



Full wwPDB X-ray Structure Validation Report ⓘ

May 13, 2020 – 03:24 am BST

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

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/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 : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

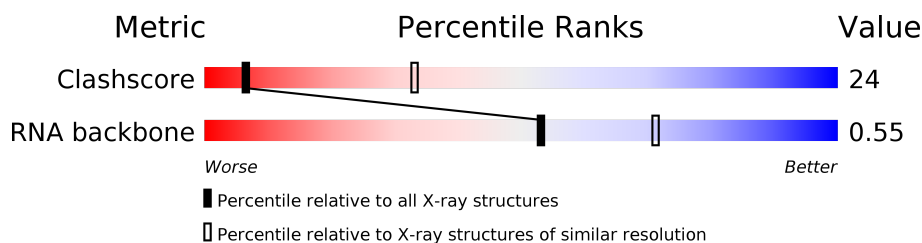
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 Å.


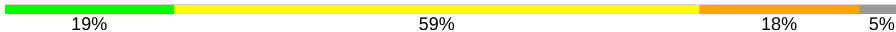

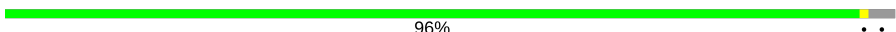
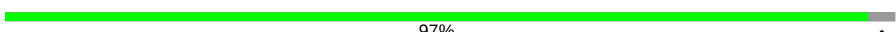
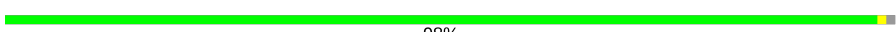
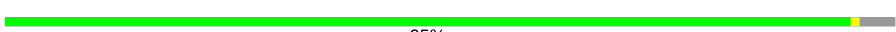


Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1036 (3.58-3.42)
RNA backbone	3102	1002 (4.00-3.00)





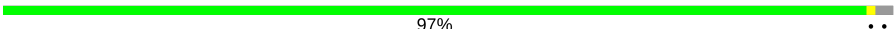


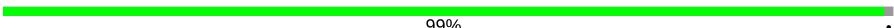
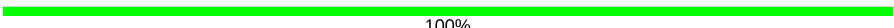

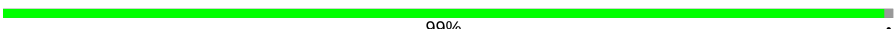

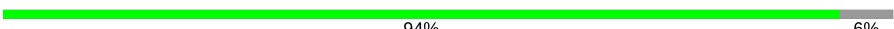
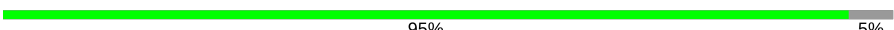
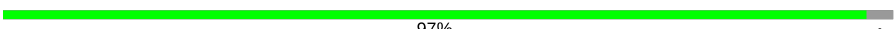


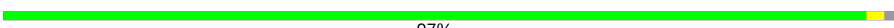
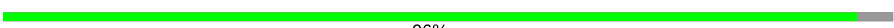
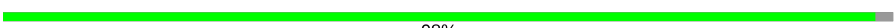
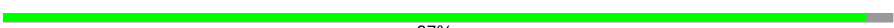

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively.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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	 26% 57% 13% .
2	9	124	 19% 59% 18% 5%
3	A	274	 99% .
4	B	211	 96% ..
5	C	204	 97% .
6	D	180	 98% ..
7	E	185	 95% . .
8	F	146	 34% . 64%
9	G	144	 99% .

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

2 Entry composition

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

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

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

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

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

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

- Molecule 3 is a protein called ribosomal protein L2.

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

- Molecule 4 is a protein called ribosomal protein L3.

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

- Molecule 5 is a protein called ribosomal protein L4.

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

- Molecule 6 is a protein called ribosomal protein L5.

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

- Molecule 7 is a protein called ribosomal protein L6.

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

- Molecule 8 is a protein called ribosomal protein L9.

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

- Molecule 9 is a protein called ribosomal protein L11.

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

- Molecule 10 is a protein called ribosomal protein L13.

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

- Molecule 11 is a protein called ribosomal protein L14.

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

- Molecule 12 is a protein called ribosomal protein L15.

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

- Molecule 13 is a protein called ribosomal protein L16.

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

- Molecule 14 is a protein called ribosomal protein L17.

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

- Molecule 15 is a protein called ribosomal protein L18.

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

- Molecule 16 is a protein called ribosomal protein L19.

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

- Molecule 17 is a protein called ribosomal protein L20.

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

- Molecule 18 is a protein called ribosomal protein L21.

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

- Molecule 19 is a protein called ribosomal protein L22.

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

- Molecule 20 is a protein called ribosomal protein L23.

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

- Molecule 21 is a protein called ribosomal protein L24.

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

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

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

- Molecule 23 is a protein called ribosomal protein L27.

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

- Molecule 24 is a protein called ribosomal protein L29.

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

- Molecule 25 is a protein called ribosomal protein L30.

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

- Molecule 26 is a protein called ribosomal protein L31.

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

- Molecule 27 is a protein called ribosomal protein L32.

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

- Molecule 28 is a protein called ribosomal protein L33.

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

- Molecule 29 is a protein called ribosomal protein L34.

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

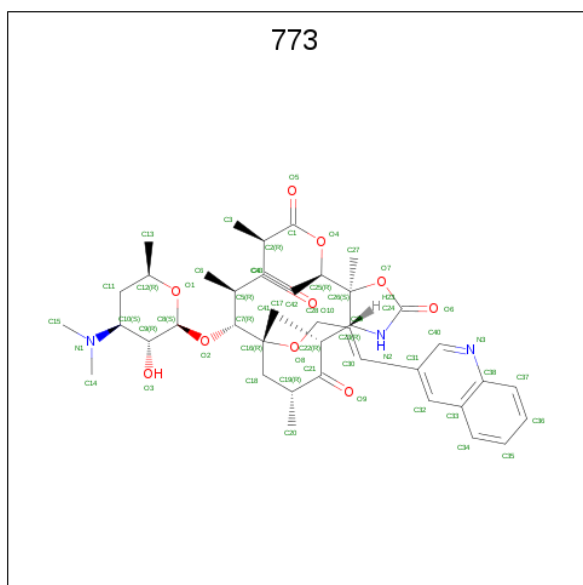
- Molecule 30 is a protein called ribosomal protein L35.

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

- Molecule 31 is a protein called ribosomal protein L36.

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

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



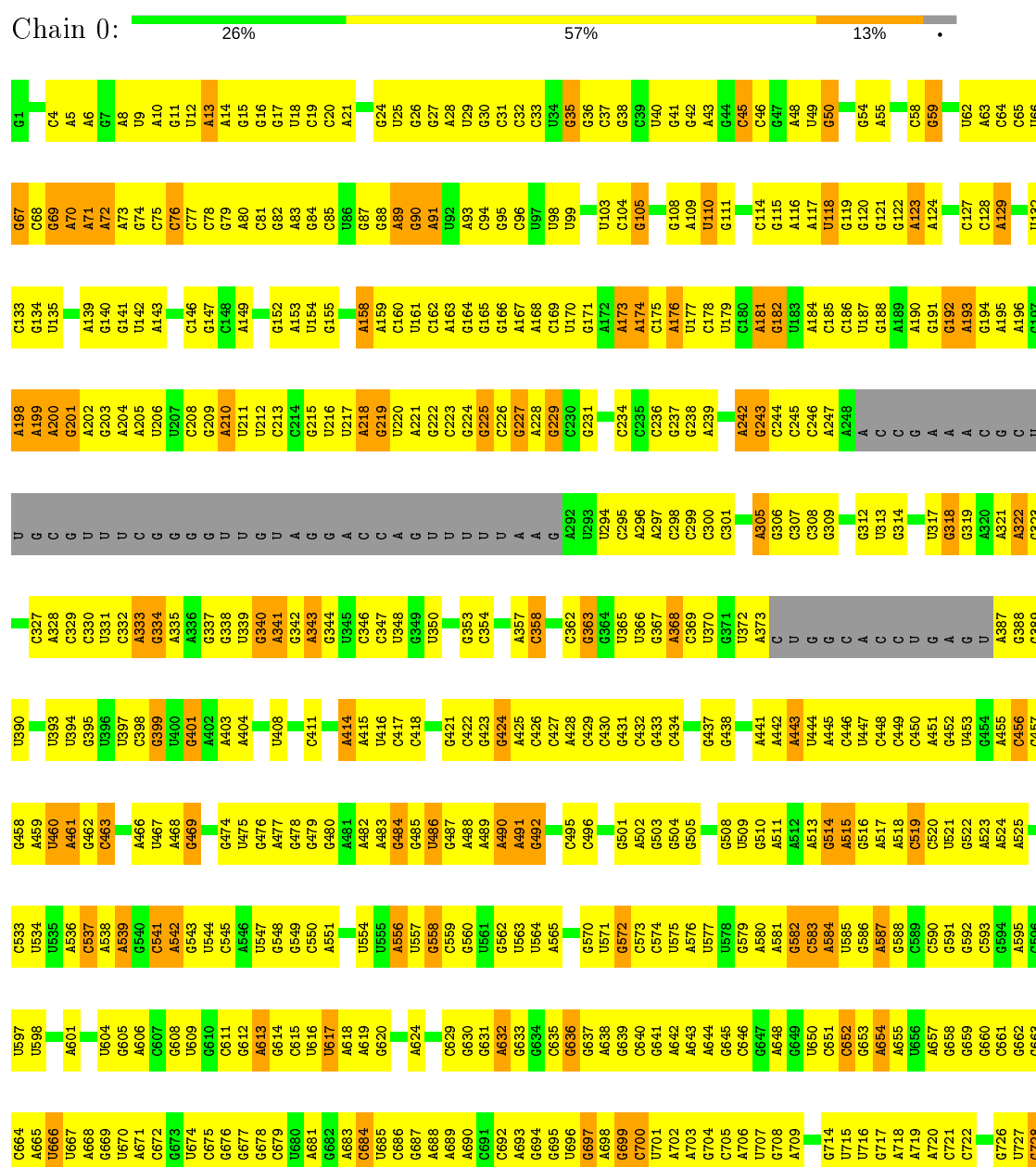
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	0	1	Total C N O 55 42 3 10	0	0

3 Residue-property plots

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

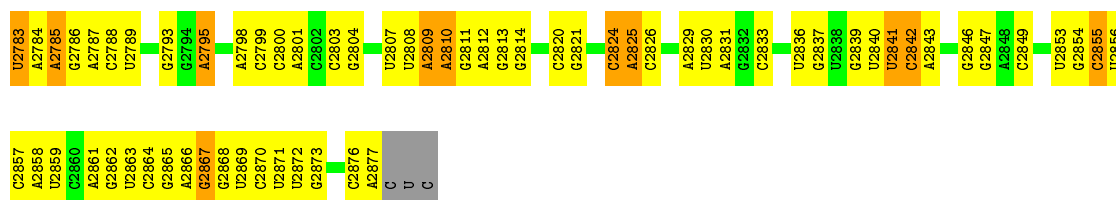
Note EDS was not executed.

• Molecule 1: 23S RIBOSOMAL RNA



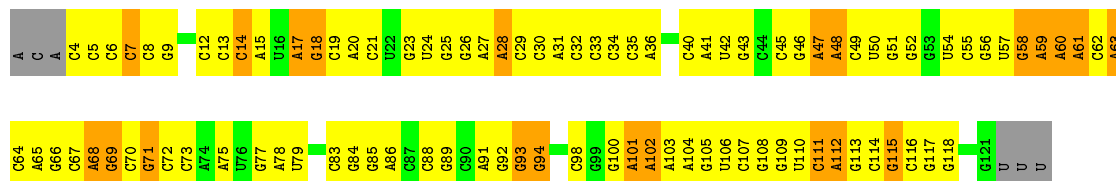


A2721	A2654	C2585	A2509	C2444	G2375	G2300	A2220	C2157	C2094	G2029	C1962	U1900	A1821	G1760
C2722	C2655	C2588	A2510	C2445	G2376	A2301	G2225	C2158	G2095	U2030	G1963	U1901	C1822	G1761
C2723	C2656	U2588	G2511	C2446	U2377	C2303	A2226	A2159	U2096	A2031	A1964	A1902	C1823	C1762
G2724	G2657	C2589	A2512	G2447	G2378	G2303	A2227	C2160	A2097	G2032	U1965	G1903	C1824	G1763
C2725	A2658	U2590	U2516	A2448	G2379	A2306	U2228	C2161	G	C2033	G1904	G1904	A1826	A1764
U2726	C2659	C2591	C2517	G2449	U2380	A2307	G2229	G2162	A	A2034	U1905	G1905	C1765	C1765
C2727	C2660	U2592	C2518	A2450	A2381	A2308	G2230	U2163	U	G2035	U1906	U1906	U1766	U1766
A2728	C2661	A2593	C2519	C2454	C2382	G2309	G2231	G2164	A	A2037	C1971	C1907	C1830	G1767
A2729	C2662	U2594	G2521	A2455	A2383	G2310	G2233	A2165	G2103	G2038	G1970	U1909	U1768	U1768
G2730	G2663	C2595	A2522	A2456	G2384	U2311	G2234	C2166	G2104	C2039	G1972	U1909	U1769	U1770
C2731	U2666	G2597	G2523	U2457	U2385	A2312	G2235	A2168	U2105	A2041	G1974	U1909	U1771	U1771
C2732	G2669	C2598	G2524	U2458	U2386	G2313	G2236	A2169	G2106	A2042	G1975	U1909	C1772	C1772
C2733	U2669	U2599	G2525	C2459	A2390	A2314	G2237	C2170	G2107	A2043	U1976	U1909	C1773	C1773
U2734	C2670	A2600	C2530	G2460	A2391	A2315	U2240	U2171	G2110	A2044	C1977	U1909	C1774	A1839
C2735	C2671	U2601	U2531	G2461	G2394	G2316	U2241	U2172	C	A2045	U1978	U1909	A1840	A1775
A2736	U2672	C2604	G2532	C2462	G2395	U2317	C2242	G2173	C	A2046	C1979	U1909	A1841	A1776
A2738	C2673	C2605	U2533	G2463	C2396	U2318	C2243	G2174	C	A2047	U1980	U1909	A1842	A1777
C2739	C2674	G2606	U2534	G2464	C2397	G2319	C2244	A2175	U	C2048	A1981	U1909	U1843	U1778
C2740	U2675	C2607	C2535	G2465	A2398	G2320	A2245	A2176	G	C2049	C1982	U1909	U1844	U1778
G2741	G2676	A2608	G2536	G2466	C2399	G2321	A2246	U2177	C	A2050	U1989	U1909	A1845	C1781
G2742	U2677	G2609	C2537	A2467	C2399	U2322	A2247	C2178	G	U2051	U1990	U1909	A1846	A1782
C2743	C2678	G2610	C2538	G2468	C2399	U2323	A2248	C2179	A2117	U2052	C1991	U1922	G1783	G1783
G2744	G2679	U2611	C2539	U2469	C2402	G2324	U2249	U2180	A2118	G2052	C1992	U1923	U1848	G1784
A2745	U2680	A2614	C2540	U2470	C2403	A2325	G2250	U2181	A2119	G2053	G1993	U1924	A1785	A1785
C2746	A2614	U2615	U2541	U2471	A2404	C2326	U2251	A2182	C2120	A2054	U1994	C1925	G1850	C1786
C2748	C2682	U2616	U2542	G2474	A2405	U2327	A2252	C2183	U2121	G2055	U1995	C1926	A1851	U1787
A2749	G2685	U2617	A2543	G2475	C2406	G2328	A2253	C2184	C2122	C2056	G1996	U1927	C1788	U1788
G2750	C2686	A2618	U2544	A2476	G2407	C2329	G2254	U2185	G2123	U2057	A1997	U1928	U1789	U1789
C2751	G2687	G2619	G2545	C2477	A2408	A2331	G2255	C2186	C2124	U2058	A1998	U1928	G1790	G1790
C2753	C2688	G2620	C2547	C2478	U2410	G2335	G2261	A2191	U	A2060	U1999	G1933	C1791	C1791
C2754	G2689	G2621	C2548	U2479	A2411	U2336	G2262	U2192	U	U2064	U2000	U1934	C1792	C1792
A2755	C2690	C2622	C2549	C2480	A2412	A2337	C2264	C2193	U	A1935	C1858	A1935	A1793	A1794
G2756	C2691	A2623	C2550	G2481	A2413	G2337	A2265	C2195	U	G2065	A1859	A1936	A1860	A1794
G2757	A2692	G2624	A2551	U2482	U2417	G2341	A2266	U2196	G	U2066	G1861	G1937	G1861	G1797
U2758	U2693	U2625	G2559	U2483	A2418	U2342	A2267	U2197	G2132	U2067	C1862	U1939	C1798	G1798
U2759	C2694	U2626	U2560	G2484	C2419	U2343	G2268	U2198	G2071	G2070	U1863	C1940	A1800	A1799
G2760	C2695	G2627	G2561	G2487	C2420	G2344	G2269	C2199	U2136	C2072	G1864	C1941	C1801	A1801
G2762	A2696	U2628	U2562	G2488	C2421	A2345	U2270	G2200	G2137	A1943	C1865	G1942	A1802	A1802
U2763	G2697	U2629	G2563	C2489	C2422	G2346	C2273	G2201	U2138	A2073	A1866	C1944	G1803	G1803
A2764	U2700	C2630	U2564	U2490	G2423	C2347	C2274	G2202	G2139	U2074	A1867	C1945	U1804	U1804
C2765	A2701	G2631	C2565	C2491	G2424	A2348	U2275	G2203	G2140	G2076	A1868	U1946	G1805	G1805
C2768	G2702	U2632	A2566	G2492	G2425	G2349	C2276	A2204	A	G2077	U1870	G1947	G1806	G1806
C2769	U2704	G2633	G2569	U2493	A2427	G2351	A2277	C2205	G	G2078	A1871	C1948	A1807	A1807
C2770	U2705	U2635	C2570	C2494	U2428	A2352	G2278	C2206	C	A2079	A1872	A1949	C1808	C1808
A2770	U2706	A2636	G2571	G2495	A2429	G2353	G2279	U2208	A	U2081	A1873	C1950	G1809	G1809
C2771	G2707	G2640	U2572	U2497	A2430	G2354	A2280	G2209	C	U2081	U1873	G1951	U1810	U1810
U2772	U2708	A2641	C2573	U2498	C2431	G2361	U2285	C2210	G	C2082	U1881	A1952	A1811	A1811
G2773	C2710	G2642	G2574	U2499	A2432	G2362	G2286	U2211	G	G2083	G1882	A1953	U1812	U1812
U2774	U	C2500	U2575	G2500	C2433	G2363	G2287	U2212	G	G2084	A1883	A1954	A1813	A1813
U	U	G2643	G2576	G2644	G2434	C2364	G2288	G2213	U	G2085	A1884	G1955	G1814	G1814
A	A	G2645	A2577	G2503	G2435	U2365	A2289	G2214	G	C2086	G1885	G1956	G1815	G1815
A2714	A2713	C2646	G2578	G2504	U2436	U2366	A2290	C2215	A	U2086	G1886	C1957	G1816	G1816
C2778	C2779	G2651	A2581	G2507	G2437	U2369	A2291	G2216	A	U2090	G1887	G1958	U1817	U1817
A2780	G2781	G2652	A2582	U2507	A2438	A2371	U2298	G2217	U	C2091	G1888	U1959	U1818	U1818
G2782	G2782	A2653	G2562	G2508	C2443	A2372	A2299	U2219	A	U2092	G1889	A1960	U1819	U1819
										G2093	C2028	A1961	G1890	G1890



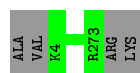
- Molecule 2: 5S RIBOSOMAL RNA

Chain 9: 19% 59% 18% 5%



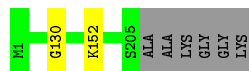
- Molecule 3: ribosomal protein L2

Chain A: 99%



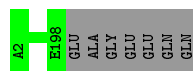
- Molecule 4: ribosomal protein L3

Chain B: 96%



- Molecule 5: ribosomal protein L4

Chain C: 97%



- Molecule 6: ribosomal protein L5

Chain D: 98%

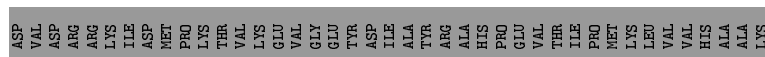
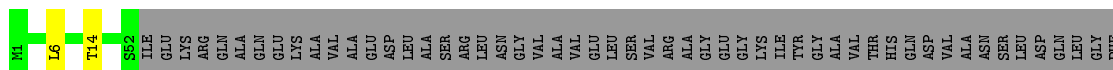


- Molecule 7: ribosomal protein L6

Chain E: 95%



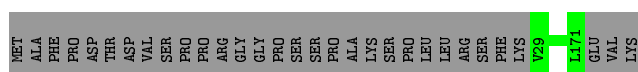
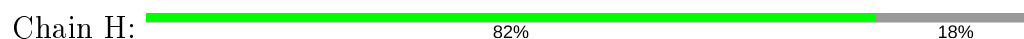
- Molecule 8: ribosomal protein L9



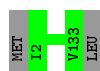
- Molecule 9: ribosomal protein L11



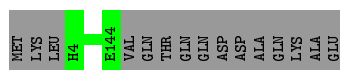
- Molecule 10: ribosomal protein L13



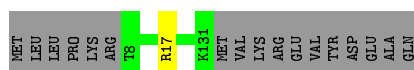
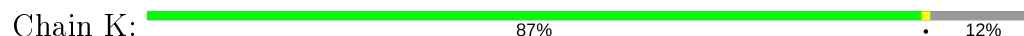
- Molecule 11: ribosomal protein L14



- Molecule 12: ribosomal protein L15



- Molecule 13: ribosomal protein L16



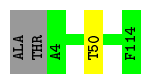
- Molecule 14: ribosomal protein L17

Chain L:  97% ..



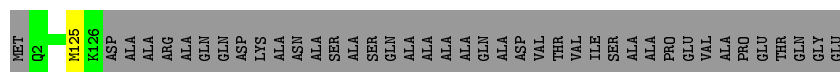
- Molecule 15: ribosomal protein L18

Chain M:  97% ..



- Molecule 16: ribosomal protein L19

Chain N:  75% . 25%



- Molecule 17: ribosomal protein L20

Chain O:  99% .



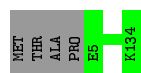
- Molecule 18: ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: ribosomal protein L22

Chain Q:  97% .



- Molecule 20: ribosomal protein L23

Chain R:  99% .



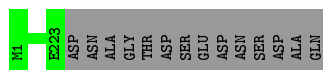
- Molecule 21: ribosomal protein L24

Chain S:  98% .



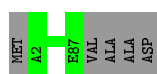
- Molecule 22: general stress protein Ctc

Chain T: 94% 6%



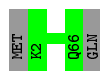
- Molecule 23: ribosomal protein L27

Chain U: 95% 5%



- Molecule 24: ribosomal protein L29

Chain W: 97% .



- Molecule 25: ribosomal protein L30

Chain X: 100%

There are no outlier residues recorded for this chain.

- Molecule 26: ribosomal protein L31

Chain Y: 100%

There are no outlier residues recorded for this chain.

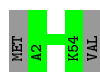
- Molecule 27: ribosomal protein L32

Chain Z: 97% ..



- Molecule 28: ribosomal protein L33

Chain 1: 96% .



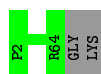
- Molecule 29: ribosomal protein L34

Chain 2:  98% .



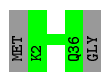
- Molecule 30: ribosomal protein L35

Chain 3:  97% .



- Molecule 31: ribosomal protein L36

Chain 4:  95%  5%



4 Data and refinement statistics

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

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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

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

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

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

There are no bond length outliers.

All (1) bond angle outliers are listed below:

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

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1342	U	Sidechain

5.2 Too-close contacts [i](#)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:G:HO2'	1:0:1791:C:H5	1.52	0.56
1:0:2105:U:H2'	1:0:2106:G:C8	2.41	0.56
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.56
1:0:777:A:H62	1:0:1767:G:H1'	1.70	0.56
2:9:59:A:H2'	2:9:60:A:H5'	1.87	0.56
2:9:62:C:C4	2:9:63:A:N7	2.74	0.56
1:0:191:G:O2'	1:0:192:G:H5'	2.06	0.56
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.56
1:0:24:G:H2'	1:0:25:U:C6	2.40	0.56
1:0:346:C:O2'	1:0:347:C:H5'	2.05	0.56
1:0:746:G:O6	1:0:774:A:H2'	2.05	0.56
1:0:931:G:O2'	1:0:932:G:H5'	2.06	0.56
1:0:1162:A:H2'	1:0:1163:C:O4'	2.06	0.56
1:0:1312:G:H5''	1:0:1313:U:H5'	1.86	0.56
1:0:1594:U:H2'	1:0:1595:A:H8	1.71	0.56
1:0:1843:U:H2'	1:0:1844:C:C6	2.41	0.56
1:0:1953:A:H1'	1:0:1955:G:H1'	1.87	0.56
1:0:2080:U:H2'	1:0:2081:U:C6	2.41	0.56
1:0:2475:C:H2'	1:0:2476:A:O4'	2.06	0.56
1:0:2678:C:H2'	1:0:2679:G:H8	1.69	0.56
1:0:719:A:H2'	1:0:720:A:O4'	2.06	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1245:G:H2'	1:0:1246:G:C8	2.40	0.56
1:0:1439:G:N2	1:0:1590:C:H42	2.04	0.56
1:0:1467:U:H3'	1:0:1468:A:H5'	1.88	0.56
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.56
1:0:1865:C:H2'	1:0:1866:G:O4'	2.06	0.56
1:0:2210:C:H2'	1:0:2211:U:O4'	2.06	0.56
1:0:2870:C:H2'	1:0:2871:U:H6	1.71	0.56
1:0:337:G:H2'	1:0:338:G:H8	1.71	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.06	0.56
1:0:738:G:H2'	1:0:739:G:O4'	2.06	0.56
1:0:871:U:H1'	1:0:2248:A:C5'	2.36	0.56
2:9:101:A:H2'	2:9:102:A:C8	2.41	0.56
2:9:17:A:H1'	2:9:112:A:C8	2.40	0.56
1:0:1021:A:H1'	1:0:1164:C:H1'	1.88	0.55
1:0:1226:A:C2	1:0:1250:A:H1'	2.41	0.55
1:0:1333:G:HO2'	1:0:1334:A:H8	1.52	0.55
1:0:1348:C:H2'	1:0:1349:A:H8	1.68	0.55
1:0:1949:A:H1'	1:0:2572:U:C4'	2.36	0.55
1:0:2811:G:H2'	1:0:2812:A:H8	1.72	0.55

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:790:A:O2'	1:0:791:G:H5'	2.06	0.54
2:9:62:C:N3	2:9:63:A:N7	2.55	0.54
2:9:71:G:N2	2:9:72:C:C1'	2.70	0.54
1:0:1125:G:O2'	1:0:1126:A:H5'	2.07	0.54
1:0:1242:A:H2'	1:0:1243:G:H8	1.72	0.54
1:0:2535:C:H2'	1:0:2536:G:O4'	2.08	0.54
1:0:671:A:H2'	1:0:672:C:C6	2.43	0.54
1:0:804:C:O2	1:0:807:A:H5'	2.08	0.54
1:0:1451:C:H2'	1:0:1452:U:C6	2.43	0.54
1:0:1685:A:H1'	1:0:1686:A:C2	2.43	0.54
1:0:1998:A:H2'	1:0:1999:U:H5'	1.88	0.54
1:0:2447:G:N2	1:0:2460:G:H2'	2.20	0.54
1:0:2618:A:C2	1:0:2619:G:H1'	2.43	0.54
1:0:2759:U:H6	1:0:2759:U:O5'	1.90	0.54
1:0:338:G:O2'	1:0:339:U:H5'	2.08	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.07	0.54
1:0:577:U:H2'	1:0:579:G:OP2	2.08	0.54
1:0:659:G:H2'	1:0:660:G:H8	1.72	0.54
1:0:1374:G:N2	1:0:1384:G:H1'	2.23	0.54
1:0:1672:A:C2	1:0:1673:C:H1'	2.43	0.54
1:0:1854:G:H2'	1:0:1855:G:H8	1.72	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.08	0.54
1:0:504:G:O2'	1:0:505:G:H5'	2.08	0.54
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.54
1:0:2034:A:N6	1:0:2593:A:H62	2.06	0.54
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.54
1:0:616:U:H2'	1:0:617:U:C5'	2.34	0.54
1:0:1392:U:C2'	1:0:1393:G:H5'	2.38	0.54
1:0:1482:U:H2'	1:0:1483:G:H8	1.73	0.54
1:0:2562:G:H2'	1:0:2563:U:O4'	2.08	0.54
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.54
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.53
1:0:1602:G:O3'	1:0:1603:A:H8	1.91	0.53
1:0:968:C:N4	1:0:970:A:H1'	2.24	0.53
1:0:1962:C:O2'	1:0:1963:G:H5'	2.07	0.53
1:0:2487:G:O3'	1:0:2534:U:H5'	2.07	0.53
1:0:2640:G:H2'	1:0:2641:A:C8	2.44	0.53
1:0:2041:A:N6	32:0:2881:773:C14	2.38	0.53
1:0:584:A:O2'	1:0:585:U:H5'	2.07	0.53
1:0:153:A:H2'	1:0:154:U:C5	2.44	0.53
1:0:1669:A:N6	1:0:1670:G:H21	2.05	0.53

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

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

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

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

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

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:45:C:H2'	1:0:46:C:C6	2.48	0.49
1:0:843:G:H8	1:0:843:G:OP1	1.95	0.49
1:0:1380:C:H2'	1:0:1381:G:H5'	1.95	0.49
1:0:1730:G:H2'	1:0:1731:C:H6	1.76	0.49
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:2523:G:H1'	1:0:2625:U:C5'	2.42	0.49
1:0:1936:A:O2'	1:0:2538:C:H1'	2.13	0.49
1:0:29:U:O5'	1:0:29:U:H6	1.96	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.12	0.49
1:0:79:G:H2'	1:0:80:A:C8	2.46	0.49
1:0:1212:U:H2'	1:0:1213:U:C6	2.48	0.49
1:0:1980:A:O2'	1:0:1981:A:H5'	2.13	0.49
1:0:2054:A:H2'	1:0:2055:G:H8	1.77	0.49
1:0:2122:G:H2'	1:0:2123:G:H8	1.77	0.49
1:0:2754:C:H2'	1:0:2755:A:H8	1.77	0.49
2:9:28:A:OP2	2:9:29:C:H5	1.95	0.49
2:9:59:A:C4	6:D:27:ALA:CA	2.95	0.49
2:9:116:C:O2'	15:M:50:THR:CA	2.60	0.49
1:0:1073:G:C2'	1:0:1074:G:H4'	2.30	0.49
1:0:1288:A:H2'	1:0:1289:A:O4'	2.13	0.49
1:0:132:U:H2'	1:0:133:C:C6	2.48	0.49
1:0:1341:G:H2'	1:0:1343:C:C5	2.48	0.49
1:0:1429:A:H61	1:0:1602:G:H5'	1.78	0.49
1:0:1284:G:C2	1:0:1633:C:H5'	2.48	0.49
1:0:1687:C:H1'	1:0:1976:U:O2	2.13	0.49
1:0:1888:C:H2'	1:0:1913:G:C5	2.48	0.49
1:0:2039:G:OP2	1:0:2483:U:H4'	2.13	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
1:0:333:A:O2'	1:0:350:U:H2'	2.12	0.49
1:0:782:U:HO2'	1:0:1392:U:H5	1.60	0.49
2:9:23:G:C2	2:9:24:U:C2	3.01	0.49
2:9:28:A:H3'	2:9:29:C:C6	2.43	0.49
1:0:931:G:C5'	2:9:83:C:H1'	2.43	0.49
1:0:1811:A:N3	1:0:1811:A:H2'	2.27	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
1:0:446:C:H2'	1:0:447:U:O4'	2.13	0.49
1:0:605:G:H2'	1:0:606:A:C8	2.48	0.49
1:0:870:C:H2'	1:0:871:U:H6	1.77	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:1347:C:O2'	1:0:1348:C:H5'	2.12	0.48
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2010:G:H2'	1:0:2011:U:C6	2.48	0.48
1:0:2426:G:N2	1:0:2430:A:H62	2.11	0.48
1:0:805:G:H5''	1:0:806:A:O5'	2.13	0.48
2:9:67:C:C3'	2:9:68:A:H5'	2.43	0.48
2:9:92:G:C3'	2:9:93:G:H5'	2.42	0.48
1:0:1482:U:H2'	1:0:1483:G:C8	2.48	0.48
1:0:220:U:H2'	1:0:221:A:H8	1.79	0.48
1:0:681:A:N6	1:0:683:A:H2'	2.28	0.48
2:9:71:G:H2'	2:9:72:C:H5'	1.95	0.48
2:9:89:G:N2	2:9:91:A:C8	2.81	0.48
1:0:1087:C:H2'	1:0:1088:A:O4'	2.13	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:1940:C:H2'	1:0:1941:C:C6	2.48	0.48
1:0:612:G:H4'	1:0:613:A:H4'	1.94	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:702:A:N3	1:0:792:U:H1'	2.27	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.77	0.48
1:0:843:G:HO2'	1:0:844:G:P	2.35	0.48
1:0:1622:G:H4'	1:0:1624:A:N3	2.29	0.48
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.48
1:0:2217:G:N3	1:0:2217:G:H3'	2.28	0.48
1:0:2225:G:H2'	1:0:2226:A:H8	1.79	0.48
1:0:2671:C:O2'	1:0:2672:U:H5'	2.13	0.48
1:0:2761:A:C5'	1:0:2762:G:H5'	2.44	0.48
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.48
1:0:583:C:O2'	1:0:584:A:P	2.72	0.48
1:0:807:A:H2'	1:0:808:C:C6	2.48	0.48
1:0:80:A:H2'	1:0:81:C:C6	2.47	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.48	0.48
2:9:107:C:C6	2:9:107:C:H3'	2.47	0.48
2:9:63:A:H2'	2:9:64:C:C6	2.47	0.48
1:0:1023:U:H1'	1:0:1154:A:C8	2.48	0.48
1:0:1339:U:O4	1:0:1664:G:H1'	2.14	0.48
1:0:1424:U:H2'	1:0:1425:G:H8	1.78	0.48
1:0:1692:C:H2'	1:0:1693:A:H5'	1.95	0.48
1:0:1955:G:H2'	1:0:1956:G:H5'	1.94	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.95	0.48
1:0:2469:G:H4'	1:0:2470:U:H5	1.77	0.48
1:0:2508:G:H5''	1:0:2509:A:H5''	1.95	0.48
1:0:1141:U:OP2	1:0:2549:G:N2	2.47	0.48

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

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

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

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1447:U:H1'	1:0:1577:G:H22	1.79	0.46
1:0:1671:A:O4'	1:0:2798:A:H5'	2.16	0.46
1:0:1714:A:C5	1:0:1715:A:N6	2.79	0.46
1:0:1827:G:H1'	1:0:1914:U:N3	2.31	0.46
1:0:221:A:N6	1:0:231:G:H21	2.14	0.46
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:646:C:O2'	1:0:650:U:H5''	2.16	0.46
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	0.46
2:9:23:G:H2'	2:9:24:U:C6	2.51	0.46
2:9:51:G:O2'	2:9:52:G:H5'	2.15	0.46
1:0:1034:U:H4'	1:0:1134:C:OP1	2.15	0.46
1:0:1478:U:H2'	1:0:1479:G:C8	2.51	0.46
1:0:1624:A:C2'	1:0:1625:A:H5'	2.45	0.46
1:0:170:U:H2'	1:0:171:G:C8	2.46	0.46
1:0:2015:G:O2'	1:0:2016:A:OP1	2.28	0.46
1:0:299:C:H2'	1:0:300:C:C5	2.51	0.46
1:0:394:U:O2'	1:0:395:G:H5'	2.16	0.46
1:0:40:U:H2'	1:0:41:G:C8	2.50	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.51	0.46
1:0:635:C:O2	1:0:670:U:H4'	2.16	0.46
1:0:839:U:H5''	1:0:2408:G:P	2.55	0.46
1:0:931:G:H2'	1:0:932:G:C5'	2.46	0.46
1:0:115:G:C6	1:0:117:A:N6	2.84	0.46
1:0:1494:G:H2'	1:0:1495:G:O4'	2.16	0.46
1:0:1356:G:H1'	1:0:1613:G:C2	2.51	0.46
1:0:1784:C:O2'	1:0:1785:A:H5'	2.16	0.46
1:0:1918:G:H4'	1:0:1920:A:C2	2.51	0.46
1:0:2093:G:H2'	1:0:2094:C:H6	1.80	0.46
1:0:2225:G:O2'	1:0:2226:A:H5'	2.16	0.46
1:0:872:G:O2'	1:0:2247:A:C4	2.69	0.46
1:0:2397:A:H2'	1:0:2398:U:O4'	2.16	0.46
1:0:2511:G:N2	1:0:2642:G:O2'	2.49	0.46
1:0:2751:C:H2'	1:0:2752:C:C6	2.50	0.46
1:0:642:A:H2'	1:0:643:A:C8	2.51	0.46
1:0:643:A:O2'	1:0:644:A:H5'	2.15	0.46
1:0:764:A:N3	1:0:764:A:C2'	2.77	0.46
1:0:974:U:H2'	1:0:975:C:O4'	2.16	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.98	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.16	0.46
1:0:1715:A:HO2'	1:0:1716:G:H8	1.64	0.46

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2024:U:H2'	1:0:2025:A:C8	2.52	0.44
1:0:538:A:N1	1:0:2026:C:H5''	2.32	0.44
1:0:2163:U:H2'	1:0:2164:G:H8	1.82	0.44
1:0:225:G:H3'	1:0:226:C:H5'	2.00	0.44
1:0:2572:U:H2'	1:0:2573:C:H6	1.83	0.44
1:0:2748:C:H2'	1:0:2749:A:O4'	2.18	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.18	0.44
1:0:1132:C:O2'	1:0:1133:G:H5'	2.17	0.44
1:0:560:G:H21	1:0:1233:A:H2	1.65	0.44
1:0:1426:U:H2'	1:0:1427:G:O4'	2.17	0.44
1:0:1512:A:O5'	1:0:1512:A:H8	1.99	0.44
1:0:1541:G:N2	1:0:1562:G:N2	2.65	0.44
1:0:1685:A:H2	1:0:1687:C:C2	2.35	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	1.99	0.44
1:0:1937:G:H21	1:0:2530:C:H5''	1.82	0.44
1:0:2784:A:H3'	1:0:2785:A:H8	1.82	0.44
1:0:416:U:C5'	1:0:417:C:H5'	2.42	0.44
1:0:815:A:H2'	1:0:816:U:O4'	2.17	0.44
1:0:960:U:H2'	1:0:961:G:C8	2.51	0.44
2:9:73:C:O2	2:9:109:G:C2	2.70	0.44
2:9:33:C:H2'	2:9:34:C:C6	2.52	0.44
2:9:64:C:N4	2:9:65:A:C6	2.86	0.44
1:0:1459:U:H2'	1:0:1475:U:HO2'	1.80	0.44
1:0:1462:C:O2'	1:0:1560:A:H1'	2.17	0.44
1:0:424:G:N7	1:0:2385:U:N3	2.65	0.44
1:0:83:A:H8	1:0:83:A:O5'	2.00	0.44
1:0:859:U:H4'	1:0:860:U:H5	1.82	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.43	0.44
1:0:118:U:H5''	1:0:120:G:OP2	2.17	0.44
1:0:1669:A:H61	1:0:1670:G:H21	1.66	0.44
1:0:1750:A:C8	1:0:2675:U:H1'	2.53	0.44
1:0:1748:U:N3	1:0:1753:A:C2	2.75	0.44
1:0:1872:A:H2'	1:0:1873:A:C8	2.52	0.44
1:0:1938:U:O2'	1:0:1939:U:H5'	2.18	0.44
1:0:2136:G:H2'	1:0:2137:G:C8	2.53	0.44
1:0:2177:U:O2'	1:0:2178:U:H5'	2.18	0.44
1:0:2202:G:H3'	1:0:2203:G:C8	2.53	0.44
1:0:2215:C:H2'	1:0:2216:G:O4'	2.18	0.44
1:0:608:G:O2'	1:0:609:U:H5'	2.18	0.44
1:0:768:U:H5'	1:0:1285:A:N1	2.33	0.44
1:0:699:G:N1	1:0:801:A:C2	2.83	0.44

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

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

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

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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:421:G:O2'	1:0:422:C:H5'	2.20	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.19	0.42
1:0:63:A:O2'	1:0:64:C:H5'	2.19	0.42
1:0:661:C:O2'	1:0:662:G:H5'	2.20	0.42
1:0:694:G:H2'	1:0:695:G:H8	1.85	0.42
1:0:1135:C:H2'	1:0:1136:G:C8	2.54	0.42
1:0:1455:C:H2'	1:0:1456:C:H6	1.85	0.42
1:0:1920:A:N6	1:0:1923:U:C6	2.87	0.42
1:0:1938:U:O2'	1:0:1939:U:OP1	2.30	0.42
1:0:2229:G:H2'	1:0:2475:C:OP1	2.20	0.42
1:0:2233:C:O2'	1:0:2234:G:H5'	2.19	0.42
1:0:2427:A:OP2	1:0:2478:C:OP2	2.38	0.42
1:0:2662:C:N4	1:0:2707:G:H21	2.16	0.42
1:0:537:C:N1	1:0:2759:U:H2'	2.35	0.42
1:0:825:C:O2'	1:0:826:U:H5'	2.20	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:1001:A:N6	1:0:1200:G:H1'	2.34	0.42
1:0:1308:C:H2'	1:0:1309:G:C8	2.54	0.42
1:0:1310:C:O2'	1:0:1315:A:N1	2.49	0.42
1:0:1566:G:O2'	1:0:1567:A:H5'	2.20	0.42
1:0:1679:U:H2'	1:0:1680:U:C5'	2.20	0.42
1:0:176:A:H3'	1:0:177:U:C5	2.55	0.42
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.42
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:1972:G:O2'	1:0:1973:C:H5'	2.19	0.42
1:0:2677:U:O2'	1:0:2678:C:H5'	2.20	0.42
1:0:2710:C:O2'	1:0:2711:G:H5'	2.20	0.42
1:0:2724:G:O2'	1:0:2725:C:H5'	2.20	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.55	0.42
1:0:698:A:H1'	1:0:700:C:H41	1.85	0.42
1:0:843:G:H5'	1:0:956:A:H1'	2.02	0.42
2:9:104:A:C8	2:9:105:G:C8	3.07	0.42
8:F:6:LEU:CA	8:F:14:THR:CA	2.98	0.42
1:0:1223:G:O2'	1:0:1224:A:OP2	2.35	0.42
1:0:1259:A:H2'	1:0:1260:A:H5'	2.00	0.42
1:0:173:A:N3	1:0:173:A:H2'	2.35	0.42
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42
1:0:186:C:H2'	1:0:187:U:O4'	2.20	0.42
1:0:2059:U:C2'	1:0:2060:A:H5''	2.39	0.42
1:0:2402:U:H5'	1:0:2404:A:N7	2.34	0.42
1:0:2422:C:H2'	1:0:2423:G:H8	1.84	0.42

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

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

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

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

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

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

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

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

All (505) RNA backbone outliers are listed below:

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

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

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

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

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

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

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

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

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

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

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

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

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

All (42) RNA pucker outliers are listed below:

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

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

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
32	773	0	2881	-	57,59,59	1.81	12 (21%)	75,88,88	1.36	10 (13%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	773	0	2881	-	-	2/67/98/98	0/4/5/5

All (12) bond length outliers are listed below:

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

All (10) bond angle outliers are listed below:

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

There are no chirality outliers.

All (2) torsion outliers are listed below:

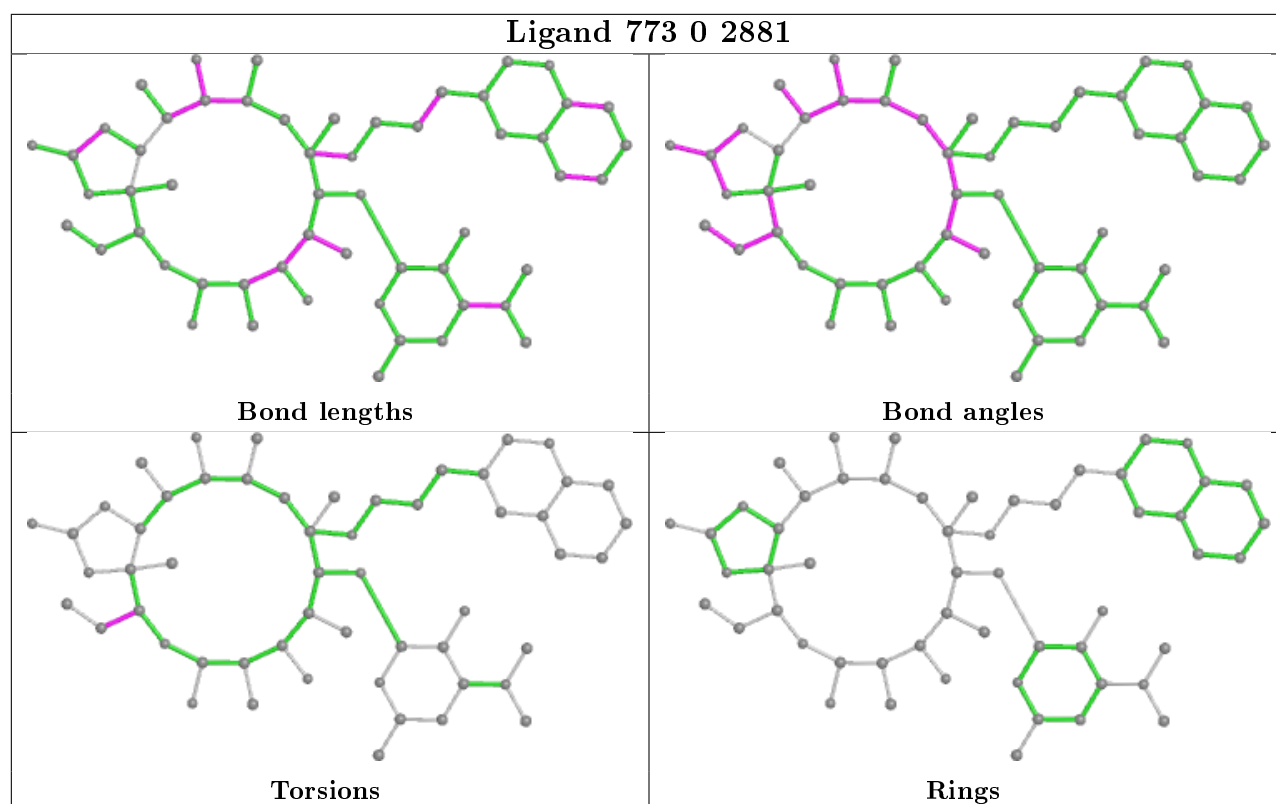
Mol	Chain	Res	Type	Atoms
32	0	2881	773	O4-C25-C42-C43
32	0	2881	773	C26-C25-C42-C43

There are no ring outliers.

1 monomer is involved in 9 short contacts:

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

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section is therefore empty.

6.4 Ligands ⓘ

EDS was not executed - this section is therefore empty.

6.5 Other polymers ⓘ

EDS was not executed - this section is therefore empty.