



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 06:50 AM UTC

PDB ID : 1NWY / pdb_00001nwy
Title : COMPLEX OF THE LARGE RIBOSOMAL SUBUNIT FROM DEINOCOC-
CUS RADIODURANS WITH AZITHROMYCIN
Authors : Schlutzen, F.; Harms, J.; Franceschi, F.; Hansen, H.A.S.; Bartels, H.; Zari-
vach, R.; Yonath, A.
Deposited on : 2003-02-07
Resolution : 3.30 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 types of validation reports are described at

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

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

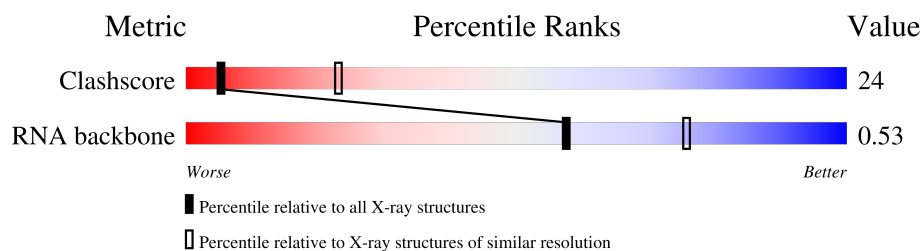
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.30 Å.

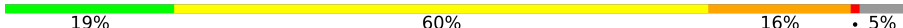
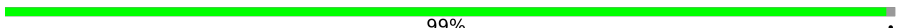
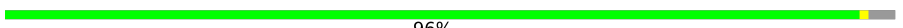
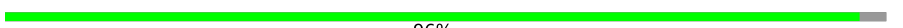
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	190562	1209 (3.32-3.28)
RNA backbone	3983	1048 (3.60-3.00)

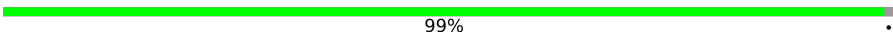
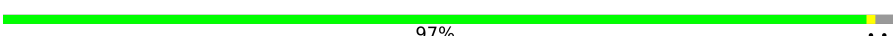
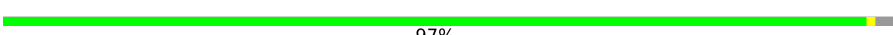
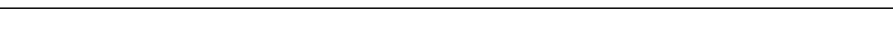
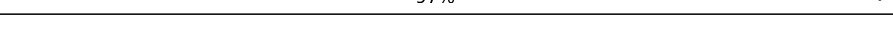
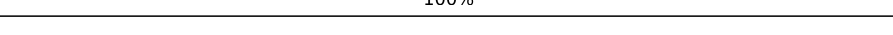
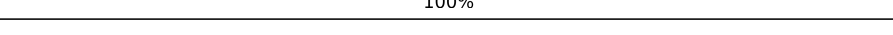
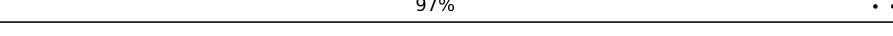
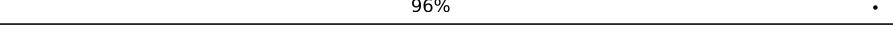
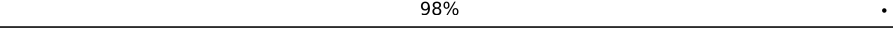
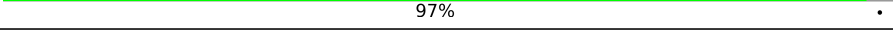
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively.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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	 26% 57% 13% .
2	9	124	 19% 60% 16% . 5%
3	A	274	 99% .
4	B	211	 96% ..
5	C	204	 96% .
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%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	ZIT	0	2881	-	-	X	-
32	ZIT	0	2882	-	-	X	-

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 65404 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		0	0	53
			53	53				

- Molecule 29 is a protein called ribosomal protein L34.

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

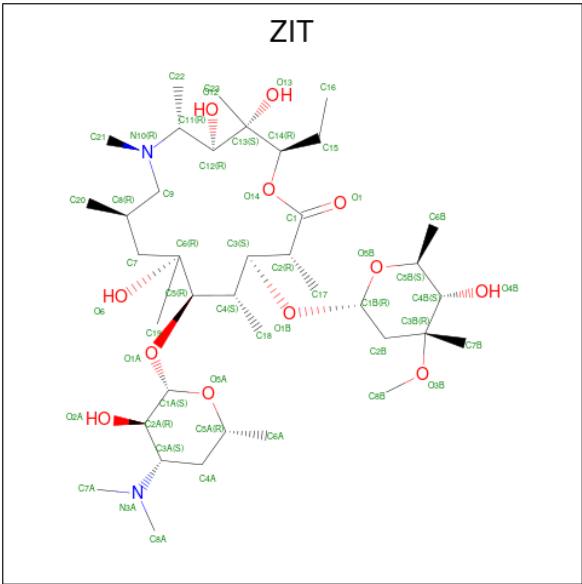
- Molecule 30 is a protein called ribosomal protein L35.

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

- Molecule 31 is a protein called ribosomal protein L36.

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

- Molecule 32 is AZITHROMYCIN (CCD ID: ZIT) (formula: C₃₈H₇₂N₂O₁₂).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
32	0	1	Total	C	N	O	0	0
			52	38	2	12		

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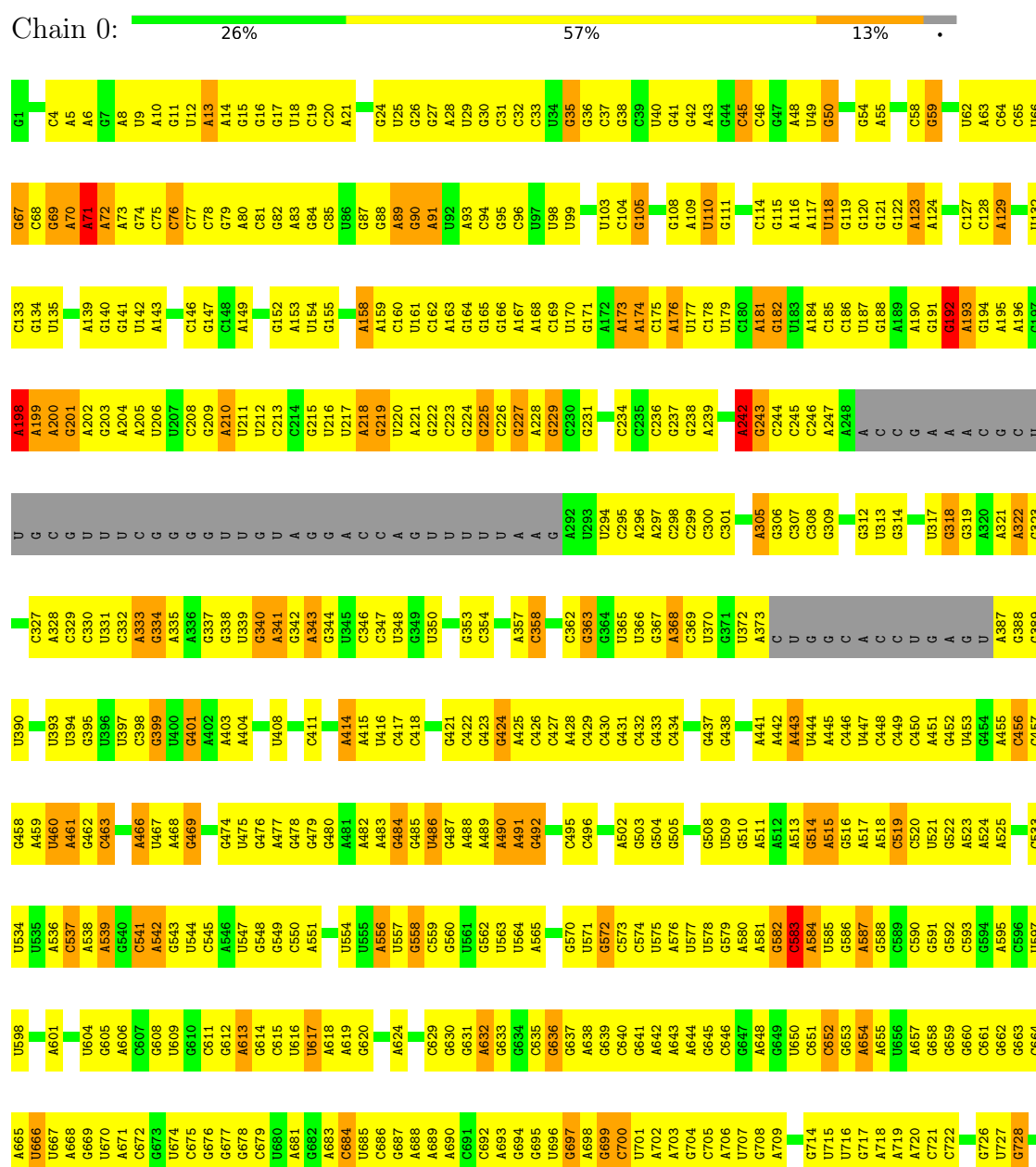
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
32	0	1	52	38	2	12	0	0

3 Residue-property plots

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

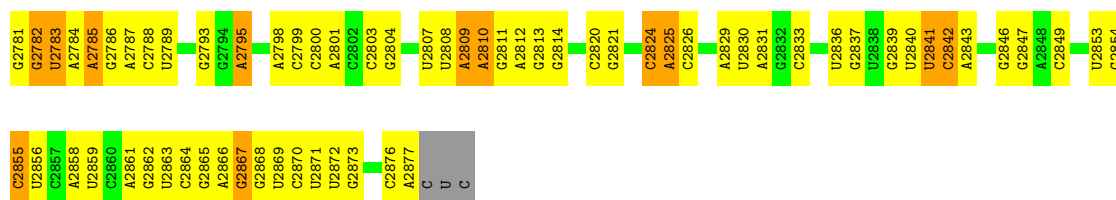
Note EDS was not executed.

- Molecule 1: 23S RIBOSOMAL RRNA



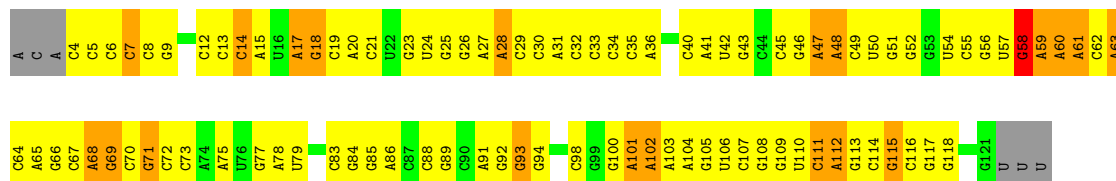


A2718	A2653	C2585	C2517	U2380	U2228	C2162	U2030	C1962	U1900	A1821	G1760
A2721	A2654	C2586	C2518	A2381	G2229	U2163	A2031	G1963	U1900	C1822	G1760
G2722	G2655	G2587	A2521	C2382	G2230	G2164	G2032	A1964	A1902	G1823	G1761
G2723	G2656	G2588	G2522	C2383	G2231	A2165	G2033	U1965	G1903	C1824	C1762
G2724	A2657	G2589	G2523	U2384	G2232	A2166	G2034	G1966	G1904	G1763	G1763
G2725	C2658	U2590	G2524	U2385	G2233	A2167	A2035	U1826	G1905	U1826	A1764
C2660	C2659	G2591	G2524	G2390	G2234	A2168	A2036	G1969	G1906	C1765	C1765
G2661	G2460	G2461	C2530	A2391	G2235	A2169	G2037	G1970	U1907	U1766	U1766
C2662	G2462	G2463	U2531	A2392	G2236	A2170	G2038	C1830	C1908	G1767	G1767
G2665	G2464	G2465	G2532	G2394	G2237	U2171	A2043	G1831	U1768	U1768	U1768
A2730	U2533	G2596	U2533	G2395	U2241	U2172	A2044	G1835	A1910	U1770	U1770
G2731	U2534	G2597	U2534	C2396	G2422	G2174	A2045	G1836	A1911	A1771	A1771
C2732	C2535	C2598	C2535	A2397	C2423	A2175	C2046	G1837	G1912	C1772	C1772
A2733	U2536	U2599	U2536	C2398	C2424	U2176	G2047	G1838	U1913	C1773	C1773
U2734	G2468	G2469	C2399	C2399	A2245	U2177	C2048	A1839	U1914	A1774	A1774
C2735	C2670	G2469	C2399	C2399	A2246	U2178	G2049	A1840	A1915	A1775	A1775
U2736	C2671	U2470	U2402	U2402	A2247	U2179	U2051	G1841	A1916	A1776	A1776
A2737	U2672	U2471	C2403	C2403	A2248	U2180	C2052	G1842	C1917	A1777	A1777
G2738	G2673	G2605	A2404	A2404	U2249	A2181	G2053	U1843	G1918	U1778	U1778
A2739	C2674	G2606	A2405	A2405	U2250	A2182	A2054	C1844	A1919	C1781	C1781
G2740	U2675	A2608	C2406	C2406	U2251	U2121	G2055	A1845	A1920	A1845	A1845
G2741	G2676	G2609	G2407	G2407	A2252	C2183	C2056	G1846	A1921	A1846	A1846
G2742	U2677	G2741	G2408	G2408	C2253	G2184	U2057	G1847	U1922	G1847	G1847
G2743	G2678	C2477	G2409	G2409	A2254	U2185	U2058	U1848	U1923	G1848	G1848
A2744	G2679	U2479	A2331	A2331	G2255	G2186	U2059	G1849	C1924	A1785	A1785
A2745	U2680	C2480	U2410	U2410	G2256	C2187	A2060	G1850	C1925	C1786	C1786
G2748	A2681	G2481	A2413	A2413	G2261	U2191	U2061	A1851	U1926	U1787	U1787
A2749	U2615	A2482	A2414	A2414	C2262	U2192	U2062	G1854	U1927	C1788	C1788
G2750	U2616	U2483	U2415	U2415	C2263	C2193	A2065	G1855	G1928	U1789	U1789
C2751	G2617	U2484	U2416	U2416	C2264	C2194	G2066	U1856	G1933	G1790	G1790
G2752	G2618	U2485	U2417	U2417	A2265	C2195	U2067	G1857	U1934	C1791	C1791
C2753	G2619	G2486	C2418	C2418	A2266	U2196	G2070	U1858	A1935	C1792	C1792
G2754	G2620	G2487	C2419	C2419	A2267	U2197	G2071	A1859	A1936	A1793	A1793
A2755	G2621	G2488	C2420	C2420	G2268	C2200	C2072	G1860	G1937	A1794	A1794
G2756	A2622	U2490	G2421	G2421	G2269	G2201	A2073	G1861	U1938	G1861	G1861
C2757	G2623	C2491	G2422	G2422	U2270	G2202	U2074	C1862	U1939	C1862	C1862
A2758	U2624	G2492	G2423	G2423	C2273	G2203	G2075	U1863	C1940	U1863	U1863
U2759	G2625	U2493	A2427	A2427	C2274	A2204	G2076	G1864	C1941	A1800	A1800
G2760	U2626	G2494	U2428	U2428	U2275	C2205	G2077	G1865	G1942	C1801	C1801
A2761	G2627	C2495	G2429	G2429	C2276	C2206	A2078	G1866	A1943	A1802	A1802
G2762	U2628	U2496	G2430	G2430	A2277	G2207	U2080	A1867	G1944	G1803	G1803
U2763	C2630	G2497	A2431	A2431	G2278	U2208	U2081	A1868	C1945	U1804	U1804
A2764	G2631	U2498	C2432	C2432	G2279	A2209	C2082	A1869	U1946	G1805	G1805
C2765	U2632	A2499	G2433	G2433	A2280	C2210	G2083	U1870	C1947	G1806	G1806
G2768	G2633	C2500	C2434	C2434	U2285	U2211	G2084	A1871	A1948	A1807	A1807
C2769	U2634	G2501	C2435	C2435	G2286	G2212	G2085	A1872	A1949	C1808	C1808
U2770	C2635	G2502	U2436	U2436	G2287	G2213	U2086	A1873	C1950	G1809	G1809
A2771	A2636	G2503	G2437	G2437	A2288	C2214	G2087	U1881	G1951	U1810	U1810
G2772	G2640	G2504	A2438	A2438	U2289	C2215	U2088	G1882	A1952	A1811	A1811
U2773	U2641	U2507	C2443	C2443	A2290	G2216	U2089	A1883	A1953	U1812	U1812
C2774	G2642	C2444	C2444	C2444	A2291	G2217	C2091	A1884	A1954	A1813	A1813
U2774	G2643	A2372	A2372	A2372	U2298	G2218	U2092	G1885	G1955	G1814	G1814
G2775	A2644	G2375	G2375	G2375	U2299	U2219	G2093	C1886	U1956	G1815	G1815
U	C2645	C2445	C2445	C2445	G2300	G2220	C2094	A2025	C1957	G1816	G1816
A	G2646	G2447	G2447	G2447	A2301	C2158	G2095	C2026	G1958	G1887	G1887
A2713	C2647	A2448	A2448	A2448	G2302	A2159	U2096	C2027	U1959	C1888	C1888
A2714	U2651	G2376	G2376	G2376	A2303	C2160	A2097	C2028	A1960	U1819	U1819
U2778	G2652	U2512	U2512	U2512	G2304	C2161	G	G2029	A1961	G1820	G1820
C2779	G2653	U2516	U2516	U2516	C2305	C2227					



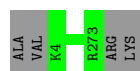
• Molecule 2: 5S RIBOSOMAL RRNA

Chain 9: 19% 60% 16% 5%



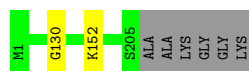
• Molecule 3: ribosomal protein L2

Chain A: 99%



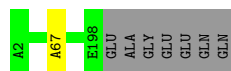
• Molecule 4: ribosomal protein L3

Chain B: 96%



• Molecule 5: ribosomal protein L4

Chain C: 96%



• Molecule 6: ribosomal protein L5

Chain D: 98%



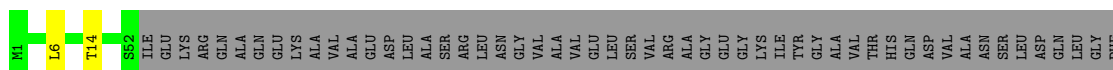
• Molecule 7: ribosomal protein L6

Chain E: 95%



- Molecule 8: ribosomal protein L9

Chain F: 34% 64%



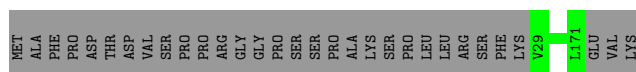
- Molecule 9: ribosomal protein L11

Chain G: 99%



- Molecule 10: ribosomal protein L13

Chain H: 82% 18%



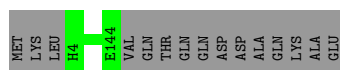
- Molecule 11: ribosomal protein L14

Chain I: 99%



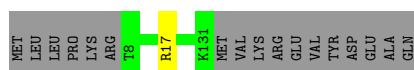
- Molecule 12: ribosomal protein L15

Chain J: 90% 10%

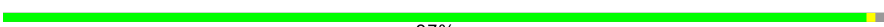


- Molecule 13: ribosomal protein L16

Chain K: 87% 12%

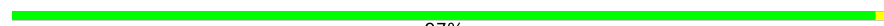


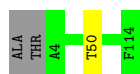
- Molecule 14: ribosomal protein L17

Chain L:  97% ..



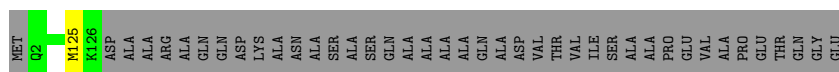
- Molecule 15: ribosomal protein L18

Chain M:  97% ..

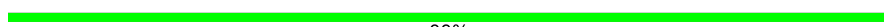


- Molecule 16: ribosomal protein L19

Chain N:  75% . 25%

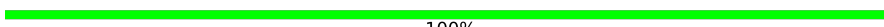


- Molecule 17: ribosomal protein L20

Chain O:  99% .



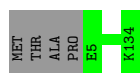
- Molecule 18: ribosomal protein L21

Chain P:  100%

There are no outlier residues recorded for this chain.

- Molecule 19: ribosomal protein L22

Chain Q:  97% .



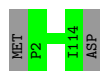
- Molecule 20: ribosomal protein L23

Chain R:  99% .



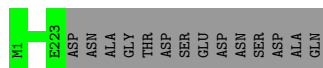
- Molecule 21: ribosomal protein L24

Chain S:  98% .



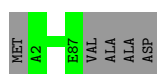
- Molecule 22: general stress protein Ctc

Chain T: 94% 6%



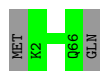
- Molecule 23: ribosomal protein L27

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.

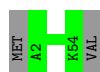
- Molecule 27: ribosomal protein L32

Chain Z: 97% ..

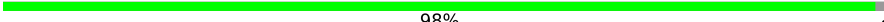


- Molecule 28: ribosomal protein L33

Chain 1: 96% .

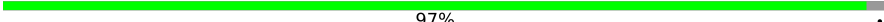


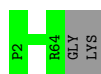
- Molecule 29: ribosomal protein L34

Chain 2:  98% .



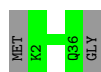
- Molecule 30: ribosomal protein L35

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	170.80 Å 409.50 Å 695.70 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.30	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.30)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.11	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.279 , 0.304	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	65404	wwPDB-VP
Average B, all atoms (Å ²)	46.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

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

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	0.26	0/66467	0.59	16/103673 (0.0%)
2	9	0.45	0/2816	0.80	1/4388 (0.0%)
All	All	0.27	0/69283	0.60	17/108061 (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 (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2588	U	C2'-C3'-O3'	7.20	120.29	109.50
1	0	2018	G	C2'-C3'-O3'	7.15	120.22	109.50
1	0	242	A	C2'-C3'-O3'	6.86	119.79	109.50
1	0	192	G	C2'-C3'-O3'	6.31	118.97	109.50
1	0	71	A	C2'-C3'-O3'	5.77	118.15	109.50
1	0	1279	G	C4'-C3'-O3'	-5.76	104.35	113.00
1	0	1313	U	C2'-C3'-O3'	5.69	118.03	109.50
1	0	1263	G	C2'-C3'-O3'	5.63	117.95	109.50
2	9	58	G	C2'-C3'-O3'	5.63	117.94	109.50
1	0	1141	U	C2'-C3'-O3'	5.63	117.94	109.50
1	0	1938	U	C2'-C3'-O3'	5.58	117.86	109.50
1	0	198	A	C2'-C3'-O3'	5.36	117.54	109.50
1	0	1278	A	C2'-C3'-O3'	5.29	117.44	109.50
1	0	2469	G	C2'-C3'-O3'	-5.28	105.78	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	466	A	C4'-C3'-O3'	-5.21	105.18	113.00
1	0	583	C	C2'-C3'-O3'	5.10	117.15	109.50
1	0	1342	U	N1-C1'-C2'	5.01	119.51	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

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	2151	0
2	9	2519	0	1285	147	0
3	A	270	0	0	0	0
4	B	205	0	0	3	0
5	C	197	0	0	1	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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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	104	0	144	47	0
All	All	65404	0	31346	2333	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 (2333) 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)
32:0:2882:ZIT:H6A1	32:0:2882:ZIT:C6B	1.61	1.30
32:0:2881:ZIT:H6A1	32:0:2881:ZIT:C6B	1.61	1.29
1:0:1679:U:H2'	1:0:1680:U:H5''	1.27	1.16
1:0:2058:U:H1'	1:0:2576:G:H21	1.10	1.14
1:0:2548:G:H2'	1:0:2549:G:H5''	1.26	1.14
32:0:2881:ZIT:C6B	32:0:2881:ZIT:C6A	2.28	1.11
32:0:2882:ZIT:C6B	32:0:2882:ZIT:C6A	2.28	1.11
32:0:2882:ZIT:C6A	32:0:2882:ZIT:H6B1	1.82	1.10
1:0:1908:C:H2'	1:0:1909:U:H4'	1.30	1.09
1:0:1966:C:H4'	1:0:2585:C:H4'	1.22	1.09
32:0:2881:ZIT:C6A	32:0:2881:ZIT:H6B1	1.82	1.08
1:0:940:G:H3'	1:0:941:U:H5''	1.08	1.08
1:0:764:A:C2	32:0:2882:ZIT:H201	1.89	1.07
1:0:764:A:N1	32:0:2882:ZIT:H201	1.67	1.07
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
32:0:2882:ZIT:O5A	32:0:2882:ZIT:C19	2.06	1.03
32:0:2881:ZIT:O5A	32:0:2881:ZIT:C19	2.06	1.02
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	1.00
1:0:929:A:H3'	1:0:930:A:H5''	1.44	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1280:U:H3	1:0:1996:A:H62	1.06	0.99
1:0:1073:G:H2'	1:0:1074:G:H4'	1.43	0.98
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
1:0:2081:U:H2'	1:0:2082:C:H5''	1.44	0.96
1:0:2299:A:H5'	1:0:2300:G:C4	2.00	0.96
1:0:688:A:H62	1:0:816:U:H3	1.13	0.96
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
1:0:75:C:H2'	1:0:76:C:H5''	1.49	0.94
1:0:1432:G:H21	1:0:1596:A:H62	1.13	0.94
2:9:54:U:H2'	2:9:55:C:C6	2.03	0.94
1:0:2599:U:H2'	1:0:2600:A:H5''	1.47	0.94
1:0:1656:U:H2'	1:0:1657:A:H5''	1.50	0.94
1:0:2476:A:HO2'	1:0:2477:C:H5	0.96	0.94
1:0:941:U:H2'	1:0:942:U:O4'	1.69	0.93
1:0:2548:G:C2'	1:0:2549:G:H5''	1.98	0.93
1:0:58:C:H3'	1:0:59:G:H5''	1.50	0.92
1:0:2380:U:H2'	1:0:2381:A:H5'	1.49	0.92
2:9:25:G:H2'	2:9:26:G:O4'	1.69	0.92
32:0:2881:ZIT:C6A	32:0:2881:ZIT:H6B2	1.98	0.92
2:9:84:G:H2'	2:9:85:G:H8	1.34	0.92
1:0:508:G:H1	1:0:516:G:H22	1.18	0.91
32:0:2882:ZIT:C6A	32:0:2882:ZIT:H6B2	1.98	0.91
1:0:317:U:H2'	1:0:318:G:H5''	1.51	0.91
1:0:847:C:H41	1:0:955:G:H21	1.17	0.90
1:0:2266:A:H61	1:0:2323:U:H1'	1.32	0.90
1:0:2198:U:H3'	1:0:2199:C:H5''	1.53	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
32:0:2881:ZIT:O5A	32:0:2881:ZIT:H192	1.72	0.89
32:0:2882:ZIT:H6A1	32:0:2882:ZIT:H6B1	0.91	0.89
2:9:100:G:H2'	2:9:101:A:O4'	1.72	0.89
32:0:2881:ZIT:H6A1	32:0:2881:ZIT:H6B1	0.90	0.89
32:0:2882:ZIT:O5A	32:0:2882:ZIT:H192	1.72	0.89
1:0:752:G:H5'	1:0:1775:A:H61	1.38	0.89
1:0:763:A:H2	1:0:765:C:H1'	1.37	0.89
2:9:67:C:H2'	2:9:68:A:H5'	1.54	0.88
2:9:42:U:H2'	2:9:45:C:H41	1.35	0.88
1:0:1791:C:H2'	1:0:1792:C:H5''	1.54	0.88
1:0:317:U:H3	1:0:321:A:H62	1.20	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:0:367:G:H2'	1:0:368:A:H5''	1.57	0.87
1:0:2014:A:H62	1:0:2477:C:H1'	1.36	0.87
1:0:2096:U:H2'	1:0:2097:A:H5''	1.54	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
1:0:857: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
1:0:818:G:H22	1:0:2051:U:H5''	1.39	0.86
1:0:2014:A:N6	1:0:2477:C:H1'	1.90	0.85
1:0:2737:A:H61	7:E:60:LYS:CA	1.88	0.85
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
1:0:1252: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
1:0:2598:C:H4'	4:B:152:LYS:CA	2.07	0.84
1:0:976:C:H5'	1:0:2252:A:H1'	1.57	0.84
1:0:658:G:H4'	1:0:2331:A:H5'	1.60	0.84
2:9:67:C:C2'	2:9:68:A:H5'	2.07	0.84
1:0:2324:G:H4'	1:0:2326:C:H5''	1.60	0.84
1:0:616:U:H2'	1:0:617:U:H5''	1.58	0.83
1:0:762:A:H2'	1:0:763:A:H8	1.41	0.83
1:0:1922:U:H1'	1:0:2570:C:O2'	1.79	0.83
1:0:2623:A:H2'	1:0:2624:G:O4'	1.76	0.83
1:0:1463:A:H1'	1:0:1543:G:H22	1.40	0.83
1:0:1458:A:H3'	1:0:1459:U:H5''	1.60	0.83
1:0:755:C:H5'	1:0:1692:C:O2'	1.78	0.83
1:0:1976:U:C2'	1:0:1977:C:H5'	2.07	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
1:0:2599:U:C2'	1:0:2600:A:H5''	2.09	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
1:0:1922:U:O2	1:0:2571:G:H5'	1.79	0.82
1:0:929:A:H2'	1:0:930:A:H4'	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2058:U:H1'	1:0:2576:G:N2	1.94	0.81
1:0:2498:U:H5''	1:0:2499:C:OP1	1.80	0.81
1:0:1181:C:H3'	1:0:1182:U:H5''	1.59	0.81
1:0:1438:G:H2'	1:0:1439:G:O4'	1.81	0.81
1:0:1900:U:H3'	1:0:1901:A:H8	1.43	0.81
1:0:1974:U:H2'	1:0:1975:G:H5''	1.62	0.81
2:9:92:G:H2'	2:9:93:G:H5'	1.62	0.81
2:9:12:C:H2'	2:9:13:C:O4'	1.81	0.81
1:0:542:A:H2'	1:0:543:G:H5'	1.63	0.81
2:9:7:C:O2'	2:9:8:C:H5'	1.80	0.81
1:0:922:A:H2'	1:0:923:A:H8	1.46	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
1:0:681:A:H2'	1:0:683:A:N7	1.95	0.80
1:0:762:A:H2'	1:0:763:A:C8	2.16	0.80
1:0:798:G:H2'	1:0:799:C:H5'	1.62	0.80
1:0:70:A:O3'	1:0:71:A:H3'	1.80	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
1:0:1182:U:C2'	1:0:1183:C:H5''	2.12	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
1:0:2499:C:H41	1:0:2521:A:H2	1.26	0.80
1:0:168:A:H2'	1:0:169:C:C6	2.17	0.80
1:0:764:A:C6	32:0:2882:ZIT:H201	2.16	0.80
1:0:558:G:H5''	1:0:559:C:C5	2.16	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
1:0:547:U:H2'	1:0:548:G:C8	2.17	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
1:0:2872:U:H2'	1:0:2873:G:C8	2.18	0.79
1:0:1886:G:H2'	1:0:1887:G:H8	1.46	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
1:0:1811:A:H1'	1:0:1813:A:C5	2.18	0.79
1:0:873:U:H1'	1:0:2246:A:OP1	1.83	0.79
1:0:792:U:H2'	1:0:793:G:H5'	1.64	0.78
1:0:635:C:H2'	1:0:636:G:H5''	1.64	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2672:U:H2'	1:0:2673:G:H8	1.47	0.78
1:0:689:A:H8	1:0:2052:G:H21	1.28	0.78
1:0:416:U:H5''	1:0:417:C:H5'	1.65	0.78
1:0:1088:A:H2'	1:0:1089:C:O4'	1.83	0.78
1:0:1900:U:H3'	1:0:1901:A:C8	2.19	0.78
2:9:78:A:H2'	2:9:79:U:C6	2.19	0.78
1:0:357:A:H2'	1:0:358:C:H5'	1.63	0.78
1:0:1807:A:O2'	1:0:1808:C:H4'	1.83	0.78
1:0:1299:A:H2'	1:0:1301:U:OP2	1.82	0.78
1:0:187:U:H2'	1:0:188:G:H8	1.49	0.78
2:9:92:G:C2'	2:9:93:G:H5'	2.14	0.78
1:0:1195:U:H2'	1:0:1196:G:C8	2.19	0.78
1:0:1319:C:H2'	1:0:1320:A:H8	1.47	0.78
1:0:2474:G:H2'	1:0:2475:C:O4'	1.84	0.78
2:9:58:G:H4'	2:9:59:A:H5'	1.64	0.78
1:0:764:A:C2	32:0:2882:ZIT:C20	2.65	0.77
1:0:218:A:O2'	1:0:219:G:H4'	1.84	0.77
1:0:1086:C:H2'	1:0:1087:C:H5''	1.64	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
1:0:2447:G:H22	1:0:2460:G:H2'	1.49	0.77
2:9:69:G:H2'	2:9:70:C:O4'	1.84	0.77
1:0:613:A:H2'	1:0:614:G:H8	1.49	0.77
1:0:1032:A:H2'	1:0:1033:G:H4'	1.63	0.77
1:0:1825:C:O2'	1:0:1826:U:H5'	1.85	0.77
1:0:2437:G:N1	1:0:2469:G:H2'	2.00	0.77
1:0:2559:U:H5'	4:B:130:GLY:CA	2.15	0.77
2:9:65:A:H2'	2:9:66:G:H8	1.50	0.77
1:0:918:A:C2'	1:0:919:U:H5''	2.11	0.77
1:0:75:C:C2'	1:0:76:C:H5''	2.15	0.77
1:0:1066:G:H2'	1:0:1067:G:H4'	1.67	0.77
1:0:2262:C:H2'	1:0:2263:C:O4'	1.85	0.77
1:0:951:G:H2'	1:0:952:A:H5''	1.65	0.76
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
1:0:2770:A:H4'	1:0:2867:G:H22	1.49	0.76
1:0:1608:U:H2'	1:0:1609:G:H8	1.51	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
1:0:2006:G:H4'	1:0:2596:C:O2'	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
32:0:2882:ZIT:O5A	32:0:2882:ZIT:H193	1.85	0.76
1:0:169:C:H2'	1:0:170:U:H5'	1.68	0.76
1:0:2633:A:H61	1:0:2646:C:N4	1.83	0.75
1:0:37:C:H2'	1:0:38:G:H8	1.52	0.75
1:0:215:G:H21	1:0:632:A:H8	1.31	0.75
1:0:468:A:O2'	1:0:469:G:H4'	1.86	0.75
1:0:2436:U:H2'	1:0:2437:G:O4'	1.86	0.75
1:0:585:U:H2'	1:0:586:G:C8	2.20	0.75
1:0:1763:G:H2'	1:0:1764:A:H4'	1.68	0.75
1:0:404:A:H1'	1:0:424:G:O2'	1.85	0.75
1:0:1036:G:H1'	1:0:1145:C:C4'	2.16	0.75
1:0:930:A:H3'	1:0:931:G:C8	2.22	0.75
1:0:1036:G:H1'	1:0:1145:C:H4'	1.68	0.75
1:0:2861:A:H2'	1:0:2862:G:C8	2.22	0.75
1:0:547:U:H2'	1:0:548:G:H8	1.51	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
1:0:1035:G:H21	1:0:1155:G:H4'	1.50	0.75
1:0:1055:A:C2	1:0:1121:G:H2'	2.22	0.74
1:0:2652:G:H2'	1:0:2653:A:H8	1.50	0.74
1:0:2426:G:H22	1:0:2431:C:N4	1.85	0.74
1:0:104:C:C2'	1:0:105:G:H5''	2.13	0.74
1:0:727:U:H2'	1:0:728:G:H5''	1.70	0.74
32:0:2881:ZIT:O5A	32:0:2881:ZIT:H193	1.85	0.74
1:0:797:A:C5	1:0:805:G:H1'	2.22	0.74
1:0:2498:U:OP1	1:0:2498:U:H3'	1.87	0.74
1:0:2616:U:H2'	1:0:2617:G:O4'	1.87	0.74
1:0:114:C:H4'	1:0:124:A:O2'	1.88	0.74
1:0:1223:G:N2	1:0:1225:G:H21	1.85	0.74
1:0:2270:U:O2'	1:0:2353:G:H1'	1.88	0.74
1:0:1463:A:C1'	1:0:1543:G:H22	2.01	0.74
1:0:2329:C:H2'	1:0:2330:G:O4'	1.87	0.74
1:0:28:A:N6	1:0:522:G:H4'	2.02	0.74
1:0:922:A:H2'	1:0:923:A:C8	2.22	0.74
1:0:1348:C:H2'	1:0:1349:A:C8	2.22	0.73
1:0:1750:A:H1'	1:0:2690:A:C2	2.23	0.73
1:0:2532:G:C2	1:0:2533:U:H1'	2.23	0.73
1:0:1681:A:C2	1:0:2706:U:H1'	2.23	0.73
1:0:1284:G:C4	1:0:1633:C:H5'	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
2:9:31:A:H2'	2:9:32:C:O4'	1.89	0.73
1:0:2318:U:H2'	1:0:2319:G:H8	1.51	0.73
1:0:821:A:O2'	1:0:1267:A:H4'	1.89	0.73
1:0:940:G:C3'	1:0:941:U:H5''	2.04	0.73
1:0:612:G:O3'	1:0:613:A:H4'	1.89	0.73
1:0:1747:G:H4'	1:0:1749:G:C1'	2.18	0.73
32:0:2882:ZIT:H162	32:0:2882:ZIT:O13	1.86	0.73
1:0:2268:G:H5''	1:0:2363:G:O2'	1.89	0.73
1:0:1471:G:H1	1:0:2682:C:H42	1.35	0.73
1:0:763:A:C2	1:0:765:C:H1'	2.23	0.72
2:9:48:A:O2'	2:9:49:C:H5'	1.88	0.72
1:0:1202:U:H2'	1:0:1203:A:H8	1.53	0.72
1:0:1982:C:H4'	1:0:2703:C:O2	1.88	0.72
1:0:2492:G:H1	1:0:2550:C:H42	1.36	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
1:0:2669:C:H41	14:L:15:SER:CA	2.03	0.72
1:0:162:C:H2'	1:0:163:A:C8	2.23	0.72
1:0:81:C:H2'	1:0:82:G:O4'	1.90	0.72
1:0:2456:U:H1'	1:0:2460:G:H22	1.54	0.72
1:0:1295:U:H2'	1:0:1296:G:H5'	1.71	0.71
1:0:208:C:H2'	1:0:209:G:H5'	1.69	0.71
1:0:1267:A:H5''	1:0:1268:U:O5'	1.88	0.71
1:0:1445:A:H2'	1:0:1446:U:O4'	1.90	0.71
1:0:2674:C:H2'	1:0:2675:U:H6	1.54	0.71
2:9:61:A:H8	2:9:61:A:O5'	1.73	0.71
1:0:1654:A:H4'	1:0:2690:A:O2'	1.89	0.71
1:0:2503:G:H2'	1:0:2504:G:H5''	1.70	0.71
1:0:2559:U:C5'	4:B:130:GLY:CA	2.68	0.71
1:0:2670:C:H4'	1:0:2846:G:O2'	1.91	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
1:0:1429:A:H62	1:0:1601:U:H5''	1.55	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
1:0:58:C:H3'	1:0:59:G:C5'	2.19	0.71
1:0:651:C:C2'	1:0:652:C:H5''	2.20	0.71
1:0:2324:G:O2'	1:0:2325:A:H5''	1.90	0.71
1:0:2431:C:O2'	1:0:2485:U:H4'	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:331:U:H2'	1:0:332:C:H5''	1.72	0.71
2:9:28:A:H3'	2:9:29:C:H6	1.55	0.71
2:9:36:A:H2'	2:9:46:G:O6	1.90	0.71
1:0:2176:U:H2'	1:0:2177:U:O4'	1.91	0.71
1:0:1466:C:H2'	1:0:1467:U:O4'	1.89	0.71
1:0:2185:U:H2'	1:0:2186:G:C8	2.26	0.71
1:0:2198:U:C3'	1:0:2199:C:H5''	2.21	0.71
1:0:2565:C:H4'	1:0:2566:A:H5'	1.71	0.71
32:0:2882:ZIT:C6B	32:0:2882:ZIT:C5A	2.69	0.71
1:0:618:A:H2'	1:0:619:A:O4'	1.89	0.70
1:0:2321:C:H2'	1:0:2322:U:O4'	1.91	0.70
1:0:460:U:N3	1:0:592:G:H1'	2.06	0.70
1:0:1479:G:H2'	1:0:1480:G:H8	1.55	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:2315:A:O2'	1:0:2364:C:H5''	1.91	0.70
1:0:162:C:H4'	1:0:195:A:H4'	1.71	0.70
1:0:760:U:O2	1:0:1997:A:H1'	1.91	0.70
1:0:953:G:H1'	1:0:1203:A:H2	1.55	0.70
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.70
2:9:71:G:N2	2:9:72:C:H1'	2.07	0.70
1:0:523:A:H4'	1:0:1230:C:H5'	1.74	0.70
1:0:1068:A:H2'	1:0:1069:G:C8	2.27	0.70
1:0:1284:G:N3	1:0:1633:C:H5'	2.07	0.70
1:0:1617:G:H2'	1:0:1618:U:H5'	1.72	0.70
32:0:2881:ZIT:C6B	32:0:2881:ZIT:C5A	2.69	0.70
1:0:1436:G:H21	1:0:1514:C:H1'	1.57	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
1:0:1689:U:C2	1:0:2561:G:H5'	2.27	0.70
1:0:2599:U:C3'	1:0:2600:A:H5''	2.22	0.70
2:9:84:G:O2'	2:9:85:G:H5'	1.91	0.70
1:0:236:C:H2'	1:0:237:G:H8	1.57	0.70
1:0:245:C:H5'	1:0:372:U:O2'	1.91	0.70
1:0:1789:U:H2'	1:0:1790:G:H5'	1.74	0.70
1:0:2202:G:H2'	1:0:2203:G:O4'	1.92	0.70
1:0:2469:G:H5''	1:0:2470:U:OP1	1.91	0.70
1:0:2841:U:H1'	1:0:2843:A:H1'	1.72	0.70
1:0:734:G:H2'	1:0:735:G:H8	1.57	0.69
1:0:788:G:N2	1:0:800:U:H2'	2.07	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:0:964:A:H2'	1:0:965:G:H8	1.57	0.69
1:0:1869:A:H2'	1:0:1870:U:O4'	1.92	0.69
1:0:2510:A:N6	1:0:2641:A:H61	1.89	0.69
1:0:814:G:H3'	1:0:815:A:H5'	1.73	0.69
1:0:1280:U:H3	1:0:1996:A:N6	1.85	0.69
1:0:616:U:C2'	1:0:617:U:H5''	2.22	0.69
1:0:688:A:N6	1:0:816:U:H3	1.88	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.08	0.69
1:0:1653:C:H2'	1:0:1654:A:C8	2.28	0.69
1:0:1695:U:H2'	1:0:1696:C:O4'	1.93	0.69
1:0:2836:U:H2'	1:0:2837:G:H8	1.57	0.69
2:9:6:C:H2'	2:9:7:C:C6	2.26	0.69
1:0:50:G:H2'	1:0:117:A:C2	2.28	0.69
1:0:939:C:H2'	1:0:940:G:C8	2.28	0.69
1:0:2432:A:H4'	1:0:2551:A:O2'	1.93	0.69
1:0:69:G:H5''	1:0:70:A:OP1	1.93	0.69
1:0:462:G:H2'	1:0:463:C:C5'	2.22	0.69
1:0:1194:U:H2'	1:0:1195:U:C6	2.28	0.68
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
1:0:1672:A:C2	1:0:2032:G:H4'	2.28	0.68
2:9:84:G:H2'	2:9:85:G:C8	2.22	0.68
1:0:216:U:H5''	1:0:601:A:N6	2.08	0.68
1:0:187:U:H2'	1:0:188:G:C8	2.28	0.68
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.68
1:0:1325:U:H4'	1:0:1326:U:C6	2.28	0.68
1:0:1467:U:H3'	1:0:1468:A:C5'	2.23	0.68
1:0:77:C:H2'	1:0:78:C:C6	2.29	0.68
1:0:2757:G:H5'	1:0:2761:A:H1'	1.75	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
1:0:1953:A:H1'	1:0:1955:G:C1'	2.23	0.68
1:0:2432:A:H4'	1:0:2551:A:HO2'	1.59	0.68
1:0:71:A:N6	1:0:110:U:H4'	2.09	0.68
1:0:1474:A:H3'	1:0:1474:A:N3	2.09	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1727:C:H4'	1:0:2833:C:N3	2.09	0.67
1:0:2761:A:H5''	1:0:2762:G:H5'	1.77	0.67
1:0:239:A:H4'	1:0:620:G:H5'	1.75	0.67
1:0:1197:U:H2'	1:0:1198:C:O4'	1.94	0.67
1:0:1791:C:O2'	1:0:1793:A:H5'	1.94	0.67
1:0:1966:C:H4'	1:0:2585:C:C4'	2.14	0.67
1:0:2199:C:H2'	1:0:2200:G:C8	2.29	0.67
1:0:2491:C:H3'	1:0:2492:G:H5''	1.77	0.67
1:0:13:A:H1'	1:0:536:A:N6	2.08	0.67
1:0:2469:G:H4'	1:0:2470:U:C5	2.30	0.67
1:0:1949:A:O2'	1:0:2572:U:H5'	1.95	0.67
1:0:2829:A:H2'	1:0:2830:U:O4'	1.95	0.67
1:0:1312:G:H5''	1:0:1313:U:C5'	2.25	0.67
1:0:1762:C:O2'	1:0:1777:A:H1'	1.95	0.67
1:0:652:C:N4	1:0:657:A:H61	1.92	0.67
1:0:951:G:C2'	1:0:952:A:H5''	2.24	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	1.59	0.67
1:0:2708:U:H2'	1:0:2709:C:C6	2.30	0.67
1:0:2781:G:H2'	1:0:2782:G:O4'	1.94	0.67
1:0:2691:C:H3'	1:0:2692:A:C5'	2.24	0.67
1:0:170:U:H2'	1:0:171:G:H8	1.60	0.66
1:0:313:U:H2'	1:0:314:G:C8	2.29	0.66
1:0:820:U:H1'	1:0:2424:G:OP1	1.95	0.66
1:0:1302:C:O2'	1:0:1343:C:H4'	1.94	0.66
1:0:1763:G:N2	1:0:1765:C:H5''	2.10	0.66
32:0:2882:ZIT:O13	32:0:2882:ZIT:C16	2.43	0.66
1:0:1547:U:H2'	1:0:1548:U:C6	2.30	0.66
2:9:29:C:H2'	2:9:30:C:C6	2.31	0.66
1:0:118:U:H1'	1:0:143:A:C8	2.31	0.66
1:0:427:C:H2'	1:0:428:A:H8	1.59	0.66
1:0:951:G:C3'	1:0:952:A:H5''	2.25	0.66
1:0:999:A:H4'	1:0:1166:A:N1	2.11	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
1:0:2274:C:H2'	1:0:2275:U:H5''	1.75	0.66
1:0:2785:A:H2'	1:0:2786:G:O4'	1.96	0.66
1:0:1371:G:H1'	1:0:1386:A:N6	2.10	0.66
1:0:1440:G:H1'	1:0:1588:A:H61	1.59	0.66
1:0:2674:C:H2'	1:0:2675:U:C6	2.31	0.66
2:9:40:C:H2'	2:9:41:A:O4'	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:9:U:H3	1:0:2608:A:N6	1.93	0.66
1:0:88:G:H3'	1:0:89:A:C5'	2.24	0.66
1:0:699:G:H21	1:0:700:C:H5''	1.60	0.66
1:0:734:G:H2'	1:0:735:G:C8	2.30	0.66
1:0:930:A:H5'	1:0:931:G:N7	2.10	0.66
1:0:1452:U:H5''	1:0:1533:G:H5'	1.78	0.66
1:0:2390:A:H2'	1:0:2391:A:H8	1.60	0.66
1:0:2523:G:H1'	1:0:2625:U:H5'	1.77	0.66
1:0:109:A:C2'	1:0:110:U:H5''	2.26	0.66
1:0:705:C:H2'	1:0:706:A:C8	2.31	0.66
1:0:2308:A:H2'	1:0:2309:G:H8	1.59	0.66
1:0:2476:A:O2'	1:0:2477:C:H5	1.73	0.66
1:0:797:A:H2'	1:0:805:G:O4'	1.95	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
1:0:564:U:H2'	1:0:565:A:C8	2.31	0.66
1:0:942:U:C2'	1:0:943:U:H5'	2.26	0.66
2:9:62:C:N4	2:9:63:A:H62	1.93	0.66
1:0:367:G:C2'	1:0:368:A:H5''	2.26	0.65
1:0:1301:U:H2'	1:0:1664:G:H21	1.61	0.65
1:0:2375:G:H2'	1:0:2376:G:H8	1.60	0.65
1:0:632:A:H2'	1:0:633:G:O4'	1.96	0.65
1:0:694:G:H2'	1:0:695:G:H8	1.61	0.65
1:0:1055:A:H2	1:0:1121:G:H2'	1.60	0.65
1:0:2158:C:H2'	1:0:2159:A:H8	1.61	0.65
1:0:2605:C:H2'	1:0:2606:G:O4'	1.95	0.65
1:0:2491:C:H2'	1:0:2492:G:C4'	2.26	0.65
1:0:2522:G:H21	1:0:2625:U:H5''	1.61	0.65
1:0:1811:A:H1'	1:0:1813:A:C4	2.31	0.65
1:0:1480:G:H2'	1:0:1481:U:H5'	1.78	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
1:0:818:G:N2	1:0:2051:U:H5''	2.09	0.65
1:0:2199:C:H2'	1:0:2200:G:H8	1.61	0.65
1:0:2279:G:H2'	1:0:2280:A:H8	1.61	0.65
1:0:2579:A:H2'	1:0:2580:C:C6	2.30	0.65
1:0:2240:C:H2'	1:0:2241:U:H5'	1.78	0.65
1:0:2491:C:H2'	1:0:2492:G:O4'	1.97	0.65
1:0:509:U:H2'	1:0:510:G:H5'	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1529:C:H2'	1:0:1530:U:O4'	1.97	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
2:9:115:G:O2'	2:9:116:C:H5'	1.97	0.65
1:0:492:G:H22	1:0:519:C:H42	1.43	0.64
1:0:669:G:H2'	1:0:670:U:C6	2.32	0.64
1:0:1388:C:H2'	1:0:1389:C:H6	1.62	0.64
1:0:17:G:H2'	1:0:18:U:C6	2.33	0.64
1:0:459:A:N6	1:0:484:G:H1'	2.12	0.64
1:0:995:A:H5''	1:0:996:C:H5	1.62	0.64
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
1:0:1804:U:H2'	1:0:1805:G:C8	2.31	0.64
1:0:2437:G:H2'	1:0:2469:G:N1	2.12	0.64
1:0:414:A:H2'	1:0:415:A:O4'	1.97	0.64
1:0:1680:U:O2'	1:0:2665:G:H4'	1.97	0.64
1:0:1838:G:H2'	1:0:1839:A:H5'	1.80	0.64
1:0:2261:G:H4'	1:0:2262:C:OP2	1.95	0.64
2:9:42:U:C2'	2:9:45:C:H41	2.08	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.33	0.64
1:0:2273:C:H2'	1:0:2274:C:C6	2.32	0.64
1:0:114:C:O2'	1:0:124:A:H1'	1.97	0.64
1:0:509:U:H3	1:0:513:A:H62	1.44	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
1:0:820:U:H2'	1:0:821:A:H8	1.62	0.64
1:0:1591:U:H2'	1:0:1592:U:O4'	1.98	0.64
1:0:2158:C:H2'	1:0:2159:A:C8	2.33	0.64
1:0:109:A:H3'	1:0:110:U:H5''	1.78	0.64
1:0:987:G:H5'	1:0:1167:A:N6	2.13	0.64
1:0:1495:G:H2'	1:0:1496:G:C8	2.32	0.64
1:0:1502:G:O2'	1:0:1503:G:H5'	1.98	0.64
1:0:968:C:H41	1:0:970:A:H1'	1.63	0.63
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''	1.80	0.63
1:0:2478:C:H2'	1:0:2479:U:H5'	1.80	0.63
1:0:520:C:O2'	1:0:1249:G:H5'	1.99	0.63
1:0:208:C:C2'	1:0:209:G:H5'	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1073:G:H3'	1:0:1074:G:H5''	1.81	0.63
1:0:2480:C:H4'	1:0:2482:A:C4'	2.29	0.63
1:0:2507:U:O2'	1:0:2508:G:H3'	1.98	0.63
1:0:168:A:H2'	1:0:169:C:H6	1.63	0.63
1:0:427:C:H2'	1:0:428:A:C8	2.33	0.63
1:0:824:U:H4'	1:0:1264:C:H1'	1.80	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
1:0:2866:A:H2'	1:0:2867:G:O4'	1.99	0.63
1:0:792:U:H2'	1:0:793:G:C5'	2.26	0.63
1:0:1587:A:H2'	1:0:1588:A:H8	1.63	0.63
1:0:139:A:H2'	1:0:140:G:H8	1.64	0.63
1:0:1004:A:H2'	1:0:1005:U:H5''	1.80	0.63
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.63
1:0:1974:U:C2'	1:0:1975:G:H5''	2.29	0.63
1:0:2380:U:C2'	1:0:2381:A:H5'	2.26	0.63
1:0:163:A:H2'	1:0:164:G:H8	1.64	0.63
1:0:165:G:H2'	1:0:166:G:O4'	1.99	0.63
1:0:174:A:C4'	1:0:2051:U:H2'	2.29	0.63
1:0:1918:G:H1'	1:0:1947:G:C2	2.33	0.63
1:0:2057:U:H2'	1:0:2058:U:C6	2.34	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
1:0:1268:U:H5'	1:0:1269:G:H5''	1.81	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.99	0.63
1:0:1641:C:H2'	1:0:1642:G:O4'	1.99	0.63
1:0:2456:U:H1'	1:0:2460:G:N2	2.13	0.63
1:0:2781:G:H2'	1:0:2782:G:C1'	2.29	0.63
1:0:401:G:H2'	1:0:403:A:N7	2.14	0.62
1:0:2633:A:H2	1:0:2644:A:H5''	1.64	0.62
1:0:184:A:H4'	1:0:812:G:H4'	1.81	0.62
1:0:1473:U:H4'	1:0:1474:A:C5	2.34	0.62
1:0:1972:G:H2'	1:0:1973:C:O4'	1.99	0.62
1:0:2012:A:C5	1:0:2014:A:H5'	2.35	0.62
1:0:2085:G:H2'	1:0:2086:U:C6	2.34	0.62
2:9:18:G:H2'	2:9:19:C:H6	1.63	0.62
2:9:30:C:O5'	2:9:30:C:H6	1.80	0.62
1:0:1789:U:O2'	1:0:1793:A:H1'	2.00	0.62
1:0:2521:A:H5'	1:0:2522:G:OP1	1.98	0.62
1:0:2839:G:H2'	1:0:2840:U:C6	2.33	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1329:U:H5'	1:0:1405:A:H1'	1.80	0.62
1:0:1743:C:H41	16:N:125:MET:CA	2.11	0.62
1:0:2495:G:H2'	1:0:2496:C:C6	2.35	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.63	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1204:G:H2'	1:0:1205:G:C8	2.34	0.62
1:0:1313:U:H1'	1:0:1642:G:N2	2.14	0.62
1:0:2273:C:H2'	1:0:2274:C:H6	1.65	0.62
1:0:2475:C:H2'	1:0:2476:A:O4'	1.99	0.62
1:0:223:C:H4'	1:0:398:C:H1'	1.81	0.62
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62
1:0:1319:C:H2'	1:0:1320:A:C8	2.32	0.62
1:0:1707:A:N7	1:0:1714:A:H2	1.98	0.62
1:0:2672:U:H2'	1:0:2673:G:C8	2.33	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
1:0:1560:A:H2'	1:0:1561:A:O4'	2.00	0.62
1:0:2011:U:H2'	1:0:2012:A:C8	2.35	0.62
1:0:2377:U:H2'	1:0:2378:G:C8	2.34	0.62
2:9:114:C:O5'	2:9:114:C:H6	1.82	0.62
1:0:210:A:N6	1:0:442:A:H61	1.97	0.61
1:0:888:G:H2'	1:0:889:C:O4'	2.00	0.61
1:0:942:U:O2'	1:0:943:U:H5'	2.00	0.61
1:0:1191:G:H2'	1:0:1192:A:H8	1.65	0.61
1:0:1429:A:N6	1:0:1602:G:H5'	2.15	0.61
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.61
1:0:2001:G:H2'	1:0:2002:A:C8	2.35	0.61
1:0:460:U:H3	1:0:592:G:H1'	1.64	0.61
1:0:2598:C:H2'	1:0:2599:U:C6	2.35	0.61
32:0:2881:ZIT:C6A	32:0:2881:ZIT:H193	2.30	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
1:0:1352:G:H2'	1:0:1353:A:C8	2.35	0.61
2:9:56:G:H2'	2:9:57:U:O4'	1.99	0.61
1:0:321:A:H2'	1:0:323:G:N7	2.15	0.61
1:0:1690:U:H2'	1:0:1691:G:H5'	1.81	0.61
1:0:1730:G:H2'	1:0:1731:C:C6	2.35	0.61
1:0:1760:G:O2'	1:0:1761:G:H5'	2.01	0.61
1:0:483:A:H2'	1:0:484:G:H5'	1.82	0.61
1:0:614:G:H2'	1:0:615:C:H6	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:683:A:H5''	1:0:684:C:OP1	2.01	0.61
1:0:929:A:H2'	1:0:930:A:C4'	2.31	0.61
1:0:1057:A:H3'	1:0:1058:G:C5'	2.31	0.61
1:0:2764:U:H2'	1:0:2765:C:C6	2.36	0.61
32:0:2881:ZIT:H6B2	32:0:2881:ZIT:C5A	2.30	0.61
32:0:2882:ZIT:H6B2	32:0:2882:ZIT:C5A	2.30	0.61
1:0:141:G:H2'	1:0:142:U:C6	2.36	0.61
1:0:1717:A:H2'	1:0:1718:A:H5'	1.81	0.61
1:0:857:U:C2'	1:0:858:G:H5'	2.31	0.61
1:0:1921:A:H2'	1:0:1922:U:H5''	1.81	0.61
1:0:2686:C:H2'	1:0:2687:G:C8	2.35	0.61
1:0:697:G:H1	1:0:807:A:H2	1.47	0.61
1:0:870:C:H2'	1:0:871:U:C6	2.36	0.61
1:0:1196:G:C2'	1:0:1197:U:H5'	2.30	0.61
1:0:1937:G:N3	1:0:2530:C:H5'	2.16	0.61
1:0:2721:A:H2'	1:0:2722:C:O4'	2.01	0.61
2:9:14:C:H4'	2:9:17:A:H61	1.65	0.61
2:9:62:C:N4	2:9:63:A:N6	2.48	0.61
1:0:202:A:H2'	1:0:203:G:O4'	2.01	0.61
1:0:574:C:H4'	1:0:1266:G:O6	2.01	0.61
1:0:657:A:H2'	1:0:658:G:C8	2.36	0.61
1:0:775:U:O2	1:0:1445:A:H5''	2.00	0.61
1:0:1194:U:H2'	1:0:1195:U:C5	2.35	0.61
1:0:1588:A:H2'	1:0:1589:G:C8	2.36	0.61
1:0:2713:A:H2'	1:0:2714:A:C8	2.36	0.61
1:0:146:C:H2'	1:0:147:G:C8	2.36	0.60
1:0:1225:G:H2'	1:0:1249:G:N2	2.16	0.60
1:0:1514:C:H5'	1:0:1593:C:C5'	2.31	0.60
1:0:1710:U:H3	1:0:1821:A:H61	1.48	0.60
1:0:2437:G:H1	1:0:2469:G:H2'	1.64	0.60
1:0:2872:U:H2'	1:0:2873:G:H8	1.63	0.60
2:9:58:G:H4'	2:9:59:A:C5'	2.29	0.60
1:0:639:G:H2'	1:0:640:C:C6	2.36	0.60
1:0:798:G:C2'	1:0:799:C:H5'	2.30	0.60
1:0:2633:A:H5''	1:0:2634:G:OP1	2.02	0.60
1:0:62:U:H2'	1:0:63:A:C8	2.36	0.60
1:0:976:C:H5'	1:0:2252:A:C1'	2.31	0.60
1:0:2463:G:O2'	1:0:2464:G:H5'	2.01	0.60
1:0:2177:U:H2'	1:0:2178:U:C6	2.35	0.60
32:0:2881:ZIT:H6B2	32:0:2881:ZIT:H5A1	1.83	0.60
32:0:2882:ZIT:C6A	32:0:2882:ZIT:H193	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:113:G:H2'	2:9:114:C:C6	2.36	0.60
1:0:330:C:O2'	1:0:331:U:H5'	2.00	0.60
1:0:973:U:H4'	1:0:2475:C:O2'	2.01	0.60
1:0:1889:G:H2'	1:0:1890:G:C8	2.37	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	1.66	0.60
1:0:114:C:H4'	1:0:124:A:HO2'	1.64	0.60
1:0:542:A:C2'	1:0:543:G:H5'	2.32	0.60
1:0:2713:A:H2'	1:0:2714:A:H8	1.67	0.60
1:0:538:A:H2'	1:0:539:A:H5''	1.82	0.60
1:0:1295:U:C2'	1:0:1296:G:H5'	2.31	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
1:0:1086:C:C2'	1:0:1087:C:H5''	2.29	0.60
1:0:1782:A:H62	1:0:1820:G:H2'	1.67	0.60
1:0:2398:U:H2'	1:0:2399:C:C6	2.36	0.60
1:0:2754:C:H2'	1:0:2755:A:C8	2.36	0.60
1:0:108:G:H2'	1:0:109:A:C8	2.37	0.60
1:0:1184:G:H2'	1:0:1185:C:H5''	1.83	0.60
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
1:0:797:A:C4	1:0:805:G:H1'	2.36	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.01	0.59
1:0:411:C:OP1	1:0:2073:A:H1'	2.02	0.59
1:0:2096:U:C2'	1:0:2097:A:H5''	2.28	0.59
1:0:2307:A:H2'	1:0:2308:A:C8	2.36	0.59
1:0:2691:C:C3'	1:0:2692:A:H5''	2.31	0.59
1:0:2736:U:O2'	1:0:2737:A:H5'	2.02	0.59
1:0:761:G:O6	1:0:764:A:H4'	2.03	0.59
1:0:1540:C:H2'	1:0:1541:G:O4'	2.02	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.31	0.59
2:9:102:A:H2'	2:9:103:A:H5'	1.84	0.59
1:0:1517:C:H2'	1:0:1518:C:C6	2.37	0.59
32:0:2882:ZIT:H6B2	32:0:2882:ZIT:H5A1	1.83	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
1:0:2119:A:O2'	1:0:2120:C:H5'	2.01	0.59
1:0:2800:C:H2'	1:0:2801:A:O4'	2.02	0.59
1:0:837:U:H1'	1:0:2337:A:N7	2.17	0.59
1:0:1672:A:C2	1:0:1673:C:H1'	2.38	0.59
1:0:1790:G:H4'	1:0:1791:C:C5	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2083:G:H2'	1:0:2084:G:C8	2.37	0.59
1:0:694:G:H2'	1:0:695:G:C8	2.37	0.59
1:0:1604:A:H2'	1:0:1605:A:O4'	2.02	0.59
1:0:1055:A:OP1	1:0:1057:A:H5'	2.03	0.59
1:0:2274:C:H2'	1:0:2275:U:C5'	2.32	0.59
1:0:451:A:H2'	1:0:452:G:C8	2.38	0.59
1:0:843:G:O2'	1:0:844:G:OP1	2.21	0.59
1:0:1259:A:O2'	1:0:1260:A:H5'	2.03	0.59
1:0:1707:A:H2'	1:0:1708:C:H5'	1.84	0.59
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.59
2:9:55:C:O5'	2:9:55:C:H6	1.85	0.59
1:0:340:G:H1'	1:0:488:A:H1'	1.84	0.59
1:0:581:A:C2	1:0:582:G:H1'	2.38	0.59
1:0:2163:U:H2'	1:0:2164:G:C8	2.38	0.59
1:0:2299:A:H5''	1:0:2300:G:O5'	2.03	0.59
1:0:2678:C:H2'	1:0:2679:G:C8	2.38	0.59
2:9:78:A:H2'	2:9:79:U:C5	2.38	0.59
1:0:770:U:O2'	1:0:771:C:H5'	2.02	0.59
1:0:775:U:H4'	1:0:776:G:C8	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
1:0:2422:C:H2'	1:0:2423:G:H8	1.68	0.59
1:0:313:U:H2'	1:0:314:G:H8	1.68	0.58
1:0:646:C:O2	1:0:650:U:H4'	2.03	0.58
1:0:979:A:H2'	1:0:980:G:O4'	2.03	0.58
1:0:982:C:H4'	1:0:994:A:O2'	2.02	0.58
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.58
1:0:66:U:H2'	1:0:67:G:C8	2.38	0.58
1:0:681:A:C6	1:0:683:A:H2'	2.39	0.58
1:0:752:G:H5'	1:0:1775:A:N6	2.16	0.58
1:0:1065:A:H2'	1:0:1066:G:H8	1.67	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
1:0:2466:G:H2'	1:0:2467:A:H8	1.67	0.58
2:9:111:C:H5''	2:9:112:A:O5'	2.03	0.58
1:0:1252:C:O2'	1:0:1253:C:H5''	2.03	0.58
1:0:1691:G:H21	1:0:1694:A:H61	1.51	0.58
1:0:76:C:H6	1:0:76:C:H5'	1.68	0.58
1:0:705:C:H2'	1:0:706:A:H8	1.68	0.58
1:0:1004:A:H2'	1:0:1005:U:C5'	2.32	0.58
1:0:1900:U:HO2'	1:0:1946:U:H5'	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1949:A:H1'	1:0:2572:U:H4'	1.86	0.58
1:0:2478:C:C2'	1:0:2479:U:H5'	2.34	0.58
1:0:425:A:H2'	1:0:426:C:O4'	2.02	0.58
1:0:1217:U:H2'	1:0:1218:C:C6	2.37	0.58
1:0:1304:U:O2'	1:0:1305:C:H5'	2.02	0.58
1:0:2437:G:H2'	1:0:2469:G:H1	1.67	0.58
1:0:2660:C:O2'	1:0:2661:G:H5'	2.04	0.58
2:9:20:A:O2'	2:9:21:C:H5'	2.03	0.58
1:0:1436:G:N2	1:0:1514:C:H1'	2.19	0.58
1:0:2779:C:H2'	1:0:2780:A:C8	2.39	0.58
2:9:18:G:H2'	2:9:19:C:C6	2.38	0.58
1:0:114:C:H2'	1:0:115:G:C8	2.39	0.58
1:0:357:A:H3'	1:0:358:C:O4'	2.04	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:595:A:H62	1:0:1264:C:H42	1.52	0.58
1:0:1253:C:H2'	1:0:1254:G:O4'	2.03	0.58
1:0:1336:G:H2'	1:0:1337:G:H5'	1.86	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
1:0:133:C:H2'	1:0:134:G:O4'	2.03	0.58
1:0:616:U:C3'	1:0:617:U:H5''	2.34	0.58
1:0:754:G:N2	1:0:770:U:H1'	2.18	0.58
1:0:1699:A:N6	1:0:1723:U:H3	2.02	0.58
1:0:1991:C:H2'	1:0:1992:G:H8	1.68	0.58
1:0:2164:G:H2'	1:0:2165:A:H8	1.69	0.58
1:0:2318:U:H2'	1:0:2319:G:C8	2.36	0.58
1:0:462:G:H2'	1:0:463:C:H5''	1.84	0.58
1:0:764:A:H2'	1:0:764:A:N3	2.19	0.58
1:0:1196:G:H2'	1:0:1197:U:O4'	2.03	0.58
1:0:226:C:H4'	1:0:227:G:C8	2.38	0.58
1:0:312:G:H4'	1:0:312:G:OP1	2.03	0.58
1:0:459:A:H1'	1:0:461:A:H62	1.67	0.58
1:0:871:U:H1'	1:0:2248:A:H5''	1.85	0.58
1:0:1057:A:H3'	1:0:1058:G:H5''	1.86	0.58
1:0:2470:U:H2'	1:0:2471:U:H6	1.68	0.58
32:0:2882:ZIT:C6B	32:0:2882:ZIT:H5A1	2.34	0.58
1:0:487:G:H1'	1:0:515:A:C2	2.39	0.57
1:0:663:G:H2'	1:0:664:C:O4'	2.03	0.57
1:0:944:A:H2'	1:0:945:G:O4'	2.04	0.57
1:0:1346:C:H6	1:0:1346:C:P	2.27	0.57
1:0:1791:C:H1'	1:0:1793:A:C5'	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1830:C:H42	1:0:1881:U:H3'	1.69	0.57
1:0:1994:U:H2'	1:0:1995:G:H5'	1.86	0.57
1:0:2194:A:H2'	1:0:2195:C:H5''	1.86	0.57
32:0:2881:ZIT:C6B	32:0:2881:ZIT:H5A1	2.34	0.57
1:0:175:C:H1'	1:0:2413:A:H61	1.69	0.57
1:0:1333:G:C6	1:0:1342:U:H5'	2.38	0.57
1:0:1480:G:C2'	1:0:1481:U:H5'	2.34	0.57
1:0:2020:G:H2'	1:0:2021:G:C8	2.39	0.57
1:0:2737:A:H2'	1:0:2738:A:H5'	1.85	0.57
1:0:2782:G:H3'	1:0:2783:U:H5''	1.86	0.57
1:0:2788:C:O2'	1:0:2789:U:H5'	2.04	0.57
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.57
1:0:1195:U:H2'	1:0:1196:G:H8	1.69	0.57
1:0:1278:A:H4'	1:0:1279:G:O5'	2.04	0.57
1:0:1763:G:H2'	1:0:1764:A:C4'	2.34	0.57
1:0:2390:A:H2'	1:0:2391:A:C8	2.39	0.57
1:0:2670:C:H4'	1:0:2846:G:HO2'	1.66	0.57
1:0:2727:G:C2'	1:0:2728:A:H5''	2.34	0.57
1:0:1418:C:H2'	1:0:1419:G:H8	1.69	0.57
1:0:1558:C:C2'	1:0:1559:G:H5'	2.34	0.57
1:0:1583:A:H8	1:0:1583:A:O5'	1.87	0.57
1:0:1621: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
1:0:2488:G:H2'	1:0:2489:C:C6	2.39	0.57
1:0:2799:C:H2'	1:0:2800:C:O4'	2.04	0.57
1:0:777:A:H62	1:0:1767:G:H1'	1.69	0.57
1:0:1313:U:C4	1:0:1651:U:H5'	2.40	0.57
1:0:1816:G:O2'	1:0:1817:U:H5'	2.05	0.57
1:0:2044:G:H21	1:0:2045:A:H62	1.52	0.57
1:0:2589:C:H1'	32:0:2881:ZIT:H7B2	1.86	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.04	0.57
1:0:941:U:H4'	1:0:941:U:OP1	2.04	0.57
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.57
1:0:2243:C:H2'	1:0:2244:C:O4'	2.04	0.57
1:0:54:G:H2'	1:0:55:A:H8	1.70	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.39	0.57
1:0:936:A:H2'	1:0:937:C:C6	2.40	0.57
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.57
1:0:2005:U:H5''	1:0:2006:G:OP1	2.03	0.57
1:0:185:C:O2'	1:0:186:C:H5'	2.04	0.57
1:0:659:G:H2'	1:0:660:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1271:C:H2'	1:0:1272:G:H8	1.68	0.57
1:0:1736:C:H2'	1:0:1737:G:C8	2.39	0.57
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.57
1:0:2633:A:C2	1:0:2644:A:H5''	2.39	0.57
1:0:2841:U:H1'	1:0:2843:A:C1'	2.35	0.57
1:0:36:G:H1'	1:0:462:G:H21	1.69	0.57
1:0:334:G:N3	1:0:344:G:H1'	2.20	0.57
1:0:958:G:H2'	1:0:959:C:C6	2.40	0.57
1:0:1312:G:H4'	1:0:1314:A:N3	2.20	0.57
1:0:1392:U:H2'	1:0:1393:G:H5'	1.87	0.57
1:0:1729:C:H2'	1:0:1730:G:C8	2.40	0.57
1:0:2503:G:C2'	1:0:2504:G:H5''	2.34	0.57
1:0:2607:C:H3'	1:0:2608:A:H5'	1.86	0.57
1:0:2756:A:C6	1:0:2762:G:H1'	2.39	0.57
1:0:1311:C:H5'	1:0:1315:A:N6	2.20	0.57
1:0:1336:G:C2'	1:0:1337:G:H5'	2.35	0.57
1:0:1958:G:H2'	1:0:1959:U:H6	1.70	0.57
2:9:102:A:H8	2:9:102:A:OP2	1.88	0.57
1:0:758:G:N2	1:0:765:C:O2	2.38	0.56
1:0:1182:U:C3'	1:0:1183:C:H5''	2.34	0.56
1:0:1727:C:H4'	1:0:2833:C:C2	2.40	0.56
1:0:1825:C:C2'	1:0:1826:U:H5'	2.35	0.56
1:0:128:C:H2'	1:0:129:A:C4'	2.35	0.56
1:0:195:A:N1	1:0:212:U:H4'	2.20	0.56
1:0:929:A:O2'	2:9:101:A:H4'	2.05	0.56
1:0:1333:G:HO2'	1:0:1334:A:H8	1.51	0.56
1:0:2261:G:H5''	1:0:2262:C:O5'	2.04	0.56
1:0:2422:C:H2'	1:0:2423:G:C8	2.40	0.56
1:0:2769:C:H2'	1:0:2770:A:H5'	1.86	0.56
2:9:34:C:C2'	2:9:35:C:H5'	2.35	0.56
1:0:475:U:H2'	1:0:476:G:O4'	2.05	0.56
1:0:577:U:H2'	1:0:579:G:OP2	2.05	0.56
1:0:604:U:H2'	1:0:605:G:C8	2.40	0.56
1:0:831:G:C2'	1:0:832:A:H5''	2.36	0.56
1:0:978:U:H2'	1:0:979:A:C8	2.40	0.56
1:0:1039:A:H61	1:0:1136:G:H2'	1.70	0.56
1:0:1322:G:H21	1:0:1627:C:H5'	1.70	0.56
1:0:1677:C:O2'	1:0:1678:G:H5'	2.04	0.56
1:0:1698:C:O2'	1:0:1753:A:H2'	2.06	0.56
1:0:2266:A:C2	1:0:2268:G:H1'	2.40	0.56
2:9:93:G:H2'	2:9:94:G:C8	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:572:G:OP2	1:0:581:A:H5'	2.06	0.56
1:0:703:A:O2'	1:0:704:G:H5'	2.05	0.56
1:0:1196:G:H2'	1:0:1197:U:H5'	1.87	0.56
1:0:1313:U:H4'	1:0:1314:A:O5'	2.05	0.56
1:0:1374:G:O2'	1:0:2193:C:H1'	2.06	0.56
1:0:1441:A:H2'	1:0:1441:A:N3	2.21	0.56
1:0:2642:G:O2'	1:0:2643:G:H5'	2.06	0.56
1:0:2686:C:H2'	1:0:2687:G:H8	1.70	0.56
1:0:178:C:H2'	1:0:179:U:C6	2.40	0.56
1:0:452:G:H2'	1:0:453:U:O4'	2.06	0.56
1:0:2490:U:H2'	1:0:2491:C:C6	2.40	0.56
1:0:2495:G:H2'	1:0:2496:C:O4'	2.06	0.56
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.56
2:9:34:C:H2'	2:9:35:C:O4'	2.05	0.56
1:0:12:U:H2'	1:0:13:A:O4'	2.05	0.56
1:0:308:C:H2'	1:0:309:G:O4'	2.06	0.56
1:0:653:G:H2'	1:0:654:A:H4'	1.86	0.56
1:0:1095:A:H2'	1:0:1096:A:O4'	2.05	0.56
1:0:1333:G:N2	1:0:1344:C:H41	2.04	0.56
1:0:1430:G:H22	1:0:1599:G:H1'	1.71	0.56
1:0:1826:U:O2'	1:0:1952:A:H2'	2.05	0.56
1:0:2489:C:H41	1:0:2554:C:H42	1.54	0.56
1:0:2633:A:N6	1:0:2646:C:H42	2.04	0.56
1:0:746:G:O6	1:0:774:A:H2'	2.05	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
1:0:1312:G:H5''	1:0:1313:U:H5'	1.86	0.56
1:0:1356:G:H5''	1:0:1614:C:OP2	2.05	0.56
1:0:2105:U:H2'	1:0:2106:G:C8	2.41	0.56
1:0:2549:G:N2	1:0:2550:C:H1'	2.21	0.56
2:9:59:A:H2'	2:9:60:A:H5'	1.87	0.56
2:9:62:C:C4	2:9:63:A:N7	2.74	0.56
1:0:24:G:H2'	1:0:25:U:C6	2.40	0.56
1:0:191:G:O2'	1:0:192:G:H5'	2.06	0.56
1:0:692:C:H2'	1:0:693:A:H8	1.71	0.56
1:0:692:C:H2'	1:0:693:A:C8	2.40	0.56
1:0:719:A:H2'	1:0:720:A:O4'	2.06	0.56
1:0:753:U:H5'	1:0:1775:A:H62	1.69	0.56
1:0:931:G:O2'	1:0:932:G:H5'	2.06	0.56
1:0:1683:G:C2'	1:0:1684:G:H5'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.56
1:0:2425:G:H2'	1:0:2480:C:N4	2.20	0.56
1:0:223:C:O2'	1:0:398:C:H4'	2.06	0.56
1:0:346:C:O2'	1:0:347:C:H5'	2.05	0.56
1:0:871:U:H1'	1:0:2248:A:C5'	2.36	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1323:G:H1'	1:0:1627:C:H5''	1.87	0.56
1:0:1764:A:C2'	1:0:1765:C:H5'	2.35	0.56
1:0:1843:U:H2'	1:0:1844:C:C6	2.41	0.56
1:0:2080:U:H2'	1:0:2081:U:C6	2.41	0.56
1:0:1162:A:H2'	1:0:1163:C:O4'	2.06	0.56
1:0:1245:G:H2'	1:0:1246:G:C8	2.40	0.56
1:0:1594:U:H2'	1:0:1595:A:H8	1.71	0.56
1:0:1763:G:H21	1:0:1765:C:H5''	1.71	0.56
1:0:1953:A:H1'	1:0:1955:G:H1'	1.87	0.56
1:0:2210:C:H2'	1:0:2211:U:O4'	2.06	0.56
1:0:2429:A:H5''	1:0:2476:A:C6	2.41	0.56
1:0:2678:C:H2'	1:0:2679:G:H8	1.69	0.56
1:0:2811:G:H2'	1:0:2812:A:H8	1.71	0.56
2:9:17:A:H1'	2:9:112:A:C8	2.40	0.56
2:9:101:A:H2'	2:9:102:A:C8	2.41	0.56
1:0:337:G:H2'	1:0:338:G:H8	1.71	0.55
1:0:738:G:H2'	1:0:739:G:O4'	2.06	0.55
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
1:0:1439:G:N2	1:0:1590:C:H42	2.04	0.55
1:0:1467:U:H3'	1:0:1468:A:H5'	1.88	0.55
1:0:1865:C:H2'	1:0:1866:G:O4'	2.06	0.55
1:0:868:U:H2'	1:0:869:C:C6	2.41	0.55
1:0:1010:U:H2'	1:0:1011:A:C8	2.41	0.55
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
1:0:2426:G:O6	1:0:2479:U:H2'	2.06	0.55
1:0:2870:C:H2'	1:0:2871:U:H6	1.71	0.55
2:9:32:C:H4'	2:9:60:A:H2	1.70	0.55
1:0:10:A:H2'	1:0:11:G:C8	2.42	0.55
1:0:153:A:H2'	1:0:154:U:C6	2.41	0.55
1:0:826:U:O2'	1:0:1238:A:H1'	2.06	0.55
1:0:990:A:H3'	1:0:991:A:C5'	2.36	0.55
1:0:1038:U:H2'	1:0:1039:A:H8	1.70	0.55
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2618:A:C6	1:0:2619:G:H1'	2.41	0.55
1:0:216:U:H2'	1:0:217:U:O4'	2.06	0.55
1:0:831:G:H2'	1:0:832:A:H5''	1.87	0.55
1:0:839:U:C4	1:0:841:G:H1'	2.41	0.55
1:0:929:A:H3'	1:0:930:A:C5'	2.30	0.55
1:0:1782:A:N6	1:0:1820:G:H2'	2.21	0.55
1:0:2803:C:O2'	1:0:2804:G:H5'	2.06	0.55
1:0:813:A:O2'	1:0:815:A:H5'	2.06	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
1:0:1785:A:H2'	1:0:1786:C:H6	1.71	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.71	0.55
1:0:820:U:H2'	1:0:821:A:C8	2.41	0.55
1:0:2404:A:P	1:0:2406:C:H5'	2.47	0.55
1:0:2636:A:H62	1:0:2643:G:N2	1.99	0.55
1:0:677:G:H4'	1:0:952:A:P	2.46	0.55
1:0:929:A:HO2'	2:9:101:A:H4'	1.72	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
1:0:243:G:H2'	1:0:244:C:O4'	2.07	0.55
1:0:2058:U:H4'	1:0:2575:U:O2	2.07	0.55
1:0:2276:C:O2'	1:0:2277:A:H5'	2.05	0.55
1:0:38:G:H1	1:0:453:U:H3	1.53	0.55
1:0:788:G:C2	1:0:800:U:H2'	2.42	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.88	0.55
1:0:2642:G:H2'	1:0:2643:G:O4'	2.05	0.55
1:0:162:C:H2'	1:0:163:A:H8	1.69	0.55
1:0:192:G:C1'	1:0:193:A:H4'	2.37	0.55
1:0:330:C:C2'	1:0:331:U:H5'	2.36	0.55
1:0:514:G:N3	1:0:514:G:H2'	2.22	0.55
1:0:824:U:H2'	1:0:825:C:H5''	1.89	0.55
1:0:1500:U:H3	1:0:1520:G:H22	1.55	0.55
1:0:1861:G:O2'	1:0:1862:C:H5'	2.07	0.55
1:0:2770:A:H4'	1:0:2867:G:N2	2.21	0.55
2:9:42:U:H2'	2:9:45:C:N4	2.16	0.55
1:0:591:G:H2'	1:0:592:G:H8	1.71	0.54
1:0:785:U:H5'	1:0:1368:G:O2'	2.07	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
1:0:2756:A:N6	1:0:2762:G:H1'	2.21	0.54
1:0:225:G:C5'	1:0:226:C:H5'	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:0:1040:A:C2'	1:0:1041:G:H5'	2.36	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
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.54
1:0:2083:G:H2'	1:0:2084:G:H8	1.73	0.54
1:0:2195:C:H2'	1:0:2196:U:H5'	1.87	0.54
1:0:2830:U:H2'	1:0:2831:A:H8	1.73	0.54
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.54
1:0:2855:C:O2'	1:0:2856:U:H5'	2.07	0.54
1:0:213:C:H42	1:0:238:G:H1	1.54	0.54
1:0:2544:A:H2'	1:0:2545:A:H1'	1.89	0.54
1:0:2633:A:H61	1:0:2646:C:H42	1.55	0.54
1:0:477:A:H2'	1:0:478:G:H5'	1.90	0.54
1:0:536:A:C2	1:0:2605:C:H1'	2.42	0.54
1:0:964:A:H2'	1:0:965:G:C8	2.40	0.54
1:0:1065:A:H2'	1:0:1066:G:C8	2.42	0.54
1:0:1125:G:O2'	1:0:1126:A:H5'	2.07	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
1:0:1837:G:H2'	1:0:1838:G:C8	2.42	0.54
1:0:2565:C:H4'	1:0:2566:A:C5'	2.38	0.54
32:0:2881:ZIT:H6B2	32:0:2881:ZIT:H6A3	1.87	0.54
1:0:1124:U:H2'	1:0:1125:G:H8	1.73	0.54
1:0:1531:C:H2'	1:0:1532:A:H5'	1.89	0.54
1:0:2369:U:H2'	1:0:2370:G:C8	2.43	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
1:0:36:G:C1'	1:0:462:G:H21	2.20	0.54
1:0:319:G:H1'	1:0:511:A:O4'	2.07	0.54
1:0:575:U:H2'	1:0:576:A:C8	2.43	0.54
1:0:671:A:H2'	1:0:672:C:C6	2.43	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
1:0:2618:A:C2	1:0:2619:G:H1'	2.43	0.54
1:0:338:G:O2'	1:0:339:U:H5'	2.08	0.54
1:0:616:U:H2'	1:0:617:U:C5'	2.34	0.54
1:0:1451:C:H2'	1:0:1452:U:C6	2.43	0.54
1:0:2447:G:N2	1:0:2460:G:H2'	2.20	0.54
1:0:504:G:O2'	1:0:505:G:H5'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:659:G:H2'	1:0:660:G:H8	1.72	0.54
1:0:1854:G:H2'	1:0:1855:G:H8	1.72	0.54
1:0:1998:A:H2'	1:0:1999:U:H5'	1.88	0.54
1:0:2015:G:N3	1:0:2015:G:H2'	2.21	0.54
1:0:2759:U:O5'	1:0:2759:U:H6	1.90	0.54
1:0:687:G:O2'	1:0:688:A:H5'	2.07	0.54
1:0:1392:U:C2'	1:0:1393:G:H5'	2.38	0.54
1:0:1440:G:H3'	1:0:1441:A:H5'	1.90	0.54
1:0:1482:U:H2'	1:0:1483:G:H8	1.73	0.54
1:0:1685:A:H1'	1:0:1686:A:C2	2.43	0.54
1:0:2685:A:H4'	1:0:2826:C:H4'	1.90	0.54
1:0:2783:U:H2'	1:0:2784:A:O4'	2.08	0.54
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.54
1:0:586:G:OP1	1:0:2481:G:H2'	2.08	0.54
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.54
1:0:1374:G:N2	1:0:1384:G:H1'	2.23	0.54
1:0:153:A:H2'	1:0:154:U:C5	2.44	0.53
1:0:1602:G:O3'	1:0:1603:A:H8	1.91	0.53
1:0:2426:G:H22	1:0:2431:C:H41	1.53	0.53
1:0:66:U:H2'	1:0:67:G:H8	1.72	0.53
1:0:215:G:N2	1:0:632:A:H8	2.04	0.53
1:0:239:A:C2	1:0:443:A:H1'	2.43	0.53
1:0:635:C:C2'	1:0:636:G:H5''	2.36	0.53
1:0:968:C:N4	1:0:970:A:H1'	2.24	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:1748:U:N3	1:0:1753:A:H2	2.01	0.53
1:0:1962:C:O2'	1:0:1963:G:H5'	2.07	0.53
1:0:2321:C:C2'	1:0:2322:U:H5'	2.38	0.53
1:0:94:C:H2'	1:0:95:G:O4'	2.09	0.53
1:0:139:A:H2'	1:0:140:G:C8	2.43	0.53
1:0:242:A:O2'	1:0:243:G:O4'	2.27	0.53
1:0:755:C:H1'	1:0:1693:A:H4'	1.90	0.53
1:0:1739:G:H2'	1:0:1740:G:H8	1.74	0.53
1:0:1915:A:H2'	1:0:1916:G:O4'	2.09	0.53
1:0:2343:C:H2'	1:0:2344:G:O4'	2.08	0.53
1:0:2395:C:C2'	1:0:2396:C:H5''	2.39	0.53
1:0:2640:G:H2'	1:0:2641:A:C8	2.44	0.53
1:0:15:G:N2	1:0:2027:C:O2'	2.41	0.53
1:0:202:A:O2'	1:0:234:C:H4'	2.09	0.53
1:0:1337:G:H1'	1:0:1632:A:N6	2.24	0.53
1:0:1669: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)
1:0:1684:G:H2'	1:0:1974:U:O4	2.07	0.53
1:0:2546:G:H2'	1:0:2547:C:C6	2.43	0.53
1:0:2607:C:H3'	1:0:2608:A:C5'	2.38	0.53
1:0:159:A:O2'	1:0:160:C:H5'	2.08	0.53
1:0:1196:G:H2'	1:0:1197:U:C4'	2.38	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53
1:0:2026:C:H2'	1:0:2027:C:H6	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
1:0:13:A:H1'	1:0:536:A:H62	1.72	0.53
1:0:475:U:O4	1:0:801:A:C5	2.62	0.53
1:0:1137:A:H5''	1:0:1138:A:OP1	2.09	0.53
1:0:1683:G:H2'	1:0:1684:G:H5'	1.91	0.53
1:0:1871:G:H2'	1:0:1871:G:N3	2.24	0.53
1:0:2592:U:H2'	1:0:2593:A:H5'	1.90	0.53
1:0:651:C:C3'	1:0:652:C:H5''	2.39	0.53
1:0:1196:G:H2'	1:0:1197:U:C5'	2.38	0.53
1:0:1323:G:H1'	1:0:1627:C:C5'	2.39	0.53
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
2:9:85:G:C2'	2:9:86:A:H5'	2.38	0.53
1:0:584:A:O2'	1:0:585:U:H5'	2.08	0.53
1:0:1380:C:C2'	1:0:1381:G:H5'	2.39	0.53
1:0:1418:C:H2'	1:0:1419:G:C8	2.43	0.53
1:0:1514:C:H5'	1:0:1593:C:H5''	1.91	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
1:0:1943:A:C2'	1:0:1944:C:H5'	2.39	0.53
1:0:2324:G:C4'	1:0:2326:C:H5''	2.37	0.53
1:0:2733:A:O2'	1:0:2734:U:H5'	2.09	0.53
1:0:586:G:H5'	1:0:2481:G:C2	2.44	0.53
1:0:1102:G:H2'	1:0:1103:C:H6	1.74	0.53
1:0:1268:U:C5	5:C:67:ALA:CA	2.92	0.53
1:0:1429:A:N6	1:0:1601:U:H5''	2.23	0.53
1:0:1830:C:N4	1:0:1881:U:H3'	2.24	0.53
1:0:1872:A:H1'	1:0:2070:G:H5'	1.91	0.53
1:0:1917:C:H2'	1:0:1918:G:O4'	2.09	0.53
1:0:2383:C:H2'	1:0:2384:G:O4'	2.09	0.53
1:0:2407:G:H5'	1:0:2408:G:C2	2.44	0.53
1:0:9:U:H3	1:0:2608:A:H62	1.57	0.52
1:0:193:A:H2'	1:0:194:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:294:U:H2'	1:0:295:C:C6	2.44	0.52
1:0:1459:U:O5'	1:0:1459:U:H6	1.91	0.52
1:0:1571:G:H3'	1:0:1571:G:OP2	2.08	0.52
1:0:1811:A:O2'	1:0:1812:U:H5''	2.09	0.52
1:0:1999:U:H2'	1:0:2000:U:O4'	2.09	0.52
1:0:2021:G:H2'	1:0:2022:C:C6	2.43	0.52
1:0:2026:C:H2'	1:0:2027:C:C6	2.44	0.52
1:0:2377:U:H2'	1:0:2378:G:H8	1.74	0.52
1:0:2627:G:H2'	1:0:2628:C:O4'	2.09	0.52
1:0:2662:C:H42	1:0:2707:G:H21	1.56	0.52
2:9:23:G:C6	2:9:24:U:C4	2.98	0.52
1:0:76:C:H2'	1:0:77:C:C6	2.43	0.52
1:0:246:C:H42	1:0:247:A:H62	1.56	0.52
1:0:543:G:H2'	1:0:544:U:C6	2.45	0.52
1:0:726:G:H2'	1:0:727:U:O4'	2.08	0.52
1:0:852:U:H6	1:0:852:U:O5'	1.92	0.52
1:0:876:A:H4'	2:9:103:A:N3	2.24	0.52
1:0:1558:C:H2'	1:0:1559:G:H5'	1.90	0.52
1:0:1680:U:O2'	1:0:1681:A:H5''	2.09	0.52
1:0:1814:G:H2'	1:0:1815:G:C8	2.45	0.52
2:9:72:C:H2'	2:9:73:C:O4'	2.10	0.52
1:0:167:A:N6	1:0:812:G:O2'	2.35	0.52
1:0:932:G:H2'	1:0:933:G:O4'	2.08	0.52
1:0:1371:G:H1'	1:0:1386:A:H62	1.74	0.52
1:0:1886:G:H2'	1:0:1887:G:C8	2.36	0.52
1:0:2617:G:HO2'	1:0:2618:A:H8	1.55	0.52
1:0:2825:A:H2'	1:0:2826:C:C6	2.45	0.52
1:0:1166:A:C3'	1:0:1167:A:H5''	2.40	0.52
1:0:1313:U:H5'	1:0:1314:A:N3	2.25	0.52
1:0:1316:G:H8	1:0:1316:G:OP2	1.93	0.52
1:0:2029:G:H2'	1:0:2030:U:C6	2.43	0.52
1:0:2633:A:N6	1:0:2646:C:N4	2.55	0.52
1:0:837:U:H2'	1:0:838:A:C8	2.45	0.52
1:0:887:G:O2'	1:0:888:G:H5'	2.10	0.52
1:0:1661:C:H2'	1:0:1662:G:C8	2.44	0.52
1:0:2327:U:H2'	1:0:2328:G:H8	1.74	0.52
1:0:2424:G:H2'	1:0:2425:G:O4'	2.10	0.52
2:9:41:A:H8	2:9:41:A:O5'	1.93	0.52
1:0:8:A:H2'	1:0:9:U:C6	2.44	0.52
1:0:10:A:H2'	1:0:11:G:H8	1.74	0.52
1:0:482:A:O2'	1:0:483:A:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1204:G:H2'	1:0:1205:G:H8	1.74	0.52
1:0:1835:C:H2'	1:0:1836:C:C6	2.45	0.52
1:0:1994:U:C2'	1:0:1995:G:H5'	2.40	0.52
1:0:2429:A:OP1	1:0:2476:A:H2'	2.09	0.52
1:0:2599:U:H2'	1:0:2600:A:C5'	2.30	0.52
1:0:2633:A:H4'	1:0:2634:G:O5'	2.09	0.52
1:0:93:A:O2'	1:0:94:C:H5'	2.09	0.52
1:0:2324:G:N2	1:0:2361:G:C4	2.78	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:2487:G:O3'	1:0:2534:U:H5'	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
1:0:152:G:H2'	1:0:153:A:O4'	2.09	0.52
1:0:929:A:H8	1:0:2247:A:H61	1.56	0.52
1:0:1556:A:H2'	1:0:1557:G:H8	1.75	0.52
1:0:2169:A:C2'	1:0:2170:C:H5'	2.40	0.52
1:0:2169:A:O2'	1:0:2170:C:H5'	2.10	0.52
1:0:2363:G:H5''	1:0:2365:U:OP1	2.10	0.52
1:0:2705:A:O2'	1:0:2706:U:C6	2.60	0.52
1:0:696:U:O5'	1:0:696:U:H6	1.93	0.52
1:0:847:C:H2'	1:0:848:A:H8	1.74	0.52
1:0:1036:G:H1'	1:0:1145:C:O4'	2.09	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
1:0:41:G:H2'	1:0:42:G:H8	1.75	0.52
1:0:174:A:H4'	1:0:2052:G:OP2	2.10	0.52
1:0:202:A:C2	1:0:203:G:H1'	2.45	0.52
1:0:362:C:C4	1:0:363:G:H1'	2.45	0.52
1:0:1039:A:N6	1:0:1136:G:H2'	2.25	0.52
1:0:1288:A:H62	1:0:1309:G:H4'	1.75	0.52
1:0:1912:G:H3'	1:0:1912:G:N3	2.25	0.52
1:0:2324:G:N3	1:0:2326:C:H5	2.08	0.52
1:0:389:G:H2'	1:0:390:U:C6	2.44	0.51
1:0:608:G:H2'	1:0:609:U:C6	2.45	0.51
1:0:1083:C:H42	1:0:1103:C:H41	1.56	0.51
1:0:1151:U:H5''	1:0:1153:A:OP1	2.10	0.51
1:0:1416:A:O2'	1:0:1417:C:H5'	2.10	0.51
1:0:1485:U:H2'	1:0:1486:A:C8	2.45	0.51
1:0:1491:C:H2'	1:0:1492:A:H8	1.75	0.51
1:0:1843:U:H2'	1:0:1844:C:H6	1.74	0.51
1:0:1996:A:O2'	1:0:1997:A:H5'	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2265:A:H5''	1:0:2266:A:O4'	2.10	0.51
1:0:2492:G:H1	1:0:2550:C:N4	2.04	0.51
1:0:35:G:O4'	1:0:466:A:H1'	2.10	0.51
1:0:922:A:H62	13:K:17:ARG:CA	2.24	0.51
1:0:978:U:H2'	1:0:979:A:H8	1.76	0.51
1:0:1272:G:H2'	1:0:1273:G:H8	1.76	0.51
1:0:2035:G:H2'	1:0:2036:G:C8	2.46	0.51
1:0:2353:G:H2'	1:0:2354:G:C8	2.46	0.51
2:9:116:C:H2'	2:9:117:G:O4'	2.10	0.51
1:0:95:G:H2'	1:0:96:C:C6	2.46	0.51
1:0:174:A:C2	1:0:2413:A:N6	2.78	0.51
1:0:583:C:O2'	1:0:584:A:OP2	2.27	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
1:0:1944:C:H2'	1:0:1945:C:O4'	2.10	0.51
1:0:2541:U:H2'	1:0:2542:U:O4'	2.10	0.51
1:0:2560:G:H2'	1:0:2561:G:C8	2.45	0.51
1:0:430:C:H2'	1:0:431:G:C8	2.45	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
1:0:2717:G:H2'	1:0:2718:A:H8	1.75	0.51
1:0:119:G:H1'	1:0:129:A:C2	2.45	0.51
1:0:300:C:H2'	1:0:301:C:H5'	1.92	0.51
1:0:484:G:O2'	1:0:485:G: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
1:0:782:U:H2'	1:0:783:G:H8	1.72	0.51
1:0:1010:U:H2'	1:0:1011:A:H8	1.76	0.51
1:0:1692:C:H2'	1:0:1693:A:H5'	1.91	0.51
1:0:2035:G:H2'	1:0:2036:G:H8	1.75	0.51
1:0:2301:A:H2'	1:0:2302:G:O4'	2.11	0.51
2:9:78:A:H2'	2:9:79:U:H6	1.73	0.51
1:0:859:U:H4'	1:0:860:U:C5	2.46	0.51
1:0:931:G:C2'	1:0:932:G:H5'	2.40	0.51
1:0:1241:G:O2'	1:0:1242:A:H5'	2.10	0.51
1:0:1714:A:H3'	1:0:1715:A:C8	2.45	0.51
1:0:2503:G:C3'	1:0:2504:G:H5''	2.40	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
1:0:15:G:H2'	1:0:16:G:H5'	1.93	0.51
1:0:29:U:H2'	1:0:30:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:103:U:H2'	1:0:104:C:H6	1.72	0.51
1:0:579:G:H2'	1:0:2013:A:N7	2.25	0.51
1:0:773:G:C2'	1:0:774:A:H5'	2.41	0.51
1:0:781:G:H5'	1:0:1638:G:H4'	1.93	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
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:984:A:H2	1:0:1200:G:H1	1.57	0.51
1:0:1540:C:O2'	1:0:1541:G:H5'	2.10	0.51
1:0:1579:G:H2'	1:0:1580:C:C6	2.45	0.51
1:0:1856:U:H2'	1:0:1857:G:O4'	2.11	0.51
2:9:42:U:C2	2:9:45:C:C5	2.99	0.51
1:0:1818:G:H2'	1:0:1819:U:C6	2.46	0.51
1:0:2613:A:O2'	1:0:2614:A:H5'	2.10	0.51
1:0:952:A:O2'	1:0:1204:G:H4'	2.11	0.51
1:0:1218:C:H2'	1:0:1219:C:O4'	2.10	0.51
1:0:1227:A:H4'	1:0:1252:C:H4'	1.93	0.51
1:0:1590:C:O5'	1:0:1590:C:H6	1.94	0.51
1:0:1611:U:H2'	1:0:1612:U:O4'	2.10	0.51
1:0:1790:G:C8	1:0:1811:A:N6	2.79	0.51
1:0:2053:G:H2'	1:0:2054:A:C8	2.46	0.51
1:0:2076:G:H2'	1:0:2077:G:C8	2.46	0.51
1:0:2408:G:H3'	1:0:2409:A:C5'	2.41	0.51
1:0:2487:G:H2'	1:0:2488:G:C8	2.45	0.51
2:9:6:C:H2'	2:9:7:C:H6	1.72	0.51
2:9:26:G:N7	2:9:58:G:C4	2.78	0.51
2:9:71:G:C2'	2:9:72:C:H5'	2.41	0.51
1:0:612:G:H4'	1:0:613:A:O2'	2.10	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.45	0.51
1:0:1592:U:O5'	1:0:1592:U:H6	1.94	0.51
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.51
1:0:2246:A:H2'	1:0:2246:A:N3	2.26	0.51
1:0:2870:C:H2'	1:0:2871:U:C6	2.46	0.51
2:9:4:C:H2'	2:9:5:C:C5	2.43	0.51
1:0:753:U:H5'	1:0:1775:A:N6	2.26	0.50
1:0:974:U:H5'	1:0:2476:A:OP1	2.11	0.50
1:0:1000:G:P	1:0:1168:G:H4'	2.51	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
1:0:1457:A:O2'	1:0:1458:A:H5'	2.11	0.50
32:0:2882:ZIT:H6B2	32:0:2882:ZIT:H6A3	1.88	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:1066:G:H3'	1:0:1067:G:H5''	1.93	0.50
1:0:1226:A:H2'	1:0:1227:A:C8	2.46	0.50
2:9:50:U:H2'	2:9:51:G:C8	2.45	0.50
1:0:37:C:H4'	1:0:463:C:OP1	2.12	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
1:0:636:G:H2'	1:0:637:G:H5'	1.94	0.50
1:0:1770:U:H2'	1:0:1774:A:H62	1.77	0.50
1:0:2160:C:H2'	1:0:2161:C:C6	2.47	0.50
1:0:2268:G:H5''	1:0:2363:G:HO2'	1.76	0.50
1:0:2651:U:O2'	1:0:2652:G:H5'	2.12	0.50
1:0:2751:C:H2'	1:0:2752:C:H6	1.75	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
1:0:502: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
1:0:685:U:O2'	1:0:686:C:H5'	2.11	0.50
1:0:790:A:O2'	1:0:791:G:H5'	2.10	0.50
1:0:1411:C:H2'	1:0:1412:C:H6	1.75	0.50
1:0:1624:A:H2'	1:0:1625:A:H5'	1.94	0.50
1:0:2770:A:C5'	1:0:2867:G:H22	2.25	0.50
1:0:2772:U:O2'	1:0:2773:G:H5'	2.11	0.50
1:0:630:G:H8	1:0:630:G:O5'	1.94	0.50
1:0:923:A:H2'	1:0:923:A:N3	2.26	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
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.50
1:0:2238:G:H1'	1:0:2406:C:C2	2.47	0.50
1:0:2458:U:OP1	1:0:2516:U:H1'	2.12	0.50
1:0:2546:G:H2'	1:0:2547:C:H6	1.76	0.50
2:9:111:C:H5''	2:9:112:A:H4'	1.93	0.50
1:0:174:A:H4'	1:0:2051:U:H2'	1.93	0.50
1:0:860:U:H2'	1:0:860:U:O2	2.11	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
1:0:1625: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
1:0:2717:G:H2'	1:0:2718:A:C8	2.46	0.50
2:9:29:C:H2'	2:9:30:C:C5	2.45	0.50
1:0:41:G:O2'	1:0:42:G:H5'	2.12	0.50
1:0:75:C:H2'	1:0:76:C:C5'	2.33	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:0:1287:A:N1	1:0:1661:C:O2'	2.40	0.50
1:0:1313:U:H4'	1:0:1314:A:O4'	2.11	0.50
1:0:1430:G:H2'	1:0:1431:U:C6	2.47	0.50
1:0:1514:C:H2'	1:0:1515:U:O4'	2.11	0.50
1:0:1594:U:H2'	1:0:1595:A:C8	2.47	0.50
1:0:2341:G:O2'	1:0:2342:U:H5'	2.12	0.50
1:0:2609:G:N2	1:0:2866:A:H2	2.09	0.50
1:0:14:A:C2	1:0:2604:G:O2'	2.65	0.50
1:0:73:A:N3	1:0:73:A:H5''	2.26	0.50
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.50
1:0:509:U:H3	1:0:513:A:N6	2.09	0.50
1:0:597:U:H2'	1:0:598:U:C6	2.46	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
1:0:1440:G:H3'	1:0:1441:A:C5'	2.41	0.50
1:0:2170:C:H2'	1:0:2171:U:O4'	2.12	0.50
1:0:18:U:O2'	1:0:563:U:H5''	2.12	0.50
1:0:611:C:O2'	1:0:614:G:H5''	2.12	0.50
1:0:1333:G:O2'	1:0:1334:A:H8	1.95	0.50
1:0:1399:C:H2'	1:0:1400:A:C8	2.47	0.50
1:0:1429:A:H1'	1:0:1603:A:C6	2.46	0.50
1:0:1982:C:H5''	1:0:2703:C:O2'	2.12	0.50
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.50
2:9:105:G:C2	2:9:106:U:C4	2.99	0.50
1:0:221:A:H2'	1:0:222:G:H5'	1.94	0.49
1:0:337:G:H2'	1:0:338:G:C8	2.47	0.49
1:0:765:C:O2'	1:0:766:A:O4'	2.30	0.49
1:0:1310:C:OP1	1:0:2689:C:H4'	2.11	0.49
1:0:1315:A:H5''	1:0:1316:G:OP1	2.11	0.49
1:0:1353:A:H5''	1:0:1354:A:N7	2.26	0.49
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.49
1:0:541:C:N4	1:0:572:G:H8	2.06	0.49
1:0:681:A:N6	1:0:683:A:H2'	2.27	0.49
1:0:956:A:C6	1:0:2427:A:H1'	2.47	0.49
1:0:1058:G:H2'	1:0:1121:G:H1	1.77	0.49
1:0:1872:A:H2'	1:0:1873:A:H8	1.77	0.49
1:0:2052:G:O2'	1:0:2053:G:H5'	2.12	0.49
1:0:2195:C:C2'	1:0:2196:U:H5'	2.42	0.49
1:0:2680:U:H3'	1:0:2681:A:H5'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:329:C:O2'	1:0:330:C:H5'	2.11	0.49
1:0:1001:A:C3'	1:0:1002:C:H5''	2.42	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
1:0:2733:A:H2'	1:0:2734:U:O4'	2.11	0.49
2:9:104:A:C2	2:9:105:G:H1'	2.47	0.49
1:0:212:U:O2'	1:0:213:C:H5'	2.12	0.49
1:0:1345:G:H5''	1:0:1346:C:OP1	2.12	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
1:0:2598:C:H2'	1:0:2599:U:H6	1.77	0.49
1:0:2764:U:H2'	1:0:2765:C:H6	1.75	0.49
2:9:111:C:H5''	2:9:112:A:C5'	2.42	0.49
1:0:228:A:C5	1:0:229:G:H1'	2.47	0.49
1:0:242:A:N6	1:0:441:A:N7	2.60	0.49
1:0:298:C:H2'	1:0:299:C:H6	1.78	0.49
1:0:474:G:N2	1:0:476:G:H3'	2.27	0.49
1:0:701:U:O2'	1:0:702:A:H5'	2.13	0.49
1:0:1073:G:H2'	1:0:1074:G:C4'	2.29	0.49
1:0:1284:G:C2	1:0:1633:C:H5'	2.47	0.49
1:0:1703:C:H2'	1:0:1704:G:O4'	2.12	0.49
1:0:1807:A:H1'	1:0:1809:G:N7	2.27	0.49
1:0:1979:C:H6	1:0:1979:C:OP1	1.95	0.49
1:0:2196:U:H2'	1:0:2197:U:C6	2.47	0.49
1:0:298:C:H2'	1:0:299:C:C6	2.46	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
1:0:1380:C:H2'	1:0:1381:G:H5'	1.95	0.49
1:0:1479:G:N2	1:0:1543:G:H21	2.11	0.49
1:0:1534:A:O2'	1:0:1535:C:H5'	2.12	0.49
1:0:2431:C:O2'	1:0:2432:A:H5'	2.12	0.49
1:0:2544:A:H2'	1:0:2545:A:C1'	2.42	0.49
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.49
1:0:29:U:O5'	1:0:29:U:H6	1.96	0.49
1:0:45:C:H2'	1:0:46:C:C6	2.48	0.49
1:0:79:G:H2'	1:0:80:A:C8	2.46	0.49
1:0:443:A:O2'	1:0:444:U:H5'	2.12	0.49
1:0:749:C:H2'	1:0:750:C:O4'	2.12	0.49
1:0:956:A:N7	1:0:2427:A:C2	2.81	0.49
1:0:1212:U:H2'	1:0:1213:U:C6	2.48	0.49
1:0:1730:G:H2'	1:0:1731:C:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1821:A:H5''	1:0:1822:C:C5	2.47	0.49
1:0:1936:A:O2'	1:0:2538:C:H1'	2.13	0.49
1:0:1980:A:O2'	1:0:1981:A:H5'	2.13	0.49
2:9:59:A:C4	6:D:27:ALA:CA	2.94	0.49
2:9:116:C:O2'	15:M:50:THR:CA	2.60	0.49
1:0:132:U:H2'	1:0:133:C:C6	2.48	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.13	0.49
1:0:585:U:O2'	1:0:2481:G:C6	2.65	0.49
1:0:1687:C:H1'	1:0:1976:U:O2	2.13	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
1:0:333:A:O2'	1:0:350:U:H2'	2.12	0.49
1:0:583:C:O2'	1:0:584:A:P	2.71	0.49
1:0:605:G:H2'	1:0:606:A:C8	2.48	0.49
1:0:931:G:C5'	2:9:83:C:H1'	2.43	0.49
1:0:1429:A:H61	1:0:1602:G:H5'	1.78	0.49
1:0:1811:A:H2'	1:0:1811:A:N3	2.27	0.49
1:0:1888:C:H2'	1:0:1913:G:C5	2.48	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
1:0:2523:G:H1'	1:0:2625:U:C5'	2.42	0.49
1:0:2742:G:O2'	1:0:2743:G:H5'	2.13	0.49
2:9:23:G:C2	2:9:24:U:C2	3.01	0.49
2:9:28:A:H3'	2:9:29:C:C6	2.43	0.49
1:0:446:C:H2'	1:0:447:U:O4'	2.13	0.49
1:0:1073: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
1:0:1341:G:H2'	1:0:1343:C:C5	2.48	0.49
1:0:2010:G:H2'	1:0:2011:U:C6	2.48	0.49
2:9:36:A:H8	2:9:36:A:O5'	1.96	0.49
1:0:220:U:H2'	1:0:221:A:H8	1.78	0.48
1:0:1482:U:H2'	1:0:1483:G:C8	2.48	0.48
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.48
1:0:2565:C:H4'	1:0:2566:A:OP1	2.12	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
1:0:764:A:N6	32:0:2882:ZIT:H92	2.28	0.48
1:0:870:C:H2'	1:0:871:U:H6	1.77	0.48
1:0:1347:C:O2'	1:0:1348:C:H5'	2.12	0.48
1:0:2572:U:H2'	1:0:2573:C:H6	1.78	0.48
1:0:2761:A:C5'	1:0:2762:G:H5'	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:71:G:H2'	2:9:72:C:H5'	1.95	0.48
2:9:89:G:N2	2:9:91:A:C8	2.81	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:612:G:H4'	1:0:613:A:H4'	1.94	0.48
1:0:956:A:C5	1:0:2427:A:N3	2.82	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.96	0.48
1:0:1940:C:H2'	1:0:1941:C:C6	2.48	0.48
1:0:80:A:H2'	1:0:81:C:C6	2.48	0.48
1:0:388:G:O2'	1:0:389:G:H5'	2.13	0.48
1:0:777:A:N6	1:0:1767:G:H1'	2.27	0.48
1:0:974:U:H2'	1:0:975:C:C6	2.47	0.48
1:0:1087:C:H2'	1:0:1088:A:O4'	2.13	0.48
1:0:1622:G:H4'	1:0:1624:A:N3	2.29	0.48
1:0:1791:C:H2'	1:0:1792:C:C5'	2.37	0.48
1:0:2059:U:H2'	1:0:2060:A:C5'	2.36	0.48
1:0:2117:A:H62	1:0:2139:G:H21	1.61	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
2:9:63:A:H2'	2:9:64:C:C6	2.47	0.48
2:9:107:C:H3'	2:9:107:C:C6	2.47	0.48
1:0:805:G:N7	1:0:2419:C:H1'	2.29	0.48
1:0:814:G:H3'	1:0:815:A:C5'	2.43	0.48
1:0:837:U:H2'	1:0:838:A:H8	1.77	0.48
1:0:1424:U:H2'	1:0:1425:G:H8	1.78	0.48
1:0:2217:G:H3'	1:0:2217:G:N3	2.28	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.95	0.48
1:0:2508:G:H5''	1:0:2509:A:H5''	1.95	0.48
1:0:117:A:H5'	1:0:118:U:O5'	2.14	0.48
1:0:322:A:H1'	1:0:343:A:C5	2.49	0.48
1:0:347:C:H2'	1:0:348:U:O4'	2.14	0.48
1:0:702:A:N3	1:0:792:U:H1'	2.28	0.48
1:0:843:G:H8	1:0:843:G:OP1	1.96	0.48
1:0:990:A:H3'	1:0:991:A:H5''	1.96	0.48
1:0:1023:U:H1'	1:0:1154:A:C8	2.48	0.48
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.48
1:0:1339:U:O4	1:0:1664:G:H1'	2.14	0.48
1:0:1402:G:H2'	1:0:1403:U:O4'	2.13	0.48
1:0:1432:G:N2	1:0:1596:A:H62	1.95	0.48
1:0:1626:A:C8	1:0:1626:A:OP2	2.66	0.48
1:0:1955:G:H2'	1:0:1956:G:H5'	1.94	0.48
1:0:2468:G:H2'	1:0:2469:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2469:G:H4'	1:0:2470:U:H5	1.77	0.48
1:0:2712:G:H5'	1:0:2713:A:C8	2.49	0.48
1:0:2795:A:N3	1:0:2795:A:H2'	2.28	0.48
2:9:85:G:O2'	2:9:86:A:H5'	2.13	0.48
1:0:195:A:H2'	1:0:196:A:O4'	2.14	0.48
1:0:539:A:H62	1:0:2024:U:H3	1.61	0.48
1:0:717:G:H1'	1:0:740:A:H61	1.79	0.48
1:0:1001:A:H62	1:0:1200:G:H1'	1.79	0.48
1:0:1307:U:H2'	1:0:1308:C:O4'	2.13	0.48
1:0:1442:C:N4	1:0:1585:A:C8	2.82	0.48
1:0:2011:U:H2'	1:0:2012:A:H8	1.79	0.48
1:0:2093:G:H2'	1:0:2094:C:C6	2.49	0.48
1:0:2447:G:H8	1:0:2447:G:O5'	1.96	0.48
1:0:2820:C:H2'	1:0:2821:G:H8	1.78	0.48
2:9:32:C:H4'	2:9:60:A:C2	2.47	0.48
2:9:91:A:H8	2:9:91:A:O5'	1.97	0.48
1:0:242:A:O2'	1:0:243:G:P	2.72	0.48
1:0:486:U:C4'	1:0:520:C:H5'	2.43	0.48
1:0:581:A:N3	1:0:582:G:H1'	2.28	0.48
1:0:657:A:H8	1:0:657:A:O5'	1.96	0.48
1:0:781:G:H2'	1:0:782:U:O4'	2.13	0.48
1:0:860:U:H2'	1:0:861:G:H5'	1.95	0.48
1:0:942:U:H2'	1:0:943:U:O4'	2.14	0.48
1:0:1327:C:OP1	1:0:1345:G:H5'	2.14	0.48
1:0:1458:A:C3'	1:0:1459:U:H5''	2.38	0.48
1:0:1461:C:H2'	1:0:1462:C:C6	2.49	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
1:0:13:A:O2'	1:0:14:A:C2	2.67	0.48
1:0:614:G:H2'	1:0:615:C:C6	2.47	0.48
1:0:788:G:H5'	1:0:790:A:N3	2.29	0.48
1:0:788:G:H5''	1:0:790:A:H1'	1.95	0.48
1:0:995:A:H5''	1:0:996:C:C5	2.47	0.48
1:0:1226:A:N1	1:0:1250:A:H1'	2.29	0.48
1:0:1740:G:O2'	1:0:1741:G:H5'	2.14	0.48
1:0:1969:G:O2'	1:0:1970:G:H5'	2.14	0.48
1:0:2117:A:N6	1:0:2139:G:H21	2.11	0.48
1:0:2426:G:N2	1:0:2431:C:H41	2.11	0.48
1:0:2810:A:H2	1:0:2853:U:C5	2.31	0.48
1:0:15:G:C2'	1:0:16:G:H5'	2.44	0.48
1:0:353:G:H2'	1:0:354:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:562:G:H2'	1:0:563:U:O4'	2.14	0.48
1:0:585:U:H2'	1:0:586:G:H8	1.76	0.48
1:0:915:C:H2'	1:0:916:U:C6	2.49	0.48
1:0:953:G:H1'	1:0:1203:A:C2	2.42	0.48
1:0:1066:G:H3'	1:0:1067:G:C5'	2.44	0.48
1:0:1139:A:H1'	1:0:2496:C:H5'	1.96	0.48
1:0:1162:A:O2'	1:0:1163:C:H5'	2.13	0.48
1:0:1425:G:H2'	1:0:1426:U:C6	2.49	0.48
1:0:1721:G:O2'	1:0:1722:G:H5'	2.13	0.48
1:0:1858:C:H2'	1:0:1859:A:H8	1.79	0.48
1:0:1906:U:H2'	1:0:1907:C:C6	2.49	0.48
1:0:2038:C:H5'	1:0:2039:G:H5''	1.96	0.48
1:0:2480:C:H4'	1:0:2482:A:H4'	1.94	0.48
1:0:2665:G:H2'	1:0:2666:U:O4'	2.14	0.48
2:9:42:U:H3'	2:9:43:G:H5''	1.96	0.48
1:0:521:U:H5''	1:0:1248:G:H4'	1.96	0.47
1:0:537:C:C6	1:0:2759:U:H2'	2.48	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
1:0:736:G:H2'	1:0:737:C:C6	2.49	0.47
1:0:824:U:H2'	1:0:825:C:C5'	2.43	0.47
1:0:839:U:H5'	1:0:2407:G:H2'	1.96	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1630:A:H8	1:0:1630:A:OP2	1.97	0.47
1:0:2070:G:H2'	1:0:2071:G:O4'	2.14	0.47
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.47
1:0:297:A:H2'	1:0:298:C:C6	2.49	0.47
1:0:365:U:H2'	1:0:366:U:C6	2.49	0.47
1:0:1007:A:H2'	1:0:1008:G:H8	1.79	0.47
1:0:1257:U:H2'	1:0:1258:G:H8	1.77	0.47
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.47
1:0:1764:A:H2'	1:0:1765:C:H5'	1.94	0.47
1:0:1783:G:O6	1:0:1820:G:H1'	2.14	0.47
1:0:2396:C:O2'	1:0:2397:A:H5'	2.14	0.47
1:0:147:G:O5'	1:0:147:G:H8	1.97	0.47
1:0:524:A:O2'	1:0:525:A:H5'	2.13	0.47
1:0:587:A:OP2	1:0:587:A:H8	1.98	0.47
1:0:592:G:H2'	1:0:593:C:C6	2.49	0.47
1:0:926:C:H2'	1:0:927:C:H5'	1.96	0.47
1:0:964:A:H1'	1:0:2245:A:OP2	2.14	0.47
1:0:1032:A:C2'	1:0:1033:G:H4'	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1301:U:H5''	1:0:1302:C:OP1	2.14	0.47
1:0:1666:G:H2'	1:0:1667:A:H8	1.77	0.47
1:0:1959:U:H2'	1:0:1960:A:C8	2.49	0.47
1:0:2182:A:H2'	1:0:2183:C:O4'	2.14	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.96	0.47
1:0:2658:A:H2'	1:0:2659:C:O4'	2.14	0.47
2:9:35:C:H2'	2:9:36:A:O4'	2.14	0.47
1:0:195:A:C2'	1:0:196:A:H5'	2.44	0.47
1:0:236:C:H2'	1:0:237:G:C8	2.43	0.47
1:0:305:A:H2'	1:0:306:G:O4'	2.14	0.47
1:0:1141:U:O5'	1:0:1141:U:H6	1.98	0.47
1:0:1166:A:H2'	1:0:1167:A:H5''	1.95	0.47
1:0:1456:C:O2'	1:0:1457:A:H5'	2.14	0.47
1:0:1956:G:H2'	1:0:1957:C:C6	2.49	0.47
1:0:2459:C:C2'	1:0:2460:G:H5'	2.45	0.47
1:0:2814:G:H1	1:0:2853:U:H3	1.62	0.47
2:9:8:C:O2'	2:9:9:G:H5'	2.14	0.47
2:9:117:G:O2'	2:9:118:G:H5'	2.14	0.47
1:0:192:G:H4'	1:0:193:A:O5'	2.14	0.47
1:0:2094:C:C4	1:0:2103:G:H1'	2.50	0.47
2:9:34:C:O5'	2:9:34:C:H6	1.98	0.47
1:0:457:C:O2'	1:0:458:G:H5'	2.13	0.47
1:0:482:A:C2'	1:0:483:A:H5'	2.45	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	2.28	0.47
1:0:1141:U:OP2	1:0:2549:G:N2	2.47	0.47
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.47
1:0:1407:G:H2'	1:0:1408:A:C8	2.49	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
1:0:428:A:H2'	1:0:429:C:H6	1.79	0.47
1:0:578:U:OP1	1:0:956:A:N6	2.48	0.47
1:0:605:G:H2'	1:0:606:A:H8	1.80	0.47
1:0:640:C:H5''	1:0:660:G:O2'	2.13	0.47
1:0:657:A:H2'	1:0:658:G:H8	1.78	0.47
1:0:1253:C:H2'	1:0:1254:G:H5'	1.96	0.47
1:0:1322:G:N2	1:0:1627:C:H5'	2.28	0.47
1:0:1365:U:H1'	1:0:1586:A:H2	1.79	0.47
1:0:1437:A:O2'	1:0:1438:G:H5'	2.14	0.47
1:0:1487:C:H2'	1:0:1488:G:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:1957:C:O2'	1:0:1958:G:H5'	2.14	0.47
1:0:2245:A:C2'	1:0:2246:A:OP2	2.62	0.47
1:0:2384:G:H2'	1:0:2390:A:H62	1.80	0.47
1:0:2433:G:H2'	1:0:2434:G:H8	1.80	0.47
1:0:2617:G:O2'	1:0:2618:A:H8	1.97	0.47
1:0:2727:G:H2'	1:0:2728:A:H5''	1.96	0.47
1:0:2739:G:H2'	1:0:2740:C:O4'	2.15	0.47
1:0:2862:G:O2'	1:0:2863:U:H5'	2.15	0.47
2:9:88:C:H2'	2:9:89:G:O4'	2.15	0.47
2:9:108:G:H2'	2:9:109:G:H8	1.79	0.47
1:0:305:A:C2'	1:0:306:G:H5'	2.45	0.47
1:0:397:U:H2'	1:0:398:C:H6	1.79	0.47
1:0:785:U:O2'	1:0:786:U:H5'	2.15	0.47
1:0:805:G:N2	1:0:2056:C:H4'	2.29	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
1:0:1668:G:O2'	1:0:1669:A:H5'	2.15	0.47
1:0:2204:A:H1'	1:0:2205:C:C5	2.49	0.47
1:0:2560:G:H2'	1:0:2561:G:H8	1.80	0.47
2:9:24:U:H2'	2:9:25:G:O5'	2.14	0.47
1:0:4:C:H2'	1:0:5:A:C8	2.50	0.47
1:0:538:A:C2'	1:0:539:A:H5''	2.43	0.47
1:0:1373:G:H2'	1:0:1374:G:H5'	1.97	0.47
1:0:181:A:H5''	1:0:182:G:OP1	2.14	0.47
1:0:422:C:H2'	1:0:423:G:O4'	2.15	0.47
1:0:550:C:H2'	1:0:551:A:H8	1.80	0.47
1:0:912:A:H2'	1:0:913:A:H8	1.80	0.47
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.47
1:0:1802:A:H2'	1:0:1803:G:O4'	2.15	0.47
1:0:1940:C:H2'	1:0:1941:C:H6	1.80	0.47
1:0:2404:A:O2'	1:0:2405:A:OP2	2.28	0.47
1:0:2446:C:H2'	1:0:2447:G:C8	2.50	0.47
1:0:2470:U:H2'	1:0:2471:U:C6	2.50	0.47
2:9:42:U:O4	2:9:45:C:OP2	2.33	0.47
1:0:211:U:O2'	1:0:212:U:H5'	2.15	0.46
1:0:450:C:H2'	1:0:451:A:C8	2.51	0.46
1:0:461:A:H2'	1:0:461:A:N3	2.30	0.46
1:0:786:U:H2'	1:0:787:A:H5'	1.96	0.46
1:0:1680:U:H6	1:0:1680:U:H5'	1.80	0.46
1:0:1871:G:N3	1:0:1871:G:C2'	2.78	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:0:2483:U:H1'	1:0:2551:A:C2	2.50	0.46
1:0:2484:G:C6	32:0:2881:ZIT:H7B1	2.50	0.46
1:0:2490:U:H2'	1:0:2491:C:H6	1.79	0.46
1:0:2617:G:N2	1:0:2755:A:H2'	2.30	0.46
1:0:2624:G:H4'	1:0:2712:G:O2'	2.15	0.46
2:9:68:A:C2	2:9:110:U:C4	3.03	0.46
1:0:83:A:N1	1:0:98:U:H1'	2.31	0.46
1:0:246:C:N4	1:0:247:A:H62	2.13	0.46
1:0:429:C:H2'	1:0:430:C:O4'	2.15	0.46
1:0:433:G:N2	1:0:434:C:H1'	2.30	0.46
1:0:538:A:C3'	1:0:539:A:H5''	2.45	0.46
1:0:1442:C:N4	1:0:1585:A:H8	2.13	0.46
1:0:1621:C:O2'	1:0:1626:A:N7	2.45	0.46
1:0:1793:A:H2'	1:0:1794:A:C8	2.50	0.46
1:0:2227:C:H2'	1:0:2228:U:H5'	1.97	0.46
1:0:2396:C:H6	1:0:2396:C:H5'	1.80	0.46
1:0:2488:G:H2'	1:0:2489:C:H6	1.79	0.46
1:0:2588:U:O2'	1:0:2589:C:OP1	2.32	0.46
1:0:2785:A:H62	1:0:2865:G:H21	1.63	0.46
1:0:2830:U:H2'	1:0:2831:A:C8	2.51	0.46
2:9:45:C:H42	2:9:47:A:H62	1.63	0.46
1:0:31:C:H5''	1:0:1252:C:OP1	2.14	0.46
1:0:487:G:H1'	1:0:515:A:H2	1.79	0.46
1:0:612:G:O3'	1:0:613:A:C4'	2.59	0.46
1:0:631:G:H5''	1:0:632:A:OP1	2.16	0.46
1:0:815:A:H2'	1:0:816:U:O4'	2.14	0.46
1:0:1139:A:H1'	1:0:2495:G:O2'	2.15	0.46
1:0:2566:A:H2'	1:0:2567:G:H5'	1.96	0.46
1:0:225:G:H5'	1:0:226:C:H5'	1.97	0.46
1:0:514:G:N3	1:0:514:G:C2'	2.78	0.46
1:0:732:G:H8	1:0:732:G:O5'	1.99	0.46
1:0:1715:A:H1'	1:0:1717:A:O4'	2.15	0.46
1:0:2225:G:C2	1:0:2405:A:H1'	2.50	0.46
1:0:2402:U:H5'	1:0:2404:A:C5	2.51	0.46
1:0:2425:G:H2'	1:0:2480:C:H41	1.80	0.46
1:0:2858:A:H3'	1:0:2859:U:H5'	1.97	0.46
2:9:5:C:H2'	2:9:6:C:O4'	2.15	0.46
2:9:30:C:C6	2:9:30:C:O5'	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:65:C:C2'	1:0:66:U:H5'	2.45	0.46
1:0:69:G:H4'	1:0:70:A:O5'	2.16	0.46
1:0:393:U:H2'	1:0:394:U:H6	1.80	0.46
1:0:488:A:H2'	1:0:489:A:C8	2.51	0.46
1:0:619:A:H2'	1:0:620:G:C8	2.50	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.80	0.46
1:0:1337:G:H4'	1:0:1632:A:N7	2.31	0.46
1:0:2015:G:O2'	1:0:2016:A:OP1	2.27	0.46
1:0:2523:G:H2'	1:0:2524:G:O4'	2.16	0.46
1:0:2533:U:H2'	1:0:2534:U:C6	2.51	0.46
1:0:84:G:O2'	1:0:85:C:H5'	2.15	0.46
1:0:170:U:H2'	1:0:171:G:C8	2.45	0.46
1:0:515:A:C2'	1:0:516:G:H5'	2.46	0.46
1:0:591:G:H2'	1:0:592:G:C8	2.49	0.46
1:0:646:C:O2'	1:0:650:U:H5''	2.16	0.46
1:0:788:G:N2	1:0:800:U:C2'	2.78	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'	1.97	0.46
1:0:1671:A:O4'	1:0:2798:A:H5'	2.16	0.46
1:0:1964:A:OP1	1:0:1965:U:OP2	2.33	0.46
1:0:2407:G:H5''	1:0:2408:G:OP1	2.15	0.46
1:0:2599:U:H3'	1:0:2600:A:H5''	1.95	0.46
1:0:221:A:N6	1:0:231:G:H21	2.14	0.46
1:0:299:C:H2'	1:0:300:C:C5	2.51	0.46
1:0:482:A:H2'	1:0:483:A:O4'	2.16	0.46
1:0:931:G:H2'	1:0:932:G:C5'	2.46	0.46
1:0:984:A:H1'	1:0:1202:U:C5	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
1:0:1221:C:O5'	1:0:1221:C:H6	1.99	0.46
1:0:1624:A:C2'	1:0:1625:A:H5'	2.44	0.46
1:0:2559:U:H5	1:0:2560:G:H21	1.63	0.46
2:9:23:G:H2'	2:9:24:U:C6	2.51	0.46
2:9:51:G:O2'	2:9:52:G:H5'	2.15	0.46
1:0:40:U:H2'	1:0:41:G:C8	2.51	0.46
1:0:394:U:O2'	1:0:395:G:H5'	2.16	0.46
1:0:635:C:O2	1:0:670:U:H4'	2.16	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'	2.79	0.46
1:0:788:G:H5''	1:0:789:G:OP1	2.15	0.46
1:0:839:U:H5''	1:0:2408:G:P	2.55	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:872:G:O2'	1:0:2247:A:C4	2.69	0.46
1:0:1034:U:H4'	1:0:1134:C:OP1	2.15	0.46
1:0:1277:G:H2'	1:0:1997:A:N6	2.31	0.46
1:0:1447:U:H1'	1:0:1577:G:H22	1.79	0.46
1:0:1478:U:H2'	1:0:1479:G:C8	2.51	0.46
1:0:1714:A:C5	1:0:1715:A:N6	2.79	0.46
1:0:115:G:C6	1:0:117:A:N6	2.84	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.51	0.46
1:0:490:A:N7	1:0:492:G:H1'	2.31	0.46
1:0:642:A:H2'	1:0:643:A:C8	2.51	0.46
1:0:745:C:C2'	1:0:746:G:H5'	2.46	0.46
1:0:750:C:H2'	1:0:751:G:C8	2.49	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
1:0:1356:G:H1'	1:0:1613:G:C2	2.51	0.46
1:0:1494:G:H2'	1:0:1495:G:O4'	2.16	0.46
1:0:1827:G:H1'	1:0:1914:U:N3	2.31	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
1:0:2245:A:H2'	1:0:2246:A:OP2	2.16	0.46
1:0:2397:A:H2'	1:0:2398:U:O4'	2.16	0.46
1:0:2511:G:N2	1:0:2642:G:O2'	2.49	0.46
1:0:2687:G:O2'	1:0:2688:G:H5'	2.16	0.46
1:0:2751:C:H2'	1:0:2752:C:C6	2.50	0.46
1:0:367:G:C3'	1:0:368:A:H5''	2.46	0.46
1:0:544:U:H2'	1:0:545:C:O4'	2.16	0.46
1:0:840:U:H4'	1:0:841:G:N2	2.30	0.46
1:0:1226:A:H2'	1:0:1227:A:H8	1.80	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.16	0.46
1:0:1356:G:H4'	1:0:1613:G:H2'	1.98	0.46
1:0:1784:C:O2'	1:0:1785:A:H5'	2.16	0.46
1:0:2047:C:H42	1:0:2425:G:H22	1.63	0.46
1:0:2225:G:O2'	1:0:2226:A:H5'	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
1:0:2417:U:H1'	1:0:2419:C:N4	2.31	0.46
1:0:2592:U:C2'	1:0:2593:A:H5'	2.45	0.46
2:9:94:G:H2'	2:9:94:G:N3	2.30	0.46
1:0:20:C:H2'	1:0:21:A:H8	1.81	0.45
1:0:141:G:H2'	1:0:142:U:H6	1.81	0.45
1:0:455:A:H4'	1:0:1214:C:O2'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1685:A:N6	1:0:1691:G:N3	2.64	0.45
1:0:1790:G:O3'	1:0:1791:C:H6	1.99	0.45
1:0:1952:A:O2'	1:0:1955:G:N2	2.49	0.45
1:0:2045:A:H61	32:0:2881:ZIT:H6A2	1.82	0.45
1:0:2753:C:H2'	1:0:2754:C:H6	1.79	0.45
1:0:239:A:C5'	1:0:620:G:H5'	2.46	0.45
1:0:462:G:H2'	1:0:463:C:H5'	1.98	0.45
1:0:677:G:H4'	1:0:951:G:O3'	2.16	0.45
1:0:942:U:H2'	1:0:943:U:C4'	2.46	0.45
1:0:981:C:H2'	1:0:982:C:C6	2.51	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
1:0:1787:U:H2'	1:0:1788:C:H6	1.81	0.45
1:0:1855:G:H4'	1:0:2390:A:H4'	1.98	0.45
1:0:190:A:H2'	1:0:191:G:H8	1.81	0.45
1:0:583:C:C4	1:0:2016:A:H4'	2.52	0.45
1:0:674:U:H2'	1:0:675:C:C6	2.52	0.45
1:0:718:A:O2'	1:0:719:A:H5'	2.14	0.45
1:0:733:G:O2'	1:0:734:G:H5'	2.17	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.99	0.45
1:0:810:U:H2'	1:0:811:G:C8	2.51	0.45
1:0:871:U:O2	1:0:2247:A:H2'	2.16	0.45
1:0:1147:G:O2'	1:0:1148:G:H5'	2.16	0.45
1:0:1739:G:H2'	1:0:1740:G:C8	2.51	0.45
1:0:1923:U:O2	1:0:1923:U:H2'	2.17	0.45
1:0:2028:C:O2'	1:0:2029:G:H5'	2.16	0.45
1:0:2053:G:H2'	1:0:2054:A:H8	1.81	0.45
1:0:2307:A:H2'	1:0:2308:A:H8	1.79	0.45
1:0:2511:G:H2'	1:0:2512:A:O4'	2.17	0.45
1:0:2617:G:H22	1:0:2755:A:H2'	1.82	0.45
2:9:92:G:H2'	2:9:93:G:C5'	2.39	0.45
2:9:112:A:H2'	2:9:113:G:C8	2.51	0.45
1:0:50:G:H2'	1:0:117:A:N1	2.30	0.45
1:0:305:A:H2'	1:0:306:G:H5'	1.97	0.45
1:0:669:G:H2'	1:0:670:U:H6	1.80	0.45
1:0:986:A:H2'	1:0:987:G:H5'	1.98	0.45
1:0:1171:A:H2'	1:0:1172:U:C6	2.52	0.45
1:0:2396:C:H2'	1:0:2397:A:C5'	2.46	0.45
1:0:2652:G:H2'	1:0:2653:A:C8	2.40	0.45
1:0:195:A:H2'	1:0:196:A:H5'	1.98	0.45
1:0:745:C:H2'	1:0:746:G:C5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2019:C:H5'	1:0:2019:C:H6	1.82	0.45
1:0:2039:G:N2	27:Z:5:PRO:CA	2.79	0.45
1:0:2459:C:H2'	1:0:2460:G:O4'	2.17	0.45
1:0:2504:G:O4'	1:0:2721:A:H2	1.99	0.45
1:0:2713:A:O2'	1:0:2714:A:H5'	2.16	0.45
1:0:20:C:O2'	1:0:21:A:H5'	2.15	0.45
1:0:675:C:H2'	1:0:676:G:H8	1.82	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:757:U:O2'	1:0:758:G:H5'	2.16	0.45
1:0:1278:A:O2'	1:0:1279:G:P	2.75	0.45
1:0:1473:U:H4'	1:0:1474:A:C8	2.52	0.45
1:0:1479:G:N2	1:0:1543:G:N2	2.64	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.31	0.45
1:0:1538:A:O2'	1:0:1539:U:H5'	2.17	0.45
1:0:1821:A:H3'	1:0:1822:C:C6	2.52	0.45
1:0:1947:G:H5''	1:0:1948:C:OP1	2.16	0.45
1:0:70:A:OP2	1:0:111:G:O5'	2.34	0.45
1:0:362:C:C2'	1:0:363:G:H4'	2.27	0.45
1:0:930:A:H4'	1:0:930:A:OP1	2.15	0.45
1:0:931:G:H2'	1:0:932:G:H5'	1.99	0.45
1:0:1388:C:H2'	1:0:1389:C:C6	2.47	0.45
1:0:1766:U:H2'	1:0:1767:G:O4'	2.17	0.45
1:0:1789:U:O2	1:0:1793:A:H2	1.99	0.45
1:0:1854:G:O2'	1:0:1855:G:H5'	2.16	0.45
1:0:1950:C:H2'	1:0:1951:G:O4'	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
1:0:2407:G:H4'	1:0:2408:G:C5	2.52	0.45
2:9:114:C:O5'	2:9:114:C:C6	2.67	0.45
1:0:322:A:H2	1:0:342:G:OP2	2.00	0.45
1:0:341:A:H1'	1:0:1223:G:O6	2.17	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
1:0:824:U:O2'	1:0:1264:C:O4'	2.34	0.45
1:0:889:C:O2'	1:0:890:U:H5'	2.17	0.45
1:0:957:G:N2	1:0:983:G:H1'	2.32	0.45
1:0:1227:A:C4'	1:0:1252:C:H4'	2.47	0.45
1:0:1356:G:C4'	1:0:1613:G:H2'	2.47	0.45
1:0:1429:A:C6	1:0:1602:G:H5'	2.50	0.45
1:0:1666:G:H2'	1:0:1667:A:C8	2.52	0.45
1:0:1849:G:H8	1:0:1849:G:O5'	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.45
1:0:403:A:H5''	1:0:404:A:OP1	2.17	0.45
1:0:486:U:H2'	1:0:487:G:H5'	1.99	0.45
1:0:560:G:H21	1:0:1233:A:H2	1.65	0.45
1:0:641:G:H4'	1:0:651:C:HO2'	1.80	0.45
1:0:843:G:HO2'	1:0:844:G:P	2.39	0.45
1:0:1699:A:C6	1:0:1748:U:H1'	2.52	0.45
1:0:1706:A:N6	1:0:1714:A:H2'	2.32	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
1:0:2046:C:O2'	1:0:2564:U:H1'	2.16	0.45
1:0:2104:G:H2'	1:0:2105:U:H6	1.81	0.45
2:9:104:A:C8	2:9:105:G:N7	2.85	0.45
1:0:807:A:H2'	1:0:808:C:C6	2.52	0.45
1:0:1449:C:O2'	1:0:1450:G:H5'	2.17	0.45
1:0:2044:G:H21	1:0:2045:A:N6	2.14	0.45
1:0:2410:U:O5'	1:0:2410:U:H6	2.00	0.45
1:0:2478:C:H2'	1:0:2479:U:C5'	2.47	0.45
1:0:2841:U:O2'	1:0:2842:C:H5'	2.17	0.45
1:0:115:G:H8	1:0:115:G:O5'	2.00	0.44
1:0:127:C:H5''	1:0:1615:C:O2'	2.16	0.44
1:0:343:A:N6	1:0:346:C:C5	2.85	0.44
1:0:750:C:H2'	1:0:751:G:H8	1.82	0.44
1:0:930:A:H5'	1:0:931:G:C8	2.52	0.44
1:0:1008:G:O2'	1:0:1009:C:H5'	2.17	0.44
1:0:1363:C:H2'	1:0:1364:C:O4'	2.17	0.44
1:0:1884:A:O2'	1:0:1885:C:H5'	2.17	0.44
1:0:2024:U:H2'	1:0:2025:A:C8	2.52	0.44
1:0:2163:U:H2'	1:0:2164:G:H8	1.82	0.44
1:0:2347: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
1:0:225:G:H3'	1:0:226:C:H5'	2.00	0.44
1:0:1064:C:H2'	1:0:1065:A:C8	2.52	0.44
1:0:1512:A:H8	1:0:1512:A:O5'	1.99	0.44
1:0:1540:C:H2'	1:0:1541:G:H8	1.83	0.44
1:0:1685:A:H2	1:0:1687:C:C2	2.35	0.44
1:0:1802:A:O2'	1:0:1803:G:H5'	2.16	0.44
1:0:2480:C:H5''	1:0:2482:A:H5'	1.98	0.44
1:0:2483:U:H2'	1:0:2484:G:H5'	1.98	0.44
1:0:2487:G:H2'	1:0:2488:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2748:C:H2'	1:0:2749:A:O4'	2.18	0.44
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.44
1:0:83:A:H8	1:0:83:A:O5'	2.00	0.44
1:0:416:U:C5'	1:0:417:C:H5'	2.42	0.44
1:0:424:G:N7	1:0:2385:U:N3	2.65	0.44
1:0:839:U:OP1	1:0:2408:G:OP2	2.35	0.44
1:0:1132:C:O2'	1:0:1133:G:H5'	2.18	0.44
1:0:1426:U:H2'	1:0:1427:G:O4'	2.17	0.44
1:0:2002:A:C2	1:0:2003:A:H1'	2.53	0.44
1:0:2039:G:C2	1:0:2556:A:H1'	2.52	0.44
1:0:2784:A:H3'	1:0:2785:A:H8	1.82	0.44
2:9:33:C:H2'	2:9:34:C:C6	2.52	0.44
2:9:64:C:N4	2:9:65:A:C6	2.86	0.44
2:9:73:C:O2	2:9:109:G:C2	2.70	0.44
1:0:538:A:N1	1:0:2026:C:H5''	2.32	0.44
1:0:758:G:O2'	1:0:761:G:O2'	2.34	0.44
1:0:859:U:H4'	1:0:860:U:H5	1.82	0.44
1:0:960:U:H2'	1:0:961:G:C8	2.52	0.44
1:0:1462:C:O2'	1:0:1560:A:H1'	2.17	0.44
1:0:1541:G:N2	1:0:1562:G:N2	2.65	0.44
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	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
1:0:2569:A:H2'	1:0:2570:C:O4'	2.18	0.44
1:0:118:U:H5''	1:0:120:G:OP2	2.17	0.44
1:0:161:U:H5'	1:0:193:A:N1	2.33	0.44
1:0:187:U:H1'	1:0:1379:A:C2	2.53	0.44
1:0:570:G:C2'	1:0:571:U:H5''	2.48	0.44
1:0:608:G:O2'	1:0:609:U:H5'	2.18	0.44
1:0:1223:G:N1	1:0:1250:A:N7	2.66	0.44
1:0:1748:U:N3	1:0:1753:A:C2	2.75	0.44
1:0:1750:A:C8	1:0:2675:U:H1'	2.53	0.44
1:0:1872:A:H2'	1:0:1873:A:C8	2.52	0.44
1:0:2136: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
1:0:2770:A:H5''	1:0:2867:G:H1	1.81	0.44
2:9:61:A:O5'	2:9:61:A:C8	2.60	0.44
1:0:128:C:H2'	1:0:129:A:H5''	2.00	0.44
1:0:323:G:OP2	1:0:343:A:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:533:C:H2'	1:0:534:U:O4'	2.18	0.44
1:0:768:U:H5'	1:0:1285:A:N1	2.33	0.44
1:0:1295:U:H2'	1:0:1296:G:C5'	2.43	0.44
1:0:1707:A:C2'	1:0:1708:C:H5'	2.48	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
1:0:2569:A:H2'	1:0:2570:C:C6	2.52	0.44
2:9:104:A:C4	2:9:105:G:C8	3.06	0.44
1:0:32:C:H2'	1:0:33:C:C6	2.53	0.44
1:0:221:A:C2'	1:0:222:G:H5'	2.47	0.44
1:0:484:G:H2'	1:0:485:G:O4'	2.17	0.44
1:0:789:G:H4'	1:0:790:A:C8	2.52	0.44
1:0:957:G:O2'	1:0:958:G:H5'	2.17	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.43	0.44
1:0:1363:C:H2'	1:0:1364:C:C6	2.53	0.44
1:0:1669:A:H61	1:0:1670:G:H21	1.66	0.44
1:0:1938:U:O2'	1:0:1939:U:H5'	2.18	0.44
1:0:2166:G:O2'	1:0:2167:A:H5'	2.17	0.44
1:0:2182:A:H3'	1:0:2183:C:C6	2.53	0.44
1:0:2535:C:C2'	1:0:2536:G:H5'	2.47	0.44
1:0:2685:A:H5''	1:0:2826:C:H5''	2.00	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	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
1:0:27:G:O2'	1:0:28:A:O4'	2.35	0.44
1:0:940:G:C3'	1:0:941:U:C5'	2.79	0.44
1:0:1135:C:H2'	1:0:1136:G:H8	1.83	0.44
1:0:1229:C:H2'	1:0:1230:C:C6	2.53	0.44
1:0:1947:G:P	1:0:1947:G:H8	2.40	0.44
1:0:2054:A:H2'	1:0:2055:G:H8	1.81	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
1:0:2321:C:H2'	1:0:2322:U:H5'	1.99	0.44
1:0:26:G:H1'	1:0:525:A:H61	1.83	0.44
1:0:158:A:H2'	1:0:159:A:C8	2.52	0.44
1:0:222:G:O2'	1:0:223:C:H5'	2.18	0.44
1:0:486:U:C2'	1:0:487:G:H5'	2.48	0.44
1:0:1310:C:P	1:0:2689:C:H4'	2.58	0.44
1:0:1710:U:H6	1:0:1710:U:O5'	2.00	0.44
1:0:1724:C:H1'	1:0:1747:G:C4	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1962:C:C2'	1:0:1963:G:H5'	2.47	0.44
1:0:2327:U:H2'	1:0:2328:G:C8	2.53	0.44
1:0:2474:G:H8	1:0:2474:G:O5'	2.01	0.44
1:0:2610:G:H5'	1:0:2866:A:H4'	1.99	0.44
1:0:508:G:H22	1:0:516:G:N2	2.16	0.43
1:0:541:C:O2	1:0:541:C:H2'	2.18	0.43
1:0:697:G:O2'	1:0:698:A:H5'	2.17	0.43
1:0:1000:G:OP1	1:0:1168:G:H4'	2.18	0.43
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.43
1:0:1485:U:H2'	1:0:1486:A:H8	1.82	0.43
1:0:1622:G:H5''	1:0:1624:A:O4'	2.18	0.43
1:0:1685:A:C2	1:0:1976:U:C2	3.06	0.43
1:0:2070:G:H2'	1:0:2071:G:H8	1.83	0.43
1:0:2712:G:H3'	1:0:2713:A:H5'	1.99	0.43
32:0:2881:ZIT:H193	32:0:2881:ZIT:H6A2	2.00	0.43
1:0:83:A:H5''	1:0:84:G:OP1	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
1:0:758:G:N2	1:0:766:A:C5	2.86	0.43
1:0:929:A:C3'	1:0:930:A:C5'	2.95	0.43
1:0:968:C:H41	1:0:970:A:C1'	2.30	0.43
1:0:1263:G:O2'	1:0:1264:C:P	2.76	0.43
1:0:1781:C:H2'	1:0:1782:A:C8	2.53	0.43
1:0:2079:A:H2'	1:0:2080:U:C6	2.53	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
1:0:629:C:C2'	1:0:630:G:H5'	2.48	0.43
1:0:951:G:H3'	1:0:952:A:H5''	1.99	0.43
1:0:1011:A:N6	1:0:1165:G:H2'	2.33	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1572:C:H2'	1:0:1573:G:H5''	1.99	0.43
1:0:1685:A:H61	1:0:1693:A:N6	2.16	0.43
1:0:1801:C:H1'	1:0:2207:G:O2'	2.17	0.43
1:0:1908:C:H2'	1:0:1909:U:C4'	2.22	0.43
1:0:1974:U:H2'	1:0:1975:G:C5'	2.42	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
32:0:2882:ZIT:H192	32:0:2882:ZIT:C1A	2.49	0.43
1:0:163:A:H2'	1:0:164:G:C8	2.50	0.43
1:0:698:A:C1'	1:0:700:C:H41	2.30	0.43
1:0:1226:A:C4	1:0:1250:A:N3	2.86	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'	1.80	0.43
1:0:1783:G:H1'	1:0:1822:C:P	2.59	0.43
1:0:2214:G:O2'	1:0:2215:C:H5'	2.19	0.43
1:0:2324:G:N7	1:0:2351:G:C2	2.86	0.43
1:0:2433:G:O2'	1:0:2434:G:H5'	2.19	0.43
2:9:48:A:C5	2:9:49:C:C5	3.06	0.43
1:0:192:G:O2'	1:0:193:A:OP2	2.33	0.43
1:0:737:C:H2'	1:0:738:G:O4'	2.18	0.43
1:0:784:U:H2'	1:0:785:U:C6	2.54	0.43
1:0:1039:A:N3	1:0:2465:G:O2'	2.46	0.43
1:0:1572:C:C2'	1:0:1573:G:H5''	2.48	0.43
1:0:1764:A:H62	1:0:1821:A:H1'	1.83	0.43
1:0:2055:G:O2'	1:0:2056:C:H5'	2.18	0.43
1:0:2095:G:H2'	1:0:2096:U:H5''	2.01	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
2:9:88:C:H2'	2:9:89:G:C8	2.53	0.43
1:0:158:A:H2'	1:0:159:A:O4'	2.19	0.43
1:0:295:C:N4	1:0:296:A:N6	2.67	0.43
1:0:305:A:H2'	1:0:306:G:C5'	2.48	0.43
1:0:431:G:H2'	1:0:432:C:C6	2.54	0.43
1:0:714:G:O2'	1:0:715:U:H5'	2.18	0.43
1:0:746:G:N7	1:0:774:A:C5	2.86	0.43
1:0:873:U:N3	1:0:2246:A:H5''	2.34	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:C5'	2.49	0.43
1:0:1558:C:H2'	1:0:1559:G:O4'	2.19	0.43
1:0:1625:A:H2'	1:0:1625:A:N3	2.33	0.43
1:0:1699:A:H61	1:0:1723:U:H3	1.65	0.43
1:0:1981:A:H4'	1:0:2704:U:O2'	2.18	0.43
1:0:2448:A:H2'	1:0:2449:G:O4'	2.19	0.43
2:9:59:A:H2'	2:9:60:A:C5'	2.48	0.43
1:0:65:C:O2'	1:0:66:U:H5'	2.19	0.43
1:0:203:G:H4'	1:0:234:C:O2'	2.18	0.43
1:0:580:A:N3	1:0:582:G:N7	2.66	0.43
1:0:1296:G:H2'	1:0:1298:G:OP2	2.19	0.43
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.43
1:0:2345:A:H2'	1:0:2346:G:H5'	2.01	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.19	0.43
1:0:2863:U:H2'	1:0:2864:C:H6	1.84	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
1:0:353:G:H2'	1:0:354:C:H6	1.83	0.43
1:0:456:C:O2'	1:0:457:C:H5'	2.18	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
1:0:1455:C:H2'	1:0:1456:C:C6	2.54	0.43
1:0:1776:A:N6	1:0:1778:U:H1'	2.33	0.43
1:0:2205:C:O2'	1:0:2206:C:H5'	2.18	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
1:0:426:C:O5'	1:0:426:C:H6	2.01	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
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:2306:A:H2'	1:0:2307:A:C8	2.54	0.43
1:0:2449:G:H2'	1:0:2450:A:H8	1.83	0.43
1:0:2800:C:O5'	1:0:2800:C:H6	2.02	0.43
1:0:192:G:O2'	1:0:193:A:C5'	2.67	0.43
1:0:708:G:H2'	1:0:709:A:H8	1.84	0.43
1:0:757:U:H3	1:0:766:A:H61	1.67	0.43
1:0:1021:A:H8	1:0:1021:A:O5'	2.02	0.43
1:0:1091:C:H2'	1:0:1092:U:H6	1.79	0.43
1:0:2124:C:O2'	1:0:2125:C:H5'	2.18	0.43
1:0:2491:C:H2'	1:0:2492:G:H4'	1.98	0.43
1:0:2651:U:H2'	1:0:2652:G:O4'	2.19	0.43
1:0:2783:U:OP1	1:0:2783:U:O4'	2.37	0.43
2:9:108:G:H8	2:9:108:G:O5'	2.01	0.43
1:0:14:A:N6	1:0:15:G:C2	2.86	0.42
1:0:81:C:H4'	1:0:307:C:C5'	2.48	0.42
1:0:428:A:H2'	1:0:429:C:C6	2.54	0.42
1:0:556:A:C2'	1:0:557:U:H5'	2.40	0.42
1:0:699:G:H5'	1:0:700:C:OP2	2.18	0.42
1:0:763:A:C5'	1:0:1631:C:H42	2.32	0.42
1:0:798:G:OP2	1:0:805:G:H5''	2.19	0.42
1:0:1302:C:OP1	1:0:1302:C:C6	2.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1474:A:H2'	1:0:1476:G:OP1	2.19	0.42
1:0:1543:G:H2'	1:0:1544:A:C5'	2.49	0.42
1:0:2302:G:N2	1:0:2314:A:H2	2.16	0.42
2:9:7:C:H2'	2:9:8:C:C6	2.54	0.42
2:9:72:C:O2'	2:9:73:C:H5'	2.19	0.42
1:0:708:G:H2'	1:0:709:A:C8	2.54	0.42
1:0:781:G:H5'	1:0:1638:G:C4'	2.49	0.42
1:0:812:G:H2'	1:0:813:A:C8	2.54	0.42
1:0:864:C:O2'	1:0:865:A:H5'	2.20	0.42
1:0:975:C:O5'	1:0:975:C:H6	2.02	0.42
1:0:977:G:H5''	1:0:2251:U:O2	2.19	0.42
1:0:1725:C:O2'	1:0:1726:C:H5'	2.20	0.42
1:0:1790:G:O2'	1:0:1791:C:H5	2.00	0.42
1:0:2585:C:H2'	1:0:2586:G:C8	2.54	0.42
2:9:108:G:H2'	2:9:109:G:C8	2.55	0.42
1:0:26:G:O3'	1:0:1273:G:H4'	2.19	0.42
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.42
1:0:1168:G:H2'	1:0:1169:C:C6	2.54	0.42
1:0:1258:G:H2'	1:0:1259:A:C8	2.54	0.42
1:0:1302:C:P	1:0:1302:C:H6	2.41	0.42
1:0:1552:C:H2'	1:0:1553:G:O4'	2.20	0.42
1:0:1769:U:H3	1:0:1778:U:H3	1.65	0.42
1:0:1801:C:H1'	1:0:2208:U:H5'	2.01	0.42
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.01	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
1:0:2677:U:O2'	1:0:2678:C:H5'	2.20	0.42
1:0:2759:U:H4'	1:0:2760:G:O5'	2.19	0.42
1:0:2770:A:H5'	1:0:2867:G:H22	1.84	0.42
1:0:2788:C:H2'	1:0:2789:U:H6	1.84	0.42
1:0:421:G:O2'	1:0:422:C:H5'	2.20	0.42
1:0:515:A:H2'	1:0:516:G:H5'	2.01	0.42
1:0:661:C:O2'	1:0:662:G:H5'	2.20	0.42
1:0:689:A:C2'	1:0:690:A:H5'	2.50	0.42
1:0:759:C:C1'	1:0:761:G:H21	2.33	0.42
1:0:825:C:O2'	1:0:826:U:H5'	2.20	0.42
1:0:1028:G:H2'	1:0:1029:C:O4'	2.19	0.42
1:0:1123:G:O2'	1:0:1124:U:H5'	2.20	0.42
1:0:1398:G:O2'	1:0:1399:C:H5'	2.19	0.42
1:0:2233:C:O2'	1:0:2234:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2517:C:O2'	1:0:2518:C:H5'	2.19	0.42
1:0:2562:G:H2'	1:0:2563:U:O4'	2.19	0.42
1:0:460:U:H5'	1:0:461:A:OP2	2.19	0.42
1:0:537:C:N1	1:0:2759:U:H2'	2.35	0.42
1:0:1001:A:N6	1:0:1200:G:H1'	2.34	0.42
1:0:1110:G:H2'	1:0:1111:C:C6	2.53	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
1:0:1566: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
1:0:1972:G:O2'	1:0:1973:C:H5'	2.19	0.42
1:0:2059:U:C2'	1:0:2060:A:H5''	2.38	0.42
1:0:2475:C:H2'	1:0:2476:A:C4'	2.50	0.42
1:0:2662:C:N4	1:0:2707:G:H21	2.16	0.42
32:0:2881:ZIT:H192	32:0:2881:ZIT:C1A	2.48	0.42
2:9:107:C:C6	2:9:107:C:C3'	3.03	0.42
1:0:63:A:O2'	1:0:64:C:H5'	2.19	0.42
1:0:173:A:H2'	1:0:173:A:N3	2.35	0.42
1:0:186:C:H2'	1:0:187:U:O4'	2.20	0.42
1:0:421:G:H2'	1:0:422:C:C6	2.55	0.42
1:0:798:G:H2'	1:0:799:C:C5'	2.41	0.42
1:0:1259:A:H2'	1:0:1260:A:H5'	2.00	0.42
1:0:1310:C:O2'	1:0:1315:A:N1	2.49	0.42
1:0:1821:A:H5''	1:0:1822:C:H5	1.82	0.42
1:0:1920:A:N6	1:0:1923:U:C6	2.87	0.42
1:0:1921:A:C2'	1:0:1922:U:H5''	2.46	0.42
1:0:1938:U:O2'	1:0:1939:U:OP1	2.31	0.42
1:0:2075:U:H1'	1:0:2204:A:C2	2.55	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
32:0:2882:ZIT:H193	32:0:2882:ZIT:H6A2	2.00	0.42
32:0:2882:ZIT:H5A1	32:0:2882:ZIT:H5B1	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
1:0:192:G:C4'	1:0:193:A:H4'	2.49	0.42
1:0:445:A:C2'	1:0:446:C:H5'	2.49	0.42
1:0:459:A:C4	1:0:466:A:N7	2.88	0.42
1:0:759:C:H1'	1:0:761:G:H21	1.85	0.42
1:0:1223:G:O2'	1:0:1224:A:OP2	2.35	0.42
1:0:1308:C:H2'	1:0:1309:G:C8	2.54	0.42
1:0:1806:G:C5	1:0:1807:A:N7	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2630:C:H2'	1:0:2631:C:C6	2.55	0.42
1:0:226:C:H4'	1:0:227:G:H8	1.83	0.42
1:0:597:U:H2'	1:0:598:U:H6	1.82	0.42
1:0:670:U:O2'	1:0:671:A:H5'	2.20	0.42
1:0:1619:A:O5'	1:0:1619:A:N3	2.52	0.42
1:0:1653:C:O2	1:0:1751:A:H2	2.03	0.42
1:0:1714:A:H5''	1:0:1715:A:H8	1.85	0.42
1:0:1937:G:N3	1:0:2530:C:C5'	2.81	0.42
1:0:2321:C:H2'	1:0:2322:U:C5'	2.50	0.42
1:0:2402:U:H5'	1:0:2404:A:N7	2.34	0.42
1:0:90:G:H3'	1:0:91:A:C5'	2.50	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
1:0:2048:C:H1'	1:0:2428:U:C2	2.55	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.50	0.42
2:9:88:C:H2'	2:9:89:G:H8	1.84	0.42
1:0:161:U:H2'	1:0:162:C:C6	2.54	0.42
1:0:176:A:H3'	1:0:177:U:C5	2.55	0.42
1:0:570:G:H2'	1:0:571:U:H5''	2.02	0.42
1:0:573:C:O2'	1:0:574:C:H5'	2.20	0.42
1:0:651:C:C3'	1:0:652:C:C5'	2.98	0.42
1:0:688:A:O2'	1:0:689:A:H5'	2.20	0.42
1:0:690:A:H4'	1:0:2053:G:O2'	2.20	0.42
1:0:698:A:H1'	1:0:700:C:H41	1.85	0.42
1:0:777:A:N6	1:0:1766:U:N3	2.68	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
1:0:1491:C:H2'	1:0:1492:A:C8	2.53	0.42
1:0:1545:G:O2'	1:0:1546:C:H5'	2.19	0.42
1:0:1791:C:C1'	1:0:1793:A:H5'	2.43	0.42
1:0:1814:G:H2'	1:0:1815:G:H8	1.84	0.42
1:0:2561:G:H2'	1:0:2562:G:C8	2.55	0.42
2:9:42:U:H3'	2:9:43:G:C5'	2.50	0.42
1:0:167:A:H2'	1:0:168:A:O4'	2.19	0.41
1:0:224:G:H4'	1:0:399:G:C5	2.55	0.41
1:0:393:U:H2'	1:0:394:U:O4'	2.19	0.41
1:0:495:C:H2'	1:0:496:C:C6	2.55	0.41
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.41
1:0:717:G:H1'	1:0:740:A:N6	2.35	0.41
1:0:792:U:O2'	1:0:793:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1023:U:H1'	1:0:1154:A:N7	2.35	0.41
1:0:1253:C:H2'	1:0:1254:G:C5'	2.50	0.41
1:0:1459:U:OP1	1:0:1459:U:H3'	2.19	0.41
1:0:1725:C:H2'	1:0:1726:C:H6	1.85	0.41
1:0:1921:A:C3'	1:0:1922:U:H5''	2.50	0.41
1:0:2565:C:O5'	1:0:2566:A:OP1	2.38	0.41
1:0:2627:G:O2'	1:0:2628:C:H5'	2.20	0.41
32:0:2882:ZIT:H5A1	32:0:2882:ZIT:C5B	2.50	0.41
1:0:58:C:H1'	1:0:72:A:C8	2.55	0.41
1:0:66:U:C2	1:0:67:G:N7	2.89	0.41
1:0:198:A:O2'	1:0:199:A:OP2	2.36	0.41
1:0:430:C:H2'	1:0:431:G:O4'	2.20	0.41
1:0:480:G:H8	1:0:480:G:O5'	2.03	0.41
1:0:953:G:H2'	1:0:954:U:H6	1.85	0.41
1:0:1025:A:O2'	1:0:1026:U:H5'	2.20	0.41
1:0:1904:G:O2'	1:0:1905:G:H5'	2.19	0.41
1:0:1991:C:H2'	1:0:1992:G:C8	2.51	0.41
1:0:2245:A:C4	1:0:2251:U:O4	2.73	0.41
1:0:2425:G:O2'	1:0:2426:G:H5'	2.20	0.41
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:758:G:H2'	1:0:759:C:H5'	2.02	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
1:0:2054:A:H61	1:0:2417:U:H3	1.67	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2230:G:H2'	1:0:2231:G:C8	2.56	0.41
1:0:2574:G:N2	1:0:2577:A:OP2	2.53	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
1:0:573:C:H2'	1:0:574:C:O4'	2.20	0.41
1:0:666:U:H2'	1:0:668:A:P	2.60	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.55	0.41
1:0:1009:C:O5'	1:0:1009:C:H6	2.02	0.41
1:0:1721:G:H2'	1:0:1722:G:O4'	2.21	0.41
1:0:2162:C:H2'	1:0:2163:U:H6	1.85	0.41
1:0:2362:G:C2'	1:0:2363:G:O5'	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2572:U:H2'	1:0:2573:C:C6	2.56	0.41
1:0:128:C:H2'	1:0:129:A:C5'	2.50	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
1:0:1612:U:H2'	1:0:1613:G:C8	2.55	0.41
1:0:1699:A:C5	1:0:1748:U:H1'	2.55	0.41
1:0:1976:U:H2'	1:0:1976:U:O2	2.19	0.41
1:0:2490:U:O4	1:0:2553:G:O6	2.39	0.41
1:0:2778:U:O2'	1:0:2779:C:H5'	2.21	0.41
1:0:2824:C:C2'	1:0:2825:A:OP2	2.68	0.41
2:9:63:A:O2'	2:9:64:C:H5'	2.19	0.41
1:0:357:A:H2'	1:0:357:A:N3	2.34	0.41
1:0:929:A:C2	1:0:930:A:H1'	2.56	0.41
1:0:1016:C:H2'	1:0:1017:C:C6	2.56	0.41
1:0:1471:G:H1	1:0:2682:C:N4	2.10	0.41
1:0:1664:G:H3'	1:0:1664:G:OP2	2.20	0.41
1:0:1783:G:C6	1:0:1820:G:H1'	2.56	0.41
1:0:2447:G:C8	1:0:2455:A:N6	2.81	0.41
1:0:2636:A:N6	1:0:2643:G:H21	2.03	0.41
32:0:2881:ZIT:H5A1	32:0:2881:ZIT:C5B	2.50	0.41
2:9:8:C:OP1	2:9:63:A:H5'	2.21	0.41
2:9:28:A:H2'	2:9:28:A:N3	2.35	0.41
2:9:100:G:C2'	2:9:101:A:H5'	2.51	0.41
1:0:762:A:O2'	1:0:1633:C:H1'	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
1:0:1714:A:H5'	1:0:1715:A:O5'	2.21	0.41
1:0:1756:C:H2'	1:0:1757:C:H6	1.85	0.41
1:0:1923:U:H4'	1:0:1948:C:N4	2.36	0.41
1:0:2229:G:H2'	1:0:2475:C:OP1	2.21	0.41
1:0:2443:C:H2'	1:0:2444:C:C6	2.56	0.41
1:0:2592:U:H5''	1:0:2593:A:C2	2.55	0.41
2:9:6:C:C4	2:9:7:C:N4	2.88	0.41
2:9:75:A:N6	2:9:106:U:C4	2.88	0.41
1:0:4:C:O2'	1:0:5:A:H5'	2.20	0.41
1:0:35:G:O4'	1:0:466:A:C1'	2.69	0.41
1:0:42:G:H2'	1:0:43:A:O4'	2.20	0.41
1:0:221:A:H2'	1:0:222:G:C5'	2.50	0.41
1:0:492:G:H2'	1:0:517:A:C2	2.56	0.41
1:0:639:G:H2'	1:0:640:C:H6	1.82	0.41
1:0:996:C:H2'	1:0:997:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1328:C:O2'	1:0:1329:U:H5'	2.21	0.41
1:0:1556:A:H2'	1:0:1557:G:C8	2.54	0.41
1:0:1751:A:H2'	1:0:1752:U:O4'	2.21	0.41
1:0:1883:A:C2	1:0:1953:A:N6	2.89	0.41
1:0:2024:U:O5'	1:0:2024:U:H6	2.04	0.41
1:0:2204:A:O2'	1:0:2205:C:P	2.79	0.41
1:0:2249:U:C2'	1:0:2250:G:H5'	2.51	0.41
1:0:2279:G:H2'	1:0:2280:A:C8	2.48	0.41
32:0:2881:ZIT:H5A1	32:0:2881:ZIT:H5B1	2.02	0.41
1:0:16:G:O2'	1:0:17:G:H5'	2.21	0.41
1:0:80:A:O2'	1:0:81:C:H5'	2.21	0.41
1:0:218:A:O2'	1:0:219:G:C4'	2.64	0.41
1:0:353:G:O2'	1:0:354:C:H5'	2.21	0.41
1:0:448:C:H2'	1:0:449:C:H5'	2.02	0.41
1:0:629:C:O2'	1:0:630:G:H5'	2.21	0.41
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.41
1:0:763:A:H5'	1:0:1631:C:H42	1.86	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
1:0:1471:G:O2'	1:0:1472:C:H5'	2.21	0.41
1:0:1486:A:H2'	1:0:1487:C:C6	2.55	0.41
1:0:1661:C:H2'	1:0:1662:G:H8	1.86	0.41
1:0:1665:C:H2'	1:0:1666:G:O4'	2.21	0.41
1:0:1903:C:H2'	1:0:1904:G:C8	2.55	0.41
1:0:1990:U:H4'	1:0:2799:C:H4'	2.02	0.41
1:0:2058:U:H5'	1:0:2576:G:H1'	2.03	0.41
1:0:2302:G:H2'	1:0:2303:C:H5'	2.02	0.41
1:0:2455:A:C2'	1:0:2456:U:H5'	2.50	0.41
1:0:2622:G:O2'	1:0:2623:A:H5'	2.20	0.41
1:0:2728:A:C2	1:0:2736:U:H1'	2.56	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
2:9:23:G:H2'	2:9:24:U:O4'	2.21	0.41
2:9:103:A:N7	2:9:104:A:N7	2.69	0.41
1:0:744:C:N4	1:0:745:C:H41	2.19	0.41
1:0:1625:A:N3	1:0:1625:A:C2'	2.84	0.41
1:0:1645:U:O2	1:0:2677:U:H4'	2.21	0.41
1:0:1714:A:H3'	1:0:1715:A:N7	2.36	0.41
1:0:2006:G:H2'	1:0:2007:G:H8	1.86	0.41
1:0:2313:G:H2'	1:0:2314:A:H5'	2.03	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.04	0.41
1:0:2813:G:O2'	1:0:2814:G:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:67:G:C6	1:0:72:A:C2	3.08	0.40
1:0:474:G:H22	1:0:476:G:H3'	1.85	0.40
1:0:727:U:C2'	1:0:728:G:H5''	2.46	0.40
1:0:797:A:O2'	1:0:798:G:C8	2.72	0.40
1:0:1459:U:H6	1:0:1459:U:P	2.44	0.40
1:0:2227:C:C2'	1:0:2228:U:H5'	2.51	0.40
1:0:2394:G:H2'	1:0:2395:C:H6	1.84	0.40
1:0:2668:U:H5'	1:0:2669:C:H5'	2.02	0.40
1:0:2841:U:O2'	1:0:2842:C:C5'	2.69	0.40
1:0:2869:U:O5'	1:0:2869:U:H6	2.05	0.40
1:0:121:G:O3'	1:0:1389:C:H4'	2.21	0.40
1:0:509:U:C2'	1:0:510:G:H5'	2.50	0.40
1:0:771:C:O2'	1:0:772:G:H5'	2.21	0.40
1:0:867:G:H2'	1:0:868:U:C6	2.56	0.40
1:0:1221:C:H2'	1:0:1222:G:C8	2.56	0.40
1:0:1576:G:H2'	1:0:1577:G:O4'	2.22	0.40
1:0:2181:A:H2'	1:0:2182:A:H5'	2.02	0.40
1:0:2542:U:H2'	1:0:2544:A:OP2	2.22	0.40
1:0:68:C:C2	1:0:72:A:N3	2.89	0.40
1:0:68:C:O2	1:0:68:C:H2'	2.21	0.40
1:0:73:A:H4'	1:0:74:G:C1'	2.51	0.40
1:0:317:U:C3'	1:0:318:G:H5''	2.51	0.40
1:0:340:G:C1'	1:0:488:A:H1'	2.51	0.40
1:0:861:G:N2	1:0:943:U:O2'	2.54	0.40
1:0:1073:G:H3'	1:0:1074:G:C5'	2.51	0.40
1:0:1383: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
1:0:1569:A:C6	1:0:1571:G:H1'	2.57	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	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
1:0:122:G:C2'	1:0:123:A:H5''	2.52	0.40
1:0:200:A:N6	1:0:387:A:O2'	2.54	0.40
1:0:201:G:C2	1:0:202:A:C4	3.10	0.40
1:0:398:C:O2'	1:0:401:G:N2	2.54	0.40
1:0:451:A:H2'	1:0:452:G:H8	1.83	0.40
1:0:616:U:H3'	1:0:617:U:H5''	2.03	0.40
1:0:829:C:O2'	1:0:830:C:H5'	2.21	0.40
1:0:831:G:H5'	1:0:852:U:OP1	2.21	0.40
1:0:931:G:H5'	2:9:83:C:H1'	2.03	0.40
1:0:1190:C:H2'	1:0:1191:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1281:A:H4'	1:0:2592:U:O2	2.21	0.40
1:0:1323:G:C1'	1:0:1627:C:H5''	2.52	0.40
1:0:1358:C:H2'	1:0:1359:G:H5'	2.03	0.40
1:0:1519: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
32:0:2882:ZIT:H162	32:0:2882:ZIT:HO13	1.83	0.40
1:0:215:G:H2'	1:0:216:U:C6	2.57	0.40
1:0:1403:U:O2	1:0:1408:A:N6	2.54	0.40
1:0:1473:U:H4'	1:0:1474:A:C4	2.56	0.40
1:0:2138:U:H2'	1:0:2139:G:H5'	2.04	0.40
1:0:2240:C:C2'	1:0:2241:U:C5'	2.97	0.40
1:0:2570:C:H2'	1:0:2571:G:C8	2.57	0.40
2:9:12:C:H3'	2:9:13:C:H6	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	485 (17%)	43 (1%)
2	9	117/124 (94%)	23 (19%)	1 (0%)
All	All	2874/3004 (95%)	508 (17%)	44 (1%)

All (508) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	803	C
1	0	804	C
1	0	805	G
1	0	806	A

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Mol	Chain	Res	Type
1	0	807	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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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	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
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

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Mol	Chain	Res	Type
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	2038	C
1	0	2043	A
1	0	2044	G
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2230	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

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Mol	Chain	Res	Type
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
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	2484	G
1	0	2492	G
1	0	2499	C

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Mol	Chain	Res	Type
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	2560	G
1	0	2561	G
1	0	2565	C
1	0	2566	A
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2590	U
1	0	2591	C
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
2	9	115	G

All (44) 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	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
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

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Mol	Chain	Res	Type
1	0	2560	G
1	0	2565	C
1	0	2588	U
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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 ligands are 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	ZIT	0	2881	-	54,54,54	0.86	1 (1%)	82,83,83	1.30	7 (8%)
32	ZIT	0	2882	-	54,54,54	0.86	1 (1%)	82,83,83	1.30	6 (7%)

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	ZIT	0	2881	-	-	3/72/107/107	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	ZIT	0	2882	-	-	5/72/107/107	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	2881	ZIT	C3A-N3A	-2.29	1.42	1.47
32	0	2882	ZIT	C3A-N3A	-2.20	1.42	1.47

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	0	2882	ZIT	C1A-O1A-C5	-7.31	103.82	116.26
32	0	2881	ZIT	C1A-O1A-C5	-7.24	103.94	116.26
32	0	2881	ZIT	C4A-C3A-C2A	-3.20	105.42	110.02
32	0	2882	ZIT	C4A-C3A-C2A	-3.16	105.47	110.02
32	0	2882	ZIT	O1B-C3-C4	2.73	111.45	108.23
32	0	2881	ZIT	O1B-C3-C4	2.64	111.34	108.23
32	0	2882	ZIT	C5A-C4A-C3A	2.23	114.27	110.46
32	0	2881	ZIT	C5A-C4A-C3A	2.16	114.14	110.46
32	0	2881	ZIT	O14-C14-C13	-2.13	103.93	107.28
32	0	2882	ZIT	C17-C2-C3	2.07	117.62	113.00
32	0	2881	ZIT	C17-C2-C3	2.07	117.62	113.00
32	0	2882	ZIT	O14-C14-C13	-2.05	104.04	107.28
32	0	2881	ZIT	C22-C11-N10	2.01	117.81	113.76

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
32	0	2882	ZIT	C13-C14-C15-C16
32	0	2881	ZIT	O5A-C1A-O1A-C5
32	0	2882	ZIT	O5A-C1A-O1A-C5
32	0	2882	ZIT	O14-C14-C15-C16
32	0	2881	ZIT	C4-C5-O1A-C1A
32	0	2882	ZIT	C4-C5-O1A-C1A
32	0	2881	ZIT	C6-C5-O1A-C1A
32	0	2882	ZIT	C6-C5-O1A-C1A

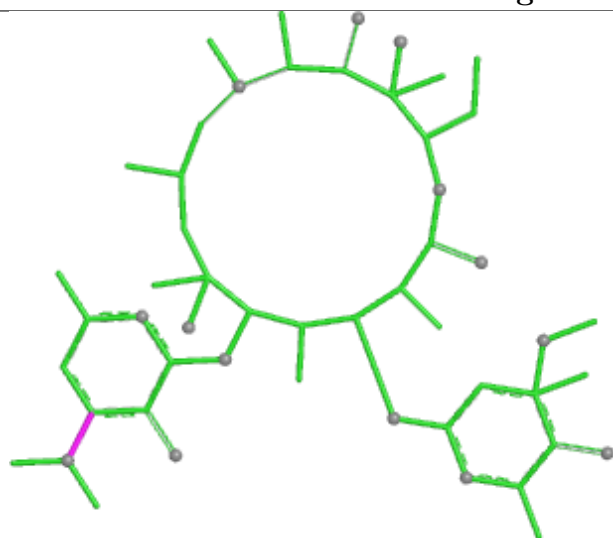
There are no ring outliers.

2 monomers are involved in 47 short contacts:

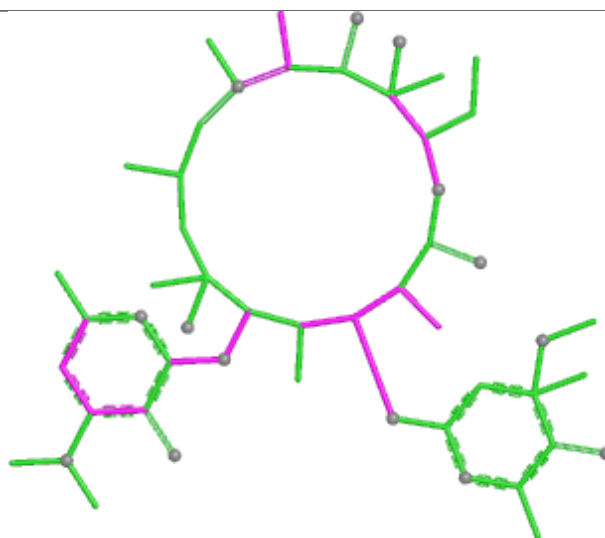
Mol	Chain	Res	Type	Clashes	Symm-Clashes
32	0	2881	ZIT	21	0
32	0	2882	ZIT	26	0

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.

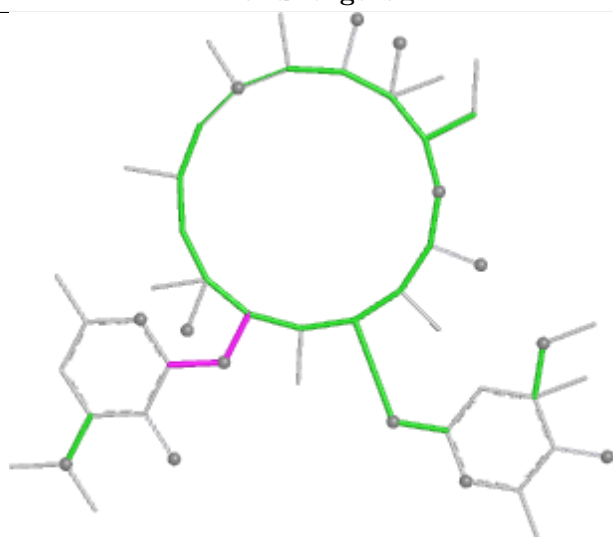
Ligand ZIT 0 2881



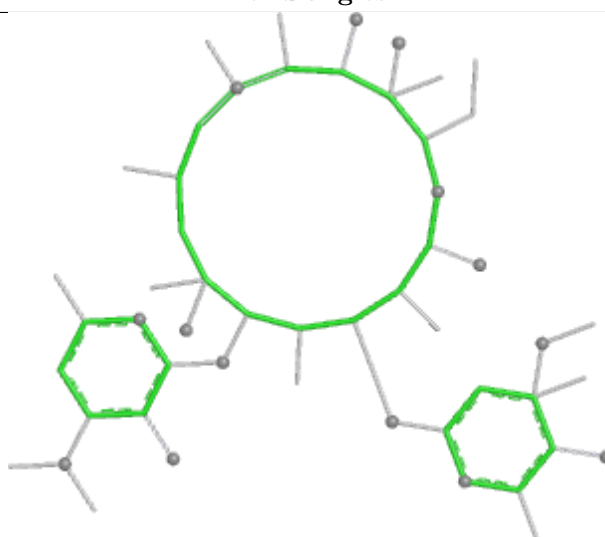
Bond lengths



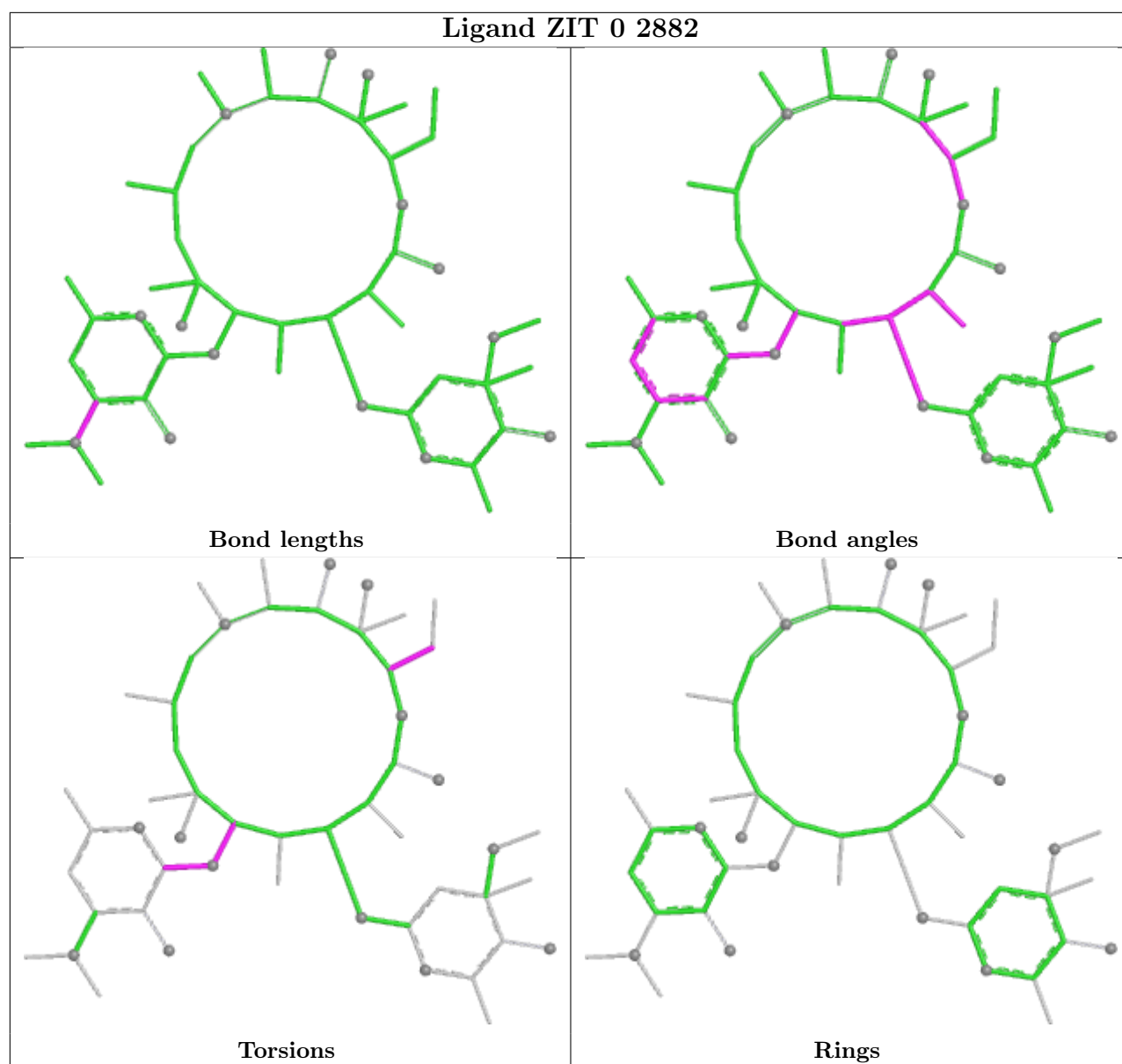
Bond angles



Torsions



Rings



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.