



Full wwPDB X-ray Structure Validation Report ⓘ

May 24, 2020 – 07:46 am BST

PDB ID : 1NJP
Title : The crystal structure of the 50S Large ribosomal subunit from *Deinococcus radiodurans* complexed with a tRNA acceptor stem mimic (ASM)
Authors : Bashan, A.; Agmon, I.; Zarivatch, R.; Schlutzen, F.; Harms, J.M.; Berisio, R.; Bartels, H.; Hansen, H.A.; Yonath, A.
Deposited on : 2003-01-02
Resolution : 3.50 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

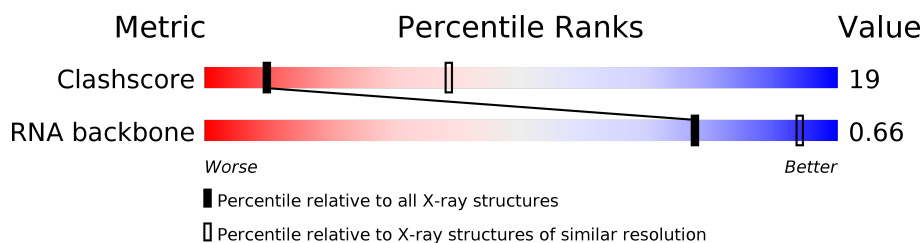
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 Å.

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



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

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

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	0	2880	
2	5	35	
3	K	141	
4	T	237	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 60249 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

- Molecule 2 is a RNA chain called tRNA acceptor stem mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	5	25	Total	C	N	O	P	0	0	0
			543	249	97	173	24			

- Molecule 3 is a protein called 50S ribosomal protein L16.

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

- Molecule 4 is a protein called GENERAL STRESS PROTEIN CTC.

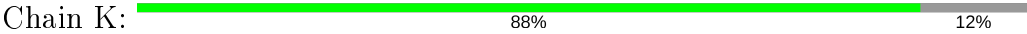
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
4	T	223	Total	C	0	0	223
			223	223			



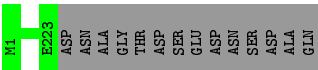
A2861	U2778	G2621	G2553	G2484	C2420	G2353	U2270	C2199	U	G2050	C1979	U1909
G2862	G2782	G2622	G2554	U2485	C2421	A2356	C2271	C2198	U	U2051	A1980	A1940
U2863	U2783	G2624	G2555	G2486	G2422	A2357	C2272	G2201	G	G2052	A1981	G1912
G2867	A2784	U2625	G2556	G2492	G2424	C2358	C2274	C2205	G2133	G2055	G1985	U1914
U2871	A2785	C2628	U2559	U2493	G2426	G2361	U2275	C2206	U2134	G2056	G1986	A1915
U2872	G2786	U2629	G2560	U2494	A2427	G2362	C2276	U2211	C2136	U2057	G1987	A1916
G2873	A2787	G2630	G2561	G2495	A2428	G2363	A2277	U2212	G2137	U2058	G1993	C1917
A2874	G2794	A2633	U2562	C2496	A2429	G2364	G2279	U2213	U2138	A2060	U1994	G1918
C2875	G2795	G2634	U2563	C2497	A2430	U2365	U2285	G2214	U2139	G2061	U1995	A1919
G2876	A2796	U2635	C2565	U2498	C2431	U2366	U2286	G2217	G2140	U2062	A1996	A1920
A2877	G2797	A2636	A2566	G2499	A2432	A2367	C2287	G2218	A	G2069	A1997	A1921
C	A2798	A2639	C2570	C2500	G2433	G2368	A2288	G2219	G	U2070	G2001	U1922
U	C2799	G2640	G2571	U2501	C2434	U2369	A2289	G2220	G	G2071	A2002	U1923
C	C2800	A2641	U2572	G2502	C2435	G2370	U2292	U2221	C	U2075	A2003	C1925
	A2801	G2642	C2573	G2504	U2436	A2371	G2293	A2220	A	G2076	U2004	U1926
		G2643	U2574	G2505	G2437	A2372	G2293	U2222	A	G2077	U2005	U1927
			U2575	G2506	U2438	C2373	U2298	U2223	C	G2078	G2006	G1928
			G2576	G2508	U2440	G2376	A2299	U2224	G	A2079	G2007	U1929
			A2577	A2509	C2441	U2377	G2300	U2225	G	U2080	C1930	C1931
			U2578	G2510	C2442	G2378	A2301	A2226	U	U2081	U2009	
			A2579	G2511	C2445	G2379	G2302	U2227	G	C2082	G2010	
			C2580	A2512	C2446	U2380		U2228	A	C2083	U2011	
			A2581	A2513	G2447	A2381	A2307	G2229	A	G2084	A2012	
			U2582	G2514	A2448	C2382	A2308		A	G2085	A2013	
			G2583	U2515	G2449	C2383	G2309	G2234	A	U2086	A2014	
			C2584	C2516	A2450	G2384	G2310	U2235	C2157	G2093	G2015	
			U2585	U2517	G2451	U2385	U2311	U2236	C2158	C2094	U2017	
			G2586	G2518		G2386	A2312	C2237	A2159	G2095	C1948	
			U2587	U2519	C2454	A2389	G2313	C2238	A2160	U2096	A1949	
			C2588	G2520	A2455	A2390	A2314	C2239	C2161	G2097	C1950	
			U2589	U2521	U2456	A2391	A2315	C2240	C2162	A	G1951	
			G2590	G2522	A2457	G2392	G2316	U2241	U2163	G	A1952	
			U2591	C2523	U2458	G2393	G2317	C2242		A	C2023	
			C2592	U2524	C2459	G2394	U2318	C2243		U	A1954	
			U2593	U2525	C2459	G2395	G2319	C2244	A2168	A	G1955	
			U2594	G2527	G2460	C2396	G2320	A2245	A2169	G	G1956	
			C2595	G2528		A2397	G2321	A2246		G2103	C2026	
			U2596	G2529	G2461	U2398	U2322	A2247	U2172	G2106	C2027	
			G2597	C2530	G2462		U2323	A2248		G2107	G2028	
			C2598	U2533	G2465	A2401	G2324	U2249	U2177		A1961	
			U2599	U2534	G2466	U2402	G2325	G2250	U2178		C1962	
			A2600	G2535	G2467	C2403	C2326	U2251	C2179		G1963	
			C2601	C2536	G2468	A2404	G2327	G2255	U2180		A1964	
			G2602	U2537	G2469	A2405	G2328	G2256	A2181		U1965	
			U2603	C2538	U2470	C2406	G2329	G2257	A2182		G2035	
			G2604	C2539	U2471	G2407	G2330	A2258			G2036	
			C2605	U2540	G2472	G2408	A2331	G2259	U2185		U1967	
			G2606	A2541	G2473	G2409	G2332	G2260	G2186		G1968	
			C2607	A2542	G2474	A2410	C2333	C2261			G1969	
			U2608	G2543	G2475	U2411	G2334	C2262	A2191		G1970	
			G2609	U2544	A2476	A2412	C2335	C2263	U2192		C1971	
			U2610	G2545	G2477	A2413	G2336	A2264	A2043		G1972	
			C2611	C2546	C2478	A2414	C2337	A2265	G2044		C1973	
			U2612	U2547	U2479	A2415	G2338	A2266	G2045		U1974	
			G2613	G2548	C2480	A2416	G2339	A2267	G2046		G1975	
			U2614	U2549	G2481	A2417	G2340	A2268	C2047		U1976	
			C2615	G2550	A2482	A2418	G2341	A2269	U		U1977	
			G2616	A2551	G2483	A2419	G2342	A2270	C2125		C2048	
			U2617	G2552	U2484	A2420	G2343	A2271	U		C2049	
			C2618	C2553	U2485	A2421	G2344	A2272				
			U2619	U2554	G2486	A2422	G2345	A2273				
			G2620	G2555	U2487	A2423	G2346	A2274				
					U2488	A2424	G2347	A2275				
					G2489	A2425	G2348	A2276				
					A2490	A2426	G2349	A2277				
					U2491	A2427	G2350	A2278				
					G2492	A2428	G2351	A2279				
					U2493	A2429	G2352	A2280				
					C2494	A2430	G2353	A2281				
					U2495	A2431	G2354	A2282				
					G2496	A2432	G2355	A2283				
					C2497	A2433	G2356	A2284				
					U2498	A2434	G2357	A2285				
					G2499	A2435	G2358	A2286				
					C2500	A2436	G2359	A2287				
					U2501	A2437	G2360	A2288				
					G2502	A2438	G2361	A2289				
					C2503	A2439	G2362	A2290				
					U2504	A2440	G2363	A2291				
					G2505	A2441	G2364	A2292				
					C2506	A2442	G2365	A2293				
					U2507	A2443	G2366	A2294				
					G2508	A2444	G2367	A2295				
					A2509	A2445	G2368	A2296				
					U2510	A2446	G2369	A2297				
					G2511	A2447	G2370	A2298				
					A2512	A2448	G2371	A2299				
					U2513	A2449	G2372	A2300				
					G2514	A2450	G2373	A2301				
					C2515	A2451	G2374	A2302				
					U2516	A2452	G2375	A2303				
					G2517	A2453	G2376	A2304				
					C2518	A2454	G2377	A2305				
					U2519	A2455	G2378	A2306				
					G2520	A2456	G2379	A2307				
					C2521	A2457	G2380	A2308				
					U2522	A2458	G2381	A2309				
					G2523	A2459	G2382	A2310				
					U2524	A2460	G2383	A2311				
					C2525	A2461	G2384	A2312				
					U2526	A2462	G2385	A2313				
					G2527	A2463	G2386	A2314				
					C2528	A2464	G2387	A2315				
					U2529	A2465	G2388	A2316				
					G2530	A2466	G2389	A2317				
					C2531	A2467	G2390	A2318				
					U2532	A2468	G2391	A2319				
					G2533	A2469	G2392	A2320				
					U2534	A2470	G2393	A2321				
					C2535	A2471	G2394	A2322				
					U2536	A2472	G2395	A2323				
					G2537	A2473	G2396	A2324				
					C2538	A2474	G2397	A2325				
					U2539	A2475	G2398	A2326				
					G2540	A2476	G2399	A2327				
					C2541	A2477	G2400	A2328				
					U2542	A2478	G2401	A2329				
					G2543	A2479	G2402	A2330				
					C2544	A2480	G2403	A2331				
					U2545	A2481	G2404	A2332				
					G2546	A2482	G2405	A2333				
					C2547	A2483	G2406	A2334				
					U2548	A2484	G2407	A2335				
					G2549	A2485	G2408	A2336				
					C2550	A2486	G2409	A2337				
					U2551	A2487	G2410	A2338				
					G2552	A2488	G2411	A2339				
					C2553	A2489	G2412	A2340				
					U2554	A2490	G2413	A2341				
					G2555	A2491	G2414	A2342				
					C2556	A2492	G2415	A2343				
					U2557	A2493	G2416	A2344				
					G2558	A2494	G2417	A2345				
					C2559	A2495	G2418	A2346				
					U2560	A2496	G2419	A2347				



- Molecule 3: 50S ribosomal protein L16



- Molecule 4: GENERAL STRESS PROTEIN CTC



4 Data and refinement statistics

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

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.90 Å 409.90 Å 695.90 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (15.00-3.50)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.12	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.244 , 0.295	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	60249	wwPDB-VP
Average B, all atoms (Å ²)	81.0	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: PPU

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	0	0.14	0/66467	0.63	0/103673
2	5	0.15	0/563	0.63	0/873
All	All	0.14	0/67030	0.63	0/104546

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

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	873	U	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	1724	0
2	5	543	0	290	11	0
3	K	124	0	0	0	0
4	T	223	0	0	0	0
All	All	60249	0	30207	1731	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 19.

All (1731) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:940:G:H3'	1:0:941:U:H5''	1.22	1.14
1:0:1141:U:H3	1:0:2008:C:H5''	1.20	1.04
1:0:1073:G:H2'	1:0:1074:G:H4'	1.40	1.01
1:0:2548:G:H2'	1:0:2549:G:H5''	1.44	1.00
1:0:2769:C:H2'	1:0:2867:G:H22	1.21	0.99
1:0:2636:A:H62	1:0:2643:G:H21	1.11	0.97
1:0:1252:C:H2'	1:0:1253:C:H5''	1.47	0.96
1:0:2668:U:H4'	1:0:2669:C:H5'	1.47	0.96
1:0:688:A:H62	1:0:816:U:H3	1.09	0.96
1:0:1182:U:H2'	1:0:1183:C:H5''	1.47	0.95
1:0:1496:G:H1	1:0:1527:G:H1	1.13	0.95
1:0:1893:G:H5''	2:5:21:C:H4'	1.47	0.95
1:0:58:C:H3'	1:0:59:G:H5''	1.47	0.94
1:0:1086:C:H2'	1:0:1087:C:H5''	1.49	0.94
1:0:221:A:H62	1:0:231:G:H21	1.15	0.94
1:0:1572:C:H2'	1:0:1573:G:H5''	1.48	0.94
1:0:1747:G:H4'	1:0:1749:G:H1'	1.48	0.94
1:0:471:A:H62	1:0:480:G:H21	1.13	0.94
1:0:1953:A:H1'	1:0:1955:G:H1'	1.51	0.92
1:0:1223:G:H21	1:0:1225:G:H21	0.93	0.92
1:0:1312:G:H5''	1:0:1313:U:H5'	1.52	0.92
1:0:847:C:H41	1:0:955:G:H21	1.17	0.91
1:0:166:G:H21	1:0:184:A:H62	1.11	0.90
1:0:789:G:H21	1:0:806:A:H62	1.13	0.90
1:0:929:A:H3'	1:0:930:A:H5''	1.52	0.90
1:0:225:G:H3'	1:0:226:C:H5'	1.51	0.89
1:0:831:G:H21	1:0:1203:A:H62	1.17	0.89
1:0:1915:A:H62	1:0:1951:G:H21	1.20	0.89
1:0:104:C:H2'	1:0:105:G:H5''	1.56	0.88
1:0:1656:U:H2'	1:0:1657:A:H5''	1.56	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2633:A:H4'	1:0:2634:G:H4'	1.57	0.87
1:0:367:G:H2'	1:0:368:A:H5''	1.55	0.87
1:0:403:A:H4'	1:0:425:A:H5'	1.57	0.86
1:0:128:C:H2'	1:0:129:A:H5''	1.58	0.86
1:0:1199:U:H3'	1:0:1200:G:H5''	1.56	0.85
1:0:1223:G:H21	1:0:1225:G:N2	1.75	0.85
1:0:1436:G:H1'	1:0:1508:G:H21	1.41	0.84
1:0:1034:U:H1'	1:0:1133:G:H5''	1.59	0.84
1:0:1964:A:H3'	1:0:1965:U:H5'	1.60	0.84
1:0:2426:G:H5'	1:0:2480:C:H41	1.43	0.83
1:0:2794:G:H3'	1:0:2796:A:H62	1.43	0.82
1:0:2607:C:H3'	1:0:2608:A:H5'	1.59	0.82
1:0:109:A:H3'	1:0:110:U:H5''	1.61	0.81
1:0:26:G:H21	1:0:524:A:H62	1.25	0.81
1:0:88:G:H3'	1:0:89:A:H5''	1.60	0.81
1:0:2769:C:H2'	1:0:2867:G:N2	1.95	0.81
1:0:2806:G:H1'	1:0:2858:A:H2'	1.62	0.81
1:0:2081:U:H2'	1:0:2082:C:H5''	1.62	0.81
1:0:2522:G:H21	1:0:2625:U:H5''	1.45	0.81
1:0:2059:U:H5	1:0:2575:U:H3	1.26	0.81
1:0:2198:U:H3'	1:0:2199:C:H5''	1.62	0.81
1:0:2700:U:H3	1:0:2848:A:N6	1.79	0.80
1:0:940:G:H3'	1:0:941:U:C5'	2.09	0.80
1:0:9:U:H3	1:0:2608:A:H62	1.29	0.80
1:0:2491:C:H2'	1:0:2492:G:H5''	1.64	0.80
1:0:176:A:H1'	1:0:2221:G:H21	1.47	0.79
1:0:460:U:H3	1:0:592:G:H1'	1.46	0.79
1:0:1141:U:N3	1:0:2008:C:H5''	1.97	0.79
1:0:1223:G:N2	1:0:1225:G:H21	1.77	0.79
1:0:542:A:H2'	1:0:543:G:H5'	1.65	0.79
1:0:1811:A:O2'	1:0:1812:U:H5''	1.82	0.79
1:0:70:A:O3'	1:0:71:A:H3'	1.83	0.79
1:0:2548:G:C2'	1:0:2549:G:H5''	2.10	0.79
1:0:1432:G:H21	1:0:1596:A:H62	1.27	0.78
1:0:2227:C:H2'	1:0:2228:U:H5'	1.66	0.78
1:0:918:A:H2'	1:0:919:U:H5''	1.64	0.78
1:0:26:G:N2	1:0:524:A:H62	1.81	0.78
1:0:2480:C:H5''	1:0:2482:A:H5'	1.66	0.78
1:0:1188:A:H62	1:0:1189:G:H21	1.30	0.77
1:0:2770:A:H5'	1:0:2867:G:H22	1.48	0.77
1:0:181:A:H5''	1:0:182:G:OP1	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:652:C:H42	1:0:657:A:H61	1.31	0.77
1:0:689:A:H61	1:0:815:A:H61	1.31	0.76
1:0:2261:G:H4'	1:0:2262:C:OP2	1.86	0.76
1:0:688:A:N6	1:0:816:U:H3	1.84	0.76
1:0:65:C:H2'	1:0:66:U:H5'	1.68	0.75
1:0:1807:A:O2'	1:0:1808:C:H4'	1.86	0.75
1:0:2624:G:H4'	1:0:2712:G:H2'	1.69	0.75
1:0:2503:G:H3'	1:0:2504:G:H5''	1.69	0.75
2:5:3:G:H1	2:5:29:U:H3	1.32	0.75
1:0:2096:U:H2'	1:0:2097:A:H5''	1.69	0.74
1:0:218:A:O2'	1:0:219:G:H4'	1.87	0.74
1:0:1001:A:H62	1:0:1200:G:H1'	1.53	0.74
1:0:1252:C:C2'	1:0:1253:C:H5''	2.18	0.73
1:0:2241:U:H1'	1:0:2307:A:H1'	1.69	0.73
1:0:1182:U:C2'	1:0:1183:C:H5''	2.17	0.73
1:0:1473:U:H4'	1:0:1474:A:C8	2.23	0.73
1:0:2700:U:H3	1:0:2848:A:H62	1.35	0.73
1:0:109:A:C3'	1:0:110:U:H5''	2.19	0.72
1:0:2721:A:H62	1:0:2743:G:H21	1.37	0.72
1:0:1021:A:H1'	1:0:1164:C:H1'	1.71	0.72
1:0:1572:C:C2'	1:0:1573:G:H5''	2.18	0.72
1:0:471:A:H62	1:0:480:G:N2	1.86	0.72
1:0:65:C:C2'	1:0:66:U:H5'	2.19	0.72
1:0:795:A:H4'	1:0:796:A:N7	2.03	0.72
1:0:616:U:H2'	1:0:617:U:H5''	1.70	0.72
1:0:59:G:H1'	1:0:73:A:N1	2.04	0.72
1:0:202:A:H2'	1:0:203:G:O4'	1.88	0.71
1:0:1528:C:H2'	1:0:1529:C:H5''	1.71	0.71
1:0:1373:G:H22	1:0:2192:U:H3	1.36	0.71
1:0:1479:G:N2	1:0:1543:G:H21	1.87	0.71
1:0:1196:G:H2'	1:0:1197:U:O4'	1.91	0.71
1:0:2426:G:H22	1:0:2431:C:H41	1.38	0.71
1:0:2691:C:H3'	1:0:2692:A:H5''	1.73	0.71
1:0:1908:C:H2'	1:0:1909:U:H4'	1.72	0.71
1:0:2503:G:C3'	1:0:2504:G:H5''	2.21	0.71
1:0:2552:C:N3	2:5:34:C:H4'	2.04	0.71
1:0:1047:G:H1	1:0:1130:U:H3	1.36	0.71
1:0:1882:G:H21	1:0:1885:C:N4	1.88	0.71
1:0:69:G:H4'	1:0:70:A:O5'	1.90	0.71
1:0:2045:A:H4'	1:0:2421:C:OP2	1.89	0.71
1:0:1621:C:H4'	1:0:1626:A:H61	1.56	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1139:A:H1'	1:0:2496:C:H5'	1.72	0.71
1:0:2380:U:H2'	1:0:2381:A:H5'	1.71	0.70
1:0:1809:G:H2'	1:0:1810:U:O4'	1.91	0.70
1:0:2522:G:N2	1:0:2625:U:H5''	2.05	0.70
1:0:2759:U:H4'	1:0:2760:G:OP2	1.89	0.70
1:0:319:G:H21	1:0:340:G:H21	1.40	0.70
1:0:514:G:N3	1:0:514:G:H2'	2.06	0.70
1:0:515:A:H2'	1:0:516:G:H5'	1.72	0.70
1:0:181:A:H4'	1:0:182:G:H4'	1.74	0.70
1:0:576:A:H2	1:0:580:A:H62	1.40	0.70
1:0:1529:C:H2'	1:0:1530:U:O4'	1.92	0.70
1:0:2510:A:H61	1:0:2641:A:N6	1.89	0.70
1:0:1023:U:H1'	1:0:1154:A:N7	2.06	0.69
1:0:588:G:H4'	1:0:2001:G:H5''	1.74	0.69
1:0:323:G:H5'	1:0:342:G:C6	2.27	0.69
1:0:33:C:H42	1:0:466:A:H61	1.39	0.69
1:0:1188:A:N6	1:0:1189:G:H21	1.89	0.69
1:0:951:G:H2'	1:0:952:A:H5''	1.73	0.69
1:0:1838:G:H2'	1:0:1839:A:H5'	1.75	0.69
1:0:800:U:H3'	1:0:804:C:N4	2.08	0.69
1:0:2808:U:H3'	1:0:2809:A:H5'	1.75	0.69
1:0:2510:A:H61	1:0:2641:A:H61	1.41	0.69
1:0:2727:G:H1	1:0:2735:C:H5''	1.58	0.69
1:0:878:C:H42	1:0:921:A:H62	1.41	0.69
1:0:2058:U:H5'	1:0:2576:G:H1'	1.74	0.68
1:0:1978:U:H3'	1:0:1979:C:H5''	1.74	0.68
1:0:1774:A:H1'	1:0:2586:G:H21	1.58	0.68
1:0:2607:C:H1'	1:0:2761:A:H2'	1.76	0.68
1:0:1955:G:H2'	1:0:1956:G:H5'	1.75	0.68
1:0:2245:A:H4'	1:0:2246:A:C8	2.29	0.68
1:0:67:G:N2	1:0:72:A:H2'	2.08	0.68
1:0:941:U:H2'	1:0:942:U:O4'	1.94	0.68
1:0:813:A:O2'	1:0:815:A:H5'	1.94	0.68
1:0:1791:C:O2'	1:0:1793:A:H5'	1.94	0.67
1:0:1915:A:H62	1:0:1951:G:N2	1.91	0.67
1:0:2495:G:H2'	1:0:2496:C:C6	2.30	0.67
1:0:1923:U:H4'	1:0:1948:C:H41	1.59	0.67
1:0:584:A:H4'	1:0:2479:U:H5'	1.77	0.67
1:0:1953:A:H1'	1:0:1955:G:C1'	2.21	0.67
1:0:653:G:H2'	1:0:654:A:H4'	1.76	0.67
1:0:1086:C:C2'	1:0:1087:C:H5''	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2095:G:H2'	1:0:2096:U:H5''	1.75	0.67
1:0:2499:C:H41	1:0:2521:A:H2	1.41	0.67
1:0:974:U:H1'	1:0:2229:G:H21	1.58	0.67
1:0:1749:G:O6	1:0:2674:C:H4'	1.95	0.67
1:0:367:G:C2'	1:0:368:A:H5''	2.24	0.67
1:0:1191:G:H2'	1:0:1192:A:H8	1.60	0.67
1:0:2491:C:C2'	1:0:2492:G:H5''	2.25	0.67
1:0:2680:U:H3'	1:0:2681:A:H5'	1.76	0.67
1:0:1312:G:H5'	1:0:1314:A:H1'	1.76	0.66
1:0:1474:A:H2'	1:0:1475:U:H5'	1.77	0.66
1:0:45:C:H5''	1:0:192:G:N7	2.10	0.66
1:0:583:C:N3	1:0:2016:A:H4'	2.10	0.66
1:0:1188:A:H62	1:0:1189:G:N2	1.92	0.66
1:0:1199:U:H3'	1:0:1200:G:C5'	2.24	0.66
1:0:1352:G:H2'	1:0:1353:A:H8	1.60	0.66
1:0:805:G:H5''	1:0:806:A:O5'	1.95	0.66
1:0:1181:C:H2'	1:0:1182:U:H5''	1.77	0.66
1:0:1685:A:H1'	1:0:1686:A:C5	2.30	0.66
1:0:1746:A:H2'	1:0:1747:G:H5'	1.77	0.66
1:0:2768:C:H2'	1:0:2769:C:O4'	1.95	0.66
1:0:58:C:H3'	1:0:59:G:C5'	2.21	0.66
1:0:1487:C:H2'	1:0:1488:G:H8	1.61	0.66
1:0:2324:G:H4'	1:0:2326:C:H5''	1.78	0.66
1:0:652:C:H42	1:0:657:A:N6	1.94	0.66
1:0:2418:A:H4'	1:0:2420:C:OP2	1.96	0.65
1:0:651:C:H2'	1:0:652:C:H5''	1.78	0.65
1:0:805:G:H4'	1:0:806:A:OP2	1.96	0.65
1:0:1686:A:N3	1:0:1686:A:H2'	2.11	0.65
1:0:1888:C:H5''	1:0:1889:G:H5''	1.79	0.65
1:0:1966:C:H4'	1:0:2585:C:H4'	1.78	0.65
1:0:66:U:H2'	1:0:67:G:N7	2.11	0.65
1:0:73:A:H3'	1:0:73:A:N3	2.12	0.65
1:0:1195:U:H2'	1:0:1196:G:C8	2.32	0.65
1:0:175:C:H1'	1:0:2413:A:H61	1.62	0.65
1:0:13:A:H1'	1:0:536:A:N6	2.12	0.65
1:0:1900:U:O2'	1:0:1946:U:H5'	1.97	0.65
1:0:225:G:H3'	1:0:226:C:C5'	2.26	0.65
1:0:1033:G:H22	1:0:1150:C:H2'	1.62	0.65
1:0:1427:G:H2'	1:0:1428:G:H5'	1.79	0.65
1:0:104:C:C2'	1:0:105:G:H5''	2.27	0.64
1:0:1500:U:H3	1:0:1520:G:H22	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1938:U:O2'	1:0:1939:U:OP1	2.13	0.64
1:0:2198:U:C3'	1:0:2199:C:H5''	2.27	0.64
1:0:2312:A:H4'	1:0:2313:G:N7	2.12	0.64
1:0:665:A:H3'	1:0:666:U:H5''	1.79	0.64
1:0:727:U:H2'	1:0:728:G:H5''	1.79	0.64
1:0:777:A:N6	1:0:1766:U:H3	1.94	0.64
1:0:1354:A:H62	1:0:1407:G:H22	1.45	0.64
1:0:2236:U:C3'	1:0:2237:C:H5''	2.28	0.64
1:0:2404:A:O2'	1:0:2405:A:OP2	2.15	0.64
1:0:317:U:H2'	1:0:318:G:H5''	1.78	0.64
1:0:2236:U:H2'	1:0:2237:C:H5''	1.77	0.64
1:0:571:U:H2'	1:0:581:A:H1'	1.79	0.64
1:0:1194:U:H2'	1:0:1195:U:C6	2.32	0.64
1:0:1679:U:C3'	1:0:1680:U:H5''	2.28	0.64
1:0:2426:G:N2	1:0:2431:C:H41	1.95	0.64
1:0:2822:U:H2'	1:0:2823:G:O4'	1.97	0.64
1:0:1341:G:H22	1:0:1664:G:H1	1.46	0.64
1:0:1679:U:H3'	1:0:1680:U:H5''	1.78	0.64
1:0:73:A:H4'	1:0:74:G:C1'	2.27	0.64
1:0:2080:U:H2'	1:0:2081:U:C6	2.33	0.64
1:0:2690:A:OP2	1:0:2694:G:H5'	1.97	0.64
1:0:2422:C:H2'	1:0:2423:G:H8	1.62	0.64
1:0:2426:G:O6	1:0:2479:U:H2'	1.97	0.64
1:0:2440:C:H1'	1:0:2471:U:H3	1.63	0.64
1:0:83:A:H4'	1:0:84:G:O4'	1.97	0.64
1:0:236:C:H1'	1:0:632:A:O2'	1.97	0.64
1:0:1198:C:H5''	1:0:1199:U:H5''	1.80	0.63
1:0:1580:C:H2'	1:0:1581:C:C6	2.33	0.63
1:0:2636:A:H62	1:0:2643:G:N2	1.90	0.63
1:0:653:G:N2	1:0:655:A:H1'	2.14	0.63
1:0:858:G:H5''	1:0:859:U:H5'	1.79	0.63
1:0:1250:A:O2'	1:0:1251:G:H4'	1.98	0.63
1:0:1715:A:H1'	1:0:1717:A:O4'	1.99	0.63
1:0:831:G:H21	1:0:1203:A:N6	1.93	0.63
1:0:952:A:O2'	1:0:1204:G:H4'	1.98	0.63
1:0:128:C:C2'	1:0:129:A:H5''	2.27	0.63
1:0:69:G:H5''	1:0:70:A:OP1	1.98	0.63
1:0:927:C:H2'	1:0:928:G:O4'	1.98	0.63
1:0:998:C:H2'	1:0:999:A:O4'	1.97	0.63
1:0:2261:G:H5''	1:0:2262:C:O5'	1.98	0.63
1:0:2617:G:H22	1:0:2755:A:H2'	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1181:C:C3'	1:0:1182:U:H5''	2.29	0.62
1:0:167:A:H62	1:0:183:U:H3	1.46	0.62
1:0:614:G:H2'	1:0:615:C:C6	2.34	0.62
1:0:2770:A:H5'	1:0:2867:G:N2	2.14	0.62
1:0:1428:G:H5''	1:0:1429:A:H5'	1.80	0.62
1:0:2721:A:H62	1:0:2743:G:N2	1.98	0.62
1:0:542:A:C2'	1:0:543:G:H5'	2.30	0.62
1:0:942:U:H2'	1:0:943:U:O4'	2.00	0.62
1:0:1323:G:H2'	1:0:1324:G:H4'	1.81	0.62
1:0:1517:C:H2'	1:0:1518:C:C6	2.34	0.62
1:0:1807:A:H5'	1:0:1809:G:C1'	2.30	0.62
1:0:221:A:H62	1:0:231:G:N2	1.91	0.62
1:0:362:C:H2'	1:0:363:G:H4'	1.80	0.62
1:0:852:U:H3	1:0:950:G:H1	1.47	0.62
1:0:1085:G:H2'	1:0:1086:C:C6	2.35	0.62
1:0:121:G:O2'	1:0:1389:C:H4'	2.00	0.62
1:0:2015:G:O2'	1:0:2016:A:OP1	2.12	0.62
1:0:2755:A:O2'	1:0:2756:A:H5'	2.00	0.62
1:0:414:A:H2'	1:0:415:A:O4'	1.99	0.62
1:0:55:A:H2'	1:0:56:C:C6	2.35	0.62
1:0:455:A:H4'	1:0:1214:C:O2'	1.99	0.62
1:0:1976:U:H2'	1:0:1977:C:H5'	1.82	0.62
1:0:2508:G:H5''	1:0:2509:A:H5''	1.82	0.62
1:0:439:C:H2'	1:0:440:U:O4'	2.00	0.62
1:0:1333:G:N2	1:0:1344:C:H41	1.96	0.62
1:0:871:U:H1'	1:0:2248:A:H5''	1.82	0.62
1:0:1656:U:C2'	1:0:1657:A:H5''	2.29	0.61
1:0:2381:A:H4'	1:0:2382:C:C5	2.35	0.61
1:0:2357:A:H2'	1:0:2358:C:O4'	2.00	0.61
1:0:940:G:C3'	1:0:941:U:H5''	2.14	0.61
1:0:191:G:O2'	1:0:192:G:H5'	2.00	0.61
1:0:2268:G:H22	1:0:2323:U:H4'	1.65	0.61
1:0:2544:A:H2'	1:0:2545:A:H4'	1.82	0.61
1:0:2571:G:H2'	1:0:2572:U:C6	2.36	0.61
1:0:1455:C:O2'	1:0:1644:G:H5''	2.00	0.61
1:0:742:G:H2'	1:0:742:G:N3	2.13	0.61
1:0:974:U:H1'	1:0:2229:G:N2	2.15	0.61
1:0:2242:C:N4	1:0:2257:A:H61	1.98	0.61
1:0:2426:G:C5'	1:0:2480:C:H41	2.13	0.61
1:0:81:C:H2'	1:0:82:G:O4'	2.00	0.61
1:0:860:U:C2'	1:0:861:G:H5'	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:181:A:H4'	1:0:182:G:C5'	2.30	0.61
1:0:2035:G:H2'	1:0:2036:G:H8	1.65	0.61
1:0:814:G:H3'	1:0:815:A:H5'	1.82	0.61
1:0:1188:A:H2'	1:0:1189:G:O4'	2.00	0.61
1:0:1260:A:N6	1:0:1262:U:H1'	2.15	0.61
1:0:1871:G:N3	1:0:1871:G:H2'	2.16	0.61
1:0:1923:U:H4'	1:0:1948:C:N4	2.16	0.61
1:0:1426:U:H2'	1:0:1427:G:O4'	2.00	0.61
1:0:2223:U:H2'	1:0:2224:U:O4'	2.00	0.61
1:0:2246:A:H2'	1:0:2246:A:N3	2.16	0.61
1:0:71:A:O2'	1:0:72:A:OP1	2.17	0.61
1:0:1286:U:H5''	1:0:1663:C:H42	1.66	0.61
1:0:1380:C:H2'	1:0:1381:G:H5'	1.81	0.61
1:0:2185:U:H2'	1:0:2186:G:C8	2.36	0.61
1:0:1066:G:H2'	1:0:1067:G:H4'	1.83	0.60
1:0:1713:G:H2'	1:0:1714:A:O4'	2.00	0.60
1:0:800:U:H3'	1:0:804:C:H41	1.66	0.60
1:0:1811:A:H1'	1:0:1813:A:C5	2.35	0.60
1:0:2238:G:H2'	1:0:2239:C:C6	2.37	0.60
1:0:2604:G:H2'	1:0:2605:C:C6	2.37	0.60
1:0:878:C:H42	1:0:921:A:N6	1.99	0.60
1:0:2009:U:H3	1:0:2020:G:H1	1.50	0.60
1:0:2727:G:O2'	1:0:2728:A:H5''	2.02	0.60
1:0:1088:A:H2'	1:0:1089:C:O4'	2.02	0.60
1:0:2243:C:H2'	1:0:2244:C:O4'	2.02	0.60
1:0:1458:A:H3'	1:0:1459:U:C5'	2.32	0.60
1:0:192:G:O2'	1:0:193:A:OP2	2.18	0.60
1:0:2322:U:O2'	1:0:2323:U:H5'	2.01	0.60
1:0:2769:C:H2'	1:0:2770:A:H5'	1.84	0.60
1:0:2858:A:H3'	1:0:2859:U:H5'	1.84	0.60
1:0:1073:G:C2'	1:0:1074:G:H4'	2.26	0.60
1:0:1625:A:H2'	1:0:1625:A:N3	2.16	0.60
1:0:1807:A:H5'	1:0:1809:G:O4'	2.01	0.60
1:0:2260:C:H4'	1:0:2368:G:H21	1.66	0.60
1:0:2370:G:HO2'	1:0:2371:A:H2	1.49	0.60
1:0:2759:U:H5''	1:0:2760:G:O5'	2.02	0.60
1:0:669:G:H2'	1:0:670:U:C6	2.37	0.60
1:0:1289:A:O2'	1:0:1290:A:H5'	2.02	0.60
1:0:2549:G:H2'	1:0:2550:C:O4'	2.02	0.60
1:0:2402:U:H5'	1:0:2404:A:C5	2.37	0.59
1:0:459:A:H1'	1:0:466:A:N7	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1712:G:H2'	1:0:1713:G:O4'	2.01	0.59
1:0:2784:A:H3'	1:0:2785:A:H8	1.67	0.59
1:0:541:C:H2'	1:0:2002:A:N1	2.17	0.59
1:0:2377:U:H2'	1:0:2378:G:C8	2.37	0.59
1:0:471:A:N6	1:0:480:G:H21	1.94	0.59
1:0:831:G:N2	1:0:1203:A:H62	1.96	0.59
1:0:412:U:H2'	1:0:413:G:O4'	2.03	0.59
1:0:653:G:H4'	1:0:2328:G:H4'	1.83	0.59
1:0:73:A:H4'	1:0:74:G:H1'	1.83	0.59
1:0:804:C:O2'	1:0:806:A:H4'	2.03	0.59
1:0:1298:G:N2	1:0:1341:G:H5''	2.18	0.59
1:0:2491:C:C3'	1:0:2492:G:H5''	2.33	0.59
1:0:366:U:H2'	1:0:367:G:H8	1.67	0.59
1:0:404:A:H5'	1:0:425:A:H4'	1.84	0.59
1:0:1747:G:H1'	1:0:1749:G:N3	2.18	0.59
1:0:17:G:H21	1:0:564:U:H5''	1.66	0.59
1:0:2081:U:C2'	1:0:2082:C:H5''	2.32	0.59
1:0:513:A:H4'	1:0:515:A:H5'	1.83	0.59
2:5:29:U:H2'	2:5:30:C:C6	2.36	0.59
1:0:1634:A:O2'	1:0:1635:G:OP1	2.16	0.59
1:0:2205:C:H2'	1:0:2206:C:C6	2.38	0.59
1:0:1683:G:H2'	1:0:1684:G:O4'	2.03	0.59
1:0:2564:U:O2'	1:0:2565:C:O5'	2.16	0.59
1:0:2547:C:H2'	1:0:2548:G:H8	1.68	0.59
1:0:973:U:H2'	1:0:974:U:C6	2.38	0.59
1:0:1474:A:H3'	1:0:1474:A:N3	2.18	0.58
1:0:1664:G:O5'	1:0:1665:C:OP1	2.21	0.58
1:0:2236:U:C2'	1:0:2237:C:H5''	2.33	0.58
1:0:242:A:O2'	1:0:243:G:O4'	2.21	0.58
1:0:242:A:O2'	1:0:243:G:P	2.61	0.58
1:0:357:A:H2'	1:0:358:C:H5'	1.85	0.58
1:0:368:A:H2'	1:0:369:C:O4'	2.03	0.58
1:0:1180:A:H2'	1:0:1181:C:C6	2.38	0.58
1:0:2368:G:H5''	1:0:2369:U:O4'	2.03	0.58
1:0:1301:U:H3	1:0:1339:U:H3	1.50	0.58
1:0:1354:A:O2'	1:0:1355:A:OP1	2.18	0.58
1:0:1472:C:H2'	1:0:1473:U:H5'	1.85	0.58
1:0:1474:A:C2'	1:0:1475:U:H5'	2.33	0.58
1:0:1528:C:C2'	1:0:1529:C:H5''	2.33	0.58
1:0:2422:C:H2'	1:0:2423:G:C8	2.39	0.58
1:0:1354:A:H62	1:0:1407:G:N2	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1916:G:H2'	1:0:1917:C:C6	2.39	0.58
1:0:839:U:H5''	1:0:2408:G:OP2	2.03	0.58
1:0:2677:U:H2'	1:0:2678:C:C6	2.39	0.58
1:0:1251:G:H2'	1:0:1252:C:C6	2.38	0.58
1:0:1567:A:H2'	1:0:1568:A:O4'	2.04	0.58
1:0:1730:G:H2'	1:0:1731:C:C6	2.38	0.58
1:0:521:U:H4'	1:0:1248:G:O2'	2.03	0.58
1:0:67:G:N2	1:0:73:A:O5'	2.36	0.58
1:0:984:A:H2'	1:0:1200:G:H22	1.68	0.58
1:0:1392:U:H2'	1:0:1393:G:H5'	1.85	0.58
1:0:665:A:H3'	1:0:666:U:C5'	2.34	0.58
1:0:1779:C:H2'	1:0:1780:A:O4'	2.03	0.58
1:0:2547:C:H2'	1:0:2548:G:C8	2.38	0.58
1:0:2560:G:H4'	1:0:2561:G:N7	2.19	0.58
1:0:2758:A:H5''	1:0:2759:U:H5	1.68	0.58
1:0:2794:G:H2'	1:0:2796:A:N7	2.19	0.58
1:0:319:G:H21	1:0:340:G:N2	2.02	0.58
1:0:1181:C:C2'	1:0:1182:U:H5''	2.34	0.58
1:0:1994:U:H2'	1:0:1995:G:O4'	2.04	0.58
1:0:490:A:O2'	1:0:491:A:H5'	2.03	0.58
1:0:217:U:H5'	1:0:633:G:O2'	2.04	0.58
1:0:2426:G:O2'	1:0:2427:A:OP2	2.19	0.58
1:0:552:C:H2'	1:0:553:C:H4'	1.86	0.58
1:0:689:A:H2'	1:0:690:A:H5'	1.85	0.58
1:0:925:U:H4'	1:0:926:C:C5	2.39	0.58
1:0:2242:C:H42	1:0:2257:A:N6	2.02	0.57
1:0:2607:C:H3'	1:0:2608:A:C5'	2.31	0.57
1:0:2691:C:H3'	1:0:2692:A:C5'	2.33	0.57
1:0:839:U:H2'	1:0:841:G:O4'	2.04	0.57
1:0:59:G:N2	1:0:87:G:N7	2.52	0.57
1:0:929:A:H2'	1:0:930:A:H4'	1.86	0.57
1:0:766:A:H2'	1:0:767:G:C8	2.39	0.57
1:0:873:U:P	1:0:928:G:H1	2.27	0.57
1:0:1615:C:H2'	1:0:1616:C:C6	2.39	0.57
1:0:605:G:H4'	1:0:949:G:O2'	2.04	0.57
1:0:1223:G:O2'	1:0:1224:A:OP2	2.21	0.57
1:0:118:U:H1'	1:0:143:A:C8	2.40	0.57
1:0:1514:C:H2'	1:0:1515:U:O4'	2.04	0.57
1:0:2222:U:H2'	1:0:2223:U:C6	2.39	0.57
1:0:2426:G:H22	1:0:2431:C:N4	2.02	0.57
1:0:1137:A:H5''	1:0:1138:A:H5''	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1918:G:H4'	1:0:1920:A:N3	2.20	0.57
1:0:2636:A:N6	1:0:2643:G:H21	1.93	0.57
1:0:2236:U:H3'	1:0:2237:C:H5''	1.85	0.57
1:0:583:C:H41	1:0:2017:U:H5	1.51	0.57
1:0:687:G:O2'	1:0:688:A:H5'	2.04	0.57
1:0:931:G:N2	1:0:2247:A:H5''	2.18	0.57
1:0:1140:A:H61	1:0:2470:U:H6	1.52	0.57
1:0:1981:A:H4'	1:0:2704:U:O2'	2.05	0.57
1:0:2274:C:H2'	1:0:2275:U:H5'	1.87	0.57
1:0:176:A:H5''	1:0:177:U:H5	1.70	0.57
1:0:1915:A:N6	1:0:1951:G:H21	1.99	0.57
1:0:632:A:H2'	1:0:633:G:H5'	1.85	0.57
1:0:1431:U:H2'	1:0:1432:G:O4'	2.05	0.56
1:0:1472:C:C2'	1:0:1473:U:H5'	2.34	0.56
1:0:1971:C:H2'	1:0:1972:G:H8	1.70	0.56
1:0:2057:U:O2'	1:0:2576:G:H1'	2.04	0.56
1:0:369:C:H2'	1:0:370:U:O4'	2.04	0.56
1:0:628:A:H2'	1:0:629:C:C6	2.40	0.56
1:0:1220:G:H2'	1:0:1221:C:C6	2.40	0.56
1:0:1464:A:H4'	1:0:1545:G:H4'	1.86	0.56
1:0:158:A:H2'	1:0:159:A:O4'	2.05	0.56
1:0:874:A:H62	1:0:928:G:H21	1.52	0.56
1:0:2437:G:N2	1:0:2469:G:H2'	2.20	0.56
1:0:804:C:O2	1:0:807:A:H5'	2.05	0.56
1:0:1280:U:O2'	1:0:1281:A:H5'	2.06	0.56
1:0:2841:U:O2	1:0:2843:A:H1'	2.05	0.56
1:0:197:G:H22	1:0:440:U:H2'	1.70	0.56
1:0:843:G:O2'	1:0:844:G:OP1	2.15	0.56
1:0:2008:C:H2'	1:0:2009:U:C6	2.40	0.56
1:0:2437:G:H2'	1:0:2469:G:N2	2.21	0.56
1:0:533:C:H2'	1:0:534:U:O4'	2.05	0.56
1:0:784:U:H2'	1:0:785:U:C6	2.41	0.56
1:0:930:A:H4'	1:0:930:A:OP1	2.03	0.56
1:0:1813:A:H2'	1:0:1814:G:C8	2.40	0.56
1:0:2018:G:H3'	1:0:2019:C:C5'	2.36	0.56
1:0:2494:C:H2'	1:0:2495:G:C8	2.41	0.56
1:0:1087:C:H2'	1:0:1088:A:O4'	2.06	0.56
1:0:2329:C:H2'	1:0:2330:G:H5'	1.88	0.56
1:0:197:G:N2	1:0:440:U:H2'	2.21	0.56
1:0:1191:G:H2'	1:0:1192:A:C8	2.40	0.56
1:0:2047:C:H42	1:0:2425:G:H1	1.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2437:G:H2'	1:0:2469:G:C2	2.41	0.56
1:0:874:A:N6	1:0:928:G:H21	2.04	0.56
1:0:103:U:H2'	1:0:104:C:C6	2.40	0.56
1:0:1356:G:H1'	1:0:1613:G:C2	2.40	0.56
1:0:2270:U:H2'	1:0:2271:C:C6	2.41	0.56
1:0:2459:C:H2'	1:0:2460:G:H5'	1.88	0.56
1:0:1337:G:H1'	1:0:1632:A:N6	2.21	0.56
1:0:758:G:O2'	1:0:761:G:H1'	2.06	0.56
1:0:876:A:H2'	1:0:877:G:C8	2.41	0.56
1:0:879:A:H2'	1:0:879:A:N3	2.21	0.56
1:0:114:C:O2'	1:0:124:A:H1'	2.06	0.55
1:0:2668:U:C4'	1:0:2669:C:H5'	2.30	0.55
1:0:366:U:H2'	1:0:367:G:C8	2.41	0.55
1:0:69:G:H3'	1:0:111:G:O2'	2.06	0.55
1:0:1181:C:H3'	1:0:1182:U:H5''	1.89	0.55
1:0:173:A:N3	1:0:173:A:H2'	2.21	0.55
1:0:2641:A:H2'	1:0:2642:G:O4'	2.07	0.55
1:0:2783:U:OP1	1:0:2783:U:O4'	2.24	0.55
1:0:616:U:C2'	1:0:617:U:H5''	2.37	0.55
1:0:824:U:O2'	1:0:1264:C:H1'	2.06	0.55
1:0:1711:C:H4'	1:0:1712:G:C2	2.41	0.55
1:0:1949:A:H1'	1:0:2572:U:C4'	2.36	0.55
1:0:618:A:H2'	1:0:619:A:O4'	2.07	0.55
1:0:1258:G:H2'	1:0:1259:A:C8	2.42	0.55
1:0:2012:A:N7	1:0:2014:A:H5'	2.20	0.55
1:0:1982:C:H1'	1:0:2666:U:O2'	2.06	0.55
1:0:515:A:C2'	1:0:516:G:H5'	2.37	0.55
1:0:2162:C:H2'	1:0:2163:U:C6	2.41	0.55
1:0:2321:C:H2'	1:0:2322:U:O4'	2.06	0.55
1:0:2572:U:H2'	1:0:2573:C:C6	2.42	0.55
1:0:775:U:O2	1:0:1445:A:H5''	2.06	0.55
1:0:1669:A:H2'	1:0:1670:G:H4'	1.89	0.55
1:0:1947:G:OP1	1:0:1947:G:H3'	2.06	0.55
1:0:2061:C:H1'	1:0:2413:A:H1'	1.89	0.55
1:0:2095:G:C2'	1:0:2096:U:H5''	2.37	0.55
1:0:2381:A:H4'	1:0:2382:C:H5	1.70	0.55
1:0:604:U:H2'	1:0:605:G:C8	2.41	0.55
1:0:791:G:H2'	1:0:792:U:C6	2.41	0.55
1:0:166:G:H21	1:0:184:A:N6	1.92	0.55
1:0:177:U:H2'	1:0:178:C:C6	2.42	0.55
1:0:1791:C:H1'	1:0:1793:A:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:241:C:O2'	1:0:242:A:H5''	2.06	0.55
1:0:558:G:H5''	1:0:559:C:C5	2.42	0.55
1:0:67:G:H8	1:0:67:G:O5'	1.90	0.55
1:0:2204:A:O2'	1:0:2205:C:P	2.65	0.55
1:0:2492:G:H2'	1:0:2493:U:O4'	2.06	0.55
1:0:1789:U:C2'	1:0:1790:G:H5'	2.37	0.55
1:0:1829:C:H2'	1:0:1830:C:H5'	1.89	0.55
1:0:2470:U:O2'	1:0:2471:U:H5'	2.07	0.55
1:0:951:G:C2'	1:0:952:A:H5''	2.36	0.55
1:0:1141:U:H5'	1:0:2549:G:N2	2.21	0.55
1:0:1288:A:O2'	1:0:1289:A:H5'	2.07	0.55
1:0:1921:A:H2'	1:0:1922:U:H5''	1.89	0.55
1:0:2854:G:H3'	1:0:2854:G:N3	2.22	0.55
1:0:782:U:H2'	1:0:783:G:C8	2.42	0.55
1:0:80:A:H2'	1:0:81:C:O4'	2.06	0.55
1:0:1278:A:O2'	1:0:1279:G:P	2.65	0.54
1:0:1922:U:H1'	1:0:2570:C:O2'	2.07	0.54
1:0:2379:G:H2'	1:0:2380:U:O4'	2.06	0.54
1:0:77:C:H2'	1:0:78:C:C6	2.42	0.54
1:0:841:G:H3'	1:0:841:G:N3	2.21	0.54
1:0:1429:A:H62	1:0:1601:U:H5''	1.72	0.54
1:0:1463:A:H2'	1:0:1464:A:C8	2.41	0.54
1:0:1356:G:H5'	1:0:1614:C:OP2	2.07	0.54
1:0:1926:U:O2'	1:0:1928:G:H5'	2.08	0.54
1:0:394:U:H2'	1:0:395:G:H8	1.71	0.54
1:0:587:A:H2'	1:0:588:G:H5''	1.90	0.54
1:0:1313:U:O2'	1:0:1314:A:P	2.66	0.54
1:0:1955:G:C2'	1:0:1956:G:H5'	2.37	0.54
1:0:162:C:H4'	1:0:195:A:O2'	2.08	0.54
1:0:688:A:O2'	1:0:2422:C:H4'	2.07	0.54
1:0:48:A:H4'	1:0:50:G:O4'	2.08	0.54
1:0:847:C:N4	1:0:955:G:H21	1.95	0.54
1:0:1210:C:H2'	1:0:1211:G:O4'	2.08	0.54
1:0:2249:U:H2'	1:0:2250:G:O4'	2.08	0.54
1:0:2319:G:H2'	1:0:2320:G:C8	2.42	0.54
1:0:468:A:H2'	1:0:469:G:H4'	1.90	0.54
1:0:564:U:H2'	1:0:565:A:C8	2.41	0.54
1:0:1459:U:H2'	1:0:1475:U:O2'	2.08	0.54
1:0:1818:G:H2'	1:0:1819:U:C6	2.42	0.54
1:0:2168:A:H2'	1:0:2169:A:H5'	1.89	0.54
1:0:2432:A:H4'	1:0:2551:A:O2'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:67:G:H22	1:0:72:A:H2'	1.73	0.54
1:0:1279:G:C2'	1:0:1280:U:OP2	2.56	0.54
1:0:1746:A:C2'	1:0:1747:G:H5'	2.37	0.54
1:0:798:G:O2'	1:0:1770:U:H4'	2.08	0.54
1:0:2466:G:H2'	1:0:2467:A:C8	2.42	0.54
1:0:393:U:H2'	1:0:394:U:C6	2.43	0.54
1:0:541:C:N4	1:0:572:G:O4'	2.41	0.54
1:0:942:U:O2'	1:0:943:U:H5'	2.07	0.54
1:0:1974:U:H2'	1:0:1975:G:H5''	1.88	0.54
1:0:1664:G:H4'	1:0:1665:C:O5'	2.07	0.54
1:0:1920:A:N6	1:0:1923:U:H6	2.06	0.54
1:0:2560:G:N3	1:0:2560:G:H3'	2.23	0.54
1:0:26:G:H21	1:0:524:A:N6	2.02	0.54
1:0:486:U:H4'	1:0:520:C:H5'	1.89	0.54
1:0:538:A:H2'	1:0:539:A:H5''	1.90	0.54
1:0:598:U:H2'	1:0:599:A:C8	2.42	0.54
1:0:646:C:H2'	1:0:647:G:O4'	2.07	0.54
1:0:126:C:H2'	1:0:127:C:C6	2.42	0.54
1:0:242:A:O2'	1:0:243:G:O5'	2.25	0.54
1:0:2516:U:H2'	1:0:2517:C:C6	2.43	0.54
1:0:484:G:O2'	1:0:485:G:H5'	2.08	0.54
1:0:1326:U:H2'	1:0:1327:C:H5'	1.89	0.53
1:0:1333:G:N2	1:0:1344:C:N4	2.56	0.53
1:0:216:U:H2'	1:0:217:U:O4'	2.08	0.53
1:0:2418:A:H1'	1:0:2565:C:H4'	1.90	0.53
1:0:2440:C:H1'	1:0:2471:U:N3	2.23	0.53
1:0:2700:U:N3	1:0:2848:A:N6	2.54	0.53
1:0:404:A:H2'	1:0:405:C:C6	2.43	0.53
1:0:1528:C:C3'	1:0:1529:C:H5''	2.38	0.53
1:0:1789:U:O2'	1:0:1790:G:H5'	2.08	0.53
1:0:1825:C:C2'	1:0:1826:U:H5'	2.38	0.53
1:0:226:C:H4'	1:0:227:G:C8	2.43	0.53
1:0:775:U:H4'	1:0:776:G:C8	2.43	0.53
1:0:826:U:H2'	1:0:827:C:C6	2.44	0.53
1:0:1745:C:H2'	1:0:1746:A:O4'	2.09	0.53
1:0:2321:C:O2'	1:0:2353:G:H5''	2.09	0.53
1:0:728:G:H2'	1:0:729:A:O4'	2.08	0.53
1:0:832:A:H2'	1:0:833:A:O4'	2.07	0.53
1:0:1273:G:H2'	1:0:1274:C:C6	2.44	0.53
1:0:1301:U:H2'	1:0:1664:G:H21	1.73	0.53
1:0:1289:A:H62	1:0:1662:G:H1	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:173:A:O2'	1:0:174:A:OP1	2.20	0.53
1:0:737:C:H2'	1:0:738:G:O4'	2.09	0.53
1:0:776:G:N3	1:0:776:G:H2'	2.24	0.53
1:0:857:U:H2'	1:0:858:G:H5'	1.90	0.53
1:0:929:A:H3'	1:0:930:A:C5'	2.33	0.53
1:0:1358:C:H2'	1:0:1359:G:C5'	2.38	0.53
1:0:1976:U:C2'	1:0:1977:C:H5'	2.37	0.53
1:0:2312:A:H1'	1:0:2314:A:C8	2.44	0.53
1:0:225:G:N2	1:0:2410:U:H1'	2.23	0.53
1:0:843:G:O2'	1:0:844:G:H5'	2.09	0.53
1:0:917:U:H2'	1:0:918:A:O4'	2.08	0.53
1:0:1075:C:H2'	1:0:1076:U:O4'	2.09	0.53
1:0:824:U:H1'	1:0:1264:C:H1'	1.90	0.53
1:0:1414:G:H2'	1:0:1415:C:C6	2.44	0.53
1:0:1838:G:C2'	1:0:1839:A:H5'	2.39	0.53
1:0:918:A:C2'	1:0:919:U:H5''	2.36	0.53
1:0:960:U:H2'	1:0:961:G:C8	2.43	0.53
1:0:1365:U:H1'	1:0:1586:A:H2	1.74	0.53
1:0:1971:C:H2'	1:0:1972:G:C8	2.44	0.53
1:0:73:A:H4'	1:0:74:G:O4'	2.09	0.53
1:0:1190:C:H2'	1:0:1191:G:C8	2.44	0.53
1:0:1497:C:O2'	1:0:1498:G:H5'	2.08	0.53
1:0:1502:G:O2'	1:0:1503:G:H5'	2.09	0.53
1:0:1763:G:H2'	1:0:1764:A:H4'	1.90	0.53
1:0:317:U:C3'	1:0:318:G:H5''	2.39	0.53
1:0:33:C:N4	1:0:466:A:H61	2.07	0.53
1:0:807:A:H2'	1:0:808:C:C6	2.43	0.53
1:0:830:C:O2'	1:0:852:U:H5''	2.09	0.53
1:0:1004:A:H2'	1:0:1005:U:H5''	1.89	0.53
1:0:167:A:H2'	1:0:168:A:C8	2.44	0.53
1:0:578:U:C1'	1:0:957:G:H21	2.20	0.53
1:0:1313:U:O4	1:0:1651:U:H5'	2.09	0.53
1:0:1654:A:H2'	1:0:1655:C:C6	2.44	0.53
1:0:45:C:H5''	1:0:192:G:C8	2.43	0.53
1:0:2498:U:H5''	1:0:2499:C:OP1	2.10	0.53
1:0:2536:G:H2'	1:0:2537:C:C6	2.44	0.53
1:0:2728:A:H2'	1:0:2729:A:O4'	2.09	0.53
1:0:2756:A:H1'	1:0:2758:A:N7	2.23	0.53
1:0:38:G:H2'	1:0:39:C:C6	2.44	0.53
1:0:1200:G:O4'	1:0:1200:G:OP1	2.28	0.52
1:0:1566:G:H4'	1:0:1733:U:O4	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:212:U:H2'	1:0:213:C:C6	2.44	0.52
1:0:2372:A:H2'	1:0:2373:C:C6	2.44	0.52
1:0:788:G:H5'	1:0:790:A:H1'	1.90	0.52
1:0:870:C:H2'	1:0:871:U:C6	2.43	0.52
1:0:1162:A:H2'	1:0:1163:C:C6	2.44	0.52
1:0:1775:A:H4'	1:0:1776:A:C8	2.44	0.52
1:0:181:A:H4'	1:0:182:G:C4'	2.39	0.52
1:0:201:G:H2'	1:0:202:A:C8	2.44	0.52
1:0:599:A:H2'	1:0:600:G:C8	2.44	0.52
1:0:874:A:H62	1:0:928:G:N2	2.07	0.52
2:5:4:G:H2'	2:5:5:C:C6	2.45	0.52
1:0:1029:C:H2'	1:0:1030:U:H5''	1.91	0.52
1:0:1263:G:O2'	1:0:1264:C:OP1	2.27	0.52
1:0:1312:G:C5'	1:0:1313:U:H5'	2.33	0.52
1:0:158:A:H2'	1:0:159:A:C8	2.45	0.52
1:0:2244:C:N4	1:0:2245:A:N6	2.57	0.52
1:0:2483:U:H1'	1:0:2551:A:H2	1.74	0.52
1:0:2757:G:OP2	1:0:2761:A:H4'	2.09	0.52
1:0:2809:A:C2'	1:0:2810:A:H5'	2.39	0.52
1:0:1217:U:H2'	1:0:1218:C:C6	2.45	0.52
1:0:1288:A:H2'	1:0:1289:A:O4'	2.09	0.52
1:0:1970:G:H2'	1:0:1971:C:C6	2.44	0.52
1:0:2401:A:H2'	1:0:2403:C:C5	2.44	0.52
1:0:2426:G:O2'	1:0:2427:A:P	2.67	0.52
1:0:2561:G:C2'	1:0:2562:G:H5'	2.40	0.52
1:0:394:U:H2'	1:0:395:G:C8	2.44	0.52
1:0:638:A:O2'	1:0:639:G:H5'	2.09	0.52
1:0:658:G:H4'	1:0:2331:A:H5'	1.91	0.52
1:0:665:A:OP2	1:0:666:U:H5'	2.10	0.52
1:0:597:U:H3	1:0:683:A:H2'	1.74	0.52
1:0:1234:C:H2'	1:0:1235:C:C6	2.45	0.52
1:0:1286:U:H5''	1:0:1663:C:N4	2.24	0.52
1:0:1899:A:O2'	1:0:1946:U:H1'	2.10	0.52
1:0:1964:A:H5''	1:0:1965:U:OP2	2.09	0.52
1:0:597:U:H2'	1:0:598:U:C6	2.44	0.52
1:0:688:A:HO2'	1:0:2422:C:H4'	1.74	0.52
1:0:939:C:H2'	1:0:940:G:C8	2.45	0.52
1:0:9:U:H3	1:0:2608:A:N6	2.02	0.52
1:0:127:C:H2'	1:0:128:C:C6	2.45	0.52
1:0:129:A:H2'	1:0:130:C:C6	2.44	0.52
1:0:1900:U:H4'	1:0:1946:U:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2059:U:H2'	1:0:2060:A:H5''	1.90	0.52
1:0:2451:G:H2'	1:0:2508:G:N2	2.25	0.52
1:0:95:G:H2'	1:0:96:C:C6	2.44	0.52
1:0:341:A:H1'	1:0:1223:G:O6	2.09	0.52
1:0:2574:G:H1'	1:0:2576:G:O6	2.10	0.52
1:0:629:C:H2'	1:0:630:G:H5'	1.91	0.52
1:0:757:U:O2'	1:0:758:G:H5'	2.09	0.52
1:0:2083:G:H2'	1:0:2084:G:O4'	2.10	0.52
1:0:688:A:H1'	1:0:2423:G:H5'	1.92	0.52
1:0:795:A:H4'	1:0:796:A:C8	2.44	0.52
1:0:1788:C:H2'	1:0:1789:U:C6	2.45	0.52
1:0:2160:C:H2'	1:0:2161:C:C6	2.45	0.52
1:0:224:G:C5	1:0:226:C:H1'	2.44	0.52
1:0:2242:C:N4	1:0:2257:A:N6	2.57	0.52
1:0:2272:A:H2'	1:0:2273:C:C6	2.45	0.52
1:0:230:C:H2'	1:0:231:G:O4'	2.10	0.52
1:0:2504:G:H2'	1:0:2505:G:C8	2.45	0.52
1:0:333:A:H1'	1:0:351:A:C4	2.44	0.52
1:0:476:G:H2'	1:0:477:A:C8	2.45	0.52
1:0:689:A:N3	1:0:689:A:H3'	2.24	0.52
1:0:838:A:H2'	1:0:839:U:C6	2.45	0.52
1:0:1377:G:H4'	1:0:1800:A:H5'	1.92	0.52
1:0:168:A:H2'	1:0:169:C:C6	2.45	0.52
1:0:2057:U:H1'	1:0:2577:A:H1'	1.91	0.52
1:0:317:U:C2'	1:0:318:G:H5''	2.39	0.52
1:0:446:C:H2'	1:0:447:U:C6	2.45	0.52
1:0:491:A:H2'	1:0:491:A:N3	2.25	0.52
1:0:512:A:H2'	1:0:513:A:H5'	1.92	0.52
1:0:1597:A:H2'	1:0:1598:C:C6	2.45	0.51
1:0:1889:G:H2'	1:0:1890:G:C8	2.45	0.51
1:0:1923:U:H1'	1:0:1947:G:H4'	1.92	0.51
1:0:215:G:O2'	1:0:617:U:H1'	2.09	0.51
1:0:980:G:H2'	1:0:981:C:C6	2.45	0.51
1:0:1352:G:H2'	1:0:1353:A:C8	2.43	0.51
1:0:1358:C:H2'	1:0:1359:G:H5''	1.92	0.51
1:0:2320:G:H2'	1:0:2321:C:O4'	2.09	0.51
1:0:2623:A:H2'	1:0:2624:G:O4'	2.10	0.51
1:0:2703:C:H2'	1:0:2704:U:C6	2.45	0.51
1:0:1677:C:H2'	1:0:1678:G:C8	2.46	0.51
1:0:1860:A:H2'	1:0:1861:G:O4'	2.11	0.51
1:0:2177:U:H2'	1:0:2178:U:C6	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:243:G:H2'	1:0:244:C:O4'	2.11	0.51
1:0:332:C:H2'	1:0:333:A:H5'	1.93	0.51
1:0:476:G:H21	1:0:696:U:H1'	1.75	0.51
1:0:1018:C:H2'	1:0:1019:U:C5	2.45	0.51
1:0:1198:C:C5'	1:0:1199:U:H5''	2.41	0.51
1:0:170:U:H2'	1:0:171:G:H8	1.75	0.51
1:0:18:U:H2'	1:0:19:C:C6	2.44	0.51
1:0:2213:G:H2'	1:0:2214:G:C8	2.46	0.51
1:0:878:C:N4	1:0:921:A:H62	2.06	0.51
1:0:941:U:H4'	1:0:941:U:OP1	2.10	0.51
1:0:1092:U:H2'	1:0:1093:U:C6	2.45	0.51
1:0:1661:C:O2'	1:0:1662:G:H5'	2.10	0.51
1:0:590:C:H2'	1:0:591:G:C8	2.45	0.51
1:0:1068:A:H2'	1:0:1069:G:C8	2.45	0.51
1:0:1865:C:H2'	1:0:1866:G:O4'	2.10	0.51
1:0:451:A:H2'	1:0:452:G:C8	2.46	0.51
1:0:630:G:H2'	1:0:631:G:H5'	1.93	0.51
1:0:868:U:H2'	1:0:869:C:C6	2.45	0.51
1:0:991:A:H61	1:0:2020:G:H21	1.58	0.51
1:0:1576:G:H2'	1:0:1577:G:O4'	2.11	0.51
1:0:1895:A:H2'	1:0:1896:A:O4'	2.11	0.51
1:0:1819:U:H5''	1:0:1954:A:O3'	2.11	0.51
1:0:223:C:H4'	1:0:398:C:H1'	1.92	0.51
1:0:1912:G:H2'	1:0:1912:G:N3	2.25	0.51
1:0:2660:C:O2'	1:0:2661:G:H5'	2.11	0.51
1:0:457:C:H2'	1:0:458:G:O4'	2.10	0.51
1:0:619:A:H2'	1:0:620:G:C8	2.45	0.51
1:0:1067:G:H2'	1:0:1114:A:H61	1.76	0.51
1:0:1611:U:H2'	1:0:1612:U:O4'	2.11	0.51
1:0:1727:C:H4'	1:0:2833:C:O2	2.10	0.51
1:0:1979:C:H42	1:0:2706:U:H6	1.59	0.51
1:0:2023:C:H2'	1:0:2024:U:C6	2.46	0.51
1:0:2426:G:H5'	1:0:2480:C:N4	2.19	0.51
1:0:2429:A:H5''	1:0:2476:A:C6	2.46	0.51
1:0:583:C:O2'	1:0:584:A:OP2	2.28	0.51
1:0:114:C:H2'	1:0:115:G:O4'	2.11	0.51
1:0:1424:U:H2'	1:0:1425:G:C8	2.46	0.51
1:0:1881:U:H2'	1:0:1882:G:H5'	1.93	0.51
1:0:879:A:O2'	1:0:880:C:H5'	2.10	0.51
1:0:964:A:H2'	1:0:965:G:C8	2.46	0.51
1:0:1007:A:H2'	1:0:1008:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1052:C:H2'	1:0:1053:G:C8	2.45	0.50
1:0:1683:G:C2'	1:0:1684:G:H5'	2.41	0.50
1:0:1938:U:C2'	1:0:1939:U:H5'	2.40	0.50
1:0:2238:G:H2'	1:0:2239:C:H6	1.76	0.50
1:0:2397:A:H2'	1:0:2398:U:O4'	2.11	0.50
1:0:1038:U:O2	1:0:2466:G:H4'	2.10	0.50
1:0:422:C:H2'	1:0:423:G:H8	1.77	0.50
1:0:959:C:H5''	1:0:972:C:O2'	2.11	0.50
1:0:1626:A:OP2	1:0:1627:C:H5	1.95	0.50
1:0:534:U:H4'	1:0:564:U:O2'	2.12	0.50
1:0:173:A:H61	1:0:844:G:H21	1.57	0.50
1:0:1218:C:H2'	1:0:1219:C:C6	2.46	0.50
1:0:1667:A:H2'	1:0:1668:G:H8	1.76	0.50
1:0:579:G:H2'	1:0:2013:A:N6	2.26	0.50
1:0:2725:C:H2'	1:0:2726:U:C6	2.47	0.50
1:0:2756:A:H4'	1:0:2758:A:OP1	2.11	0.50
1:0:788:G:H5'	1:0:790:A:N3	2.26	0.50
1:0:841:G:N1	1:0:2226:A:H4'	2.26	0.50
1:0:1861:G:O2'	1:0:1862:C:H5'	2.11	0.50
1:0:2010:G:H2'	1:0:2011:U:O4'	2.12	0.50
1:0:2727:G:C2'	1:0:2728:A:H5''	2.41	0.50
1:0:35:G:C1'	1:0:466:A:H1'	2.41	0.50
1:0:626:A:O2'	1:0:627:A:H5'	2.11	0.50
1:0:1057:A:H3'	1:0:1058:G:C5'	2.41	0.50
1:0:1127:C:H2'	1:0:1128:G:H8	1.77	0.50
1:0:1857:G:H2'	1:0:1859:A:OP2	2.12	0.50
1:0:2178:U:H2'	1:0:2179:C:C6	2.47	0.50
1:0:2229:G:H2'	1:0:2475:C:OP1	2.11	0.50
1:0:225:G:H21	1:0:2410:U:H1'	1.76	0.50
1:0:872:G:H2'	1:0:928:G:N1	2.27	0.50
1:0:991:A:N6	1:0:2020:G:H21	2.10	0.50
1:0:1194:U:O2'	1:0:1195:U:P	2.70	0.50
1:0:1312:G:H2'	1:0:1643:A:N6	2.26	0.50
1:0:2426:G:N2	1:0:2430:A:H62	2.09	0.50
1:0:2446:C:H2'	1:0:2447:G:C8	2.47	0.50
1:0:316:C:H2'	1:0:317:U:C6	2.47	0.50
1:0:55:A:H2'	1:0:56:C:H6	1.77	0.50
1:0:236:C:O2	1:0:632:A:H1'	2.12	0.50
1:0:1073:G:H2'	1:0:1074:G:C4'	2.29	0.50
1:0:1272:G:H2'	1:0:1273:G:C8	2.47	0.50
1:0:1686:A:O2'	1:0:2528:G:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1747:G:C4'	1:0:1749:G:H1'	2.31	0.50
1:0:2079:A:H2'	1:0:2080:U:C6	2.47	0.50
1:0:2082:C:H2'	1:0:2083:G:O4'	2.11	0.50
1:0:2313:G:H2'	1:0:2314:A:H5'	1.93	0.50
1:0:2754:C:H2'	1:0:2755:A:O4'	2.12	0.50
1:0:338:G:O2'	1:0:339:U:H5'	2.12	0.50
1:0:599:A:H2'	1:0:600:G:H8	1.76	0.50
1:0:215:G:H4'	1:0:617:U:O2'	2.12	0.50
1:0:792:U:H2'	1:0:793:G:O4'	2.11	0.50
1:0:1055:A:N6	1:0:1122:A:H4'	2.27	0.50
1:0:742:G:H2'	1:0:1766:U:H1'	1.94	0.50
1:0:210:A:N6	1:0:242:A:N7	2.59	0.50
1:0:2329:C:C2'	1:0:2330:G:H5'	2.42	0.50
1:0:2485:U:O2'	1:0:2486:C:H5'	2.11	0.50
1:0:831:G:C2'	1:0:832:A:H5''	2.41	0.50
1:0:1029:C:OP1	1:0:1047:G:H4'	2.11	0.50
1:0:2435:C:H2'	1:0:2436:U:C6	2.47	0.50
1:0:2561:G:O2'	1:0:2562:G:H5'	2.11	0.50
1:0:2726:U:H2'	1:0:2727:G:O4'	2.12	0.50
1:0:2821:G:H2'	1:0:2822:U:C6	2.47	0.50
1:0:1055:A:O2'	1:0:1058:G:H1'	2.12	0.49
1:0:1195:U:H2'	1:0:1196:G:H8	1.73	0.49
1:0:1259:A:H2'	1:0:1260:A:C8	2.47	0.49
1:0:1495:G:HO2'	1:0:1496:G:P	2.35	0.49
1:0:459:A:H62	1:0:484:G:H1'	1.77	0.49
1:0:597:U:N3	1:0:683:A:H2'	2.27	0.49
1:0:689:A:N6	1:0:815:A:H61	2.06	0.49
1:0:1164:C:H2'	1:0:1165:G:O4'	2.11	0.49
1:0:1820:G:O2'	1:0:1821:A:P	2.70	0.49
1:0:2181:A:H2'	1:0:2182:A:H5'	1.93	0.49
1:0:431:G:H2'	1:0:432:C:C6	2.47	0.49
1:0:460:U:N3	1:0:592:G:H1'	2.22	0.49
1:0:645:G:H2'	1:0:646:C:C6	2.47	0.49
1:0:703:A:H2'	1:0:704:G:H8	1.77	0.49
1:0:1029:C:C3'	1:0:1030:U:H5''	2.43	0.49
1:0:1259:A:H2'	1:0:1260:A:O4'	2.12	0.49
1:0:1310:C:OP1	1:0:2689:C:H4'	2.12	0.49
1:0:2805:G:O2'	1:0:2806:G:H5'	2.12	0.49
1:0:45:C:H2'	1:0:46:C:C6	2.46	0.49
1:0:1435:G:H21	1:0:1511:A:N6	2.11	0.49
1:0:165:G:H2'	1:0:166:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1785:A:H2'	1:0:1786:C:C6	2.46	0.49
1:0:181:A:H4'	1:0:182:G:O5'	2.11	0.49
1:0:2794:G:H3'	1:0:2796:A:N6	2.20	0.49
1:0:780:U:H2'	1:0:781:G:C8	2.48	0.49
1:0:1016:C:H2'	1:0:1017:C:C6	2.47	0.49
1:0:594:G:H21	1:0:1267:A:H62	1.61	0.49
1:0:1492:A:H2	1:0:1531:C:H41	1.58	0.49
1:0:1685:A:H1'	1:0:1686:A:N7	2.28	0.49
1:0:1791:C:H2'	1:0:1792:C:H5''	1.95	0.49
1:0:216:U:H5''	1:0:601:A:N6	2.28	0.49
1:0:213:C:H42	1:0:238:G:H22	1.59	0.49
1:0:810:U:H2'	1:0:811:G:C8	2.48	0.49
1:0:860:U:H2'	1:0:861:G:H5'	1.95	0.49
1:0:83:A:C6	1:0:98:U:H1'	2.46	0.49
1:0:1099:A:H5''	1:0:1100:G:N7	2.27	0.49
1:0:1354:A:H3'	1:0:1410:U:O2	2.12	0.49
1:0:1445:A:H2'	1:0:1446:U:O4'	2.13	0.49
1:0:1455:C:H2'	1:0:1456:C:C6	2.48	0.49
1:0:190:A:H2'	1:0:191:G:C8	2.47	0.49
1:0:203:G:O2'	1:0:204:A:H5'	2.13	0.49
1:0:2161:C:O2'	1:0:2162:C:P	2.71	0.49
1:0:689:A:C2'	1:0:690:A:H5'	2.43	0.49
1:0:860:U:O2'	1:0:861:G:H5'	2.13	0.49
1:0:1038:U:H2'	1:0:1039:A:C8	2.48	0.49
1:0:1141:U:O2'	1:0:1142:G:OP1	2.26	0.49
1:0:2093:G:H2'	1:0:2094:C:C6	2.47	0.49
1:0:211:U:O2'	1:0:212:U:H5'	2.13	0.49
1:0:2404:A:H5''	1:0:2405:A:H3'	1.94	0.49
1:0:2533:U:H2'	1:0:2534:U:C6	2.47	0.49
1:0:2560:G:H4'	1:0:2561:G:C8	2.47	0.49
1:0:2799:C:H2'	1:0:2800:C:O4'	2.12	0.49
1:0:441:A:H2'	1:0:442:A:O4'	2.12	0.49
1:0:693:A:H2'	1:0:694:G:C8	2.47	0.49
1:0:930:A:H5'	1:0:931:G:C8	2.47	0.49
1:0:109:A:H3'	1:0:110:U:C5'	2.39	0.49
1:0:204:A:H4'	1:0:205:A:N7	2.28	0.49
1:0:338:G:H1	1:0:346:C:H42	1.61	0.49
1:0:951:G:C3'	1:0:952:A:H5''	2.43	0.49
1:0:1380:C:N4	1:0:1799:A:N1	2.61	0.49
1:0:1678:G:H2'	1:0:1679:U:C6	2.47	0.49
1:0:1685:A:C6	1:0:1691:G:H1'	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1729:C:H2'	1:0:1730:G:C8	2.48	0.49
1:0:1793:A:H2'	1:0:1794:A:C8	2.48	0.49
1:0:2235:G:H2'	1:0:2236:U:C6	2.48	0.49
1:0:2417:U:H4'	1:0:2419:C:OP1	2.13	0.49
1:0:2503:G:C2'	1:0:2504:G:H5''	2.43	0.49
1:0:1949:A:O2'	1:0:2572:U:H5'	2.13	0.49
1:0:820:U:H1'	1:0:2424:G:OP1	2.12	0.49
1:0:1679:U:H2'	1:0:1680:U:H5''	1.94	0.49
1:0:1665:C:N4	1:0:1993:G:H1	2.11	0.49
1:0:2299:A:H2'	1:0:2299:A:N3	2.27	0.49
1:0:2570:C:H2'	1:0:2571:G:C8	2.48	0.49
1:0:2721:A:N6	1:0:2743:G:H21	2.09	0.49
1:0:210:A:N6	1:0:442:A:H61	2.10	0.49
1:0:756:C:H2'	1:0:757:U:C6	2.48	0.49
1:0:84:G:H2'	1:0:85:C:C6	2.48	0.49
1:0:864:C:H2'	1:0:865:A:C8	2.46	0.49
1:0:1046:U:H2'	1:0:1047:G:C8	2.48	0.48
1:0:1279:G:H1'	1:0:1280:U:H5	1.77	0.48
1:0:1349:A:H2'	1:0:1350:G:C8	2.48	0.48
1:0:1682:A:H2'	1:0:1683:G:C8	2.47	0.48
1:0:2301:A:H2'	1:0:2302:G:O4'	2.13	0.48
1:0:2852:G:H2'	1:0:2853:U:O4'	2.13	0.48
1:0:763:A:C2	1:0:765:C:H1'	2.48	0.48
1:0:790:A:H2'	1:0:791:G:C8	2.48	0.48
1:0:830:C:O2	1:0:852:U:H4'	2.13	0.48
1:0:1040:A:H2'	1:0:1041:G:H5'	1.93	0.48
1:0:116:A:N3	1:0:155:G:H1'	2.28	0.48
1:0:1182:U:C3'	1:0:1183:C:H5''	2.43	0.48
1:0:1598:C:H2'	1:0:1599:G:O4'	2.13	0.48
1:0:1715:A:H1'	1:0:1717:A:C1'	2.42	0.48
1:0:1871:G:C2'	1:0:1871:G:N3	2.76	0.48
1:0:2026:C:H2'	1:0:2027:C:C6	2.48	0.48
1:0:2093:G:O2'	1:0:2094:C:P	2.71	0.48
1:0:2421:C:O2'	1:0:2422:C:H5'	2.12	0.48
1:0:568:G:H5''	1:0:1019:U:H5'	1.95	0.48
1:0:1629:G:N1	1:0:1633:C:N4	2.62	0.48
1:0:2025:A:H2'	1:0:2026:C:H5''	1.94	0.48
1:0:2308:A:H2'	1:0:2309:G:C8	2.47	0.48
1:0:2343:C:H2'	1:0:2344:G:O4'	2.14	0.48
1:0:2424:G:H2'	1:0:2425:G:O4'	2.13	0.48
1:0:2872:U:H2'	1:0:2873:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:521:U:H2'	1:0:522:G:H5'	1.95	0.48
1:0:548:G:H2'	1:0:549:G:C8	2.48	0.48
1:0:942:U:C2'	1:0:943:U:H5'	2.43	0.48
1:0:109:A:C2'	1:0:110:U:H5''	2.44	0.48
1:0:108:G:H2'	1:0:109:A:C8	2.49	0.48
1:0:1686:A:H2'	1:0:1687:C:H5'	1.94	0.48
1:0:367:G:C3'	1:0:368:A:H5''	2.43	0.48
1:0:427:C:H2'	1:0:428:A:C8	2.49	0.48
1:0:42:G:H2'	1:0:43:A:O4'	2.13	0.48
1:0:477:A:H2'	1:0:478:G:O4'	2.14	0.48
1:0:173:A:N6	1:0:844:G:H21	2.12	0.48
1:0:2559:U:C2'	1:0:2560:G:H5'	2.43	0.48
1:0:569:C:H2'	1:0:570:G:C8	2.48	0.48
1:0:941:U:H2'	1:0:942:U:C6	2.48	0.48
1:0:1429:A:H1'	1:0:1603:A:C6	2.49	0.48
1:0:161:U:H2'	1:0:162:C:C6	2.48	0.48
1:0:1825:C:O2'	1:0:1826:U:H5'	2.14	0.48
1:0:2220:A:H2'	1:0:2221:G:C8	2.48	0.48
1:0:172:A:H4'	1:0:228:A:H4'	1.95	0.48
1:0:2503:G:H2'	1:0:2504:G:H5''	1.96	0.48
1:0:2784:A:H3'	1:0:2785:A:C8	2.46	0.48
1:0:429:C:H2'	1:0:430:C:O4'	2.13	0.48
1:0:478:G:O2'	1:0:479:G:H5'	2.14	0.48
1:0:583:C:O2'	1:0:584:A:P	2.71	0.48
1:0:845:U:H2'	1:0:846:A:C8	2.49	0.48
1:0:1141:U:O2'	1:0:1142:G:P	2.72	0.48
1:0:1742:G:H2'	1:0:1743:C:C6	2.48	0.48
1:0:2085:G:H2'	1:0:2086:U:C6	2.49	0.48
1:0:2428:U:O2'	1:0:2429:A:H5'	2.13	0.48
1:0:632:A:C2'	1:0:633:G:H5'	2.44	0.48
1:0:742:G:N3	1:0:742:G:C2'	2.77	0.48
1:0:1033:G:H22	1:0:1150:C:C2'	2.26	0.48
1:0:1821:A:H5''	1:0:1822:C:H5	1.79	0.48
1:0:2212:U:H2'	1:0:2213:G:C8	2.49	0.48
1:0:2278:A:H2'	1:0:2279:G:C8	2.48	0.48
1:0:323:G:H2'	1:0:324:C:C6	2.48	0.48
1:0:979:A:H2'	1:0:980:G:C8	2.49	0.48
1:0:1391:A:H2'	1:0:1392:U:C5	2.49	0.48
1:0:1436:G:H2'	1:0:1437:A:C8	2.49	0.48
1:0:1809:G:O2'	1:0:1810:U:H5'	2.13	0.48
1:0:2377:U:O2'	1:0:2378:G:P	2.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2015:G:OP2	1:0:2434:G:H5'	2.14	0.48
1:0:2468:G:H2'	1:0:2469:G:O4'	2.14	0.48
1:0:2815:C:H2'	1:0:2816:C:C6	2.49	0.48
2:5:30:C:O2'	2:5:31:C:H5'	2.14	0.48
1:0:1436:G:H1'	1:0:1508:G:N2	2.18	0.48
1:0:1458:A:H3'	1:0:1459:U:H5'	1.96	0.48
1:0:1712:G:N3	1:0:1712:G:H3'	2.29	0.48
1:0:1793:A:H2'	1:0:1794:A:H8	1.79	0.48
1:0:240:U:H4'	1:0:443:A:H5'	1.96	0.48
1:0:2559:U:H2'	1:0:2560:G:H5'	1.95	0.48
1:0:2708:U:H2'	1:0:2709:C:C6	2.49	0.48
1:0:2830:U:H2'	1:0:2831:A:C8	2.49	0.48
1:0:565:A:H2'	1:0:566:U:C6	2.49	0.48
1:0:70:A:P	1:0:111:G:H4'	2.54	0.48
1:0:864:C:H2'	1:0:865:A:H8	1.79	0.48
1:0:1036:G:H1'	1:0:1145:C:C4'	2.44	0.47
1:0:1354:A:N6	1:0:1407:G:H22	2.10	0.47
1:0:1436:G:C1'	1:0:1508:G:H21	2.21	0.47
1:0:1925:C:H4'	2:5:30:C:O2'	2.13	0.47
1:0:2048:C:H2'	1:0:2049:C:H6	1.79	0.47
1:0:2523:G:O2'	1:0:2524:G:H5'	2.14	0.47
1:0:239:A:H4'	1:0:620:G:H5'	1.95	0.47
1:0:780:U:H2'	1:0:781:G:H8	1.79	0.47
1:0:84:G:O2'	1:0:85:C:H5'	2.14	0.47
1:0:108:G:H2'	1:0:109:A:H8	1.79	0.47
1:0:1316:G:H2'	1:0:1317:G:C8	2.49	0.47
1:0:1774:A:H1'	1:0:2586:G:N2	2.28	0.47
1:0:2204:A:O2'	1:0:2205:C:OP2	2.32	0.47
1:0:974:U:H2'	1:0:975:C:C6	2.49	0.47
1:0:1571:G:H2'	1:0:1572:C:C6	2.49	0.47
1:0:1821:A:H3'	1:0:1822:C:H6	1.79	0.47
1:0:2009:U:H2'	1:0:2010:G:C8	2.49	0.47
1:0:2137:G:H2'	1:0:2138:U:C6	2.49	0.47
1:0:2426:G:HO2'	1:0:2427:A:P	2.37	0.47
1:0:2434:G:H2'	1:0:2435:C:C6	2.50	0.47
1:0:2579:A:O2'	1:0:2580:C:H5'	2.14	0.47
1:0:2757:G:H5'	1:0:2761:A:H1'	1.96	0.47
1:0:1031:C:H1'	1:0:1151:U:O2	2.15	0.47
1:0:1069:G:O2'	1:0:1070:G:H5'	2.14	0.47
1:0:1226:A:C6	1:0:1250:A:H1'	2.49	0.47
1:0:1679:U:C2'	1:0:1680:U:H5''	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2448:A:H2'	1:0:2449:G:O4'	2.14	0.47
1:0:2651:U:H2'	1:0:2652:G:C8	2.49	0.47
1:0:670:U:H2'	1:0:671:A:C8	2.49	0.47
1:0:1028:G:H2'	1:0:1029:C:C6	2.50	0.47
1:0:1269:G:H2'	1:0:1270:C:C6	2.50	0.47
1:0:1344:C:H2'	1:0:1346:C:OP1	2.14	0.47
1:0:2057:U:H2'	1:0:2058:U:C6	2.50	0.47
1:0:2372:A:H2'	1:0:2373:C:H6	1.78	0.47
1:0:2526:U:H2'	1:0:2527:G:C8	2.50	0.47
1:0:452:G:H2'	1:0:453:U:O4'	2.15	0.47
1:0:1016:C:H5''	1:0:1023:U:OP2	2.14	0.47
1:0:1039:A:H2'	1:0:1040:A:C8	2.48	0.47
1:0:1496:G:H5'	1:0:1575:C:N4	2.29	0.47
1:0:1326:U:H1'	1:0:1626:A:N3	2.30	0.47
1:0:2069:U:H2'	1:0:2070:G:C8	2.49	0.47
1:0:2211:U:H2'	1:0:2212:U:C6	2.49	0.47
1:0:2316:G:H2'	1:0:2317:G:H8	1.78	0.47
1:0:2378:G:H2'	1:0:2379:G:H8	1.80	0.47
1:0:2402:U:H5'	1:0:2404:A:N7	2.30	0.47
1:0:664:C:H2'	1:0:665:A:C8	2.50	0.47
1:0:1039:A:H2'	1:0:1040:A:H8	1.79	0.47
1:0:1386:A:H2'	1:0:1387:G:O4'	2.15	0.47
1:0:760:U:O2	1:0:1997:A:H1'	2.15	0.47
1:0:2329:C:N4	1:0:2361:G:H22	2.13	0.47
1:0:2062:U:H4'	1:0:2412:A:H2	1.79	0.47
1:0:2558:C:O2'	1:0:2559:U:H5'	2.15	0.47
1:0:2564:U:H4'	1:0:2565:C:OP1	2.14	0.47
1:0:2565:C:O2'	1:0:2566:A:H5'	2.15	0.47
1:0:2727:G:N1	1:0:2735:C:H5''	2.28	0.47
1:0:643:A:H2'	1:0:644:A:C8	2.49	0.47
1:0:1184:G:H2'	1:0:1185:C:H5'	1.97	0.47
1:0:1316:G:H2'	1:0:1317:G:H8	1.79	0.47
1:0:2403:C:H2'	1:0:2408:G:O2'	2.15	0.47
1:0:2494:C:H2'	1:0:2495:G:H8	1.80	0.47
1:0:701:U:H1'	1:0:800:U:H5'	1.97	0.47
1:0:926:C:H2'	1:0:927:C:H5'	1.95	0.47
1:0:192:G:C4'	1:0:193:A:H4'	2.45	0.47
1:0:1981:A:H2'	1:0:1982:C:C6	2.49	0.47
1:0:2017:U:O2'	1:0:2018:G:H5'	2.14	0.47
1:0:2021:G:H2'	1:0:2022:C:C6	2.50	0.47
1:0:2168:A:C2'	1:0:2169:A:H5'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2014:A:H62	1:0:2477:C:H1'	1.79	0.47
1:0:2499:C:N4	1:0:2521:A:H2	2.10	0.47
1:0:432:C:H2'	1:0:433:G:H8	1.80	0.47
1:0:776:G:N3	1:0:776:G:C2'	2.78	0.47
1:0:1263:G:O2'	1:0:1264:C:P	2.73	0.47
1:0:1290:A:H2'	1:0:1291:G:C8	2.50	0.47
1:0:1480:G:H2'	1:0:1481:U:H5'	1.97	0.47
1:0:1685:A:N6	1:0:1691:G:H1'	2.30	0.47
1:0:1684:G:H2'	1:0:1974:U:O4	2.15	0.47
1:0:1993:G:H2'	1:0:1994:U:C6	2.50	0.47
1:0:873:U:O2	1:0:2246:A:H5''	2.15	0.47
1:0:556:A:H2'	1:0:557:U:H5'	1.97	0.47
1:0:635:C:H3'	1:0:636:G:H5''	1.97	0.47
1:0:703:A:H2'	1:0:704:G:C8	2.50	0.47
1:0:1578:U:H2'	1:0:1579:G:C8	2.51	0.47
1:0:198:A:O2'	1:0:199:A:P	2.73	0.47
1:0:2199:C:H2'	1:0:2200:G:C8	2.49	0.47
1:0:2276:C:O2	1:0:2301:A:H1'	2.15	0.47
1:0:241:C:C2'	1:0:242:A:H5''	2.44	0.47
1:0:2437:G:H4'	1:0:2438:A:N7	2.30	0.47
1:0:2564:U:HO2'	1:0:2565:C:P	2.37	0.47
1:0:2658:A:H2'	1:0:2659:C:C6	2.50	0.47
1:0:2771:C:H2'	1:0:2772:U:C6	2.49	0.47
1:0:819:C:H2'	1:0:820:U:C6	2.50	0.47
1:0:1418:C:H2'	1:0:1419:G:H8	1.80	0.46
1:0:152:G:O2'	1:0:153:A:H5'	2.15	0.46
1:0:2307:A:H2'	1:0:2308:A:C8	2.51	0.46
1:0:2393:G:H2'	1:0:2394:G:H8	1.80	0.46
1:0:2642:G:H2'	1:0:2643:G:O4'	2.15	0.46
1:0:2809:A:H2'	1:0:2810:A:H5'	1.97	0.46
1:0:546:A:H2'	1:0:547:U:C6	2.50	0.46
1:0:1301:U:H2'	1:0:1664:G:N2	2.29	0.46
1:0:1829:C:C2'	1:0:1830:C:H5'	2.45	0.46
1:0:2204:A:H1'	1:0:2205:C:C5	2.50	0.46
1:0:2493:U:H2'	1:0:2494:C:C6	2.50	0.46
1:0:2504:G:H2'	1:0:2505:G:H8	1.79	0.46
1:0:1937:G:N3	1:0:2530:C:H5'	2.29	0.46
1:0:697:G:C2'	1:0:698:A:H5'	2.45	0.46
1:0:771:C:H2'	1:0:772:G:H8	1.80	0.46
1:0:1452:U:H5'	1:0:1532:A:O2'	2.14	0.46
1:0:1495:G:H2'	1:0:1496:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1518:C:C2'	1:0:1519:G:O5'	2.64	0.46
1:0:1760:G:H2'	1:0:1761:G:C8	2.50	0.46
1:0:1888:C:H5''	1:0:1889:G:C5'	2.45	0.46
1:0:2574:G:H2'	1:0:2574:G:N3	2.31	0.46
1:0:1471:G:H1	1:0:2682:C:H42	1.63	0.46
1:0:337:G:H2'	1:0:338:G:C8	2.51	0.46
1:0:758:G:N2	1:0:763:A:N1	2.62	0.46
1:0:869:C:O2'	1:0:870:C:H5'	2.15	0.46
1:0:971:A:H2	1:0:2475:C:H1'	1.80	0.46
1:0:986:A:H2'	1:0:987:G:H5'	1.97	0.46
1:0:2278:A:H2'	1:0:2279:G:H8	1.81	0.46
1:0:2324:G:C4'	1:0:2326:C:H5''	2.43	0.46
1:0:2444:C:O2'	1:0:2445:C:H5'	2.16	0.46
1:0:689:A:C8	1:0:2422:C:H1'	2.50	0.46
1:0:85:C:O2'	1:0:86:U:H5'	2.16	0.46
1:0:932:G:H2'	1:0:933:G:C8	2.50	0.46
1:0:1572:C:C3'	1:0:1573:G:H5''	2.45	0.46
1:0:1777:A:H5'	1:0:1963:G:H21	1.81	0.46
1:0:199:A:H61	1:0:209:G:H1'	1.81	0.46
1:0:387:A:H2'	1:0:388:G:O4'	2.16	0.46
1:0:54:G:H2'	1:0:55:A:C8	2.50	0.46
1:0:738:G:H2'	1:0:739:G:O4'	2.14	0.46
1:0:1279:G:H2'	1:0:1280:U:OP2	2.16	0.46
1:0:1962:C:O2'	1:0:1963:G:H5'	2.16	0.46
1:0:207:U:H2'	1:0:208:C:C6	2.51	0.46
1:0:2555:G:N3	1:0:2555:G:H3'	2.31	0.46
1:0:675:C:H2'	1:0:676:G:C8	2.51	0.46
1:0:758:G:H2'	1:0:759:C:H5'	1.97	0.46
1:0:1014:G:O2'	1:0:1015:U:H5'	2.16	0.46
1:0:1029:C:H3'	1:0:1030:U:H5''	1.96	0.46
1:0:1223:G:O2'	1:0:1224:A:P	2.74	0.46
1:0:1579:G:H2'	1:0:1580:C:C6	2.51	0.46
1:0:1429:A:N6	1:0:1602:G:H5'	2.31	0.46
1:0:1836:C:H2'	1:0:1837:G:C8	2.50	0.46
1:0:2717:G:H2'	1:0:2718:A:C8	2.51	0.46
1:0:2800:C:H2'	1:0:2801:A:O4'	2.15	0.46
1:0:2825:A:H2'	1:0:2826:C:C6	2.51	0.46
1:0:324:C:H2'	1:0:325:U:O4'	2.15	0.46
1:0:27:G:N2	1:0:522:G:HO2'	2.14	0.46
1:0:567:G:H2'	1:0:568:G:C8	2.51	0.46
1:0:582:G:H2'	1:0:583:C:H3'	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1068:A:H2'	1:0:1069:G:H8	1.81	0.46
1:0:130:C:H2'	1:0:131:C:C6	2.51	0.46
1:0:1486:A:H2'	1:0:1487:C:C6	2.50	0.46
1:0:2333:A:H2'	1:0:2334:C:C6	2.51	0.46
1:0:2698:G:H2'	1:0:2699:G:C8	2.51	0.46
1:0:35:G:H1'	1:0:466:A:H1'	1.98	0.46
1:0:636:G:H2'	1:0:637:G:H5'	1.97	0.46
1:0:878:C:O2'	1:0:879:A:P	2.73	0.46
1:0:887:G:O2'	1:0:888:G:H5'	2.15	0.46
1:0:9:U:H2'	1:0:10:A:C8	2.51	0.46
1:0:1427:G:C2'	1:0:1428:G:H5'	2.44	0.46
1:0:1619:A:H3'	1:0:1619:A:N3	2.31	0.46
1:0:2572:U:C4	1:0:2573:C:N4	2.84	0.46
1:0:1120:C:H2'	1:0:2731:G:N2	2.31	0.46
1:0:2824:C:H1'	1:0:2843:A:C2	2.50	0.46
1:0:2807:U:C5	1:0:2859:U:H4'	2.51	0.46
1:0:1225:G:H2'	1:0:1249:G:H1	1.81	0.46
1:0:1278:A:H4'	1:0:1279:G:O5'	2.16	0.46
1:0:1835:C:H2'	1:0:1836:C:C6	2.51	0.46
1:0:1975:G:H4'	1:0:1976:U:H5	1.81	0.46
1:0:2633:A:N6	1:0:2646:C:N4	2.63	0.46
1:0:2676:G:H2'	1:0:2677:U:C6	2.51	0.46
1:0:313:U:H2'	1:0:314:G:C8	2.50	0.46
1:0:322:A:H1'	1:0:343:A:N7	2.31	0.46
1:0:64:C:H2'	1:0:65:C:C6	2.50	0.46
1:0:694:G:H2'	1:0:695:G:H8	1.81	0.46
1:0:952:A:H2'	1:0:953:G:O4'	2.16	0.46
1:0:1331:G:H2'	1:0:1332:G:C8	2.51	0.45
1:0:1495:G:O2'	1:0:1496:G:P	2.74	0.45
1:0:1703:C:H2'	1:0:1704:G:O4'	2.16	0.45
1:0:19:C:H2'	1:0:20:C:C6	2.50	0.45
1:0:2035:G:H2'	1:0:2036:G:C8	2.47	0.45
1:0:2093:G:H2'	1:0:2094:C:C5	2.51	0.45
1:0:2093:G:O2'	1:0:2094:C:OP1	2.33	0.45
1:0:2196:U:H2'	1:0:2197:U:C6	2.51	0.45
1:0:246:C:N3	1:0:247:A:N6	2.64	0.45
1:0:2858:A:H3'	1:0:2859:U:C5'	2.44	0.45
1:0:798:G:H2'	1:0:799:C:H5'	1.98	0.45
1:0:845:U:H2'	1:0:846:A:H8	1.80	0.45
1:0:918:A:H2'	1:0:919:U:C5'	2.42	0.45
1:0:931:G:O2'	1:0:932:G:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1677:C:H2'	1:0:1678:G:H8	1.81	0.45
1:0:1888:C:C4'	1:0:1889:G:H5''	2.47	0.45
1:0:2059:U:H5	1:0:2575:U:N3	2.05	0.45
1:0:2106:G:H2'	1:0:2107:G:C8	2.51	0.45
1:0:2628:C:H2'	1:0:2629:U:C6	2.52	0.45
1:0:489:A:N6	1:0:491:A:H62	2.14	0.45
1:0:595:A:H2	1:0:822:G:N3	2.15	0.45
1:0:635:C:C3'	1:0:636:G:H5''	2.46	0.45
1:0:872:G:O2'	1:0:2247:A:N3	2.48	0.45
1:0:8:A:H2'	1:0:9:U:C6	2.51	0.45
1:0:1147:G:H2'	1:0:1148:G:C8	2.52	0.45
1:0:1313:U:O2'	1:0:1314:A:O5'	2.32	0.45
1:0:13:A:H1'	1:0:536:A:H62	1.81	0.45
1:0:1429:A:O2'	1:0:1430:G:H4'	2.16	0.45
1:0:187:U:H2'	1:0:188:G:C8	2.52	0.45
1:0:192:G:H4'	1:0:193:A:O5'	2.15	0.45
1:0:2161:C:H2'	1:0:2162:C:C6	2.51	0.45
1:0:2193:C:H2'	1:0:2194:A:O4'	2.16	0.45
1:0:2429:A:O2'	1:0:2430:A:H5'	2.16	0.45
1:0:2668:U:O2'	1:0:2669:C:P	2.75	0.45
1:0:2809:A:N6	1:0:2854:G:H2'	2.31	0.45
1:0:331:U:H2'	1:0:332:C:H5''	1.97	0.45
1:0:365:U:H2'	1:0:366:U:C6	2.52	0.45
1:0:421:G:H2'	1:0:422:C:C6	2.51	0.45
1:0:560:G:H2'	1:0:561:U:C6	2.51	0.45
1:0:575:U:H4'	1:0:822:G:OP2	2.16	0.45
1:0:628:A:H2'	1:0:629:C:H6	1.81	0.45
1:0:595:A:H62	1:0:1264:C:N4	2.14	0.45
1:0:1286:U:H4'	1:0:1288:A:OP1	2.16	0.45
1:0:1380:C:C2'	1:0:1381:G:H5'	2.45	0.45
1:0:2055:G:H2'	1:0:2056:C:C6	2.52	0.45
1:0:2709:C:H2'	1:0:2710:C:C6	2.51	0.45
1:0:306:G:H2'	1:0:307:C:C6	2.52	0.45
1:0:40:U:H2'	1:0:41:G:C8	2.51	0.45
1:0:529:U:H2'	1:0:530:G:C8	2.51	0.45
1:0:1163:C:O2'	1:0:1164:C:H5'	2.15	0.45
1:0:1659:G:H2'	1:0:1660:G:C8	2.51	0.45
1:0:777:A:H62	1:0:1766:U:H3	1.60	0.45
1:0:1886:G:H2'	1:0:1887:G:C8	2.52	0.45
1:0:2474:G:O2'	1:0:2475:C:H5'	2.16	0.45
1:0:2600:A:H2'	1:0:2601:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:297:A:H2'	1:0:298:C:C6	2.50	0.45
1:0:462:G:H2'	1:0:463:C:H5'	1.99	0.45
1:0:601:A:H3'	1:0:602:C:C5'	2.46	0.45
1:0:81:C:H4'	1:0:307:C:H5'	1.98	0.45
1:0:1278:A:HO2'	1:0:1279:G:P	2.37	0.45
1:0:1628:C:H2'	1:0:1629:G:C8	2.51	0.45
1:0:1888:C:C5'	1:0:1889:G:H5''	2.44	0.45
1:0:2277:A:H2'	1:0:2278:A:O4'	2.16	0.45
1:0:2475:C:C2'	1:0:2476:A:H5'	2.47	0.45
1:0:2570:C:H2'	1:0:2571:G:H8	1.82	0.45
1:0:2668:U:HO2'	1:0:2669:C:P	2.40	0.45
1:0:307:C:H2'	1:0:308:C:C6	2.52	0.45
1:0:541:C:O2	1:0:2002:A:N1	2.50	0.45
1:0:653:G:H21	1:0:655:A:H1'	1.81	0.45
1:0:837:U:H2'	1:0:838:A:C8	2.52	0.45
1:0:1855:G:H4'	1:0:2390:A:H4'	1.98	0.45
1:0:2204:A:O2'	1:0:2205:C:C6	2.69	0.45
1:0:2205:C:H2'	1:0:2206:C:H6	1.80	0.45
1:0:2259:G:H2'	1:0:2260:C:C6	2.52	0.45
1:0:2376:G:H2'	1:0:2377:U:C6	2.52	0.45
1:0:2459:C:C2'	1:0:2460:G:H5'	2.46	0.45
1:0:916:U:H2'	1:0:917:U:C6	2.51	0.45
1:0:1452:U:H5''	1:0:1533:G:H5'	1.99	0.45
1:0:1608:U:H2'	1:0:1609:G:C8	2.52	0.45
1:0:1747:G:H1'	1:0:1749:G:C2	2.51	0.45
1:0:1886:G:H2'	1:0:1887:G:H8	1.82	0.45
1:0:2120:C:H2'	1:0:2121:U:O4'	2.17	0.45
1:0:2235:G:H2'	1:0:2236:U:H6	1.81	0.45
1:0:2619:G:H2'	1:0:2620:G:C8	2.52	0.45
1:0:2694:G:H2'	1:0:2695:C:C6	2.52	0.45
1:0:2862:G:O2'	1:0:2863:U:H5'	2.17	0.45
1:0:697:G:O2'	1:0:698:A:H5'	2.17	0.45
1:0:935:C:H2'	1:0:936:A:C8	2.52	0.45
1:0:1307:U:H2'	1:0:1308:C:O4'	2.17	0.45
1:0:1494:G:H2'	1:0:1495:G:C8	2.51	0.45
1:0:1586:A:H2'	1:0:1587:A:C8	2.52	0.45
1:0:1906:U:H2'	1:0:1907:C:C6	2.52	0.45
1:0:211:U:C2'	1:0:212:U:H5'	2.46	0.45
1:0:2159:A:H2'	1:0:2160:C:C6	2.52	0.45
1:0:2475:C:H2'	1:0:2476:A:H5'	1.98	0.45
1:0:2591:C:O2'	1:0:2592:U:H5'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2639:A:H2'	1:0:2640:G:O4'	2.16	0.45
1:0:32:C:H2'	1:0:33:C:C6	2.52	0.45
1:0:340:G:H1'	1:0:488:A:C4	2.52	0.45
1:0:245:C:H5'	1:0:372:U:O2'	2.17	0.45
1:0:709:A:H2'	1:0:710:C:C6	2.52	0.45
1:0:967:G:H1'	1:0:970:A:N7	2.32	0.45
1:0:1346:C:H2'	1:0:1347:C:C6	2.52	0.45
1:0:1912:G:C2'	1:0:1912:G:N3	2.79	0.45
1:0:2094:C:C4	1:0:2103:G:H1'	2.52	0.45
1:0:2136:G:H2'	1:0:2137:G:C8	2.51	0.45
1:0:2321:C:C2'	1:0:2322:U:H5'	2.46	0.45
1:0:2377:U:O2'	1:0:2378:G:OP1	2.33	0.45
1:0:2712:G:H5'	1:0:2713:A:C8	2.52	0.45
1:0:811:G:O2'	1:0:812:G:H5'	2.17	0.45
1:0:831:G:H5'	1:0:852:U:OP1	2.17	0.45
1:0:91:A:H2'	1:0:92:U:C6	2.52	0.45
1:0:1367:A:H2'	1:0:1368:G:O4'	2.17	0.44
1:0:1712:G:C2'	1:0:1713:G:H5'	2.46	0.44
1:0:1821:A:H5''	1:0:1822:C:C5	2.52	0.44
1:0:1918:G:H4'	1:0:1920:A:C2	2.52	0.44
1:0:210:A:N6	1:0:442:A:N6	2.66	0.44
1:0:215:G:H1'	1:0:617:U:O2	2.17	0.44
1:0:2524:G:H2'	1:0:2525:U:O4'	2.17	0.44
1:0:2757:G:H5'	1:0:2761:A:C1'	2.47	0.44
1:0:317:U:H3'	1:0:318:G:H5''	1.98	0.44
1:0:878:C:HO2'	1:0:879:A:P	2.40	0.44
1:0:1130:U:H2'	1:0:1131:G:C8	2.53	0.44
1:0:1204:G:H2'	1:0:1205:G:C8	2.52	0.44
1:0:1251:G:H2'	1:0:1252:C:H6	1.80	0.44
1:0:1319:C:H2'	1:0:1320:A:H8	1.82	0.44
1:0:237:G:H2'	1:0:238:G:O4'	2.17	0.44
1:0:699:G:H3'	1:0:699:G:N3	2.33	0.44
1:0:736:G:H2'	1:0:737:C:O4'	2.17	0.44
1:0:1227:A:H62	1:0:1248:G:H21	1.64	0.44
1:0:1257:U:H2'	1:0:1258:G:C8	2.52	0.44
1:0:2018:G:H3'	1:0:2019:C:H5'	2.00	0.44
1:0:2239:C:O2'	1:0:2240:C:H5'	2.17	0.44
1:0:2393:G:H2'	1:0:2394:G:C8	2.53	0.44
1:0:2512:A:H2'	1:0:2513:A:O4'	2.18	0.44
1:0:604:U:H2'	1:0:605:G:H8	1.82	0.44
1:0:968:C:H2'	1:0:970:A:OP1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1614:C:H2'	1:0:1615:C:C6	2.52	0.44
1:0:1665:C:H2'	1:0:1666:G:C8	2.52	0.44
1:0:1859:A:H2'	1:0:1860:A:C8	2.53	0.44
1:0:192:G:O2'	1:0:193:A:C5'	2.66	0.44
1:0:2227:C:C2'	1:0:2228:U:H5'	2.41	0.44
1:0:2620:G:H2'	1:0:2621:G:H8	1.83	0.44
1:0:2635:U:H2'	1:0:2636:A:C8	2.52	0.44
1:0:2668:U:C2'	1:0:2669:C:OP2	2.66	0.44
1:0:644:A:H2'	1:0:645:G:H5'	1.99	0.44
1:0:788:G:C5'	1:0:790:A:H1'	2.47	0.44
1:0:1002:C:H2'	1:0:1003:C:C6	2.53	0.44
1:0:117:A:H4'	1:0:118:U:C6	2.53	0.44
1:0:1291:G:H2'	1:0:1292:A:C8	2.53	0.44
1:0:1917:C:H2'	1:0:1918:G:H5'	2.00	0.44
1:0:2022:C:H2'	1:0:2023:C:C6	2.52	0.44
1:0:2244:C:H1'	1:0:2255:G:N1	2.33	0.44
1:0:2356:A:H2'	1:0:2357:A:C8	2.53	0.44
1:0:2455:A:O2'	1:0:2456:U:H5'	2.18	0.44
1:0:1140:A:N6	1:0:2469:G:H5''	2.33	0.44
1:0:2492:G:H2'	1:0:2493:U:C6	2.53	0.44
1:0:514:G:C2'	1:0:514:G:N3	2.79	0.44
1:0:520:C:O2'	1:0:1249:G:H5''	2.18	0.44
1:0:532:A:H2'	1:0:533:C:C6	2.53	0.44
1:0:616:U:C3'	1:0:617:U:H5''	2.48	0.44
1:0:953:G:H4'	1:0:1203:A:O2'	2.17	0.44
1:0:1278:A:O2'	1:0:1279:G:O5'	2.36	0.44
1:0:147:G:C2	1:0:148:C:H1'	2.53	0.44
1:0:403:A:H4'	1:0:425:A:C5'	2.39	0.44
1:0:539:A:N6	1:0:2024:U:H3	2.15	0.44
1:0:1008:G:H2'	1:0:1009:C:C6	2.52	0.44
1:0:1312:G:H5''	1:0:1313:U:C5'	2.36	0.44
1:0:2292:C:H2'	1:0:2293:G:C8	2.53	0.44
1:0:2458:U:OP1	1:0:2516:U:H1'	2.18	0.44
1:0:2824:C:H2'	1:0:2825:A:OP2	2.17	0.44
1:0:1353:A:H1'	1:0:1619:A:O4'	2.17	0.44
1:0:1840:A:H2'	1:0:1841:G:H5'	2.00	0.44
1:0:1926:U:H4'	1:0:1927:U:H5	1.82	0.44
1:0:2782:G:H2'	1:0:2783:U:OP1	2.17	0.44
1:0:415:A:C2'	1:0:416:U:H5'	2.47	0.44
1:0:437:G:O2'	1:0:438:G:H5'	2.17	0.44
1:0:475:U:H2'	1:0:476:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:701:U:H2'	1:0:702:A:O4'	2.18	0.44
1:0:715:U:H2'	1:0:716:U:C6	2.52	0.44
1:0:716:U:H2'	1:0:717:G:O4'	2.18	0.44
1:0:838:A:H4'	1:0:2407:G:C5	2.53	0.44
1:0:1031:C:H4'	1:0:1032:A:C8	2.53	0.44
1:0:1075:C:H2'	1:0:1076:U:C6	2.53	0.44
1:0:1274:C:O2'	1:0:1275:A:H5'	2.17	0.44
1:0:1605:A:H2'	1:0:1606:C:C6	2.53	0.44
1:0:181:A:C4'	1:0:182:G:H4'	2.46	0.44
1:0:2161:C:O2'	1:0:2162:C:OP1	2.34	0.44
1:0:172:A:N3	1:0:227:G:N2	2.64	0.44
1:0:2497:A:O5'	1:0:2497:A:N3	2.51	0.44
1:0:1949:A:H1'	1:0:2572:U:H4'	2.00	0.44
1:0:2574:G:C2'	1:0:2574:G:N3	2.81	0.44
1:0:342:G:H2'	1:0:343:A:C5'	2.48	0.44
1:0:351:A:H2'	1:0:352:G:O4'	2.18	0.44
1:0:694:G:H2'	1:0:695:G:C8	2.53	0.44
1:0:88:G:H3'	1:0:89:A:C5'	2.41	0.44
1:0:1466:C:H2'	1:0:1467:U:O4'	2.17	0.43
1:0:1480:G:C2'	1:0:1481:U:H5'	2.47	0.43
1:0:1504:G:O2'	1:0:1505:U:H5'	2.18	0.43
1:0:173:A:N3	1:0:173:A:C2'	2.81	0.43
1:0:2240:C:H2'	1:0:2241:U:H5'	1.99	0.43
1:0:1142:G:OP1	1:0:2494:C:H4'	2.18	0.43
1:0:2783:U:H2'	1:0:2784:A:O4'	2.17	0.43
1:0:2860:C:H2'	1:0:2861:A:O4'	2.18	0.43
1:0:871:U:H1'	1:0:2248:A:C5'	2.47	0.43
1:0:63:A:N6	1:0:89:A:N1	2.66	0.43
1:0:987:G:H2'	1:0:988:G:H8	1.82	0.43
1:0:1750:A:H1'	1:0:2690:A:C2	2.52	0.43
1:0:1961:A:H2'	1:0:1962:C:O4'	2.18	0.43
1:0:2758:A:H5''	1:0:2759:U:C5	2.52	0.43
1:0:55:A:N6	1:0:69:G:O6	2.51	0.43
1:0:1155:G:H2'	1:0:1156:U:O4'	2.18	0.43
1:0:114:C:H4'	1:0:124:A:O2'	2.17	0.43
1:0:1790:G:O3'	1:0:1791:C:H6	2.01	0.43
1:0:187:U:H2'	1:0:188:G:H8	1.82	0.43
1:0:2265:A:H5''	1:0:2266:A:O4'	2.18	0.43
1:0:2564:U:H4'	1:0:2565:C:C5'	2.49	0.43
1:0:2615:U:H3	1:0:2762:G:H1	1.65	0.43
1:0:859:U:H4'	1:0:860:U:C5	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:959:C:H2'	1:0:960:U:C6	2.53	0.43
1:0:984:A:H2'	1:0:1200:G:N2	2.31	0.43
1:0:168:A:H2'	1:0:169:C:H6	1.82	0.43
1:0:1880:G:H2'	1:0:1881:U:C6	2.54	0.43
1:0:192:G:H4'	1:0:193:A:H4'	2.00	0.43
1:0:2436:U:H2'	1:0:2437:G:O4'	2.19	0.43
1:0:420:C:H2'	1:0:421:G:C8	2.53	0.43
1:0:508:G:H2'	1:0:509:U:C6	2.52	0.43
1:0:547:U:H2'	1:0:548:G:C8	2.53	0.43
1:0:575:U:H2'	1:0:576:A:C8	2.53	0.43
1:0:841:G:H4'	1:0:844:G:N1	2.33	0.43
1:0:2048:C:H1'	1:0:2428:U:O2	2.18	0.43
1:0:2276:C:O2'	1:0:2277:A:H5'	2.19	0.43
1:0:2310:G:H2'	1:0:2311:U:O4'	2.18	0.43
1:0:242:A:N6	1:0:441:A:N7	2.66	0.43
1:0:2561:G:N3	1:0:2561:G:H2'	2.32	0.43
1:0:2874:A:H2'	1:0:2875:C:C6	2.54	0.43
1:0:457:C:O2'	1:0:458:G:H5'	2.18	0.43
1:0:758:G:N3	1:0:763:A:N6	2.64	0.43
1:0:1223:G:H4'	1:0:1224:A:O5'	2.19	0.43
1:0:1478:U:H2'	1:0:1479:G:C8	2.53	0.43
1:0:192:G:O2'	1:0:193:A:P	2.76	0.43
1:0:2033:C:H2'	1:0:2034:A:O4'	2.18	0.43
1:0:2680:U:H3'	1:0:2681:A:C5'	2.47	0.43
1:0:509:U:H2'	1:0:510:G:O4'	2.18	0.43
1:0:54:G:H2'	1:0:55:A:H8	1.83	0.43
1:0:591:G:H2'	1:0:592:G:C8	2.54	0.43
1:0:925:U:H4'	1:0:926:C:C6	2.54	0.43
1:0:1194:U:H2'	1:0:1195:U:H6	1.78	0.43
1:0:1326:U:H4'	1:0:1345:G:H4'	2.01	0.43
1:0:1561:A:H2'	1:0:1562:G:O4'	2.18	0.43
1:0:2213:G:H2'	1:0:2214:G:H8	1.83	0.43
1:0:2369:U:H2'	1:0:2370:G:C8	2.54	0.43
1:0:2392:G:H2'	1:0:2393:G:C8	2.54	0.43
1:0:2034:A:N6	1:0:2593:A:N7	2.66	0.43
1:0:2510:A:N6	1:0:2641:A:H61	2.11	0.43
1:0:2786:G:H2'	1:0:2787:A:C8	2.53	0.43
1:0:2795:A:N3	1:0:2795:A:H2'	2.32	0.43
1:0:456:C:H2'	1:0:457:C:C6	2.54	0.43
1:0:652:C:N4	1:0:657:A:H61	2.08	0.43
1:0:181:A:C5'	1:0:182:G:OP1	2.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2083:G:H22	1:0:2172:U:H3	1.66	0.43
1:0:242:A:O2'	1:0:243:G:OP2	2.37	0.43
1:0:338:G:H2'	1:0:339:U:O4'	2.19	0.43
1:0:840:U:H4'	1:0:841:G:C2	2.53	0.43
1:0:1055:A:H2	1:0:1121:G:H2'	1.84	0.43
1:0:1604:A:H2'	1:0:1605:A:O4'	2.19	0.43
1:0:2002:A:H61	1:0:2018:G:H21	1.67	0.43
1:0:201:G:H2'	1:0:202:A:H8	1.84	0.43
1:0:2056:C:H2'	1:0:2057:U:H6	1.84	0.43
1:0:2261:G:H4'	1:0:2368:G:O2'	2.19	0.43
1:0:2784:A:C8	1:0:2785:A:C8	3.06	0.43
1:0:2602:G:OP1	1:0:2801:A:H1'	2.19	0.43
1:0:653:G:C2	1:0:655:A:H1'	2.54	0.43
1:0:786:U:H2'	1:0:787:A:H5'	2.00	0.43
1:0:810:U:H2'	1:0:811:G:H8	1.83	0.43
1:0:1046:U:H2'	1:0:1047:G:H8	1.84	0.43
1:0:594:G:N2	1:0:1267:A:H62	2.17	0.43
1:0:128:C:C3'	1:0:129:A:H5''	2.49	0.43
1:0:1975:G:H1'	1:0:1977:C:N4	2.33	0.43
1:0:211:U:H2'	1:0:212:U:O4'	2.19	0.43
1:0:2483:U:H1'	1:0:2551:A:C2	2.54	0.43
1:0:2633:A:H61	1:0:2646:C:N4	2.17	0.43
1:0:319:G:H1'	1:0:511:A:H5'	2.00	0.43
2:5:7:A:H2'	2:5:8:A:C8	2.54	0.43
1:0:1016:C:H2'	1:0:1017:C:H6	1.84	0.42
1:0:1455:C:HO2'	1:0:1644:G:H5''	1.84	0.42
1:0:1341:G:N2	1:0:1664:G:H1	2.15	0.42
1:0:2380:U:C2'	1:0:2381:A:H5'	2.44	0.42
1:0:2658:A:H2'	1:0:2659:C:H6	1.84	0.42
1:0:814:G:H3'	1:0:815:A:C5'	2.49	0.42
1:0:109:A:H2'	1:0:110:U:H5''	2.01	0.42
1:0:121:G:H2'	1:0:122:G:O4'	2.19	0.42
1:0:1489:C:H3'	1:0:1490:U:H5'	2.00	0.42
1:0:1634:A:O2'	1:0:1635:G:H5'	2.19	0.42
1:0:1743:C:H2'	1:0:1744:G:C8	2.54	0.42
1:0:1770:U:H2'	1:0:1774:A:H62	1.83	0.42
1:0:1801:C:H3'	1:0:1802:A:H5'	2.01	0.42
1:0:2225:G:O2'	1:0:2226:A:H5'	2.19	0.42
1:0:2473:G:O2'	1:0:2474:G:H5'	2.19	0.42
1:0:2500:C:H4'	1:0:2544:A:C4'	2.49	0.42
1:0:2772:U:H2'	1:0:2773:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2785:A:O2'	1:0:2786:G:H5'	2.19	0.42
1:0:322:A:H2	1:0:342:G:OP2	2.02	0.42
1:0:37:C:H2'	1:0:38:G:C8	2.54	0.42
1:0:722:C:H2'	1:0:723:C:C6	2.54	0.42
1:0:826:U:H2'	1:0:827:C:H6	1.84	0.42
1:0:1141:U:HO2'	1:0:1142:G:P	2.41	0.42
1:0:1451:C:H2'	1:0:1452:U:C6	2.54	0.42
1:0:1591:U:H2'	1:0:1592:U:O4'	2.18	0.42
1:0:189:A:H2'	1:0:190:A:C8	2.54	0.42
1:0:2311:U:HO2'	1:0:2312:A:H8	1.63	0.42
1:0:474:G:N2	1:0:476:G:H3'	2.35	0.42
1:0:65:C:H2'	1:0:66:U:C5'	2.44	0.42
1:0:752:G:H5'	1:0:1775:A:N6	2.35	0.42
1:0:820:U:H2'	1:0:821:A:C8	2.53	0.42
1:0:944:A:H2'	1:0:945:G:O4'	2.19	0.42
1:0:1017:C:H2'	1:0:1018:C:O4'	2.19	0.42
1:0:1030:U:OP1	1:0:1046:U:H1'	2.19	0.42
1:0:1225:G:H2'	1:0:1249:G:N1	2.34	0.42
1:0:1292:A:H2'	1:0:1293:A:H8	1.85	0.42
1:0:14:A:H2	1:0:2604:G:O2'	2.02	0.42
1:0:1532:A:H2'	1:0:1533:G:C8	2.53	0.42
1:0:158:A:H2'	1:0:159:A:H8	1.83	0.42
1:0:1917:C:C2'	1:0:1918:G:H5'	2.49	0.42
1:0:2217:G:H5'	1:0:2219:U:O4	2.18	0.42
1:0:2808:U:H3'	1:0:2809:A:C5'	2.47	0.42
1:0:523:A:H2	1:0:591:G:H4'	1.84	0.42
1:0:1762:C:H2'	1:0:1763:G:C8	2.54	0.42
1:0:2594:U:H2'	1:0:2595:C:C6	2.55	0.42
1:0:404:A:H1'	1:0:424:G:O2'	2.19	0.42
1:0:520:C:H2'	1:0:521:U:O4'	2.20	0.42
1:0:543:G:H2'	1:0:544:U:C6	2.55	0.42
1:0:964:A:H2'	1:0:965:G:H8	1.83	0.42
2:5:26:A:H2'	2:5:27:G:H5'	2.01	0.42
1:0:1033:G:N2	1:0:1150:C:H2'	2.30	0.42
1:0:1566:G:H2'	1:0:1567:A:C8	2.55	0.42
1:0:1836:C:H2'	1:0:1837:G:H8	1.84	0.42
1:0:1930:C:H2'	1:0:1931:G:C8	2.55	0.42
1:0:178:C:H4'	1:0:399:G:C2	2.55	0.42
1:0:415:A:O2'	1:0:416:U:H5'	2.20	0.42
1:0:688:A:H1'	1:0:2422:C:O2'	2.19	0.42
1:0:764:A:H3'	1:0:764:A:N3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:824:U:H1'	1:0:1264:C:C1'	2.49	0.42
1:0:119:G:H1'	1:0:129:A:N1	2.35	0.42
1:0:1259:A:H2'	1:0:1260:A:H8	1.84	0.42
1:0:1332:G:H2'	1:0:1333:G:O4'	2.20	0.42
1:0:1489:C:H3'	1:0:1490:U:C5'	2.50	0.42
1:0:1594:U:H2'	1:0:1595:A:C8	2.55	0.42
1:0:2083:G:N2	1:0:2172:U:H3	2.17	0.42
1:0:2250:G:O2'	1:0:2251:U:H5'	2.20	0.42
1:0:586:G:OP1	1:0:2481:G:H2'	2.19	0.42
1:0:2552:C:OP1	1:0:2553:G:H5''	2.18	0.42
1:0:430:C:H2'	1:0:431:G:C8	2.54	0.42
1:0:48:A:O5'	1:0:50:G:H4'	2.20	0.42
1:0:629:C:C2'	1:0:630:G:H5'	2.49	0.42
1:0:860:U:O2	1:0:860:U:H2'	2.19	0.42
1:0:879:A:C2'	1:0:880:C:H5'	2.49	0.42
1:0:956:A:N3	1:0:956:A:H2'	2.34	0.42
2:5:27:G:O2'	2:5:28:C:H5'	2.19	0.42
1:0:1029:C:C2'	1:0:1030:U:H5''	2.49	0.42
1:0:2057:U:H2'	1:0:2058:U:H6	1.85	0.42
1:0:2217:G:C2'	1:0:2217:G:N3	2.83	0.42
1:0:2220:A:H2'	1:0:2221:G:H8	1.85	0.42
1:0:3:U:H2'	1:0:4:C:C6	2.54	0.42
1:0:634:G:H2'	1:0:635:C:C6	2.54	0.42
1:0:644:A:H2'	1:0:645:G:O4'	2.20	0.42
1:0:65:C:C3'	1:0:66:U:H5'	2.49	0.42
1:0:81:C:O2'	1:0:82:G:H5'	2.20	0.42
1:0:827:C:H2'	1:0:828:C:C6	2.54	0.42
1:0:987:G:H2'	1:0:988:G:C8	2.55	0.42
1:0:1065:A:H2'	1:0:1066:G:C8	2.55	0.42
1:0:1193:G:O2'	1:0:1194:U:P	2.77	0.42
1:0:1341:G:N2	1:0:1343:C:H1'	2.35	0.42
1:0:1358:C:H2'	1:0:1359:G:H5'	2.02	0.42
1:0:1499:A:H2'	1:0:1500:U:C6	2.54	0.42
1:0:1671:A:H2'	1:0:1672:A:H8	1.85	0.42
1:0:1708:C:H2'	1:0:1709:U:O4'	2.19	0.42
1:0:1807:A:O2'	1:0:1808:C:C4'	2.63	0.42
1:0:1957:C:O2'	1:0:1958:G:H5'	2.19	0.42
1:0:198:A:O2'	1:0:199:A:OP2	2.30	0.42
1:0:2133:G:H2'	1:0:2134:U:C6	2.55	0.42
1:0:2161:C:H2'	1:0:2162:C:C5	2.55	0.42
1:0:2470:U:H1'	1:0:2548:G:O3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2586:G:H2'	1:0:2587:G:O4'	2.19	0.42
1:0:2633:A:H4'	1:0:2634:G:C4'	2.41	0.42
1:0:2710:C:O2'	1:0:2711:G:H5'	2.19	0.42
1:0:488:A:H2'	1:0:489:A:C8	2.54	0.42
1:0:1221:C:H2'	1:0:1222:G:H8	1.84	0.42
1:0:1479:G:H2'	1:0:1480:G:C8	2.54	0.42
1:0:1500:U:H2'	1:0:1501:C:C6	2.55	0.42
1:0:1626:A:H5''	1:0:1627:C:OP2	2.20	0.42
1:0:192:G:O2'	1:0:193:A:H5''	2.19	0.42
1:0:2027:C:H2'	1:0:2028:C:C6	2.55	0.42
1:0:871:U:O2	1:0:2247:A:H2'	2.19	0.42
1:0:2633:A:H5''	1:0:2634:G:OP1	2.20	0.42
1:0:2640:G:H2'	1:0:2641:A:O4'	2.19	0.42
1:0:562:G:H2'	1:0:563:U:O4'	2.20	0.42
1:0:617:U:H2'	1:0:618:A:O4'	2.20	0.42
1:0:646:C:O2'	1:0:650:U:H5''	2.19	0.42
1:0:649:G:H2'	1:0:650:U:C6	2.54	0.42
1:0:82:G:O2'	1:0:83:A:H5'	2.20	0.42
1:0:833:A:H2'	1:0:834:A:C8	2.54	0.42
1:0:1028:G:H2'	1:0:1029:C:H6	1.85	0.41
1:0:1143:A:H2'	1:0:1144:U:C6	2.55	0.41
1:0:1172:U:H2'	1:0:1173:G:C8	2.55	0.41
1:0:1343:C:H2'	1:0:1344:C:C6	2.55	0.41
1:0:1402:G:H2'	1:0:1403:U:O4'	2.20	0.41
1:0:1888:C:H4'	1:0:1889:G:H5''	2.01	0.41
1:0:2320:G:H2'	1:0:2321:C:C6	2.55	0.41
1:0:2836:U:H2'	1:0:2837:G:C8	2.55	0.41
1:0:239:A:H5'	1:0:619:A:O2'	2.19	0.41
1:0:669:G:H2'	1:0:670:U:H6	1.84	0.41
1:0:831:G:H2'	1:0:832:A:H5''	2.02	0.41
1:0:1057:A:H3'	1:0:1058:G:H5'	2.01	0.41
1:0:1518:C:O2'	1:0:1519:G:P	2.78	0.41
1:0:1594:U:H2'	1:0:1595:A:H8	1.85	0.41
1:0:1921:A:C3'	1:0:1922:U:H5''	2.50	0.41
1:0:2028:C:O2'	1:0:2029:G:H5'	2.20	0.41
1:0:2502:G:H2'	1:0:2503:G:H8	1.85	0.41
1:0:2651:U:H2'	1:0:2652:G:H8	1.85	0.41
1:0:314:G:H2'	1:0:315:G:H8	1.85	0.41
1:0:354:C:H2'	1:0:355:G:O4'	2.20	0.41
1:0:73:A:C3'	1:0:73:A:N3	2.82	0.41
1:0:762:A:H5'	1:0:1284:G:H1'	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1354:A:C2	1:0:1411:C:H4'	2.55	0.41
1:0:1829:C:O2'	1:0:1910:A:H1'	2.20	0.41
1:0:1956:G:H2'	1:0:1957:C:O4'	2.20	0.41
1:0:2348:A:H2'	1:0:2349:G:C8	2.55	0.41
1:0:2597:G:H2'	1:0:2598:C:C6	2.55	0.41
1:0:2766:U:O2'	1:0:2767:C:H5'	2.20	0.41
1:0:315:G:H2'	1:0:316:C:C6	2.55	0.41
1:0:327:C:O2'	1:0:328:A:H5'	2.20	0.41
1:0:540:G:O6	1:0:2006:G:OP1	2.38	0.41
1:0:607:C:H2'	1:0:608:G:C8	2.55	0.41
1:0:1177:U:H2'	1:0:1178:C:C6	2.55	0.41
1:0:1495:G:O2'	1:0:1496:G:OP1	2.35	0.41
1:0:1518:C:HO2'	1:0:1519:G:P	2.44	0.41
1:0:1557:G:H2'	1:0:1558:C:C6	2.55	0.41
1:0:820:U:H5'	1:0:2424:G:H4'	2.02	0.41
1:0:1084:A:H4'	1:0:2454:C:OP1	2.20	0.41
1:0:2463:G:O2'	1:0:2464:G:H5'	2.20	0.41
1:0:2546:G:H2'	1:0:2547:C:C6	2.56	0.41
1:0:438:G:H2'	1:0:439:C:C6	2.55	0.41
1:0:853:C:H2'	1:0:854:G:C8	2.56	0.41
1:0:1281:A:N6	1:0:1995:G:O2'	2.53	0.41
1:0:1671:A:C1'	1:0:2798:A:H5'	2.50	0.41
1:0:1887:G:O2'	1:0:1888:C:H5'	2.20	0.41
1:0:2011:U:H2'	1:0:2012:A:C8	2.56	0.41
1:0:2076:G:H2'	1:0:2077:G:C8	2.54	0.41
1:0:1656:U:O2'	1:0:2678:C:H4'	2.21	0.41
1:0:28:A:H2'	1:0:29:U:C6	2.55	0.41
1:0:328:A:O2'	1:0:329:C:H5'	2.20	0.41
1:0:579:G:H2'	1:0:2013:A:H62	1.86	0.41
1:0:690:A:O2'	1:0:691:C:H5'	2.21	0.41
1:0:878:C:O2'	1:0:879:A:OP1	2.35	0.41
1:0:930:A:H3'	1:0:931:G:H8	1.85	0.41
1:0:1162:A:H2'	1:0:1163:C:H6	1.86	0.41
1:0:1231:A:H2'	1:0:1232:U:O4'	2.20	0.41
1:0:1242:A:H2'	1:0:1243:G:C8	2.55	0.41
1:0:2200:G:H2'	1:0:2201:G:C8	2.56	0.41
1:0:2245:A:HO2'	1:0:2246:A:P	2.43	0.41
1:0:2365:U:O2'	1:0:2366:U:H5'	2.21	0.41
1:0:2392:G:H2'	1:0:2393:G:H8	1.85	0.41
1:0:2486:C:H4'	2:5:34:C:O2'	2.21	0.41
1:0:2698:G:H2'	1:0:2699:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:314:G:H2'	1:0:315:G:C8	2.54	0.41
1:0:635:C:H2'	1:0:636:G:H5''	2.02	0.41
1:0:890:U:H2'	1:0:891:A:C8	2.56	0.41
1:0:1530:U:HO2'	1:0:1531:C:H6	1.65	0.41
1:0:1962:C:H2'	1:0:1963:G:H8	1.86	0.41
1:0:2096:U:C2'	1:0:2097:A:H5''	2.44	0.41
1:0:2134:U:H2'	1:0:2135:C:C6	2.55	0.41
1:0:2226:A:H2'	1:0:2227:C:H6	1.86	0.41
1:0:873:U:C2	1:0:2246:A:H5''	2.55	0.41
1:0:2321:C:H2'	1:0:2322:U:H5'	2.02	0.41
1:0:2378:G:H2'	1:0:2379:G:C8	2.55	0.41
1:0:2390:A:H2'	1:0:2391:A:C8	2.56	0.41
1:0:2740:C:O2'	1:0:2741:G:H5'	2.20	0.41
1:0:307:C:H2'	1:0:308:C:H6	1.86	0.41
1:0:691:C:H2'	1:0:692:C:C6	2.56	0.41
1:0:798:G:OP2	1:0:805:G:N7	2.53	0.41
1:0:868:U:H2'	1:0:869:C:H6	1.85	0.41
1:0:1168:G:H2'	1:0:1169:C:C6	2.55	0.41
1:0:1189:G:O2'	1:0:1190:C:H5'	2.21	0.41
1:0:1193:G:HO2'	1:0:1194:U:P	2.43	0.41
1:0:1193:G:O2'	1:0:1194:U:OP1	2.37	0.41
1:0:1286:U:H2'	1:0:2692:A:H2	1.85	0.41
1:0:139:A:H2'	1:0:140:G:C8	2.55	0.41
1:0:1415:C:O2'	1:0:1416:A:H5'	2.21	0.41
1:0:1448:A:H2'	1:0:1449:C:C6	2.56	0.41
1:0:2038:C:H5'	1:0:2039:G:C5'	2.51	0.41
1:0:2217:G:H4'	1:0:2219:U:C5	2.56	0.41
1:0:2500:C:H4'	1:0:2544:A:O4'	2.20	0.41
1:0:2515:G:H2'	1:0:2516:U:C6	2.55	0.41
1:0:2785:A:H2'	1:0:2786:G:O4'	2.21	0.41
1:0:2795:A:N3	1:0:2795:A:C2'	2.84	0.41
1:0:63:A:O2'	1:0:64:C:H5'	2.20	0.41
1:0:58:C:N4	1:0:73:A:C6	2.89	0.41
1:0:1313:U:O2'	1:0:1314:A:OP2	2.39	0.41
1:0:1686:A:C2'	1:0:1687:C:H5'	2.51	0.41
1:0:1722:G:H2'	1:0:1723:U:C6	2.55	0.41
1:0:1938:U:H2'	1:0:1939:U:H5'	2.01	0.41
1:0:2032:G:O2'	1:0:2033:C:H5'	2.21	0.41
1:0:689:A:H8	1:0:2422:C:H1'	1.85	0.41
1:0:2498:U:H1'	1:0:2500:C:H41	1.86	0.41
1:0:24:G:H2'	1:0:25:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2539:C:H2'	1:0:2540:A:C8	2.56	0.41
1:0:2811:G:H2'	1:0:2812:A:C8	2.56	0.41
1:0:639:G:O2'	1:0:640:C:H5'	2.21	0.41
1:0:747:A:H2'	1:0:748:A:H8	1.85	0.41
1:0:1026:U:H2'	1:0:1027:C:C6	2.56	0.41
1:0:1329:U:H2'	1:0:1330:G:C8	2.56	0.41
1:0:1365:U:H5'	1:0:1587:A:H1'	2.03	0.41
1:0:1621:C:C4'	1:0:1626:A:H61	2.31	0.41
1:0:1671:A:H1'	1:0:2798:A:H5'	2.02	0.41
1:0:2245:A:C2'	1:0:2246:A:OP2	2.68	0.41
1:0:229:G:H2'	1:0:230:C:C6	2.56	0.41
1:0:2467:A:H2'	1:0:2468:G:C8	2.56	0.41
1:0:2824:C:HO2'	1:0:2825:A:P	2.43	0.41
1:0:317:U:H3'	1:0:318:G:C5'	2.51	0.41
1:0:40:U:H2'	1:0:41:G:H8	1.86	0.41
1:0:584:A:H4'	1:0:2479:U:C5'	2.48	0.41
1:0:857:U:C2'	1:0:858:G:H5'	2.50	0.41
1:0:874:A:H2'	1:0:875:G:H5'	2.03	0.41
1:0:69:G:O3'	1:0:111:G:H4'	2.20	0.41
1:0:1187:A:HO2'	1:0:1188:A:P	2.43	0.41
1:0:1464:A:H4'	1:0:1545:G:C4'	2.51	0.41
1:0:1528:C:H3'	1:0:1529:C:H5''	2.03	0.41
1:0:1443:G:N3	1:0:1584:G:N1	2.69	0.41
1:0:1696:C:H42	1:0:1755:G:H5''	1.86	0.41
1:0:185:C:H2'	1:0:186:C:C6	2.56	0.41
1:0:2137:G:H2'	1:0:2138:U:H6	1.86	0.41
1:0:2389:G:H2'	1:0:2390:A:O4'	2.21	0.41
1:0:2448:A:C2'	1:0:2449:G:H5'	2.50	0.41
1:0:2871:U:H2'	1:0:2872:U:H6	1.85	0.41
1:0:713:G:H2'	1:0:714:G:C8	2.56	0.41
1:0:6:A:H2'	1:0:7:G:C8	2.56	0.41
1:0:808:C:H2'	1:0:809:C:C6	2.56	0.41
1:0:854:G:H2'	1:0:855:G:C8	2.56	0.41
1:0:1253:C:H2'	1:0:1254:G:O4'	2.21	0.40
1:0:1539:U:H2'	1:0:1540:C:C6	2.56	0.40
1:0:1586:A:H2'	1:0:1587:A:H8	1.86	0.40
1:0:1336:G:N2	1:0:1632:A:N6	2.69	0.40
1:0:1747:G:N3	1:0:1749:G:N2	2.69	0.40
1:0:1850:G:H2'	1:0:1851:A:C8	2.55	0.40
1:0:2312:A:H1'	1:0:2314:A:N9	2.35	0.40
1:0:2326:C:H2'	1:0:2327:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2329:C:H41	1:0:2361:G:N2	2.18	0.40
1:0:305:A:H2'	1:0:306:G:O4'	2.21	0.40
1:0:344:G:O2'	1:0:345:U:H5'	2.21	0.40
1:0:105:G:H21	1:0:357:A:N6	2.18	0.40
1:0:405:C:H2'	1:0:406:G:C8	2.56	0.40
1:0:432:C:H2'	1:0:433:G:C8	2.57	0.40
1:0:729:A:O2'	1:0:730:C:H5'	2.21	0.40
1:0:769:C:H2'	1:0:770:U:O4'	2.20	0.40
1:0:925:U:H5''	1:0:926:C:OP1	2.21	0.40
1:0:931:G:H2'	1:0:932:G:O4'	2.21	0.40
1:0:1098:G:H21	1:0:1100:G:H4'	1.86	0.40
1:0:1463:A:H2'	1:0:1464:A:H8	1.83	0.40
1:0:1685:A:O2'	1:0:1686:A:O5'	2.39	0.40
1:0:1736:C:H2'	1:0:1737:G:C8	2.57	0.40
1:0:1985:G:H2'	1:0:1986:G:C8	2.57	0.40
1:0:579:G:H2'	1:0:2013:A:C5	2.56	0.40
1:0:2383:C:C2'	1:0:2384:G:H5'	2.51	0.40
1:0:838:A:H4'	1:0:2407:G:C6	2.57	0.40
1:0:1204:G:H2'	1:0:1205:G:H8	1.86	0.40
1:0:1398:G:H2'	1:0:1399:C:C6	2.56	0.40
1:0:1653:C:H2'	1:0:1654:A:C8	2.56	0.40
1:0:1787:U:H2'	1:0:1788:C:C6	2.57	0.40
1:0:2047:C:H2'	1:0:2048:C:C6	2.56	0.40
1:0:2075:U:H1'	1:0:2204:A:C2	2.56	0.40
1:0:2234:G:H2'	1:0:2235:G:O4'	2.22	0.40
1:0:2241:U:H4'	1:0:2307:A:C2	2.56	0.40
1:0:2383:C:H2'	1:0:2384:G:O4'	2.20	0.40
1:0:2548:G:H2'	1:0:2549:G:C5'	2.33	0.40
1:0:550:C:H2'	1:0:551:A:H8	1.86	0.40
1:0:73:A:H2'	1:0:74:G:OP2	2.22	0.40
1:0:930:A:H5'	1:0:931:G:N7	2.37	0.40
1:0:950:G:H2'	1:0:951:G:C8	2.56	0.40
1:0:143:A:H2'	1:0:144:U:O4'	2.22	0.40
1:0:1532:A:H2'	1:0:1533:G:H8	1.86	0.40
1:0:1888:C:H2'	1:0:1913:G:C6	2.57	0.40
1:0:1915:A:H2'	1:0:1916:G:O4'	2.21	0.40
1:0:1939:U:O2	1:0:1968:G:H4'	2.21	0.40
1:0:2056:C:H2'	1:0:2057:U:C6	2.57	0.40
1:0:218:A:H1'	1:0:220:U:C4	2.57	0.40
1:0:2244:C:H1'	1:0:2255:G:H1	1.86	0.40
1:0:2686:C:H2'	1:0:2687:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2824:C:C2'	1:0:2825:A:OP2	2.70	0.40
1:0:67:G:C6	1:0:72:A:C2	3.10	0.40
1:0:953:G:H2'	1:0:954:U:O4'	2.21	0.40
1:0:105:G:O2'	1:0:106:G:H5'	2.21	0.40
1:0:1337:G:H1'	1:0:1632:A:C6	2.56	0.40
1:0:1358:C:C2'	1:0:1359:G:H5''	2.52	0.40
1:0:1381:G:O2'	1:0:1382:G:H5'	2.21	0.40
1:0:1466:C:O2'	1:0:1467:U:H5'	2.21	0.40
1:0:1542:G:H21	1:0:1561:A:H62	1.70	0.40
1:0:1625:A:C4	1:0:1632:A:H1'	2.57	0.40
1:0:1821:A:H3'	1:0:1822:C:C6	2.56	0.40
1:0:217:U:H5'	1:0:633:G:HO2'	1.87	0.40
1:0:2378:G:O2'	1:0:2379:G:H5'	2.22	0.40
1:0:529:U:H2'	1:0:530:G:H8	1.86	0.40
1:0:596:C:H1'	1:0:684:C:O4'	2.22	0.40
1:0:758:G:H2'	1:0:761:G:N3	2.37	0.40
1:0:765:C:O2	1:0:765:C:H2'	2.21	0.40
1:0:773:G:H4'	1:0:1767:G:OP1	2.22	0.40
1:0:856:A:H2'	1:0:857:U:O4'	2.20	0.40
1:0:978:U:H2'	1:0:979:A:C8	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	413 (14%)	44 (1%)
2	5	22/35 (62%)	2 (9%)	0
All	All	2779/2915 (95%)	415 (14%)	44 (1%)

All (415) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	15	G
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	66	U
1	0	67	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	74	G
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	105	G
1	0	110	U
1	0	116	A
1	0	118	U
1	0	123	A
1	0	129	A
1	0	135	U
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A
1	0	176	A
1	0	177	U
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	205	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	225	G

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Mol	Chain	Res	Type
1	0	226	C
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	245	C
1	0	305	A
1	0	318	G
1	0	333	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	342	G
1	0	343	A
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	408	U
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A
1	0	455	A
1	0	456	C
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U
1	0	469	G
1	0	491	A
1	0	492	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	554	U

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Mol	Chain	Res	Type
1	0	556	A
1	0	558	G
1	0	559	C
1	0	572	G
1	0	584	A
1	0	602	C
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	657	A
1	0	665	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C
1	0	728	G
1	0	742	G
1	0	743	A
1	0	760	U
1	0	761	G
1	0	776	G
1	0	778	G
1	0	789	G
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	803	C
1	0	806	A
1	0	813	A
1	0	818	G
1	0	825	C
1	0	832	A
1	0	840	U

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Mol	Chain	Res	Type
1	0	841	G
1	0	844	G
1	0	860	U
1	0	873	U
1	0	879	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	944	A
1	0	952	A
1	0	957	G
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	994	A
1	0	996	C
1	0	1005	U
1	0	1006	C
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1087	C
1	0	1090	C
1	0	1099	A

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Mol	Chain	Res	Type
1	0	1122	A
1	0	1137	A
1	0	1138	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1155	G
1	0	1167	A
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1188	A
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1253	C
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1280	U
1	0	1284	G
1	0	1285	A
1	0	1288	A
1	0	1314	A
1	0	1324	G
1	0	1334	A
1	0	1338	G
1	0	1342	U
1	0	1343	C
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G
1	0	1433	A

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Mol	Chain	Res	Type
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1475	U
1	0	1482	U
1	0	1490	U
1	0	1496	G
1	0	1505	U
1	0	1508	G
1	0	1509	A
1	0	1513	U
1	0	1519	G
1	0	1524	C
1	0	1529	C
1	0	1552	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1576	G
1	0	1582	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1632	A
1	0	1633	C
1	0	1634	A
1	0	1635	G
1	0	1648	C
1	0	1651	U
1	0	1657	A
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A

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Mol	Chain	Res	Type
1	0	1680	U
1	0	1685	A
1	0	1691	G
1	0	1692	C
1	0	1710	U
1	0	1712	G
1	0	1715	A
1	0	1717	A
1	0	1724	C
1	0	1733	U
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G
1	0	1764	A
1	0	1771	A
1	0	1778	U
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1821	A
1	0	1831	G
1	0	1884	A
1	0	1889	G
1	0	1920	A
1	0	1922	U
1	0	1926	U
1	0	1927	U
1	0	1938	U
1	0	1939	U
1	0	1946	U
1	0	1949	A
1	0	1950	C
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1979	C
1	0	1980	A
1	0	2004	U

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Mol	Chain	Res	Type
1	0	2006	G
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2038	C
1	0	2043	A
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2237	C
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2313	G

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Mol	Chain	Res	Type
1	0	2315	A
1	0	2316	G
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2378	G
1	0	2382	C
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2409	A
1	0	2414	A
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2470	U
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G
1	0	2498	U
1	0	2499	C
1	0	2504	G
1	0	2522	G
1	0	2546	G
1	0	2549	G
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G

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Mol	Chain	Res	Type
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2669	C
1	0	2670	C
1	0	2681	A
1	0	2691	C
1	0	2692	A
1	0	2712	G
1	0	2728	A
1	0	2730	A
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2760	G
1	0	2761	A
1	0	2770	A
1	0	2771	C
1	0	2782	G
1	0	2783	U
1	0	2785	A
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2811	G
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2854	G
1	0	2855	C
1	0	2859	U
2	5	27	G
2	5	32	A

All (44) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	69	G

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Mol	Chain	Res	Type
1	0	71	A
1	0	73	A
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A
1	0	342	G
1	0	583	C
1	0	805	G
1	0	843	G
1	0	878	C
1	0	1074	G
1	0	1141	U
1	0	1187	A
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1279	G
1	0	1313	U
1	0	1354	A
1	0	1495	G
1	0	1518	C
1	0	1634	A
1	0	1664	G
1	0	1807	A
1	0	1820	G
1	0	1938	U
1	0	2015	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2245	A
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2426	G
1	0	2564	U
1	0	2668	U
1	0	2759	U

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Mol	Chain	Res	Type
1	0	2824	C

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

1 non-standard protein/DNA/RNA residue 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	PPU	5	35	2	32,40,41	2.78	7 (21%)	33,57,60	1.01	3 (9%)

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	PPU	5	35	2	-	1/21/43/44	0/4/4/4

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	5	35	PPU	C-N3'	12.42	1.61	1.34
2	5	35	PPU	OC-CM	-4.87	1.28	1.42
2	5	35	PPU	C6-N1	3.91	1.38	1.33
2	5	35	PPU	CE1-CZ	3.69	1.46	1.38
2	5	35	PPU	CE2-CZ	2.73	1.44	1.38
2	5	35	PPU	CD2-CG	2.55	1.44	1.38
2	5	35	PPU	C3'-N3'	-2.07	1.42	1.45

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	5	35	PPU	CM-OC-CZ	2.87	123.75	117.51
2	5	35	PPU	C9-N6-C6	2.30	126.49	119.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	5	35	PPU	C-CA-N	2.21	117.94	109.40

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	5	35	PPU	C4'-C5'-O5'-P

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section is therefore empty.

6.4 Ligands ⓘ

EDS was not executed - this section is therefore empty.

6.5 Other polymers ⓘ

EDS was not executed - this section is therefore empty.