Full wwPDB X-ray Structure Validation Report (i)

Jun 12, 2024 – 05:57 AM EDT

PDB ID	:	2OGM
Title	:	The crystal structure of the large ribosomal subunit from Deinococcus radiodurans complexed with the pleuromutilin derivative SB-571519
Authors	:	Davidovich, C.; Bashan, A.; Auerbach-Nevo, T.; Yonath, A.
Deposited on	:	2007-01-07
Resolution	:	3.50 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

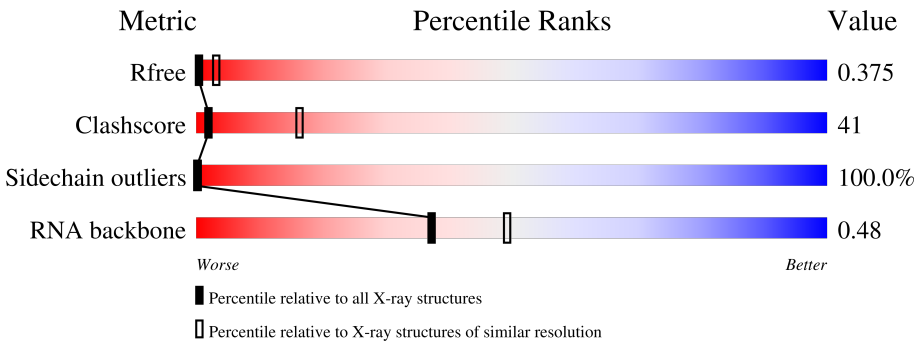
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.36.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

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))
R_{free}	130704	1659 (3.60-3.40)
Clashscore	141614	1036 (3.58-3.42)
Sidechain outliers	138945	1006 (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 of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	0	2880	18% 55% 20% . .
2	B	211	95% . .

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 59610 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

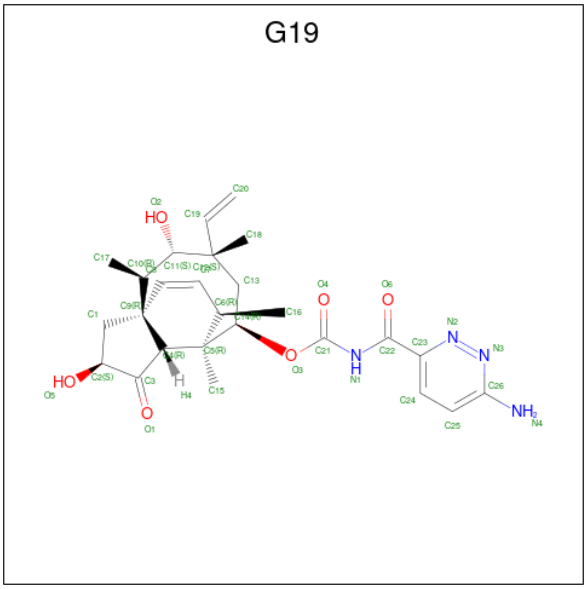
- Molecule 1 is a RNA chain called 23S ribosomal RNA.

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

- Molecule 2 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	B	205	215	210	4	1	0	0	204

- Molecule 3 is (2S,3AR,4R,5S,6S,8R,9R,9AR,10R)-2,5-DIHYDROXY-4,6,9,10-TETRAMETHYL-1-OXO-6-VINYLDECAHYDRO-3A,9-PROP[1]ENOCYCLOPENTA[8]ANNULEN-8-YL [(6-AMINOPYRIDAZIN-3-YL)CARBONYL]CARBAMATE (three-letter code: G19) (formula: $C_{26}H_{34}N_4O_6$).

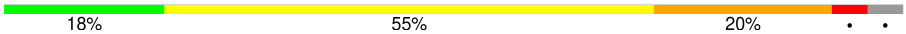


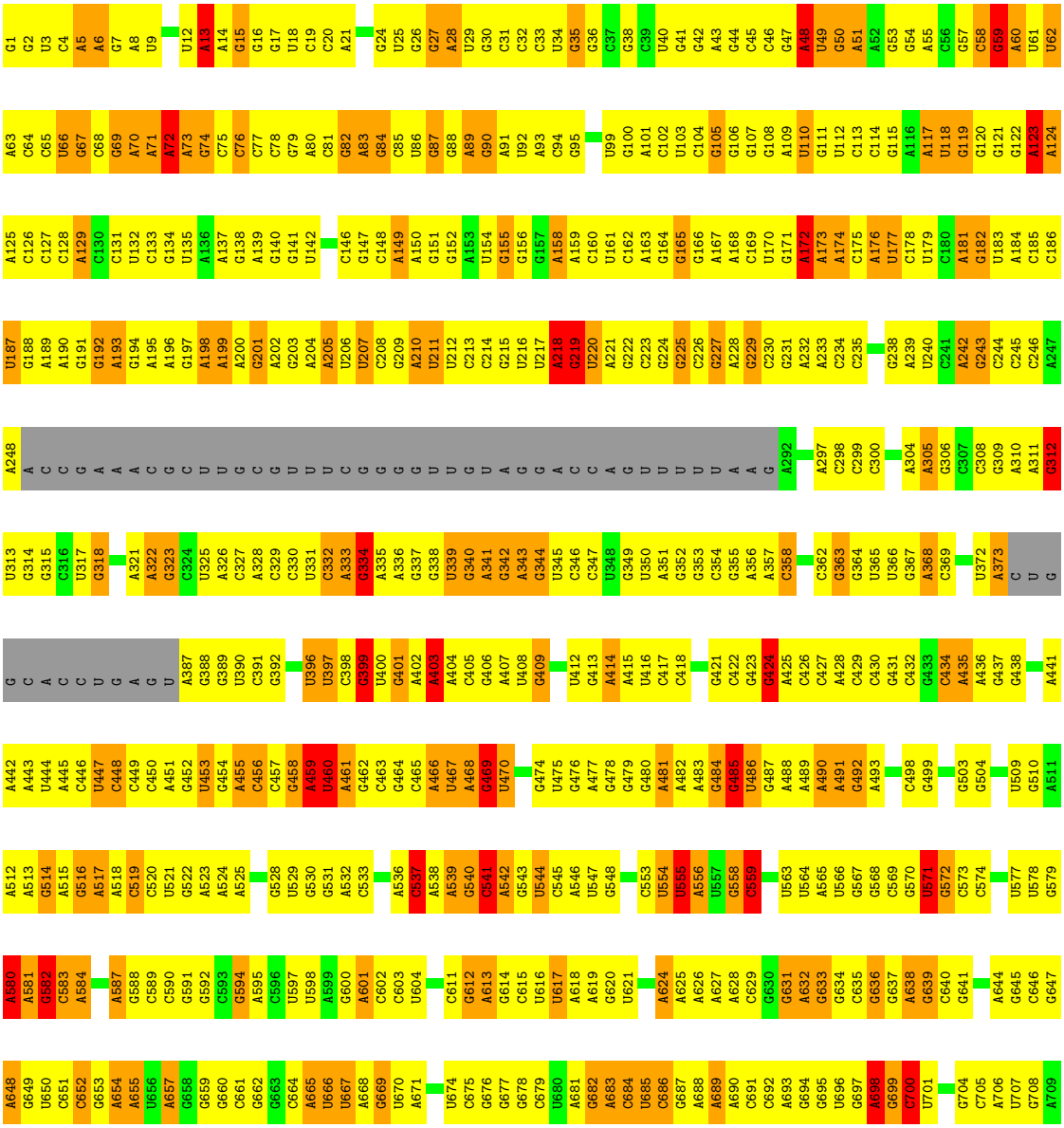
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	0	1	36	26	4	6	0	0

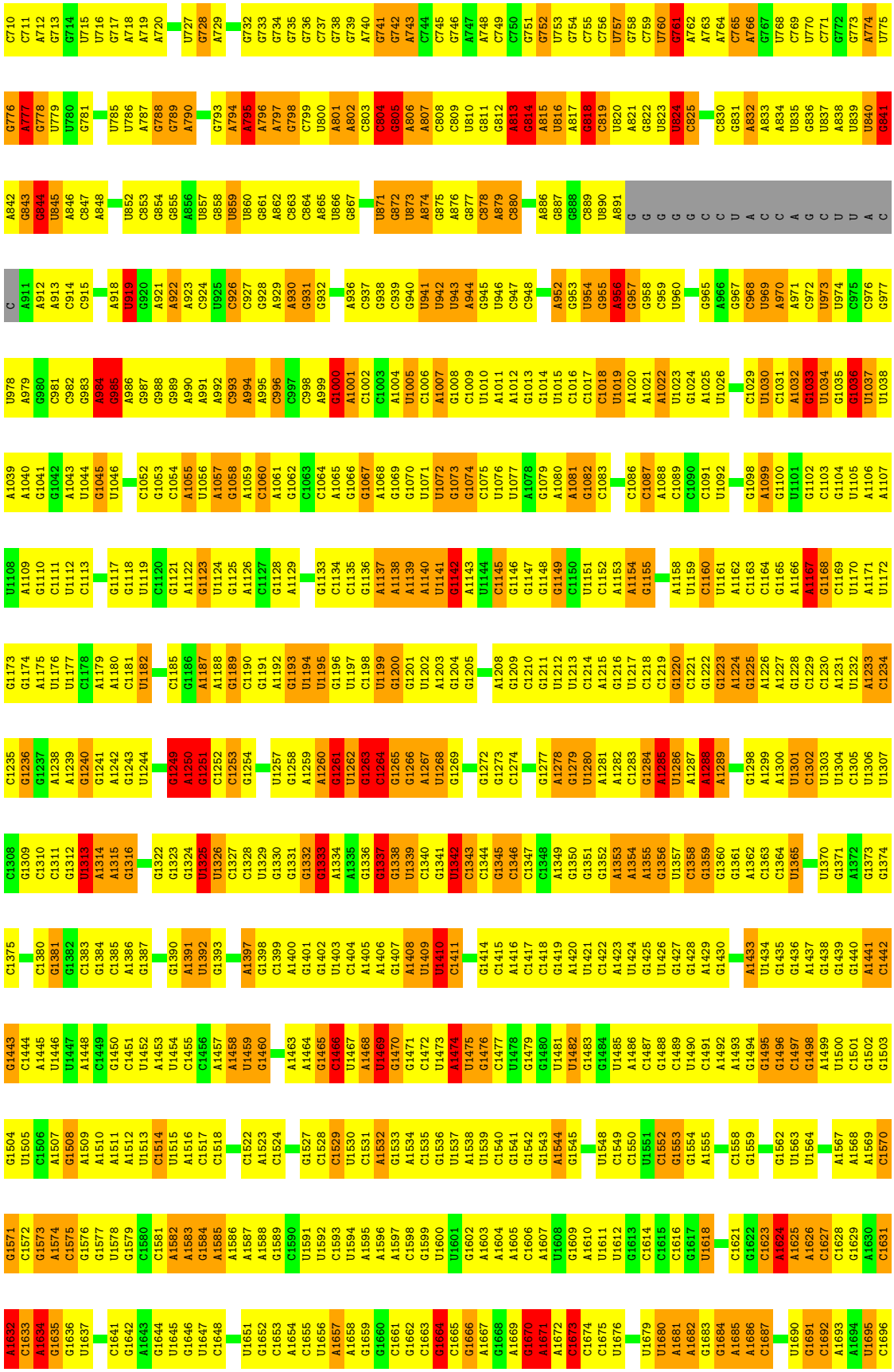
3 Residue-property plots (i)

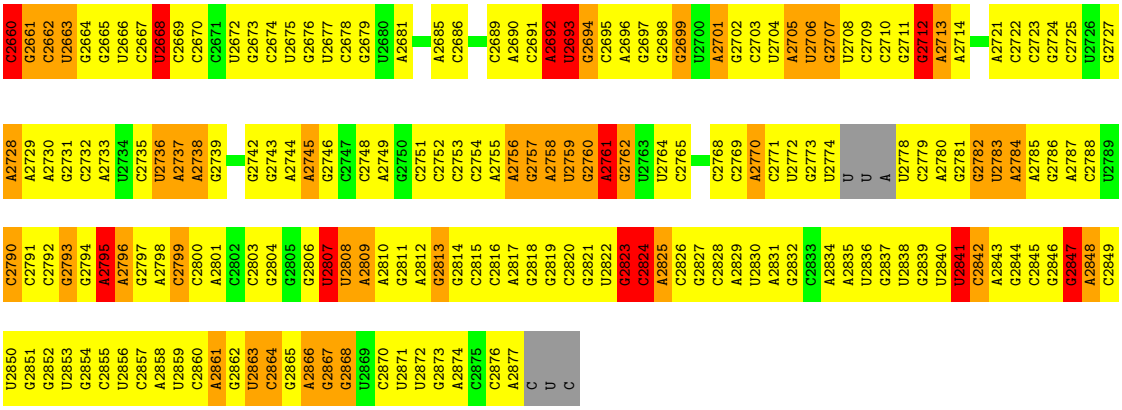
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

- Molecule 1: 23S ribosomal RNA

Chain 0: 

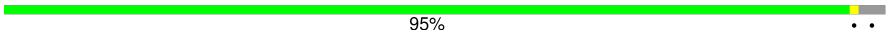


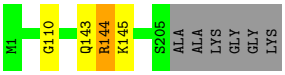




- Molecule 2: 50S ribosomal protein L3

Chain B:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	170.40Å 405.83Å 703.80Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.93 – 3.50 29.92 – 3.50	Depositor EDS
% Data completeness (in resolution range)	(Not available) (29.93-3.50) 92.8 (29.92-3.50)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.92 (at 3.47Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.275 , 0.334 0.356 , 0.375	Depositor DCC
R_{free} test set	14021 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å^2)	86.3	Xtriage
Anisotropy	0.807	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.19 , 82.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.78	EDS
Total number of atoms	59610	wwPDB-VP
Average B, all atoms (Å^2)	86.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.31% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

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: G19

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	0.61	6/66467 (0.0%)	0.82	100/103673 (0.1%)
2	B	0.11	0/10	0.42	0/11
All	All	0.61	6/66477 (0.0%)	0.82	100/103684 (0.1%)

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	121

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	700	C	N1-C2	9.14	1.49	1.40
1	0	788	G	N9-C4	7.37	1.43	1.38
1	0	1664	G	N9-C4	-5.84	1.33	1.38
1	0	1681	A	C5-C6	-5.47	1.36	1.41
1	0	2799	C	N1-C2	-5.33	1.34	1.40
1	0	824	U	N3-C4	5.15	1.43	1.38

All (100) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	985	G	N9-C1'-C2'	11.62	129.11	114.00
1	0	460	U	N1-C1'-C2'	10.14	127.18	114.00
1	0	1264	C	N1-C1'-C2'	10.06	127.08	114.00
1	0	788	G	N9-C1'-C2'	10.03	127.04	114.00
1	0	984	A	N9-C1'-C2'	9.21	125.98	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2823	G	N9-C1'-C2'	9.01	125.71	114.00
1	0	2660	C	N1-C1'-C2'	8.86	125.52	114.00
1	0	1634	A	N9-C1'-C2'	8.29	124.78	114.00
1	0	1664	G	N9-C1'-C2'	7.89	124.25	114.00
1	0	2034	A	N9-C1'-C2'	7.79	124.12	114.00
1	0	2593	A	N9-C1'-C2'	7.37	123.58	114.00
1	0	2560	G	N9-C1'-C2'	7.30	123.49	114.00
1	0	218	A	N9-C1'-C2'	7.27	123.45	114.00
1	0	813	A	N9-C1'-C2'	7.25	123.43	114.00
1	0	541	C	C1'-O4'-C4'	-7.16	104.17	109.90
1	0	1342	U	N1-C1'-C2'	7.09	123.22	114.00
1	0	2237	C	N1-C1'-C2'	7.09	123.22	114.00
1	0	1664	G	O5'-P-OP1	-6.96	99.43	105.70
1	0	541	C	O4'-C1'-N1	6.94	113.75	108.20
1	0	1716	G	N9-C1'-C2'	6.89	122.96	114.00
1	0	177	U	N1-C1'-C2'	6.88	122.94	114.00
1	0	2427	A	N9-C1'-C2'	6.88	122.94	114.00
1	0	580	A	N9-C1'-C2'	6.79	122.82	114.00
1	0	312	G	N9-C1'-C2'	6.74	122.77	114.00
1	0	1261	G	N9-C1'-C2'	6.59	122.57	114.00
1	0	777	A	N9-C1'-C2'	6.58	122.55	114.00
1	0	13	A	N9-C1'-C2'	6.54	122.51	114.00
1	0	841	G	N9-C1'-C2'	6.53	122.48	114.00
1	0	72	A	O4'-C1'-N9	6.51	113.41	108.20
1	0	1749	G	N9-C1'-C2'	6.50	122.45	114.00
1	0	938	G	N9-C1'-C2'	6.39	122.31	114.00
1	0	1337	G	N9-C1'-C2'	6.31	122.20	114.00
1	0	1333	G	N9-C1'-C2'	6.29	122.18	114.00
1	0	1033	G	N9-C1'-C2'	6.27	122.15	114.00
1	0	2016	A	N9-C1'-C2'	6.26	122.14	114.00
1	0	2447	G	N9-C1'-C2'	6.26	122.14	114.00
1	0	700	C	N1-C1'-C2'	6.25	122.13	114.00
1	0	1670	G	N9-C1'-C2'	6.24	122.11	114.00
1	0	1474	A	N9-C1'-C2'	6.21	122.08	114.00
1	0	399	G	N9-C1'-C2'	6.21	122.07	114.00
1	0	582	G	N9-C1'-C2'	6.17	122.02	114.00
1	0	1357	U	N1-C1'-C2'	6.15	121.99	114.00
1	0	2634	G	N9-C1'-C2'	6.06	121.88	114.00
1	0	2484	G	O4'-C1'-N9	6.03	113.02	108.20
1	0	1250	A	N9-C1'-C2'	5.97	121.76	114.00
1	0	1807	A	N9-C1'-C2'	5.96	121.74	114.00
1	0	2660	C	C2'-C3'-O3'	5.90	123.14	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2545	A	N9-C1'-C2'	5.89	121.66	114.00
1	0	571	U	N1-C1'-C2'	5.88	121.64	114.00
1	0	1036	G	N9-C1'-C2'	5.88	121.64	114.00
1	0	2589	C	O4'-C1'-N1	5.85	112.88	108.20
1	0	1167	A	N9-C1'-C2'	5.82	121.56	114.00
1	0	2408	G	C2'-C3'-O3'	5.77	122.93	113.70
1	0	2476	A	N9-C1'-C2'	5.77	121.50	114.00
1	0	844	G	N9-C1'-C2'	-5.74	105.69	112.00
1	0	804	C	N1-C1'-C2'	5.73	121.44	114.00
1	0	1975	G	N9-C1'-C2'	5.71	121.43	114.00
1	0	1410	U	N1-C1'-C2'	5.68	121.38	114.00
1	0	459	A	N9-C1'-C2'	5.66	121.36	114.00
1	0	805	G	N9-C1'-C2'	5.61	121.30	114.00
1	0	686	C	N1-C1'-C2'	-5.59	105.85	112.00
1	0	2043	A	O4'-C1'-N9	5.58	112.67	108.20
1	0	2824	C	N1-C1'-C2'	5.58	121.25	114.00
1	0	700	C	N3-C2-O2	-5.57	118.00	121.90
1	0	700	C	N1-C2-O2	5.57	122.24	118.90
1	0	2497	A	O4'-C1'-N9	5.54	112.63	108.20
1	0	2841	U	N1-C1'-C2'	5.51	121.17	114.00
1	0	1142	G	N9-C1'-C2'	5.50	121.15	114.00
1	0	485	G	N9-C1'-C2'	5.48	121.12	114.00
1	0	2254	C	N1-C1'-C2'	5.44	121.07	114.00
1	0	424	G	N9-C1'-C2'	5.43	121.06	114.00
1	0	1249	G	N9-C1'-C2'	5.42	121.05	114.00
1	0	559	C	N1-C1'-C2'	-5.42	106.04	112.00
1	0	2624	G	N9-C1'-C2'	5.41	121.03	114.00
1	0	1288	A	N9-C1'-C2'	5.39	121.00	114.00
1	0	2482	A	C5'-C4'-C3'	-5.38	107.38	116.00
1	0	59	G	N9-C1'-C2'	5.37	120.97	114.00
1	0	776	G	N9-C1'-C2'	5.36	120.97	114.00
1	0	172	A	O4'-C1'-N9	5.33	112.46	108.20
1	0	2014	A	N9-C1'-C2'	5.32	120.92	114.00
1	0	2692	A	O4'-C4'-C3'	-5.32	98.68	104.00
1	0	1410	U	O4'-C1'-N1	5.26	112.41	108.20
1	0	123	A	N9-C1'-C2'	5.23	120.80	114.00
1	0	1353	A	N9-C1'-C2'	5.21	120.77	114.00
1	0	956	A	N9-C1'-C2'	5.20	120.76	114.00
1	0	698	A	N9-C1'-C2'	5.19	120.75	114.00
1	0	2237	C	C4'-C3'-O3'	-5.19	98.50	109.40
1	0	2437	G	N9-C1'-C2'	5.17	120.72	114.00
1	0	2795	A	N9-C1'-C2'	5.17	120.72	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2407	G	OP2-P-O3'	5.16	116.54	105.20
1	0	795	A	C5'-C4'-O4'	-5.14	102.93	109.10
1	0	1715	A	C5'-C4'-O4'	-5.14	102.93	109.10
1	0	1263	G	N9-C1'-C2'	5.12	120.66	114.00
1	0	403	A	N9-C1'-C2'	5.12	120.65	114.00
1	0	1477	C	C5'-C4'-C3'	-5.09	107.85	116.00
1	0	2712	G	N9-C1'-C2'	5.06	120.57	114.00
1	0	1749	G	C2'-C3'-O3'	5.04	121.77	113.70
1	0	334	G	C2'-C3'-O3'	5.04	121.76	113.70
1	0	468	A	N9-C1'-C2'	5.02	120.53	114.00
1	0	878	C	N1-C1'-C2'	5.02	120.53	114.00

There are no chirality outliers.

All (121) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1000	G	Sidechain
1	0	1036	G	Sidechain
1	0	123	A	Sidechain
1	0	1236	G	Sidechain
1	0	1250	A	Sidechain
1	0	1251	G	Sidechain
1	0	1261	G	Sidechain
1	0	1268	U	Sidechain
1	0	1285	A	Sidechain
1	0	1286	U	Sidechain
1	0	1288	A	Sidechain
1	0	13	A	Sidechain
1	0	1313	U	Sidechain
1	0	1325	U	Sidechain
1	0	1332	G	Sidechain
1	0	1333	G	Sidechain
1	0	1365	U	Sidechain
1	0	1408	A	Sidechain
1	0	1410	U	Sidechain
1	0	1458	A	Sidechain
1	0	1466	C	Sidechain
1	0	1469	U	Sidechain
1	0	15	G	Sidechain
1	0	1624	A	Sidechain
1	0	1632	A	Sidechain
1	0	1634	A	Sidechain

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Mol	Chain	Res	Type	Group
1	0	165	G	Sidechain
1	0	1666	G	Sidechain
1	0	1671	A	Sidechain
1	0	1673	C	Sidechain
1	0	1682	A	Sidechain
1	0	1695	U	Sidechain
1	0	1697	U	Sidechain
1	0	1705	U	Sidechain
1	0	1706	A	Sidechain
1	0	1715	A	Sidechain
1	0	172	A	Sidechain
1	0	1791	C	Sidechain
1	0	187	U	Sidechain
1	0	1964	A	Sidechain
1	0	1974	U	Sidechain
1	0	1975	G	Sidechain
1	0	1992	G	Sidechain
1	0	1994	U	Sidechain
1	0	1999	U	Sidechain
1	0	201	G	Sidechain
1	0	2010	G	Sidechain
1	0	2011	U	Sidechain
1	0	2014	A	Sidechain
1	0	2018	G	Sidechain
1	0	2041	A	Sidechain
1	0	2058	U	Sidechain
1	0	2062	U	Sidechain
1	0	2063	A	Sidechain
1	0	211	U	Sidechain
1	0	218	A	Sidechain
1	0	219	G	Sidechain
1	0	2225	G	Sidechain
1	0	2234	G	Sidechain
1	0	2237	C	Sidechain
1	0	2247	A	Sidechain
1	0	2254	C	Sidechain
1	0	2392	G	Sidechain
1	0	2447	G	Sidechain
1	0	2488	G	Sidechain
1	0	2544	A	Sidechain
1	0	2548	G	Sidechain
1	0	2553	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2586	G	Sidechain
1	0	2594	U	Sidechain
1	0	2599	U	Sidechain
1	0	2603	G	Sidechain
1	0	2616	U	Sidechain
1	0	2663	U	Sidechain
1	0	2668	U	Sidechain
1	0	2693	U	Sidechain
1	0	2701	A	Sidechain
1	0	2712	G	Sidechain
1	0	2761	A	Sidechain
1	0	2790	C	Sidechain
1	0	2793	G	Sidechain
1	0	2795	A	Sidechain
1	0	2807	U	Sidechain
1	0	2813	G	Sidechain
1	0	2824	C	Sidechain
1	0	2836	U	Sidechain
1	0	2847	G	Sidechain
1	0	2863	U	Sidechain
1	0	2865	G	Sidechain
1	0	396	U	Sidechain
1	0	397	U	Sidechain
1	0	403	A	Sidechain
1	0	444	U	Sidechain
1	0	447	U	Sidechain
1	0	469	G	Sidechain
1	0	474	G	Sidechain
1	0	48	A	Sidechain
1	0	481	A	Sidechain
1	0	486	U	Sidechain
1	0	537	C	Sidechain
1	0	541	C	Sidechain
1	0	555	U	Sidechain
1	0	559	C	Sidechain
1	0	594	G	Sidechain
1	0	67	G	Sidechain
1	0	686	C	Sidechain
1	0	689	A	Sidechain
1	0	757	U	Sidechain
1	0	761	G	Sidechain
1	0	804	C	Sidechain

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Mol	Chain	Res	Type	Group
1	0	814	G	Sidechain
1	0	816	U	Sidechain
1	0	818	G	Sidechain
1	0	82	G	Sidechain
1	0	824	U	Sidechain
1	0	845	U	Sidechain
1	0	873	U	Sidechain
1	0	919	U	Sidechain
1	0	954	U	Sidechain
1	0	974	U	Sidechain
1	0	993	C	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	3642	0
2	B	215	0	12	5	0
3	0	36	0	34	2	0
All	All	59610	0	29963	3646	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 41.

All (3646) 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)
1:0:1280:U:C5	1:0:1995:G:C2	2.04	1.44
1:0:1440:G:H3'	1:0:1441:A:C5'	1.66	1.25
1:0:699:G:N2	1:0:801:A:H2	1.40	1.18
1:0:1440:G:C3'	1:0:1441:A:H5"	1.75	1.16
1:0:2205:C:O2'	1:0:2206:C:H5'	1.42	1.16
1:0:1280:U:H5	1:0:1995:G:N1	1.44	1.13
1:0:1463:A:H1'	1:0:1543:G:N2	1.63	1.11
1:0:788:G:N2	1:0:800:U:H2'	1.65	1.09
1:0:940:G:H3'	1:0:941:U:H5"	1.28	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:88:G:H3'	1:0:89:A:H5"	1.33	1.08
1:0:631:G:H4'	1:0:632:A:H5"	1.28	1.08
1:0:2770:A:H4'	1:0:2867:G:N2	1.68	1.07
1:0:942:U:H2'	1:0:943:U:H4'	1.31	1.07
1:0:1908:C:H2'	1:0:1909:U:H4'	1.34	1.07
1:0:2770:A:H5'	1:0:2867:G:H1	1.19	1.07
1:0:1463:A:C1'	1:0:1543:G:H22	1.67	1.06
1:0:1466:C:H2'	1:0:1467:U:O4'	1.54	1.05
1:0:475:U:H1'	1:0:699:G:H1	1.16	1.04
1:0:2482:A:H5'	1:0:2483:U:OP2	1.58	1.04
1:0:2770:A:H4'	1:0:2867:G:H22	0.90	1.04
1:0:1333:G:N2	1:0:1344:C:H41	1.56	1.03
1:0:699:G:N2	1:0:801:A:C2	2.26	1.03
1:0:357:A:H2'	1:0:358:C:H5'	1.41	1.03
1:0:1430:G:H22	1:0:1599:G:H1'	1.22	1.03
1:0:1153:A:H5"	1:0:1154:A:OP1	1.57	1.03
1:0:788:G:N2	1:0:800:U:C2'	2.22	1.02
1:0:2708:U:H2'	1:0:2709:C:C6	1.94	1.02
1:0:976:C:H5'	1:0:2252:A:H1'	1.42	1.02
1:0:1463:A:H1'	1:0:1543:G:H22	0.88	1.02
1:0:2782:G:H5'	1:0:2783:U:OP2	1.59	1.02
1:0:813:A:O2'	1:0:814:G:H3'	1.60	1.01
1:0:2770:A:C4'	1:0:2867:G:H22	1.73	1.01
1:0:841:G:H2'	1:0:842:A:C8	1.95	1.00
1:0:2564:U:H4'	1:0:2565:C:OP1	1.58	1.00
1:0:2569:A:H2'	1:0:2570:C:H6	1.28	0.99
1:0:1680:U:H6	1:0:1680:U:H5'	1.25	0.98
1:0:1073:G:H2'	1:0:1074:G:H4'	1.45	0.98
1:0:66:U:H2'	1:0:67:G:C8	2.00	0.97
1:0:929:A:H3'	1:0:930:A:H5"	1.47	0.96
1:0:1918:G:H1'	1:0:1947:G:N2	1.80	0.96
1:0:51:A:C2	1:0:155:G:H1'	1.99	0.96
1:0:940:G:H3'	1:0:941:U:C5'	1.94	0.96
1:0:1764:A:H2'	1:0:1765:C:H5'	1.48	0.96
1:0:2484:G:O2'	1:0:2485:U:H5"	1.66	0.95
1:0:225:G:C2	1:0:2410:U:H4'	2.02	0.95
1:0:813:A:H1'	1:0:815:A:H5'	1.48	0.95
1:0:1158:A:H2'	1:0:1159:U:O4'	1.65	0.95
1:0:788:G:H22	1:0:801:A:P	1.90	0.95
1:0:2306:A:H2'	1:0:2307:A:C8	2.02	0.95
1:0:538:A:C2	1:0:2025:A:H2'	2.02	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:788:G:C5'	1:0:790:A:H1'	1.97	0.94
1:0:1373:G:H22	1:0:2192:U:H3	1.04	0.94
1:0:2811:G:H2'	1:0:2812:A:H8	1.32	0.94
1:0:918:A:H2'	1:0:919:U:H5"	1.47	0.94
1:0:2560:G:H1	1:0:2589:C:H6	0.98	0.94
1:0:668:A:H2'	1:0:669:G:O4'	1.67	0.94
1:0:1354:A:H3'	1:0:1410:U:C2	2.02	0.94
1:0:1223:G:H5'	1:0:1225:G:O4'	1.65	0.94
1:0:5:A:H2'	1:0:6:A:C8	2.01	0.94
1:0:1459:U:H5"	1:0:1460:G:OP1	1.68	0.94
1:0:1465:G:OP1	1:0:1465:G:H4'	1.67	0.94
1:0:1685:A:H61	1:0:1693:A:H61	0.99	0.94
1:0:2370:G:N3	1:0:2408:G:N2	2.16	0.94
1:0:2759:U:O5'	1:0:2759:U:H6	1.51	0.94
1:0:1876:C:H2'	1:0:1877:C:H5'	1.49	0.94
1:0:1280:U:C5	1:0:1995:G:N2	2.35	0.93
1:0:1949:A:H1'	1:0:2572:U:H4'	1.49	0.93
1:0:539:A:H62	1:0:2024:U:H3	1.07	0.92
1:0:1280:U:H5	1:0:1995:G:C2	1.58	0.92
1:0:1679:U:H2'	1:0:1680:U:H5"	1.50	0.92
1:0:2672:U:H2'	1:0:2673:G:H8	1.31	0.92
1:0:58:C:H1'	1:0:72:A:C8	2.05	0.92
1:0:941:U:H2'	1:0:942:U:O4'	1.69	0.92
1:0:2569:A:H2'	1:0:2570:C:C6	2.04	0.91
1:0:109:A:H2'	1:0:110:U:H5"	1.50	0.91
1:0:541:C:N4	1:0:2001:G:H22	1.69	0.91
1:0:1430:G:N2	1:0:1599:G:H1'	1.85	0.91
1:0:2811:G:H2'	1:0:2812:A:C8	2.04	0.91
1:0:788:G:N2	1:0:801:A:P	2.44	0.91
1:0:5:A:H2'	1:0:6:A:H8	1.32	0.90
1:0:2691:C:H2'	1:0:2692:A:H5"	1.53	0.90
1:0:2871:U:H2'	1:0:2872:U:C6	2.05	0.90
1:0:1177:U:H3	1:0:1196:G:H1	1.14	0.90
1:0:155:G:O2'	1:0:156:G:H5'	1.70	0.90
1:0:1685:A:N6	1:0:1693:A:H61	1.69	0.90
1:0:4:C:C2'	1:0:5:A:H5'	2.03	0.89
1:0:1438:G:H2'	1:0:1439:G:O4'	1.73	0.89
1:0:1685:A:H61	1:0:1693:A:N6	1.70	0.89
1:0:532:A:H2'	1:0:533:C:C6	2.08	0.89
1:0:168:A:H2'	1:0:169:C:C6	2.08	0.89
1:0:1252:C:O2'	1:0:1253:C:H5"	1.73	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:699:G:H5'	1:0:700:C:OP2	1.73	0.88
1:0:2261:G:H4'	1:0:2262:C:OP2	1.71	0.88
1:0:538:A:C2	1:0:2026:C:H5"	2.07	0.88
1:0:619:A:H2'	1:0:620:G:C8	2.08	0.88
1:0:1191:G:H2'	1:0:1192:A:H8	1.37	0.88
1:0:2273:C:H2'	1:0:2274:C:H6	1.38	0.88
1:0:4:C:H2'	1:0:5:A:O4'	1.74	0.88
1:0:746:G:N7	1:0:774:A:C5	2.41	0.88
1:0:631:G:H4'	1:0:632:A:C5'	2.03	0.88
1:0:2696:A:O2'	1:0:2697:G:H5'	1.74	0.88
1:0:2866:A:H2'	1:0:2867:G:C8	2.08	0.88
1:0:29:U:O5'	1:0:29:U:H6	1.57	0.87
1:0:2523:G:H2'	1:0:2524:G:H8	1.39	0.87
2:B:144:ARG:C	2:B:145:LYS:CA	2.43	0.87
1:0:1685:A:H4'	1:0:1686:A:C5'	2.05	0.86
1:0:2708:U:H2'	1:0:2709:C:H6	1.28	0.86
1:0:211:U:O2	1:0:211:U:H2'	1.75	0.86
1:0:616:U:H2'	1:0:617:U:H5"	1.54	0.86
1:0:2810:A:HO2'	1:0:2811:G:H8	0.90	0.86
1:0:1199:U:H3'	1:0:1200:G:H5"	1.55	0.86
1:0:460:U:O4	1:0:592:G:H1'	1.75	0.86
1:0:1351:G:O2'	1:0:1352:G:H5'	1.74	0.86
1:0:1595:A:H2'	1:0:1596:A:H8	1.40	0.86
1:0:814:G:O2'	1:0:815:A:OP1	1.92	0.85
1:0:2781:G:H2'	1:0:2782:G:H1'	1.58	0.85
1:0:2691:C:C2'	1:0:2692:A:H5"	2.06	0.85
1:0:1978:U:H5"	1:0:1979:C:H5"	1.58	0.85
1:0:2096:U:H2'	1:0:2097:A:H5"	1.58	0.85
1:0:2496:C:O2'	1:0:2497:A:H3'	1.74	0.85
1:0:1921:A:H2'	1:0:1922:U:H5"	1.59	0.85
1:0:1625:A:H1'	1:0:1632:A:O2'	1.76	0.85
1:0:1683:G:H2'	1:0:1684:G:H5'	1.57	0.85
1:0:139:A:H2'	1:0:140:G:H8	1.38	0.85
1:0:1313:U:H4'	1:0:1314:A:O5'	1.76	0.85
1:0:2311:U:H4'	1:0:2315:A:H61	1.41	0.85
1:0:1458:A:H3'	1:0:1459:U:O4'	1.77	0.84
1:0:2870:C:H2'	1:0:2871:U:H6	1.42	0.84
1:0:931:G:N2	1:0:2247:A:H5'	1.93	0.84
1:0:239:A:H5"	1:0:620:G:H5'	1.59	0.84
1:0:689:A:H8	1:0:2422:C:H1'	1.41	0.84
1:0:833:A:H1'	1:0:954:U:H1'	1.60	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2205:C:O2'	1:0:2206:C:C5'	2.25	0.84
1:0:1174:G:H2'	1:0:1175:A:H8	1.42	0.84
1:0:2198:U:H3'	1:0:2199:C:H5"	1.60	0.84
1:0:475:U:H1'	1:0:699:G:N1	1.91	0.84
1:0:455:A:H2	1:0:1258:G:N3	1.74	0.84
1:0:1563:U:H2'	1:0:1564:U:H6	1.42	0.84
1:0:2077:G:H22	1:0:2179:C:H1'	1.40	0.84
1:0:2810:A:H3'	1:0:2810:A:H8	1.42	0.84
1:0:77:C:H2'	1:0:78:C:H6	1.41	0.84
1:0:2404:A:H5'	1:0:2406:C:O4'	1.78	0.84
1:0:2712:G:H3'	1:0:2713:A:H5'	1.59	0.84
1:0:536:A:N6	1:0:2605:C:H4'	1.92	0.83
1:0:940:G:H2'	1:0:941:U:H4'	1.58	0.83
1:0:1280:U:C5	1:0:1995:G:N1	2.30	0.83
1:0:1685:A:H4'	1:0:1686:A:H5'	1.60	0.83
1:0:51:A:H2	1:0:155:G:H1'	1.41	0.83
1:0:788:G:H5'	1:0:790:A:H1'	1.59	0.83
1:0:2562:G:N2	1:0:2563:U:H1'	1.93	0.83
1:0:2803:C:O2'	1:0:2804:G:H5'	1.79	0.83
1:0:1055:A:N1	1:0:1122:A:H5'	1.92	0.83
1:0:1563:U:H2'	1:0:1564:U:C6	2.14	0.83
1:0:2198:U:H3'	1:0:2199:C:C5'	2.09	0.83
1:0:2051:U:H3	1:0:2409:A:H2	1.23	0.82
1:0:2560:G:N1	1:0:2589:C:C6	2.46	0.82
1:0:2761:A:H5"	1:0:2762:G:H5'	1.61	0.82
1:0:1468:A:H5'	1:0:1472:C:N4	1.93	0.82
2:B:143:GLN:CA	2:B:144:ARG:N	2.42	0.82
1:0:1279:G:H1'	1:0:1280:U:C5	2.14	0.82
1:0:1624:A:O2'	1:0:1625:A:H5'	1.78	0.82
1:0:619:A:H61	1:0:629:C:H42	1.27	0.82
1:0:1345:G:N3	1:0:1625:A:N1	2.27	0.82
1:0:2311:U:H4'	1:0:2315:A:N6	1.95	0.82
1:0:984:A:H1'	1:0:1202:U:C5	2.14	0.82
1:0:1623:C:H5'	1:0:1624:A:H5"	1.62	0.82
1:0:1625:A:H3'	1:0:1625:A:N3	1.95	0.82
1:0:1807:A:H1'	1:0:1809:G:C8	2.13	0.82
1:0:2729:A:H62	1:0:2733:A:H61	1.23	0.82
1:0:689:A:C8	1:0:2422:C:H1'	2.15	0.82
1:0:388:G:H2'	1:0:389:G:H8	1.43	0.82
1:0:788:G:H5"	1:0:790:A:H1'	1.62	0.82
1:0:930:A:H5'	1:0:931:G:C8	2.15	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:577:U:C5'	1:0:956:A:H62	1.92	0.82
1:0:2769:C:H3'	1:0:2770:A:O4'	1.79	0.82
1:0:12:U:O2	1:0:12:U:H2'	1.80	0.81
1:0:173:A:H61	1:0:844:G:H21	1.24	0.81
1:0:839:U:OP1	1:0:2408:G:OP2	1.98	0.81
1:0:1073:G:H2'	1:0:1074:G:C4'	2.09	0.81
1:0:1888:C:H5"	1:0:1889:G:H5"	1.62	0.81
1:0:2370:G:H21	1:0:2408:G:H21	1.26	0.81
1:0:2780:A:H2'	1:0:2781:G:H8	1.42	0.81
1:0:942:U:C2'	1:0:943:U:H4'	2.11	0.81
1:0:1572:C:C2'	1:0:1573:G:H5"	2.10	0.81
1:0:1922:U:H1'	1:0:2570:C:O2'	1.79	0.81
1:0:2672:U:H2'	1:0:2673:G:C8	2.15	0.81
1:0:2691:C:C3'	1:0:2692:A:H5"	2.10	0.81
1:0:109:A:C2'	1:0:110:U:H5"	2.10	0.81
1:0:577:U:H5'	1:0:956:A:H62	1.42	0.81
1:0:1190:C:H2'	1:0:1191:G:H8	1.43	0.81
1:0:1715:A:N3	1:0:1717:A:O4'	2.14	0.81
1:0:2624:G:H4'	1:0:2712:G:O2'	1.81	0.81
1:0:541:C:H41	1:0:2001:G:H22	1.22	0.81
1:0:66:U:H2'	1:0:67:G:N7	1.96	0.81
1:0:878:C:H4'	1:0:879:A:N7	1.95	0.81
1:0:1595:A:H2'	1:0:1596:A:C8	2.16	0.81
1:0:1679:U:C2'	1:0:1680:U:H5"	2.09	0.81
1:0:957:G:O2'	1:0:958:G:H5'	1.80	0.81
1:0:2469:G:H4'	1:0:2470:U:OP1	1.78	0.81
1:0:1923:U:HO2'	1:0:1924:C:H5	1.27	0.81
1:0:1997:A:H2'	1:0:1998:A:C8	2.15	0.80
1:0:665:A:H3'	1:0:666:U:H5"	1.62	0.80
1:0:1058:G:H2'	1:0:1121:G:H1	1.45	0.80
1:0:1572:C:H2'	1:0:1573:G:H5"	1.62	0.80
1:0:719:A:H2'	1:0:720:A:O4'	1.81	0.80
1:0:922:A:H2'	1:0:923:A:C8	2.17	0.80
1:0:1714:A:H5'	1:0:1715:A:H5"	1.63	0.80
1:0:2311:U:C4'	1:0:2315:A:H61	1.94	0.80
1:0:732:G:H2'	1:0:733:G:H8	1.46	0.80
1:0:1373:G:N2	1:0:2192:U:H3	1.80	0.80
1:0:2785:A:H2'	1:0:2786:G:H5'	1.60	0.80
1:0:836:G:H2'	1:0:837:U:C6	2.16	0.80
1:0:1826:U:H1'	1:0:1955:G:N2	1.96	0.80
1:0:317:U:H2'	1:0:318:G:H5"	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:633:G:H2'	1:0:634:G:C8	2.17	0.79
1:0:1260:A:N6	1:0:1262:U:H1'	1.97	0.79
1:0:1748:U:H5'	1:0:1749:G:H5"	1.63	0.79
1:0:441:A:H2'	1:0:442:A:O4'	1.82	0.79
1:0:482:A:H2'	1:0:483:A:O4'	1.83	0.79
1:0:799:C:H2'	1:0:800:U:H6	1.47	0.79
1:0:1194:U:H2'	1:0:1195:U:C6	2.17	0.79
1:0:1280:U:C4	1:0:1995:G:C2	2.70	0.79
1:0:805:G:H2'	1:0:2419:C:O2	1.82	0.79
1:0:1582:A:C2'	1:0:1583:A:OP1	2.31	0.79
1:0:2014:A:C6	1:0:2477:C:H1'	2.16	0.79
1:0:1922:U:O2	1:0:2571:G:H5'	1.81	0.79
1:0:1978:U:H5"	1:0:1979:C:C5'	2.13	0.79
1:0:38:G:H1	1:0:453:U:H3	1.31	0.79
1:0:532:A:H2'	1:0:533:C:H6	1.45	0.79
1:0:987:G:H5'	1:0:1167:A:N6	1.97	0.78
1:0:1442:C:N4	1:0:1585:A:C8	2.51	0.78
1:0:2447:G:H22	1:0:2460:G:H2'	1.46	0.78
1:0:813:A:H1'	1:0:815:A:C5'	2.13	0.78
1:0:861:G:H2'	1:0:862:A:C8	2.16	0.78
1:0:1337:G:H1'	1:0:1632:A:N6	1.99	0.78
1:0:2117:A:N6	1:0:2139:G:H21	1.82	0.78
1:0:2661:G:O2'	1:0:2662:C:H5'	1.84	0.78
1:0:487:G:H4'	1:0:512:A:N1	1.98	0.78
1:0:1949:A:O2'	1:0:2572:U:H5'	1.83	0.78
1:0:2199:C:H2'	1:0:2200:G:C8	2.19	0.78
1:0:71:A:O2'	1:0:72:A:OP1	2.01	0.78
1:0:1404:C:N4	1:0:1407:G:C8	2.52	0.78
1:0:2484:G:O2'	1:0:2485:U:C5'	2.30	0.78
1:0:1983:G:N2	1:0:2668:U:O4	2.12	0.78
1:0:2498:U:H4'	1:0:2499:C:OP1	1.82	0.78
1:0:62:U:O2'	1:0:63:A:C8	2.36	0.78
1:0:2563:U:O2	1:0:2564:U:C6	2.37	0.78
1:0:1591:U:H2'	1:0:1592:U:O4'	1.84	0.78
1:0:1871:G:H3'	1:0:1871:G:N3	1.99	0.78
1:0:1996:A:O2'	1:0:1997:A:H5'	1.83	0.78
1:0:2810:A:H3'	1:0:2810:A:C8	2.19	0.78
1:0:541:C:N4	1:0:2001:G:H1	1.81	0.77
1:0:619:A:H61	1:0:629:C:N4	1.82	0.77
1:0:1054:C:H2'	1:0:1055:A:H5'	1.65	0.77
1:0:2782:G:H3'	1:0:2783:U:H5"	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2810:A:O2'	1:0:2811:G:H8	1.68	0.77
1:0:1337:G:H1'	1:0:1632:A:H62	1.49	0.77
1:0:2761:A:C5'	1:0:2762:G:H5'	2.15	0.77
1:0:27:G:N2	1:0:522:G:O2'	2.17	0.77
1:0:1174:G:H2'	1:0:1175:A:C8	2.20	0.77
1:0:1443:G:H2'	1:0:1444:C:C6	2.19	0.77
1:0:1844:C:O2'	1:0:1845:A:H5'	1.85	0.77
1:0:225:G:O5'	1:0:226:C:H5'	1.85	0.77
1:0:788:G:C2	1:0:800:U:H2'	2.20	0.77
1:0:1260:A:H62	1:0:1262:U:H1'	1.50	0.77
1:0:2133:G:H2'	1:0:2134:U:C6	2.20	0.77
1:0:2564:U:C4'	1:0:2565:C:OP1	2.31	0.77
1:0:665:A:H3'	1:0:666:U:C5'	2.14	0.77
1:0:804:C:O2	1:0:804:C:H2'	1.85	0.77
1:0:1714:A:H5'	1:0:1715:A:C5'	2.14	0.77
1:0:1774:A:N1	1:0:2566:A:H2'	2.00	0.77
1:0:163:A:H2'	1:0:164:G:H8	1.50	0.76
1:0:542:A:H62	1:0:570:G:H21	1.33	0.76
1:0:83:A:H4'	1:0:84:G:O5'	1.84	0.76
1:0:659:G:H2'	1:0:660:G:C8	2.20	0.76
1:0:2758:A:O2'	1:0:2759:U:OP1	2.03	0.76
1:0:68:C:O2	1:0:68:C:H2'	1.84	0.76
1:0:475:U:C1'	1:0:699:G:H1	1.95	0.76
1:0:1754:G:OP1	1:0:1754:G:H4'	1.86	0.76
1:0:787:A:C4	1:0:788:G:N7	2.53	0.76
1:0:1440:G:H3'	1:0:1441:A:H5"	0.83	0.76
1:0:995:A:H5"	1:0:996:C:H5	1.50	0.76
1:0:1190:C:H2'	1:0:1191:G:C8	2.21	0.76
1:0:1454:U:H2'	1:0:1455:C:H6	1.50	0.76
1:0:2791:C:O2'	1:0:2792:C:H5'	1.86	0.76
1:0:2185:U:H2'	1:0:2186:G:H8	1.50	0.76
1:0:2523:G:H2'	1:0:2524:G:C8	2.20	0.75
1:0:239:A:H2	1:0:443:A:N3	1.83	0.75
1:0:541:C:H42	1:0:2001:G:H1	1.33	0.75
1:0:1900:U:O2'	1:0:1946:U:H5'	1.87	0.75
1:0:2742:G:O2'	1:0:2743:G:H5'	1.85	0.75
1:0:541:C:N4	1:0:572:G:C8	2.54	0.75
1:0:890:U:H2'	1:0:891:A:C8	2.21	0.75
1:0:1279:G:H4'	1:0:1280:U:O5'	1.85	0.75
1:0:968:C:H4'	1:0:969:U:OP1	1.86	0.75
1:0:976:C:H5'	1:0:2252:A:C1'	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1354:A:O5'	1:0:1410:U:C4	2.39	0.75
1:0:2563:U:H2'	1:0:2564:U:H6	1.50	0.75
1:0:1830:C:N4	1:0:1881:U:H3'	2.01	0.75
1:0:1963:G:O2'	1:0:1964:A:OP1	2.03	0.75
1:0:2194:A:C3'	1:0:2195:C:H5"	2.16	0.75
1:0:2625:U:O5'	1:0:2625:U:H6	1.69	0.75
1:0:181:A:H4'	1:0:182:G:OP1	1.84	0.75
1:0:634:G:H2'	1:0:635:C:C6	2.21	0.75
1:0:1333:G:N2	1:0:1344:C:N4	2.33	0.75
1:0:1845:A:H2'	1:0:1846:A:C8	2.21	0.75
1:0:2205:C:HO2'	1:0:2206:C:H5'	1.51	0.75
1:0:2397:A:H2'	1:0:2398:U:O4'	1.86	0.75
1:0:2770:A:H5'	1:0:2867:G:N1	1.98	0.75
1:0:428:A:H2'	1:0:429:C:C6	2.22	0.75
1:0:699:G:C2	1:0:801:A:H2	2.05	0.75
1:0:1341:G:H2'	1:0:1343:C:C5	2.21	0.75
1:0:2053:G:H2'	1:0:2054:A:C8	2.21	0.75
1:0:2309:G:H2'	1:0:2310:G:O4'	1.86	0.75
1:0:216:U:H5"	1:0:601:A:N6	2.02	0.75
1:0:514:G:N3	1:0:514:G:H2'	2.02	0.75
1:0:603:C:H2'	1:0:604:U:C6	2.21	0.75
1:0:1198:C:O3'	1:0:1199:U:H4'	1.87	0.75
1:0:1278:A:H4'	1:0:1279:G:O5'	1.86	0.75
1:0:1673:C:H2'	1:0:1674:C:H6	1.52	0.75
1:0:1938:U:O2'	1:0:1939:U:OP1	2.03	0.74
1:0:246:C:OP2	1:0:372:U:O2'	2.03	0.74
1:0:537:C:O2'	1:0:538:A:C4	2.37	0.74
1:0:833:A:N3	1:0:954:U:O2'	2.18	0.74
1:0:879:A:H2'	1:0:879:A:N3	2.02	0.74
1:0:1016:C:C5	1:0:1154:A:H1'	2.21	0.74
1:0:1420:A:H2'	1:0:1421:U:C6	2.22	0.74
1:0:1582:A:H2'	1:0:1583:A:OP1	1.87	0.74
1:0:940:G:H2'	1:0:941:U:C4'	2.16	0.74
1:0:2727:G:H2'	1:0:2728:A:H5"	1.70	0.74
1:0:1386:A:H5"	1:0:2191:A:H62	1.52	0.74
1:0:542:A:H62	1:0:570:G:N2	1.86	0.74
1:0:2563:U:O2	1:0:2564:U:C5	2.41	0.74
1:0:645:G:H2'	1:0:646:C:C6	2.22	0.74
1:0:1764:A:C2'	1:0:1765:C:H5'	2.16	0.74
1:0:1004:A:C5	1:0:1005:U:H5	2.06	0.74
1:0:2004:U:O2'	1:0:2005:U:OP1	2.05	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:837:U:H3	1:0:846:A:H61	1.36	0.74
1:0:1918:G:H1'	1:0:1947:G:C2	2.23	0.74
1:0:2074:U:O4	1:0:2075:U:H5	1.71	0.74
1:0:2769:C:O2'	1:0:2866:A:N1	2.20	0.74
1:0:699:G:H2'	1:0:699:G:N3	2.02	0.74
1:0:2370:G:N2	1:0:2408:G:H21	1.86	0.74
1:0:2713:A:O2'	1:0:2714:A:H5'	1.88	0.74
1:0:2425:G:C2'	1:0:2426:G:H5'	2.18	0.73
1:0:942:U:H2'	1:0:943:U:C4'	2.13	0.73
1:0:48:A:N6	1:0:154:U:C5	2.56	0.73
1:0:219:G:N2	1:0:231:G:H2'	2.03	0.73
1:0:987:G:H4'	1:0:1167:A:N7	2.02	0.73
1:0:2286:G:H2'	1:0:2286:G:N3	2.03	0.73
1:0:2526:U:H2'	1:0:2527:G:H8	1.53	0.73
1:0:538:A:H2	1:0:2026:C:H5"	1.50	0.73
1:0:541:C:H41	1:0:2001:G:N2	1.86	0.73
1:0:871:U:O2	1:0:2248:A:H5'	1.89	0.73
1:0:890:U:H2'	1:0:891:A:H8	1.53	0.73
1:0:2199:C:H2'	1:0:2200:G:H8	1.52	0.73
1:0:1979:C:H2'	1:0:1980:A:O5'	1.89	0.73
1:0:2070:G:O2'	1:0:2071:G:H5'	1.88	0.73
1:0:34:U:H5	1:0:466:A:N3	1.86	0.73
1:0:830:C:O2'	1:0:852:U:H5"	1.86	0.73
1:0:2447:G:N2	1:0:2460:G:H2'	2.02	0.73
1:0:788:G:N2	1:0:800:U:C3'	2.51	0.73
1:0:1606:C:H2'	1:0:1607:A:H8	1.54	0.73
3:0:2881:G19:H10	3:0:2881:G19:H14	1.71	0.73
1:0:818:G:O6	1:0:2051:U:H5"	1.89	0.73
1:0:1710:U:H3	1:0:1821:A:H61	1.35	0.73
1:0:1923:U:O2'	1:0:1924:C:H5	1.71	0.73
1:0:542:A:H8	1:0:542:A:H3'	1.53	0.73
1:0:619:A:N6	1:0:629:C:H42	1.85	0.73
1:0:2269:G:H22	1:0:2322:U:H1'	1.53	0.73
1:0:171:G:H2'	1:0:172:A:O4'	1.89	0.73
1:0:836:G:H2'	1:0:837:U:H6	1.52	0.73
1:0:955:G:H8	1:0:955:G:H3'	1.53	0.73
1:0:1528:C:H3'	1:0:1529:C:H5"	1.70	0.73
1:0:2077:G:N2	1:0:2179:C:H1'	2.02	0.73
1:0:1818:G:H2'	1:0:1819:U:H6	1.53	0.72
1:0:149:A:H2'	1:0:150:A:C8	2.24	0.72
1:0:205:A:C6	1:0:207:U:H1'	2.24	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:858:G:H2'	1:0:858:G:N3	2.03	0.72
1:0:1253:C:H5'	1:0:1253:C:H6	1.54	0.72
1:0:1510:A:H2'	1:0:1511:A:H5'	1.68	0.72
1:0:2313:G:O2'	1:0:2314:A:OP1	2.07	0.72
1:0:840:U:H4'	1:0:841:G:N2	2.04	0.72
1:0:1509:A:H2'	1:0:1510:A:H8	1.53	0.72
1:0:362:C:H2'	1:0:363:G:H4'	1.70	0.72
1:0:2778:U:H2'	1:0:2779:C:H5'	1.71	0.72
1:0:169:C:H2'	1:0:170:U:H5'	1.72	0.72
1:0:1029:C:H2'	1:0:1030:U:H5"	1.71	0.72
1:0:1791:C:N3	1:0:1810:U:O2	2.22	0.72
1:0:213:C:H2'	1:0:214:C:H6	1.55	0.72
1:0:1187:A:H2'	1:0:1188:A:C8	2.23	0.72
1:0:1407:G:H2'	1:0:1408:A:C8	2.24	0.72
1:0:239:A:C2	1:0:443:A:N3	2.57	0.72
1:0:313:U:O2'	1:0:314:G:H5'	1.89	0.72
1:0:668:A:O2'	1:0:669:G:H4'	1.90	0.72
1:0:1826:U:O2	1:0:1953:A:N7	2.22	0.72
1:0:816:U:C2'	1:0:817:A:H5'	2.20	0.72
1:0:1435:G:H22	1:0:1512:A:H2	1.37	0.72
1:0:619:A:H2'	1:0:620:G:H8	1.53	0.72
1:0:652:C:H42	1:0:657:A:H61	1.36	0.71
1:0:2563:U:H2'	1:0:2564:U:H5"	1.72	0.71
1:0:88:G:H3'	1:0:89:A:C5'	2.16	0.71
1:0:1804:U:H2'	1:0:1805:G:H8	1.55	0.71
1:0:861:G:O6	1:0:941:U:O4	2.07	0.71
1:0:1361:G:H2'	1:0:1362:A:C8	2.26	0.71
1:0:1410:U:O2	1:0:1410:U:H2'	1.89	0.71
1:0:2780:A:O2'	1:0:2781:G:H5'	1.90	0.71
1:0:1337:G:O3'	1:0:1632:A:N7	2.23	0.71
1:0:1355:A:H1'	1:0:1410:U:H4'	1.71	0.71
1:0:2781:G:H2'	1:0:2782:G:C1'	2.19	0.71
1:0:12:U:C2'	1:0:13:A:H5'	2.21	0.71
1:0:603:C:H2'	1:0:604:U:H6	1.56	0.71
1:0:789:G:O2'	1:0:790:A:OP2	2.08	0.71
1:0:994:A:N7	1:0:995:A:C6	2.58	0.71
1:0:1187:A:H2'	1:0:1188:A:H8	1.56	0.71
1:0:2426:G:H4'	1:0:2427:A:C5'	2.20	0.71
1:0:946:U:O2'	1:0:947:C:H5'	1.90	0.71
1:0:1422:C:H2'	1:0:1423:A:H8	1.55	0.71
1:0:1532:A:H2'	1:0:1533:G:H8	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:357:A:C2	1:0:358:C:H4'	2.26	0.71
1:0:537:C:O2	1:0:2759:U:N3	2.24	0.71
1:0:541:C:N4	1:0:2001:G:N2	2.37	0.71
1:0:698:A:O4'	1:0:700:C:N4	2.22	0.71
1:0:1383:C:H2'	1:0:1384:G:H8	1.56	0.71
1:0:1900:U:H3'	1:0:1901:A:C8	2.25	0.71
1:0:2407:G:H5"	1:0:2408:G:OP1	1.91	0.71
1:0:2507:U:HO2'	1:0:2508:G:H3'	1.55	0.71
1:0:2691:C:H3'	1:0:2692:A:H5"	1.71	0.71
1:0:428:A:H2'	1:0:429:C:H6	1.53	0.70
1:0:459:A:H1'	1:0:461:A:N6	2.06	0.70
1:0:1089:C:H2'	1:0:1099:A:O4'	1.91	0.70
1:0:388:G:H2'	1:0:389:G:C8	2.25	0.70
1:0:537:C:O2'	1:0:538:A:C5	2.40	0.70
1:0:636:G:H2'	1:0:637:G:O4'	1.91	0.70
1:0:1499:A:H2'	1:0:1500:U:C6	2.26	0.70
1:0:1541:G:N2	1:0:1562:G:H1	1.87	0.70
1:0:1826:U:H1'	1:0:1955:G:H22	1.57	0.70
1:0:2264:C:C4'	1:0:2267:A:H62	2.04	0.70
1:0:2185:U:H2'	1:0:2186:G:C8	2.25	0.70
1:0:65:C:C2'	1:0:66:U:H5'	2.21	0.70
1:0:965:G:N3	1:0:2253:A:C2	2.60	0.70
1:0:583:C:O2'	1:0:584:A:OP2	2.10	0.70
1:0:788:G:H21	1:0:800:U:H2'	1.56	0.70
1:0:2106:G:H2'	1:0:2107:G:C8	2.27	0.70
1:0:2526:U:H2'	1:0:2527:G:C8	2.26	0.70
1:0:34:U:O4	1:0:459:A:N6	2.23	0.70
1:0:48:A:H2	1:0:118:U:H3	1.39	0.70
1:0:185:C:H2'	1:0:186:C:H6	1.57	0.70
1:0:1043:A:H2	1:0:1133:G:H22	1.37	0.70
1:0:2439:U:O2'	1:0:2440:C:H5'	1.91	0.70
1:0:1459:U:C5	1:0:1459:U:OP2	2.45	0.70
1:0:1499:A:H2'	1:0:1500:U:H6	1.57	0.70
1:0:1572:C:H2'	1:0:1573:G:C5'	2.20	0.70
1:0:1279:G:H1'	1:0:1280:U:C6	2.26	0.70
1:0:1280:U:C4	1:0:1995:G:N3	2.60	0.70
1:0:1409:U:H5"	1:0:1410:U:OP2	1.90	0.70
1:0:1509:A:H2'	1:0:1510:A:C8	2.27	0.70
1:0:1655:C:H4'	1:0:2689:C:O2	1.91	0.70
1:0:1865:C:H2'	1:0:1866:G:O4'	1.91	0.70
1:0:76:C:H5'	1:0:76:C:C6	2.27	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1443:G:H2'	1:0:1444:C:H6	1.57	0.70
1:0:65:C:H2'	1:0:66:U:C4'	2.22	0.69
1:0:819:C:O2'	1:0:820:U:H5'	1.92	0.69
1:0:1380:C:H2'	1:0:1381:G:H5'	1.74	0.69
1:0:1383:C:H2'	1:0:1384:G:C8	2.27	0.69
1:0:2490:U:H2'	1:0:2491:C:O4'	1.92	0.69
1:0:2827:G:H2'	1:0:2828:C:O4'	1.92	0.69
1:0:816:U:O2'	1:0:817:A:H5'	1.92	0.69
1:0:1699:A:H61	1:0:1723:U:H3	1.39	0.69
1:0:2427:A:O2'	1:0:2428:U:OP1	2.10	0.69
1:0:91:A:H2'	1:0:92:U:C6	2.28	0.69
1:0:357:A:C2'	1:0:358:C:H5'	2.20	0.69
1:0:638:A:O2'	1:0:639:G:H5'	1.92	0.69
1:0:1544:A:H2'	1:0:1545:G:O4'	1.91	0.69
1:0:2447:G:O2'	1:0:2448:A:H5'	1.92	0.69
1:0:426:C:H4'	1:0:1863:U:O2'	1.91	0.69
1:0:712:A:H2'	1:0:713:G:O4'	1.92	0.69
1:0:822:G:C2'	1:0:823:U:H5'	2.22	0.69
1:0:1016:C:H2'	1:0:1017:C:C6	2.28	0.69
1:0:2312:A:O2'	1:0:2313:G:O5'	2.07	0.69
1:0:5:A:H4'	1:0:6:A:OP1	1.92	0.69
1:0:57:G:N2	1:0:69:G:C4	2.61	0.69
1:0:224:G:N2	1:0:227:G:H3'	2.07	0.69
1:0:1240:G:O2'	1:0:1241:G:H5'	1.92	0.69
1:0:1259:A:O2'	1:0:1260:A:H5'	1.92	0.69
1:0:2053:G:H2'	1:0:2054:A:H8	1.55	0.69
1:0:2080:U:H2'	1:0:2081:U:C6	2.27	0.69
1:0:48:A:H4'	1:0:49:U:O5'	1.92	0.69
1:0:503:G:H2'	1:0:504:G:O4'	1.92	0.69
1:0:697:G:O2'	1:0:801:A:N6	2.25	0.69
1:0:727:U:H2'	1:0:728:G:H5"	1.73	0.69
1:0:1354:A:O5'	1:0:1410:U:O4	2.11	0.69
1:0:1680:U:H5'	1:0:1680:U:C6	2.18	0.69
1:0:1825:C:O2'	1:0:1826:U:H5'	1.92	0.69
1:0:2778:U:C2'	1:0:2779:C:H5'	2.23	0.69
1:0:246:C:H5	1:0:373:A:N3	1.90	0.69
1:0:521:U:H5"	1:0:522:G:OP2	1.92	0.69
1:0:538:A:H3'	1:0:538:A:C8	2.28	0.69
1:0:571:U:O2'	1:0:581:A:O4'	2.11	0.69
1:0:699:G:N3	1:0:699:G:C2'	2.55	0.69
1:0:1301:U:H4'	1:0:1302:C:OP2	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1333:G:H21	1:0:1344:C:H41	1.35	0.69
1:0:1979:C:H3'	1:0:1979:C:H6	1.58	0.69
1:0:2094:C:C5	1:0:2103:G:H1'	2.28	0.69
1:0:2602:G:O2'	1:0:2603:G:H5'	1.93	0.69
1:0:2783:U:H2'	1:0:2784:A:O5'	1.93	0.69
1:0:4:C:O2'	1:0:5:A:H5'	1.92	0.69
1:0:169:C:C2'	1:0:170:U:H5'	2.23	0.69
1:0:317:U:H3	1:0:321:A:H62	1.40	0.69
1:0:2634:G:H2'	1:0:2643:G:O6	1.93	0.69
1:0:1073:G:C2	1:0:1074:G:H1'	2.28	0.69
1:0:2311:U:C4'	1:0:2315:A:N6	2.54	0.68
1:0:732:G:H2'	1:0:733:G:C8	2.29	0.68
1:0:1052:C:H2'	1:0:1053:G:C8	2.27	0.68
1:0:1277:G:H8	1:0:1277:G:O5'	1.75	0.68
1:0:1629:G:H1	1:0:1633:C:H2'	1.57	0.68
1:0:2503:G:H2'	1:0:2504:G:H5"	1.75	0.68
1:0:2623:A:H2'	1:0:2624:G:O4'	1.92	0.68
1:0:139:A:H2'	1:0:140:G:C8	2.25	0.68
1:0:545:C:O2'	1:0:546:A:H5'	1.93	0.68
1:0:2422:C:O2'	1:0:2423:G:H5'	1.93	0.68
1:0:67:G:H2'	1:0:68:C:H6	1.58	0.68
1:0:1787:U:H2'	1:0:1788:C:H6	1.58	0.68
1:0:1789:U:C4	1:0:1811:A:H2	2.10	0.68
1:0:1807:A:O2'	1:0:1808:C:H4'	1.93	0.68
1:0:455:A:C2	1:0:1258:G:N3	2.60	0.68
1:0:1459:U:OP2	1:0:1459:U:C6	2.47	0.68
1:0:2821:G:H2'	1:0:2822:U:C6	2.29	0.68
1:0:367:G:H2'	1:0:368:A:H5"	1.74	0.68
1:0:594:G:C4	1:0:1264:C:N4	2.61	0.68
1:0:689:A:H1'	1:0:2422:C:O4'	1.94	0.68
1:0:1210:C:O4'	1:0:1239:A:C2	2.47	0.68
1:0:1741:G:O2'	1:0:1742:G:H5'	1.94	0.68
1:0:1763:G:N2	1:0:1765:C:H5"	2.07	0.68
1:0:212:U:O2'	1:0:213:C:H5'	1.93	0.68
1:0:955:G:H3'	1:0:955:G:C8	2.27	0.68
1:0:1399:C:O2'	1:0:1400:A:H5'	1.93	0.68
1:0:50:G:O2'	1:0:117:A:N1	2.24	0.68
1:0:67:G:C6	1:0:72:A:C2	2.82	0.68
1:0:76:C:H5'	1:0:76:C:H6	1.58	0.68
1:0:1301:U:O2'	1:0:1664:G:N2	2.27	0.68
1:0:1502:G:O2'	1:0:1503:G:H5'	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1928:G:H2'	1:0:1929:U:C6	2.29	0.68
1:0:1005:U:O2	1:0:1007:A:N7	2.27	0.68
1:0:2678:C:O2'	1:0:2679:G:H5'	1.94	0.68
1:0:89:A:H5'	1:0:90:G:OP1	1.94	0.68
1:0:158:A:H5'	1:0:158:A:H8	1.59	0.68
1:0:1087:C:H2'	1:0:1088:A:O4'	1.93	0.68
1:0:1887:G:O2'	1:0:1911:A:N1	2.25	0.68
1:0:2245:A:O2'	1:0:2246:A:OP2	2.11	0.68
1:0:2607:C:H1'	1:0:2761:A:H2'	1.76	0.68
1:0:2769:C:H6	1:0:2770:A:O4'	1.77	0.68
1:0:1707:A:H2'	1:0:1708:C:H5'	1.76	0.67
1:0:2431:C:O2'	1:0:2432:A:H5'	1.95	0.67
1:0:2824:C:H4'	1:0:2825:A:H5'	1.76	0.67
1:0:368:A:H2'	1:0:369:C:O4'	1.94	0.67
1:0:1286:U:H4'	1:0:1288:A:OP2	1.94	0.67
1:0:2198:U:H3'	1:0:2199:C:C4'	2.24	0.67
1:0:2323:U:H5"	1:0:2324:G:OP1	1.93	0.67
1:0:26:G:C6	1:0:27:G:N1	2.62	0.67
1:0:807:A:C2	1:0:808:C:C2	2.82	0.67
1:0:845:U:OP2	1:0:955:G:O6	2.12	0.67
1:0:1002:C:OP2	1:0:1200:G:OP2	2.13	0.67
1:0:2780:A:H2'	1:0:2781:G:C8	2.29	0.67
1:0:1280:U:O4	1:0:1995:G:N3	2.28	0.67
1:0:1346:C:N4	1:0:1347:C:N4	2.41	0.67
1:0:2469:G:C4'	1:0:2470:U:OP1	2.42	0.67
1:0:104:C:H2'	1:0:105:G:H5'	1.75	0.67
1:0:109:A:C3'	1:0:110:U:H5"	2.24	0.67
1:0:148:C:H4'	1:0:149:A:N7	2.09	0.67
1:0:1692:C:O2'	1:0:1693:A:H5'	1.93	0.67
1:0:1715:A:O2'	1:0:1716:G:H3'	1.93	0.67
1:0:2396:C:H6	1:0:2396:C:H5'	1.59	0.67
1:0:404:A:C5	1:0:424:G:N2	2.63	0.67
1:0:651:C:H2'	1:0:652:C:H5"	1.75	0.67
1:0:837:U:H2'	1:0:838:A:H8	1.60	0.67
1:0:860:U:H2'	1:0:860:U:O2	1.93	0.67
1:0:1408:A:H2	1:0:1411:C:N3	1.92	0.67
1:0:2081:U:H2'	1:0:2082:C:H5"	1.77	0.67
1:0:34:U:C5	1:0:466:A:N3	2.63	0.67
1:0:1441:A:H3'	1:0:1441:A:N3	2.10	0.67
1:0:1826:U:O2'	1:0:1952:A:H2'	1.95	0.67
1:0:1510:A:C2'	1:0:1511:A:H5'	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1917:C:H2'	1:0:1918:G:O4'	1.95	0.67
1:0:2226:A:H2'	1:0:2227:C:H6	1.59	0.67
1:0:2434:G:H2'	1:0:2435:C:C6	2.30	0.67
1:0:631:G:H8	1:0:631:G:O5'	1.76	0.67
1:0:634:G:H2'	1:0:635:C:H6	1.59	0.67
1:0:831:G:O2'	1:0:832:A:O4'	2.13	0.67
1:0:1623:C:C5'	1:0:1624:A:H5"	2.25	0.67
1:0:2015:G:N3	1:0:2015:G:H2'	2.10	0.67
1:0:2122:G:H2'	1:0:2123:G:C8	2.30	0.67
1:0:2841:U:O2'	1:0:2842:C:P	2.53	0.67
1:0:1018:C:H5"	1:0:1019:U:OP2	1.95	0.67
1:0:1684:G:O2'	1:0:1685:A:P	2.53	0.67
1:0:2045:A:H5"	1:0:2046:C:OP2	1.94	0.67
1:0:584:A:OP2	1:0:2038:C:C5	2.48	0.66
1:0:639:G:H2'	1:0:640:C:C6	2.30	0.66
1:0:1265:G:O2'	1:0:1266:G:OP1	2.13	0.66
1:0:1429:A:N6	1:0:1602:G:H5'	2.09	0.66
1:0:1598:C:H2'	1:0:1599:G:O4'	1.95	0.66
1:0:1680:U:H6	1:0:1680:U:C5'	2.04	0.66
1:0:2293:G:H2'	1:0:2294:U:C6	2.29	0.66
1:0:2507:U:H3	1:0:2514:G:H1	1.41	0.66
1:0:693:A:H2'	1:0:694:G:C8	2.30	0.66
1:0:1017:C:H2'	1:0:1018:C:H6	1.60	0.66
1:0:1760:G:O2'	1:0:1941:C:OP1	2.12	0.66
1:0:538:A:H3'	1:0:538:A:H8	1.61	0.66
1:0:1770:U:O2	1:0:1774:A:C5	2.48	0.66
1:0:1860:A:H2'	1:0:1861:G:O4'	1.95	0.66
1:0:2056:C:O2'	1:0:2057:U:H5'	1.95	0.66
1:0:1876:C:C2'	1:0:1877:C:H5'	2.23	0.66
1:0:2876:C:O2'	1:0:2877:A:H5'	1.95	0.66
1:0:1055:A:C2	1:0:1121:G:H2'	2.30	0.66
1:0:1625:A:N6	1:0:1632:A:H2	1.92	0.66
1:0:1715:A:C2'	1:0:1716:G:H3'	2.26	0.66
1:0:2507:U:O2'	1:0:2508:G:H3'	1.96	0.66
1:0:2692:A:OP1	1:0:2692:A:O4'	2.14	0.66
1:0:2737:A:H2'	1:0:2738:A:C5'	2.25	0.66
1:0:537:C:C6	1:0:2759:U:H2'	2.31	0.66
1:0:597:U:H2'	1:0:598:U:H6	1.60	0.66
1:0:813:A:O2'	1:0:814:G:C3'	2.42	0.66
1:0:1045:G:N2	1:0:1133:G:H1'	2.11	0.66
1:0:1213:U:H3	1:0:1260:A:H2	1.41	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2806:G:H1'	1:0:2858:A:C2	2.29	0.66
1:0:765:C:HO2'	1:0:766:A:H8	1.44	0.66
1:0:822:G:H2'	1:0:823:U:H5'	1.76	0.66
1:0:1004:A:C5	1:0:1005:U:C5	2.84	0.66
1:0:810:U:H2'	1:0:811:G:H8	1.60	0.66
1:0:1068:A:H2'	1:0:1069:G:O4'	1.94	0.66
1:0:2485:U:H5"	1:0:2485:U:H6	1.59	0.66
1:0:2782:G:C3'	1:0:2783:U:H5"	2.25	0.66
1:0:204:A:N7	1:0:2386:G:O4'	2.28	0.66
1:0:2785:A:C2'	1:0:2786:G:H5'	2.26	0.66
1:0:219:G:H22	1:0:232:A:P	2.19	0.66
1:0:691:C:H2'	1:0:692:C:H6	1.61	0.66
1:0:1459:U:O5'	1:0:1459:U:H6	1.79	0.66
1:0:2482:A:H4'	1:0:2483:U:OP1	1.95	0.66
1:0:2563:U:H3'	1:0:2564:U:H5'	1.78	0.66
1:0:611:C:H6	1:0:611:C:H5"	1.61	0.65
1:0:852:U:H2'	1:0:853:C:C6	2.30	0.65
1:0:1512:A:H2'	1:0:1514:C:C5	2.31	0.65
1:0:1953:A:H1'	1:0:1955:G:C1'	2.25	0.65
1:0:2586:G:H2'	1:0:2587:G:O4'	1.96	0.65
1:0:308:C:O2'	1:0:309:G:H5'	1.95	0.65
1:0:457:C:C2'	1:0:458:G:H5'	2.26	0.65
1:0:668:A:H2'	1:0:669:G:C4'	2.26	0.65
1:0:1192:A:C2	1:0:1193:G:N7	2.64	0.65
1:0:161:U:H2'	1:0:162:C:C6	2.32	0.65
1:0:540:G:H5"	1:0:541:C:OP2	1.96	0.65
1:0:936:A:H2'	1:0:937:C:O4'	1.96	0.65
1:0:1429:A:O2'	1:0:1430:G:H4'	1.96	0.65
1:0:1656:U:O2'	1:0:2678:C:H4'	1.96	0.65
1:0:1728:A:N1	1:0:1739:G:C6	2.65	0.65
1:0:1818:G:H2'	1:0:1819:U:C6	2.32	0.65
1:0:2629:U:O2'	1:0:2630:C:H5'	1.96	0.65
1:0:2783:U:C2'	1:0:2784:A:O5'	2.44	0.65
1:0:48:A:N1	1:0:154:U:O4	2.29	0.65
1:0:177:U:O4	1:0:225:G:N1	2.30	0.65
1:0:230:C:H2'	1:0:231:G:H8	1.61	0.65
1:0:732:G:H8	1:0:732:G:O5'	1.79	0.65
1:0:1280:U:O4	1:0:1995:G:C4	2.50	0.65
1:0:1277:G:H2'	1:0:1997:A:N6	2.11	0.65
1:0:1436:G:H2'	1:0:1437:A:H8	1.61	0.65
1:0:1673:C:H2'	1:0:1674:C:C6	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1194:U:H2'	1:0:1195:U:H6	1.61	0.65
1:0:1979:C:C2'	1:0:1980:A:O5'	2.45	0.65
1:0:2267:A:H2'	1:0:2268:G:OP1	1.96	0.65
1:0:2322:U:O2'	1:0:2323:U:H5'	1.96	0.65
1:0:2516:U:H2'	1:0:2517:C:C6	2.31	0.65
1:0:541:C:H41	1:0:572:G:C1'	2.09	0.65
1:0:1715:A:H1'	1:0:1717:A:H4'	1.79	0.65
1:0:2195:C:H2'	1:0:2196:U:O4'	1.96	0.65
1:0:2782:G:H3'	1:0:2783:U:C5'	2.26	0.65
1:0:624:A:H2'	1:0:625:A:O4'	1.96	0.65
1:0:1900:U:H3'	1:0:1901:A:H8	1.61	0.65
1:0:1948:C:O5'	1:0:1948:C:H6	1.79	0.65
1:0:2410:U:O2	1:0:2412:A:C8	2.50	0.65
1:0:2563:U:C3'	1:0:2564:U:C5'	2.74	0.65
1:0:2563:U:C2'	1:0:2564:U:H5"	2.27	0.65
1:0:33:C:N4	1:0:458:G:O2'	2.30	0.65
1:0:317:U:C2'	1:0:318:G:H5"	2.27	0.65
1:0:542:A:H3'	1:0:542:A:C8	2.32	0.65
1:0:597:U:O4	1:0:683:A:O2'	2.15	0.65
1:0:984:A:H2	1:0:1200:G:H1	1.44	0.65
1:0:1790:G:H4'	1:0:1791:C:H6	1.62	0.65
1:0:2759:U:O5'	1:0:2759:U:C6	2.42	0.65
1:0:2810:A:C8	1:0:2810:A:C3'	2.77	0.65
1:0:177:U:O4	1:0:225:G:C2	2.50	0.65
1:0:1474:A:O2'	1:0:1475:U:H5'	1.97	0.65
1:0:2019:C:H5'	1:0:2019:C:H6	1.61	0.65
1:0:2266:A:N6	1:0:2323:U:H1'	2.12	0.65
1:0:2810:A:N6	1:0:2853:U:C5	2.65	0.65
1:0:538:A:H2	1:0:2025:A:H2'	1.57	0.64
1:0:825:C:H1'	1:0:1263:G:N2	2.13	0.64
1:0:1010:U:O2'	1:0:1011:A:H5'	1.97	0.64
1:0:1016:C:N3	1:0:1154:A:N3	2.44	0.64
1:0:1069:G:O2'	1:0:1070:G:H5'	1.97	0.64
1:0:1528:C:C3'	1:0:1529:C:H5"	2.25	0.64
1:0:1735:G:H2'	1:0:1736:C:O4'	1.96	0.64
1:0:1894:U:H3	1:0:1902:A:N6	1.94	0.64
1:0:1941:C:O2'	1:0:1942:G:H5'	1.97	0.64
1:0:1947:G:H2'	1:0:1950:C:OP1	1.97	0.64
1:0:441:A:C2'	1:0:442:A:H5'	2.27	0.64
1:0:704:G:O2'	1:0:705:C:H5'	1.97	0.64
1:0:818:G:C5	1:0:2051:U:OP1	2.50	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1361:G:H2'	1:0:1362:A:H8	1.61	0.64
1:0:2226:A:H2'	1:0:2227:C:C6	2.31	0.64
1:0:2395:C:H2'	1:0:2396:C:H5"	1.78	0.64
1:0:30:G:H2'	1:0:31:C:H6	1.62	0.64
1:0:105:G:O2'	1:0:106:G:H5'	1.97	0.64
1:0:163:A:H2'	1:0:164:G:C8	2.32	0.64
1:0:322:A:O2'	1:0:323:G:P	2.56	0.64
1:0:430:C:H1'	1:0:2386:G:N2	2.11	0.64
1:0:1422:C:H2'	1:0:1423:A:C8	2.32	0.64
1:0:1715:A:N3	1:0:1717:A:C1'	2.59	0.64
1:0:2269:G:N2	1:0:2322:U:H1'	2.12	0.64
1:0:2796:A:H2'	1:0:2797:G:C8	2.32	0.64
1:0:172:A:N1	1:0:178:C:N3	2.45	0.64
1:0:314:G:H2'	1:0:315:G:C8	2.32	0.64
1:0:1628:C:N4	1:0:1629:G:N7	2.46	0.64
1:0:1685:A:H4'	1:0:1686:A:O5'	1.97	0.64
1:0:1821:A:H3'	1:0:1822:C:H6	1.63	0.64
1:0:171:G:O2'	1:0:172:A:H5'	1.98	0.64
1:0:1346:C:N4	1:0:1347:C:H41	1.95	0.64
1:0:1448:A:H61	1:0:1574:A:H61	1.45	0.64
1:0:2074:U:O4	1:0:2075:U:C5	2.50	0.64
1:0:2626:U:O2'	1:0:2627:G:H5'	1.98	0.64
1:0:340:G:H5'	1:0:341:A:OP2	1.97	0.64
1:0:547:U:H2'	1:0:548:G:H8	1.62	0.64
1:0:682:G:C5	1:0:814:G:O6	2.50	0.64
1:0:1199:U:C3'	1:0:1200:G:H5"	2.27	0.64
1:0:1901:A:H2'	1:0:1902:A:H8	1.62	0.64
1:0:366:U:H2'	1:0:367:G:H8	1.63	0.64
1:0:1017:C:C2	1:0:1018:C:C5	2.86	0.64
1:0:1345:G:C4	1:0:1625:A:N1	2.66	0.64
1:0:2270:U:O5'	1:0:2270:U:H6	1.80	0.64
1:0:2724:G:O2'	1:0:2725:C:H5'	1.97	0.64
1:0:2866:A:H2'	1:0:2867:G:H8	1.61	0.64
1:0:577:U:H4'	1:0:956:A:N6	2.13	0.64
1:0:929:A:C3'	1:0:930:A:H5"	2.25	0.64
1:0:957:G:H2'	1:0:958:G:H8	1.62	0.64
1:0:1705:U:O4'	1:0:1718:A:N6	2.31	0.64
1:0:2871:U:C4	1:0:2872:U:O4	2.50	0.64
1:0:322:A:H1'	1:0:343:A:O4'	1.98	0.64
1:0:700:C:O2	1:0:800:U:O3'	2.16	0.64
1:0:958:G:H2'	1:0:959:C:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1374:G:O2'	1:0:1375:C:H5'	1.98	0.64
1:0:1715:A:H1'	1:0:1717:A:C4'	2.27	0.64
1:0:2266:A:N6	1:0:2323:U:O2	2.30	0.64
1:0:755:C:H2'	1:0:756:C:C6	2.33	0.64
1:0:1057:A:H3'	1:0:1058:G:H5"	1.79	0.64
1:0:1264:C:H3'	1:0:1265:G:H5"	1.80	0.64
1:0:2198:U:H6	1:0:2198:U:O5'	1.81	0.64
1:0:2325:A:H5'	1:0:2362:G:O4'	1.98	0.64
1:0:2427:A:O2'	1:0:2428:U:P	2.56	0.64
1:0:718:A:H62	1:0:739:G:H1'	1.62	0.63
1:0:1468:A:H5'	1:0:1472:C:H41	1.63	0.63
1:0:2425:G:O2'	1:0:2426:G:H5'	1.99	0.63
1:0:2496:C:HO2'	1:0:2497:A:H3'	1.63	0.63
1:0:59:G:H1'	1:0:73:A:N1	2.12	0.63
1:0:1391:A:O2'	1:0:1392:U:P	2.56	0.63
1:0:2240:C:H2'	1:0:2241:U:H5'	1.81	0.63
1:0:2343:C:H2'	1:0:2344:G:O4'	1.97	0.63
1:0:2710:C:O2'	1:0:2711:G:H5'	1.97	0.63
1:0:2870:C:H2'	1:0:2871:U:C6	2.28	0.63
1:0:541:C:N4	1:0:572:G:O4'	2.31	0.63
1:0:1137:A:H4'	1:0:1138:A:O5'	1.99	0.63
1:0:1404:C:N4	1:0:1407:G:N7	2.47	0.63
1:0:2316:G:OP2	1:0:2317:G:OP2	2.16	0.63
1:0:2497:A:H5"	1:0:2498:U:OP2	1.98	0.63
1:0:69:G:H5"	1:0:70:A:OP1	1.99	0.63
1:0:177:U:C4	1:0:225:G:C2	2.87	0.63
1:0:342:G:O2'	1:0:343:A:H5'	1.98	0.63
1:0:651:C:C2'	1:0:652:C:H5"	2.28	0.63
1:0:1683:G:O6	1:0:1684:G:N2	2.32	0.63
1:0:1895:A:H2'	1:0:1896:A:O4'	1.97	0.63
1:0:2063:A:H2'	1:0:2064:U:O4'	1.97	0.63
1:0:62:U:O2'	1:0:63:A:N7	2.28	0.63
1:0:329:C:O2'	1:0:330:C:H5'	1.98	0.63
1:0:343:A:H2'	1:0:345:U:OP2	1.98	0.63
1:0:1279:G:O2'	1:0:1280:U:H6	1.81	0.63
1:0:2668:U:O2	1:0:2693:U:O4'	2.16	0.63
1:0:633:G:H2'	1:0:634:G:H8	1.62	0.63
1:0:1104:G:H21	1:0:1109:A:H62	1.45	0.63
1:0:1154:A:HO2'	1:0:1155:G:P	2.21	0.63
1:0:66:U:O2	1:0:67:G:O6	2.17	0.63
1:0:421:G:H2'	1:0:422:C:H6	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:941:U:C2'	1:0:942:U:H5'	2.28	0.63
1:0:955:G:H5"	1:0:956:A:H5"	1.80	0.63
1:0:1457:A:H2'	1:0:1458:A:O4'	1.98	0.63
1:0:1793:A:H2'	1:0:1794:A:C8	2.34	0.63
1:0:1937:G:H1'	1:0:2530:C:H4'	1.79	0.63
1:0:2197:U:H2'	1:0:2198:U:C5	2.34	0.63
1:0:2727:G:C2'	1:0:2728:A:H5"	2.29	0.63
1:0:68:C:C2	1:0:72:A:N3	2.67	0.63
1:0:611:C:O2	1:0:614:G:H4'	1.99	0.63
1:0:620:G:H22	1:0:628:A:H2	1.46	0.63
1:0:1581:C:O2'	1:0:1582:A:C8	2.51	0.63
1:0:1714:A:C5'	1:0:1715:A:O5'	2.47	0.63
1:0:985:G:C4	1:0:1200:G:N2	2.67	0.63
1:0:1086:C:H2'	1:0:1087:C:H5"	1.79	0.63
1:0:1532:A:H2'	1:0:1533:G:C8	2.34	0.63
1:0:2181:A:N3	1:0:2181:A:H2'	2.12	0.63
1:0:715:U:H2'	1:0:715:U:O2	1.99	0.62
1:0:1057:A:H3'	1:0:1058:G:C5'	2.27	0.62
1:0:1177:U:H6	1:0:1177:U:O5'	1.82	0.62
1:0:1359:G:H5'	1:0:1359:G:H8	1.64	0.62
1:0:1920:A:C2	1:0:1922:U:H5	2.16	0.62
1:0:2324:G:N2	1:0:2326:C:H41	1.96	0.62
1:0:1154:A:O2'	1:0:1155:G:P	2.55	0.62
1:0:1278:A:O2'	1:0:1279:G:O5'	2.17	0.62
1:0:1435:G:N2	1:0:1512:A:H2	1.96	0.62
1:0:2194:A:C2'	1:0:2195:C:H5"	2.28	0.62
1:0:77:C:H2'	1:0:78:C:C6	2.30	0.62
1:0:616:U:C2'	1:0:617:U:H5"	2.26	0.62
1:0:1128:G:O2'	1:0:1129:A:H5'	1.99	0.62
1:0:2476:A:H1'	1:0:2477:C:H5	1.63	0.62
1:0:2532:G:C2	1:0:2533:U:H1'	2.35	0.62
1:0:218:A:N6	1:0:232:A:H5"	2.14	0.62
1:0:1198:C:OP1	1:0:1199:U:O2'	2.14	0.62
1:0:2262:C:H2'	1:0:2263:C:O4'	1.98	0.62
1:0:2324:G:N2	1:0:2326:C:H5	1.97	0.62
1:0:2794:G:N2	1:0:2803:C:C2	2.67	0.62
1:0:69:G:H2'	1:0:111:G:O2'	1.98	0.62
1:0:167:A:C2	1:0:184:A:N3	2.68	0.62
1:0:1407:G:C2	1:0:1408:A:C2	2.87	0.62
1:0:1549:C:H2'	1:0:1550:C:O4'	2.00	0.62
1:0:6:A:C6	1:0:7:G:C5	2.87	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:510:G:H8	1:0:510:G:O5'	1.82	0.62
1:0:1142:G:O2'	1:0:1143:A:O5'	2.16	0.62
1:0:1280:U:H2'	1:0:1281:A:H8	1.63	0.62
1:0:2210:C:H2'	1:0:2211:U:O4'	1.99	0.62
1:0:2299:A:H5'	1:0:2300:G:O4'	1.99	0.62
1:0:67:G:N1	1:0:72:A:C2	2.68	0.62
1:0:1279:G:O2'	1:0:1280:U:P	2.58	0.62
1:0:1407:G:C6	1:0:1408:A:C6	2.87	0.62
1:0:1479:G:H21	1:0:1543:G:N2	1.98	0.62
1:0:1927:U:H4'	1:0:1938:U:H1'	1.82	0.62
1:0:59:G:C5	1:0:62:U:C5	2.88	0.62
1:0:216:U:H5"	1:0:601:A:H62	1.64	0.62
1:0:697:G:O2'	1:0:801:A:C6	2.51	0.62
1:0:2608:A:HO2'	1:0:2609:G:P	2.23	0.62
1:0:2796:A:O2'	1:0:2801:A:N1	2.32	0.62
1:0:149:A:H2'	1:0:150:A:H8	1.60	0.62
1:0:649:G:N1	1:0:660:G:N1	2.48	0.62
1:0:787:A:O2'	1:0:788:G:H5'	1.99	0.62
1:0:958:G:HO2'	1:0:995:A:H2	1.48	0.62
1:0:1012:A:H2'	1:0:1013:G:O4'	2.00	0.62
1:0:1223:G:O2'	1:0:1224:A:OP2	2.18	0.62
1:0:2316:G:C6	1:0:2317:G:N7	2.67	0.62
1:0:468:A:O2'	1:0:469:G:H4'	1.99	0.62
1:0:644:A:N7	1:0:645:G:H1'	2.15	0.62
1:0:1208:A:H2'	1:0:1209:G:O5'	2.00	0.62
1:0:1304:U:O2'	1:0:1305:C:H5'	1.99	0.62
1:0:1777:A:H62	1:0:2585:C:H1'	1.65	0.62
1:0:2266:A:H62	1:0:2323:U:H1'	1.63	0.62
1:0:91:A:H2'	1:0:92:U:H6	1.65	0.61
1:0:332:C:O2'	1:0:333:A:OP1	2.16	0.61
1:0:528:G:C6	1:0:529:U:O4	2.53	0.61
1:0:954:U:C4	1:0:955:G:N2	2.68	0.61
1:0:1167:A:OP1	1:0:1167:A:O4'	2.16	0.61
1:0:1358:C:O2	1:0:1358:C:H2'	1.99	0.61
1:0:1458:A:H2'	1:0:1459:U:C4'	2.30	0.61
1:0:1704:G:H21	1:0:1718:A:H62	1.46	0.61
1:0:1966:C:O2'	1:0:1967:U:H5'	2.00	0.61
1:0:2059:U:H5"	1:0:2217:G:H1	1.63	0.61
1:0:2757:G:OP2	1:0:2761:A:O2'	2.18	0.61
1:0:1253:C:C2	1:0:1254:G:C8	2.89	0.61
1:0:1690:U:H2'	1:0:1691:G:H5'	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1794:A:H61	1:0:1806:G:H2'	1.65	0.61
1:0:984:A:H1'	1:0:1202:U:C6	2.36	0.61
1:0:1102:G:O2'	1:0:1103:C:H5'	1.99	0.61
1:0:2475:C:H2'	1:0:2476:A:O4'	2.01	0.61
1:0:2690:A:OP1	1:0:2692:A:P	2.58	0.61
1:0:66:U:C2	1:0:67:G:N7	2.69	0.61
1:0:840:U:H4'	1:0:841:G:C2	2.36	0.61
1:0:1452:U:O2'	1:0:1453:A:H5'	2.01	0.61
1:0:1671:A:H2'	1:0:1672:A:H5'	1.82	0.61
1:0:1977:C:C2	1:0:1978:U:C5	2.89	0.61
1:0:2796:A:H2'	1:0:2797:G:H8	1.65	0.61
1:0:865:A:H2'	1:0:866:U:C6	2.35	0.61
1:0:1253:C:H5'	1:0:1253:C:C6	2.35	0.61
1:0:1279:G:H2'	1:0:1995:G:O6	1.99	0.61
1:0:1982:C:O2	1:0:2666:U:O2'	2.17	0.61
1:0:427:C:H2'	1:0:428:A:C8	2.35	0.61
1:0:509:U:H2'	1:0:510:G:H5'	1.82	0.61
1:0:697:G:HO2'	1:0:801:A:N6	1.97	0.61
1:0:918:A:C2'	1:0:919:U:H5"	2.26	0.61
1:0:1337:G:C1'	1:0:1632:A:H62	2.14	0.61
1:0:1468:A:C8	1:0:1468:A:OP2	2.54	0.61
1:0:1614:C:O2	1:0:1614:C:H2'	1.99	0.61
1:0:1838:G:H2'	1:0:1839:A:H5'	1.81	0.61
1:0:2195:C:O2'	1:0:2196:U:H5'	2.00	0.61
1:0:2660:C:O2'	1:0:2661:G:OP2	2.14	0.61
1:0:2764:U:H2'	1:0:2765:C:H6	1.65	0.61
1:0:2866:A:O2'	1:0:2867:G:O4'	2.09	0.61
1:0:26:G:N1	1:0:27:G:N2	2.49	0.61
1:0:1439:G:H2'	1:0:1440:G:C8	2.36	0.61
1:0:2867:G:H8	1:0:2867:G:OP2	1.83	0.61
1:0:2876:C:H2'	1:0:2877:A:O4'	2.00	0.61
1:0:30:G:O2'	1:0:31:C:H5'	2.01	0.61
1:0:202:A:H2'	1:0:203:G:O4'	2.01	0.61
1:0:540:G:C2	1:0:2005:U:OP1	2.54	0.61
1:0:611:C:H2'	1:0:612:G:H5'	1.81	0.61
1:0:1058:G:H2'	1:0:1121:G:N1	2.16	0.61
1:0:1777:A:H62	1:0:2585:C:C1'	2.13	0.61
1:0:2040:A:H2'	1:0:2041:A:C8	2.35	0.61
1:0:441:A:O2'	1:0:442:A:H5'	2.01	0.61
1:0:825:C:H1'	1:0:1263:G:C2	2.36	0.61
1:0:1016:C:N3	1:0:1154:A:C2	2.69	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1515:U:H2'	1:0:1516:A:C8	2.36	0.61
1:0:2026:C:C4	1:0:2757:G:C2	2.89	0.61
1:0:2442:C:H2'	1:0:2443:C:H6	1.65	0.61
1:0:995:A:H5"	1:0:996:C:C5	2.35	0.61
1:0:1161:U:H2'	1:0:1162:A:C8	2.35	0.61
1:0:2437:G:O2'	1:0:2439:U:O4	2.11	0.61
1:0:2810:A:N6	1:0:2853:U:C6	2.69	0.61
1:0:173:A:H2'	1:0:173:A:N3	2.14	0.60
1:0:391:C:O2'	1:0:392:G:H5'	2.01	0.60
1:0:653:G:H2'	1:0:654:A:H4'	1.83	0.60
1:0:1778:U:O2'	1:0:1779:C:H5'	2.01	0.60
1:0:1830:C:H41	1:0:1881:U:H3'	1.63	0.60
1:0:1890:G:H2'	1:0:1891:C:C6	2.35	0.60
1:0:2225:G:C2	1:0:2405:A:H1'	2.35	0.60
1:0:2404:A:O2'	1:0:2405:A:OP2	2.16	0.60
1:0:8:A:H2'	1:0:9:U:O4'	2.00	0.60
1:0:233:A:H2'	1:0:234:C:H6	1.65	0.60
1:0:2546:G:H2'	1:0:2547:C:C6	2.36	0.60
1:0:4:C:H2'	1:0:5:A:H5'	1.80	0.60
1:0:342:G:O2'	1:0:343:A:OP1	2.17	0.60
1:0:577:U:C5'	1:0:956:A:N6	2.62	0.60
1:0:1137:A:H4'	1:0:1138:A:C5'	2.30	0.60
1:0:1656:U:H2'	1:0:1657:A:H5"	1.84	0.60
1:0:1671:A:C2'	1:0:1672:A:H5'	2.31	0.60
1:0:58:C:C1'	1:0:72:A:C8	2.84	0.60
1:0:171:G:C2'	1:0:172:A:H5'	2.32	0.60
1:0:322:A:O2'	1:0:343:A:O4'	2.18	0.60
1:0:573:C:O2'	1:0:574:C:H5'	2.02	0.60
1:0:587:A:OP2	1:0:587:A:H8	1.84	0.60
1:0:644:A:H2'	1:0:645:G:H5'	1.84	0.60
1:0:700:C:H2'	1:0:701:U:N1	2.16	0.60
1:0:843:G:C5	1:0:2427:A:N7	2.70	0.60
1:0:940:G:C2'	1:0:941:U:H4'	2.30	0.60
1:0:1588:A:H2'	1:0:1589:G:H8	1.66	0.60
1:0:1632:A:O2'	1:0:1633:C:P	2.59	0.60
1:0:2329:C:H2'	1:0:2330:G:O4'	2.00	0.60
1:0:2498:U:C4'	1:0:2499:C:OP1	2.49	0.60
1:0:469:G:O2'	1:0:470:U:OP2	2.19	0.60
1:0:1017:C:H2'	1:0:1018:C:C6	2.36	0.60
1:0:2043:A:H4'	1:0:2481:G:O4'	2.02	0.60
1:0:2134:U:H2'	1:0:2135:C:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2231:G:H2'	1:0:2232:G:H8	1.66	0.60
1:0:2849:C:O2'	1:0:2850:U:H5'	2.00	0.60
1:0:554:U:OP2	1:0:554:U:H4'	2.00	0.60
1:0:594:G:H2'	1:0:1264:C:N4	2.17	0.60
1:0:684:C:C2'	1:0:685:U:O5'	2.49	0.60
1:0:1061:A:H2'	1:0:1062:G:H5'	1.82	0.60
1:0:1075:C:H2'	1:0:1076:U:O4'	2.01	0.60
1:0:1233:A:O2'	1:0:1234:C:OP1	2.20	0.60
1:0:1698:C:H1'	1:0:1754:G:H5'	1.81	0.60
1:0:1849:G:H2'	1:0:1850:G:C8	2.37	0.60
1:0:67:G:H2'	1:0:68:C:C6	2.37	0.60
1:0:941:U:O2'	1:0:942:U:H5'	2.02	0.60
1:0:1288:A:N6	1:0:1309:G:H4'	2.17	0.60
1:0:1385:C:H2'	1:0:1386:A:C8	2.37	0.60
1:0:1790:G:C2	1:0:1811:A:N7	2.69	0.60
1:0:2690:A:H5"	1:0:2691:C:H5'	1.82	0.60
1:0:201:G:H2'	1:0:202:A:H8	1.66	0.60
1:0:482:A:O2'	1:0:483:A:H5'	2.02	0.60
1:0:490:A:O2'	1:0:491:A:O5'	2.15	0.60
1:0:1354:A:O5'	1:0:1410:U:N3	2.35	0.60
1:0:2320:G:H2'	1:0:2321:C:O4'	2.02	0.60
1:0:2324:G:N7	1:0:2360:C:C2	2.69	0.60
1:0:2856:U:O2'	1:0:2857:C:H5'	2.01	0.60
1:0:141:G:O2'	1:0:142:U:H5'	2.02	0.60
1:0:541:C:N4	1:0:2001:G:N1	2.48	0.60
1:0:594:G:N1	1:0:1266:G:OP2	2.33	0.60
1:0:746:G:O6	1:0:774:A:C8	2.55	0.60
1:0:818:G:C6	1:0:2051:U:H5"	2.36	0.60
1:0:1147:G:H2'	1:0:1148:G:C8	2.36	0.60
1:0:1351:G:H2'	1:0:1352:G:O4'	2.01	0.60
1:0:1779:C:O2'	1:0:1780:A:H5'	2.01	0.60
1:0:1948:C:H2'	1:0:1949:A:C8	2.36	0.60
1:0:1987:G:C5	1:0:1988:A:C8	2.89	0.60
1:0:2018:G:O2'	1:0:2019:C:OP1	2.18	0.60
1:0:2607:C:H4'	1:0:2761:A:N7	2.17	0.60
1:0:788:G:C5'	1:0:789:G:OP1	2.50	0.60
1:0:880:C:P	1:0:880:C:H3'	2.41	0.60
1:0:1191:G:H2'	1:0:1192:A:C8	2.29	0.60
1:0:1226:A:H1'	1:0:1250:A:C2	2.36	0.60
1:0:2094:C:C4	1:0:2103:G:H1'	2.37	0.60
1:0:2119:A:H2'	1:0:2120:C:C6	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2194:A:H2'	1:0:2195:C:H5"	1.84	0.60
1:0:2499:C:H2'	1:0:2500:C:H6	1.67	0.60
1:0:219:G:O2'	1:0:220:U:P	2.59	0.59
1:0:577:U:O2	1:0:579:G:H8	1.85	0.59
1:0:926:C:H2'	1:0:927:C:H5'	1.84	0.59
1:0:1016:C:H2'	1:0:1017:C:H6	1.67	0.59
1:0:1922:U:C1'	1:0:2570:C:O2'	2.49	0.59
1:0:2425:G:H2'	1:0:2426:G:H5'	1.84	0.59
1:0:2425:G:N2	1:0:2480:C:N4	2.50	0.59
1:0:239:A:H5'	1:0:619:A:O2'	2.02	0.59
1:0:614:G:N2	1:0:634:G:N2	2.49	0.59
1:0:941:U:H4'	1:0:941:U:OP1	2.00	0.59
1:0:1016:C:H5'	1:0:1023:U:H5'	1.84	0.59
1:0:1242:A:O2'	1:0:1243:G:H5'	2.01	0.59
1:0:1436:G:H2'	1:0:1437:A:C8	2.37	0.59
1:0:2426:G:H4'	1:0:2427:A:O5'	2.02	0.59
1:0:2691:C:H2'	1:0:2692:A:C5'	2.30	0.59
1:0:2757:G:C8	1:0:2757:G:H3'	2.37	0.59
1:0:93:A:O2'	1:0:94:C:H5'	2.03	0.59
1:0:843:G:N3	1:0:2427:A:N6	2.51	0.59
1:0:1280:U:C6	1:0:1995:G:N2	2.70	0.59
1:0:2713:A:H2'	1:0:2714:A:H8	1.66	0.59
1:0:322:A:H1'	1:0:343:A:C1'	2.32	0.59
1:0:1947:G:H5"	1:0:1948:C:OP2	2.03	0.59
1:0:2298:U:H4'	1:0:2299:A:N7	2.16	0.59
1:0:2500:C:O2'	1:0:2543:A:H1'	2.03	0.59
1:0:34:U:H5	1:0:466:A:C4	2.20	0.59
1:0:450:C:C2	1:0:451:A:C8	2.90	0.59
1:0:1266:G:O2'	1:0:1267:A:OP1	2.17	0.59
1:0:1465:G:H2'	1:0:1466:C:O4'	2.02	0.59
1:0:2050:G:C2	1:0:2052:G:C8	2.91	0.59
1:0:2159:A:H2'	1:0:2160:C:C6	2.38	0.59
1:0:2424:G:O2'	1:0:2425:G:H5'	2.02	0.59
1:0:1073:G:H3'	1:0:1074:G:H5"	1.85	0.59
1:0:1503:G:O2'	1:0:1504:G:H5'	2.03	0.59
1:0:2485:U:H5"	1:0:2485:U:C6	2.37	0.59
1:0:2768:C:O2'	1:0:2784:A:H8	1.86	0.59
1:0:67:G:N2	1:0:73:A:O4'	2.36	0.59
1:0:167:A:N1	1:0:184:A:H1'	2.17	0.59
1:0:1104:G:N2	1:0:1109:A:H62	1.99	0.59
1:0:1229:C:H2'	1:0:1230:C:H6	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1911:A:H2'	1:0:1912:G:H5'	1.84	0.59
1:0:2528:G:H2'	1:0:2529:G:H8	1.68	0.59
1:0:2736:U:HO2'	1:0:2737:A:C5'	2.15	0.59
1:0:2837:G:H2'	1:0:2838:U:H6	1.67	0.59
1:0:48:A:H2	1:0:118:U:N3	2.00	0.59
1:0:401:G:H2'	1:0:403:A:N7	2.17	0.59
1:0:939:C:N4	1:0:940:G:O6	2.35	0.59
1:0:1213:U:H2'	1:0:1214:C:O4'	2.03	0.59
1:0:2324:G:C2	1:0:2326:C:H5	2.20	0.59
1:0:2691:C:H3'	1:0:2692:A:C5'	2.33	0.59
1:0:2737:A:H2'	1:0:2738:A:H5"	1.85	0.59
1:0:2872:U:H2'	1:0:2873:G:H8	1.68	0.59
1:0:4:C:C4	1:0:5:A:N7	2.71	0.59
1:0:208:C:N4	1:0:209:G:N2	2.50	0.59
1:0:421:G:H2'	1:0:422:C:C6	2.37	0.59
1:0:614:G:C5	1:0:615:C:C5	2.91	0.59
1:0:864:C:O2'	1:0:865:A:H5'	2.02	0.59
1:0:2793:G:N2	1:0:2794:G:H1'	2.18	0.59
1:0:196:A:O2'	1:0:197:G:H5'	2.03	0.59
1:0:1523:A:H8	1:0:1523:A:O5'	1.86	0.59
1:0:2660:C:N3	1:0:2704:U:C4	2.71	0.59
1:0:69:G:H3'	1:0:69:G:P	2.43	0.58
1:0:75:C:H2'	1:0:76:C:H5"	1.85	0.58
1:0:540:G:H1'	1:0:2004:U:O2'	2.03	0.58
1:0:597:U:H2'	1:0:598:U:C6	2.37	0.58
1:0:661:C:H2'	1:0:662:G:H8	1.68	0.58
1:0:981:C:H2'	1:0:982:C:H6	1.68	0.58
1:0:987:G:C2	1:0:988:G:C8	2.91	0.58
1:0:1514:C:H5'	1:0:1593:C:C5'	2.33	0.58
1:0:2160:C:H2'	1:0:2161:C:C6	2.37	0.58
1:0:161:U:H1'	1:0:194:G:O2'	2.03	0.58
1:0:387:A:C4	1:0:388:G:C8	2.91	0.58
1:0:640:C:H4'	1:0:660:G:N3	2.18	0.58
1:0:1781:C:H2'	1:0:1782:A:N7	2.18	0.58
1:0:2174:G:H2'	1:0:2175:A:H8	1.68	0.58
1:0:1849:G:H8	1:0:1849:G:O5'	1.86	0.58
1:0:2050:G:C4	1:0:2423:G:N2	2.71	0.58
1:0:30:G:H2'	1:0:31:C:C6	2.38	0.58
1:0:298:C:O2'	1:0:299:C:H5'	2.03	0.58
1:0:466:A:H4'	1:0:467:U:O5'	2.03	0.58
1:0:661:C:H2'	1:0:662:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:716:U:H2'	1:0:717:G:O4'	2.02	0.58
1:0:248:A:N6	1:0:373:A:N7	2.51	0.58
1:0:341:A:H2	1:0:1223:G:H2'	1.68	0.58
1:0:644:A:C2'	1:0:645:G:H5'	2.34	0.58
1:0:698:A:N7	1:0:786:U:C4	2.72	0.58
1:0:1110:G:H2'	1:0:1111:C:C6	2.38	0.58
1:0:1147:G:H2'	1:0:1148:G:H8	1.68	0.58
1:0:1402:G:H2'	1:0:1403:U:O4'	2.03	0.58
1:0:1785:A:H2'	1:0:1786:C:H6	1.67	0.58
1:0:2204:A:H8	1:0:2204:A:OP2	1.87	0.58
1:0:2827:G:C6	1:0:2828:C:N3	2.72	0.58
1:0:719:A:H8	1:0:719:A:O5'	1.85	0.58
1:0:1016:C:C6	1:0:1154:A:H1'	2.38	0.58
1:0:1772:C:HO2'	1:0:1773:C:P	2.27	0.58
1:0:2539:C:C4	1:0:2540:A:N7	2.72	0.58
1:0:2742:G:C2'	1:0:2743:G:H5'	2.33	0.58
1:0:2858:A:H5"	1:0:2859:U:H5'	1.86	0.58
1:0:325:U:O2'	1:0:326:A:H5'	2.02	0.58
1:0:516:G:O2'	1:0:517:A:P	2.62	0.58
1:0:667:U:C2	1:0:669:G:OP2	2.56	0.58
1:0:799:C:H2'	1:0:800:U:C6	2.34	0.58
1:0:992:A:C2	1:0:2011:U:O4'	2.57	0.58
1:0:1541:G:N2	1:0:1562:G:N1	2.48	0.58
1:0:1846:A:H61	1:0:1871:G:H1'	1.69	0.58
1:0:2090:U:H2'	1:0:2091:C:C6	2.39	0.58
1:0:2352:A:H2'	1:0:2353:G:C8	2.38	0.58
1:0:2496:C:O2'	1:0:2497:A:O5'	2.16	0.58
1:0:133:C:H2'	1:0:134:G:O4'	2.04	0.58
1:0:554:U:H2'	1:0:555:U:O4'	2.03	0.58
1:0:594:G:N2	1:0:1266:G:OP2	2.36	0.58
1:0:798:G:C6	1:0:799:C:C4	2.90	0.58
1:0:861:G:H2'	1:0:862:A:H8	1.63	0.58
1:0:1442:C:C2'	1:0:1443:G:OP1	2.51	0.58
1:0:1624:A:N6	1:0:1627:C:C2	2.72	0.58
1:0:1625:A:C5	1:0:1632:A:N3	2.72	0.58
1:0:1686:A:H2'	1:0:1687:C:H5'	1.86	0.58
1:0:2117:A:H62	1:0:2139:G:H21	1.51	0.58
1:0:2426:G:H4'	1:0:2427:A:H5"	1.84	0.58
1:0:2756:A:O2'	1:0:2757:G:H5"	2.04	0.58
1:0:113:C:O2'	1:0:114:C:H5'	2.03	0.58
1:0:422:C:H2'	1:0:423:G:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:690:A:O2'	1:0:691:C:H5'	2.04	0.58
1:0:765:C:O2	1:0:766:A:N7	2.36	0.58
1:0:788:G:H5"	1:0:789:G:OP1	2.04	0.58
1:0:1458:A:C2'	1:0:1459:U:H5'	2.33	0.58
1:0:2217:G:H5'	1:0:2218:G:N7	2.19	0.58
1:0:2651:U:O2'	1:0:2652:G:H5'	2.04	0.58
1:0:2759:U:O4'	1:0:2761:A:C2	2.57	0.58
1:0:2768:C:O2'	1:0:2784:A:C8	2.55	0.58
1:0:243:G:H2'	1:0:244:C:O4'	2.04	0.58
1:0:614:G:C2	1:0:634:G:N2	2.72	0.58
1:0:1055:A:O2'	1:0:1058:G:H1'	2.04	0.58
1:0:1781:C:H2'	1:0:1782:A:C5	2.38	0.58
1:0:2066:G:O6	1:0:2216:G:N2	2.36	0.58
1:0:2324:G:N2	1:0:2326:C:C5	2.71	0.58
1:0:212:U:C2'	1:0:213:C:H5'	2.34	0.57
1:0:510:G:N3	1:0:512:A:OP2	2.37	0.57
1:0:1303:U:H2'	1:0:1304:U:H6	1.68	0.57
1:0:2832:G:C5	1:0:2834:A:OP2	2.57	0.57
1:0:27:G:HO2'	1:0:28:A:H8	1.52	0.57
1:0:460:U:C4	1:0:592:G:H1'	2.39	0.57
1:0:796:A:C8	1:0:796:A:H3'	2.39	0.57
1:0:1707:A:C2'	1:0:1708:C:H5'	2.34	0.57
1:0:1996:A:C2'	1:0:1997:A:H5'	2.34	0.57
1:0:2059:U:OP2	1:0:2217:G:N2	2.37	0.57
1:0:2315:A:H1'	1:0:2364:C:H5"	1.86	0.57
1:0:2607:C:O2'	1:0:2761:A:H3'	2.04	0.57
1:0:48:A:N6	1:0:154:U:H5	1.99	0.57
1:0:59:G:H1'	1:0:73:A:C2	2.38	0.57
1:0:177:U:C5	1:0:225:G:C2	2.91	0.57
1:0:441:A:H2'	1:0:442:A:C5'	2.34	0.57
1:0:466:A:O2'	1:0:467:U:OP2	2.22	0.57
1:0:1025:A:O2'	1:0:1026:U:H5'	2.04	0.57
1:0:1953:A:H1'	1:0:1955:G:H1'	1.84	0.57
1:0:1979:C:O4'	1:0:1979:C:OP1	2.20	0.57
1:0:2551:A:HO2'	1:0:2552:C:P	2.27	0.57
1:0:12:U:H2'	1:0:13:A:H5'	1.85	0.57
1:0:26:G:C2	1:0:27:G:N2	2.72	0.57
1:0:1303:U:H2'	1:0:1304:U:C6	2.39	0.57
1:0:1785:A:H2'	1:0:1786:C:C6	2.39	0.57
1:0:1787:U:O2'	1:0:1788:C:H5'	2.04	0.57
1:0:2026:C:N3	1:0:2757:G:C2	2.73	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2759:U:H5"	1:0:2760:G:O5'	2.04	0.57
1:0:421:G:O2'	1:0:422:C:H5'	2.05	0.57
1:0:540:G:N3	1:0:2005:U:OP1	2.38	0.57
1:0:542:A:C8	1:0:542:A:C3'	2.87	0.57
1:0:581:A:N1	1:0:2012:A:H2	2.03	0.57
1:0:771:C:O2	1:0:1964:A:H2	1.87	0.57
1:0:1139:A:O2'	1:0:1140:A:O4'	2.21	0.57
1:0:1140:A:N6	1:0:2470:U:OP1	2.37	0.57
1:0:2225:G:C4	1:0:2405:A:N3	2.72	0.57
1:0:2690:A:OP1	1:0:2692:A:OP2	2.23	0.57
1:0:128:C:H2'	1:0:129:A:H5"	1.86	0.57
1:0:219:G:C2'	1:0:220:U:OP2	2.53	0.57
1:0:1208:A:C2'	1:0:1209:G:O5'	2.53	0.57
1:0:1407:G:N1	1:0:1408:A:C2	2.73	0.57
1:0:1624:A:C2'	1:0:1625:A:H5'	2.35	0.57
1:0:2015:G:O2'	1:0:2016:A:OP1	2.18	0.57
1:0:2452:U:O2	1:0:2452:U:H2'	2.04	0.57
1:0:2661:G:H2'	1:0:2662:C:O5'	2.05	0.57
1:0:2665:G:C2	1:0:2666:U:O2	2.58	0.57
1:0:2862:G:O2'	1:0:2863:U:H5'	2.05	0.57
1:0:574:C:H4'	1:0:1266:G:O6	2.04	0.57
1:0:1896:A:H2	1:0:1899:A:C5	2.22	0.57
1:0:2081:U:O5'	1:0:2081:U:H6	1.88	0.57
1:0:2539:C:N4	1:0:2540:A:N6	2.52	0.57
1:0:24:G:N2	1:0:25:U:H1'	2.19	0.57
1:0:190:A:H2'	1:0:191:G:C8	2.40	0.57
1:0:195:A:C2	1:0:212:U:H4'	2.40	0.57
1:0:510:G:O5'	1:0:510:G:C8	2.57	0.57
1:0:1060:C:O5'	1:0:1060:C:H6	1.87	0.57
1:0:1188:A:H2'	1:0:1189:G:H5'	1.87	0.57
1:0:1568:A:O2'	1:0:1569:A:H5'	2.05	0.57
1:0:1714:A:H5'	1:0:1715:A:O5'	2.05	0.57
1:0:1973:C:H3'	1:0:1973:C:C6	2.40	0.57
1:0:2195:C:C2'	1:0:2196:U:H5'	2.35	0.57
1:0:5:A:C6	1:0:6:A:C6	2.92	0.57
1:0:488:A:H8	1:0:488:A:OP1	1.86	0.57
1:0:573:C:H2'	1:0:574:C:C6	2.40	0.57
1:0:695:G:O2'	1:0:696:U:H5'	2.05	0.57
1:0:824:U:O2'	1:0:1264:C:C1'	2.53	0.57
1:0:1821:A:H3'	1:0:1822:C:C6	2.40	0.57
1:0:1900:U:H2'	1:0:1901:A:O4'	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1919:A:N6	1:0:1928:G:N3	2.53	0.57
1:0:1921:A:H2'	1:0:1922:U:C5'	2.32	0.57
1:0:2395:C:C2'	1:0:2396:C:H5"	2.35	0.57
1:0:12:U:O2	1:0:12:U:C2'	2.53	0.57
1:0:169:C:C3'	1:0:170:U:H5'	2.34	0.57
1:0:222:G:O2'	1:0:223:C:H5'	2.05	0.57
1:0:224:G:C6	1:0:229:G:O6	2.58	0.57
1:0:230:C:H2'	1:0:231:G:C8	2.39	0.57
1:0:416:U:H5"	1:0:417:C:H5'	1.87	0.57
1:0:652:C:N4	1:0:657:A:H61	2.01	0.57
1:0:2020:G:H2'	1:0:2021:G:C8	2.40	0.57
1:0:2197:U:H2'	1:0:2198:U:C6	2.40	0.57
1:0:2204:A:H4'	1:0:2205:C:O5'	2.04	0.57
1:0:2338:C:H2'	1:0:2339:A:C8	2.39	0.57
1:0:2364:C:H2'	1:0:2365:U:C6	2.40	0.57
1:0:2496:C:N4	1:0:2521:A:C2	2.73	0.57
1:0:2698:G:H2'	1:0:2699:G:C8	2.39	0.57
1:0:520:C:C4	1:0:521:U:C4	2.93	0.56
1:0:580:A:N7	1:0:584:A:C6	2.73	0.56
1:0:1250:A:O2'	1:0:1251:G:O4'	2.22	0.56
1:0:1975:G:H22	1:0:1979:C:H5	1.48	0.56
1:0:2337:A:H2'	1:0:2338:C:O4'	2.05	0.56
1:0:2442:C:O2'	1:0:2443:C:H5'	2.05	0.56
1:0:2565:C:H2'	1:0:2565:C:O2	2.05	0.56
1:0:2712:G:OP2	1:0:2712:G:O4'	2.22	0.56
1:0:2815:C:H2'	1:0:2816:C:H6	1.70	0.56
1:0:178:C:O2'	1:0:179:U:H5'	2.05	0.56
1:0:461:A:C4	1:0:462:G:C8	2.94	0.56
1:0:531:G:H2'	1:0:532:A:H8	1.70	0.56
1:0:859:U:H2'	1:0:860:U:OP2	2.05	0.56
1:0:921:A:H2'	1:0:924:C:H5	1.70	0.56
1:0:973:U:O2'	1:0:2475:C:H4'	2.06	0.56
1:0:1137:A:H4'	1:0:1138:A:H5"	1.87	0.56
1:0:1437:A:O2'	1:0:1515:U:H4'	2.05	0.56
1:0:2219:U:O2	1:0:2220:A:C8	2.58	0.56
1:0:51:A:N1	1:0:155:G:H1'	2.21	0.56
1:0:58:C:C2	1:0:72:A:C5	2.93	0.56
1:0:788:G:N2	1:0:801:A:OP2	2.37	0.56
1:0:804:C:O2	1:0:804:C:C2'	2.52	0.56
1:0:1507:A:O2'	1:0:1509:A:O3'	2.23	0.56
1:0:1534:A:O2'	1:0:1535:C:H5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1625:A:N3	1:0:1625:A:C3'	2.67	0.56
1:0:1845:A:N3	1:0:2212:U:O2'	2.35	0.56
1:0:1978:U:N3	1:0:1979:C:N4	2.52	0.56
1:0:2090:U:H2'	1:0:2091:C:H6	1.70	0.56
1:0:2117:A:H62	1:0:2139:G:N2	2.03	0.56
1:0:2368:G:H5"	1:0:2369:U:H5'	1.87	0.56
1:0:2555:G:H3'	1:0:2555:G:OP1	2.04	0.56
1:0:2562:G:N2	1:0:2563:U:C1'	2.67	0.56
1:0:2628:C:H2'	1:0:2629:U:C6	2.40	0.56
1:0:2691:C:C3'	1:0:2692:A:C5'	2.82	0.56
1:0:540:G:O6	1:0:2006:G:OP1	2.23	0.56
1:0:1286:U:O3'	1:0:1288:A:OP2	2.24	0.56
1:0:1391:A:O2'	1:0:1392:U:H3'	2.06	0.56
1:0:1415:C:O2'	1:0:1416:A:H5'	2.05	0.56
1:0:1485:U:H2'	1:0:1486:A:C8	2.40	0.56
1:0:1583:A:O2'	1:0:1584:G:OP2	2.23	0.56
1:0:1820:G:O2'	1:0:1821:A:P	2.63	0.56
1:0:2433:G:O2'	1:0:2434:G:H5'	2.05	0.56
1:0:2484:G:C2'	1:0:2485:U:C5'	2.84	0.56
1:0:201:G:H2'	1:0:202:A:C8	2.40	0.56
1:0:422:C:H2'	1:0:423:G:H8	1.71	0.56
1:0:633:G:C6	1:0:634:G:C6	2.94	0.56
1:0:1454:U:H2'	1:0:1455:C:C6	2.37	0.56
1:0:865:A:N6	1:0:937:C:N3	2.46	0.56
1:0:1160:C:O2	1:0:1161:U:H1'	2.05	0.56
1:0:1628:C:C4	1:0:1629:G:N7	2.74	0.56
1:0:1657:A:H5'	1:0:1657:A:H8	1.71	0.56
1:0:2035:G:O2'	1:0:2036:G:H5'	2.05	0.56
1:0:2246:A:H3'	1:0:2246:A:N3	2.21	0.56
1:0:57:G:C2	1:0:72:A:C5	2.93	0.56
1:0:1235:C:C2	1:0:1241:G:C2	2.94	0.56
1:0:1235:C:C2	1:0:1241:G:N2	2.74	0.56
1:0:1465:G:OP1	1:0:1465:G:C4'	2.46	0.56
1:0:1757:C:O2	1:0:1970:G:C2	2.59	0.56
1:0:1949:A:H1'	1:0:2572:U:C4'	2.32	0.56
1:0:2198:U:C3'	1:0:2199:C:H4'	2.36	0.56
1:0:2267:A:C2'	1:0:2268:G:OP1	2.54	0.56
1:0:57:G:C6	1:0:72:A:N6	2.73	0.56
1:0:185:C:H2'	1:0:186:C:C6	2.40	0.56
1:0:238:G:O4'	1:0:618:A:H2	1.89	0.56
1:0:651:C:H2'	1:0:652:C:C5'	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:700:C:C6	1:0:701:U:C4	2.94	0.56
1:0:794:A:H2	1:0:1767:G:N3	2.04	0.56
1:0:1310:C:H2'	1:0:1311:C:H6	1.69	0.56
1:0:1438:G:C2'	1:0:1439:G:H5'	2.36	0.56
1:0:1514:C:H5'	1:0:1593:C:H5"	1.87	0.56
1:0:2138:U:H2'	1:0:2139:G:H5'	1.88	0.56
1:0:5:A:C2	1:0:6:A:C4	2.93	0.56
1:0:327:C:H2'	1:0:328:A:H5'	1.87	0.56
1:0:514:G:N3	1:0:514:G:C2'	2.68	0.56
1:0:530:G:H2'	1:0:531:G:H8	1.71	0.56
1:0:580:A:O2'	1:0:581:A:OP2	2.24	0.56
1:0:584:A:OP2	1:0:2038:C:H5	1.88	0.56
1:0:1118:G:H2'	1:0:1119:U:C6	2.40	0.56
1:0:1355:A:N6	1:0:1358:C:C2	2.74	0.56
1:0:1479:G:N2	1:0:1543:G:N2	2.54	0.56
1:0:1774:A:H5'	1:0:2587:G:H4'	1.88	0.56
1:0:1869:A:H2'	1:0:1870:U:C6	2.40	0.56
1:0:1926:U:OP1	1:0:1926:U:H6	1.89	0.56
1:0:1975:G:N2	1:0:1979:C:C5	2.68	0.56
1:0:2608:A:O2'	1:0:2609:G:O5'	2.23	0.56
1:0:2796:A:OP2	2:B:110:GLY:CA	2.53	0.56
1:0:2871:U:C2	1:0:2872:U:C4	2.93	0.56
1:0:435:A:N1	1:0:436:A:C2	2.74	0.56
1:0:1429:A:H1'	1:0:1603:A:C6	2.41	0.56
1:0:1861:G:O2'	1:0:1862:C:H5'	2.05	0.56
1:0:2040:A:O2'	1:0:2041:A:H5'	2.06	0.56
1:0:2059:U:C5'	1:0:2217:G:H1	2.19	0.56
1:0:318:G:N2	1:0:321:A:O4'	2.39	0.55
1:0:459:A:C2	1:0:466:A:C8	2.94	0.55
1:0:745:C:H2'	1:0:746:G:O4'	2.06	0.55
1:0:830:C:H2'	1:0:831:G:H8	1.71	0.55
1:0:1117:G:O2'	1:0:1118:G:H5'	2.06	0.55
1:0:1141:U:O2'	1:0:1142:G:P	2.64	0.55
1:0:2791:C:C2'	1:0:2792:C:H5'	2.36	0.55
1:0:457:C:O2'	1:0:458:G:H5'	2.06	0.55
1:0:759:C:OP1	1:0:761:G:H4'	2.06	0.55
1:0:940:G:C3'	1:0:941:U:C5'	2.77	0.55
1:0:2182:A:H61	1:0:2205:C:N4	2.05	0.55
1:0:2561:G:C2	1:0:2562:G:C8	2.94	0.55
1:0:2770:A:C5'	1:0:2867:G:H22	2.17	0.55
1:0:88:G:OP2	1:0:90:G:OP1	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:127:C:O2'	1:0:128:C:H5'	2.07	0.55
1:0:201:G:C2	1:0:202:A:C5	2.95	0.55
1:0:638:A:OP2	1:0:638:A:H4'	2.05	0.55
1:0:810:U:H2'	1:0:811:G:C8	2.40	0.55
1:0:1233:A:H4'	1:0:1234:C:OP2	2.04	0.55
1:0:1714:A:O2'	1:0:1961:A:OP1	2.25	0.55
1:0:1777:A:N6	1:0:2585:C:O4'	2.39	0.55
1:0:2117:A:N6	1:0:2139:G:N2	2.52	0.55
1:0:2484:G:C2'	1:0:2485:U:H5"	2.37	0.55
1:0:2634:G:O2'	1:0:2643:G:C6	2.58	0.55
1:0:2810:A:N6	1:0:2853:U:OP2	2.39	0.55
1:0:2837:G:O2'	1:0:2838:U:H5'	2.04	0.55
1:0:4:C:H2'	1:0:5:A:C5'	2.37	0.55
1:0:155:G:C2'	1:0:156:G:H5'	2.36	0.55
1:0:367:G:C2'	1:0:368:A:H5"	2.36	0.55
1:0:538:A:C8	1:0:538:A:C3'	2.89	0.55
1:0:965:G:O2'	1:0:2253:A:N1	2.27	0.55
1:0:1016:C:C2	1:0:1154:A:C4	2.94	0.55
1:0:1310:C:H2'	1:0:1311:C:C6	2.42	0.55
1:0:1407:G:N1	1:0:1408:A:N1	2.55	0.55
1:0:1522:C:H2'	1:0:1523:A:H5'	1.88	0.55
1:0:2070:G:H2'	1:0:2071:G:H8	1.71	0.55
1:0:2610:G:H5'	1:0:2866:A:O4'	2.06	0.55
1:0:2841:U:O2'	1:0:2842:C:OP2	2.25	0.55
1:0:21:A:C6	1:0:530:G:C6	2.95	0.55
1:0:219:G:N2	1:0:232:A:OP2	2.30	0.55
1:0:538:A:C6	1:0:2025:A:C5	2.95	0.55
1:0:789:G:C5	1:0:806:A:C8	2.94	0.55
1:0:1882:G:H21	1:0:1885:C:N4	2.03	0.55
1:0:2176:U:C2'	1:0:2177:U:H5'	2.36	0.55
1:0:2235:G:N2	1:0:2254:C:C5	2.74	0.55
1:0:2758:A:C2'	1:0:2759:U:OP1	2.54	0.55
1:0:2824:C:O2'	1:0:2825:A:OP2	2.20	0.55
1:0:68:C:O2	1:0:68:C:C2'	2.53	0.55
1:0:537:C:C2	1:0:2759:U:C2	2.95	0.55
1:0:693:A:H2'	1:0:694:G:H8	1.70	0.55
1:0:728:G:C2	1:0:729:A:H1'	2.42	0.55
1:0:765:C:C6	1:0:1772:C:O2	2.60	0.55
1:0:1345:G:C5	1:0:1625:A:N6	2.74	0.55
1:0:1390:G:H8	1:0:1390:G:O5'	1.89	0.55
1:0:1703:C:H2'	1:0:1704:G:O4'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1952:A:O2'	1:0:1955:G:N3	2.40	0.55
1:0:7:G:O2'	1:0:8:A:H5'	2.07	0.55
1:0:322:A:O2'	1:0:343:A:C4'	2.54	0.55
1:0:577:U:C4'	1:0:956:A:N6	2.69	0.55
1:0:699:G:C5'	1:0:700:C:OP2	2.53	0.55
1:0:774:A:C8	1:0:774:A:H3'	2.42	0.55
1:0:1010:U:H3'	1:0:1165:G:O6	2.07	0.55
1:0:1468:A:H5"	1:0:1468:A:H8	1.72	0.55
1:0:1482:U:H2'	1:0:1483:G:C8	2.41	0.55
1:0:2015:G:N2	1:0:2038:C:C2	2.75	0.55
1:0:2345:A:H2'	1:0:2346:G:O4'	2.07	0.55
1:0:2438:A:N3	1:0:2438:A:H2'	2.22	0.55
1:0:73:A:O2'	1:0:74:G:OP2	2.21	0.55
1:0:441:A:H2'	1:0:442:A:H5'	1.89	0.55
1:0:1164:C:H2'	1:0:1165:G:O4'	2.04	0.55
1:0:1180:A:O2'	1:0:1181:C:H5'	2.07	0.55
1:0:1345:G:C4	1:0:1625:A:C6	2.95	0.55
1:0:1386:A:H5'	1:0:2191:A:N7	2.22	0.55
1:0:1683:G:C2'	1:0:1684:G:H5'	2.34	0.55
1:0:1715:A:O2'	1:0:1716:G:C3'	2.55	0.55
1:0:2486:C:C5	1:0:2487:G:N7	2.75	0.55
1:0:2871:U:N3	1:0:2872:U:C4	2.74	0.55
1:0:778:G:H5'	1:0:778:G:H8	1.72	0.55
1:0:837:U:C2	1:0:838:A:C8	2.94	0.55
1:0:1221:C:C4	1:0:1222:G:N7	2.75	0.55
1:0:1226:A:C1'	1:0:1250:A:C2	2.90	0.55
1:0:1301:U:C4'	1:0:1302:C:OP2	2.54	0.55
1:0:1313:U:O2'	1:0:1314:A:P	2.64	0.55
1:0:1850:G:O6	1:0:1867:A:N3	2.40	0.55
1:0:1901:A:H2'	1:0:1902:A:C8	2.42	0.55
1:0:2264:C:C4'	1:0:2267:A:N6	2.69	0.55
1:0:2447:G:HO2'	1:0:2448:A:H5'	1.70	0.55
1:0:2847:G:C2	1:0:2848:A:N6	2.74	0.55
1:0:631:G:H5"	1:0:632:A:OP1	2.07	0.55
1:0:759:C:H5'	1:0:761:G:H1'	1.88	0.55
1:0:774:A:H3'	1:0:774:A:H8	1.72	0.55
1:0:1004:A:C6	1:0:1005:U:C5	2.95	0.55
1:0:1414:G:H2'	1:0:1415:C:O4'	2.07	0.55
1:0:1845:A:H2'	1:0:1846:A:H8	1.71	0.55
1:0:1975:G:N2	1:0:1979:C:H5	2.03	0.55
1:0:2106:G:H2'	1:0:2107:G:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2243:C:O2'	1:0:2244:C:H5'	2.07	0.55
1:0:2563:U:H3'	1:0:2564:U:C5'	2.37	0.55
1:0:2602:G:C2'	1:0:2603:G:H5'	2.37	0.55
1:0:2666:U:C5	1:0:2667:C:C4	2.95	0.55
1:0:2675:U:H2'	1:0:2676:G:C8	2.41	0.55
1:0:697:G:C1'	1:0:801:A:H62	2.19	0.54
1:0:1154:A:C2'	1:0:1155:G:OP1	2.54	0.54
1:0:1288:A:N6	1:0:1309:G:C4'	2.70	0.54
1:0:1336:G:O6	1:0:1337:G:C6	2.60	0.54
1:0:1813:A:H2'	1:0:1814:G:C8	2.41	0.54
1:0:1813:A:H2'	1:0:1814:G:H8	1.72	0.54
1:0:2379:G:N1	1:0:2380:U:O2	2.40	0.54
1:0:2482:A:H5'	1:0:2483:U:P	2.45	0.54
1:0:581:A:H2'	1:0:582:G:O4'	2.07	0.54
1:0:664:C:C2	1:0:665:A:N7	2.75	0.54
1:0:921:A:H2'	1:0:924:C:C5	2.42	0.54
1:0:1083:C:H42	1:0:1103:C:H41	1.55	0.54
1:0:1225:G:O2'	1:0:1226:A:H8	1.90	0.54
1:0:1243:G:C6	1:0:1244:U:N3	2.75	0.54
1:0:1634:A:O2'	1:0:1635:G:OP1	2.22	0.54
1:0:1791:C:O2	1:0:1791:C:H2'	2.06	0.54
1:0:1908:C:C2'	1:0:1909:U:H4'	2.22	0.54
1:0:305:A:H2'	1:0:306:G:H5'	1.89	0.54
1:0:684:C:H2'	1:0:685:U:H6	1.73	0.54
1:0:947:C:H2'	1:0:948:C:C6	2.43	0.54
1:0:1067:G:N1	1:0:1113:C:OP2	2.33	0.54
1:0:1466:C:H4'	1:0:1466:C:OP1	2.07	0.54
1:0:1778:U:H2'	1:0:1779:C:H6	1.72	0.54
1:0:2507:U:O2'	1:0:2508:G:H8	1.90	0.54
1:0:2588:U:H5'	1:0:2589:C:OP2	2.07	0.54
1:0:211:U:O2	1:0:211:U:C2'	2.46	0.54
1:0:538:A:N1	1:0:2025:A:H2'	2.22	0.54
1:0:965:G:N3	1:0:2253:A:H2	2.04	0.54
1:0:2324:G:C2	1:0:2326:C:C5	2.95	0.54
1:0:2511:G:N7	1:0:2512:A:N7	2.55	0.54
1:0:2665:G:C6	1:0:2666:U:N3	2.76	0.54
1:0:2694:G:C6	1:0:2695:C:C4	2.95	0.54
1:0:7:G:C2	1:0:8:A:C4	2.96	0.54
1:0:57:G:C6	1:0:72:A:C6	2.96	0.54
1:0:66:U:C2	1:0:67:G:O6	2.60	0.54
1:0:529:U:H2'	1:0:530:G:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1265:G:HO2'	1:0:1266:G:P	2.29	0.54
1:0:1363:C:O2'	1:0:1364:C:H5'	2.07	0.54
1:0:1442:C:O2'	1:0:1443:G:OP1	2.22	0.54
1:0:1594:U:H2'	1:0:1595:A:C8	2.42	0.54
1:0:1675:C:H2'	1:0:1676:U:C6	2.43	0.54
1:0:2119:A:H2'	1:0:2120:C:H6	1.72	0.54
1:0:2314:A:N1	1:0:2316:G:H1'	2.23	0.54
1:0:2703:C:HO2'	1:0:2704:U:H5'	1.73	0.54
1:0:67:G:H2'	1:0:68:C:O4'	2.07	0.54
1:0:168:A:C6	1:0:169:C:N4	2.75	0.54
1:0:202:A:C2	1:0:203:G:H1'	2.43	0.54
1:0:357:A:N3	1:0:358:C:H4'	2.22	0.54
1:0:521:U:OP2	1:0:522:G:C5	2.61	0.54
1:0:799:C:H2'	1:0:800:U:O4'	2.06	0.54
1:0:945:G:H2'	1:0:946:U:H6	1.72	0.54
1:0:1299:A:H2'	1:0:1301:U:OP2	2.07	0.54
1:0:1859:A:H2'	1:0:1860:A:C8	2.42	0.54
1:0:2484:G:H2'	1:0:2485:U:OP2	2.06	0.54
1:0:146:C:H2'	1:0:147:G:C8	2.42	0.54
1:0:159:A:O5'	1:0:159:A:H8	1.90	0.54
1:0:571:U:O2'	1:0:572:G:OP2	2.25	0.54
1:0:765:C:O2'	1:0:766:A:H8	1.89	0.54
1:0:913:A:C2	1:0:914:C:C2	2.96	0.54
1:0:1262:U:H3'	1:0:1262:U:C6	2.42	0.54
1:0:2181:A:N3	1:0:2181:A:C2'	2.71	0.54
1:0:2262:C:N3	1:0:2368:G:C2	2.76	0.54
1:0:2446:C:H2'	1:0:2447:G:O4'	2.08	0.54
1:0:2721:A:H2'	1:0:2722:C:O4'	2.07	0.54
1:0:65:C:H2'	1:0:66:U:H5'	1.90	0.54
1:0:76:C:H6	1:0:76:C:C5'	2.20	0.54
1:0:177:U:O2	1:0:177:U:H2'	2.08	0.54
1:0:530:G:H2'	1:0:531:G:C8	2.43	0.54
1:0:1265:G:H2'	1:0:1266:G:O5'	2.07	0.54
1:0:1451:C:H2'	1:0:1452:U:H6	1.73	0.54
1:0:1573:G:O6	1:0:1574:A:N6	2.41	0.54
1:0:1621:C:O4'	1:0:1626:A:C6	2.61	0.54
1:0:1699:A:C2	1:0:1748:U:H1'	2.42	0.54
1:0:1790:G:O2'	1:0:1791:C:P	2.66	0.54
1:0:2522:G:H2'	1:0:2523:G:O4'	2.08	0.54
1:0:204:A:N6	1:0:2386:G:C8	2.76	0.54
1:0:215:G:H2'	1:0:216:U:H6	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:C2'	1:0:339:U:O5'	2.56	0.54
1:0:684:C:H2'	1:0:685:U:O5'	2.08	0.54
1:0:1496:G:N2	1:0:1528:C:H1'	2.23	0.54
1:0:1679:U:H2'	1:0:1680:U:C5'	2.32	0.54
1:0:1683:G:N1	1:0:1978:U:C4	2.76	0.54
1:0:1807:A:N3	1:0:1809:G:N7	2.56	0.54
1:0:58:C:C5	1:0:72:A:N6	2.76	0.54
1:0:208:C:H2'	1:0:209:G:O4'	2.08	0.54
1:0:367:G:C3'	1:0:368:A:H5"	2.38	0.54
1:0:687:G:H2'	1:0:817:A:H61	1.73	0.54
1:0:1181:C:H2'	1:0:1182:U:H5"	1.89	0.54
1:0:1966:C:O2	1:0:1966:C:H2'	2.08	0.54
1:0:1966:C:O2	1:0:1967:U:C6	2.61	0.54
1:0:2178:U:O2'	1:0:2179:C:H5'	2.08	0.54
1:0:2299:A:H5"	1:0:2300:G:OP1	2.08	0.54
1:0:2778:U:H2'	1:0:2779:C:C5'	2.37	0.54
1:0:2778:U:O2'	1:0:2779:C:H5'	2.08	0.54
1:0:362:C:C4	1:0:363:G:H1'	2.42	0.53
1:0:1141:U:O2'	1:0:1142:G:O5'	2.26	0.53
1:0:1169:C:C2'	1:0:1170:U:H5'	2.38	0.53
1:0:1259:A:C2'	1:0:1260:A:H5'	2.38	0.53
1:0:1364:C:H2'	1:0:1365:U:C6	2.43	0.53
1:0:1448:A:N6	1:0:1574:A:H61	2.06	0.53
1:0:1468:A:H5'	1:0:1472:C:H42	1.72	0.53
1:0:1656:U:C2'	1:0:1657:A:H5"	2.37	0.53
1:0:1753:A:O5'	1:0:1753:A:H8	1.91	0.53
1:0:1783:G:O2'	1:0:1822:C:OP1	2.25	0.53
1:0:1789:U:C4	1:0:1811:A:C2	2.95	0.53
1:0:2650:G:O2'	1:0:2651:U:H5'	2.08	0.53
1:0:2772:U:O2'	1:0:2773:G:H5'	2.08	0.53
1:0:688:A:C2	1:0:689:A:N7	2.76	0.53
1:0:1280:U:H5	1:0:1995:G:C6	2.21	0.53
1:0:1459:U:H3'	1:0:1475:U:O2'	2.08	0.53
1:0:1767:G:N2	1:0:1768:U:H1'	2.23	0.53
1:0:1975:G:O2'	1:0:1976:U:P	2.66	0.53
1:0:2040:A:H2'	1:0:2041:A:H8	1.72	0.53
1:0:2198:U:H5"	1:0:2199:C:OP2	2.08	0.53
1:0:2332:G:C6	1:0:2344:G:N2	2.77	0.53
1:0:2389:G:H2'	1:0:2390:A:O4'	2.08	0.53
1:0:2852:G:O2'	1:0:2853:U:H5'	2.08	0.53
1:0:27:G:N2	1:0:522:G:HO2'	2.05	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:310:A:H2'	1:0:311:A:C8	2.44	0.53
1:0:459:A:N1	1:0:466:A:C8	2.76	0.53
1:0:698:A:O2'	1:0:699:G:OP2	2.26	0.53
1:0:1486:A:H2'	1:0:1487:C:H6	1.72	0.53
1:0:1697:U:O2	1:0:1754:G:C8	2.61	0.53
1:0:2019:C:O2'	1:0:2020:G:H5'	2.07	0.53
1:0:310:A:H2	1:0:330:C:O2	1.89	0.53
1:0:555:U:H5'	1:0:556:A:OP1	2.08	0.53
1:0:1098:G:O2'	1:0:1100:G:OP1	2.27	0.53
1:0:1278:A:C4'	1:0:1279:G:O5'	2.54	0.53
1:0:1287:A:C2	1:0:1662:G:O4'	2.61	0.53
1:0:1522:C:C2'	1:0:1523:A:H5'	2.39	0.53
1:0:1736:C:O2'	1:0:1737:G:H5'	2.09	0.53
1:0:1761:G:N2	1:0:1966:C:H1'	2.23	0.53
1:0:1978:U:H3'	1:0:1979:C:H5"	1.90	0.53
1:0:2270:U:O2'	1:0:2353:G:N3	2.41	0.53
1:0:2637:C:N4	1:0:2643:G:N2	2.56	0.53
1:0:2753:C:O2'	1:0:2754:C:H5'	2.08	0.53
1:0:2807:U:H1'	1:0:2809:A:C6	2.43	0.53
1:0:2820:C:H2'	1:0:2821:G:H8	1.74	0.53
1:0:539:A:H1'	1:0:540:G:C6	2.43	0.53
1:0:717:G:H2'	1:0:739:G:H22	1.73	0.53
1:0:741:G:C4	1:0:743:A:C8	2.97	0.53
1:0:816:U:H2'	1:0:817:A:H5'	1.89	0.53
1:0:1594:U:H2'	1:0:1595:A:H8	1.74	0.53
1:0:1772:C:O2'	1:0:1773:C:O5'	2.24	0.53
1:0:2026:C:C4	1:0:2757:G:N3	2.76	0.53
1:0:2310:G:N2	1:0:2364:C:C4	2.77	0.53
1:0:2371:A:H3'	1:0:2372:A:H8	1.73	0.53
1:0:2755:A:O2'	1:0:2756:A:H5'	2.07	0.53
1:0:5:A:O2'	1:0:6:A:O5'	2.22	0.53
1:0:493:A:OP2	1:0:517:A:N6	2.41	0.53
1:0:590:C:H2'	1:0:591:G:C8	2.44	0.53
1:0:687:G:C2'	1:0:688:A:H5'	2.39	0.53
1:0:746:G:N7	1:0:774:A:C6	2.76	0.53
1:0:805:G:H2'	1:0:2419:C:C2	2.43	0.53
1:0:847:C:O2'	1:0:848:A:H5'	2.09	0.53
1:0:1091:C:H2'	1:0:1092:U:H6	1.72	0.53
1:0:1806:G:H5"	1:0:1807:A:O5'	2.09	0.53
1:0:1901:A:C2	1:0:1902:A:N7	2.76	0.53
1:0:2425:G:N2	1:0:2480:C:C4	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2510:A:H61	1:0:2641:A:H61	1.53	0.53
1:0:2736:U:O2'	1:0:2737:A:O5'	2.24	0.53
1:0:5:A:C4	1:0:6:A:C8	2.97	0.53
1:0:577:U:O2	1:0:579:G:C8	2.62	0.53
1:0:591:G:H2'	1:0:592:G:C8	2.43	0.53
1:0:698:A:C1'	1:0:700:C:H5	2.21	0.53
1:0:788:G:H4'	1:0:790:A:C4	2.43	0.53
1:0:1429:A:C6	1:0:1602:G:H5'	2.44	0.53
1:0:1604:A:H2'	1:0:1605:A:O4'	2.09	0.53
1:0:1690:U:C2'	1:0:1691:G:H5'	2.38	0.53
1:0:1749:G:O2'	1:0:1750:A:P	2.67	0.53
1:0:2860:C:H2'	1:0:2861:A:O4'	2.09	0.53
1:0:187:U:H2'	1:0:188:G:H8	1.74	0.53
1:0:353:G:H2'	1:0:354:C:H6	1.74	0.53
1:0:611:C:H5"	1:0:611:C:C6	2.43	0.53
1:0:697:G:C6	1:0:788:G:C8	2.96	0.53
1:0:698:A:C1'	1:0:700:C:H41	2.20	0.53
1:0:982:C:O2'	1:0:983:G:H5'	2.09	0.53
1:0:1151:U:OP1	1:0:1153:A:OP1	2.25	0.53
1:0:1351:G:N2	1:0:1352:G:H1'	2.24	0.53
1:0:68:C:C2	1:0:72:A:C2	2.96	0.53
1:0:309:G:C2	1:0:350:U:H5	2.26	0.53
1:0:789:G:O2'	1:0:790:A:P	2.67	0.53
1:0:1071:U:H5"	1:0:1072:U:C5	2.44	0.53
1:0:1200:G:H2'	1:0:1201:G:O4'	2.07	0.53
1:0:1278:A:O2'	1:0:1279:G:P	2.66	0.53
1:0:1585:A:H2'	1:0:1586:A:O4'	2.09	0.53
1:0:1744:G:H2'	1:0:1746:A:OP2	2.09	0.53
1:0:1886:G:O2'	1:0:1887:G:H5'	2.09	0.53
1:0:2312:A:H1'	1:0:2314:A:C8	2.44	0.53
1:0:222:G:H2'	1:0:223:C:H6	1.74	0.53
1:0:333:A:C2'	1:0:334:G:OP1	2.57	0.53
1:0:698:A:H1'	1:0:701:U:O4	2.09	0.53
1:0:955:G:C8	1:0:955:G:C3'	2.86	0.53
1:0:1280:U:H2'	1:0:1281:A:C8	2.41	0.53
1:0:1391:A:O2'	1:0:1392:U:O5'	2.26	0.53
1:0:1460:G:N3	1:0:1563:U:C2	2.78	0.53
1:0:1572:C:O2'	1:0:1573:G:H5"	2.09	0.53
1:0:2273:C:H2'	1:0:2274:C:C6	2.29	0.53
1:0:2387:U:H2'	1:0:2388:G:H8	1.74	0.53
1:0:2623:A:O2'	1:0:2624:G:H5'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:310:A:N3	1:0:330:C:O2'	2.33	0.52
1:0:600:G:C2'	1:0:601:A:OP1	2.58	0.52
1:0:638:A:H2'	1:0:639:G:O4'	2.09	0.52
1:0:706:A:O2'	1:0:707:U:H5'	2.09	0.52
1:0:764:A:C2	1:0:802:A:C4	2.97	0.52
1:0:1288:A:N6	1:0:1309:G:H5'	2.23	0.52
1:0:1587:A:H2'	1:0:1588:A:C8	2.44	0.52
1:0:2069:U:H2'	1:0:2070:G:C8	2.44	0.52
1:0:2299:A:H5'	1:0:2300:G:N9	2.24	0.52
1:0:2405:A:H2'	1:0:2406:C:OP1	2.10	0.52
1:0:2539:C:H42	1:0:2540:A:N6	2.06	0.52
1:0:2703:C:C2'	1:0:2704:U:H5'	2.40	0.52
1:0:33:C:O2	1:0:34:U:C4	2.62	0.52
1:0:220:U:H2'	1:0:221:A:H8	1.73	0.52
1:0:332:C:HO2'	1:0:333:A:P	2.32	0.52
1:0:580:A:O2'	1:0:582:G:OP2	2.24	0.52
1:0:820:U:H2'	1:0:821:A:C8	2.44	0.52
1:0:1002:C:H5'	1:0:1199:U:OP1	2.09	0.52
1:0:1017:C:C2	1:0:1148:G:N2	2.78	0.52
1:0:1450:G:O2'	1:0:1451:C:H5'	2.10	0.52
1:0:1749:G:O2'	1:0:1750:A:OP1	2.24	0.52
1:0:1836:C:C2	1:0:1880:G:N2	2.77	0.52
1:0:2005:U:H4'	1:0:2006:G:OP1	2.08	0.52
1:0:2384:G:N2	1:0:2390:A:N7	2.58	0.52
1:0:2396:C:H6	1:0:2396:C:C5'	2.21	0.52
1:0:2604:G:C2	1:0:2605:C:C2	2.97	0.52
1:0:2736:U:O2'	1:0:2737:A:C5'	2.56	0.52
1:0:476:G:C6	1:0:477:A:N6	2.77	0.52
1:0:485:G:C6	1:0:520:C:N4	2.77	0.52
1:0:797:A:H5'	1:0:798:G:OP1	2.09	0.52
1:0:812:G:C6	1:0:813:A:N6	2.78	0.52
1:0:1582:A:O2'	1:0:1583:A:P	2.67	0.52
1:0:1588:A:H2'	1:0:1589:G:C8	2.43	0.52
1:0:2425:G:C2	1:0:2480:C:C4	2.97	0.52
1:0:2507:U:HO2'	1:0:2508:G:H8	1.57	0.52
1:0:2806:G:H1'	1:0:2858:A:N3	2.24	0.52
1:0:2825:A:C8	1:0:2844:G:O4'	2.63	0.52
1:0:414:A:H2'	1:0:415:A:O4'	2.10	0.52
1:0:625:A:O5'	1:0:625:A:H8	1.93	0.52
1:0:926:C:C2'	1:0:927:C:H5'	2.40	0.52
1:0:1451:C:H2'	1:0:1452:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1654:A:H4'	1:0:2690:A:O2'	2.09	0.52
1:0:2312:A:H2'	1:0:2312:A:N3	2.24	0.52
1:0:2378:G:O2'	1:0:2379:G:H5'	2.09	0.52
1:0:2511:G:N2	1:0:2642:G:H1'	2.25	0.52
1:0:65:C:H2'	1:0:66:U:C5'	2.40	0.52
1:0:158:A:H5'	1:0:158:A:C8	2.41	0.52
1:0:173:A:C4	1:0:818:G:N2	2.78	0.52
1:0:336:A:H2'	1:0:337:G:C8	2.44	0.52
1:0:638:A:N6	1:0:647:G:H2'	2.25	0.52
1:0:764:A:C2	1:0:802:A:C8	2.97	0.52
1:0:815:A:C5	1:0:816:U:C4	2.97	0.52
1:0:914:C:O2'	1:0:915:C:H5'	2.10	0.52
1:0:1216:G:N2	1:0:1257:U:O2	2.43	0.52
1:0:1250:A:O2'	1:0:1251:G:C4'	2.57	0.52
1:0:1262:U:H3'	1:0:1262:U:H6	1.74	0.52
1:0:1486:A:H2'	1:0:1487:C:C6	2.44	0.52
1:0:1644:G:H2'	1:0:1645:U:H6	1.74	0.52
1:0:1979:C:H3'	1:0:1979:C:C6	2.41	0.52
1:0:2034:A:H2	1:0:2035:G:O6	1.92	0.52
1:0:2483:U:O5'	1:0:2483:U:H6	1.93	0.52
1:0:2634:G:N3	1:0:2643:G:O6	2.43	0.52
1:0:2806:G:C1'	1:0:2858:A:C2	2.92	0.52
1:0:216:U:OP1	1:0:601:A:N7	2.43	0.52
1:0:556:A:H2'	1:0:556:A:N3	2.25	0.52
1:0:1250:A:HO2'	1:0:1251:G:C4'	2.21	0.52
1:0:1666:G:H2'	1:0:1667:A:C8	2.45	0.52
1:0:1713:G:C2	1:0:1714:A:H1'	2.45	0.52
1:0:2703:C:O2'	1:0:2704:U:H5'	2.10	0.52
1:0:541:C:C2'	1:0:542:A:OP1	2.58	0.52
1:0:678:G:O2'	1:0:679:C:H5'	2.10	0.52
1:0:697:G:H1'	1:0:801:A:H62	1.74	0.52
1:0:1038:U:O2'	1:0:1039:A:H5'	2.10	0.52
1:0:1177:U:O4	1:0:1196:G:O6	2.28	0.52
1:0:1265:G:O2'	1:0:1266:G:P	2.67	0.52
1:0:1675:C:H2'	1:0:1676:U:H6	1.74	0.52
1:0:1769:U:H3	1:0:1776:A:H62	1.55	0.52
1:0:1927:U:O2	1:0:1927:U:H2'	2.09	0.52
1:0:2066:G:N2	1:0:2216:G:H1'	2.24	0.52
1:0:310:A:H1'	1:0:333:A:N6	2.25	0.52
1:0:492:G:C2'	1:0:493:A:OP2	2.57	0.52
1:0:652:C:H42	1:0:657:A:N6	2.05	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:683:A:H4'	1:0:684:C:O5'	2.10	0.52
1:0:837:U:H3	1:0:846:A:N6	2.06	0.52
1:0:1000:G:O2'	1:0:1001:A:P	2.68	0.52
1:0:1002:C:C2	1:0:1198:C:N3	2.78	0.52
1:0:1611:U:O2'	1:0:1612:U:H5'	2.09	0.52
1:0:1674:C:H2'	1:0:1675:C:C6	2.44	0.52
1:0:1746:A:H2'	1:0:1747:G:O5'	2.09	0.52
1:0:1785:A:H4'	1:0:1883:A:C6	2.45	0.52
1:0:1896:A:C2	1:0:1899:A:N7	2.78	0.52
1:0:1916:G:O2'	1:0:1957:C:H4'	2.09	0.52
1:0:2240:C:O2'	1:0:2241:U:H5"	2.09	0.52
1:0:2692:A:H2'	1:0:2693:U:OP1	2.09	0.52
1:0:2736:U:O2'	1:0:2737:A:H5'	2.09	0.52
1:0:2829:A:H2'	1:0:2830:U:O4'	2.09	0.52
1:0:1139:A:O2'	1:0:1140:A:P	2.68	0.52
1:0:2250:G:H8	1:0:2250:G:O5'	1.92	0.52
1:0:2441:U:H2'	1:0:2442:C:C6	2.45	0.52
1:0:2484:G:H2'	1:0:2485:U:C5'	2.39	0.52
1:0:2757:G:H3'	1:0:2757:G:H8	1.75	0.52
1:0:2758:A:O3'	1:0:2759:U:H5	1.93	0.52
1:0:469:G:O2'	1:0:470:U:C5	2.62	0.52
1:0:664:C:H2'	1:0:665:A:C8	2.44	0.52
1:0:834:A:H5"	1:0:835:U:C6	2.45	0.52
1:0:1091:C:H2'	1:0:1092:U:C6	2.44	0.52
1:0:1223:G:H4'	1:0:1224:A:H5"	1.92	0.52
1:0:1404:C:C2	1:0:1406:A:N7	2.78	0.52
1:0:1436:G:C5	1:0:1437:A:N7	2.78	0.52
1:0:1979:C:C6	1:0:1979:C:C3'	2.92	0.52
1:0:2533:U:H2'	1:0:2534:U:C6	2.45	0.52
1:0:239:A:H2'	1:0:240:U:O4'	2.09	0.51
1:0:322:A:HO2'	1:0:343:A:C4'	2.23	0.51
1:0:566:U:H2'	1:0:567:G:H8	1.75	0.51
1:0:787:A:C8	1:0:787:A:H3'	2.45	0.51
1:0:834:A:H5"	1:0:835:U:H6	1.75	0.51
1:0:840:U:C4'	1:0:841:G:N2	2.73	0.51
1:0:873:U:O2	1:0:2246:A:H5"	2.09	0.51
1:0:1273:G:H2'	1:0:1274:C:O4'	2.10	0.51
1:0:1279:G:O2'	1:0:1280:U:C6	2.63	0.51
1:0:1328:C:H2'	1:0:1329:U:H6	1.74	0.51
1:0:1921:A:C2'	1:0:1922:U:H5"	2.36	0.51
1:0:2543:A:H2'	1:0:2544:A:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:12:U:O2'	1:0:13:A:H5'	2.10	0.51
1:0:120:G:O2'	1:0:121:G:H5'	2.10	0.51
1:0:173:A:N6	1:0:844:G:H21	2.01	0.51
1:0:469:G:O2'	1:0:480:G:N1	2.43	0.51
1:0:664:C:N3	1:0:665:A:N6	2.55	0.51
1:0:681:A:H2'	1:0:683:A:N7	2.26	0.51
1:0:873:U:O2	1:0:2247:A:P	2.68	0.51
1:0:1181:C:C3'	1:0:1182:U:H5"	2.41	0.51
1:0:1771:A:C2'	1:0:1772:C:OP1	2.58	0.51
1:0:2138:U:C2'	1:0:2139:G:H5'	2.40	0.51
1:0:2239:C:H2'	1:0:2240:C:H6	1.75	0.51
1:0:2326:C:H2'	1:0:2327:U:H6	1.75	0.51
1:0:2383:C:O2	1:0:2383:C:H2'	2.09	0.51
1:0:516:G:O2'	1:0:517:A:H8	1.93	0.51
1:0:727:U:O5'	1:0:727:U:H6	1.93	0.51
1:0:873:U:O2	1:0:2247:A:O5'	2.29	0.51
1:0:1014:G:N3	1:0:1021:A:H2	2.08	0.51
1:0:1401:G:O2'	1:0:1541:G:H5'	2.11	0.51
1:0:1483:G:N2	1:0:1540:C:H1'	2.24	0.51
1:0:1582:A:O2'	1:0:1583:A:OP1	2.28	0.51
1:0:1769:U:O4	1:0:1775:A:H1'	2.10	0.51
1:0:2308:A:H2'	1:0:2309:G:C8	2.45	0.51
1:0:2485:U:OP2	1:0:2555:G:N1	2.28	0.51
1:0:2866:A:HO2'	1:0:2867:G:C4'	2.23	0.51
1:0:488:A:C6	1:0:489:A:C6	2.99	0.51
1:0:541:C:C4	1:0:572:G:O4'	2.63	0.51
1:0:573:C:H2'	1:0:574:C:H6	1.76	0.51
1:0:620:G:N2	1:0:628:A:C2	2.77	0.51
1:0:735:G:O2'	1:0:736:G:H5'	2.10	0.51
1:0:765:C:H6	1:0:1772:C:O2	1.94	0.51
1:0:1253:C:H6	1:0:1253:C:C5'	2.21	0.51
1:0:1440:G:C3'	1:0:1441:A:C5'	2.57	0.51
1:0:1715:A:H2'	1:0:1716:G:H3'	1.91	0.51
1:0:1771:A:O2'	1:0:1772:C:OP1	2.24	0.51
1:0:1873:A:C2	1:0:2214:G:H1'	2.46	0.51
1:0:1880:G:H2'	1:0:1881:U:C6	2.46	0.51
1:0:1977:C:H2'	1:0:1978:U:H6	1.76	0.51
1:0:2498:U:C5	1:0:2520:A:C6	2.98	0.51
1:0:2580:C:H5"	1:0:2581:A:OP2	2.10	0.51
1:0:2713:A:O2'	1:0:2714:A:C5'	2.58	0.51
1:0:2790:C:H2'	1:0:2791:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2837:G:C4	1:0:2838:U:C5	2.99	0.51
1:0:104:C:H2'	1:0:105:G:C5'	2.41	0.51
1:0:204:A:H61	1:0:423:G:H21	1.58	0.51
1:0:459:A:O2'	1:0:461:A:N7	2.41	0.51
1:0:485:G:O6	1:0:520:C:N4	2.44	0.51
1:0:757:U:H2'	1:0:758:G:O4'	2.10	0.51
1:0:1167:A:O4'	1:0:1167:A:P	2.69	0.51
1:0:1242:A:H2'	1:0:1243:G:H8	1.76	0.51
1:0:1815:G:O2'	1:0:1816:G:H5'	2.11	0.51
1:0:1947:G:C5'	1:0:1948:C:OP2	2.58	0.51
1:0:2177:U:H2'	1:0:2178:U:H6	1.73	0.51
1:0:2540:A:C2'	1:0:2541:U:O5'	2.57	0.51
1:0:2565:C:O2'	1:0:2566:A:H5'	2.09	0.51
1:0:2705:A:O2'	1:0:2706:U:C6	2.63	0.51
1:0:2795:A:H3'	1:0:2795:A:N3	2.26	0.51
1:0:19:C:H2'	1:0:20:C:H6	1.75	0.51
1:0:27:G:H1'	1:0:523:A:H62	1.76	0.51
1:0:75:C:C2'	1:0:76:C:H5"	2.40	0.51
1:0:305:A:C2'	1:0:306:G:H5'	2.39	0.51
1:0:317:U:C3'	1:0:318:G:H5"	2.41	0.51
1:0:365:U:O2'	1:0:366:U:H5'	2.11	0.51
1:0:1033:G:C6	1:0:1151:U:C5	2.99	0.51
1:0:1154:A:H2'	1:0:1155:G:OP1	2.10	0.51
1:0:1288:A:H61	1:0:1309:G:H5'	1.75	0.51
1:0:1385:C:H2'	1:0:1386:A:O4'	2.11	0.51
1:0:1674:C:H2'	1:0:1675:C:H6	1.75	0.51
1:0:2758:A:O2'	1:0:2759:U:P	2.68	0.51
1:0:234:C:O2'	1:0:235:C:H5'	2.10	0.51
1:0:442:A:C6	1:0:443:A:N6	2.79	0.51
1:0:1553:G:H8	1:0:1553:G:O5'	1.94	0.51
1:0:1872:A:H1'	1:0:2069:U:O2'	2.10	0.51
1:0:123:A:O2'	1:0:124:A:OP1	2.28	0.51
1:0:219:G:O2'	1:0:220:U:OP2	2.27	0.51
1:0:224:G:H4'	1:0:399:G:C6	2.46	0.51
1:0:304:A:H2'	1:0:305:A:H5"	1.92	0.51
1:0:649:G:C5	1:0:650:U:C5	2.99	0.51
1:0:1312:G:H5"	1:0:1313:U:H5"	1.93	0.51
1:0:1512:A:H2'	1:0:1514:C:H5	1.75	0.51
1:0:2057:U:H4'	1:0:2577:A:O4'	2.11	0.51
1:0:2447:G:C8	1:0:2455:A:N1	2.79	0.51
1:0:2551:A:O2'	1:0:2552:C:P	2.69	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:58:C:H3'	1:0:59:G:H5"	1.91	0.51
1:0:87:G:H2'	1:0:87:G:N3	2.24	0.51
1:0:246:C:P	1:0:372:U:O2'	2.68	0.51
1:0:328:A:H2'	1:0:329:C:H6	1.75	0.51
1:0:403:A:H5"	1:0:404:A:OP1	2.11	0.51
1:0:404:A:C5	1:0:405:C:C4	2.99	0.51
1:0:465:C:O2'	1:0:483:A:N6	2.43	0.51
1:0:537:C:C5	1:0:2759:U:H2'	2.45	0.51
1:0:687:G:O2'	1:0:688:A:H5'	2.11	0.51
1:0:1314:A:C2'	1:0:1315:A:H3'	2.41	0.51
1:0:1586:A:N6	1:0:1587:A:N6	2.59	0.51
1:0:1816:G:H2'	1:0:1817:U:H6	1.76	0.51
1:0:1958:G:H2'	1:0:1959:U:C6	2.45	0.51
1:0:2736:U:O4	1:0:2739:G:C6	2.64	0.51
1:0:82:G:O2'	1:0:83:A:C8	2.58	0.51
1:0:538:A:C2	1:0:2026:C:C5'	2.87	0.51
1:0:568:G:H2'	1:0:569:C:O4'	2.11	0.51
1:0:697:G:C6	1:0:788:G:C5	2.99	0.51
1:0:830:C:H2'	1:0:831:G:C8	2.46	0.51
1:0:861:G:N3	1:0:944:A:H1'	2.26	0.51
1:0:921:A:N1	1:0:924:C:H1'	2.26	0.51
1:0:994:A:N6	1:0:995:A:C2	2.79	0.51
1:0:1383:C:C2	1:0:1384:G:C8	2.99	0.51
1:0:1866:G:H8	1:0:1866:G:O5'	1.94	0.51
1:0:2109:A:H2'	1:0:2110:G:O4'	2.11	0.51
1:0:2238:G:H1'	1:0:2406:C:C2	2.46	0.51
1:0:2354:G:HO2'	1:0:2356:A:H62	1.59	0.51
1:0:2503:G:C2'	1:0:2504:G:H5"	2.39	0.51
1:0:67:G:C4	1:0:68:C:C6	2.99	0.50
1:0:976:C:O4'	1:0:2252:A:N3	2.44	0.50
1:0:1016:C:C4	1:0:1154:A:N3	2.79	0.50
1:0:1029:C:C2'	1:0:1030:U:H5"	2.40	0.50
1:0:1164:C:N3	1:0:1165:G:C4	2.79	0.50
1:0:1265:G:C2'	1:0:1266:G:O5'	2.59	0.50
1:0:1345:G:C4	1:0:1625:A:N6	2.78	0.50
1:0:1574:A:HO2'	1:0:1575:C:P	2.33	0.50
1:0:1759:A:O2'	1:0:1760:G:H5'	2.11	0.50
1:0:1776:A:H4'	1:0:1965:U:O2'	2.11	0.50
1:0:2026:C:H2'	1:0:2027:C:H6	1.76	0.50
1:0:2228:U:H4'	1:0:2229:G:OP1	2.11	0.50
1:0:2290:A:O2'	1:0:2291:U:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2701:A:H2'	1:0:2702:G:O4'	2.10	0.50
1:0:192:G:C1'	1:0:193:A:H4'	2.41	0.50
1:0:314:G:H2'	1:0:315:G:H8	1.75	0.50
1:0:1001:A:H1'	1:0:1167:A:C2	2.46	0.50
1:0:1445:A:H2'	1:0:1446:U:O4'	2.11	0.50
1:0:1698:C:O2'	1:0:1753:A:C2'	2.59	0.50
1:0:1779:C:H2'	1:0:1780:A:C8	2.47	0.50
1:0:1844:C:C2'	1:0:1845:A:H5'	2.41	0.50
1:0:2094:C:N4	1:0:2162:C:N3	2.59	0.50
1:0:2652:G:C4	1:0:2653:A:C8	2.98	0.50
1:0:327:C:C2'	1:0:328:A:H5'	2.42	0.50
1:0:583:C:O2'	1:0:584:A:P	2.68	0.50
1:0:874:A:H2'	1:0:875:G:O4'	2.11	0.50
1:0:1014:G:N3	1:0:1021:A:C2	2.79	0.50
1:0:1223:G:H4'	1:0:1224:A:C5'	2.41	0.50
1:0:1313:U:C4'	1:0:1314:A:O5'	2.53	0.50
1:0:1973:C:C6	1:0:1973:C:C3'	2.94	0.50
1:0:2278:A:H2'	1:0:2279:G:C8	2.47	0.50
1:0:2350:G:C6	1:0:2351:G:N7	2.79	0.50
1:0:2496:C:HO2'	1:0:2497:A:P	2.31	0.50
1:0:2661:G:C2'	1:0:2662:C:O5'	2.59	0.50
1:0:333:A:H4'	1:0:351:A:O4'	2.11	0.50
1:0:342:G:O2'	1:0:343:A:C5'	2.59	0.50
1:0:861:G:C2	1:0:944:A:H1'	2.47	0.50
1:0:1033:G:O2'	1:0:1034:U:P	2.70	0.50
1:0:1435:G:N2	1:0:1512:A:C2	2.79	0.50
1:0:1746:A:C2'	1:0:1747:G:O5'	2.60	0.50
1:0:1918:G:H4'	1:0:1920:A:C2	2.47	0.50
1:0:2241:U:C2	1:0:2242:C:C5	3.00	0.50
1:0:2652:G:O2'	1:0:2653:A:H5'	2.11	0.50
1:0:2818:G:O2'	1:0:2819:G:H5'	2.12	0.50
1:0:68:C:H2'	1:0:69:G:O5'	2.11	0.50
1:0:137:A:H2'	1:0:138:G:H5'	1.94	0.50
1:0:203:G:N2	1:0:204:A:C2	2.80	0.50
1:0:225:G:N2	1:0:2410:U:H4'	2.25	0.50
1:0:625:A:O5'	1:0:625:A:C8	2.64	0.50
1:0:1000:G:HO2'	1:0:1001:A:P	2.34	0.50
1:0:1141:U:HO2'	1:0:1142:G:P	2.34	0.50
1:0:1257:U:O2'	1:0:1258:G:H5'	2.12	0.50
1:0:1548:U:H2'	1:0:1549:C:C5	2.47	0.50
1:0:1730:G:H2'	1:0:1731:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1869:A:H2'	1:0:1870:U:O4'	2.12	0.50
1:0:1926:U:HO2'	1:0:1927:U:P	2.34	0.50
1:0:94:C:H2'	1:0:95:G:O4'	2.11	0.50
1:0:647:G:H4'	1:0:649:G:O3'	2.11	0.50
1:0:700:C:H2'	1:0:701:U:C6	2.46	0.50
1:0:846:A:H2'	1:0:847:C:C6	2.47	0.50
1:0:1089:C:C2	1:0:1099:A:H4'	2.46	0.50
1:0:1242:A:H2'	1:0:1243:G:C8	2.47	0.50
1:0:1436:G:H8	1:0:1436:G:O5'	1.95	0.50
1:0:1772:C:O2'	1:0:1773:C:C5'	2.60	0.50
1:0:2464:G:O2'	1:0:2465:G:H5'	2.10	0.50
1:0:2563:U:O5'	1:0:2563:U:H6	1.94	0.50
1:0:67:G:C2	1:0:72:A:C2	2.99	0.50
1:0:85:C:H2'	1:0:86:U:O4'	2.11	0.50
1:0:402:A:H5"	1:0:403:A:OP2	2.12	0.50
1:0:1016:C:OP2	1:0:1023:U:H5'	2.11	0.50
1:0:1055:A:H2	1:0:1121:G:H2'	1.77	0.50
1:0:1089:C:H2'	1:0:1099:A:H5'	1.94	0.50
1:0:1134:C:O2'	1:0:1135:C:H5'	2.12	0.50
1:0:1225:G:H1'	1:0:1250:A:H61	1.77	0.50
1:0:1314:A:O2'	1:0:1315:A:H3'	2.12	0.50
1:0:1337:G:N2	1:0:1344:C:C2	2.80	0.50
1:0:1416:A:O2'	1:0:1417:C:H5'	2.11	0.50
1:0:1861:G:C2'	1:0:1862:C:H5'	2.41	0.50
1:0:2498:U:C5	1:0:2520:A:C5	3.00	0.50
1:0:2748:C:N4	1:0:2749:A:N6	2.59	0.50
1:0:63:A:C5	1:0:64:C:C5	3.00	0.50
1:0:115:G:C6	1:0:117:A:N6	2.79	0.50
1:0:298:C:H2'	1:0:299:C:H6	1.76	0.50
1:0:978:U:H2'	1:0:979:A:H8	1.77	0.50
1:0:1080:A:H5"	1:0:1081:A:N7	2.26	0.50
1:0:1485:U:H2'	1:0:1486:A:H8	1.74	0.50
1:0:1572:C:C2'	1:0:1573:G:C5'	2.84	0.50
1:0:1624:A:N7	1:0:1627:C:C4	2.80	0.50
1:0:1755:G:N2	1:0:1756:C:C2	2.80	0.50
1:0:1912:G:H3'	1:0:1912:G:N3	2.27	0.50
1:0:2176:U:H2'	1:0:2177:U:H5'	1.94	0.50
1:0:2231:G:H2'	1:0:2232:G:C8	2.46	0.50
1:0:2264:C:H4'	1:0:2267:A:H62	1.77	0.50
1:0:1:G:O2'	1:0:2:G:H5'	2.12	0.50
1:0:29:U:O5'	1:0:29:U:C6	2.50	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:51:A:H2	1:0:155:G:N3	2.10	0.50
1:0:161:U:H5'	1:0:193:A:N1	2.27	0.50
1:0:299:C:H2'	1:0:300:C:C5	2.47	0.50
1:0:594:G:C5	1:0:1264:C:C4	3.00	0.50
1:0:1064:C:H2'	1:0:1065:A:C8	2.47	0.50
1:0:1106:A:N3	1:0:1106:A:H2'	2.27	0.50
1:0:1279:G:N2	1:0:1995:G:C8	2.80	0.50
1:0:2063:A:C6	1:0:2220:A:C6	3.00	0.50
1:0:2274:C:H2'	1:0:2275:U:H5'	1.94	0.50
1:0:2381:A:H5'	1:0:2382:C:OP1	2.11	0.50
1:0:123:A:C2'	1:0:124:A:OP1	2.59	0.49
1:0:305:A:H2'	1:0:306:G:C5'	2.42	0.49
1:0:787:A:H2'	1:0:788:G:O4'	2.11	0.49
1:0:1279:G:O2'	1:0:1280:U:OP2	2.30	0.49
1:0:1373:G:H2'	1:0:1374:G:H5'	1.94	0.49
1:0:1397:A:O5'	1:0:1397:A:H8	1.95	0.49
1:0:1407:G:C2	1:0:1408:A:C4	2.99	0.49
1:0:1463:A:H1'	1:0:1543:G:C2	2.43	0.49
1:0:1474:A:C2	1:0:1476:G:C6	2.99	0.49
1:0:1927:U:H5'	1:0:1938:U:O2	2.11	0.49
1:0:1938:U:O2'	1:0:1939:U:P	2.70	0.49
1:0:2176:U:H2'	1:0:2177:U:O4'	2.11	0.49
1:0:2306:A:O2'	1:0:2307:A:O4'	2.18	0.49
1:0:2548:G:O2'	1:0:2549:G:H5'	2.12	0.49
1:0:2826:C:H2'	1:0:2827:G:H5'	1.93	0.49
1:0:61:U:C4	1:0:62:U:C4	3.00	0.49
1:0:358:C:O5'	1:0:358:C:H6	1.95	0.49
1:0:520:C:N4	1:0:521:U:C4	2.81	0.49
1:0:788:G:H5"	1:0:790:A:C1'	2.38	0.49
1:0:876:A:H2'	1:0:877:G:C8	2.48	0.49
1:0:921:A:O2'	1:0:923:A:OP2	2.20	0.49
1:0:1179:A:H2'	1:0:1180:A:C8	2.47	0.49
1:0:1429:A:H61	1:0:1600:U:H4'	1.77	0.49
1:0:1715:A:H2'	1:0:1716:G:H5"	1.93	0.49
1:0:2751:C:H2'	1:0:2752:C:C6	2.46	0.49
1:0:2871:U:N3	1:0:2872:U:O4	2.45	0.49
1:0:649:G:H2'	1:0:650:U:H6	1.77	0.49
1:0:968:C:N4	1:0:970:A:C2	2.80	0.49
1:0:1197:U:H2'	1:0:1198:C:O4'	2.12	0.49
1:0:1279:G:HO2'	1:0:1280:U:H6	1.60	0.49
1:0:1345:G:N3	1:0:1625:A:C2	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1481:U:O5'	1:0:1481:U:H6	1.95	0.49
1:0:1738:U:H2'	1:0:1739:G:H8	1.77	0.49
1:0:1762:C:C2	1:0:1763:G:C8	3.00	0.49
1:0:1825:C:C2'	1:0:1826:U:H5'	2.41	0.49
1:0:2204:A:O2'	1:0:2205:C:OP2	2.30	0.49
1:0:2324:G:N3	1:0:2326:C:H5	2.11	0.49
1:0:2661:G:H2'	1:0:2662:C:C5'	2.42	0.49
1:0:2696:A:C2'	1:0:2697:G:H5'	2.41	0.49
1:0:2779:C:H2'	1:0:2780:A:C8	2.47	0.49
1:0:537:C:C2	1:0:2759:U:N3	2.80	0.49
1:0:541:C:N4	1:0:572:G:C1'	2.75	0.49
1:0:577:U:H4'	1:0:956:A:H61	1.77	0.49
1:0:581:A:N3	1:0:582:G:H1'	2.28	0.49
1:0:670:U:H2'	1:0:671:A:C8	2.47	0.49
1:0:689:A:H8	1:0:2052:G:H21	1.56	0.49
1:0:813:A:HO2'	1:0:814:G:H8	1.59	0.49
1:0:959:C:H2'	1:0:960:U:C6	2.47	0.49
1:0:1440:G:O6	1:0:1441:A:N7	2.45	0.49
1:0:1459:U:H6	1:0:1459:U:P	2.36	0.49
1:0:1823:G:C6	1:0:1824:C:N4	2.80	0.49
1:0:1922:U:O2'	1:0:2571:G:C1'	2.60	0.49
1:0:2104:G:H2'	1:0:2105:U:H6	1.77	0.49
1:0:2371:A:H2'	1:0:2372:A:O4'	2.12	0.49
1:0:2543:A:C2	1:0:2626:U:H4'	2.47	0.49
1:0:2674:C:H2'	1:0:2675:U:H6	1.77	0.49
1:0:2832:G:N2	1:0:2835:A:OP2	2.42	0.49
1:0:69:G:C5'	1:0:70:A:OP1	2.59	0.49
1:0:192:G:C4'	1:0:193:A:H4'	2.43	0.49
1:0:353:G:O2'	1:0:354:C:H5'	2.11	0.49
1:0:541:C:O2'	1:0:542:A:P	2.71	0.49
1:0:564:U:H2'	1:0:565:A:C8	2.47	0.49
1:0:1354:A:OP1	1:0:1354:A:O4'	2.31	0.49
1:0:1407:G:N2	1:0:1408:A:N3	2.61	0.49
1:0:1424:U:C4	1:0:1425:G:N7	2.80	0.49
1:0:1761:G:N7	1:0:1762:C:C5	2.81	0.49
1:0:1920:A:C4	1:0:1922:U:H5	2.31	0.49
1:0:2597:G:O2'	1:0:2598:C:H5'	2.13	0.49
1:0:2785:A:H2'	1:0:2786:G:C5'	2.38	0.49
1:0:147:G:O5'	1:0:147:G:H8	1.95	0.49
1:0:299:C:H2'	1:0:300:C:C6	2.47	0.49
1:0:469:G:H2'	1:0:480:G:O6	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:635:C:H2'	1:0:636:G:H5"	1.95	0.49
1:0:796:A:C8	1:0:796:A:C3'	2.93	0.49
1:0:1698:C:H1'	1:0:1754:G:C5'	2.42	0.49
1:0:1761:G:H2'	1:0:1762:C:H6	1.78	0.49
1:0:2104:G:H2'	1:0:2105:U:C6	2.48	0.49
1:0:2183:C:O2'	1:0:2184:C:H5'	2.13	0.49
1:0:2685:A:C2	1:0:2686:C:C2	2.99	0.49
1:0:79:G:O2'	1:0:80:A:H5'	2.12	0.49
1:0:402:A:C8	1:0:2392:G:H4'	2.47	0.49
1:0:455:A:H1'	1:0:1215:A:O4'	2.13	0.49
1:0:491:A:H5'	1:0:491:A:H8	1.77	0.49
1:0:1030:U:C5	1:0:1153:A:N6	2.72	0.49
1:0:1344:C:N4	1:0:1346:C:O2	2.46	0.49
1:0:1418:C:H2'	1:0:1419:G:C8	2.47	0.49
1:0:1464:A:H2'	1:0:1465:G:O4'	2.13	0.49
1:0:1742:G:H2'	1:0:1743:C:C6	2.48	0.49
1:0:2280:A:H2'	1:0:2281:C:C6	2.48	0.49
1:0:2563:U:C3'	1:0:2564:U:H5"	2.42	0.49
1:0:82:G:H22	1:0:100:G:H2'	1.78	0.49
1:0:131:C:H2'	1:0:132:U:O4'	2.13	0.49
1:0:177:U:O4	1:0:225:G:C6	2.66	0.49
1:0:437:G:N2	1:0:438:G:C4	2.81	0.49
1:0:459:A:N7	1:0:484:G:C5	2.81	0.49
1:0:547:U:H2'	1:0:548:G:C8	2.45	0.49
1:0:682:G:H5"	1:0:683:A:OP2	2.13	0.49
1:0:819:C:O3'	1:0:843:G:N2	2.45	0.49
1:0:1066:G:H2'	1:0:1067:G:H4'	1.93	0.49
1:0:1385:C:H2'	1:0:1386:A:H8	1.76	0.49
1:0:1488:G:C4	1:0:1536:G:N2	2.80	0.49
1:0:1684:G:HO2'	1:0:1685:A:P	2.30	0.49
1:0:1975:G:C5	1:0:1980:A:N6	2.80	0.49
1:0:2563:U:H2'	1:0:2564:U:C5'	2.40	0.49
1:0:2761:A:H5'	1:0:2762:G:H5'	1.91	0.49
1:0:7:G:N2	1:0:8:A:N3	2.61	0.49
1:0:53:G:H2'	1:0:54:G:O5'	2.13	0.49
1:0:389:G:H2'	1:0:390:U:C6	2.47	0.49
1:0:735:G:H2'	1:0:736:G:O4'	2.13	0.49
1:0:929:A:H5"	1:0:2247:A:N6	2.28	0.49
1:0:1629:G:N1	1:0:1633:C:H2'	2.24	0.49
1:0:1695:U:O2	1:0:1974:U:H1'	2.12	0.49
1:0:1926:U:O2'	1:0:1927:U:O5'	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1977:C:N3	1:0:1978:U:C5	2.81	0.49
1:0:2457:A:H2'	1:0:2458:U:O4'	2.12	0.49
1:0:5:A:C2	1:0:2873:G:C2	3.00	0.49
1:0:163:A:O2'	1:0:164:G:H5'	2.13	0.49
1:0:498:C:C5	1:0:499:G:N7	2.81	0.49
1:0:539:A:N6	1:0:2024:U:C2	2.80	0.49
1:0:992:A:H5"	1:0:993:C:OP2	2.13	0.49
1:0:1153:A:C5'	1:0:1154:A:OP1	2.46	0.49
1:0:1249:G:O2'	1:0:1250:A:P	2.70	0.49
1:0:1280:U:C5	1:0:1995:G:N3	2.65	0.49
1:0:1353:A:N3	1:0:1618:U:C5	2.80	0.49
1:0:1541:G:O2'	1:0:1542:G:H5'	2.12	0.49
1:0:1762:C:N3	1:0:1763:G:N7	2.61	0.49
1:0:1859:A:H2'	1:0:1860:A:H8	1.78	0.49
1:0:2161:C:O2'	1:0:2162:C:P	2.71	0.49
1:0:2204:A:H4'	1:0:2205:C:C6	2.48	0.49
1:0:2325:A:O2'	1:0:2326:C:P	2.70	0.49
1:0:2746:G:H2'	1:0:2746:G:N3	2.28	0.49
1:0:431:G:H2'	1:0:432:C:H6	1.76	0.48
1:0:540:G:C6	1:0:2006:G:OP1	2.66	0.48
1:0:631:G:O5'	1:0:631:G:C8	2.61	0.48
1:0:704:G:H2'	1:0:705:C:C6	2.48	0.48
1:0:832:A:OP2	1:0:1201:G:N1	2.43	0.48
1:0:988:G:C2	1:0:998:C:C2	3.01	0.48
1:0:1332:G:C2	1:0:1333:G:C2	3.01	0.48
1:0:1628:C:C4	1:0:1629:G:C8	3.01	0.48
1:0:1710:U:H5"	1:0:1711:C:OP2	2.13	0.48
1:0:1871:G:N3	1:0:1871:G:C3'	2.74	0.48
1:0:2471:U:N3	1:0:2472:U:C4	2.81	0.48
1:0:2610:G:H5'	1:0:2866:A:C4'	2.43	0.48
1:0:242:A:N6	1:0:441:A:C8	2.81	0.48
1:0:617:U:N1	1:0:632:A:N6	2.60	0.48
1:0:678:G:H2'	1:0:679:C:H6	1.77	0.48
1:0:734:G:H2'	1:0:735:G:H8	1.77	0.48
1:0:787:A:H3'	1:0:787:A:H8	1.77	0.48
1:0:1036:G:N3	1:0:1145:C:O4'	2.46	0.48
1:0:1386:A:H2'	1:0:1387:G:O4'	2.14	0.48
1:0:2329:C:H3'	1:0:2330:G:H8	1.78	0.48
1:0:2394:G:C5	1:0:2395:C:C5	3.01	0.48
1:0:2761:A:H5"	1:0:2762:G:C5'	2.37	0.48
1:0:2824:C:H1'	1:0:2843:A:C4	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2867:G:C8	1:0:2867:G:OP2	2.66	0.48
1:0:69:G:C4'	1:0:70:A:OP1	2.61	0.48
1:0:363:G:C6	1:0:364:G:N7	2.81	0.48
1:0:470:U:O4	1:0:481:A:C8	2.66	0.48
1:0:475:U:N3	1:0:801:A:C6	2.82	0.48
1:0:620:G:O2'	1:0:621:U:H5'	2.13	0.48
1:0:755:C:H2'	1:0:756:C:H6	1.78	0.48
1:0:768:U:C5	1:0:769:C:C5	3.01	0.48
1:0:793:G:C6	1:0:795:A:C2	3.01	0.48
1:0:808:C:O2'	1:0:809:C:H5'	2.13	0.48
1:0:822:G:O2'	1:0:823:U:H5'	2.13	0.48
1:0:863:C:H2'	1:0:864:C:C6	2.49	0.48
1:0:1408:A:H2	1:0:1411:C:C2	2.31	0.48
1:0:1682:A:N6	1:0:1683:G:C6	2.81	0.48
1:0:1793:A:C6	1:0:1794:A:C6	3.01	0.48
1:0:1833:U:H2'	1:0:1834:G:C8	2.47	0.48
1:0:1908:C:H2'	1:0:1909:U:C4'	2.25	0.48
1:0:2073:A:C6	1:0:2074:U:O4	2.66	0.48
1:0:2540:A:H2'	1:0:2541:U:O5'	2.13	0.48
1:0:2595:C:O2'	1:0:2596:C:H5'	2.13	0.48
1:0:2738:A:OP2	1:0:2739:G:OP2	2.31	0.48
1:0:2784:A:C5	1:0:2866:A:N6	2.81	0.48
1:0:21:A:N6	1:0:530:G:O6	2.46	0.48
1:0:24:G:C2	1:0:25:U:C2	3.01	0.48
1:0:344:G:C2	1:0:345:U:C6	3.01	0.48
1:0:524:A:O2'	1:0:525:A:H5'	2.13	0.48
1:0:1089:C:O2	1:0:1099:A:H4'	2.13	0.48
1:0:1169:C:H2'	1:0:1170:U:H5'	1.95	0.48
1:0:1669:A:H5'	1:0:1670:G:OP2	2.13	0.48
1:0:1772:C:O2'	1:0:1773:C:H5'	2.13	0.48
1:0:2047:C:N4	1:0:2425:G:N1	2.55	0.48
1:0:2204:A:OP2	1:0:2204:A:C8	2.64	0.48
1:0:2790:C:H2'	1:0:2791:C:C6	2.47	0.48
1:0:110:U:H6	1:0:110:U:H5'	1.78	0.48
1:0:118:U:C2'	1:0:119:G:OP2	2.61	0.48
1:0:396:U:O4	1:0:398:C:C2	2.67	0.48
1:0:441:A:H2'	1:0:442:A:C4'	2.43	0.48
1:0:787:A:C2'	1:0:788:G:O4'	2.61	0.48
1:0:994:A:N7	1:0:995:A:C5	2.82	0.48
1:0:1181:C:H3'	1:0:1182:U:H5"	1.95	0.48
1:0:1225:G:H1'	1:0:1250:A:N6	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1585:A:H2'	1:0:1586:A:C8	2.48	0.48
1:0:1782:A:H2'	1:0:1783:G:O4'	2.13	0.48
1:0:2066:G:H2'	1:0:2067:U:O4'	2.12	0.48
1:0:2281:C:H2'	1:0:2282:G:H8	1.79	0.48
1:0:2484:G:C2'	1:0:2485:U:OP2	2.62	0.48
1:0:2517:C:H2'	1:0:2518:C:H6	1.79	0.48
1:0:2823:G:O2'	1:0:2824:C:C6	2.66	0.48
1:0:41:G:O2'	1:0:42:G:H5'	2.14	0.48
1:0:65:C:H2'	1:0:66:U:O4'	2.13	0.48
1:0:176:A:N6	1:0:2410:U:C2	2.81	0.48
1:0:554:U:O3'	1:0:555:U:H4'	2.13	0.48
1:0:554:U:HO2'	1:0:555:U:HO2'	1.50	0.48
1:0:668:A:C2'	1:0:669:G:C4'	2.91	0.48
1:0:778:G:H2'	1:0:779:U:H6	1.79	0.48
1:0:836:G:H1	1:0:847:C:H42	1.61	0.48
1:0:837:U:O2'	1:0:838:A:H5'	2.14	0.48
1:0:929:A:C2	1:0:930:A:H1'	2.48	0.48
1:0:953:G:H1'	1:0:1203:A:C2	2.49	0.48
1:0:955:G:H5"	1:0:956:A:C5'	2.43	0.48
1:0:959:C:H2'	1:0:960:U:H6	1.79	0.48
1:0:1166:A:C3'	1:0:1167:A:H5"	2.43	0.48
1:0:1226:A:H1'	1:0:1250:A:H2	1.76	0.48
1:0:1226:A:C8	1:0:1250:A:C2	3.02	0.48
1:0:1311:C:O2'	1:0:1312:G:H5'	2.14	0.48
1:0:1354:A:O2'	1:0:1355:A:OP1	2.18	0.48
1:0:1534:A:C2'	1:0:1535:C:H5'	2.44	0.48
1:0:1692:C:C2'	1:0:1693:A:H5'	2.43	0.48
1:0:1791:C:O2'	1:0:1792:C:P	2.71	0.48
1:0:2594:U:H5'	1:0:2594:U:C6	2.47	0.48
1:0:5:A:H2'	1:0:6:A:O4'	2.13	0.48
1:0:541:C:N4	1:0:572:G:N9	2.62	0.48
1:0:986:A:H1'	1:0:1001:A:C2	2.49	0.48
1:0:1349:A:H2'	1:0:1350:G:H8	1.79	0.48
1:0:1548:U:H2'	1:0:1549:C:C6	2.48	0.48
1:0:1570:C:O2'	1:0:1571:G:OP1	2.28	0.48
1:0:1658:A:H2'	1:0:1659:G:O4'	2.14	0.48
1:0:1816:G:H2'	1:0:1817:U:C6	2.49	0.48
1:0:1870:U:O5'	1:0:1870:U:H6	1.96	0.48
1:0:2071:G:O2'	1:0:2072:C:H5'	2.14	0.48
1:0:2660:C:C2	1:0:2704:U:C4	3.01	0.48
1:0:2690:A:OP1	1:0:2691:C:O3'	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2825:A:H2'	1:0:2826:C:C6	2.48	0.48
1:0:2876:C:C2'	1:0:2877:A:H5'	2.43	0.48
1:0:4:C:C2	1:0:5:A:C8	3.01	0.48
1:0:58:C:C4	1:0:72:A:C6	3.02	0.48
1:0:487:G:H4'	1:0:512:A:H61	1.78	0.48
1:0:649:G:N2	1:0:660:G:N2	2.62	0.48
1:0:698:A:H1'	1:0:700:C:H5	1.79	0.48
1:0:763:A:C2	1:0:766:A:H1'	2.49	0.48
1:0:1158:A:C2'	1:0:1159:U:O4'	2.51	0.48
1:0:1344:C:C4	1:0:1346:C:C2	3.01	0.48
1:0:1349:A:C4	1:0:1350:G:C8	3.00	0.48
1:0:1536:G:N7	1:0:1537:U:C5	2.81	0.48
1:0:1680:U:HO2'	1:0:1681:A:C5'	2.27	0.48
1:0:1834:G:H2'	1:0:1835:C:H6	1.78	0.48
1:0:1975:G:O2'	1:0:1976:U:OP2	2.32	0.48
1:0:2324:G:O2'	1:0:2325:A:OP2	2.28	0.48
1:0:2459:C:H2'	1:0:2460:G:H5'	1.94	0.48
1:0:2627:G:H2'	1:0:2628:C:O4'	2.14	0.48
1:0:173:A:H61	1:0:844:G:N2	2.02	0.48
1:0:194:G:O6	1:0:195:A:N6	2.47	0.48
1:0:336:A:H2'	1:0:337:G:H8	1.79	0.48
1:0:490:A:N6	1:0:492:G:C2	2.81	0.48
1:0:541:C:N4	1:0:2001:G:C2	2.82	0.48
1:0:544:U:OP2	1:0:544:U:H6	1.97	0.48
1:0:674:U:H2'	1:0:675:C:O4'	2.14	0.48
1:0:1351:G:C2	1:0:1352:G:H1'	2.49	0.48
1:0:1448:A:C5	1:0:1576:G:N2	2.81	0.48
1:0:1469:U:P	1:0:1471:G:OP2	2.72	0.48
1:0:1625:A:H4'	1:0:1625:A:OP2	2.14	0.48
1:0:1804:U:H2'	1:0:1805:G:C8	2.42	0.48
1:0:1982:C:H4'	1:0:2703:C:O2	2.13	0.48
1:0:2324:G:N2	1:0:2361:G:C4	2.82	0.48
1:0:2421:C:N3	1:0:2422:C:C5	2.82	0.48
1:0:2431:C:O2	1:0:2431:C:H2'	2.12	0.48
1:0:706:A:H2'	1:0:707:U:O4'	2.14	0.48
1:0:728:G:H3'	1:0:729:A:H8	1.78	0.48
1:0:954:U:O4	1:0:955:G:N2	2.47	0.48
1:0:1225:G:HO2'	1:0:1226:A:H8	1.62	0.48
1:0:1241:G:C2	1:0:1242:A:C8	3.02	0.48
1:0:1325:U:H5"	1:0:1326:U:OP1	2.13	0.48
1:0:1333:G:H22	1:0:1344:C:H5	1.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1530:U:HO2'	1:0:1531:C:C5'	2.26	0.48
1:0:1623:C:H4'	1:0:1624:A:H5'	1.96	0.48
1:0:1973:C:H3'	1:0:1973:C:H6	1.76	0.48
1:0:2075:U:C2	1:0:2204:A:O2'	2.64	0.48
1:0:2134:U:H2'	1:0:2135:C:H6	1.79	0.48
1:0:2216:G:O5'	1:0:2216:G:H8	1.96	0.48
1:0:2238:G:C2	1:0:2261:G:C6	3.02	0.48
1:0:4:C:H2'	1:0:5:A:C4'	2.44	0.47
1:0:18:U:H2'	1:0:19:C:H6	1.78	0.47
1:0:357:A:H2'	1:0:357:A:N3	2.29	0.47
1:0:392:G:C2	1:0:409:G:C6	3.02	0.47
1:0:617:U:C6	1:0:632:A:N6	2.82	0.47
1:0:788:G:H2'	1:0:807:A:N7	2.29	0.47
1:0:1089:C:H2'	1:0:1099:A:C4'	2.44	0.47
1:0:1104:G:H21	1:0:1109:A:N6	2.09	0.47
1:0:1277:G:C6	1:0:1278:A:N6	2.82	0.47
1:0:1283:C:H5"	1:0:1284:G:O5'	2.14	0.47
1:0:1435:G:N1	1:0:1436:G:C2	2.82	0.47
1:0:1978:U:C4	1:0:1979:C:N4	2.78	0.47
1:0:2217:G:H5"	1:0:2218:G:OP1	2.14	0.47
1:0:2225:G:N9	1:0:2405:A:H2	2.12	0.47
1:0:2235:G:N2	1:0:2254:C:C4	2.82	0.47
1:0:2348:A:O2'	1:0:2349:G:H5'	2.14	0.47
1:0:2499:C:H2'	1:0:2500:C:C6	2.47	0.47
1:0:155:G:C4	1:0:156:G:C8	3.02	0.47
1:0:317:U:O2'	1:0:1224:A:N7	2.47	0.47
1:0:470:U:C5	1:0:480:G:N2	2.82	0.47
1:0:554:U:C2'	1:0:555:U:O4'	2.62	0.47
1:0:793:G:H21	1:0:796:A:H62	1.62	0.47
1:0:1074:G:H2'	1:0:1074:G:N3	2.29	0.47
1:0:1175:A:C2	1:0:1176:U:C2	3.02	0.47
1:0:1704:G:C2	1:0:1705:U:C6	3.03	0.47
1:0:1797:C:O2'	1:0:1798:G:H5'	2.14	0.47
1:0:1922:U:O2'	1:0:2571:G:H1'	2.14	0.47
1:0:2018:G:O2'	1:0:2019:C:P	2.72	0.47
1:0:2286:G:N3	1:0:2286:G:C2'	2.76	0.47
1:0:2388:G:C6	1:0:2389:G:N7	2.81	0.47
1:0:2394:G:C4	1:0:2395:C:C6	3.02	0.47
1:0:2436:U:O2	1:0:2474:G:C2	2.66	0.47
1:0:2550:C:N4	1:0:2553:G:C8	2.81	0.47
1:0:2779:C:N4	1:0:2780:A:N6	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2791:C:C2	1:0:2806:G:N2	2.83	0.47
1:0:172:A:C2	1:0:178:C:N3	2.82	0.47
1:0:356:A:O2'	1:0:357:A:H5'	2.14	0.47
1:0:697:G:N1	1:0:807:A:C2	2.82	0.47
1:0:813:A:C4	1:0:815:A:O4'	2.66	0.47
1:0:1171:A:H2'	1:0:1172:U:H6	1.80	0.47
1:0:1214:C:O2	1:0:1259:A:C2	2.68	0.47
1:0:1277:G:O5'	1:0:1277:G:C8	2.63	0.47
1:0:1682:A:C2'	1:0:1683:G:H5'	2.45	0.47
1:0:1790:G:HO2'	1:0:1791:C:P	2.37	0.47
1:0:1791:C:C4	1:0:1810:U:O2	2.67	0.47
1:0:1919:A:C6	1:0:1928:G:C4	3.01	0.47
1:0:2193:C:H2'	1:0:2194:A:O4'	2.14	0.47
1:0:2274:C:H2'	1:0:2274:C:O2	2.13	0.47
1:0:2324:G:H21	1:0:2326:C:H5	1.60	0.47
1:0:2426:G:O2'	1:0:2427:A:OP2	2.29	0.47
1:0:2663:U:C4	1:0:2664:G:N7	2.83	0.47
1:0:2757:G:C8	1:0:2757:G:C3'	2.94	0.47
1:0:48:A:N6	1:0:154:U:C4	2.73	0.47
1:0:434:C:C2'	1:0:435:A:OP2	2.62	0.47
1:0:573:C:H2'	1:0:574:C:O4'	2.14	0.47
1:0:627:A:H2'	1:0:628:A:H8	1.80	0.47
1:0:697:G:N1	1:0:788:G:C4	2.82	0.47
1:0:698:A:H1'	1:0:700:C:C5	2.50	0.47
1:0:1002:C:N4	1:0:1198:C:H42	2.13	0.47
1:0:1458:A:C3'	1:0:1459:U:H5'	2.44	0.47
1:0:1780:A:C5	1:0:1781:C:C5	3.03	0.47
1:0:1791:C:C2'	1:0:1792:C:OP2	2.63	0.47
1:0:1801:C:H3'	1:0:1802:A:C5'	2.44	0.47
1:0:1894:U:N3	1:0:1902:A:N6	2.61	0.47
1:0:1911:A:C2'	1:0:1912:G:H5'	2.44	0.47
1:0:2389:G:C2	1:0:2390:A:H1'	2.50	0.47
1:0:2392:G:H2'	1:0:2393:G:O4'	2.14	0.47
1:0:2674:C:H2'	1:0:2675:U:C6	2.50	0.47
1:0:43:A:H61	1:0:446:C:H42	1.61	0.47
1:0:173:A:O2'	1:0:174:A:OP1	2.22	0.47
1:0:198:A:N7	1:0:243:G:C6	2.82	0.47
1:0:337:G:H2'	1:0:338:G:H8	1.78	0.47
1:0:412:U:H2'	1:0:413:G:H5'	1.97	0.47
1:0:841:G:N7	1:0:842:A:N6	2.62	0.47
1:0:984:A:HO2'	1:0:1201:G:HO2'	1.57	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1173:G:O2'	1:0:1174:G:H5'	2.14	0.47
1:0:1537:U:H2'	1:0:1538:A:C8	2.50	0.47
1:0:1621:C:H1'	1:0:1626:A:C4	2.50	0.47
1:0:2471:U:O2	1:0:2471:U:H2'	2.14	0.47
1:0:2510:A:N3	1:0:2637:C:O2'	2.46	0.47
1:0:2522:G:C6	1:0:2523:G:C6	3.03	0.47
1:0:2628:C:H2'	1:0:2629:U:H6	1.78	0.47
1:0:2652:G:N3	1:0:2653:A:C8	2.82	0.47
1:0:2660:C:N3	1:0:2704:U:C5	2.83	0.47
1:0:173:A:H2'	1:0:2051:U:H5	1.80	0.47
1:0:481:A:N1	1:0:482:A:C6	2.83	0.47
1:0:653:G:H8	1:0:653:G:H3'	1.78	0.47
1:0:859:U:H3'	1:0:859:U:H6	1.79	0.47
1:0:1433:A:N6	1:0:1434:U:N3	2.62	0.47
1:0:1900:U:O2'	1:0:1946:U:C5'	2.62	0.47
1:0:1982:C:O3'	1:0:2702:G:N2	2.48	0.47
1:0:2299:A:H2'	1:0:2299:A:N3	2.29	0.47
1:0:2389:G:N2	1:0:2390:A:H1'	2.30	0.47
1:0:2407:G:C5'	1:0:2408:G:OP1	2.61	0.47
1:0:2550:C:H2'	1:0:2551:A:OP1	2.13	0.47
1:0:5:A:C6	1:0:6:A:C5	3.02	0.47
1:0:25:U:H2'	1:0:26:G:O4'	2.14	0.47
1:0:30:G:N2	1:0:521:U:H1'	2.30	0.47
1:0:66:U:N3	1:0:67:G:O6	2.48	0.47
1:0:225:G:N3	1:0:2410:U:H4'	2.27	0.47
1:0:387:A:C5	1:0:388:G:C8	3.03	0.47
1:0:700:C:O2	1:0:801:A:H5'	2.14	0.47
1:0:824:U:O2'	1:0:1264:C:H1'	2.14	0.47
1:0:852:U:H2'	1:0:853:C:H6	1.77	0.47
1:0:862:A:O2'	1:0:863:C:H5'	2.15	0.47
1:0:865:A:H2'	1:0:866:U:H6	1.80	0.47
1:0:978:U:H2'	1:0:979:A:C8	2.50	0.47
1:0:1052:C:H2'	1:0:1053:G:H8	1.75	0.47
1:0:1125:G:O2'	1:0:1126:A:H5'	2.15	0.47
1:0:1181:C:H2'	1:0:1182:U:C5'	2.45	0.47
1:0:1218:C:H2'	1:0:1219:C:C6	2.50	0.47
1:0:1236:G:H2'	1:0:1238:A:OP2	2.15	0.47
1:0:1404:C:H42	1:0:1407:G:H8	1.61	0.47
1:0:1536:G:C8	1:0:1537:U:C5	3.03	0.47
1:0:1858:C:O2'	1:0:1859:A:H5'	2.14	0.47
1:0:2361:G:H8	1:0:2361:G:OP2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2437:G:O2'	1:0:2439:U:C4	2.66	0.47
1:0:2486:C:H2'	1:0:2487:G:C8	2.50	0.47
1:0:2837:G:H2'	1:0:2838:U:C6	2.49	0.47
1:0:30:G:C6	1:0:31:C:C4	3.03	0.47
1:0:48:A:C6	1:0:154:U:O4	2.68	0.47
1:0:68:C:C2'	1:0:69:G:O5'	2.63	0.47
1:0:224:G:H22	1:0:227:G:H3'	1.80	0.47
1:0:469:G:O2'	1:0:470:U:H5	1.98	0.47
1:0:638:A:C2'	1:0:639:G:H5'	2.45	0.47
1:0:698:A:C2'	1:0:699:G:OP2	2.62	0.47
1:0:704:G:H2'	1:0:705:C:H6	1.80	0.47
1:0:957:G:H2'	1:0:958:G:C8	2.46	0.47
1:0:1007:A:C6	1:0:1171:A:N1	2.83	0.47
1:0:1058:G:O2'	1:0:1121:G:N2	2.47	0.47
1:0:1195:U:H2'	1:0:1196:G:O4'	2.15	0.47
1:0:1849:G:N2	1:0:1869:A:N6	2.63	0.47
1:0:2050:G:N2	1:0:2052:G:C4	2.83	0.47
1:0:2225:G:C8	1:0:2405:A:H2	2.33	0.47
1:0:2428:U:HO2'	1:0:2429:A:H8	1.53	0.47
1:0:2685:A:N1	1:0:2686:C:C2	2.82	0.47
1:0:2858:A:C5'	1:0:2859:U:H5'	2.44	0.47
1:0:73:A:O2'	1:0:74:G:P	2.72	0.47
1:0:160:C:O2'	1:0:445:A:N3	2.35	0.47
1:0:406:G:C6	1:0:407:A:C6	3.03	0.47
1:0:708:G:C2	1:0:781:G:C5	3.03	0.47
1:0:710:C:O2'	1:0:711:C:H5'	2.15	0.47
1:0:1574:A:O2'	1:0:1575:C:H3'	2.15	0.47
1:0:1722:G:H2'	1:0:1723:U:O4'	2.15	0.47
1:0:1947:G:C6	1:0:1950:C:C4	3.03	0.47
1:0:2256:G:C6	1:0:2257:A:N7	2.83	0.47
1:0:2312:A:HO2'	1:0:2313:G:P	2.32	0.47
1:0:2324:G:N3	1:0:2326:C:C5	2.83	0.47
1:0:2625:U:O5'	1:0:2625:U:C6	2.59	0.47
1:0:238:G:O4'	1:0:618:A:C2	2.68	0.47
1:0:697:G:C1'	1:0:801:A:N6	2.78	0.47
1:0:866:U:O2'	1:0:867:G:H5'	2.14	0.47
1:0:1160:C:O2	1:0:1161:U:C1'	2.63	0.47
1:0:1261:G:O2'	1:0:1262:U:OP1	2.18	0.47
1:0:1811:A:N3	1:0:1813:A:N1	2.63	0.47
1:0:1856:U:H2'	1:0:1857:G:O4'	2.15	0.47
1:0:2265:A:O3'	1:0:2266:A:O4'	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2394:G:N2	1:0:2395:C:H1'	2.30	0.47
1:0:27:G:O2'	1:0:28:A:P	2.74	0.46
1:0:30:G:C5	1:0:31:C:C5	3.03	0.46
1:0:83:A:C2	1:0:101:A:C5	3.03	0.46
1:0:341:A:C2	1:0:1223:G:H2'	2.47	0.46
1:0:591:G:H3'	1:0:592:G:H8	1.80	0.46
1:0:653:G:H3'	1:0:653:G:C8	2.50	0.46
1:0:787:A:O2'	1:0:790:A:N3	2.48	0.46
1:0:875:G:H8	1:0:875:G:O5'	1.98	0.46
1:0:1458:A:H2'	1:0:1459:U:H5'	1.97	0.46
1:0:1573:G:H5'	1:0:1573:G:H8	1.80	0.46
1:0:1825:C:H2'	1:0:1826:U:O4'	2.15	0.46
1:0:1845:A:C2	1:0:2212:U:H1'	2.50	0.46
1:0:1976:U:C2'	1:0:1977:C:H5'	2.45	0.46
1:0:2240:C:H2'	1:0:2241:U:C5'	2.45	0.46
1:0:2405:A:C2'	1:0:2406:C:OP1	2.62	0.46
1:0:2484:G:O2'	1:0:2485:U:O5'	2.30	0.46
1:0:2728:A:N7	1:0:2729:A:C6	2.83	0.46
1:0:65:C:O2'	1:0:66:U:H5'	2.15	0.46
1:0:398:C:O2'	1:0:399:G:OP2	2.23	0.46
1:0:539:A:H1'	1:0:540:G:C5	2.50	0.46
1:0:539:A:O2'	1:0:540:G:C8	2.63	0.46
1:0:541:C:H2'	1:0:542:A:OP1	2.15	0.46
1:0:931:G:H22	1:0:2247:A:H5'	1.78	0.46
1:0:1005:U:O2	1:0:1007:A:C8	2.68	0.46
1:0:1161:U:H2'	1:0:1162:A:H8	1.78	0.46
1:0:1737:G:H2'	1:0:1738:U:O4'	2.14	0.46
1:0:1886:G:H2'	1:0:1887:G:H8	1.80	0.46
1:0:1955:G:C2'	1:0:1956:G:H5'	2.44	0.46
1:0:2542:U:O2	1:0:2544:A:H8	1.98	0.46
1:0:12:U:O2	1:0:13:A:O4'	2.33	0.46
1:0:308:C:C2'	1:0:309:G:H5'	2.44	0.46
1:0:330:C:H2'	1:0:331:U:O4'	2.16	0.46
1:0:333:A:H5'	1:0:351:A:C1'	2.45	0.46
1:0:638:A:H61	1:0:647:G:H2'	1.81	0.46
1:0:698:A:C1'	1:0:700:C:C5	2.98	0.46
1:0:1002:C:C4	1:0:1198:C:N4	2.83	0.46
1:0:1032:A:C2	1:0:1034:U:C2	3.03	0.46
1:0:1033:G:N2	1:0:1035:G:N2	2.62	0.46
1:0:1249:G:HO2'	1:0:1250:A:P	2.39	0.46
1:0:1508:G:C6	1:0:1512:A:N6	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1791:C:O2	1:0:1791:C:C2'	2.62	0.46
1:0:1791:C:HO2'	1:0:1792:C:P	2.38	0.46
1:0:1904:G:H2'	1:0:1905:G:H8	1.81	0.46
1:0:2082:C:H2'	1:0:2083:G:C8	2.50	0.46
1:0:2180:U:O2'	1:0:2181:A:C6	2.68	0.46
1:0:2196:U:H2'	1:0:2197:U:O4'	2.14	0.46
1:0:2491:C:H3'	1:0:2492:G:H5"	1.96	0.46
1:0:18:U:O5'	1:0:18:U:H6	1.99	0.46
1:0:310:A:C1'	1:0:333:A:N6	2.78	0.46
1:0:328:A:H2'	1:0:329:C:C6	2.50	0.46
1:0:728:G:H2'	1:0:729:A:O4'	2.15	0.46
1:0:794:A:C2	1:0:1767:G:N3	2.82	0.46
1:0:1075:C:H2'	1:0:1076:U:C6	2.51	0.46
1:0:1285:A:H2	1:0:1634:A:C4	2.34	0.46
1:0:1514:C:O4'	1:0:1593:C:H4'	2.16	0.46
1:0:1611:U:H2'	1:0:1612:U:O4'	2.15	0.46
1:0:1791:C:O2'	1:0:1792:C:O5'	2.33	0.46
1:0:1955:G:H2'	1:0:1956:G:H5'	1.96	0.46
1:0:2241:U:C2	1:0:2242:C:C6	3.03	0.46
1:0:2322:U:C2'	1:0:2323:U:H5'	2.46	0.46
1:0:2529:G:C6	1:0:2530:C:C4	3.03	0.46
1:0:2769:C:H5	1:0:2770:A:HO2'	1.59	0.46
1:0:29:U:H2'	1:0:30:G:C8	2.51	0.46
1:0:59:G:C6	1:0:62:U:C4	3.04	0.46
1:0:173:A:N3	1:0:173:A:C2'	2.78	0.46
1:0:349:G:N2	1:0:350:U:H1'	2.31	0.46
1:0:620:G:H8	1:0:620:G:O5'	1.97	0.46
1:0:705:C:O2'	1:0:706:A:H5'	2.15	0.46
1:0:1354:A:OP1	1:0:1354:A:C8	2.69	0.46
1:0:1362:A:N1	1:0:1614:C:N4	2.64	0.46
1:0:1522:C:H2'	1:0:1523:A:O4'	2.16	0.46
1:0:1698:C:O2'	1:0:1753:A:O2'	2.23	0.46
1:0:1742:G:H2'	1:0:1743:C:H6	1.79	0.46
1:0:1965:U:O5'	1:0:1965:U:H6	1.97	0.46
1:0:2020:G:H2'	1:0:2021:G:H8	1.79	0.46
1:0:51:A:H2	1:0:155:G:C1'	2.22	0.46
1:0:523:A:H2'	1:0:523:A:N3	2.31	0.46
1:0:539:A:C6	1:0:2006:G:C4	3.04	0.46
1:0:559:C:H3'	1:0:559:C:C6	2.51	0.46
1:0:583:C:H1'	1:0:2038:C:C6	2.51	0.46
1:0:737:C:H2'	1:0:738:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:741:G:H2'	1:0:743:A:H8	1.81	0.46
1:0:764:A:N1	1:0:802:A:C5	2.83	0.46
1:0:836:G:C4	1:0:837:U:C5	3.03	0.46
1:0:1059:A:C2	1:0:1123:G:N2	2.83	0.46
1:0:1073:G:C2'	1:0:1074:G:H4'	2.33	0.46
1:0:1230:C:O2'	1:0:1231:A:H5'	2.15	0.46
1:0:1309:G:C2'	1:0:1310:C:O5'	2.64	0.46
1:0:1558:C:O2'	1:0:1559:G:H5'	2.15	0.46
1:0:1780:A:C6	1:0:1781:C:C4	3.03	0.46
1:0:1925:C:C2	1:0:1926:U:C4	3.04	0.46
1:0:2039:G:O5'	1:0:2040:A:OP2	2.32	0.46
1:0:2059:U:H5"	1:0:2217:G:N1	2.30	0.46
1:0:2075:U:O2	1:0:2075:U:H2'	2.15	0.46
1:0:2205:C:C2'	1:0:2206:C:C5'	2.94	0.46
1:0:2438:A:N1	1:0:2439:U:C2	2.83	0.46
1:0:2541:U:O2'	1:0:2542:U:H5'	2.16	0.46
1:0:2666:U:H2'	1:0:2667:C:O4'	2.16	0.46
1:0:68:C:O2	1:0:69:G:C8	2.69	0.46
1:0:182:G:O2'	1:0:183:U:H5	1.98	0.46
1:0:322:A:C2'	1:0:323:G:OP1	2.64	0.46
1:0:406:G:O6	1:0:407:A:N6	2.48	0.46
1:0:516:G:HO2'	1:0:517:A:P	2.39	0.46
1:0:590:C:H2'	1:0:591:G:H8	1.78	0.46
1:0:684:C:O2'	1:0:685:U:H5'	2.15	0.46
1:0:816:U:H2'	1:0:817:A:C5'	2.45	0.46
1:0:1017:C:N3	1:0:1018:C:C5	2.84	0.46
1:0:1030:U:C4	1:0:1153:A:N6	2.84	0.46
1:0:1174:G:C2	1:0:1175:A:C5	3.04	0.46
1:0:1272:G:O2'	1:0:1273:G:H5'	2.16	0.46
1:0:1407:G:C6	1:0:1408:A:N1	2.84	0.46
1:0:1410:U:O2	1:0:1410:U:C2'	2.58	0.46
1:0:1567:A:H2'	1:0:1568:A:H8	1.81	0.46
1:0:1595:A:C2'	1:0:1596:A:H8	2.21	0.46
1:0:2204:A:H4'	1:0:2205:C:OP2	2.14	0.46
1:0:2225:G:C4	1:0:2405:A:C2	3.04	0.46
1:0:2236:U:H2'	1:0:2237:C:O4'	2.15	0.46
1:0:2245:A:H4'	1:0:2246:A:O5'	2.15	0.46
1:0:2557:G:C2	1:0:2558:C:C6	3.04	0.46
1:0:2563:U:C3'	1:0:2564:U:H5'	2.42	0.46
1:0:2735:C:H6	1:0:2735:C:O5'	1.98	0.46
1:0:27:G:O2'	1:0:28:A:O5'	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:318:G:N1	1:0:321:A:OP2	2.48	0.46
1:0:539:A:N3	1:0:540:G:C6	2.84	0.46
1:0:563:U:H2'	1:0:564:U:O4'	2.16	0.46
1:0:581:A:H2'	1:0:582:G:C4'	2.45	0.46
1:0:636:G:H5'	1:0:636:G:H8	1.80	0.46
1:0:889:C:O2'	1:0:890:U:H5'	2.15	0.46
1:0:1059:A:H2'	1:0:1059:A:N3	2.31	0.46
1:0:1360:G:C2	1:0:1616:C:C2	3.03	0.46
1:0:2428:U:O2'	1:0:2429:A:H8	1.99	0.46
1:0:2538:C:O2'	1:0:2539:C:H5'	2.15	0.46
1:0:2660:C:C4	1:0:2704:U:C5	3.04	0.46
1:0:2796:A:C2	1:0:2797:G:C4	3.03	0.46
1:0:19:C:H2'	1:0:20:C:C6	2.51	0.46
1:0:81:C:H2'	1:0:82:G:O4'	2.16	0.46
1:0:198:A:C5	1:0:243:G:C5	3.03	0.46
1:0:988:G:O2'	1:0:989:G:H5'	2.15	0.46
1:0:989:G:C2'	1:0:990:A:H5'	2.45	0.46
1:0:1160:C:H2'	1:0:1161:U:O4'	2.16	0.46
1:0:1279:G:C4'	1:0:1280:U:O5'	2.62	0.46
1:0:1592:U:O5'	1:0:1592:U:H6	1.99	0.46
1:0:1658:A:N6	1:0:1659:G:C2	2.84	0.46
1:0:1738:U:H2'	1:0:1739:G:C8	2.50	0.46
1:0:1895:A:N6	1:0:1900:U:C5	2.84	0.46
1:0:1901:A:N3	1:0:1902:A:N7	2.63	0.46
1:0:1980:A:C2	1:0:1981:A:C5	3.03	0.46
1:0:2136:G:H2'	1:0:2137:G:C8	2.50	0.46
1:0:2241:U:H5'	1:0:2241:U:H6	1.80	0.46
1:0:2759:U:C1'	1:0:2761:A:C2	2.99	0.46
1:0:2794:G:C2	1:0:2803:C:N3	2.84	0.46
1:0:14:A:C2	1:0:536:A:N1	2.84	0.46
1:0:26:G:C6	1:0:27:G:C2	3.04	0.46
1:0:192:G:O2'	1:0:193:A:C4'	2.64	0.46
1:0:558:G:N3	1:0:558:G:H2'	2.31	0.46
1:0:669:G:H3'	1:0:670:U:H6	1.81	0.46
1:0:678:G:N2	1:0:679:C:C2	2.84	0.46
1:0:958:G:C6	1:0:959:C:N4	2.84	0.46
1:0:989:G:H2'	1:0:990:A:H5'	1.98	0.46
1:0:1193:G:HO2'	1:0:1194:U:P	2.40	0.46
1:0:1408:A:H2	1:0:1411:C:C4	2.34	0.46
1:0:1458:A:C3'	1:0:1459:U:O4'	2.56	0.46
1:0:1568:A:O2'	1:0:1569:A:C5'	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1708:C:H2'	1:0:1709:U:O4'	2.15	0.46
1:0:1750:A:C8	1:0:2675:U:H1'	2.51	0.46
1:0:1834:G:O2'	1:0:1835:C:H5'	2.16	0.46
1:0:2043:A:N6	1:0:2424:G:OP1	2.49	0.46
1:0:2047:C:H42	1:0:2425:G:H1	1.56	0.46
1:0:2264:C:H4'	1:0:2267:A:N6	2.31	0.46
1:0:2434:G:N1	1:0:2477:C:N4	2.64	0.46
1:0:2436:U:H2'	1:0:2437:G:O4'	2.16	0.46
1:0:2502:G:O6	1:0:2520:A:C2	2.69	0.46
1:0:311:A:C2	1:0:345:U:O4'	2.69	0.45
1:0:333:A:O2'	1:0:334:G:P	2.74	0.45
1:0:554:U:O2'	1:0:555:U:C4'	2.65	0.45
1:0:638:A:OP2	1:0:638:A:C4'	2.63	0.45
1:0:716:U:O4	1:0:717:G:C2	2.70	0.45
1:0:787:A:C2	1:0:788:G:O6	2.69	0.45
1:0:837:U:H2'	1:0:838:A:C8	2.45	0.45
1:0:923:A:H5"	1:0:924:C:H5"	1.98	0.45
1:0:1226:A:N3	1:0:1226:A:H2'	2.31	0.45
1:0:1226:A:N9	1:0:1250:A:C2	2.84	0.45
1:0:1349:A:H2'	1:0:1350:G:O4'	2.16	0.45
1:0:1428:G:O5'	1:0:1428:G:H8	1.99	0.45
1:0:1493:A:H2'	1:0:1494:G:C8	2.51	0.45
1:0:2191:A:H2'	1:0:2192:U:OP1	2.16	0.45
1:0:2215:C:H2'	1:0:2216:G:O4'	2.15	0.45
1:0:2320:G:H2'	1:0:2321:C:C6	2.51	0.45
1:0:2387:U:H2'	1:0:2388:G:C8	2.51	0.45
1:0:13:A:O2'	1:0:15:G:N7	2.45	0.45
1:0:539:A:N3	1:0:540:G:O6	2.49	0.45
1:0:612:G:O2'	1:0:613:A:H4'	2.15	0.45
1:0:682:G:C4	1:0:814:G:C6	3.05	0.45
1:0:940:G:C2'	1:0:941:U:C4'	2.89	0.45
1:0:1033:G:O2'	1:0:1034:U:OP2	2.34	0.45
1:0:1242:A:C2	1:0:1243:G:C4	3.04	0.45
1:0:1285:A:C2	1:0:1634:A:C4	3.04	0.45
1:0:1288:A:N6	1:0:1309:G:C5'	2.79	0.45
1:0:1355:A:O2'	1:0:1356:G:OP1	2.29	0.45
1:0:1493:A:H2'	1:0:1494:G:H8	1.80	0.45
1:0:1761:G:C8	1:0:1762:C:C5	3.05	0.45
1:0:1774:A:C6	1:0:2566:A:N3	2.84	0.45
1:0:2320:G:H2'	1:0:2321:C:H6	1.81	0.45
1:0:2322:U:H2'	1:0:2323:U:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2661:G:O6	1:0:2708:U:H1'	2.16	0.45
1:0:2728:A:C8	1:0:2729:A:C5	3.05	0.45
1:0:69:G:H4'	1:0:70:A:O5'	2.13	0.45
1:0:112:U:H2'	1:0:112:U:O2	2.15	0.45
1:0:132:U:O2	1:0:140:G:C2	2.69	0.45
1:0:177:U:C5	1:0:225:G:N3	2.84	0.45
1:0:308:C:O2	1:0:308:C:H2'	2.15	0.45
1:0:521:U:OP2	1:0:522:G:N7	2.49	0.45
1:0:877:G:C6	1:0:878:C:N4	2.85	0.45
1:0:1008:G:O2'	1:0:1009:C:H5'	2.16	0.45
1:0:1213:U:H2'	1:0:1214:C:C6	2.51	0.45
1:0:1252:C:HO2'	1:0:1253:C:H5"	1.78	0.45
1:0:1422:C:O2'	1:0:1423:A:H5'	2.17	0.45
1:0:1466:C:H2'	1:0:1467:U:C4'	2.45	0.45
1:0:1773:C:OP1	1:0:1774:A:OP2	2.34	0.45
1:0:1992:G:O2'	1:0:1993:G:H5'	2.16	0.45
1:0:2198:U:C3'	1:0:2199:C:C4'	2.90	0.45
1:0:2245:A:C4	1:0:2251:U:H5	2.35	0.45
1:0:2374:C:O5'	1:0:2374:C:H6	1.99	0.45
1:0:2428:U:O2'	1:0:2429:A:C8	2.66	0.45
1:0:2429:A:O2'	1:0:2430:A:H5'	2.17	0.45
1:0:2486:C:O5'	1:0:2486:C:H6	1.99	0.45
1:0:2520:A:H4'	1:0:2744:A:N1	2.31	0.45
1:0:2559:U:C2'	1:0:2560:G:H5'	2.46	0.45
1:0:2690:A:C5'	1:0:2691:C:H5'	2.47	0.45
1:0:27:G:H1'	1:0:523:A:N6	2.32	0.45
1:0:76:C:C6	1:0:76:C:C5'	2.98	0.45
1:0:217:U:H1'	1:0:235:C:N4	2.32	0.45
1:0:528:G:H2'	1:0:529:U:C6	2.51	0.45
1:0:571:U:O2	1:0:581:A:C8	2.69	0.45
1:0:877:G:O2'	1:0:878:C:H5'	2.16	0.45
1:0:1082:G:C6	1:0:1083:C:N4	2.85	0.45
1:0:1164:C:O2'	1:0:1165:G:H5'	2.15	0.45
1:0:1171:A:H2'	1:0:1172:U:C6	2.52	0.45
1:0:1199:U:H3'	1:0:1200:G:C5'	2.37	0.45
1:0:1820:G:O2'	1:0:1821:A:O5'	2.29	0.45
1:0:1937:G:H1'	1:0:2530:C:C4'	2.45	0.45
1:0:2182:A:H61	1:0:2205:C:H42	1.64	0.45
1:0:2469:G:C5'	1:0:2470:U:OP1	2.64	0.45
1:0:2511:G:H1'	1:0:2642:G:N2	2.31	0.45
1:0:226:C:C5	1:0:2374:C:OP1	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:424:G:H4'	1:0:424:G:OP1	2.17	0.45
1:0:571:U:O2	1:0:581:A:N9	2.50	0.45
1:0:687:G:C5	1:0:817:A:C6	3.04	0.45
1:0:817:A:H5"	1:0:818:G:OP1	2.17	0.45
1:0:958:G:O2'	1:0:994:A:N6	2.50	0.45
1:0:1458:A:H2'	1:0:1459:U:H4'	1.97	0.45
1:0:1618:U:H3'	1:0:1618:U:H6	1.82	0.45
1:0:1845:A:H2	1:0:2212:U:H1'	1.80	0.45
1:0:2240:C:C2'	1:0:2241:U:C5'	2.95	0.45
1:0:2276:C:O5'	1:0:2276:C:H6	2.00	0.45
1:0:2428:U:O2	1:0:2428:U:C2'	2.65	0.45
1:0:2594:U:C2	1:0:2595:C:C5	3.05	0.45
1:0:2624:G:C4'	1:0:2712:G:O2'	2.59	0.45
1:0:2811:G:C6	1:0:2812:A:N6	2.85	0.45
1:0:2866:A:C2'	1:0:2867:G:O4'	2.64	0.45
1:0:521:U:OP2	1:0:522:G:C6	2.69	0.45
1:0:626:A:O2'	1:0:627:A:H5'	2.17	0.45
1:0:778:G:O2'	1:0:779:U:H5'	2.16	0.45
1:0:836:G:O2'	1:0:837:U:H5'	2.17	0.45
1:0:844:G:H2'	1:0:844:G:N3	2.32	0.45
1:0:971:A:H4'	1:0:2436:U:H5'	1.98	0.45
1:0:999:A:H4'	1:0:1166:A:N1	2.30	0.45
1:0:1019:U:HO2'	1:0:1020:A:H8	1.59	0.45
1:0:1105:U:O2	1:0:1107:A:N7	2.49	0.45
1:0:1326:U:O3'	1:0:1345:G:H5'	2.17	0.45
1:0:1540:C:H2'	1:0:1541:G:C8	2.51	0.45
1:0:1576:G:O2'	1:0:1577:G:H5'	2.17	0.45
1:0:1780:A:H8	1:0:1780:A:O5'	1.99	0.45
1:0:1914:U:O4	1:0:1952:A:N7	2.50	0.45
1:0:2039:G:H2'	1:0:2039:G:N3	2.31	0.45
1:0:2222:U:O2	1:0:2222:U:H2'	2.15	0.45
1:0:2371:A:H2'	1:0:2372:A:C8	2.52	0.45
1:0:2663:U:O4	1:0:2664:G:N7	2.50	0.45
1:0:2665:G:C2	1:0:2704:U:O2	2.70	0.45
1:0:218:A:O2'	1:0:219:G:P	2.75	0.45
1:0:227:G:H2'	1:0:228:A:C8	2.52	0.45
1:0:587:A:H2'	1:0:588:G:H5"	1.98	0.45
1:0:668:A:C2'	1:0:669:G:H4'	2.45	0.45
1:0:814:G:C2'	1:0:815:A:OP1	2.65	0.45
1:0:857:U:H2'	1:0:858:G:H5'	1.99	0.45
1:0:947:C:H2'	1:0:948:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:956:A:C4	1:0:2427:A:H2	2.34	0.45
1:0:1149:G:H21	1:0:1154:A:H2	1.65	0.45
1:0:1210:C:H1'	1:0:1239:A:C4	2.52	0.45
1:0:1288:A:H62	1:0:1309:G:H4'	1.82	0.45
1:0:1313:U:H1'	1:0:1642:G:N2	2.32	0.45
1:0:1672:A:C6	1:0:1673:C:C2	3.05	0.45
1:0:1704:G:C6	1:0:1705:U:C5	3.05	0.45
1:0:2027:C:N3	1:0:2604:G:C2	2.85	0.45
1:0:2047:C:N4	1:0:2425:G:H1	2.14	0.45
1:0:2086:U:H6	1:0:2086:U:O5'	1.99	0.45
1:0:2093:G:O2'	1:0:2094:C:P	2.74	0.45
1:0:2123:G:C2'	1:0:2124:C:H5'	2.46	0.45
1:0:2438:A:C2	1:0:2439:U:C2	3.04	0.45
1:0:2541:U:C2'	1:0:2542:U:H5'	2.47	0.45
1:0:3:U:H2'	1:0:4:C:O4'	2.17	0.45
1:0:428:A:O2'	1:0:429:C:H5'	2.16	0.45
1:0:697:G:O6	1:0:788:G:C8	2.69	0.45
1:0:981:C:O2'	1:0:995:A:H4'	2.16	0.45
1:0:1089:C:C2'	1:0:1099:A:H5'	2.47	0.45
1:0:1198:C:H5"	1:0:1199:U:H4'	1.98	0.45
1:0:1713:G:C6	1:0:1714:A:C4	3.05	0.45
1:0:1741:G:C2'	1:0:1742:G:H5'	2.46	0.45
1:0:1850:G:N1	1:0:1868:A:N7	2.64	0.45
1:0:2026:C:C2	1:0:2027:C:C5	3.05	0.45
1:0:2180:U:O2'	1:0:2181:A:C5	2.70	0.45
1:0:2262:C:C2	1:0:2368:G:N2	2.85	0.45
1:0:2476:A:O2'	1:0:2477:C:C5	2.67	0.45
1:0:2550:C:O5'	1:0:2550:C:H6	2.00	0.45
1:0:2844:G:H2'	1:0:2845:C:O4'	2.17	0.45
1:0:14:A:N1	1:0:536:A:C2	2.84	0.45
1:0:478:G:C6	1:0:479:G:C5	3.05	0.45
1:0:805:G:C4	1:0:2419:C:C2	3.05	0.45
1:0:987:G:N2	1:0:988:G:C4	2.85	0.45
1:0:990:A:H2'	1:0:993:C:N4	2.31	0.45
1:0:1128:G:C2'	1:0:1129:A:H5'	2.46	0.45
1:0:1215:A:C2	1:0:1258:G:C4	3.05	0.45
1:0:1313:U:HO2'	1:0:1314:A:P	2.39	0.45
1:0:2054:A:H2	1:0:2419:C:N4	2.14	0.45
1:0:2437:G:H2'	1:0:2469:G:H1	1.82	0.45
1:0:2499:C:C2	1:0:2500:C:C5	3.05	0.45
1:0:2548:G:C2'	1:0:2549:G:H5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:192:G:O2'	1:0:193:A:C5'	2.64	0.45
1:0:195:A:H2	1:0:212:U:H4'	1.82	0.45
1:0:342:G:O2'	1:0:343:A:P	2.75	0.45
1:0:404:A:H2'	1:0:405:C:C6	2.52	0.45
1:0:536:A:N6	1:0:2605:C:C4'	2.75	0.45
1:0:654:A:O2'	1:0:655:A:N3	2.49	0.45
1:0:1018:C:N3	1:0:1019:U:O4	2.50	0.45
1:0:1370:U:H2'	1:0:1371:G:O4'	2.16	0.45
1:0:1632:A:C2'	1:0:1633:C:OP1	2.64	0.45
1:0:1707:A:N7	1:0:1714:A:H2	2.15	0.45
1:0:2319:G:O2'	1:0:2320:G:H5'	2.17	0.45
1:0:2561:G:N2	1:0:2562:G:H1'	2.32	0.45
1:0:2634:G:C2'	1:0:2643:G:O6	2.63	0.45
1:0:2850:U:H2'	1:0:2851:G:O5'	2.17	0.45
1:0:174:A:C2	1:0:175:C:H1'	2.52	0.44
1:0:203:G:N2	1:0:204:A:N3	2.65	0.44
1:0:248:A:N6	1:0:373:A:C8	2.85	0.44
1:0:536:A:H61	1:0:2605:C:H4'	1.80	0.44
1:0:760:U:HO2'	1:0:761:G:P	2.40	0.44
1:0:1016:C:H5'	1:0:1023:U:C5'	2.45	0.44
1:0:1279:G:O2'	1:0:1280:U:O5'	2.30	0.44
1:0:1458:A:C3'	1:0:1459:U:C5'	2.95	0.44
1:0:1646:G:C5	1:0:1647:U:C4	3.05	0.44
1:0:1662:G:H5"	1:0:1663:C:H5'	1.99	0.44
1:0:1681:A:OP1	1:0:1682:A:OP2	2.34	0.44
1:0:1698:C:O2'	1:0:1753:A:H2'	2.17	0.44
1:0:1889:G:N7	1:0:1912:G:N7	2.64	0.44
1:0:2018:G:HO2'	1:0:2019:C:P	2.36	0.44
1:0:2048:C:N4	1:0:2049:C:N4	2.65	0.44
1:0:2689:C:H2'	1:0:2690:A:C8	2.52	0.44
1:0:2728:A:N7	1:0:2729:A:C5	2.85	0.44
1:0:2839:G:C5	1:0:2840:U:C4	3.04	0.44
1:0:14:A:C6	1:0:536:A:C2	3.05	0.44
1:0:28:A:C2	1:0:523:A:H1'	2.53	0.44
1:0:46:C:C4	1:0:47:G:N7	2.85	0.44
1:0:51:A:C2	1:0:155:G:N3	2.85	0.44
1:0:57:G:C2	1:0:72:A:N7	2.86	0.44
1:0:61:U:C5	1:0:62:U:C4	3.05	0.44
1:0:114:C:H2'	1:0:115:G:C8	2.52	0.44
1:0:215:G:O2'	1:0:216:U:H5'	2.18	0.44
1:0:317:U:H3	1:0:321:A:N6	2.12	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:516:G:O2'	1:0:517:A:O5'	2.36	0.44
1:0:566:U:H2'	1:0:567:G:C8	2.51	0.44
1:0:644:A:C3'	1:0:645:G:H5'	2.47	0.44
1:0:741:G:C6	1:0:743:A:C5	3.05	0.44
1:0:840:U:H4'	1:0:841:G:H21	1.80	0.44
1:0:859:U:C2'	1:0:860:U:OP2	2.66	0.44
1:0:953:G:O2'	1:0:1203:A:N3	2.41	0.44
1:0:1227:A:H2'	1:0:1228:G:O4'	2.17	0.44
1:0:1386:A:H5"	1:0:2191:A:N6	2.27	0.44
1:0:1407:G:C5	1:0:1408:A:C6	3.05	0.44
1:0:1441:A:N3	1:0:1441:A:C3'	2.80	0.44
1:0:1820:G:HO2'	1:0:1821:A:P	2.39	0.44
1:0:1896:A:C2	1:0:1899:A:C5	3.04	0.44
1:0:1975:G:C5	1:0:1980:A:C6	3.05	0.44
1:0:2247:A:OP1	1:0:2247:A:H4'	2.18	0.44
1:0:2402:U:H5'	1:0:2404:A:N7	2.32	0.44
1:0:2595:C:N3	1:0:2596:C:C5	2.85	0.44
1:0:2867:G:O2'	1:0:2868:G:O5'	2.35	0.44
1:0:76:C:O2'	1:0:77:C:H5'	2.18	0.44
1:0:699:G:N3	1:0:699:G:H3'	2.32	0.44
1:0:1315:A:O2'	1:0:1316:G:OP1	2.32	0.44
1:0:1466:C:H3'	1:0:1466:C:H6	1.82	0.44
1:0:1636:G:O2'	1:0:1637:U:H5'	2.18	0.44
1:0:1699:A:C4	1:0:1748:U:C2	3.05	0.44
1:0:1930:C:C4	1:0:1931:G:N7	2.86	0.44
1:0:2135:C:O2'	1:0:2136:G:H5'	2.16	0.44
1:0:2434:G:C2	1:0:2477:C:C4	3.05	0.44
1:0:2599:U:H2'	1:0:2600:A:O4'	2.17	0.44
1:0:27:G:H1	1:0:522:G:HO2'	1.59	0.44
1:0:57:G:C2	1:0:69:G:C5	3.05	0.44
1:0:311:A:H2	1:0:344:G:N3	2.16	0.44
1:0:427:C:H2'	1:0:428:A:H8	1.81	0.44
1:0:487:G:H4'	1:0:512:A:C6	2.52	0.44
1:0:594:G:C5	1:0:1264:C:C5	3.05	0.44
1:0:699:G:N3	1:0:699:G:C3'	2.80	0.44
1:0:765:C:H4'	1:0:765:C:OP1	2.17	0.44
1:0:839:U:H5"	1:0:2407:G:O3'	2.18	0.44
1:0:1653:C:H2'	1:0:1654:A:C8	2.53	0.44
1:0:1774:A:C6	1:0:2566:A:C2	3.05	0.44
1:0:1917:C:O2'	1:0:1918:G:H5'	2.18	0.44
1:0:1974:U:H2'	1:0:1975:G:C5'	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2007:G:C2	1:0:2023:C:C2	3.06	0.44
1:0:2527:G:C6	1:0:2540:A:N1	2.85	0.44
1:0:2698:G:C2'	1:0:2699:G:O5'	2.65	0.44
1:0:2872:U:H2'	1:0:2873:G:C8	2.49	0.44
1:0:75:C:O2	1:0:109:A:C2	2.70	0.44
1:0:76:C:N4	1:0:108:G:C6	2.85	0.44
1:0:224:G:O2'	1:0:225:G:C5'	2.66	0.44
1:0:297:A:H2'	1:0:298:C:C6	2.53	0.44
1:0:754:G:C6	1:0:770:U:O2	2.71	0.44
1:0:787:A:C5	1:0:788:G:N7	2.85	0.44
1:0:814:G:H3'	1:0:814:G:H8	1.82	0.44
1:0:958:G:H2'	1:0:959:C:H6	1.79	0.44
1:0:1181:C:C2'	1:0:1182:U:H5"	2.47	0.44
1:0:1453:A:H2'	1:0:1454:U:H5'	1.99	0.44
1:0:1501:C:O2'	1:0:1502:G:H5'	2.18	0.44
1:0:1606:C:H2'	1:0:1607:A:C8	2.42	0.44
1:0:1764:A:H2'	1:0:1765:C:C5'	2.35	0.44
1:0:1777:A:HO2'	1:0:1778:U:P	2.40	0.44
1:0:1827:G:H2'	1:0:1828:C:C6	2.52	0.44
1:0:1976:U:H2'	1:0:1977:C:H5'	1.99	0.44
1:0:2050:G:H5"	1:0:2051:U:OP2	2.17	0.44
1:0:2379:G:O2'	1:0:2380:U:H5'	2.17	0.44
1:0:2617:G:O2'	1:0:2618:A:O5'	2.34	0.44
1:0:2622:G:O2'	1:0:2623:A:H5'	2.18	0.44
1:0:2640:G:H2'	1:0:2641:A:C8	2.53	0.44
1:0:2695:C:O2'	1:0:2696:A:H5'	2.17	0.44
1:0:2831:A:N6	1:0:2832:G:C6	2.85	0.44
1:0:2864:C:O2	1:0:2864:C:H2'	2.17	0.44
1:0:6:A:C6	1:0:7:G:N7	2.85	0.44
1:0:340:G:OP2	1:0:340:G:H8	2.00	0.44
1:0:388:G:N3	1:0:389:G:C8	2.85	0.44
1:0:701:U:C6	1:0:701:U:H3'	2.53	0.44
1:0:741:G:H4'	1:0:742:G:OP2	2.17	0.44
1:0:818:G:C8	1:0:2051:U:OP1	2.71	0.44
1:0:1021:A:H2'	1:0:1022:A:H5"	1.99	0.44
1:0:1164:C:N4	1:0:1165:G:N1	2.66	0.44
1:0:1407:G:C2	1:0:1408:A:N3	2.86	0.44
1:0:1672:A:H3'	1:0:1673:C:C5	2.52	0.44
1:0:2194:A:C3'	1:0:2195:C:C5'	2.92	0.44
1:0:2219:U:C2	1:0:2220:A:C8	3.05	0.44
1:0:2315:A:C2'	1:0:2316:G:OP1	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2390:A:H2'	1:0:2391:A:H8	1.82	0.44
1:0:2438:A:C2	1:0:2439:U:N1	2.86	0.44
1:0:537:C:C2'	1:0:538:A:C5	3.01	0.44
1:0:677:G:O2'	1:0:678:G:H5'	2.18	0.44
1:0:707:U:C2'	1:0:708:G:O5'	2.66	0.44
1:0:777:A:O2'	1:0:778:G:OP1	2.31	0.44
1:0:788:G:O5'	1:0:789:G:OP1	2.35	0.44
1:0:1015:U:H1'	1:0:1021:A:C4	2.53	0.44
1:0:1554:G:H2'	1:0:1555:A:C8	2.52	0.44
1:0:1618:U:H3'	1:0:1618:U:C6	2.52	0.44
1:0:2217:G:H3'	1:0:2217:G:N3	2.33	0.44
1:0:2225:G:C8	1:0:2405:A:C2	3.06	0.44
1:0:2258:G:C2'	1:0:2259:G:O5'	2.66	0.44
1:0:2276:C:N4	1:0:2297:G:N2	2.65	0.44
1:0:2352:A:H2'	1:0:2353:G:H8	1.81	0.44
1:0:2362:G:H2'	1:0:2363:G:O4'	2.17	0.44
1:0:2661:G:C2'	1:0:2662:C:C5'	2.95	0.44
1:0:2701:A:C2'	1:0:2702:G:H5'	2.47	0.44
1:0:2784:A:C6	1:0:2866:A:N6	2.86	0.44
1:0:2826:C:H2'	1:0:2827:G:C5'	2.48	0.44
1:0:34:U:O2'	1:0:35:G:OP1	2.30	0.44
1:0:118:U:O2'	1:0:119:G:H5"	2.17	0.44
1:0:210:A:C5	1:0:211:U:H5	2.36	0.44
1:0:813:A:O2'	1:0:814:G:H8	2.00	0.44
1:0:1193:G:H2'	1:0:1194:U:C6	2.52	0.44
1:0:1262:U:C6	1:0:1262:U:C3'	3.00	0.44
1:0:1279:G:C1'	1:0:1280:U:C6	3.00	0.44
1:0:1789:U:N3	1:0:1811:A:C2	2.85	0.44
1:0:1846:A:N6	1:0:1871:G:H1'	2.33	0.44
1:0:1974:U:H2'	1:0:1975:G:H5"	2.00	0.44
1:0:2034:A:N6	1:0:2593:A:C4	2.86	0.44
1:0:2176:U:H2'	1:0:2177:U:C5'	2.48	0.44
1:0:2248:A:OP1	1:0:2248:A:C8	2.70	0.44
1:0:2478:C:C4	1:0:2479:U:C4	3.06	0.44
1:0:2500:C:H2'	1:0:2501:U:C6	2.53	0.44
1:0:2541:U:C2	1:0:2542:U:C6	3.06	0.44
1:0:2565:C:O2	1:0:2566:A:C8	2.71	0.44
1:0:2660:C:C2	1:0:2704:U:O4	2.71	0.44
1:0:337:G:C5	1:0:338:G:N7	2.85	0.44
1:0:457:C:H2'	1:0:458:G:H5'	1.98	0.44
1:0:700:C:C5	1:0:701:U:O4	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:746:G:C8	1:0:774:A:C6	3.05	0.44
1:0:789:G:C5	1:0:806:A:N7	2.86	0.44
1:0:931:G:C2	1:0:932:G:C1'	3.00	0.44
1:0:990:A:H2'	1:0:993:C:H42	1.83	0.44
1:0:1015:U:O4'	1:0:1021:A:C6	2.71	0.44
1:0:1110:G:H2'	1:0:1111:C:H6	1.82	0.44
1:0:1123:G:H2'	1:0:1124:U:H6	1.82	0.44
1:0:1231:A:H2'	1:0:1232:U:C6	2.53	0.44
1:0:1437:A:H2'	1:0:1438:G:O5'	2.17	0.44
1:0:1466:C:C6	1:0:1466:C:C3'	3.01	0.44
1:0:1655:C:O2	1:0:2677:U:O2'	2.30	0.44
1:0:1764:A:N7	1:0:1821:A:H1'	2.33	0.44
1:0:1906:U:H2'	1:0:1907:C:C5	2.53	0.44
1:0:1931:G:O2'	1:0:1932:G:H5'	2.18	0.44
1:0:1979:C:H2'	1:0:1980:A:O4'	2.18	0.44
1:0:2384:G:N2	1:0:2390:A:C8	2.86	0.44
1:0:2824:C:H4'	1:0:2825:A:C5'	2.47	0.44
1:0:149:A:O2'	1:0:150:A:H5'	2.18	0.43
1:0:322:A:H2'	1:0:322:A:N3	2.32	0.43
1:0:799:C:C4	1:0:800:U:C5	3.05	0.43
1:0:838:A:C2	1:0:839:U:C2	3.06	0.43
1:0:859:U:H3'	1:0:859:U:C6	2.52	0.43
1:0:1288:A:H2'	1:0:1288:A:N3	2.33	0.43
1:0:1437:A:C6	1:0:1438:G:N7	2.86	0.43
1:0:1469:U:C5'	1:0:1470:G:OP2	2.66	0.43
1:0:1989:C:O2'	1:0:2798:A:N3	2.51	0.43
1:0:2015:G:N3	1:0:2015:G:C2'	2.80	0.43
1:0:2071:G:H2'	1:0:2072:C:H6	1.83	0.43
1:0:2283:G:H1	1:0:2291:U:H3	1.66	0.43
1:0:2402:U:H4'	1:0:2404:A:C8	2.53	0.43
1:0:2496:C:C5	1:0:2521:A:C5	3.06	0.43
1:0:2621:G:O2'	1:0:2622:G:H5'	2.18	0.43
1:0:2641:A:C2'	1:0:2642:G:H5'	2.48	0.43
1:0:2652:G:H2'	1:0:2653:A:H8	1.83	0.43
1:0:2827:G:C5	1:0:2828:C:C4	3.06	0.43
1:0:2871:U:C2'	1:0:2872:U:C6	2.91	0.43
1:0:155:G:C2'	1:0:156:G:C5'	2.96	0.43
1:0:187:U:O2'	1:0:188:G:H5'	2.18	0.43
1:0:218:A:HO2'	1:0:219:G:P	2.41	0.43
1:0:337:G:C4	1:0:338:G:N7	2.85	0.43
1:0:441:A:C2'	1:0:442:A:C5'	2.94	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:627:A:H2'	1:0:628:A:C8	2.53	0.43
1:0:1204:G:H2'	1:0:1205:G:C8	2.54	0.43
1:0:1330:G:C4	1:0:1331:G:C8	3.07	0.43
1:0:1437:A:O2'	1:0:1438:G:H5'	2.17	0.43
1:0:1459:U:C6	1:0:1459:U:P	3.11	0.43
1:0:1625:A:C6	1:0:1632:A:C2	3.05	0.43
1:0:1633:C:O5'	1:0:1633:C:H6	2.00	0.43
1:0:1697:U:O2	1:0:1755:G:H4'	2.18	0.43
1:0:1726:C:O2'	1:0:2834:A:N3	2.39	0.43
1:0:2253:A:C6	1:0:2255:G:H1'	2.53	0.43
1:0:2501:U:O2	1:0:2745:A:C8	2.71	0.43
1:0:2560:G:N3	1:0:2560:G:H2'	2.34	0.43
1:0:2783:U:H6	1:0:2783:U:H5'	1.82	0.43
1:0:2799:C:H2'	1:0:2800:C:O4'	2.17	0.43
1:0:43:A:C6	1:0:44:G:C6	3.06	0.43
1:0:321:A:H2'	1:0:323:G:N7	2.33	0.43
1:0:459:A:C6	1:0:466:A:C8	3.05	0.43
1:0:468:A:H1'	1:0:470:U:C2	2.53	0.43
1:0:788:G:N2	1:0:800:U:O3'	2.39	0.43
1:0:886:A:C2	1:0:887:G:H1'	2.53	0.43
1:0:931:G:H2'	1:0:932:G:H5'	2.00	0.43
1:0:967:G:O2'	1:0:970:A:N7	2.41	0.43
1:0:1080:A:H5"	1:0:1081:A:C8	2.52	0.43
1:0:1193:G:H2'	1:0:1194:U:H6	1.81	0.43
1:0:1253:C:O2'	1:0:1254:G:H5'	2.18	0.43
1:0:1309:G:H2'	1:0:1310:C:O5'	2.18	0.43
1:0:1408:A:C2	1:0:1411:C:C4	3.06	0.43
1:0:1468:A:H8	1:0:1468:A:C5'	2.31	0.43
1:0:1555:A:H8	1:0:1555:A:O5'	2.01	0.43
1:0:1627:C:N3	1:0:1628:C:C5	2.86	0.43
1:0:1645:U:H2'	1:0:1646:G:O4'	2.19	0.43
1:0:1714:A:C5'	1:0:1715:A:C5'	2.91	0.43
1:0:1790:G:H4'	1:0:1791:C:C6	2.49	0.43
1:0:2005:U:H2'	1:0:2595:C:O2'	2.18	0.43
1:0:2026:C:H2'	1:0:2027:C:C6	2.53	0.43
1:0:2288:A:C8	1:0:2289:A:N7	2.86	0.43
1:0:2377:U:H2'	1:0:2378:G:H8	1.83	0.43
1:0:2485:U:OP1	2:B:144:ARG:NH2	2.50	0.43
1:0:2500:C:H2'	1:0:2501:U:H6	1.84	0.43
1:0:2551:A:H5"	1:0:2553:G:H4'	2.00	0.43
1:0:2820:C:H2'	1:0:2821:G:C8	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:16:G:O2'	1:0:17:G:H5'	2.18	0.43
1:0:227:G:C6	1:0:228:A:C6	3.07	0.43
1:0:309:G:N2	1:0:352:G:C6	2.87	0.43
1:0:475:U:C2	1:0:801:A:C6	3.06	0.43
1:0:764:A:C2	1:0:802:A:C5	3.07	0.43
1:0:931:G:N2	1:0:932:G:H1'	2.33	0.43
1:0:1075:C:C4	1:0:1076:U:C4	3.06	0.43
1:0:1216:G:O2'	1:0:1217:U:H5'	2.17	0.43
1:0:1629:G:C5	1:0:1633:C:N3	2.86	0.43
1:0:1682:A:N6	1:0:1683:G:C5	2.86	0.43
1:0:1791:C:H1'	1:0:1793:A:H5'	2.01	0.43
1:0:1807:A:P	1:0:1814:G:H4'	2.58	0.43
1:0:1920:A:C2	1:0:1922:U:C5	3.01	0.43
1:0:1979:C:H2'	1:0:1980:A:C4'	2.48	0.43
1:0:2065:A:N6	1:0:2216:G:O2'	2.51	0.43
1:0:2076:G:C2	1:0:2204:A:N6	2.86	0.43
1:0:2217:G:N3	1:0:2217:G:O5'	2.51	0.43
1:0:2439:U:C2'	1:0:2440:C:H5'	2.47	0.43
1:0:2550:C:C2'	1:0:2551:A:OP1	2.66	0.43
1:0:2609:G:N2	1:0:2866:A:C2	2.86	0.43
1:0:2758:A:O3'	1:0:2759:U:C5	2.70	0.43
1:0:2803:C:C2'	1:0:2804:G:H5'	2.48	0.43
1:0:2828:C:H2'	1:0:2829:A:C8	2.53	0.43
1:0:48:A:N3	1:0:50:G:N2	2.66	0.43
1:0:327:C:H2'	1:0:328:A:C5'	2.47	0.43
1:0:677:G:C2	1:0:678:G:C8	3.06	0.43
1:0:814:G:H3'	1:0:814:G:C8	2.54	0.43
1:0:817:A:C5'	1:0:818:G:OP1	2.66	0.43
1:0:819:C:O2	1:0:2423:G:O2'	2.37	0.43
1:0:1018:C:C2	1:0:1147:G:N2	2.87	0.43
1:0:1019:U:O2'	1:0:1020:A:H8	2.02	0.43
1:0:1123:G:O2'	1:0:1124:U:H5'	2.19	0.43
1:0:1193:G:O2'	1:0:1194:U:P	2.76	0.43
1:0:1194:U:H4'	1:0:1195:U:OP1	2.17	0.43
1:0:1391:A:N7	1:0:1393:G:C5	2.86	0.43
1:0:1517:C:O2'	1:0:1518:C:H5'	2.19	0.43
1:0:1610:A:H2'	1:0:1611:U:C6	2.52	0.43
1:0:1644:G:H2'	1:0:1645:U:C6	2.52	0.43
1:0:1813:A:N6	1:0:1814:G:O6	2.51	0.43
1:0:2175:A:H2'	1:0:2176:U:C6	2.53	0.43
1:0:2371:A:C2	1:0:2408:G:C6	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:158:A:N1	1:0:159:A:C2	2.87	0.43
1:0:228:A:H8	1:0:228:A:O5'	2.02	0.43
1:0:481:A:C2	1:0:482:A:C4	3.06	0.43
1:0:636:G:H2'	1:0:637:G:H5'	2.01	0.43
1:0:648:A:H5'	1:0:649:G:O5'	2.18	0.43
1:0:762:A:C6	1:0:1634:A:C2	3.06	0.43
1:0:773:G:C2'	1:0:774:A:H5'	2.49	0.43
1:0:818:G:N7	1:0:2051:U:OP1	2.52	0.43
1:0:860:U:O2	1:0:860:U:C2'	2.60	0.43
1:0:1000:G:O2'	1:0:1001:A:O5'	2.36	0.43
1:0:1000:G:C2'	1:0:1001:A:OP2	2.67	0.43
1:0:1031:C:C2'	1:0:1032:A:OP2	2.67	0.43
1:0:1352:G:N1	1:0:1353:A:N6	2.66	0.43
1:0:1355:A:H1'	1:0:1410:U:C4'	2.47	0.43
1:0:1571:G:C2	1:0:1572:C:C2	3.07	0.43
1:0:2033:C:H2'	1:0:2034:A:O4'	2.19	0.43
1:0:2409:A:C2'	1:0:2410:U:O5'	2.67	0.43
1:0:2486:C:H2'	1:0:2487:G:H8	1.84	0.43
1:0:2539:C:N3	1:0:2540:A:C5	2.86	0.43
1:0:2562:G:C2	1:0:2563:U:N1	2.86	0.43
1:0:2768:C:H2'	1:0:2769:C:H4'	2.01	0.43
1:0:2792:C:H2'	1:0:2793:G:O5'	2.18	0.43
1:0:103:U:H2'	1:0:104:C:C6	2.54	0.43
1:0:155:G:C6	1:0:156:G:N7	2.87	0.43
1:0:346:C:N3	1:0:347:C:C5	2.86	0.43
1:0:748:A:C8	1:0:749:C:C5	3.07	0.43
1:0:1017:C:N4	1:0:1018:C:N4	2.67	0.43
1:0:1112:U:H2'	1:0:1113:C:C5	2.54	0.43
1:0:1169:C:O2'	1:0:1170:U:H5'	2.19	0.43
1:0:2191:A:C2'	1:0:2192:U:OP1	2.67	0.43
1:0:2206:C:H2'	1:0:2207:G:O4'	2.18	0.43
1:0:2792:C:C2'	1:0:2793:G:O5'	2.66	0.43
1:0:2:G:N2	1:0:2876:C:C2	2.87	0.43
1:0:2:G:O2'	1:0:3:U:H5'	2.19	0.43
1:0:448:C:H2'	1:0:449:C:H5'	2.01	0.43
1:0:579:G:H4'	1:0:994:A:C2	2.53	0.43
1:0:581:A:C2'	1:0:582:G:O5'	2.67	0.43
1:0:635:C:C2'	1:0:636:G:H5"	2.49	0.43
1:0:638:A:P	1:0:638:A:O4'	2.76	0.43
1:0:646:C:O2	1:0:650:U:C5'	2.66	0.43
1:0:879:A:N3	1:0:879:A:C2'	2.76	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:994:A:N7	1:0:995:A:N1	2.67	0.43
1:0:1036:G:HO2'	1:0:1037:U:P	2.42	0.43
1:0:1199:U:O4	1:0:1201:G:O6	2.37	0.43
1:0:1285:A:O2'	1:0:1286:U:OP1	2.27	0.43
1:0:1340:C:H2'	1:0:1341:G:O4'	2.19	0.43
1:0:1572:C:H2'	1:0:1573:G:H5'	1.99	0.43
1:0:1919:A:O4'	1:0:1923:U:C5	2.72	0.43
1:0:2082:C:H2'	1:0:2083:G:O4'	2.19	0.43
1:0:2225:G:C5	1:0:2405:A:N3	2.86	0.43
1:0:2268:G:C6	1:0:2269:G:C6	3.07	0.43
1:0:2563:U:C2'	1:0:2564:U:C5'	2.95	0.43
1:0:2595:C:C2	1:0:2596:C:C6	3.07	0.43
1:0:82:G:N2	1:0:100:G:O2'	2.52	0.43
1:0:190:A:O2'	1:0:191:G:H5'	2.18	0.43
1:0:209:G:HO2'	1:0:210:A:C5'	2.31	0.43
1:0:349:G:N2	1:0:350:U:C1'	2.82	0.43
1:0:461:A:C5	1:0:462:G:N7	2.87	0.43
1:0:469:G:C2'	1:0:470:U:OP2	2.66	0.43
1:0:509:U:H3'	1:0:510:G:H8	1.83	0.43
1:0:677:G:H4'	1:0:952:A:OP1	2.19	0.43
1:0:698:A:O4'	1:0:700:C:C5	2.72	0.43
1:0:741:G:C5	1:0:743:A:N7	2.87	0.43
1:0:889:C:H2'	1:0:890:U:C6	2.53	0.43
1:0:945:G:H2'	1:0:946:U:C6	2.51	0.43
1:0:982:C:OP2	1:0:985:G:C2	2.72	0.43
1:0:1135:C:O2'	1:0:1136:G:H5'	2.18	0.43
1:0:1336:G:N2	1:0:1346:C:H1'	2.33	0.43
1:0:1359:G:C5	1:0:1360:G:N7	2.86	0.43
1:0:1466:C:H3'	1:0:1466:C:C6	2.54	0.43
1:0:1511:A:N7	1:0:1512:A:C4	2.87	0.43
1:0:1624:A:H2'	1:0:1626:A:OP1	2.19	0.43
1:0:1631:C:C5	1:0:1633:C:C2	3.07	0.43
1:0:1918:G:H3'	1:0:1945:C:H42	1.83	0.43
1:0:2043:A:H1'	1:0:2481:G:C4	2.53	0.43
1:0:2119:A:O2'	1:0:2120:C:H5'	2.18	0.43
1:0:2225:G:H2'	1:0:2226:A:C8	2.54	0.43
1:0:2759:U:C4'	1:0:2760:G:O5'	2.67	0.43
1:0:2803:C:HO2'	1:0:2804:G:H5'	1.79	0.43
1:0:2841:U:O2'	1:0:2842:C:O5'	2.37	0.43
1:0:5:A:N1	1:0:2873:G:C6	2.87	0.43
1:0:222:G:H1'	1:0:397:U:O2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:225:G:C2	1:0:2410:U:C4'	2.89	0.43
1:0:225:G:C5'	1:0:226:C:H5'	2.49	0.43
1:0:456:C:O2'	1:0:457:C:H5'	2.18	0.43
1:0:492:G:HO2'	1:0:493:A:P	2.42	0.43
1:0:569:C:N4	1:0:570:G:C6	2.86	0.43
1:0:641:G:N2	1:0:644:A:OP2	2.44	0.43
1:0:815:A:C5	1:0:816:U:O4	2.72	0.43
1:0:854:G:C2	1:0:855:G:C4	3.07	0.43
1:0:939:C:C4	1:0:940:G:O6	2.71	0.43
1:0:1199:U:C5	1:0:1201:G:O6	2.72	0.43
1:0:1211:G:H2'	1:0:1212:U:H6	1.84	0.43
1:0:1337:G:O2'	1:0:1338:G:OP1	2.30	0.43
1:0:1365:U:H1'	1:0:1586:A:H2	1.84	0.43
1:0:1400:A:C2	1:0:1414:G:C2	3.07	0.43
1:0:1424:U:O2'	1:0:1425:G:H5'	2.18	0.43
1:0:1491:C:H2'	1:0:1492:A:O5'	2.19	0.43
1:0:1540:C:H2'	1:0:1541:G:O4'	2.19	0.43
1:0:2161:C:O5'	1:0:2161:C:H6	2.02	0.43
1:0:2226:A:C4	1:0:2227:C:C5	3.07	0.43
1:0:2409:A:H2'	1:0:2410:U:O5'	2.19	0.43
1:0:2597:G:C2'	1:0:2598:C:H5'	2.48	0.43
1:0:2817:A:C4	1:0:2851:G:N2	2.87	0.43
1:0:618:A:H2'	1:0:619:A:O4'	2.19	0.42
1:0:926:C:C3'	1:0:927:C:H5'	2.49	0.42
1:0:984:A:C1'	1:0:1202:U:C5	2.95	0.42
1:0:1393:G:N2	1:0:1586:A:N1	2.61	0.42
1:0:1438:G:H2'	1:0:1439:G:C4'	2.49	0.42
1:0:1577:G:N2	1:0:1578:U:H1'	2.34	0.42
1:0:1627:C:O2	1:0:1627:C:H2'	2.19	0.42
1:0:1713:G:C6	1:0:1714:A:C5	3.07	0.42
1:0:1849:G:H2'	1:0:1850:G:H8	1.82	0.42
1:0:2031:A:C2	1:0:2600:A:C2	3.07	0.42
1:0:2177:U:H2'	1:0:2178:U:C6	2.53	0.42
1:0:2277:A:C2	1:0:2278:A:H1'	2.53	0.42
1:0:2324:G:N7	1:0:2360:C:O2	2.52	0.42
1:0:2455:A:N3	1:0:2460:G:N2	2.67	0.42
1:0:2503:G:C3'	1:0:2504:G:H5"	2.49	0.42
1:0:2713:A:H2'	1:0:2714:A:C8	2.51	0.42
1:0:2824:C:O2'	1:0:2825:A:P	2.77	0.42
1:0:65:C:C2	1:0:88:G:N2	2.88	0.42
1:0:106:G:C2	1:0:107:G:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:H2'	1:0:339:U:O5'	2.19	0.42
1:0:343:A:N7	1:0:346:C:C4	2.87	0.42
1:0:715:U:O2	1:0:715:U:C2'	2.61	0.42
1:0:732:G:O5'	1:0:732:G:C8	2.67	0.42
1:0:774:A:C8	1:0:774:A:C3'	3.01	0.42
1:0:1194:U:O2'	1:0:1195:U:P	2.77	0.42
1:0:1223:G:C2	1:0:1250:A:N7	2.87	0.42
1:0:1287:A:C6	1:0:1315:A:C2	3.07	0.42
1:0:1426:U:H2'	1:0:1427:G:O4'	2.19	0.42
1:0:1438:G:N2	1:0:1591:U:C6	2.87	0.42
1:0:1624:A:C5	1:0:1627:C:C4	3.07	0.42
1:0:1698:C:H4'	1:0:1699:A:OP1	2.15	0.42
1:0:1813:A:C5	1:0:1814:G:N7	2.87	0.42
1:0:2262:C:C2	1:0:2368:G:C2	3.08	0.42
1:0:2452:U:H2'	1:0:2453:C:O5'	2.20	0.42
1:0:2558:C:H2'	1:0:2559:U:O4'	2.20	0.42
1:0:2615:U:H2'	1:0:2616:U:C6	2.54	0.42
1:0:2:G:N2	1:0:2876:C:O2	2.52	0.42
1:0:6:A:N6	1:0:7:G:C6	2.87	0.42
1:0:54:G:N2	1:0:114:C:C2	2.87	0.42
1:0:55:A:N6	1:0:69:G:N1	2.67	0.42
1:0:71:A:N6	1:0:110:U:H4'	2.33	0.42
1:0:242:A:N6	1:0:441:A:N7	2.66	0.42
1:0:450:C:N3	1:0:451:A:N7	2.67	0.42
1:0:452:G:C2	1:0:453:U:C2	3.08	0.42
1:0:516:G:H4'	1:0:519:C:O2	2.19	0.42
1:0:697:G:C2	1:0:788:G:C2	3.07	0.42
1:0:751:G:H2'	1:0:752:G:O4'	2.18	0.42
1:0:987:G:C5'	1:0:1167:A:N6	2.74	0.42
1:0:1011:A:N6	1:0:1166:A:C8	2.87	0.42
1:0:1040:A:H2'	1:0:1041:G:H5'	2.02	0.42
1:0:1264:C:C3'	1:0:1265:G:H5"	2.49	0.42
1:0:1331:G:H2'	1:0:1331:G:N3	2.33	0.42
1:0:1332:G:N1	1:0:1333:G:N2	2.67	0.42
1:0:1624:A:C6	1:0:1627:C:C2	3.07	0.42
1:0:1723:U:C2'	1:0:1724:C:OP1	2.68	0.42
1:0:2161:C:O2'	1:0:2162:C:OP1	2.35	0.42
1:0:2187:A:O2'	1:0:2188:A:H5'	2.18	0.42
1:0:2195:C:H2'	1:0:2196:U:C5'	2.49	0.42
1:0:2357:A:H8	1:0:2357:A:O5'	2.01	0.42
1:0:2410:U:O2	1:0:2412:A:N7	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2551:A:C8	2:B:144:ARG:HG2	2.54	0.42
1:0:2736:U:C5	1:0:2739:G:O6	2.72	0.42
1:0:309:G:C2	1:0:350:U:C5	3.07	0.42
1:0:430:C:C2	1:0:431:G:C8	3.08	0.42
1:0:611:C:C2'	1:0:612:G:H5'	2.47	0.42
1:0:762:A:N3	1:0:762:A:H2'	2.34	0.42
1:0:953:G:H1'	1:0:1203:A:H2	1.83	0.42
1:0:1220:G:N2	1:0:1221:C:C2	2.87	0.42
1:0:1322:G:O2'	1:0:1323:G:H5'	2.18	0.42
1:0:1469:U:H3'	1:0:1470:G:C8	2.54	0.42
1:0:1851:A:O2'	1:0:1852:G:H5'	2.19	0.42
1:0:1960:A:C2'	1:0:1961:A:H5'	2.50	0.42
1:0:2043:A:C2	1:0:2481:G:C6	3.08	0.42
1:0:2069:U:H2'	1:0:2070:G:H8	1.84	0.42
1:0:2511:G:N2	1:0:2642:G:O2'	2.52	0.42
1:0:2634:G:HO2'	1:0:2643:G:H1	1.56	0.42
1:0:2661:G:C2'	1:0:2662:C:H5'	2.48	0.42
1:0:2821:G:C6	1:0:2846:G:N1	2.87	0.42
1:0:2828:C:H2'	1:0:2829:A:H8	1.84	0.42
1:0:40:U:C4	1:0:41:G:N7	2.88	0.42
1:0:788:G:H5'	1:0:790:A:C1'	2.41	0.42
1:0:814:G:C3'	1:0:814:G:C8	3.03	0.42
1:0:863:C:C2	1:0:940:G:N2	2.87	0.42
1:0:958:G:O2'	1:0:995:A:H2	2.03	0.42
1:0:977:G:C6	1:0:978:U:N3	2.88	0.42
1:0:1002:C:O5'	1:0:1002:C:H6	2.01	0.42
1:0:1032:A:C8	1:0:1032:A:H3'	2.55	0.42
1:0:1175:A:N1	1:0:1176:U:C4	2.87	0.42
1:0:1281:A:H2'	1:0:1282:A:H8	1.84	0.42
1:0:1299:A:N6	1:0:1302:C:C2	2.88	0.42
1:0:1466:C:H6	1:0:1466:C:H5"	1.83	0.42
1:0:1540:C:C2	1:0:1541:G:C8	3.08	0.42
1:0:1552:C:C2'	1:0:1553:G:H5'	2.49	0.42
1:0:1618:U:C6	1:0:1618:U:C3'	3.02	0.42
1:0:1628:C:N3	1:0:1629:G:C8	2.87	0.42
1:0:1791:C:H2'	1:0:1792:C:OP2	2.20	0.42
1:0:1941:C:C2'	1:0:1942:G:H5'	2.50	0.42
1:0:2007:G:H2'	1:0:2008:C:O4'	2.20	0.42
1:0:2123:G:O2'	1:0:2124:C:H5'	2.20	0.42
1:0:2241:U:N3	1:0:2242:C:C5	2.88	0.42
1:0:2242:C:N4	1:0:2257:A:N6	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2327:U:C4	1:0:2361:G:N2	2.88	0.42
1:0:2352:A:C2	1:0:2353:G:C5	3.07	0.42
1:0:2486:C:C6	1:0:2487:G:N7	2.87	0.42
1:0:5:A:C4	1:0:6:A:N7	2.88	0.42
1:0:48:A:C4'	1:0:49:U:O5'	2.66	0.42
1:0:121:G:H2'	1:0:122:G:O4'	2.19	0.42
1:0:520:C:O2	1:0:520:C:H2'	2.20	0.42
1:0:524:A:H1'	1:0:590:C:O2'	2.20	0.42
1:0:820:U:H2'	1:0:821:A:H8	1.84	0.42
1:0:1332:G:C2	1:0:1347:C:C2	3.08	0.42
1:0:1548:U:N3	1:0:1549:C:N4	2.67	0.42
1:0:1614:C:O2	1:0:1614:C:C2'	2.66	0.42
1:0:1684:G:O2'	1:0:1685:A:O5'	2.37	0.42
1:0:1977:C:C2	1:0:1978:U:H5	2.38	0.42
1:0:2376:G:C2	1:0:2399:C:O2	2.73	0.42
1:0:2658:A:C2'	1:0:2659:C:H5'	2.49	0.42
1:0:2703:C:H2'	1:0:2704:U:H5'	2.02	0.42
1:0:2736:U:C4	1:0:2739:G:C6	3.07	0.42
1:0:2845:C:C4	1:0:2846:G:N7	2.88	0.42
1:0:2867:G:H2'	1:0:2867:G:N3	2.34	0.42
1:0:182:G:O2'	1:0:183:U:C5	2.73	0.42
1:0:225:G:N7	1:0:227:G:N3	2.66	0.42
1:0:481:A:C6	1:0:482:A:C6	3.07	0.42
1:0:653:G:C8	1:0:653:G:C3'	3.03	0.42
1:0:740:A:OP1	1:0:1445:A:O2'	2.31	0.42
1:0:927:C:H3'	1:0:928:G:C8	2.54	0.42
1:0:940:G:C5	1:0:941:U:C6	3.07	0.42
1:0:984:A:C1'	1:0:1202:U:C6	3.02	0.42
1:0:1005:U:H3	1:0:1007:A:H62	1.67	0.42
1:0:1005:U:O2'	1:0:1007:A:OP1	2.33	0.42
1:0:1438:G:O2'	1:0:1439:G:H5'	2.20	0.42
1:0:1536:G:O2'	1:0:1537:U:H5'	2.20	0.42
1:0:1750:A:H5'	1:0:2695:C:H1'	2.02	0.42
1:0:2119:A:H8	1:0:2119:A:O5'	2.03	0.42
1:0:4:C:C2'	1:0:5:A:C5'	2.85	0.42
1:0:69:G:C2'	1:0:111:G:O2'	2.66	0.42
1:0:174:A:C2	1:0:175:C:C1'	3.02	0.42
1:0:308:C:C2'	1:0:308:C:O2	2.67	0.42
1:0:539:A:N6	1:0:2024:U:H3	1.92	0.42
1:0:614:G:N1	1:0:634:G:C2	2.88	0.42
1:0:787:A:C8	1:0:787:A:C3'	3.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:796:A:H2'	1:0:798:G:OP1	2.19	0.42
1:0:872:G:H8	1:0:872:G:OP2	2.03	0.42
1:0:1088:A:H2'	1:0:1089:C:O4'	2.20	0.42
1:0:1175:A:C2	1:0:1176:U:C6	3.08	0.42
1:0:1415:C:C2'	1:0:1416:A:H5'	2.50	0.42
1:0:1495:G:HO2'	1:0:1496:G:P	2.43	0.42
1:0:1704:G:N2	1:0:1718:A:H62	2.16	0.42
1:0:1964:A:OP1	1:0:1965:U:OP2	2.37	0.42
1:0:2326:C:H2'	1:0:2327:U:C6	2.53	0.42
1:0:2383:C:O2	1:0:2383:C:C2'	2.66	0.42
1:0:2510:A:N6	1:0:2641:A:H61	2.18	0.42
1:0:2637:C:N3	1:0:2642:G:O6	2.53	0.42
1:0:2673:G:O2'	1:0:2674:C:H5'	2.20	0.42
1:0:188:G:H2'	1:0:189:A:H8	1.85	0.42
1:0:340:G:C5'	1:0:341:A:OP2	2.68	0.42
1:0:541:C:C5	1:0:572:G:O4'	2.73	0.42
1:0:646:C:O2'	1:0:650:U:OP1	2.22	0.42
1:0:715:U:O2	1:0:716:U:C6	2.73	0.42
1:0:764:A:HO2'	1:0:765:C:P	2.42	0.42
1:0:794:A:C5'	1:0:795:A:OP1	2.68	0.42
1:0:831:G:OP2	1:0:1199:U:C4	2.73	0.42
1:0:859:U:C6	1:0:859:U:C3'	3.03	0.42
1:0:1213:U:N3	1:0:1260:A:H2	2.14	0.42
1:0:1298:G:C5	1:0:1342:U:C4	3.08	0.42
1:0:1332:G:C2	1:0:1333:G:N2	2.88	0.42
1:0:1346:C:C4	1:0:1347:C:N4	2.87	0.42
1:0:1404:C:C4	1:0:1407:G:N7	2.87	0.42
1:0:1407:G:N2	1:0:1408:A:C2	2.88	0.42
1:0:2241:U:C2'	1:0:2242:C:O5'	2.68	0.42
1:0:2367:A:N7	1:0:2368:G:C6	2.88	0.42
1:0:2454:C:H2'	1:0:2455:A:H5'	2.02	0.42
1:0:2455:A:C2	1:0:2460:G:N2	2.88	0.42
1:0:2641:A:H2'	1:0:2642:G:H5'	2.01	0.42
1:0:2669:C:H2'	1:0:2670:C:OP2	2.20	0.42
1:0:2813:G:H2'	1:0:2814:G:O4'	2.19	0.42
1:0:2871:U:H2'	1:0:2872:U:C5	2.51	0.42
1:0:27:G:C2	1:0:522:G:O2'	2.69	0.42
1:0:357:A:H3'	1:0:358:C:O4'	2.20	0.42
1:0:446:C:H2'	1:0:447:U:O4'	2.20	0.42
1:0:475:U:C6	1:0:801:A:C2	3.07	0.42
1:0:566:U:O2'	1:0:567:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:603:C:C4	1:0:604:U:C4	3.08	0.42
1:0:614:G:N1	1:0:634:G:N1	2.68	0.42
1:0:707:U:H2'	1:0:708:G:O5'	2.20	0.42
1:0:931:G:C2	1:0:932:G:H1'	2.54	0.42
1:0:1338:G:H4'	1:0:1339:U:OP1	2.20	0.42
1:0:1460:G:N2	1:0:1563:U:C6	2.88	0.42
1:0:1810:U:C2'	1:0:1811:A:OP2	2.67	0.42
1:0:1838:G:N2	1:0:1878:C:C2	2.88	0.42
1:0:1873:A:H2	1:0:2214:G:H1'	1.84	0.42
1:0:2031:A:C2	1:0:2600:A:N3	2.88	0.42
1:0:2434:G:C6	1:0:2435:C:N4	2.88	0.42
1:0:2759:U:C5'	1:0:2760:G:O5'	2.67	0.42
1:0:35:G:C2'	1:0:36:G:O5'	2.68	0.41
1:0:57:G:C2	1:0:69:G:C4	3.08	0.41
1:0:137:A:O5'	1:0:137:A:H8	2.03	0.41
1:0:406:G:C6	1:0:407:A:C5	3.08	0.41
1:0:746:G:O6	1:0:774:A:H2'	2.20	0.41
1:0:836:G:N2	1:0:847:C:C2	2.85	0.41
1:0:1214:C:C2	1:0:1259:A:C2	3.08	0.41
1:0:1235:C:H2'	1:0:1236:G:C8	2.54	0.41
1:0:1283:C:H5"	1:0:1284:G:C5'	2.50	0.41
1:0:1423:A:C2	1:0:1609:G:C2	3.08	0.41
1:0:1442:C:N4	1:0:1585:A:N7	2.68	0.41
1:0:1597:A:H2'	1:0:1598:C:C6	2.55	0.41
1:0:1765:C:H4'	1:0:1962:C:O2	2.19	0.41
1:0:2064:U:C5	1:0:2216:G:N1	2.88	0.41
1:0:2109:A:O2'	1:0:2110:G:H5'	2.19	0.41
1:0:2250:G:N3	1:0:2251:U:O2	2.53	0.41
1:0:2608:A:O2'	1:0:2609:G:P	2.76	0.41
1:0:2870:C:O2'	1:0:2871:U:H5'	2.19	0.41
1:0:27:G:O2'	1:0:28:A:H8	2.02	0.41
1:0:158:A:C2	1:0:159:A:N3	2.88	0.41
1:0:233:A:H2'	1:0:234:C:C6	2.51	0.41
1:0:349:G:N1	1:0:350:U:O2	2.53	0.41
1:0:475:U:C4	1:0:801:A:C5	3.08	0.41
1:0:581:A:N1	1:0:2012:A:C2	2.87	0.41
1:0:627:A:O2'	1:0:628:A:O5'	2.39	0.41
1:0:684:C:H6	1:0:684:C:H5'	1.85	0.41
1:0:691:C:H2'	1:0:692:C:C6	2.48	0.41
1:0:753:U:H1'	1:0:1964:A:N3	2.35	0.41
1:0:777:A:C6	1:0:794:A:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:778:G:N2	1:0:779:U:C2	2.88	0.41
1:0:825:C:C1'	1:0:1263:G:C2	3.02	0.41
1:0:831:G:H3'	1:0:1201:G:O6	2.20	0.41
1:0:880:C:H3'	1:0:880:C:OP2	2.20	0.41
1:0:1168:G:C2	1:0:1169:C:C2	3.09	0.41
1:0:1277:G:H2'	1:0:1997:A:H62	1.83	0.41
1:0:1355:A:H2	1:0:1409:U:H2'	1.85	0.41
1:0:1359:G:C6	1:0:1360:G:C5	3.09	0.41
1:0:1469:U:O5'	1:0:1470:G:OP2	2.38	0.41
1:0:1474:A:O2'	1:0:1475:U:C5'	2.66	0.41
1:0:1497:C:H3'	1:0:1497:C:C6	2.56	0.41
1:0:1544:A:C2'	1:0:1545:G:O4'	2.66	0.41
1:0:1683:G:H2'	1:0:1684:G:C5'	2.40	0.41
1:0:1728:A:H2'	1:0:1729:C:C6	2.55	0.41
1:0:1831:G:H2'	1:0:1832:G:O5'	2.20	0.41
1:0:2163:U:H6	1:0:2163:U:O5'	2.01	0.41
1:0:2198:U:C6	1:0:2199:C:O4'	2.73	0.41
1:0:2361:G:H3'	1:0:2361:G:OP1	2.20	0.41
1:0:2563:U:H2'	1:0:2564:U:C6	2.42	0.41
1:0:2692:A:C2'	1:0:2693:U:OP1	2.66	0.41
1:0:2759:U:O4'	1:0:2761:A:N3	2.53	0.41
1:0:2793:G:C2	1:0:2794:G:H1'	2.54	0.41
1:0:2807:U:C2'	1:0:2808:U:OP2	2.68	0.41
1:0:2823:G:O2'	1:0:2824:C:P	2.79	0.41
1:0:5:A:C2	1:0:2873:G:C4	3.08	0.41
1:0:69:G:H4'	1:0:70:A:OP1	2.17	0.41
1:0:195:A:H2'	1:0:196:A:O4'	2.19	0.41
1:0:306:G:O6	1:0:355:G:N2	2.53	0.41
1:0:978:U:H3'	1:0:978:U:H6	1.85	0.41
1:0:1077:U:O2	1:0:1079:G:C8	2.73	0.41
1:0:1168:G:C8	1:0:1168:G:O5'	2.73	0.41
1:0:1263:G:H4'	1:0:1264:C:OP1	2.19	0.41
1:0:1312:G:H4'	1:0:1314:A:N9	2.35	0.41
1:0:1469:U:OP2	1:0:1471:G:OP2	2.38	0.41
1:0:1713:G:N2	1:0:1960:A:O2'	2.52	0.41
1:0:1992:G:C2'	1:0:1993:G:H5'	2.50	0.41
1:0:2050:G:N1	1:0:2052:G:C5	2.88	0.41
1:0:2541:U:C4	1:0:2542:U:C5	3.08	0.41
1:0:2663:U:H2'	1:0:2664:G:O4'	2.20	0.41
1:0:2723:C:C2	1:0:2742:G:C2	3.08	0.41
1:0:118:U:O2'	1:0:119:G:OP2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:151:G:O2'	1:0:152:G:H5'	2.21	0.41
1:0:164:G:C2'	1:0:165:G:H5'	2.50	0.41
1:0:192:G:O2'	1:0:193:A:OP2	2.33	0.41
1:0:477:A:H2'	1:0:478:G:H5'	2.02	0.41
1:0:490:A:O2'	1:0:491:A:P	2.79	0.41
1:0:697:G:N2	1:0:788:G:C2	2.89	0.41
1:0:982:C:O2	1:0:983:G:O4'	2.37	0.41
1:0:1241:G:N1	1:0:1242:A:N7	2.68	0.41
1:0:1498:G:O2'	1:0:1499:A:H5'	2.20	0.41
1:0:1586:A:C6	1:0:1587:A:C6	3.09	0.41
1:0:1625:A:H2'	1:0:1632:A:H4'	2.01	0.41
1:0:1683:G:N1	1:0:1978:U:O4	2.53	0.41
1:0:1695:U:H2'	1:0:1696:C:O4'	2.20	0.41
1:0:1790:G:C2'	1:0:1791:C:OP2	2.67	0.41
1:0:1965:U:H2'	1:0:1966:C:H6	1.85	0.41
1:0:2050:G:N2	1:0:2052:G:N9	2.68	0.41
1:0:2171:U:H6	1:0:2171:U:O5'	2.02	0.41
1:0:2345:A:C6	1:0:2346:G:C4	3.08	0.41
1:0:2386:G:H2'	1:0:2387:U:C6	2.56	0.41
1:0:2462:C:C5	1:0:2463:G:C8	3.09	0.41
1:0:2870:C:C2	1:0:2871:U:C6	3.09	0.41
1:0:57:G:N1	1:0:72:A:C6	2.88	0.41
1:0:65:C:O2	1:0:88:G:N2	2.54	0.41
1:0:125:A:H5"	1:0:126:C:C6	2.56	0.41
1:0:166:G:H1	1:0:182:G:H2'	1.86	0.41
1:0:188:G:H2'	1:0:189:A:C8	2.56	0.41
1:0:475:U:C1'	1:0:699:G:N1	2.69	0.41
1:0:483:A:H2'	1:0:484:G:H5'	2.01	0.41
1:0:499:G:C2	1:0:503:G:O6	2.73	0.41
1:0:746:G:N7	1:0:774:A:C4	2.87	0.41
1:0:846:A:H2'	1:0:847:C:H6	1.84	0.41
1:0:1007:A:H2'	1:0:1008:G:H8	1.85	0.41
1:0:1538:A:H2'	1:0:1539:U:C6	2.56	0.41
1:0:1707:A:H2'	1:0:1708:C:C5'	2.49	0.41
1:0:1787:U:O2	1:0:1788:C:C6	2.73	0.41
1:0:2170:C:H2'	1:0:2171:U:O4'	2.20	0.41
1:0:2311:U:O4'	1:0:2315:A:N6	2.54	0.41
1:0:2431:C:N3	1:0:2432:A:C5	2.89	0.41
1:0:2634:G:H2'	1:0:2634:G:N3	2.35	0.41
1:0:2748:C:N4	1:0:2749:A:H62	2.19	0.41
1:0:32:C:H5'	1:0:1251:G:OP1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:167:A:C8	1:0:168:A:N7	2.89	0.41
1:0:212:U:N3	1:0:443:A:C2	2.89	0.41
1:0:312:G:C6	1:0:313:U:O4	2.74	0.41
1:0:578:U:O2'	1:0:994:A:N1	2.35	0.41
1:0:589:C:H2'	1:0:590:C:C6	2.55	0.41
1:0:661:C:C2	1:0:662:G:C8	3.08	0.41
1:0:1031:C:H3'	1:0:1031:C:H6	1.86	0.41
1:0:1158:A:H2'	1:0:1159:U:C1'	2.49	0.41
1:0:1306:U:H2'	1:0:1307:U:O5'	2.21	0.41
1:0:1344:C:O2'	1:0:1345:G:C8	2.74	0.41
1:0:1404:C:O2	1:0:1406:A:N7	2.54	0.41
1:0:1426:U:C2'	1:0:1427:G:H5'	2.51	0.41
1:0:1655:C:H2'	1:0:1656:U:O5'	2.21	0.41
1:0:2073:A:C6	1:0:2209:G:C6	3.08	0.41
1:0:2083:G:H2'	1:0:2084:G:C8	2.55	0.41
1:0:2136:G:H2'	1:0:2137:G:H8	1.86	0.41
1:0:2842:C:H2'	1:0:2842:C:O2	2.20	0.41
1:0:192:G:H4'	1:0:193:A:H4'	2.01	0.41
1:0:213:C:H2'	1:0:214:C:C6	2.45	0.41
1:0:225:G:N2	1:0:2410:U:C4'	2.84	0.41
1:0:589:C:O2'	1:0:590:C:H5'	2.20	0.41
1:0:613:A:O2'	1:0:614:G:H5'	2.20	0.41
1:0:785:U:O2'	1:0:786:U:H5'	2.20	0.41
1:0:830:C:O2'	1:0:852:U:C5'	2.64	0.41
1:0:1104:G:O5'	1:0:1104:G:H8	2.03	0.41
1:0:1177:U:N3	1:0:1197:U:O2	2.54	0.41
1:0:1289:A:N7	1:0:1662:G:C2	2.88	0.41
1:0:1563:U:C2	1:0:1564:U:C5	3.09	0.41
1:0:1602:G:H4'	1:0:1603:A:C8	2.56	0.41
1:0:1937:G:N3	1:0:2530:C:H5"	2.35	0.41
1:0:2038:C:H4'	1:0:2039:G:H5"	2.02	0.41
1:0:2245:A:H1'	1:0:2251:U:O4	2.20	0.41
1:0:2515:G:H2'	1:0:2516:U:O4'	2.20	0.41
1:0:2636:A:H2'	1:0:2637:C:H5'	2.03	0.41
1:0:2668:U:C2	1:0:2693:U:C6	3.08	0.41
1:0:2673:G:N2	1:0:2674:C:C2	2.89	0.41
1:0:2823:G:O2'	1:0:2824:C:H6	2.03	0.41
1:0:158:A:H2'	1:0:159:A:O4'	2.21	0.41
1:0:195:A:H2'	1:0:196:A:C8	2.56	0.41
1:0:216:U:H2'	1:0:217:U:O4'	2.21	0.41
1:0:425:A:H2'	1:0:426:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:620:G:N2	1:0:628:A:H2	2.13	0.41
1:0:944:A:C6	1:0:945:G:C5	3.08	0.41
1:0:1030:U:N3	1:0:1031:C:C2	2.88	0.41
1:0:1045:G:N1	1:0:1133:G:C4	2.89	0.41
1:0:1162:A:C2	1:0:1163:C:C2	3.09	0.41
1:0:1345:G:H8	1:0:1345:G:O5'	2.04	0.41
1:0:1482:U:O4'	1:0:1562:G:N2	2.53	0.41
1:0:1496:G:N1	1:0:1527:G:N1	2.67	0.41
1:0:1500:U:O2'	1:0:1501:C:H5'	2.21	0.41
1:0:1680:U:O2'	1:0:1681:A:O5'	2.33	0.41
1:0:2047:C:H1'	1:0:2429:A:C2	2.56	0.41
1:0:2205:C:C2'	1:0:2206:C:H5'	2.44	0.41
1:0:2782:G:N3	1:0:2782:G:H2'	2.35	0.41
1:0:2866:A:H2'	1:0:2867:G:O4'	2.21	0.41
1:0:67:G:C5	1:0:72:A:H2	2.38	0.41
1:0:132:U:C4	1:0:133:C:N4	2.85	0.41
1:0:540:G:O6	1:0:2006:G:P	2.79	0.41
1:0:543:G:OP2	1:0:543:G:H8	2.03	0.41
1:0:697:G:C6	1:0:788:G:N7	2.89	0.41
1:0:717:G:H2'	1:0:739:G:N2	2.36	0.41
1:0:727:U:H2'	1:0:728:G:C5'	2.46	0.41
1:0:789:G:N1	1:0:2055:G:OP1	2.50	0.41
1:0:816:U:C2'	1:0:817:A:C5'	2.95	0.41
1:0:871:U:C2	1:0:2247:A:H8	2.39	0.41
1:0:970:A:H2'	1:0:971:A:C8	2.56	0.41
1:0:987:G:C5'	1:0:1167:A:H62	2.33	0.41
1:0:991:A:N3	1:0:2020:G:O2'	2.46	0.41
1:0:1016:C:C2	1:0:1154:A:N3	2.88	0.41
1:0:1054:C:C2'	1:0:1055:A:C5'	2.99	0.41
1:0:1089:C:H2'	1:0:1099:A:C5'	2.51	0.41
1:0:1198:C:P	1:0:1199:U:O2'	2.79	0.41
1:0:1336:G:C2	1:0:1346:C:H1'	2.56	0.41
1:0:1352:G:H1	1:0:1353:A:N6	2.19	0.41
1:0:1493:A:C2	1:0:1494:G:H1'	2.55	0.41
1:0:1574:A:O2'	1:0:1575:C:O5'	2.27	0.41
1:0:1669:A:H3'	1:0:1670:G:O4'	2.20	0.41
1:0:1730:G:H2'	1:0:1731:C:H6	1.85	0.41
1:0:1883:A:C2	1:0:1953:A:N6	2.89	0.41
1:0:1911:A:H2'	1:0:1912:G:C5'	2.49	0.41
1:0:1953:A:C2'	1:0:1954:A:OP2	2.69	0.41
1:0:1960:A:H2'	1:0:1961:A:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2005:U:C4'	1:0:2006:G:OP1	2.69	0.41
1:0:2015:G:H4'	1:0:2016:A:OP2	2.20	0.41
1:0:2054:A:H2	1:0:2419:C:H41	1.69	0.41
1:0:2060:A:H2'	1:0:2061:C:H6	1.85	0.41
1:0:2074:U:H3'	1:0:2075:U:C5'	2.51	0.41
1:0:2097:A:H5'	1:0:2105:U:OP1	2.20	0.41
1:0:2195:C:H2'	1:0:2196:U:H5'	2.03	0.41
1:0:2217:G:C5'	1:0:2218:G:N7	2.82	0.41
1:0:2219:U:O2	1:0:2219:U:H2'	2.20	0.41
1:0:2223:U:H2'	1:0:2224:U:C6	2.56	0.41
1:0:2291:U:O2'	1:0:2292:C:H5'	2.21	0.41
1:0:2464:G:C2'	1:0:2465:G:H5'	2.51	0.41
1:0:2487:G:N1	1:0:2561:G:O6	2.53	0.41
1:0:2565:C:C2	1:0:2566:A:C8	3.09	0.41
1:0:2565:C:C2'	1:0:2566:A:H5'	2.51	0.41
1:0:2621:G:C2	1:0:2753:C:C2	3.09	0.41
1:0:2662:C:N4	1:0:2707:G:H21	2.19	0.41
1:0:2729:A:H8	1:0:2729:A:O5'	2.04	0.41
1:0:2756:A:C2'	1:0:2757:G:OP2	2.69	0.41
1:0:2756:A:C2	1:0:2758:A:C6	3.09	0.41
1:0:2837:G:C4	1:0:2838:U:C6	3.09	0.41
1:0:67:G:C6	1:0:72:A:H2	2.37	0.41
1:0:115:G:C5	1:0:117:A:N6	2.89	0.41
1:0:314:G:C2	1:0:326:A:N3	2.89	0.41
1:0:333:A:C4'	1:0:351:A:O4'	2.69	0.41
1:0:351:A:H2'	1:0:352:G:C5'	2.51	0.41
1:0:366:U:H2'	1:0:367:G:C8	2.50	0.41
1:0:579:G:C4'	1:0:994:A:C2	3.04	0.41
1:0:754:G:O2'	1:0:755:C:H5'	2.21	0.41
1:0:1036:G:C2	1:0:1145:C:O4'	2.74	0.41
1:0:1045:G:H2'	1:0:1046:U:C6	2.56	0.41
1:0:1360:G:C2	1:0:1616:C:N3	2.89	0.41
1:0:1682:A:H2'	1:0:1683:G:H5'	2.03	0.41
1:0:1764:A:C5	1:0:1821:A:H1'	2.55	0.41
1:0:1851:A:H2'	1:0:1852:G:H8	1.86	0.41
1:0:1915:A:N1	1:0:1956:G:H1'	2.35	0.41
1:0:1925:C:N3	1:0:1926:U:C4	2.89	0.41
1:0:1975:G:HO2'	1:0:1976:U:P	2.44	0.41
1:0:2063:A:N6	1:0:2220:A:N6	2.69	0.41
1:0:2350:G:N1	1:0:2351:G:C5	2.89	0.41
1:0:2478:C:N4	1:0:2479:U:O4	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2502:G:C6	1:0:2520:A:C2	3.08	0.41
1:0:2724:G:N7	1:0:2735:C:C2	2.89	0.41
1:0:2873:G:H2'	1:0:2874:A:H8	1.86	0.41
1:0:67:G:N9	1:0:68:C:C6	2.90	0.40
1:0:246:C:C6	1:0:373:A:H1'	2.57	0.40
1:0:487:G:H4'	1:0:512:A:N6	2.36	0.40
1:0:754:G:C4	1:0:755:C:C5	3.09	0.40
1:0:1135:C:H2'	1:0:1136:G:O4'	2.22	0.40
1:0:1327:C:O5'	1:0:1327:C:H6	2.04	0.40
1:0:1433:A:C6	1:0:1434:U:C2	3.08	0.40
1:0:1463:A:O2'	1:0:1464:A:H5'	2.20	0.40
1:0:1531:C:H2'	1:0:1532:A:H5'	2.02	0.40
1:0:1744:G:O6	1:0:1747:G:C6	2.74	0.40
1:0:1772:C:O2'	1:0:1773:C:P	2.79	0.40
1:0:1937:G:HO2'	1:0:1939:U:H5	1.66	0.40
1:0:2555:G:O2'	1:0:2558:C:OP2	2.34	0.40
1:0:2637:C:H2'	1:0:2638:G:C8	2.56	0.40
1:0:2661:G:O6	1:0:2708:U:C1'	2.69	0.40
1:0:2694:G:C6	1:0:2695:C:N4	2.90	0.40
1:0:57:G:O6	1:0:66:U:O4	2.39	0.40
1:0:59:G:N7	1:0:62:U:C6	2.89	0.40
1:0:70:A:OP2	1:0:110:U:H2'	2.21	0.40
1:0:468:A:O2'	1:0:469:G:C4'	2.67	0.40
1:0:524:A:H2'	1:0:525:A:O4'	2.21	0.40
1:0:531:G:H2'	1:0:532:A:C8	2.51	0.40
1:0:572:G:H2'	1:0:573:C:H6	1.86	0.40
1:0:572:G:H2'	1:0:573:C:C6	2.56	0.40
1:0:636:G:C8	1:0:637:G:C8	3.09	0.40
1:0:756:C:H6	1:0:756:C:O5'	2.03	0.40
1:0:788:G:C2	1:0:800:U:C2'	2.92	0.40
1:0:831:G:H5'	1:0:852:U:OP1	2.21	0.40
1:0:953:G:C6	1:0:954:U:C4	3.10	0.40
1:0:1054:C:H2'	1:0:1055:A:C5'	2.41	0.40
1:0:2032:G:O2'	1:0:2033:C:H5'	2.20	0.40
1:0:2500:C:H4'	1:0:2543:A:O2'	2.21	0.40
1:0:2644:A:H2'	1:0:2645:C:C6	2.57	0.40
1:0:2712:G:H3'	1:0:2713:A:C5'	2.41	0.40
1:0:60:A:N6	1:0:61:U:C4	2.90	0.40
1:0:195:A:O2'	1:0:196:A:H5'	2.22	0.40
1:0:464:G:C6	1:0:465:C:N4	2.89	0.40
1:0:594:G:C6	1:0:1264:C:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:614:G:N1	1:0:634:G:N2	2.70	0.40
1:0:646:C:O2	1:0:650:U:H5"	2.22	0.40
1:0:649:G:N2	1:0:660:G:C2	2.90	0.40
1:0:676:G:C6	1:0:677:G:C5	3.09	0.40
1:0:710:C:H2'	1:0:711:C:C6	2.56	0.40
1:0:1016:C:C2	1:0:1154:A:C2	3.09	0.40
1:0:1040:A:H2'	1:0:1041:G:O4'	2.21	0.40
1:0:1299:A:C6	1:0:1302:C:C4	3.10	0.40
1:0:1641:C:C2'	1:0:1642:G:H5'	2.50	0.40
1:0:1831:G:O2'	1:0:1832:G:H5'	2.21	0.40
1:0:1898:U:C5	1:0:1899:A:N7	2.90	0.40
1:0:1904:G:H2'	1:0:1905:G:O4'	2.21	0.40
1:0:2137:G:H2'	1:0:2138:U:C6	2.57	0.40
1:0:2237:C:C2	1:0:2405:A:H4'	2.57	0.40
1:0:2451:G:O2'	1:0:2457:A:N6	2.54	0.40
1:0:2454:C:O5'	1:0:2454:C:H6	2.04	0.40
1:0:2561:G:H5'	1:0:2561:G:C8	2.57	0.40
1:0:2636:A:H1'	1:0:2644:A:N6	2.36	0.40
1:0:2757:G:C2'	1:0:2758:A:OP2	2.69	0.40
1:0:2813:G:C6	1:0:2814:G:C5	3.09	0.40
1:0:58:C:C1'	1:0:72:A:N7	2.84	0.40
1:0:223:C:O2	1:0:223:C:H2'	2.21	0.40
1:0:478:G:C6	1:0:479:G:N7	2.90	0.40
1:0:565:A:O5'	1:0:565:A:H8	2.05	0.40
1:0:573:C:H1'	1:0:1266:G:H22	1.86	0.40
1:0:636:G:H2'	1:0:637:G:C5'	2.50	0.40
1:0:778:G:H5'	1:0:778:G:C8	2.54	0.40
1:0:941:U:OP1	1:0:941:U:O3'	2.40	0.40
1:0:1008:G:C2	1:0:1009:C:C6	3.09	0.40
1:0:1211:G:N2	1:0:1263:G:C5	2.89	0.40
1:0:1238:A:O2'	1:0:1239:A:H5'	2.21	0.40
1:0:1405:A:H2'	1:0:1406:A:C8	2.56	0.40
1:0:1578:U:N3	1:0:1579:G:C5	2.89	0.40
1:0:1632:A:O2'	1:0:1633:C:OP1	2.39	0.40
1:0:1715:A:C2	1:0:1717:A:C8	3.09	0.40
1:0:1982:C:OP1	1:0:2703:C:O2'	2.36	0.40
1:0:2301:A:H2'	1:0:2302:G:O4'	2.21	0.40
1:0:2535:C:H2'	1:0:2536:G:O4'	2.21	0.40
1:0:2621:G:N2	1:0:2753:C:C2	2.89	0.40
1:0:2723:C:C2	1:0:2742:G:N2	2.90	0.40
1:0:2787:A:H2'	1:0:2788:C:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:0:2881:G19:H14	3:0:2881:G19:C10	2.46	0.40
1:0:115:G:C2	1:0:117:A:N6	2.89	0.40
1:0:198:A:O2'	1:0:199:A:P	2.80	0.40
1:0:219:G:O2'	1:0:231:G:N2	2.55	0.40
1:0:321:A:C2	1:0:323:G:H1'	2.56	0.40
1:0:539:A:N6	1:0:2006:G:C4	2.90	0.40
1:0:554:U:O2'	1:0:555:U:H4'	2.20	0.40
1:0:717:G:C2	1:0:739:G:C2	3.09	0.40
1:0:737:C:O2'	1:0:738:G:H5'	2.20	0.40
1:0:738:G:O5'	1:0:738:G:H8	2.05	0.40
1:0:816:U:H2'	1:0:817:A:O4'	2.22	0.40
1:0:929:A:H5"	1:0:2247:A:H61	1.86	0.40
1:0:940:G:H2'	1:0:941:U:O4'	2.22	0.40
1:0:1314:A:H2'	1:0:1315:A:H3'	2.04	0.40
1:0:1442:C:H2'	1:0:1443:G:OP1	2.22	0.40
1:0:1540:C:H2'	1:0:1541:G:H8	1.87	0.40
1:0:1699:A:H2'	1:0:1700:C:C6	2.56	0.40
1:0:1763:G:H21	1:0:1765:C:H5"	1.84	0.40
1:0:1836:C:H2'	1:0:1837:G:O4'	2.21	0.40
1:0:1975:G:C6	1:0:1980:A:C6	3.09	0.40
1:0:2035:G:N2	1:0:2036:G:C4	2.89	0.40
1:0:2109:A:H2'	1:0:2110:G:H8	1.85	0.40
1:0:2392:G:O5'	1:0:2392:G:H8	2.05	0.40
1:0:2395:C:C3'	1:0:2396:C:H5"	2.51	0.40
1:0:2405:A:C8	1:0:2405:A:O5'	2.74	0.40
1:0:2408:G:C2'	1:0:2409:A:OP1	2.69	0.40
1:0:2416:U:O5'	1:0:2416:U:H6	2.05	0.40
1:0:2448:A:C6	1:0:2461:G:C8	3.10	0.40
1:0:2857:C:H2'	1:0:2858:A:O5'	2.22	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)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	B	1/157 (1%)	0	1 (100%)	0 0

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	144	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880 (95%)	618 (22%)	184 (6%)

All (618) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	5	A
1	0	6	A
1	0	13	A
1	0	28	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	51	A
1	0	58	C
1	0	59	G
1	0	60	A
1	0	62	U
1	0	66	U

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Mol	Chain	Res	Type
1	0	69	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	74	G
1	0	76	C
1	0	84	G
1	0	87	G
1	0	89	A
1	0	90	G
1	0	99	U
1	0	102	C
1	0	105	G
1	0	110	U
1	0	117	A
1	0	118	U
1	0	119	G
1	0	123	A
1	0	124	A
1	0	129	A
1	0	135	U
1	0	149	A
1	0	155	G
1	0	158	A
1	0	173	A
1	0	174	A
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	205	A
1	0	206	U
1	0	207	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	220	U
1	0	225	G
1	0	227	G
1	0	229	G

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Mol	Chain	Res	Type
1	0	242	A
1	0	243	G
1	0	245	C
1	0	305	A
1	0	318	G
1	0	323	G
1	0	333	A
1	0	334	G
1	0	335	A
1	0	339	U
1	0	340	G
1	0	341	A
1	0	342	G
1	0	343	A
1	0	344	G
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	400	U
1	0	401	G
1	0	408	U
1	0	409	G
1	0	414	A
1	0	418	C
1	0	424	G
1	0	435	A
1	0	448	C
1	0	453	U
1	0	455	A
1	0	456	C
1	0	458	G
1	0	459	A
1	0	460	U
1	0	461	A
1	0	463	C
1	0	467	U
1	0	470	U
1	0	484	G
1	0	485	G
1	0	486	U

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Mol	Chain	Res	Type
1	0	490	A
1	0	491	A
1	0	492	G
1	0	514	G
1	0	515	A
1	0	517	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	544	U
1	0	553	C
1	0	554	U
1	0	555	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	581	A
1	0	583	C
1	0	584	A
1	0	587	A
1	0	595	A
1	0	601	A
1	0	602	C
1	0	613	A
1	0	617	U
1	0	624	A
1	0	631	G
1	0	632	A
1	0	633	G
1	0	636	G
1	0	638	A
1	0	639	G
1	0	648	A
1	0	652	C
1	0	654	A
1	0	655	A
1	0	657	A
1	0	665	A
1	0	666	U

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Mol	Chain	Res	Type
1	0	667	U
1	0	669	G
1	0	683	A
1	0	684	C
1	0	685	U
1	0	699	G
1	0	700	C
1	0	728	G
1	0	742	G
1	0	743	A
1	0	752	G
1	0	760	U
1	0	761	G
1	0	766	A
1	0	774	A
1	0	775	U
1	0	776	G
1	0	778	G
1	0	789	G
1	0	790	A
1	0	794	A
1	0	795	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	801	A
1	0	802	A
1	0	803	C
1	0	805	G
1	0	806	A
1	0	807	A
1	0	813	A
1	0	814	G
1	0	815	A
1	0	818	G
1	0	819	C
1	0	824	U
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G

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Mol	Chain	Res	Type
1	0	844	G
1	0	859	U
1	0	872	G
1	0	874	A
1	0	879	A
1	0	880	C
1	0	912	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	942	U
1	0	943	U
1	0	944	A
1	0	952	A
1	0	955	G
1	0	956	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	985	G
1	0	994	A
1	0	996	C
1	0	1000	G
1	0	1001	A
1	0	1005	U
1	0	1006	C
1	0	1007	A
1	0	1018	C
1	0	1019	U
1	0	1022	A
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1034	U
1	0	1036	G

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Mol	Chain	Res	Type
1	0	1037	U
1	0	1044	U
1	0	1045	G
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1058	G
1	0	1060	C
1	0	1067	G
1	0	1072	U
1	0	1073	G
1	0	1074	G
1	0	1081	A
1	0	1082	G
1	0	1087	C
1	0	1099	A
1	0	1123	G
1	0	1137	A
1	0	1138	A
1	0	1140	A
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1149	G
1	0	1152	C
1	0	1154	A
1	0	1155	G
1	0	1160	C
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1185	C
1	0	1187	A
1	0	1189	G
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1220	G
1	0	1224	A
1	0	1225	G
1	0	1233	A

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Mol	Chain	Res	Type
1	0	1234	C
1	0	1240	G
1	0	1250	A
1	0	1251	G
1	0	1253	C
1	0	1260	A
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1265	G
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1280	U
1	0	1284	G
1	0	1285	A
1	0	1288	A
1	0	1289	A
1	0	1300	A
1	0	1302	C
1	0	1314	A
1	0	1316	G
1	0	1324	G
1	0	1326	U
1	0	1334	A
1	0	1338	G
1	0	1339	U
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1354	A
1	0	1355	A
1	0	1356	G
1	0	1358	C
1	0	1359	G
1	0	1381	G
1	0	1391	A
1	0	1392	U
1	0	1397	A

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Mol	Chain	Res	Type
1	0	1398	G
1	0	1409	U
1	0	1411	C
1	0	1433	A
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1460	G
1	0	1465	G
1	0	1466	C
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
1	0	1474	A
1	0	1475	U
1	0	1476	G
1	0	1482	U
1	0	1489	C
1	0	1490	U
1	0	1496	G
1	0	1497	C
1	0	1498	G
1	0	1505	U
1	0	1508	G
1	0	1513	U
1	0	1514	C
1	0	1524	C
1	0	1529	C
1	0	1532	A
1	0	1544	A
1	0	1552	C
1	0	1553	G
1	0	1570	C
1	0	1571	G
1	0	1573	G
1	0	1574	A
1	0	1575	C
1	0	1583	A
1	0	1584	G
1	0	1585	A

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Mol	Chain	Res	Type
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1627	C
1	0	1631	C
1	0	1632	A
1	0	1633	C
1	0	1634	A
1	0	1635	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1661	C
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1673	C
1	0	1680	U
1	0	1685	A
1	0	1686	A
1	0	1687	C
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1709	U
1	0	1711	C
1	0	1712	G
1	0	1715	A
1	0	1716	G
1	0	1717	A
1	0	1724	C
1	0	1733	U
1	0	1734	C
1	0	1747	G
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G

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Mol	Chain	Res	Type
1	0	1764	A
1	0	1771	A
1	0	1772	C
1	0	1773	C
1	0	1775	A
1	0	1776	A
1	0	1777	A
1	0	1778	U
1	0	1791	C
1	0	1792	C
1	0	1793	A
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1806	G
1	0	1807	A
1	0	1808	C
1	0	1811	A
1	0	1812	U
1	0	1821	A
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G
1	0	1897	C
1	0	1919	A
1	0	1920	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1947	G
1	0	1948	C
1	0	1949	A
1	0	1950	C
1	0	1953	A
1	0	1954	A
1	0	1955	G
1	0	1956	G

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Mol	Chain	Res	Type
1	0	1957	C
1	0	1964	A
1	0	1976	U
1	0	1978	U
1	0	1979	C
1	0	1980	A
1	0	2003	A
1	0	2004	U
1	0	2005	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2029	G
1	0	2034	A
1	0	2035	G
1	0	2038	C
1	0	2039	G
1	0	2044	G
1	0	2045	A
1	0	2050	G
1	0	2051	U
1	0	2052	G
1	0	2059	U
1	0	2060	A
1	0	2075	U
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	2172	U
1	0	2183	C
1	0	2189	A
1	0	2191	A
1	0	2192	U
1	0	2195	C

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Mol	Chain	Res	Type
1	0	2199	C
1	0	2204	A
1	0	2205	C
1	0	2217	G
1	0	2218	G
1	0	2229	G
1	0	2238	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2248	A
1	0	2255	G
1	0	2262	C
1	0	2265	A
1	0	2266	A
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2306	A
1	0	2313	G
1	0	2314	A
1	0	2315	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2329	C
1	0	2340	C
1	0	2351	G
1	0	2361	G
1	0	2362	G
1	0	2364	C
1	0	2381	A
1	0	2382	C
1	0	2385	U
1	0	2386	G
1	0	2396	C

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Mol	Chain	Res	Type
1	0	2402	U
1	0	2404	A
1	0	2405	A
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2418	A
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2429	A
1	0	2448	A
1	0	2449	G
1	0	2453	C
1	0	2455	A
1	0	2470	U
1	0	2477	C
1	0	2481	G
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2486	C
1	0	2492	G
1	0	2497	A
1	0	2498	U
1	0	2499	C
1	0	2504	G
1	0	2521	A
1	0	2522	G
1	0	2545	A
1	0	2546	G
1	0	2551	A
1	0	2552	C
1	0	2561	G
1	0	2564	U
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C

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Mol	Chain	Res	Type
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2662	C
1	0	2668	U
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2694	G
1	0	2699	G
1	0	2705	A
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A
1	0	2731	G
1	0	2732	C
1	0	2736	U
1	0	2737	A
1	0	2738	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2759	U
1	0	2760	G
1	0	2761	A
1	0	2762	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G
1	0	2783	U
1	0	2784	A
1	0	2795	A

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Mol	Chain	Res	Type
1	0	2796	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
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	2861	A
1	0	2864	C
1	0	2866	A
1	0	2867	G
1	0	2868	G

All (184) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	5	A
1	0	13	A
1	0	27	G
1	0	48	A
1	0	50	G
1	0	69	G
1	0	71	A
1	0	73	A
1	0	83	A
1	0	117	A
1	0	118	U
1	0	123	A
1	0	173	A
1	0	176	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	218	A
1	0	219	G
1	0	312	G
1	0	322	A
1	0	332	C
1	0	333	A

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Mol	Chain	Res	Type
1	0	334	G
1	0	340	G
1	0	342	G
1	0	399	G
1	0	403	A
1	0	434	C
1	0	454	G
1	0	458	G
1	0	460	U
1	0	466	A
1	0	469	G
1	0	485	G
1	0	490	A
1	0	513	A
1	0	516	G
1	0	540	G
1	0	541	C
1	0	571	U
1	0	580	A
1	0	582	G
1	0	583	C
1	0	612	G
1	0	631	G
1	0	682	G
1	0	683	A
1	0	698	A
1	0	699	G
1	0	741	G
1	0	760	U
1	0	765	C
1	0	775	U
1	0	777	A
1	0	789	G
1	0	795	A
1	0	797	A
1	0	801	A
1	0	805	G
1	0	814	G
1	0	843	G
1	0	871	U
1	0	956	A
1	0	968	C

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Mol	Chain	Res	Type
1	0	972	C
1	0	984	A
1	0	985	G
1	0	1000	G
1	0	1033	G
1	0	1137	A
1	0	1139	A
1	0	1141	U
1	0	1142	G
1	0	1154	A
1	0	1167	A
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1233	A
1	0	1249	G
1	0	1260	A
1	0	1261	G
1	0	1263	G
1	0	1264	C
1	0	1265	G
1	0	1266	G
1	0	1278	A
1	0	1279	G
1	0	1301	U
1	0	1313	U
1	0	1314	A
1	0	1315	A
1	0	1325	U
1	0	1337	G
1	0	1338	G
1	0	1342	U
1	0	1345	G
1	0	1354	A
1	0	1355	A
1	0	1391	A
1	0	1442	C
1	0	1474	A
1	0	1495	G
1	0	1582	A
1	0	1626	A
1	0	1632	A

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Mol	Chain	Res	Type
1	0	1633	C
1	0	1634	A
1	0	1651	U
1	0	1664	G
1	0	1684	G
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1698	C
1	0	1710	U
1	0	1711	C
1	0	1716	G
1	0	1723	U
1	0	1749	G
1	0	1771	A
1	0	1772	C
1	0	1775	A
1	0	1790	G
1	0	1791	C
1	0	1820	G
1	0	1923	U
1	0	1926	U
1	0	1938	U
1	0	1963	G
1	0	1975	G
1	0	2004	U
1	0	2005	U
1	0	2015	G
1	0	2016	A
1	0	2018	G
1	0	2034	A
1	0	2050	G
1	0	2059	U
1	0	2093	G
1	0	2161	C
1	0	2191	A
1	0	2204	A
1	0	2228	U
1	0	2245	A
1	0	2261	G
1	0	2312	A
1	0	2325	A

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Mol	Chain	Res	Type
1	0	2404	A
1	0	2408	G
1	0	2418	A
1	0	2426	G
1	0	2427	A
1	0	2428	U
1	0	2437	G
1	0	2469	G
1	0	2476	A
1	0	2482	A
1	0	2496	C
1	0	2497	A
1	0	2498	U
1	0	2521	A
1	0	2545	A
1	0	2551	A
1	0	2560	G
1	0	2564	U
1	0	2589	C
1	0	2592	U
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2633	A
1	0	2660	C
1	0	2693	U
1	0	2706	U
1	0	2758	A
1	0	2759	U
1	0	2760	G
1	0	2823	G
1	0	2824	C
1	0	2841	U
1	0	2848	A
1	0	2867	G

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	G19	0	2881	-	35,39,39	4.41	14 (40%)	49,62,62	2.61	19 (38%)

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
3	G19	0	2881	-	-	0/15/79/79	0/4/4/4

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	0	2881	G19	C7-C8	18.74	1.58	1.32
3	0	2881	G19	C5-C14	9.03	1.63	1.56
3	0	2881	G19	C12-C11	8.62	1.64	1.55
3	0	2881	G19	C10-C11	7.09	1.63	1.56
3	0	2881	G19	O3-C21	5.55	1.45	1.35
3	0	2881	G19	C9-C8	3.98	1.58	1.51
3	0	2881	G19	C26-N3	3.32	1.38	1.33
3	0	2881	G19	C22-N1	-3.05	1.32	1.37
3	0	2881	G19	C5-C6	2.69	1.62	1.56
3	0	2881	G19	C25-C24	2.56	1.43	1.38
3	0	2881	G19	C24-C23	2.34	1.43	1.39
3	0	2881	G19	C13-C12	2.19	1.59	1.55
3	0	2881	G19	C6-C7	2.14	1.55	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	0	2881	G19	C13-C14	2.07	1.56	1.53

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	0	2881	G19	C18-C12-C11	7.50	113.29	108.16
3	0	2881	G19	O3-C21-N1	6.24	117.46	107.97
3	0	2881	G19	O3-C21-O4	-5.48	116.49	124.55
3	0	2881	G19	C14-O3-C21	4.81	123.79	116.87
3	0	2881	G19	C9-C10-C11	4.71	116.85	112.46
3	0	2881	G19	C6-C7-C8	-4.70	115.16	125.22
3	0	2881	G19	C17-C10-C11	-3.94	109.02	112.20
3	0	2881	G19	O6-C22-N1	3.64	127.58	122.27
3	0	2881	G19	C25-C26-N3	-3.61	118.50	123.82
3	0	2881	G19	C24-C23-C22	3.32	124.95	119.57
3	0	2881	G19	C4-C9-C10	-3.16	111.40	116.08
3	0	2881	G19	O2-C11-C10	2.87	114.66	110.91
3	0	2881	G19	C26-N3-N2	2.63	122.58	119.08
3	0	2881	G19	C1-C2-C3	2.61	106.88	102.92
3	0	2881	G19	O6-C22-C23	-2.40	115.77	121.08
3	0	2881	G19	C9-C1-C2	2.26	108.78	105.73
3	0	2881	G19	C24-C23-N2	-2.25	119.55	122.26
3	0	2881	G19	C16-C6-C7	-2.23	104.77	109.92
3	0	2881	G19	O5-C2-C1	-2.10	107.78	112.81

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

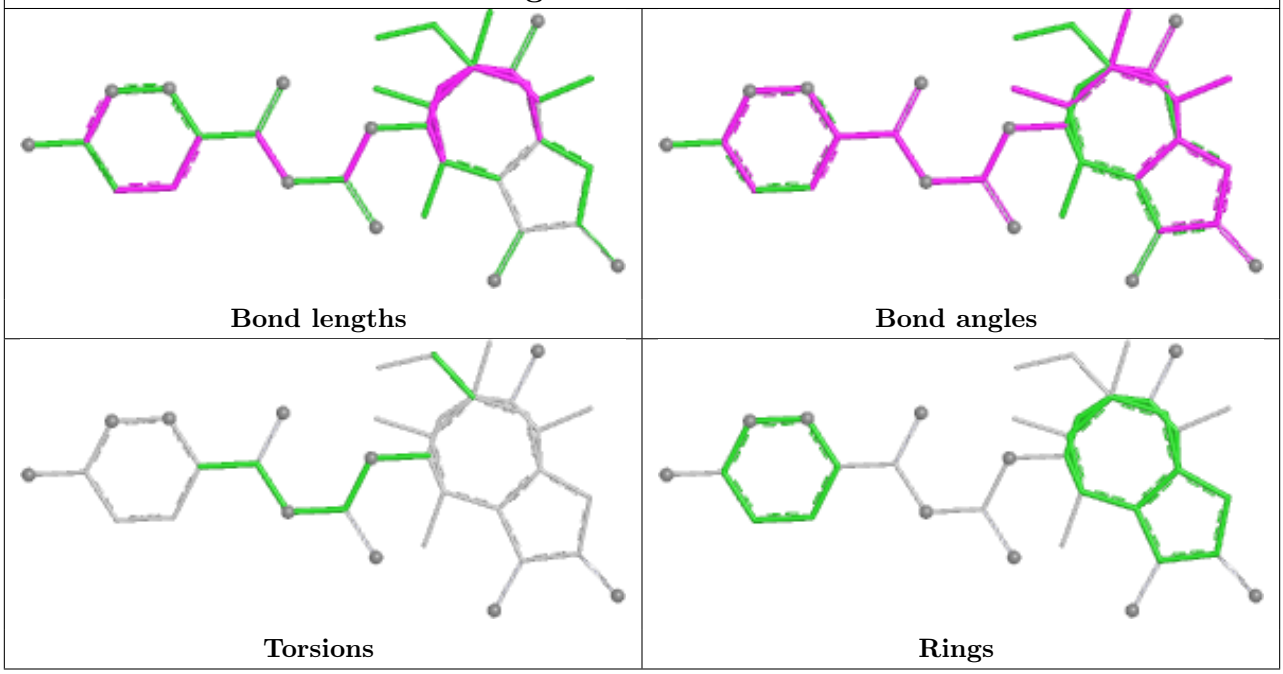
1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	0	2881	G19	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the

average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand G19 0 2881



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 (i)

6.1 Protein, DNA and RNA chains (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

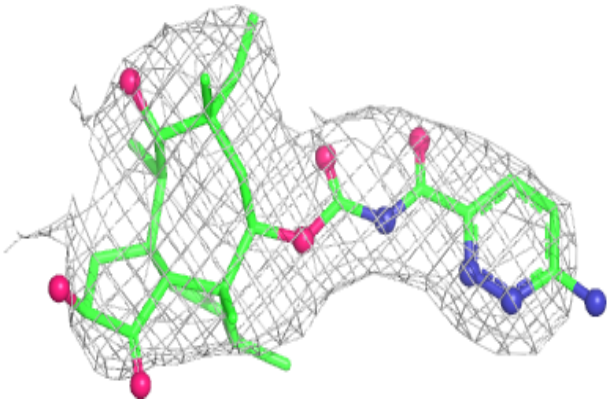
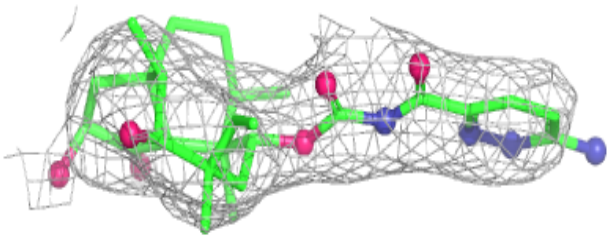
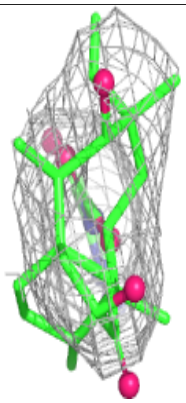
6.3 Carbohydrates (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands (i)

Unable to reproduce the depositors R factor - this section is therefore empty.

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around G19 0 2881: $2mF_o$-DF_c (at 0.7 rmsd) in gray mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)	
	

6.5 Other polymers (i)

Unable to reproduce the depositors R factor - this section is therefore empty.