1.87	0.73
1:0:1036:G:H1'	1:0:1145:C:H4'	1.70	0.73
2:9:31:A:H2'	2:9:32:C:O4'	1.89	0.73
1:0:613:A:H2'	1:0:614:G:C8	2.23	0.73
1:0:1958:G:H2'	1:0:1959:U:C6	2.23	0.73
1:0:460:U:H3	1:0:592:G:H1'	1.52	0.73
1:0:1225:G:H2'	1:0:1249:G:H22	1.53	0.73
1:0:1284:G:C4	1:0:1633:C:H5'	2.23	0.73
1:0:2158:C:H2'	1:0:2159:A:C8	2.24	0.73
1:0:1440:G:H1'	1:0:1588:A:N6	2.02	0.73
1:0:190:A:H2'	1:0:191:G:C8	2.24	0.72
1:0:523:A:H4'	1:0:1230:C:H5'	1.72	0.72
2:9:48:A:O2'	2:9:49:C:H5'	1.88	0.72
1:0:208:C:H2'	1:0:209:G:H5'	1.70	0.72
1:0:815:A:H2'	1:0:816:U:O4'	1.88	0.72
1:0:2839:G:H2'	1:0:2840:U:C6	2.23	0.72
1:0:163:A:H2'	1:0:164:G:H8	1.54	0.72
1:0:652:C:N4	1:0:657:A:H61	1.87	0.72
1:0:681:A:C6	1:0:683:A:H2'	2.24	0.72
1:0:2083:G:H2'	1:0:2084:G:C8	2.24	0.72
1:0:2409:A:C2'	1:0:2410:U:H5'	2.19	0.72
1:0:2274:C:H2'	1:0:2275:U:H5''	1.70	0.72
1:0:1685:A:H1'	1:0:1686:A:C2	2.25	0.72
1:0:2781:G:H2'	1:0:2782:G:O4'	1.90	0.72
1:0:870:C:H2'	1:0:871:U:H6	1.54	0.72
1:0:2569:A:H2'	1:0:2570:C:H6	1.53	0.72
1:0:313:U:H2'	1:0:314:G:C8	2.24	0.71
1:0:930:A:H5'	1:0:931:G:N7	2.05	0.71
1:0:1698:C:O2'	1:0:1753:A:H2'	1.89	0.71
1:0:2781:G:H2'	1:0:2782:G:C1'	2.20	0.71
1:0:591:G:H2'	1:0:592:G:H8	1.55	0.71
1:0:651:C:C2'	1:0:652:C:H5''	2.20	0.71
1:0:890:U:H2'	1:0:891:A:C8	2.25	0.71
1:0:459:A:H1'	1:0:461:A:N6	2.05	0.71
1:0:1304:U:O2'	1:0:1305:C:H5'	1.89	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1949:A:O2'	1:0:2572:U:H5'	1.90	0.71
2:9:61:A:H8	2:9:61:A:O5'	1.73	0.71
1:0:109:A:H2'	1:0:110:U:H5''	1.70	0.71
1:0:2185:U:H2'	1:0:2186:G:C8	2.24	0.71
1:0:69:G:H5''	1:0:70:A:OP1	1.91	0.71
1:0:1851:A:H61	1:0:1867:A:H1'	1.55	0.71
1:0:2005:U:H2'	1:0:2595:C:O2'	1.90	0.71
1:0:2674:C:H2'	1:0:2675:U:C6	2.26	0.71
1:0:1789:U:O2'	1:0:1793:A:H1'	1.90	0.71
1:0:1560:A:H2'	1:0:1561:A:O4'	1.91	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
1:0:187:U:H2'	1:0:188:G:C8	2.25	0.71
1:0:1690:U:H2'	1:0:1691:G:H5'	1.73	0.71
1:0:2266:A:C2	1:0:2268:G:H1'	2.26	0.71
1:0:2390:A:H2'	1:0:2391:A:H8	1.56	0.71
1:0:1312:G:H5''	1:0:1313:U:C5'	2.20	0.70
1:0:1547:U:H2'	1:0:1548:U:C6	2.26	0.70
1:0:1653:C:H2'	1:0:1654:A:C8	2.25	0.70
1:0:1994:U:H2'	1:0:1995:G:H5'	1.73	0.70
1:0:490:A:O2'	1:0:491:A:H5'	1.90	0.70
1:0:2549:G:H2'	1:0:2550:C:O4'	1.91	0.70
1:0:2708:U:H2'	1:0:2709:C:C6	2.26	0.70
1:0:939:C:H2'	1:0:940:G:C8	2.27	0.70
1:0:1067:G:H21	1:0:1115:C:N4	1.89	0.70
1:0:2549:G:C2	1:0:2550:C:H1'	2.26	0.70
1:0:2425:G:H2'	1:0:2480:C:C5	2.22	0.70
1:0:88:G:H3'	1:0:89:A:C5'	2.21	0.70
1:0:1804:U:H2'	1:0:1805:G:C8	2.23	0.70
1:0:951:G:C3'	1:0:952:A:H5''	2.21	0.70
1:0:2548:G:H2'	1:0:2549:G:C5'	2.05	0.70
1:0:871:U:O2	1:0:2247:A:H2'	1.92	0.70
1:0:942:U:C2'	1:0:943:U:H5'	2.22	0.70
1:0:1908:C:H2'	1:0:1909:U:C4'	2.16	0.70
1:0:2085:G:H2'	1:0:2086:U:C6	2.26	0.70
2:9:71:G:N2	2:9:72:C:H1'	2.07	0.70
1:0:245:C:H5'	1:0:372:U:O2'	1.92	0.70
1:0:618:A:H2'	1:0:619:A:O4'	1.91	0.70
1:0:1953:A:H1'	1:0:1955:G:C1'	2.20	0.70
1:0:2469:G:H4'	1:0:2470:U:C5	2.27	0.70
1:0:2787:A:O2'	1:0:2788:C:H5'	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:84:G:O2'	2:9:85:G:H5'	1.91	0.70
1:0:76:C:H6	1:0:76:C:H5'	1.56	0.70
1:0:1194:U:H2'	1:0:1195:U:C6	2.26	0.70
1:0:1371:G:H1'	1:0:1386:A:N6	2.07	0.70
1:0:1436:G:H21	1:0:1514:C:H1'	1.55	0.70
1:0:1791:C:O2'	1:0:1793:A:H5'	1.92	0.70
1:0:462:G:H2'	1:0:463:C:C5'	2.22	0.69
1:0:1139:A:O2'	1:0:2495:G:H4'	1.92	0.69
1:0:1588:A:H2'	1:0:1589:G:H8	1.56	0.69
1:0:2521:A:H5'	1:0:2522:G:OP1	1.91	0.69
1:0:2273:C:H2'	1:0:2274:C:C6	2.27	0.69
1:0:2609:G:H21	1:0:2866:A:H2	1.39	0.69
1:0:2841:U:H1'	1:0:2843:A:H1'	1.73	0.69
2:9:4:C:H2'	2:9:5:C:H6	1.57	0.69
1:0:1889:G:H2'	1:0:1890:G:C8	2.27	0.69
1:0:979:A:H2'	1:0:980:G:O4'	1.92	0.69
1:0:2466:G:H2'	1:0:2467:A:C8	2.28	0.69
1:0:141:G:H2'	1:0:142:U:C6	2.28	0.69
1:0:663:G:H2'	1:0:664:C:O4'	1.92	0.69
1:0:951:G:H2'	1:0:952:A:H5''	1.73	0.69
1:0:2057:U:H2'	1:0:2058:U:C6	2.28	0.69
1:0:487:G:H1'	1:0:515:A:C2	2.27	0.69
1:0:2713:A:H2'	1:0:2714:A:H8	1.57	0.69
1:0:414:A:H2'	1:0:415:A:O4'	1.93	0.69
1:0:964:A:H2'	1:0:965:G:H8	1.57	0.69
1:0:1325:U:H4'	1:0:1326:U:C5	2.28	0.69
1:0:1502:G:O2'	1:0:1503:G:H5'	1.93	0.69
1:0:2164:G:H2'	1:0:2165:A:H8	1.58	0.69
1:0:2437:G:H2'	1:0:2469:G:H1	1.58	0.69
1:0:2713:A:H2'	1:0:2714:A:C8	2.28	0.69
1:0:2783:U:O2'	1:0:2784:A:H4'	1.91	0.69
2:9:6:C:H2'	2:9:7:C:C6	2.26	0.69
1:0:1466:C:H2'	1:0:1467:U:O4'	1.92	0.69
1:0:2083:G:H2'	1:0:2084:G:H8	1.58	0.69
1:0:2495:G:H2'	1:0:2496:C:O4'	1.93	0.69
1:0:1271:C:H2'	1:0:1272:G:C8	2.27	0.69
1:0:1644:G:O2'	1:0:1645:U:H5'	1.93	0.69
1:0:2044:G:C8	1:0:2482:A:H1'	2.28	0.69
1:0:2770:A:C5'	1:0:2867:G:H1	2.06	0.69
1:0:487:G:H1'	1:0:515:A:H2	1.56	0.68
1:0:1259:A:C2'	1:0:1260:A:H5'	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1376:C:H2'	1:0:1377:G:O4'	1.92	0.68
1:0:2202:G:H2'	1:0:2203:G:O4'	1.93	0.68
1:0:2691:C:H3'	1:0:2692:A:C5'	2.22	0.68
1:0:792:U:H2'	1:0:793:G:C5'	2.22	0.68
1:0:824:U:H2'	1:0:825:C:H5''	1.75	0.68
1:0:2122:G:H2'	1:0:2123:G:C8	2.29	0.68
1:0:2425:G:O2'	1:0:2426:G:H5'	1.93	0.68
2:9:84:G:H2'	2:9:85:G:C8	2.22	0.68
1:0:1587:A:H2'	1:0:1588:A:H8	1.56	0.68
1:0:1838:G:H2'	1:0:1839:A:H5'	1.75	0.68
1:0:1975:G:N2	1:0:1978:U:H5	1.90	0.68
1:0:133:C:H2'	1:0:134:G:O4'	1.93	0.68
1:0:1086:C:H2'	1:0:1087:C:H5''	1.74	0.68
1:0:1591:U:H2'	1:0:1592:U:O4'	1.93	0.68
1:0:239:A:H4'	1:0:620:G:H5'	1.75	0.68
1:0:1429:A:H62	1:0:1601:U:H5''	1.59	0.68
1:0:2030:U:H2'	1:0:2031:A:C8	2.28	0.68
1:0:427:C:H2'	1:0:428:A:C8	2.28	0.68
1:0:574:C:H4'	1:0:1266:G:O6	1.93	0.68
1:0:683:A:H5''	1:0:684:C:OP1	1.94	0.68
1:0:1467:U:H3'	1:0:1468:A:C5'	2.23	0.68
1:0:2510:A:H61	1:0:2641:A:N6	1.91	0.68
1:0:2491:C:H2'	1:0:2492:G:C4'	2.23	0.68
1:0:2672:U:H2'	1:0:2673:G:C8	2.27	0.68
1:0:168:A:H2'	1:0:169:C:C6	2.29	0.68
1:0:1191:G:H2'	1:0:1192:A:H8	1.59	0.68
1:0:2198:U:C3'	1:0:2199:C:H5''	2.24	0.68
1:0:826:U:O2'	1:0:1238:A:H1'	1.94	0.68
1:0:976:C:H5'	1:0:2252:A:C1'	2.23	0.68
1:0:1854:G:H1	1:0:1863:U:H3	1.39	0.68
1:0:114:C:H4'	1:0:124:A:O2'	1.93	0.67
1:0:1073:G:H3'	1:0:1074:G:H5''	1.76	0.67
1:0:1346:C:H6	1:0:1346:C:P	2.18	0.67
1:0:1763:G:H21	1:0:1765:C:H5''	1.60	0.67
1:0:770:U:O2'	1:0:771:C:H5'	1.94	0.67
1:0:2757:G:H5'	1:0:2761:A:H1'	1.77	0.67
1:0:1588:A:H2'	1:0:1589:G:C8	2.30	0.67
1:0:1958:G:H2'	1:0:1959:U:H6	1.60	0.67
1:0:2299:A:H5''	1:0:2300:G:O5'	1.94	0.67
1:0:2811:G:H2'	1:0:2812:A:H8	1.58	0.67
1:0:1319:C:H2'	1:0:1320:A:C8	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2785:A:H2'	1:0:2786:G:O4'	1.95	0.67
1:0:1681:A:C2	1:0:2706:U:H1'	2.30	0.67
1:0:1811:A:H1'	1:0:1813:A:C4	2.29	0.67
1:0:2470:U:H2'	1:0:2471:U:H6	1.59	0.67
1:0:2764:U:H2'	1:0:2765:C:C6	2.29	0.67
1:0:1029:C:H3'	1:0:1030:U:H5''	1.76	0.67
1:0:1352:G:H2'	1:0:1353:A:C8	2.28	0.67
1:0:1204:G:H2'	1:0:1205:G:C8	2.29	0.67
1:0:2119:A:O2'	1:0:2120:C:H5'	1.94	0.67
1:0:58:C:H3'	1:0:59:G:C5'	2.23	0.67
1:0:216:U:H5''	1:0:601:A:N6	2.10	0.67
1:0:1101:U:H3	1:0:1113:C:H1'	1.59	0.67
1:0:1356:G:H5''	1:0:1614:C:OP2	1.95	0.67
1:0:1826:U:O2'	1:0:1952:A:H2'	1.94	0.67
1:0:953:G:H2'	1:0:954:U:C6	2.30	0.67
1:0:1312:G:H5''	1:0:1313:U:H5''	1.77	0.67
1:0:1333:G:N7	1:0:1342:U:H5'	2.09	0.67
1:0:1432:G:N2	1:0:1596:A:H62	1.89	0.67
1:0:13:A:H1'	1:0:536:A:N6	2.09	0.67
1:0:139:A:H2'	1:0:140:G:H8	1.60	0.67
1:0:185:C:O2'	1:0:186:C:H5'	1.95	0.67
1:0:697:G:H1	1:0:807:A:H2	1.38	0.67
1:0:942:U:O2'	1:0:943:U:H5'	1.95	0.67
1:0:1287:A:N1	1:0:1661:C:O2'	2.27	0.67
1:0:1617:G:H2'	1:0:1618:U:H5'	1.76	0.67
1:0:2721:A:H2'	1:0:2722:C:O4'	1.95	0.67
1:0:2872:U:H2'	1:0:2873:G:H8	1.59	0.67
1:0:1302:C:O2'	1:0:1343:C:H4'	1.94	0.66
1:0:2038:C:H5'	1:0:2039:G:H5''	1.77	0.66
1:0:109:A:C3'	1:0:110:U:H5''	2.24	0.66
1:0:459:A:N6	1:0:484:G:H1'	2.09	0.66
1:0:564:U:H2'	1:0:565:A:C8	2.30	0.66
1:0:1352:G:H2'	1:0:1353:A:H8	1.59	0.66
1:0:2507:U:O2'	1:0:2508:G:H3'	1.95	0.66
1:0:2751:C:H2'	1:0:2752:C:H6	1.60	0.66
2:9:29:C:H2'	2:9:30:C:C6	2.31	0.66
1:0:109:A:C2'	1:0:110:U:H5''	2.26	0.66
1:0:357:A:H3'	1:0:358:C:O4'	1.96	0.66
1:0:1101:U:N3	1:0:1113:C:H1'	2.10	0.66
1:0:2532:G:C2	1:0:2533:U:H1'	2.31	0.66
2:9:40:C:H2'	2:9:41:A:O4'	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:174:A:H2	1:0:2413:A:H62	1.40	0.66
1:0:451:A:H2'	1:0:452:G:C8	2.31	0.66
1:0:2768:C:H1'	1:0:2784:A:N7	2.11	0.66
1:0:62:U:H2'	1:0:63:A:C8	2.30	0.66
1:0:1065:A:H2'	1:0:1066:G:H8	1.59	0.66
1:0:2770:A:H5'	1:0:2867:G:H1	1.61	0.66
1:0:2870:C:H2'	1:0:2871:U:H6	1.60	0.66
1:0:9:U:H3	1:0:2608:A:N6	1.94	0.66
1:0:1480:G:H2'	1:0:1481:U:H5'	1.78	0.66
1:0:165:G:H4'	1:0:1378:A:C2	2.31	0.66
1:0:597:U:H3	1:0:683:A:HO2'	1.43	0.66
1:0:614:G:H2'	1:0:615:C:H6	1.60	0.66
1:0:657:A:H2'	1:0:658:G:C8	2.31	0.66
1:0:1196:G:C2'	1:0:1197:U:H5'	2.25	0.66
1:0:2498:U:OP1	1:0:2498:U:H3'	1.95	0.66
1:0:2560:G:N3	1:0:2560:G:H2'	2.11	0.66
1:0:2770:A:C4'	1:0:2867:G:H22	2.09	0.66
1:0:37:C:H4'	1:0:463:C:OP1	1.94	0.66
1:0:2422:C:O2'	1:0:2423:G:H5'	1.95	0.66
1:0:2436:U:H2'	1:0:2437:G:O4'	1.96	0.66
1:0:2678:C:H2'	1:0:2679:G:H8	1.60	0.66
2:9:62:C:N4	2:9:63:A:H62	1.93	0.66
1:0:17:G:H2'	1:0:18:U:C6	2.32	0.65
1:0:71:A:N6	1:0:110:U:H4'	2.11	0.65
1:0:162:C:H4'	1:0:195:A:H4'	1.76	0.65
1:0:483:A:H2'	1:0:484:G:H5'	1.79	0.65
1:0:1911:A:C2'	1:0:1912:G:H5'	2.26	0.65
1:0:2177:U:H2'	1:0:2178:U:C6	2.30	0.65
1:0:2375:G:H2'	1:0:2376:G:H8	1.60	0.65
1:0:114:C:O2'	1:0:124:A:H1'	1.97	0.65
1:0:2678:C:H2'	1:0:2679:G:C8	2.31	0.65
1:0:174:A:O4'	1:0:2051:U:H2'	1.97	0.65
1:0:639:G:H2'	1:0:640:C:C6	2.31	0.65
1:0:968:C:H41	1:0:970:A:H1'	1.61	0.65
1:0:1514:C:H5'	1:0:1593:C:C5'	2.26	0.65
1:0:313:U:H2'	1:0:314:G:H8	1.62	0.65
1:0:699:G:H5'	1:0:700:C:OP2	1.95	0.65
1:0:1727:C:H4'	1:0:2833:C:C2	2.31	0.65
1:0:520:C:O2'	1:0:1249:G:H5'	1.97	0.65
1:0:820:U:H2'	1:0:821:A:C8	2.30	0.65
1:0:837:U:H1'	1:0:2337:A:N7	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1918:G:H1'	1:0:1947:G:C2	2.31	0.65
1:0:2273:C:H2'	1:0:2274:C:H6	1.61	0.65
1:0:2456:U:H1'	1:0:2460:G:N2	2.11	0.65
1:0:2595:C:H2'	1:0:2596:C:C6	2.32	0.65
1:0:616:U:H2'	1:0:617:U:C5'	2.24	0.65
1:0:705:C:H2'	1:0:706:A:H8	1.61	0.65
1:0:1095:A:H2'	1:0:1096:A:O4'	1.97	0.65
1:0:2053:G:H2'	1:0:2054:A:H8	1.59	0.65
1:0:2761:A:C5'	1:0:2762:G:H5'	2.23	0.65
1:0:475:U:H2'	1:0:476:G:O4'	1.96	0.65
1:0:2463:G:O2'	1:0:2464:G:H5'	1.97	0.65
1:0:338:G:C2'	1:0:339:U:H5'	2.27	0.65
1:0:1295:U:C2'	1:0:1296:G:H5'	2.27	0.65
1:0:2407:G:H5'	1:0:2408:G:C2	2.31	0.65
1:0:2546:G:H2'	1:0:2547:C:H6	1.62	0.65
1:0:2866:A:H2'	1:0:2867:G:O4'	1.97	0.65
1:0:944:A:H2'	1:0:945:G:O4'	1.97	0.65
1:0:1125:G:O2'	1:0:1126:A:H5'	1.96	0.65
1:0:1452:U:H5''	1:0:1533:G:H5'	1.79	0.65
1:0:2800:C:H2'	1:0:2801:A:O4'	1.96	0.65
2:9:115:G:O2'	2:9:116:C:H5'	1.97	0.65
1:0:646:C:O2	1:0:650:U:H4'	1.98	0.64
1:0:1181:C:C3'	1:0:1182:U:H5''	2.27	0.64
1:0:2427:A:H5'	1:0:2428:U:H5''	1.78	0.64
1:0:1353:A:H5''	1:0:1354:A:N7	2.12	0.64
1:0:1972:G:H2'	1:0:1973:C:O4'	1.97	0.64
1:0:2503:G:H2'	1:0:2504:G:H5''	1.78	0.64
1:0:659:G:H2'	1:0:660:G:H8	1.61	0.64
1:0:958:G:H2'	1:0:959:C:C6	2.32	0.64
1:0:1583:A:H8	1:0:1583:A:O5'	1.80	0.64
1:0:2243:C:H2'	1:0:2244:C:O4'	1.97	0.64
1:0:81:C:H2'	1:0:82:G:O4'	1.97	0.64
1:0:659:G:H2'	1:0:660:G:C8	2.33	0.64
1:0:719:A:H2'	1:0:720:A:O4'	1.97	0.64
1:0:777:A:H62	1:0:1767:G:H1'	1.62	0.64
1:0:1440:G:H1'	1:0:1588:A:H61	1.61	0.64
1:0:1707:A:N7	1:0:1714:A:H2	1.95	0.64
1:0:1843:U:H2'	1:0:1844:C:H6	1.62	0.64
1:0:2788:C:O2'	1:0:2789:U:H5'	1.98	0.64
1:0:236:C:H2'	1:0:237:G:H8	1.63	0.64
1:0:1680:U:O2'	1:0:2665:G:H4'	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2020:G:H2'	1:0:2021:G:C8	2.32	0.64
1:0:2082:C:H2'	1:0:2083:G:O4'	1.97	0.64
1:0:2761:A:H5''	1:0:2762:G:C5'	2.26	0.64
2:9:42:U:C2'	2:9:45:C:H41	2.08	0.64
1:0:146:C:H2'	1:0:147:G:C8	2.33	0.64
1:0:689:A:C8	1:0:2422:C:H1'	2.33	0.64
1:0:1055:A:OP1	1:0:1057:A:H5'	1.98	0.64
1:0:2299:A:H5'	1:0:2300:G:C5	2.32	0.64
1:0:2353:G:H2'	1:0:2354:G:C8	2.33	0.64
1:0:2764:U:H2'	1:0:2765:C:H6	1.62	0.64
1:0:103:U:H2'	1:0:104:C:H6	1.57	0.64
1:0:2005:U:H5''	1:0:2006:G:OP1	1.97	0.64
1:0:425:A:H2'	1:0:426:C:O4'	1.97	0.64
1:0:2307:A:H2'	1:0:2308:A:C8	2.33	0.64
1:0:2617:G:HO2'	1:0:2618:A:H8	1.41	0.64
2:9:63:A:H2'	2:9:64:C:H6	1.63	0.64
1:0:312:G:H4'	1:0:312:G:OP1	1.98	0.64
1:0:346:C:O2'	1:0:347:C:H5'	1.98	0.64
1:0:888:G:H2'	1:0:889:C:O4'	1.97	0.64
1:0:128:C:H2'	1:0:129:A:C4'	2.28	0.64
1:0:210:A:N6	1:0:442:A:H61	1.95	0.64
1:0:459:A:H1'	1:0:461:A:H62	1.61	0.64
1:0:929:A:HO2'	2:9:101:A:H4'	1.63	0.64
1:0:951:G:C2'	1:0:952:A:H5''	2.28	0.64
1:0:1245:G:H2'	1:0:1246:G:H8	1.62	0.64
1:0:1271:C:H2'	1:0:1272:G:H8	1.63	0.64
1:0:1991:C:H2'	1:0:1992:G:H8	1.63	0.64
1:0:2011:U:H2'	1:0:2012:A:C8	2.33	0.63
1:0:2261:G:H4'	1:0:2262:C:OP2	1.96	0.63
1:0:1311:C:H5'	1:0:1315:A:N6	2.13	0.63
1:0:1747:G:H4'	1:0:1749:G:C1'	2.27	0.63
1:0:1288:A:H62	1:0:1309:G:H4'	1.62	0.63
1:0:1333:G:C5	1:0:1342:U:H5'	2.34	0.63
1:0:1680:U:O2'	1:0:1681:A:H5''	1.99	0.63
1:0:931:G:N2	1:0:2247:A:H5''	2.13	0.63
1:0:174:A:H4'	1:0:2051:U:H2'	1.79	0.63
1:0:759:C:H1'	1:0:761:G:N2	2.11	0.63
1:0:1040:A:C2'	1:0:1041:G:H5'	2.27	0.63
1:0:1437:A:O2'	1:0:1438:G:H5'	1.98	0.63
1:0:1680:U:H6	1:0:1680:U:H5'	1.63	0.63
1:0:2642:G:O2'	1:0:2643:G:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2754:C:H2'	1:0:2755:A:C8	2.33	0.63
1:0:223:C:H4'	1:0:398:C:H1'	1.81	0.63
1:0:165:G:H2'	1:0:166:G:O4'	1.99	0.63
1:0:773:G:C2'	1:0:774:A:H5'	2.28	0.63
1:0:1558:C:C2'	1:0:1559:G:H5'	2.28	0.63
1:0:2001:G:H2'	1:0:2002:A:C8	2.32	0.63
1:0:1500:U:H3	1:0:1520:G:H22	1.45	0.63
1:0:1529:C:H2'	1:0:1530:U:O4'	1.98	0.63
1:0:2173:G:H2'	1:0:2174:G:O4'	1.98	0.63
1:0:213:C:H42	1:0:238:G:H1	1.46	0.63
1:0:1194:U:H2'	1:0:1195:U:C5	2.33	0.63
1:0:2546:G:H2'	1:0:2547:C:C6	2.33	0.63
1:0:2691:C:C3'	1:0:2692:A:H5''	2.28	0.63
1:0:575:U:H2'	1:0:576:A:C8	2.34	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.80	0.62
1:0:840:U:H4'	1:0:841:G:C2	2.34	0.62
1:0:1226:A:C2	1:0:1250:A:H1'	2.34	0.62
1:0:1411:C:H2'	1:0:1412:C:H6	1.64	0.62
1:0:2162:C:H2'	1:0:2163:U:C6	2.34	0.62
1:0:215:G:N2	1:0:632:A:H8	1.96	0.62
1:0:73:A:N3	1:0:73:A:H5''	2.14	0.62
1:0:782:U:H2'	1:0:783:G:C8	2.35	0.62
1:0:821:A:O2'	1:0:1267:A:H4'	1.99	0.62
1:0:843:G:O2'	1:0:844:G:OP1	2.17	0.62
1:0:932:G:H2'	1:0:933:G:C8	2.34	0.62
1:0:2686:C:H2'	1:0:2687:G:C8	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
1:0:761:G:O6	1:0:764:A:H4'	2.00	0.62
1:0:995:A:H5''	1:0:996:C:H5	1.64	0.62
1:0:1267:A:H5''	1:0:1268:U:C5'	2.28	0.62
1:0:1953:A:H1'	1:0:1955:G:H1'	1.79	0.62
1:0:775:U:H4'	1:0:776:G:C8	2.34	0.62
1:0:800:U:H3'	1:0:804:C:N4	2.15	0.62
1:0:813:A:H2'	1:0:813:A:N3	2.13	0.62
1:0:1073:G:H2'	1:0:1074:G:C4'	2.24	0.62
1:0:1858:C:H2'	1:0:1859:A:H8	1.64	0.62
1:0:2437:G:H1	1:0:2469:G:H2'	1.61	0.62
1:0:2475:C:H2'	1:0:2476:A:O4'	1.99	0.62
1:0:2670:C:H4'	1:0:2846:G:O2'	2.00	0.62
1:0:2779:C:H2'	1:0:2780:A:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2803:C:O2'	1:0:2804:G:H5'	2.00	0.62
1:0:651:C:C3'	1:0:652:C:H5''	2.29	0.62
1:0:990:A:H3'	1:0:991:A:C5'	2.30	0.62
1:0:1371:G:H1'	1:0:1386:A:H62	1.65	0.62
1:0:1374:G:N2	1:0:1384:G:H1'	2.15	0.62
1:0:2105:U:H2'	1:0:2106:G:C8	2.34	0.62
1:0:936:A:H2'	1:0:937:C:C6	2.35	0.62
1:0:1004:A:H2'	1:0:1005:U:C5'	2.29	0.62
1:0:1253:C:H2'	1:0:1254:G:O4'	1.98	0.62
1:0:1748:U:N3	1:0:1753:A:H2	1.92	0.62
1:0:1837:G:H2'	1:0:1838:G:H8	1.63	0.62
1:0:2558:C:H2'	1:0:2559:U:O4'	1.99	0.62
1:0:2634:G:H2'	1:0:2643:G:O6	1.99	0.62
1:0:24:G:H2'	1:0:25:U:C6	2.34	0.62
1:0:1561:A:H2'	1:0:1562:G:O4'	2.00	0.62
1:0:1571:G:H3'	1:0:1571:G:OP2	1.99	0.62
1:0:2195:C:H2'	1:0:2196:U:H5'	1.80	0.62
1:0:2782:G:H3'	1:0:2783:U:H5''	1.81	0.62
1:0:94:C:H2'	1:0:95:G:O4'	2.00	0.62
1:0:692:C:H2'	1:0:693:A:H8	1.64	0.62
1:0:1182:U:C2'	1:0:1183:C:H5''	2.29	0.62
1:0:1996:A:O2'	1:0:1997:A:H5'	1.99	0.62
1:0:2054:A:H2	1:0:2419:C:H41	1.46	0.62
1:0:2274:C:H2'	1:0:2275:U:C5'	2.29	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.64	0.62
1:0:509:U:H3	1:0:513:A:H62	1.47	0.62
1:0:1057:A:H3'	1:0:1058:G:C5'	2.30	0.62
1:0:1196:G:H2'	1:0:1197:U:H5'	1.81	0.62
1:0:1301:U:H2'	1:0:1664:G:H21	1.63	0.62
1:0:1816:G:O2'	1:0:1817:U:H5'	1.98	0.62
1:0:1843:U:H2'	1:0:1844:C:C6	2.35	0.62
1:0:2499:C:N4	1:0:2521:A:H2	1.98	0.62
2:9:114:C:O5'	2:9:114:C:H6	1.82	0.62
1:0:153:A:H2'	1:0:154:U:C5	2.35	0.61
1:0:347:C:H2'	1:0:348:U:O4'	2.00	0.61
1:0:1054:C:H2'	1:0:1055:A:H5'	1.82	0.61
1:0:1540:C:H2'	1:0:1541:G:O4'	1.99	0.61
1:0:1621:C:H2'	1:0:1622:G:O4'	2.00	0.61
1:0:2617:G:H21	1:0:2758:A:H62	1.47	0.61
1:0:2538:C:O2'	1:0:2539:C:H5'	2.00	0.61
1:0:452:G:H2'	1:0:453:U:O4'	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1300:A:C2	1:0:1666:G:H4'	2.35	0.61
1:0:1604:A:H2'	1:0:1605:A:O4'	2.00	0.61
1:0:1974:U:C2'	1:0:1975:G:H5''	2.30	0.61
1:0:2045:A:H62	1:0:2482:A:H61	1.46	0.61
1:0:2618:A:C2	1:0:2619:G:H1'	2.35	0.61
2:9:56:G:H2'	2:9:57:U:O4'	1.99	0.61
1:0:108:G:H2'	1:0:109:A:C8	2.36	0.61
1:0:317:U:C2'	1:0:318:G:H5''	2.27	0.61
1:0:1242:A:H2'	1:0:1243:G:H8	1.65	0.61
1:0:2194:A:C2'	1:0:2195:C:H5''	2.31	0.61
1:0:362:C:C2'	1:0:363:G:H4'	2.22	0.61
1:0:726:G:H2'	1:0:727:U:O4'	1.99	0.61
1:0:1252:C:O2'	1:0:1253:C:H5''	2.00	0.61
1:0:1517:C:H2'	1:0:1518:C:C6	2.35	0.61
1:0:1739:G:H2'	1:0:1740:G:H8	1.66	0.61
1:0:208:C:C2'	1:0:209:G:H5'	2.30	0.61
1:0:367:G:C2'	1:0:368:A:H5''	2.31	0.61
1:0:541:C:N4	1:0:572:G:H8	1.98	0.61
1:0:755:C:H2'	1:0:756:C:H6	1.66	0.61
1:0:764:A:H2'	1:0:764:A:N3	2.16	0.61
1:0:1284:G:C2	1:0:1633:C:H5'	2.35	0.61
1:0:437:G:O2'	1:0:438:G:H5'	2.01	0.61
1:0:536:A:C2	1:0:2605:C:H1'	2.35	0.61
1:0:1137:A:H5''	1:0:1138:A:OP1	2.01	0.61
1:0:1937:G:N3	1:0:2530:C:H5'	2.15	0.61
1:0:2549:G:N2	1:0:2550:C:H1'	2.14	0.61
1:0:788:G:H2'	1:0:807:A:C5	2.36	0.61
1:0:1313:U:H4'	1:0:1314:A:O5'	2.01	0.61
1:0:1336:G:H2'	1:0:1337:G:H5'	1.83	0.61
1:0:1994:U:C2'	1:0:1995:G:H5'	2.31	0.61
1:0:2059:U:H2'	1:0:2060:A:C5'	2.24	0.61
1:0:931:G:C2'	1:0:932:G:H5'	2.31	0.61
1:0:1683:G:H2'	1:0:1684:G:H5'	1.81	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
1:0:796:A:H5''	1:0:2568:A:OP1	2.01	0.61
1:0:932:G:H2'	1:0:933:G:O4'	2.00	0.61
1:0:1217:U:H2'	1:0:1218:C:C6	2.35	0.61
1:0:1227:A:H4'	1:0:1252:C:H4'	1.83	0.61
1:0:1348:C:H2'	1:0:1349:A:H8	1.65	0.61
1:0:1624:A:H2'	1:0:1625:A:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2363:G:H5''	1:0:2365:U:OP1	2.01	0.61
1:0:2618:A:C6	1:0:2619:G:H1'	2.35	0.61
1:0:79:G:H2'	1:0:80:A:C8	2.35	0.60
1:0:170:U:H2'	1:0:171:G:C8	2.31	0.60
1:0:612:G:H4'	1:0:613:A:O2'	2.01	0.60
1:0:1778:U:H4'	1:0:2568:A:O3'	2.01	0.60
1:0:2324:G:N3	1:0:2326:C:H5	1.99	0.60
2:9:58:G:H4'	2:9:59:A:C5'	2.29	0.60
1:0:759:C:C1'	1:0:761:G:H21	2.12	0.60
1:0:1821:A:H3'	1:0:1822:C:H6	1.67	0.60
1:0:2544:A:H2'	1:0:2545:A:H1'	1.83	0.60
1:0:813:A:H1'	1:0:815:A:C4'	2.30	0.60
1:0:1162:A:H2'	1:0:1163:C:O4'	2.01	0.60
1:0:1329:U:H5'	1:0:1405:A:H1'	1.82	0.60
1:0:1418:C:H2'	1:0:1419:G:H8	1.66	0.60
1:0:1687:C:H1'	1:0:1976:U:O2	2.01	0.60
1:0:2642:G:H2'	1:0:2643:G:O4'	2.00	0.60
1:0:36:G:C1'	1:0:462:G:H21	2.14	0.60
1:0:109:A:H3'	1:0:110:U:H5''	1.82	0.60
1:0:401:G:H2'	1:0:403:A:N7	2.16	0.60
1:0:1250:A:O2'	1:0:1251:G:H4'	2.01	0.60
1:0:1436:G:H2'	1:0:1437:A:C8	2.37	0.60
1:0:2276:C:O2'	1:0:2277:A:H5'	2.01	0.60
2:9:113:G:H2'	2:9:114:C:C6	2.36	0.60
1:0:585:U:H2'	1:0:586:G:C8	2.36	0.60
1:0:642:A:H2'	1:0:643:A:C8	2.36	0.60
1:0:755:C:H5'	1:0:1692:C:O2'	2.02	0.60
1:0:929:A:O2'	2:9:101:A:H4'	2.01	0.60
1:0:1010:U:H2'	1:0:1011:A:C8	2.36	0.60
1:0:1491:C:H2'	1:0:1492:A:H8	1.66	0.60
1:0:2225:G:H2'	1:0:2226:A:H8	1.66	0.60
1:0:2398:U:H2'	1:0:2399:C:C6	2.36	0.60
1:0:2820:C:H2'	1:0:2821:G:H8	1.66	0.60
1:0:334:G:N3	1:0:344:G:H1'	2.17	0.60
1:0:927:C:H2'	1:0:928:G:O4'	2.00	0.60
1:0:1313:U:H5'	1:0:1314:A:N3	2.17	0.60
1:0:1259:A:O2'	1:0:1260:A:H5'	2.02	0.60
1:0:1602:G:O3'	1:0:1603:A:H8	1.84	0.60
1:0:1677:C:O2'	1:0:1678:G:H5'	2.01	0.60
1:0:1730:G:H2'	1:0:1731:C:C6	2.37	0.60
2:9:42:U:O5'	2:9:42:U:H6	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:212:U:O2'	1:0:213:C:H5'	2.02	0.60
1:0:987:G:H5'	1:0:1167:A:N6	2.17	0.60
1:0:1001:A:H5'	1:0:1168:G:OP1	2.01	0.60
1:0:1861:G:O2'	1:0:1862:C:H5'	2.01	0.60
1:0:1998:A:H2'	1:0:1999:U:H5'	1.84	0.60
1:0:2052:G:O2'	1:0:2053:G:H5'	2.01	0.60
1:0:2096:U:C2'	1:0:2097:A:H5''	2.27	0.60
1:0:2299:A:H5'	1:0:2300:G:N9	2.17	0.60
1:0:15:G:N2	1:0:2027:C:O2'	2.35	0.60
1:0:152:G:H2'	1:0:153:A:O4'	2.02	0.60
1:0:192:G:C1'	1:0:193:A:H4'	2.32	0.60
1:0:1825:C:C2'	1:0:1826:U:H5'	2.32	0.60
1:0:153:A:H2'	1:0:154:U:C6	2.37	0.60
1:0:176:A:H3'	1:0:177:U:C5	2.37	0.60
1:0:1065:A:H2'	1:0:1066:G:C8	2.37	0.60
1:0:1336:G:C2'	1:0:1337:G:H5'	2.32	0.60
1:0:2640:G:H2'	1:0:2641:A:C8	2.37	0.60
1:0:597:U:H2'	1:0:598:U:C6	2.36	0.59
1:0:681:A:N6	1:0:683:A:H2'	2.17	0.59
1:0:871:U:H1'	1:0:2248:A:H5''	1.82	0.59
1:0:2633:A:H4'	1:0:2634:G:O5'	2.02	0.59
1:0:422:C:H2'	1:0:423:G:O4'	2.03	0.59
1:0:1429:A:N6	1:0:1602:G:H5'	2.18	0.59
1:0:1760:G:O2'	1:0:1761:G:H5'	2.02	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.32	0.59
2:9:102:A:H2'	2:9:103:A:H5'	1.84	0.59
1:0:14:A:C2	1:0:2604:G:O2'	2.55	0.59
1:0:36:G:H1'	1:0:462:G:H21	1.66	0.59
1:0:330:C:C2'	1:0:331:U:H5'	2.32	0.59
1:0:857:U:C2'	1:0:858:G:H5'	2.28	0.59
1:0:66:U:H2'	1:0:67:G:C8	2.36	0.59
1:0:66:U:H2'	1:0:67:G:H8	1.67	0.59
1:0:246:C:H42	1:0:247:A:H62	1.50	0.59
1:0:308:C:H2'	1:0:309:G:O4'	2.02	0.59
1:0:428:A:H2'	1:0:429:C:H6	1.68	0.59
1:0:608:G:H2'	1:0:609:U:C6	2.38	0.59
1:0:669:G:H2'	1:0:670:U:H6	1.67	0.59
1:0:2238:G:H1'	1:0:2406:C:C2	2.38	0.59
1:0:2756:A:N6	1:0:2762:G:H1'	2.16	0.59
1:0:202:A:C2	1:0:203:G:H1'	2.38	0.59
1:0:300:C:H2'	1:0:301:C:H5'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:810:U:H2'	1:0:811:G:H8	1.66	0.59
1:0:931:G:O2'	1:0:932:G:H5'	2.01	0.59
1:0:1485:U:H2'	1:0:1486:A:C8	2.38	0.59
1:0:1949:A:H1'	1:0:2572:U:H4'	1.84	0.59
1:0:1962:C:C2'	1:0:1963:G:H5'	2.32	0.59
1:0:847:C:H2'	1:0:848:A:C8	2.37	0.59
1:0:2240:C:H2'	1:0:2241:U:H5'	1.84	0.59
1:0:1374:G:O2'	1:0:2193:C:H1'	2.03	0.59
1:0:1936:A:O2'	1:0:2538:C:H1'	2.03	0.59
1:0:2210:C:H2'	1:0:2211:U:O4'	2.03	0.59
1:0:159:A:O2'	1:0:160:C:H5'	2.02	0.59
1:0:474:G:N2	1:0:476:G:H3'	2.17	0.59
1:0:542:A:H2'	1:0:543:G:H5'	1.84	0.59
1:0:597:U:H2'	1:0:598:U:H6	1.67	0.59
1:0:685:U:O2'	1:0:686:C:H5'	2.02	0.59
1:0:781:G:H2'	1:0:782:U:O4'	2.03	0.59
1:0:953:G:H2'	1:0:954:U:H6	1.67	0.59
1:0:1225:G:H2'	1:0:1249:G:N2	2.18	0.59
1:0:1683:G:C2'	1:0:1684:G:H5'	2.32	0.59
1:0:2380:U:C2'	1:0:2381:A:H5'	2.30	0.59
1:0:2609:G:N2	1:0:2866:A:H2	2.01	0.59
2:9:55:C:O5'	2:9:55:C:H6	1.85	0.59
1:0:1102:G:H2'	1:0:1103:C:H6	1.66	0.59
1:0:2177:U:H2'	1:0:2178:U:H6	1.67	0.59
1:0:2194:A:H2'	1:0:2195:C:H5''	1.85	0.59
2:9:78:A:H2'	2:9:79:U:C5	2.38	0.59
1:0:12:U:H2'	1:0:13:A:O4'	2.02	0.59
1:0:542:A:H5''	1:0:542:A:H8	1.68	0.59
1:0:831:G:C2'	1:0:832:A:H5''	2.33	0.59
1:0:1116:U:H2'	1:0:1117:G:C8	2.38	0.59
1:0:1323:G:H1'	1:0:1627:C:C5'	2.33	0.59
1:0:1458:A:C3'	1:0:1459:U:H5''	2.28	0.59
1:0:2010:G:H2'	1:0:2011:U:C6	2.37	0.59
1:0:2390:A:H2'	1:0:2391:A:C8	2.38	0.59
1:0:2556:A:C2	1:0:2593:A:H2	2.21	0.59
1:0:732:G:H8	1:0:732:G:O5'	1.86	0.58
1:0:1710:U:H3	1:0:1821:A:N6	2.00	0.58
1:0:1999:U:H2'	1:0:2000:U:O4'	2.02	0.58
1:0:2163:U:H2'	1:0:2164:G:C8	2.38	0.58
1:0:2756:A:C6	1:0:2762:G:H1'	2.38	0.58
1:0:242:A:N6	1:0:441:A:N7	2.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:445:A:O2'	1:0:446:C:H5'	2.03	0.58
1:0:538:A:H2'	1:0:539:A:H5''	1.83	0.58
1:0:1288:A:H62	1:0:1309:G:C4'	2.17	0.58
1:0:1495:G:H2'	1:0:1496:G:C8	2.38	0.58
1:0:1763:G:H2'	1:0:1764:A:C4'	2.33	0.58
2:9:111:C:H5''	2:9:112:A:O5'	2.03	0.58
1:0:777:A:N6	1:0:1767:G:H1'	2.18	0.58
1:0:2169:A:C2'	1:0:2170:C:H5'	2.33	0.58
1:0:2470:U:H2'	1:0:2471:U:C6	2.38	0.58
1:0:612:G:O3'	1:0:613:A:C4'	2.52	0.58
1:0:831:G:H2'	1:0:832:A:H5''	1.84	0.58
1:0:2447:G:N2	1:0:2460:G:H2'	2.18	0.58
2:9:20:A:O2'	2:9:21:C:H5'	2.03	0.58
1:0:139:A:H2'	1:0:140:G:C8	2.38	0.58
1:0:922:A:H62	13:K:17:ARG:CA	2.17	0.58
1:0:982:C:H4'	1:0:994:A:O2'	2.03	0.58
1:0:1000:G:P	1:0:1168:G:H4'	2.44	0.58
1:0:1245:G:H2'	1:0:1246:G:C8	2.38	0.58
1:0:1830:C:H42	1:0:1881:U:H3'	1.69	0.58
1:0:1837:G:H2'	1:0:1838:G:C8	2.38	0.58
1:0:2012:A:C5	1:0:2014:A:H5'	2.37	0.58
1:0:2324:G:N2	1:0:2361:G:C4	2.72	0.58
2:9:18:G:H2'	2:9:19:C:C6	2.38	0.58
1:0:195:A:H2'	1:0:196:A:O4'	2.04	0.58
1:0:990:A:H3'	1:0:991:A:H5''	1.86	0.58
1:0:1184:G:H2'	1:0:1185:C:H5''	1.86	0.58
1:0:203:G:O2'	1:0:204:A:H5'	2.02	0.58
1:0:478:G:O2'	1:0:479:G:H5'	2.04	0.58
1:0:984:A:H1'	1:0:1202:U:C5	2.39	0.58
1:0:1004:A:H2'	1:0:1005:U:H5''	1.84	0.58
1:0:1669:A:N6	1:0:1670:G:H21	2.02	0.58
1:0:1962:C:O2'	1:0:1963:G:H5'	2.04	0.58
1:0:141:G:H2'	1:0:142:U:H6	1.69	0.58
1:0:330:C:O2'	1:0:331:U:H5'	2.03	0.58
1:0:443:A:O2'	1:0:444:U:H5'	2.03	0.58
1:0:755:C:O2'	1:0:756:C:H5'	2.04	0.58
1:0:968:C:N4	1:0:970:A:H1'	2.19	0.58
1:0:1257:U:H2'	1:0:1258:G:C8	2.39	0.58
1:0:1641:C:H2'	1:0:1642:G:O4'	2.03	0.58
1:0:2491:C:H3'	1:0:2492:G:H5''	1.85	0.58
1:0:41:G:O2'	1:0:42:G:H5'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:83:A:H8	1:0:83:A:O5'	1.87	0.58
1:0:788:G:H5''	1:0:790:A:H1'	1.86	0.58
1:0:931:G:H2'	1:0:932:G:H5'	1.86	0.58
1:0:1204:G:H2'	1:0:1205:G:H8	1.69	0.58
1:0:1594:U:H2'	1:0:1595:A:H8	1.69	0.58
1:0:2318:U:H2'	1:0:2319:G:C8	2.32	0.58
1:0:2557:G:H2'	1:0:2557:G:N3	2.17	0.58
1:0:2686:C:H2'	1:0:2687:G:H8	1.69	0.58
1:0:746:G:O6	1:0:774:A:H2'	2.03	0.57
1:0:1407:G:H2'	1:0:1408:A:C8	2.38	0.57
1:0:1771:A:C8	1:0:1772:C:H5	2.22	0.57
1:0:1849:G:H8	1:0:1849:G:O5'	1.87	0.57
1:0:2395:C:H2'	1:0:2396:C:H5''	1.85	0.57
1:0:2717:G:H2'	1:0:2718:A:H8	1.69	0.57
1:0:584:A:O2'	1:0:585:U:H5'	2.04	0.57
1:0:604:U:H2'	1:0:605:G:C8	2.39	0.57
1:0:1291:G:O2'	1:0:1292:A:H5'	2.04	0.57
1:0:2522:G:H21	1:0:2625:U:H5''	1.69	0.57
1:0:225:G:C5'	1:0:226:C:H5'	2.34	0.57
1:0:1333:G:N2	1:0:1344:C:H41	2.03	0.57
1:0:1707:A:H2'	1:0:1708:C:H5'	1.86	0.57
1:0:1830:C:N4	1:0:1881:U:H3'	2.19	0.57
1:0:1915:A:H2'	1:0:1916:G:O4'	2.05	0.57
1:0:2651:U:O2'	1:0:2652:G:H5'	2.04	0.57
1:0:369:C:H2'	1:0:370:U:O4'	2.05	0.57
1:0:482:A:O2'	1:0:483:A:H5'	2.04	0.57
1:0:616:U:C3'	1:0:617:U:H5''	2.34	0.57
1:0:929:A:H8	1:0:2247:A:H61	1.52	0.57
1:0:1920:A:C4	1:0:1922:U:H5	2.21	0.57
1:0:2104:G:H2'	1:0:2105:U:C6	2.40	0.57
1:0:2104:G:H2'	1:0:2105:U:H6	1.69	0.57
1:0:298:C:H2'	1:0:299:C:H6	1.69	0.57
1:0:328:A:O2'	1:0:329:C:H5'	2.03	0.57
1:0:810:U:H2'	1:0:811:G:C8	2.40	0.57
1:0:999:A:H4'	1:0:1166:A:N1	2.19	0.57
1:0:1029:C:C3'	1:0:1030:U:H5''	2.35	0.57
1:0:1312:G:C5'	1:0:1314:A:H1'	2.32	0.57
1:0:1685:A:O2'	1:0:1686:A:H3'	2.05	0.57
1:0:1856:U:H2'	1:0:1857:G:O4'	2.05	0.57
1:0:2117:A:N6	1:0:2139:G:H21	2.03	0.57
1:0:631:G:H5''	1:0:632:A:OP1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:702:A:N3	1:0:792:U:H1'	2.18	0.57
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.57
1:0:1886:G:H2'	1:0:1887:G:C8	2.36	0.57
1:0:2733:A:O2'	1:0:2734:U:H5'	2.05	0.57
1:0:202:A:H2'	1:0:203:G:O4'	2.05	0.57
1:0:852:U:H6	1:0:852:U:O5'	1.87	0.57
1:0:868:U:H2'	1:0:869:C:C6	2.40	0.57
1:0:871:U:H1'	1:0:2248:A:C5'	2.35	0.57
1:0:1624:A:C2'	1:0:1625:A:H5'	2.34	0.57
1:0:2814:G:H1	1:0:2853:U:H3	1.52	0.57
1:0:195:A:N1	1:0:212:U:H4'	2.20	0.57
1:0:583:C:O2'	1:0:584:A:OP2	2.18	0.57
1:0:697:G:O2'	1:0:698:A:H5'	2.05	0.57
1:0:1440:G:H3'	1:0:1441:A:C5'	2.35	0.57
1:0:1764:A:C2'	1:0:1765:C:H5'	2.35	0.57
1:0:2394:G:H2'	1:0:2395:C:C6	2.40	0.57
1:0:2461:G:H2'	1:0:2462:C:O4'	2.03	0.57
1:0:2759:U:O5'	1:0:2759:U:H6	1.87	0.57
1:0:193:A:H2'	1:0:194:G:O4'	2.04	0.57
1:0:653:G:H2'	1:0:654:A:H4'	1.86	0.57
1:0:687:G:O2'	1:0:688:A:H5'	2.05	0.57
1:0:790:A:O2'	1:0:791:G:H5'	2.05	0.57
1:0:1196:G:H2'	1:0:1197:U:C5'	2.34	0.57
1:0:1531:C:H2'	1:0:1532:A:H5'	1.85	0.57
1:0:1579:G:H2'	1:0:1580:C:C6	2.40	0.57
1:0:2371:A:H2'	1:0:2372:A:O4'	2.04	0.57
1:0:591:G:H2'	1:0:592:G:C8	2.39	0.57
1:0:978:U:H2'	1:0:979:A:C8	2.40	0.57
1:0:1441:A:H2'	1:0:1441:A:N3	2.20	0.57
1:0:1590:C:O5'	1:0:1590:C:H6	1.88	0.57
1:0:2800:C:O2'	1:0:2801:A:H5'	2.05	0.57
1:0:2870:C:H2'	1:0:2871:U:C6	2.40	0.57
2:9:102:A:H8	2:9:102:A:OP2	1.88	0.57
1:0:83:A:N1	1:0:98:U:H1'	2.20	0.56
1:0:242:A:O2'	1:0:243:G:O4'	2.23	0.56
1:0:482:A:C2'	1:0:483:A:H5'	2.35	0.56
1:0:1312:G:H4'	1:0:1314:A:N3	2.20	0.56
1:0:1558:C:H2'	1:0:1559:G:H5'	1.85	0.56
1:0:1933:G:H8	1:0:1933:G:O5'	1.87	0.56
1:0:2070:G:H2'	1:0:2071:G:O4'	2.04	0.56
1:0:2196:U:H2'	1:0:2197:U:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2563:U:H2'	1:0:2564:U:H3'	1.87	0.56
1:0:2712:G:H3'	1:0:2713:A:H5'	1.87	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.05	0.56
1:0:745:C:H2'	1:0:746:G:C5'	2.35	0.56
1:0:824:U:H2'	1:0:825:C:C5'	2.35	0.56
1:0:843:G:H8	1:0:843:G:OP1	1.87	0.56
1:0:1332:G:O2'	1:0:1333:G:H5'	2.05	0.56
1:0:1373:G:H1	1:0:2192:U:H3	1.51	0.56
1:0:1430:G:H2'	1:0:1431:U:C6	2.40	0.56
1:0:1540:C:O2'	1:0:1541:G:H5'	2.04	0.56
2:9:34:C:C2'	2:9:35:C:H5'	2.35	0.56
1:0:688:A:H1'	1:0:2422:C:O2'	2.05	0.56
1:0:692:C:H2'	1:0:693:A:C8	2.39	0.56
1:0:718:A:O2'	1:0:719:A:H5'	2.04	0.56
1:0:847:C:H2'	1:0:848:A:H8	1.69	0.56
1:0:1164:C:H2'	1:0:1165:G:O4'	2.06	0.56
1:0:1459:U:O5'	1:0:1459:U:H6	1.88	0.56
1:0:1467:U:H3'	1:0:1468:A:H5'	1.86	0.56
1:0:1528:C:H2'	1:0:1529:C:H5''	1.88	0.56
1:0:1779:C:H2'	1:0:1780:A:O4'	2.05	0.56
1:0:2058:U:H4'	1:0:2575:U:O2	2.05	0.56
1:0:2511:G:H2'	1:0:2512:A:O4'	2.05	0.56
1:0:2662:C:H42	1:0:2707:G:H21	1.53	0.56
2:9:93:G:H2'	2:9:94:G:C8	2.32	0.56
1:0:411:C:OP1	1:0:2073:A:H1'	2.05	0.56
1:0:1057:A:H3'	1:0:1058:G:H5''	1.87	0.56
1:0:1790:G:C8	1:0:1811:A:N6	2.74	0.56
1:0:1943:A:H2'	1:0:1944:C:H5'	1.88	0.56
1:0:2369:U:H2'	1:0:2370:G:C8	2.40	0.56
1:0:2751:C:H2'	1:0:2752:C:C6	2.39	0.56
1:0:20:C:O2'	1:0:21:A:H5'	2.05	0.56
1:0:170:U:H5'	1:0:815:A:H2	1.70	0.56
1:0:190:A:H2'	1:0:191:G:H8	1.70	0.56
1:0:294:U:H2'	1:0:295:C:C6	2.41	0.56
1:0:745:C:H2'	1:0:746:G:H5'	1.87	0.56
1:0:931:G:H2'	1:0:932:G:C5'	2.36	0.56
1:0:1026:U:H2'	1:0:1027:C:C6	2.41	0.56
1:0:1075:C:H2'	1:0:1076:U:O4'	2.06	0.56
1:0:1699:A:N6	1:0:1723:U:H3	2.04	0.56
1:0:1790:G:H4'	1:0:1791:C:C5	2.41	0.56
1:0:2633:A:H5''	1:0:2634:G:OP1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2658:A:O2'	1:0:2659:C:H5'	2.05	0.56
1:0:2841:U:H1'	1:0:2843:A:C1'	2.35	0.56
2:9:34:C:H2'	2:9:35:C:O4'	2.05	0.56
1:0:492:G:H22	1:0:519:C:H42	1.52	0.56
1:0:502:A:H2'	1:0:503:G:H5'	1.88	0.56
1:0:629:C:C2'	1:0:630:G:H5'	2.35	0.56
1:0:839:U:C4	1:0:841:G:H1'	2.41	0.56
1:0:1380:C:C2'	1:0:1381:G:H5'	2.36	0.56
1:0:1480:G:C2'	1:0:1481:U:H5'	2.36	0.56
1:0:1719:G:O2'	1:0:1720:G:H5'	2.05	0.56
1:0:1914:U:O2'	1:0:1915:A:H5'	2.06	0.56
1:0:2458:U:OP1	1:0:2516:U:H1'	2.05	0.56
1:0:2636:A:H62	1:0:2643:G:N2	1.97	0.56
1:0:2709:C:H2'	1:0:2710:C:C6	2.40	0.56
1:0:2841:U:O2	1:0:2843:A:H1'	2.05	0.56
1:0:524:A:O2'	1:0:525:A:H5'	2.05	0.56
1:0:957:G:O2'	1:0:958:G:H5'	2.06	0.56
1:0:1791:C:H42	1:0:1809:G:H22	1.54	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
1:0:226:C:H4'	1:0:227:G:C8	2.41	0.56
1:0:837:U:H2'	1:0:838:A:O4'	2.05	0.56
1:0:1456:C:O2'	1:0:1457:A:H5'	2.05	0.56
1:0:1556:A:H2'	1:0:1557:G:H8	1.71	0.56
1:0:1730:G:H2'	1:0:1731:C:H6	1.70	0.56
1:0:2433:G:O2'	1:0:2434:G:H5'	2.06	0.56
1:0:474:G:H22	1:0:476:G:H3'	1.70	0.56
1:0:657:A:H8	1:0:657:A:O5'	1.89	0.56
1:0:1151:U:H5''	1:0:1153:A:OP1	2.06	0.56
1:0:1790:G:HO2'	1:0:1791:C:H5	1.54	0.56
1:0:745:C:C2'	1:0:746:G:H5'	2.36	0.56
1:0:1912:G:H3'	1:0:1912:G:N3	2.21	0.56
1:0:2021:G:H2'	1:0:2022:C:C6	2.41	0.56
1:0:2307:A:H2'	1:0:2308:A:H8	1.71	0.56
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	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
1:0:162:C:H2'	1:0:163:A:H8	1.69	0.55
1:0:191:G:O2'	1:0:192:G:H5'	2.07	0.55
1:0:798:G:O2'	1:0:1770:U:H4'	2.06	0.55
1:0:805:G:H2'	1:0:2419:C:N3	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1672:A:C2	1:0:2032:G:H5''	2.41	0.55
1:0:1854:G:H2'	1:0:1855:G:H8	1.71	0.55
1:0:2377:U:H2'	1:0:2378:G:C8	2.41	0.55
1:0:2407:G:H5''	1:0:2408:G:OP1	2.06	0.55
1:0:2544:A:H5''	1:0:2545:A:OP2	2.06	0.55
1:0:475:U:H1'	1:0:801:A:N1	2.21	0.55
1:0:1979:C:H6	1:0:1979:C:OP1	1.89	0.55
2:9:32:C:H4'	2:9:60:A:H2	1.70	0.55
1:0:840:U:H4'	1:0:841:G:N2	2.20	0.55
1:0:1139:A:H1'	1:0:2495:G:O2'	2.05	0.55
1:0:1223:G:H21	1:0:1225:G:N2	2.01	0.55
1:0:1442:C:N4	1:0:1585:A:C8	2.74	0.55
1:0:1592:U:O5'	1:0:1592:U:H6	1.89	0.55
1:0:1838:G:C2'	1:0:1839:A:H5'	2.35	0.55
1:0:1938:U:O2'	1:0:1939:U:H5'	2.07	0.55
1:0:2160:C:H2'	1:0:2161:C:C6	2.42	0.55
1:0:2855:C:O2'	1:0:2856:U:H5'	2.07	0.55
1:0:514:G:N3	1:0:514:G:H2'	2.22	0.55
1:0:1684:G:H2'	1:0:1974:U:O4	2.06	0.55
1:0:1685:A:N6	1:0:1691:G:C4	2.75	0.55
1:0:1743:C:H41	16:N:125:MET:CA	2.18	0.55
1:0:2327:U:H2'	1:0:2328:G:H8	1.71	0.55
1:0:2426:G:O6	1:0:2479:U:H2'	2.07	0.55
1:0:2825:A:H2'	1:0:2826:C:C6	2.42	0.55
1:0:1087:C:H2'	1:0:1088:A:O4'	2.06	0.55
1:0:1392:U:C2'	1:0:1393:G:H5'	2.36	0.55
1:0:1514:C:H5'	1:0:1593:C:H5''	1.88	0.55
1:0:1782:A:H62	1:0:1820:G:H2'	1.71	0.55
1:0:10:A:H2'	1:0:11:G:C8	2.42	0.55
1:0:581:A:C2	1:0:582:G:H1'	2.42	0.55
1:0:876:A:H4'	2:9:103:A:N3	2.21	0.55
1:0:1229:C:H2'	1:0:1230:C:H6	1.70	0.55
1:0:1259:A:H2'	1:0:1260:A:H5'	1.88	0.55
1:0:1691:G:H21	1:0:1694:A:N6	2.01	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.35	0.55
1:0:2394:G:H2'	1:0:2395:C:H6	1.71	0.55
1:0:216:U:H2'	1:0:217:U:O4'	2.05	0.55
1:0:604:U:H2'	1:0:605:G:H8	1.71	0.55
1:0:612:G:H4'	1:0:613:A:H4'	1.88	0.55
1:0:706:A:H2'	1:0:707:U:C6	2.42	0.55
1:0:1473:U:H4'	1:0:1474:A:C5	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:781:G:H5'	1:0:1638:G:H4'	1.89	0.55
1:0:1132:C:H2'	1:0:1133:G:O4'	2.05	0.55
1:0:1313:U:H4'	1:0:1314:A:O4'	2.06	0.55
1:0:1459:U:H6	1:0:1459:U:P	2.30	0.55
1:0:2117:A:H62	1:0:2139:G:H21	1.54	0.55
1:0:2404:A:P	1:0:2406:C:H5'	2.47	0.55
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.55
1:0:2677:U:O2'	1:0:2678:C:H5'	2.07	0.55
1:0:2810:A:H2	1:0:2853:U:C5	2.25	0.55
1:0:243:G:H2'	1:0:244:C:O4'	2.07	0.55
1:0:297:A:H2'	1:0:298:C:C6	2.42	0.55
1:0:1020:A:H2'	1:0:1021:A:C8	2.42	0.55
1:0:1196:G:H2'	1:0:1197:U:O4'	2.07	0.55
1:0:1226:A:H2'	1:0:1227:A:C8	2.42	0.55
1:0:1442:C:N4	1:0:1585:A:H8	2.05	0.55
1:0:636:G:H2'	1:0:637:G:H5'	1.89	0.55
1:0:678:G:O2'	1:0:679:C:H5'	2.07	0.55
1:0:756:C:H2'	1:0:757:U:C6	2.42	0.55
1:0:1791:C:H1'	1:0:1793:A:C5'	2.35	0.55
1:0:2052:G:C2'	1:0:2053:G:H5'	2.37	0.55
1:0:2195:C:C2'	1:0:2196:U:H5'	2.37	0.55
1:0:2230:G:C8	1:0:2476:A:N6	2.74	0.55
1:0:2535:C:H2'	1:0:2536:G:O4'	2.07	0.55
2:9:42:U:H2'	2:9:45:C:N4	2.16	0.55
1:0:393:U:H2'	1:0:394:U:H6	1.71	0.54
1:0:577:U:H2'	1:0:579:G:OP2	2.06	0.54
1:0:677:G:H4'	1:0:952:A:P	2.47	0.54
1:0:696:U:O5'	1:0:696:U:H6	1.90	0.54
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.54
1:0:1534:A:O2'	1:0:1535:C:H5'	2.07	0.54
1:0:1900:U:C3'	1:0:1901:A:H8	2.09	0.54
1:0:1956:G:H2'	1:0:1957:C:C6	2.42	0.54
1:0:2026:C:H2'	1:0:2027:C:H6	1.71	0.54
1:0:2633:A:N6	1:0:2646:C:N4	2.53	0.54
1:0:93:A:O2'	1:0:94:C:H5'	2.06	0.54
1:0:323:G:OP2	1:0:343:A:H5'	2.06	0.54
1:0:1341:G:H2'	1:0:1343:C:C5	2.42	0.54
1:0:1418:C:H2'	1:0:1419:G:C8	2.42	0.54
1:0:1430:G:H22	1:0:1599:G:H1'	1.72	0.54
1:0:1736:C:H2'	1:0:1737:G:C8	2.41	0.54
1:0:1949:A:H1'	1:0:2572:U:C4'	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2038:C:H2'	1:0:2483:U:C5'	2.37	0.54
1:0:736:G:H2'	1:0:737:C:C6	2.42	0.54
1:0:1218:C:H2'	1:0:1219:C:O4'	2.07	0.54
1:0:221:A:H2'	1:0:222:G:H5'	1.89	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.06	0.54
1:0:1038:U:H2'	1:0:1039:A:H8	1.71	0.54
1:0:2414:A:C3'	1:0:2415:G:H5''	2.38	0.54
1:0:2448:A:H2'	1:0:2449:G:O4'	2.07	0.54
1:0:239:A:C2	1:0:443:A:H1'	2.43	0.54
1:0:572:G:OP2	1:0:581:A:H5'	2.07	0.54
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.54
1:0:751:G:H1'	1:0:772:G:N2	2.23	0.54
1:0:752:G:H5'	1:0:753:U:OP1	2.08	0.54
1:0:1091:C:H2'	1:0:1092:U:H6	1.68	0.54
1:0:1392:U:H2'	1:0:1393:G:H5'	1.90	0.54
1:0:1411:C:H2'	1:0:1412:C:C6	2.43	0.54
1:0:1661:C:H2'	1:0:1662:G:C8	2.43	0.54
1:0:1785:A:H2'	1:0:1786:C:H6	1.73	0.54
1:0:1871:G:H2'	1:0:1871:G:N3	2.23	0.54
1:0:2313:G:H2'	1:0:2314:A:H5'	1.89	0.54
1:0:2495:G:H2'	1:0:2496:C:C6	2.42	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
1:0:54:G:H2'	1:0:55:A:H8	1.72	0.54
1:0:114:C:H2'	1:0:115:G:C8	2.43	0.54
1:0:1162:A:O2'	1:0:1163:C:H5'	2.07	0.54
1:0:1280:U:O2	1:0:1280:U:H2'	2.07	0.54
1:0:1787:U:H2'	1:0:1788:C:H6	1.72	0.54
1:0:1959:U:H2'	1:0:1960:A:C8	2.42	0.54
1:0:2045:A:N6	1:0:2482:A:H61	2.05	0.54
1:0:2396:C:O2'	1:0:2397:A:H5'	2.08	0.54
1:0:2433:G:H2'	1:0:2434:G:H8	1.73	0.54
1:0:2580:C:H5''	1:0:2581:A:OP2	2.06	0.54
1:0:2585:C:H2'	1:0:2586:G:O4'	2.07	0.54
1:0:2624:G:H4'	1:0:2712:G:O2'	2.08	0.54
1:0:635:C:C2'	1:0:636:G:H5''	2.34	0.54
1:0:1251:G:H2'	1:0:1252:C:O4'	2.08	0.54
1:0:1314:A:N7	1:0:1316:G:C8	2.76	0.54
1:0:1651:U:H5''	1:0:1652:G:OP2	2.07	0.54
1:0:2033:C:H2'	1:0:2034:A:C1'	2.38	0.54
1:0:2301:A:H2'	1:0:2302:G:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2523:G:H1'	1:0:2625:U:H5'	1.89	0.54
1:0:456:C:H2'	1:0:457:C:H6	1.73	0.54
1:0:629:C:O2'	1:0:630:G:H5'	2.07	0.54
1:0:786:U:H2'	1:0:787:A:H5'	1.90	0.54
1:0:1312:G:H4'	1:0:1314:A:C4	2.42	0.54
1:0:1783:G:O6	1:0:1820:G:H1'	2.08	0.54
1:0:41:G:H2'	1:0:42:G:H8	1.73	0.54
1:0:657:A:H2'	1:0:658:G:H8	1.71	0.54
1:0:773:G:H2'	1:0:774:A:H5'	1.90	0.54
1:0:1223:G:N1	1:0:1250:A:N7	2.56	0.54
1:0:1399:C:H2'	1:0:1400:A:C8	2.43	0.54
1:0:1760:G:H1'	1:0:1941:C:OP1	2.08	0.54
1:0:1865:C:H2'	1:0:1866:G:O4'	2.08	0.54
1:0:477:A:H2'	1:0:478:G:H5'	1.90	0.54
1:0:1009:C:O5'	1:0:1009:C:H6	1.89	0.54
1:0:1083:C:H42	1:0:1103:C:H41	1.54	0.54
1:0:1293:A:O2'	1:0:1294:G:H5'	2.08	0.54
1:0:1611:U:H2'	1:0:1612:U:O4'	2.08	0.54
1:0:1741:G:O2'	1:0:1742:G:H5'	2.07	0.54
1:0:2040:A:H2'	1:0:2041:A:H8	1.73	0.54
1:0:2321:C:C2'	1:0:2322:U:H5'	2.38	0.54
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.54
1:0:225:G:H5'	1:0:226:C:H5'	1.90	0.53
1:0:338:G:H2'	1:0:339:U:H5'	1.89	0.53
1:0:763:A:H5''	1:0:1631:C:N4	2.23	0.53
1:0:811:G:O2'	1:0:812:G:H5'	2.08	0.53
1:0:941:U:H4'	1:0:941:U:OP1	2.06	0.53
1:0:964:A:H2'	1:0:965:G:C8	2.41	0.53
1:0:1039:A:N3	1:0:2465:G:O2'	2.37	0.53
1:0:1347:C:O2'	1:0:1348:C:H5'	2.06	0.53
1:0:1714:A:C5	1:0:1715:A:N6	2.73	0.53
1:0:1872:A:H2'	1:0:1873:A:H8	1.73	0.53
1:0:2447:G:H8	1:0:2447:G:O5'	1.91	0.53
1:0:2466:G:H2'	1:0:2467:A:H8	1.72	0.53
1:0:2769:C:H2'	1:0:2770:A:H5'	1.89	0.53
1:0:176:A:H3'	1:0:177:U:H5	1.72	0.53
1:0:298:C:H2'	1:0:299:C:C6	2.42	0.53
1:0:1494:G:H2'	1:0:1495:G:O4'	2.08	0.53
1:0:1699:A:C5	1:0:1748:U:H1'	2.43	0.53
1:0:2375:G:H2'	1:0:2376:G:C8	2.43	0.53
1:0:2559:U:H2'	1:0:2560:G:H5'	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2658:A:H2'	1:0:2659:C:O4'	2.08	0.53
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.53
1:0:671:A:H2'	1:0:672:C:C6	2.44	0.53
1:0:1032:A:C2'	1:0:1033:G:H4'	2.34	0.53
1:0:1196:G:H2'	1:0:1197:U:C4'	2.38	0.53
1:0:1212:U:H2'	1:0:1213:U:C6	2.43	0.53
1:0:1436:G:N2	1:0:1514:C:H1'	2.20	0.53
1:0:1626:A:C8	1:0:1626:A:OP2	2.61	0.53
1:0:2261:G:H5''	1:0:2262:C:O5'	2.08	0.53
1:0:13:A:O2'	1:0:14:A:C2	2.61	0.53
1:0:186:C:H2'	1:0:187:U:O4'	2.09	0.53
1:0:357:A:C2'	1:0:358:C:H5'	2.35	0.53
1:0:362:C:C4	1:0:363:G:H1'	2.43	0.53
1:0:1290:A:H2'	1:0:1291:G:C8	2.43	0.53
1:0:2202:G:H3'	1:0:2203:G:C8	2.44	0.53
1:0:2396:C:C2'	1:0:2397:A:H5'	2.38	0.53
1:0:2737:A:H2'	1:0:2738:A:H5'	1.90	0.53
1:0:2753:C:H2'	1:0:2754:C:H6	1.73	0.53
1:0:837:U:H2'	1:0:838:A:C8	2.44	0.53
1:0:1227:A:C4'	1:0:1252:C:H4'	2.38	0.53
1:0:1388:C:H2'	1:0:1389:C:C6	2.40	0.53
1:0:1462:C:O2'	1:0:1560:A:H1'	2.09	0.53
1:0:1725:C:H2'	1:0:1726:C:H6	1.74	0.53
1:0:1750:A:H4'	1:0:2695:C:O4'	2.09	0.53
1:0:1785:A:H2'	1:0:1786:C:C6	2.44	0.53
1:0:2383:C:H2'	1:0:2384:G:O4'	2.08	0.53
1:0:2559:U:C2'	1:0:2560:G:H5'	2.38	0.53
1:0:14:A:H62	1:0:15:G:N2	2.06	0.53
1:0:915:C:H2'	1:0:916:U:C6	2.44	0.53
1:0:1166:A:C3'	1:0:1167:A:H5''	2.38	0.53
1:0:1479:G:N2	1:0:1543:G:N2	2.57	0.53
1:0:1789:U:HO2'	1:0:1793:A:H1'	1.71	0.53
1:0:2608:A:O2'	1:0:2609:G:H5'	2.08	0.53
1:0:2727:G:C2'	1:0:2728:A:H5''	2.39	0.53
1:0:66:U:C2	1:0:67:G:N7	2.77	0.53
1:0:239:A:C5'	1:0:620:G:H5'	2.39	0.53
1:0:608:G:O2'	1:0:609:U:H5'	2.09	0.53
1:0:813:A:O2'	1:0:814:G:H8	1.90	0.53
1:0:953:G:H1'	1:0:1203:A:C2	2.37	0.53
1:0:1036:G:H1'	1:0:1145:C:O4'	2.07	0.53
1:0:1272:G:H2'	1:0:1273:G:H8	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1356:G:H1'	1:0:1613:G:C2	2.44	0.53
1:0:1679:U:C3'	1:0:1680:U:H5''	2.39	0.53
1:0:333:A:O2'	1:0:350:U:H2'	2.08	0.53
1:0:639:G:H2'	1:0:640:C:H6	1.73	0.53
1:0:688:A:O2'	1:0:689:A:H5'	2.09	0.53
1:0:733:G:O2'	1:0:734:G:H5'	2.09	0.53
1:0:775:U:O2	1:0:1445:A:H5''	2.08	0.53
1:0:1339:U:O4	1:0:1664:G:H1'	2.09	0.53
1:0:1342:U:H5''	1:0:1343:C:H5	1.74	0.53
1:0:1461:C:H2'	1:0:1462:C:C6	2.44	0.53
1:0:2233:C:O2'	1:0:2234:G:H5'	2.09	0.53
1:0:2669:C:O2	1:0:2669:C:H2'	2.08	0.53
1:0:2770:A:H4'	1:0:2867:G:N2	2.17	0.53
2:9:85:G:C2'	2:9:86:A:H5'	2.38	0.53
1:0:1921:A:C2'	1:0:1922:U:H5''	2.38	0.53
1:0:1940:C:H2'	1:0:1941:C:H6	1.74	0.53
1:0:2076:G:H2'	1:0:2077:G:C8	2.44	0.53
1:0:2627:G:H2'	1:0:2628:C:O4'	2.08	0.53
1:0:2717:G:H2'	1:0:2718:A:C8	2.43	0.53
1:0:18:U:O2'	1:0:563:U:H5''	2.09	0.53
1:0:187:U:H1'	1:0:1379:A:C2	2.43	0.53
1:0:343:A:N6	1:0:346:C:C5	2.77	0.53
1:0:570:G:C2'	1:0:571:U:H5''	2.39	0.53
1:0:1179:A:H2'	1:0:1180:A:C8	2.43	0.53
1:0:2026:C:H2'	1:0:2027:C:C6	2.44	0.53
1:0:2122:G:H2'	1:0:2123:G:H8	1.74	0.53
1:0:2783:U:H2'	1:0:2784:A:O4'	2.09	0.53
1:0:630:G:H8	1:0:630:G:O5'	1.91	0.52
1:0:1241:G:O2'	1:0:1242:A:H5'	2.09	0.52
1:0:1307:U:H2'	1:0:1308:C:O4'	2.09	0.52
1:0:1429:A:H1'	1:0:1603:A:C6	2.44	0.52
1:0:1923:U:O2	1:0:1923:U:H2'	2.08	0.52
1:0:2469:G:H4'	1:0:2470:U:H5	1.73	0.52
1:0:2503:G:C2'	1:0:2504:G:H5''	2.39	0.52
2:9:23:G:C6	2:9:24:U:C4	2.98	0.52
1:0:1086:C:C2'	1:0:1087:C:H5''	2.37	0.52
1:0:1485:U:H2'	1:0:1486:A:H8	1.73	0.52
1:0:2024:U:O5'	1:0:2024:U:H6	1.92	0.52
1:0:2182:A:H2'	1:0:2183:C:O4'	2.10	0.52
2:9:72:C:H2'	2:9:73:C:O4'	2.10	0.52
1:0:27:G:O2'	1:0:28:A:O4'	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:365:U:H2'	1:0:366:U:C6	2.44	0.52
1:0:931:G:C5'	2:9:83:C:H1'	2.40	0.52
1:0:1463:A:H1'	1:0:1543:G:C2	2.44	0.52
1:0:1956:G:H2'	1:0:1957:C:H6	1.73	0.52
1:0:2048:C:H2'	1:0:2049:C:O4'	2.09	0.52
1:0:2583:U:O2'	1:0:2584:U:H5'	2.08	0.52
1:0:2617:G:O2'	1:0:2618:A:H8	1.92	0.52
1:0:1739:G:H2'	1:0:1740:G:C8	2.44	0.52
1:0:115:G:H8	1:0:115:G:O5'	1.93	0.52
1:0:698:A:C1'	1:0:700:C:H41	2.23	0.52
1:0:1195:U:H2'	1:0:1196:G:H8	1.75	0.52
1:0:1537:U:H2'	1:0:1538:A:C8	2.44	0.52
1:0:1621:C:O2'	1:0:1626:A:N7	2.41	0.52
1:0:1802:A:O2'	1:0:1803:G:H5'	2.09	0.52
1:0:2169:A:O2'	1:0:2170:C:H5'	2.10	0.52
1:0:2633:A:C2	1:0:2644:A:H5''	2.44	0.52
1:0:2739:G:H2'	1:0:2740:C:O4'	2.09	0.52
2:9:41:A:H8	2:9:41:A:O5'	1.93	0.52
1:0:331:U:C2'	1:0:332:C:H5''	2.38	0.52
1:0:353:G:H2'	1:0:354:C:C6	2.44	0.52
1:0:484:G:O2'	1:0:485:G:H5'	2.10	0.52
1:0:635:C:O2	1:0:670:U:H4'	2.10	0.52
1:0:699:G:H3'	1:0:699:G:N3	2.25	0.52
1:0:782:U:H2'	1:0:783:G:H8	1.72	0.52
1:0:886:A:H2'	1:0:887:G:O4'	2.10	0.52
1:0:974:U:H2'	1:0:975:C:O4'	2.09	0.52
1:0:2011:U:H2'	1:0:2012:A:H8	1.75	0.52
1:0:2225:G:C2	1:0:2405:A:H1'	2.45	0.52
1:0:2503:G:C3'	1:0:2504:G:H5''	2.39	0.52
1:0:2788:C:H2'	1:0:2789:U:H6	1.74	0.52
1:0:785:U:H5'	1:0:1368:G:O2'	2.09	0.52
1:0:824:U:H4'	1:0:1264:C:H1'	1.90	0.52
1:0:1038:U:N3	1:0:2467:A:H5'	2.24	0.52
1:0:2274:C:C2'	1:0:2275:U:H5''	2.39	0.52
1:0:13:A:H1'	1:0:536:A:H62	1.71	0.52
1:0:84:G:O2'	1:0:85:C:H5'	2.09	0.52
1:0:228:A:C5	1:0:229:G:H1'	2.44	0.52
1:0:534:U:H4'	1:0:564:U:H4'	1.91	0.52
1:0:640:C:H5''	1:0:660:G:O2'	2.09	0.52
1:0:859:U:H4'	1:0:860:U:C5	2.45	0.52
1:0:1301:U:H5''	1:0:1302:C:OP1	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1312:G:H5''	1:0:1313:U:H5'	1.90	0.52
1:0:1594:U:H2'	1:0:1595:A:C8	2.45	0.52
1:0:2705:A:O2'	1:0:2706:U:C6	2.53	0.52
1:0:461:A:H2'	1:0:461:A:N3	2.23	0.52
1:0:839:U:H5''	1:0:2408:G:P	2.49	0.52
1:0:1073:G:C2'	1:0:1074:G:H4'	2.27	0.52
1:0:1102:G:H2'	1:0:1103:C:C6	2.43	0.52
1:0:2725:C:H2'	1:0:2726:U:C6	2.45	0.52
1:0:50:G:H2'	1:0:117:A:N1	2.25	0.52
1:0:169:C:H2'	1:0:170:U:H5'	1.91	0.52
1:0:738:G:H2'	1:0:739:G:O4'	2.10	0.52
1:0:964:A:H1'	1:0:2245:A:OP2	2.10	0.52
1:0:1226:A:C4	1:0:1250:A:N3	2.78	0.52
1:0:1356:G:C4'	1:0:1613:G:H2'	2.40	0.52
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.52
1:0:1479:G:N2	1:0:1543:G:H21	2.08	0.52
1:0:1920:A:N6	1:0:1923:U:C6	2.78	0.52
1:0:1970:G:O2'	1:0:1971:C:H5'	2.10	0.52
1:0:2407:G:H4'	1:0:2408:G:C5	2.45	0.52
1:0:2633:A:H2	1:0:2644:A:H5''	1.74	0.52
1:0:69:G:H4'	1:0:70:A:O5'	2.11	0.51
1:0:115:G:C6	1:0:117:A:N6	2.78	0.51
1:0:757:U:H2'	1:0:758:G:O4'	2.10	0.51
1:0:765:C:O2'	1:0:766:A:O4'	2.28	0.51
1:0:978:U:H2'	1:0:979:A:H8	1.75	0.51
1:0:984:A:H2	1:0:1200:G:H1	1.58	0.51
1:0:1202:U:H2'	1:0:1203:A:C8	2.35	0.51
1:0:1253:C:C2'	1:0:1254:G:H5'	2.39	0.51
1:0:1696:C:O2	1:0:1972:G:N2	2.43	0.51
1:0:2015:G:N2	1:0:2038:C:H1'	2.21	0.51
1:0:550:C:H2'	1:0:551:A:C8	2.46	0.51
1:0:633:G:H8	1:0:633:G:O5'	1.92	0.51
1:0:872:G:O2'	1:0:2247:A:C4	2.63	0.51
1:0:887:G:O2'	1:0:888:G:H5'	2.10	0.51
1:0:974:U:H5'	1:0:2476:A:OP1	2.11	0.51
1:0:987:G:O2'	1:0:1166:A:O2'	2.26	0.51
1:0:1058:G:H2'	1:0:1121:G:H1	1.76	0.51
1:0:1372:A:H2'	1:0:1373:G:H5'	1.93	0.51
1:0:1699:A:C6	1:0:1748:U:H1'	2.45	0.51
1:0:2402:U:H5'	1:0:2404:A:N7	2.25	0.51
2:9:116:C:H2'	2:9:117:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:147:G:O5'	1:0:147:G:H8	1.92	0.51
1:0:446:C:H2'	1:0:447:U:O4'	2.10	0.51
1:0:670:U:O2'	1:0:671:A:H5'	2.10	0.51
1:0:912:A:H2'	1:0:913:A:H8	1.76	0.51
1:0:1226:A:N1	1:0:1250:A:H1'	2.25	0.51
1:0:1256:C:H2'	1:0:1257:U:C6	2.46	0.51
1:0:1514:C:H2'	1:0:1515:U:O4'	2.10	0.51
1:0:2501:U:O2'	1:0:2626:U:H5''	2.11	0.51
1:0:2857:C:H2'	1:0:2858:A:O5'	2.11	0.51
1:0:15:G:H2'	1:0:16:G:H5'	1.93	0.51
1:0:951:G:H3'	1:0:952:A:H5''	1.91	0.51
1:0:1040:A:H2'	1:0:1041:G:C5'	2.35	0.51
1:0:1764:A:H2'	1:0:1765:C:H5'	1.93	0.51
1:0:1943:A:C2'	1:0:1944:C:H5'	2.40	0.51
1:0:2311:U:HO2'	1:0:2312:A:H8	1.58	0.51
1:0:2542:U:H2'	1:0:2544:A:OP2	2.11	0.51
1:0:2772:U:O2'	1:0:2773:G:H5'	2.10	0.51
1:0:1141:U:O5'	1:0:1141:U:H6	1.94	0.51
1:0:1473:U:H4'	1:0:1474:A:C8	2.46	0.51
1:0:1789:U:O2	1:0:1793:A:H2	1.93	0.51
1:0:1851:A:N6	1:0:1867:A:H1'	2.25	0.51
1:0:2511:G:N2	1:0:2642:G:O2'	2.44	0.51
1:0:2668:U:P	1:0:2699:G:H22	2.34	0.51
1:0:2759:U:H4'	1:0:2760:G:O5'	2.11	0.51
1:0:2840:U:C6	1:0:2841:U:H5	2.28	0.51
2:9:78:A:H2'	2:9:79:U:H6	1.73	0.51
1:0:5:A:H2'	1:0:6:A:C8	2.44	0.51
1:0:504:G:O2'	1:0:505:G:H5'	2.11	0.51
1:0:1010:U:H2'	1:0:1011:A:H8	1.75	0.51
1:0:1124:U:H2'	1:0:1125:G:H8	1.76	0.51
1:0:1814:G:H2'	1:0:1815:G:C8	2.46	0.51
1:0:1827:G:H1'	1:0:1914:U:N3	2.26	0.51
1:0:2560:G:H4'	1:0:2561:G:C8	2.46	0.51
1:0:2665:G:H2'	1:0:2666:U:O4'	2.11	0.51
1:0:515:A:C2'	1:0:516:G:H5'	2.41	0.51
1:0:975:C:O5'	1:0:975:C:H6	1.94	0.51
1:0:1253:C:H2'	1:0:1254:G:H5'	1.92	0.51
1:0:1451:C:H2'	1:0:1452:U:C6	2.46	0.51
1:0:1666:G:H2'	1:0:1667:A:H8	1.75	0.51
1:0:1698:C:O2'	1:0:1753:A:C2'	2.57	0.51
1:0:2396:C:H6	1:0:2396:C:H5'	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2409:A:H2'	1:0:2410:U:C5'	2.36	0.51
1:0:2541:U:H2'	1:0:2542:U:O4'	2.10	0.51
1:0:2709:C:H2'	1:0:2710:C:H6	1.76	0.51
2:9:42:U:C2	2:9:45:C:C5	2.99	0.51
1:0:416:U:C5'	1:0:417:C:H5'	2.38	0.51
1:0:525:A:H2'	1:0:526:C:O4'	2.10	0.51
1:0:1008:G:O2'	1:0:1009:C:H5'	2.10	0.51
1:0:1429:A:H61	1:0:1602:G:H5'	1.74	0.51
1:0:1729:C:H2'	1:0:1730:G:C8	2.46	0.51
1:0:1782:A:N6	1:0:1820:G:H2'	2.26	0.51
1:0:1807:A:H1'	1:0:1809:G:N7	2.25	0.51
1:0:1835:C:H2'	1:0:1836:C:C6	2.46	0.51
1:0:2230:G:H8	1:0:2476:A:N6	2.09	0.51
1:0:2341:G:O2'	1:0:2342:U:H5'	2.11	0.51
1:0:2790:C:H2'	1:0:2791:C:H6	1.75	0.51
1:0:76:C:H2'	1:0:77:C:C6	2.45	0.51
1:0:95:G:H2'	1:0:96:C:C6	2.46	0.51
1:0:580:A:N3	1:0:582:G:N7	2.58	0.51
1:0:843:G:OP1	1:0:843:G:H3'	2.11	0.51
1:0:1715:A:HO2'	1:0:1716:G:H3'	1.76	0.51
1:0:1940:C:H2'	1:0:1941:C:C6	2.46	0.51
1:0:1969:G:O2'	1:0:1970:G:H5'	2.11	0.51
1:0:2402:U:H5'	1:0:2404:A:C5	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
1:0:10:A:H2'	1:0:11:G:H8	1.75	0.51
1:0:1003:C:O2'	1:0:1004:A:H5'	2.10	0.51
1:0:1296:G:H2'	1:0:1298:G:OP2	2.11	0.51
1:0:1380:C:H2'	1:0:1381:G:H5'	1.93	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.45	0.51
2:9:4:C:H2'	2:9:5:C:C5	2.43	0.51
1:0:29:U:H2'	1:0:30:G:C8	2.46	0.50
1:0:509:U:H3	1:0:513:A:N6	2.09	0.50
1:0:923:A:H2'	1:0:923:A:N3	2.26	0.50
1:0:931:G:H5'	2:9:83:C:H1'	1.92	0.50
1:0:1004:A:H2'	1:0:1005:U:H5'	1.93	0.50
1:0:1064:C:H2'	1:0:1065:A:C8	2.46	0.50
1:0:1345:G:H5''	1:0:1346:C:OP1	2.11	0.50
1:0:1472:C:HO2'	1:0:1474:A:H8	1.58	0.50
1:0:1944:C:H2'	1:0:1945:C:O4'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2044:G:N7	1:0:2480:C:H4'	2.26	0.50
1:0:2324:G:HO2'	1:0:2325:A:H5''	1.76	0.50
1:0:2487:G:O3'	1:0:2534:U:H5'	2.10	0.50
1:0:2613:A:O2'	1:0:2614:A:H5'	2.12	0.50
1:0:2813:G:C2'	1:0:2814:G:H5'	2.41	0.50
1:0:221:A:C2'	1:0:222:G:H5'	2.42	0.50
1:0:701:U:O2'	1:0:702:A:H5'	2.12	0.50
1:0:771:C:O2'	1:0:772:G:H5'	2.11	0.50
1:0:1001:A:C3'	1:0:1002:C:H5''	2.42	0.50
1:0:1679:U:H2'	1:0:1680:U:C5'	2.16	0.50
1:0:1680:U:H6	1:0:1680:U:C5'	2.25	0.50
1:0:1690:U:C2'	1:0:1691:G:H5'	2.41	0.50
1:0:1823:G:H2'	1:0:1824:C:C6	2.46	0.50
1:0:2059:U:C2'	1:0:2060:A:H5''	2.28	0.50
1:0:2396:C:H2'	1:0:2397:A:H5'	1.93	0.50
1:0:2504:G:O4'	1:0:2721:A:H2	1.94	0.50
2:9:50:U:H2'	2:9:51:G:C8	2.45	0.50
1:0:788:G:H5''	1:0:789:G:OP1	2.10	0.50
1:0:1007:A:H2'	1:0:1008:G:H8	1.75	0.50
1:0:1171:A:H2'	1:0:1172:U:C6	2.46	0.50
1:0:1226:A:H2'	1:0:1227:A:H8	1.76	0.50
1:0:1278:A:H4'	1:0:1279:G:O5'	2.11	0.50
1:0:1429:A:N6	1:0:1601:U:H5''	2.24	0.50
1:0:2034:A:N6	1:0:2593:A:N7	2.60	0.50
1:0:2047:C:H6	1:0:2047:C:H5''	1.76	0.50
1:0:322:A:H1'	1:0:343:A:C5	2.47	0.50
1:0:365:U:H2'	1:0:366:U:H6	1.76	0.50
1:0:735:G:O2'	1:0:736:G:H5'	2.11	0.50
1:0:929:A:H3'	1:0:930:A:C5'	2.36	0.50
1:0:1011:A:N6	1:0:1165:G:H2'	2.27	0.50
1:0:2432:A:H4'	1:0:2551:A:O2'	2.11	0.50
1:0:782:U:HO2'	1:0:1392:U:H5	1.60	0.50
1:0:1310:C:O2'	1:0:1315:A:N1	2.41	0.50
1:0:1402:G:H2'	1:0:1403:U:O4'	2.12	0.50
1:0:2770:A:H5''	1:0:2867:G:H1	1.75	0.50
1:0:2842:C:H6	1:0:2842:C:H5''	1.77	0.50
2:9:111:C:H5''	2:9:112:A:H4'	1.93	0.50
1:0:14:A:N6	1:0:15:G:C2	2.80	0.50
1:0:132:U:H2'	1:0:133:C:C6	2.47	0.50
1:0:542:A:H62	1:0:570:G:H21	1.60	0.50
1:0:543:G:H2'	1:0:544:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:763:A:C5'	1:0:1631:C:H42	2.24	0.50
1:0:1141:U:OP2	1:0:2549:G:N2	2.44	0.50
1:0:1920:A:C5	1:0:1922:U:H5	2.29	0.50
2:9:29:C:H2'	2:9:30:C:C5	2.45	0.50
1:0:403:A:H5''	1:0:404:A:OP1	2.11	0.50
1:0:428:A:H2'	1:0:429:C:C6	2.47	0.50
1:0:1000:G:OP1	1:0:1168:G:H4'	2.12	0.50
1:0:1439:G:N2	1:0:1590:C:H42	2.10	0.50
1:0:1541:G:H22	1:0:1561:A:N6	2.09	0.50
1:0:1685:A:N6	1:0:1691:G:N3	2.60	0.50
1:0:2042:A:H8	1:0:2042:A:H3'	1.77	0.50
1:0:2411:A:H8	1:0:2411:A:O5'	1.93	0.50
1:0:2555:G:O4'	1:0:2558:C:H5	1.95	0.50
1:0:520:C:H2'	1:0:521:U:O4'	2.12	0.50
1:0:744:C:N4	1:0:745:C:H41	2.10	0.50
1:0:1021:A:H8	1:0:1021:A:O5'	1.95	0.50
1:0:1799:A:C8	1:0:1800:A:N7	2.80	0.50
1:0:1888:C:H2'	1:0:1913:G:C5	2.47	0.50
1:0:2839:G:C5	1:0:2840:U:C4	3.00	0.50
1:0:26:G:O3'	1:0:1273:G:H4'	2.12	0.50
1:0:127:C:H5''	1:0:1615:C:O2'	2.11	0.50
1:0:222:G:O2'	1:0:223:C:H5'	2.11	0.50
1:0:394:U:O2'	1:0:395:G:H5'	2.12	0.50
1:0:457:C:O2'	1:0:458:G:H5'	2.12	0.50
1:0:486:U:C4'	1:0:520:C:H5'	2.41	0.50
1:0:830:C:H2'	1:0:831:G:H8	1.77	0.50
1:0:1756:C:H2'	1:0:1757:C:C6	2.47	0.50
1:0:2617:G:N2	1:0:2755:A:H2'	2.27	0.50
1:0:2824:C:H1'	1:0:2843:A:C2	2.46	0.50
2:9:105:G:C2	2:9:106:U:C4	2.99	0.50
1:0:119:G:H1'	1:0:129:A:C2	2.47	0.49
1:0:333:A:HO2'	1:0:350:U:H2'	1.76	0.49
1:0:630:G:H5''	1:0:631:G:OP2	2.12	0.49
1:0:861:G:N2	1:0:943:U:O2'	2.45	0.49
1:0:2005:U:H2'	1:0:2595:C:HO2'	1.75	0.49
1:0:2034:A:H5'	1:0:2557:G:C4'	2.41	0.49
1:0:2217:G:H3'	1:0:2217:G:N3	2.27	0.49
1:0:2754:C:H2'	1:0:2755:A:H8	1.76	0.49
1:0:322:A:H2	1:0:342:G:OP2	1.95	0.49
1:0:752:G:OP2	1:0:752:G:H8	1.95	0.49
1:0:946:U:O2'	1:0:947:C:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1101:U:H3	1:0:1113:C:C1'	2.24	0.49
1:0:1717:A:H2'	1:0:1718:A:H5'	1.94	0.49
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:2080:U:H2'	1:0:2081:U:C6	2.47	0.49
1:0:2507:U:HO2'	1:0:2508:G:H8	1.59	0.49
1:0:45:C:H2'	1:0:46:C:C6	2.47	0.49
1:0:178:C:H2'	1:0:179:U:C6	2.47	0.49
1:0:305:A:H2'	1:0:306:G:H5'	1.92	0.49
1:0:424:G:N7	1:0:2385:U:N3	2.60	0.49
1:0:930:A:H4'	1:0:930:A:OP1	2.11	0.49
1:0:1424:U:H2'	1:0:1425:G:H8	1.77	0.49
1:0:1457:A:O2'	1:0:1458:A:H5'	2.13	0.49
1:0:1622:G:H4'	1:0:1624:A:N3	2.27	0.49
1:0:2039:G:H2'	1:0:2039:G:N3	2.28	0.49
1:0:2162:C:H2'	1:0:2163:U:H6	1.77	0.49
2:9:104:A:C2	2:9:105:G:H1'	2.47	0.49
1:0:202:A:O2'	1:0:234:C:H4'	2.12	0.49
1:0:589:C:O2'	1:0:590:C:H5'	2.12	0.49
1:0:746:G:N7	1:0:774:A:C5	2.80	0.49
1:0:1090:C:O2'	1:0:1091:C:H5'	2.12	0.49
1:0:1482:U:H1'	1:0:1562:G:N2	2.27	0.49
1:0:1685:A:C2	1:0:1976:U:C2	3.01	0.49
1:0:1768:U:O2'	1:0:1769:U:H5'	2.12	0.49
1:0:1818:G:H2'	1:0:1819:U:C6	2.47	0.49
1:0:2396:C:H2'	1:0:2397:A:C5'	2.42	0.49
1:0:2618:A:N1	1:0:2619:G:H1'	2.28	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
2:9:111:C:H5''	2:9:112:A:C5'	2.42	0.49
1:0:90:G:H3'	1:0:91:A:C5'	2.42	0.49
1:0:305:A:C2'	1:0:306:G:H5'	2.43	0.49
1:0:353:G:H2'	1:0:354:C:H6	1.77	0.49
1:0:490:A:N7	1:0:492:G:H1'	2.27	0.49
1:0:1023:U:H1'	1:0:1154:A:C8	2.47	0.49
1:0:1182:U:H2'	1:0:1183:C:C5'	2.35	0.49
1:0:1302:C:OP1	1:0:1302:C:C6	2.65	0.49
1:0:1354:A:H2'	1:0:1410:U:O2	2.12	0.49
1:0:1724:C:H1'	1:0:1747:G:C4	2.48	0.49
1:0:1771:A:H8	1:0:1772:C:H5	1.60	0.49
1:0:1784:C:O2'	1:0:1785:A:H5'	2.12	0.49
1:0:1950:C:H2'	1:0:1951:G:O4'	2.12	0.49
1:0:2245:A:C4	1:0:2251:U:O4	2.66	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2587:G:H8	1:0:2587:G:O5'	1.95	0.49
1:0:338:G:O2'	1:0:339:U:H5'	2.13	0.49
1:0:486:U:C2'	1:0:487:G:H5'	2.43	0.49
1:0:1234:C:O2'	1:0:1235:C:H5'	2.13	0.49
1:0:1482:U:H2'	1:0:1483:G:H8	1.77	0.49
1:0:1625:A:C8	1:0:1632:A:H1'	2.48	0.49
1:0:1715:A:HO2'	1:0:1716:G:H8	1.60	0.49
1:0:195:A:C2'	1:0:196:A:H5'	2.43	0.49
1:0:246:C:N4	1:0:247:A:H62	2.09	0.49
1:0:389:G:H2'	1:0:390:U:C6	2.48	0.49
1:0:450:C:H2'	1:0:451:A:C8	2.48	0.49
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.49
1:0:1952:A:O2'	1:0:1955:G:N2	2.45	0.49
1:0:1964:A:OP1	1:0:1965:U:OP2	2.30	0.49
1:0:2055:G:O2'	1:0:2056:C:H5'	2.12	0.49
1:0:2301:A:C2	1:0:2302:G:H1'	2.48	0.49
1:0:2428:U:H2'	1:0:2428:U:O2	2.12	0.49
1:0:2572:U:H2'	1:0:2573:C:H6	1.77	0.49
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.49
1:0:860:U:H2'	1:0:860:U:O2	2.11	0.49
1:0:952:A:O2'	1:0:1204:G:H4'	2.13	0.49
1:0:968:C:C2	1:0:2438:A:H5'	2.48	0.49
1:0:1147:G:O2'	1:0:1148:G:H5'	2.12	0.49
1:0:1399:C:O2'	1:0:1400:A:H5'	2.13	0.49
1:0:1692:C:H2'	1:0:1693:A:H5'	1.95	0.49
1:0:2204:A:O2'	1:0:2205:C:OP2	2.28	0.49
2:9:28:A:OP2	2:9:29:C:H5	1.95	0.49
1:0:515:A:H2'	1:0:516:G:H5'	1.95	0.49
1:0:661:C:O2'	1:0:662:G:H5'	2.12	0.49
1:0:1101:U:C2	1:0:1113:C:H1'	2.48	0.49
1:0:1295:U:H2'	1:0:1296:G:C5'	2.39	0.49
1:0:2038:C:C2'	1:0:2483:U:H4'	2.28	0.49
1:0:2447:G:C8	1:0:2455:A:N6	2.75	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
1:0:221:A:H2'	1:0:222:G:C5'	2.43	0.49
1:0:321:A:H2'	1:0:323:G:C8	2.48	0.49
1:0:430:C:H2'	1:0:431:G:C8	2.47	0.49
1:0:482:A:H2'	1:0:483:A:O4'	2.13	0.49
1:0:657:A:H2'	1:0:658:G:O4'	2.12	0.49
1:0:745:C:O2'	1:0:746:G:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:799:C:O2'	1:0:800:U:H5'	2.13	0.49
1:0:984:A:O2'	1:0:1201:G:H1'	2.13	0.49
1:0:1787:U:H2'	1:0:1788:C:C6	2.48	0.49
1:0:1871:G:N3	1:0:1871:G:C2'	2.76	0.49
1:0:2286:G:H21	1:0:2290:A:H62	1.61	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:26:G:H1'	1:0:525:A:H61	1.78	0.48
1:0:216:U:O5'	1:0:216:U:H6	1.95	0.48
1:0:305:A:H2'	1:0:306:G:C5'	2.43	0.48
1:0:464:G:H8	1:0:464:G:O5'	1.96	0.48
1:0:1021:A:H1'	1:0:1164:C:H1'	1.94	0.48
1:0:1039:A:H61	1:0:1136:G:H2'	1.77	0.48
1:0:2002:A:C2	1:0:2003:A:H1'	2.48	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
1:0:337:G:H2'	1:0:338:G:H8	1.77	0.48
1:0:587:A:H2'	1:0:588:G:H5''	1.96	0.48
1:0:789:G:H1'	1:0:806:A:N7	2.28	0.48
1:0:995:A:H5''	1:0:996:C:C5	2.47	0.48
1:0:1221:C:O5'	1:0:1221:C:H6	1.96	0.48
1:0:1373:G:H2'	1:0:1374:G:H5'	1.95	0.48
1:0:1917:C:H2'	1:0:1918:G:O4'	2.13	0.48
1:0:1992:G:O2'	1:0:1993:G:H5'	2.13	0.48
1:0:2019:C:H5'	1:0:2019:C:H6	1.78	0.48
1:0:2019:C:O2'	1:0:2020:G:H5'	2.13	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
1:0:510:G:H8	1:0:510:G:O5'	1.97	0.48
1:0:542:A:H62	1:0:570:G:N2	2.10	0.48
1:0:864:C:O2'	1:0:865:A:H5'	2.14	0.48
1:0:1468:A:P	1:0:1468:A:H8	2.36	0.48
1:0:1550:C:O5'	1:0:1550:C:H6	1.97	0.48
1:0:1725:C:O2'	1:0:1726:C:H5'	2.13	0.48
1:0:1727:C:H4'	1:0:2833:C:O2	2.12	0.48
1:0:2012:A:C6	1:0:2014:A:H5'	2.49	0.48
1:0:2177:U:O2'	1:0:2178:U:H5'	2.13	0.48
1:0:429:C:H2'	1:0:430:C:O4'	2.12	0.48
1:0:457:C:C2'	1:0:458:G:H5'	2.44	0.48
1:0:796:A:H4'	1:0:2567:G:O3'	2.13	0.48
1:0:1317:G:O2'	1:0:1318:A:H5'	2.13	0.48
1:0:1519:G:O2'	1:0:1520:G:H5'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1541:G:N2	1:0:1562:G:N2	2.61	0.48
1:0:1662:G:O5'	1:0:1662:G:H8	1.96	0.48
1:0:1691:G:N2	1:0:1694:A:H61	2.06	0.48
1:0:1707:A:N7	1:0:1714:A:C2	2.79	0.48
1:0:2214:G:O2'	1:0:2215:C:H5'	2.14	0.48
1:0:2544:A:H2'	1:0:2545:A:C1'	2.43	0.48
1:0:2655:C:O2'	1:0:2656:G:H5'	2.12	0.48
1:0:2700:U:H2'	1:0:2701:A:H8	1.77	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
1:0:541:C:O2	1:0:541:C:H2'	2.12	0.48
1:0:605:G:H2'	1:0:606:A:C8	2.49	0.48
1:0:749:C:H2'	1:0:750:C:C6	2.48	0.48
1:0:789:G:H4'	1:0:790:A:C8	2.49	0.48
1:0:968:C:H41	1:0:970:A:C1'	2.25	0.48
1:0:1558:C:H2'	1:0:1559:G:C5'	2.44	0.48
1:0:1811:A:H2'	1:0:1811:A:N3	2.28	0.48
1:0:2225:G:O2'	1:0:2226:A:H5'	2.14	0.48
1:0:2655:C:H2'	1:0:2656:G:O4'	2.14	0.48
1:0:2863:U:H2'	1:0:2864:C:H6	1.77	0.48
1:0:65:C:C2'	1:0:66:U:H5'	2.43	0.48
1:0:542:A:N6	1:0:570:G:H21	2.12	0.48
1:0:643:A:O2'	1:0:644:A:H5'	2.12	0.48
1:0:788:G:N2	1:0:801:A:OP2	2.46	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.48	0.48
1:0:2246:A:H2'	1:0:2246:A:N3	2.29	0.48
1:0:2302:G:N2	1:0:2314:A:H2	2.12	0.48
1:0:2523:G:H2'	1:0:2524:G:H8	1.78	0.48
2:9:85:G:O2'	2:9:86:A:H5'	2.13	0.48
1:0:68:C:O2	1:0:68:C:H2'	2.13	0.48
1:0:242:A:O2'	1:0:243:G:P	2.71	0.48
1:0:333:A:H2'	1:0:350:U:O2	2.14	0.48
1:0:581:A:N3	1:0:582:G:H1'	2.29	0.48
1:0:1206:G:H2'	1:0:1207:G:H8	1.79	0.48
1:0:1287:A:C5	1:0:1315:A:C2	3.02	0.48
1:0:1316:G:H8	1:0:1316:G:OP2	1.97	0.48
1:0:1512:A:H8	1:0:1512:A:O5'	1.96	0.48
1:0:2378:G:N2	1:0:2397:A:H1'	2.29	0.48
1:0:2683:C:O5'	1:0:2683:C:H6	1.97	0.48
1:0:2733:A:H2'	1:0:2734:U:O4'	2.12	0.48
2:9:32:C:H4'	2:9:60:A:C2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:91:A:H8	2:9:91:A:O5'	1.97	0.48
1:0:73:A:H4'	1:0:74:G:C1'	2.43	0.48
1:0:451:A:H2'	1:0:452:G:H8	1.74	0.48
1:0:495:C:H2'	1:0:496:C:C6	2.49	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.78	0.48
1:0:942:U:H2'	1:0:943:U:O4'	2.13	0.48
1:0:1459:U:OP1	1:0:1459:U:H3'	2.13	0.48
1:0:1491:C:H2'	1:0:1492:A:C8	2.47	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:2302:G:H2'	1:0:2303:C:H5'	1.96	0.48
1:0:430:C:H2'	1:0:431:G:O4'	2.14	0.48
1:0:480:G:O5'	1:0:480:G:H8	1.97	0.48
1:0:843:G:H5'	1:0:956:A:H1'	1.96	0.48
1:0:1062:G:C5	1:0:1063:C:H5	2.32	0.48
1:0:1066:G:C2'	1:0:1067:G:H4'	2.41	0.48
1:0:1333:G:N2	1:0:1344:C:N4	2.61	0.48
1:0:1663:C:O5'	1:0:1663:C:H6	1.97	0.48
1:0:2795:A:N3	1:0:2795:A:H2'	2.29	0.48
1:0:38:G:H1	1:0:453:U:H3	1.60	0.48
1:0:73:A:H4'	1:0:74:G:O4'	2.14	0.48
1:0:297:A:H2'	1:0:298:C:H6	1.78	0.48
1:0:397:U:H2'	1:0:398:C:H6	1.79	0.48
1:0:470:U:C5	1:0:480:G:N2	2.81	0.48
1:0:929:A:H2'	1:0:930:A:C4'	2.41	0.48
1:0:987:G:H4'	1:0:1167:A:N7	2.28	0.48
1:0:1401:G:HO2'	1:0:1540:C:HO2'	1.61	0.48
1:0:1425:G:H2'	1:0:1426:U:C6	2.49	0.48
1:0:1654:A:H4'	1:0:2690:A:HO2'	1.77	0.48
1:0:1732:U:H2'	1:0:1733:U:O5'	2.14	0.48
1:0:2008:C:O5'	1:0:2008:C:H6	1.95	0.48
1:0:2828:C:O2'	1:0:2829:A:H5'	2.14	0.48
2:9:42:U:H3'	2:9:43:G:H5''	1.96	0.48
1:0:957:G:N2	1:0:983:G:H1'	2.29	0.47
1:0:1267:A:H5''	1:0:1268:U:H5'	1.96	0.47
1:0:1453:A:H2'	1:0:1454:U:H5'	1.96	0.47
1:0:1653:C:O2	1:0:1751:A:H2	1.97	0.47
1:0:1778:U:H5'	1:0:2568:A:O2'	2.14	0.47
1:0:1846:A:H2'	1:0:1847:G:O4'	2.14	0.47
1:0:1937:G:N3	1:0:2530:C:C5'	2.77	0.47
1:0:2166:G:O2'	1:0:2167:A:H5'	2.13	0.47
1:0:2182:A:H3'	1:0:2183:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2384:G:H2'	1:0:2390:A:H62	1.79	0.47
1:0:2397:A:H2'	1:0:2398:U:O4'	2.14	0.47
1:0:2446:C:H2'	1:0:2447:G:C8	2.49	0.47
1:0:2484:G:C8	1:0:2555:G:N2	2.82	0.47
1:0:2555:G:H2'	1:0:2555:G:N3	2.29	0.47
1:0:181:A:H5''	1:0:182:G:OP1	2.13	0.47
1:0:295:C:N4	1:0:296:A:N6	2.62	0.47
1:0:573:C:H2'	1:0:574:C:O4'	2.14	0.47
1:0:733:G:H2'	1:0:734:G:H8	1.79	0.47
1:0:1416:A:O2'	1:0:1417:C:H5'	2.13	0.47
1:0:1781:C:H2'	1:0:1782:A:C8	2.48	0.47
1:0:1994:U:H2'	1:0:1995:G:C5'	2.43	0.47
1:0:70:A:P	1:0:110:U:H2'	2.54	0.47
1:0:222:G:H1'	1:0:397:U:O2	2.14	0.47
1:0:544:U:H2'	1:0:545:C:O4'	2.14	0.47
1:0:843:G:OP1	1:0:843:G:C8	2.66	0.47
1:0:1487:C:H2'	1:0:1488:G:H8	1.79	0.47
1:0:1706:A:N6	1:0:1714:A:H2'	2.29	0.47
1:0:1848:U:H2'	1:0:1849:G:O4'	2.14	0.47
1:0:1976:U:H2'	1:0:1976:U:O2	2.14	0.47
1:0:2617:G:H22	1:0:2755:A:H2'	1.80	0.47
2:9:35:C:H2'	2:9:36:A:O4'	2.14	0.47
1:0:4:C:O2'	1:0:5:A:H5'	2.13	0.47
1:0:9:U:H3	1:0:2608:A:H62	1.62	0.47
1:0:486:U:H2'	1:0:487:G:H5'	1.97	0.47
1:0:575:U:H2'	1:0:576:A:H8	1.77	0.47
1:0:699:G:N2	1:0:801:A:C2	2.72	0.47
1:0:721:C:H2'	1:0:722:C:C6	2.49	0.47
1:0:833:A:N3	1:0:954:U:O2'	2.48	0.47
1:0:860:U:H2'	1:0:861:G:H5'	1.96	0.47
1:0:1066:G:H3'	1:0:1067:G:H5''	1.97	0.47
1:0:1905:G:H2'	1:0:1906:U:O4'	2.14	0.47
1:0:1979:C:H2'	1:0:1979:C:O2	2.13	0.47
1:0:2047:C:H1'	1:0:2429:A:C2	2.49	0.47
1:0:2079:A:H2'	1:0:2080:U:C6	2.49	0.47
1:0:2324:G:N7	1:0:2351:G:C2	2.82	0.47
1:0:2560:G:O6	1:0:2589:C:H5	1.97	0.47
1:0:2712:G:H5'	1:0:2713:A:C8	2.50	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
1:0:757:U:H4'	1:0:1675:C:H4'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:859:U:H4'	1:0:860:U:H5	1.79	0.47
1:0:1001:A:H3'	1:0:1002:C:H5''	1.96	0.47
1:0:1012:A:H61	1:0:1165:G:H1'	1.80	0.47
1:0:2212:U:H2'	1:0:2213:G:C8	2.50	0.47
1:0:2245:A:C2'	1:0:2246:A:OP2	2.61	0.47
1:0:2490:U:H2'	1:0:2491:C:C6	2.49	0.47
1:0:2651:U:H2'	1:0:2652:G:O4'	2.14	0.47
1:0:2652:G:H2'	1:0:2653:A:C8	2.39	0.47
1:0:2671:C:O2'	1:0:2672:U:H5'	2.14	0.47
1:0:2838:U:O2'	1:0:2839:G:H5'	2.15	0.47
2:9:34:C:O5'	2:9:34:C:H6	1.98	0.47
1:0:942:U:H2'	1:0:943:U:C4'	2.45	0.47
1:0:986:A:H2'	1:0:987:G:H5'	1.96	0.47
1:0:1171:A:H2'	1:0:1172:U:H6	1.78	0.47
1:0:1671:A:O4'	1:0:2798:A:H5'	2.15	0.47
1:0:1947:G:H8	1:0:1947:G:O5'	1.97	0.47
1:0:2058:U:H5'	1:0:2576:G:H1'	1.97	0.47
1:0:28:A:O3'	1:0:460:U:O4	2.33	0.47
1:0:70:A:OP2	1:0:111:G:O5'	2.33	0.47
1:0:118:U:H5''	1:0:120:G:OP2	2.15	0.47
1:0:158:A:H2'	1:0:159:A:O4'	2.14	0.47
1:0:192:G:H4'	1:0:193:A:O5'	2.15	0.47
1:0:445:A:C2'	1:0:446:C:H5'	2.45	0.47
1:0:750:C:H2'	1:0:751:G:H8	1.79	0.47
1:0:787:A:C2'	1:0:788:G:C8	2.97	0.47
1:0:1028:G:H2'	1:0:1029:C:O4'	2.14	0.47
1:0:1110:G:H2'	1:0:1111:C:C6	2.49	0.47
1:0:1199:U:H3'	1:0:1200:G:H5''	1.97	0.47
1:0:1304:U:C2'	1:0:1305:C:H5'	2.44	0.47
1:0:1356:G:H4'	1:0:1613:G:H2'	1.96	0.47
1:0:1359:G:H5'	1:0:1359:G:H8	1.79	0.47
1:0:1363:C:H2'	1:0:1364:C:O4'	2.14	0.47
1:0:1449:C:O2'	1:0:1450:G:H5'	2.13	0.47
1:0:1857:G:H2'	1:0:1859:A:OP2	2.14	0.47
1:0:1989:C:O5'	1:0:1989:C:H6	1.98	0.47
1:0:2298:U:O4	2:9:15:A:N6	2.48	0.47
1:0:2523:G:H2'	1:0:2524:G:O4'	2.14	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
1:0:80:A:H2'	1:0:81:C:C6	2.49	0.47
1:0:1715:A:N3	1:0:1717:A:O4'	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1930:C:C4	1:0:1931:G:N7	2.83	0.47
1:0:2042:A:H3'	1:0:2042:A:C8	2.50	0.47
1:0:2094:C:C4	1:0:2103:G:H1'	2.50	0.47
1:0:2426:G:O2'	1:0:2427:A:P	2.73	0.47
1:0:2426:G:C6	1:0:2479:U:H2'	2.50	0.47
1:0:2660:C:O2'	1:0:2661:G:H5'	2.15	0.47
1:0:2713:A:O2'	1:0:2714:A:H5'	2.15	0.47
2:9:24:U:H2'	2:9:25:G:O5'	2.14	0.47
1:0:433:G:N2	1:0:434:C:H1'	2.30	0.47
1:0:1783:G:C6	1:0:1820:G:H1'	2.50	0.47
1:0:1793:A:H2'	1:0:1794:A:C8	2.50	0.47
1:0:1961:A:O2'	1:0:1962:C:H5'	2.15	0.47
1:0:2090:U:H2'	1:0:2091:C:H6	1.79	0.47
1:0:2169:A:H2'	1:0:2170:C:H5'	1.97	0.47
1:0:12:U:C2'	1:0:13:A:H5'	2.45	0.47
1:0:201:G:C2	1:0:202:A:C4	3.03	0.47
1:0:398:C:O2'	1:0:401:G:N2	2.47	0.47
1:0:612:G:C4'	1:0:613:A:H4'	2.46	0.47
1:0:712:A:H2'	1:0:713:G:O4'	2.15	0.47
1:0:763:A:H5''	1:0:1631:C:H42	1.80	0.47
1:0:940:G:C3'	1:0:941:U:C5'	2.76	0.47
1:0:1135:C:H2'	1:0:1136:G:H8	1.80	0.47
1:0:1263:G:O2'	1:0:1264:C:P	2.73	0.47
1:0:1323:G:H1'	1:0:1627:C:H5'	1.97	0.47
1:0:1792:C:H6	1:0:1792:C:O5'	1.97	0.47
1:0:1934:U:O2	1:0:1936:A:H8	1.98	0.47
1:0:2447:G:N2	1:0:2461:G:OP2	2.48	0.47
1:0:2791:C:C2	1:0:2806:G:N2	2.83	0.47
2:9:42:U:O4	2:9:45:C:OP2	2.33	0.47
1:0:65:C:O2'	1:0:66:U:H5'	2.15	0.46
1:0:682:G:H4'	1:0:816:U:OP1	2.15	0.46
1:0:955:G:H5'	1:0:956:A:C5'	2.45	0.46
1:0:1519:G:H2'	1:0:1520:G:C8	2.50	0.46
1:0:1552:C:H2'	1:0:1553:G:O4'	2.15	0.46
1:0:1657:A:H2'	1:0:1658:A:O4'	2.16	0.46
1:0:1754:G:OP1	1:0:1754:G:H4'	2.14	0.46
1:0:2202:G:H3'	1:0:2203:G:H8	1.80	0.46
1:0:2204:A:H1'	1:0:2205:C:C5	2.50	0.46
1:0:2209:G:H2'	1:0:2210:C:H6	1.81	0.46
1:0:2395:C:C2'	1:0:2396:C:H5''	2.46	0.46
1:0:2687:G:H2'	1:0:2688:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:68:A:C2	2:9:110:U:C4	3.03	0.46
1:0:167:A:H2'	1:0:168:A:O4'	2.14	0.46
1:0:192:G:C4'	1:0:193:A:H4'	2.44	0.46
1:0:537:C:C6	1:0:2759:U:H2'	2.50	0.46
1:0:764:A:N3	1:0:764:A:C2'	2.78	0.46
1:0:889:C:O2'	1:0:890:U:H5'	2.16	0.46
1:0:1362:A:O5'	1:0:1362:A:H8	1.98	0.46
1:0:1801:C:H1'	1:0:2207:G:O2'	2.14	0.46
1:0:2266:A:H62	1:0:2323:U:H1'	1.70	0.46
1:0:2449:G:O6	1:0:2455:A:H2	1.98	0.46
1:0:2607:C:H3'	1:0:2608:A:C5'	2.45	0.46
1:0:2618:A:C5	1:0:2619:G:H1'	2.50	0.46
1:0:2800:C:O5'	1:0:2800:C:H6	1.97	0.46
2:9:45:C:H42	2:9:47:A:H62	1.63	0.46
1:0:514:G:N3	1:0:514:G:C2'	2.78	0.46
1:0:796:A:H2	1:0:1770:U:H5'	1.80	0.46
1:0:813:A:O2'	1:0:815:A:C5'	2.59	0.46
1:0:1436:G:H8	1:0:1436:G:O5'	1.98	0.46
1:0:1523:A:H8	1:0:1523:A:O5'	1.98	0.46
1:0:1543:G:H2'	1:0:1544:A:O4'	2.14	0.46
1:0:1763:G:N2	1:0:1765:C:C5'	2.75	0.46
1:0:1783:G:H1'	1:0:1822:C:P	2.55	0.46
1:0:1980:A:O2'	1:0:1981:A:H5'	2.16	0.46
1:0:2319:G:H2'	1:0:2320:G:C8	2.51	0.46
1:0:2560:G:N3	1:0:2560:G:C2'	2.77	0.46
1:0:2630:C:O2'	1:0:2631:C:H5'	2.16	0.46
1:0:2841:U:O2'	1:0:2842:C:H5'	2.16	0.46
1:0:80:A:O2'	1:0:81:C:H5'	2.16	0.46
1:0:509:U:C2'	1:0:510:G:H5'	2.42	0.46
1:0:1132:C:O2'	1:0:1133:G:H5'	2.16	0.46
1:0:1213:U:N3	1:0:1260:A:C2	2.84	0.46
1:0:2015:G:OP2	1:0:2433:G:O2'	2.32	0.46
1:0:2055:G:H2'	1:0:2056:C:O4'	2.15	0.46
1:0:2335:U:H2'	1:0:2336:G:O4'	2.16	0.46
1:0:2504:G:C2	1:0:2518:C:C2	3.04	0.46
1:0:2519:C:O2	1:0:2720:A:H2	1.98	0.46
1:0:2607:C:H3'	1:0:2608:A:H5'	1.97	0.46
1:0:2770:A:C5'	1:0:2867:G:H22	2.29	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
1:0:8:A:H2'	1:0:9:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:117:A:H5'	1:0:118:U:O5'	2.16	0.46
1:0:161:U:H5'	1:0:193:A:N1	2.31	0.46
1:0:163:A:H2'	1:0:164:G:C8	2.42	0.46
1:0:431:G:H2'	1:0:432:C:C6	2.50	0.46
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:513:A:C4	1:0:515:A:N7	2.83	0.46
1:0:774:A:H3'	1:0:774:A:H8	1.80	0.46
1:0:1519:G:H2'	1:0:1520:G:H8	1.81	0.46
1:0:1538:A:O2'	1:0:1539:U:H5'	2.16	0.46
1:0:1630:A:H8	1:0:1630:A:OP2	1.98	0.46
1:0:1982:C:H5''	1:0:2703:C:O2'	2.15	0.46
1:0:2032:G:O2'	1:0:2033:C:H5'	2.15	0.46
1:0:2773:G:H3'	1:0:2774:U:H5''	1.97	0.46
1:0:15:G:C2'	1:0:16:G:H5'	2.46	0.46
1:0:174:A:H4'	1:0:2052:G:OP2	2.16	0.46
1:0:295:C:N4	1:0:296:A:H62	2.14	0.46
1:0:603:C:H2'	1:0:604:U:C6	2.51	0.46
1:0:1025:A:O2'	1:0:1026:U:H5'	2.16	0.46
1:0:1039:A:N6	1:0:1136:G:H2'	2.31	0.46
1:0:1363:C:H2'	1:0:1364:C:C6	2.51	0.46
1:0:1955:G:H2'	1:0:1956:G:H5'	1.97	0.46
1:0:2219:U:O2'	1:0:2220:A:H5'	2.15	0.46
1:0:2327:U:H2'	1:0:2328:G:C8	2.51	0.46
1:0:2345:A:H2'	1:0:2346:G:H5'	1.97	0.46
1:0:2426:G:O2'	1:0:2427:A:OP2	2.27	0.46
1:0:2474:G:H8	1:0:2474:G:O5'	1.99	0.46
1:0:2862:G:O2'	1:0:2863:U:H5'	2.15	0.46
1:0:197:G:H2'	1:0:440:U:O4	2.14	0.46
1:0:239:A:H4'	1:0:620:G:C5'	2.43	0.46
1:0:1004:A:C2'	1:0:1005:U:H5''	2.46	0.46
1:0:1253:C:H2'	1:0:1254:G:C5'	2.46	0.46
1:0:1572:C:H2'	1:0:1573:G:C5'	2.46	0.46
1:0:1664:G:H4'	1:0:1665:C:OP1	2.16	0.46
1:0:2136:G:H2'	1:0:2137:G:C8	2.51	0.46
1:0:2324:G:C4'	1:0:2326:C:H5''	2.43	0.46
1:0:2377:U:H2'	1:0:2378:G:H8	1.81	0.46
1:0:2610:G:H5'	1:0:2866:A:H4'	1.97	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
1:0:727:U:C2'	1:0:728:G:H5''	2.40	0.46
1:0:763:A:C5'	1:0:1631:C:N4	2.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:814:G:H3'	1:0:815:A:C5'	2.46	0.46
1:0:843:G:H5'	1:0:956:A:C1'	2.46	0.46
1:0:1548:U:H2'	1:0:1549:C:C6	2.50	0.46
1:0:1554:G:H2'	1:0:1555:A:O4'	2.16	0.46
1:0:1750:A:C8	1:0:2675:U:H1'	2.50	0.46
1:0:2170:C:H2'	1:0:2171:U:O4'	2.16	0.46
1:0:224:G:H4'	1:0:399:G:C5	2.51	0.46
1:0:1141:U:O2'	1:0:1142:G:OP1	2.26	0.46
1:0:1645:U:O2	1:0:2677:U:H4'	2.16	0.46
1:0:1801:C:H1'	1:0:2208:U:H5'	1.98	0.46
1:0:2281:C:O5'	1:0:2281:C:H6	1.99	0.46
1:0:2454:C:H5''	1:0:2455:A:OP2	2.16	0.46
1:0:2813:G:O2'	1:0:2814:G:H5'	2.15	0.46
1:0:83:A:H5''	1:0:84:G:OP1	2.16	0.46
1:0:336:A:H2'	1:0:337:G:O4'	2.15	0.46
1:0:393:U:O2'	1:0:394:U:H5'	2.16	0.46
1:0:421:G:O2'	1:0:422:C:H5'	2.16	0.46
1:0:750:C:O2'	1:0:751:G:H5'	2.15	0.46
1:0:931:G:H8	1:0:931:G:O5'	1.98	0.46
1:0:1239:A:O5'	1:0:1239:A:H8	1.99	0.46
1:0:1278:A:O2'	1:0:1279:G:P	2.74	0.46
1:0:1350:G:H2'	1:0:1351:G:H8	1.81	0.46
1:0:1666:G:H2'	1:0:1667:A:C8	2.51	0.46
1:0:1721:G:O2'	1:0:1722:G:H5'	2.15	0.46
1:0:1764:A:H62	1:0:1821:A:H1'	1.81	0.46
1:0:1802:A:H2'	1:0:1803:G:O4'	2.16	0.46
1:0:1872:A:H2'	1:0:1873:A:C8	2.50	0.46
1:0:2803:C:C2'	1:0:2804:G:H5'	2.46	0.46
1:0:2876:C:H2'	1:0:2877:A:O4'	2.16	0.46
2:9:94:G:H2'	2:9:94:G:N3	2.30	0.46
1:0:825:C:O2'	1:0:826:U:H5'	2.16	0.45
1:0:1368:G:N2	1:0:1390:G:H1'	2.31	0.45
1:0:1643:A:H1'	1:0:1657:A:C2	2.51	0.45
1:0:1672:A:N1	1:0:2032:G:H5''	2.31	0.45
1:0:1683:G:H2'	1:0:1684:G:C5'	2.46	0.45
1:0:2783:U:OP1	1:0:2783:U:O4'	2.34	0.45
1:0:2814:G:O2'	1:0:2815:C:H5'	2.15	0.45
1:0:2841:U:O2'	1:0:2842:C:C5'	2.64	0.45
1:0:322:A:H2'	1:0:322:A:N3	2.31	0.45
1:0:651:C:C3'	1:0:652:C:C5'	2.93	0.45
1:0:770:U:C2'	1:0:771:C:H5'	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:835:U:H2'	1:0:836:G:C8	2.51	0.45
1:0:1038:U:H2'	1:0:1039:A:C8	2.50	0.45
1:0:1038:U:C4	1:0:2467:A:H5'	2.51	0.45
1:0:1223:G:O2'	1:0:1224:A:OP2	2.31	0.45
1:0:1337:G:H1'	1:0:1632:A:N6	2.31	0.45
1:0:1452:U:O2'	1:0:1453:A:H5'	2.16	0.45
1:0:1636:G:H2'	1:0:1637:U:C6	2.52	0.45
1:0:1721:G:H2'	1:0:1722:G:O4'	2.16	0.45
1:0:1872:A:H1'	1:0:2070:G:H5'	1.97	0.45
1:0:2015:G:O2'	1:0:2016:A:OP1	2.31	0.45
1:0:2164:G:H2'	1:0:2165:A:C8	2.45	0.45
1:0:2455:A:C2'	1:0:2456:U:H5'	2.46	0.45
1:0:218:A:H5'	1:0:220:U:H1'	1.99	0.45
1:0:1685:A:H2'	1:0:1686:A:OP2	2.16	0.45
1:0:1685:A:H2	1:0:1687:C:C2	2.33	0.45
1:0:1740:G:O2'	1:0:1741:G:H5'	2.16	0.45
1:0:1870:U:O5'	1:0:1870:U:H6	1.99	0.45
1:0:2093:G:H2'	1:0:2094:C:H6	1.81	0.45
1:0:2657:G:O2'	1:0:2658:A:H5'	2.16	0.45
1:0:2748:C:H2'	1:0:2749:A:O4'	2.17	0.45
2:9:92:G:H2'	2:9:93:G:C5'	2.39	0.45
2:9:112:A:H2'	2:9:113:G:C8	2.51	0.45
1:0:674:U:H2'	1:0:675:C:C6	2.52	0.45
1:0:1066:G:H3'	1:0:1067:G:C5'	2.46	0.45
1:0:1343:C:O2'	1:0:1344:C:H5'	2.16	0.45
1:0:1383:C:O2'	1:0:1384:G:H5'	2.16	0.45
1:0:1981:A:H4'	1:0:2704:U:O2'	2.16	0.45
1:0:2032:G:N2	1:0:2599:U:C2	2.84	0.45
1:0:2094:C:N4	1:0:2103:G:N3	2.65	0.45
1:0:2306:A:H2'	1:0:2307:A:C8	2.52	0.45
1:0:2343:C:H2'	1:0:2344:G:O4'	2.16	0.45
1:0:4:C:H2'	1:0:5:A:C8	2.52	0.45
1:0:608:G:H2'	1:0:609:U:H6	1.79	0.45
1:0:952:A:H2'	1:0:953:G:O4'	2.16	0.45
1:0:1398:G:O2'	1:0:1399:C:H5'	2.17	0.45
1:0:1884:A:O2'	1:0:1885:C:H5'	2.17	0.45
1:0:1927:U:O2	1:0:1927:U:H2'	2.16	0.45
1:0:2354:G:N2	1:0:2357:A:OP2	2.46	0.45
1:0:2392:G:H2'	1:0:2393:G:O4'	2.17	0.45
1:0:2515:G:H2'	1:0:2516:U:C6	2.52	0.45
1:0:2625:U:O5'	1:0:2625:U:H6	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2687:G:O2'	1:0:2688:G:H5'	2.16	0.45
1:0:2790:C:H2'	1:0:2791:C:C6	2.51	0.45
1:0:2844:G:C2'	1:0:2845:C:H5'	2.46	0.45
1:0:3:U:H6	1:0:3:U:O5'	1.99	0.45
1:0:41:G:H2'	1:0:42:G:C8	2.52	0.45
1:0:538:A:C2'	1:0:539:A:H5''	2.46	0.45
1:0:689:A:C2'	1:0:690:A:H5'	2.47	0.45
1:0:839:U:H5''	1:0:2408:G:OP2	2.17	0.45
1:0:1087:C:C2'	1:0:1088:A:H5'	2.47	0.45
1:0:1090:C:H2'	1:0:1091:C:O4'	2.17	0.45
1:0:1135:C:H2'	1:0:1136:G:C8	2.52	0.45
1:0:1982:C:H5''	1:0:2703:C:HO2'	1.80	0.45
1:0:2245:A:H2'	1:0:2246:A:OP2	2.17	0.45
1:0:305:A:H2'	1:0:306:G:O4'	2.16	0.45
1:0:755:C:H2'	1:0:756:C:C6	2.49	0.45
1:0:768:U:H5'	1:0:1285:A:N1	2.32	0.45
1:0:1288:A:H2'	1:0:1289:A:O4'	2.17	0.45
1:0:1621:C:H4'	1:0:1626:A:N6	2.29	0.45
1:0:1672:A:C2	1:0:1673:C:H1'	2.51	0.45
1:0:2225:G:H2'	1:0:2226:A:C8	2.48	0.45
1:0:2509:A:C2'	1:0:2510:A:H5''	2.34	0.45
1:0:2727:G:H2'	1:0:2728:A:H5''	1.98	0.45
2:9:114:C:O5'	2:9:114:C:C6	2.67	0.45
1:0:456:C:O2'	1:0:457:C:H5'	2.15	0.45
1:0:929:A:C3'	1:0:930:A:H5''	2.35	0.45
1:0:1184:G:C2'	1:0:1185:C:H5''	2.46	0.45
1:0:1622:G:H5''	1:0:1624:A:O4'	2.17	0.45
1:0:1775:A:H5''	1:0:1776:A:OP1	2.17	0.45
1:0:1972:G:O2'	1:0:1973:C:H5'	2.16	0.45
1:0:2473:G:N2	1:0:2474:G:C4	2.85	0.45
1:0:2522:G:C4	1:0:2745:A:H2'	2.52	0.45
1:0:2535:C:C2'	1:0:2536:G:H5'	2.46	0.45
1:0:200:A:N6	1:0:435:A:N1	2.65	0.45
1:0:1440:G:C6	1:0:1441:A:N7	2.84	0.45
1:0:1639:U:O2'	1:0:1640:C:H5'	2.17	0.45
1:0:2205:C:C2'	1:0:2206:C:H5'	2.47	0.45
1:0:2724:G:O2'	1:0:2725:C:H5'	2.17	0.45
2:9:104:A:C8	2:9:105:G:N7	2.85	0.45
1:0:579:G:H2'	1:0:2013:A:N7	2.31	0.45
1:0:1496:G:H1	1:0:1527:G:H1	1.65	0.45
1:0:1662:G:H5''	1:0:1663:C:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1713:G:N7	1:0:1714:A:N7	2.65	0.45
1:0:75:C:H2'	1:0:76:C:C5'	2.32	0.44
1:0:238:G:O4'	1:0:618:A:H2	1.99	0.44
1:0:562:G:H2'	1:0:563:U:O4'	2.17	0.44
1:0:587:A:OP2	1:0:587:A:H8	2.00	0.44
1:0:1181:C:O5'	1:0:1181:C:H6	2.00	0.44
1:0:1625:A:H3'	1:0:1625:A:N3	2.32	0.44
1:0:1703:C:H2'	1:0:1704:G:O4'	2.17	0.44
1:0:1756:C:H2'	1:0:1757:C:H6	1.82	0.44
1:0:1854:G:O2'	1:0:1855:G:H5'	2.17	0.44
1:0:2493:U:O2	1:0:2549:G:O6	2.35	0.44
1:0:2622:G:O2'	1:0:2623:A:H5'	2.16	0.44
1:0:367:G:C3'	1:0:368:A:H5''	2.46	0.44
1:0:580:A:C8	1:0:2013:A:N6	2.85	0.44
1:0:830:C:O2'	1:0:852:U:H5''	2.16	0.44
1:0:831:G:H5'	1:0:852:U:OP1	2.17	0.44
1:0:991:A:H8	1:0:991:A:O5'	2.00	0.44
1:0:1072:U:O5'	1:0:1072:U:H6	1.99	0.44
1:0:1077:U:H6	1:0:1077:U:O5'	2.00	0.44
1:0:1300:A:H2	1:0:1666:G:H4'	1.81	0.44
1:0:1470:G:N2	1:0:2684:A:H1'	2.33	0.44
1:0:1540:C:H2'	1:0:1541:G:H8	1.83	0.44
1:0:2311:U:O2'	1:0:2312:A:H8	2.00	0.44
1:0:2404:A:O2'	1:0:2405:A:OP2	2.27	0.44
1:0:2726:U:H3'	1:0:2727:G:H8	1.82	0.44
1:0:65:C:H2'	1:0:66:U:O4'	2.17	0.44
1:0:81:C:H4'	1:0:307:C:H5'	1.99	0.44
1:0:573:C:O2'	1:0:574:C:H5'	2.17	0.44
1:0:689:A:H8	1:0:2052:G:N2	2.08	0.44
1:0:704:G:O2'	1:0:705:C:H5'	2.17	0.44
1:0:967:G:N3	1:0:970:A:C8	2.86	0.44
1:0:1449:C:C2'	1:0:1450:G:H5'	2.47	0.44
1:0:1714:A:H5'	1:0:1715:A:O5'	2.18	0.44
1:0:2042:A:C2	1:0:2482:A:N7	2.85	0.44
1:0:2638:G:O5'	1:0:2638:G:H8	2.00	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
1:0:158:A:C2	1:0:447:U:H4'	2.51	0.44
1:0:198:A:O2'	1:0:199:A:P	2.76	0.44
1:0:450:C:H2'	1:0:451:A:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:611:C:O2'	1:0:614:G:H5''	2.18	0.44
1:0:749:C:H2'	1:0:750:C:H6	1.81	0.44
1:0:932:G:H2'	1:0:933:G:H8	1.82	0.44
1:0:1300:A:C2	1:0:1301:U:C2	3.06	0.44
1:0:1322:G:H21	1:0:1627:C:H5'	1.83	0.44
1:0:1346:C:P	1:0:1346:C:C6	3.05	0.44
1:0:1558:C:H2'	1:0:1559:G:O4'	2.18	0.44
1:0:1858:C:H2'	1:0:1859:A:C8	2.49	0.44
1:0:2093:G:H2'	1:0:2094:C:C6	2.53	0.44
1:0:2484:G:C2'	1:0:2485:U:H5''	2.47	0.44
1:0:2585:C:O2'	1:0:2586:G:H5'	2.17	0.44
1:0:181:A:H4'	1:0:182:G:OP1	2.16	0.44
1:0:192:G:O2'	1:0:193:A:C5'	2.66	0.44
1:0:204:A:N1	1:0:2386:G:H1'	2.33	0.44
1:0:491:A:H2	1:0:509:U:O2	2.00	0.44
1:0:556:A:C2'	1:0:557:U:H5'	2.38	0.44
1:0:583:C:O2'	1:0:584:A:P	2.76	0.44
1:0:675:C:H2'	1:0:676:G:H8	1.83	0.44
1:0:717:G:H1'	1:0:740:A:H61	1.82	0.44
1:0:1190:C:H2'	1:0:1191:G:C8	2.53	0.44
1:0:1388:C:O2'	1:0:1389:C:H5'	2.18	0.44
1:0:1556:A:H2'	1:0:1557:G:C8	2.51	0.44
1:0:1904:G:O2'	1:0:1905:G:H5'	2.17	0.44
1:0:2033:C:H2'	1:0:2034:A:O4'	2.18	0.44
1:0:2496:C:C4	1:0:2521:A:C5	3.06	0.44
1:0:2594:U:H5'	1:0:2594:U:C6	2.53	0.44
1:0:2858:A:H3'	1:0:2859:U:H5'	1.99	0.44
2:9:61:A:O5'	2:9:61:A:C8	2.60	0.44
1:0:879:A:N3	1:0:879:A:H2'	2.33	0.44
1:0:1034:U:H2'	1:0:1035:G:O4'	2.17	0.44
1:0:1410:U:HO2'	1:0:1411:C:P	2.41	0.44
1:0:1680:U:O2'	1:0:1681:A:C5'	2.64	0.44
1:0:1714:A:H5''	1:0:1715:A:C8	2.53	0.44
1:0:1826:U:O2	1:0:1953:A:N7	2.51	0.44
1:0:2702:G:C5	1:0:2703:C:C4	3.05	0.44
2:9:104:A:C4	2:9:105:G:C8	3.06	0.44
1:0:78:C:H2'	1:0:79:G:H5'	2.00	0.44
1:0:1123:G:O2'	1:0:1124:U:H5'	2.18	0.44
1:0:1255:A:H2'	1:0:1256:C:C6	2.53	0.44
1:0:1300:A:C2	1:0:1666:G:C4'	3.01	0.44
1:0:1686:A:H2'	1:0:1687:C:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1734:C:C5	1:0:1735:G:H1'	2.53	0.44
1:0:1937:G:H21	1:0:2530:C:H5''	1.82	0.44
1:0:1947:G:H5''	1:0:1948:C:OP1	2.18	0.44
1:0:2009:U:H6	1:0:2009:U:O5'	2.00	0.44
1:0:2264:C:H2'	1:0:2265:A:H5'	2.00	0.44
1:0:204:A:C6	1:0:2386:G:H1'	2.53	0.44
1:0:483:A:H2'	1:0:484:G:C5'	2.46	0.44
1:0:701:U:H4'	1:0:1771:A:C2	2.53	0.44
1:0:1198:C:O5'	1:0:1199:U:H4'	2.18	0.44
1:0:1327:C:OP1	1:0:1345:G:H5'	2.18	0.44
1:0:1411:C:H2'	1:0:1412:C:O4'	2.18	0.44
1:0:1572:C:H2'	1:0:1573:G:H5'	1.99	0.44
1:0:1920:A:N6	1:0:1923:U:H6	2.16	0.44
1:0:2064:U:H2'	1:0:2065:A:H8	1.83	0.44
1:0:2070:G:O5'	1:0:2070:G:H8	2.00	0.44
1:0:2495:G:C2'	1:0:2496:C:O4'	2.65	0.44
1:0:2680:U:H3'	1:0:2681:A:H5'	2.00	0.44
1:0:357:A:H2'	1:0:357:A:N3	2.31	0.44
1:0:676:G:O2'	1:0:951:G:H4'	2.18	0.44
1:0:832:A:H2	1:0:954:U:H1'	1.81	0.44
1:0:1112:U:H2'	1:0:1113:C:C6	2.53	0.44
1:0:1365:U:H1'	1:0:1586:A:H2	1.83	0.44
1:0:1827:G:C8	1:0:1952:A:C8	3.06	0.44
1:0:1922:U:O2'	1:0:2571:G:H1'	2.18	0.44
1:0:2783:U:H2'	1:0:2784:A:C4'	2.48	0.44
1:0:83:A:C2	1:0:98:U:H1'	2.52	0.43
1:0:146:C:N4	1:0:152:G:H1	2.16	0.43
1:0:533:C:H2'	1:0:534:U:O4'	2.18	0.43
1:0:1234:C:H2'	1:0:1235:C:H6	1.83	0.43
1:0:1370:U:O2'	1:0:1371:G:H5'	2.18	0.43
1:0:1437:A:C2'	1:0:1438:G:H5'	2.48	0.43
1:0:1440:G:C3'	1:0:1441:A:C5'	2.96	0.43
1:0:2241:U:H2'	1:0:2242:C:C6	2.53	0.43
1:0:2408:G:H3'	1:0:2409:A:C5'	2.48	0.43
1:0:559:C:O5'	1:0:559:C:H6	2.00	0.43
1:0:595:A:H62	1:0:1264:C:H42	1.65	0.43
1:0:929:A:C2	2:9:81:C:O2	2.71	0.43
1:0:1166:A:C2'	1:0:1167:A:H5''	2.49	0.43
1:0:1707:A:C2'	1:0:1708:C:H5'	2.48	0.43
1:0:1920:A:C6	1:0:1922:U:C5	3.06	0.43
1:0:2171:U:O5'	1:0:2171:U:H6	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2279:G:H2'	1:0:2280:A:C8	2.42	0.43
1:0:2438:A:N6	1:0:2473:G:C6	2.87	0.43
1:0:2459:C:H2'	1:0:2460:G:H5'	2.00	0.43
1:0:926:C:H2'	1:0:927:C:H5'	2.00	0.43
1:0:940:G:N7	1:0:941:U:C6	2.87	0.43
1:0:947:C:H2'	1:0:948:C:O4'	2.18	0.43
1:0:1010:U:C2	1:0:1168:G:N2	2.87	0.43
1:0:1053:G:H8	1:0:1053:G:O5'	2.01	0.43
1:0:1226:A:C1'	1:0:1250:A:H2	2.31	0.43
1:0:1257:U:H2'	1:0:1258:G:H8	1.81	0.43
1:0:1268:U:H5'	1:0:1269:G:H5''	1.99	0.43
1:0:1697:U:O2	1:0:1755:G:H4'	2.18	0.43
1:0:1751:A:H2'	1:0:1752:U:O4'	2.18	0.43
1:0:1778:U:O2'	1:0:1779:C:H5'	2.18	0.43
1:0:1947:G:H8	1:0:1947:G:P	2.41	0.43
1:0:2302:G:C2'	1:0:2303:C:H5'	2.48	0.43
1:0:2824:C:C2'	1:0:2825:A:OP2	2.66	0.43
1:0:90:G:H3'	1:0:91:A:H5'	2.00	0.43
1:0:329:C:O2'	1:0:330:C:H5'	2.18	0.43
1:0:567:G:O2'	1:0:568:G:H5'	2.19	0.43
1:0:1001:A:N3	1:0:1167:A:H2	2.17	0.43
1:0:1229:C:H2'	1:0:1230:C:C6	2.52	0.43
1:0:1234:C:H2'	1:0:1235:C:C6	2.54	0.43
1:0:1781:C:H2'	1:0:1782:A:N7	2.33	0.43
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.43
1:0:1915:A:N1	1:0:1956:G:H1'	2.33	0.43
1:0:2033:C:C4	1:0:2034:A:C6	3.05	0.43
1:0:2526:U:C5	1:0:2545:A:N7	2.87	0.43
2:9:48:A:C5	2:9:49:C:C5	3.06	0.43
1:0:31:C:H2'	1:0:32:C:H6	1.83	0.43
1:0:58:C:H1'	1:0:72:A:C8	2.54	0.43
1:0:220:U:H2'	1:0:221:A:H8	1.84	0.43
1:0:337:G:H2'	1:0:338:G:C8	2.54	0.43
1:0:1164:C:O2'	1:0:1165:G:H5'	2.19	0.43
1:0:1457:A:H2'	1:0:1458:A:O4'	2.19	0.43
1:0:2588:U:H5'	1:0:2589:C:OP2	2.19	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.19	0.43
1:0:2769:C:O2'	1:0:2866:A:N1	2.44	0.43
1:0:2813:G:H2'	1:0:2814:G:H5'	2.00	0.43
2:9:88:C:H2'	2:9:89:G:C8	2.53	0.43
1:0:994:A:N7	1:0:995:A:N3	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1328:C:O2'	1:0:1329:U:H5'	2.19	0.43
1:0:1487:C:O5'	1:0:1487:C:H6	2.02	0.43
1:0:1809:G:O5'	1:0:1809:G:H8	2.01	0.43
1:0:1906:U:H2'	1:0:1907:C:C6	2.54	0.43
1:0:1920:A:C2	1:0:1922:U:H5	2.37	0.43
1:0:1922:U:H1'	1:0:2570:C:HO2'	1.81	0.43
1:0:1947:G:H2'	1:0:1950:C:OP1	2.18	0.43
1:0:2093:G:O5'	1:0:2093:G:H8	2.02	0.43
2:9:59:A:H2'	2:9:60:A:C5'	2.48	0.43
1:0:658:G:H4'	1:0:2331:A:C5'	2.37	0.43
1:0:874:A:H2'	1:0:874:A:N3	2.34	0.43
1:0:1243:G:C6	1:0:1244:U:N3	2.86	0.43
1:0:1429:A:P	1:0:1429:A:H8	2.41	0.43
1:0:1471:G:H1	1:0:2682:C:N4	2.08	0.43
1:0:1558:C:O2'	1:0:1559:G:H5'	2.18	0.43
1:0:1704:G:H8	1:0:1704:G:O5'	2.01	0.43
1:0:1759:A:C6	1:0:1968:G:C6	3.07	0.43
1:0:1855:G:H4'	1:0:2390:A:H4'	2.00	0.43
1:0:2321:C:O2'	1:0:2353:G:H5''	2.17	0.43
1:0:2701:A:H2'	1:0:2702:G:O4'	2.18	0.43
1:0:2809:A:N7	1:0:2854:G:N7	2.66	0.43
1:0:2820:C:O5'	1:0:2820:C:H6	2.01	0.43
1:0:12:U:O2'	1:0:13:A:H5'	2.19	0.43
1:0:28:A:H5''	1:0:460:U:C4	2.54	0.43
1:0:167:A:N6	1:0:812:G:O2'	2.39	0.43
1:0:636:G:H2'	1:0:637:G:C5'	2.49	0.43
1:0:788:G:N2	1:0:800:U:O3'	2.51	0.43
1:0:796:A:C2	1:0:1770:U:H5'	2.54	0.43
1:0:1005:U:O2	1:0:1007:A:N7	2.51	0.43
1:0:1333:G:C6	1:0:1342:U:H5'	2.54	0.43
1:0:1840:A:H2'	1:0:1841:G:H5'	2.00	0.43
1:0:2044:G:C8	1:0:2480:C:H4'	2.53	0.43
1:0:2554:C:O5'	1:0:2554:C:H6	2.02	0.43
1:0:2770:A:H5'	1:0:2867:G:N1	2.33	0.43
1:0:2784:A:H3'	1:0:2785:A:H8	1.83	0.43
1:0:73:A:H4'	1:0:74:G:H1'	2.00	0.43
1:0:192:G:O2'	1:0:193:A:OP2	2.34	0.43
1:0:201:G:H2'	1:0:202:A:C8	2.53	0.43
1:0:531:G:O2'	1:0:532:A:H5'	2.19	0.43
1:0:538:A:C3'	1:0:539:A:H5''	2.49	0.43
1:0:542:A:C8	1:0:542:A:H3'	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:570:G:H2'	1:0:571:U:H5''	2.01	0.43
1:0:632:A:H3'	1:0:632:A:N3	2.33	0.43
1:0:928:G:H2'	1:0:929:A:O5'	2.19	0.43
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.43
1:0:1975:G:HO2'	1:0:1976:U:P	2.41	0.43
1:0:2124:C:O2'	1:0:2125:C:H5'	2.19	0.43
1:0:2315:A:HO2'	1:0:2364:C:H5''	1.83	0.43
1:0:2619:G:C6	1:0:2755:A:C2	3.07	0.43
1:0:2826:C:N4	1:0:2827:G:C6	2.87	0.43
1:0:502:A:C2'	1:0:503:G:H5'	2.49	0.43
1:0:1226:A:O2'	1:0:1227:A:H5'	2.19	0.43
1:0:1300:A:H61	1:0:1992:G:N2	2.17	0.43
1:0:1800:A:H5''	1:0:1801:C:OP1	2.18	0.43
1:0:1834:G:N2	1:0:1835:C:H1'	2.33	0.43
1:0:2097:A:H5'	1:0:2105:U:OP1	2.19	0.43
1:0:2215:C:H2'	1:0:2216:G:O4'	2.19	0.43
1:0:2422:C:C2	1:0:2423:G:C8	3.07	0.43
2:9:108:G:H8	2:9:108:G:O5'	2.01	0.43
1:0:16:G:O2'	1:0:17:G:H5'	2.19	0.42
1:0:128:C:H2'	1:0:129:A:C5'	2.49	0.42
1:0:426:C:O5'	1:0:426:C:H6	2.00	0.42
1:0:475:U:C4	1:0:476:G:C6	3.07	0.42
1:0:701:U:H4'	1:0:1771:A:H2	1.83	0.42
1:0:1105:U:O2	1:0:1107:A:N7	2.51	0.42
1:0:1385:C:H2'	1:0:1386:A:O4'	2.18	0.42
1:0:2019:C:H2'	1:0:2020:G:O5'	2.19	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
1:0:161:U:H5'	1:0:193:A:C2	2.54	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.54	0.42
1:0:689:A:H1'	1:0:2422:C:O4'	2.19	0.42
1:0:691:C:O2'	1:0:692:C:H5'	2.19	0.42
1:0:697:G:O2'	1:0:801:A:N6	2.53	0.42
1:0:774:A:H3'	1:0:774:A:C8	2.53	0.42
1:0:781:G:H5'	1:0:1638:G:C4'	2.49	0.42
1:0:935:C:O2'	1:0:936:A:H5'	2.18	0.42
1:0:1353:A:C2	1:0:1618:U:C4	3.08	0.42
1:0:1447:U:H1'	1:0:1577:G:H22	1.82	0.42
1:0:1487:C:H2'	1:0:1488:G:C8	2.53	0.42
1:0:1790:G:O3'	1:0:1791:C:H6	2.02	0.42
1:0:2030:U:O2'	1:0:2031:A:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2163:U:H2'	1:0:2164:G:H8	1.83	0.42
1:0:2268:G:H5''	1:0:2363:G:HO2'	1.82	0.42
1:0:2270:U:O5'	1:0:2270:U:H6	2.02	0.42
1:0:2273:C:O5'	1:0:2273:C:H6	2.02	0.42
1:0:2597:G:O2'	1:0:2598:C:H5'	2.18	0.42
1:0:2856:U:H6	1:0:2856:U:O5'	2.01	0.42
2:9:108:G:H2'	2:9:109:G:C8	2.55	0.42
1:0:54:G:N2	1:0:114:C:C2	2.88	0.42
1:0:68:C:C2	1:0:72:A:N3	2.87	0.42
1:0:113:C:N4	1:0:114:C:H41	2.17	0.42
1:0:358:C:O5'	1:0:358:C:H6	2.01	0.42
1:0:448:C:H2'	1:0:449:C:H5'	2.00	0.42
1:0:999:A:HO2'	1:0:1166:A:H2	1.63	0.42
1:0:1212:U:H2'	1:0:1213:U:H6	1.83	0.42
1:0:1477:C:H1'	1:0:2681:A:C2	2.54	0.42
1:0:1548:U:C4	1:0:1549:C:N4	2.87	0.42
1:0:1579:G:H2'	1:0:1580:C:H6	1.83	0.42
1:0:1625:A:O2'	1:0:1632:A:H4'	2.20	0.42
1:0:1820:G:H4'	1:0:1821:A:OP1	2.19	0.42
1:0:2133:G:H2'	1:0:2134:U:C6	2.54	0.42
1:0:2478:C:H2'	1:0:2479:U:H5'	2.01	0.42
1:0:2650:G:O2'	1:0:2651:U:H5'	2.18	0.42
1:0:2695:C:H2'	1:0:2696:A:H8	1.85	0.42
1:0:2728:A:C2	1:0:2736:U:H1'	2.53	0.42
1:0:1167:A:H5'	1:0:1168:G:N7	2.34	0.42
1:0:1219:C:O5'	1:0:1219:C:H6	2.01	0.42
1:0:1371:G:O2'	1:0:1386:A:N6	2.52	0.42
1:0:1422:C:H2'	1:0:1423:A:C8	2.54	0.42
1:0:1435:G:N2	1:0:1512:A:C2	2.88	0.42
1:0:1482:U:H2'	1:0:1483:G:C8	2.54	0.42
1:0:1618:U:H2'	1:0:1619:A:H5'	2.01	0.42
1:0:1643:A:H2'	1:0:1644:G:H8	1.84	0.42
1:0:1903:C:H2'	1:0:1904:G:C8	2.54	0.42
1:0:1924:C:H2'	1:0:1925:C:O4'	2.19	0.42
1:0:160:C:O2'	1:0:445:A:N3	2.49	0.42
1:0:788:G:H5'	1:0:790:A:N3	2.35	0.42
1:0:873:U:N3	1:0:2246:A:H5''	2.35	0.42
1:0:1017:C:O2'	1:0:1018:C:H5'	2.18	0.42
1:0:1323:G:C1'	1:0:1627:C:H5''	2.49	0.42
1:0:1821:A:H3'	1:0:1822:C:C6	2.50	0.42
1:0:1933:G:O5'	1:0:1933:G:C8	2.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2066:G:H2'	1:0:2067:U:O4'	2.20	0.42
1:0:2820:C:O2'	1:0:2821:G:H5'	2.18	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:483:A:C2'	1:0:484:G:H5'	2.47	0.42
1:0:587:A:H5''	1:0:1268:U:O3'	2.19	0.42
1:0:1155:G:H2'	1:0:1156:U:O4'	2.20	0.42
1:0:1478:U:H2'	1:0:1479:G:C8	2.55	0.42
1:0:2265:A:H5''	1:0:2266:A:O4'	2.20	0.42
1:0:2347:C:N4	1:0:2361:G:H1	2.18	0.42
1:0:2468:G:H2'	1:0:2469:G:O4'	2.20	0.42
1:0:2642:G:H2'	1:0:2643:G:C5'	2.49	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
1:0:56:C:O5'	1:0:56:C:H6	2.03	0.42
1:0:121:G:O3'	1:0:1389:C:H4'	2.20	0.42
1:0:225:G:N7	1:0:227:G:N3	2.68	0.42
1:0:542:A:C2'	1:0:543:G:H5'	2.50	0.42
1:0:587:A:OP1	1:0:1268:U:O2'	2.30	0.42
1:0:597:U:N3	1:0:683:A:O2'	2.36	0.42
1:0:1004:A:C2'	1:0:1005:U:C5'	2.97	0.42
1:0:1087:C:H2'	1:0:1088:A:H5'	2.01	0.42
1:0:1121:G:H8	1:0:1121:G:O5'	2.02	0.42
1:0:1276:U:H2'	1:0:1277:G:O4'	2.19	0.42
1:0:1310:C:OP1	1:0:2689:C:H4'	2.19	0.42
1:0:1322:G:N2	1:0:1627:C:H5'	2.34	0.42
1:0:1322:G:O2'	1:0:1323:G:H5'	2.19	0.42
1:0:1436:G:H2'	1:0:1437:A:H8	1.82	0.42
1:0:1957:C:O2'	1:0:1958:G:H5'	2.19	0.42
1:0:2007:G:H2'	1:0:2008:C:C6	2.54	0.42
1:0:2106:G:H2'	1:0:2107:G:C8	2.55	0.42
1:0:2119:A:H2'	1:0:2120:C:H6	1.83	0.42
1:0:2636:A:N6	1:0:2643:G:H21	2.02	0.42
1:0:2695:C:H2'	1:0:2696:A:C8	2.54	0.42
1:0:2714:A:H2'	1:0:2715:C:O4'	2.19	0.42
1:0:136:A:O5'	1:0:136:A:H8	2.03	0.42
1:0:365:U:O2'	1:0:366:U:H5'	2.20	0.42
1:0:369:C:O2'	1:0:370:U:H5'	2.19	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.20	0.42
1:0:541:C:HO2'	1:0:542:A:P	2.42	0.42
1:0:957:G:H2'	1:0:958:G:H8	1.85	0.42
1:0:1136:G:C5	1:0:1137:A:N7	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1239:A:O5'	1:0:1239:A:C8	2.73	0.42
1:0:1350:G:H2'	1:0:1351:G:C8	2.55	0.42
1:0:1390:G:H8	1:0:1390:G:O5'	2.02	0.42
1:0:1764:A:C2	1:0:1960:A:N1	2.88	0.42
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42
1:0:2429:A:H5''	1:0:2476:A:C6	2.54	0.42
1:0:2459:C:C2'	1:0:2460:G:H5'	2.50	0.42
1:0:2534:U:O5'	1:0:2534:U:H6	2.02	0.42
1:0:221:A:O2'	1:0:222:G:H5'	2.19	0.42
1:0:615:C:O2'	1:0:671:A:H4'	2.19	0.42
1:0:639:G:O2'	1:0:640:C:H5'	2.20	0.42
1:0:658:G:C4'	1:0:2331:A:H5'	2.40	0.42
1:0:827:C:O2'	1:0:828:C:H5'	2.20	0.42
1:0:873:U:H2'	1:0:874:A:H5'	2.02	0.42
1:0:1354:A:O2'	1:0:1355:A:OP1	2.31	0.42
1:0:1413:U:H2'	1:0:1414:G:C8	2.55	0.42
1:0:1545:G:O2'	1:0:1546:C:H5'	2.19	0.42
1:0:2011:U:O5'	1:0:2011:U:H6	2.02	0.42
1:0:2081:U:H2'	1:0:2082:C:C5'	2.26	0.42
1:0:2296:U:H3'	1:0:2297:G:H8	1.84	0.42
1:0:2769:C:H5''	1:0:2770:A:C8	2.55	0.42
2:9:88:C:H2'	2:9:89:G:H8	1.84	0.42
1:0:236:C:H2'	1:0:237:G:C8	2.49	0.42
1:0:541:C:OP1	1:0:570:G:N1	2.53	0.42
1:0:777:A:N6	1:0:1766:U:N3	2.68	0.42
1:0:867:G:H2'	1:0:868:U:C6	2.55	0.42
1:0:911:A:H8	1:0:911:A:O5'	2.02	0.42
1:0:960:U:H2'	1:0:961:G:C8	2.54	0.42
1:0:1429:A:C6	1:0:1602:G:H5'	2.54	0.42
1:0:1466:C:C2'	1:0:1467:U:O4'	2.66	0.42
1:0:2069:U:O5'	1:0:2069:U:H6	2.03	0.42
1:0:2298:U:H4'	1:0:2299:A:C8	2.55	0.42
1:0:2570:C:H2'	1:0:2571:G:C8	2.55	0.42
1:0:2799:C:H2'	1:0:2800:C:O4'	2.19	0.42
2:9:42:U:H3'	2:9:43:G:C5'	2.50	0.42
1:0:32:C:H2'	1:0:33:C:C6	2.55	0.41
1:0:393:U:H2'	1:0:394:U:C6	2.53	0.41
1:0:614:G:H2'	1:0:615:C:C6	2.48	0.41
1:0:853:C:H4'	1:0:1206:G:H4'	2.00	0.41
1:0:1766:U:H2'	1:0:1767:G:O4'	2.20	0.41
1:0:1791:C:H42	1:0:1809:G:N2	2.15	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2034:A:N6	1:0:2593:A:C8	2.88	0.41
1:0:2059:U:OP2	1:0:2217:G:N2	2.41	0.41
1:0:2321:C:H2'	1:0:2322:U:H5'	2.01	0.41
1:0:2409:A:O2'	1:0:2410:U:H5'	2.19	0.41
1:0:2832:G:N2	1:0:2834:A:H3'	2.35	0.41
1:0:321:A:C4	1:0:341:A:C6	3.07	0.41
1:0:393:U:H2'	1:0:394:U:O4'	2.19	0.41
1:0:610:G:C6	1:0:671:A:C2	3.08	0.41
1:0:689:A:H2'	1:0:690:A:H5'	2.02	0.41
1:0:1168:G:H8	1:0:1168:G:O5'	2.04	0.41
1:0:1531:C:H6	1:0:1531:C:O5'	2.04	0.41
1:0:1619:A:O5'	1:0:1619:A:N3	2.52	0.41
1:0:2068:C:H2'	1:0:2069:U:C6	2.55	0.41
1:0:2214:G:C6	1:0:2215:C:C4	3.08	0.41
1:0:2362:G:C2'	1:0:2363:G:O5'	2.68	0.41
1:0:2407:G:H4'	1:0:2408:G:C4	2.56	0.41
1:0:2844:G:H2'	1:0:2845:C:H5'	2.02	0.41
1:0:548:G:O2'	1:0:549:G:H5'	2.20	0.41
1:0:584:A:OP2	1:0:2038:C:C5	2.73	0.41
1:0:594:G:C4	1:0:1264:C:N4	2.88	0.41
1:0:658:G:H1'	1:0:2330:G:C5'	2.51	0.41
1:0:962:C:C4	1:0:963:G:N7	2.89	0.41
1:0:981:C:H2'	1:0:982:C:C6	2.55	0.41
1:0:1023:U:H1'	1:0:1154:A:N7	2.35	0.41
1:0:1174:G:H2'	1:0:1175:A:C8	2.55	0.41
1:0:1678:G:O2'	1:0:1679:U:H5'	2.19	0.41
1:0:1920:A:C5	1:0:1922:U:C5	3.08	0.41
1:0:1923:U:H5'	1:0:1924:C:OP1	2.20	0.41
1:0:2002:A:H2'	1:0:2003:A:O5'	2.19	0.41
1:0:2173:G:O2'	1:0:2174:G:H5'	2.19	0.41
1:0:2592:U:O2'	1:0:2593:A:OP1	2.35	0.41
1:0:2705:A:C2'	1:0:2706:U:O5'	2.68	0.41
1:0:9:U:O2'	1:0:10:A:H5'	2.20	0.41
1:0:67:G:C6	1:0:72:A:C2	3.08	0.41
1:0:76:C:H6	1:0:76:C:C5'	2.29	0.41
1:0:128:C:H2'	1:0:129:A:H5''	2.03	0.41
1:0:342:G:HO2'	1:0:343:A:P	2.44	0.41
1:0:485:G:O6	1:0:520:C:N4	2.54	0.41
1:0:528:G:O2'	1:0:529:U:H5'	2.21	0.41
1:0:605:G:H2'	1:0:606:A:H8	1.84	0.41
1:0:619:A:H2'	1:0:620:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1252:C:H2'	1:0:1253:C:C5'	2.42	0.41
1:0:1256:C:H2'	1:0:1257:U:O4'	2.19	0.41
1:0:1543:G:H2'	1:0:1544:A:C5'	2.48	0.41
1:0:1641:C:H3'	1:0:1642:G:H8	1.84	0.41
1:0:1841:G:O5'	1:0:1841:G:H8	2.03	0.41
1:0:2391:A:H2'	1:0:2392:G:O4'	2.20	0.41
1:0:203:G:H4'	1:0:234:C:O2'	2.20	0.41
1:0:224:G:H4'	1:0:399:G:C6	2.56	0.41
1:0:614:G:N2	1:0:670:U:O2'	2.53	0.41
1:0:828:C:H2'	1:0:829:C:H6	1.84	0.41
1:0:1166:A:H2'	1:0:1167:A:H5''	2.02	0.41
1:0:1312:G:H2'	1:0:1643:A:N6	2.35	0.41
1:0:1426:U:H2'	1:0:1427:G:O4'	2.21	0.41
1:0:1547:U:H2'	1:0:1548:U:H6	1.81	0.41
1:0:1612:U:H2'	1:0:1613:G:C8	2.55	0.41
1:0:1678:G:H2'	1:0:1679:U:O4'	2.20	0.41
1:0:1681:A:H8	1:0:1681:A:H5'	1.86	0.41
1:0:1941:C:O2'	1:0:1942:G:H5'	2.21	0.41
1:0:2822:U:H2'	1:0:2823:G:H5'	2.01	0.41
2:9:63:A:O2'	2:9:64:C:H5'	2.19	0.41
1:0:192:G:O2'	1:0:193:A:H5''	2.20	0.41
1:0:665:A:H3'	1:0:666:U:H5''	2.01	0.41
1:0:813:A:O2'	1:0:814:G:C8	2.72	0.41
1:0:1849:G:N2	1:0:1869:A:N6	2.68	0.41
1:0:2347:C:H2'	1:0:2348:A:C8	2.56	0.41
1:0:2543:A:OP1	1:0:2627:G:H4'	2.20	0.41
1:0:2633:A:H5'	1:0:2635:U:O4'	2.20	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
1:0:57:G:N2	1:0:69:G:C4	2.89	0.41
1:0:128:C:H2'	1:0:129:A:O4'	2.20	0.41
1:0:155:G:O2'	1:0:156:G:H5'	2.21	0.41
1:0:195:A:H2'	1:0:196:A:H5'	2.02	0.41
1:0:465:C:H1'	1:0:468:A:C5	2.55	0.41
1:0:1151:U:H5''	1:0:1153:A:H5'	2.03	0.41
1:0:1571:G:H2'	1:0:1572:C:O4'	2.21	0.41
1:0:1641:C:H3'	1:0:1642:G:C8	2.55	0.41
1:0:1817:U:H2'	1:0:1818:G:O4'	2.21	0.41
1:0:1910:A:C2	1:0:1911:A:C2	3.09	0.41
1:0:1917:C:O2'	1:0:1918:G:H5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2063:A:H2'	1:0:2064:U:O4'	2.21	0.41
1:0:2296:U:H3'	1:0:2297:G:C8	2.56	0.41
1:0:2769:C:C2'	1:0:2770:A:H5'	2.51	0.41
1:0:2785:A:H62	1:0:2865:G:H21	1.69	0.41
1:0:2791:C:C2	1:0:2792:C:C5	3.09	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
1:0:1:G:H2'	1:0:2:G:O4'	2.21	0.41
1:0:29:U:H3'	1:0:29:U:C6	2.56	0.41
1:0:56:C:H2'	1:0:57:G:O4'	2.21	0.41
1:0:203:G:H5'	1:0:234:C:H4'	2.03	0.41
1:0:222:G:N2	1:0:231:G:H1'	2.36	0.41
1:0:310:A:H2	1:0:330:C:O2	2.03	0.41
1:0:425:A:N7	1:0:2390:A:H2	2.19	0.41
1:0:490:A:N7	1:0:492:G:N3	2.67	0.41
1:0:516:G:H3'	1:0:516:G:H8	1.85	0.41
1:0:792:U:O2'	1:0:793:G:H5'	2.20	0.41
1:0:1502:G:H2'	1:0:1503:G:O4'	2.21	0.41
1:0:1753:A:H8	1:0:1753:A:H3'	1.85	0.41
1:0:1765:C:O5'	1:0:1765:C:H6	2.03	0.41
1:0:1955:G:O2'	1:0:1956:G:H5''	2.20	0.41
1:0:2240:C:H2'	1:0:2241:U:H5''	2.01	0.41
1:0:2321:C:H2'	1:0:2322:U:C5'	2.51	0.41
1:0:2356:A:O2'	1:0:2357:A:H5'	2.21	0.41
1:0:2431:C:O2'	1:0:2432:A:H5'	2.20	0.41
1:0:2605:C:H2'	1:0:2606:G:C8	2.56	0.41
1:0:2851:G:H2'	1:0:2852:G:O4'	2.20	0.41
1:0:80:A:H2'	1:0:81:C:O4'	2.21	0.41
1:0:211:U:O2'	1:0:212:U:H5'	2.21	0.41
1:0:212:U:O2	1:0:443:A:H2	2.03	0.41
1:0:226:C:H4'	1:0:227:G:H8	1.83	0.41
1:0:294:U:H2'	1:0:295:C:H6	1.85	0.41
1:0:459:A:C6	1:0:484:G:H1'	2.56	0.41
1:0:488:A:H8	1:0:488:A:OP1	2.04	0.41
1:0:635:C:O2'	1:0:670:U:H5''	2.21	0.41
1:0:839:U:OP1	1:0:2408:G:OP2	2.38	0.41
1:0:843:G:O2'	1:0:844:G:P	2.78	0.41
1:0:845:U:O2'	1:0:846:A:H5'	2.21	0.41
1:0:1010:U:H5''	1:0:1165:G:O6	2.21	0.41
1:0:1047:G:O2'	1:0:1048:U:H5'	2.21	0.41
1:0:1153:A:C2	1:0:1155:G:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1183:C:O2'	1:0:1184:G:H5'	2.21	0.41
1:0:1252:C:H6	1:0:1252:C:O5'	2.04	0.41
1:0:1409:U:H6	1:0:1409:U:O5'	2.03	0.41
1:0:1576:G:H2'	1:0:1577:G:O4'	2.20	0.41
1:0:1725:C:C2	1:0:1742:G:N2	2.89	0.41
1:0:1790:G:O2'	1:0:1791:C:H5	2.03	0.41
1:0:1845:A:N6	1:0:1872:A:N7	2.69	0.41
1:0:1990:U:H4'	1:0:2799:C:H4'	2.02	0.41
1:0:2271:C:O2'	1:0:2354:G:H4'	2.21	0.41
1:0:2404:A:OP1	1:0:2406:C:H5'	2.21	0.41
1:0:2475:C:H2'	1:0:2476:A:C4'	2.51	0.41
1:0:2552:C:O5'	1:0:2552:C:H6	2.03	0.41
1:0:2592:U:H4'	1:0:2593:A:OP1	2.21	0.41
1:0:2766:U:H6	1:0:2766:U:O5'	2.04	0.41
1:0:2782:G:H8	1:0:2782:G:OP2	2.03	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
1:0:7:G:O2'	1:0:8:A:H5'	2.20	0.41
1:0:119:G:N2	1:0:129:A:H1'	2.36	0.41
1:0:342:G:H2'	1:0:343:A:C5'	2.51	0.41
1:0:610:G:H2'	1:0:611:C:O4'	2.20	0.41
1:0:762:A:O2'	1:0:1633:C:H1'	2.20	0.41
1:0:788:G:H2'	1:0:807:A:N7	2.34	0.41
1:0:836:G:H2'	1:0:837:U:C6	2.56	0.41
1:0:1086:C:C3'	1:0:1087:C:H5''	2.51	0.41
1:0:1715:A:H1'	1:0:1717:A:O4'	2.21	0.41
1:0:1807:A:H5'	1:0:1809:G:O4'	2.21	0.41
1:0:2040:A:H2'	1:0:2041:A:C8	2.53	0.41
1:0:2523:G:H5'	1:0:2624:G:N7	2.36	0.41
1:0:2535:C:H2'	1:0:2536:G:C5'	2.51	0.41
1:0:2819:G:H2'	1:0:2820:C:C6	2.56	0.41
1:0:2867:G:O3'	1:0:2868:G:H4'	2.21	0.41
1:0:179:U:H1'	1:0:228:A:H2	1.86	0.40
1:0:459:A:C4	1:0:466:A:N7	2.89	0.40
1:0:474:G:C6	1:0:478:G:O6	2.74	0.40
1:0:622:U:O5'	1:0:622:U:H6	2.04	0.40
1:0:646:C:O2'	1:0:650:U:H5''	2.22	0.40
1:0:698:A:H1'	1:0:700:C:H41	1.83	0.40
1:0:984:A:H1'	1:0:1202:U:C6	2.56	0.40
1:0:1299:A:C6	1:0:1302:C:C4	3.09	0.40
1:0:1613:G:H5''	1:0:1614:C:H5'	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1619:A:C2	1:0:1620:C:C5	3.09	0.40
1:0:1849:G:H2'	1:0:1850:G:C8	2.56	0.40
1:0:1963:G:C5	1:0:1965:U:N3	2.90	0.40
1:0:2157:C:H2'	1:0:2158:C:C6	2.56	0.40
1:0:2204:A:O2'	1:0:2205:C:P	2.79	0.40
1:0:2488:G:H2'	1:0:2489:C:O4'	2.21	0.40
1:0:2523:G:H2'	1:0:2524:G:C8	2.56	0.40
1:0:2853:U:C2'	1:0:2854:G:O5'	2.70	0.40
1:0:75:C:C3'	1:0:76:C:H5''	2.51	0.40
1:0:173:A:H2'	1:0:173:A:N3	2.37	0.40
1:0:390:U:C4	1:0:391:C:N4	2.90	0.40
1:0:487:G:O3'	1:0:511:A:N6	2.54	0.40
1:0:516:G:H3'	1:0:516:G:C8	2.56	0.40
1:0:740:A:O2'	1:0:741:G:H5'	2.21	0.40
1:0:787:A:H2'	1:0:788:G:C8	2.56	0.40
1:0:929:A:OP1	1:0:929:A:H4'	2.20	0.40
1:0:958:G:H2'	1:0:959:C:C5	2.56	0.40
1:0:968:C:N4	1:0:970:A:C1'	2.83	0.40
1:0:1116:U:O2'	1:0:1117:G:H5'	2.21	0.40
1:0:1486:A:H2'	1:0:1487:C:C6	2.56	0.40
1:0:1664:G:OP2	1:0:1664:G:H3'	2.21	0.40
1:0:1753:A:H3'	1:0:1753:A:C8	2.56	0.40
1:0:1856:U:OP1	1:0:2389:G:O2'	2.37	0.40
1:0:1956:G:H5'	1:0:1956:G:H8	1.85	0.40
1:0:2095:G:H2'	1:0:2096:U:H5''	2.03	0.40
1:0:2560:G:O6	1:0:2589:C:C5	2.74	0.40
1:0:2579:A:H2'	1:0:2580:C:C6	2.56	0.40
1:0:2618:A:C2	1:0:2758:A:C1'	3.04	0.40
1:0:2642:G:C2'	1:0:2643:G:H5'	2.51	0.40
1:0:299:C:H2'	1:0:300:C:C5	2.56	0.40
1:0:600:G:H3'	1:0:601:A:H5''	2.03	0.40
1:0:936:A:O2'	1:0:937:C:H5'	2.21	0.40
1:0:1064:C:H6	1:0:1064:C:O5'	2.05	0.40
1:0:1194:U:HO2'	1:0:1195:U:C5'	2.34	0.40
1:0:1259:A:H2'	1:0:1260:A:C5'	2.50	0.40
1:0:1310:C:P	1:0:2689:C:H4'	2.62	0.40
1:0:1339:U:H5	1:0:1664:G:HO2'	1.64	0.40
1:0:1459:U:P	1:0:1459:U:C6	3.13	0.40
1:0:1685:A:C2'	1:0:1686:A:OP2	2.68	0.40
1:0:1687:C:O2'	1:0:1977:C:H4'	2.22	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1919:A:C6	1:0:1928:G:C4	3.10	0.40
1:0:1962:C:H2'	1:0:1963:G:H5'	2.04	0.40
1:0:2275:U:H6	1:0:2275:U:H3'	1.86	0.40
1:0:2661:G:H2'	1:0:2662:C:O4'	2.21	0.40
1:0:2669:C:O2	1:0:2669:C:C2'	2.70	0.40
1:0:2784:A:H3'	1:0:2785:A:C8	2.57	0.40
1:0:324:C:H6	1:0:324:C:O5'	2.03	0.40
1:0:327:C:O2'	1:0:328:A:H5'	2.21	0.40
1:0:539:A:C5	1:0:2025:A:C2	3.09	0.40
1:0:620:G:H2'	1:0:621:U:C6	2.57	0.40
1:0:625:A:O5'	1:0:625:A:H8	2.04	0.40
1:0:747:A:H2'	1:0:748:A:O4'	2.21	0.40
1:0:1141:U:O2'	1:0:1142:G:P	2.80	0.40
1:0:1220:G:N2	1:0:1253:C:C5	2.90	0.40
1:0:1250:A:O2'	1:0:1251:G:C4'	2.69	0.40
1:0:1666:G:C6	1:0:1992:G:O6	2.74	0.40
1:0:1883:A:C2	1:0:1953:A:N6	2.90	0.40
1:0:1918:G:H4'	1:0:1920:A:C2	2.56	0.40
1:0:2179:C:C2	1:0:2180:U:H1'	2.57	0.40
1:0:2343:C:O2'	1:0:2344:G:H5'	2.21	0.40
1:0:2809:A:N6	1:0:2854:G:C4	2.90	0.40
1:0:51:A:H2'	1:0:52:A:C8	2.56	0.40
1:0:119:G:H2'	1:0:120:G:H8	1.85	0.40
1:0:737:C:H2'	1:0:738:G:O4'	2.21	0.40
1:0:829:C:C4	1:0:1206:G:N1	2.90	0.40
1:0:843:G:O2'	1:0:844:G:H5'	2.22	0.40
1:0:931:G:N2	1:0:2247:A:C5'	2.83	0.40
1:0:1279:G:O2'	1:0:1995:G:N1	2.54	0.40
1:0:1474:A:N3	1:0:1474:A:C3'	2.78	0.40
1:0:2290:A:H2'	1:0:2291:U:H5'	2.03	0.40
1:0:2630:C:H2'	1:0:2631:C:H6	1.87	0.40
1:0:2633:A:H4'	1:0:2634:G:H4'	2.04	0.40
1:0:2708:U:H2'	1:0:2709:C:H6	1.84	0.40
1:0:2781:G:C2'	1:0:2782:G:O4'	2.64	0.40
2:9:12:C:H3'	2:9:13:C:H6	1.85	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1552:C:OP1	16:N:47:SER:CA[8_455]	1.97	0.23

## 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%)	523 (18%)	48 (1%)
2	9	117/124 (94%)	23 (19%)	1 (0%)
All	All	2874/3004 (95%)	546 (18%)	49 (1%)

All (546) 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	124	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	129	A
1	0	135	U
1	0	149	A
1	0	155	G
1	0	158	A
1	0	167	A
1	0	169	C
1	0	173	A
1	0	174	A
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	201	G
1	0	205	A
1	0	206	U
1	0	210	A
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	404	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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
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	544	U
1	0	554	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	582	G
1	0	583	C
1	0	584	A
1	0	587	A
1	0	588	G
1	0	601	A
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	652	C
1	0	654	A
1	0	655	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G
1	0	740	A
1	0	742	G
1	0	743	A
1	0	753	U
1	0	760	U
1	0	766	A
1	0	774	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	803	C
1	0	806	A
1	0	807	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	819	C
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G
1	0	844	G
1	0	859	U
1	0	873	U
1	0	874	A
1	0	879	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	943	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	985	G
1	0	994	A
1	0	996	C
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	1045	G
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1082	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	1139	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1149	G
1	0	1155	G
1	0	1166	A
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1209	G
1	0	1224	A
1	0	1233	A
1	0	1234	C
1	0	1253	C
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1281	A
1	0	1284	G
1	0	1285	A
1	0	1286	U
1	0	1288	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	1381	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1439	G
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1467	U
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1474	A
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1489	C
1	0	1490	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1496	G
1	0	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1532	A
1	0	1544	A
1	0	1552	C
1	0	1563	U
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	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	1663	C
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1710	U
1	0	1711	C
1	0	1712	G
1	0	1713	G
1	0	1715	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1717	A
1	0	1718	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1772	C
1	0	1773	C
1	0	1775	A
1	0	1776	A
1	0	1778	U
1	0	1791	C
1	0	1792	C
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1809	G
1	0	1811	A
1	0	1813	A
1	0	1821	A
1	0	1830	C
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G
1	0	1908	C
1	0	1909	U
1	0	1920	A
1	0	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

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	1949	A
1	0	1950	C
1	0	1953	A
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	1980	A
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2034	A
1	0	2038	C
1	0	2044	G
1	0	2045	A
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2238	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	2381	A
1	0	2385	U
1	0	2389	G
1	0	2396	C
1	0	2402	U
1	0	2403	C
1	0	2405	A
1	0	2406	C
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2415	G
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2437	G
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2457	A
1	0	2470	U
1	0	2473	G
1	0	2476	A
1	0	2477	C
1	0	2481	G
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G
1	0	2499	C
1	0	2504	G
1	0	2508	G
1	0	2521	A
1	0	2522	G
1	0	2533	U
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2558	C
1	0	2561	G
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G
1	0	2613	A
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2669	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2760	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G
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	2861	A
1	0	2867	G
1	0	2868	G
2	9	7	C
2	9	14	C
2	9	15	A
2	9	17	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	9	18	G
2	9	27	A
2	9	28	A
2	9	47	A
2	9	48	A
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 (49) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
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	972	C
1	0	1141	U
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	0	1313	U
1	0	1354	A
1	0	1410	U
1	0	1495	G
1	0	1634	A
1	0	1651	U
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	1975	G
1	0	2005	U
1	0	2015	G
1	0	2018	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2228	U
1	0	2245	A
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2426	G
1	0	2437	G
1	0	2592	U
1	0	2633	A
1	0	2660	C
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](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 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.