



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2017 – 07:59 am GMT

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

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

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

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Mogul	:	1.7.2 (RC1), CSD as538be (2017)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20161228.v01 (using entries in the PDB archive December 28th 2016)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	recalc28949

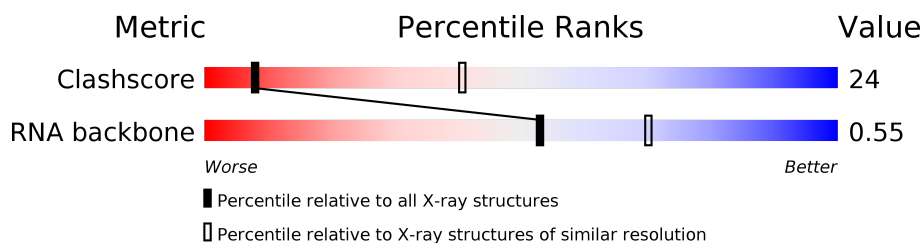
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 Å.


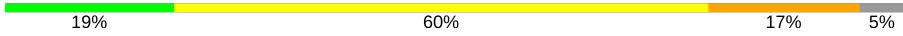
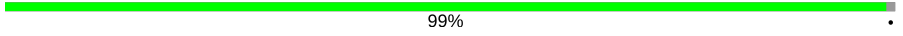
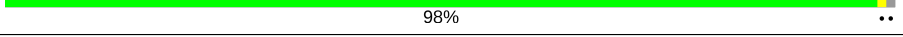
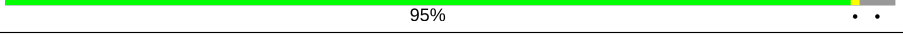
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	112137	1322 (3.60-3.40)
RNA backbone	2435	1024 (4.10-2.86)

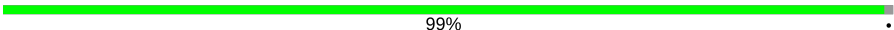

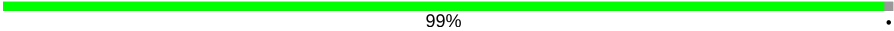


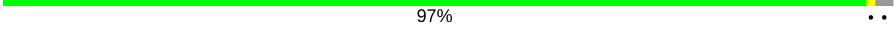
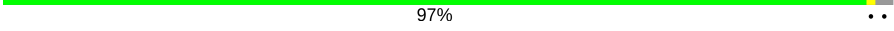

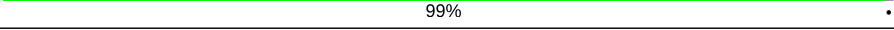
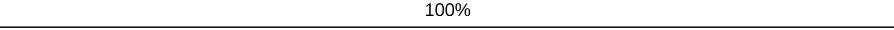
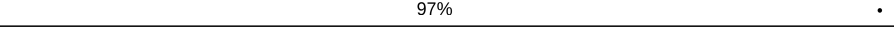
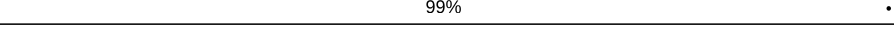
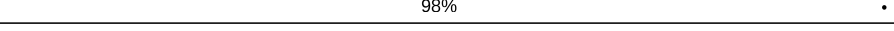
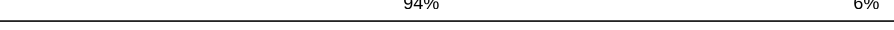
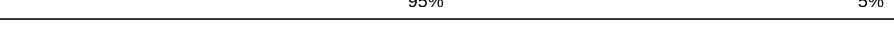
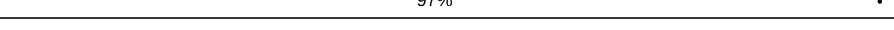
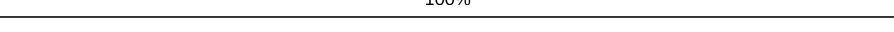
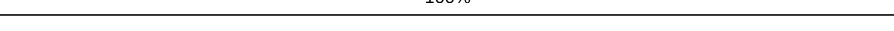
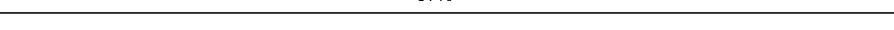

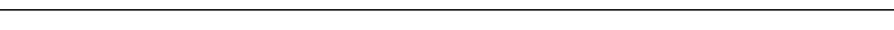
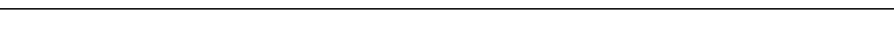

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	 26% 57% 13% .
2	9	124	 19% 60% 17% 5%
3	A	274	 99% .
4	B	211	 96% ..
5	C	204	 97% .
6	D	180	 98% ..
7	E	185	 95% . .
8	F	146	 34% . 64%

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Mol	Chain	Length	Quality of chain
9	G	144	 99% .
10	H	174	 82% 18%
11	I	134	 99% .
12	J	156	 90% 10%
13	K	141	 87% . 12%
14	L	116	 97% ..
15	M	113	 97% ..
16	N	166	 75% . 25%
17	O	118	 99% .
18	P	100	 100%
19	Q	134	 97% .
20	R	94	 99% .
21	S	115	 98% .
22	T	237	 94% 6%
23	U	91	 95% 5%
24	W	67	 97% .
25	X	55	 100%
26	Y	73	 100%
27	Z	59	 97% ..
28	1	55	 96% .
29	2	47	 98% .
30	3	65	 97% .
31	4	37	 95% 5%

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 65355 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	2766	Total	C	N	O	P	0	0	0
			59359	26479	10949	19166	2765			

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

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

- Molecule 3 is a protein called ribosomal protein L2.

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

- Molecule 4 is a protein called ribosomal protein L3.

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

- Molecule 5 is a protein called ribosomal protein L4.

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

- Molecule 6 is a protein called ribosomal protein L5.

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

- Molecule 7 is a protein called ribosomal protein L6.

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

- Molecule 8 is a protein called ribosomal protein L9.

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

- Molecule 9 is a protein called ribosomal protein L11.

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

- Molecule 10 is a protein called ribosomal protein L13.

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

- Molecule 11 is a protein called ribosomal protein L14.

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

- Molecule 12 is a protein called ribosomal protein L15.

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

- Molecule 13 is a protein called ribosomal protein L16.

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

- Molecule 14 is a protein called ribosomal protein L17.

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

- Molecule 15 is a protein called ribosomal protein L18.

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

- Molecule 16 is a protein called ribosomal protein L19.

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

- Molecule 17 is a protein called ribosomal protein L20.

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

- Molecule 18 is a protein called ribosomal protein L21.

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

- Molecule 19 is a protein called ribosomal protein L22.

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

- Molecule 20 is a protein called ribosomal protein L23.

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

- Molecule 21 is a protein called ribosomal protein L24.

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

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

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

- Molecule 23 is a protein called ribosomal protein L27.

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

- Molecule 24 is a protein called ribosomal protein L29.

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

- Molecule 25 is a protein called ribosomal protein L30.

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

- Molecule 26 is a protein called ribosomal protein L31.

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

- Molecule 27 is a protein called ribosomal protein L32.

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

- Molecule 28 is a protein called ribosomal protein L33.

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

- Molecule 29 is a protein called ribosomal protein L34.

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

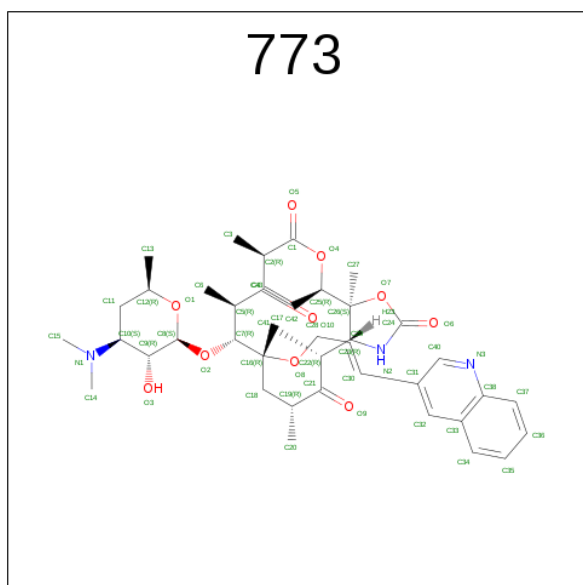
- Molecule 30 is a protein called ribosomal protein L35.

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

- Molecule 31 is a protein called ribosomal protein L36.

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

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



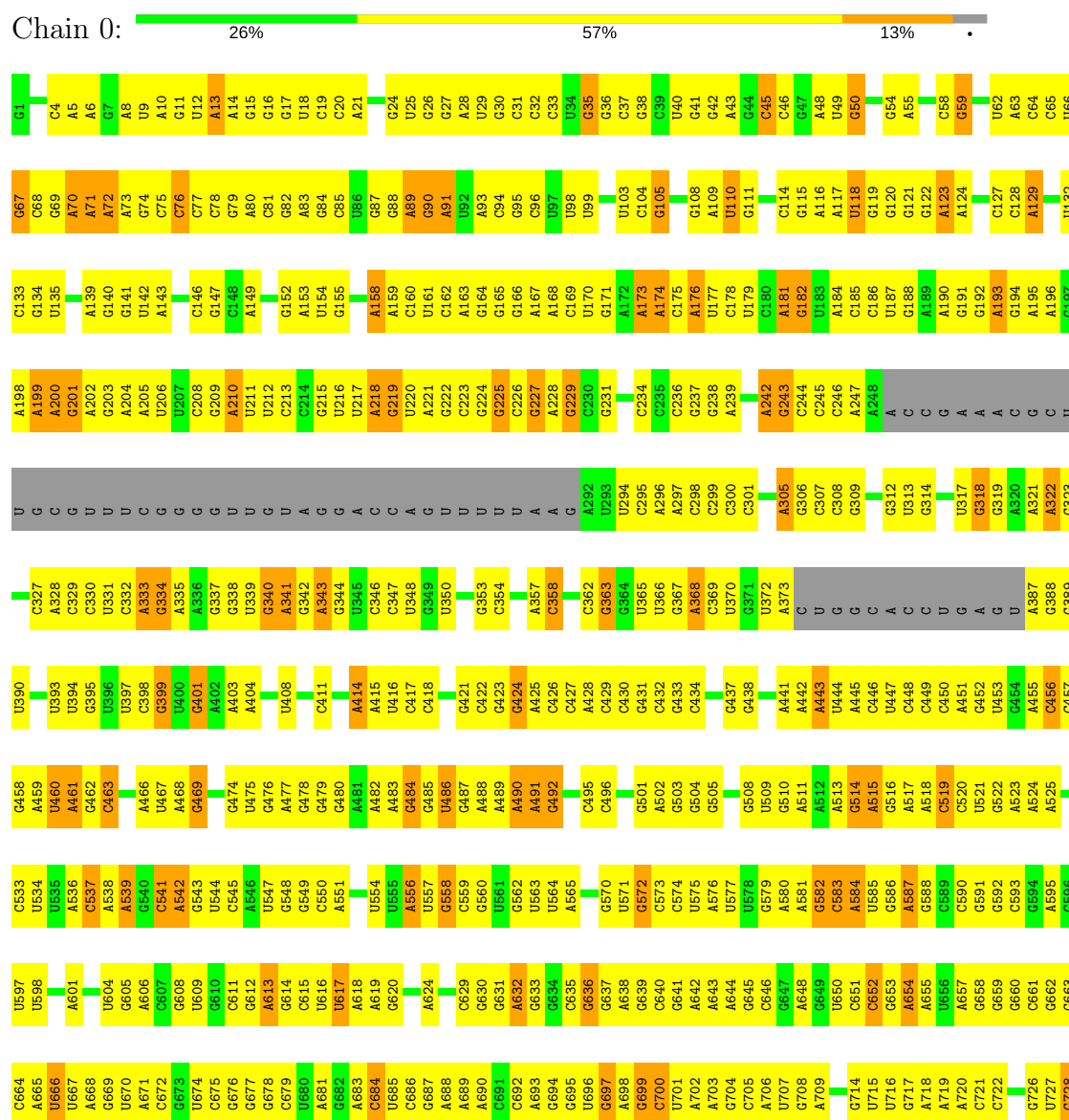
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	0	1	Total C N O 55 42 3 10	0	0

3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS was not executed.

• Molecule 1: 23S RIBOSOMAL RNA

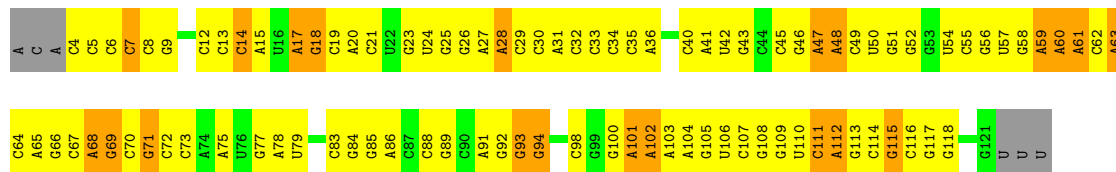


G1760	C1692	G1622	G1559	C1489	G1427	U1357	G1296	C1230	G1155	G1082	C1002	G933	C864	A794	G732	
G1761	A1693	A1624	A1560	U1490	G1428	C1358	A1297	A1233	U1156	C1083	C1003	A936	A865	A795	G733	
G1762	A1694	A1624	A1561	C1491	G1429	G1359	A1298	A1233	A1162	C1086	U1005	A936	U866	A796	G734	
G1763	G1695	A1625	G1562	A1492	G1430	C1360	A1299	C1235	C1163	C1087	C1006	G938	G867	A797	G735	
A1764	C1696	A1626	G1566	A1493	U1431	C1363	A1300	C1235	C1164	A1088	A1007	C939	U868	G798	G736	
C1765	U1697	C1627	A1567	G1494	G1432	C1364	U1301	A1238	G1165	C1089	G1008	G940	C869	U800	C737	
U1766	C1698	A1630	A1567	G1495	A1433	U1365	C1302	A1238	A1166	C1090	C1009	U941	C870	A801	G738	
G1767	A1699	C1631	A1568	G1496	G1436	G1368	U1303	A1238	A1167	C1091	U1010	U942	U871	A802	G739	
U1768	C1703	A1632	A1569	U1500	A1437	G1368	U1304	G1241	G1168	C1092	A1011	U943	C872	A803	A740	
U1770	G1704	C1633	C1570	C1501	G1438	G1371	U1305	G1242	C1169	U1092	A1012	U944	U873	C804	G741	
A1771	U1705	A1634	C1572	G1502	G1439	A1372	U1306	U1244	U1170	A1095	C1016	G945	A874	G805	G742	
C1772	A1706	G1635	G1573	G1503	G1440	G1373	U1307	G1245	A1171	A1096	C1017	G951	U875	A806	G743	
G1773	A1707	G1636	A1574	G1504	A1441	G1374	C1308	G1246	U1172	A1099	C1018	G952	A876	A807	C744	
A1774	C1708	G1638	C1575	U1505	G1442	C1375	C1310	U1247	U1173	A1099	U1019	G953	A886	C809	G746	
A1775	U1709	C1641	G1576	C1506	G1443	C1376	C1311	G1248	A1179	G1100	C1019	G954	G887	U810	G750	
A1776	G1710	C1642	G1577	A1509	A1445	G1377	U1312	G1249	A1180	U1101	A1020	G955	G888	G811	G751	
A1777	C1711	G1643	U1578	U1512	A1446	A1378	U1313	A1250	C1181	G1102	A1021	G956	C889	G812	G752	
U1778	G1712	G1644	C1580	U1513	U1447	C1379	A1314	G1251	U1182	C1103	U1022	G957	U890	A813	G753	
C1781	G1713	G1644	C1581	U1514	A1448	C1380	A1315	C1252	C1183	G1110	G1024	G958	G814	G815	G754	
A1782	A1714	U1645	A1582	U1515	C1449	G1382	G1317	G1254	C1185	C1111	A1025	C959	U816	U817	G755	
G1783	G1715	C1648	A1583	A1516	G1450	C1383	A1318	A1255	U1191	U1112	U1026	G960	U818	A817	C756	
C1784	C1716	C1649	G1584	C1517	C1451	G1384	C1319	C1256	C1190	A1113	C1027	G961	G819	G820	G757	
A1785	A1717	U1651	A1585	C1518	U1452	C1385	A1320	U1257	G1191	A1114	G1028	G962	U821	A822	G761	
G1786	G1718	G1652	A1586	G1519	U1453	A1386	A1321	G1258	G1192	C1115	C1029	G963	U822	A823	A762	
U1787	C1719	C1653	A1587	G1520	C1455	G1387	G1322	A1259	G1193	U1116	U1030	G964	U824	C825	A763	
C1788	G1720	A1654	A1588	C1524	C1456	C1388	G1323	G1260	U1194	G1117	C1031	G965	U825	U826	A764	
U1789	G1721	C1655	G1589	U1525	A1457	C1389	G1324	G1261	U1195	C1032	A1032	C968	U827	A828	C765	
G1790	U1723	U1656	C1590	A1526	A1458	C1390	U1325	U1262	G1196	G1121	G1033	G969	U829	G830	A766	
C1791	C1724	A1657	U1591	G1527	U1459	A1391	U1326	G1263	U1197	A1122	U1034	G970	C831	C832	G767	
A1792	A1725	C1661	C1592	C1528	G1460	U1392	C1327	G1264	C1198	G1123	G1035	G971	U833	U834	C768	
C1793	C1726	G1661	G1593	C1529	C1461	G1393	C1328	G1265	C1199	U1124	G1036	G972	U835	U836	A769	
A1794	G1727	G1662	U1594	U1530	C1462	C1394	U1329	G1266	G1200	G1125	U1037	G973	C833	C834	G770	
G1795	C1728	C1663	A1595	C1531	A1463	A1397	G1332	A1267	G1201	A1126	U1038	G974	U837	U838	C771	
C1796	C1729	G1664	A1596	A1532	A1464	C1398	G1333	U1268	U1202	C1130	A1039	C975	U839	U840	G772	
G1797	G1730	C1665	A1597	G1533	G1465	C1399	A1334	G1269	A1203	U1130	C1040	C976	U841	U842	G773	
U1798	C1731	G1666	C1598	A1534	C1466	A1400	A1335	C1270	G1204	G1131	G1041	G977	U843	U844	A774	
A1800	G1732	A1667	G1599	U1535	U1467	G1401	A1336	C1271	G1205	C1132	U1044	G978	U845	U846	G775	
C1801	C1733	G1668	U1600	G1536	A1468	C1402	G1336	G1272	G1206	C1133	C1064	G979	U847	U848	C776	
A1802	U1734	C1669	G1601	U1537	U1469	U1403	G1337	G1273	G1207	C1134	U1045	G980	U849	U850	G777	
G1803	G1735	G1670	G1602	A1538	G1470	C1404	C1338	G1274	U1212	C1135	C1065	G981	U851	U852	G778	
U1804	C1736	A1671	A1603	U1539	G1471	A1405	U1339	G1277	U1213	C1136	U1065	G982	U853	U854	A779	
G1805	G1740	C1671	A1604	C1541	C1472	A1406	C1340	A1278	U1214	A1137	A1056	G983	U855	U856	C779	
A1806	G1741	C1673	A1605	G1541	U1473	G1407	G1341	U1280	C1214	A1138	A1057	G984	U857	U858	G780	
C1807	C1742	C1674	U1606	G1542	A1474	A1408	U1342	A1280	A1215	A1139	G1058	G985	U859	U860	G781	
G1808	G1743	G1675	U1607	G1543	U1475	C1411	C1343	A1281	G1216	U1140	C1069	G986	U861	U862	A782	
A1809	C1744	C1676	A1608	A1544	G1476	C1412	G1344	A1282	U1217	U1141	C1070	G987	U863	U864	G783	
U1810	G1745	U1677	G1609	U1610	C1477	C1413	G1345	G1284	C1219	U1142	A1065	G988	U865	U866	C784	
A1811	U1746	A1680	U1611	G1545	C1478	C1414	C1346	A1285	G1220	C1145	G1066	G989	U867	U868	A785	
G1812	C1747	C1681	U1612	C1546	U1479	C1415	C1347	U1286	G1221	G1146	A1067	G990	U869	U870	G786	
A1813	A1750	G1682	C1613	U1547	G1480	C1417	C1348	A1287	U1222	G1147	G1069	A994	U871	U872	C787	
G1814	G1751	C1683	C1614	U1548	U1481	C1418	A1349	A1288	G1223	C1148	G1073	A995	U873	U874	G788	
C1815	U1752	G1684	G1615	C1552	U1482	C1419	G1350	A1289	C1224	G1149	C1074	G996	U875	U876	A789	
G1816	A1753	A1685	C1616	G1553	G1483	C1420	G1351	A1290	U1225	C1150	U1075	G997	U877	U878	G790	
U1817	G1754	C1686	U1617	G1554	U1484	C1421	G1352	A1291	A1226	C1151	C1076	G998	U879	U880	C791	
G1818	C1755	A1687	A1618	A1555	U1485	U1424	A1353	A1292	G1227	C1152	U1076	A999	U881	U882	G792	
U1819	G1756	U1690	A1619	A1556	A1486	U1424	A1354	A1293	U1228	A1153	C1080	G1000	U883	U884	G793	
C1820	C1757	G1691	C1620	G1557	C1487	U1425	G1355	G1294	C1229	A1154	A1081	G1001	U885	U886	G794	
A1821																G795

U2859	A2785	G2724	G2656	U2858	C2446	G2376	G2302	G2225	A2159	U2096	A2031	G1963	U1900	G1822
C2860	G2786	G2725	G2657	C2859	G2447	U2377	C2303	A2226	C2160	A2097	G2032	A1964	A1901	G1823
G2862	A2787	A2658	A2657	U2590	A2448	G2378	A2306	U2227	C2161	G	C2033	U1965	A1902	C1824
G2863	G2788	G2659	C2659	C2591	G2449	G2379	A2307	U2228	C2162	A	C2034	C1966	C1903	C1825
C2864	U2789	C2660	G2660	U2592	A2450	U2380	A2308	G2229	U2163	A	G2035	G1905	G1904	U1826
G2865	A2793	G2661	G2662	A2593	C2451	A2381	C2309	G2230	G2164	U	A2037	G1970	U1906	G1827
A2866	U2794	C2662		U2594	C2452	C2382	G2310	C2233	A2165	A	G2038	G1971	U1907	C1830
G2867	A2795	G2665	G2666	C2595	U2455	C2383	U2311	G2234	G2166	G2103	C2039	C1972	C1907	G1831
G2868	G2732	U2666		G2522	A2456	G2384	A2312	G2234	A2167	G2104	G2039	G1972	C1908	
U2869	A2733	G2667		G2523	U2457	U2385	G2313	G2238	A2168	U2105	A2040	C1973	U1909	C1835
C2870	U2734	C2668		G2524	A2458	A2386	A2314	G2239	A2169	G2106	A2041	U1974	A1910	G1836
U2871	G2735	C2669		G2525	U2459	A2387	A2315	C2240	C2170	G2107	A2042	G1975	G1912	C1837
U2872	U2736	C2670		U2526	G2460	A2391	A2316	U2241	U2171		A2043	U1976	G1913	G1838
G2873	A2737	G2671		U2531	G2461	A2392	G2317	C2242	U2172	G2110	G2044	C1977	G1914	A1839
	A2738	U2672		G2532	A2462	G2394	G2318	C2243	G2173	C	A2045	C1978	U1914	A1840
	C2802	G2673		U2533	G2463	C2395	G2319	C2244	A2174	C	C2046	C1979	A1915	G1841
G2804	G2804	C2674		U2534	A2464	C2396	G2320	A2245	A2175	U	C2047	A1980	G1916	G1842
	C2807	U2675		C2535	G2465	A2397	G2321	A2246	U2176	G	C2048	A1981	C1917	U1848
U2808	U2741	G2676		G2536	U2466	U2398	C2322	A2247	U2177	C	C2049	C1982	G1918	U1843
U2809	G2742	U2677		C2537	A2467	C2399	U2323	A2248	U2178	G	C2050		A1919	C1844
A2810	G2743	C2678		U2538	G2468	U2402	U2324	U2249	C2179	U2051	U2051	C1989	A1920	A1845
G2811	A2744	G2679		A2539	U2470	C2403	G2325	U2250	U2180	A2118	G2052	U1990	A1921	A1846
A2812	U2745	U2680		G2540	U2471	A2404	A2326	G2255	A2181	A2119	G2053	C1991	U1922	G1847
G2813		A2681		U2541		A2405	U2327	A2252	A2182	C2120	A2054	G1992	U1923	U1849
G2814	C2748	C2682		U2542		A2406	U2328	A2253	C2183	U2121	G2055	G1993	C1924	G1850
	A2749			A2543	G2474	C2406	U2329	A2254	C2184	G2122	C2056	U1994	G1925	
	G2750	G2617		U2544	C2475	G2407	C2330	G2255	U2185	G2123	U2057	G1995	U1926	A1851
C2820	C2751	A2618		A2545	A2476	G2408	U2331	G2255	U2186	C2124	U2058	A1996	U1927	
G2821	G2752	G2619		G2546	C2477	A2409	A2331	G2255	U2187	C2125	U2059	A1997	G1928	
	C2753	G2620		C2547	U2478	U2410		G2261	A2191	U	A2060	A1998	U1933	G1854
C2824	G2754	G2621		G2548	U2479			G2262	U2192	U		U1999	U1934	G1855
A2825	A2755	G2622		U2549	C2480	A2413	U2335	G2263	C2193	U	U2064	U2000	G1857	G1856
G2826	U2756	C2623		C2550	G2481	A2414	U2336	G2264	C2194	U	A2065	G2001	C1858	U1856
	G2757	A2624		A2551	U2482		U2337	A2265	C2195	G	G2066	A2002	A1936	C1859
	U2758	G2625		U2552	G2483	U2417	G2341	A2266	C2196	G	U2067	A2003	G1937	A1860
U2829	G2759	U2626		U2553	G2484	A2418	U2342	A2267	U2197	G2132		U2004	U1938	G1861
U2830	C2760	G2627		G2554		C2419	C2343	G2268	U2198		G2070	U2005	U1939	C1862
A2831	A2761	C2628		G2555	G2487	C2420	G2344	G2269	C2199		G2071	G2006	C1940	U1863
G2832	G2762			G2556		C2421	A2345	U2270	G2200		C2072	G2007	C1942	G1864
C2833	U2763	G2629		U2557	G2488	C2422	G2346	G2271	G2201		A2073		G1942	C1865
	G2764	C2630		G2558	C2489	G2423	U2347	C2273	G2202		U2074	G2010	A1943	G1866
U2836	C2765	U2631		U2559	U2490	G2424	A2348	C2274	G2203		U2075	U2011	C1944	A1867
G2837	G2766	G2632		C2560	C2491	G2425		C2275	G2204		G2076	A2012	U1945	A1868
U2838	A2767	A2633		A2561	G2492	G2426	G2351	U2276	C2205		G2077	A2013	U1946	A1869
G2839	C2768	G2634		U2562	U2493	G2427		A2277	C2206		G2078	A2014	G1947	U1870
U2840	C2769	U2635		A2563	C2494	U2428	G2352	A2278	G2207		A2079	C2015	C1948	G1871
U2841	U2770	A2636		C2564	G2495	A2429	G2353	G2279	U2208		U2080	A1949	A1872	A1872
C2842	C2771	G2637		U2565	C2496	A2430	G2354	A2280	A		U2081	A2016	C1950	A1873
A2843	U2772	A2641		G2566	A2497	C2431			G2209				G1951	
	G2773	G2642		C2567	U2498	A2432	G2361	U2285	C2210		C2082	C2019	A1952	U1881
G2846	U2774	U2643		U2568	C2500	G2433	G2362	G2286	U2212		G2083	G2020	A1953	G1882
G2847	U	G2644		G2569	U2501	G2434	G2363	G2287	U2213		G2084	G2021	A1954	A1883
C2849	A	U2645		A2570	G2502	G2435	G2364	A2288	G2214		U2086	C2022	G1955	A1884
		C2646		G2571	G2503	U2436	U2365	A2289	C2215		A	U2024	G1956	C1885
U2853	U2778	G2647		G2572	G2504	G2437	G2366	A2290	G2216			A	C1957	G1886
C2854	C2779	U2651		U2507	U2507	A2438	G2370	U2298	G2217			A	C2026	G1887
G2855	U2780	G2652		G2508	U2508		A2371	A2299	U2218			U	G1958	G1888
U2856	G2781	A2653		C2585	C2443		A2372	A2299	U2219			A	U1959	C1889
C2857	U2782	U2654			C2444			A2220	A2220				A1960	G1890
A2858	A2784	C2655					G2375	A2301					C1962	

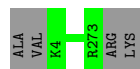
- Molecule 2: 5S RIBOSOMAL RNA

Chain 9: 



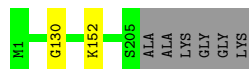
- Molecule 3: ribosomal protein L2

Chain A: 



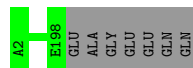
- Molecule 4: ribosomal protein L3

Chain B: 



- Molecule 5: ribosomal protein L4

Chain C: 



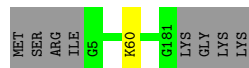
- Molecule 6: ribosomal protein L5

Chain D: 



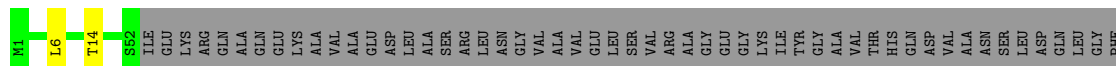
- Molecule 7: ribosomal protein L6

Chain E: 



- Molecule 8: ribosomal protein L9

Chain F: 




ASP VAL ASP ARG LYS ILE ASP MET PRO LYS THR VAL LYS GLU VAL GLY TYR ASP ILE ALA TYR ARG ALA HIS PRO GLU VAL THR ILE PRO MET LYS LEU VAL VAL HIS ALA ALA LYS

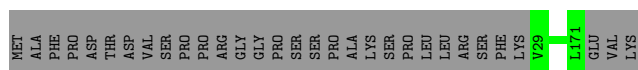
- Molecule 9: ribosomal protein L11

Chain G:  99%

 H1 N143 ALA

- Molecule 10: ribosomal protein L13

Chain H:  82% 18%

 MET ALA PHE PRO THR ASP VAL SER PRO ARG GLY PRO SER PRO ALA LYS SER LEU LEU ARG SER PHE LYS V29 L171 GLU VAL LYS

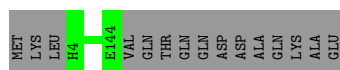
- Molecule 11: ribosomal protein L14

Chain I:  99%


 MET I2 V133 LEU

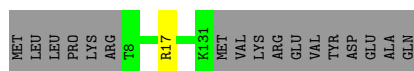
- Molecule 12: ribosomal protein L15

Chain J:  90% 10%

 MET LYS LEU H4 E144 VAL GLN THR GLN ASP ALA GLN LYS ALA GLU

- Molecule 13: ribosomal protein L16

Chain K:  87% 12%

 MET LEU PRO LYS ARG T8 R17 K131 MET VAL LYS ARG GLU VAL TYR ASP GLU ALA GLN

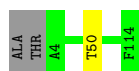
- Molecule 14: ribosomal protein L17

Chain L:  97%

 MET ARG H3 S15 V116

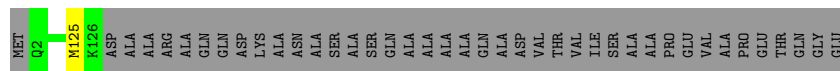
- Molecule 15: ribosomal protein L18

Chain M:  97%

 ALA THR A4 T50 F113

- Molecule 16: ribosomal protein L19

Chain N:  75% 25%



- Molecule 17: ribosomal protein L20

Chain O:  99%



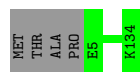
- Molecule 18: ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: ribosomal protein L22

Chain Q:  97%



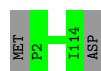
- Molecule 20: ribosomal protein L23

Chain R:  99%



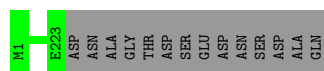
- Molecule 21: ribosomal protein L24

Chain S:  98%



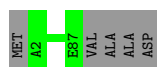
- Molecule 22: general stress protein Ctc

Chain T:  94% 6%



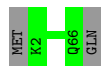
- Molecule 23: ribosomal protein L27

Chain U:  95% 5%



- Molecule 24: ribosomal protein L29

Chain W: 97% .



- Molecule 25: ribosomal protein L30

Chain X: 100%

There are no outlier residues recorded for this chain.

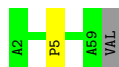
- Molecule 26: ribosomal protein L31

Chain Y: 100%

There are no outlier residues recorded for this chain.

- Molecule 27: ribosomal protein L32

Chain Z: 97% ..



- Molecule 28: ribosomal protein L33

Chain 1: 96% .



- Molecule 29: ribosomal protein L34

Chain 2: 98% .



- Molecule 30: ribosomal protein L35

Chain 3: 97% .



- Molecule 31: ribosomal protein L36



4 Data and refinement statistics

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

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	171.00 Å 409.50 Å 695.70 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.50)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.13	Depositor
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.285 , 0.313	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	65355	wwPDB-VP
Average B, all atoms (Å ²)	54.0	wwPDB-VP

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.23	0/66467	0.67	0/103673
2	9	0.59	0/2816	0.81	1/4388 (0.0%)
All	All	0.25	0/69283	0.67	1/108061 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

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

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1342	U	Sidechain

5.2 Too-close contacts [i](#)

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

the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2141	0
2	9	2519	0	1285	147	0
3	A	270	0	0	0	0
4	B	205	0	0	2	0
5	C	197	0	0	0	0
6	D	178	0	0	1	0
7	E	177	0	0	1	0
8	F	52	0	0	1	0
9	G	143	0	0	0	0
10	H	143	0	0	0	0
11	I	132	0	0	0	0
12	J	141	0	0	0	0
13	K	124	0	0	1	0
14	L	114	0	0	1	0
15	M	111	0	0	1	0
16	N	125	0	0	1	0
17	O	117	0	0	0	0
18	P	100	0	0	0	0
19	Q	130	0	0	0	0
20	R	93	0	0	0	0
21	S	113	0	0	0	0
22	T	223	0	0	0	0
23	U	86	0	0	0	0
24	W	65	0	0	0	0
25	X	55	0	0	0	0
26	Y	73	0	0	0	0
27	Z	58	0	0	1	0
28	1	53	0	0	0	0
29	2	46	0	0	0	0
30	3	63	0	0	0	0
31	4	35	0	0	0	0
32	0	55	0	59	9	0
All	All	65355	0	31261	2286	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (2286) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

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

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

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

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2198:U:C3'	1:0:2199:C:H5''	2.21	0.71
1:0:2324:G:O2'	1:0:2325:A:H5''	1.90	0.71
1:0:1466:C:H2'	1:0:1467:U:O4'	1.89	0.71
1:0:2176:U:H2'	1:0:2177:U:O4'	1.91	0.71
1:0:2185:U:H2'	1:0:2186:G:C8	2.26	0.70
1:0:618:A:H2'	1:0:619:A:O4'	1.89	0.70
1:0:1479:G:H2'	1:0:1480:G:H8	1.55	0.70
1:0:2315:A:O2'	1:0:2364:C:H5''	1.91	0.70
1:0:2321:C:H2'	1:0:2322:U:O4'	1.91	0.70
1:0:1762:C:O2'	1:0:1777:A:H1'	1.91	0.70
1:0:162:C:H4'	1:0:195:A:H4'	1.71	0.70
1:0:460:U:N3	1:0:592:G:H1'	2.06	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:523:A:H4'	1:0:1230:C:H5'	1.74	0.70
2:9:71:G:N2	2:9:72:C:H1'	2.07	0.70
1:0:1068:A:H2'	1:0:1069:G:C8	2.27	0.70
1:0:953:G:H1'	1:0:1203:A:H2	1.55	0.70
1:0:1479:G:H2'	1:0:1480:G:C8	2.27	0.70
1:0:1598:C:H2'	1:0:1599:G:O4'	1.91	0.70
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.70
1:0:1280:U:H3	1:0:1996:A:N6	1.85	0.70
1:0:1617:G:H2'	1:0:1618:U:H5'	1.72	0.70
1:0:245:C:H5'	1:0:372:U:O2'	1.91	0.70
1:0:814:G:H3'	1:0:815:A:H5'	1.73	0.70
2:9:84:G:O2'	2:9:85:G:H5'	1.91	0.70
1:0:1284:G:N3	1:0:1633:C:H5'	2.07	0.70
1:0:1789:U:H2'	1:0:1790:G:H5'	1.74	0.70
1:0:236:C:H2'	1:0:237:G:H8	1.57	0.70
1:0:734:G:H2'	1:0:735:G:H8	1.57	0.70
1:0:1436:G:H21	1:0:1514:C:H1'	1.57	0.69
1:0:2202:G:H2'	1:0:2203:G:O4'	1.92	0.69
1:0:2469:G:H5''	1:0:2470:U:OP1	1.91	0.69
1:0:2841:U:H1'	1:0:2843:A:H1'	1.72	0.69
1:0:109:A:C3'	1:0:110:U:H5''	2.22	0.69
1:0:2836:U:H2'	1:0:2837:G:C8	2.26	0.69
2:9:4:C:H2'	2:9:5:C:H6	1.57	0.69
1:0:109:A:H2'	1:0:110:U:H5''	1.72	0.69
1:0:486:U:H4'	1:0:520:C:H5'	1.74	0.69
1:0:541:C:H42	1:0:572:G:H8	1.40	0.69
1:0:652:C:H42	1:0:657:A:N6	1.89	0.69
1:0:1091:C:H2'	1:0:1092:U:C6	2.27	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1869:A:H2'	1:0:1870:U:O4'	1.92	0.69
1:0:964:A:H2'	1:0:965:G:H8	1.57	0.69
1:0:760:U:O2	1:0:1997:A:H1'	1.92	0.69
1:0:2510:A:N6	1:0:2641:A:H61	1.89	0.69
1:0:1653:C:H2'	1:0:1654:A:C8	2.28	0.69
1:0:2836:U:H2'	1:0:2837:G:H8	1.57	0.69
1:0:798:G:H2'	1:0:799:C:H5'	1.75	0.69
2:9:6:C:H2'	2:9:7:C:C6	2.26	0.69
1:0:616:U:C2'	1:0:617:U:H5''	2.23	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.08	0.69
1:0:50:G:H2'	1:0:117:A:C2	2.28	0.69
1:0:1695:U:H2'	1:0:1696:C:O4'	1.93	0.69
1:0:462:G:H2'	1:0:463:C:C5'	2.22	0.69
1:0:69:G:H5''	1:0:70:A:OP1	1.93	0.69
1:0:939:C:H2'	1:0:940:G:C8	2.28	0.69
1:0:2308:A:H2'	1:0:2309:G:C8	2.28	0.68
1:0:2466:G:H2'	1:0:2467:A:C8	2.28	0.68
2:9:84:G:H2'	2:9:85:G:C8	2.22	0.68
1:0:1194:U:H2'	1:0:1195:U:C6	2.28	0.68
1:0:216:U:H5''	1:0:601:A:N6	2.08	0.68
1:0:1467:U:H3'	1:0:1468:A:C5'	2.23	0.68
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.68
1:0:77:C:H2'	1:0:78:C:C6	2.29	0.68
1:0:187:U:H2'	1:0:188:G:C8	2.28	0.68
1:0:2041:A:N1	32:0:2881:773:H9	2.07	0.68
1:0:1325:U:H4'	1:0:1326:U:C6	2.29	0.68
1:0:1953:A:H1'	1:0:1955:G:C1'	2.23	0.68
1:0:459:A:H1'	1:0:461:A:N6	2.08	0.68
1:0:490:A:O2'	1:0:491:A:H5'	1.93	0.68
1:0:2757:G:H5'	1:0:2761:A:H1'	1.76	0.68
1:0:475:U:H2'	1:0:476:G:O4'	1.94	0.68
1:0:239:A:H4'	1:0:620:G:H5'	1.75	0.68
1:0:71:A:N6	1:0:110:U:H4'	2.09	0.68
1:0:1474:A:N3	1:0:1474:A:H3'	2.09	0.68
1:0:1727:C:H4'	1:0:2833:C:N3	2.09	0.67
1:0:2199:C:H2'	1:0:2200:G:C8	2.29	0.67
1:0:1197:U:H2'	1:0:1198:C:O4'	1.94	0.67
1:0:2469:G:H4'	1:0:2470:U:C5	2.30	0.67
1:0:2829:A:H2'	1:0:2830:U:O4'	1.94	0.67
1:0:1791:C:O2'	1:0:1793:A:H5'	1.94	0.67
1:0:2491:C:H3'	1:0:2492:G:H5''	1.77	0.67

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2866:A:H2'	1:0:2867:G:O4'	1.99	0.63
1:0:139:A:H2'	1:0:140:G:H8	1.64	0.63
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.63
1:0:2380:U:C2'	1:0:2381:A:H5'	2.26	0.63
1:0:752:G:H5'	1:0:1775:A:N6	2.14	0.63
1:0:1004:A:H2'	1:0:1005:U:H5''	1.80	0.63
1:0:163:A:H2'	1:0:164:G:H8	1.63	0.63
1:0:1974:U:C2'	1:0:1975:G:H5''	2.29	0.63
1:0:2781:G:H2'	1:0:2782:G:C1'	2.29	0.63
1:0:2787:A:O2'	1:0:2788:C:H5'	1.99	0.63
1:0:441:A:H2'	1:0:442:A:O4'	1.99	0.63
1:0:1641:C:H2'	1:0:1642:G:O4'	1.99	0.63
1:0:1918:G:H1'	1:0:1947:G:C2	2.33	0.63
1:0:2456:U:H1'	1:0:2460:G:N2	2.13	0.63
1:0:792:U:H2'	1:0:793:G:C5'	2.27	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.99	0.63
1:0:2633:A:H2	1:0:2644:A:H5''	1.64	0.63
1:0:1268:U:H5'	1:0:1269:G:H5''	1.81	0.62
1:0:1690:U:H2'	1:0:1691:G:H5'	1.80	0.62
1:0:2839:G:H2'	1:0:2840:U:C6	2.33	0.62
1:0:1473:U:H4'	1:0:1474:A:C5	2.34	0.62
1:0:1770:U:H2'	1:0:1774:A:H62	1.64	0.62
1:0:1972:G:H2'	1:0:1973:C:O4'	1.99	0.62
1:0:2085:G:H2'	1:0:2086:U:C6	2.34	0.62
1:0:401:G:H2'	1:0:403:A:N7	2.15	0.62
2:9:18:G:H2'	2:9:19:C:H6	1.63	0.62
2:9:30:C:O5'	2:9:30:C:H6	1.80	0.62
1:0:1329:U:H5'	1:0:1405:A:H1'	1.79	0.62
1:0:1789:U:O2'	1:0:1793:A:H1'	2.00	0.62
1:0:1743:C:H41	16:N:125:MET:CA	2.11	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.81	0.62
1:0:2012:A:C5	1:0:2014:A:H5'	2.35	0.62
1:0:2495:G:H2'	1:0:2496:C:C6	2.35	0.62
1:0:2507:U:HO2'	1:0:2508:G:H8	1.47	0.62
1:0:2521:A:H5'	1:0:2522:G:OP1	1.99	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.63	0.62
1:0:1204:G:H2'	1:0:1205:G:C8	2.34	0.62
1:0:1313:U:H1'	1:0:1642:G:N2	2.14	0.62
1:0:2273:C:H2'	1:0:2274:C:H6	1.65	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1319:C:H2'	1:0:1320:A:C8	2.32	0.62
1:0:2672:U:H2'	1:0:2673:G:C8	2.33	0.62
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.62
1:0:223:C:H4'	1:0:398:C:H1'	1.81	0.62
1:0:683:A:H5''	1:0:684:C:OP1	2.00	0.62
1:0:1560:A:H2'	1:0:1561:A:O4'	2.00	0.62
1:0:1707:A:N7	1:0:1714:A:H2	1.98	0.62
1:0:2377:U:H2'	1:0:2378:G:C8	2.34	0.62
1:0:2770:A:C5'	1:0:2867:G:H1	2.13	0.62
1:0:782:U:H2'	1:0:783:G:C8	2.35	0.62
1:0:927:C:H2'	1:0:928:G:O4'	1.99	0.62
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.62
1:0:2001:G:H2'	1:0:2002:A:C8	2.35	0.62
1:0:2011:U:H2'	1:0:2012:A:C8	2.35	0.62
1:0:888:G:H2'	1:0:889:C:O4'	2.00	0.62
2:9:114:C:O5'	2:9:114:C:H6	1.82	0.62
1:0:1191:G:H2'	1:0:1192:A:H8	1.65	0.61
1:0:1429:A:N6	1:0:1602:G:H5'	2.15	0.61
1:0:210:A:N6	1:0:442:A:H61	1.97	0.61
1:0:460:U:H3	1:0:592:G:H1'	1.64	0.61
1:0:942:U:O2'	1:0:943:U:H5'	2.00	0.61
1:0:1352:G:H2'	1:0:1353:A:C8	2.35	0.61
1:0:2426:G:O6	1:0:2479:U:H2'	2.00	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
2:9:56:G:H2'	2:9:57:U:O4'	1.99	0.61
1:0:1730:G:H2'	1:0:1731:C:C6	2.35	0.61
1:0:2045:A:H61	32:0:2881:773:H131	1.63	0.61
1:0:1057:A:H3'	1:0:1058:G:C5'	2.31	0.61
1:0:321:A:H2'	1:0:323:G:N7	2.15	0.61
1:0:483:A:H2'	1:0:484:G:H5'	1.82	0.61
1:0:2764:U:H2'	1:0:2765:C:C6	2.36	0.61
1:0:614:G:H2'	1:0:615:C:H6	1.64	0.61
1:0:929:A:H2'	1:0:930:A:C4'	2.31	0.61
1:0:141:G:H2'	1:0:142:U:C6	2.36	0.61
1:0:1196:G:C2'	1:0:1197:U:H5'	2.30	0.61
1:0:1717:A:H2'	1:0:1718:A:H5'	1.81	0.61
1:0:1760:G:O2'	1:0:1761:G:H5'	2.01	0.61
1:0:2686:C:H2'	1:0:2687:G:C8	2.35	0.61
1:0:857:U:C2'	1:0:858:G:H5'	2.31	0.61
1:0:870:C:H2'	1:0:871:U:C6	2.36	0.61
1:0:2437:G:H1	1:0:2469:G:H2'	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1937:G:N3	1:0:2530:C:H5'	2.16	0.61
1:0:2713:A:H2'	1:0:2714:A:C8	2.36	0.61
1:0:2721:A:H2'	1:0:2722:C:O4'	2.01	0.61
1:0:2872:U:H2'	1:0:2873:G:H8	1.63	0.61
2:9:14:C:H4'	2:9:17:A:H61	1.65	0.61
2:9:62:C:N4	2:9:63:A:N6	2.48	0.61
1:0:1194:U:H2'	1:0:1195:U:C5	2.35	0.61
1:0:775:U:O2	1:0:1445:A:H5''	2.00	0.61
1:0:1588:A:H2'	1:0:1589:G:C8	2.36	0.61
1:0:1514:C:H5'	1:0:1593:C:C5'	2.31	0.61
1:0:1710:U:H3	1:0:1821:A:H61	1.48	0.61
1:0:202:A:H2'	1:0:203:G:O4'	2.01	0.61
1:0:657:A:H2'	1:0:658:G:C8	2.36	0.61
1:0:1225:G:H2'	1:0:1249:G:N2	2.16	0.60
1:0:146:C:H2'	1:0:147:G:C8	2.36	0.60
2:9:58:G:H4'	2:9:59:A:C5'	2.29	0.60
1:0:2463:G:O2'	1:0:2464:G:H5'	2.01	0.60
1:0:2633:A:H5''	1:0:2634:G:OP1	2.02	0.60
1:0:574:C:H4'	1:0:1266:G:O6	2.01	0.60
1:0:639:G:H2'	1:0:640:C:C6	2.36	0.60
1:0:62:U:H2'	1:0:63:A:C8	2.36	0.60
1:0:2177:U:H2'	1:0:2178:U:C6	2.35	0.60
2:9:113:G:H2'	2:9:114:C:C6	2.36	0.60
1:0:1889:G:H2'	1:0:1890:G:C8	2.37	0.60
1:0:330:C:O2'	1:0:331:U:H5'	2.00	0.60
1:0:976:C:H5'	1:0:2252:A:C1'	2.31	0.60
1:0:1672:A:C2	1:0:2032:G:H4'	2.36	0.60
1:0:2713:A:H2'	1:0:2714:A:H8	1.67	0.60
1:0:2617:G:H21	1:0:2758:A:H62	1.48	0.60
1:0:2770:A:H5'	1:0:2867:G:H1	1.67	0.60
1:0:1295:U:C2'	1:0:1296:G:H5'	2.31	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.01	0.60
1:0:2005:U:H5''	1:0:2006:G:OP1	2.00	0.60
1:0:2194:A:C2'	1:0:2195:C:H5''	2.32	0.60
2:9:42:U:O5'	2:9:42:U:H6	1.83	0.60
1:0:2398:U:H2'	1:0:2399:C:C6	2.36	0.60
1:0:2754:C:H2'	1:0:2755:A:C8	2.36	0.60
1:0:538:A:H2'	1:0:539:A:H5''	1.82	0.60
1:0:542:A:C2'	1:0:543:G:H5'	2.32	0.60
1:0:1086:C:C2'	1:0:1087:C:H5''	2.29	0.60
1:0:108:G:H2'	1:0:109:A:C8	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2173:G:H2'	1:0:2174:G:O4'	2.01	0.60
1:0:2768:C:H1'	1:0:2784:A:N7	2.17	0.60
1:0:1184:G:H2'	1:0:1185:C:H5''	1.83	0.60
1:0:1782:A:H62	1:0:1820:G:H2'	1.67	0.60
1:0:2307:A:H2'	1:0:2308:A:C8	2.36	0.60
1:0:2429:A:OP1	1:0:2476:A:H2'	2.02	0.60
1:0:2691:C:C3'	1:0:2692:A:H5''	2.31	0.60
1:0:2029:G:H2'	1:0:2030:U:C6	2.36	0.59
1:0:2096:U:C2'	1:0:2097:A:H5''	2.28	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.31	0.59
1:0:411:C:OP1	1:0:2073:A:H1'	2.02	0.59
2:9:102:A:H2'	2:9:103:A:H5'	1.84	0.59
1:0:1517:C:H2'	1:0:1518:C:C6	2.37	0.59
1:0:1540:C:H2'	1:0:1541:G:O4'	2.02	0.59
1:0:2549:G:N2	1:0:2550:C:H1'	2.17	0.59
1:0:2736:U:O2'	1:0:2737:A:H5'	2.02	0.59
1:0:1067:G:H21	1:0:1115:C:N4	2.00	0.59
1:0:1312:G:H4'	1:0:1314:A:C4	2.37	0.59
1:0:2800:C:H2'	1:0:2801:A:O4'	2.02	0.59
1:0:1604:A:H2'	1:0:1605:A:O4'	2.02	0.59
1:0:1790:G:H4'	1:0:1791:C:C5	2.38	0.59
1:0:2083:G:H2'	1:0:2084:G:C8	2.37	0.59
1:0:2274:C:H2'	1:0:2275:U:C5'	2.32	0.59
1:0:761:G:O6	1:0:764:A:H4'	2.01	0.59
1:0:2119:A:O2'	1:0:2120:C:H5'	2.02	0.59
1:0:837:U:H1'	1:0:2337:A:N7	2.18	0.59
1:0:1055:A:OP1	1:0:1057:A:H5'	2.03	0.59
1:0:451:A:H2'	1:0:452:G:C8	2.38	0.59
1:0:1921:A:H2'	1:0:1922:U:H5''	1.83	0.59
1:0:681:A:C6	1:0:683:A:H2'	2.38	0.59
2:9:55:C:O5'	2:9:55:C:H6	1.85	0.59
1:0:1259:A:O2'	1:0:1260:A:H5'	2.03	0.59
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.59
1:0:2299:A:H5''	1:0:2300:G:O5'	2.02	0.59
1:0:2678:C:H2'	1:0:2679:G:C8	2.38	0.59
1:0:581:A:C2	1:0:582:G:H1'	2.38	0.59
2:9:78:A:H2'	2:9:79:U:C5	2.38	0.59
1:0:1245:G:H2'	1:0:1246:G:H8	1.67	0.59
1:0:1259:A:C2'	1:0:1260:A:H5'	2.32	0.59
1:0:1707:A:H2'	1:0:1708:C:H5'	1.85	0.59
1:0:2163:U:H2'	1:0:2164:G:C8	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:340:G:H1'	1:0:488:A:H1'	1.84	0.59
1:0:775:U:H4'	1:0:776:G:C8	2.38	0.59
1:0:973:U:H4'	1:0:2475:C:O2'	2.03	0.59
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.58
1:0:313:U:H2'	1:0:314:G:H8	1.68	0.58
1:0:646:C:O2	1:0:650:U:H4'	2.03	0.58
1:0:1644:G:O2'	1:0:1645:U:H5'	2.04	0.58
1:0:1679:U:C3'	1:0:1680:U:H5''	2.33	0.58
1:0:979:A:H2'	1:0:980:G:O4'	2.04	0.58
1:0:982:C:H4'	1:0:994:A:O2'	2.02	0.58
2:9:111:C:H5''	2:9:112:A:O5'	2.03	0.58
1:0:1065:A:H2'	1:0:1066:G:H8	1.68	0.58
1:0:1691:G:H21	1:0:1694:A:H61	1.51	0.58
1:0:1949:A:H1'	1:0:2572:U:H4'	1.86	0.58
1:0:462:G:H2'	1:0:463:C:H5''	1.83	0.58
1:0:66:U:H2'	1:0:67:G:C8	2.38	0.58
1:0:1252:C:O2'	1:0:1253:C:H5''	2.03	0.58
1:0:2492:G:H1	1:0:2550:C:H42	1.49	0.58
1:0:76:C:H6	1:0:76:C:H5'	1.68	0.58
1:0:1004:A:H2'	1:0:1005:U:C5'	2.32	0.58
1:0:1217:U:H2'	1:0:1218:C:C6	2.37	0.58
1:0:168:A:H2'	1:0:169:C:H6	1.68	0.58
1:0:2660:C:O2'	1:0:2661:G:H5'	2.04	0.58
1:0:425:A:H2'	1:0:426:C:O4'	2.02	0.58
1:0:705:C:H2'	1:0:706:A:H8	1.69	0.58
2:9:20:A:O2'	2:9:21:C:H5'	2.03	0.58
1:0:114:C:H2'	1:0:115:G:C8	2.39	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.03	0.58
1:0:1436:G:N2	1:0:1514:C:H1'	2.19	0.58
1:0:2466:G:H2'	1:0:2467:A:H8	1.67	0.58
1:0:2779:C:H2'	1:0:2780:A:C8	2.39	0.58
1:0:799:C:O2'	1:0:800:U:H5'	2.03	0.58
2:9:18:G:H2'	2:9:19:C:C6	2.38	0.58
1:0:1253:C:H2'	1:0:1254:G:O4'	2.03	0.58
1:0:1278:A:H4'	1:0:1279:G:O5'	2.04	0.58
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.58
1:0:1537:U:H2'	1:0:1538:A:C8	2.39	0.58
1:0:1975:G:N2	1:0:1978:U:H5	2.00	0.58
1:0:2053:G:H2'	1:0:2054:A:C8	2.39	0.58
1:0:2437:G:H2'	1:0:2469:G:H1	1.68	0.58
1:0:357:A:H3'	1:0:358:C:O4'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:595:A:H62	1:0:1264:C:H42	1.52	0.58
1:0:1336:G:H2'	1:0:1337:G:H5'	1.86	0.58
1:0:2470:U:H2'	1:0:2471:U:H6	1.68	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:616:U:C3'	1:0:617:U:H5''	2.34	0.58
1:0:1699:A:N6	1:0:1723:U:H3	2.02	0.58
1:0:1763:G:H2'	1:0:1764:A:C4'	2.34	0.58
1:0:1991:C:H2'	1:0:1992:G:H8	1.68	0.58
1:0:1994:U:H2'	1:0:1995:G:H5'	1.86	0.58
1:0:2318:U:H2'	1:0:2319:G:C8	2.36	0.58
1:0:312:G:OP1	1:0:312:G:H4'	2.03	0.58
1:0:1057:A:H3'	1:0:1058:G:H5''	1.85	0.58
1:0:1196:G:H2'	1:0:1197:U:O4'	2.04	0.58
1:0:2164:G:H2'	1:0:2165:A:H8	1.69	0.58
1:0:226:C:H4'	1:0:227:G:C8	2.38	0.58
1:0:487:G:H1'	1:0:515:A:C2	2.39	0.58
1:0:663:G:H2'	1:0:664:C:O4'	2.03	0.58
1:0:789:G:H21	1:0:806:A:H62	1.52	0.58
1:0:871:U:H1'	1:0:2248:A:H5''	1.85	0.58
1:0:1346:C:P	1:0:1346:C:H6	2.27	0.57
1:0:1791:C:H1'	1:0:1793:A:C5'	2.33	0.57
1:0:2194:A:H2'	1:0:2195:C:H5''	1.86	0.57
1:0:1281:A:H4'	1:0:2592:U:O2	2.04	0.57
1:0:459:A:H1'	1:0:461:A:H62	1.67	0.57
1:0:692:C:H2'	1:0:693:A:H8	1.69	0.57
1:0:770:U:O2'	1:0:771:C:H5'	2.03	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.04	0.57
1:0:1195:U:H2'	1:0:1196:G:H8	1.69	0.57
1:0:1333:G:C6	1:0:1342:U:H5'	2.38	0.57
1:0:1830:C:H42	1:0:1881:U:H3'	1.69	0.57
1:0:2020:G:H2'	1:0:2021:G:C8	2.39	0.57
1:0:2727:G:C2'	1:0:2728:A:H5''	2.34	0.57
1:0:2737:A:H2'	1:0:2738:A:H5'	1.85	0.57
1:0:2788:C:O2'	1:0:2789:U:H5'	2.04	0.57
1:0:1621:C:H2'	1:0:1622:G:O4'	2.05	0.57
1:0:1785:A:H2'	1:0:1786:C:C6	2.39	0.57
1:0:2390:A:H2'	1:0:2391:A:C8	2.39	0.57
1:0:2782:G:H3'	1:0:2783:U:H5''	1.86	0.57
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.57
1:0:1418:C:H2'	1:0:1419:G:H8	1.69	0.57
1:0:1480:G:C2'	1:0:1481:U:H5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1558:C:C2'	1:0:1559:G:H5'	2.34	0.57
1:0:1583:A:H8	1:0:1583:A:O5'	1.87	0.57
1:0:1816:G:O2'	1:0:1817:U:H5'	2.05	0.57
1:0:758:G:H2'	1:0:759:C:H5'	1.85	0.57
1:0:1313:U:C4	1:0:1651:U:H5'	2.40	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.04	0.57
1:0:2243:C:H2'	1:0:2244:C:O4'	2.04	0.57
1:0:2799:C:H2'	1:0:2800:C:O4'	2.04	0.57
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.57
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.57
1:0:958:G:H2'	1:0:959:C:C6	2.39	0.57
1:0:54:G:H2'	1:0:55:A:H8	1.70	0.57
1:0:941:U:H4'	1:0:941:U:OP1	2.04	0.57
1:0:1271:C:H2'	1:0:1272:G:H8	1.68	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.39	0.57
1:0:1736:C:H2'	1:0:1737:G:C8	2.39	0.57
1:0:185:C:O2'	1:0:186:C:H5'	2.04	0.57
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.57
1:0:2503:G:C2'	1:0:2504:G:H5''	2.34	0.57
1:0:2633:A:C2	1:0:2644:A:H5''	2.39	0.57
1:0:36:G:H1'	1:0:462:G:H21	1.69	0.57
1:0:659:G:H2'	1:0:660:G:C8	2.40	0.57
1:0:936:A:H2'	1:0:937:C:C6	2.40	0.57
1:0:1312:G:H4'	1:0:1314:A:N3	2.20	0.57
1:0:1729:C:H2'	1:0:1730:G:C8	2.40	0.57
1:0:2607:C:H3'	1:0:2608:A:H5'	1.86	0.57
1:0:2841:U:H1'	1:0:2843:A:C1'	2.35	0.57
1:0:1392:U:H2'	1:0:1393:G:H5'	1.87	0.57
1:0:2426:G:H22	1:0:2431:C:N4	2.03	0.57
1:0:2756:A:C6	1:0:2762:G:H1'	2.39	0.57
1:0:1727:C:H4'	1:0:2833:C:C2	2.40	0.57
2:9:102:A:OP2	2:9:102:A:H8	1.88	0.57
1:0:1311:C:H5'	1:0:1315:A:N6	2.20	0.56
1:0:1336:G:C2'	1:0:1337:G:H5'	2.35	0.56
1:0:1825:C:C2'	1:0:1826:U:H5'	2.35	0.56
1:0:1958:G:H2'	1:0:1959:U:H6	1.70	0.56
1:0:334:G:N3	1:0:344:G:H1'	2.20	0.56
1:0:929:A:O2'	2:9:101:A:H4'	2.05	0.56
1:0:195:A:N1	1:0:212:U:H4'	2.20	0.56
1:0:2769:C:H2'	1:0:2770:A:H5'	1.86	0.56
1:0:692:C:H2'	1:0:693:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:C2'	2:9:35:C:H5'	2.35	0.56
1:0:1039:A:H61	1:0:1136:G:H2'	1.70	0.56
1:0:1196:G:H2'	1:0:1197:U:H5'	1.86	0.56
1:0:128:C:H2'	1:0:129:A:C4'	2.35	0.56
1:0:1698:C:O2'	1:0:1753:A:H2'	2.06	0.56
1:0:2261:G:H5''	1:0:2262:C:O5'	2.04	0.56
1:0:2266:A:C2	1:0:2268:G:H1'	2.40	0.56
1:0:978:U:H2'	1:0:979:A:C8	2.40	0.56
1:0:1322:G:H21	1:0:1627:C:H5'	1.70	0.56
1:0:1441:A:N3	1:0:1441:A:H2'	2.21	0.56
1:0:1677:C:O2'	1:0:1678:G:H5'	2.04	0.56
1:0:2642:G:O2'	1:0:2643:G:H5'	2.05	0.56
1:0:572:G:OP2	1:0:581:A:H5'	2.06	0.56
1:0:585:U:H2'	1:0:586:G:C8	2.40	0.56
1:0:604:U:H2'	1:0:605:G:C8	2.40	0.56
2:9:93:G:H2'	2:9:94:G:C8	2.32	0.56
1:0:1182:U:C3'	1:0:1183:C:H5''	2.35	0.56
1:0:1763:G:H21	1:0:1765:C:H5''	1.71	0.56
1:0:1374:G:O2'	1:0:2193:C:H1'	2.05	0.56
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.56
1:0:2686:C:H2'	1:0:2687:G:H8	1.70	0.56
1:0:1313:U:H4'	1:0:1314:A:O5'	2.05	0.56
1:0:178:C:H2'	1:0:179:U:C6	2.40	0.56
1:0:2495:G:H2'	1:0:2496:C:O4'	2.05	0.56
1:0:308:C:H2'	1:0:309:G:O4'	2.05	0.56
1:0:452:G:H2'	1:0:453:U:O4'	2.06	0.56
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.56
1:0:831:G:C2'	1:0:832:A:H5''	2.36	0.56
2:9:34:C:H2'	2:9:35:C:O4'	2.05	0.56
1:0:1095:A:H2'	1:0:1096:A:O4'	2.06	0.56
1:0:12:U:H2'	1:0:13:A:O4'	2.06	0.56
1:0:1356:G:H5''	1:0:1614:C:OP2	2.05	0.56
1:0:1430:G:H22	1:0:1599:G:H1'	1.71	0.56
1:0:1683:G:C2'	1:0:1684:G:H5'	2.35	0.56
1:0:1826:U:O2'	1:0:1952:A:H2'	2.05	0.56
1:0:653:G:H2'	1:0:654:A:H4'	1.86	0.56
1:0:847:C:H2'	1:0:848:A:C8	2.40	0.56
1:0:1288:A:H62	1:0:1309:G:C4'	2.19	0.56
1:0:1300:A:C2	1:0:1666:G:H4'	2.41	0.56
1:0:1333:G:N2	1:0:1344:C:H41	2.04	0.56
1:0:1770:U:H5''	1:0:1771:A:H4'	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:G:HO2'	1:0:1791:C:H5	1.52	0.56
1:0:2105:U:H2'	1:0:2106:G:C8	2.41	0.56
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.56
1:0:777:A:H62	1:0:1767:G:H1'	1.70	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
1:0:191:G:O2'	1:0:192:G:H5'	2.06	0.56
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.56
1:0:24:G:H2'	1:0:25:U:C6	2.40	0.56
1:0:346:C:O2'	1:0:347:C:H5'	2.05	0.56
1:0:746:G:O6	1:0:774:A:H2'	2.05	0.56
1:0:931:G:O2'	1:0:932:G:H5'	2.06	0.56
1:0:1162:A:H2'	1:0:1163:C:O4'	2.06	0.56
1:0:1312:G:H5''	1:0:1313:U:H5'	1.86	0.56
1:0:1594:U:H2'	1:0:1595:A:H8	1.71	0.56
1:0:1843:U:H2'	1:0:1844:C:C6	2.41	0.56
1:0:1953:A:H1'	1:0:1955:G:H1'	1.87	0.56
1:0:2080:U:H2'	1:0:2081:U:C6	2.41	0.56
1:0:2475:C:H2'	1:0:2476:A:O4'	2.06	0.56
1:0:2678:C:H2'	1:0:2679:G:H8	1.69	0.56
1:0:719:A:H2'	1:0:720:A:O4'	2.06	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1245:G:H2'	1:0:1246:G:C8	2.40	0.56
1:0:1439:G:N2	1:0:1590:C:H42	2.04	0.56
1:0:1467:U:H3'	1:0:1468:A:H5'	1.88	0.56
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.56
1:0:1865:C:H2'	1:0:1866:G:O4'	2.06	0.56
1:0:2210:C:H2'	1:0:2211:U:O4'	2.06	0.56
1:0:2870:C:H2'	1:0:2871:U:H6	1.71	0.56
1:0:337:G:H2'	1:0:338:G:H8	1.71	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.06	0.56
1:0:738:G:H2'	1:0:739:G:O4'	2.06	0.56
1:0:871:U:H1'	1:0:2248:A:C5'	2.36	0.56
2:9:101:A:H2'	2:9:102:A:C8	2.41	0.56
2:9:17:A:H1'	2:9:112:A:C8	2.40	0.56
1:0:1021:A:H1'	1:0:1164:C:H1'	1.88	0.55
1:0:1226:A:C2	1:0:1250:A:H1'	2.41	0.55
1:0:1333:G:HO2'	1:0:1334:A:H8	1.52	0.55
1:0:1348:C:H2'	1:0:1349:A:H8	1.68	0.55
1:0:1949:A:H1'	1:0:2572:U:C4'	2.36	0.55
1:0:2811:G:H2'	1:0:2812:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1010:U:H2'	1:0:1011:A:C8	2.41	0.55
1:0:868:U:H2'	1:0:869:C:C6	2.41	0.55
2:9:32:C:H4'	2:9:60:A:H2	1.70	0.55
1:0:1038:U:H2'	1:0:1039:A:H8	1.70	0.55
1:0:10:A:H2'	1:0:11:G:C8	2.42	0.55
1:0:1764:A:C2'	1:0:1765:C:H5'	2.36	0.55
1:0:1785:A:H2'	1:0:1786:C:H6	1.71	0.55
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.55
1:0:2052:G:O2'	1:0:2053:G:H5'	2.07	0.55
1:0:216:U:H2'	1:0:217:U:O4'	2.06	0.55
1:0:2618:A:C6	1:0:2619:G:H1'	2.41	0.55
1:0:2803:C:O2'	1:0:2804:G:H5'	2.06	0.55
1:0:153:A:H2'	1:0:154:U:C6	2.41	0.55
1:0:1966:C:C4'	1:0:2585:C:H4'	2.15	0.55
1:0:826:U:O2'	1:0:1238:A:H1'	2.06	0.55
1:0:929:A:H3'	1:0:930:A:C5'	2.30	0.55
1:0:1164:C:H2'	1:0:1165:G:O4'	2.07	0.55
1:0:1436:G:H2'	1:0:1437:A:C8	2.42	0.55
1:0:1782:A:N6	1:0:1820:G:H2'	2.21	0.55
1:0:687:G:O2'	1:0:688:A:H5'	2.06	0.55
1:0:839:U:C4	1:0:841:G:H1'	2.42	0.55
1:0:843:G:O2'	1:0:844:G:OP1	2.20	0.55
1:0:990:A:H3'	1:0:991:A:C5'	2.37	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.71	0.55
1:0:831:G:H2'	1:0:832:A:H5''	1.87	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.37	0.55
1:0:1821:A:H3'	1:0:1822:C:H6	1.72	0.55
1:0:2404:A:P	1:0:2406:C:H5'	2.47	0.55
1:0:243:G:H2'	1:0:244:C:O4'	2.07	0.55
1:0:2636:A:H62	1:0:2643:G:N2	1.99	0.55
1:0:2276:C:O2'	1:0:2277:A:H5'	2.05	0.55
1:0:677:G:H4'	1:0:952:A:P	2.46	0.55
1:0:820:U:H2'	1:0:821:A:C8	2.41	0.55
1:0:2642:G:H2'	1:0:2643:G:O4'	2.05	0.55
1:0:2770:A:H4'	1:0:2867:G:N2	2.21	0.55
1:0:38:G:H1	1:0:453:U:H3	1.53	0.55
1:0:824:U:H2'	1:0:825:C:H5''	1.89	0.55
1:0:162:C:H2'	1:0:163:A:H8	1.69	0.55
1:0:192:G:C1'	1:0:193:A:H4'	2.37	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.88	0.55
1:0:330:C:C2'	1:0:331:U:H5'	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:514:G:N3	1:0:514:G:H2'	2.22	0.55
1:0:591:G:H2'	1:0:592:G:H8	1.71	0.55
2:9:42:U:H2'	2:9:45:C:N4	2.16	0.55
1:0:1040:A:C2'	1:0:1041:G:H5'	2.36	0.54
1:0:1101:U:N3	1:0:1113:C:H1'	2.23	0.54
1:0:1251:G:H2'	1:0:1252:C:O4'	2.07	0.54
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.54
1:0:1500:U:H3	1:0:1520:G:H22	1.55	0.54
1:0:1861:G:O2'	1:0:1862:C:H5'	2.07	0.54
1:0:2083:G:H2'	1:0:2084:G:H8	1.73	0.54
1:0:213:C:H42	1:0:238:G:H1	1.54	0.54
1:0:2195:C:H2'	1:0:2196:U:H5'	1.87	0.54
1:0:225:G:C5'	1:0:226:C:H5'	2.37	0.54
1:0:2544:A:H2'	1:0:2545:A:H1'	1.89	0.54
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.54
1:0:437:G:O2'	1:0:438:G:H5'	2.06	0.54
1:0:932:G:H2'	1:0:933:G:C8	2.42	0.54
1:0:929:A:HO2'	2:9:101:A:H4'	1.73	0.54
1:0:1116:U:H2'	1:0:1117:G:C8	2.42	0.54
1:0:1312:G:H5''	1:0:1313:U:H5''	1.88	0.54
1:0:785:U:H5'	1:0:1368:G:O2'	2.07	0.54
1:0:174:A:H4'	1:0:2051:U:H2'	1.89	0.54
1:0:2058:U:H4'	1:0:2575:U:O2	2.08	0.54
1:0:2315:A:HO2'	1:0:2364:C:H5''	1.72	0.54
1:0:2408:G:H3'	1:0:2409:A:C5'	2.37	0.54
1:0:2478:C:H2'	1:0:2479:U:H5'	1.90	0.54
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.54
1:0:2855:C:O2'	1:0:2856:U:H5'	2.07	0.54
1:0:1065:A:H2'	1:0:1066:G:C8	2.42	0.54
1:0:1250:A:O2'	1:0:1251:G:H4'	2.07	0.54
1:0:1291:G:O2'	1:0:1292:A:H5'	2.07	0.54
1:0:1531:C:H2'	1:0:1532:A:H5'	1.89	0.54
1:0:1837:G:H2'	1:0:1838:G:C8	2.42	0.54
1:0:2369:U:H2'	1:0:2370:G:C8	2.43	0.54
1:0:536:A:C2	1:0:2605:C:H1'	2.42	0.54
1:0:2633:A:H61	1:0:2646:C:H42	1.55	0.54
1:0:2756:A:N6	1:0:2762:G:H1'	2.22	0.54
1:0:964:A:H2'	1:0:965:G:C8	2.40	0.54
1:0:1124:U:H2'	1:0:1125:G:H8	1.73	0.54
1:0:36:G:C1'	1:0:462:G:H21	2.20	0.54
1:0:575:U:H2'	1:0:576:A:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:790:A:O2'	1:0:791:G:H5'	2.06	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
1:0:1125:G:O2'	1:0:1126:A:H5'	2.07	0.54
1:0:1242:A:H2'	1:0:1243:G:H8	1.72	0.54
1:0:2535:C:H2'	1:0:2536:G:O4'	2.08	0.54
1:0:671:A:H2'	1:0:672:C:C6	2.43	0.54
1:0:804:C:O2	1:0:807:A:H5'	2.08	0.54
1:0:1451:C:H2'	1:0:1452:U:C6	2.43	0.54
1:0:1685:A:H1'	1:0:1686:A:C2	2.43	0.54
1:0:1998:A:H2'	1:0:1999:U:H5'	1.88	0.54
1:0:2447:G:N2	1:0:2460:G:H2'	2.20	0.54
1:0:2618:A:C2	1:0:2619:G:H1'	2.43	0.54
1:0:2759:U:H6	1:0:2759:U:O5'	1.90	0.54
1:0:338:G:O2'	1:0:339:U:H5'	2.08	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.07	0.54
1:0:577:U:H2'	1:0:579:G:OP2	2.08	0.54
1:0:659:G:H2'	1:0:660:G:H8	1.72	0.54
1:0:1374:G:N2	1:0:1384:G:H1'	2.23	0.54
1:0:1672:A:C2	1:0:1673:C:H1'	2.43	0.54
1:0:1854:G:H2'	1:0:1855:G:H8	1.72	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.08	0.54
1:0:504:G:O2'	1:0:505:G:H5'	2.08	0.54
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.54
1:0:2034:A:N6	1:0:2593:A:H62	2.06	0.54
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.54
1:0:616:U:H2'	1:0:617:U:C5'	2.34	0.54
1:0:1392:U:C2'	1:0:1393:G:H5'	2.38	0.54
1:0:1482:U:H2'	1:0:1483:G:H8	1.73	0.54
1:0:2562:G:H2'	1:0:2563:U:O4'	2.08	0.54
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.54
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.53
1:0:1602:G:O3'	1:0:1603:A:H8	1.91	0.53
1:0:968:C:N4	1:0:970:A:H1'	2.24	0.53
1:0:1962:C:O2'	1:0:1963:G:H5'	2.07	0.53
1:0:2487:G:O3'	1:0:2534:U:H5'	2.07	0.53
1:0:2640:G:H2'	1:0:2641:A:C8	2.44	0.53
1:0:2041:A:N6	32:0:2881:773:C14	2.38	0.53
1:0:584:A:O2'	1:0:585:U:H5'	2.07	0.53
1:0:153:A:H2'	1:0:154:U:C5	2.44	0.53
1:0:1669:A:N6	1:0:1670:G:H21	2.05	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2321:C:C2'	1:0:2322:U:H5'	2.38	0.53
1:0:242:A:O2'	1:0:243:G:O4'	2.27	0.53
1:0:215:G:N2	1:0:632:A:H8	2.04	0.53
1:0:635:C:C2'	1:0:636:G:H5''	2.36	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:139:A:H2'	1:0:140:G:C8	2.43	0.53
1:0:1739:G:H2'	1:0:1740:G:H8	1.74	0.53
1:0:1748:U:N3	1:0:1753:A:H2	2.01	0.53
1:0:1915:A:H2'	1:0:1916:G:O4'	2.09	0.53
1:0:1684:G:H2'	1:0:1974:U:O4	2.07	0.53
1:0:2395:C:C2'	1:0:2396:C:H5''	2.39	0.53
1:0:239:A:C2	1:0:443:A:H1'	2.43	0.53
1:0:94:C:H2'	1:0:95:G:O4'	2.09	0.53
1:0:1337:G:H1'	1:0:1632:A:N6	2.24	0.53
1:0:1683:G:H2'	1:0:1684:G:H5'	1.90	0.53
1:0:2343:C:H2'	1:0:2344:G:O4'	2.09	0.53
1:0:202:A:O2'	1:0:234:C:H4'	2.09	0.53
1:0:2546:G:H2'	1:0:2547:C:C6	2.43	0.53
1:0:2607:C:H3'	1:0:2608:A:C5'	2.38	0.53
1:0:66:U:H2'	1:0:67:G:H8	1.73	0.53
1:0:1196:G:H2'	1:0:1197:U:C4'	2.38	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53
1:0:159:A:O2'	1:0:160:C:H5'	2.08	0.53
1:0:1871:G:N3	1:0:1871:G:H2'	2.24	0.53
1:0:2026:C:H2'	1:0:2027:C:H6	1.73	0.53
1:0:1137:A:H5''	1:0:1138:A:OP1	2.09	0.53
1:0:1196:G:H2'	1:0:1197:U:C5'	2.38	0.53
1:0:13:A:H1'	1:0:536:A:H62	1.72	0.53
1:0:2035:G:H2'	1:0:2036:G:H8	1.73	0.53
1:0:2461:G:H2'	1:0:2462:C:O4'	2.08	0.53
1:0:2634:G:H2'	1:0:2643:G:O6	2.09	0.53
1:0:651:C:C3'	1:0:652:C:H5''	2.39	0.53
1:0:1323:G:H1'	1:0:1627:C:C5'	2.39	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
1:0:1999:U:H2'	1:0:2000:U:O4'	2.08	0.53
1:0:15:G:N2	1:0:2027:C:O2'	2.41	0.53
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.53
2:9:85:G:C2'	2:9:86:A:H5'	2.38	0.53
1:0:1418:C:H2'	1:0:1419:G:C8	2.43	0.53
1:0:1741:G:O2'	1:0:1742:G:H5'	2.09	0.53
1:0:1823:G:H2'	1:0:1824:C:C6	2.44	0.53

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1166:A:C3'	1:0:1167:A:H5''	2.40	0.52
1:0:1680:U:O2'	1:0:1681:A:H5''	2.09	0.52
1:0:1994:U:C2'	1:0:1995:G:H5'	2.40	0.52
1:0:2633:A:N6	1:0:2646:C:N4	2.55	0.52
1:0:1316:G:OP2	1:0:1316:G:H8	1.93	0.52
1:0:1835:C:H2'	1:0:1836:C:C6	2.45	0.52
1:0:2327:U:H2'	1:0:2328:G:H8	1.74	0.52
1:0:2363:G:H5''	1:0:2365:U:OP1	2.10	0.52
1:0:837:U:H2'	1:0:838:A:C8	2.45	0.52
2:9:41:A:H8	2:9:41:A:O5'	1.93	0.52
1:0:10:A:H2'	1:0:11:G:H8	1.74	0.52
1:0:1204:G:H2'	1:0:1205:G:H8	1.74	0.52
1:0:1661:C:H2'	1:0:1662:G:C8	2.44	0.52
1:0:956:A:C6	1:0:2427:A:H1'	2.45	0.52
1:0:482:A:O2'	1:0:483:A:H5'	2.10	0.52
1:0:887:G:O2'	1:0:888:G:H5'	2.10	0.52
1:0:93:A:O2'	1:0:94:C:H5'	2.09	0.52
1:0:8:A:H2'	1:0:9:U:C6	2.44	0.52
1:0:1556:A:H2'	1:0:1557:G:H8	1.75	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:2633:A:H4'	1:0:2634:G:O5'	2.09	0.52
1:0:2756:A:H4'	1:0:2758:A:OP1	2.09	0.52
1:0:5:A:H2'	1:0:6:A:C8	2.43	0.52
1:0:758:G:O2'	1:0:761:G:H1'	2.10	0.52
1:0:152:G:H2'	1:0:153:A:O4'	2.09	0.52
1:0:2035:G:H2'	1:0:2036:G:C8	2.44	0.52
1:0:2169:A:O2'	1:0:2170:C:H5'	2.10	0.52
1:0:929:A:H8	1:0:2247:A:H61	1.56	0.52
1:0:2324:G:N2	1:0:2361:G:C4	2.78	0.52
1:0:2487:G:H2'	1:0:2488:G:H8	1.74	0.52
1:0:847:C:H2'	1:0:848:A:H8	1.73	0.52
1:0:1036:G:H1'	1:0:1145:C:O4'	2.09	0.52
1:0:1288:A:H62	1:0:1309:G:H4'	1.75	0.52
1:0:2169:A:C2'	1:0:2170:C:H5'	2.40	0.52
1:0:2560:G:N3	1:0:2560:G:H3'	2.25	0.52
1:0:2599:U:H2'	1:0:2600:A:C5'	2.33	0.52
1:0:2705:A:O2'	1:0:2706:U:C6	2.60	0.52
1:0:1039:A:N6	1:0:1136:G:H2'	2.25	0.52
1:0:1491:C:H2'	1:0:1492:A:H8	1.75	0.52
1:0:1912:G:H3'	1:0:1912:G:N3	2.25	0.52
1:0:579:G:H2'	1:0:2013:A:N7	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:202:A:C2	1:0:203:G:H1'	2.45	0.52
1:0:2324:G:N3	1:0:2326:C:H5	2.08	0.52
1:0:2394:G:H2'	1:0:2395:C:C6	2.45	0.52
1:0:2809:A:O2'	1:0:2810:A:H5'	2.10	0.52
1:0:474:G:N2	1:0:476:G:H3'	2.24	0.52
1:0:608:G:H2'	1:0:609:U:C6	2.45	0.52
1:0:1083:C:H42	1:0:1103:C:H41	1.56	0.51
1:0:1151:U:H5''	1:0:1153:A:OP1	2.10	0.51
1:0:1272:G:H2'	1:0:1273:G:H8	1.76	0.51
1:0:1416:A:O2'	1:0:1417:C:H5'	2.10	0.51
1:0:1996:A:O2'	1:0:1997:A:H5'	2.09	0.51
1:0:2265:A:H5''	1:0:2266:A:O4'	2.10	0.51
1:0:35:G:O4'	1:0:466:A:H1'	2.10	0.51
1:0:362:C:C4	1:0:363:G:H1'	2.45	0.51
1:0:389:G:H2'	1:0:390:U:C6	2.44	0.51
1:0:41:G:H2'	1:0:42:G:H8	1.75	0.51
1:0:1485:U:H2'	1:0:1486:A:C8	2.45	0.51
1:0:1843:U:H2'	1:0:1844:C:H6	1.74	0.51
1:0:2353:G:H2'	1:0:2354:G:C8	2.46	0.51
1:0:764:A:C2	1:0:802:A:C2	2.98	0.51
1:0:922:A:H62	13:K:17:ARG:CA	2.24	0.51
1:0:978:U:H2'	1:0:979:A:H8	1.76	0.51
2:9:116:C:H2'	2:9:117:G:O4'	2.10	0.51
1:0:1293:A:O2'	1:0:1294:G:H5'	2.10	0.51
1:0:1621:C:H4'	1:0:1626:A:N6	2.24	0.51
1:0:2541:U:H2'	1:0:2542:U:O4'	2.10	0.51
1:0:604:U:H2'	1:0:605:G:H8	1.74	0.51
1:0:1662:G:H5''	1:0:1663:C:O4'	2.11	0.51
1:0:1944:C:H2'	1:0:1945:C:O4'	2.10	0.51
1:0:2717:G:H2'	1:0:2718:A:H8	1.75	0.51
1:0:782:U:H2'	1:0:783:G:H8	1.72	0.51
1:0:95:G:H2'	1:0:96:C:C6	2.46	0.51
1:0:1010:U:H2'	1:0:1011:A:H8	1.76	0.51
1:0:119:G:H1'	1:0:129:A:C2	2.45	0.51
1:0:984:A:H2	1:0:1200:G:H1	1.57	0.51
1:0:15:G:H2'	1:0:16:G:H5'	1.93	0.51
1:0:2301:A:H2'	1:0:2302:G:O4'	2.11	0.51
1:0:300:C:H2'	1:0:301:C:H5'	1.92	0.51
1:0:430:C:H2'	1:0:431:G:C8	2.45	0.51
1:0:484:G:O2'	1:0:485:G:H5'	2.11	0.51
2:9:78:A:H2'	2:9:79:U:H6	1.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:1579:G:H2'	1:0:1580:C:C6	2.45	0.51
1:0:2503:G:C3'	1:0:2504:G:H5''	2.40	0.51
1:0:2613:A:O2'	1:0:2614:A:H5'	2.10	0.51
1:0:2633:A:H5'	1:0:2635:U:O4'	2.11	0.51
1:0:2658:A:O2'	1:0:2659:C:H5'	2.11	0.51
1:0:678:G:O2'	1:0:679:C:H5'	2.11	0.51
1:0:706:A:H2'	1:0:707:U:C6	2.46	0.51
1:0:773:G:C2'	1:0:774:A:H5'	2.41	0.51
1:0:830:C:H2'	1:0:831:G:H8	1.76	0.51
1:0:837:U:H2'	1:0:838:A:O4'	2.10	0.51
1:0:859:U:H4'	1:0:860:U:C5	2.46	0.51
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.51
1:0:1540:C:O2'	1:0:1541:G:H5'	2.10	0.51
1:0:1714:A:H3'	1:0:1715:A:C8	2.45	0.51
1:0:1818:G:H2'	1:0:1819:U:C6	2.46	0.51
1:0:1856:U:H2'	1:0:1857:G:O4'	2.11	0.51
1:0:2490:U:H2'	1:0:2491:C:H6	1.76	0.51
1:0:583:C:O2'	1:0:584:A:OP2	2.27	0.51
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:931:G:C2'	1:0:932:G:H5'	2.40	0.51
2:9:42:U:C2	2:9:45:C:C5	2.99	0.51
1:0:1218:C:H2'	1:0:1219:C:O4'	2.10	0.51
1:0:781:G:H5'	1:0:1638:G:H4'	1.93	0.51
1:0:174:A:C2	1:0:2413:A:N6	2.79	0.51
1:0:29:U:H2'	1:0:30:G:C8	2.46	0.51
1:0:800:U:H3'	1:0:804:C:H41	1.74	0.51
1:0:1227:A:H4'	1:0:1252:C:H4'	1.93	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.45	0.51
1:0:1590:C:H6	1:0:1590:C:O5'	1.94	0.51
1:0:1611:U:H2'	1:0:1612:U:O4'	2.10	0.51
1:0:1790:G:C8	1:0:1811:A:N6	2.79	0.51
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.51
1:0:2076:G:H2'	1:0:2077:G:C8	2.46	0.51
1:0:952:A:O2'	1:0:1204:G:H4'	2.11	0.51
2:9:26:G:N7	2:9:58:G:C4	2.78	0.51
2:9:6:C:H2'	2:9:7:C:H6	1.72	0.51
2:9:71:G:C2'	2:9:72:C:H5'	2.41	0.51
1:0:1000:G:P	1:0:1168:G:H4'	2.51	0.51
1:0:1457:A:O2'	1:0:1458:A:H5'	2.11	0.51
1:0:1592:U:O5'	1:0:1592:U:H6	1.94	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2246:A:H2'	1:0:2246:A:N3	2.26	0.51
1:0:2870:C:H2'	1:0:2871:U:C6	2.46	0.51
1:0:37:C:H4'	1:0:463:C:OP1	2.11	0.51
1:0:612:G:H4'	1:0:613:A:O2'	2.10	0.51
1:0:765:C:O2'	1:0:766:A:O4'	2.29	0.51
1:0:754:G:N2	1:0:770:U:H1'	2.26	0.51
1:0:789:G:H4'	1:0:790:A:C8	2.46	0.51
2:9:4:C:H2'	2:9:5:C:C5	2.43	0.51
1:0:1066:G:H3'	1:0:1067:G:H5''	1.93	0.50
1:0:1132:C:H2'	1:0:1133:G:O4'	2.10	0.50
1:0:1179:A:H2'	1:0:1180:A:C8	2.45	0.50
1:0:2565:C:O2'	1:0:2566:A:H5'	2.11	0.50
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:685:U:O2'	1:0:686:C:H5'	2.11	0.50
1:0:1226:A:H2'	1:0:1227:A:C8	2.46	0.50
1:0:2422:C:H2'	1:0:2423:G:C8	2.46	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
2:9:50:U:H2'	2:9:51:G:C8	2.45	0.50
1:0:2160:C:H2'	1:0:2161:C:C6	2.47	0.50
1:0:2487:G:H2'	1:0:2488:G:C8	2.47	0.50
1:0:2751:C:H2'	1:0:2752:C:H6	1.75	0.50
1:0:2772:U:O2'	1:0:2773:G:H5'	2.11	0.50
1:0:322:A:H2'	1:0:322:A:N3	2.26	0.50
1:0:357:A:C2'	1:0:358:C:H5'	2.37	0.50
1:0:636:G:H2'	1:0:637:G:H5'	1.94	0.50
1:0:1411:C:H2'	1:0:1412:C:H6	1.75	0.50
1:0:1625:A:C8	1:0:1632:A:H1'	2.46	0.50
1:0:2104:G:H2'	1:0:2105:U:C6	2.47	0.50
1:0:2238:G:H1'	1:0:2406:C:C2	2.46	0.50
1:0:2770:A:C5'	1:0:2867:G:H22	2.25	0.50
1:0:502:A:H2'	1:0:503:G:H5'	1.93	0.50
1:0:644:A:C2'	1:0:645:G:H5'	2.41	0.50
1:0:1101:U:H3	1:0:1113:C:H1'	1.77	0.50
1:0:1572:C:H2'	1:0:1573:G:C5'	2.42	0.50
1:0:1624:A:H2'	1:0:1625:A:H5'	1.94	0.50
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.50
1:0:2458:U:OP1	1:0:2516:U:H1'	2.11	0.50
1:0:2546:G:H2'	1:0:2547:C:H6	1.76	0.50
1:0:2651:U:O2'	1:0:2652:G:H5'	2.12	0.50
1:0:630:G:H8	1:0:630:G:O5'	1.94	0.50
1:0:860:U:O2	1:0:860:U:H2'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:111:C:H5''	2:9:112:A:H4'	1.93	0.50
1:0:1090:C:O2'	1:0:1091:C:H5'	2.11	0.50
1:0:1411:C:H2'	1:0:1412:C:C6	2.47	0.50
1:0:2559:U:H2'	1:0:2560:G:H5'	1.94	0.50
1:0:2717:G:H2'	1:0:2718:A:C8	2.46	0.50
1:0:923:A:N3	1:0:923:A:H2'	2.26	0.50
2:9:29:C:H2'	2:9:30:C:C5	2.45	0.50
1:0:1287:A:N1	1:0:1661:C:O2'	2.40	0.50
1:0:1313:U:H4'	1:0:1314:A:O4'	2.11	0.50
1:0:1430:G:H2'	1:0:1431:U:C6	2.47	0.50
1:0:14:A:C2	1:0:2604:G:O2'	2.65	0.50
1:0:1514:C:H2'	1:0:1515:U:O4'	2.11	0.50
1:0:1594:U:H2'	1:0:1595:A:C8	2.47	0.50
1:0:2341:G:O2'	1:0:2342:U:H5'	2.12	0.50
1:0:2609:G:N2	1:0:2866:A:H2	2.09	0.50
1:0:41:G:O2'	1:0:42:G:H5'	2.12	0.50
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.50
1:0:597:U:H2'	1:0:598:U:C6	2.46	0.50
1:0:697:G:H1	1:0:807:A:H2	1.55	0.50
1:0:788:G:H5''	1:0:790:A:H1'	1.94	0.50
1:0:1026:U:H2'	1:0:1027:C:C6	2.47	0.50
1:0:1038:U:N3	1:0:2467:A:H5'	2.25	0.50
1:0:1199:U:H3'	1:0:1200:G:H5''	1.93	0.50
1:0:1229:C:H2'	1:0:1230:C:H6	1.77	0.50
1:0:1429:A:H1'	1:0:1603:A:C6	2.46	0.50
1:0:1440:G:H3'	1:0:1441:A:C5'	2.41	0.50
1:0:221:A:H2'	1:0:222:G:H5'	1.94	0.50
1:0:509:U:H3	1:0:513:A:N6	2.09	0.50
1:0:73:A:H5''	1:0:73:A:N3	2.26	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:18:U:O2'	1:0:563:U:H5''	2.12	0.50
1:0:1982:C:H5''	1:0:2703:C:O2'	2.12	0.50
1:0:2170:C:H2'	1:0:2171:U:O4'	2.12	0.50
1:0:75:C:H2'	1:0:76:C:C5'	2.33	0.50
1:0:813:A:O2'	1:0:815:A:H5'	2.12	0.50
2:9:105:G:C2	2:9:106:U:C4	2.99	0.50
1:0:1353:A:H5''	1:0:1354:A:N7	2.26	0.49
1:0:1399:C:H2'	1:0:1400:A:C8	2.47	0.49
1:0:1872:A:H2'	1:0:1873:A:H8	1.77	0.49
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.49
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:337:G:H2'	1:0:338:G:C8	2.47	0.49
1:0:611:C:O2'	1:0:614:G:H5''	2.12	0.49
1:0:820:U:H1'	1:0:2424:G:OP1	2.12	0.49
1:0:1058:G:H2'	1:0:1121:G:H1	1.77	0.49
1:0:1315:A:H5''	1:0:1316:G:OP1	2.11	0.49
1:0:2028:C:O2'	1:0:2029:G:H5'	2.12	0.49
1:0:2195:C:C2'	1:0:2196:U:H5'	2.42	0.49
1:0:2230:G:H1'	1:0:2429:A:O4'	2.12	0.49
1:0:2544:A:H5''	1:0:2545:A:OP2	2.12	0.49
1:0:2608:A:O2'	1:0:2609:G:H5'	2.11	0.49
1:0:1001:A:C3'	1:0:1002:C:H5''	2.42	0.49
1:0:1310:C:OP1	1:0:2689:C:H4'	2.11	0.49
1:0:2680:U:H3'	1:0:2681:A:H5'	1.95	0.49
1:0:2733:A:H2'	1:0:2734:U:O4'	2.11	0.49
1:0:329:C:O2'	1:0:330:C:H5'	2.11	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:541:C:N4	1:0:572:G:H8	2.06	0.49
2:9:104:A:C2	2:9:105:G:H1'	2.47	0.49
1:0:1807:A:H1'	1:0:1809:G:N7	2.26	0.49
1:0:2212:U:H2'	1:0:2213:G:C8	2.47	0.49
1:0:2395:C:H2'	1:0:2396:C:C5'	2.43	0.49
1:0:2599:U:H3'	1:0:2600:A:H5''	1.93	0.49
1:0:2764:U:H2'	1:0:2765:C:H6	1.75	0.49
1:0:751:G:H1'	1:0:772:G:N2	2.28	0.49
2:9:111:C:H5''	2:9:112:A:C5'	2.42	0.49
1:0:1073:G:H2'	1:0:1074:G:C4'	2.29	0.49
1:0:1345:G:H5''	1:0:1346:C:OP1	2.12	0.49
1:0:1534:A:O2'	1:0:1535:C:H5'	2.12	0.49
1:0:1703:C:H2'	1:0:1704:G:O4'	2.12	0.49
1:0:1979:C:H6	1:0:1979:C:OP1	1.95	0.49
1:0:212:U:O2'	1:0:213:C:H5'	2.13	0.49
1:0:2196:U:H2'	1:0:2197:U:C6	2.47	0.49
1:0:242:A:N6	1:0:441:A:N7	2.60	0.49
1:0:2544:A:H2'	1:0:2545:A:C1'	2.42	0.49
1:0:298:C:H2'	1:0:299:C:H6	1.78	0.49
1:0:338:G:H2'	1:0:339:U:H5'	1.94	0.49
1:0:1166:A:C2'	1:0:1167:A:H5''	2.42	0.49
1:0:1479:G:N2	1:0:1543:G:H21	2.11	0.49
1:0:228:A:C5	1:0:229:G:H1'	2.47	0.49
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.49
1:0:298:C:H2'	1:0:299:C:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:45:C:H2'	1:0:46:C:C6	2.48	0.49
1:0:843:G:H8	1:0:843:G:OP1	1.95	0.49
1:0:1380:C:H2'	1:0:1381:G:H5'	1.95	0.49
1:0:1730:G:H2'	1:0:1731:C:H6	1.76	0.49
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:2523:G:H1'	1:0:2625:U:C5'	2.42	0.49
1:0:1936:A:O2'	1:0:2538:C:H1'	2.13	0.49
1:0:29:U:O5'	1:0:29:U:H6	1.96	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.12	0.49
1:0:79:G:H2'	1:0:80:A:C8	2.46	0.49
1:0:1212:U:H2'	1:0:1213:U:C6	2.48	0.49
1:0:1980:A:O2'	1:0:1981:A:H5'	2.13	0.49
1:0:2054:A:H2'	1:0:2055:G:H8	1.77	0.49
1:0:2122:G:H2'	1:0:2123:G:H8	1.77	0.49
1:0:2754:C:H2'	1:0:2755:A:H8	1.77	0.49
2:9:28:A:OP2	2:9:29:C:H5	1.95	0.49
2:9:59:A:C4	6:D:27:ALA:CA	2.95	0.49
2:9:116:C:O2'	15:M:50:THR:CA	2.60	0.49
1:0:1073:G:C2'	1:0:1074:G:H4'	2.30	0.49
1:0:1288:A:H2'	1:0:1289:A:O4'	2.13	0.49
1:0:132:U:H2'	1:0:133:C:C6	2.48	0.49
1:0:1341:G:H2'	1:0:1343:C:C5	2.48	0.49
1:0:1429:A:H61	1:0:1602:G:H5'	1.78	0.49
1:0:1284:G:C2	1:0:1633:C:H5'	2.48	0.49
1:0:1687:C:H1'	1:0:1976:U:O2	2.13	0.49
1:0:1888:C:H2'	1:0:1913:G:C5	2.48	0.49
1:0:2039:G:OP2	1:0:2483:U:H4'	2.13	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
1:0:333:A:O2'	1:0:350:U:H2'	2.12	0.49
1:0:782:U:HO2'	1:0:1392:U:H5	1.60	0.49
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
1:0:931:G:C5'	2:9:83:C:H1'	2.43	0.49
1:0:1811:A:N3	1:0:1811:A:H2'	2.27	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
1:0:446:C:H2'	1:0:447:U:O4'	2.13	0.49
1:0:605:G:H2'	1:0:606:A:C8	2.48	0.49
1:0:870:C:H2'	1:0:871:U:H6	1.77	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:1347:C:O2'	1:0:1348:C:H5'	2.12	0.48
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2010:G:H2'	1:0:2011:U:C6	2.48	0.48
1:0:2426:G:N2	1:0:2430:A:H62	2.11	0.48
1:0:805:G:H5''	1:0:806:A:O5'	2.13	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
1:0:1482:U:H2'	1:0:1483:G:C8	2.48	0.48
1:0:220:U:H2'	1:0:221:A:H8	1.79	0.48
1:0:681:A:N6	1:0:683:A:H2'	2.28	0.48
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
1:0:1087:C:H2'	1:0:1088:A:O4'	2.13	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:1940:C:H2'	1:0:1941:C:C6	2.48	0.48
1:0:612:G:H4'	1:0:613:A:H4'	1.94	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:702:A:N3	1:0:792:U:H1'	2.27	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.77	0.48
1:0:843:G:HO2'	1:0:844:G:P	2.35	0.48
1:0:1622:G:H4'	1:0:1624:A:N3	2.29	0.48
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.48
1:0:2217:G:N3	1:0:2217:G:H3'	2.28	0.48
1:0:2225:G:H2'	1:0:2226:A:H8	1.79	0.48
1:0:2671:C:O2'	1:0:2672:U:H5'	2.13	0.48
1:0:2761:A:C5'	1:0:2762:G:H5'	2.44	0.48
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.48
1:0:583:C:O2'	1:0:584:A:P	2.72	0.48
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.48
1:0:80:A:H2'	1:0:81:C:C6	2.47	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.48	0.48
2:9:107:C:C6	2:9:107:C:H3'	2.47	0.48
2:9:63:A:H2'	2:9:64:C:C6	2.47	0.48
1:0:1023:U:H1'	1:0:1154:A:C8	2.48	0.48
1:0:1339:U:O4	1:0:1664:G:H1'	2.14	0.48
1:0:1424:U:H2'	1:0:1425:G:H8	1.78	0.48
1:0:1692:C:H2'	1:0:1693:A:H5'	1.95	0.48
1:0:1955:G:H2'	1:0:1956:G:H5'	1.94	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.95	0.48
1:0:2469:G:H4'	1:0:2470:U:H5	1.77	0.48
1:0:2508:G:H5''	1:0:2509:A:H5''	1.95	0.48
1:0:1141:U:OP2	1:0:2549:G:N2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:347:C:H2'	1:0:348:U:O4'	2.14	0.48
1:0:475:U:H1'	1:0:801:A:N1	2.28	0.48
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.48
1:0:117:A:H5'	1:0:118:U:O5'	2.14	0.48
1:0:1402:G:H2'	1:0:1403:U:O4'	2.13	0.48
1:0:1461:C:H2'	1:0:1462:C:C6	2.49	0.48
1:0:1626:A:OP2	1:0:1626:A:C8	2.66	0.48
1:0:195:A:H2'	1:0:196:A:O4'	2.13	0.48
1:0:2048:C:H2'	1:0:2049:C:C6	2.48	0.48
1:0:2059:U:H2'	1:0:2060:A:C5'	2.36	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.49	0.48
1:0:839:U:H5'	1:0:2407:G:H2'	1.95	0.48
1:0:2468:G:H2'	1:0:2469:G:O4'	2.14	0.48
1:0:2480:C:H5''	1:0:2482:A:H5'	1.95	0.48
1:0:2488:G:N2	1:0:2559:U:H1'	2.28	0.48
1:0:2712:G:H5'	1:0:2713:A:C8	2.49	0.48
1:0:2795:A:H2'	1:0:2795:A:N3	2.28	0.48
1:0:696:U:O5'	1:0:696:U:H6	1.97	0.48
1:0:781:G:H2'	1:0:782:U:O4'	2.13	0.48
1:0:957:G:O2'	1:0:958:G:H5'	2.14	0.48
2:9:85:G:O2'	2:9:86:A:H5'	2.13	0.48
1:0:1001:A:H62	1:0:1200:G:H1'	1.79	0.48
1:0:1307:U:H2'	1:0:1308:C:O4'	2.13	0.48
1:0:1442:C:N4	1:0:1585:A:C8	2.82	0.48
1:0:1432:G:N2	1:0:1596:A:H62	1.95	0.48
1:0:2478:C:C2'	1:0:2479:U:H5'	2.44	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:717:G:H1'	1:0:740:A:H61	1.79	0.48
2:9:32:C:H4'	2:9:60:A:C2	2.47	0.48
2:9:91:A:O5'	2:9:91:A:H8	1.97	0.48
1:0:1327:C:OP1	1:0:1345:G:H5'	2.14	0.48
1:0:1541:G:H22	1:0:1561:A:N6	2.11	0.48
1:0:1756:C:H2'	1:0:1757:C:C6	2.49	0.48
1:0:2011:U:H2'	1:0:2012:A:H8	1.79	0.48
1:0:539:A:H62	1:0:2024:U:H3	1.61	0.48
1:0:242:A:O2'	1:0:243:G:P	2.72	0.48
1:0:2447:G:O5'	1:0:2447:G:H8	1.97	0.48
1:0:2820:C:H2'	1:0:2821:G:H8	1.78	0.48
1:0:486:U:C4'	1:0:520:C:H5'	2.43	0.48
1:0:657:A:H8	1:0:657:A:O5'	1.96	0.48
1:0:777:A:N6	1:0:1767:G:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:942:U:H2'	1:0:943:U:O4'	2.14	0.48
1:0:990:A:H3'	1:0:991:A:H5''	1.96	0.48
1:0:1066:G:H3'	1:0:1067:G:C5'	2.44	0.48
1:0:1226:A:N1	1:0:1250:A:H1'	2.29	0.48
1:0:13:A:O2'	1:0:14:A:C2	2.67	0.48
1:0:1458:A:C3'	1:0:1459:U:H5''	2.38	0.48
1:0:15:G:C2'	1:0:16:G:H5'	2.44	0.48
1:0:1969:G:O2'	1:0:1970:G:H5'	2.14	0.48
1:0:2053:G:H2'	1:0:2054:A:H8	1.76	0.48
1:0:2117:A:N6	1:0:2139:G:H21	2.11	0.48
1:0:2810:A:H2	1:0:2853:U:C5	2.31	0.48
1:0:614:G:H2'	1:0:615:C:C6	2.47	0.48
1:0:995:A:H5''	1:0:996:C:C5	2.47	0.48
1:0:1721:G:O2'	1:0:1722:G:H5'	2.13	0.48
1:0:1740:G:O2'	1:0:1741:G:H5'	2.14	0.48
1:0:1858:C:H2'	1:0:1859:A:H8	1.79	0.48
1:0:2311:U:HO2'	1:0:2312:A:H8	1.60	0.48
1:0:2665:G:H2'	1:0:2666:U:O4'	2.14	0.48
1:0:581:A:N3	1:0:582:G:H1'	2.28	0.48
1:0:736:G:H2'	1:0:737:C:C6	2.49	0.48
1:0:824:U:H2'	1:0:825:C:C5'	2.43	0.48
1:0:860:U:H2'	1:0:861:G:H5'	1.95	0.48
2:9:42:U:H3'	2:9:43:G:H5''	1.96	0.48
1:0:1162:A:O2'	1:0:1163:C:H5'	2.13	0.47
1:0:1425:G:H2'	1:0:1426:U:C6	2.49	0.47
1:0:1906:U:H2'	1:0:1907:C:C6	2.49	0.47
1:0:195:A:C2'	1:0:196:A:H5'	2.44	0.47
1:0:2070:G:H2'	1:0:2071:G:O4'	2.14	0.47
1:0:1139:A:H1'	1:0:2496:C:H5'	1.96	0.47
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.47
1:0:353:G:H2'	1:0:354:C:C6	2.48	0.47
1:0:521:U:H5''	1:0:1248:G:H4'	1.96	0.47
1:0:562:G:H2'	1:0:563:U:O4'	2.14	0.47
1:0:633:G:H8	1:0:633:G:O5'	1.97	0.47
1:0:735:G:O2'	1:0:736:G:H5'	2.14	0.47
1:0:788:G:H5''	1:0:789:G:OP1	2.13	0.47
1:0:915:C:H2'	1:0:916:U:C6	2.49	0.47
1:0:953:G:H1'	1:0:1203:A:C2	2.43	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1007:A:H2'	1:0:1008:G:H8	1.79	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1257:U:H2'	1:0:1258:G:H8	1.77	0.47
1:0:1301:U:H5''	1:0:1302:C:OP1	2.14	0.47
1:0:147:G:H8	1:0:147:G:O5'	1.97	0.47
1:0:1666:G:H2'	1:0:1667:A:H8	1.77	0.47
1:0:1783:G:O6	1:0:1820:G:H1'	2.14	0.47
1:0:964:A:H1'	1:0:2245:A:OP2	2.14	0.47
1:0:2396:C:O2'	1:0:2397:A:H5'	2.14	0.47
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.47
1:0:537:C:C6	1:0:2759:U:H2'	2.48	0.47
1:0:365:U:H2'	1:0:366:U:C6	2.49	0.47
1:0:524:A:O2'	1:0:525:A:H5'	2.13	0.47
1:0:699:G:H5'	1:0:700:C:OP2	2.14	0.47
1:0:1032:A:C2'	1:0:1033:G:H4'	2.39	0.47
1:0:1630:A:H8	1:0:1630:A:OP2	1.97	0.47
1:0:2182:A:H2'	1:0:2183:C:O4'	2.14	0.47
1:0:2424:G:H2'	1:0:2425:G:O4'	2.13	0.47
1:0:297:A:H2'	1:0:298:C:C6	2.49	0.47
1:0:788:G:H5'	1:0:790:A:N3	2.29	0.47
1:0:926:C:H2'	1:0:927:C:H5'	1.96	0.47
1:0:956:A:N3	1:0:956:A:H2'	2.29	0.47
2:9:35:C:H2'	2:9:36:A:O4'	2.14	0.47
1:0:236:C:H2'	1:0:237:G:C8	2.43	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.96	0.47
1:0:2425:G:H2'	1:0:2480:C:N4	2.29	0.47
1:0:2426:G:N2	1:0:2431:C:H41	2.12	0.47
1:0:2459:C:C2'	1:0:2460:G:H5'	2.45	0.47
1:0:2658:A:H2'	1:0:2659:C:O4'	2.14	0.47
1:0:305:A:H2'	1:0:306:G:O4'	2.14	0.47
1:0:592:G:H2'	1:0:593:C:C6	2.49	0.47
2:9:117:G:O2'	2:9:118:G:H5'	2.14	0.47
2:9:8:C:O2'	2:9:9:G:H5'	2.14	0.47
1:0:1166:A:H2'	1:0:1167:A:H5''	1.95	0.47
1:0:1277:G:H2'	1:0:1997:A:N6	2.30	0.47
1:0:1407:G:H2'	1:0:1408:A:C8	2.49	0.47
1:0:1456:C:O2'	1:0:1457:A:H5'	2.14	0.47
1:0:1764:A:H2'	1:0:1765:C:H5'	1.95	0.47
1:0:192:G:H4'	1:0:193:A:O5'	2.14	0.47
1:0:1956:G:H2'	1:0:1957:C:C6	2.49	0.47
1:0:1959:U:H2'	1:0:1960:A:C8	2.49	0.47
1:0:167:A:N6	1:0:812:G:O2'	2.45	0.47
1:0:974:U:H5'	1:0:2476:A:OP1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:34:C:H6	2:9:34:C:O5'	1.98	0.47
1:0:1102:G:H2'	1:0:1103:C:C6	2.48	0.47
1:0:1141:U:O2'	1:0:1142:G:OP1	2.27	0.47
1:0:1487:C:H2'	1:0:1488:G:H8	1.80	0.47
1:0:1719:G:O2'	1:0:1720:G:H5'	2.14	0.47
1:0:1857:G:H2'	1:0:1859:A:OP2	2.14	0.47
1:0:1915:A:N1	1:0:1956:G:H1'	2.29	0.47
1:0:1957:C:O2'	1:0:1958:G:H5'	2.14	0.47
1:0:2094:C:C4	1:0:2103:G:H1'	2.50	0.47
1:0:2727:G:H2'	1:0:2728:A:H5''	1.95	0.47
1:0:2814:G:H1	1:0:2853:U:H3	1.62	0.47
1:0:457:C:O2'	1:0:458:G:H5'	2.13	0.47
1:0:701:U:O2'	1:0:702:A:H5'	2.14	0.47
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.47
1:0:1373:G:H2'	1:0:1374:G:H5'	1.97	0.47
1:0:1437:A:O2'	1:0:1438:G:H5'	2.14	0.47
1:0:1365:U:H1'	1:0:1586:A:H2	1.79	0.47
1:0:2617:G:O2'	1:0:2618:A:H8	1.97	0.47
1:0:2862:G:O2'	1:0:2863:U:H5'	2.15	0.47
1:0:482:A:C2'	1:0:483:A:H5'	2.45	0.47
1:0:587:A:OP2	1:0:587:A:H8	1.98	0.47
1:0:657:A:H2'	1:0:658:G:H8	1.78	0.47
2:9:108:G:H2'	2:9:109:G:H8	1.79	0.47
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.47
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:2048:C:H2'	1:0:2049:C:H6	1.80	0.47
1:0:2245:A:C2'	1:0:2246:A:OP2	2.62	0.47
1:0:2384:G:H2'	1:0:2390:A:H62	1.80	0.47
1:0:2433:G:H2'	1:0:2434:G:H8	1.80	0.47
1:0:640:C:H5''	1:0:660:G:O2'	2.13	0.47
1:0:957:G:N2	1:0:983:G:H1'	2.29	0.47
2:9:88:C:H2'	2:9:89:G:O4'	2.15	0.47
1:0:1253:C:C2'	1:0:1254:G:H5'	2.44	0.47
1:0:1317:G:O2'	1:0:1318:A:H5'	2.14	0.47
1:0:1322:G:N2	1:0:1627:C:H5'	2.28	0.47
1:0:1668:G:O2'	1:0:1669:A:H5'	2.15	0.47
1:0:174:A:H4'	1:0:2052:G:OP2	2.15	0.47
1:0:2470:U:H2'	1:0:2471:U:C6	2.50	0.47
1:0:2739:G:H2'	1:0:2740:C:O4'	2.15	0.47
1:0:305:A:C2'	1:0:306:G:H5'	2.45	0.47
1:0:397:U:H2'	1:0:398:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:605:G:H2'	1:0:606:A:H8	1.80	0.47
2:9:24:U:H2'	2:9:25:G:O5'	2.14	0.47
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.47
1:0:1802:A:H2'	1:0:1803:G:O4'	2.15	0.47
1:0:181:A:H5''	1:0:182:G:OP1	2.14	0.47
1:0:2204:A:H1'	1:0:2205:C:C5	2.49	0.47
1:0:4:C:H2'	1:0:5:A:C8	2.50	0.47
1:0:550:C:H2'	1:0:551:A:H8	1.80	0.47
1:0:1680:U:H6	1:0:1680:U:H5'	1.80	0.47
1:0:1940:C:H2'	1:0:1941:C:H6	1.80	0.47
1:0:211:U:O2'	1:0:212:U:H5'	2.15	0.47
1:0:2227:C:H2'	1:0:2228:U:H5'	1.96	0.47
1:0:2404:A:O2'	1:0:2405:A:OP2	2.28	0.47
1:0:2045:A:H4'	1:0:2421:C:OP2	2.13	0.47
1:0:2446:C:H2'	1:0:2447:G:C8	2.50	0.47
1:0:422:C:H2'	1:0:423:G:O4'	2.15	0.47
1:0:450:C:H2'	1:0:451:A:C8	2.51	0.47
1:0:461:A:N3	1:0:461:A:H2'	2.30	0.47
1:0:912:A:H2'	1:0:913:A:H8	1.80	0.47
2:9:42:U:O4	2:9:45:C:OP2	2.33	0.47
1:0:1621:C:O2'	1:0:1626:A:N7	2.45	0.46
1:0:1871:G:C2'	1:0:1871:G:N3	2.78	0.46
1:0:1970:G:O2'	1:0:1971:C:H5'	2.15	0.46
1:0:2204:A:O2'	1:0:2205:C:OP2	2.30	0.46
1:0:2286:G:H21	1:0:2290:A:H62	1.63	0.46
1:0:2396:C:H6	1:0:2396:C:H5'	1.80	0.46
1:0:2492:G:H1	1:0:2550:C:N4	2.13	0.46
1:0:2598:C:H2'	1:0:2599:U:C6	2.50	0.46
1:0:2617:G:N2	1:0:2755:A:H2'	2.30	0.46
1:0:433:G:N2	1:0:434:C:H1'	2.30	0.46
1:0:538:A:C2'	1:0:539:A:H5''	2.44	0.46
1:0:786:U:H2'	1:0:787:A:H5'	1.97	0.46
2:9:68:A:C2	2:9:110:U:C4	3.03	0.46
1:0:1139:A:H1'	1:0:2495:G:O2'	2.15	0.46
1:0:1442:C:N4	1:0:1585:A:H8	2.13	0.46
1:0:1793:A:H2'	1:0:1794:A:C8	2.50	0.46
1:0:246:C:N4	1:0:247:A:H62	2.13	0.46
1:0:2624:G:H4'	1:0:2712:G:O2'	2.15	0.46
1:0:2785:A:H62	1:0:2865:G:H21	1.63	0.46
1:0:2830:U:H2'	1:0:2831:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:487:G:H1'	1:0:515:A:H2	1.79	0.46
1:0:538:A:C3'	1:0:539:A:H5''	2.45	0.46
1:0:785:U:O2'	1:0:786:U:H5'	2.15	0.46
1:0:83:A:N1	1:0:98:U:H1'	2.31	0.46
2:9:45:C:H42	2:9:47:A:H62	1.63	0.46
1:0:1715:A:H1'	1:0:1717:A:O4'	2.14	0.46
1:0:31:C:H5''	1:0:1252:C:OP1	2.14	0.46
1:0:429:C:H2'	1:0:430:C:O4'	2.15	0.46
1:0:631:G:H5''	1:0:632:A:OP1	2.16	0.46
1:0:984:A:H1'	1:0:1202:U:C5	2.51	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.80	0.46
1:0:1964:A:OP1	1:0:1965:U:OP2	2.33	0.46
1:0:225:G:H5'	1:0:226:C:H5'	1.97	0.46
1:0:2402:U:H5'	1:0:2404:A:C5	2.51	0.46
1:0:2225:G:C2	1:0:2405:A:H1'	2.50	0.46
1:0:514:G:N3	1:0:514:G:C2'	2.78	0.46
1:0:515:A:C2'	1:0:516:G:H5'	2.46	0.46
1:0:612:G:O3'	1:0:613:A:C4'	2.59	0.46
2:9:30:C:O5'	2:9:30:C:C6	2.64	0.46
2:9:5:C:H2'	2:9:6:C:O4'	2.15	0.46
1:0:1472:C:HO2'	1:0:1474:A:H8	1.62	0.46
1:0:1337:G:H4'	1:0:1632:A:N7	2.31	0.46
1:0:2055:G:O2'	1:0:2056:C:H5'	2.15	0.46
1:0:2523:G:H2'	1:0:2524:G:O4'	2.16	0.46
1:0:2858:A:H3'	1:0:2859:U:H5'	1.97	0.46
1:0:393:U:H2'	1:0:394:U:H6	1.80	0.46
1:0:474:G:H22	1:0:476:G:H3'	1.80	0.46
1:0:619:A:H2'	1:0:620:G:C8	2.50	0.46
1:0:65:C:C2'	1:0:66:U:H5'	2.45	0.46
1:0:69:G:H4'	1:0:70:A:O5'	2.16	0.46
1:0:732:G:O5'	1:0:732:G:H8	1.99	0.46
1:0:1221:C:H6	1:0:1221:C:O5'	1.99	0.46
1:0:1496:G:H1	1:0:1527:G:H1	1.64	0.46
1:0:1669:A:H2'	1:0:1670:G:H4'	1.98	0.46
1:0:2407:G:H5''	1:0:2408:G:OP1	2.15	0.46
1:0:482:A:H2'	1:0:483:A:O4'	2.16	0.46
1:0:591:G:H2'	1:0:592:G:C8	2.49	0.46
1:0:699:G:N3	1:0:699:G:H3'	2.30	0.46
1:0:810:U:H2'	1:0:811:G:C8	2.51	0.46
1:0:1002:C:O5'	1:0:1002:C:H6	1.99	0.46
1:0:1216:G:H2'	1:0:1217:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1447:U:H1'	1:0:1577:G:H22	1.79	0.46
1:0:1671:A:O4'	1:0:2798:A:H5'	2.16	0.46
1:0:1714:A:C5	1:0:1715:A:N6	2.79	0.46
1:0:1827:G:H1'	1:0:1914:U:N3	2.31	0.46
1:0:221:A:N6	1:0:231:G:H21	2.14	0.46
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:646:C:O2'	1:0:650:U:H5''	2.16	0.46
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	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
1:0:1034:U:H4'	1:0:1134:C:OP1	2.15	0.46
1:0:1478:U:H2'	1:0:1479:G:C8	2.51	0.46
1:0:1624:A:C2'	1:0:1625:A:H5'	2.45	0.46
1:0:170:U:H2'	1:0:171:G:C8	2.46	0.46
1:0:2015:G:O2'	1:0:2016:A:OP1	2.28	0.46
1:0:299:C:H2'	1:0:300:C:C5	2.51	0.46
1:0:394:U:O2'	1:0:395:G:H5'	2.16	0.46
1:0:40:U:H2'	1:0:41:G:C8	2.50	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.51	0.46
1:0:635:C:O2	1:0:670:U:H4'	2.16	0.46
1:0:839:U:H5''	1:0:2408:G:P	2.55	0.46
1:0:931:G:H2'	1:0:932:G:C5'	2.46	0.46
1:0:115:G:C6	1:0:117:A:N6	2.84	0.46
1:0:1494:G:H2'	1:0:1495:G:O4'	2.16	0.46
1:0:1356:G:H1'	1:0:1613:G:C2	2.51	0.46
1:0:1784:C:O2'	1:0:1785:A:H5'	2.16	0.46
1:0:1918:G:H4'	1:0:1920:A:C2	2.51	0.46
1:0:2093:G:H2'	1:0:2094:C:H6	1.80	0.46
1:0:2225:G:O2'	1:0:2226:A:H5'	2.16	0.46
1:0:872:G:O2'	1:0:2247:A:C4	2.69	0.46
1:0:2397:A:H2'	1:0:2398:U:O4'	2.16	0.46
1:0:2511:G:N2	1:0:2642:G:O2'	2.49	0.46
1:0:2751:C:H2'	1:0:2752:C:C6	2.50	0.46
1:0:642:A:H2'	1:0:643:A:C8	2.51	0.46
1:0:643:A:O2'	1:0:644:A:H5'	2.15	0.46
1:0:764:A:N3	1:0:764:A:C2'	2.77	0.46
1:0:974:U:H2'	1:0:975:C:O4'	2.16	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.98	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.16	0.46
1:0:1715:A:HO2'	1:0:1716:G:H8	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:G:O3'	1:0:1791:C:H6	1.99	0.46
1:0:1923:U:H2'	1:0:1923:U:O2	2.16	0.46
1:0:1952:A:O2'	1:0:1955:G:N2	2.49	0.46
1:0:2245:A:H2'	1:0:2246:A:OP2	2.16	0.46
1:0:2264:C:H2'	1:0:2265:A:H5'	1.98	0.46
1:0:2321:C:O2'	1:0:2353:G:H5''	2.16	0.46
1:0:2687:G:O2'	1:0:2688:G:H5'	2.17	0.46
1:0:367:G:C3'	1:0:368:A:H5''	2.46	0.46
1:0:490:A:N7	1:0:492:G:H1'	2.31	0.46
2:9:94:G:H2'	2:9:94:G:N3	2.30	0.46
1:0:1226:A:H2'	1:0:1227:A:H8	1.80	0.45
1:0:1356:G:H4'	1:0:1613:G:H2'	1.98	0.45
1:0:141:G:H2'	1:0:142:U:H6	1.81	0.45
1:0:1855:G:H4'	1:0:2390:A:H4'	1.98	0.45
1:0:2045:A:H3'	1:0:2046:C:C5'	2.46	0.45
1:0:20:C:H2'	1:0:21:A:H8	1.81	0.45
1:0:2753:C:H2'	1:0:2754:C:H6	1.79	0.45
1:0:674:U:H2'	1:0:675:C:C6	2.52	0.45
1:0:840:U:H4'	1:0:841:G:N2	2.31	0.45
1:0:677:G:H4'	1:0:951:G:O3'	2.16	0.45
1:0:1147:G:O2'	1:0:1148:G:H5'	2.16	0.45
1:0:1171:A:H2'	1:0:1172:U:C6	2.51	0.45
1:0:455:A:H4'	1:0:1214:C:O2'	2.15	0.45
1:0:1739:G:H2'	1:0:1740:G:C8	2.51	0.45
1:0:1787:U:H2'	1:0:1788:C:H6	1.81	0.45
1:0:2307:A:H2'	1:0:2308:A:H8	1.79	0.45
1:0:718:A:O2'	1:0:719:A:H5'	2.14	0.45
1:0:942:U:H2'	1:0:943:U:C4'	2.46	0.45
1:0:1001:A:H5'	1:0:1168:G:OP1	2.17	0.45
1:0:1333:G:N2	1:0:1344:C:N4	2.64	0.45
1:0:1715:A:HO2'	1:0:1716:G:H3'	1.81	0.45
1:0:190:A:H2'	1:0:191:G:H8	1.81	0.45
1:0:195:A:H2'	1:0:196:A:H5'	1.98	0.45
1:0:871:U:O2	1:0:2247:A:H2'	2.16	0.45
1:0:2324:G:HO2'	1:0:2325:A:H5''	1.81	0.45
1:0:239:A:C5'	1:0:620:G:H5'	2.46	0.45
1:0:2511:G:H2'	1:0:2512:A:O4'	2.17	0.45
1:0:1281:A:C4'	1:0:2592:U:O2	2.65	0.45
1:0:544:U:H2'	1:0:545:C:O4'	2.16	0.45
1:0:981:C:H2'	1:0:982:C:C6	2.52	0.45
2:9:112:A:H2'	2:9:113:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:92:G:H2'	2:9:93:G:C5'	2.39	0.45
1:0:50:G:H2'	1:0:117:A:N1	2.30	0.45
1:0:1685:A:N6	1:0:1691:G:N3	2.64	0.45
1:0:2019:C:H5'	1:0:2019:C:H6	1.82	0.45
1:0:2396:C:H2'	1:0:2397:A:C5'	2.46	0.45
1:0:2504:G:O4'	1:0:2721:A:H2	1.99	0.45
1:0:2617:G:H22	1:0:2755:A:H2'	1.82	0.45
1:0:2652:G:H2'	1:0:2653:A:C8	2.40	0.45
1:0:305:A:H2'	1:0:306:G:H5'	1.97	0.45
1:0:669:G:H2'	1:0:670:U:H6	1.80	0.45
1:0:675:C:H2'	1:0:676:G:H8	1.82	0.45
1:0:697:G:O2'	1:0:698:A:H5'	2.15	0.45
1:0:986:A:H2'	1:0:987:G:H5'	1.98	0.45
1:0:2104:G:H2'	1:0:2105:U:H6	1.81	0.45
1:0:2459:C:H2'	1:0:2460:G:O4'	2.17	0.45
1:0:2713:A:O2'	1:0:2714:A:H5'	2.16	0.45
1:0:462:G:H2'	1:0:463:C:H5'	1.99	0.45
1:0:733:G:O2'	1:0:734:G:H5'	2.17	0.45
1:0:1473:U:H4'	1:0:1474:A:C8	2.52	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.31	0.45
1:0:1538:A:O2'	1:0:1539:U:H5'	2.17	0.45
1:0:1479:G:N2	1:0:1543:G:N2	2.64	0.45
1:0:1821:A:H3'	1:0:1822:C:C6	2.52	0.45
1:0:1854:G:O2'	1:0:1855:G:H5'	2.16	0.45
1:0:2249:U:H2'	1:0:2250:G:H5'	1.99	0.45
1:0:2274:C:C2'	1:0:2275:U:H5''	2.46	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:745:C:C2'	1:0:746:G:H5'	2.47	0.45
1:0:1388:C:H2'	1:0:1389:C:C6	2.47	0.45
1:0:1666:G:H2'	1:0:1667:A:C8	2.52	0.45
1:0:1789:U:O2	1:0:1793:A:H2	1.99	0.45
1:0:1849:G:O5'	1:0:1849:G:H8	2.00	0.45
1:0:1947:G:H5''	1:0:1948:C:OP1	2.16	0.45
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.45
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.45
1:0:362:C:C2'	1:0:363:G:H4'	2.27	0.45
1:0:393:U:O2'	1:0:394:U:H5'	2.17	0.45
1:0:665:A:H3'	1:0:666:U:H5''	1.97	0.45
1:0:889:C:O2'	1:0:890:U:H5'	2.17	0.45
1:0:930:A:H4'	1:0:930:A:OP1	2.15	0.45
2:9:114:C:O5'	2:9:114:C:C6	2.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:341:A:H1'	1:0:1223:G:O6	2.17	0.45
1:0:1227:A:C4'	1:0:1252:C:H4'	2.47	0.45
1:0:824:U:O2'	1:0:1264:C:O4'	2.34	0.45
1:0:1429:A:C6	1:0:1602:G:H5'	2.50	0.45
1:0:1356:G:C4'	1:0:1613:G:H2'	2.47	0.45
1:0:1699:A:C6	1:0:1748:U:H1'	2.52	0.45
1:0:1846:A:H2'	1:0:1847:G:O4'	2.17	0.45
1:0:1933:G:H8	1:0:1933:G:O5'	2.00	0.45
1:0:403:A:H5''	1:0:404:A:OP1	2.17	0.45
1:0:70:A:OP2	1:0:111:G:O5'	2.34	0.45
1:0:1278:A:O2'	1:0:1279:G:P	2.75	0.45
1:0:1706:A:N6	1:0:1714:A:H2'	2.32	0.45
1:0:2230:G:C8	1:0:2476:A:N6	2.85	0.45
1:0:322:A:H2	1:0:342:G:OP2	2.00	0.45
1:0:486:U:H2'	1:0:487:G:H5'	1.99	0.45
1:0:745:C:H2'	1:0:746:G:C5'	2.47	0.45
1:0:931:G:H2'	1:0:932:G:H5'	1.99	0.45
2:9:104:A:C8	2:9:105:G:N7	2.85	0.45
1:0:1449:C:O2'	1:0:1450:G:H5'	2.17	0.45
1:0:1950:C:H2'	1:0:1951:G:O4'	2.16	0.45
1:0:2407:G:H4'	1:0:2408:G:C5	2.52	0.45
1:0:2483:U:H3'	1:0:2484:G:H5''	1.97	0.45
1:0:2533:U:H2'	1:0:2534:U:C6	2.52	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.99	0.45
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.45
1:0:1008:G:O2'	1:0:1009:C:H5'	2.17	0.44
1:0:115:G:H8	1:0:115:G:O5'	2.00	0.44
1:0:127:C:H5''	1:0:1615:C:O2'	2.16	0.44
1:0:1363:C:H2'	1:0:1364:C:O4'	2.17	0.44
1:0:1540:C:H2'	1:0:1541:G:H8	1.83	0.44
1:0:2347:C:H2'	1:0:2348:A:C8	2.52	0.44
1:0:2454:C:H42	1:0:2508:G:H22	1.65	0.44
1:0:2633:A:H4'	1:0:2634:G:H4'	1.98	0.44
1:0:2841:U:O2'	1:0:2842:C:H5'	2.17	0.44
1:0:343:A:N6	1:0:346:C:C5	2.85	0.44
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.44
1:0:930:A:H5'	1:0:931:G:C8	2.52	0.44
1:0:1064:C:H2'	1:0:1065:A:C8	2.52	0.44
1:0:1802:A:O2'	1:0:1803:G:H5'	2.16	0.44
1:0:1884:A:O2'	1:0:1885:C:H5'	2.17	0.44
1:0:2002:A:C2	1:0:2003:A:H1'	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2024:U:H2'	1:0:2025:A:C8	2.52	0.44
1:0:538:A:N1	1:0:2026:C:H5''	2.32	0.44
1:0:2163:U:H2'	1:0:2164:G:H8	1.82	0.44
1:0:225:G:H3'	1:0:226:C:H5'	2.00	0.44
1:0:2572:U:H2'	1:0:2573:C:H6	1.83	0.44
1:0:2748:C:H2'	1:0:2749:A:O4'	2.18	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.18	0.44
1:0:1132:C:O2'	1:0:1133:G:H5'	2.17	0.44
1:0:560:G:H21	1:0:1233:A:H2	1.65	0.44
1:0:1426:U:H2'	1:0:1427:G:O4'	2.17	0.44
1:0:1512:A:O5'	1:0:1512:A:H8	1.99	0.44
1:0:1541:G:N2	1:0:1562:G:N2	2.65	0.44
1:0:1685:A:H2	1:0:1687:C:C2	2.35	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	1.99	0.44
1:0:1937:G:H21	1:0:2530:C:H5''	1.82	0.44
1:0:2784:A:H3'	1:0:2785:A:H8	1.82	0.44
1:0:416:U:C5'	1:0:417:C:H5'	2.42	0.44
1:0:815:A:H2'	1:0:816:U:O4'	2.17	0.44
1:0:960:U:H2'	1:0:961:G:C8	2.51	0.44
2:9:73:C:O2	2:9:109:G:C2	2.70	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
1:0:1459:U:H2'	1:0:1475:U:HO2'	1.80	0.44
1:0:1462:C:O2'	1:0:1560:A:H1'	2.17	0.44
1:0:424:G:N7	1:0:2385:U:N3	2.65	0.44
1:0:83:A:H8	1:0:83:A:O5'	2.00	0.44
1:0:859:U:H4'	1:0:860:U:H5	1.82	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.43	0.44
1:0:118:U:H5''	1:0:120:G:OP2	2.17	0.44
1:0:1669:A:H61	1:0:1670:G:H21	1.66	0.44
1:0:1750:A:C8	1:0:2675:U:H1'	2.53	0.44
1:0:1748:U:N3	1:0:1753:A:C2	2.75	0.44
1:0:1872:A:H2'	1:0:1873:A:C8	2.52	0.44
1:0:1938:U:O2'	1:0:1939:U:H5'	2.18	0.44
1:0:2136:G:H2'	1:0:2137:G:C8	2.53	0.44
1:0:2177:U:O2'	1:0:2178:U:H5'	2.18	0.44
1:0:2202:G:H3'	1:0:2203:G:C8	2.53	0.44
1:0:2215:C:H2'	1:0:2216:G:O4'	2.18	0.44
1:0:608:G:O2'	1:0:609:U:H5'	2.18	0.44
1:0:768:U:H5'	1:0:1285:A:N1	2.33	0.44
1:0:699:G:N1	1:0:801:A:C2	2.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:805:G:H4'	1:0:806:A:OP2	2.14	0.44
2:9:61:A:O5'	2:9:61:A:C8	2.60	0.44
1:0:1223:G:N1	1:0:1250:A:N7	2.66	0.44
1:0:128:C:H2'	1:0:129:A:H5''	2.00	0.44
1:0:1295:U:H2'	1:0:1296:G:C5'	2.43	0.44
1:0:187:U:H1'	1:0:1379:A:C2	2.53	0.44
1:0:161:U:H5'	1:0:193:A:N1	2.33	0.44
1:0:1792:C:H6	1:0:1792:C:O5'	2.00	0.44
1:0:1849:G:H21	1:0:1868:A:H62	1.65	0.44
1:0:221:A:C2'	1:0:222:G:H5'	2.47	0.44
1:0:2409:A:C2'	1:0:2410:U:H5'	2.47	0.44
1:0:2426:G:H22	1:0:2431:C:H41	1.64	0.44
1:0:2488:G:H2'	1:0:2489:C:C6	2.53	0.44
1:0:323:G:OP2	1:0:343:A:H5'	2.18	0.44
1:0:533:C:H2'	1:0:534:U:O4'	2.18	0.44
2:9:104:A:C4	2:9:105:G:C8	3.06	0.44
1:0:1363:C:H2'	1:0:1364:C:C6	2.53	0.44
1:0:1707:A:C2'	1:0:1708:C:H5'	2.48	0.44
1:0:1947:G:P	1:0:1947:G:H8	2.40	0.44
1:0:2166:G:O2'	1:0:2167:A:H5'	2.17	0.44
1:0:2535:C:C2'	1:0:2536:G:H5'	2.47	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	0.44
1:0:2770:A:H5''	1:0:2867:G:H1	1.81	0.44
1:0:484:G:H2'	1:0:485:G:O4'	2.17	0.44
1:0:570:G:C2'	1:0:571:U:H5''	2.48	0.44
1:0:1135:C:H2'	1:0:1136:G:H8	1.83	0.44
1:0:158:A:H2'	1:0:159:A:C8	2.52	0.44
1:0:1685:A:C2	1:0:1976:U:C2	3.06	0.44
1:0:1710:U:O5'	1:0:1710:U:H6	2.00	0.44
1:0:2064:U:H2'	1:0:2065:A:H8	1.83	0.44
1:0:2070:G:H2'	1:0:2071:G:C8	2.52	0.44
1:0:2090:U:H2'	1:0:2091:C:H6	1.83	0.44
1:0:2182:A:H3'	1:0:2183:C:C6	2.53	0.44
1:0:2321:C:H2'	1:0:2322:U:H5'	1.99	0.44
1:0:2474:G:O5'	1:0:2474:G:H8	2.01	0.44
1:0:2685:A:H5''	1:0:2826:C:H5''	2.00	0.44
1:0:2725:C:H2'	1:0:2726:U:C6	2.53	0.44
1:0:2783:U:H2'	1:0:2784:A:C4'	2.47	0.44
1:0:940:G:C3'	1:0:941:U:C5'	2.79	0.44
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.44
1:0:1654:A:H4'	1:0:2690:A:HO2'	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1724:C:H1'	1:0:1747:G:C4	2.53	0.44
1:0:2327:U:H2'	1:0:2328:G:C8	2.53	0.44
1:0:1680:U:HO2'	1:0:2665:G:H4'	1.82	0.44
1:0:32:C:H2'	1:0:33:C:C6	2.53	0.44
1:0:486:U:C2'	1:0:487:G:H5'	2.48	0.44
1:0:26:G:H1'	1:0:525:A:H61	1.83	0.44
1:0:1000:G:OP1	1:0:1168:G:H4'	2.18	0.43
1:0:1229:C:H2'	1:0:1230:C:C6	2.53	0.43
1:0:1962:C:C2'	1:0:1963:G:H5'	2.47	0.43
1:0:2070:G:H2'	1:0:2071:G:H8	1.83	0.43
1:0:222:G:O2'	1:0:223:C:H5'	2.18	0.43
1:0:2712:G:H3'	1:0:2713:A:H5'	1.99	0.43
1:0:2610:G:H5'	1:0:2866:A:H4'	1.99	0.43
1:0:83:A:H5''	1:0:84:G:OP1	2.18	0.43
1:0:1263:G:O2'	1:0:1264:C:P	2.76	0.43
1:0:1310:C:P	1:0:2689:C:H4'	2.58	0.43
1:0:1485:U:H2'	1:0:1486:A:H8	1.82	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1622:G:H5''	1:0:1624:A:O4'	2.18	0.43
1:0:1801:C:H1'	1:0:2207:G:O2'	2.17	0.43
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	0.43
1:0:2079:A:H2'	1:0:2080:U:C6	2.53	0.43
1:0:2214:G:O2'	1:0:2215:C:H5'	2.18	0.43
1:0:2633:A:OP1	1:0:2635:U:H1'	2.18	0.43
1:0:2695:C:H2'	1:0:2696:A:H8	1.83	0.43
1:0:27:G:HO2'	1:0:28:A:H8	1.65	0.43
1:0:508:G:H22	1:0:516:G:N2	2.16	0.43
1:0:541:C:H2'	1:0:541:C:O2	2.18	0.43
1:0:630:G:H5''	1:0:631:G:OP2	2.18	0.43
1:0:632:A:H3'	1:0:632:A:N3	2.33	0.43
1:0:929:A:C3'	1:0:930:A:C5'	2.95	0.43
1:0:1011:A:N6	1:0:1165:G:H2'	2.33	0.43
1:0:1572:C:H2'	1:0:1573:G:H5''	1.99	0.43
1:0:163:A:H2'	1:0:164:G:C8	2.50	0.43
1:0:1764:A:H62	1:0:1821:A:H1'	1.83	0.43
1:0:1781:C:H2'	1:0:1782:A:C8	2.53	0.43
1:0:1908:C:H2'	1:0:1909:U:C4'	2.22	0.43
1:0:2106:G:H2'	1:0:2107:G:C8	2.53	0.43
1:0:2219:U:O2'	1:0:2220:A:H5'	2.19	0.43
1:0:951:G:H3'	1:0:952:A:H5''	1.99	0.43
1:0:968:C:H41	1:0:970:A:C1'	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1300:A:H2	1:0:1666:G:H4'	1.81	0.43
1:0:1783:G:H1'	1:0:1822:C:P	2.59	0.43
1:0:2324:G:N7	1:0:2351:G:C2	2.86	0.43
1:0:2433:G:O2'	1:0:2434:G:H5'	2.19	0.43
1:0:629:C:C2'	1:0:630:G:H5'	2.48	0.43
2:9:48:A:C5	2:9:49:C:C5	3.06	0.43
1:0:1226:A:C4	1:0:1250:A:N3	2.86	0.43
1:0:1558:C:H2'	1:0:1559:G:C5'	2.49	0.43
1:0:1572:C:C2'	1:0:1573:G:H5''	2.48	0.43
1:0:192:G:O2'	1:0:193:A:OP2	2.33	0.43
1:0:1974:U:H2'	1:0:1975:G:C5'	2.42	0.43
1:0:2252:A:H2'	1:0:2253:A:C8	2.54	0.43
1:0:2319:G:H2'	1:0:2320:G:C8	2.54	0.43
1:0:2335:U:H2'	1:0:2336:G:O4'	2.19	0.43
1:0:2426:G:N2	1:0:2431:C:N4	2.67	0.43
1:0:2488:G:H2'	1:0:2489:C:H6	1.83	0.43
1:0:2863:U:H2'	1:0:2864:C:H6	1.84	0.43
1:0:431:G:H2'	1:0:432:C:C6	2.54	0.43
1:0:698:A:C1'	1:0:700:C:H41	2.31	0.43
1:0:737:C:H2'	1:0:738:G:O4'	2.18	0.43
1:0:784:U:H2'	1:0:785:U:C6	2.54	0.43
2:9:88:C:H2'	2:9:89:G:C8	2.53	0.43
1:0:1155:G:H2'	1:0:1156:U:O4'	2.19	0.43
1:0:1256:C:H2'	1:0:1257:U:C6	2.54	0.43
1:0:1422:C:H2'	1:0:1423:A:C8	2.54	0.43
1:0:1554:G:H2'	1:0:1555:A:C8	2.53	0.43
1:0:1558:C:H2'	1:0:1559:G:O4'	2.19	0.43
1:0:158:A:H2'	1:0:159:A:O4'	2.19	0.43
1:0:1625:A:H2'	1:0:1625:A:N3	2.33	0.43
1:0:2345:A:H2'	1:0:2346:G:H5'	2.01	0.43
1:0:2448:A:H2'	1:0:2449:G:O4'	2.19	0.43
1:0:295:C:N4	1:0:296:A:N6	2.67	0.43
1:0:305:A:H2'	1:0:306:G:C5'	2.48	0.43
1:0:456:C:O2'	1:0:457:C:H5'	2.18	0.43
1:0:714:G:O2'	1:0:715:U:H5'	2.18	0.43
1:0:688:A:N6	1:0:816:U:H3	1.90	0.43
2:9:59:A:H2'	2:9:60:A:C5'	2.48	0.43
1:0:1296:G:H2'	1:0:1298:G:OP2	2.19	0.43
1:0:1699:A:H61	1:0:1723:U:H3	1.65	0.43
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.43
1:0:1981:A:H4'	1:0:2704:U:O2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:203:G:H4'	1:0:234:C:O2'	2.18	0.43
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.43
1:0:2095:G:H2'	1:0:2096:U:H5''	2.01	0.43
1:0:873:U:N3	1:0:2246:A:H5''	2.34	0.43
1:0:2618:A:N1	1:0:2619:G:H1'	2.34	0.43
1:0:2655:C:H2'	1:0:2656:G:O4'	2.19	0.43
1:0:2727:G:O2'	1:0:2728:A:H5''	2.19	0.43
1:0:2876:C:H2'	1:0:2877:A:O4'	2.19	0.43
1:0:41:G:H2'	1:0:42:G:C8	2.53	0.43
1:0:65:C:O2'	1:0:66:U:H5'	2.19	0.43
1:0:746:G:N7	1:0:774:A:C5	2.86	0.43
1:0:1455:C:H2'	1:0:1456:C:C6	2.54	0.43
1:0:2205:C:O2'	1:0:2206:C:H5'	2.17	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.19	0.43
1:0:426:C:H6	1:0:426:C:O5'	2.00	0.43
1:0:580:A:N3	1:0:582:G:N7	2.66	0.43
1:0:1021:A:O5'	1:0:1021:A:H8	2.02	0.43
1:0:1086:C:C3'	1:0:1087:C:H5''	2.48	0.43
1:0:1448:A:H2'	1:0:1449:C:C6	2.54	0.43
1:0:2306:A:H2'	1:0:2307:A:C8	2.54	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.02	0.43
1:0:353:G:H2'	1:0:354:C:H6	1.83	0.43
1:0:952:A:H2'	1:0:953:G:O4'	2.19	0.43
1:0:1020:A:H2'	1:0:1021:A:C8	2.54	0.43
1:0:1091:C:H2'	1:0:1092:U:H6	1.79	0.43
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:1474:A:H2'	1:0:1476:G:OP1	2.19	0.43
1:0:1766:U:H2'	1:0:1767:G:O4'	2.19	0.43
1:0:192:G:O2'	1:0:193:A:C5'	2.67	0.43
1:0:2054:A:H61	1:0:2417:U:H3	1.65	0.43
1:0:2124:C:O2'	1:0:2125:C:H5'	2.18	0.43
1:0:2449:G:H2'	1:0:2450:A:H8	1.83	0.43
1:0:2651:U:H2'	1:0:2652:G:O4'	2.19	0.43
1:0:2783:U:OP1	1:0:2783:U:O4'	2.37	0.43
1:0:81:C:H4'	1:0:307:C:C5'	2.48	0.43
1:0:708:G:H2'	1:0:709:A:H8	1.84	0.43
1:0:758:G:C2'	1:0:759:C:H5'	2.49	0.43
2:9:108:G:H8	2:9:108:G:O5'	2.01	0.43
1:0:1543:G:H2'	1:0:1544:A:C5'	2.49	0.42
1:0:14:A:N6	1:0:15:G:C2	2.87	0.42
1:0:586:G:OP1	1:0:2481:G:H2'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:428:A:H2'	1:0:429:C:C6	2.54	0.42
1:0:475:U:C1'	1:0:801:A:N1	2.82	0.42
1:0:556:A:C2'	1:0:557:U:H5'	2.40	0.42
1:0:789:G:N2	1:0:806:A:H62	2.15	0.42
2:9:72:C:O2'	2:9:73:C:H5'	2.19	0.42
2:9:7:C:H2'	2:9:8:C:C6	2.54	0.42
1:0:1302:C:C6	1:0:1302:C:OP1	2.71	0.42
1:0:781:G:H5'	1:0:1638:G:C4'	2.49	0.42
1:0:1776:A:H4'	1:0:1965:U:O2'	2.18	0.42
1:0:2302:G:N2	1:0:2314:A:H2	2.16	0.42
1:0:2475:C:C2'	1:0:2476:A:H5'	2.48	0.42
1:0:2759:U:H4'	1:0:2760:G:O5'	2.18	0.42
1:0:515:A:H2'	1:0:516:G:H5'	2.01	0.42
1:0:708:G:H2'	1:0:709:A:C8	2.54	0.42
1:0:864:C:O2'	1:0:865:A:H5'	2.19	0.42
1:0:975:C:O5'	1:0:975:C:H6	2.02	0.42
1:0:977:G:H5''	1:0:2251:U:O2	2.19	0.42
2:9:108:G:H2'	2:9:109:G:C8	2.55	0.42
1:0:1168:G:H2'	1:0:1169:C:C6	2.54	0.42
1:0:1258:G:H2'	1:0:1259:A:C8	2.54	0.42
1:0:1302:C:P	1:0:1302:C:H6	2.41	0.42
1:0:1725:C:O2'	1:0:1726:C:H5'	2.20	0.42
1:0:1769:U:H3	1:0:1778:U:H3	1.66	0.42
1:0:1790:G:O2'	1:0:1791:C:H5	2.01	0.42
1:0:1801:C:H1'	1:0:2208:U:H5'	2.02	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.02	0.42
1:0:2205:C:C2'	1:0:2206:C:H5'	2.50	0.42
1:0:2501:U:O2'	1:0:2626:U:H5''	2.19	0.42
1:0:2770:A:H5'	1:0:2867:G:H22	1.84	0.42
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.42
1:0:1028:G:H2'	1:0:1029:C:O4'	2.19	0.42
1:0:1110:G:H2'	1:0:1111:C:C6	2.53	0.42
1:0:1123:G:O2'	1:0:1124:U:H5'	2.20	0.42
1:0:26:G:O3'	1:0:1273:G:H4'	2.19	0.42
1:0:1398:G:O2'	1:0:1399:C:H5'	2.19	0.42
1:0:1552:C:H2'	1:0:1553:G:O4'	2.20	0.42
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.42
1:0:2075:U:H1'	1:0:2204:A:C2	2.54	0.42
1:0:2517:C:O2'	1:0:2518:C:H5'	2.19	0.42
1:0:2788:C:H2'	1:0:2789:U:H6	1.84	0.42
1:0:27:G:O2'	1:0:28:A:O4'	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:421:G:O2'	1:0:422:C:H5'	2.20	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.19	0.42
1:0:63:A:O2'	1:0:64:C:H5'	2.19	0.42
1:0:661:C:O2'	1:0:662:G:H5'	2.20	0.42
1:0:694:G:H2'	1:0:695:G:H8	1.85	0.42
1:0:1135:C:H2'	1:0:1136:G:C8	2.54	0.42
1:0:1455:C:H2'	1:0:1456:C:H6	1.85	0.42
1:0:1920:A:N6	1:0:1923:U:C6	2.87	0.42
1:0:1938:U:O2'	1:0:1939:U:OP1	2.30	0.42
1:0:2229:G:H2'	1:0:2475:C:OP1	2.20	0.42
1:0:2233:C:O2'	1:0:2234:G:H5'	2.19	0.42
1:0:2427:A:OP2	1:0:2478:C:OP2	2.38	0.42
1:0:2662:C:N4	1:0:2707:G:H21	2.16	0.42
1:0:537:C:N1	1:0:2759:U:H2'	2.35	0.42
1:0:825:C:O2'	1:0:826:U:H5'	2.20	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:1001:A:N6	1:0:1200:G:H1'	2.34	0.42
1:0:1308:C:H2'	1:0:1309:G:C8	2.54	0.42
1:0:1310:C:O2'	1:0:1315:A:N1	2.49	0.42
1:0:1566:G:O2'	1:0:1567:A:H5'	2.20	0.42
1:0:1679:U:H2'	1:0:1680:U:C5'	2.20	0.42
1:0:176:A:H3'	1:0:177:U:C5	2.55	0.42
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.42
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:1972:G:O2'	1:0:1973:C:H5'	2.19	0.42
1:0:2677:U:O2'	1:0:2678:C:H5'	2.20	0.42
1:0:2710:C:O2'	1:0:2711:G:H5'	2.20	0.42
1:0:2724:G:O2'	1:0:2725:C:H5'	2.20	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.55	0.42
1:0:698:A:H1'	1:0:700:C:H41	1.85	0.42
1:0:843:G:H5'	1:0:956:A:H1'	2.02	0.42
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
1:0:1223:G:O2'	1:0:1224:A:OP2	2.35	0.42
1:0:1259:A:H2'	1:0:1260:A:H5'	2.00	0.42
1:0:173:A:N3	1:0:173:A:H2'	2.35	0.42
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42
1:0:186:C:H2'	1:0:187:U:O4'	2.20	0.42
1:0:2059:U:C2'	1:0:2060:A:H5''	2.39	0.42
1:0:2402:U:H5'	1:0:2404:A:N7	2.34	0.42
1:0:2422:C:H2'	1:0:2423:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1937:G:N3	1:0:2530:C:C5'	2.80	0.42
1:0:2630:C:H2'	1:0:2631:C:C6	2.55	0.42
1:0:333:A:HO2'	1:0:350:U:H2'	1.83	0.42
1:0:445:A:C2'	1:0:446:C:H5'	2.49	0.42
1:0:597:U:H2'	1:0:598:U:H6	1.82	0.42
1:0:475:U:C2	1:0:801:A:C6	3.07	0.42
1:0:1619:A:N3	1:0:1619:A:O5'	2.52	0.42
1:0:1653:C:O2	1:0:1751:A:H2	2.03	0.42
1:0:226:C:H4'	1:0:227:G:H8	1.83	0.42
1:0:2321:C:H2'	1:0:2322:U:C5'	2.50	0.42
1:0:573:C:O2'	1:0:574:C:H5'	2.19	0.42
1:0:670:U:O2'	1:0:671:A:H5'	2.20	0.42
1:0:1491:C:H2'	1:0:1492:A:C8	2.53	0.42
1:0:1714:A:H5''	1:0:1715:A:H8	1.85	0.42
1:0:1851:A:N6	1:0:1867:A:H1'	2.31	0.42
1:0:1870:U:O5'	1:0:1870:U:H6	2.02	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.50	0.42
1:0:459:A:C4	1:0:466:A:N7	2.88	0.42
1:0:573:C:H2'	1:0:574:C:O4'	2.20	0.42
1:0:651:C:C3'	1:0:652:C:C5'	2.98	0.42
1:0:90:G:H3'	1:0:91:A:C5'	2.50	0.42
2:9:88:C:H2'	2:9:89:G:H8	1.84	0.42
1:0:1023:U:H1'	1:0:1154:A:N7	2.35	0.42
1:0:1029:C:H2'	1:0:1030:U:H5''	2.02	0.42
1:0:1167:A:H5'	1:0:1168:G:N7	2.34	0.42
1:0:1332:G:O2'	1:0:1333:G:H5'	2.20	0.42
1:0:1545:G:O2'	1:0:1546:C:H5'	2.19	0.42
1:0:167:A:H2'	1:0:168:A:O4'	2.18	0.42
1:0:1791:C:C1'	1:0:1793:A:H5'	2.43	0.42
1:0:1814:G:H2'	1:0:1815:G:H8	1.84	0.42
1:0:2491:C:H2'	1:0:2492:G:H4'	1.98	0.42
1:0:1773:C:H1'	1:0:2588:U:O4'	2.19	0.42
1:0:2627:G:O2'	1:0:2628:C:H5'	2.20	0.42
1:0:777:A:N6	1:0:1766:U:N3	2.68	0.42
1:0:792:U:O2'	1:0:793:G:H5'	2.20	0.42
2:9:42:U:H3'	2:9:43:G:C5'	2.50	0.42
1:0:1025:A:O2'	1:0:1026:U:H5'	2.20	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.50	0.41
1:0:1459:U:H3'	1:0:1459:U:OP1	2.19	0.41
1:0:1725:C:H2'	1:0:1726:C:H6	1.85	0.41
1:0:1921:A:C3'	1:0:1922:U:H5''	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:198:A:O2'	1:0:199:A:OP2	2.36	0.41
32:0:2881:773:H171	32:0:2881:773:H19	1.90	0.41
1:0:393:U:H2'	1:0:394:U:O4'	2.19	0.41
1:0:224:G:H4'	1:0:399:G:C5	2.55	0.41
1:0:495:C:H2'	1:0:496:C:C6	2.55	0.41
1:0:570:G:H2'	1:0:571:U:H5''	2.02	0.41
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.41
1:0:750:C:H2'	1:0:751:G:C8	2.55	0.41
1:0:161:U:H2'	1:0:162:C:C6	2.54	0.41
1:0:1904:G:O2'	1:0:1905:G:H5'	2.19	0.41
1:0:1976:U:H2'	1:0:1976:U:O2	2.19	0.41
1:0:2245:A:C4	1:0:2251:U:O4	2.73	0.41
1:0:2475:C:H2'	1:0:2476:A:C4'	2.50	0.41
1:0:2559:U:C2'	1:0:2560:G:H5'	2.50	0.41
32:0:2881:773:H272	32:0:2881:773:H433	2.02	0.41
1:0:66:U:C2	1:0:67:G:N7	2.89	0.41
1:0:717:G:H1'	1:0:740:A:N6	2.35	0.41
1:0:58:C:H1'	1:0:72:A:C8	2.55	0.41
1:0:750:C:H2'	1:0:751:G:H8	1.85	0.41
1:0:953:G:H2'	1:0:954:U:H6	1.85	0.41
1:0:1003:C:O2'	1:0:1004:A:H5'	2.20	0.41
1:0:1487:C:H2'	1:0:1488:G:C8	2.54	0.41
1:0:1581:C:N4	1:0:1583:A:H1'	2.36	0.41
1:0:1727:C:H4'	1:0:2833:C:O2	2.20	0.41
1:0:1797:C:H2'	1:0:1798:G:O4'	2.20	0.41
1:0:1960:A:H2'	1:0:1961:A:C8	2.55	0.41
1:0:1991:C:H2'	1:0:1992:G:C8	2.51	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2630:C:H2'	1:0:2631:C:H6	1.85	0.41
1:0:2700:U:H2'	1:0:2701:A:H8	1.85	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:430:C:H2'	1:0:431:G:O4'	2.20	0.41
1:0:1009:C:O5'	1:0:1009:C:H6	2.02	0.41
1:0:1699:A:C5	1:0:1748:U:H1'	2.55	0.41
1:0:2039:G:N2	27:Z:5:PRO:CA	2.83	0.41
1:0:2362:G:C2'	1:0:2363:G:O5'	2.69	0.41
1:0:646:C:HO2'	1:0:650:U:H5''	1.84	0.41
1:0:666:U:H2'	1:0:668:A:P	2.60	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.55	0.41
1:0:128:C:H2'	1:0:129:A:C5'	2.50	0.41
1:0:1612:U:H2'	1:0:1613:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1721:G:H2'	1:0:1722:G:O4'	2.21	0.41
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.41
1:0:2824:C:C2'	1:0:2825:A:OP2	2.68	0.41
1:0:365:U:H2'	1:0:366:U:H6	1.85	0.41
1:0:612:G:C4'	1:0:613:A:H4'	2.51	0.41
2:9:63:A:O2'	2:9:64:C:H5'	2.19	0.41
1:0:1016:C:H2'	1:0:1017:C:C6	2.56	0.41
1:0:1471:G:H1	1:0:2682:C:N4	2.10	0.41
1:0:1783:G:C6	1:0:1820:G:H1'	2.56	0.41
1:0:1989:C:O5'	1:0:1989:C:H6	2.04	0.41
1:0:583:C:C4	1:0:2016:A:H4'	2.56	0.41
1:0:2162:C:H2'	1:0:2163:U:H6	1.85	0.41
1:0:221:A:H2'	1:0:222:G:C5'	2.50	0.41
1:0:2447:G:C8	1:0:2455:A:N6	2.81	0.41
1:0:2569:A:H2'	1:0:2570:C:C6	2.54	0.41
1:0:2778:U:O2'	1:0:2779:C:H5'	2.21	0.41
1:0:357:A:H2'	1:0:357:A:N3	2.34	0.41
1:0:480:G:O5'	1:0:480:G:H8	2.04	0.41
1:0:541:C:HO2'	1:0:542:A:P	2.44	0.41
1:0:688:A:O2'	1:0:689:A:H5'	2.21	0.41
1:0:929:A:C2	1:0:930:A:H1'	2.56	0.41
2:9:100:G:C2'	2:9:101:A:H5'	2.51	0.41
2:9:28:A:N3	2:9:28:A:H2'	2.35	0.41
2:9:8:C:OP1	2:9:63:A:H5'	2.21	0.41
1:0:1034:U:H2'	1:0:1035:G:O4'	2.20	0.41
1:0:1572:C:H2'	1:0:1573:G:H5'	2.03	0.41
1:0:1664:G:OP2	1:0:1664:G:H3'	2.20	0.41
1:0:1756:C:H2'	1:0:1757:C:H6	1.85	0.41
1:0:2006:G:H2'	1:0:2007:G:H8	1.86	0.41
1:0:2443:C:H2'	1:0:2444:C:C6	2.56	0.41
1:0:2636:A:N6	1:0:2643:G:H21	2.04	0.41
1:0:35:G:O4'	1:0:466:A:C1'	2.69	0.41
1:0:492:G:H2'	1:0:517:A:C2	2.56	0.41
2:9:75:A:N6	2:9:106:U:C4	2.88	0.41
2:9:6:C:C4	2:9:7:C:N4	2.88	0.41
1:0:1328:C:O2'	1:0:1329:U:H5'	2.21	0.41
1:0:1556:A:H2'	1:0:1557:G:C8	2.54	0.41
1:0:1665:C:H2'	1:0:1666:G:O4'	2.21	0.41
1:0:1751:A:H2'	1:0:1752:U:O4'	2.21	0.41
1:0:16:G:O2'	1:0:17:G:H5'	2.21	0.41
1:0:1883:A:C2	1:0:1953:A:N6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2024:U:H6	1:0:2024:U:O5'	2.04	0.41
1:0:2204:A:O2'	1:0:2205:C:P	2.79	0.41
1:0:2279:G:H2'	1:0:2280:A:C8	2.48	0.41
1:0:2058:U:H5'	1:0:2576:G:H1'	2.03	0.41
1:0:2574:G:N2	1:0:2577:A:OP2	2.54	0.41
1:0:42:G:H2'	1:0:43:A:O4'	2.20	0.41
1:0:4:C:O2'	1:0:5:A:H5'	2.20	0.41
1:0:843:G:H3'	1:0:843:G:OP1	2.20	0.41
1:0:1486:A:H2'	1:0:1487:C:C6	2.55	0.41
1:0:1661:C:H2'	1:0:1662:G:H8	1.86	0.41
1:0:1714:A:H5'	1:0:1715:A:O5'	2.21	0.41
1:0:1903:C:H2'	1:0:1904:G:C8	2.55	0.41
1:0:1923:U:H4'	1:0:1948:C:N4	2.36	0.41
1:0:2249:U:C2'	1:0:2250:G:H5'	2.51	0.41
1:0:2302:G:H2'	1:0:2303:C:H5'	2.02	0.41
1:0:2728:A:C2	1:0:2736:U:H1'	2.55	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
1:0:448:C:H2'	1:0:449:C:H5'	2.02	0.41
1:0:639:G:H2'	1:0:640:C:H6	1.82	0.41
1:0:955:G:H5'	1:0:956:A:C5'	2.50	0.41
1:0:996:C:H2'	1:0:997:C:C6	2.56	0.41
2:9:103:A:N7	2:9:104:A:N7	2.69	0.41
1:0:1234:C:O2'	1:0:1235:C:H5'	2.20	0.41
1:0:1440:G:C3'	1:0:1441:A:C5'	2.99	0.41
1:0:1459:U:P	1:0:1459:U:H6	2.44	0.41
1:0:1471:G:O2'	1:0:1472:C:H5'	2.21	0.41
1:0:218:A:O2'	1:0:219:G:C4'	2.64	0.41
1:0:2227:C:C2'	1:0:2228:U:H5'	2.51	0.41
1:0:2409:A:O2'	1:0:2410:U:H5'	2.21	0.41
1:0:2455:A:C2'	1:0:2456:U:H5'	2.50	0.41
1:0:1990:U:H4'	1:0:2799:C:H4'	2.02	0.41
1:0:353:G:O2'	1:0:354:C:H5'	2.21	0.41
1:0:629:C:O2'	1:0:630:G:H5'	2.21	0.41
1:0:67:G:C6	1:0:72:A:C2	3.08	0.41
1:0:744:C:N4	1:0:745:C:H41	2.19	0.41
1:0:754:G:H22	1:0:770:U:H1'	1.84	0.41
1:0:80:A:O2'	1:0:81:C:H5'	2.21	0.41
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.41
2:9:23:G:H2'	2:9:24:U:O4'	2.21	0.41
1:0:1625:A:C2'	1:0:1625:A:N3	2.84	0.41
1:0:2181:A:H2'	1:0:2182:A:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2313:G:H2'	1:0:2314:A:H5'	2.03	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.04	0.41
1:0:2569:A:H2'	1:0:2570:C:O4'	2.21	0.41
1:0:2622:G:O2'	1:0:2623:A:H5'	2.20	0.41
1:0:1645:U:O2	1:0:2677:U:H4'	2.21	0.41
1:0:689:A:C2'	1:0:690:A:H5'	2.51	0.41
1:0:727:U:C2'	1:0:728:G:H5''	2.46	0.41
1:0:184:A:H4'	1:0:812:G:H4'	2.03	0.41
1:0:2559:U:H5''	4:B:130:GLY:CA	2.51	0.41
1:0:1714:A:H3'	1:0:1715:A:N7	2.36	0.40
1:0:1921:A:C2'	1:0:1922:U:H5''	2.48	0.40
1:0:2813:G:O2'	1:0:2814:G:H5'	2.21	0.40
1:0:2869:U:H6	1:0:2869:U:O5'	2.05	0.40
1:0:699:G:N2	1:0:801:A:C2	2.86	0.40
1:0:867:G:H2'	1:0:868:U:C6	2.56	0.40
1:0:121:G:O3'	1:0:1389:C:H4'	2.21	0.40
1:0:1569:A:C6	1:0:1571:G:H1'	2.56	0.40
1:0:1576:G:H2'	1:0:1577:G:O4'	2.22	0.40
1:0:1789:U:HO2'	1:0:1793:A:H1'	1.84	0.40
1:0:1791:C:H1'	1:0:1793:A:O4'	2.21	0.40
1:0:2204:A:H4'	1:0:2205:C:O4'	2.21	0.40
1:0:2394:G:H2'	1:0:2395:C:H6	1.84	0.40
1:0:2409:A:H2'	1:0:2410:U:H5'	2.02	0.40
1:0:2569:A:H2'	1:0:2570:C:H6	1.86	0.40
1:0:2841:U:O2'	1:0:2842:C:C5'	2.69	0.40
1:0:509:U:C2'	1:0:510:G:H5'	2.50	0.40
1:0:805:G:C6	1:0:2419:C:H1'	2.55	0.40
1:0:829:C:O2'	1:0:830:C:H5'	2.21	0.40
1:0:1073:G:H3'	1:0:1074:G:C5'	2.51	0.40
1:0:1221:C:H2'	1:0:1222:G:C8	2.57	0.40
1:0:122:G:C2'	1:0:123:A:H5''	2.52	0.40
1:0:1383:C:O2'	1:0:1384:G:H5'	2.21	0.40
1:0:1528:C:C3'	1:0:1529:C:H5''	2.51	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	0.40
1:0:2542:U:H2'	1:0:2544:A:OP2	2.22	0.40
1:0:451:A:H2'	1:0:452:G:H8	1.83	0.40
1:0:340:G:C1'	1:0:488:A:H1'	2.51	0.40
1:0:68:C:C2	1:0:72:A:N3	2.90	0.40
1:0:73:A:H4'	1:0:74:G:C1'	2.51	0.40
1:0:861:G:N2	1:0:943:U:O2'	2.54	0.40
1:0:1473:U:H4'	1:0:1474:A:C4	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1519:G:O2'	1:0:1520:G:H5'	2.21	0.40
1:0:1791:C:C2'	1:0:1792:C:H5''	2.39	0.40
1:0:201:G:C2	1:0:202:A:C4	3.10	0.40
1:0:2047:C:H42	1:0:2425:G:H1	1.70	0.40
1:0:1981:A:O3'	1:0:2704:U:H4'	2.22	0.40
1:0:317:U:C3'	1:0:318:G:H5''	2.51	0.40
1:0:200:A:N6	1:0:387:A:O2'	2.54	0.40
1:0:398:C:O2'	1:0:401:G:N2	2.54	0.40
1:0:616:U:H3'	1:0:617:U:H5''	2.03	0.40
1:0:68:C:O2	1:0:68:C:H2'	2.21	0.40
1:0:690:A:H4'	1:0:2053:G:O2'	2.22	0.40
1:0:831:G:H5'	1:0:852:U:OP1	2.22	0.40
1:0:931:G:H5'	2:9:83:C:H1'	2.03	0.40
1:0:1148:G:H2'	1:0:1149:G:O4'	2.22	0.40
1:0:1190:C:H2'	1:0:1191:G:C8	2.57	0.40
1:0:1358:C:H2'	1:0:1359:G:H5'	2.03	0.40
1:0:1403:U:O2	1:0:1408:A:N6	2.54	0.40
1:0:1323:G:C1'	1:0:1627:C:H5''	2.52	0.40
1:0:2138:U:H2'	1:0:2139:G:H5'	2.04	0.40
1:0:215:G:H2'	1:0:216:U:C6	2.57	0.40
1:0:2240:C:C2'	1:0:2241:U:C5'	2.97	0.40
1:0:2494:C:H2'	1:0:2495:G:C8	2.56	0.40
1:0:2570:C:H2'	1:0:2571:G:C8	2.57	0.40
1:0:2857:C:H2'	1:0:2858:A:O5'	2.21	0.40
1:0:28:A:O3'	1:0:460:U:O4	2.40	0.40
1:0:501:G:H2'	1:0:502:A:H8	1.87	0.40
1:0:503:G:H2'	1:0:504:G:C8	2.56	0.40
1:0:665:A:H3'	1:0:666:U:C5'	2.51	0.40
1:0:771:C:O2'	1:0:772:G:H5'	2.21	0.40
2:9:12:C:H3'	2:9:13:C:H6	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

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

All (505) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	67	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	76	C
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	105	G
1	0	110	U
1	0	116	A
1	0	118	U
1	0	123	A
1	0	129	A
1	0	135	U
1	0	149	A
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A

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

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

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

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

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

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Mol	Chain	Res	Type
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1474	A
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1544	A
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1631	C
1	0	1635	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1664	G

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

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Mol	Chain	Res	Type
1	0	1909	U
1	0	1920	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1948	C
1	0	1949	A
1	0	1950	C
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2035	G
1	0	2038	C
1	0	2043	A
1	0	2044	G
1	0	2045	A
1	0	2046	C
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G

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

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

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

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

There are no RNA pucker outliers to report.

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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
32	773	0	2881	-	57,59,59	1.75	11 (19%)	74,88,88	1.33	8 (10%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	773	0	2881	-	-	0/67/98/98	0/4/5/5

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	2881	773	C5-C4	-5.22	1.44	1.52
32	0	2881	773	C35-C34	-5.17	1.24	1.36
32	0	2881	773	C37-C38	-5.02	1.33	1.41
32	0	2881	773	C22-C21	-2.97	1.47	1.52
32	0	2881	773	C6-C5	-2.58	1.47	1.53
32	0	2881	773	O9-C21	-2.30	1.17	1.21
32	0	2881	773	C30-C29	-2.14	1.24	1.31
32	0	2881	773	C24-N2	2.08	1.36	1.33
32	0	2881	773	C19-C21	2.15	1.59	1.52
32	0	2881	773	O8-C16	2.89	1.48	1.45
32	0	2881	773	C2-C4	3.90	1.58	1.53

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	0	2881	773	O7-C24-N2	-4.46	105.73	109.73
32	0	2881	773	C41-C22-C21	-2.30	104.05	108.08
32	0	2881	773	C18-C16-C7	2.24	113.00	110.21
32	0	2881	773	C6-C5-C7	2.47	116.34	112.88
32	0	2881	773	C43-C42-C25	2.47	119.58	113.19
32	0	2881	773	C42-C25-C26	2.73	119.11	115.23
32	0	2881	773	O9-C21-C22	2.94	124.85	120.58
32	0	2881	773	O6-C24-N2	4.20	134.05	129.19

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 9 short contacts:

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

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.