



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 31, 2016 – 09:07 PM GMT

PDB ID : 1NJN
Title : The crystal structure of the 50S Large ribosomal subunit from *Deinococcus radiodurans* complexed with the antibiotic sparsomycin
Authors : Bashan, A.; Agmon, I.; Zarivatch, R.; Schlutzen, F.; Harms, J.M.; Berisio, R.; Bartels, H.; Hansen, H.A.; Yonath, A.
Deposited on : 2003-01-02
Resolution : 3.70 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 (RC4), CSD as536be (2015)
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

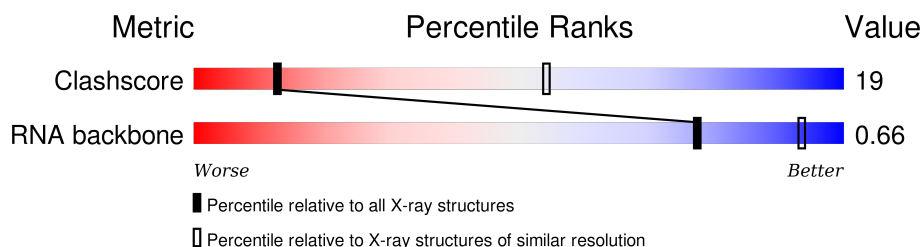
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.70 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	102246	1224 (3.90-3.50)
RNA backbone	2183	1067 (4.60-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments 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	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	SPS	0	2881	X	-	-	-

2 Entry composition [i](#)

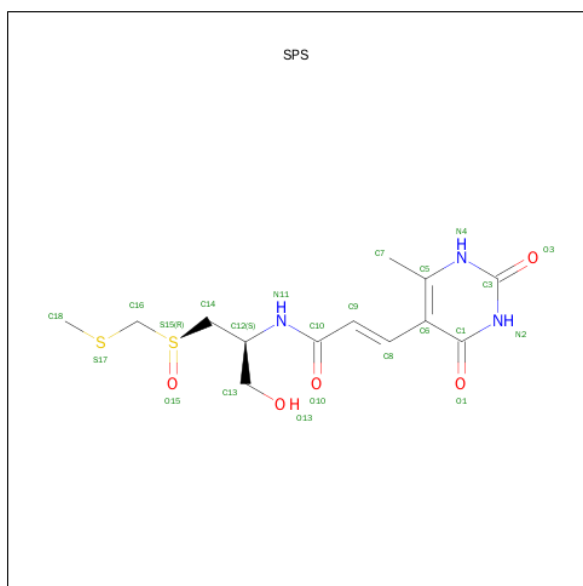
There are 2 unique types of molecules in this entry. The entry contains 59381 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

- Molecule 2 is SPARSOMYCIN (three-letter code: SPS) (formula: $C_{13}H_{19}N_3O_5S_2$).



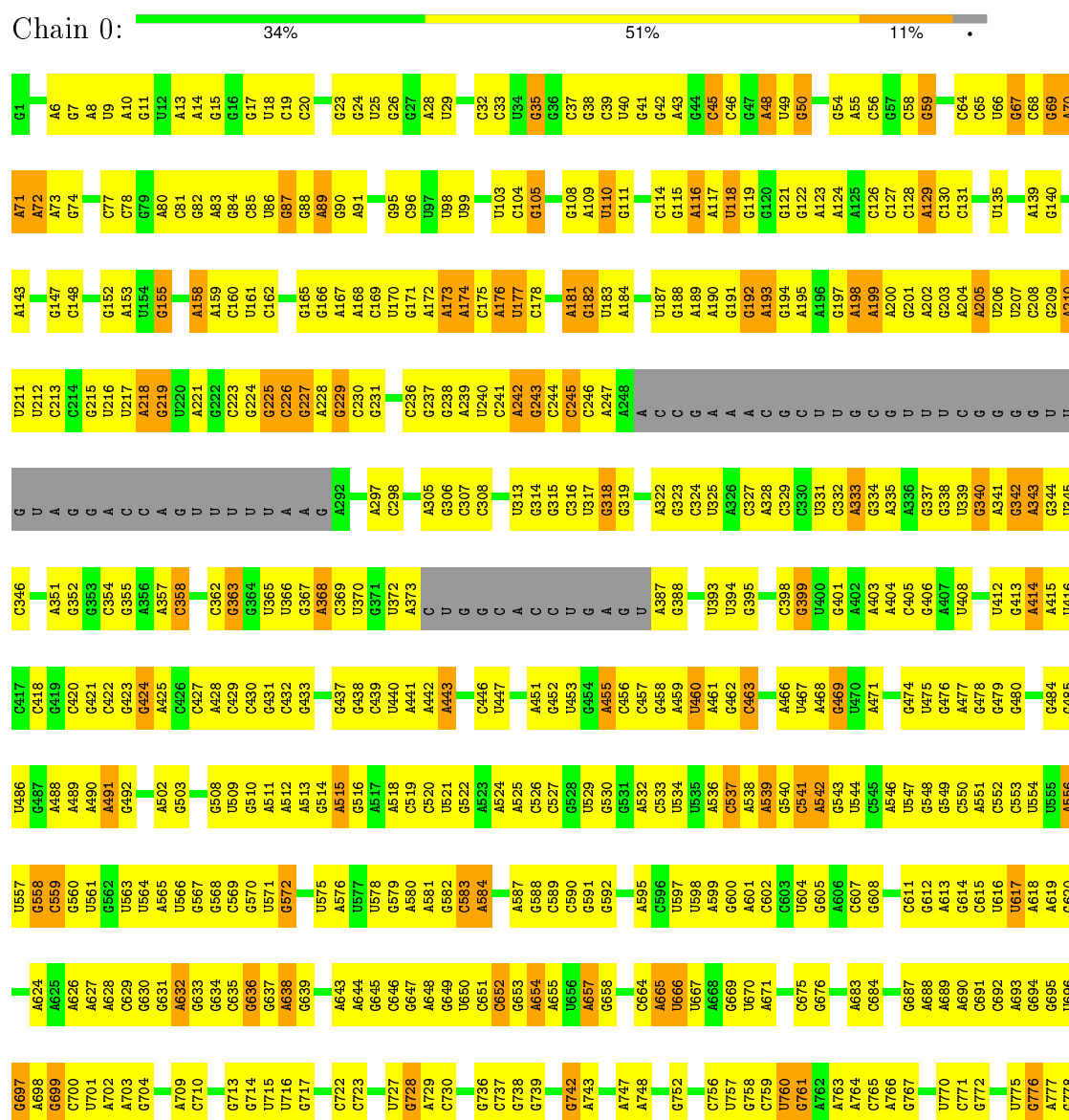
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
2	0	1	22	13	3	4	2	0	0

3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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



U1900	U1810	G1730	G1503	A1353	U1286	C1214	U1046	A979	C	A842	U779
A1901	A1811	C1731	G1504	A1354	A1287	A1215	G1047	G980		G843	U780
U1906	U1812	C1732	U1505	A1355	A1288	G1356	C1052	C981		G844	G781
C1907	A1813	U1733	G1508	G1436	A1289	U1217	G1053		U916	U845	U782
C1908	G1814	A1658	G1509	U1437	G1290	G1219	G1054	A984	U917	A846	G783
U1909	G1818	A1659	A1509	C1438	G1291	C1218	G1055	G985	U918	C847	U784
A1910	U1819	G1659	A1510	G1359	A1292	G1220	A1056	A986	U919	A848	U785
A1911	U1820	C1661	A1511	U1365	A1293	C1221	U1057	G988	G920	G849	U786
G1912	C1820	G1742	A1512	U1366	G1298	G1223	G1058	A991	A921	U852	A787
G1913	C1821	C1743	U1513	A1367	U1301	A1224	A1065		A922	C953	G789
A1914	C1822	G1663	A1514	A1367	C1302	G1225	U1066	A994	U925	G854	A790
A1915	C1825	G1664	U1515	U1446	U1303	A1226	G1067	A995	C926	G855	A791
G1916	U1826	A1665	G1516	U1447	U1307	A1227	A1068	C996	C927	A856	U792
U1917		G1666	C1517	U1448	U1308		G1069	C997	G928	U857	G793
C1829	C1829	A1667	U1518	C1451	U1309	A1231	A1070	C998	A929	U858	A794
A1918	U1918	G1668	G1519	U1452	G1308	U1232	G1071	C999	A930	U859	A795
C1830	C1830	A1669	G1520	G1373	A1309	A1233	G1072	A999	G931	U860	A796
U1920	G1831	G1670	U1521	U1377	G1310	C1234	A1073	G1000	G932	G861	A797
A1921		A1671	C1524	G1377	C1311	U1235	G1074	A1001	G933		G798
C1835	C1835	A1672	G1527	C1380	U1312	G1242	C1075	C1002	G934	C864	U799
C1836	G1837	U1675	C1528	G1381	U1313	A1243	U1076	C1003	A936	A865	U800
G1837	G1838	G1761	C1529	U1459	U1314	U1244	A1081	C1004		U868	C804
A1839	A1839	G1677	U1530	A1463	A1315	U1245	C1006	U1005	C939	C869	G805
A1840	A1840	G1678	G1531	A1464	G1316	G1248	A1007	C1006	G940	C870	A806
G1841	G1841	U1679	A1532	G1465	G1317	G1249	G1008	G1008	U941	U871	A807
		U1680	G1533	G1466	A1318	G1248	G1009	C1009	U942	G872	C808
G1937	C1850	C1765	U1539	U1467	U1319	A1250	C1087		U943	C873	C809
U1938	A1851	G1766	C1540	A1468	A1320	G1251	A1088	G1014	A944	A874	U810
U1939		U1770	U1541	U1469	G1323	G1252	C1089	U1015	G945	A875	G811
C1944	G1855	A1771	G1542	G1471	G1324	G1253	C1090	C1016		A876	G812
C1945	U1856	C1772	G1543	C1472	U1325	G1254	C1091	C1017	G949	G877	A813
C1946	C1857	C1773	A1544	A1473	U1326	U1257	C1092	C1018	G950	C878	G814
G1947	A1858	A1774	U1545	U1474	G1327	U1258	U1093	U1019	G951	A879	A815
C1948	A1859	G1691	G1546	U1475	G1328	G1259	A1099	A1020	A952	C880	U816
A1949	A1860	C1692	U1547	U1478	U1329	A1259	A1099	A1021	G953	G887	A817
C1950	G1861	U1776	U1548	U1479	G1330	A1260	G1100	A1022	U954	G888	G818
G1951	C1862	U1778	U1552	G1479	G1331	G1261	A1114	U1023	G955	C889	C819
A1952	C1865	C1779	C1552	G1480	G1332	U1262		G1024	A956	U890	U820
A1953	G1866	A1780	G1557	U1481	G1333	G1263	C1120	A1025	G957	A891	A821
A1954		G1704	G1558	U1482	A1334	C1264	G1121	U1026	G958	G822	U823
A1955	G1871	C1708	C1559	A1486	A1335	G1265	A1122	C1027	C959	G824	U824
G1956		U1709	A1561	C1487	G1336	G1266		C1028	U960	G825	C825
C1957	G1880	U1710	U1562	C1488	G1337		C1127	C1029	G961	G826	U826
G1958	U1881	C1711	G1562	G1489	G1338	G1269	C1127	U1030	A964	G827	U827
	G1882	G1712	C1623	C1490	U1339	C1271	G1128	C1031	G965	C828	C828
A1961	A1883	C1713	G1566	C1491	G1340	C1272	A1129	A1032	C966	C829	C829
C1962	A1884	A1714	A1567	C1491	G1341	G1273	U1130	G1033	C967	C830	C830
G1963	C1885	U1715	A1568	U1492	U1342	G1274	G1131	U1034	G967	U831	G831
A1964	G1886	G1716	C1632	A1493	C1343		C1132	G1035	C968	A832	A832
U1965	G1887	A1717	G1571	G1494	G1344	U1278	G1133	U1036	U969	C833	C833
C1966	C1888	U1718	C1572	G1495	U1345	A1279		U1037	A970	C834	A834
U1967	G1889	G1722	G1573	G1496	C1346	G1279	A1137	U1038	A971	A835	A835
G1968	A1890	U1723	A1574	C1497	U1347	U1280	A1138	A1039	C972	C836	C836
C1969	C1890	C1724	C1575	G1498	G1348	A1281	A1139	A1040	U973	G837	U837
G1970	A1895		G1576	A1499	A1349	A1282	A1140	G1041	U974	U838	A838
A1971	A1896	C1727	U1577	U1500	G1350	G1283	U1141	U1044	C975	U839	U839
C1972		U1728	U1578	C1501	G1351	G1284	G1210	U1044	U978	U840	U840
C1973	A1899	C1729	G1579	G1502	G1352	A1285	A1143	G1045		A841	G841

C2855	U2772	G2694	U2816	G2548	G2481	C2418	A2266	C2195	C2047	U1974
C2856	G2773	G2695	G2617	G2549	U2482	C2419	A2267	C2125	C2048	G1975
A2858	U2774	G2696	A2618	G2550	U2483	G2420	G2268	U	C2049	U1976
U2859	U	G2697	G2619	A2551	G2484	C2421	G2269	U	G2050	G1977
C2860	U	G2698	G2620	U2552	U2485	C2422	U2270	U	U2051	U1978
A2861	A	U2700	G2621	G2553	G2486	C2423	C2271	U	G2052	G1979
G2862	U2778	G2703	G2622	G2554	G2487	G2424	A2356	G2201	G2053	A1980
U2863	G2782	G2704	A2623	G2555	G2488	G2425	A2272	G	A2054	A1981
G2867	U2783	U2705	U2624	G2556	G2491	G2426	C2273	A2204	G2055	C1982
U2872	A2784	U2706	U2625	G2557	U2492	A2427	C2358	G2132	G2056	G1993
G2873	G2785	U2707	G2626	U2558	U2493	U2428	G2361	G2133	U2057	U1994
A2874	A2786	U2708	G2627	G2559	G2494	U2429	G2362	G2136	U2058	G1995
C2875	G2787	U2709	C2628	G2560	G2495	A2430	A2278	G2137	A1996	A1996
U2876	U	G2710	U2629	G2561	G2496	A2431	G2279	U2211	G2060	A1997
G2794	G2794	G2711	G2630	G2562	A2497	A2432	U2365	G2213	C2061	A1998
A2795	U2795	G2712	A2633	G2563	U2498	A2433	U2366	G2139	U2062	U1999
U2877	U2796	G2713	G2634	G2564	G2499	G2434	A2367	A2140		
C	G2797	A2713	U2635	A2568	C2500	G2435	G2368	A	U2069	U2000
U	U2798	G2717	A2636	G2569	U2501	G2436	G2369	G	G2070	G2001
C	G2799	A2718	U2637	A2570	G2502	U2436	G2370	U2219	A2002	A2002
	C2800		A2639	G2571	G2503	A2437	A2371	C	U2075	A2003
	A2801		G2640	U2572	G2504	A2438	G2372	A	G2076	U2004
		A2721	A2641	C2573	G2505	U2439	C2373	A	G2077	U2005
G2805			G2642	G2574	C2506	C2440	U2298	U2223	G2078	G2006
G2806	G2725		G2643	U2575	U2507		A2376	U2224	U2079	G2007
U2807	U2726		G2644	G2576	G2508	C2444	U2377	G2299	U2080	C2008
U2808	G2727		C2646	U2577	A2509	C2445	G2378	G2225	U2081	U2009
A2809	A2728		G2647	G2578	A2510	G2446	G2379	A2301	G2082	G2010
C2810	U2729		U2651	A2579	G2511	C2447	U2380	G2302	G	U2011
G2811	U2730		G2652	C2580	A2512	A2448	A2381	U2228	A2084	A2012
A2812	G2731		A2653	A2581	A2513	G2449	C2382	A2308	A	A2013
	G2732		G2654	G2582	G2514	U2450	G2383	G2235	G2085	A2014
C2815				G2583	G2515	G2451	U2384	U2236	U2086	G2015
G2816	G2735		A2658	C2585	U2516	C2454	A2312	G2237	G2093	A2016
U2736	U2736		G2659	G2586	C2517		G2311	A2159	C2094	U2017
A2737			C2660	G2587		C2455	G2313	G2238	G2095	G2018
G2821			G2661	U2588	A2521	U2456	A2389	C2239	U2096	C2019
U2822	G2740		C2662	G2589	G2522	A2457	A2390	C2240	C2161	G2020
C2823	C2824		G2663	C2590	G2523	U2458	A2391	U2241	A2097	G2021
G2741	G2741		U2590	G2591	G2524	C2459	G2392	G2342	G	C2022
A2825	G2742		U2666	C2591	G2525	G2460	G2393	G2343	A	C2023
C2826	G2743		G2667	U2592	U2526		G2394	C2243	U	C2024
			U2668	A2593	U2526		C2395	C2244	A	A2025
U2830	G2745		G2669	G2594	G2527	G2463	C2396	C2245	A	C2026
A2831	U2746		C2670	C2595	G2528	G2464	A2397	A2246	G2106	G2027
G2832	G2747		G2671	G2596	G2529	G2465	U2398	U2172	G2107	C2028
C2833	G2754		C2674	U2597	C2530	G2466	A2401	U2249		G2029
	U2755		U2675	U2598	U2531	A2467	U2402	U2177		
U2836	G2757		G2676	U2599	G2532	G2468	U2403	U2178		
G2837	U2758		U2677	A2600	U2533	G2469	C2405	C2251		
	G2759		C2678	C2601	U2536	U2470	U2327	U2180		
U2841	U2760		G2679	G2602	G2537	U2471	A2404	C2255	C	C2033
C2842	A2761		U2680	G2603	C2538	U2472	C2406	G2256	U	G2035
A2843	G2762		G2681	G2604	C2539	G2473	G2407	A2182	G	G2036
			C2882	C2605	G2539	G2474	G2408	U2185	C	A2037
				G2606	A2540	C2475	A2409	G2258		
G2847	U2766		C2689	C2607	U2544	U2476	C2433	G2259		
A2848	G2767		A2690	G2608	A2545	C2477	U2410	C2260		
G2852	G2768		C2691	G2609	A2546	C2478	A2412	G2261		
U2853	U2770		A2692	G2610	G2547	U2479	A2413	A2118		
C2854	G2771		U2693	C2611	C2548	U2480	A2414	C2120		
								C2104		
								A2085		
								C2088		
								G2110		
								C2181		
								A2182		
								G2186		
								A2117		
								A2191		
								U2192		
								C2195		
								U2194		
								C2043		
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								C2148		
								C2149		

4 Data and refinement statistics

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

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.10 Å 409.90 Å 696.30 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.70	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.70)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.13	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.284 , 0.308	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	59381	wwPDB-VP
Average B, all atoms (Å ²)	82.0	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: SPS

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	0.14	0/66467	0.63	0/103673

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.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	873	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	1711	0
2	0	22	0	19	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	59381	0	29936	1711	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 19.

All (1711) 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)
1:0:940:G:H3'	1:0:941:U:H5''	1.24	1.14
1:0:1073:G:H2'	1:0:1074:G:H4'	1.39	1.02
1:0:2769:C:H2'	1:0:2867:G:H22	1.23	1.01
1:0:1141:U:H3	1:0:2008:C:H5''	1.22	1.01
1:0:2548:G:H2'	1:0:2549:G:H5''	1.44	0.99
1:0:2668:U:H4'	1:0:2669:C:H5'	1.46	0.97
1:0:1252:C:H2'	1:0:1253:C:H5''	1.47	0.97
1:0:2636:A:H62	1:0:2643:G:H21	1.11	0.96
1:0:1182:U:H2'	1:0:1183:C:H5''	1.46	0.96
1:0:1496:G:H1	1:0:1527:G:H1	1.10	0.95
1:0:688:A:H62	1:0:816:U:H3	1.11	0.95
1:0:1572:C:H2'	1:0:1573:G:H5''	1.47	0.95
1:0:847:C:H41	1:0:955:G:H21	1.14	0.94
1:0:1747:G:H4'	1:0:1749:G:H1'	1.50	0.93
1:0:1223:G:H21	1:0:1225:G:H21	0.98	0.93
1:0:789:G:H21	1:0:806:A:H62	1.11	0.93
1:0:1953:A:H1'	1:0:1955:G:H1'	1.51	0.93
1:0:1086:C:H2'	1:0:1087:C:H5''	1.49	0.92
1:0:221:A:H62	1:0:231:G:H21	1.17	0.92
1:0:1312:G:H5''	1:0:1313:U:H5'	1.52	0.92
1:0:166:G:H21	1:0:184:A:H62	1.10	0.92
1:0:1915:A:H62	1:0:1951:G:H21	1.19	0.90
1:0:471:A:H62	1:0:480:G:H21	1.17	0.90
1:0:65:C:H2'	1:0:66:U:H5'	1.54	0.89
1:0:929:A:H3'	1:0:930:A:H5''	1.53	0.89
1:0:104:C:H2'	1:0:105:G:H5''	1.55	0.88
1:0:403:A:H4'	1:0:425:A:H5'	1.56	0.87
1:0:1656:U:H2'	1:0:1657:A:H5''	1.56	0.87
1:0:225:G:H3'	1:0:226:C:H5'	1.54	0.87
1:0:367:G:H2'	1:0:368:A:H5''	1.56	0.87
1:0:1436:G:H1'	1:0:1508:G:H21	1.40	0.86
1:0:128:C:H2'	1:0:129:A:H5''	1.58	0.86
1:0:831:G:H21	1:0:1203:A:H62	1.20	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:58:C:H3'	1:0:59:G:H5''	1.58	0.85
1:0:2633:A:H4'	1:0:2634:G:H4'	1.58	0.85
1:0:2579:A:H2'	1:0:2580:C:H5''	1.58	0.85
1:0:2047:C:H42	1:0:2425:G:H1	1.23	0.85
1:0:2607:C:H3'	1:0:2608:A:H5'	1.57	0.84
1:0:1964:A:H3'	1:0:1965:U:H5'	1.60	0.83
1:0:88:G:H3'	1:0:89:A:H5''	1.58	0.83
1:0:1034:U:H1'	1:0:1133:G:H5''	1.60	0.83
1:0:2491:C:H2'	1:0:2492:G:H5''	1.61	0.83
1:0:176:A:H1'	1:0:2221:G:H21	1.44	0.82
1:0:2522:G:H21	1:0:2625:U:H5''	1.44	0.82
1:0:542:A:H2'	1:0:543:G:H5'	1.62	0.82
1:0:460:U:H3	1:0:592:G:H1'	1.44	0.82
1:0:1001:A:H62	1:0:1200:G:H1'	1.45	0.82
1:0:2806:G:H1'	1:0:2858:A:H2'	1.62	0.81
1:0:2058:U:H5'	1:0:2576:G:H1'	1.62	0.81
1:0:1432:G:H21	1:0:1596:A:H62	1.27	0.81
1:0:109:A:H3'	1:0:110:U:H5''	1.61	0.81
1:0:2081:U:H2'	1:0:2082:C:H5''	1.62	0.81
1:0:9:U:H3	1:0:2608:A:H62	1.29	0.80
1:0:2794:G:H3'	1:0:2796:A:H62	1.45	0.80
1:0:2769:C:H2'	1:0:2867:G:N2	1.95	0.80
1:0:2770:A:H5'	1:0:2867:G:H22	1.44	0.80
1:0:918:A:H2'	1:0:919:U:H5''	1.63	0.80
1:0:940:G:H3'	1:0:941:U:C5'	2.10	0.79
1:0:181:A:H5''	1:0:182:G:OP1	1.82	0.79
1:0:67:G:N2	1:0:72:A:H2'	1.98	0.79
1:0:1811:A:O2'	1:0:1812:U:H5''	1.82	0.79
1:0:69:G:H4'	1:0:70:A:O5'	1.81	0.79
1:0:2198:U:H3'	1:0:2199:C:H5''	1.64	0.79
1:0:65:C:C2'	1:0:66:U:H5'	2.12	0.79
1:0:2548:G:C2'	1:0:2549:G:H5''	2.11	0.78
1:0:2426:G:H5'	1:0:2480:C:H41	1.48	0.78
1:0:1141:U:N3	1:0:2008:C:H5''	1.99	0.78
1:0:2227:C:H2'	1:0:2228:U:H5'	1.66	0.78
1:0:1188:A:H62	1:0:1189:G:H21	1.29	0.77
1:0:652:C:H42	1:0:657:A:H61	1.31	0.77
1:0:218:A:O2'	1:0:219:G:H4'	1.85	0.77
1:0:2261:G:H4'	1:0:2262:C:OP2	1.87	0.75
1:0:1807:A:O2'	1:0:1808:C:H4'	1.87	0.75
1:0:2624:G:H4'	1:0:2712:G:H2'	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2096:U:H2'	1:0:2097:A:H5''	1.69	0.74
1:0:2503:G:H3'	1:0:2504:G:H5''	1.69	0.74
1:0:2700:U:H3	1:0:2848:A:N6	1.85	0.74
1:0:688:A:N6	1:0:816:U:H3	1.86	0.74
1:0:689:A:H61	1:0:815:A:H61	1.35	0.74
1:0:1252:C:C2'	1:0:1253:C:H5''	2.17	0.74
1:0:66:U:H2'	1:0:67:G:N7	2.02	0.74
1:0:1572:C:C2'	1:0:1573:G:H5''	2.17	0.74
1:0:2241:U:H1'	1:0:2307:A:H1'	1.69	0.74
1:0:1182:U:C2'	1:0:1183:C:H5''	2.17	0.73
1:0:109:A:C3'	1:0:110:U:H5''	2.18	0.73
1:0:1047:G:H1	1:0:1130:U:H3	1.34	0.73
1:0:974:U:H1'	1:0:2229:G:H21	1.54	0.73
1:0:1223:G:H21	1:0:1225:G:N2	1.80	0.72
1:0:1373:G:H22	1:0:2192:U:H3	1.35	0.72
1:0:795:A:H4'	1:0:796:A:N7	2.03	0.72
1:0:824:U:H1'	1:0:1264:C:H1'	1.71	0.72
1:0:1621:C:H4'	1:0:1626:A:H61	1.55	0.72
1:0:616:U:H2'	1:0:617:U:H5''	1.70	0.72
1:0:1473:U:H4'	1:0:1474:A:C8	2.24	0.72
1:0:2522:G:N2	1:0:2625:U:H5''	2.03	0.72
1:0:323:G:H5'	1:0:342:G:C6	2.24	0.72
1:0:588:G:H4'	1:0:2001:G:H5''	1.71	0.72
1:0:1196:G:H2'	1:0:1197:U:O4'	1.90	0.72
1:0:2691:C:H3'	1:0:2692:A:H5''	1.72	0.71
1:0:202:A:H2'	1:0:203:G:O4'	1.88	0.71
1:0:1528:C:H2'	1:0:1529:C:H5''	1.71	0.71
1:0:2721:A:H62	1:0:2743:G:H21	1.38	0.71
1:0:2245:A:H4'	1:0:2246:A:C8	2.26	0.71
1:0:1908:C:H2'	1:0:1909:U:H4'	1.73	0.71
1:0:2499:C:H41	1:0:2521:A:H2	1.38	0.71
1:0:2503:G:C3'	1:0:2504:G:H5''	2.21	0.71
1:0:839:U:H5''	1:0:2408:G:OP2	1.91	0.71
1:0:1953:A:H1'	1:0:1955:G:C1'	2.21	0.71
1:0:181:A:H4'	1:0:182:G:H4'	1.73	0.71
1:0:1139:A:H1'	1:0:2496:C:H5'	1.72	0.70
1:0:514:G:N3	1:0:514:G:H2'	2.06	0.70
1:0:1479:G:N2	1:0:1543:G:H21	1.88	0.70
1:0:2759:U:H4'	1:0:2760:G:OP2	1.90	0.70
1:0:515:A:H2'	1:0:516:G:H5'	1.73	0.70
1:0:1529:C:H2'	1:0:1530:U:O4'	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2380:U:H2'	1:0:2381:A:H5'	1.72	0.70
1:0:576:A:H2	1:0:580:A:H62	1.38	0.69
1:0:1023:U:H1'	1:0:1154:A:N7	2.07	0.69
1:0:951:G:H2'	1:0:952:A:H5''	1.73	0.69
1:0:1838:G:H2'	1:0:1839:A:H5'	1.75	0.69
1:0:1188:A:N6	1:0:1189:G:H21	1.89	0.69
1:0:2808:U:H3'	1:0:2809:A:H5'	1.75	0.69
1:0:26:G:N2	1:0:524:A:H62	1.91	0.69
1:0:2607:C:H1'	1:0:2761:A:H2'	1.75	0.69
1:0:1354:A:H62	1:0:1407:G:H22	1.40	0.69
1:0:1021:A:H1'	1:0:1164:C:H1'	1.73	0.69
1:0:1915:A:H62	1:0:1951:G:N2	1.90	0.69
1:0:1033:G:H22	1:0:1150:C:H2'	1.57	0.69
1:0:319:G:H21	1:0:340:G:H21	1.40	0.69
1:0:2727:G:H1	1:0:2735:C:H5''	1.58	0.69
1:0:2491:C:C2'	1:0:2492:G:H5''	2.23	0.68
1:0:2510:A:H61	1:0:2641:A:N6	1.90	0.68
1:0:1260:A:N6	1:0:1262:U:H1'	2.08	0.68
1:0:941:U:H2'	1:0:942:U:O4'	1.93	0.68
1:0:1199:U:H3'	1:0:1200:G:H5''	1.75	0.68
1:0:800:U:H3'	1:0:804:C:N4	2.09	0.68
1:0:858:G:H5''	1:0:859:U:H5'	1.74	0.68
1:0:1791:C:O2'	1:0:1793:A:H5'	1.93	0.68
1:0:191:G:O2'	1:0:192:G:H5'	1.93	0.68
1:0:2495:G:H2'	1:0:2496:C:C6	2.29	0.68
1:0:69:G:H5''	1:0:70:A:OP1	1.93	0.68
1:0:471:A:H62	1:0:480:G:N2	1.90	0.68
1:0:1809:G:H2'	1:0:1810:U:O4'	1.93	0.68
1:0:1978:U:H3'	1:0:1979:C:H5''	1.75	0.68
1:0:1955:G:H2'	1:0:1956:G:H5'	1.75	0.68
1:0:166:G:H21	1:0:184:A:N6	1.90	0.68
1:0:584:A:H4'	1:0:2479:U:H5'	1.75	0.67
1:0:813:A:O2'	1:0:815:A:H5'	1.94	0.67
1:0:2700:U:H3	1:0:2848:A:H62	1.41	0.67
1:0:1500:U:H3	1:0:1520:G:H22	1.43	0.67
1:0:2324:G:H4'	1:0:2326:C:H5''	1.77	0.67
1:0:1191:G:H2'	1:0:1192:A:H8	1.59	0.67
1:0:1746:A:H2'	1:0:1747:G:H5'	1.76	0.67
1:0:1086:C:C2'	1:0:1087:C:H5''	2.24	0.67
1:0:1888:C:H5''	1:0:1889:G:H5''	1.77	0.67
1:0:630:G:H2'	1:0:631:G:H5'	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1312:G:H5'	1:0:1314:A:H1'	1.76	0.67
1:0:1188:A:H62	1:0:1189:G:N2	1.92	0.67
1:0:2418:A:H1'	1:0:2565:C:H4'	1.75	0.67
1:0:805:G:H5''	1:0:806:A:O5'	1.95	0.67
1:0:2680:U:H3'	1:0:2681:A:H5'	1.76	0.66
1:0:2095:G:H2'	1:0:2096:U:H5''	1.76	0.66
1:0:1685:A:H1'	1:0:1686:A:C5	2.30	0.66
1:0:542:A:C2'	1:0:543:G:H5'	2.25	0.66
1:0:998:C:H2'	1:0:999:A:O4'	1.94	0.66
1:0:1352:G:H2'	1:0:1353:A:H8	1.60	0.66
1:0:1474:A:H2'	1:0:1475:U:H5'	1.78	0.66
1:0:367:G:C2'	1:0:368:A:H5''	2.25	0.66
1:0:33:C:H42	1:0:466:A:H61	1.43	0.66
1:0:1686:A:N3	1:0:1686:A:H2'	2.10	0.65
1:0:651:C:H2'	1:0:652:C:H5''	1.78	0.65
1:0:1487:C:H2'	1:0:1488:G:H8	1.61	0.65
1:0:805:G:H4'	1:0:806:A:OP2	1.96	0.65
1:0:1195:U:H2'	1:0:1196:G:C8	2.31	0.65
1:0:1749:G:O6	1:0:2674:C:H4'	1.96	0.65
1:0:104:C:C2'	1:0:105:G:H5''	2.27	0.65
1:0:2770:A:H5'	1:0:2867:G:N2	2.12	0.65
1:0:2758:A:H5''	1:0:2759:U:H5	1.61	0.65
1:0:175:C:H1'	1:0:2413:A:H61	1.62	0.65
1:0:225:G:H3'	1:0:226:C:C5'	2.25	0.65
1:0:1923:U:H4'	1:0:1948:C:H41	1.61	0.65
1:0:2822:U:H2'	1:0:2823:G:O4'	1.96	0.65
1:0:1427:G:H2'	1:0:1428:G:H5'	1.79	0.65
1:0:653:G:H2'	1:0:654:A:H4'	1.79	0.65
1:0:727:U:H2'	1:0:728:G:H5''	1.79	0.65
1:0:1774:A:H1'	1:0:2586:G:H21	1.62	0.65
1:0:2009:U:H3	1:0:2020:G:H1	1.45	0.65
1:0:2755:A:O2'	1:0:2756:A:H5'	1.97	0.65
1:0:1323:G:H2'	1:0:1324:G:H4'	1.79	0.65
1:0:2242:C:N4	1:0:2257:A:H61	1.95	0.65
1:0:1194:U:H2'	1:0:1195:U:C6	2.31	0.65
1:0:652:C:H42	1:0:657:A:N6	1.95	0.65
1:0:1882:G:H21	1:0:1885:C:N4	1.94	0.65
1:0:2404:A:O2'	1:0:2405:A:OP2	2.15	0.65
1:0:45:C:H5''	1:0:192:G:N7	2.11	0.64
1:0:1938:U:O2'	1:0:1939:U:OP1	2.12	0.64
1:0:2198:U:C3'	1:0:2199:C:H5''	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1580:C:H2'	1:0:1581:C:C6	2.32	0.64
1:0:2236:U:C3'	1:0:2237:C:H5''	2.28	0.64
1:0:2236:U:H2'	1:0:2237:C:H5''	1.78	0.64
1:0:1181:C:H2'	1:0:1182:U:H5''	1.79	0.64
1:0:317:U:H2'	1:0:318:G:H5''	1.79	0.64
1:0:2357:A:H2'	1:0:2358:C:O4'	1.98	0.64
1:0:2690:A:OP2	1:0:2694:G:H5'	1.97	0.64
1:0:2312:A:H4'	1:0:2313:G:N7	2.13	0.63
1:0:2636:A:H62	1:0:2643:G:N2	1.90	0.63
1:0:2617:G:H22	1:0:2755:A:H2'	1.64	0.63
1:0:83:A:H4'	1:0:84:G:O4'	1.97	0.63
1:0:2261:G:H5''	1:0:2262:C:O5'	1.97	0.63
1:0:2080:U:H2'	1:0:2081:U:C6	2.33	0.63
1:0:1679:U:C3'	1:0:1680:U:H5''	2.28	0.63
1:0:1181:C:C3'	1:0:1182:U:H5''	2.29	0.63
1:0:58:C:H3'	1:0:59:G:C5'	2.28	0.63
1:0:70:A:O2'	1:0:72:A:H5''	1.98	0.63
1:0:1976:U:H2'	1:0:1977:C:H5'	1.81	0.63
1:0:1250:A:O2'	1:0:1251:G:H4'	1.98	0.63
1:0:1811:A:H1'	1:0:1813:A:C5	2.33	0.63
1:0:927:C:H2'	1:0:928:G:O4'	1.98	0.63
1:0:2544:A:H2'	1:0:2545:A:H4'	1.81	0.63
1:0:1679:U:H3'	1:0:1680:U:H5''	1.79	0.63
1:0:128:C:C2'	1:0:129:A:H5''	2.28	0.63
1:0:362:C:H2'	1:0:363:G:H4'	1.80	0.63
1:0:2510:A:H61	1:0:2641:A:H61	1.45	0.62
1:0:653:G:N2	1:0:655:A:H1'	2.14	0.62
1:0:1715:A:H1'	1:0:1717:A:O4'	1.99	0.62
1:0:2370:G:HO2'	1:0:2371:A:H2	1.47	0.62
1:0:777:A:N6	1:0:1766:U:H3	1.96	0.62
1:0:1341:G:H22	1:0:1664:G:H1	1.48	0.62
1:0:852:U:H3	1:0:950:G:H1	1.47	0.62
1:0:414:A:H2'	1:0:415:A:O4'	1.99	0.62
1:0:121:G:O2'	1:0:1389:C:H4'	2.00	0.62
1:0:2422:C:H2'	1:0:2423:G:H8	1.64	0.62
1:0:2268:G:H22	1:0:2323:U:H4'	1.64	0.62
1:0:2440:C:H1'	1:0:2471:U:H3	1.65	0.62
1:0:1085:G:H2'	1:0:1086:C:C6	2.35	0.62
1:0:952:A:O2'	1:0:1204:G:H4'	1.99	0.62
1:0:2035:G:H2'	1:0:2036:G:H8	1.65	0.62
1:0:1223:G:N2	1:0:1225:G:H21	1.83	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1871:G:N3	1:0:1871:G:H2'	2.15	0.62
1:0:942:U:H2'	1:0:943:U:O4'	2.00	0.62
1:0:2768:C:H2'	1:0:2769:C:O4'	1.99	0.61
1:0:1656:U:C2'	1:0:1657:A:H5''	2.29	0.61
1:0:1428:G:H5''	1:0:1429:A:H5'	1.80	0.61
1:0:1333:G:N2	1:0:1344:C:H41	1.96	0.61
1:0:2604:G:H2'	1:0:2605:C:C6	2.36	0.61
1:0:665:A:H3'	1:0:666:U:H5''	1.82	0.61
1:0:1807:A:H5'	1:0:1809:G:C1'	2.30	0.61
1:0:1947:G:OP1	1:0:1947:G:H3'	2.00	0.61
1:0:81:C:H2'	1:0:82:G:O4'	2.00	0.61
1:0:742:G:N3	1:0:742:G:H2'	2.13	0.61
1:0:1188:A:H2'	1:0:1189:G:O4'	2.00	0.61
1:0:1066:G:H2'	1:0:1067:G:H4'	1.82	0.61
1:0:404:A:H5'	1:0:425:A:H4'	1.83	0.61
1:0:2759:U:H5''	1:0:2760:G:O5'	2.01	0.61
1:0:13:A:H1'	1:0:536:A:N6	2.15	0.61
1:0:860:U:C2'	1:0:861:G:H5'	2.31	0.61
1:0:940:G:C3'	1:0:941:U:H5''	2.15	0.61
1:0:583:C:N3	1:0:2016:A:H4'	2.15	0.61
1:0:2045:A:H4'	1:0:2421:C:OP2	2.01	0.61
1:0:2242:C:H42	1:0:2257:A:N6	1.99	0.61
1:0:1900:U:O2'	1:0:1946:U:H5'	2.00	0.61
1:0:2426:G:O2'	1:0:2427:A:OP2	2.18	0.61
1:0:2721:A:H62	1:0:2743:G:N2	1.99	0.61
1:0:2059:U:H5	1:0:2575:U:H3	1.48	0.61
1:0:1713:G:H2'	1:0:1714:A:O4'	2.00	0.61
1:0:2377:U:H2'	1:0:2378:G:C8	2.36	0.61
1:0:319:G:H21	1:0:340:G:N2	1.99	0.61
1:0:455:A:H4'	1:0:1214:C:O2'	2.00	0.61
1:0:583:C:H41	1:0:2017:U:H5	1.47	0.61
1:0:2185:U:H2'	1:0:2186:G:C8	2.36	0.61
1:0:486:U:H4'	1:0:520:C:H5'	1.81	0.60
1:0:1712:G:H2'	1:0:1713:G:O4'	2.00	0.60
1:0:167:A:H62	1:0:183:U:H3	1.48	0.60
1:0:2223:U:H2'	1:0:2224:U:O4'	2.01	0.60
1:0:814:G:H3'	1:0:815:A:H5'	1.83	0.60
1:0:2574:G:N2	1:0:2576:G:OP2	2.34	0.60
1:0:2260:C:H4'	1:0:2368:G:H21	1.66	0.60
1:0:1380:C:H2'	1:0:1381:G:H5'	1.81	0.60
1:0:831:G:H21	1:0:1203:A:N6	1.94	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2508:G:H5''	1:0:2509:A:H5''	1.84	0.60
1:0:1455:C:O2'	1:0:1644:G:H5''	2.01	0.60
1:0:871:U:H1'	1:0:2248:A:H5''	1.83	0.60
1:0:181:A:H4'	1:0:182:G:C5'	2.31	0.60
1:0:2246:A:H2'	1:0:2246:A:N3	2.16	0.60
1:0:439:C:H2'	1:0:440:U:O4'	2.01	0.60
1:0:221:A:H62	1:0:231:G:N2	1.93	0.60
1:0:2727:G:O2'	1:0:2728:A:H5''	2.02	0.60
1:0:2381:A:H4'	1:0:2382:C:C5	2.36	0.60
1:0:1426:U:H2'	1:0:1427:G:O4'	2.01	0.60
1:0:158:A:H2'	1:0:159:A:H8	1.66	0.60
1:0:579:G:H2'	1:0:2013:A:N6	2.17	0.60
1:0:412:U:H2'	1:0:413:G:O4'	2.02	0.60
1:0:521:U:H4'	1:0:1248:G:O2'	2.01	0.60
1:0:632:A:H2'	1:0:633:G:H5'	1.82	0.60
1:0:2418:A:H4'	1:0:2420:C:OP2	2.02	0.60
1:0:1298:G:N2	1:0:1341:G:H5''	2.17	0.60
1:0:2015:G:O2'	1:0:2016:A:OP1	2.15	0.59
1:0:1286:U:H5''	1:0:1663:C:H42	1.67	0.59
1:0:1625:A:H2'	1:0:1625:A:N3	2.16	0.59
1:0:1918:G:H4'	1:0:1920:A:N3	2.16	0.59
1:0:925:U:H4'	1:0:926:C:C5	2.37	0.59
1:0:1458:A:H3'	1:0:1459:U:C5'	2.33	0.59
1:0:1289:A:O2'	1:0:1290:A:H5'	2.02	0.59
1:0:2547:C:H2'	1:0:2548:G:H8	1.67	0.59
1:0:2549:G:H2'	1:0:2550:C:O4'	2.02	0.59
1:0:1634:A:O2'	1:0:1635:G:OP1	2.16	0.59
1:0:513:A:H4'	1:0:515:A:H5'	1.82	0.59
1:0:459:A:H1'	1:0:466:A:N7	2.16	0.59
1:0:2607:C:H3'	1:0:2608:A:C5'	2.30	0.59
1:0:2238:G:H2'	1:0:2239:C:C6	2.38	0.59
1:0:77:C:H2'	1:0:78:C:C6	2.38	0.59
1:0:2858:A:H3'	1:0:2859:U:H5'	1.85	0.59
1:0:653:G:H4'	1:0:2328:G:H4'	1.83	0.59
1:0:1994:U:H2'	1:0:1995:G:O4'	2.03	0.59
1:0:689:A:H2'	1:0:690:A:H5'	1.84	0.59
1:0:1923:U:H4'	1:0:1948:C:N4	2.18	0.59
1:0:1615:C:H2'	1:0:1616:C:C6	2.38	0.59
1:0:1251:G:H2'	1:0:1252:C:C6	2.37	0.59
1:0:2081:U:C2'	1:0:2082:C:H5''	2.32	0.59
1:0:1474:A:N3	1:0:1474:A:H3'	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1517:C:H2'	1:0:1518:C:C6	2.38	0.59
1:0:2426:G:C5'	1:0:2480:C:H41	2.15	0.58
1:0:800:U:H3'	1:0:804:C:H41	1.68	0.58
1:0:2236:U:C2'	1:0:2237:C:H5''	2.33	0.58
1:0:1664:G:O5'	1:0:1665:C:OP1	2.21	0.58
1:0:614:G:H2'	1:0:615:C:C6	2.37	0.58
1:0:2491:C:C3'	1:0:2492:G:H5''	2.33	0.58
1:0:1198:C:H5''	1:0:1199:U:H5''	1.85	0.58
1:0:2426:G:O6	1:0:2479:U:H2'	2.02	0.58
1:0:1088:A:H2'	1:0:1089:C:O4'	2.04	0.58
1:0:1354:A:O2'	1:0:1355:A:OP1	2.18	0.58
1:0:2402:U:H5'	1:0:2404:A:C5	2.38	0.58
1:0:1301:U:H3	1:0:1339:U:H3	1.49	0.58
1:0:973:U:H2'	1:0:974:U:C6	2.38	0.58
1:0:2422:C:H2'	1:0:2423:G:C8	2.39	0.58
1:0:366:U:H2'	1:0:367:G:H8	1.68	0.58
1:0:2574:G:H2'	1:0:2574:G:N3	2.18	0.58
1:0:1528:C:C2'	1:0:1529:C:H5''	2.34	0.58
1:0:490:A:O2'	1:0:491:A:H5'	2.03	0.58
1:0:25:U:H3	1:0:525:A:N6	2.02	0.58
1:0:558:G:H5''	1:0:559:C:C5	2.38	0.58
1:0:974:U:H1'	1:0:2229:G:N2	2.17	0.58
1:0:1472:C:H2'	1:0:1473:U:H5'	1.85	0.58
1:0:1474:A:C2'	1:0:1475:U:H5'	2.33	0.58
1:0:1916:G:H2'	1:0:1917:C:C6	2.39	0.58
1:0:14:A:H2	1:0:2604:G:HO2'	1.52	0.58
1:0:17:G:H21	1:0:564:U:H5''	1.67	0.58
1:0:2322:U:O2'	1:0:2323:U:H5'	2.03	0.58
1:0:242:A:O2'	1:0:243:G:O4'	2.21	0.58
1:0:1567:A:H2'	1:0:1568:A:O4'	2.04	0.58
1:0:1392:U:H2'	1:0:1393:G:H5'	1.85	0.58
1:0:2636:A:N6	1:0:2643:G:H21	1.93	0.58
1:0:114:C:O2'	1:0:124:A:H1'	2.04	0.58
1:0:1730:G:H2'	1:0:1731:C:C6	2.38	0.58
1:0:2008:C:H2'	1:0:2009:U:C6	2.39	0.58
1:0:2547:C:H2'	1:0:2548:G:C8	2.38	0.58
1:0:1180:A:H2'	1:0:1181:C:C6	2.39	0.58
1:0:368:A:H2'	1:0:369:C:O4'	2.04	0.58
1:0:176:A:H5''	1:0:177:U:H5	1.69	0.58
1:0:687:G:O2'	1:0:688:A:H5'	2.03	0.58
1:0:804:C:O2'	1:0:806:A:H4'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2691:C:H3'	1:0:2692:A:C5'	2.33	0.58
1:0:2205:C:H2'	1:0:2206:C:C6	2.39	0.58
1:0:1747:G:H1'	1:0:1749:G:N3	2.19	0.57
1:0:2677:U:H2'	1:0:2678:C:C6	2.39	0.57
1:0:173:A:N3	1:0:173:A:H2'	2.19	0.57
1:0:1354:A:H62	1:0:1407:G:N2	2.01	0.57
1:0:1514:C:H2'	1:0:1515:U:O4'	2.04	0.57
1:0:2769:C:H2'	1:0:2770:A:H5'	1.86	0.57
1:0:1915:A:N6	1:0:1951:G:H21	1.98	0.57
1:0:224:G:C5	1:0:226:C:H1'	2.39	0.57
1:0:2057:U:O2'	1:0:2576:G:H1'	2.04	0.57
1:0:322:A:H1'	1:0:343:A:N7	2.19	0.57
1:0:322:A:H2	1:0:342:G:OP2	1.87	0.57
1:0:26:G:H21	1:0:524:A:H62	1.53	0.57
1:0:2018:G:H3'	1:0:2019:C:C5'	2.35	0.57
1:0:804:C:O2	1:0:807:A:H5'	2.04	0.57
1:0:930:A:OP1	1:0:930:A:H4'	2.02	0.57
1:0:605:G:H4'	1:0:949:G:O2'	2.04	0.57
1:0:118:U:H1'	1:0:143:A:C8	2.40	0.57
1:0:1137:A:H5''	1:0:1138:A:H5''	1.85	0.57
1:0:1280:U:O2'	1:0:1281:A:H5'	2.05	0.57
1:0:1181:C:H3'	1:0:1182:U:H5''	1.87	0.57
1:0:236:C:H1'	1:0:632:A:O2'	2.04	0.57
1:0:177:U:H2'	1:0:178:C:C6	2.40	0.57
1:0:1200:G:O2'	1:0:1201:G:H5'	2.03	0.57
1:0:192:G:O2'	1:0:193:A:OP2	2.18	0.57
1:0:1779:C:H2'	1:0:1780:A:O4'	2.04	0.57
1:0:2244:C:N4	1:0:2245:A:N6	2.53	0.57
1:0:2236:U:H3'	1:0:2237:C:H5''	1.85	0.57
1:0:665:A:H3'	1:0:666:U:C5'	2.35	0.57
1:0:2222:U:H2'	1:0:2223:U:C6	2.39	0.57
1:0:242:A:O2'	1:0:243:G:P	2.62	0.57
1:0:1971:C:H2'	1:0:1972:G:H8	1.70	0.57
1:0:1181:C:C2'	1:0:1182:U:H5''	2.35	0.57
1:0:847:C:N4	1:0:955:G:H21	1.93	0.57
1:0:984:A:H2'	1:0:1200:G:H22	1.69	0.57
1:0:217:U:H5'	1:0:633:G:O2'	2.05	0.57
1:0:1711:C:H4'	1:0:1712:G:C2	2.39	0.57
1:0:766:A:H2'	1:0:767:G:C8	2.40	0.57
1:0:1982:C:H1'	1:0:2666:U:O2'	2.05	0.57
1:0:2494:C:H2'	1:0:2495:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2668:U:C4'	1:0:2669:C:H5'	2.29	0.57
1:0:357:A:H2'	1:0:358:C:H5'	1.87	0.57
1:0:1683:G:H2'	1:0:1684:G:O4'	2.05	0.57
1:0:1337:G:H1'	1:0:1632:A:N6	2.20	0.57
1:0:2437:G:N2	1:0:2469:G:H2'	2.20	0.56
1:0:2492:G:H2'	1:0:2493:U:O4'	2.05	0.56
1:0:843:G:O2'	1:0:844:G:OP1	2.15	0.56
1:0:103:U:H2'	1:0:104:C:C6	2.39	0.56
1:0:225:G:N2	1:0:2410:U:H1'	2.20	0.56
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.56
1:0:1431:U:H2'	1:0:1432:G:O4'	2.06	0.56
1:0:1472:C:C2'	1:0:1473:U:H5'	2.34	0.56
1:0:879:A:H2'	1:0:879:A:N3	2.20	0.56
1:0:791:G:H2'	1:0:792:U:C6	2.40	0.56
1:0:1140:A:H61	1:0:2470:U:H6	1.53	0.56
1:0:55:A:H2'	1:0:56:C:C6	2.40	0.56
1:0:2794:G:H2'	1:0:2796:A:N7	2.21	0.56
1:0:1191:G:H2'	1:0:1192:A:C8	2.40	0.56
1:0:1791:C:H1'	1:0:1793:A:O4'	2.04	0.56
1:0:2274:C:H2'	1:0:2275:U:H5'	1.88	0.56
1:0:758:G:O2'	1:0:761:G:H1'	2.05	0.56
1:0:538:A:H2'	1:0:539:A:H5''	1.87	0.56
1:0:468:A:H2'	1:0:469:G:H4'	1.88	0.56
1:0:2368:G:H5''	1:0:2369:U:O4'	2.05	0.56
1:0:1981:A:H4'	1:0:2704:U:O2'	2.06	0.56
1:0:2459:C:H2'	1:0:2460:G:H5'	1.88	0.56
1:0:1073:G:C2'	1:0:1074:G:H4'	2.26	0.56
1:0:1813:A:H2'	1:0:1814:G:C8	2.40	0.56
1:0:616:U:C2'	1:0:617:U:H5''	2.36	0.56
1:0:1220:G:H2'	1:0:1221:C:C6	2.41	0.56
1:0:876:A:H2'	1:0:877:G:C8	2.41	0.56
1:0:784:U:H2'	1:0:785:U:C6	2.41	0.56
1:0:776:G:N3	1:0:776:G:H2'	2.21	0.56
1:0:552:C:H2'	1:0:553:C:H4'	1.88	0.56
1:0:669:G:H2'	1:0:670:U:C6	2.41	0.56
1:0:2243:C:H2'	1:0:2244:C:O4'	2.06	0.56
1:0:2854:G:H3'	1:0:2854:G:N3	2.21	0.56
1:0:2321:C:H2'	1:0:2322:U:O4'	2.05	0.56
1:0:929:A:H2'	1:0:930:A:H4'	1.88	0.56
1:0:1263:G:O2'	1:0:1264:C:OP1	2.24	0.56
1:0:197:G:H22	1:0:440:U:H2'	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:873:U:P	1:0:928:G:H1	2.29	0.55
1:0:476:G:H21	1:0:696:U:H1'	1.70	0.55
1:0:831:G:N2	1:0:1203:A:H62	1.98	0.55
1:0:1356:G:H1'	1:0:1613:G:C2	2.41	0.55
1:0:826:U:H2'	1:0:827:C:C6	2.41	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.36	0.55
1:0:2270:U:H2'	1:0:2271:C:C6	2.42	0.55
1:0:1356:G:H5'	1:0:1614:C:OP2	2.06	0.55
1:0:1829:C:H2'	1:0:1830:C:H5'	1.88	0.55
1:0:1464:A:H4'	1:0:1545:G:H4'	1.88	0.55
1:0:533:C:H2'	1:0:534:U:O4'	2.06	0.55
1:0:1326:U:H2'	1:0:1327:C:H5'	1.87	0.55
1:0:2329:C:H2'	1:0:2330:G:H5'	1.89	0.55
1:0:1278:A:O2'	1:0:1279:G:P	2.64	0.55
1:0:2437:G:H2'	1:0:2469:G:C2	2.42	0.55
1:0:515:A:C2'	1:0:516:G:H5'	2.37	0.55
1:0:2012:A:N7	1:0:2014:A:H5'	2.20	0.55
1:0:1912:G:H2'	1:0:1912:G:N3	2.22	0.55
1:0:541:C:H2'	1:0:2002:A:C2	2.41	0.55
1:0:393:U:H2'	1:0:394:U:C6	2.42	0.55
1:0:951:G:C2'	1:0:952:A:H5''	2.36	0.55
1:0:839:U:H2'	1:0:841:G:O4'	2.07	0.55
1:0:2319:G:H2'	1:0:2320:G:C8	2.42	0.55
1:0:775:U:O2	1:0:1445:A:H5''	2.06	0.55
1:0:366:U:H2'	1:0:367:G:C8	2.42	0.55
1:0:126:C:H2'	1:0:127:C:C6	2.41	0.55
1:0:1463:A:H2'	1:0:1464:A:C8	2.41	0.55
1:0:1746:A:C2'	1:0:1747:G:H5'	2.36	0.55
1:0:2095:G:C2'	1:0:2096:U:H5''	2.37	0.55
1:0:579:G:H2'	1:0:2013:A:H62	1.72	0.55
1:0:942:U:O2'	1:0:943:U:H5'	2.07	0.54
1:0:1087:C:H2'	1:0:1088:A:O4'	2.07	0.54
1:0:225:G:H21	1:0:2410:U:H1'	1.72	0.54
1:0:2581:A:H2'	1:0:2582:G:H5''	1.89	0.54
1:0:2641:A:H2'	1:0:2642:G:O4'	2.08	0.54
1:0:1313:U:O2'	1:0:1314:A:P	2.66	0.54
1:0:2204:A:O2'	1:0:2205:C:P	2.65	0.54
1:0:394:U:H2'	1:0:395:G:H8	1.71	0.54
1:0:578:U:C1'	1:0:957:G:H21	2.19	0.54
1:0:2249:U:H2'	1:0:2250:G:O4'	2.08	0.54
1:0:162:C:H4'	1:0:195:A:O2'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2560:G:N3	1:0:2560:G:H3'	2.23	0.54
1:0:404:A:H2'	1:0:405:C:C6	2.42	0.54
1:0:2570:C:H2'	1:0:2571:G:C8	2.43	0.54
1:0:48:A:H4'	1:0:50:G:O4'	2.08	0.54
1:0:1955:G:C2'	1:0:1956:G:H5'	2.37	0.54
1:0:215:G:H4'	1:0:617:U:O2'	2.08	0.54
1:0:1279:G:C2'	1:0:1280:U:OP2	2.56	0.54
1:0:1949:A:H1'	1:0:2572:U:C4'	2.38	0.54
1:0:2162:C:H2'	1:0:2163:U:C6	2.42	0.54
1:0:58:C:O2	1:0:72:A:H3'	2.08	0.54
1:0:2379:G:H2'	1:0:2380:U:O4'	2.07	0.54
1:0:598:U:H2'	1:0:599:A:C8	2.42	0.54
1:0:2783:U:OP1	1:0:2783:U:C6	2.60	0.54
1:0:838:A:H2'	1:0:839:U:C6	2.43	0.54
1:0:843:G:O2'	1:0:844:G:H5'	2.08	0.54
1:0:2381:A:H4'	1:0:2382:C:H5	1.71	0.54
1:0:1974:U:H2'	1:0:1975:G:H5''	1.88	0.54
1:0:752:G:H5'	1:0:1775:A:N6	2.23	0.54
1:0:2168:A:H2'	1:0:2169:A:H5'	1.89	0.54
1:0:2229:G:H2'	1:0:2475:C:OP1	2.08	0.54
1:0:918:A:C2'	1:0:919:U:H5''	2.35	0.54
1:0:197:G:N2	1:0:440:U:H2'	2.23	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.07	0.54
1:0:2017:U:O2'	1:0:2018:G:H5'	2.07	0.54
1:0:1976:U:C2'	1:0:1977:C:H5'	2.37	0.54
1:0:213:C:H42	1:0:238:G:H22	1.54	0.54
1:0:2437:G:H2'	1:0:2469:G:N2	2.23	0.54
1:0:2466:G:H2'	1:0:2467:A:C8	2.43	0.54
1:0:688:A:O2'	1:0:2422:C:H4'	2.07	0.54
1:0:1745:C:H2'	1:0:1746:A:O4'	2.08	0.54
1:0:2245:A:H4'	1:0:2246:A:N7	2.23	0.54
1:0:173:A:O2'	1:0:174:A:OP1	2.19	0.54
1:0:841:G:H3'	1:0:841:G:N3	2.22	0.54
1:0:1258:G:H2'	1:0:1259:A:C8	2.43	0.54
1:0:2321:C:O2'	1:0:2353:G:H5''	2.08	0.54
1:0:243:G:H2'	1:0:244:C:O4'	2.08	0.54
1:0:1825:C:C2'	1:0:1826:U:H5'	2.38	0.54
1:0:604:U:H2'	1:0:605:G:C8	2.42	0.54
1:0:216:U:H2'	1:0:217:U:O4'	2.08	0.54
1:0:1528:C:C3'	1:0:1529:C:H5''	2.38	0.54
1:0:242:A:O2'	1:0:243:G:O5'	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2023:C:H2'	1:0:2024:U:C6	2.43	0.54
1:0:1210:C:H2'	1:0:1211:G:O4'	2.08	0.54
1:0:939:C:H2'	1:0:940:G:C8	2.43	0.53
1:0:1313:U:O4	1:0:1651:U:H5'	2.08	0.53
1:0:2242:C:N4	1:0:2257:A:N6	2.55	0.53
1:0:832:A:H2'	1:0:833:A:O4'	2.07	0.53
1:0:1333:G:N2	1:0:1344:C:N4	2.56	0.53
1:0:241:C:O2'	1:0:242:A:H5''	2.07	0.53
1:0:1272:G:H2'	1:0:1273:G:C8	2.43	0.53
1:0:64:C:H2'	1:0:65:C:C6	2.42	0.53
1:0:1288:A:O2'	1:0:1289:A:H5'	2.08	0.53
1:0:167:A:H2'	1:0:168:A:C8	2.43	0.53
1:0:1669:A:H2'	1:0:1670:G:H4'	1.90	0.53
1:0:2470:U:O2'	1:0:2471:U:H5'	2.08	0.53
1:0:2809:A:C2'	1:0:2810:A:H5'	2.38	0.53
1:0:879:A:O2'	1:0:880:C:H5'	2.07	0.53
1:0:1068:A:H2'	1:0:1069:G:C8	2.42	0.53
1:0:457:C:H2'	1:0:458:G:O4'	2.08	0.53
1:0:737:C:H2'	1:0:738:G:O4'	2.08	0.53
1:0:917:U:H2'	1:0:918:A:O4'	2.07	0.53
1:0:824:U:H1'	1:0:1264:C:C1'	2.38	0.53
1:0:236:C:O2	1:0:632:A:H1'	2.09	0.53
1:0:782:U:H2'	1:0:783:G:C8	2.43	0.53
1:0:73:A:H4'	1:0:74:G:H1'	1.91	0.53
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.53
1:0:484:G:O2'	1:0:485:G:H5'	2.08	0.53
1:0:2483:U:H1'	1:0:2551:A:H2	1.74	0.53
1:0:181:A:H4'	1:0:182:G:C4'	2.38	0.53
1:0:798:G:O2'	1:0:1770:U:H4'	2.08	0.53
1:0:1900:U:H4'	1:0:1946:U:O4'	2.09	0.53
1:0:2451:G:H2'	1:0:2508:G:N2	2.24	0.53
1:0:1971:C:H2'	1:0:1972:G:C8	2.44	0.53
1:0:1818:G:H2'	1:0:1819:U:C6	2.43	0.53
1:0:1654:A:H2'	1:0:1655:C:C6	2.43	0.53
1:0:2516:U:H2'	1:0:2517:C:C6	2.43	0.53
1:0:1459:U:H2'	1:0:1475:U:O2'	2.08	0.53
1:0:960:U:H2'	1:0:961:G:C8	2.43	0.53
1:0:2841:U:O2	1:0:2843:A:H1'	2.08	0.53
1:0:688:A:H1'	1:0:2423:G:H5'	1.91	0.53
1:0:1312:G:C5'	1:0:1313:U:H5'	2.33	0.53
1:0:931:G:N2	1:0:2247:A:H5''	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1190:C:H2'	1:0:1191:G:C8	2.44	0.53
1:0:1429:A:H62	1:0:1601:U:H5''	1.73	0.53
1:0:878:C:H42	1:0:921:A:N6	2.06	0.53
1:0:161:U:H2'	1:0:162:C:C6	2.44	0.53
1:0:646:C:H2'	1:0:647:G:O4'	2.08	0.53
1:0:73:A:H4'	1:0:74:G:C1'	2.38	0.53
1:0:127:C:H2'	1:0:128:C:C6	2.44	0.53
1:0:108:G:H2'	1:0:109:A:H8	1.73	0.53
1:0:201:G:H2'	1:0:202:A:C8	2.44	0.53
1:0:857:U:H2'	1:0:858:G:H5'	1.90	0.53
1:0:728:G:H2'	1:0:729:A:O4'	2.09	0.53
1:0:80:A:H2'	1:0:81:C:O4'	2.08	0.53
1:0:2571:G:H2'	1:0:2572:U:C6	2.44	0.53
1:0:941:U:H4'	1:0:941:U:OP1	2.08	0.53
1:0:129:A:H2'	1:0:130:C:C6	2.43	0.53
1:0:1259:A:H2'	1:0:1260:A:C8	2.44	0.53
1:0:2565:C:O2'	1:0:2566:A:H5'	2.08	0.53
1:0:788:G:H5'	1:0:790:A:H1'	1.90	0.53
1:0:1234:C:H2'	1:0:1235:C:C6	2.44	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:70:A:P	1:0:111:G:H4'	2.49	0.52
1:0:2504:G:H2'	1:0:2505:G:C8	2.44	0.52
1:0:824:U:O2'	1:0:1264:C:H1'	2.09	0.52
1:0:2061:C:H1'	1:0:2413:A:H1'	1.91	0.52
1:0:2440:C:H1'	1:0:2471:U:N3	2.25	0.52
1:0:870:C:H2'	1:0:871:U:C6	2.44	0.52
1:0:929:A:H3'	1:0:930:A:C5'	2.34	0.52
1:0:512:A:H2'	1:0:513:A:H5'	1.91	0.52
1:0:212:U:H2'	1:0:213:C:C6	2.44	0.52
1:0:1497:C:O2'	1:0:1498:G:H5'	2.08	0.52
1:0:2177:U:H2'	1:0:2178:U:C6	2.44	0.52
1:0:1358:C:H2'	1:0:1359:G:C5'	2.39	0.52
1:0:1223:G:O2'	1:0:1224:A:OP2	2.22	0.52
1:0:45:C:H5''	1:0:192:G:C8	2.43	0.52
1:0:1938:U:C2'	1:0:1939:U:H5'	2.39	0.52
1:0:1683:G:C2'	1:0:1684:G:H5'	2.39	0.52
1:0:1566:G:H4'	1:0:1733:U:O4	2.10	0.52
1:0:1004:A:H2'	1:0:1005:U:H5''	1.90	0.52
1:0:1414:G:H2'	1:0:1415:C:C6	2.44	0.52
1:0:38:G:H2'	1:0:39:C:C6	2.44	0.52
1:0:1964:A:H5''	1:0:1965:U:OP2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:590:C:H2'	1:0:591:G:C8	2.43	0.52
1:0:1365:U:H1'	1:0:1586:A:H2	1.74	0.52
1:0:1502:G:O2'	1:0:1503:G:H5'	2.09	0.52
1:0:2372:A:H2'	1:0:2373:C:C6	2.44	0.52
1:0:583:C:O2'	1:0:584:A:OP2	2.26	0.52
1:0:521:U:H2'	1:0:522:G:H5'	1.91	0.52
1:0:2498:U:H5''	1:0:2499:C:OP1	2.10	0.52
1:0:476:G:H2'	1:0:477:A:C8	2.44	0.52
1:0:597:U:H3	1:0:683:A:H2'	1.74	0.52
1:0:599:A:H2'	1:0:600:G:C8	2.44	0.52
1:0:874:A:N6	1:0:928:G:H21	2.08	0.52
1:0:1288:A:H2'	1:0:1289:A:O4'	2.09	0.52
1:0:204:A:H4'	1:0:205:A:N7	2.25	0.52
1:0:1018:C:H2'	1:0:1019:U:C5	2.44	0.52
1:0:1789:U:O2'	1:0:1790:G:H5'	2.09	0.52
1:0:628:A:H2'	1:0:629:C:C6	2.45	0.52
1:0:688:A:HO2'	1:0:2422:C:H4'	1.74	0.52
1:0:55:A:N6	1:0:69:G:O6	2.42	0.52
1:0:2623:A:H2'	1:0:2624:G:O4'	2.09	0.52
1:0:2728:A:H2'	1:0:2729:A:O4'	2.10	0.52
1:0:1788:C:H2'	1:0:1789:U:C6	2.45	0.52
1:0:35:G:C1'	1:0:466:A:H1'	2.39	0.52
1:0:317:U:C3'	1:0:318:G:H5''	2.40	0.52
1:0:2312:A:H1'	1:0:2314:A:C8	2.45	0.52
1:0:1763:G:H2'	1:0:1764:A:H4'	1.91	0.52
1:0:95:G:H2'	1:0:96:C:C6	2.44	0.52
1:0:830:C:O2'	1:0:852:U:H5''	2.10	0.52
1:0:841:G:N1	1:0:2226:A:H4'	2.25	0.52
1:0:1970:G:H2'	1:0:1971:C:C6	2.44	0.52
1:0:541:C:H2'	1:0:2002:A:N1	2.24	0.52
1:0:1217:U:H2'	1:0:1218:C:C6	2.45	0.52
1:0:638:A:O2'	1:0:639:G:H5'	2.10	0.52
1:0:807:A:H2'	1:0:808:C:C6	2.44	0.52
1:0:226:C:H4'	1:0:227:G:C8	2.45	0.52
1:0:1029:C:H2'	1:0:1030:U:H5''	1.92	0.52
1:0:1664:G:H4'	1:0:1665:C:O5'	2.09	0.52
1:0:757:U:O2'	1:0:758:G:H5'	2.10	0.52
1:0:394:U:H2'	1:0:395:G:C8	2.45	0.52
1:0:597:U:H2'	1:0:598:U:C6	2.44	0.52
1:0:1611:U:H2'	1:0:1612:U:O4'	2.10	0.52
1:0:68:C:O2'	1:0:69:G:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:9:U:H3	1:0:2608:A:N6	2.03	0.52
1:0:1807:A:H5'	1:0:1809:G:O4'	2.10	0.52
1:0:2160:C:H2'	1:0:2161:C:C6	2.45	0.52
1:0:1775:A:H4'	1:0:1776:A:C8	2.45	0.52
1:0:1597:A:H2'	1:0:1598:C:C6	2.45	0.52
1:0:991:A:H61	1:0:2020:G:H21	1.58	0.51
1:0:795:A:H4'	1:0:796:A:C8	2.45	0.51
1:0:658:G:H4'	1:0:2331:A:H5'	1.92	0.51
1:0:1377:G:H4'	1:0:1800:A:H5'	1.93	0.51
1:0:2213:G:H2'	1:0:2214:G:C8	2.45	0.51
1:0:108:G:H2'	1:0:109:A:C8	2.46	0.51
1:0:1979:C:H42	1:0:2706:U:H6	1.58	0.51
1:0:1352:G:H2'	1:0:1353:A:C8	2.43	0.51
1:0:1301:U:H2'	1:0:1664:G:H21	1.74	0.51
1:0:2320:G:H2'	1:0:2321:C:O4'	2.09	0.51
1:0:564:U:H2'	1:0:565:A:C8	2.44	0.51
1:0:2559:U:H2'	1:0:2560:G:H5'	1.93	0.51
1:0:2560:G:H4'	1:0:2561:G:N7	2.24	0.51
1:0:460:U:N3	1:0:592:G:H1'	2.21	0.51
1:0:1286:U:H5''	1:0:1663:C:N4	2.25	0.51
1:0:1358:C:H2'	1:0:1359:G:H5''	1.92	0.51
1:0:1860:A:H2'	1:0:1861:G:O4'	2.11	0.51
1:0:1727:C:H4'	1:0:2833:C:O2	2.09	0.51
1:0:65:C:H2'	1:0:66:U:C5'	2.36	0.51
1:0:984:A:H2'	1:0:1200:G:N2	2.24	0.51
1:0:2083:G:H2'	1:0:2084:G:O4'	2.11	0.51
1:0:2401:A:H2'	1:0:2403:C:C5	2.45	0.51
1:0:491:A:N3	1:0:491:A:H2'	2.26	0.51
1:0:1921:A:H2'	1:0:1922:U:H5''	1.92	0.51
1:0:597:U:N3	1:0:683:A:H2'	2.26	0.51
1:0:451:A:H2'	1:0:452:G:C8	2.45	0.51
1:0:2426:G:O2'	1:0:2427:A:P	2.68	0.51
1:0:1199:U:O4	1:0:1201:G:N7	2.43	0.51
1:0:1033:G:H22	1:0:1150:C:C2'	2.24	0.51
1:0:1218:C:H2'	1:0:1219:C:C6	2.45	0.51
1:0:1861:G:O2'	1:0:1862:C:H5'	2.10	0.51
1:0:1865:C:H2'	1:0:1866:G:O4'	2.10	0.51
1:0:2272:A:H2'	1:0:2273:C:C6	2.46	0.51
1:0:333:A:H1'	1:0:351:A:C4	2.45	0.51
1:0:2428:U:O2'	1:0:2429:A:H5'	2.10	0.51
1:0:689:A:N3	1:0:689:A:H3'	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1001:A:N6	1:0:1200:G:H1'	2.22	0.51
1:0:1661:C:O2'	1:0:1662:G:H5'	2.10	0.51
1:0:629:C:H2'	1:0:630:G:H5'	1.93	0.51
1:0:2059:U:H2'	1:0:2060:A:H5''	1.91	0.51
1:0:168:A:H2'	1:0:169:C:C6	2.46	0.51
1:0:539:A:N6	1:0:2024:U:H3	2.08	0.51
1:0:763:A:C2	1:0:765:C:H1'	2.46	0.51
1:0:2536:G:H2'	1:0:2537:C:C6	2.46	0.51
1:0:446:C:H2'	1:0:447:U:C6	2.46	0.51
1:0:831:G:C2'	1:0:832:A:H5''	2.40	0.51
1:0:215:G:O2'	1:0:617:U:H1'	2.09	0.51
1:0:587:A:H2'	1:0:588:G:H5''	1.92	0.51
1:0:317:U:C2'	1:0:318:G:H5''	2.40	0.51
1:0:980:G:H2'	1:0:981:C:C6	2.46	0.51
1:0:1092:U:H2'	1:0:1093:U:C6	2.45	0.51
1:0:230:C:H2'	1:0:231:G:O4'	2.11	0.51
1:0:1312:G:H2'	1:0:1643:A:N6	2.25	0.51
1:0:2079:A:H2'	1:0:2080:U:C6	2.46	0.51
1:0:1791:C:H2'	1:0:1792:C:H5''	1.93	0.51
1:0:2397:A:H2'	1:0:2398:U:O4'	2.11	0.51
1:0:2757:G:OP2	1:0:2761:A:H4'	2.10	0.51
1:0:25:U:H3	1:0:525:A:H61	1.56	0.51
1:0:1819:U:H5''	1:0:1954:A:O3'	2.11	0.51
1:0:1777:A:H5'	1:0:1963:G:H21	1.76	0.51
1:0:67:G:H22	1:0:72:A:H2'	1.76	0.51
1:0:173:A:H61	1:0:844:G:H21	1.57	0.51
1:0:2756:A:H1'	1:0:2758:A:N7	2.26	0.51
1:0:2758:A:H5''	1:0:2759:U:C5	2.44	0.51
1:0:1793:A:H2'	1:0:1794:A:C8	2.46	0.51
1:0:35:G:H1'	1:0:466:A:H1'	1.93	0.51
1:0:1677:C:H2'	1:0:1678:G:C8	2.46	0.51
1:0:788:G:H5'	1:0:790:A:N3	2.26	0.51
1:0:1141:U:H5'	1:0:2549:G:N2	2.26	0.50
1:0:173:A:N6	1:0:844:G:H21	2.09	0.50
1:0:2727:G:C2'	1:0:2728:A:H5''	2.41	0.50
1:0:1127:C:H2'	1:0:1128:G:H8	1.76	0.50
1:0:1881:U:H2'	1:0:1882:G:H5'	1.94	0.50
1:0:878:C:H42	1:0:921:A:H62	1.58	0.50
1:0:571:U:H2'	1:0:581:A:H1'	1.93	0.50
1:0:2532:G:H1'	1:0:2561:G:N3	2.26	0.50
1:0:2783:U:O2'	1:0:2784:A:H4'	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:645:G:H2'	1:0:646:C:C6	2.46	0.50
1:0:1052:C:H2'	1:0:1053:G:C8	2.45	0.50
1:0:1055:A:N6	1:0:1122:A:H4'	2.26	0.50
1:0:1141:U:O2'	1:0:1142:G:OP1	2.25	0.50
1:0:872:G:H2'	1:0:928:G:N1	2.27	0.50
1:0:1793:A:H2'	1:0:1794:A:H8	1.77	0.50
1:0:792:U:H2'	1:0:793:G:O4'	2.11	0.50
1:0:338:G:O2'	1:0:339:U:H5'	2.12	0.50
1:0:1435:G:H21	1:0:1511:A:N6	2.10	0.50
1:0:2579:A:C2'	1:0:2580:C:H5''	2.34	0.50
1:0:2703:C:H2'	1:0:2704:U:C6	2.46	0.50
1:0:2432:A:H4'	1:0:2551:A:O2'	2.12	0.50
1:0:1424:U:H2'	1:0:1425:G:C8	2.46	0.50
1:0:1038:U:O2	1:0:2466:G:H4'	2.10	0.50
1:0:1495:G:HO2'	1:0:1496:G:P	2.34	0.50
1:0:689:A:C2'	1:0:690:A:H5'	2.42	0.50
1:0:665:A:OP2	1:0:666:U:H5'	2.12	0.50
1:0:170:U:H2'	1:0:171:G:H8	1.77	0.50
1:0:223:C:H4'	1:0:398:C:H1'	1.93	0.50
1:0:109:A:H3'	1:0:110:U:C5'	2.38	0.50
1:0:618:A:H2'	1:0:619:A:O4'	2.12	0.50
1:0:632:A:C2'	1:0:633:G:H5'	2.42	0.50
1:0:1194:U:O2'	1:0:1195:U:P	2.70	0.50
1:0:860:U:O2'	1:0:861:G:H5'	2.12	0.50
1:0:1923:U:H1'	1:0:1947:G:H4'	1.94	0.50
1:0:84:G:H2'	1:0:85:C:C6	2.47	0.50
1:0:158:A:H2'	1:0:159:A:C8	2.44	0.50
1:0:599:A:H2'	1:0:600:G:H8	1.76	0.50
1:0:1289:A:H62	1:0:1662:G:H1	1.60	0.50
1:0:1067:G:H2'	1:0:1114:A:H61	1.77	0.50
1:0:1922:U:H1'	1:0:2570:C:O2'	2.11	0.50
1:0:2178:U:H2'	1:0:2179:C:C6	2.47	0.50
1:0:1055:A:O2'	1:0:1058:G:H1'	2.12	0.50
1:0:864:C:H2'	1:0:865:A:H8	1.77	0.50
1:0:964:A:H2'	1:0:965:G:C8	2.47	0.50
1:0:18:U:H2'	1:0:19:C:C6	2.46	0.50
1:0:1073:G:H2'	1:0:1074:G:C4'	2.28	0.50
1:0:1225:G:H2'	1:0:1249:G:H1	1.77	0.50
1:0:1195:U:H2'	1:0:1196:G:H8	1.73	0.50
1:0:1162:A:H2'	1:0:1163:C:C6	2.47	0.50
1:0:45:C:H2'	1:0:46:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1770:U:H2'	1:0:1774:A:H62	1.76	0.50
1:0:775:U:H4'	1:0:776:G:C8	2.47	0.50
1:0:1057:A:H3'	1:0:1058:G:C5'	2.41	0.50
1:0:165:G:H2'	1:0:166:G:O4'	2.12	0.50
1:0:69:G:O2'	1:0:70:A:C8	2.65	0.50
1:0:2757:G:H5'	1:0:2761:A:H1'	1.94	0.50
1:0:1354:A:H3'	1:0:1410:U:O2	2.11	0.50
1:0:316:C:H2'	1:0:317:U:C6	2.47	0.50
1:0:1785:A:H2'	1:0:1786:C:C6	2.46	0.50
1:0:431:G:H2'	1:0:432:C:C6	2.47	0.50
1:0:1099:A:H5''	1:0:1100:G:N7	2.26	0.50
1:0:868:U:H2'	1:0:869:C:C6	2.46	0.49
1:0:1432:G:N2	1:0:1596:A:H62	2.05	0.49
1:0:2754:C:H2'	1:0:2755:A:O4'	2.12	0.49
1:0:1679:U:H2'	1:0:1680:U:H5''	1.93	0.49
1:0:1455:C:H2'	1:0:1456:C:C6	2.47	0.49
1:0:2010:G:H2'	1:0:2011:U:O4'	2.12	0.49
1:0:2435:C:H2'	1:0:2436:U:C6	2.47	0.49
1:0:181:A:H4'	1:0:182:G:O5'	2.11	0.49
1:0:2821:G:H2'	1:0:2822:U:C6	2.47	0.49
1:0:211:U:O2'	1:0:212:U:H5'	2.12	0.49
1:0:1820:G:O2'	1:0:1821:A:P	2.70	0.49
1:0:830:C:O2	1:0:852:U:H4'	2.12	0.49
1:0:2220:A:H2'	1:0:2221:G:C8	2.47	0.49
1:0:2805:G:O2'	1:0:2806:G:H5'	2.11	0.49
1:0:203:G:O2'	1:0:204:A:H5'	2.12	0.49
1:0:189:A:H2'	1:0:190:A:C8	2.47	0.49
1:0:1678:G:H2'	1:0:1679:U:C6	2.46	0.49
1:0:1715:A:H1'	1:0:1717:A:C1'	2.42	0.49
1:0:864:C:H2'	1:0:865:A:C8	2.46	0.49
1:0:1269:G:H2'	1:0:1270:C:C6	2.48	0.49
1:0:874:A:H62	1:0:928:G:H21	1.58	0.49
1:0:874:A:H62	1:0:928:G:N2	2.11	0.49
1:0:114:C:H2'	1:0:115:G:O4'	2.13	0.49
1:0:1857:G:H2'	1:0:1859:A:OP2	2.13	0.49
1:0:2446:C:H2'	1:0:2447:G:C8	2.47	0.49
1:0:1029:C:C3'	1:0:1030:U:H5''	2.43	0.49
1:0:1626:A:OP2	1:0:1627:C:H5	1.95	0.49
1:0:1354:A:N6	1:0:1407:G:H22	2.09	0.49
1:0:459:A:H62	1:0:484:G:H1'	1.78	0.49
1:0:2343:C:H2'	1:0:2344:G:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:780:U:H2'	1:0:781:G:C8	2.48	0.49
1:0:2487:G:H4'	1:0:2533:U:O2'	2.11	0.49
1:0:422:C:H2'	1:0:423:G:H8	1.78	0.49
1:0:2093:G:H2'	1:0:2094:C:C6	2.47	0.49
1:0:2082:C:H2'	1:0:2083:G:O4'	2.12	0.49
1:0:1492:A:H2	1:0:1531:C:H41	1.59	0.49
1:0:1682:A:H2'	1:0:1683:G:C8	2.47	0.49
1:0:1446:U:H2'	1:0:1447:U:C6	2.46	0.49
1:0:477:A:H2'	1:0:478:G:O4'	2.13	0.49
1:0:2329:C:C2'	1:0:2330:G:H5'	2.43	0.49
1:0:2161:C:O2'	1:0:2162:C:P	2.71	0.49
1:0:1667:A:H2'	1:0:1668:G:H8	1.78	0.49
1:0:66:U:H2'	1:0:67:G:C8	2.48	0.49
1:0:1436:G:H1'	1:0:1508:G:N2	2.18	0.49
1:0:1029:C:OP1	1:0:1047:G:H4'	2.12	0.49
1:0:568:G:H5''	1:0:1019:U:H5'	1.95	0.49
1:0:2725:C:H2'	1:0:2726:U:C6	2.48	0.49
1:0:1729:C:H2'	1:0:1730:G:C8	2.47	0.49
1:0:790:A:H2'	1:0:791:G:C8	2.48	0.49
1:0:619:A:H2'	1:0:620:G:C8	2.47	0.49
1:0:1518:C:HO2'	1:0:1519:G:P	2.36	0.49
1:0:1685:A:N6	1:0:1691:G:H1'	2.28	0.49
1:0:2313:G:H2'	1:0:2314:A:H5'	1.95	0.49
1:0:942:U:C2'	1:0:943:U:H5'	2.42	0.49
1:0:2426:G:H22	1:0:2430:A:H62	1.61	0.49
1:0:1747:G:C4'	1:0:1749:G:H1'	2.32	0.49
1:0:1436:G:C1'	1:0:1508:G:H21	2.20	0.49
1:0:2726:U:H2'	1:0:2727:G:O4'	2.13	0.49
1:0:1871:G:C2'	1:0:1871:G:N3	2.76	0.49
1:0:1821:A:H5''	1:0:1822:C:H5	1.78	0.49
1:0:2278:A:H2'	1:0:2279:G:C8	2.48	0.49
1:0:2301:A:H2'	1:0:2302:G:O4'	2.13	0.49
1:0:427:C:H2'	1:0:428:A:C8	2.48	0.49
1:0:1895:A:H2'	1:0:1896:A:O4'	2.13	0.49
1:0:873:U:O2	1:0:2246:A:H5''	2.13	0.49
1:0:2757:G:H5'	1:0:2761:A:C1'	2.43	0.49
1:0:2503:G:C2'	1:0:2504:G:H5''	2.43	0.49
1:0:1164:C:H2'	1:0:1165:G:O4'	2.12	0.49
1:0:959:C:H5''	1:0:972:C:O2'	2.13	0.49
1:0:338:G:H1	1:0:346:C:H42	1.61	0.49
1:0:2093:G:O2'	1:0:2094:C:P	2.71	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2468:G:H2'	1:0:2469:G:O4'	2.13	0.48
1:0:951:G:C3'	1:0:952:A:H5''	2.43	0.48
1:0:2499:C:N4	1:0:2521:A:H2	2.09	0.48
1:0:2809:A:H2'	1:0:2810:A:H5'	1.95	0.48
1:0:1889:G:H2'	1:0:1890:G:C8	2.48	0.48
1:0:1686:A:O2'	1:0:2528:G:H5'	2.13	0.48
1:0:2235:G:H2'	1:0:2236:U:C6	2.48	0.48
1:0:441:A:H2'	1:0:442:A:O4'	2.12	0.48
1:0:332:C:H2'	1:0:333:A:H5'	1.94	0.48
1:0:1141:U:O2'	1:0:1142:G:P	2.71	0.48
1:0:2424:G:H2'	1:0:2425:G:O4'	2.13	0.48
1:0:1429:A:H1'	1:0:1603:A:C6	2.48	0.48
1:0:83:A:C6	1:0:98:U:H1'	2.47	0.48
1:0:1038:U:H2'	1:0:1039:A:C8	2.48	0.48
1:0:2493:U:H2'	1:0:2494:C:C6	2.48	0.48
1:0:2494:C:H2'	1:0:2495:G:H8	1.79	0.48
1:0:367:G:C3'	1:0:368:A:H5''	2.43	0.48
1:0:2712:G:H5'	1:0:2713:A:C8	2.48	0.48
1:0:342:G:N2	1:0:1222:G:H1	2.10	0.48
1:0:756:C:H2'	1:0:757:U:C6	2.48	0.48
1:0:1445:A:H2'	1:0:1446:U:O4'	2.14	0.48
1:0:2783:U:H2'	1:0:2784:A:C4'	2.42	0.48
1:0:1349:A:H2'	1:0:1350:G:C8	2.48	0.48
1:0:2426:G:H5'	1:0:2480:C:N4	2.23	0.48
1:0:1226:A:C6	1:0:1250:A:H1'	2.48	0.48
1:0:2421:C:O2'	1:0:2422:C:H5'	2.12	0.48
1:0:930:A:H5'	1:0:931:G:C8	2.48	0.48
1:0:109:A:C2'	1:0:110:U:H5''	2.44	0.48
1:0:2238:G:H2'	1:0:2239:C:H6	1.78	0.48
1:0:1046:U:H2'	1:0:1047:G:C8	2.49	0.48
1:0:323:G:H2'	1:0:324:C:C6	2.48	0.48
1:0:860:U:H2'	1:0:861:G:H5'	1.96	0.48
1:0:159:A:C2'	1:0:160:C:H5'	2.44	0.48
1:0:1068:A:H2'	1:0:1069:G:H8	1.78	0.48
1:0:1742:G:H2'	1:0:1743:C:C6	2.48	0.48
1:0:1629:G:N1	1:0:1633:C:N4	2.61	0.48
1:0:2872:U:H2'	1:0:2873:G:C8	2.49	0.48
1:0:2429:A:H5''	1:0:2476:A:C6	2.48	0.48
1:0:2503:G:H2'	1:0:2504:G:H5''	1.96	0.48
1:0:595:A:H62	1:0:1264:C:N4	2.11	0.48
1:0:2721:A:N6	1:0:2743:G:H21	2.10	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:32:C:H2'	1:0:33:C:C6	2.48	0.48
1:0:1310:C:OP1	1:0:2689:C:H4'	2.13	0.48
1:0:810:U:H2'	1:0:811:G:C8	2.49	0.48
1:0:2852:G:H2'	1:0:2853:U:O4'	2.13	0.48
1:0:42:G:H2'	1:0:43:A:O4'	2.13	0.48
1:0:926:C:H2'	1:0:927:C:H5'	1.95	0.48
1:0:2809:A:N6	1:0:2854:G:H2'	2.29	0.48
1:0:2212:U:H2'	1:0:2213:G:C8	2.48	0.48
1:0:2799:C:H2'	1:0:2800:C:O4'	2.13	0.48
1:0:2085:G:H2'	1:0:2086:U:C6	2.49	0.48
1:0:703:A:H2'	1:0:704:G:H8	1.79	0.48
1:0:2299:A:H2'	1:0:2299:A:N3	2.28	0.48
1:0:845:U:H2'	1:0:846:A:C8	2.49	0.48
1:0:1040:A:H2'	1:0:1041:G:H5'	1.94	0.48
1:0:2009:U:H2'	1:0:2010:G:C8	2.48	0.48
1:0:2523:G:O2'	1:0:2524:G:H5'	2.13	0.48
1:0:2794:G:H3'	1:0:2796:A:N6	2.22	0.48
1:0:1458:A:H3'	1:0:1459:U:H5'	1.96	0.48
1:0:2378:G:H2'	1:0:2379:G:H8	1.79	0.48
1:0:1685:A:H1'	1:0:1686:A:N7	2.28	0.48
1:0:2830:U:H2'	1:0:2831:A:C8	2.49	0.48
1:0:1436:G:H2'	1:0:1437:A:C8	2.49	0.48
1:0:1200:G:H2'	1:0:1201:G:O4'	2.14	0.48
1:0:643:A:H2'	1:0:644:A:C8	2.48	0.48
1:0:626:A:O2'	1:0:627:A:H5'	2.13	0.48
1:0:1937:G:N3	1:0:2530:C:H5'	2.29	0.48
1:0:471:A:N6	1:0:480:G:H21	1.99	0.48
1:0:1981:A:H2'	1:0:1982:C:C6	2.48	0.48
1:0:2572:U:H2'	1:0:2573:C:C6	2.49	0.48
1:0:452:G:H2'	1:0:453:U:O4'	2.14	0.48
1:0:1821:A:H3'	1:0:1822:C:H6	1.79	0.48
1:0:2181:A:H2'	1:0:2182:A:H5'	1.94	0.48
1:0:583:C:O2'	1:0:584:A:P	2.71	0.48
1:0:2700:U:N3	1:0:2848:A:N6	2.60	0.48
1:0:693:A:H2'	1:0:694:G:C8	2.48	0.48
1:0:1031:C:H1'	1:0:1151:U:O2	2.14	0.48
1:0:1014:G:O2'	1:0:1015:U:H5'	2.14	0.48
1:0:2429:A:O2'	1:0:2430:A:H5'	2.14	0.47
1:0:701:U:H1'	1:0:800:U:H5'	1.96	0.47
1:0:2574:G:N3	1:0:2574:G:C2'	2.76	0.47
1:0:2756:A:H4'	1:0:2758:A:OP1	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2377:U:O2'	1:0:2378:G:P	2.72	0.47
1:0:2404:A:H5''	1:0:2405:A:H3'	1.96	0.47
1:0:776:G:N3	1:0:776:G:C2'	2.77	0.47
1:0:429:C:H2'	1:0:430:C:O4'	2.14	0.47
1:0:760:U:O2	1:0:1997:A:H1'	2.14	0.47
1:0:697:G:C2'	1:0:698:A:H5'	2.44	0.47
1:0:546:A:H2'	1:0:547:U:C6	2.49	0.47
1:0:2795:A:N3	1:0:2795:A:H2'	2.28	0.47
1:0:2055:G:H2'	1:0:2056:C:C6	2.49	0.47
1:0:974:U:H2'	1:0:975:C:C6	2.49	0.47
1:0:1223:G:O2'	1:0:1224:A:P	2.73	0.47
1:0:953:G:H4'	1:0:1203:A:O2'	2.14	0.47
1:0:324:C:H2'	1:0:325:U:O4'	2.14	0.47
1:0:1679:U:C2'	1:0:1680:U:H5''	2.44	0.47
1:0:878:C:N4	1:0:921:A:H62	2.12	0.47
1:0:541:C:N4	1:0:572:G:O4'	2.47	0.47
1:0:1598:C:H2'	1:0:1599:G:O4'	2.14	0.47
1:0:548:G:H2'	1:0:549:G:C8	2.49	0.47
1:0:675:C:H2'	1:0:676:G:C8	2.49	0.47
1:0:582:G:H2'	1:0:583:C:H3'	1.95	0.47
1:0:1182:U:C3'	1:0:1183:C:H5''	2.44	0.47
1:0:1572:C:C3'	1:0:1573:G:H5''	2.44	0.47
1:0:2504:G:H2'	1:0:2505:G:H8	1.78	0.47
1:0:1263:G:O2'	1:0:1264:C:P	2.72	0.47
1:0:1937:G:H4'	1:0:2529:G:H21	1.78	0.47
1:0:2660:C:O2'	1:0:2661:G:H5'	2.14	0.47
1:0:187:U:H2'	1:0:188:G:C8	2.50	0.47
1:0:2026:C:H2'	1:0:2027:C:C6	2.49	0.47
1:0:2308:A:H2'	1:0:2309:G:C8	2.48	0.47
1:0:1685:A:C6	1:0:1691:G:H1'	2.50	0.47
1:0:1344:C:H2'	1:0:1346:C:OP1	2.14	0.47
1:0:210:A:N6	1:0:242:A:N7	2.62	0.47
1:0:2168:A:C2'	1:0:2169:A:H5'	2.44	0.47
1:0:780:U:H2'	1:0:781:G:H8	1.79	0.47
1:0:240:U:H4'	1:0:443:A:H5'	1.97	0.47
1:0:1039:A:H2'	1:0:1040:A:H8	1.79	0.47
1:0:991:A:N6	1:0:2020:G:H21	2.13	0.47
1:0:2642:G:H2'	1:0:2643:G:O4'	2.15	0.47
1:0:70:A:O3'	1:0:71:A:H3'	2.14	0.47
1:0:869:C:O2'	1:0:870:C:H5'	2.15	0.47
1:0:2057:U:H1'	1:0:2577:A:H1'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1326:U:H1'	1:0:1626:A:N3	2.30	0.47
1:0:1480:G:H2'	1:0:1481:U:H5'	1.97	0.47
1:0:1619:A:H3'	1:0:1619:A:N3	2.30	0.47
1:0:1684:G:H2'	1:0:1974:U:O4	2.15	0.47
1:0:2204:A:O2'	1:0:2205:C:OP2	2.32	0.47
1:0:2483:U:H1'	1:0:2551:A:C2	2.50	0.47
1:0:245:C:H5'	1:0:372:U:O2'	2.15	0.47
1:0:2651:U:H2'	1:0:2652:G:C8	2.49	0.47
1:0:199:A:H61	1:0:209:G:H1'	1.80	0.47
1:0:569:C:H2'	1:0:570:G:C8	2.50	0.47
1:0:941:U:H2'	1:0:942:U:C6	2.49	0.47
1:0:1579:G:H2'	1:0:1580:C:C6	2.50	0.47
1:0:742:G:H2'	1:0:1766:U:H1'	1.96	0.47
1:0:198:A:O2'	1:0:199:A:P	2.73	0.47
1:0:2062:U:H4'	1:0:2412:A:H2	1.78	0.47
1:0:1316:G:H2'	1:0:1317:G:C8	2.49	0.47
1:0:2069:U:H2'	1:0:2070:G:C8	2.49	0.47
1:0:1036:G:H1'	1:0:1145:C:C4'	2.44	0.47
1:0:560:G:H2'	1:0:561:U:C6	2.49	0.47
1:0:152:G:O2'	1:0:153:A:H5'	2.15	0.47
1:0:986:A:H2'	1:0:987:G:H5'	1.96	0.47
1:0:1039:A:H2'	1:0:1040:A:C8	2.48	0.47
1:0:689:A:N6	1:0:815:A:H61	2.08	0.47
1:0:8:A:H2'	1:0:9:U:C6	2.49	0.47
1:0:542:A:OP2	1:0:2003:A:H1'	2.15	0.47
1:0:216:U:H5''	1:0:601:A:N6	2.30	0.47
1:0:1286:U:H4'	1:0:1288:A:OP1	2.15	0.47
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.47
1:0:742:G:N3	1:0:742:G:C2'	2.78	0.47
1:0:1391:A:H2'	1:0:1392:U:C5	2.50	0.47
1:0:478:G:O2'	1:0:479:G:H5'	2.15	0.47
1:0:2782:G:H2'	1:0:2783:U:OP1	2.15	0.47
1:0:432:C:H2'	1:0:433:G:H8	1.79	0.47
1:0:2276:C:O2	1:0:2301:A:H1'	2.15	0.47
1:0:1316:G:H2'	1:0:1317:G:H8	1.79	0.47
1:0:246:C:N3	1:0:247:A:N6	2.62	0.47
1:0:2015:G:OP2	1:0:2434:G:H5'	2.15	0.47
1:0:2244:C:H1'	1:0:2255:G:N1	2.30	0.47
1:0:1028:G:H2'	1:0:1029:C:C6	2.50	0.47
1:0:1259:A:H2'	1:0:1260:A:O4'	2.14	0.47
1:0:2324:G:C4'	1:0:2326:C:H5''	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1486:A:H2'	1:0:1487:C:C6	2.49	0.47
1:0:758:G:H2'	1:0:759:C:H5'	1.97	0.47
1:0:1273:G:H2'	1:0:1274:C:C6	2.50	0.47
1:0:1184:G:H2'	1:0:1185:C:H5'	1.97	0.47
1:0:931:G:O2'	1:0:932:G:H5'	2.15	0.47
1:0:595:A:H2	1:0:822:G:N3	2.13	0.47
1:0:601:A:H3'	1:0:602:C:C5'	2.44	0.47
1:0:1033:G:N2	1:0:1150:C:H2'	2.26	0.47
1:0:2727:G:N1	1:0:2735:C:H5''	2.29	0.47
1:0:664:C:H2'	1:0:665:A:C8	2.50	0.47
1:0:1279:G:H2'	1:0:1280:U:OP2	2.15	0.47
1:0:2329:C:N4	1:0:2361:G:H22	2.13	0.47
1:0:1825:C:O2'	1:0:1826:U:H5'	2.15	0.47
1:0:738:G:H2'	1:0:739:G:O4'	2.14	0.47
1:0:2211:U:H2'	1:0:2212:U:C6	2.50	0.47
1:0:979:A:H2'	1:0:980:G:C8	2.50	0.47
1:0:1120:C:H2'	1:0:2731:G:N2	2.30	0.47
1:0:2448:A:H2'	1:0:2449:G:O4'	2.14	0.47
1:0:2196:U:H2'	1:0:2197:U:C6	2.50	0.47
1:0:932:G:H2'	1:0:933:G:C8	2.50	0.47
1:0:952:A:H2'	1:0:953:G:O4'	2.15	0.47
1:0:567:G:H2'	1:0:568:G:C8	2.50	0.47
1:0:1998:A:H2'	1:0:1999:U:H5'	1.97	0.47
1:0:699:G:H3'	1:0:699:G:N3	2.31	0.47
1:0:341:A:H1'	1:0:1223:G:O6	2.15	0.46
1:0:9:U:H2'	1:0:10:A:C8	2.50	0.46
1:0:534:U:H4'	1:0:564:U:O2'	2.15	0.46
1:0:210:A:N6	1:0:442:A:H61	2.12	0.46
1:0:2316:G:H2'	1:0:2317:G:H8	1.79	0.46
1:0:1578:U:H2'	1:0:1579:G:C8	2.51	0.46
1:0:2676:G:H2'	1:0:2677:U:C6	2.50	0.46
1:0:918:A:H2'	1:0:919:U:C5'	2.41	0.46
1:0:1016:C:H2'	1:0:1017:C:C6	2.50	0.46
1:0:1920:A:N6	1:0:1923:U:H6	2.13	0.46
1:0:1912:G:C2'	1:0:1912:G:N3	2.78	0.46
1:0:1962:C:O2'	1:0:1963:G:H5'	2.16	0.46
1:0:2278:A:H2'	1:0:2279:G:H8	1.81	0.46
1:0:2800:C:H2'	1:0:2801:A:O4'	2.14	0.46
1:0:207:U:H2'	1:0:208:C:C6	2.50	0.46
1:0:967:G:H1'	1:0:970:A:N7	2.30	0.46
1:0:1418:C:H2'	1:0:1419:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1452:U:H5'	1:0:1532:A:O2'	2.14	0.46
1:0:689:A:C8	1:0:2422:C:H1'	2.51	0.46
1:0:88:G:H3'	1:0:89:A:C5'	2.38	0.46
1:0:2058:U:H3'	1:0:2217:G:N1	2.31	0.46
1:0:1829:C:C2'	1:0:1830:C:H5'	2.45	0.46
1:0:2785:A:H2'	1:0:2786:G:O4'	2.15	0.46
1:0:2526:U:H2'	1:0:2527:G:C8	2.50	0.46
1:0:2815:C:H2'	1:0:2816:C:C6	2.51	0.46
1:0:2658:A:H2'	1:0:2659:C:C6	2.51	0.46
1:0:1966:C:H4'	1:0:2585:C:H4'	1.96	0.46
1:0:1495:G:O2'	1:0:1496:G:P	2.73	0.46
1:0:1029:C:H3'	1:0:1030:U:H5''	1.96	0.46
1:0:1918:G:H4'	1:0:1920:A:C2	2.51	0.46
1:0:1429:A:N6	1:0:1602:G:H5'	2.31	0.46
1:0:241:C:C2'	1:0:242:A:H5''	2.45	0.46
1:0:2708:U:H2'	1:0:2709:C:C6	2.51	0.46
1:0:2437:G:H4'	1:0:2438:A:N7	2.30	0.46
1:0:2057:U:H2'	1:0:2058:U:C6	2.50	0.46
1:0:306:G:H2'	1:0:307:C:C6	2.51	0.46
1:0:2717:G:H2'	1:0:2718:A:C8	2.51	0.46
1:0:1386:A:H2'	1:0:1387:G:O4'	2.16	0.46
1:0:387:A:H2'	1:0:388:G:O4'	2.16	0.46
1:0:1142:G:OP1	1:0:2494:C:H4'	2.16	0.46
1:0:2199:C:H2'	1:0:2200:G:C8	2.49	0.46
1:0:1888:C:H5''	1:0:1889:G:C5'	2.45	0.46
1:0:1427:G:C2'	1:0:1428:G:H5'	2.44	0.46
1:0:1278:A:O2'	1:0:1279:G:O5'	2.34	0.46
1:0:187:U:H2'	1:0:188:G:H8	1.80	0.46
1:0:2600:A:H2'	1:0:2601:C:C6	2.51	0.46
1:0:1836:C:H2'	1:0:1837:G:C8	2.50	0.46
1:0:1855:G:H4'	1:0:2390:A:H4'	1.97	0.46
1:0:1571:G:H2'	1:0:1572:C:C6	2.51	0.46
1:0:2633:A:N6	1:0:2646:C:N4	2.63	0.46
1:0:2369:U:H2'	1:0:2370:G:C8	2.51	0.46
1:0:239:A:H4'	1:0:620:G:H5'	1.97	0.46
1:0:1888:C:C5'	1:0:1889:G:H5''	2.44	0.46
1:0:313:U:H2'	1:0:314:G:C8	2.50	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	0.46
1:0:1993:G:H2'	1:0:1994:U:C6	2.51	0.46
1:0:2035:G:H2'	1:0:2036:G:C8	2.47	0.46
1:0:421:G:H2'	1:0:422:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2668:U:O2'	1:0:2669:C:P	2.74	0.46
1:0:2635:U:H2'	1:0:2636:A:C8	2.51	0.46
1:0:2307:A:H2'	1:0:2308:A:C8	2.51	0.46
1:0:343:A:P	1:0:343:A:H3'	2.55	0.46
1:0:1429:A:O2'	1:0:1430:G:H4'	2.16	0.46
1:0:2402:U:H5'	1:0:2404:A:N7	2.31	0.46
1:0:1069:G:O2'	1:0:1070:G:H5'	2.16	0.46
1:0:337:G:H2'	1:0:338:G:C8	2.51	0.46
1:0:1760:G:H2'	1:0:1761:G:C8	2.51	0.46
1:0:771:C:H2'	1:0:772:G:H8	1.80	0.46
1:0:2620:G:H2'	1:0:2621:G:H8	1.81	0.46
1:0:2628:C:H2'	1:0:2629:U:C6	2.51	0.46
1:0:635:C:H3'	1:0:636:G:H5''	1.98	0.46
1:0:819:C:H2'	1:0:820:U:C6	2.51	0.46
1:0:1290:A:H2'	1:0:1291:G:C8	2.51	0.46
1:0:26:G:H21	1:0:524:A:N6	2.13	0.46
1:0:1712:G:N3	1:0:1712:G:H3'	2.31	0.46
1:0:2204:A:H1'	1:0:2205:C:C5	2.51	0.46
1:0:1949:A:H1'	1:0:2572:U:H4'	1.98	0.46
1:0:2483:U:H2'	1:0:2484:G:H5'	1.96	0.46
1:0:2372:A:H2'	1:0:2373:C:H6	1.80	0.46
1:0:462:G:H2'	1:0:463:C:H5'	1.98	0.46
1:0:1495:G:H2'	1:0:1496:G:C8	2.52	0.45
1:0:1200:G:C8	1:0:1200:G:OP1	2.69	0.45
1:0:1259:A:H2'	1:0:1260:A:H8	1.80	0.45
1:0:1790:G:O3'	1:0:1791:C:H6	1.99	0.45
1:0:653:G:H21	1:0:655:A:H1'	1.80	0.45
1:0:2694:G:H2'	1:0:2695:C:C6	2.51	0.45
1:0:2277:A:H2'	1:0:2278:A:O4'	2.16	0.45
1:0:636:G:H2'	1:0:637:G:H5'	1.97	0.45
1:0:2310:G:H2'	1:0:2311:U:O4'	2.15	0.45
1:0:2426:G:HO2'	1:0:2427:A:P	2.39	0.45
1:0:1313:U:O2'	1:0:1314:A:O5'	2.30	0.45
1:0:365:U:H2'	1:0:366:U:C6	2.52	0.45
1:0:2376:G:H2'	1:0:2377:U:C6	2.52	0.45
1:0:2581:A:H2'	1:0:2582:G:C5'	2.46	0.45
1:0:1301:U:H2'	1:0:1664:G:N2	2.31	0.45
1:0:2106:G:H2'	1:0:2107:G:C8	2.51	0.45
1:0:556:A:H2'	1:0:557:U:H5'	1.98	0.45
1:0:1140:A:N6	1:0:2469:G:H5''	2.32	0.45
1:0:872:G:O2'	1:0:2247:A:N3	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1257:U:H2'	1:0:1258:G:C8	2.52	0.45
1:0:859:U:H4'	1:0:860:U:C5	2.52	0.45
1:0:192:G:O2'	1:0:193:A:C5'	2.65	0.45
1:0:1665:C:N4	1:0:1993:G:H1	2.14	0.45
1:0:2784:A:H3'	1:0:2785:A:C8	2.51	0.45
1:0:1821:A:H5''	1:0:1822:C:C5	2.51	0.45
1:0:703:A:H2'	1:0:704:G:C8	2.51	0.45
1:0:1007:A:H2'	1:0:1008:G:C8	2.51	0.45
1:0:1504:G:O2'	1:0:1505:U:H5'	2.16	0.45
1:0:1703:C:H2'	1:0:1704:G:O4'	2.16	0.45
1:0:1251:G:H2'	1:0:1252:C:H6	1.80	0.45
1:0:616:U:C3'	1:0:617:U:H5''	2.47	0.45
1:0:837:U:H2'	1:0:838:A:C8	2.52	0.45
1:0:2235:G:H2'	1:0:2236:U:H6	1.81	0.45
1:0:2093:G:H2'	1:0:2094:C:C5	2.51	0.45
1:0:2025:A:H2'	1:0:2026:C:H5''	1.97	0.45
1:0:968:C:H2'	1:0:970:A:OP1	2.17	0.45
1:0:971:A:H2	1:0:2475:C:H1'	1.81	0.45
1:0:319:G:H1'	1:0:511:A:H5'	1.98	0.45
1:0:2356:A:H2'	1:0:2357:A:C8	2.52	0.45
1:0:2204:A:O2'	1:0:2205:C:C6	2.69	0.45
1:0:1447:U:O2	1:0:1576:G:O6	2.34	0.45
1:0:1949:A:H1'	1:0:2572:U:H5'	1.97	0.45
1:0:2159:A:H2'	1:0:2160:C:C6	2.51	0.45
1:0:845:U:H2'	1:0:846:A:H8	1.80	0.45
1:0:1319:C:H2'	1:0:1320:A:H8	1.81	0.45
1:0:529:U:H2'	1:0:530:G:C8	2.51	0.45
1:0:1906:U:H2'	1:0:1907:C:C6	2.51	0.45
1:0:2698:G:H2'	1:0:2699:G:C8	2.52	0.45
1:0:1227:A:H62	1:0:1248:G:H21	1.64	0.45
1:0:1291:G:H2'	1:0:1292:A:C8	2.52	0.45
1:0:1519:G:H2'	1:0:1520:G:C8	2.51	0.45
1:0:1380:C:C2'	1:0:1381:G:H5'	2.46	0.45
1:0:437:G:O2'	1:0:438:G:H5'	2.15	0.45
1:0:887:G:O2'	1:0:888:G:H5'	2.16	0.45
1:0:1659:G:H2'	1:0:1660:G:C8	2.51	0.45
1:0:297:A:H2'	1:0:298:C:C6	2.50	0.45
1:0:172:A:H4'	1:0:228:A:H4'	1.98	0.45
1:0:130:C:H2'	1:0:131:C:C6	2.52	0.45
1:0:1204:G:H2'	1:0:1205:G:C8	2.51	0.45
1:0:2403:C:H2'	1:0:2408:G:O2'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.45
1:0:117:A:H4'	1:0:118:U:C6	2.52	0.45
1:0:788:G:C5'	1:0:790:A:H1'	2.46	0.45
1:0:19:C:H2'	1:0:20:C:C6	2.50	0.45
1:0:1008:G:H2'	1:0:1009:C:C6	2.51	0.45
1:0:509:U:H2'	1:0:510:G:O4'	2.16	0.45
1:0:2393:G:H2'	1:0:2394:G:H8	1.82	0.45
1:0:935:C:H2'	1:0:936:A:C8	2.52	0.45
1:0:2444:C:O2'	1:0:2445:C:H5'	2.17	0.45
1:0:340:G:H1'	1:0:488:A:C4	2.52	0.45
1:0:1278:A:H4'	1:0:1279:G:O5'	2.17	0.45
1:0:2021:G:H2'	1:0:2022:C:C6	2.52	0.45
1:0:2824:C:H1'	1:0:2843:A:C2	2.51	0.45
1:0:37:C:H2'	1:0:38:G:C8	2.52	0.45
1:0:1586:A:H2'	1:0:1587:A:C8	2.52	0.45
1:0:1605:A:H2'	1:0:1606:C:C6	2.52	0.45
1:0:709:A:H2'	1:0:710:C:C6	2.52	0.45
1:0:2434:G:H2'	1:0:2435:C:C6	2.52	0.45
1:0:520:C:H2'	1:0:521:U:O4'	2.17	0.45
1:0:2858:A:H3'	1:0:2859:U:C5'	2.45	0.45
1:0:1130:U:H2'	1:0:1131:G:C8	2.52	0.45
1:0:838:A:H4'	1:0:2407:G:C5	2.52	0.45
1:0:798:G:H2'	1:0:799:C:H5'	1.99	0.45
1:0:2459:C:C2'	1:0:2460:G:H5'	2.46	0.45
1:0:2161:C:H2'	1:0:2162:C:C6	2.51	0.45
1:0:2784:A:H3'	1:0:2785:A:H8	1.80	0.45
1:0:211:U:C2'	1:0:212:U:H5'	2.46	0.45
1:0:1859:A:H2'	1:0:1860:A:C8	2.52	0.45
1:0:547:U:H2'	1:0:548:G:C8	2.51	0.45
1:0:1452:U:H5''	1:0:1533:G:H5'	1.99	0.45
1:0:2710:C:O2'	1:0:2711:G:H5'	2.17	0.45
1:0:2591:C:O2'	1:0:2592:U:H5'	2.17	0.45
1:0:1367:A:H2'	1:0:1368:G:O4'	2.17	0.45
1:0:40:U:H2'	1:0:41:G:C8	2.51	0.45
1:0:2475:C:H2'	1:0:2476:A:H5'	1.99	0.45
1:0:215:G:H1'	1:0:617:U:O2	2.17	0.45
1:0:841:G:H4'	1:0:844:G:N1	2.32	0.45
1:0:2418:A:N6	1:0:2581:A:OP1	2.50	0.45
1:0:1712:G:C2'	1:0:1713:G:H5'	2.46	0.45
1:0:2825:A:H2'	1:0:2826:C:C6	2.52	0.45
1:0:811:G:O2'	1:0:812:G:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1835:C:H2'	1:0:1836:C:C6	2.52	0.45
1:0:1307:U:H2'	1:0:1308:C:O4'	2.17	0.45
1:0:2639:A:H2'	1:0:2640:G:O4'	2.16	0.44
1:0:1494:G:H2'	1:0:1495:G:C8	2.52	0.44
1:0:1353:A:H1'	1:0:1619:A:O4'	2.16	0.44
1:0:1938:U:H2'	1:0:1939:U:H5'	1.98	0.44
1:0:2559:U:C2'	1:0:2560:G:H5'	2.46	0.44
1:0:959:C:H2'	1:0:960:U:C6	2.52	0.44
1:0:2333:A:H2'	1:0:2334:C:C6	2.53	0.44
1:0:1608:U:H2'	1:0:1609:G:C8	2.52	0.44
1:0:2193:C:H2'	1:0:2194:A:O4'	2.17	0.44
1:0:2137:G:H2'	1:0:2138:U:C6	2.52	0.44
1:0:1221:C:H2'	1:0:1222:G:H8	1.81	0.44
1:0:307:C:H2'	1:0:308:C:C6	2.53	0.44
1:0:539:A:O2'	1:0:540:G:C4	2.70	0.44
1:0:1031:C:H4'	1:0:1032:A:C8	2.52	0.44
1:0:635:C:C3'	1:0:636:G:H5''	2.47	0.44
1:0:2594:U:H2'	1:0:2595:C:C6	2.52	0.44
1:0:786:U:H2'	1:0:787:A:H5'	1.98	0.44
1:0:328:A:O2'	1:0:329:C:H5'	2.17	0.44
1:0:2018:G:H3'	1:0:2019:C:H5'	1.99	0.44
1:0:403:A:H4'	1:0:425:A:C5'	2.39	0.44
1:0:1917:C:H2'	1:0:1918:G:H5'	2.00	0.44
1:0:1331:G:H2'	1:0:1332:G:C8	2.53	0.44
1:0:415:A:C2'	1:0:416:U:H5'	2.46	0.44
1:0:158:A:O2'	1:0:159:A:H5'	2.17	0.44
1:0:1279:G:H1'	1:0:1280:U:H5	1.82	0.44
1:0:1921:A:C3'	1:0:1922:U:H5''	2.47	0.44
1:0:736:G:H2'	1:0:737:C:O4'	2.17	0.44
1:0:2220:A:H2'	1:0:2221:G:H8	1.82	0.44
1:0:2807:U:C5	1:0:2859:U:H4'	2.52	0.44
1:0:2239:C:O2'	1:0:2240:C:H5'	2.17	0.44
1:0:1016:C:H5''	1:0:1023:U:OP2	2.18	0.44
1:0:489:A:N6	1:0:491:A:H62	2.15	0.44
1:0:1975:G:H4'	1:0:1976:U:H5	1.82	0.44
1:0:2321:C:C2'	1:0:2322:U:H5'	2.47	0.44
1:0:1278:A:O2'	1:0:1279:G:OP2	2.36	0.44
1:0:827:C:H2'	1:0:828:C:C6	2.52	0.44
1:0:694:G:H2'	1:0:695:G:H8	1.82	0.44
1:0:1283:C:OP1	1:0:1284:G:H5'	2.18	0.44
1:0:2555:G:N3	1:0:2555:G:H2'	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2772:U:H2'	1:0:2773:G:C8	2.52	0.44
1:0:2668:U:C2'	1:0:2669:C:OP2	2.66	0.44
1:0:1225:G:H2'	1:0:1249:G:N1	2.32	0.44
1:0:701:U:H2'	1:0:702:A:O4'	2.18	0.44
1:0:2244:C:H1'	1:0:2255:G:H1	1.83	0.44
1:0:181:A:C5'	1:0:182:G:OP1	2.61	0.44
1:0:575:U:H2'	1:0:576:A:C8	2.53	0.44
1:0:173:A:N3	1:0:173:A:C2'	2.81	0.44
1:0:1380:C:N4	1:0:1799:A:N1	2.66	0.44
1:0:644:A:H2'	1:0:645:G:H5'	1.99	0.44
1:0:420:C:H2'	1:0:421:G:C8	2.53	0.44
1:0:2709:C:H2'	1:0:2710:C:C6	2.52	0.44
1:0:2555:G:C2'	1:0:2555:G:N3	2.81	0.44
1:0:2512:A:H2'	1:0:2513:A:O4'	2.18	0.44
1:0:715:U:H2'	1:0:716:U:C6	2.52	0.44
1:0:2474:G:O2'	1:0:2475:C:H5'	2.17	0.44
1:0:617:U:H2'	1:0:618:A:O4'	2.18	0.44
1:0:2377:U:O2'	1:0:2378:G:OP1	2.33	0.44
1:0:1163:C:O2'	1:0:1164:C:H5'	2.16	0.44
1:0:192:G:H4'	1:0:193:A:O5'	2.17	0.44
1:0:1677:C:H2'	1:0:1678:G:H8	1.82	0.44
1:0:1346:C:H2'	1:0:1347:C:C6	2.52	0.44
1:0:1949:A:O2'	1:0:2572:U:H5'	2.17	0.44
1:0:1961:A:H2'	1:0:1962:C:O4'	2.17	0.44
1:0:1147:G:H2'	1:0:1148:G:C8	2.53	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	2.00	0.44
1:0:820:U:H1'	1:0:2424:G:OP1	2.17	0.44
1:0:2524:G:H2'	1:0:2525:U:O4'	2.17	0.44
1:0:2261:G:H4'	1:0:2368:G:O2'	2.18	0.44
1:0:1519:G:H2'	1:0:1520:G:O4'	2.18	0.44
1:0:1518:C:O2'	1:0:1519:G:P	2.75	0.44
1:0:317:U:H3'	1:0:318:G:H5''	1.98	0.44
1:0:1634:A:O2'	1:0:1635:G:H5'	2.17	0.44
1:0:1614:C:H2'	1:0:1615:C:C6	2.52	0.44
1:0:1075:C:H2'	1:0:1076:U:C6	2.53	0.44
1:0:611:C:C2'	1:0:612:G:H5'	2.48	0.44
1:0:2475:C:C2'	1:0:2476:A:H5'	2.48	0.44
1:0:520:C:O2'	1:0:1249:G:H5''	2.18	0.44
1:0:820:U:H2'	1:0:821:A:C8	2.52	0.44
1:0:181:A:C4'	1:0:182:G:H4'	2.46	0.44
1:0:2259:G:H2'	1:0:2260:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1888:C:C4'	1:0:1889:G:H5''	2.48	0.44
1:0:1880:G:H2'	1:0:1881:U:C6	2.53	0.44
1:0:879:A:C2'	1:0:880:C:H5'	2.47	0.44
1:0:2022:C:H2'	1:0:2023:C:C6	2.53	0.44
1:0:475:U:H2'	1:0:476:G:O4'	2.17	0.44
1:0:2213:G:H2'	1:0:2214:G:H8	1.83	0.44
1:0:1312:G:H5''	1:0:1313:U:C5'	2.36	0.44
1:0:2217:G:H5'	1:0:2219:U:O4	2.17	0.44
1:0:2227:C:C2'	1:0:2228:U:H5'	2.41	0.44
1:0:514:G:C2'	1:0:514:G:N3	2.79	0.44
1:0:575:U:H4'	1:0:822:G:OP2	2.18	0.43
1:0:1194:U:H2'	1:0:1195:U:H6	1.78	0.43
1:0:338:G:H2'	1:0:339:U:O4'	2.18	0.43
1:0:1886:G:H2'	1:0:1887:G:C8	2.53	0.43
1:0:607:C:H2'	1:0:608:G:C8	2.53	0.43
1:0:67:G:H8	1:0:67:G:O5'	2.02	0.43
1:0:916:U:H2'	1:0:917:U:C6	2.53	0.43
1:0:1478:U:H2'	1:0:1479:G:C8	2.53	0.43
1:0:1480:G:C2'	1:0:1481:U:H5'	2.47	0.43
1:0:192:G:O2'	1:0:193:A:P	2.75	0.43
1:0:878:C:O2'	1:0:879:A:P	2.75	0.43
1:0:2161:C:O2'	1:0:2162:C:OP1	2.34	0.43
1:0:2824:C:H2'	1:0:2825:A:OP2	2.18	0.43
1:0:430:C:H2'	1:0:431:G:C8	2.53	0.43
1:0:2602:G:OP1	1:0:2801:A:H1'	2.19	0.43
1:0:697:G:O2'	1:0:698:A:H5'	2.18	0.43
1:0:1801:C:H3'	1:0:1802:A:H5'	2.00	0.43
1:0:215:G:H2'	1:0:216:U:O4'	2.18	0.43
1:0:2569:A:H2'	1:0:2570:C:C6	2.53	0.43
1:0:1451:C:H2'	1:0:1452:U:C6	2.53	0.43
1:0:1532:A:H2'	1:0:1533:G:C8	2.53	0.43
1:0:2862:G:O2'	1:0:2863:U:H5'	2.18	0.43
1:0:116:A:N3	1:0:155:G:H1'	2.34	0.43
1:0:2497:A:N3	1:0:2497:A:O5'	2.51	0.43
1:0:789:G:N2	1:0:806:A:H62	1.95	0.43
1:0:831:G:H2'	1:0:832:A:H5''	2.00	0.43
1:0:2633:A:H61	1:0:2646:C:N4	2.15	0.43
1:0:2058:U:H3'	1:0:2217:G:H1	1.83	0.43
1:0:2083:G:N2	1:0:2172:U:H3	2.16	0.43
1:0:652:C:N4	1:0:657:A:H61	2.08	0.43
1:0:2240:C:H2'	1:0:2241:U:H5'	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:201:G:H2'	1:0:202:A:H8	1.83	0.43
1:0:33:C:N4	1:0:466:A:H61	2.12	0.43
1:0:1750:A:H1'	1:0:2690:A:C2	2.53	0.43
1:0:777:A:H62	1:0:1766:U:H3	1.62	0.43
1:0:457:C:O2'	1:0:458:G:H5'	2.18	0.43
1:0:351:A:H2'	1:0:352:G:O4'	2.19	0.43
1:0:1604:A:H2'	1:0:1605:A:O4'	2.19	0.43
1:0:1886:G:H2'	1:0:1887:G:H8	1.83	0.43
1:0:2615:U:H3	1:0:2762:G:H1	1.65	0.43
1:0:2426:G:H22	1:0:2431:C:N4	2.16	0.43
1:0:2473:G:O2'	1:0:2474:G:H5'	2.18	0.43
1:0:54:G:H2'	1:0:55:A:C8	2.53	0.43
1:0:831:G:H5'	1:0:852:U:OP1	2.19	0.43
1:0:2574:G:H1'	1:0:2576:G:O6	2.17	0.43
1:0:1463:A:H2'	1:0:1464:A:H8	1.82	0.43
1:0:1919:A:H5''	1:0:1920:A:O5'	2.18	0.43
1:0:242:A:N6	1:0:441:A:N7	2.67	0.43
1:0:474:G:N2	1:0:476:G:H3'	2.34	0.43
1:0:2619:G:H2'	1:0:2620:G:C8	2.53	0.43
1:0:1172:U:H2'	1:0:1173:G:C8	2.53	0.43
1:0:1773:C:H1'	1:0:2588:U:H5''	2.01	0.43
1:0:2436:U:H2'	1:0:2437:G:O4'	2.19	0.43
1:0:591:G:H2'	1:0:592:G:C8	2.54	0.43
1:0:1030:U:OP1	1:0:1046:U:H1'	2.18	0.43
1:0:565:A:H2'	1:0:566:U:C6	2.54	0.43
1:0:237:G:H2'	1:0:238:G:O4'	2.18	0.43
1:0:2458:U:OP1	1:0:2516:U:H1'	2.19	0.43
1:0:147:G:C2	1:0:148:C:H1'	2.54	0.43
1:0:23:G:H2'	1:0:24:G:C8	2.54	0.43
1:0:2133:G:H2'	1:0:2134:U:C6	2.54	0.43
1:0:59:G:N2	1:0:87:G:N7	2.65	0.43
1:0:69:G:O2'	1:0:70:A:H8	2.02	0.43
1:0:73:A:H4'	1:0:74:G:O4'	2.19	0.43
1:0:10:A:O2'	1:0:11:G:H5'	2.18	0.43
1:0:109:A:H2'	1:0:110:U:H5''	2.01	0.43
1:0:2500:C:H4'	1:0:2544:A:C4'	2.49	0.43
1:0:2680:U:H3'	1:0:2681:A:C5'	2.47	0.43
1:0:2094:C:C4	1:0:2103:G:H1'	2.54	0.43
1:0:2136:G:H2'	1:0:2137:G:C8	2.53	0.43
1:0:2860:C:H2'	1:0:2861:A:O4'	2.19	0.43
1:0:69:G:H3'	1:0:111:G:O2'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:871:U:H1'	1:0:2248:A:C5'	2.48	0.43
1:0:604:U:H2'	1:0:605:G:H8	1.82	0.43
1:0:2083:G:H22	1:0:2172:U:H3	1.65	0.43
1:0:2225:G:O2'	1:0:2226:A:H5'	2.19	0.43
1:0:488:A:H2'	1:0:489:A:C8	2.53	0.43
1:0:192:G:O2'	1:0:193:A:H5''	2.18	0.43
1:0:1665:C:H2'	1:0:1666:G:C8	2.54	0.43
1:0:1566:G:H2'	1:0:1567:A:C8	2.54	0.43
1:0:878:C:O2'	1:0:879:A:OP1	2.36	0.43
1:0:1628:C:H2'	1:0:1629:G:C8	2.53	0.43
1:0:508:G:H2'	1:0:509:U:C6	2.53	0.43
1:0:1489:C:H3'	1:0:1490:U:H5'	2.00	0.43
1:0:2033:C:H2'	1:0:2034:A:O4'	2.18	0.43
1:0:584:A:H4'	1:0:2479:U:C5'	2.47	0.43
1:0:833:A:H2'	1:0:834:A:C8	2.53	0.43
1:0:2217:G:N3	1:0:2217:G:C2'	2.82	0.43
1:0:1326:U:H4'	1:0:1345:G:H4'	2.00	0.43
1:0:1975:G:H1'	1:0:1977:C:N4	2.33	0.43
1:0:1332:G:H2'	1:0:1333:G:O4'	2.19	0.43
1:0:1271:C:H2'	1:0:1272:G:C8	2.54	0.43
1:0:716:U:H2'	1:0:717:G:O4'	2.19	0.43
1:0:1155:G:H2'	1:0:1156:U:O4'	2.19	0.43
1:0:2292:C:H2'	1:0:2293:G:C8	2.54	0.43
1:0:2808:U:H3'	1:0:2809:A:C5'	2.46	0.43
1:0:859:U:H4'	1:0:860:U:H5	1.84	0.43
1:0:121:G:H2'	1:0:122:G:O4'	2.19	0.43
1:0:2392:G:H2'	1:0:2393:G:C8	2.54	0.43
1:0:1594:U:H2'	1:0:1595:A:H8	1.84	0.43
1:0:2265:A:H5''	1:0:2266:A:O4'	2.19	0.43
1:0:1466:C:H2'	1:0:1467:U:O4'	2.18	0.43
1:0:1471:G:H1	1:0:2682:C:H42	1.66	0.43
1:0:2640:G:H2'	1:0:2641:A:O4'	2.18	0.42
1:0:1747:G:H1'	1:0:1749:G:C2	2.53	0.42
1:0:404:A:H1'	1:0:424:G:O2'	2.18	0.42
1:0:1046:U:H2'	1:0:1047:G:H8	1.84	0.42
1:0:239:A:H5'	1:0:619:A:O2'	2.18	0.42
1:0:2380:U:C2'	1:0:2381:A:H5'	2.44	0.42
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:1341:G:N2	1:0:1343:C:H1'	2.34	0.42
1:0:168:A:H2'	1:0:169:C:H6	1.83	0.42
1:0:1594:U:H2'	1:0:1595:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:764:A:H3'	1:0:764:A:N3	2.34	0.42
1:0:1944:C:H2'	1:0:1945:C:O4'	2.19	0.42
1:0:172:A:N3	1:0:227:G:N2	2.67	0.42
1:0:128:C:C3'	1:0:129:A:H5''	2.49	0.42
1:0:190:A:H2'	1:0:191:G:C8	2.53	0.42
1:0:2558:C:O2'	1:0:2559:U:H5'	2.19	0.42
1:0:1762:C:H2'	1:0:1763:G:C8	2.54	0.42
1:0:964:A:H2'	1:0:965:G:H8	1.83	0.42
1:0:694:G:H2'	1:0:695:G:C8	2.54	0.42
1:0:944:A:H2'	1:0:945:G:O4'	2.19	0.42
1:0:28:A:H2'	1:0:29:U:C6	2.54	0.42
1:0:1888:C:H2'	1:0:1913:G:C6	2.54	0.42
1:0:85:C:O2'	1:0:86:U:H5'	2.20	0.42
1:0:1899:A:O2'	1:0:1946:U:H1'	2.19	0.42
1:0:533:C:H1'	1:0:563:U:O2'	2.19	0.42
1:0:2661:G:O2'	1:0:2662:C:H5'	2.19	0.42
1:0:2393:G:H2'	1:0:2394:G:C8	2.54	0.42
1:0:1561:A:H2'	1:0:1562:G:O4'	2.19	0.42
1:0:722:C:H2'	1:0:723:C:C6	2.54	0.42
1:0:1200:G:C2'	1:0:1201:G:H5'	2.50	0.42
1:0:2500:C:H4'	1:0:2544:A:O4'	2.19	0.42
1:0:2498:U:H1'	1:0:2500:C:H41	1.84	0.42
1:0:2390:A:H2'	1:0:2391:A:C8	2.55	0.42
1:0:607:C:H2'	1:0:608:G:H8	1.84	0.42
1:0:1312:G:H2'	1:0:1643:A:H61	1.84	0.42
1:0:65:C:C3'	1:0:66:U:H5'	2.50	0.42
1:0:119:G:H1'	1:0:129:A:N1	2.34	0.42
1:0:629:C:C2'	1:0:630:G:H5'	2.49	0.42
1:0:2205:C:H2'	1:0:2206:C:H6	1.83	0.42
1:0:1446:U:H2'	1:0:1447:U:H6	1.83	0.42
1:0:1489:C:H3'	1:0:1490:U:C5'	2.49	0.42
1:0:2455:A:O2'	1:0:2456:U:H5'	2.20	0.42
1:0:1722:G:H2'	1:0:1723:U:C6	2.54	0.42
1:0:2766:U:O2'	1:0:2767:C:H5'	2.19	0.42
1:0:543:G:H2'	1:0:544:U:C6	2.55	0.42
1:0:1917:C:C2'	1:0:1918:G:H5'	2.49	0.42
1:0:2250:G:O2'	1:0:2251:U:H5'	2.20	0.42
1:0:211:U:H2'	1:0:212:U:O4'	2.20	0.42
1:0:331:U:H2'	1:0:332:C:H5''	2.00	0.42
1:0:1026:U:H2'	1:0:1027:C:C6	2.55	0.42
1:0:1591:U:H2'	1:0:1592:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2463:G:O2'	1:0:2464:G:H5'	2.19	0.42
1:0:1175:A:H2'	1:0:1176:U:C6	2.55	0.42
1:0:689:A:H8	1:0:2422:C:H1'	1.84	0.42
1:0:2245:A:H2'	1:0:2246:A:OP2	2.19	0.42
1:0:1621:C:C4'	1:0:1626:A:H61	2.30	0.42
1:0:1354:A:C2	1:0:1411:C:H4'	2.55	0.42
1:0:210:A:N6	1:0:442:A:N6	2.68	0.42
1:0:114:C:H4'	1:0:124:A:O2'	2.19	0.42
1:0:670:U:H2'	1:0:671:A:C8	2.54	0.42
1:0:2515:G:H2'	1:0:2516:U:C6	2.54	0.42
1:0:1743:C:H2'	1:0:1744:G:C8	2.55	0.42
1:0:2795:A:N3	1:0:2795:A:C2'	2.82	0.42
1:0:1836:C:H2'	1:0:1837:G:H8	1.84	0.42
1:0:611:C:H2'	1:0:612:G:H5'	2.02	0.42
1:0:2034:A:N6	1:0:2593:A:N7	2.67	0.42
1:0:1930:C:H2'	1:0:1931:G:C8	2.54	0.42
1:0:2506:C:H2'	1:0:2507:U:C6	2.54	0.42
1:0:1002:C:H2'	1:0:1003:C:C6	2.55	0.42
1:0:2470:U:H1'	1:0:2548:G:O3'	2.19	0.42
1:0:59:G:H1'	1:0:73:A:N1	2.35	0.42
1:0:217:U:H5'	1:0:633:G:HO2'	1.85	0.42
1:0:537:C:C6	1:0:2759:U:H2'	2.55	0.42
1:0:2378:G:H2'	1:0:2379:G:C8	2.54	0.42
1:0:161:U:H4'	1:0:194:G:H21	1.85	0.42
1:0:1242:A:H2'	1:0:1243:G:C8	2.54	0.42
1:0:688:A:H1'	1:0:2422:C:O2'	2.20	0.42
1:0:930:A:H3'	1:0:931:G:H8	1.84	0.42
1:0:820:U:H5'	1:0:2424:G:H4'	2.01	0.42
1:0:1811:A:H1'	1:0:1813:A:C4	2.55	0.42
1:0:860:U:O2	1:0:860:U:H2'	2.19	0.42
1:0:1829:C:O2'	1:0:1910:A:H1'	2.20	0.42
1:0:48:A:O5'	1:0:50:G:H4'	2.20	0.42
1:0:2276:C:O2'	1:0:2277:A:H5'	2.20	0.42
1:0:2811:G:H2'	1:0:2812:A:C8	2.55	0.42
1:0:1168:G:H2'	1:0:1169:C:C6	2.54	0.42
1:0:873:U:C2	1:0:2246:A:H5''	2.54	0.42
1:0:405:C:H2'	1:0:406:G:C8	2.55	0.42
1:0:2502:G:H2'	1:0:2503:G:H8	1.85	0.42
1:0:1292:A:H2'	1:0:1293:A:H8	1.85	0.42
1:0:1324:G:O2'	1:0:1325:U:H5'	2.19	0.42
1:0:17:G:N2	1:0:564:U:H5''	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2028:C:O2'	1:0:2029:G:H5'	2.19	0.42
1:0:1302:C:H2'	1:0:1303:U:C6	2.55	0.42
1:0:890:U:H2'	1:0:891:A:C8	2.55	0.42
1:0:2038:C:H5'	1:0:2039:G:C5'	2.50	0.42
1:0:521:U:C2'	1:0:522:G:H5'	2.50	0.41
1:0:1956:G:H2'	1:0:1957:C:O4'	2.20	0.41
1:0:838:A:H4'	1:0:2407:G:C6	2.55	0.41
1:0:1671:A:H1'	1:0:2798:A:H5'	2.01	0.41
1:0:2740:C:O2'	1:0:2741:G:H5'	2.20	0.41
1:0:2836:U:H2'	1:0:2837:G:C8	2.55	0.41
1:0:2874:A:H2'	1:0:2875:C:C6	2.55	0.41
1:0:1204:G:H2'	1:0:1205:G:H8	1.85	0.41
1:0:1029:C:C2'	1:0:1030:U:H5''	2.50	0.41
1:0:824:U:C1'	1:0:1264:C:H1'	2.47	0.41
1:0:2404:A:H4'	1:0:2405:A:O5'	2.19	0.41
1:0:476:G:H2'	1:0:477:A:H8	1.85	0.41
1:0:198:A:O2'	1:0:199:A:OP2	2.30	0.41
1:0:1532:A:H2'	1:0:1533:G:H8	1.85	0.41
1:0:1671:A:H2'	1:0:1672:A:H8	1.85	0.41
1:0:526:C:H2'	1:0:527:C:C6	2.55	0.41
1:0:1539:U:H2'	1:0:1540:C:C6	2.55	0.41
1:0:690:A:O2'	1:0:691:C:H5'	2.21	0.41
1:0:691:C:H2'	1:0:692:C:C6	2.56	0.41
1:0:2242:C:H2'	1:0:2243:C:C6	2.55	0.41
1:0:105:G:H21	1:0:357:A:N6	2.18	0.41
1:0:1343:C:H2'	1:0:1344:C:C6	2.56	0.41
1:0:2320:G:H2'	1:0:2321:C:C6	2.56	0.41
1:0:2204:A:HO2'	1:0:2205:C:H6	1.63	0.41
1:0:2784:A:H5''	1:0:2785:A:N7	2.36	0.41
1:0:2824:C:HO2'	1:0:2825:A:P	2.42	0.41
1:0:649:G:H2'	1:0:650:U:C6	2.55	0.41
1:0:2627:G:H2'	1:0:2628:C:C6	2.54	0.41
1:0:2348:A:H2'	1:0:2349:G:C8	2.54	0.41
1:0:6:A:H2'	1:0:7:G:C8	2.56	0.41
1:0:2120:C:H2'	1:0:2121:U:O4'	2.21	0.41
1:0:178:C:H4'	1:0:399:G:C2	2.55	0.41
1:0:1028:G:H2'	1:0:1029:C:H6	1.85	0.41
1:0:1530:U:HO2'	1:0:1531:C:H6	1.64	0.41
1:0:1017:C:H2'	1:0:1018:C:O4'	2.19	0.41
1:0:630:G:C2'	1:0:631:G:H5'	2.49	0.41
1:0:315:G:H2'	1:0:316:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:415:A:O2'	1:0:416:U:H5'	2.20	0.41
1:0:539:A:N6	1:0:2024:U:N3	2.68	0.41
1:0:2093:G:O2'	1:0:2094:C:OP1	2.33	0.41
1:0:810:U:H2'	1:0:811:G:H8	1.85	0.41
1:0:2027:C:H2'	1:0:2028:C:C6	2.55	0.41
1:0:2597:G:H2'	1:0:2598:C:C6	2.55	0.41
1:0:1557:G:H2'	1:0:1558:C:C6	2.55	0.41
1:0:1495:G:O2'	1:0:1496:G:OP1	2.35	0.41
1:0:871:U:O2	1:0:2247:A:H2'	2.19	0.41
1:0:950:G:H2'	1:0:951:G:H8	1.84	0.41
1:0:1809:G:O2'	1:0:1810:U:H5'	2.20	0.41
1:0:1499:A:H2'	1:0:1500:U:C6	2.55	0.41
1:0:653:G:C2	1:0:655:A:H1'	2.55	0.41
1:0:2451:G:H2'	1:0:2508:G:H21	1.85	0.41
1:0:1455:C:HO2'	1:0:1644:G:H5''	1.86	0.41
1:0:438:G:H2'	1:0:439:C:C6	2.55	0.41
1:0:1415:C:O2'	1:0:1416:A:H5'	2.21	0.41
1:0:2651:U:H2'	1:0:2652:G:H8	1.86	0.41
1:0:1542:G:H21	1:0:1561:A:H62	1.69	0.41
1:0:747:A:H2'	1:0:748:A:H8	1.85	0.41
1:0:1084:A:H4'	1:0:2454:C:OP1	2.20	0.41
1:0:1041:G:O2'	1:0:2445:C:H4'	2.20	0.41
1:0:1189:G:O2'	1:0:1190:C:H5'	2.21	0.41
1:0:1341:G:N2	1:0:1664:G:H1	2.17	0.41
1:0:579:G:H2'	1:0:2013:A:C6	2.55	0.41
1:0:532:A:H2'	1:0:533:C:C6	2.56	0.41
1:0:581:A:H61	1:0:2012:A:H2	1.68	0.41
1:0:1825:C:H2'	1:0:1826:U:H5'	2.01	0.41
1:0:1586:A:H2'	1:0:1587:A:H8	1.86	0.41
1:0:635:C:H2'	1:0:636:G:H5''	2.02	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:2772:U:H2'	1:0:2773:G:H8	1.86	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.56	0.41
1:0:1402:G:H2'	1:0:1403:U:O4'	2.21	0.41
1:0:2546:G:H2'	1:0:2547:C:C6	2.56	0.41
1:0:1253:C:H2'	1:0:1254:G:O4'	2.21	0.41
1:0:818:G:H5'	1:0:819:C:OP2	2.21	0.41
1:0:1200:G:OP1	1:0:1200:G:H8	2.03	0.41
1:0:2217:G:N3	1:0:2217:G:H2'	2.35	0.41
1:0:2200:G:H2'	1:0:2201:G:C8	2.56	0.41
1:0:1193:G:O2'	1:0:1194:U:P	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1479:G:H2'	1:0:1480:G:C8	2.55	0.41
1:0:2756:A:H1'	1:0:2758:A:C5	2.56	0.41
1:0:2270:U:O2'	1:0:2353:G:H1'	2.20	0.41
1:0:1065:A:H2'	1:0:1066:G:C8	2.56	0.41
1:0:2861:A:O2'	1:0:2862:G:H5'	2.21	0.41
1:0:2539:C:H2'	1:0:2540:A:C8	2.55	0.41
1:0:1231:A:H2'	1:0:1232:U:O4'	2.20	0.41
1:0:1957:C:O2'	1:0:1958:G:H5'	2.20	0.41
1:0:925:U:H4'	1:0:926:C:C6	2.56	0.41
1:0:1528:C:H3'	1:0:1529:C:H5''	2.03	0.41
1:0:1791:C:H1'	1:0:1793:A:C4'	2.51	0.41
1:0:1676:U:H2'	1:0:1677:C:C6	2.56	0.41
1:0:2161:C:H2'	1:0:2162:C:C5	2.56	0.41
1:0:675:C:H2'	1:0:676:G:H8	1.85	0.41
1:0:634:G:H2'	1:0:635:C:C6	2.55	0.41
1:0:713:G:H2'	1:0:714:G:C8	2.56	0.41
1:0:1443:G:N3	1:0:1584:G:N1	2.69	0.41
1:0:550:C:H2'	1:0:551:A:H8	1.86	0.41
1:0:2492:G:H2'	1:0:2493:U:C6	2.56	0.41
1:0:589:C:H2'	1:0:590:C:C6	2.55	0.41
1:0:1187:A:C2'	1:0:1188:A:O5'	2.69	0.41
1:0:2096:U:C2'	1:0:2097:A:H5''	2.44	0.41
1:0:2241:U:H4'	1:0:2307:A:C2	2.55	0.41
1:0:840:U:H4'	1:0:841:G:C2	2.55	0.41
1:0:2234:G:H2'	1:0:2235:G:O4'	2.21	0.41
1:0:314:G:H2'	1:0:315:G:C8	2.55	0.41
1:0:1900:U:H2'	1:0:1901:A:H5'	2.03	0.41
1:0:1336:G:N2	1:0:1632:A:N6	2.69	0.41
1:0:2782:G:C2'	1:0:2783:U:OP1	2.69	0.41
1:0:644:A:H2'	1:0:645:G:O4'	2.21	0.41
1:0:1358:C:H2'	1:0:1359:G:H5'	2.03	0.41
1:0:987:G:H2'	1:0:988:G:H8	1.85	0.41
1:0:2392:G:H2'	1:0:2393:G:H8	1.85	0.41
1:0:2076:G:H2'	1:0:2077:G:C8	2.55	0.41
1:0:139:A:H2'	1:0:140:G:C8	2.55	0.41
1:0:1143:A:H2'	1:0:1144:U:C6	2.56	0.41
1:0:2048:C:H2'	1:0:2049:C:H6	1.85	0.41
1:0:1850:G:H2'	1:0:1851:A:C8	2.55	0.41
1:0:1696:C:H42	1:0:1755:G:H5''	1.86	0.41
1:0:2365:U:O2'	1:0:2366:U:H5'	2.21	0.41
1:0:956:A:N3	1:0:956:A:H2'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:808:C:H2'	1:0:809:C:C6	2.56	0.41
1:0:1286:U:H2'	1:0:2692:A:H2	1.85	0.41
1:0:856:A:H2'	1:0:857:U:O4'	2.20	0.41
1:0:1947:G:P	1:0:1947:G:H8	2.44	0.41
1:0:2321:C:H2'	1:0:2322:U:H5'	2.02	0.41
1:0:827:C:H2'	1:0:828:C:H6	1.87	0.41
1:0:1949:A:H1'	1:0:2572:U:C5'	2.51	0.41
1:0:2485:U:O2'	1:0:2486:C:H5'	2.21	0.41
1:0:1055:A:H61	1:0:1122:A:H4'	1.86	0.41
1:0:2389:G:H2'	1:0:2390:A:O4'	2.21	0.41
1:0:344:G:O2'	1:0:345:U:H5'	2.21	0.41
1:0:2383:C:C2'	1:0:2384:G:H5'	2.51	0.41
1:0:2633:A:H5''	1:0:2634:G:OP1	2.21	0.40
1:0:2058:U:H5'	1:0:2576:G:C1'	2.41	0.40
1:0:1463:A:H1'	1:0:1543:G:N2	2.37	0.40
1:0:1162:A:H2'	1:0:1163:C:H6	1.86	0.40
1:0:1518:C:C2'	1:0:1519:G:O5'	2.70	0.40
1:0:2326:C:H2'	1:0:2327:U:C6	2.56	0.40
1:0:2586:G:H2'	1:0:2587:G:O4'	2.21	0.40
1:0:314:G:H2'	1:0:315:G:H8	1.86	0.40
1:0:2573:C:O5'	1:0:2573:C:H6	2.04	0.40
1:0:978:U:H2'	1:0:979:A:C8	2.56	0.40
1:0:1054:C:H2'	1:0:1055:A:H5'	2.02	0.40
1:0:1821:A:H3'	1:0:1822:C:C6	2.56	0.40
1:0:502:A:H2'	1:0:503:G:O4'	2.21	0.40
1:0:354:C:H2'	1:0:355:G:O4'	2.21	0.40
1:0:1177:U:H2'	1:0:1178:C:C6	2.56	0.40
1:0:848:A:H2'	1:0:849:G:H8	1.85	0.40
1:0:1398:G:H2'	1:0:1399:C:C6	2.56	0.40
1:0:2476:A:HO2'	1:0:2477:C:H5	1.64	0.40
1:0:729:A:O2'	1:0:730:C:H5'	2.21	0.40
1:0:317:U:H3'	1:0:318:G:C5'	2.52	0.40
1:0:82:G:O2'	1:0:83:A:H5'	2.21	0.40
1:0:14:A:H2	1:0:2604:G:O2'	2.04	0.40
1:0:2204:A:C2'	1:0:2205:C:OP2	2.69	0.40
1:0:878:C:HO2'	1:0:879:A:P	2.44	0.40
1:0:1055:A:H2	1:0:1121:G:H2'	1.87	0.40
1:0:432:C:H2'	1:0:433:G:C8	2.57	0.40
1:0:1671:A:C1'	1:0:2798:A:H5'	2.51	0.40
1:0:1215:A:H2'	1:0:1216:G:H8	1.85	0.40
1:0:1329:U:H2'	1:0:1330:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1708:C:H2'	1:0:1709:U:O4'	2.21	0.40
1:0:1547:U:H2'	1:0:1548:U:C6	2.56	0.40
1:0:1736:C:H2'	1:0:1737:G:C8	2.57	0.40
1:0:229:G:H2'	1:0:230:C:C6	2.56	0.40
1:0:2678:C:H2'	1:0:2679:G:H8	1.87	0.40
1:0:2522:G:O2'	1:0:2523:G:H5'	2.21	0.40
1:0:1429:A:H1'	1:0:1603:A:N1	2.36	0.40
1:0:13:A:H1'	1:0:536:A:H62	1.86	0.40
1:0:1337:G:H1'	1:0:1632:A:C6	2.56	0.40
1:0:1358:C:C2'	1:0:1359:G:H5''	2.52	0.40
1:0:1365:U:H5'	1:0:1587:A:H1'	2.04	0.40
1:0:2054:A:H2'	1:0:2055:G:C8	2.57	0.40
1:0:2448:A:C2'	1:0:2449:G:H5'	2.51	0.40
1:0:1466:C:O2'	1:0:1467:U:H5'	2.21	0.40
1:0:1370:U:H2'	1:0:1371:G:O4'	2.22	0.40
1:0:2467:A:H2'	1:0:2468:G:C8	2.56	0.40
1:0:1223:G:O2'	1:0:1224:A:H5''	2.22	0.40
1:0:1656:U:O2'	1:0:2678:C:H4'	2.22	0.40
1:0:949:G:H2'	1:0:950:G:C8	2.57	0.40
1:0:950:G:H2'	1:0:951:G:C8	2.56	0.40
1:0:1787:U:H2'	1:0:1788:C:C6	2.57	0.40
1:0:2329:C:H41	1:0:2361:G:N2	2.19	0.40
1:0:2484:G:H21	1:0:2485:U:H5	1.69	0.40
1:0:770:U:H2'	1:0:771:C:C6	2.57	0.40
1:0:1008:G:H2'	1:0:1009:C:H6	1.85	0.40
1:0:2698:G:H2'	1:0:2699:G:O4'	2.21	0.40
1:0:1244:U:H2'	1:0:1245:G:C8	2.57	0.40
1:0:931:G:H2'	1:0:932:G:O4'	2.22	0.40
1:0:1685:A:O2'	1:0:1686:A:O5'	2.40	0.40
1:0:1939:U:O2	1:0:1968:G:H4'	2.21	0.40
1:0:2075:U:H1'	1:0:2204:A:C2	2.56	0.40
1:0:646:C:O2'	1:0:650:U:H5''	2.21	0.40
1:0:1962:C:H2'	1:0:1963:G:H8	1.87	0.40
1:0:1451:C:H2'	1:0:1452:U:H6	1.87	0.40
1:0:1778:U:H4'	1:0:2568:A:O2'	2.22	0.40
1:0:2552:C:OP1	1:0:2553:G:H5''	2.21	0.40
1:0:2653:A:H2'	1:0:2654:A:C8	2.57	0.40
1:0:2300:G:H3'	1:0:2300:G:N3	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	413 (14%)	39 (1%)

All (413) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	15	G
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	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	155	G
1	0	158	A

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Mol	Chain	Res	Type
1	0	173	A
1	0	174	A
1	0	176	A
1	0	177	U
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
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	226	C
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	245	C
1	0	305	A
1	0	318	G
1	0	333	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	342	G
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	455	A
1	0	456	C

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Mol	Chain	Res	Type
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U
1	0	469	G
1	0	491	A
1	0	492	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	559	C
1	0	572	G
1	0	584	A
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	657	A
1	0	665	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	742	G
1	0	743	A
1	0	760	U
1	0	761	G

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Mol	Chain	Res	Type
1	0	776	G
1	0	778	G
1	0	789	G
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	806	A
1	0	813	A
1	0	818	G
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	844	G
1	0	860	U
1	0	873	U
1	0	879	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	994	A
1	0	996	C
1	0	1005	U
1	0	1006	C
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G

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Mol	Chain	Res	Type
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	1087	C
1	0	1090	C
1	0	1099	A
1	0	1122	A
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	1167	A
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1188	A
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1253	C
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1280	U
1	0	1284	G
1	0	1285	A
1	0	1288	A
1	0	1314	A

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Mol	Chain	Res	Type
1	0	1324	G
1	0	1325	U
1	0	1334	A
1	0	1338	G
1	0	1342	U
1	0	1343	C
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
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	1468	A
1	0	1469	U
1	0	1470	G
1	0	1475	U
1	0	1482	U
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1508	G
1	0	1509	A
1	0	1513	U
1	0	1519	G
1	0	1524	C
1	0	1529	C
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1576	G
1	0	1582	A
1	0	1583	A
1	0	1585	A
1	0	1618	U

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Mol	Chain	Res	Type
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1632	A
1	0	1633	C
1	0	1634	A
1	0	1635	G
1	0	1648	C
1	0	1651	U
1	0	1657	A
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1685	A
1	0	1691	G
1	0	1692	C
1	0	1710	U
1	0	1712	G
1	0	1715	A
1	0	1717	A
1	0	1724	C
1	0	1733	U
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	1778	U
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	1821	A
1	0	1831	G
1	0	1884	A

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Mol	Chain	Res	Type
1	0	1889	G
1	0	1920	A
1	0	1922	U
1	0	1926	U
1	0	1938	U
1	0	1939	U
1	0	1946	U
1	0	1949	A
1	0	1950	C
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1979	C
1	0	1980	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	2038	C
1	0	2043	A
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2237	C
1	0	2241	U

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Mol	Chain	Res	Type
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
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	2315	A
1	0	2316	G
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2378	G
1	0	2382	C
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2408	G
1	0	2409	A
1	0	2414	A
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2470	U
1	0	2481	G
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G

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Mol	Chain	Res	Type
1	0	2498	U
1	0	2499	C
1	0	2504	G
1	0	2522	G
1	0	2546	G
1	0	2549	G
1	0	2561	G
1	0	2578	G
1	0	2580	C
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2669	C
1	0	2670	C
1	0	2681	A
1	0	2691	C
1	0	2692	A
1	0	2712	G
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	2760	G
1	0	2761	A
1	0	2770	A
1	0	2771	C
1	0	2783	U
1	0	2785	A
1	0	2795	A
1	0	2807	U

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Mol	Chain	Res	Type
1	0	2808	U
1	0	2809	A
1	0	2811	G
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2854	G
1	0	2855	C
1	0	2859	U

All (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	69	G
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A
1	0	583	C
1	0	805	G
1	0	843	G
1	0	878	C
1	0	1141	U
1	0	1187	A
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1279	G
1	0	1313	U
1	0	1354	A
1	0	1495	G
1	0	1518	C
1	0	1634	A
1	0	1664	G
1	0	1807	A
1	0	1820	G
1	0	1938	U
1	0	2015	G

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Mol	Chain	Res	Type
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2245	A
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2426	G
1	0	2668	U
1	0	2759	U
1	0	2824	C

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

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

5.5 Carbohydrates [i](#)

There are no 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	$\# Z > 2$
2	SPS	0	2881	-	17,22,23	4.43	9 (52%)	16,28,30	4.27	9 (56%)

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
2	SPS	0	2881	-	1/1/2/6	2/15/16/18	0/1/1/1

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	0	2881	SPS	C7-C5	2.48	1.55	1.50
2	0	2881	SPS	C9-C10	3.01	1.54	1.48
2	0	2881	SPS	C6-C8	3.85	1.55	1.47
2	0	2881	SPS	C1-N2	5.03	1.42	1.33
2	0	2881	SPS	C10-N11	5.11	1.50	1.34
2	0	2881	SPS	C5-N4	5.28	1.42	1.34
2	0	2881	SPS	C9-C8	7.87	1.54	1.32
2	0	2881	SPS	O1-C1	7.95	1.43	1.24
2	0	2881	SPS	O10-C10	9.54	1.43	1.24

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	0	2881	SPS	C12-N11-C10	-7.90	111.98	122.58
2	0	2881	SPS	O10-C10-C9	-6.92	109.69	123.01
2	0	2881	SPS	C8-C9-C10	-5.49	109.64	121.63
2	0	2881	SPS	C6-C8-C9	-5.17	109.95	127.09
2	0	2881	SPS	C14-C12-C13	-2.09	108.36	111.44
2	0	2881	SPS	C7-C5-C6	-2.05	121.20	123.69
2	0	2881	SPS	C9-C10-N11	4.89	124.88	114.12
2	0	2881	SPS	C1-N2-C3	6.07	120.49	115.25
2	0	2881	SPS	C14-S15-C16	6.64	109.79	100.97

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	0	2881	SPS	C12

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	0	2881	SPS	C9-C10-N11-C12
2	0	2881	SPS	O10-C10-N11-C12

There are no ring outliers.

No monomer is involved in short contacts.

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 will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.