



# Full wwPDB X-ray Structure Validation Report ⓘ

Jan 31, 2016 – 11:57 PM GMT

PDB ID : 1Z58  
Title : Crystal structure of a complex of the ribosome large subunit with rapamycin  
Authors : Amit, M.; Berisio, R.; Baram, D.; Harms, J.; Bashan, A.; Yonath, A.  
Deposited on : 2005-03-17  
Resolution : 3.80 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

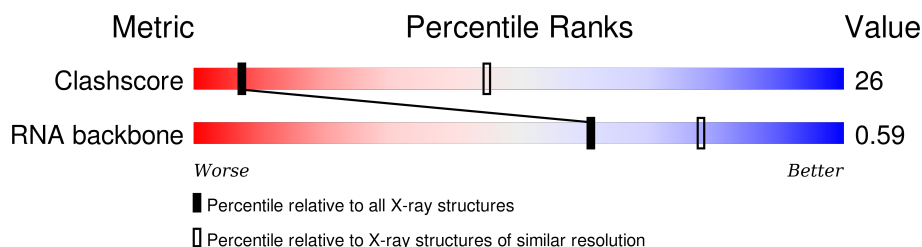
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.80 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	102246	1458 (4.10-3.50)
RNA backbone	2183	1070 (4.76-2.80)

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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	2	2880	

## 2 Entry composition [i](#)

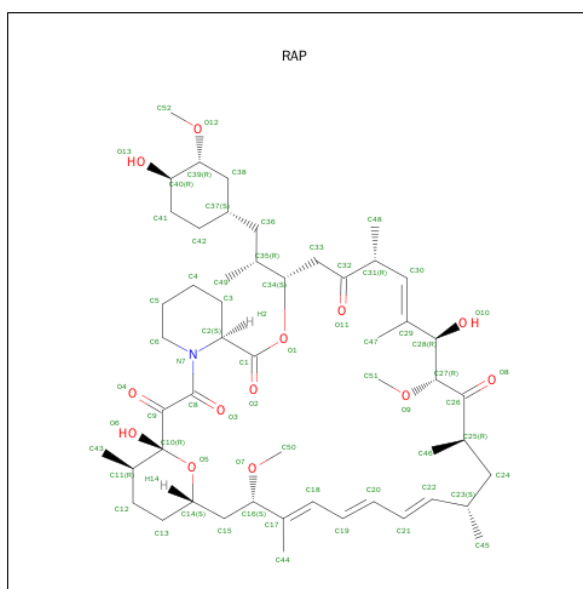
There are 2 unique types of molecules in this entry. The entry contains 59424 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	2	2766	59359	26479	10949	19166	2765	0	0	0

- Molecule 2 is RAPAMYCIN IMMUNOSUPPRESSANT DRUG (three-letter code: RAP) (formula: C<sub>51</sub>H<sub>79</sub>NO<sub>13</sub>).



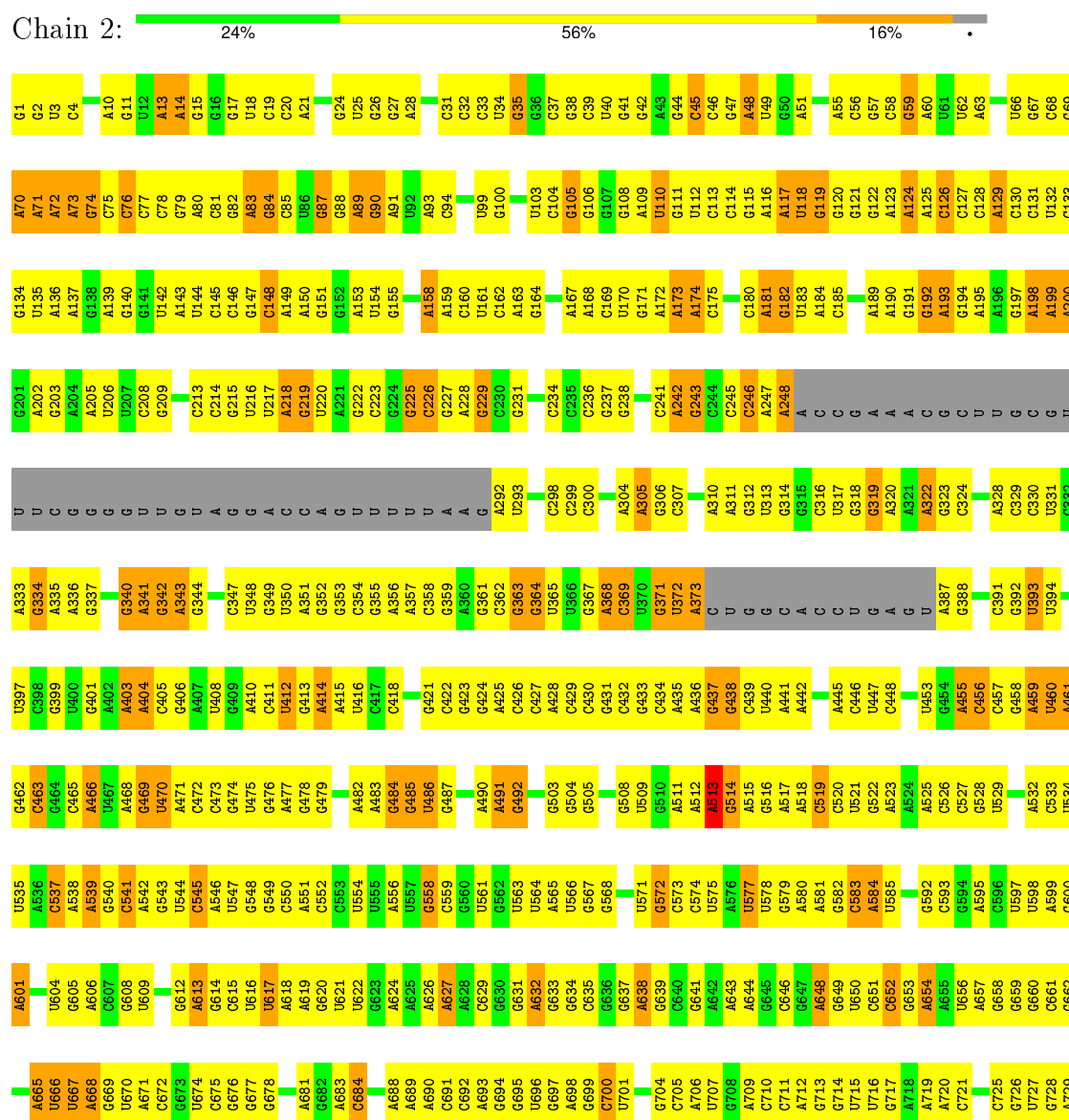
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	2	1	65	51	1	13	0	0

### 3 Residue-property plots

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

Note EDS was not executed.

#### • Molecule 1: 23S RIBOSOMAL RNA





G2747	C2747	A3685	G2620	G2555	G2487	C2420	A2352	C2271	C2205	G2140	G2076	A2014	C1948	C1878	A1811
C2748	G2621	C2686	G2622	A2556	G2488	C2421	G2353	C2274	C2206	A	G2077	G2015	A1949	G1879	U1812
A2749	G2623	G2557	A2623	G2557	C2489	G2422	G2354	U2275	G2207	G	U2080	A2016	G1951	G1880	A1813
G2750	G2624	G2558	G2625	G2558	U2490	G2423	A2355	U2276	U2208	C	U2081	G2017	G1952	U1881	G1814
C2751	G2625	G2559	U2625	G2560	C2491	G2424	A2356	A2280	G2209	A	C2082	C2019	A1953	G1882	G1815
C2752	U2626	G2560	G2626	G2561	U2492	G2425	A2357	C2281	G2210	A	G2083	G2020	A1954	A1883	G1816
C2753	G2627	G2561	G2627	G2562	C2493	G2426	C2358	G2282	U2211	C	G2084	G2021	A1955	U1817	U1817
C2754	G2628	G2562	G2628	G2563	C2494	U2427	U2359	G2283	U2212	C	G2085	G2022	G1956	G1885	G1818
A2755	G2629	G2563	G2629	G2564	C2495	U2428	G2360	G2284	G2213	G	U2086	C2023	G1957	G1886	U1819
A2756	G2630	C2496	U2629	C2565	C2497	A2429	G2361	U2285	G2214	U	U2087	C2024	C1957	G1887	G1820
G2757	G2631	C2497	G2630	G2566	C2498	A2430	G2362	U2286	G2215	U	U2088	A2025	C1957	A1821	A1821
A2758	G2632	U2498	G2631	G2567	U2499	G2432	G2363	G2287	G2216	G	C2089	G2026	G1962	G1889	C1822
A2759	G2633	C2499	G2632	G2567	C2500	G2433	G2364	G2288	G2217	A	U2090	C2026	G1963		
G2760	G2634	G2500	G2633	G2568	C2501	G2434	U2365	A2288	G2218	A	U2091		A1964	U1894	C1825
A2761	U2635	A2569	G2634	A2568	U2501	G2435	U2366	A2289	U2219	A	C2091	G2029	U1965	G1826	C1825
G2762	A2636	G2570	G2635	G2569	G2502	U2436	U2367	A2290	U2220	U	U2092	U2030	C1966	G1827	U1827
A2763	G2637	G2571	G2503	G2570	G2503	A2437	G2368	U2291	G2221	A	G2093	A2031	U1967	C1897	G1827
A2764	G2638	U2572	G2504	G2571	G2504	G2438	U2369	U2292	C2292	C2157	C2094	G2032	U1968	U1898	C1828
C2765	G2639	U2573	G2505	G2572	U2505	A2439	U2370	G2293	G2222	C2158	C2095	C2033	G1969	C1829	C1830
U2766	G2640	G2574	G2506	G2573	U2506	U2441	A2371	U2294	U2224	A2159	U2096	A2034	G1970	U1900	C1831
C2767	A2641	G2575	G2507	G2574	G2507	G2442	A2372	U2295	G2225	A2160	U2097	G2035	C1971	A1901	G1832
A2768	G2642	U2576	G2508	G2576	A2508	C2443	C2373	G2297	A2226	C2162	G	G2036	C1972	G1904	U1833
C2769	G2643	G2577	A2509	G2577	A2509	G2444	C2374	U2298	U2227	C2163	A	A2037	C1973	G1905	U1834
A2770	G2644	A2578	G2510	G2578	A2510	C2445	U2375	A2299	U2228	A2165	U	C2038	G1974	C1835	C1835
C2771	A2644	A2579	A2511	G2579	A2511	G2446	G2376	G2300	G2229	A2166	A	G2039	G1975	C1908	C1836
U2772	G2645	A2579	A2512	G2579	A2512	G2447	G2376	G2301	G2230	A2167	A		U1976	U1909	
G2773	G2646	G2580	G2513	G2580	G2513	G2448	U2377	A2301	G2231	A2168		A2042	C1977	A1910	A1840
U2774	G2647	A2581	G2514	G2581	G2514	U2449	G2378	G2302	G2232	A2169	G	A2043	C1978	A1911	G1841
U	A2649	G2582	U2515	G2582	U2515	G2450	G2379	G2303	G2233	A2170	G	A2044	C1979	G1912	G1842
A2775	G2650	U2583	U2516	U2583	U2516	A2451	U2380	G2304	U2236	C2170	C	A2045	A1980	G1913	U1843
A	U2651	G2584	G2517	U2584	G2517	G2452	U2381	G2305	U2237	U2171	U	A2046	A1981	U1914	U1844
U2778	G2652	G2585	G2518	G2585	G2518	C2453	C2382	A2306	G2238	U2172	A	C2047	A1982	A1915	A1845
C2779	A2653	G2586	A2520	G2586	A2520	U2454	C2383	A2307	G2239	G2173		C2048	G1983	A1916	A1846
A2800	G2657	G2587	G2521	G2587	G2521	G2455	U2384	A2308	G2240	G2174		C2049	C1984	G1917	U1847
A2801	A2658	U2588	G2522	U2588	G2522	G2456	G2385	G2309	U2241	U2175	U	G2050	G1985	A1918	U1848
A2802	G2659	G2589	G2523	G2589	G2523	G2457	U2386	G2310	C2242	U2176	C	G2051	G1986	A1919	G1849
C2803	C2660	U2590	G2524	U2590	G2524	G2458	G2387	G2311	G2243	U2177	G	G2052	G1987	A1920	G1850
A2804	G2661	G2591	U2525	G2591	U2525	G2459	G2388	U2312	A2245	U2178	C	G2053	A1988	A1921	
A2805	U2662	U2592	U2526	U2592	U2526	G2460	A2390	A2313	A2246	C2179		A2054	C1991	U1922	C1853
A2806	G2663	G2593	G2527	G2593	G2527	G2461	A2391	A2314	A2247	U2180	G	A2055	C1992	U1923	G1854
A2807	U2664	U2594	U2528	U2594	U2528	G2462	G2392	G2315	A2248	A2181		G2056	G1993	G1924	G1855
A2808	G2665	G2595	G2529	G2595	G2529	G2463	C2396	G2316	U2249	A2182	A2118	C2057	G1994	C1925	U1856
A2809	U2666	U2596	U2531	G2596	U2531	G2464	A2397	G2317	G2250	C2183		U2058	U1994	U1926	G1857
A2810	G2667	G2597	G2532	G2597	G2532	G2465	U2398	U2318	U2251	C2184		U2059	G1995	U1927	C1858
A2811	C2668	C2598	G2533	G2598	G2533	G2466	C2399	U2322	A2252	U2185		A2060	A1996	G1928	A1859
A2812	U2669	U2599	G2534	U2599	G2534	U2470	C2400	U2323	A2253	C2186		C2061	A1997	G1929	
A2813	G2670	A2540	U2541	G2602	U2541	U2471	A2401	G2324	G2254	A2189	U	U2062	C2001	U1934	A1860
A2814	C2671	U2542	U2542	G2603	U2542	U2472	U2402	G2325	G2255	A2191	U	A2063	A1935	A1935	G1861
A2815	U2672	G2543	G2543	G2604	G2543	C2473	C2403	C2326	G2256	U2192	U	U2064	A2002	A1936	C1862
A2816	G2673	A2544	A2544	G2605	A2544	A2474	A2404	U2327	G2257	C2193	U	A2065	A2003	G1937	G1863
A2817	C2674	A2545	A2545	G2606	A2545	C2475	A2405	G2328	G2258	A2194	G	G2066	U2004	U1938	C1864
A2818	U2675	G2546	G2546	G2607	G2546	C2476	C2406	G2329	G2259	C2195	U	U2067	U2005	U1939	C1865
A2819	G2676	U2547	U2547	G2608	U2547	C2477	G2407	C2330	G2260	C2196	U	G2068	A2006	C1940	A1867
A2820	U2677	G2548	G2548	G2609	G2548	U2478	G2408	G2331	C2261	A2197	G	U2069	G2007	C1941	A1868
A2821	C2678	U2549	G2549	G2610	G2549	C2479	C2409	G2332	C2262	U2198		G2070	G2008	G1942	U1869
A2822	G2679	G2550	G2550	G2611	G2550	U2480	U2410	G2333	G2263	C2199		G2071	C2009	U2009	A1870
A2823	U2680	A2551	A2551	G2612	A2551	G2481	U2411	U2334	A2265	G2200		G2072	G2010	C1944	G1871
A2824	G2680	G2552	G2552	G2613	G2552	U2482	U2412	U2335	A2266	G2201		C2073	G2011	C1945	
A2825	U2681	U2553	U2553	G2614	U2553	G2483	U2413	G2336	A2267	G2202		A2074	A2012	U1946	C1875
A2826	G2682	G2554	G2554	G2615	G2554	G2484	C2414	G2337	G2268	G2203		U2075	A2013	G1947	
A2827	U2683	C2555	C2555	G2616	C2555	G2485	C2415	G2338	U2270	A2204					
A2828	G2684	G2556	G2556	G2617	G2556	G2486	C2416	G2339							
A2829	U2685	G2557	G2557	G2618	G2557	G2487	C2417	G2340							
A2830	C2686	G2558	G2558	G2619	G2558	G2488	C2418	U2341							
A2831	U2687	G2559	G2559	G2620	G2559	G2489	C2419	G2342							
A2832	G2688	G2560	G2560	G2621	G2560	G2490	C2420	G2343							
A2833	U2689	G2561	G2561	G2622	G2561	G2491	C2421	G2344							
A2834	C2689	G2562	G2562	G2623	G2562	G2492	C2422	G2345							
A2835	U2690	G2563	G2563	G2624	G2563	G2493	C2423	G2346							
A2836	G2691	G2564	G2564	G2625	G2564	G2494	C2424	G2347							
A2837	C2692	G2565	G2565	G2626	G2565	G2495	C2425	G2348							
A2838	U2693	G2566	G2566	G2627	G2566	G2496	C2426	G2349							
A2839	G2694	G2567	G2567	G2628	G2567	G2497	C2427	G2350							
A2840	C2695	G2568	G2568	G2629	G2568	G2498	C2428	G2351							
A2841	U2696	G2569	G2569	G2630	G2569	G2499	C2429	G2352							
A2842	G2697	G2570	G2570	G2631	G2570	G2500	G2430	G2353							
A2843	C2698	G2571	G2571	G2632	G2571	G2501	G2431	G2354							
A2844	U2699	G2572	G2572	G2633	G2572	G2502	G2432	G2355							
A2845	G2700	G2573	G2573	G2634	G2573	G2503	G2433	G2356							
A2846	C2701	G2574	G2574	G2635	G2574	G2504	G2434	G2357							
A2847	U2702	G2575	G2575	G2636	G2575	G2505	G2435	G2358							
A2848	G2703	G2576	G2576	G2637	G2576	G2506	G2436	G2359							
A2849	C2704	G2577	G2577	G2638	G2577	G2507	G2437	G2360							
A2850	U2705	G2578	G2578	G2639	G2578	G2508	G2438	G2361							
A2851	C2706	G2579	G2579	G2640	G2579	G2509	G2439	G2362							
A2852	U2707	G2580	G2580	G2641	G2580	G2510	G2440	G2363							
A2853	G2708	G2581	G2581	G2642	G2581	G2511	G2441	G2364							
A2854	C2709	G2582	G2582	G2643	G2582	G2512	G2442	G2365							
A2855	U2710	G2583	G2583	G2644	G2583	G2513	G2443	G2366		</					

## 4 Data and refinement statistics

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

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	168.50 Å   404.00 Å   689.00 Å 90.00°   90.00°   90.00°	Depositor
Resolution (Å)	8.00 – 3.80	Depositor
% Data completeness (in resolution range)	(Not available) (8.00-3.80)	Depositor
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	CNS	Depositor
R, $R_{free}$	0.273 , 0.368	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	59424	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	58.0	wwPDB-VP

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

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	2	0.15	0/66467	0.63	1/103673 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
1	2	513	A	C2'-C3'-O3'	6.09	123.44	113.70

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2	59359	0	29917	2275	0
2	2	65	0	79	20	0
All	All	59424	0	29996	2275	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 26.

All (2275) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.



Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1773:C:H41	2:2:2881:RAP:C15	1.42	1.32
1:2:1773:C:N4	2:2:2881:RAP:H151	1.54	1.20
1:2:700:C:H42	1:2:800:U:H4'	1.11	1.15
1:2:1663:C:H5'	1:2:1664:G:H5''	1.32	1.08
1:2:940:G:H3'	1:2:941:U:H5''	1.36	1.08
1:2:824:U:H4'	1:2:1264:C:H1'	1.31	1.06
1:2:1773:C:H41	2:2:2881:RAP:H151	1.11	1.04
1:2:2636:A:H62	1:2:2643:G:H21	1.05	1.04
1:2:1773:C:N4	2:2:2881:RAP:C15	2.15	1.03
1:2:109:A:H2'	1:2:110:U:H5''	1.40	1.02
1:2:619:A:H61	1:2:629:C:H42	1.07	1.01
1:2:462:G:H2'	1:2:463:C:H5''	1.43	1.01
1:2:665:A:H3'	1:2:666:U:H5''	1.43	0.98
1:2:2476:A:O2'	1:2:2477:C:H5'	1.63	0.98
1:2:1327:C:H42	1:2:1351:G:H1	1.11	0.97
1:2:2082:C:H42	1:2:2173:G:H1	1.14	0.94
1:2:1715:A:H2'	1:2:1716:G:H5''	1.50	0.93
1:2:1468:A:H3'	1:2:1469:U:H5''	1.51	0.93
1:2:1572:C:H2'	1:2:1573:G:H5''	1.51	0.93
1:2:2380:U:H2'	1:2:2381:A:H5'	1.50	0.93
1:2:890:U:H3'	1:2:891:A:H5''	1.48	0.92
1:2:2194:A:H2'	1:2:2195:C:H5''	1.49	0.92
1:2:1773:C:H5	2:2:2881:RAP:O7	1.53	0.92
1:2:2081:U:H2'	1:2:2082:C:H5''	1.47	0.92
1:2:1617:G:H2'	1:2:1618:U:H5'	1.49	0.91
1:2:362:C:H2'	1:2:363:G:H4'	1.51	0.91
1:2:1432:G:H21	1:2:1596:A:H62	1.19	0.90
1:2:1438:G:H2'	1:2:1439:G:H5'	1.54	0.90
1:2:88:G:H3'	1:2:89:A:H5''	1.51	0.90
1:2:1908:C:H2'	1:2:1909:U:H4'	1.53	0.89
1:2:1715:A:C2'	1:2:1716:G:H5''	2.01	0.89
1:2:2:G:H1	1:2:2875:C:H42	1.21	0.89
1:2:1773:C:N4	2:2:2881:RAP:C14	2.35	0.89
1:2:1773:C:H41	2:2:2881:RAP:C14	1.86	0.88
1:2:2038:C:H2'	1:2:2483:U:H4'	1.54	0.88
1:2:2809:A:N6	1:2:2854:G:H1'	1.89	0.88
1:2:1616:C:H2'	1:2:1617:G:H8	1.38	0.87
1:2:2299:A:H1'	1:2:2312:A:H62	1.39	0.87
1:2:1442:C:H41	1:2:1585:A:H5''	1.39	0.87
1:2:2281:C:H42	1:2:2293:G:H22	1.17	0.87
1:2:545:C:H42	1:2:567:G:H1	1.18	0.87
1:2:2198:U:H3'	1:2:2199:C:H5''	1.53	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:436:A:H5'	1:2:437:G:H5''	1.53	0.87
1:2:1333:G:N2	1:2:1346:C:H42	1.73	0.86
1:2:58:C:H3'	1:2:59:G:H5''	1.58	0.86
1:2:1268:U:H5'	1:2:1269:G:H5''	1.58	0.86
1:2:13:A:H5''	1:2:14:A:OP1	1.75	0.86
1:2:1549:C:H2'	1:2:1550:C:H5'	1.58	0.85
1:2:821:A:O2'	1:2:1267:A:H4'	1.77	0.85
1:2:174:A:H4'	1:2:2051:U:H2'	1.56	0.85
1:2:1336:G:H2'	1:2:1337:G:H5''	1.58	0.85
1:2:2727:G:H2'	1:2:2728:A:H5''	1.58	0.85
1:2:1656:U:H2'	1:2:1657:A:H5''	1.57	0.84
1:2:468:A:O2'	1:2:469:G:H4'	1.76	0.84
1:2:492:G:H22	1:2:519:C:H42	1.24	0.84
1:2:1621:C:H4'	1:2:1626:A:N6	1.93	0.84
1:2:2404:A:H4'	1:2:2405:A:O5'	1.75	0.84
1:2:1773:C:C5	2:2:2881:RAP:O7	2.30	0.84
1:2:1854:G:H22	1:2:1863:U:H3	1.25	0.84
1:2:391:C:H42	1:2:410:A:H61	1.25	0.84
1:2:1466:C:H2'	1:2:1467:U:O4'	1.77	0.83
1:2:1374:G:H1	1:2:1383:C:H42	1.22	0.83
1:2:614:G:H1'	1:2:670:U:H1'	1.59	0.83
1:2:1265:G:H2'	1:2:1266:G:O4'	1.79	0.83
1:2:929:A:H3'	1:2:930:A:H5''	1.59	0.83
1:2:1495:G:H1	1:2:1528:C:N4	1.75	0.83
1:2:1036:G:H1'	1:2:1145:C:H4'	1.58	0.83
1:2:2432:A:H2'	1:2:2433:G:H8	1.42	0.82
1:2:1139:A:H1'	1:2:2495:G:O2'	1.77	0.82
1:2:1066:G:H3'	1:2:1067:G:H5''	1.60	0.82
1:2:181:A:H4'	1:2:182:G:H4'	1.61	0.82
1:2:1401:G:H1	1:2:1412:C:H42	1.26	0.82
1:2:931:G:H22	1:2:2247:A:H3'	1.45	0.82
1:2:1373:G:H22	1:2:2192:U:H3	1.27	0.81
1:2:1483:G:H1	1:2:1539:U:H3	1.28	0.81
1:2:700:C:N4	1:2:800:U:H4'	1.95	0.81
1:2:1689:U:H2'	1:2:1690:U:H5''	1.62	0.81
1:2:2727:G:C2'	1:2:2728:A:H5''	2.11	0.81
1:2:890:U:H3'	1:2:891:A:C5'	2.10	0.81
1:2:1312:G:H4'	1:2:1314:A:N3	1.96	0.80
1:2:941:U:H2'	1:2:942:U:O4'	1.80	0.80
1:2:666:U:H2'	1:2:668:A:OP1	1.82	0.80
1:2:2633:A:H5''	1:2:2634:G:OP1	1.80	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1102:G:H1	1:2:1112:U:H1'	1.46	0.79
1:2:561:U:H5'	1:2:1233:A:H1'	1.64	0.79
1:2:2194:A:C2'	1:2:2195:C:H5''	2.13	0.79
1:2:2321:C:H2'	1:2:2322:U:O4'	1.82	0.78
1:2:63:A:H61	1:2:89:A:H61	1.28	0.78
1:2:759:C:H5'	1:2:761:G:H1'	1.65	0.78
1:2:2809:A:H61	1:2:2854:G:H1'	1.48	0.78
1:2:1495:G:H1	1:2:1528:C:H42	1.31	0.78
1:2:323:G:OP2	1:2:342:G:H2'	1.84	0.78
1:2:1974:U:C2'	1:2:1975:G:H5'	2.13	0.78
1:2:689:A:H8	1:2:2052:G:H21	1.31	0.78
1:2:1459:U:O2	1:2:1475:U:H2'	1.84	0.78
1:2:2261:G:H4'	1:2:2262:C:OP2	1.84	0.77
1:2:2058:U:H1'	1:2:2576:G:H21	1.47	0.77
1:2:184:A:H4'	1:2:812:G:H4'	1.64	0.77
1:2:215:G:H21	1:2:632:A:H8	1.33	0.77
1:2:1354:A:O2'	1:2:1355:A:H5'	1.82	0.77
1:2:538:A:H2'	1:2:539:A:H5''	1.64	0.77
1:2:1304:U:H2'	1:2:1305:C:H5''	1.65	0.77
1:2:1029:C:H2'	1:2:1030:U:H5''	1.67	0.77
1:2:541:C:H2'	1:2:2002:A:H2	1.48	0.77
1:2:2378:G:H1	1:2:2396:C:H42	1.33	0.77
1:2:940:G:H3'	1:2:941:U:C5'	2.13	0.76
1:2:1807:A:H2'	1:2:1808:C:H4'	1.67	0.76
1:2:109:A:C2'	1:2:110:U:H5''	2.14	0.76
1:2:1401:G:H1	1:2:1412:C:N4	1.82	0.76
1:2:1714:A:H62	1:2:1715:A:N6	1.82	0.76
1:2:1772:C:H5''	1:2:1773:C:OP1	1.85	0.76
1:2:1102:G:N1	1:2:1112:U:H1'	2.01	0.76
1:2:1690:U:H2'	1:2:1691:G:H5'	1.68	0.76
1:2:2059:U:H5''	1:2:2217:G:H1	1.47	0.76
1:2:77:C:N4	1:2:106:G:H1	1.84	0.76
1:2:2756:A:H1'	1:2:2758:A:N7	2.00	0.76
1:2:1322:G:H21	1:2:1627:C:H5'	1.51	0.76
1:2:245:C:H2'	1:2:246:C:H5	1.51	0.76
1:2:698:A:H1'	1:2:701:U:O4	1.86	0.76
1:2:1181:C:H2'	1:2:1182:U:H4'	1.65	0.76
1:2:1291:G:H1	1:2:1305:C:H42	1.33	0.75
1:2:2418:A:O2'	1:2:2566:A:H5''	1.86	0.75
1:2:1312:G:H5''	1:2:1313:U:H5''	1.68	0.75
1:2:361:G:N2	1:2:362:C:H41	1.85	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1496:G:H1	1:2:1527:G:H1	1.34	0.75
1:2:1982:C:H5''	1:2:2703:C:O2'	1.87	0.75
1:2:1144:U:O2	1:2:1147:G:H5''	1.87	0.75
1:2:1747:G:H4'	1:2:1749:G:H1'	1.68	0.75
1:2:1440:G:H1'	1:2:1588:A:H61	1.52	0.74
1:2:684:C:H42	1:2:822:G:H1	1.34	0.74
1:2:1327:C:N4	1:2:1351:G:H1	1.85	0.74
1:2:2549:G:H2'	1:2:2550:C:O4'	1.87	0.74
1:2:2475:C:H2'	1:2:2476:A:O4'	1.87	0.74
1:2:1357:U:O2'	1:2:1397:A:H2'	1.87	0.74
1:2:2227:C:H2'	1:2:2228:U:H5'	1.69	0.74
1:2:1111:C:H2'	1:2:1112:U:H5'	1.69	0.74
1:2:1289:A:H61	1:2:1307:U:H3	1.33	0.74
1:2:2691:C:H2'	1:2:2692:A:H5''	1.68	0.74
1:2:1226:A:N6	1:2:1249:G:H1'	2.02	0.74
1:2:1627:C:OP2	1:2:1627:C:H3'	1.88	0.74
1:2:245:C:H2'	1:2:246:C:C5	2.23	0.74
1:2:63:A:H61	1:2:89:A:N6	1.86	0.73
1:2:68:C:H2'	1:2:69:G:O4'	1.88	0.73
1:2:2380:U:C2'	1:2:2381:A:H5'	2.19	0.73
1:2:1656:U:C2'	1:2:1657:A:H5''	2.18	0.73
1:2:403:A:H5''	1:2:404:A:OP1	1.88	0.73
1:2:956:A:C2	1:2:2427:A:H1'	2.23	0.73
1:2:1356:G:H3'	1:2:1356:G:OP1	1.87	0.73
1:2:1141:U:O2	1:2:2008:C:H5''	1.87	0.73
1:2:1195:U:H2'	1:2:1196:G:C8	2.24	0.73
1:2:1185:C:H41	1:2:1189:G:H1	1.37	0.73
1:2:871:U:H1'	1:2:2248:A:H4'	1.70	0.73
1:2:1697:U:H2'	1:2:1698:C:H5'	1.71	0.73
1:2:1572:C:C2'	1:2:1573:G:H5''	2.18	0.73
1:2:2299:A:H1'	1:2:2312:A:N6	2.02	0.73
1:2:1772:C:O2'	2:2:2881:RAP:H502	1.89	0.72
1:2:181:A:C4'	1:2:182:G:H4'	2.19	0.72
1:2:821:A:H2'	1:2:822:G:H8	1.54	0.72
1:2:1811:A:H1'	1:2:1813:A:C6	2.24	0.72
1:2:1386:A:H5''	1:2:2191:A:N6	2.04	0.72
1:2:1501:C:H42	1:2:1519:G:H22	1.36	0.72
1:2:613:A:H2'	1:2:614:G:H8	1.53	0.72
1:2:1442:C:N4	1:2:1585:A:H5''	2.04	0.72
1:2:715:U:H3	1:2:743:A:H61	1.37	0.72
1:2:1882:G:H21	1:2:1885:C:N4	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1183:C:N4	1:2:1191:G:H1	1.87	0.72
1:2:951:G:H2'	1:2:952:A:H5''	1.71	0.72
1:2:2783:U:H3	1:2:2866:A:H62	1.36	0.72
1:2:2429:A:OP2	1:2:2429:A:H8	1.73	0.72
1:2:1773:C:H41	2:2:2881:RAP:C16	2.03	0.71
1:2:2048:C:H1'	1:2:2428:U:O2	1.88	0.71
1:2:2081:U:C2'	1:2:2082:C:H5''	2.20	0.71
1:2:146:C:H2'	1:2:147:G:H8	1.55	0.71
1:2:1811:A:H5''	1:2:1812:U:OP1	1.91	0.71
1:2:1353:A:H4'	1:2:1407:G:H1'	1.72	0.71
1:2:119:G:H1	1:2:128:C:H42	1.38	0.71
1:2:1226:A:H62	1:2:1249:G:H1'	1.56	0.71
1:2:1458:A:H3'	1:2:1459:U:C5'	2.21	0.71
1:2:2379:G:H2'	1:2:2380:U:O4'	1.90	0.71
1:2:1373:G:N2	1:2:2192:U:H3	1.89	0.71
1:2:847:C:H41	1:2:955:G:N2	1.89	0.71
1:2:795:A:H4'	1:2:796:A:N7	2.06	0.70
1:2:2287:G:H2'	1:2:2287:G:N3	2.06	0.70
1:2:2170:C:H2'	1:2:2171:U:H5'	1.73	0.70
1:2:1001:A:H62	1:2:1200:G:H1'	1.56	0.70
1:2:538:A:C2'	1:2:539:A:H5''	2.20	0.70
1:2:1900:U:O2'	1:2:1946:U:H5'	1.92	0.70
1:2:1975:G:H1'	1:2:1977:C:H41	1.56	0.70
1:2:305:A:H2'	1:2:306:G:O4'	1.91	0.70
1:2:1541:G:H22	1:2:1561:A:H61	1.36	0.70
1:2:821:A:H2'	1:2:822:G:C8	2.26	0.70
1:2:1181:C:H3'	1:2:1182:U:H5''	1.73	0.70
1:2:2810:A:H4'	1:2:2811:G:C8	2.26	0.70
1:2:2268:G:H5''	1:2:2363:G:O2'	1.91	0.70
1:2:2670:C:H42	1:2:2698:G:H22	1.37	0.70
1:2:1055:A:N1	1:2:1122:A:H5'	2.06	0.70
1:2:1715:A:H1'	1:2:1717:A:O4'	1.92	0.70
1:2:2565:C:O2	2:2:2881:RAP:O4	2.09	0.70
1:2:1335:A:H2'	1:2:1336:G:H8	1.57	0.70
1:2:1947:G:H4'	1:2:1948:C:C5	2.27	0.70
1:2:2660:C:O2'	1:2:2661:G:H5'	1.91	0.70
1:2:2274:C:H2'	1:2:2275:U:H5'	1.74	0.70
1:2:411:C:H2'	1:2:412:U:H5''	1.74	0.69
1:2:912:A:H2'	1:2:913:A:O4'	1.92	0.69
1:2:2303:C:H5'	1:2:2304:G:H5''	1.75	0.69
1:2:1036:G:H1'	1:2:1145:C:C4'	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1440:G:H1'	1:2:1588:A:N6	2.06	0.69
1:2:1673:C:H42	1:2:1987:G:H1	1.39	0.69
1:2:1495:G:H2'	1:2:1496:G:H8	1.57	0.69
1:2:342:G:O2'	1:2:343:A:OP1	2.11	0.69
1:2:1198:C:OP1	1:2:1199:U:H1'	1.92	0.69
1:2:1184:G:C2'	1:2:1185:C:H5''	2.23	0.69
1:2:2636:A:H62	1:2:2643:G:N2	1.86	0.69
1:2:158:A:H1'	1:2:448:C:H5'	1.74	0.69
1:2:579:G:H2'	1:2:2013:A:N7	2.08	0.69
1:2:55:A:N6	1:2:69:G:H1	1.91	0.69
1:2:1088:A:H2'	1:2:1089:C:O4'	1.91	0.69
1:2:2795:A:N3	1:2:2795:A:H2'	2.08	0.69
1:2:721:C:H42	1:2:736:G:H22	1.39	0.69
1:2:2082:C:H2'	1:2:2083:G:O4'	1.92	0.69
1:2:918:A:H2'	1:2:919:U:H5''	1.73	0.69
1:2:401:G:H2'	1:2:403:A:N7	2.07	0.68
1:2:688:A:N6	1:2:816:U:H3	1.91	0.68
1:2:616:U:H2'	1:2:617:U:H5''	1.74	0.68
1:2:1094:C:H2'	1:2:1096:A:OP2	1.94	0.68
1:2:712:A:H4'	1:2:1651:U:N3	2.07	0.68
1:2:1814:G:H2'	1:2:1815:G:H8	1.58	0.68
1:2:2320:G:H2'	1:2:2321:C:O4'	1.92	0.68
1:2:2378:G:H1	1:2:2396:C:N4	1.92	0.68
1:2:2204:A:O2'	1:2:2205:C:OP2	2.10	0.68
1:2:2756:A:N6	1:2:2762:G:H1'	2.09	0.68
1:2:2668:U:O2	1:2:2693:U:H1'	1.93	0.68
1:2:2823:G:H1'	1:2:2843:A:N6	2.08	0.68
1:2:765:C:C4	1:2:1772:C:H1'	2.29	0.68
1:2:2063:A:H61	1:2:2219:U:H3	1.41	0.68
1:2:70:A:O2'	1:2:71:A:H5'	1.94	0.68
1:2:459:A:N6	1:2:484:G:H1'	2.08	0.68
1:2:413:G:O2'	1:2:414:A:H5''	1.94	0.68
1:2:1712:G:H3'	1:2:1712:G:N3	2.09	0.68
1:2:247:A:H3'	1:2:373:A:H5''	1.76	0.68
1:2:246:C:H3'	1:2:373:A:O5'	1.93	0.68
1:2:1912:G:N3	1:2:1912:G:H3'	2.09	0.68
1:2:2406:C:H4'	1:2:2408:G:N3	2.08	0.68
1:2:32:C:H5'	1:2:1251:G:OP1	1.94	0.68
1:2:169:C:H2'	1:2:170:U:H5'	1.76	0.68
1:2:47:G:H2'	1:2:48:A:H5''	1.76	0.68
1:2:863:C:H42	1:2:939:C:N4	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:129:A:H2'	1:2:130:C:O4'	1.94	0.68
1:2:572:G:H5'	1:2:581:A:H4'	1.76	0.67
1:2:58:C:C3'	1:2:59:G:H5''	2.24	0.67
1:2:1468:A:H3'	1:2:1469:U:C5'	2.23	0.67
1:2:2796:A:H2'	1:2:2797:G:H8	1.59	0.67
1:2:351:A:H2'	1:2:352:G:C8	2.30	0.67
1:2:1356:G:H5'	1:2:1614:C:OP2	1.94	0.67
1:2:2179:C:H2'	1:2:2180:U:O4'	1.94	0.67
1:2:487:G:H4'	1:2:512:A:N1	2.09	0.67
1:2:2736:U:O2'	1:2:2737:A:H5'	1.94	0.67
1:2:614:G:H1	1:2:634:G:H1	1.40	0.67
1:2:57:G:H2'	1:2:72:A:N6	2.09	0.67
1:2:2503:G:H22	1:2:2721:A:H1'	1.58	0.67
1:2:840:U:H1'	1:2:2225:G:H1'	1.75	0.67
1:2:1465:G:H2'	1:2:1466:C:C6	2.30	0.67
1:2:2670:C:N4	1:2:2698:G:H22	1.92	0.67
1:2:47:G:C2'	1:2:48:A:H5''	2.24	0.67
1:2:175:C:H42	1:2:225:G:H1	1.41	0.67
1:2:1850:G:H22	1:2:1867:A:H1'	1.58	0.67
1:2:1174:G:H2'	1:2:1175:A:H8	1.59	0.67
1:2:347:C:H2'	1:2:348:U:C6	2.29	0.67
1:2:2810:A:H5''	1:2:2811:G:OP1	1.94	0.67
1:2:351:A:H2'	1:2:352:G:H8	1.60	0.67
1:2:318:G:N2	1:2:320:A:H3'	2.10	0.67
1:2:863:C:H42	1:2:939:C:H42	1.39	0.67
1:2:2281:C:N4	1:2:2293:G:H22	1.92	0.67
1:2:2245:A:H5'	1:2:2246:A:C8	2.30	0.67
1:2:1670:G:H21	1:2:1988:A:H62	1.40	0.67
1:2:411:C:C3'	1:2:412:U:H5''	2.25	0.67
1:2:117:A:H5'	1:2:118:U:OP1	1.95	0.67
1:2:2139:G:N3	1:2:2139:G:H2'	2.10	0.67
1:2:1325:U:H1'	1:2:1326:U:C5	2.30	0.66
1:2:2429:A:OP2	1:2:2429:A:C8	2.47	0.66
1:2:1184:G:O2'	1:2:1185:C:H5''	1.95	0.66
1:2:1252:C:O2'	1:2:1253:C:H5''	1.95	0.66
1:2:1338:G:H5'	1:2:1339:U:OP2	1.94	0.66
1:2:1296:G:H1'	1:2:1342:U:H3	1.61	0.66
1:2:59:G:O6	1:2:62:U:H2'	1.94	0.66
1:2:2198:U:H3'	1:2:2199:C:C5'	2.25	0.66
1:2:13:A:H4'	1:2:14:A:C5'	2.25	0.66
1:2:2168:A:H2'	1:2:2169:A:H5'	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2213:G:H2'	1:2:2214:G:H8	1.60	0.66
1:2:104:C:H2'	1:2:105:G:H5'	1.75	0.66
1:2:1223:G:H4'	1:2:1224:A:O5'	1.96	0.66
1:2:1926:U:O2'	1:2:1928:G:H5'	1.95	0.66
1:2:462:G:C2'	1:2:463:C:H5''	2.23	0.66
1:2:1055:A:H1'	1:2:1058:G:H1'	1.77	0.66
1:2:2122:G:H2'	1:2:2122:G:N3	2.10	0.66
1:2:13:A:H4'	1:2:14:A:H5''	1.75	0.66
1:2:2092:U:H5''	1:2:2132:G:O2'	1.94	0.66
1:2:436:A:C5'	1:2:437:G:H5''	2.25	0.66
1:2:2593:A:O2'	1:2:2594:U:H5'	1.96	0.66
1:2:1952:A:H5'	1:2:1953:A:H5'	1.77	0.66
1:2:2432:A:H2'	1:2:2433:G:C8	2.28	0.66
1:2:2023:C:H2'	1:2:2024:U:O4'	1.95	0.66
1:2:511:A:O2'	1:2:512:A:H5'	1.96	0.66
1:2:1357:U:H5'	1:2:1358:C:OP2	1.96	0.66
1:2:1353:A:O2'	1:2:1619:A:H5'	1.96	0.66
1:2:2133:G:H2'	1:2:2134:U:C6	2.31	0.66
1:2:653:G:H2'	1:2:654:A:H4'	1.78	0.66
1:2:2602:G:H2'	1:2:2603:G:H8	1.61	0.66
1:2:1938:U:N3	1:2:2531:U:H1'	2.10	0.66
1:2:545:C:N4	1:2:567:G:H1	1.94	0.65
1:2:2024:U:H2'	1:2:2025:A:H5'	1.77	0.65
1:2:984:A:H2	1:2:1200:G:H1	1.42	0.65
1:2:44:G:H21	1:2:192:G:H21	1.44	0.65
1:2:2090:U:H3	1:2:2165:A:H2	1.43	0.65
1:2:1304:U:C2'	1:2:1305:C:H5''	2.26	0.65
1:2:128:C:H2'	1:2:129:A:H5''	1.78	0.65
1:2:191:G:O2'	1:2:192:G:H5'	1.96	0.65
1:2:2286:G:N2	1:2:2290:A:H61	1.93	0.65
1:2:716:U:H2'	1:2:717:G:O4'	1.96	0.65
1:2:27:G:H1'	1:2:523:A:H62	1.61	0.65
1:2:2249:U:H2'	1:2:2250:G:O4'	1.97	0.65
1:2:762:A:H61	1:2:766:A:H2	1.44	0.65
1:2:1336:G:C2'	1:2:1337:G:H5''	2.27	0.65
1:2:1458:A:H3'	1:2:1459:U:H5''	1.77	0.65
1:2:245:C:H1'	1:2:438:G:C2	2.31	0.65
1:2:2422:C:OP1	2:2:2881:RAP:H40	1.95	0.65
1:2:1616:C:H2'	1:2:1617:G:C8	2.25	0.65
1:2:1689:U:C2'	1:2:1690:U:H5''	2.27	0.65
1:2:1444:C:H2'	1:2:1445:A:C8	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2621:G:H2'	1:2:2622:G:H8	1.62	0.65
1:2:2109:A:H2'	1:2:2109:A:N3	2.12	0.65
1:2:942:U:O2'	1:2:943:U:H5'	1.95	0.65
1:2:490:A:O2'	1:2:491:A:H3'	1.97	0.65
1:2:2225:G:H1	1:2:2237:C:N4	1.95	0.65
1:2:2667:C:H1'	1:2:2702:G:H1	1.62	0.65
1:2:2781:G:H2'	1:2:2782:G:O4'	1.96	0.65
1:2:1640:C:H2'	1:2:1641:C:C6	2.31	0.65
1:2:1625:A:N3	1:2:1625:A:H2'	2.11	0.65
1:2:35:G:O4'	1:2:466:A:N3	2.30	0.65
1:2:2283:G:H1	1:2:2291:U:H3	1.44	0.65
1:2:2425:G:H4'	1:2:2427:A:H62	1.62	0.65
1:2:1066:G:H3'	1:2:1067:G:C5'	2.26	0.65
1:2:638:A:H2'	1:2:639:G:O4'	1.97	0.65
1:2:790:A:H2'	1:2:791:G:H8	1.62	0.65
1:2:633:G:H2'	1:2:634:G:H8	1.62	0.65
1:2:2616:U:H1'	1:2:2762:G:H22	1.62	0.65
1:2:1835:C:H2'	1:2:1836:C:C6	2.32	0.65
1:2:1414:G:H21	1:2:1484:G:H21	1.43	0.65
1:2:1974:U:O2'	1:2:1975:G:H5'	1.97	0.64
1:2:813:A:H1'	1:2:815:A:H5'	1.79	0.64
1:2:2204:A:H4'	1:2:2205:C:O5'	1.97	0.64
1:2:1333:G:H22	1:2:1346:C:H42	1.40	0.64
1:2:427:C:H1'	1:2:1856:U:H1'	1.79	0.64
1:2:1234:C:H2'	1:2:1235:C:C6	2.33	0.64
1:2:914:C:H2'	1:2:915:C:C6	2.33	0.64
1:2:1386:A:H5''	1:2:2191:A:H62	1.62	0.64
1:2:414:A:H2'	1:2:415:A:O4'	1.98	0.64
1:2:2245:A:O2'	1:2:2246:A:OP2	2.09	0.64
1:2:781:G:N2	1:2:1392:U:H1'	2.12	0.64
1:2:1438:G:C2'	1:2:1439:G:H5'	2.27	0.64
1:2:1197:U:H2'	1:2:1198:C:O4'	1.97	0.64
1:2:2491:C:C3'	1:2:2492:G:H5''	2.28	0.64
1:2:1039:A:H62	1:2:1136:G:H2'	1.62	0.64
1:2:843:G:N3	1:2:843:G:H2'	2.12	0.64
1:2:2692:A:H2'	1:2:2692:A:N3	2.13	0.64
1:2:44:G:H1	1:2:445:A:H61	1.46	0.64
1:2:2372:A:H2'	1:2:2373:C:C6	2.33	0.64
1:2:2261:G:H5''	1:2:2262:C:O5'	1.98	0.64
1:2:2322:U:O2'	1:2:2323:U:H5'	1.98	0.64
1:2:168:A:H2'	1:2:169:C:C6	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1339:U:O2'	1:2:1340:C:H5'	1.98	0.64
1:2:999:A:H4'	1:2:1166:A:N1	2.12	0.64
1:2:879:A:H2'	1:2:880:C:H5'	1.78	0.64
1:2:860:U:H3	1:2:945:G:N2	1.96	0.64
1:2:2663:U:H3	1:2:2705:A:H61	1.44	0.64
1:2:38:G:H1	1:2:453:U:H3	1.45	0.63
1:2:2821:G:H2'	1:2:2822:U:C6	2.33	0.63
1:2:413:G:N3	1:2:413:G:H2'	2.12	0.63
1:2:368:A:C2'	1:2:369:C:H5'	2.28	0.63
1:2:2315:A:H1'	1:2:2364:C:O4'	1.98	0.63
1:2:1153:A:H5''	1:2:1154:A:N7	2.14	0.63
1:2:1826:U:H4'	1:2:1952:A:H2'	1.80	0.63
1:2:1151:U:H5''	1:2:1153:A:OP2	1.99	0.63
1:2:832:A:H2'	1:2:833:A:O4'	1.98	0.63
1:2:2363:G:H3'	1:2:2365:U:OP2	1.98	0.63
1:2:1486:A:H2'	1:2:1487:C:C6	2.33	0.63
1:2:521:U:H4'	1:2:1248:G:H4'	1.81	0.63
1:2:1827:G:H1'	1:2:1914:U:H3	1.63	0.63
1:2:1697:U:C2'	1:2:1698:C:H5'	2.29	0.63
1:2:146:C:H2'	1:2:147:G:C8	2.33	0.63
1:2:158:A:H61	1:2:192:G:H1	1.47	0.63
1:2:1842:G:H1	1:2:1875:C:H42	1.46	0.63
1:2:1525:A:N3	1:2:1525:A:H2'	2.13	0.63
1:2:108:G:H2'	1:2:109:A:O4'	1.99	0.63
1:2:1183:C:H2'	1:2:1184:G:O4'	1.98	0.63
1:2:492:G:H22	1:2:519:C:N4	1.94	0.63
1:2:1252:C:C2'	1:2:1253:C:H5''	2.29	0.63
1:2:2134:U:H2'	1:2:2135:C:O4'	1.99	0.63
1:2:2368:G:H5''	1:2:2369:U:O4'	1.99	0.63
1:2:245:C:OP1	1:2:292:A:H5''	1.99	0.63
1:2:2264:C:H4'	1:2:2267:A:H62	1.64	0.63
1:2:32:C:H2'	1:2:33:C:C6	2.33	0.63
1:2:143:A:H2'	1:2:144:U:O4'	1.97	0.63
1:2:956:A:H2	1:2:2427:A:H1'	1.64	0.62
1:2:813:A:H1'	1:2:815:A:O4'	1.99	0.62
1:2:474:G:N2	1:2:476:G:H3'	2.14	0.62
1:2:1608:U:H2'	1:2:1609:G:C8	2.33	0.62
1:2:38:G:H2'	1:2:39:C:C6	2.34	0.62
1:2:78:C:H42	1:2:105:G:H1	1.47	0.62
1:2:777:A:N6	1:2:1766:U:H3	1.96	0.62
1:2:760:U:H3	1:2:1997:A:H2	1.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1656:U:H4'	1:2:2678:C:H4'	1.81	0.62
1:2:759:C:N3	1:2:2590:U:H5''	2.14	0.62
1:2:422:C:H2'	1:2:423:G:C8	2.34	0.62
1:2:1608:U:H2'	1:2:1609:G:H8	1.65	0.62
1:2:2516:U:H2'	1:2:2517:C:C6	2.35	0.62
1:2:684:C:N4	1:2:822:G:H1	1.97	0.62
1:2:759:C:C5'	1:2:761:G:H1'	2.30	0.62
1:2:1086:C:H2'	1:2:1087:C:H5''	1.80	0.62
1:2:775:U:O2	1:2:1445:A:H5''	2.00	0.62
1:2:2634:G:N3	1:2:2634:G:H2'	2.14	0.62
1:2:1538:A:H2'	1:2:1539:U:C6	2.35	0.62
1:2:129:A:H61	1:2:142:U:H3	1.47	0.62
1:2:1253:C:H2'	1:2:1254:G:O4'	1.99	0.62
1:2:134:G:N3	1:2:134:G:H2'	2.14	0.62
1:2:1773:C:N4	2:2:2881:RAP:H14	2.15	0.62
1:2:415:A:H2	1:2:435:A:H61	1.47	0.62
1:2:1967:U:H2'	1:2:1968:G:C8	2.35	0.62
1:2:1814:G:H2'	1:2:1815:G:C8	2.33	0.62
1:2:583:C:O2'	1:2:584:A:OP2	2.15	0.62
1:2:1030:U:C2'	1:2:1031:C:H5'	2.29	0.61
1:2:1670:G:H21	1:2:1988:A:N6	1.98	0.61
1:2:2672:U:H2'	1:2:2673:G:H8	1.65	0.61
1:2:2063:A:N6	1:2:2219:U:H3	1.98	0.61
1:2:2602:G:H2'	1:2:2603:G:C8	2.35	0.61
1:2:1886:G:H2'	1:2:1887:G:H8	1.65	0.61
1:2:619:A:H2'	1:2:620:G:C8	2.36	0.61
1:2:2371:A:N3	1:2:2371:A:H2'	2.15	0.61
1:2:391:C:H42	1:2:410:A:N6	1.97	0.61
1:2:646:C:O2'	1:2:650:U:H5''	2.01	0.61
1:2:202:A:H2'	1:2:203:G:O4'	2.00	0.61
1:2:1032:A:H2'	1:2:1033:G:H4'	1.82	0.61
1:2:1994:U:H2'	1:2:1995:G:O4'	1.99	0.61
1:2:2004:U:H5'	1:2:2005:U:OP1	2.01	0.61
1:2:1154:A:O2'	1:2:1155:G:OP1	2.15	0.61
1:2:1333:G:N2	1:2:1346:C:N4	2.48	0.61
1:2:1323:G:H1'	1:2:1627:C:H5''	1.83	0.61
1:2:58:C:H3'	1:2:59:G:C5'	2.31	0.61
1:2:1807:A:H1'	1:2:1809:G:C8	2.36	0.61
1:2:1948:C:H2'	1:2:1949:A:C8	2.35	0.61
1:2:2860:C:H2'	1:2:2861:A:O4'	2.01	0.61
1:2:2404:A:O2'	1:2:2405:A:OP2	2.19	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2088:U:H3	1:2:2167:A:H2	1.48	0.61
1:2:411:C:C2'	1:2:412:U:H5''	2.30	0.61
1:2:1034:U:H4'	1:2:1134:C:OP1	2.01	0.61
1:2:1456:C:H2'	1:2:1457:A:C8	2.36	0.61
1:2:2482:A:O5'	1:2:2483:U:OP1	2.19	0.61
1:2:1435:G:H21	1:2:1508:G:H22	1.49	0.61
1:2:1195:U:H2'	1:2:1196:G:H8	1.64	0.61
1:2:1923:U:H1'	1:2:1948:C:C4	2.36	0.61
1:2:477:A:H2'	1:2:478:G:H5'	1.82	0.61
1:2:334:G:N3	1:2:344:G:H1'	2.16	0.61
1:2:391:C:N4	1:2:410:A:H61	1.98	0.60
1:2:2018:G:O2'	1:2:2019:C:OP1	2.13	0.60
1:2:979:A:H2'	1:2:980:G:C8	2.36	0.60
1:2:2491:C:H3'	1:2:2492:G:H5''	1.83	0.60
1:2:2490:U:H2'	1:2:2491:C:H6	1.66	0.60
1:2:1510:A:H2'	1:2:1511:A:H5'	1.83	0.60
1:2:192:G:H4'	1:2:193:A:O5'	2.01	0.60
1:2:604:U:H2'	1:2:605:G:C8	2.36	0.60
1:2:613:A:H2'	1:2:614:G:C8	2.36	0.60
1:2:1458:A:C3'	1:2:1459:U:H5''	2.32	0.60
1:2:466:A:H5'	1:2:483:A:N6	2.16	0.60
1:2:2329:C:H2'	1:2:2330:G:O4'	2.01	0.60
1:2:538:A:N1	1:2:2025:A:H2'	2.16	0.60
1:2:2692:A:H5'	1:2:2693:U:H5'	1.83	0.60
1:2:1561:A:H2'	1:2:1562:G:O4'	2.01	0.60
1:2:312:G:H2'	1:2:313:U:O4'	2.02	0.60
1:2:1904:G:H2'	1:2:1905:G:O4'	2.02	0.60
1:2:939:C:H2'	1:2:940:G:C8	2.37	0.60
1:2:1643:A:H61	1:2:1656:U:H3	1.47	0.60
1:2:2770:A:H5'	1:2:2867:G:N2	2.16	0.60
1:2:1456:C:H2'	1:2:1457:A:H8	1.65	0.60
1:2:2507:U:HO2'	1:2:2508:G:H8	1.47	0.60
1:2:1360:G:H2'	1:2:1361:G:H8	1.65	0.60
1:2:513:A:O2'	1:2:514:G:OP2	2.11	0.60
1:2:1290:A:H2'	1:2:1291:G:C8	2.35	0.60
1:2:1124:U:H2'	1:2:1125:G:H8	1.66	0.60
1:2:2175:A:H2'	1:2:2176:U:C6	2.37	0.60
1:2:153:A:O2'	1:2:154:U:H5'	2.01	0.60
1:2:1064:C:H42	1:2:1117:G:H1	1.48	0.60
1:2:459:A:O2'	1:2:461:A:N7	2.32	0.60
1:2:942:U:C2'	1:2:943:U:H5'	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:889:C:H2'	1:2:890:U:C6	2.37	0.60
1:2:1179:A:H2'	1:2:1180:A:H8	1.67	0.60
1:2:2324:G:O2'	1:2:2325:A:OP2	2.19	0.60
1:2:1435:G:H21	1:2:1508:G:N2	1.99	0.60
1:2:162:C:H2'	1:2:163:A:C8	2.37	0.60
1:2:1729:C:H2'	1:2:1730:G:C8	2.37	0.60
1:2:1773:C:H5	2:2:2881:RAP:C50	2.14	0.60
1:2:2666:U:H2'	1:2:2667:C:O4'	2.01	0.60
1:2:2841:U:H1'	1:2:2843:A:C1'	2.32	0.60
1:2:930:A:OP1	1:2:930:A:H4'	2.02	0.59
1:2:482:A:H2'	1:2:483:A:O4'	2.00	0.59
1:2:1174:G:H2'	1:2:1175:A:C8	2.35	0.59
1:2:1955:G:H2'	1:2:1956:G:H5'	1.82	0.59
1:2:1380:C:H2'	1:2:1381:G:H5'	1.82	0.59
1:2:619:A:H2'	1:2:620:G:H8	1.67	0.59
1:2:1495:G:H22	1:2:1528:C:H42	1.48	0.59
1:2:1194:U:H2'	1:2:1195:U:C6	2.37	0.59
1:2:2245:A:H1'	1:2:2251:U:O4	2.02	0.59
1:2:1532:A:H2'	1:2:1533:G:C8	2.36	0.59
1:2:2588:U:O4	2:2:2881:RAP:C44	2.50	0.59
1:2:1327:C:OP1	1:2:1345:G:H5'	2.02	0.59
1:2:941:U:OP1	1:2:941:U:H4'	2.02	0.59
1:2:1289:A:N6	1:2:1307:U:H3	2.00	0.59
1:2:1857:G:N2	1:2:1859:A:H3'	2.18	0.59
1:2:1681:A:C2	1:2:2706:U:H1'	2.37	0.59
1:2:933:G:H2'	1:2:934:G:H8	1.67	0.59
1:2:247:A:H5''	1:2:248:A:OP2	2.01	0.59
1:2:1074:G:H22	1:2:1086:C:H2'	1.67	0.59
1:2:1764:A:C5	1:2:1821:A:H1'	2.36	0.59
1:2:717:G:H1'	1:2:740:A:N6	2.16	0.59
1:2:1391:A:O2'	1:2:1392:U:C6	2.54	0.59
1:2:1641:C:H2'	1:2:1642:G:H5'	1.84	0.59
1:2:1894:U:H3	1:2:1901:A:H61	1.50	0.59
1:2:1310:C:OP1	1:2:2689:C:H4'	2.03	0.59
1:2:1437:A:C2'	1:2:1438:G:H5'	2.31	0.59
1:2:837:U:H2'	1:2:838:A:C8	2.37	0.59
1:2:248:A:H5'	1:2:373:A:N7	2.17	0.59
1:2:1790:G:C8	1:2:1811:A:N6	2.71	0.59
1:2:1487:C:H2'	1:2:1488:G:H8	1.67	0.59
1:2:392:G:O2'	1:2:2211:U:H5''	2.03	0.59
1:2:2442:C:H2'	1:2:2443:C:C6	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1840:A:N3	1:2:1840:A:H2'	2.16	0.59
1:2:1374:G:H1	1:2:1383:C:N4	1.95	0.59
1:2:173:A:H61	1:2:818:G:N2	2.01	0.59
1:2:1274:C:H2'	1:2:1275:A:H8	1.68	0.59
1:2:649:G:H22	1:2:661:C:H1'	1.68	0.59
1:2:1804:U:H2'	1:2:1805:G:H8	1.66	0.59
1:2:1441:A:H4'	1:2:1442:C:C6	2.38	0.59
1:2:2225:G:H1	1:2:2237:C:H42	1.48	0.59
1:2:170:U:H2'	1:2:171:G:H8	1.68	0.59
1:2:352:G:H2'	1:2:353:G:H5'	1.85	0.59
1:2:660:G:H2'	1:2:661:C:O4'	2.02	0.59
1:2:809:C:H2'	1:2:810:U:C6	2.38	0.59
1:2:1181:C:H3'	1:2:1182:U:C5'	2.33	0.59
1:2:1790:G:H1'	1:2:1791:C:C5	2.37	0.59
1:2:2737:A:H2'	1:2:2738:A:H5'	1.84	0.59
1:2:422:C:H2'	1:2:423:G:H8	1.67	0.59
1:2:2220:A:H2'	1:2:2221:G:H8	1.67	0.59
1:2:1184:G:H2'	1:2:1185:C:H5''	1.85	0.58
1:2:1762:C:H2'	1:2:1763:G:C8	2.38	0.58
1:2:2110:G:H3'	1:2:2110:G:N3	2.18	0.58
1:2:167:A:H5''	1:2:181:A:N1	2.18	0.58
1:2:1291:G:H1	1:2:1305:C:N4	2.00	0.58
1:2:415:A:H2'	1:2:416:U:O4'	2.03	0.58
1:2:2496:C:N4	1:2:2546:G:H1	2.02	0.58
1:2:951:G:C2'	1:2:952:A:H5''	2.32	0.58
1:2:119:G:H1'	1:2:129:A:N1	2.18	0.58
1:2:103:U:H2'	1:2:104:C:C6	2.38	0.58
1:2:1571:G:H2'	1:2:1572:C:C6	2.39	0.58
1:2:2169:A:O2'	1:2:2170:C:H5'	2.04	0.58
1:2:1540:C:H2'	1:2:1541:G:H8	1.69	0.58
1:2:644:A:N3	1:2:2382:C:H4'	2.19	0.58
1:2:2425:G:H4'	1:2:2427:A:N6	2.17	0.58
1:2:1359:G:N2	1:2:1617:G:H1'	2.19	0.58
1:2:490:A:O2'	1:2:491:A:H5'	2.03	0.58
1:2:1191:G:H2'	1:2:1191:G:N3	2.18	0.58
1:2:132:U:H2'	1:2:133:C:C6	2.38	0.58
1:2:1200:G:H2'	1:2:1201:G:O4'	2.04	0.58
1:2:2589:C:H2'	1:2:2589:C:O2	2.03	0.58
1:2:198:A:O2'	1:2:199:A:OP2	2.21	0.58
1:2:935:C:H2'	1:2:936:A:C8	2.38	0.58
1:2:231:G:H4'	1:2:397:U:H5'	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1716:G:O6	1:2:1754:G:H1'	2.03	0.58
1:2:1353:A:H4'	1:2:1407:G:C1'	2.33	0.58
1:2:78:C:N4	1:2:105:G:H1	2.02	0.58
1:2:2286:G:H21	1:2:2290:A:H61	1.52	0.58
1:2:367:G:H2'	1:2:368:A:H5''	1.86	0.58
1:2:1003:C:H2'	1:2:1004:A:C8	2.39	0.58
1:2:208:C:H2'	1:2:209:G:O4'	2.03	0.58
1:2:60:A:N3	1:2:60:A:H2'	2.18	0.58
1:2:1459:U:H3'	1:2:1459:U:OP1	2.03	0.58
1:2:57:G:H2'	1:2:72:A:H62	1.69	0.58
1:2:1789:U:H3	1:2:1813:A:H61	1.52	0.58
1:2:584:A:O2'	1:2:585:U:H5'	2.04	0.58
1:2:2038:C:H2'	1:2:2483:U:C4'	2.29	0.58
1:2:838:A:O2'	1:2:839:U:H5'	2.04	0.58
1:2:181:A:H4'	1:2:182:G:C5'	2.34	0.58
1:2:2722:C:H2'	1:2:2723:C:C6	2.39	0.58
1:2:674:U:H2'	1:2:675:C:O4'	2.03	0.58
1:2:2607:C:H3'	1:2:2608:A:C5'	2.33	0.58
1:2:218:A:HO2'	1:2:219:G:C4'	2.16	0.58
1:2:1974:U:H2'	1:2:1975:G:H5'	1.85	0.58
1:2:1223:G:O2'	1:2:1224:A:OP2	2.16	0.58
1:2:1949:A:H1'	1:2:2572:U:C5'	2.34	0.58
1:2:2490:U:H2'	1:2:2491:C:C6	2.39	0.58
1:2:2664:G:H21	1:2:2706:U:H3	1.52	0.58
1:2:826:U:H2'	1:2:827:C:C6	2.39	0.58
1:2:1055:A:H2	1:2:1121:G:H2'	1.69	0.57
1:2:879:A:H61	1:2:926:C:H1'	1.69	0.57
1:2:944:A:O2'	1:2:945:G:H5'	2.04	0.57
1:2:1213:U:H2'	1:2:1214:C:C6	2.39	0.57
1:2:1769:U:C2'	1:2:1770:U:H5''	2.34	0.57
1:2:2238:G:H4'	1:2:2407:G:OP2	2.03	0.57
1:2:1066:G:H1'	1:2:1096:A:C2	2.39	0.57
1:2:1955:G:C2'	1:2:1956:G:H5'	2.33	0.57
1:2:1286:U:H4'	1:2:1288:A:OP1	2.03	0.57
1:2:1328:C:H42	1:2:1350:G:H1	1.52	0.57
1:2:139:A:H2'	1:2:140:G:H8	1.69	0.57
1:2:18:U:H2'	1:2:19:C:C6	2.39	0.57
1:2:1335:A:H2'	1:2:1336:G:C8	2.39	0.57
1:2:667:U:H2'	1:2:668:A:H5''	1.85	0.57
1:2:929:A:C3'	1:2:930:A:H5''	2.30	0.57
1:2:885:A:H2'	1:2:886:A:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:371:G:H3'	1:2:371:G:N3	2.20	0.57
1:2:411:C:OP1	1:2:2073:A:H1'	2.05	0.57
1:2:1769:U:O4	1:2:1775:A:H1'	2.04	0.57
1:2:17:G:H2'	1:2:18:U:C6	2.39	0.57
1:2:1742:G:H2'	1:2:1743:C:C6	2.39	0.57
1:2:973:U:H2'	1:2:974:U:C6	2.39	0.57
1:2:2224:U:OP1	1:2:2225:G:H5'	2.04	0.57
1:2:1066:G:H2'	1:2:1067:G:H4'	1.86	0.57
1:2:2208:U:H2'	1:2:2209:G:H8	1.68	0.57
1:2:364:G:H2'	1:2:365:U:C6	2.39	0.57
1:2:2369:U:H2'	1:2:2370:G:C8	2.39	0.57
1:2:1899:A:H2'	1:2:1946:U:H1'	1.86	0.57
1:2:118:U:H1'	1:2:143:A:C4	2.40	0.57
1:2:937:C:H2'	1:2:938:G:O4'	2.05	0.57
1:2:2070:G:H2'	1:2:2071:G:H8	1.70	0.57
1:2:1973:C:H2'	1:2:1974:U:C6	2.40	0.57
1:2:411:C:H3'	1:2:412:U:H5''	1.85	0.57
1:2:159:A:O2'	1:2:160:C:H5'	2.05	0.57
1:2:193:A:H2'	1:2:194:G:O4'	2.03	0.57
1:2:1087:C:H2'	1:2:1088:A:O4'	2.05	0.57
1:2:797:A:C6	1:2:805:G:H1'	2.39	0.57
1:2:2658:A:O2'	1:2:2659:C:H5'	2.04	0.57
1:2:213:C:H42	1:2:238:G:H22	1.51	0.57
1:2:387:A:H5''	1:2:436:A:H8	1.69	0.57
1:2:2227:C:C2'	1:2:2228:U:H5'	2.33	0.57
1:2:1190:C:H2'	1:2:1191:G:C8	2.39	0.57
1:2:1775:A:O2'	1:2:1776:A:OP2	2.14	0.57
1:2:2045:A:H2'	1:2:2046:C:H5'	1.87	0.57
1:2:1564:U:H2'	1:2:1565:G:O4'	2.05	0.57
1:2:125:A:H5''	1:2:126:C:C6	2.40	0.57
1:2:2753:C:H2'	1:2:2754:C:C6	2.40	0.57
1:2:456:C:H2'	1:2:457:C:C6	2.40	0.57
1:2:1355:A:N6	1:2:1358:C:N3	2.53	0.57
1:2:1750:A:H2'	1:2:1751:A:H8	1.70	0.57
1:2:1177:U:H3	1:2:1197:U:H1'	1.68	0.57
1:2:2866:A:H2'	1:2:2867:G:O4'	2.05	0.57
1:2:983:G:OP2	1:2:985:G:H5''	2.04	0.57
1:2:1938:U:O2'	1:2:1939:U:OP1	2.16	0.57
1:2:427:C:H2'	1:2:428:A:C8	2.39	0.57
1:2:856:A:H2'	1:2:857:U:O4'	2.05	0.57
1:2:2104:G:H2'	1:2:2105:U:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2183:C:H42	1:2:2202:G:H1	1.52	0.57
1:2:717:G:H1'	1:2:740:A:H61	1.70	0.56
1:2:2492:G:H2'	1:2:2493:U:C6	2.40	0.56
1:2:1451:C:H2'	1:2:1452:U:C6	2.40	0.56
1:2:197:G:N2	1:2:440:U:H2'	2.20	0.56
1:2:1698:C:H4'	1:2:1754:G:C8	2.40	0.56
1:2:2132:G:H2'	1:2:2133:G:O4'	2.04	0.56
1:2:475:U:H1'	1:2:801:A:H61	1.70	0.56
1:2:1345:G:H5''	1:2:1346:C:OP2	2.04	0.56
1:2:2636:A:N6	1:2:2643:G:H21	1.89	0.56
1:2:2678:C:H2'	1:2:2679:G:C8	2.41	0.56
1:2:1139:A:O2'	1:2:2495:G:H4'	2.03	0.56
1:2:2667:C:H1'	1:2:2702:G:N1	2.20	0.56
1:2:951:G:C3'	1:2:952:A:H5''	2.35	0.56
1:2:2307:A:H2'	1:2:2308:A:C8	2.40	0.56
1:2:1923:U:H1'	1:2:1948:C:N4	2.20	0.56
1:2:2470:U:O2'	1:2:2471:U:H5'	2.06	0.56
1:2:21:A:H61	1:2:529:U:H3	1.52	0.56
1:2:2638:G:N2	1:2:2640:G:H5''	2.21	0.56
1:2:1690:U:H2'	1:2:1691:G:C5'	2.35	0.56
1:2:2633:A:H4'	1:2:2634:G:O5'	2.05	0.56
1:2:1450:G:H2'	1:2:1451:C:C6	2.41	0.56
1:2:2517:C:H2'	1:2:2518:C:C6	2.40	0.56
1:2:1773:C:H3'	1:2:1773:C:OP2	2.06	0.56
1:2:1715:A:H2'	1:2:1716:G:C5'	2.32	0.56
1:2:980:G:H2'	1:2:981:C:C6	2.40	0.56
1:2:2034:A:H5'	1:2:2557:G:H5''	1.86	0.56
1:2:2824:C:H4'	1:2:2825:A:H5'	1.86	0.56
1:2:200:A:C6	1:2:435:A:H1'	2.41	0.56
1:2:330:C:H2'	1:2:331:U:C6	2.40	0.56
1:2:546:A:H2'	1:2:547:U:C6	2.41	0.56
1:2:1001:A:N6	1:2:1200:G:H1'	2.18	0.56
1:2:918:A:C2'	1:2:919:U:H5''	2.36	0.56
1:2:1339:U:H2'	1:2:1340:C:H6	1.71	0.56
1:2:1860:A:H2'	1:2:1861:G:O4'	2.06	0.56
1:2:428:A:H2'	1:2:429:C:O4'	2.06	0.56
1:2:478:G:H2'	1:2:479:G:H8	1.71	0.56
1:2:2359:U:H2'	1:2:2360:C:C6	2.41	0.56
1:2:1261:G:H8	1:2:1261:G:OP1	1.88	0.56
1:2:1326:U:O2'	1:2:1345:G:H4'	2.05	0.56
1:2:1356:G:O4'	1:2:1613:G:H2'	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:931:G:N2	1:2:2247:A:H5'	2.20	0.56
1:2:952:A:O2'	1:2:1204:G:H4'	2.06	0.56
1:2:981:C:O2'	1:2:995:A:H4'	2.06	0.56
1:2:1278:A:O2'	1:2:1279:G:O5'	2.19	0.56
1:2:1437:A:O2'	1:2:1438:G:H5'	2.06	0.56
1:2:706:A:H2'	1:2:707:U:C6	2.40	0.56
1:2:840:U:H4'	1:2:841:G:C2	2.41	0.56
1:2:2496:C:H41	1:2:2546:G:H1	1.53	0.56
1:2:1179:A:H61	1:2:1195:U:H3	1.54	0.56
1:2:1392:U:O2	1:2:1392:U:H2'	2.06	0.56
1:2:405:C:H2'	1:2:406:G:H8	1.71	0.56
1:2:1694:A:H2'	1:2:1695:U:C6	2.41	0.56
1:2:2014:A:H2'	1:2:2434:G:H4'	1.87	0.56
1:2:1311:C:H2'	1:2:1312:G:O4'	2.06	0.56
1:2:1982:C:H4'	1:2:2703:C:O2	2.06	0.56
1:2:721:C:N4	1:2:736:G:H22	2.04	0.56
1:2:1480:G:H2'	1:2:1481:U:O4'	2.06	0.56
1:2:2383:C:H2'	1:2:2384:G:O4'	2.06	0.56
1:2:1263:G:O2'	1:2:1264:C:OP1	2.24	0.55
1:2:483:A:H2'	1:2:484:G:H5'	1.88	0.55
1:2:781:G:H5'	1:2:1638:G:H5'	1.88	0.55
1:2:1611:U:H2'	1:2:1612:U:O4'	2.06	0.55
1:2:2778:U:H5''	1:2:2779:C:C5	2.41	0.55
1:2:688:A:H62	1:2:816:U:H3	1.53	0.55
1:2:824:U:C4'	1:2:1264:C:H1'	2.20	0.55
1:2:616:U:C2'	1:2:617:U:H5''	2.35	0.55
1:2:888:G:H2'	1:2:889:C:O4'	2.06	0.55
1:2:2670:C:H42	1:2:2698:G:N2	2.02	0.55
1:2:192:G:O2'	1:2:193:A:OP2	2.22	0.55
1:2:1398:G:H2'	1:2:1399:C:C6	2.40	0.55
1:2:1654:A:H4'	1:2:2690:A:O2'	2.06	0.55
1:2:1859:A:H2'	1:2:1860:A:H8	1.71	0.55
1:2:789:G:C2'	1:2:790:A:OP2	2.54	0.55
1:2:614:G:H22	1:2:634:G:H1	1.54	0.55
1:2:566:U:H2'	1:2:567:G:C8	2.42	0.55
1:2:1683:G:H2'	1:2:1684:G:O4'	2.06	0.55
1:2:677:G:H4'	1:2:951:G:O3'	2.06	0.55
1:2:2621:G:H1	1:2:2752:C:H42	1.54	0.55
1:2:1859:A:H2'	1:2:1860:A:C8	2.41	0.55
1:2:328:A:H2'	1:2:329:C:C6	2.40	0.55
1:2:63:A:N6	1:2:89:A:H61	2.01	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1464:A:H2'	1:2:1465:G:C8	2.41	0.55
1:2:1537:U:H2'	1:2:1538:A:O4'	2.06	0.55
1:2:2784:A:H5''	1:2:2865:G:H22	1.72	0.55
1:2:1766:U:H2'	1:2:1767:G:O4'	2.07	0.55
1:2:1279:G:H1'	1:2:1280:U:H5	1.71	0.55
1:2:1563:U:H2'	1:2:1564:U:C6	2.42	0.55
1:2:2271:C:H4'	1:2:2354:G:O4'	2.06	0.55
1:2:245:C:H5'	1:2:292:A:H5'	1.87	0.55
1:2:2208:U:H2'	1:2:2209:G:C8	2.41	0.55
1:2:2705:A:C2	1:2:2706:U:H2'	2.42	0.55
1:2:161:U:H2'	1:2:162:C:C6	2.42	0.55
1:2:1018:C:H5'	1:2:1019:U:OP2	2.06	0.55
1:2:1466:C:O2'	1:2:1467:U:H5'	2.06	0.55
1:2:77:C:H42	1:2:106:G:H1	1.52	0.55
1:2:44:G:H1	1:2:445:A:N6	2.04	0.55
1:2:2077:G:H1	1:2:2179:C:H1'	1.71	0.55
1:2:2245:A:HO2'	1:2:2246:A:P	2.28	0.55
1:2:2092:U:OP1	1:2:2133:G:H4'	2.06	0.55
1:2:1817:U:H2'	1:2:1818:G:C8	2.41	0.55
1:2:658:G:H2'	1:2:659:G:H8	1.71	0.55
1:2:1532:A:H2'	1:2:1533:G:H8	1.72	0.55
1:2:1727:C:H2'	1:2:1728:A:C8	2.42	0.55
1:2:2463:G:O2'	1:2:2464:G:H5'	2.07	0.55
1:2:614:G:N2	1:2:634:G:H1	2.05	0.55
1:2:1473:U:H4'	1:2:1474:A:C8	2.42	0.55
1:2:2057:U:H2'	1:2:2058:U:C6	2.42	0.55
1:2:1894:U:H3	1:2:1901:A:N6	2.05	0.55
1:2:2680:U:H3'	1:2:2681:A:H5''	1.89	0.55
1:2:2010:G:H1'	1:2:2020:G:H22	1.72	0.55
1:2:712:A:H4'	1:2:1651:U:H3	1.71	0.55
1:2:1175:A:O2'	1:2:1176:U:H5'	2.07	0.55
1:2:218:A:O2'	1:2:219:G:C4'	2.55	0.55
1:2:964:A:H2'	1:2:965:G:H8	1.70	0.55
1:2:1772:C:H4'	1:2:1773:C:O5'	2.07	0.54
1:2:468:A:C2'	1:2:469:G:H4'	2.37	0.54
1:2:1066:G:H1'	1:2:1096:A:N1	2.22	0.54
1:2:990:A:H2'	1:2:993:C:H42	1.72	0.54
1:2:56:C:H2'	1:2:57:G:O4'	2.06	0.54
1:2:713:G:H2'	1:2:714:G:O4'	2.07	0.54
1:2:2213:G:H2'	1:2:2214:G:C8	2.41	0.54
1:2:2592:U:O2'	1:2:2593:A:OP1	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1819:U:H4'	1:2:1953:A:O2'	2.07	0.54
1:2:2493:U:H2'	1:2:2494:C:C6	2.42	0.54
1:2:1029:C:C2'	1:2:1030:U:H5''	2.35	0.54
1:2:952:A:H2'	1:2:953:G:C8	2.43	0.54
1:2:796:A:C2	1:2:798:G:H1'	2.42	0.54
1:2:2088:U:H2'	1:2:2089:C:C6	2.42	0.54
1:2:1865:C:H2'	1:2:1866:G:O4'	2.06	0.54
1:2:1538:A:H2'	1:2:1539:U:C5	2.42	0.54
1:2:2691:C:C2'	1:2:2692:A:H5''	2.35	0.54
1:2:26:G:H4'	1:2:1273:G:H4'	1.88	0.54
1:2:1455:C:H2'	1:2:1456:C:C6	2.42	0.54
1:2:2469:G:H5''	1:2:2470:U:OP1	2.06	0.54
1:2:113:C:H2'	1:2:114:C:C6	2.42	0.54
1:2:150:A:H2'	1:2:151:G:H5'	1.89	0.54
1:2:1000:G:OP1	1:2:1168:G:H4'	2.08	0.54
1:2:216:U:H2'	1:2:217:U:C6	2.42	0.54
1:2:632:A:H2'	1:2:633:G:H5'	1.89	0.54
1:2:2082:C:N4	1:2:2173:G:H1	1.95	0.54
1:2:2217:G:H3'	1:2:2217:G:N3	2.22	0.54
1:2:2836:U:H2'	1:2:2837:G:H8	1.73	0.54
1:2:597:U:H2'	1:2:598:U:C6	2.43	0.54
1:2:1079:G:H4'	1:2:1081:A:N6	2.22	0.54
1:2:2085:G:O2'	1:2:2086:U:H5'	2.07	0.54
1:2:1975:G:C1'	1:2:1977:C:H41	2.20	0.54
1:2:2667:C:H42	1:2:2699:G:H3'	1.72	0.54
1:2:2548:G:H2'	1:2:2549:G:C5'	2.38	0.54
1:2:2548:G:H2'	1:2:2549:G:H5'	1.89	0.54
1:2:830:C:O2'	1:2:852:U:H5''	2.08	0.54
1:2:2841:U:H1'	1:2:2843:A:H1'	1.89	0.54
1:2:1218:C:H2'	1:2:1219:C:C6	2.43	0.54
1:2:726:G:H2'	1:2:727:U:H5'	1.88	0.54
1:2:1707:A:H2'	1:2:1708:C:O4'	2.07	0.54
1:2:2166:G:O2'	1:2:2167:A:H5'	2.07	0.54
1:2:439:C:H2'	1:2:440:U:O4'	2.07	0.54
1:2:2555:G:H3'	1:2:2555:G:N3	2.22	0.54
1:2:1259:A:O2'	1:2:1260:A:H5'	2.07	0.54
1:2:1399:C:H2'	1:2:1400:A:C8	2.42	0.54
1:2:617:U:H2'	1:2:618:A:H8	1.72	0.54
1:2:2370:G:HO2'	1:2:2371:A:P	2.31	0.54
1:2:1791:C:H1'	1:2:1793:A:O4'	2.07	0.54
1:2:190:A:H2'	1:2:191:G:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:857:U:H2'	1:2:858:G:O4'	2.08	0.54
1:2:1007:A:H2'	1:2:1008:G:H8	1.72	0.54
1:2:2869:U:H2'	1:2:2870:C:C6	2.43	0.54
1:2:1529:C:H2'	1:2:1530:U:O4'	2.08	0.54
1:2:671:A:H2'	1:2:672:C:C6	2.42	0.54
1:2:1980:A:H2'	1:2:1981:A:H8	1.71	0.54
1:2:104:C:H2'	1:2:105:G:C5'	2.37	0.54
1:2:1764:A:N7	1:2:1821:A:H1'	2.22	0.54
1:2:27:G:H1'	1:2:523:A:N6	2.21	0.54
1:2:203:G:H5'	1:2:234:C:H4'	1.89	0.54
1:2:827:C:H2'	1:2:828:C:C6	2.43	0.54
1:2:890:U:O5'	1:2:891:A:H5''	2.08	0.54
1:2:1355:A:C1'	1:2:1410:U:H1'	2.38	0.54
1:2:1313:U:O2'	1:2:1314:A:P	2.66	0.54
1:2:2496:C:N4	1:2:2546:G:H22	2.06	0.54
1:2:1141:U:O2'	1:2:1142:G:OP1	2.20	0.54
1:2:1038:U:H2'	1:2:1039:A:O4'	2.08	0.54
1:2:1132:C:H2'	1:2:1133:G:H8	1.73	0.54
1:2:2579:A:O2'	1:2:2580:C:H5'	2.07	0.54
1:2:1684:G:N2	1:2:1977:C:H42	2.06	0.54
1:2:323:G:OP2	1:2:343:A:H5'	2.08	0.54
1:2:677:G:O2'	1:2:678:G:H5'	2.08	0.54
1:2:1376:C:O2'	1:2:1800:A:H1'	2.07	0.54
1:2:2083:G:H2'	1:2:2084:G:H8	1.73	0.53
1:2:1572:C:C3'	1:2:1573:G:H5''	2.37	0.53
1:2:931:G:H2'	1:2:932:G:O4'	2.08	0.53
1:2:1981:A:H4'	1:2:2704:U:H4'	1.89	0.53
1:2:192:G:C1'	1:2:193:A:H4'	2.38	0.53
1:2:1106:A:H2'	1:2:1107:A:H8	1.74	0.53
1:2:564:U:H2'	1:2:565:A:H8	1.73	0.53
1:2:1787:U:H2'	1:2:1788:C:C6	2.43	0.53
1:2:1355:A:HO2'	1:2:1356:G:P	2.31	0.53
1:2:1189:G:H2'	1:2:1190:C:C6	2.44	0.53
1:2:2362:G:H2'	1:2:2363:G:O4'	2.08	0.53
1:2:158:A:H2'	1:2:159:A:O4'	2.08	0.53
1:2:484:G:O2'	1:2:485:G:H5'	2.09	0.53
1:2:218:A:H5'	1:2:220:U:H1'	1.90	0.53
1:2:790:A:H2'	1:2:791:G:C8	2.42	0.53
1:2:1713:G:H2'	1:2:1714:A:O4'	2.09	0.53
1:2:1755:G:H2'	1:2:1756:C:C6	2.44	0.53
1:2:1685:A:H4'	1:2:1686:A:H5'	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:57:G:N2	1:2:69:G:N3	2.56	0.53
1:2:953:G:H2'	1:2:954:U:O4'	2.08	0.53
1:2:31:C:H2'	1:2:32:C:C6	2.43	0.53
1:2:322:A:N1	1:2:341:A:OP2	2.41	0.53
1:2:533:C:H2'	1:2:534:U:O4'	2.09	0.53
1:2:1665:C:H2'	1:2:1666:G:C8	2.43	0.53
1:2:2419:C:N3	1:2:2420:C:H1'	2.24	0.53
1:2:920:G:H2'	1:2:921:A:H5''	1.90	0.53
1:2:1245:G:H2'	1:2:1246:G:H8	1.73	0.53
1:2:241:C:C2'	1:2:242:A:H5''	2.38	0.53
1:2:1626:A:O2'	1:2:1627:C:OP1	2.25	0.53
1:2:2312:A:N3	1:2:2314:A:N6	2.56	0.53
1:2:2389:G:H2'	1:2:2390:A:O5'	2.09	0.53
1:2:534:U:H4'	1:2:564:U:H4'	1.90	0.53
1:2:1645:U:H2'	1:2:1646:G:C8	2.43	0.53
1:2:2459:C:C2'	1:2:2460:G:H5'	2.38	0.53
1:2:695:G:H2'	1:2:696:U:C6	2.43	0.53
1:2:1565:G:H2'	1:2:1566:G:C8	2.43	0.53
1:2:2441:U:H2'	1:2:2442:C:C6	2.44	0.53
1:2:242:A:O2'	1:2:243:G:O4'	2.24	0.53
1:2:754:G:H2'	1:2:755:C:C6	2.44	0.53
1:2:617:U:H2'	1:2:618:A:C8	2.44	0.53
1:2:889:C:H2'	1:2:890:U:H6	1.72	0.53
1:2:2674:C:H2'	1:2:2675:U:C6	2.44	0.53
1:2:1687:C:O2'	1:2:1977:C:H4'	2.08	0.53
1:2:2170:C:C2'	1:2:2171:U:H5'	2.39	0.53
1:2:777:A:N6	1:2:1767:G:H1'	2.23	0.53
1:2:547:U:H2'	1:2:548:G:H8	1.73	0.53
1:2:2080:U:H2'	1:2:2081:U:C6	2.44	0.53
1:2:574:C:H2'	1:2:575:U:C6	2.44	0.53
1:2:1654:A:H2'	1:2:1655:C:C6	2.44	0.53
1:2:981:C:H2'	1:2:982:C:C6	2.43	0.53
1:2:364:G:H2'	1:2:365:U:C5	2.43	0.53
1:2:242:A:O2'	1:2:243:G:P	2.66	0.53
1:2:2793:G:H2'	1:2:2794:G:H8	1.74	0.53
1:2:1312:G:H5''	1:2:1313:U:C5'	2.36	0.53
1:2:2352:A:H2'	1:2:2353:G:C8	2.43	0.53
1:2:1223:G:H22	1:2:1249:G:H2'	1.74	0.53
1:2:981:C:H2'	1:2:982:C:H6	1.74	0.53
1:2:26:G:H2'	1:2:27:G:O4'	2.08	0.53
1:2:329:C:O2'	1:2:330:C:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1261:G:OP1	1:2:1261:G:C8	2.62	0.53
1:2:877:G:H2'	1:2:878:C:C6	2.44	0.53
1:2:2759:U:HO2'	1:2:2761:A:N6	2.05	0.53
1:2:1354:A:O2'	1:2:1355:A:OP1	2.19	0.53
1:2:681:A:H2'	1:2:683:A:N7	2.24	0.53
1:2:1685:A:O2'	1:2:1686:A:H3'	2.09	0.53
1:2:1806:G:P	1:2:1807:A:H5''	2.49	0.53
1:2:1651:U:H5''	1:2:1652:G:OP1	2.09	0.53
1:2:1967:U:H2'	1:2:1968:G:H8	1.73	0.53
1:2:738:G:H2'	1:2:739:G:O4'	2.08	0.53
1:2:2791:C:H2'	1:2:2792:C:C6	2.44	0.53
1:2:127:C:H5''	1:2:1615:C:O2'	2.08	0.53
1:2:579:G:H2'	1:2:2013:A:C5	2.44	0.53
1:2:1235:C:O2'	1:2:1236:G:H5'	2.09	0.53
1:2:650:U:H3	1:2:659:G:H1	1.56	0.53
1:2:868:U:H2'	1:2:869:C:C6	2.44	0.53
1:2:2745:A:H3'	1:2:2745:A:N3	2.24	0.53
1:2:1880:G:H2'	1:2:1881:U:C6	2.44	0.53
1:2:2827:G:H2'	1:2:2828:C:O4'	2.08	0.53
1:2:59:G:H2'	1:2:62:U:O4	2.08	0.52
1:2:841:G:N2	1:2:2226:A:H4'	2.24	0.52
1:2:1303:U:H2'	1:2:1304:U:C6	2.44	0.52
1:2:1606:C:H2'	1:2:1607:A:C8	2.43	0.52
1:2:2686:C:H2'	1:2:2687:G:H8	1.74	0.52
1:2:2449:G:H2'	1:2:2450:A:H8	1.73	0.52
1:2:776:G:H3'	1:2:776:G:N3	2.23	0.52
1:2:1685:A:C6	1:2:1691:G:H1'	2.44	0.52
1:2:333:A:O2'	1:2:350:U:H2'	2.09	0.52
1:2:1850:G:H22	1:2:1867:A:C1'	2.22	0.52
1:2:1804:U:H2'	1:2:1805:G:C8	2.43	0.52
1:2:2466:G:H2'	1:2:2467:A:C8	2.44	0.52
1:2:2759:U:H4'	1:2:2761:A:C5	2.43	0.52
1:2:2558:C:O2'	1:2:2559:U:H5'	2.09	0.52
1:2:1100:G:HO2'	1:2:1101:U:H5	1.56	0.52
1:2:1917:C:H2'	1:2:1918:G:C8	2.44	0.52
1:2:1407:G:H2'	1:2:1408:A:O4'	2.09	0.52
1:2:1883:A:H2	1:2:1953:A:H62	1.57	0.52
1:2:37:C:H2'	1:2:38:G:C8	2.45	0.52
1:2:1639:U:H2'	1:2:1640:C:C6	2.44	0.52
1:2:163:A:H2'	1:2:164:G:H8	1.75	0.52
1:2:2103:G:H2'	1:2:2103:G:N3	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2422:C:OP1	2:2:2881:RAP:C40	2.56	0.52
1:2:2858:A:H3'	1:2:2859:U:H5'	1.90	0.52
1:2:2237:C:C4	1:2:2405:A:H4'	2.44	0.52
1:2:1842:G:H1	1:2:1875:C:N4	2.07	0.52
1:2:1665:C:H2'	1:2:1666:G:H8	1.74	0.52
1:2:2425:G:H2'	1:2:2426:G:H4'	1.91	0.52
1:2:2194:A:C3'	1:2:2195:C:H5''	2.40	0.52
1:2:181:A:H4'	1:2:182:G:C4'	2.34	0.52
1:2:1686:A:N3	1:2:1686:A:H2'	2.23	0.52
1:2:1304:U:H2'	1:2:1305:C:C5'	2.38	0.52
1:2:1273:G:H2'	1:2:1274:C:C6	2.45	0.52
1:2:2103:G:H3'	1:2:2104:G:H5'	1.92	0.52
1:2:2006:G:O5'	1:2:2596:C:H4'	2.09	0.52
1:2:2240:C:H1'	1:2:2367:A:H1'	1.92	0.52
1:2:2343:C:H2'	1:2:2344:G:O4'	2.10	0.52
1:2:1402:G:H2'	1:2:1403:U:O4'	2.09	0.52
1:2:817:A:H2'	1:2:819:C:N4	2.23	0.52
1:2:762:A:H5'	1:2:1284:G:H1'	1.91	0.52
1:2:2422:C:H2'	1:2:2423:G:H8	1.75	0.52
1:2:1621:C:H4'	1:2:1626:A:H62	1.70	0.52
1:2:1067:G:O5'	1:2:1068:A:H5'	2.10	0.52
1:2:1984:A:H2'	1:2:1985:G:C8	2.45	0.52
1:2:35:G:H4'	1:2:466:A:O2'	2.09	0.52
1:2:2828:C:H2'	1:2:2829:A:H8	1.75	0.52
1:2:81:C:H2'	1:2:82:G:O4'	2.09	0.52
1:2:1749:G:O6	1:2:2674:C:H4'	2.10	0.52
1:2:323:G:H4'	1:2:342:G:C6	2.45	0.52
1:2:2205:C:H2'	1:2:2206:C:O4'	2.10	0.52
1:2:964:A:H61	1:2:976:C:N4	2.07	0.52
1:2:2787:A:O2'	1:2:2788:C:H5'	2.10	0.52
1:2:577:U:H5'	1:2:956:A:H62	1.74	0.52
1:2:986:A:H61	1:2:1000:G:H1'	1.75	0.52
1:2:1327:C:P	1:2:1345:G:H5'	2.50	0.52
1:2:796:A:N3	1:2:798:G:H1'	2.25	0.52
1:2:415:A:O2'	1:2:416:U:H5'	2.10	0.52
1:2:175:C:N4	1:2:225:G:H1	2.06	0.52
1:2:1274:C:H2'	1:2:1275:A:C8	2.45	0.52
1:2:1760:G:H2'	1:2:1761:G:H8	1.74	0.52
1:2:575:U:H4'	1:2:822:G:OP2	2.10	0.51
1:2:1466:C:C2'	1:2:1467:U:H5'	2.40	0.51
1:2:1145:C:H5'	1:2:1146:G:OP2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:990:A:H3'	1:2:991:A:C5'	2.40	0.51
1:2:1221:C:H2'	1:2:1222:G:H8	1.75	0.51
1:2:1454:U:H2'	1:2:1455:C:C6	2.44	0.51
1:2:621:U:H2'	1:2:622:U:C6	2.45	0.51
1:2:2649:A:H2'	1:2:2650:G:H8	1.76	0.51
1:2:2375:G:H2'	1:2:2376:G:H8	1.75	0.51
1:2:1092:U:H2'	1:2:1093:U:C6	2.45	0.51
1:2:471:A:H2'	1:2:472:C:O4'	2.10	0.51
1:2:540:G:C2'	1:2:541:C:H5'	2.40	0.51
1:2:34:U:H6	1:2:466:A:C2	2.28	0.51
1:2:2723:C:O2'	1:2:2724:G:H5'	2.11	0.51
1:2:1278:A:O2'	1:2:1279:G:P	2.68	0.51
1:2:2510:A:H61	1:2:2641:A:N6	2.08	0.51
1:2:670:U:H2'	1:2:671:A:C8	2.45	0.51
1:2:3:U:H2'	1:2:4:C:C6	2.45	0.51
1:2:1686:A:H2'	1:2:1687:C:H5'	1.91	0.51
1:2:2633:A:C2	1:2:2644:A:H5''	2.44	0.51
1:2:2266:A:H61	1:2:2323:U:H1'	1.75	0.51
1:2:1474:A:N3	1:2:1474:A:H3'	2.25	0.51
1:2:367:G:C3'	1:2:368:A:H5''	2.39	0.51
1:2:135:U:H2'	1:2:136:A:C8	2.45	0.51
1:2:2791:C:H2'	1:2:2792:C:H6	1.75	0.51
1:2:2838:U:H2'	1:2:2839:G:H8	1.76	0.51
1:2:1429:A:N6	1:2:1600:U:H4'	2.25	0.51
1:2:336:A:N6	1:2:349:G:H21	2.09	0.51
1:2:387:A:H2'	1:2:387:A:N3	2.24	0.51
1:2:1314:A:H5''	1:2:1623:C:N4	2.25	0.51
1:2:2228:U:H5''	1:2:2229:G:OP1	2.10	0.51
1:2:1882:G:H21	1:2:1885:C:H42	1.59	0.51
1:2:160:C:H42	1:2:190:A:H61	1.59	0.51
1:2:2212:U:H2'	1:2:2213:G:C8	2.46	0.51
1:2:2437:G:H2'	1:2:2469:G:H22	1.75	0.51
1:2:641:G:H4'	1:2:651:C:O2'	2.11	0.51
1:2:578:U:H1'	1:2:958:G:O4'	2.10	0.51
1:2:2732:C:H3'	1:2:2733:A:H8	1.75	0.51
1:2:2668:U:O2'	1:2:2669:C:P	2.68	0.51
1:2:1136:G:O6	1:2:1137:A:N6	2.44	0.51
1:2:1279:G:C2'	1:2:1280:U:OP2	2.59	0.51
1:2:1380:C:C2'	1:2:1381:G:H5'	2.40	0.51
1:2:2220:A:H2'	1:2:2221:G:C8	2.46	0.51
1:2:1214:C:H2'	1:2:1215:A:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:19:C:H2'	1:2:20:C:C6	2.46	0.51
1:2:2584:U:H2'	1:2:2585:C:C6	2.45	0.51
1:2:763:A:H2	1:2:765:C:H4'	1.76	0.51
1:2:787:A:H2'	1:2:788:G:C5	2.45	0.51
1:2:1699:A:H61	1:2:1723:U:H3	1.59	0.51
1:2:509:U:H3	1:2:513:A:H62	1.58	0.51
1:2:1030:U:H2'	1:2:1031:C:H5'	1.93	0.51
1:2:55:A:H61	1:2:112:U:H3	1.57	0.51
1:2:304:A:H62	1:2:355:G:N2	2.09	0.51
1:2:1714:A:H62	1:2:1715:A:H61	1.56	0.51
1:2:469:G:C2'	1:2:470:U:OP2	2.58	0.51
1:2:2812:A:H2'	1:2:2813:G:C8	2.46	0.51
1:2:564:U:H2'	1:2:565:A:C8	2.45	0.51
1:2:1294:G:H1	1:2:1302:C:N4	2.09	0.51
1:2:73:A:O2'	1:2:74:G:O5'	2.28	0.51
1:2:1854:G:N2	1:2:1863:U:H3	2.02	0.51
1:2:55:A:H2'	1:2:56:C:O4'	2.11	0.51
1:2:2780:A:H2'	1:2:2781:G:C8	2.46	0.51
1:2:964:A:N6	1:2:976:C:H42	2.09	0.51
1:2:2239:C:H2'	1:2:2240:C:C6	2.45	0.51
1:2:1422:C:H2'	1:2:1423:A:C8	2.46	0.51
1:2:707:U:OP1	1:2:1585:A:H1'	2.11	0.51
1:2:2218:G:N2	1:2:2219:U:H1'	2.26	0.51
1:2:132:U:H2'	1:2:133:C:C5	2.45	0.51
1:2:2263:C:H2'	1:2:2264:C:O4'	2.11	0.51
1:2:1825:C:H2'	1:2:1826:U:O4'	2.11	0.51
1:2:2471:U:H2'	1:2:2472:U:C6	2.46	0.51
1:2:2006:G:P	1:2:2596:C:H4'	2.51	0.51
1:2:1026:U:H2'	1:2:1027:C:C6	2.45	0.51
1:2:785:U:H2'	1:2:786:U:C6	2.46	0.51
1:2:1505:U:H2'	1:2:1507:A:OP1	2.11	0.51
1:2:788:G:H5'	1:2:790:A:H1'	1.92	0.51
1:2:2013:A:C2'	1:2:2014:A:OP2	2.59	0.51
1:2:1714:A:N6	1:2:1715:A:N6	2.54	0.51
1:2:2225:G:H22	1:2:2237:C:H42	1.58	0.51
1:2:403:A:H5'	1:2:425:A:H4'	1.91	0.51
1:2:2811:G:H2'	1:2:2812:A:C8	2.46	0.51
1:2:1849:G:H21	1:2:1868:A:N6	2.08	0.51
1:2:2070:G:H2'	1:2:2071:G:C8	2.45	0.51
1:2:755:C:H2'	1:2:756:C:O4'	2.11	0.51
1:2:1843:U:H2'	1:2:1844:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:228:A:C5	1:2:229:G:H1'	2.46	0.51
1:2:1296:G:H1'	1:2:1342:U:N3	2.24	0.50
1:2:788:G:H21	1:2:800:U:H2'	1.76	0.50
1:2:1293:A:H2'	1:2:1294:G:H8	1.75	0.50
1:2:1342:U:H5'	1:2:1343:C:H5	1.76	0.50
1:2:543:G:H2'	1:2:544:U:O4'	2.12	0.50
1:2:2395:C:H2'	1:2:2396:C:H5'	1.94	0.50
1:2:306:G:O2'	1:2:307:C:H5'	2.11	0.50
1:2:653:G:H21	1:2:657:A:H61	1.57	0.50
1:2:933:G:H2'	1:2:934:G:C8	2.47	0.50
1:2:959:C:H2'	1:2:960:U:C6	2.46	0.50
1:2:1430:G:H2'	1:2:1431:U:C6	2.47	0.50
1:2:808:C:H2'	1:2:809:C:C6	2.46	0.50
1:2:2688:G:H2'	1:2:2689:C:C6	2.46	0.50
1:2:490:A:N6	1:2:492:G:N3	2.59	0.50
1:2:580:A:H1'	1:2:582:G:N7	2.26	0.50
1:2:985:G:H1'	1:2:1001:A:N6	2.26	0.50
1:2:1953:A:O4'	1:2:1955:G:H1'	2.11	0.50
1:2:1737:G:H2'	1:2:1738:U:C6	2.46	0.50
1:2:1050:G:H1	1:2:1127:C:H42	1.59	0.50
1:2:2313:G:O2'	1:2:2314:A:OP1	2.20	0.50
1:2:1495:G:N2	1:2:1528:C:H42	2.09	0.50
1:2:1980:A:H2'	1:2:1981:A:C8	2.46	0.50
1:2:2517:C:H2'	1:2:2518:C:H6	1.76	0.50
1:2:218:A:O2'	1:2:219:G:O4'	2.29	0.50
1:2:1677:C:H2'	1:2:1678:G:C8	2.47	0.50
1:2:1621:C:C4'	1:2:1626:A:N6	2.71	0.50
1:2:2496:C:O2	1:2:2497:A:N3	2.44	0.50
1:2:2217:G:H5'	1:2:2218:G:N7	2.25	0.50
1:2:1144:U:H2'	1:2:1147:G:OP1	2.12	0.50
1:2:1820:G:OP1	1:2:1955:G:H5'	2.11	0.50
1:2:368:A:H2'	1:2:369:C:H5'	1.94	0.50
1:2:1033:G:O2'	1:2:1034:U:C6	2.64	0.50
1:2:2766:U:O2'	1:2:2767:C:H5'	2.12	0.50
1:2:1325:U:C2'	1:2:1326:U:OP2	2.59	0.50
1:2:2173:G:O2'	1:2:2174:G:H5'	2.11	0.50
1:2:1441:A:H2'	1:2:1441:A:N3	2.27	0.50
1:2:1591:U:H2'	1:2:1592:U:O4'	2.11	0.50
1:2:615:C:H2'	1:2:616:U:O4'	2.11	0.50
1:2:470:U:H2'	1:2:471:A:C8	2.47	0.50
1:2:2001:G:H2'	1:2:2002:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1510:A:C2'	1:2:1511:A:H5'	2.41	0.50
1:2:336:A:H2'	1:2:337:G:C8	2.47	0.50
1:2:45:C:H2'	1:2:46:C:C6	2.46	0.50
1:2:1343:C:H2'	1:2:1344:C:C6	2.46	0.50
1:2:2299:A:H5'	1:2:2300:G:C5	2.46	0.50
1:2:181:A:H5''	1:2:182:G:OP1	2.12	0.50
1:2:2320:G:H22	1:2:2353:G:H4'	1.77	0.50
1:2:781:G:H21	1:2:1392:U:H1'	1.77	0.50
1:2:1855:G:O2'	1:2:2389:G:N2	2.44	0.50
1:2:1901:A:N3	1:2:1901:A:H3'	2.27	0.50
1:2:2629:U:H2'	1:2:2630:C:C6	2.47	0.50
1:2:1263:G:O2'	1:2:1264:C:P	2.69	0.50
1:2:1408:A:H2	1:2:1411:C:C2	2.29	0.50
1:2:1314:A:H5''	1:2:1623:C:H42	1.77	0.50
1:2:991:A:N6	1:2:2020:G:H21	2.10	0.50
1:2:918:A:C3'	1:2:919:U:H5''	2.42	0.50
1:2:1926:U:HO2'	1:2:1927:U:P	2.34	0.50
1:2:2389:G:C2'	1:2:2390:A:O5'	2.60	0.50
1:2:2491:C:H2'	1:2:2492:G:H5''	1.93	0.50
1:2:1677:C:H2'	1:2:1678:G:H8	1.76	0.50
1:2:2230:G:H2'	1:2:2231:G:C8	2.46	0.50
1:2:864:C:H2'	1:2:865:A:C8	2.47	0.50
1:2:2060:A:P	1:2:2060:A:H3'	2.52	0.50
1:2:87:G:N3	1:2:87:G:H2'	2.27	0.50
1:2:2086:U:H2'	1:2:2087:U:C6	2.47	0.49
1:2:2038:C:C2'	1:2:2483:U:H4'	2.36	0.49
1:2:2701:A:H1'	1:2:2849:C:H5'	1.94	0.49
1:2:1790:G:N2	1:2:1811:A:OP2	2.45	0.49
1:2:2772:U:H3	1:2:2780:A:H61	1.59	0.49
1:2:218:A:H5'	1:2:220:U:C1'	2.41	0.49
1:2:827:C:H2'	1:2:828:C:H6	1.76	0.49
1:2:1663:C:H5'	1:2:1664:G:C5'	2.23	0.49
1:2:2618:A:H1'	1:2:2758:A:C2	2.45	0.49
1:2:1790:G:C2'	1:2:1791:C:OP2	2.60	0.49
1:2:1278:A:H4'	1:2:1279:G:O5'	2.11	0.49
1:2:864:C:H2'	1:2:865:A:H8	1.77	0.49
1:2:1308:C:H2'	1:2:1309:G:C8	2.47	0.49
1:2:2140:G:N3	1:2:2140:G:H3'	2.27	0.49
1:2:692:C:H2'	1:2:693:A:C8	2.47	0.49
1:2:808:C:H2'	1:2:809:C:H6	1.77	0.49
1:2:1364:C:H2'	1:2:1365:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:174:A:C4'	1:2:2051:U:H2'	2.36	0.49
1:2:841:G:H3'	1:2:841:G:N3	2.27	0.49
1:2:541:C:N4	1:2:572:G:H4'	2.28	0.49
1:2:1223:G:H1'	1:2:1225:G:N3	2.27	0.49
1:2:2841:U:O2	1:2:2843:A:H1'	2.12	0.49
1:2:25:U:H2'	1:2:26:G:O4'	2.11	0.49
1:2:1435:G:N2	1:2:1514:C:N3	2.60	0.49
1:2:598:U:H2'	1:2:599:A:C8	2.47	0.49
1:2:551:A:H2'	1:2:552:C:H6	1.78	0.49
1:2:1205:G:H2'	1:2:1206:G:C8	2.47	0.49
1:2:2399:C:O2'	1:2:2400:G:H5'	2.13	0.49
1:2:1619:A:N3	1:2:1619:A:O5'	2.45	0.49
1:2:1194:U:H2'	1:2:1195:U:H6	1.77	0.49
1:2:225:G:O5'	1:2:226:C:H5''	2.12	0.49
1:2:136:A:H2'	1:2:137:A:H5'	1.94	0.49
1:2:1328:C:H2'	1:2:1329:U:C6	2.47	0.49
1:2:2510:A:H61	1:2:2641:A:H61	1.60	0.49
1:2:10:A:H2'	1:2:11:G:O4'	2.12	0.49
1:2:632:A:C2'	1:2:633:G:H5'	2.43	0.49
1:2:632:A:H2'	1:2:633:G:C5'	2.42	0.49
1:2:839:U:H5''	1:2:2408:G:OP2	2.11	0.49
1:2:2009:U:H2'	1:2:2010:G:H8	1.78	0.49
1:2:131:C:H2'	1:2:132:U:C6	2.47	0.49
1:2:978:U:H2'	1:2:979:A:C8	2.48	0.49
1:2:2264:C:H1'	1:2:2363:G:N2	2.27	0.49
1:2:1610:A:H2'	1:2:1611:U:C6	2.47	0.49
1:2:135:U:H2'	1:2:136:A:H8	1.77	0.49
1:2:134:G:H21	1:2:136:A:P	2.35	0.49
1:2:1454:U:H3	1:2:1567:A:H61	1.60	0.49
1:2:198:A:H5''	1:2:199:A:H4'	1.93	0.49
1:2:2468:G:H2'	1:2:2469:G:O4'	2.11	0.49
1:2:2638:G:N2	1:2:2640:G:H3'	2.26	0.49
1:2:1245:G:H2'	1:2:1246:G:C8	2.48	0.49
1:2:1569:A:HO2'	1:2:1570:C:H5	1.60	0.49
1:2:1196:G:O2'	1:2:1197:U:H5'	2.11	0.49
1:2:147:G:C6	1:2:148:C:H1'	2.48	0.49
1:2:197:G:H22	1:2:440:U:H2'	1.77	0.49
1:2:2269:G:H4'	1:2:2360:C:O2'	2.13	0.49
1:2:1622:G:H5''	1:2:1624:A:O4'	2.13	0.49
1:2:2677:U:H2'	1:2:2678:C:C6	2.48	0.49
1:2:837:U:H2'	1:2:838:A:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1495:G:O2'	1:2:1496:G:P	2.71	0.49
1:2:1496:G:N1	1:2:1527:G:N1	2.57	0.49
1:2:130:C:H2'	1:2:131:C:C6	2.48	0.49
1:2:1058:G:H2'	1:2:1121:G:C6	2.47	0.49
1:2:70:A:C2'	1:2:71:A:OP2	2.60	0.49
1:2:1391:A:O2'	1:2:1392:U:O5'	2.31	0.49
1:2:1856:U:H2'	1:2:1857:G:C8	2.47	0.49
1:2:986:A:N6	1:2:1000:G:H1'	2.27	0.49
1:2:2015:G:O2'	1:2:2016:A:P	2.71	0.49
1:2:2010:G:N2	1:2:2019:C:N3	2.60	0.49
1:2:2667:C:O2'	1:2:2701:A:N6	2.46	0.49
1:2:1541:G:H22	1:2:1561:A:N6	2.08	0.49
1:2:485:G:O2'	1:2:486:U:P	2.70	0.49
1:2:1938:U:H3'	1:2:2530:C:O2'	2.12	0.49
1:2:2390:A:H2'	1:2:2391:A:C8	2.47	0.49
1:2:1915:A:H2'	1:2:1916:G:O4'	2.12	0.49
1:2:1332:G:H2'	1:2:1333:G:O4'	2.13	0.49
1:2:88:G:H3'	1:2:89:A:C5'	2.35	0.49
1:2:1312:G:N2	1:2:1657:A:H5'	2.28	0.49
1:2:1194:U:O2'	1:2:1195:U:P	2.71	0.49
1:2:2811:G:H2'	1:2:2812:A:H8	1.78	0.49
1:2:1861:G:O2'	1:2:1862:C:H5'	2.11	0.49
1:2:1452:U:H5''	1:2:1533:G:H5'	1.95	0.49
1:2:1487:C:H2'	1:2:1488:G:C8	2.46	0.49
1:2:1214:C:H2'	1:2:1215:A:C8	2.48	0.49
1:2:1257:U:H2'	1:2:1258:G:C8	2.48	0.49
1:2:875:G:H2'	1:2:876:A:O4'	2.13	0.49
1:2:2708:U:H2'	1:2:2709:C:C6	2.47	0.49
1:2:1047:G:H22	1:2:1130:U:H3	1.60	0.49
1:2:762:A:H2'	1:2:763:A:H8	1.77	0.49
1:2:363:G:H2'	1:2:363:G:N3	2.28	0.49
1:2:2009:U:H2'	1:2:2010:G:C8	2.47	0.49
1:2:991:A:H61	1:2:2020:G:H21	1.60	0.49
1:2:719:A:H2'	1:2:720:A:O4'	2.13	0.49
1:2:1286:U:H4'	1:2:1288:A:P	2.53	0.49
1:2:706:A:H4'	1:2:1366:A:O2'	2.14	0.48
1:2:1686:A:C2	1:2:1977:C:H1'	2.48	0.48
1:2:170:U:H2'	1:2:171:G:C8	2.47	0.48
1:2:853:C:H2'	1:2:854:G:C8	2.48	0.48
1:2:1923:U:O2'	1:2:1924:C:H5	1.95	0.48
1:2:2571:G:H2'	1:2:2572:U:O4'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2204:A:H4'	1:2:2205:C:H6	1.78	0.48
1:2:1993:G:H2'	1:2:1994:U:C6	2.48	0.48
1:2:1680:U:O2'	1:2:2665:G:H4'	2.12	0.48
1:2:688:A:N6	1:2:816:U:N3	2.61	0.48
1:2:2225:G:N1	1:2:2405:A:H1'	2.29	0.48
1:2:485:G:HO2'	1:2:486:U:P	2.36	0.48
1:2:1849:G:H2'	1:2:1850:G:C8	2.48	0.48
1:2:1681:A:H2'	1:2:1681:A:N3	2.28	0.48
1:2:2638:G:C2	1:2:2640:G:H5''	2.48	0.48
1:2:2358:C:H2'	1:2:2359:U:C6	2.49	0.48
1:2:1694:A:H2'	1:2:1695:U:H6	1.78	0.48
1:2:2417:U:O3'	1:2:2419:C:OP1	2.30	0.48
1:2:2184:C:C2'	1:2:2185:U:H5'	2.43	0.48
1:2:2783:U:H2'	1:2:2784:A:O4'	2.13	0.48
1:2:720:A:H2'	1:2:721:C:C6	2.48	0.48
1:2:427:C:H4'	1:2:1862:C:O2	2.12	0.48
1:2:525:A:H2'	1:2:525:A:N3	2.28	0.48
1:2:1270:C:H2'	1:2:1271:C:C6	2.48	0.48
1:2:1333:G:H22	1:2:1346:C:N4	2.08	0.48
1:2:1143:A:H2'	1:2:1144:U:C6	2.49	0.48
1:2:1790:G:O2'	1:2:1791:C:P	2.71	0.48
1:2:726:G:C2'	1:2:727:U:H5'	2.43	0.48
1:2:1100:G:O2'	1:2:1101:U:H5	1.95	0.48
1:2:550:C:H2'	1:2:551:A:C8	2.48	0.48
1:2:1358:C:H1'	1:2:1409:U:H3	1.78	0.48
1:2:485:G:O2'	1:2:486:U:OP1	2.28	0.48
1:2:1533:G:H2'	1:2:1534:A:H8	1.78	0.48
1:2:121:G:O2'	1:2:122:G:H5'	2.13	0.48
1:2:2828:C:H2'	1:2:2829:A:C8	2.48	0.48
1:2:1160:C:H2'	1:2:1161:U:C6	2.48	0.48
1:2:74:G:H22	1:2:110:U:H3	1.62	0.48
1:2:1549:C:C2'	1:2:1550:C:H5'	2.37	0.48
1:2:1948:C:H2'	1:2:1949:A:N7	2.28	0.48
1:2:1455:C:H2'	1:2:1456:C:H6	1.79	0.48
1:2:1672:A:C2	1:2:2032:G:H5''	2.48	0.48
1:2:2786:G:H2'	1:2:2787:A:C8	2.49	0.48
1:2:1326:U:O3'	1:2:1345:G:H5'	2.13	0.48
1:2:1322:G:N2	1:2:1627:C:H5'	2.26	0.48
1:2:616:U:H2'	1:2:617:U:C5'	2.41	0.48
1:2:1:G:H2'	1:2:2:G:C8	2.49	0.48
1:2:1655:C:H5''	1:2:2689:C:O2'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:508:G:H22	1:2:516:G:H1	1.61	0.48
1:2:1257:U:H2'	1:2:1258:G:H8	1.77	0.48
1:2:2793:G:H2'	1:2:2794:G:C8	2.48	0.48
1:2:2627:G:H2'	1:2:2628:C:O4'	2.13	0.48
1:2:608:G:H2'	1:2:609:U:C6	2.48	0.48
1:2:2228:U:H4'	1:2:2254:C:N4	2.29	0.48
1:2:1386:A:H2'	1:2:1387:G:O4'	2.14	0.48
1:2:1251:G:H2'	1:2:1252:C:O4'	2.14	0.48
1:2:1252:C:H2'	1:2:1253:C:H5''	1.96	0.48
1:2:648:A:H4'	1:2:649:G:O4'	2.13	0.48
1:2:964:A:H2'	1:2:965:G:C8	2.48	0.48
1:2:2459:C:H2'	1:2:2460:G:H5'	1.94	0.48
1:2:2560:G:H2'	1:2:2560:G:N3	2.28	0.48
1:2:2838:U:H2'	1:2:2839:G:C8	2.48	0.48
1:2:704:G:H2'	1:2:705:C:C6	2.49	0.48
1:2:1490:U:OP1	1:2:1490:U:H3'	2.13	0.48
1:2:2225:G:O2'	1:2:2226:A:H5'	2.13	0.48
1:2:852:U:H2'	1:2:853:C:C6	2.48	0.48
1:2:333:A:H1'	1:2:351:A:C8	2.48	0.48
1:2:1785:A:H2'	1:2:1786:C:C6	2.49	0.48
1:2:1828:C:H42	1:2:1887:G:H1	1.60	0.48
1:2:1728:A:H2'	1:2:1729:C:C6	2.49	0.48
1:2:139:A:H2'	1:2:140:G:C8	2.48	0.48
1:2:534:U:H2'	1:2:535:U:C6	2.49	0.48
1:2:1917:C:H2'	1:2:1918:G:H8	1.78	0.48
1:2:37:C:H4'	1:2:463:C:OP1	2.14	0.48
1:2:2476:A:O2'	1:2:2477:C:C6	2.63	0.48
1:2:2312:A:H1'	1:2:2314:A:C5	2.49	0.48
1:2:516:G:O2'	1:2:517:A:O4'	2.31	0.48
1:2:2265:A:OP1	1:2:2266:A:H5'	2.14	0.48
1:2:1196:G:H2'	1:2:1197:U:O4'	2.14	0.48
1:2:2048:C:H2'	1:2:2049:C:H6	1.79	0.48
1:2:128:C:C2'	1:2:129:A:H5''	2.44	0.48
1:2:592:G:H2'	1:2:593:C:C6	2.49	0.48
1:2:1743:C:H2'	1:2:1744:G:C8	2.48	0.48
1:2:121:G:H1	1:2:126:C:N4	2.12	0.48
1:2:532:A:H2'	1:2:533:C:C6	2.49	0.48
1:2:1308:C:H2'	1:2:1309:G:H8	1.77	0.48
1:2:1283:C:H4'	1:2:1284:G:C8	2.49	0.47
1:2:811:G:H2'	1:2:812:G:C8	2.49	0.47
1:2:637:G:H5'	1:2:668:A:O2'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1699:A:H2'	1:2:1700:C:C6	2.49	0.47
1:2:1949:A:H1'	1:2:2572:U:H5'	1.95	0.47
1:2:429:C:H2'	1:2:430:C:C6	2.48	0.47
1:2:2491:C:C2'	1:2:2492:G:H5''	2.44	0.47
1:2:1168:G:H2'	1:2:1169:C:C6	2.48	0.47
1:2:2559:U:O2'	1:2:2560:G:H5'	2.14	0.47
1:2:2641:A:H2'	1:2:2642:G:O4'	2.14	0.47
1:2:24:G:N2	1:2:526:C:O2	2.46	0.47
1:2:1460:G:O2'	1:2:1461:C:H5'	2.14	0.47
1:2:2422:C:H2'	1:2:2423:G:C8	2.50	0.47
1:2:618:A:H2'	1:2:619:A:H5'	1.95	0.47
1:2:631:G:H4'	1:2:632:A:C2	2.50	0.47
1:2:2083:G:H2'	1:2:2084:G:C8	2.49	0.47
1:2:581:A:C2	1:2:582:G:H1'	2.49	0.47
1:2:990:A:H3'	1:2:991:A:H5''	1.95	0.47
1:2:2618:A:C2	1:2:2619:G:H1'	2.49	0.47
1:2:246:C:C2	1:2:373:A:H4'	2.49	0.47
1:2:1500:U:H2'	1:2:1501:C:C6	2.49	0.47
1:2:2122:G:C2'	1:2:2122:G:N3	2.75	0.47
1:2:1939:U:H1'	1:2:2531:U:OP1	2.14	0.47
1:2:2621:G:H2'	1:2:2622:G:C8	2.47	0.47
1:2:1768:U:H2'	1:2:1769:U:C6	2.49	0.47
1:2:2790:C:H2'	1:2:2791:C:C6	2.48	0.47
1:2:2054:A:H2'	1:2:2055:G:H8	1.78	0.47
1:2:1446:U:H3	1:2:1577:G:H1	1.60	0.47
1:2:804:C:O2	1:2:806:A:O2'	2.33	0.47
1:2:1625:A:N3	1:2:1632:A:O4'	2.47	0.47
1:2:1438:G:H2'	1:2:1439:G:C5'	2.34	0.47
1:2:2:G:H2'	1:2:3:U:C6	2.50	0.47
1:2:1685:A:C2'	1:2:1686:A:OP2	2.62	0.47
1:2:571:U:H2'	1:2:581:A:H1'	1.95	0.47
1:2:247:A:C8	1:2:373:A:H5'	2.49	0.47
1:2:2324:G:O2'	1:2:2325:A:P	2.72	0.47
1:2:367:G:H3'	1:2:368:A:H5''	1.95	0.47
1:2:1888:C:H2'	1:2:1913:G:C6	2.50	0.47
1:2:777:A:N6	1:2:1766:U:N3	2.61	0.47
1:2:1498:G:O2'	1:2:1499:A:H5'	2.14	0.47
1:2:2712:G:H5'	1:2:2713:A:C8	2.49	0.47
1:2:2484:G:O2'	1:2:2485:U:H5'	2.14	0.47
1:2:696:U:H2'	1:2:697:G:C8	2.49	0.47
1:2:1355:A:O2'	1:2:1356:G:P	2.71	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:465:C:H4'	1:2:468:A:N6	2.29	0.47
1:2:2633:A:H2	1:2:2644:A:H5''	1.78	0.47
1:2:1030:U:O2'	1:2:1031:C:H5'	2.14	0.47
1:2:118:U:H1'	1:2:143:A:N9	2.29	0.47
1:2:2563:U:O2'	1:2:2564:U:H5'	2.14	0.47
1:2:2552:C:OP1	1:2:2553:G:H5''	2.15	0.47
1:2:73:A:O2'	1:2:74:G:P	2.72	0.47
1:2:40:U:H2'	1:2:41:G:C8	2.49	0.47
1:2:1722:G:H2'	1:2:1723:U:C6	2.49	0.47
1:2:2262:C:C5	1:2:2368:G:H2'	2.50	0.47
1:2:2769:C:H2'	1:2:2770:A:H5'	1.95	0.47
1:2:736:G:H2'	1:2:737:C:O4'	2.14	0.47
1:2:2245:A:H4'	1:2:2246:A:O5'	2.15	0.47
1:2:28:A:N6	1:2:522:G:H1'	2.29	0.47
1:2:1205:G:H2'	1:2:1206:G:H8	1.78	0.47
1:2:1471:G:O2'	1:2:1472:C:H5'	2.15	0.47
1:2:1846:A:H2'	1:2:1847:G:O4'	2.15	0.47
1:2:1357:U:HO2'	1:2:1397:A:H2'	1.78	0.47
1:2:2299:A:C1'	1:2:2312:A:H62	2.18	0.47
1:2:544:U:H2'	1:2:545:C:C6	2.49	0.47
1:2:1004:A:H2'	1:2:1005:U:H5''	1.96	0.47
1:2:1776:A:H4'	1:2:1965:U:O2'	2.15	0.47
1:2:1349:A:H2'	1:2:1350:G:C8	2.49	0.47
1:2:2032:G:H2'	1:2:2033:C:C6	2.50	0.47
1:2:725:C:H2'	1:2:726:G:C8	2.50	0.47
1:2:1880:G:H2'	1:2:1881:U:H6	1.79	0.47
1:2:940:G:C3'	1:2:941:U:H5''	2.26	0.47
1:2:2042:A:N3	1:2:2482:A:N6	2.63	0.47
1:2:387:A:H5''	1:2:436:A:C8	2.48	0.47
1:2:1747:G:H1'	1:2:1749:G:N3	2.30	0.47
1:2:2680:U:H3'	1:2:2681:A:C5'	2.44	0.47
1:2:2408:G:O4'	1:2:2408:G:OP1	2.32	0.47
1:2:181:A:H4'	1:2:182:G:OP1	2.14	0.47
1:2:2270:U:O2'	1:2:2353:G:H1'	2.15	0.47
1:2:1807:A:C2'	1:2:1808:C:H4'	2.41	0.47
1:2:2616:U:H1'	1:2:2762:G:N2	2.27	0.47
1:2:1183:C:N4	1:2:1191:G:N1	2.60	0.47
1:2:1501:C:H2'	1:2:1502:G:O4'	2.14	0.47
1:2:2325:A:H4'	1:2:2362:G:O4'	2.15	0.47
1:2:1782:A:H2'	1:2:1783:G:O5'	2.15	0.47
1:2:1783:G:H2'	1:2:1784:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1861:G:H2'	1:2:1862:C:C6	2.50	0.47
1:2:1605:A:O2'	1:2:1606:C:H5'	2.15	0.47
1:2:1609:G:O2'	1:2:1610:A:H5'	2.15	0.47
1:2:643:A:N3	1:2:2382:C:H1'	2.30	0.47
1:2:298:C:H42	1:2:364:G:H1	1.62	0.47
1:2:2034:A:N3	1:2:2035:G:N7	2.62	0.47
1:2:1106:A:H2'	1:2:1107:A:C8	2.49	0.47
1:2:2520:A:H4'	1:2:2744:A:N1	2.30	0.47
1:2:2230:G:H2'	1:2:2231:G:H8	1.79	0.47
1:2:1724:C:H2'	1:2:1725:C:C6	2.50	0.47
1:2:2863:U:H2'	1:2:2864:C:C6	2.49	0.47
1:2:1388:C:H2'	1:2:1389:C:C6	2.50	0.47
1:2:2800:C:H2'	1:2:2801:A:O4'	2.15	0.47
1:2:238:G:H4'	1:2:618:A:C2	2.50	0.47
1:2:1314:A:N6	1:2:1316:G:C5	2.83	0.47
1:2:2370:G:C2'	1:2:2371:A:OP2	2.61	0.47
1:2:1110:G:H2'	1:2:1111:C:C6	2.49	0.47
1:2:403:A:H4'	1:2:404:A:O5'	2.14	0.47
1:2:1818:G:H2'	1:2:1819:U:C6	2.50	0.47
1:2:367:G:C2'	1:2:368:A:H5''	2.44	0.47
1:2:1151:U:H5''	1:2:1153:A:P	2.55	0.47
1:2:2786:G:H2'	1:2:2787:A:H8	1.80	0.47
1:2:1871:G:H2'	1:2:1871:G:N3	2.28	0.47
1:2:1975:G:H1'	1:2:1977:C:C5	2.50	0.47
1:2:2048:C:H2'	1:2:2049:C:C6	2.50	0.47
1:2:2812:A:H2'	1:2:2813:G:H8	1.79	0.47
1:2:352:G:C2'	1:2:353:G:H5'	2.45	0.47
1:2:421:G:H2'	1:2:422:C:C6	2.50	0.47
1:2:1039:A:H2'	1:2:1040:A:C8	2.49	0.47
1:2:2705:A:N6	1:2:2707:G:H1'	2.30	0.47
1:2:1452:U:H5'	1:2:1532:A:O2'	2.13	0.47
1:2:198:A:O2'	1:2:199:A:P	2.73	0.47
1:2:298:C:H2'	1:2:299:C:O4'	2.14	0.47
1:2:1258:G:H2'	1:2:1259:A:C8	2.50	0.47
1:2:1398:G:H2'	1:2:1399:C:O4'	2.15	0.47
1:2:1246:G:O2'	1:2:1247:U:H5'	2.14	0.47
1:2:66:U:H2'	1:2:67:G:H8	1.79	0.47
1:2:1944:C:H2'	1:2:1945:C:O4'	2.14	0.47
1:2:39:C:H2'	1:2:40:U:C6	2.49	0.47
1:2:577:U:H5'	1:2:956:A:N6	2.29	0.47
1:2:2379:G:C2	1:2:2380:U:H1'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:840:U:H5'	1:2:841:G:O5'	2.15	0.47
1:2:1482:U:H2'	1:2:1483:G:H8	1.79	0.47
1:2:172:A:OP2	1:2:173:A:O2'	2.33	0.47
1:2:2058:U:H1'	1:2:2576:G:N2	2.24	0.47
1:2:715:U:H3	1:2:743:A:N6	2.10	0.47
1:2:885:A:H2'	1:2:886:A:C8	2.47	0.47
1:2:797:A:C5	1:2:805:G:H1'	2.50	0.47
1:2:328:A:H2'	1:2:329:C:H6	1.80	0.47
1:2:1161:U:H2'	1:2:1162:A:H8	1.80	0.47
1:2:2500:C:H2'	1:2:2501:U:C6	2.50	0.47
1:2:1321:A:H2'	1:2:1322:G:O4'	2.15	0.46
1:2:2280:A:H2'	1:2:2281:C:C6	2.50	0.46
1:2:1821:A:H3'	1:2:1822:C:C6	2.50	0.46
1:2:1416:A:O2'	1:2:1417:C:H5'	2.14	0.46
1:2:2605:C:O2'	1:2:2606:G:H5'	2.15	0.46
1:2:93:A:H2'	1:2:94:C:C6	2.50	0.46
1:2:2447:G:N2	1:2:2461:G:OP2	2.47	0.46
1:2:1557:G:H2'	1:2:1558:C:C6	2.50	0.46
1:2:1325:U:H2'	1:2:1326:U:OP2	2.15	0.46
1:2:1811:A:H1'	1:2:1813:A:C5	2.50	0.46
1:2:1086:C:C2'	1:2:1087:C:H5''	2.45	0.46
1:2:117:A:O5'	1:2:118:U:H5	1.98	0.46
1:2:1763:G:H2'	1:2:1764:A:H4'	1.98	0.46
1:2:1821:A:H3'	1:2:1822:C:H6	1.80	0.46
1:2:653:G:H21	1:2:657:A:N6	2.14	0.46
1:2:162:C:H2'	1:2:163:A:H8	1.79	0.46
1:2:550:C:H2'	1:2:551:A:H8	1.80	0.46
1:2:356:A:H2'	1:2:357:A:C8	2.50	0.46
1:2:2817:A:H2'	1:2:2818:G:C8	2.51	0.46
1:2:2844:G:H2'	1:2:2845:C:O4'	2.15	0.46
1:2:1326:U:O2'	1:2:1345:G:C4'	2.64	0.46
1:2:632:A:H2'	1:2:633:G:O4'	2.15	0.46
1:2:2312:A:H1'	1:2:2314:A:C6	2.49	0.46
1:2:1087:C:H2'	1:2:1088:A:C8	2.51	0.46
1:2:310:A:N6	1:2:311:A:N6	2.63	0.46
1:2:2686:C:H2'	1:2:2687:G:C8	2.50	0.46
1:2:2342:U:H2'	1:2:2343:C:C6	2.49	0.46
1:2:470:U:H2'	1:2:471:A:H8	1.81	0.46
1:2:2370:G:H2'	1:2:2371:A:OP2	2.15	0.46
1:2:1686:A:C2'	1:2:1686:A:N3	2.77	0.46
1:2:2644:A:H2'	1:2:2645:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:714:G:O2'	1:2:715:U:H5'	2.15	0.46
1:2:144:U:H2'	1:2:145:C:C6	2.50	0.46
1:2:1820:G:O2'	1:2:1821:A:P	2.74	0.46
1:2:1452:U:C5'	1:2:1533:G:H5'	2.46	0.46
1:2:857:U:C2'	1:2:858:G:H5'	2.46	0.46
1:2:83:A:O3'	1:2:84:G:O4'	2.33	0.46
1:2:1161:U:H2'	1:2:1162:A:C8	2.50	0.46
1:2:2340:C:H2'	1:2:2341:G:H5'	1.97	0.46
1:2:2074:U:H3'	1:2:2075:U:C5'	2.44	0.46
1:2:2044:G:C8	1:2:2480:C:O2'	2.68	0.46
1:2:1698:C:H2'	1:2:1753:A:H2'	1.98	0.46
1:2:681:A:C2'	1:2:683:A:H62	2.28	0.46
1:2:1316:G:H1'	1:2:1658:A:N1	2.31	0.46
1:2:2406:C:O2'	1:2:2408:G:N2	2.49	0.46
1:2:225:G:N3	1:2:2410:U:H4'	2.30	0.46
1:2:988:G:O2'	1:2:989:G:H5'	2.16	0.46
1:2:1294:G:N1	1:2:1302:C:N4	2.62	0.46
1:2:2225:G:N2	1:2:2237:C:H42	2.13	0.46
1:2:1466:C:H2'	1:2:1467:U:C4'	2.46	0.46
1:2:2270:U:H2'	1:2:2271:C:C6	2.51	0.46
1:2:2702:G:H2'	1:2:2703:C:C6	2.51	0.46
1:2:1223:G:N3	1:2:1225:G:N3	2.63	0.46
1:2:129:A:N6	1:2:142:U:H3	2.12	0.46
1:2:1541:G:N2	1:2:1562:G:N2	2.64	0.46
1:2:2721:A:H2'	1:2:2722:C:O4'	2.15	0.46
1:2:1413:U:H2'	1:2:1414:G:H8	1.80	0.46
1:2:1414:G:H2'	1:2:1415:C:O4'	2.16	0.46
1:2:558:G:H3'	1:2:558:G:OP2	2.15	0.46
1:2:1041:G:O2'	1:2:2445:C:H4'	2.16	0.46
1:2:2356:A:O2'	1:2:2357:A:H5'	2.16	0.46
1:2:1621:C:H2'	1:2:1622:G:O4'	2.16	0.46
1:2:1302:C:H5''	1:2:1664:G:N2	2.30	0.46
1:2:1182:U:O2	1:2:1192:A:N1	2.48	0.46
1:2:1849:G:H21	1:2:1868:A:H62	1.64	0.46
1:2:926:C:H2'	1:2:927:C:H5'	1.97	0.46
1:2:926:C:OP2	1:2:927:C:H5	1.99	0.46
1:2:1124:U:H5''	1:2:2730:A:H5'	1.98	0.46
1:2:643:A:H2'	1:2:644:A:C8	2.51	0.46
1:2:1008:G:H2'	1:2:1009:C:C6	2.50	0.46
1:2:551:A:H2'	1:2:552:C:C6	2.51	0.46
1:2:2526:U:C2	1:2:2545:A:N6	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2045:A:C2	2:2:2881:RAP:H41	2.51	0.46
1:2:1139:A:H1'	1:2:2495:G:HO2'	1.77	0.46
1:2:1685:A:H2'	1:2:1686:A:OP2	2.16	0.46
1:2:2810:A:H4'	1:2:2811:G:H8	1.75	0.46
1:2:2697:G:H2'	1:2:2698:G:O4'	2.16	0.46
1:2:460:U:O2'	1:2:461:A:P	2.73	0.46
1:2:2096:U:C4	1:2:2104:G:H4'	2.51	0.46
1:2:558:G:H2'	1:2:558:G:N3	2.31	0.46
1:2:1758:C:H2'	1:2:1759:A:C8	2.50	0.46
1:2:1778:U:H4'	1:2:2568:A:H4'	1.97	0.46
1:2:1602:G:O3'	1:2:1603:A:H8	1.99	0.46
1:2:216:U:H5''	1:2:601:A:H62	1.79	0.46
1:2:1587:A:H2'	1:2:1588:A:C8	2.51	0.46
1:2:2370:G:N2	1:2:2403:C:C5	2.84	0.46
1:2:2692:A:OP1	1:2:2692:A:O4'	2.34	0.46
1:2:2274:C:C2'	1:2:2275:U:H5'	2.42	0.46
1:2:2005:U:H4'	1:2:2017:U:O2	2.16	0.46
1:2:2305:C:N3	1:2:2367:A:N6	2.64	0.46
1:2:2015:G:O2'	1:2:2016:A:OP1	2.34	0.46
1:2:1468:A:N3	1:2:1468:A:H2'	2.30	0.46
1:2:2874:A:H2'	1:2:2875:C:C6	2.51	0.46
1:2:1985:G:H2'	1:2:1986:G:H8	1.80	0.46
1:2:319:G:O4'	1:2:511:A:O4'	2.34	0.46
1:2:117:A:O5'	1:2:118:U:C5	2.69	0.46
1:2:781:G:H2'	1:2:782:U:C6	2.51	0.46
1:2:1166:A:C2'	1:2:1167:A:H5''	2.45	0.46
1:2:1033:G:C2'	1:2:1034:U:OP2	2.64	0.46
1:2:1375:C:H42	1:2:1382:G:H1	1.64	0.46
1:2:935:C:H2'	1:2:936:A:H8	1.81	0.46
1:2:405:C:H2'	1:2:406:G:C8	2.50	0.46
1:2:2604:G:H2'	1:2:2605:C:O4'	2.15	0.46
1:2:1462:C:O2'	1:2:1560:A:H1'	2.15	0.46
1:2:2215:C:H2'	1:2:2216:G:O4'	2.16	0.46
1:2:2569:A:H2'	1:2:2570:C:C6	2.50	0.46
1:2:2522:G:H2'	1:2:2523:G:C8	2.52	0.46
1:2:1347:C:H2'	1:2:1348:C:C6	2.51	0.46
1:2:1655:C:H2'	1:2:1656:U:O4'	2.15	0.45
1:2:2495:G:H2'	1:2:2496:C:C6	2.51	0.45
1:2:2056:C:O2'	1:2:2057:U:H5'	2.16	0.45
1:2:2058:U:H5'	1:2:2576:G:H1'	1.98	0.45
1:2:1878:C:H2'	1:2:1879:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2485:U:O2'	1:2:2486:C:H5'	2.16	0.45
1:2:393:U:H2'	1:2:394:U:C6	2.51	0.45
1:2:2819:G:H2'	1:2:2820:C:O4'	2.15	0.45
1:2:612:G:O3'	1:2:613:A:H4'	2.16	0.45
1:2:618:A:C2'	1:2:619:A:H5'	2.46	0.45
1:2:567:G:H2'	1:2:568:G:C8	2.50	0.45
1:2:658:G:H2'	1:2:659:G:C8	2.50	0.45
1:2:1939:U:H2'	1:2:1940:C:O4'	2.16	0.45
1:2:1280:U:H3	1:2:1996:A:H62	1.63	0.45
1:2:1456:C:H42	1:2:1565:G:H22	1.65	0.45
1:2:198:A:H4'	1:2:199:A:O4'	2.15	0.45
1:2:1775:A:HO2'	1:2:1776:A:P	2.34	0.45
1:2:757:U:H5''	1:2:1675:C:H5''	1.97	0.45
1:2:2805:G:H2'	1:2:2806:G:O4'	2.15	0.45
1:2:215:G:H2'	1:2:216:U:O4'	2.16	0.45
1:2:2013:A:N3	1:2:2478:C:H4'	2.31	0.45
1:2:1437:A:H2'	1:2:1438:G:H5'	1.97	0.45
1:2:2633:A:N6	1:2:2646:C:N4	2.64	0.45
1:2:403:A:OP1	1:2:404:A:OP1	2.35	0.45
1:2:1782:A:OP2	1:2:1820:G:N2	2.49	0.45
1:2:2289:A:H2'	1:2:2290:A:H5'	1.99	0.45
1:2:2342:U:H2'	1:2:2343:C:H6	1.80	0.45
1:2:2524:G:O2'	1:2:2525:U:H5'	2.16	0.45
1:2:1962:C:O2'	1:2:1963:G:H5'	2.16	0.45
1:2:697:G:C6	1:2:807:A:N6	2.85	0.45
1:2:787:A:O5'	1:2:787:A:H8	1.99	0.45
1:2:799:C:H2'	1:2:800:U:C6	2.51	0.45
1:2:1294:G:H22	1:2:1299:A:N6	2.13	0.45
1:2:73:A:H2'	1:2:73:A:N3	2.32	0.45
1:2:1689:U:H4'	1:2:2532:G:O3'	2.15	0.45
1:2:690:A:H4'	1:2:2053:G:O2'	2.17	0.45
1:2:1820:G:H4'	1:2:1821:A:OP1	2.16	0.45
1:2:1886:G:H2'	1:2:1887:G:C8	2.50	0.45
1:2:2166:G:C2'	1:2:2167:A:H5'	2.46	0.45
1:2:2210:C:H2'	1:2:2211:U:O4'	2.16	0.45
1:2:2438:A:H2'	1:2:2438:A:N3	2.30	0.45
1:2:2459:C:H2'	1:2:2460:G:O4'	2.16	0.45
1:2:2449:G:H2'	1:2:2450:A:C8	2.51	0.45
1:2:1210:C:H2'	1:2:1211:G:C8	2.52	0.45
1:2:1333:G:N2	1:2:1344:C:N4	2.64	0.45
1:2:300:C:N4	1:2:363:G:N2	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1312:G:O2'	1:2:1314:A:H2	1.99	0.45
1:2:1316:G:H5'	1:2:1659:G:H21	1.81	0.45
1:2:491:A:H2	1:2:509:U:O2	1.99	0.45
1:2:2406:C:H4'	1:2:2408:G:C2	2.50	0.45
1:2:931:G:O2'	1:2:932:G:H5'	2.16	0.45
1:2:1495:G:H2'	1:2:1496:G:C8	2.44	0.45
1:2:1502:G:O2'	1:2:1503:G:H5'	2.17	0.45
1:2:44:G:H22	1:2:445:A:H61	1.65	0.45
1:2:473:C:H2'	1:2:474:G:H8	1.82	0.45
1:2:1215:A:O2'	1:2:1216:G:H5'	2.16	0.45
1:2:1399:C:H2'	1:2:1400:A:H8	1.81	0.45
1:2:2785:A:H2'	1:2:2786:G:O4'	2.16	0.45
1:2:1569:A:O2'	1:2:1570:C:H5	1.99	0.45
1:2:2498:U:H5''	1:2:2499:C:OP1	2.17	0.45
1:2:2036:G:O2'	1:2:2037:A:H5'	2.16	0.45
1:2:1043:A:H2'	1:2:1044:U:H5'	1.97	0.45
1:2:1420:A:H2'	1:2:1421:U:C6	2.52	0.45
1:2:1522:C:H2'	1:2:1523:A:O4'	2.16	0.45
1:2:1715:A:O2'	1:2:1717:A:H4'	2.16	0.45
1:2:89:A:O2'	1:2:90:G:C8	2.69	0.45
1:2:1975:G:H1'	1:2:1977:C:N4	2.27	0.45
1:2:2633:A:H5'	1:2:2635:U:O4'	2.16	0.45
1:2:2019:C:OP2	1:2:2020:G:OP2	2.35	0.45
1:2:2691:C:C5	1:2:2693:U:H5''	2.51	0.45
1:2:119:G:H2'	1:2:120:G:H8	1.80	0.45
1:2:1444:C:H2'	1:2:1445:A:H8	1.78	0.45
1:2:1166:A:C3'	1:2:1167:A:H5''	2.46	0.45
1:2:82:G:O2'	1:2:83:A:H5'	2.16	0.45
1:2:84:G:O2'	1:2:85:C:H5'	2.16	0.45
1:2:2258:G:O2'	1:2:2306:A:H4'	2.17	0.45
1:2:222:G:H2'	1:2:223:C:C6	2.52	0.45
1:2:2541:U:O2'	1:2:2542:U:H5'	2.16	0.45
1:2:806:A:O2'	1:2:807:A:H5''	2.17	0.45
1:2:1336:G:C3'	1:2:1337:G:H5''	2.46	0.45
1:2:1298:G:N2	1:2:1341:G:H5''	2.31	0.45
1:2:1632:A:O2'	1:2:1633:C:OP1	2.27	0.45
1:2:1187:A:H2'	1:2:1188:A:H8	1.82	0.45
1:2:2772:U:H3	1:2:2780:A:N6	2.15	0.45
1:2:2782:G:H3'	1:2:2783:U:C5'	2.46	0.45
1:2:984:A:H1'	1:2:1202:U:C6	2.52	0.45
1:2:2572:U:H2'	1:2:2573:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:192:G:O2'	1:2:193:A:P	2.75	0.45
1:2:2124:C:H2'	1:2:2125:C:C6	2.52	0.45
1:2:1764:A:H2'	1:2:1765:C:H5'	1.98	0.45
1:2:657:A:O2'	1:2:658:G:H5'	2.16	0.45
1:2:1856:U:H5'	1:2:2389:G:N3	2.32	0.45
1:2:1132:C:H2'	1:2:1133:G:C8	2.52	0.45
1:2:1699:A:H5'	1:2:1753:A:O2'	2.17	0.45
1:2:2297:G:O2'	1:2:2300:G:N7	2.50	0.45
1:2:171:G:H2'	1:2:172:A:O4'	2.17	0.45
1:2:539:A:H2'	1:2:540:G:OP2	2.16	0.45
1:2:676:G:H2'	1:2:677:G:O4'	2.17	0.45
1:2:1899:A:C2'	1:2:1946:U:H1'	2.47	0.45
1:2:70:A:OP1	1:2:111:G:H4'	2.16	0.45
1:2:661:C:H2'	1:2:662:G:C8	2.52	0.45
1:2:423:G:H1	1:2:430:C:H42	1.64	0.45
1:2:2705:A:H2'	1:2:2706:U:O5'	2.17	0.45
1:2:2469:G:H4'	1:2:2470:U:C5	2.52	0.45
1:2:2239:C:H2'	1:2:2240:C:H6	1.80	0.45
1:2:608:G:H2'	1:2:609:U:H6	1.82	0.45
1:2:558:G:H5''	1:2:559:C:C5	2.52	0.45
1:2:1470:G:O6	1:2:2684:A:H2	2.00	0.45
1:2:1773:C:C5	2:2:2881:RAP:H442	2.52	0.45
1:2:1853:C:H2'	1:2:1854:G:C8	2.52	0.45
1:2:1474:A:H2'	1:2:1475:U:C5'	2.47	0.45
1:2:991:A:H2'	1:2:992:A:O5'	2.17	0.45
1:2:709:A:O2'	1:2:1639:U:H5''	2.17	0.45
1:2:1886:G:O2'	1:2:1887:G:H5'	2.16	0.45
1:2:2343:C:O2'	1:2:2344:G:H5'	2.17	0.45
1:2:2605:C:H2'	1:2:2606:G:C8	2.52	0.45
1:2:1115:C:H6	1:2:1115:C:O5'	2.00	0.45
1:2:520:C:O5'	1:2:520:C:H6	2.00	0.45
1:2:2488:G:H2'	1:2:2489:C:C6	2.51	0.45
1:2:2425:G:C2'	1:2:2426:G:H4'	2.47	0.45
1:2:2432:A:H4'	1:2:2551:A:O2'	2.17	0.45
1:2:2667:C:N3	1:2:2700:U:OP2	2.50	0.45
1:2:34:U:H5'	1:2:35:G:OP2	2.17	0.45
1:2:1166:A:H2'	1:2:1167:A:H5''	1.99	0.45
1:2:2578:G:H2'	1:2:2579:A:O4'	2.17	0.45
1:2:2355:A:H2'	1:2:2356:A:O4'	2.17	0.45
1:2:2326:C:H2'	1:2:2327:U:C6	2.52	0.45
1:2:238:G:H4'	1:2:618:A:N1	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1313:U:H4'	1:2:1314:A:O4'	2.16	0.44
1:2:2675:U:H2'	1:2:2676:G:H8	1.82	0.44
1:2:391:C:N3	1:2:410:A:N1	2.65	0.44
1:2:2352:A:H2'	1:2:2353:G:H8	1.82	0.44
1:2:2206:C:H2'	1:2:2207:G:O4'	2.17	0.44
1:2:1821:A:H5''	1:2:1822:C:H5	1.82	0.44
1:2:781:G:H5'	1:2:1638:G:C5'	2.47	0.44
1:2:1856:U:H2'	1:2:1857:G:H8	1.81	0.44
1:2:2861:A:H2'	1:2:2862:G:C8	2.53	0.44
1:2:2442:C:H2'	1:2:2443:C:H6	1.81	0.44
1:2:997:C:H2'	1:2:998:C:C6	2.52	0.44
1:2:2299:A:H5'	1:2:2300:G:C8	2.52	0.44
1:2:689:A:H61	1:2:815:A:H61	1.66	0.44
1:2:1180:A:O2'	1:2:1181:C:H5'	2.17	0.44
1:2:1194:U:O2'	1:2:1195:U:OP1	2.35	0.44
1:2:1281:A:H2'	1:2:1282:A:O4'	2.17	0.44
1:2:1337:G:H1'	1:2:1632:A:N6	2.32	0.44
1:2:574:C:H2'	1:2:575:U:O4'	2.18	0.44
1:2:2020:G:H2'	1:2:2021:G:C8	2.52	0.44
1:2:2396:C:O2'	1:2:2397:A:H5'	2.17	0.44
1:2:1790:G:H1'	1:2:1791:C:H5	1.80	0.44
1:2:1519:G:O2'	1:2:1520:G:H5'	2.18	0.44
1:2:982:C:H2'	1:2:983:G:O4'	2.17	0.44
1:2:1819:U:H2'	1:2:1820:G:O4'	2.16	0.44
1:2:2033:C:H2'	1:2:2034:A:O4'	2.17	0.44
1:2:727:U:HO2'	1:2:729:A:H62	1.65	0.44
1:2:1052:C:H2'	1:2:1053:G:C8	2.52	0.44
1:2:789:G:O2'	1:2:790:A:OP2	2.31	0.44
1:2:2013:A:H2'	1:2:2014:A:OP2	2.18	0.44
1:2:1365:U:H1'	1:2:1586:A:C2	2.52	0.44
1:2:172:A:H3'	1:2:173:A:H4'	2.00	0.44
1:2:2617:G:N2	1:2:2756:A:O4'	2.49	0.44
1:2:1196:G:C2'	1:2:1197:U:H5'	2.47	0.44
1:2:2241:U:O2'	1:2:2307:A:H1'	2.18	0.44
1:2:1054:C:H2'	1:2:1055:A:H5'	1.98	0.44
1:2:1681:A:N1	1:2:2706:U:H1'	2.31	0.44
1:2:1033:G:H22	1:2:1150:C:H2'	1.81	0.44
1:2:2105:U:H2'	1:2:2106:G:H8	1.82	0.44
1:2:1008:G:H2'	1:2:1009:C:H6	1.83	0.44
1:2:772:G:H2'	1:2:773:G:H8	1.82	0.44
1:2:688:A:H1'	1:2:2423:G:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1294:G:H1	1:2:1302:C:H42	1.62	0.44
1:2:213:C:H2'	1:2:214:C:C6	2.52	0.44
1:2:665:A:H3'	1:2:666:U:C5'	2.31	0.44
1:2:1573:G:N7	1:2:1574:A:C6	2.86	0.44
1:2:1364:C:O2'	1:2:1587:A:H1'	2.18	0.44
1:2:2021:G:H2'	1:2:2022:C:C6	2.52	0.44
1:2:248:A:HO3'	1:2:373:A:P	2.40	0.44
1:2:2691:C:H5''	1:2:2694:G:C5'	2.47	0.44
1:2:831:G:H5'	1:2:852:U:OP1	2.17	0.44
1:2:70:A:O2'	1:2:71:A:C5'	2.64	0.44
1:2:1227:A:H5'	1:2:1252:C:H4'	2.00	0.44
1:2:2492:G:H2'	1:2:2493:U:O4'	2.17	0.44
1:2:1381:G:O2'	1:2:1382:G:H5'	2.17	0.44
1:2:547:U:H2'	1:2:548:G:C8	2.53	0.44
1:2:1865:C:C2'	1:2:1866:G:H5'	2.47	0.44
1:2:728:G:H2'	1:2:729:A:H5'	2.00	0.44
1:2:2713:A:H2'	1:2:2714:A:C8	2.51	0.44
1:2:115:G:H4'	1:2:124:A:C2	2.52	0.44
1:2:1476:G:H3'	1:2:1476:G:OP2	2.17	0.44
1:2:1622:G:H4'	1:2:1624:A:C4	2.52	0.44
1:2:1357:U:C5'	1:2:1358:C:OP2	2.63	0.44
1:2:1432:G:O6	1:2:1594:U:H5''	2.18	0.44
1:2:170:U:H5'	1:2:815:A:H2	1.82	0.44
1:2:1501:C:N4	1:2:1519:G:H22	2.11	0.44
1:2:192:G:O2'	1:2:193:A:C5'	2.65	0.44
1:2:44:G:H2'	1:2:192:G:H2'	2.00	0.44
1:2:33:C:H2'	1:2:34:U:O5'	2.18	0.44
1:2:320:A:N3	1:2:340:G:H2'	2.32	0.44
1:2:605:G:H2'	1:2:606:A:H8	1.83	0.44
1:2:164:G:H21	1:2:1378:A:H2	1.66	0.44
1:2:525:A:H2	1:2:526:C:C1'	2.31	0.44
1:2:1370:U:H2'	1:2:1371:G:O4'	2.18	0.44
1:2:2310:G:H2'	1:2:2311:U:C6	2.52	0.44
1:2:316:C:H2'	1:2:317:U:C6	2.53	0.44
1:2:2739:G:H2'	1:2:2740:C:C6	2.52	0.44
1:2:1323:G:N2	1:2:1326:U:H3	2.16	0.44
1:2:1985:G:H2'	1:2:1986:G:C8	2.52	0.44
1:2:2139:G:N3	1:2:2139:G:C2'	2.80	0.44
1:2:521:U:O3'	1:2:1248:G:H4'	2.18	0.44
1:2:2559:U:C2'	1:2:2560:G:H5'	2.47	0.44
1:2:1778:U:H2'	1:2:1779:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2029:G:O2'	1:2:2030:U:H5'	2.17	0.44
1:2:881:U:H2'	1:2:882:C:C6	2.52	0.44
1:2:1345:G:H5''	1:2:1346:C:P	2.57	0.44
1:2:1617:G:H2'	1:2:1618:U:C5'	2.35	0.44
1:2:1750:A:H1'	1:2:2690:A:C2	2.52	0.44
1:2:841:G:C2	1:2:2226:A:H4'	2.53	0.44
1:2:1972:G:H2'	1:2:1973:C:C6	2.53	0.44
1:2:1443:G:H2'	1:2:1444:C:C6	2.53	0.44
1:2:1452:U:H4'	1:2:1532:A:O3'	2.18	0.44
1:2:1033:G:H1'	1:2:1034:U:H5	1.81	0.44
1:2:1769:U:H2'	1:2:1770:U:H5''	1.99	0.44
1:2:599:A:H2'	1:2:600:G:C8	2.52	0.44
1:2:1427:G:C2'	1:2:1428:G:H5'	2.48	0.44
1:2:2252:A:H2'	1:2:2253:A:C8	2.53	0.44
1:2:2404:A:C4'	1:2:2405:A:O5'	2.58	0.44
1:2:929:A:H5''	1:2:2247:A:H61	1.83	0.44
1:2:930:A:H2'	1:2:931:G:H5'	1.98	0.44
1:2:539:A:C2'	1:2:540:G:OP2	2.66	0.44
1:2:540:G:H2'	1:2:541:C:H5'	1.99	0.44
1:2:701:U:H6	1:2:701:U:O5'	2.01	0.44
1:2:1249:G:O2'	1:2:1250:A:O5'	2.35	0.44
1:2:1202:U:H2'	1:2:1203:A:H8	1.82	0.44
1:2:460:U:O4	1:2:592:G:H1'	2.18	0.44
1:2:51:A:N7	1:2:117:A:N6	2.66	0.44
1:2:648:A:H5'	1:2:649:G:O5'	2.18	0.44
1:2:1639:U:H2'	1:2:1640:C:H6	1.83	0.44
1:2:2861:A:H2'	1:2:2862:G:H8	1.83	0.44
1:2:2454:C:H42	1:2:2508:G:H22	1.66	0.44
1:2:1775:A:H4'	1:2:1776:A:O5'	2.18	0.44
1:2:311:A:O4'	1:2:330:C:H4'	2.18	0.44
1:2:150:A:C2'	1:2:151:G:H5'	2.48	0.44
1:2:1878:C:H2'	1:2:1879:G:H8	1.83	0.44
1:2:1922:U:H1'	1:2:2570:C:O2'	2.18	0.44
1:2:1632:A:H4'	1:2:1633:C:OP1	2.18	0.43
1:2:1302:C:H5''	1:2:1664:G:H22	1.81	0.43
1:2:1715:A:C3'	1:2:1716:G:H5''	2.47	0.43
1:2:1757:C:H1'	1:2:1970:G:N2	2.33	0.43
1:2:2225:G:C2	1:2:2405:A:H1'	2.53	0.43
1:2:1482:U:H2'	1:2:1483:G:C8	2.53	0.43
1:2:2668:U:O2'	1:2:2669:C:O5'	2.34	0.43
1:2:1502:G:H2'	1:2:1503:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1638:G:H2'	1:2:1639:U:C6	2.53	0.43
1:2:2491:C:H2'	1:2:2492:G:C4'	2.48	0.43
1:2:604:U:H2'	1:2:605:G:H8	1.81	0.43
1:2:1964:A:H3'	1:2:1965:U:H5'	1.99	0.43
1:2:2201:G:H2'	1:2:2202:G:H8	1.83	0.43
1:2:874:A:H2'	1:2:875:G:O4'	2.18	0.43
1:2:2560:G:H2'	1:2:2561:G:OP2	2.18	0.43
1:2:865:A:H2'	1:2:866:U:C6	2.53	0.43
1:2:2586:G:O2'	1:2:2587:G:H5'	2.17	0.43
1:2:2301:A:H2'	1:2:2302:G:O4'	2.18	0.43
1:2:1772:C:O2'	2:2:2881:RAP:C50	2.64	0.43
1:2:1333:G:C6	1:2:1342:U:H5'	2.54	0.43
1:2:1643:A:H1'	1:2:1657:A:C2	2.53	0.43
1:2:1374:G:N2	1:2:1384:G:H1'	2.33	0.43
1:2:77:C:H42	1:2:106:G:H22	1.66	0.43
1:2:44:G:H22	1:2:445:A:N6	2.15	0.43
1:2:1927:U:H3'	1:2:1928:G:C5'	2.48	0.43
1:2:1681:A:N6	1:2:1979:C:H42	2.17	0.43
1:2:1279:G:H2'	1:2:1280:U:OP2	2.17	0.43
1:2:2508:G:H5''	1:2:2509:A:H5''	2.00	0.43
1:2:149:A:H2'	1:2:150:A:C8	2.52	0.43
1:2:845:U:H2'	1:2:846:A:C8	2.53	0.43
1:2:1750:A:H2'	1:2:1751:A:C8	2.52	0.43
1:2:2134:U:H2'	1:2:2135:C:C6	2.53	0.43
1:2:1004:A:H2'	1:2:1005:U:C5'	2.48	0.43
1:2:109:A:C3'	1:2:110:U:H5''	2.48	0.43
1:2:707:U:H5''	1:2:1585:A:C4	2.54	0.43
1:2:839:U:OP1	1:2:2408:G:OP2	2.37	0.43
1:2:1094:C:H2'	1:2:1095:A:H3'	2.01	0.43
1:2:831:G:O2'	1:2:851:C:H4'	2.18	0.43
1:2:411:C:H4'	1:2:2072:C:O2'	2.17	0.43
1:2:27:G:H22	1:2:522:G:C2'	2.31	0.43
1:2:2315:A:O2'	1:2:2364:C:H5''	2.18	0.43
1:2:563:U:H2'	1:2:564:U:C6	2.54	0.43
1:2:1326:U:H4'	1:2:1346:C:OP1	2.19	0.43
1:2:1333:G:O6	1:2:1342:U:H5'	2.18	0.43
1:2:1441:A:H4'	1:2:1442:C:C5	2.53	0.43
1:2:813:A:C2'	1:2:814:G:OP2	2.65	0.43
1:2:128:C:H2'	1:2:129:A:C5'	2.48	0.43
1:2:1947:G:H4'	1:2:1948:C:H5	1.79	0.43
1:2:2824:C:C2'	1:2:2825:A:OP2	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:353:G:H2'	1:2:354:C:C6	2.54	0.43
1:2:649:G:H2'	1:2:650:U:H6	1.84	0.43
1:2:657:A:C2'	1:2:658:G:H5'	2.49	0.43
1:2:27:G:H8	1:2:27:G:O5'	2.01	0.43
1:2:2767:C:H2'	1:2:2768:C:C6	2.53	0.43
1:2:1779:C:H2'	1:2:1780:A:O4'	2.18	0.43
1:2:2455:A:N3	1:2:2455:A:H2'	2.33	0.43
1:2:2014:A:N7	1:2:2477:C:O2	2.51	0.43
1:2:469:G:H2'	1:2:470:U:OP2	2.18	0.43
1:2:931:G:N2	1:2:2247:A:H3'	2.24	0.43
1:2:2496:C:C5	1:2:2521:A:N6	2.86	0.43
1:2:2547:C:H2'	1:2:2548:G:O4'	2.18	0.43
1:2:1260:A:HO2'	1:2:1261:G:P	2.42	0.43
1:2:1162:A:O2'	1:2:1163:C:H5'	2.18	0.43
1:2:1870:U:O5'	1:2:1870:U:H6	2.01	0.43
1:2:1922:U:H2'	1:2:1922:U:O2	2.19	0.43
1:2:2717:G:H1	1:2:2747:C:H42	1.65	0.43
1:2:693:A:H2'	1:2:694:G:C8	2.54	0.43
1:2:1908:C:H2'	1:2:1909:U:C4'	2.37	0.43
1:2:2676:G:H2'	1:2:2677:U:C6	2.53	0.43
1:2:2688:G:H2'	1:2:2689:C:H6	1.84	0.43
1:2:491:A:OP2	1:2:492:G:H5'	2.19	0.43
1:2:1496:G:H2'	1:2:1497:C:H5''	2.00	0.43
1:2:1981:A:O2'	1:2:1982:C:H5'	2.19	0.43
1:2:2795:A:N3	1:2:2795:A:C2'	2.78	0.43
1:2:2207:G:H2'	1:2:2208:U:O4'	2.18	0.43
1:2:2822:U:H2'	1:2:2823:G:O4'	2.17	0.43
1:2:709:A:H61	1:2:779:U:H3	1.66	0.43
1:2:162:C:O4'	1:2:195:A:H4'	2.17	0.43
1:2:526:C:H2'	1:2:527:C:C6	2.54	0.43
1:2:2713:A:H2'	1:2:2714:A:H8	1.84	0.43
1:2:1936:A:H4'	1:2:2539:C:H5'	1.99	0.43
1:2:2625:U:H2'	1:2:2626:U:O4'	2.18	0.43
1:2:810:U:H2'	1:2:811:G:O4'	2.18	0.43
1:2:108:G:H2'	1:2:109:A:C8	2.54	0.43
1:2:614:G:O2'	1:2:615:C:H5'	2.18	0.43
1:2:575:U:H4'	1:2:822:G:P	2.59	0.43
1:2:490:A:O2'	1:2:491:A:C5'	2.67	0.43
1:2:930:A:H3'	1:2:931:G:C8	2.54	0.43
1:2:690:A:H2'	1:2:691:C:H6	1.83	0.43
1:2:119:G:H2'	1:2:120:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:2661:G:H2'	1:2:2662:C:H5'	2.00	0.43
1:2:657:A:H2'	1:2:657:A:N3	2.34	0.43
1:2:1514:C:O4'	1:2:1593:C:H5'	2.18	0.43
1:2:2437:G:O2'	1:2:2438:A:C8	2.68	0.43
1:2:2717:G:H2'	1:2:2718:A:C8	2.53	0.43
1:2:2316:G:H8	1:2:2316:G:O5'	2.02	0.43
1:2:635:C:O2'	1:2:670:U:H5''	2.18	0.43
1:2:1355:A:N3	1:2:1410:U:O4'	2.52	0.43
1:2:2679:G:H2'	1:2:2680:U:C6	2.53	0.43
1:2:323:G:O2'	1:2:324:C:H5'	2.19	0.43
1:2:246:C:H2'	1:2:373:A:H5'	2.01	0.43
1:2:2780:A:H2'	1:2:2781:G:N7	2.34	0.43
1:2:413:G:C2'	1:2:414:A:H5''	2.48	0.43
1:2:1912:G:C3'	1:2:1912:G:N3	2.81	0.43
1:2:1125:G:O2'	1:2:1126:A:H5'	2.19	0.43
1:2:1217:U:H2'	1:2:1218:C:C6	2.52	0.43
1:2:2500:C:H4'	1:2:2544:A:C4'	2.49	0.43
1:2:1440:G:H3'	1:2:1441:A:C5'	2.47	0.43
1:2:2371:A:C2'	1:2:2371:A:N3	2.80	0.43
1:2:1233:A:C2'	1:2:1234:C:OP1	2.67	0.43
1:2:1379:A:H2'	1:2:1380:C:O4'	2.18	0.43
1:2:2554:C:H2'	1:2:2557:G:O6	2.19	0.43
1:2:876:A:H2'	1:2:877:G:C8	2.54	0.43
1:2:537:C:O5'	1:2:2759:U:O2	2.37	0.43
1:2:1871:G:C2'	1:2:1871:G:N3	2.81	0.43
1:2:757:U:H2'	1:2:758:G:O4'	2.19	0.43
1:2:2597:G:H2'	1:2:2598:C:O4'	2.18	0.43
1:2:947:C:H2'	1:2:948:C:C6	2.54	0.43
1:2:595:A:H62	1:2:1264:C:H42	1.65	0.42
1:2:2429:A:H5''	1:2:2476:A:C6	2.54	0.42
1:2:1756:C:O2'	1:2:1757:C:H5'	2.19	0.42
1:2:1313:U:H4'	1:2:1314:A:O5'	2.18	0.42
1:2:1976:U:O2'	1:2:1977:C:H5'	2.19	0.42
1:2:1233:A:H2'	1:2:1234:C:OP1	2.20	0.42
1:2:403:A:H5''	1:2:404:A:H5'	2.01	0.42
1:2:116:A:OP2	1:2:117:A:H8	2.02	0.42
1:2:2390:A:H2'	1:2:2391:A:H8	1.84	0.42
1:2:430:C:H2'	1:2:431:G:C8	2.55	0.42
1:2:1913:G:H2'	1:2:1914:U:OP2	2.19	0.42
1:2:1453:A:H2'	1:2:1454:U:H5'	2.01	0.42
1:2:2507:U:O2'	1:2:2508:G:H3'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1014:G:O2'	1:2:1015:U:H5'	2.19	0.42
1:2:824:U:H2'	1:2:825:C:H5'	2.01	0.42
1:2:843:G:H1'	1:2:2427:A:C2	2.54	0.42
1:2:577:U:O3'	1:2:956:A:N6	2.52	0.42
1:2:1407:G:H1	1:2:1411:C:Cl'	2.31	0.42
1:2:2300:G:N3	1:2:2300:G:H3'	2.33	0.42
1:2:1973:C:H2'	1:2:1974:U:O4'	2.19	0.42
1:2:761:G:OP1	1:2:2591:C:N4	2.50	0.42
1:2:1222:G:H4'	1:2:1225:G:H4'	2.00	0.42
1:2:2178:U:H2'	1:2:2179:C:H6	1.84	0.42
1:2:197:G:C2	1:2:440:U:H2'	2.54	0.42
1:2:1479:G:H2'	1:2:1480:G:C8	2.55	0.42
1:2:867:G:H2'	1:2:868:U:C6	2.55	0.42
1:2:2740:C:O2'	1:2:2741:G:H5'	2.19	0.42
1:2:2695:C:H2'	1:2:2696:A:H8	1.83	0.42
1:2:2512:A:H2'	1:2:2513:A:O4'	2.18	0.42
1:2:2830:U:H2'	1:2:2831:A:H8	1.85	0.42
1:2:468:A:H1'	1:2:470:U:C1'	2.48	0.42
1:2:2691:C:C3'	1:2:2692:A:H5''	2.48	0.42
1:2:2867:G:O2'	1:2:2868:G:O4'	2.37	0.42
1:2:460:U:C4	1:2:592:G:H1'	2.54	0.42
1:2:460:U:C2'	1:2:461:A:OP1	2.67	0.42
1:2:522:G:C2'	1:2:523:A:OP2	2.67	0.42
1:2:2493:U:H2'	1:2:2494:C:H6	1.83	0.42
1:2:2663:U:H3	1:2:2705:A:N6	2.14	0.42
1:2:2657:G:H2'	1:2:2658:A:O4'	2.19	0.42
1:2:597:U:H2'	1:2:598:U:H6	1.84	0.42
1:2:622:U:O2	1:2:626:A:N6	2.50	0.42
1:2:2765:C:H2'	1:2:2766:U:O4'	2.18	0.42
1:2:1674:C:H2'	1:2:1675:C:C6	2.54	0.42
1:2:1934:U:H2'	1:2:1936:A:OP2	2.18	0.42
1:2:2749:A:O2'	1:2:2750:G:H5'	2.19	0.42
1:2:2076:G:H1'	1:2:2181:A:H61	1.84	0.42
1:2:1243:G:H2'	1:2:1244:U:C6	2.54	0.42
1:2:1720:G:H2'	1:2:1721:G:C8	2.54	0.42
1:2:73:A:H4'	1:2:74:G:C4'	2.50	0.42
1:2:2238:G:O4'	1:2:2406:C:H2'	2.19	0.42
1:2:2578:G:O2'	1:2:2579:A:H5'	2.20	0.42
1:2:80:A:O2'	1:2:81:C:H5'	2.20	0.42
1:2:2446:C:H2'	1:2:2447:G:O4'	2.20	0.42
1:2:2340:C:C2'	1:2:2341:G:H5'	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1708:C:O2'	1:2:1709:U:H5'	2.19	0.42
1:2:1313:U:O2'	1:2:1314:A:OP2	2.38	0.42
1:2:2022:C:H2'	1:2:2023:C:C6	2.54	0.42
1:2:2770:A:H5'	1:2:2867:G:H21	1.83	0.42
1:2:1712:G:N3	1:2:1712:G:C3'	2.81	0.42
1:2:1820:G:HO2'	1:2:1821:A:P	2.43	0.42
1:2:1879:G:H2'	1:2:1880:G:O4'	2.20	0.42
1:2:2522:G:O2'	1:2:2523:G:H5'	2.19	0.42
1:2:2514:G:H2'	1:2:2515:G:H8	1.85	0.42
1:2:2093:G:H2'	1:2:2094:C:O5'	2.20	0.42
1:2:872:G:O2'	1:2:2247:A:H1'	2.19	0.42
1:2:1029:C:C3'	1:2:1030:U:H5''	2.50	0.42
1:2:2823:G:O2'	1:2:2824:C:O4'	2.35	0.42
1:2:340:G:H5'	1:2:341:A:P	2.59	0.42
1:2:2005:U:C2	1:2:2595:C:H1'	2.55	0.42
1:2:313:U:H2'	1:2:314:G:C8	2.54	0.42
1:2:455:A:H4'	1:2:1214:C:O2'	2.20	0.42
1:2:1776:A:HO2'	1:2:1777:A:H8	1.67	0.42
1:2:2788:C:O2'	1:2:2789:U:H5'	2.18	0.42
1:2:2605:C:H2'	1:2:2606:G:H8	1.83	0.42
1:2:2526:U:H2'	1:2:2527:G:C8	2.54	0.42
1:2:2498:U:H4'	1:2:2499:C:OP1	2.17	0.42
1:2:2716:G:H2'	1:2:2717:G:H8	1.84	0.42
1:2:834:A:H3'	1:2:957:G:C8	2.55	0.42
1:2:694:G:H2'	1:2:695:G:C8	2.55	0.42
1:2:1343:C:H2'	1:2:1344:C:H6	1.85	0.42
1:2:2435:C:O2'	1:2:2436:U:H5'	2.19	0.42
1:2:1408:A:H2	1:2:1411:C:N3	2.18	0.42
1:2:68:C:O2'	1:2:69:G:H5'	2.19	0.42
1:2:2287:G:N3	1:2:2287:G:C2'	2.80	0.42
1:2:983:G:OP2	1:2:985:G:N2	2.46	0.42
1:2:2324:G:O2'	1:2:2325:A:H5''	2.18	0.42
1:2:70:A:H2'	1:2:71:A:OP2	2.20	0.42
1:2:34:U:C6	1:2:466:A:C2	3.07	0.42
1:2:963:G:O2'	1:2:2246:A:H1'	2.18	0.42
1:2:1784:C:H2'	1:2:1785:A:C8	2.54	0.42
1:2:1956:G:H2'	1:2:1957:C:O4'	2.20	0.42
1:2:2705:A:C2'	1:2:2706:U:O5'	2.66	0.42
1:2:1607:A:H2'	1:2:1608:U:C6	2.54	0.42
1:2:605:G:H2'	1:2:606:A:C8	2.55	0.42
1:2:1377:G:H21	1:2:1380:C:H5	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:242:A:O2'	1:2:243:G:O5'	2.37	0.42
1:2:2235:G:O2'	1:2:2236:U:H5'	2.19	0.42
1:2:503:G:O2'	1:2:504:G:H5'	2.20	0.42
1:2:433:G:N2	1:2:434:C:H1'	2.34	0.42
1:2:1773:C:C5	2:2:2881:RAP:C50	3.00	0.42
1:2:2427:A:OP2	1:2:2478:C:OP1	2.38	0.42
1:2:838:A:H4'	1:2:2407:G:N7	2.34	0.42
1:2:690:A:O2'	1:2:691:C:H5'	2.20	0.42
1:2:1984:A:H2'	1:2:1985:G:H8	1.83	0.42
1:2:2610:G:H4'	1:2:2866:A:H5'	2.02	0.42
1:2:1911:A:H2'	1:2:1912:G:H5'	2.02	0.42
1:2:2467:A:H2'	1:2:2468:G:H8	1.85	0.42
1:2:1545:G:H2'	1:2:1546:C:C6	2.55	0.42
1:2:2524:G:H2'	1:2:2525:U:O4'	2.20	0.42
1:2:1720:G:H2'	1:2:1721:G:H8	1.84	0.42
1:2:1302:C:O2'	1:2:1343:C:H4'	2.19	0.42
1:2:2875:C:H2'	1:2:2876:C:O4'	2.20	0.42
1:2:574:C:O2'	1:2:575:U:H5'	2.20	0.42
1:2:1313:U:O2'	1:2:1314:A:O5'	2.36	0.42
1:2:182:G:O2'	1:2:183:U:H5	2.03	0.42
1:2:403:A:H4'	1:2:404:A:H8	1.84	0.42
1:2:2007:G:O2'	1:2:2008:C:H5'	2.19	0.42
1:2:952:A:H1'	1:2:1204:G:O2'	2.20	0.42
1:2:446:C:H2'	1:2:447:U:O4'	2.20	0.42
1:2:1417:C:H2'	1:2:1418:C:C6	2.55	0.42
1:2:1033:G:O2'	1:2:1034:U:P	2.78	0.42
1:2:622:U:H3	1:2:627:A:H2	1.68	0.42
1:2:746:G:N2	1:2:747:A:H62	2.18	0.42
1:2:2038:C:H4'	1:2:2039:G:H5''	2.02	0.42
1:2:2481:G:H5''	1:2:2482:A:H5''	2.01	0.42
1:2:1496:G:H1	1:2:1527:G:N2	2.17	0.42
1:2:447:U:O2'	1:2:448:C:H6	2.03	0.42
1:2:1730:G:H2'	1:2:1731:C:O4'	2.20	0.42
1:2:2589:C:C2'	1:2:2589:C:O2	2.65	0.42
1:2:973:U:H2'	1:2:974:U:H6	1.85	0.42
1:2:958:G:H2'	1:2:959:C:C6	2.55	0.42
1:2:1870:U:N3	1:2:1871:G:N7	2.68	0.42
1:2:1833:U:H2'	1:2:1834:G:H8	1.83	0.42
1:2:1341:G:H2'	1:2:1343:C:C4	2.54	0.41
1:2:665:A:C3'	1:2:666:U:H5''	2.30	0.41
1:2:2434:G:H2'	1:2:2435:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1526:U:H2'	1:2:1527:G:O4'	2.20	0.41
1:2:1181:C:C2'	1:2:1182:U:H4'	2.43	0.41
1:2:2770:A:N3	1:2:2770:A:H3'	2.35	0.41
1:2:2246:A:H3'	1:2:2246:A:N3	2.35	0.41
1:2:1762:C:H2'	1:2:1763:G:H8	1.82	0.41
1:2:431:G:H2'	1:2:432:C:C6	2.54	0.41
1:2:1544:A:H2'	1:2:1545:G:C8	2.55	0.41
1:2:2498:U:C4'	1:2:2499:C:OP1	2.68	0.41
1:2:1436:G:O2'	1:2:1515:U:H1'	2.19	0.41
1:2:2039:G:H2'	1:2:2039:G:N3	2.36	0.41
1:2:1442:C:N4	1:2:1585:A:C8	2.88	0.41
1:2:2293:G:H2'	1:2:2294:U:C6	2.54	0.41
1:2:2396:C:H2'	1:2:2397:A:O4'	2.20	0.41
1:2:2228:U:H4'	1:2:2254:C:H41	1.85	0.41
1:2:1249:G:HO2'	1:2:1250:A:P	2.42	0.41
1:2:592:G:C6	1:2:593:C:N4	2.88	0.41
1:2:1782:A:C2'	1:2:1783:G:O5'	2.68	0.41
1:2:522:G:H2'	1:2:523:A:OP2	2.19	0.41
1:2:914:C:H2'	1:2:915:C:C5	2.54	0.41
1:2:2672:U:H2'	1:2:2673:G:C8	2.50	0.41
1:2:2555:G:H5'	1:2:2557:G:N7	2.36	0.41
1:2:2725:C:H2'	1:2:2726:U:C6	2.55	0.41
1:2:490:A:C6	1:2:492:G:H1'	2.55	0.41
1:2:2058:U:C1'	1:2:2576:G:H21	2.26	0.41
1:2:1763:G:N2	1:2:1765:C:H5''	2.35	0.41
1:2:1451:C:H2'	1:2:1452:U:H6	1.85	0.41
1:2:935:C:O2'	1:2:936:A:H5'	2.20	0.41
1:2:457:C:C2'	1:2:458:G:H5'	2.50	0.41
1:2:857:U:H2'	1:2:858:G:H5'	2.02	0.41
1:2:920:G:H2'	1:2:921:A:C5'	2.50	0.41
1:2:2067:U:H2'	1:2:2068:C:C6	2.55	0.41
1:2:236:C:H2'	1:2:237:G:H8	1.84	0.41
1:2:2675:U:H2'	1:2:2676:G:C8	2.55	0.41
1:2:490:A:H1'	1:2:491:A:C5	2.55	0.41
1:2:1141:U:O5'	1:2:1141:U:H6	2.03	0.41
1:2:1455:C:H4'	1:2:1644:G:OP1	2.20	0.41
1:2:2437:G:C2'	1:2:2438:A:OP2	2.68	0.41
1:2:528:G:H2'	1:2:529:U:C6	2.55	0.41
1:2:651:C:N4	1:2:652:C:H41	2.19	0.41
1:2:1325:U:O2'	1:2:1326:U:P	2.78	0.41
1:2:41:G:O2'	1:2:42:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1722:G:H2'	1:2:1723:U:H6	1.84	0.41
1:2:838:A:H2'	1:2:839:U:C6	2.54	0.41
1:2:1684:G:N2	1:2:1977:C:N4	2.69	0.41
1:2:871:U:O2	1:2:2248:A:H5'	2.20	0.41
1:2:459:A:C5	1:2:466:A:N7	2.89	0.41
1:2:1415:C:H2'	1:2:1416:A:H8	1.84	0.41
1:2:584:A:H4'	1:2:2479:U:H4'	2.03	0.41
1:2:1513:U:OP2	1:2:1514:C:OP2	2.38	0.41
1:2:757:U:O2'	1:2:758:G:H5'	2.21	0.41
1:2:767:G:H2'	1:2:768:U:C6	2.55	0.41
1:2:1255:A:H2'	1:2:1256:C:C6	2.55	0.41
1:2:800:U:H5''	1:2:801:A:H5'	2.03	0.41
1:2:469:G:O2'	1:2:470:U:P	2.78	0.41
1:2:513:A:H1'	1:2:516:G:OP2	2.20	0.41
1:2:1496:G:H2'	1:2:1497:C:C5'	2.50	0.41
1:2:1689:U:C3'	1:2:1690:U:H5''	2.51	0.41
1:2:1688:U:N3	1:2:1691:G:OP2	2.44	0.41
1:2:540:G:O2'	1:2:541:C:H5'	2.19	0.41
1:2:1984:A:O4'	1:2:2668:U:H5	2.04	0.41
1:2:1188:A:H62	1:2:1189:G:N2	2.18	0.41
1:2:1501:C:O2'	1:2:1502:G:H5'	2.20	0.41
1:2:1829:C:H2'	1:2:1882:G:O6	2.21	0.41
1:2:192:G:C4'	1:2:193:A:H4'	2.51	0.41
1:2:2824:C:H1'	1:2:2843:A:C4	2.55	0.41
1:2:2825:A:H2'	1:2:2826:C:C6	2.56	0.41
1:2:2125:C:O2	1:2:2132:G:H5''	2.20	0.41
1:2:2705:A:N3	1:2:2706:U:C2	2.88	0.41
1:2:1280:U:O2'	1:2:1281:A:H5'	2.20	0.41
1:2:755:C:O2'	1:2:756:C:H5'	2.21	0.41
1:2:2713:A:O2'	1:2:2714:A:H5'	2.20	0.41
1:2:2074:U:H3'	1:2:2075:U:H5''	2.01	0.41
1:2:1833:U:H2'	1:2:1834:G:C8	2.56	0.41
1:2:1897:C:H2'	1:2:1898:U:C6	2.55	0.41
1:2:1302:C:H6	1:2:1302:C:OP2	2.04	0.41
1:2:58:C:N4	1:2:73:A:H62	2.19	0.41
1:2:1316:G:H2'	1:2:1317:G:O4'	2.21	0.41
1:2:1655:C:H2'	1:2:1656:U:C6	2.55	0.41
1:2:1458:A:H5''	1:2:1459:U:OP2	2.21	0.41
1:2:247:A:OP2	1:2:372:U:H5'	2.20	0.41
1:2:2824:C:O2'	1:2:2825:A:O5'	2.39	0.41
1:2:1251:G:O2'	1:2:1252:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:482:A:C2'	1:2:483:A:H5'	2.51	0.41
1:2:241:C:O2'	1:2:242:A:H5''	2.20	0.41
1:2:79:G:H2'	1:2:80:A:C8	2.56	0.41
1:2:2710:C:O2'	1:2:2711:G:H5'	2.21	0.41
1:2:1517:C:H2'	1:2:1518:C:C6	2.55	0.41
1:2:742:G:N3	1:2:742:G:H3'	2.35	0.41
1:2:788:G:N2	1:2:800:U:H2'	2.35	0.41
1:2:1700:C:H2'	1:2:1701:C:C6	2.56	0.41
1:2:1408:A:O4'	1:2:1410:U:O4	2.38	0.41
1:2:1310:C:P	1:2:2689:C:H4'	2.61	0.41
1:2:1178:C:O2	1:2:1196:G:N2	2.54	0.41
1:2:128:C:C3'	1:2:129:A:H5''	2.51	0.41
1:2:2660:C:C2'	1:2:2661:G:OP2	2.69	0.41
1:2:1937:G:N3	1:2:2530:C:H5'	2.35	0.41
1:2:521:U:C4'	1:2:1248:G:H4'	2.47	0.41
1:2:1277:G:C6	1:2:1278:A:N6	2.88	0.41
1:2:1033:G:O2'	1:2:1034:U:H6	2.02	0.41
1:2:1787:U:H2'	1:2:1788:C:H6	1.85	0.41
1:2:1935:A:C6	1:2:1936:A:N1	2.89	0.41
1:2:2093:G:HO2'	1:2:2094:C:P	2.44	0.41
1:2:710:C:H2'	1:2:711:C:C6	2.55	0.41
1:2:184:A:H2'	1:2:185:C:O4'	2.21	0.41
1:2:807:A:H2'	1:2:808:C:O5'	2.21	0.41
1:2:1663:C:C5'	1:2:1664:G:H5''	2.24	0.41
1:2:1626:A:HO2'	1:2:1627:C:P	2.43	0.41
1:2:436:A:C3'	1:2:437:G:H5''	2.51	0.41
1:2:573:C:H2'	1:2:574:C:O4'	2.20	0.41
1:2:2680:U:O5'	1:2:2681:A:H5''	2.21	0.41
1:2:690:A:H2'	1:2:691:C:C6	2.55	0.41
1:2:1458:A:C3'	1:2:1459:U:C5'	2.94	0.41
1:2:1305:C:H2'	1:2:1306:U:O4'	2.21	0.41
1:2:2548:G:C2'	1:2:2549:G:H5''	2.50	0.41
1:2:847:C:H2'	1:2:848:A:C8	2.56	0.41
1:2:306:G:H2'	1:2:307:C:O4'	2.21	0.41
1:2:2660:C:H2'	1:2:2661:G:OP2	2.21	0.41
1:2:720:A:C6	1:2:721:C:N4	2.89	0.41
1:2:2204:A:H5''	1:2:2205:C:H5'	2.03	0.41
1:2:2736:U:HO2'	1:2:2737:A:H5'	1.85	0.41
1:2:2723:C:OP2	1:2:2735:C:N4	2.54	0.41
1:2:1300:A:H61	1:2:1339:U:H3	1.69	0.41
1:2:104:C:C2'	1:2:105:G:C5'	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1764:A:OP1	1:2:1820:G:H3'	2.20	0.41
1:2:638:A:O2'	1:2:639:G:H5'	2.21	0.41
1:2:1050:G:H1	1:2:1127:C:N4	2.18	0.41
1:2:1676:U:H2'	1:2:1677:C:C6	2.56	0.41
1:2:1047:G:H2'	1:2:1048:U:C6	2.56	0.41
1:2:2863:U:H2'	1:2:2864:C:H6	1.86	0.41
1:2:1427:G:H2'	1:2:1428:G:H5'	2.03	0.41
1:2:773:G:H2'	1:2:774:A:O4'	2.21	0.41
1:2:75:C:H2'	1:2:76:C:H5''	2.03	0.41
1:2:1069:G:N2	1:2:1091:C:N4	2.68	0.41
1:2:789:G:N3	1:2:806:A:N6	2.69	0.41
1:2:1336:G:C2	1:2:1346:C:H1'	2.56	0.41
1:2:2084:G:HO2'	1:2:2085:G:H8	1.62	0.41
1:2:573:C:H1'	1:2:1266:G:H22	1.86	0.41
1:2:1496:G:H1	1:2:1527:G:H22	1.68	0.41
1:2:2633:A:C5'	1:2:2634:G:OP1	2.61	0.41
1:2:2010:G:H2'	1:2:2011:U:C6	2.56	0.41
1:2:2308:A:N1	1:2:2365:U:O4	2.54	0.41
1:2:189:A:O2'	1:2:190:A:H5'	2.21	0.41
1:2:721:C:H42	1:2:736:G:N2	2.14	0.41
1:2:1151:U:H4'	1:2:1153:A:OP1	2.21	0.41
1:2:1488:G:H1	1:2:1534:A:H61	1.69	0.41
1:2:1563:U:H2'	1:2:1564:U:C5	2.57	0.41
1:2:2466:G:H2'	1:2:2467:A:H8	1.83	0.41
1:2:548:G:O2'	1:2:549:G:H5'	2.21	0.41
1:2:1579:G:H2'	1:2:1580:C:C6	2.55	0.41
1:2:215:G:O2'	1:2:617:U:H1'	2.20	0.40
1:2:462:G:H2'	1:2:463:C:C5'	2.31	0.40
1:2:1697:U:O2	1:2:1755:G:H4'	2.21	0.40
1:2:2876:C:H2'	1:2:2877:A:C8	2.56	0.40
1:2:1311:C:H5'	1:2:1315:A:N6	2.37	0.40
1:2:813:A:O2'	1:2:814:G:H3'	2.21	0.40
1:2:2010:G:O2'	1:2:2011:U:H5'	2.21	0.40
1:2:248:A:OP2	1:2:373:A:OP1	2.39	0.40
1:2:2691:C:H41	1:2:2693:U:H6	1.67	0.40
1:2:1744:G:N2	1:2:1746:A:H3'	2.36	0.40
1:2:986:A:H2'	1:2:987:G:O4'	2.20	0.40
1:2:1218:C:H2'	1:2:1219:C:H6	1.85	0.40
1:2:877:G:H2'	1:2:878:C:H6	1.84	0.40
1:2:2511:G:N2	1:2:2642:G:H1'	2.35	0.40
1:2:1845:A:N6	1:2:1871:G:O2'	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1991:C:H2'	1:2:1992:G:C8	2.55	0.40
1:2:1705:U:O2'	1:2:1717:A:N7	2.52	0.40
1:2:2482:A:O5'	1:2:2483:U:P	2.79	0.40
1:2:14:A:N7	1:2:15:G:H1'	2.35	0.40
1:2:839:U:H2'	1:2:841:G:O4'	2.21	0.40
1:2:2062:U:H2'	1:2:2063:A:O4'	2.21	0.40
1:2:425:A:H2'	1:2:426:C:O4'	2.21	0.40
1:2:2573:C:N4	1:2:2574:G:O6	2.55	0.40
1:2:1996:A:H2'	1:2:1997:A:C8	2.56	0.40
1:2:1565:G:H2'	1:2:1566:G:H8	1.86	0.40
1:2:1258:G:H2'	1:2:1259:A:H8	1.85	0.40
1:2:2420:C:H2'	1:2:2421:C:C6	2.56	0.40
1:2:959:C:H5''	1:2:972:C:O2'	2.21	0.40
1:2:2026:C:H42	1:2:2604:G:H1	1.68	0.40
1:2:1941:C:O2'	1:2:1942:G:H5'	2.20	0.40
1:2:1583:A:H4'	1:2:1584:G:C4	2.56	0.40
1:2:1293:A:H2'	1:2:1294:G:C8	2.56	0.40
1:2:216:U:H5''	1:2:601:A:N6	2.36	0.40
1:2:2548:G:C2'	1:2:2549:G:C5'	3.00	0.40
1:2:1849:G:N2	1:2:1868:A:H62	2.19	0.40
1:2:551:A:O2'	1:2:552:C:H5'	2.22	0.40
1:2:2398:U:H2'	1:2:2399:C:C6	2.56	0.40
1:2:2598:C:H2'	1:2:2599:U:C6	2.56	0.40
1:2:2652:G:H2'	1:2:2653:A:C8	2.56	0.40
1:2:73:A:H4'	1:2:74:G:H4'	2.03	0.40
1:2:1356:G:OP1	1:2:1357:U:OP2	2.39	0.40
1:2:1268:U:H5'	1:2:1269:G:C5'	2.39	0.40
1:2:683:A:H5''	1:2:684:C:OP1	2.21	0.40
1:2:491:A:N3	1:2:491:A:H2'	2.36	0.40
1:2:180:C:H5''	1:2:181:A:OP2	2.22	0.40
1:2:813:A:C1'	1:2:815:A:O4'	2.69	0.40
1:2:2010:G:H2'	1:2:2011:U:H6	1.86	0.40
1:2:2018:G:O2'	1:2:2019:C:P	2.79	0.40
1:2:248:A:O5'	1:2:373:A:OP1	2.40	0.40
1:2:1087:C:O2'	1:2:1088:A:H5'	2.22	0.40
1:2:70:A:P	1:2:111:G:H4'	2.62	0.40
1:2:2178:U:H2'	1:2:2179:C:C6	2.57	0.40
1:2:1272:G:H2'	1:2:1273:G:C8	2.56	0.40
1:2:28:A:H1'	1:2:523:A:C2	2.56	0.40
1:2:964:A:H61	1:2:976:C:H42	1.66	0.40
1:2:2060:A:OP2	1:2:2060:A:H3'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1428:G:H2'	1:2:1602:G:H21	1.85	0.40
1:2:2695:C:H2'	1:2:2696:A:C8	2.55	0.40
1:2:1302:C:C6	1:2:1302:C:OP2	2.75	0.40
1:2:862:A:H2'	1:2:863:C:C6	2.57	0.40
1:2:1358:C:C4	1:2:1359:G:N7	2.90	0.40
1:2:2299:A:H5'	1:2:2300:G:N7	2.36	0.40
1:2:2674:C:H2'	1:2:2675:U:C5	2.56	0.40
1:2:1495:G:O2'	1:2:1496:G:OP1	2.37	0.40
1:2:1096:A:H2'	1:2:1097:A:O4'	2.22	0.40
1:2:2692:A:H5'	1:2:2693:U:C5'	2.50	0.40
1:2:414:A:H2'	1:2:415:A:C8	2.57	0.40
1:2:2077:G:N1	1:2:2179:C:H1'	2.35	0.40
1:2:1443:G:H2'	1:2:1444:C:H6	1.86	0.40
1:2:2109:A:C2'	1:2:2109:A:N3	2.83	0.40
1:2:79:G:H2'	1:2:80:A:H8	1.86	0.40
1:2:1966:C:H4'	1:2:2585:C:H4'	2.02	0.40
1:2:2830:U:H2'	1:2:2831:A:C8	2.56	0.40
1:2:504:G:O2'	1:2:505:G:H5'	2.21	0.40
1:2:2065:A:H2'	1:2:2066:G:O4'	2.21	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

### 5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	2757/2880 (95%)	529 (19%)	65 (2%)

All (529) RNA backbone outliers are listed below:



Mol	Chain	Res	Type
1	2	14	A
1	2	35	G
1	2	45	C
1	2	48	A
1	2	49	U
1	2	59	G
1	2	70	A
1	2	71	A
1	2	72	A
1	2	73	A
1	2	74	G
1	2	76	C
1	2	83	A
1	2	84	G
1	2	87	G
1	2	89	A
1	2	90	G
1	2	91	A
1	2	99	U
1	2	100	G
1	2	105	G
1	2	110	U
1	2	117	A
1	2	118	U
1	2	119	G
1	2	123	A
1	2	124	A
1	2	126	C
1	2	129	A
1	2	148	C
1	2	155	G
1	2	158	A
1	2	173	A
1	2	174	A
1	2	182	G
1	2	193	A
1	2	199	A
1	2	200	A
1	2	205	A
1	2	206	U
1	2	218	A
1	2	219	G
1	2	225	G

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Mol	Chain	Res	Type
1	2	226	C
1	2	227	G
1	2	229	G
1	2	242	A
1	2	243	G
1	2	246	C
1	2	248	A
1	2	293	U
1	2	305	A
1	2	319	G
1	2	322	A
1	2	334	G
1	2	335	A
1	2	340	G
1	2	341	A
1	2	342	G
1	2	343	A
1	2	358	C
1	2	359	G
1	2	363	G
1	2	364	G
1	2	368	A
1	2	369	C
1	2	371	G
1	2	372	U
1	2	373	A
1	2	388	G
1	2	393	U
1	2	399	G
1	2	403	A
1	2	404	A
1	2	408	U
1	2	412	U
1	2	414	A
1	2	418	C
1	2	424	G
1	2	437	G
1	2	438	G
1	2	441	A
1	2	442	A
1	2	455	A
1	2	456	C

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Mol	Chain	Res	Type
1	2	459	A
1	2	461	A
1	2	463	C
1	2	466	A
1	2	469	G
1	2	470	U
1	2	484	G
1	2	486	U
1	2	491	A
1	2	492	G
1	2	514	G
1	2	515	A
1	2	518	A
1	2	519	C
1	2	537	C
1	2	539	A
1	2	541	C
1	2	542	A
1	2	545	C
1	2	554	U
1	2	556	A
1	2	558	G
1	2	572	G
1	2	577	U
1	2	583	C
1	2	584	A
1	2	601	A
1	2	613	A
1	2	617	U
1	2	624	A
1	2	627	A
1	2	632	A
1	2	638	A
1	2	648	A
1	2	652	C
1	2	654	A
1	2	656	U
1	2	665	A
1	2	666	U
1	2	667	U
1	2	668	A
1	2	669	G

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Mol	Chain	Res	Type
1	2	684	C
1	2	699	G
1	2	700	C
1	2	742	G
1	2	743	A
1	2	760	U
1	2	761	G
1	2	775	U
1	2	778	G
1	2	789	G
1	2	790	A
1	2	795	A
1	2	796	A
1	2	797	A
1	2	798	G
1	2	803	C
1	2	807	A
1	2	808	C
1	2	813	A
1	2	814	G
1	2	818	G
1	2	819	C
1	2	825	C
1	2	832	A
1	2	840	U
1	2	841	G
1	2	844	G
1	2	859	U
1	2	873	U
1	2	891	A
1	2	919	U
1	2	921	A
1	2	922	A
1	2	926	C
1	2	930	A
1	2	931	G
1	2	941	U
1	2	943	U
1	2	944	A
1	2	952	A
1	2	956	A
1	2	957	G

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Mol	Chain	Res	Type
1	2	969	U
1	2	970	A
1	2	972	C
1	2	973	U
1	2	984	A
1	2	985	G
1	2	988	G
1	2	992	A
1	2	994	A
1	2	996	C
1	2	1005	U
1	2	1006	C
1	2	1007	A
1	2	1019	U
1	2	1023	U
1	2	1024	G
1	2	1030	U
1	2	1032	A
1	2	1033	G
1	2	1034	U
1	2	1036	G
1	2	1037	U
1	2	1044	U
1	2	1055	A
1	2	1056	U
1	2	1057	A
1	2	1067	G
1	2	1073	G
1	2	1074	G
1	2	1081	A
1	2	1082	G
1	2	1084	A
1	2	1087	C
1	2	1090	C
1	2	1094	C
1	2	1095	A
1	2	1102	G
1	2	1108	U
1	2	1112	U
1	2	1137	A
1	2	1138	A
1	2	1139	A

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Mol	Chain	Res	Type
1	2	1142	G
1	2	1145	C
1	2	1146	G
1	2	1152	C
1	2	1153	A
1	2	1154	A
1	2	1155	G
1	2	1167	A
1	2	1168	G
1	2	1182	U
1	2	1183	C
1	2	1185	C
1	2	1186	G
1	2	1195	U
1	2	1199	U
1	2	1200	G
1	2	1224	A
1	2	1225	G
1	2	1233	A
1	2	1234	C
1	2	1250	A
1	2	1253	C
1	2	1261	G
1	2	1262	U
1	2	1264	C
1	2	1268	U
1	2	1269	G
1	2	1278	A
1	2	1279	G
1	2	1280	U
1	2	1284	G
1	2	1285	A
1	2	1288	A
1	2	1289	A
1	2	1302	C
1	2	1305	C
1	2	1314	A
1	2	1324	G
1	2	1326	U
1	2	1327	C
1	2	1334	A
1	2	1337	G

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Mol	Chain	Res	Type
1	2	1338	G
1	2	1342	U
1	2	1343	C
1	2	1346	C
1	2	1354	A
1	2	1355	A
1	2	1356	G
1	2	1358	C
1	2	1359	G
1	2	1391	A
1	2	1392	U
1	2	1397	A
1	2	1398	G
1	2	1411	C
1	2	1429	A
1	2	1433	A
1	2	1438	G
1	2	1441	A
1	2	1442	C
1	2	1443	G
1	2	1459	U
1	2	1468	A
1	2	1469	U
1	2	1470	G
1	2	1473	U
1	2	1475	U
1	2	1476	G
1	2	1482	U
1	2	1489	C
1	2	1496	G
1	2	1497	C
1	2	1505	U
1	2	1506	C
1	2	1508	G
1	2	1510	A
1	2	1514	C
1	2	1524	C
1	2	1526	U
1	2	1550	C
1	2	1551	U
1	2	1552	C
1	2	1571	G

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Mol	Chain	Res	Type
1	2	1573	G
1	2	1574	A
1	2	1583	A
1	2	1585	A
1	2	1601	U
1	2	1618	U
1	2	1623	C
1	2	1624	A
1	2	1625	A
1	2	1626	A
1	2	1627	C
1	2	1632	A
1	2	1633	C
1	2	1635	G
1	2	1648	C
1	2	1652	G
1	2	1657	A
1	2	1664	G
1	2	1665	C
1	2	1670	G
1	2	1685	A
1	2	1686	A
1	2	1690	U
1	2	1691	G
1	2	1711	C
1	2	1712	G
1	2	1715	A
1	2	1716	G
1	2	1717	A
1	2	1724	C
1	2	1732	U
1	2	1748	U
1	2	1749	G
1	2	1750	A
1	2	1755	G
1	2	1764	A
1	2	1770	U
1	2	1771	A
1	2	1772	C
1	2	1773	C
1	2	1774	A
1	2	1776	A

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Mol	Chain	Res	Type
1	2	1778	U
1	2	1783	G
1	2	1791	C
1	2	1792	C
1	2	1801	C
1	2	1802	A
1	2	1807	A
1	2	1808	C
1	2	1812	U
1	2	1821	A
1	2	1827	G
1	2	1831	G
1	2	1840	A
1	2	1863	U
1	2	1867	A
1	2	1889	G
1	2	1909	U
1	2	1913	G
1	2	1919	A
1	2	1920	A
1	2	1922	U
1	2	1924	C
1	2	1926	U
1	2	1927	U
1	2	1938	U
1	2	1939	U
1	2	1946	U
1	2	1948	C
1	2	1950	C
1	2	1952	A
1	2	1954	A
1	2	1955	G
1	2	1956	G
1	2	1964	A
1	2	1975	G
1	2	1976	U
1	2	1979	C
1	2	2004	U
1	2	2005	U
1	2	2006	G
1	2	2013	A
1	2	2014	A

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Mol	Chain	Res	Type
1	2	2015	G
1	2	2016	A
1	2	2019	C
1	2	2025	A
1	2	2026	C
1	2	2038	C
1	2	2039	G
1	2	2044	G
1	2	2050	G
1	2	2051	U
1	2	2052	G
1	2	2060	A
1	2	2075	U
1	2	2076	G
1	2	2082	C
1	2	2094	C
1	2	2095	G
1	2	2096	U
1	2	2097	A
1	2	2104	G
1	2	2109	A
1	2	2118	A
1	2	2137	G
1	2	2139	G
1	2	2140	G
1	2	2159	A
1	2	2162	C
1	2	2165	A
1	2	2168	A
1	2	2189	A
1	2	2190	A
1	2	2191	A
1	2	2192	U
1	2	2195	C
1	2	2199	C
1	2	2205	C
1	2	2218	G
1	2	2225	G
1	2	2229	G
1	2	2242	C
1	2	2245	A
1	2	2246	A

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Mol	Chain	Res	Type
1	2	2247	A
1	2	2255	G
1	2	2262	C
1	2	2265	A
1	2	2268	G
1	2	2284	U
1	2	2285	U
1	2	2286	G
1	2	2287	G
1	2	2288	A
1	2	2298	U
1	2	2300	G
1	2	2301	A
1	2	2306	A
1	2	2312	A
1	2	2313	G
1	2	2314	A
1	2	2315	A
1	2	2325	A
1	2	2326	C
1	2	2358	C
1	2	2362	G
1	2	2364	C
1	2	2371	A
1	2	2386	G
1	2	2390	A
1	2	2396	C
1	2	2402	U
1	2	2405	A
1	2	2406	C
1	2	2407	G
1	2	2408	G
1	2	2419	C
1	2	2420	C
1	2	2426	G
1	2	2427	A
1	2	2428	U
1	2	2429	A
1	2	2438	A
1	2	2455	A
1	2	2470	U
1	2	2477	C

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Mol	Chain	Res	Type
1	2	2480	C
1	2	2481	G
1	2	2482	A
1	2	2483	U
1	2	2484	G
1	2	2485	U
1	2	2492	G
1	2	2498	U
1	2	2499	C
1	2	2508	G
1	2	2522	G
1	2	2546	G
1	2	2548	G
1	2	2549	G
1	2	2557	G
1	2	2561	G
1	2	2564	U
1	2	2565	C
1	2	2581	A
1	2	2582	G
1	2	2588	U
1	2	2589	C
1	2	2591	C
1	2	2593	A
1	2	2594	U
1	2	2608	A
1	2	2609	G
1	2	2617	G
1	2	2619	G
1	2	2624	G
1	2	2625	U
1	2	2633	A
1	2	2634	G
1	2	2661	G
1	2	2669	C
1	2	2670	C
1	2	2691	C
1	2	2692	A
1	2	2693	U
1	2	2694	G
1	2	2706	U
1	2	2712	G

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Mol	Chain	Res	Type
1	2	2713	A
1	2	2728	A
1	2	2729	A
1	2	2730	A
1	2	2732	C
1	2	2737	A
1	2	2745	A
1	2	2758	A
1	2	2771	C
1	2	2773	G
1	2	2774	U
1	2	2779	C
1	2	2783	U
1	2	2795	A
1	2	2808	U
1	2	2809	A
1	2	2811	G
1	2	2825	A
1	2	2841	U
1	2	2842	C
1	2	2847	G
1	2	2854	G
1	2	2858	A
1	2	2868	G

All (65) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	13	A
1	2	70	A
1	2	73	A
1	2	117	A
1	2	181	A
1	2	192	G
1	2	198	A
1	2	242	A
1	2	342	G
1	2	372	U
1	2	403	A
1	2	460	U
1	2	469	G
1	2	485	G

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Mol	Chain	Res	Type
1	2	513	A
1	2	583	C
1	2	789	G
1	2	813	A
1	2	1033	G
1	2	1141	U
1	2	1154	A
1	2	1194	U
1	2	1223	G
1	2	1249	G
1	2	1260	A
1	2	1263	G
1	2	1278	A
1	2	1279	G
1	2	1313	U
1	2	1325	U
1	2	1345	G
1	2	1354	A
1	2	1355	A
1	2	1410	U
1	2	1495	G
1	2	1626	A
1	2	1632	A
1	2	1685	A
1	2	1772	C
1	2	1775	A
1	2	1790	G
1	2	1820	G
1	2	1926	U
1	2	1938	U
1	2	2013	A
1	2	2015	G
1	2	2018	G
1	2	2093	G
1	2	2204	A
1	2	2245	A
1	2	2261	G
1	2	2313	G
1	2	2324	G
1	2	2370	G
1	2	2389	G
1	2	2404	A

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Mol	Chain	Res	Type
1	2	2437	G
1	2	2498	U
1	2	2560	G
1	2	2592	U
1	2	2633	A
1	2	2668	U
1	2	2705	A
1	2	2824	C
1	2	2867	G

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
2	RAP	2	2881	-	65,68,68	1.89	13 (20%)	65,96,96	1.43	8 (12%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	RAP	2	2881	-	-	0/81/124/124	0/2/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	2	2881	RAP	C8-C9	-8.00	1.42	1.53
2	2	2881	RAP	O1-C34	-3.28	1.40	1.46
2	2	2881	RAP	C13-C14	2.06	1.56	1.51
2	2	2881	RAP	C2-N7	2.58	1.50	1.47
2	2	2881	RAP	C38-C39	2.59	1.57	1.52
2	2	2881	RAP	C6-N7	2.78	1.50	1.47
2	2	2881	RAP	O6-C10	2.90	1.44	1.39
2	2	2881	RAP	C44-C17	2.95	1.56	1.50
2	2	2881	RAP	C35-C34	3.09	1.56	1.53
2	2	2881	RAP	C41-C40	3.17	1.56	1.52
2	2	2881	RAP	C27-C28	3.45	1.58	1.52
2	2	2881	RAP	O1-C1	3.80	1.43	1.34
2	2	2881	RAP	C40-C39	4.41	1.60	1.52

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	2	2881	RAP	O1-C1-O2	-2.74	118.24	123.89
2	2	2881	RAP	C3-C2-N7	-2.74	106.49	110.43
2	2	2881	RAP	C28-C29-C30	2.03	123.03	119.46
2	2	2881	RAP	C12-C13-C14	2.07	114.14	110.90
2	2	2881	RAP	C52-O12-C39	2.28	120.27	114.09
2	2	2881	RAP	C43-C11-C10	2.29	114.16	111.97
2	2	2881	RAP	C34-O1-C1	4.34	124.60	117.92
2	2	2881	RAP	O1-C1-C2	5.17	121.78	110.56

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	2	2881	RAP	20	0

## 5.7 Other polymers ⓘ

There are no such residues in this entry.



## 5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

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

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

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

### 6.3 Carbohydrates ⓘ

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

### 6.4 Ligands ⓘ

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

### 6.5 Other polymers ⓘ

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