



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 8, 2023 – 10:43 AM EDT

PDB ID : 1OND
Title : THE CRYSTAL STRUCTURE OF THE 50S LARGE RIBOSOMAL SUB-UNIT FROM DEINOCOCCUS RADIODURANS COMPLEXED WITH TROLEANDOMYCIN MACROLIDE ANTIBIOTIC
Authors : Berisio, R.; Schlutzen, F.; Harms, J.; Bashan, A.; Auerbach, T.; Baram, D.; Yonath, A.
Deposited on : 2003-02-27
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

The following versions of software and data (see [references](#) ①) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : 2.35
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) : 2.35

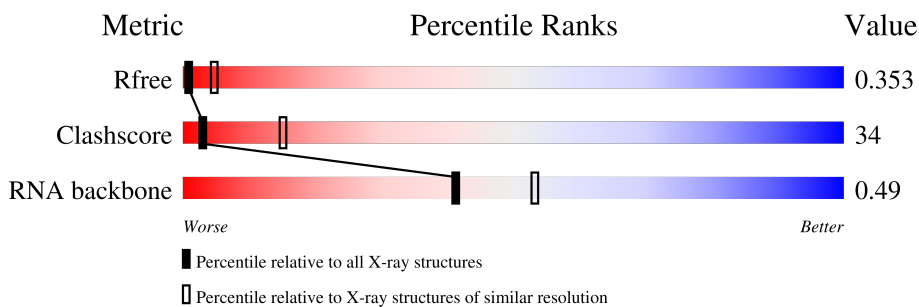
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.40 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	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
RNA backbone	3102	1006 (3.84-2.96)

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

Mol	Chain	Length	Quality of chain
1	0	2880	
2	Q	134	
3	Z	60	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	TAO	0	2881	-	X	X	-

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 59581 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	2765	59336	26469	10944	19159	2764	0	0	0

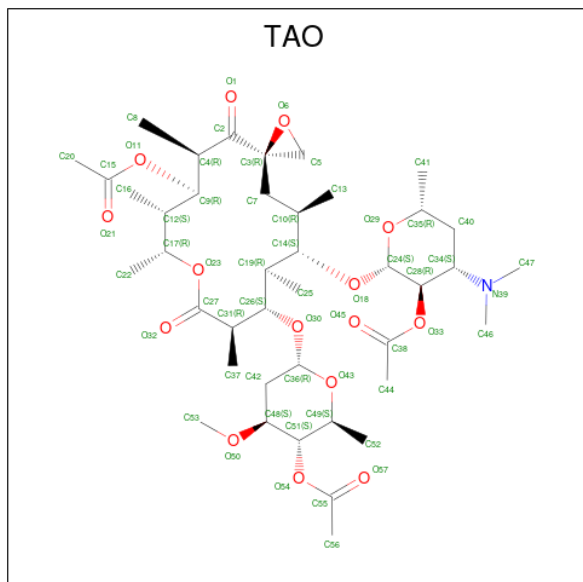
- Molecule 2 is a protein called 50S ribosomal protein L22.

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

- Molecule 3 is a protein called 50S ribosomal protein L32.

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

- Molecule 4 is TROLEANDOMYCIN (three-letter code: TAO) (formula: C₄₁H₆₇NO₁₅).

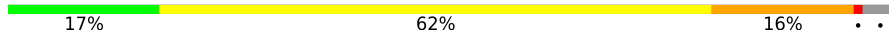


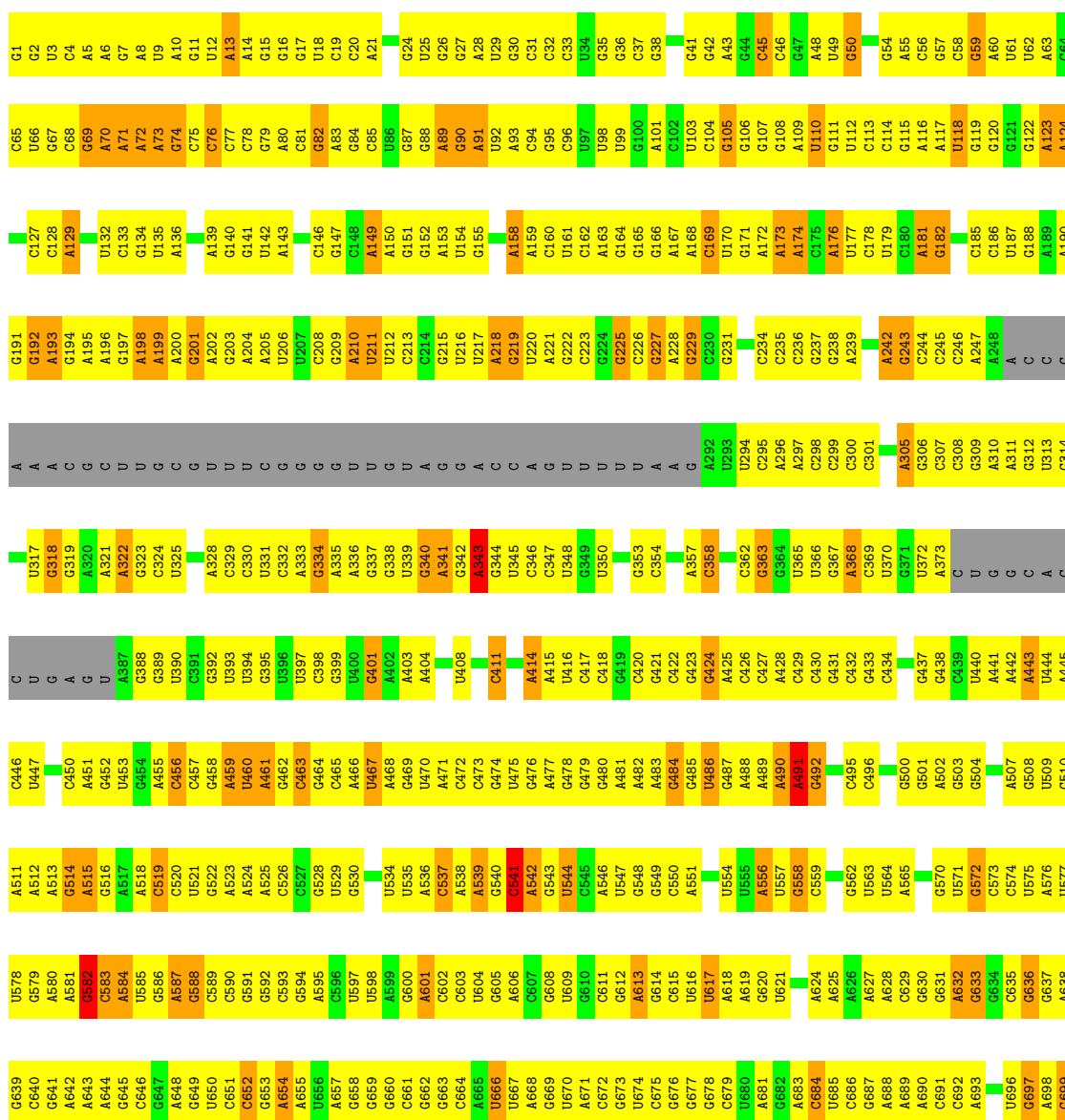
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
4	0	1	57	41	1	15	0	0

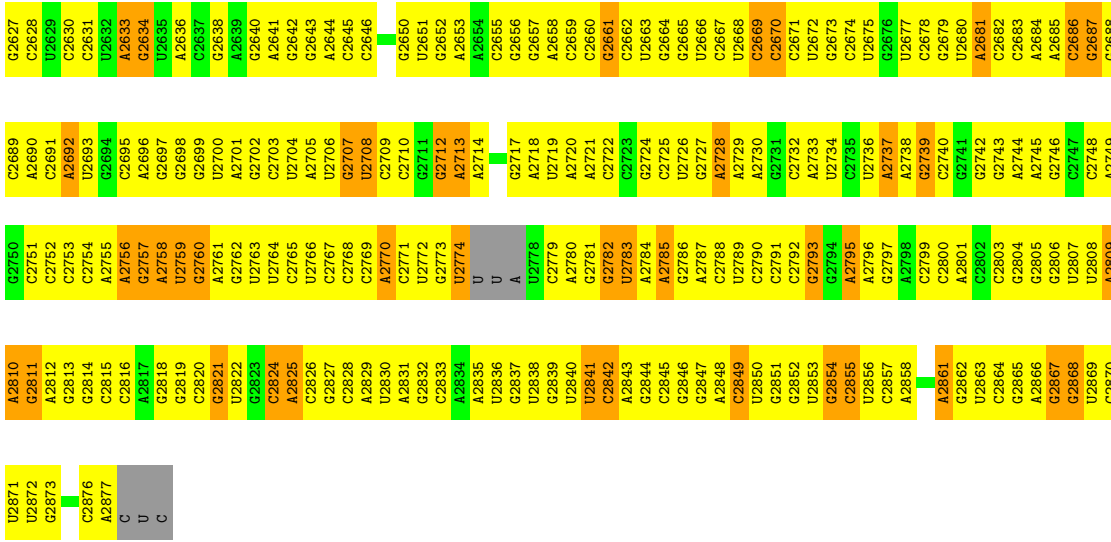
3 Residue-property plots i

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.

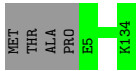
- Molecule 1: 23S RIBOSOMAL RNA

Chain 0:  17% 62% 16% ..

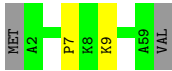




• Molecule 2: 50S ribosomal protein L22



• Molecule 3: 50S ribosomal protein L32



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	170.25Å 411.09Å 695.34Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 3.40 20.02 – 3.40	Depositor EDS
% Data completeness (in resolution range)	(Not available) (8.00-3.40) 88.0 (20.02-3.40)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.62 (at 3.36Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.261 , 0.310 0.352 , 0.353	Depositor DCC
R_{free} test set	14435 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	69.2	Xtrriage
Anisotropy	0.502	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.13 , 23.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.44$, $\langle L^2 \rangle = 0.27$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.75	EDS
Total number of atoms	59581	wwPDB-VP
Average B, all atoms (Å ²)	42.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.19% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: TAO

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	0.83	17/66440 (0.0%)	0.75	34/103628 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	47

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	1549	C	N1-C2	11.30	1.51	1.40
1	0	1549	C	N3-C4	9.79	1.40	1.33
1	0	929	A	N1-C2	8.60	1.42	1.34
1	0	1149	G	C6-O6	-8.38	1.16	1.24
1	0	1549	C	C2-O2	7.25	1.30	1.24
1	0	2590	U	O3'-P	-6.95	1.52	1.61
1	0	1554	G	N1-C2	6.55	1.43	1.37
1	0	1555	A	C5-C6	6.11	1.46	1.41
1	0	1549	C	C4-C5	5.78	1.47	1.43
1	0	1646	G	C5-C6	-5.67	1.36	1.42
1	0	873	U	C2-N3	5.43	1.41	1.37
1	0	1547	U	N1-C2	5.41	1.43	1.38
1	0	2543	A	C5-C6	-5.36	1.36	1.41
1	0	700	C	N1-C2	5.22	1.45	1.40
1	0	1016	C	N1-C2	5.22	1.45	1.40
1	0	1711	C	N1-C2	5.22	1.45	1.40
1	0	1619	A	C6-N6	-5.16	1.29	1.33

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2590	U	P-O3'-C3'	-9.16	108.70	119.70
1	0	633	G	N3-C2-N2	7.30	125.01	119.90
1	0	2591	C	OP1-P-OP2	-6.77	109.45	119.60
1	0	2428	U	N1-C1'-C2'	6.61	122.60	114.00
1	0	459	A	N9-C1'-C2'	6.53	122.49	114.00
1	0	2587	G	OP1-P-OP2	-6.48	109.89	119.60
1	0	1016	C	N3-C2-O2	-6.47	117.37	121.90
1	0	2660	C	N1-C1'-C2'	6.27	122.15	114.00
1	0	633	G	N1-C2-N2	-6.20	110.62	116.20
1	0	1016	C	N1-C2-O2	6.15	122.59	118.90
1	0	2588	U	OP1-P-OP2	-6.09	110.46	119.60
1	0	1264	C	N1-C1'-C2'	5.93	121.70	114.00
1	0	2589	C	OP1-P-OP2	-5.91	110.73	119.60
1	0	2588	U	C4'-C3'-C2'	5.79	108.39	102.60
1	0	2587	G	P-O3'-C3'	-5.77	112.78	119.70
1	0	2590	U	OP1-P-OP2	-5.71	111.03	119.60
1	0	1618	U	C5'-C4'-O4'	-5.70	102.26	109.10
1	0	1549	C	C2-N3-C4	-5.65	117.07	119.90
1	0	1149	G	N1-C6-O6	-5.56	116.57	119.90
1	0	1279	G	N9-C1'-C2'	5.51	121.17	114.00
1	0	1342	U	N1-C1'-C2'	5.45	121.09	114.00
1	0	1549	C	N1-C2-O2	5.38	122.13	118.90
1	0	2418	A	N9-C1'-C2'	5.34	120.94	114.00
1	0	2591	C	C6-N1-C2	5.31	122.42	120.30
1	0	2590	U	O4'-C4'-C3'	-5.26	98.74	104.00
1	0	2586	G	P-O3'-C3'	5.17	125.90	119.70
1	0	1347	C	N1-C1'-C2'	-5.12	106.37	112.00
1	0	2587	G	C3'-C2'-C1'	-5.10	97.42	101.50
1	0	2363	G	N9-C1'-C2'	5.08	120.60	114.00
1	0	765	C	O4'-C1'-N1	5.04	112.23	108.20
1	0	788	G	N9-C1'-C2'	5.04	120.55	114.00
1	0	2521	A	N9-C1'-C2'	5.03	120.54	114.00
1	0	2590	U	N1-C1'-C2'	-5.02	106.48	112.00
1	0	1549	C	N3-C4-C5	5.01	123.91	121.90

There are no chirality outliers.

All (47) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1149	G	Sidechain
1	0	1249	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1264	C	Sidechain
1	0	1265	G	Sidechain
1	0	1322	G	Sidechain
1	0	1342	U	Sidechain
1	0	1345	G	Sidechain
1	0	1471	G	Sidechain
1	0	1619	A	Sidechain
1	0	1674	C	Sidechain
1	0	1682	A	Sidechain
1	0	1723	U	Sidechain
1	0	1766	U	Sidechain
1	0	1791	C	Sidechain
1	0	1811	A	Sidechain
1	0	1938	U	Sidechain
1	0	1963	G	Sidechain
1	0	2036	G	Sidechain
1	0	2043	A	Sidechain
1	0	211	U	Sidechain
1	0	2249	U	Sidechain
1	0	2251	U	Sidechain
1	0	2255	G	Sidechain
1	0	2369	U	Sidechain
1	0	2501	U	Sidechain
1	0	2513	A	Sidechain
1	0	2608	A	Sidechain
1	0	2686	C	Sidechain
1	0	2687	G	Sidechain
1	0	2708	U	Sidechain
1	0	2719	U	Sidechain
1	0	2739	G	Sidechain
1	0	2821	G	Sidechain
1	0	343	A	Sidechain
1	0	470	U	Sidechain
1	0	491	A	Sidechain
1	0	535	U	Sidechain
1	0	541	C	Sidechain
1	0	582	G	Sidechain
1	0	759	C	Sidechain
1	0	788	G	Sidechain
1	0	792	U	Sidechain
1	0	804	C	Sidechain
1	0	82	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	871	U	Sidechain
1	0	950	G	Sidechain
1	0	994	A	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	59336	0	29907	3024	0
2	Q	130	0	0	0	0
3	Z	58	0	0	4	0
4	0	57	0	67	22	0
All	All	59581	0	29974	3039	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 34.

All (3039) 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)
4:0:2881:TAO:C31	4:0:2881:TAO:C26	1.82	1.56
4:0:2881:TAO:O18	4:0:2881:TAO:C24	1.65	1.41
1:0:2058:U:H1'	1:0:2576:G:H21	1.09	1.17
1:0:1458:A:H3'	1:0:1459:U:C5'	1.74	1.17
1:0:362:C:H2'	1:0:363:G:H4'	1.29	1.15
1:0:2548:G:H2'	1:0:2549:G:H5''	1.17	1.15
1:0:1900:U:O2'	1:0:1946:U:H5'	1.48	1.13
1:0:918:A:H2'	1:0:919:U:H5''	1.30	1.13
1:0:2299:A:H5'	1:0:2300:G:C4	1.85	1.11
1:0:2548:G:C2'	1:0:2549:G:H5''	1.81	1.11
1:0:1458:A:H3'	1:0:1459:U:H5''	1.24	1.10
1:0:2266:A:N6	1:0:2323:U:H1'	1.64	1.10
1:0:1679:U:H2'	1:0:1680:U:H5''	1.22	1.09
1:0:2014:A:H62	1:0:2477:C:H1'	1.16	1.08
1:0:1976:U:H2'	1:0:1977:C:H5'	1.31	1.07
1:0:1908:C:H2'	1:0:1909:U:H4'	1.28	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2081:U:H2'	1:0:2082:C:H5''	1.36	1.06
1:0:940:G:H3'	1:0:941:U:C5'	1.86	1.04
1:0:104:C:H2'	1:0:105:G:H5''	1.36	1.04
1:0:2059:U:H2'	1:0:2060:A:H5''	1.41	1.03
1:0:1073:G:H2'	1:0:1074:G:H4'	1.36	1.03
1:0:1774:A:H5'	1:0:2587:G:H4'	1.39	1.02
1:0:940:G:H3'	1:0:941:U:H5''	1.06	1.02
1:0:1621:C:H4'	1:0:1626:A:C6	1.95	1.02
1:0:1679:U:C2'	1:0:1680:U:H5''	1.90	1.02
1:0:847:C:H41	1:0:955:G:H21	1.01	1.00
1:0:1921:A:H2'	1:0:1922:U:H5''	1.39	1.00
1:0:857:U:H2'	1:0:858:G:H5'	1.44	0.99
1:0:1280:U:H3	1:0:1996:A:H62	1.04	0.99
1:0:2270:U:O2'	1:0:2353:G:H1'	1.63	0.99
1:0:2691:C:H3'	1:0:2692:A:H5''	1.43	0.98
1:0:616:U:H2'	1:0:617:U:H5''	1.45	0.98
1:0:2761:A:H5''	1:0:2762:G:H5'	1.45	0.98
1:0:976:C:H5'	1:0:2252:A:H1'	1.44	0.98
1:0:716:U:H2'	1:0:717:G:O4'	1.65	0.97
1:0:2498:U:H5''	1:0:2499:C:OP1	1.62	0.97
1:0:941:U:H2'	1:0:942:U:O4'	1.65	0.96
1:0:1463:A:H1'	1:0:1543:G:H22	1.31	0.95
1:0:2266:A:H61	1:0:2323:U:H1'	1.18	0.95
1:0:688:A:H62	1:0:816:U:H3	1.14	0.94
1:0:1748:U:H3	1:0:1753:A:H2	1.00	0.93
1:0:103:U:H2'	1:0:104:C:C6	2.02	0.93
1:0:2414:A:H2'	1:0:2415:G:H5''	1.50	0.93
1:0:590:C:H2'	1:0:591:G:C8	2.03	0.93
1:0:2755:A:O2'	1:0:2756:A:H5'	1.69	0.93
1:0:1900:U:H3'	1:0:1901:A:H8	1.31	0.92
1:0:1313:U:H1'	1:0:1642:G:N2	1.84	0.92
1:0:940:G:C3'	1:0:941:U:H5''	1.98	0.91
1:0:1088:A:H2'	1:0:1089:C:O4'	1.71	0.91
1:0:2636:A:H62	1:0:2643:G:H21	1.17	0.91
1:0:468:A:O2'	1:0:469:G:H4'	1.71	0.91
1:0:2262:C:H2'	1:0:2263:C:O4'	1.70	0.91
1:0:1900:U:H3'	1:0:1901:A:C8	2.06	0.91
1:0:2015:G:H22	1:0:2038:C:H1'	1.35	0.91
1:0:75:C:H2'	1:0:76:C:H5''	1.51	0.91
1:0:2038:C:H2'	1:0:2483:U:H4'	1.50	0.91
1:0:2469:G:H5''	1:0:2470:U:OP1	1.72	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1900:U:H2'	1:0:1901:A:O4'	1.70	0.90
1:0:2569:A:H2'	1:0:2570:C:H6	1.36	0.90
1:0:841:G:H2'	1:0:842:A:C8	2.05	0.90
1:0:460:U:N3	1:0:592:G:H1'	1.87	0.90
1:0:2770:A:H4'	1:0:2867:G:H22	1.35	0.90
1:0:109:A:H2'	1:0:110:U:H5''	1.52	0.90
1:0:2633:A:H61	1:0:2646:C:N4	1.69	0.90
1:0:58:C:H3'	1:0:59:G:H5''	1.51	0.90
1:0:1463:A:H1'	1:0:1543:G:N2	1.85	0.90
1:0:929:A:H3'	1:0:930:A:H5''	1.52	0.89
1:0:1267:A:H5''	1:0:1268:U:O5'	1.72	0.89
1:0:317:U:H2'	1:0:318:G:H5''	1.55	0.89
1:0:699:G:H5'	1:0:700:C:OP2	1.70	0.89
1:0:1922:U:O2	1:0:2571:G:H5'	1.72	0.89
1:0:652:C:H42	1:0:657:A:H61	1.18	0.89
1:0:2509:A:H2'	1:0:2510:A:H5''	1.54	0.89
1:0:2811:G:H2'	1:0:2812:A:C8	2.08	0.89
1:0:759:C:H1'	1:0:761:G:H21	1.38	0.89
1:0:1202:U:H2'	1:0:1203:A:H8	1.37	0.89
1:0:1549:C:N4	1:0:1554:G:O6	2.06	0.89
1:0:2014:A:N6	1:0:2477:C:H1'	1.87	0.88
1:0:2437:G:N1	1:0:2469:G:H2'	1.88	0.88
1:0:83:A:N1	1:0:98:U:H1'	1.88	0.88
1:0:2616:U:H2'	1:0:2617:G:O4'	1.74	0.88
1:0:2811:G:H2'	1:0:2812:A:H8	1.37	0.88
1:0:1312:G:H5'	1:0:1314:A:H1'	1.54	0.88
1:0:1618:U:C5	1:0:1618:U:OP2	2.26	0.88
1:0:1791:C:H2'	1:0:1792:C:H5''	1.53	0.88
1:0:1438:G:H2'	1:0:1439:G:O4'	1.73	0.88
1:0:2096:U:H2'	1:0:2097:A:H5''	1.56	0.88
1:0:215:G:H21	1:0:632:A:H8	1.17	0.87
1:0:1432:G:H21	1:0:1596:A:H62	1.16	0.87
1:0:681:A:H2'	1:0:683:A:N7	1.90	0.87
1:0:1325:U:H4'	1:0:1326:U:C6	2.10	0.87
1:0:2380:U:H2'	1:0:2381:A:H5'	1.54	0.87
1:0:88:G:H3'	1:0:89:A:H5''	1.57	0.87
1:0:2872:U:H2'	1:0:2873:G:C8	2.10	0.87
1:0:2045:A:N1	4:0:2881:TAO:H411	1.88	0.87
1:0:820:U:H2'	1:0:821:A:H8	1.39	0.86
1:0:2713:A:H2'	1:0:2714:A:H8	1.39	0.86
1:0:2836:U:H2'	1:0:2837:G:C8	2.11	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1284:G:N3	1:0:1633:C:H5'	1.91	0.86
1:0:2569:A:H2'	1:0:2570:C:C6	2.09	0.86
1:0:2736:U:O2'	1:0:2737:A:H5'	1.75	0.86
1:0:2594:U:C6	3:Z:7:PRO:CA	2.59	0.86
4:0:2881:TAO:C26	4:0:2881:TAO:H31	2.06	0.86
1:0:2674:C:H2'	1:0:2675:U:H6	1.39	0.86
1:0:357:A:H2'	1:0:358:C:H5'	1.58	0.86
1:0:1445:A:H2'	1:0:1446:U:O4'	1.76	0.86
1:0:2198:U:H3'	1:0:2199:C:H5''	1.57	0.86
1:0:2476:A:O2'	1:0:2477:C:H5	1.59	0.85
1:0:1252:C:C2'	1:0:1253:C:H5''	2.07	0.85
1:0:635:C:H2'	1:0:636:G:H5''	1.56	0.85
1:0:2617:G:HO2'	1:0:2618:A:H8	1.25	0.85
1:0:556:A:H2'	1:0:557:U:H5'	1.57	0.85
1:0:1715:A:O2'	1:0:1716:G:H3'	1.77	0.85
1:0:1804:U:H2'	1:0:1805:G:H8	1.41	0.85
1:0:1976:U:C2'	1:0:1977:C:H5'	2.06	0.84
1:0:1459:U:H2'	1:0:1475:U:O2'	1.77	0.84
1:0:1474:A:H3'	1:0:1474:A:N3	1.92	0.84
1:0:28:A:H61	1:0:522:G:H4'	1.42	0.84
1:0:1242:A:H2'	1:0:1243:G:C8	2.11	0.84
1:0:792:U:C2'	1:0:793:G:H5'	2.08	0.84
1:0:2672:U:H2'	1:0:2673:G:H8	1.43	0.84
1:0:2315:A:O2'	1:0:2364:C:H5''	1.78	0.83
1:0:1252:C:H2'	1:0:1253:C:H5''	1.60	0.83
1:0:1656:U:C2'	1:0:1657:A:H5''	2.08	0.83
1:0:509:U:H2'	1:0:510:G:H5'	1.58	0.83
1:0:918:A:C2'	1:0:919:U:H5''	2.07	0.83
1:0:1763:G:N2	1:0:1765:C:H5''	1.93	0.83
1:0:2555:G:H3'	1:0:2555:G:OP1	1.79	0.83
1:0:922:A:H2'	1:0:923:A:C8	2.14	0.83
1:0:460:U:H3	1:0:592:G:H1'	1.43	0.83
1:0:871:U:O2	1:0:2247:A:H2'	1.77	0.83
1:0:652:C:H42	1:0:657:A:N6	1.76	0.83
1:0:1299:A:H2'	1:0:1301:U:OP2	1.79	0.83
1:0:2437:G:H2'	1:0:2469:G:H1	1.44	0.82
1:0:1181:C:H3'	1:0:1182:U:H5''	1.58	0.82
1:0:321:A:H2'	1:0:323:G:N7	1.93	0.82
1:0:558:G:H5''	1:0:559:C:C5	2.14	0.82
1:0:2437:G:H2'	1:0:2469:G:N1	1.94	0.82
1:0:1304:U:O2'	1:0:1305:C:H5'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:170:U:H2'	1:0:171:G:H8	1.42	0.82
1:0:547:U:H2'	1:0:548:G:C8	2.14	0.82
1:0:659:G:H2'	1:0:660:G:H8	1.43	0.82
1:0:1055:A:C2	1:0:1121:G:H2'	2.15	0.82
1:0:2058:U:H1'	1:0:2576:G:N2	1.92	0.82
1:0:2836:U:H2'	1:0:2837:G:H8	1.45	0.82
1:0:942:U:O2'	1:0:943:U:H5'	1.79	0.82
1:0:109:A:C2'	1:0:110:U:H5''	2.10	0.82
1:0:1319:C:H2'	1:0:1320:A:H8	1.43	0.82
1:0:2510:A:H61	1:0:2641:A:H61	1.27	0.82
1:0:367:G:H2'	1:0:368:A:H5''	1.62	0.81
1:0:2318:U:H2'	1:0:2319:G:H8	1.42	0.81
4:0:2881:TAO:H421	4:0:2881:TAO:H373	1.59	0.81
1:0:813:A:HO2'	1:0:814:G:H8	1.25	0.81
1:0:1182:U:H2'	1:0:1183:C:H5''	1.60	0.81
1:0:50:G:H2'	1:0:117:A:C2	2.15	0.81
1:0:1710:U:H3	1:0:1821:A:H61	1.25	0.81
1:0:1949:A:O2'	1:0:2572:U:H5'	1.80	0.81
1:0:1958:G:H2'	1:0:1959:U:C6	2.15	0.81
1:0:1886:G:H2'	1:0:1887:G:H8	1.45	0.81
1:0:658:G:H4'	1:0:2331:A:H5'	1.61	0.81
1:0:1463:A:C1'	1:0:1543:G:H22	1.94	0.81
1:0:404:A:H1'	1:0:424:G:O2'	1.80	0.81
1:0:1656:U:H2'	1:0:1657:A:H5''	1.62	0.81
1:0:2425:G:H2'	1:0:2480:C:H5	1.46	0.81
1:0:641:G:H4'	1:0:651:C:O2'	1.80	0.80
1:0:1587:A:H2'	1:0:1588:A:C8	2.17	0.80
1:0:734:G:H2'	1:0:735:G:H8	1.44	0.80
1:0:104:C:C2'	1:0:105:G:H5''	2.12	0.80
1:0:1966:C:H4'	1:0:2585:C:H4'	1.63	0.80
1:0:2532:G:C2	1:0:2533:U:H1'	2.17	0.80
1:0:2633:A:H5''	1:0:2634:G:OP1	1.80	0.80
1:0:2781:G:H2'	1:0:2782:G:C1'	2.11	0.80
1:0:681:A:C6	1:0:683:A:H2'	2.17	0.80
1:0:2456:U:H1'	1:0:2460:G:H22	1.46	0.80
1:0:2081:U:C2'	1:0:2082:C:H5''	2.12	0.79
1:0:62:U:H2'	1:0:63:A:C8	2.17	0.79
1:0:2320:G:H2'	1:0:2321:C:O4'	1.80	0.79
1:0:763:A:H2	1:0:765:C:H1'	1.46	0.79
1:0:1608:U:H2'	1:0:1609:G:H8	1.47	0.79
1:0:1698:C:O2'	1:0:1753:A:H2'	1.83	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2447:G:H22	1:0:2460:G:H2'	1.46	0.79
1:0:652:C:N4	1:0:657:A:H61	1.80	0.79
1:0:1727:C:H4'	1:0:2833:C:N3	1.97	0.79
1:0:2474:G:H2'	1:0:2475:C:O4'	1.82	0.79
1:0:1608:U:H2'	1:0:1609:G:C8	2.18	0.79
1:0:1288:A:H62	1:0:1309:G:C4'	1.96	0.79
1:0:727:U:H2'	1:0:728:G:H5''	1.65	0.79
1:0:1690:U:H2'	1:0:1691:G:H5'	1.63	0.79
1:0:2083:G:H2'	1:0:2084:G:C8	2.17	0.79
1:0:2268:G:H5''	1:0:2363:G:O2'	1.83	0.79
1:0:1458:A:C3'	1:0:1459:U:H5''	2.11	0.78
1:0:2708:U:H2'	1:0:2709:C:C6	2.18	0.78
1:0:1348:C:H2'	1:0:1349:A:C8	2.18	0.78
1:0:1791:C:O2'	1:0:1793:A:H5'	1.83	0.78
1:0:1979:C:H6	1:0:1979:C:OP1	1.66	0.78
1:0:1996:A:O2'	1:0:1997:A:H5'	1.84	0.78
4:0:2881:TAO:C31	4:0:2881:TAO:H26	2.06	0.78
1:0:1223:G:N2	1:0:1225:G:H21	1.81	0.78
1:0:2274:C:H2'	1:0:2275:U:H5''	1.63	0.78
1:0:616:U:C2'	1:0:617:U:H5''	2.13	0.78
1:0:1479:G:H2'	1:0:1480:G:H8	1.47	0.78
1:0:547:U:H2'	1:0:548:G:H8	1.47	0.78
1:0:1066:G:H2'	1:0:1067:G:H4'	1.66	0.78
1:0:416:U:H5''	1:0:417:C:H5'	1.64	0.78
1:0:2308:A:H2'	1:0:2309:G:C8	2.19	0.78
1:0:486:U:H4'	1:0:520:C:H5'	1.64	0.78
1:0:659:G:H2'	1:0:660:G:C8	2.19	0.78
1:0:1479:G:H2'	1:0:1480:G:C8	2.19	0.78
1:0:2476:A:HO2'	1:0:2477:C:H5	0.80	0.78
1:0:2588:U:H5'	1:0:2589:C:OP2	1.84	0.78
1:0:2623:A:H2'	1:0:2624:G:O4'	1.84	0.78
1:0:2634:G:H2'	1:0:2643:G:O6	1.83	0.78
1:0:83:A:C2	1:0:98:U:H1'	2.19	0.78
1:0:542:A:H5''	1:0:542:A:H8	1.49	0.78
1:0:2829:A:H2'	1:0:2830:U:O4'	1.84	0.78
1:0:613:A:H2'	1:0:614:G:H8	1.48	0.77
1:0:651:C:H2'	1:0:652:C:H5''	1.65	0.77
1:0:922:A:H2'	1:0:923:A:H8	1.46	0.77
1:0:1288:A:H62	1:0:1309:G:H4'	1.49	0.77
1:0:1921:A:C2'	1:0:1922:U:H5''	2.15	0.77
1:0:2652:G:H2'	1:0:2653:A:H8	1.49	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1763:G:H2'	1:0:1764:A:H4'	1.66	0.77
1:0:1922:U:H1'	1:0:2570:C:O2'	1.83	0.77
1:0:2329:C:H2'	1:0:2330:G:O4'	1.83	0.77
1:0:942:U:C2'	1:0:943:U:H5'	2.15	0.77
1:0:1280:U:H3	1:0:1996:A:N6	1.82	0.77
1:0:2053:G:H2'	1:0:2054:A:C8	2.20	0.77
1:0:792:U:H2'	1:0:793:G:H5'	1.64	0.77
1:0:930:A:H3'	1:0:931:G:C8	2.20	0.77
1:0:2510:A:N6	1:0:2641:A:H61	1.83	0.77
1:0:2783:U:O2'	1:0:2784:A:H4'	1.85	0.77
1:0:1083:C:H42	1:0:1103:C:H41	1.33	0.77
1:0:190:A:H2'	1:0:191:G:C8	2.19	0.77
1:0:70:A:O3'	1:0:71:A:H3'	1.84	0.77
1:0:75:C:C2'	1:0:76:C:H5''	2.15	0.76
1:0:1284:G:C4	1:0:1633:C:H5'	2.20	0.76
1:0:2713:A:H2'	1:0:2714:A:C8	2.19	0.76
1:0:2548:G:H2'	1:0:2549:G:C5'	2.09	0.76
1:0:2059:U:OP2	1:0:2217:G:N2	2.15	0.76
1:0:1994:U:H2'	1:0:1995:G:H5'	1.67	0.76
4:0:2881:TAO:H373	4:0:2881:TAO:C42	2.15	0.76
1:0:1851:A:H61	1:0:1867:A:H1'	1.51	0.76
1:0:2650:G:O2'	1:0:2651:U:H5'	1.84	0.76
1:0:1068:A:H2'	1:0:1069:G:C8	2.20	0.76
1:0:1911:A:H2'	1:0:1912:G:H5'	1.67	0.76
1:0:574:C:H4'	1:0:1266:G:O6	1.85	0.76
1:0:1196:G:C2'	1:0:1197:U:H5'	2.15	0.76
1:0:1976:U:H2'	1:0:1977:C:C5'	2.11	0.76
1:0:462:G:H2'	1:0:463:C:C5'	2.16	0.76
1:0:2437:G:H1	1:0:2469:G:H2'	1.49	0.76
1:0:964:A:H2'	1:0:965:G:H8	1.51	0.76
1:0:185:C:O2'	1:0:186:C:H5'	1.86	0.75
1:0:1139:A:O2'	1:0:2495:G:H4'	1.85	0.75
1:0:2499:C:H41	1:0:2521:A:H2	1.31	0.75
1:0:331:U:H2'	1:0:332:C:H5''	1.68	0.75
1:0:930:A:H3'	1:0:931:G:H8	1.49	0.75
1:0:1032:A:H2'	1:0:1033:G:H4'	1.68	0.75
1:0:699:G:H21	1:0:700:C:H5''	1.51	0.75
1:0:796:A:H5''	1:0:2568:A:OP1	1.85	0.75
1:0:1040:A:H2'	1:0:1041:G:H5'	1.66	0.75
1:0:968:C:H41	1:0:970:A:H1'	1.52	0.75
1:0:2521:A:H5'	1:0:2522:G:OP1	1.86	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1789:U:H2'	1:0:1790:G:H5'	1.69	0.75
1:0:1067:G:H21	1:0:1115:C:N4	1.85	0.75
1:0:1467:U:H3'	1:0:1468:A:C5'	2.16	0.75
1:0:139:A:H2'	1:0:140:G:H8	1.52	0.75
1:0:1287:A:N1	1:0:1661:C:O2'	2.19	0.75
1:0:958:G:H2'	1:0:959:C:C6	2.20	0.75
1:0:1748:U:N3	1:0:1753:A:H2	1.82	0.75
1:0:541:C:H42	1:0:572:G:H8	1.33	0.74
1:0:734:G:H2'	1:0:735:G:C8	2.20	0.74
1:0:2158:C:H2'	1:0:2159:A:H8	1.52	0.74
1:0:2199:C:H2'	1:0:2200:G:C8	2.22	0.74
1:0:2691:C:H3'	1:0:2692:A:C5'	2.16	0.74
1:0:2756:A:N6	1:0:2762:G:H1'	2.01	0.74
1:0:2839:G:H2'	1:0:2840:U:C6	2.22	0.74
1:0:1485:U:H2'	1:0:1486:A:C8	2.22	0.74
1:0:1747:G:H4'	1:0:1749:G:H1'	1.67	0.74
1:0:1695:U:H2'	1:0:1696:C:O4'	1.87	0.74
1:0:759:C:C1'	1:0:761:G:H21	2.00	0.74
1:0:2353:G:H2'	1:0:2354:G:C8	2.23	0.74
1:0:187:U:H2'	1:0:188:G:H8	1.53	0.74
1:0:2782:G:H3'	1:0:2783:U:H5''	1.68	0.74
1:0:1336:G:C2'	1:0:1337:G:H5'	2.18	0.74
1:0:2083:G:H2'	1:0:2084:G:H8	1.53	0.74
1:0:2825:A:H2'	1:0:2826:C:C6	2.23	0.74
1:0:1223:G:H21	1:0:1225:G:H21	1.36	0.74
1:0:1617:G:H2'	1:0:1618:U:H5'	1.68	0.74
1:0:2059:U:H2'	1:0:2060:A:C5'	2.17	0.74
1:0:2861:A:H2'	1:0:2862:G:H8	1.53	0.74
1:0:2674:C:H2'	1:0:2675:U:C6	2.23	0.74
1:0:168:A:H2'	1:0:169:C:C6	2.22	0.73
1:0:953:G:H1'	1:0:1203:A:H2	1.53	0.73
1:0:1825:C:O2'	1:0:1826:U:H5'	1.87	0.73
1:0:2787:A:O2'	1:0:2788:C:H5'	1.88	0.73
1:0:2409:A:C2'	1:0:2410:U:H5'	2.18	0.73
1:0:2557:G:H2'	1:0:2557:G:N3	2.04	0.73
1:0:2608:A:O2'	1:0:2609:G:H5'	1.88	0.73
1:0:103:U:H2'	1:0:104:C:H6	1.48	0.73
1:0:2764:U:H2'	1:0:2765:C:C6	2.22	0.73
1:0:76:C:H6	1:0:76:C:H5'	1.52	0.73
1:0:459:A:H1'	1:0:461:A:N6	2.03	0.73
1:0:1197:U:H2'	1:0:1198:C:O4'	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:37:C:H2'	1:0:38:G:C8	2.22	0.73
1:0:1459:U:OP1	1:0:1459:U:H3'	1.88	0.73
1:0:2308:A:H2'	1:0:2309:G:H8	1.52	0.73
1:0:591:G:H2'	1:0:592:G:H8	1.53	0.73
1:0:1295:U:H2'	1:0:1296:G:H5'	1.70	0.73
1:0:2176:U:H2'	1:0:2177:U:O4'	1.89	0.73
1:0:2324:G:O2'	1:0:2325:A:H5''	1.88	0.73
1:0:208:C:H2'	1:0:209:G:H5'	1.68	0.73
1:0:762:A:H2'	1:0:763:A:H8	1.52	0.73
1:0:1336:G:H2'	1:0:1337:G:H5'	1.71	0.73
1:0:2185:U:H2'	1:0:2186:G:C8	2.23	0.73
1:0:2409:A:H2'	1:0:2410:U:H5'	1.71	0.73
1:0:873:U:C2	1:0:2246:A:H5''	2.24	0.73
1:0:1073:G:H3'	1:0:1074:G:H5''	1.71	0.73
1:0:1086:C:H2'	1:0:1087:C:H5''	1.69	0.73
1:0:1598:C:H2'	1:0:1599:G:O4'	1.88	0.73
1:0:1789:U:O2'	1:0:1793:A:H1'	1.89	0.72
1:0:1869:A:H2'	1:0:1870:U:O4'	1.89	0.72
1:0:2279:G:H2'	1:0:2280:A:H8	1.53	0.72
1:0:1436:G:H21	1:0:1514:C:H1'	1.53	0.72
1:0:1466:C:H2'	1:0:1467:U:O4'	1.88	0.72
1:0:1055:A:H2	1:0:1121:G:H2'	1.52	0.72
1:0:14:A:H62	1:0:15:G:N2	1.87	0.72
1:0:146:C:H2'	1:0:147:G:C8	2.25	0.72
1:0:195:A:N1	1:0:212:U:H4'	2.05	0.72
1:0:1982:C:H4'	1:0:2703:C:O2	1.88	0.72
1:0:2503:G:H2'	1:0:2504:G:H5''	1.71	0.72
1:0:77:C:H2'	1:0:78:C:C6	2.25	0.72
1:0:2266:A:C2	1:0:2268:G:H1'	2.25	0.72
1:0:2549:G:C2	1:0:2550:C:H1'	2.25	0.72
1:0:2605:C:H2'	1:0:2606:G:O4'	1.90	0.72
1:0:2861:A:H2'	1:0:2862:G:C8	2.25	0.72
1:0:2414:A:C2'	1:0:2415:G:H5''	2.20	0.72
1:0:820:U:H2'	1:0:821:A:C8	2.24	0.72
1:0:2754:C:H2'	1:0:2755:A:C8	2.25	0.72
1:0:163:A:H2'	1:0:164:G:H8	1.54	0.72
1:0:459:A:H1'	1:0:461:A:H62	1.54	0.72
1:0:705:C:H2'	1:0:706:A:C8	2.25	0.72
1:0:1226:A:C2	1:0:1250:A:H1'	2.24	0.72
1:0:1371:G:H1'	1:0:1386:A:N6	2.05	0.72
1:0:1949:A:H1'	1:0:2572:U:H4'	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2433:G:H2'	1:0:2434:G:H8	1.55	0.72
1:0:1485:U:H2'	1:0:1486:A:H8	1.55	0.71
1:0:2199:C:H2'	1:0:2200:G:H8	1.54	0.71
1:0:2764:U:H2'	1:0:2765:C:H6	1.55	0.71
1:0:69:G:H5''	1:0:70:A:OP1	1.89	0.71
1:0:118:U:H1'	1:0:143:A:C8	2.26	0.71
1:0:843:G:O2'	1:0:844:G:OP1	2.08	0.71
1:0:890:U:H2'	1:0:891:A:C8	2.25	0.71
1:0:929:A:H2'	1:0:930:A:H4'	1.73	0.71
1:0:857:U:C2'	1:0:858:G:H5'	2.20	0.71
1:0:1685:A:N6	1:0:1691:G:C4	2.59	0.71
1:0:2788:C:O2'	1:0:2789:U:H5'	1.90	0.71
1:0:225:G:C5'	1:0:226:C:H5'	2.21	0.71
1:0:1502:G:O2'	1:0:1503:G:H5'	1.91	0.71
1:0:1838:G:H2'	1:0:1839:A:H5'	1.72	0.71
1:0:2306:A:H2'	1:0:2307:A:C8	2.26	0.71
1:0:37:C:H4'	1:0:463:C:OP1	1.91	0.71
1:0:441:A:H2'	1:0:442:A:O4'	1.90	0.71
1:0:683:A:H5''	1:0:684:C:OP1	1.91	0.71
1:0:1811:A:H1'	1:0:1813:A:C5	2.25	0.71
1:0:1195:U:H2'	1:0:1196:G:C8	2.26	0.71
1:0:28:A:N6	1:0:522:G:H4'	2.05	0.71
1:0:176:A:H3'	1:0:177:U:C5	2.26	0.71
1:0:762:A:H2'	1:0:763:A:C8	2.26	0.71
1:0:451:A:H2'	1:0:452:G:C8	2.26	0.71
1:0:1407:G:H2'	1:0:1408:A:C8	2.26	0.71
1:0:1826:U:O2'	1:0:1952:A:H2'	1.91	0.71
1:0:2691:C:C3'	1:0:2692:A:H5''	2.20	0.71
1:0:58:C:H3'	1:0:59:G:C5'	2.19	0.70
1:0:109:A:C3'	1:0:110:U:H5''	2.21	0.70
1:0:689:A:H8	1:0:2052:G:H21	1.37	0.70
1:0:773:G:C2'	1:0:774:A:H5'	2.21	0.70
1:0:1256:C:H2'	1:0:1257:U:C6	2.26	0.70
1:0:1267:A:H5''	1:0:1268:U:C5'	2.20	0.70
1:0:2158:C:H2'	1:0:2159:A:C8	2.26	0.70
1:0:2642:G:O2'	1:0:2643:G:H5'	1.90	0.70
1:0:37:C:H2'	1:0:38:G:H8	1.56	0.70
1:0:357:A:H3'	1:0:358:C:O4'	1.92	0.70
1:0:613:A:H2'	1:0:614:G:C8	2.26	0.70
1:0:718:A:O2'	1:0:719:A:H5'	1.91	0.70
1:0:1774:A:C5'	1:0:2587:G:H4'	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2686:C:H2'	1:0:2687:G:C8	2.26	0.70
1:0:2785:A:H2'	1:0:2786:G:O4'	1.92	0.70
1:0:813:A:O2'	1:0:815:A:H5'	1.90	0.70
1:0:813:A:H1'	1:0:815:A:H4'	1.72	0.70
1:0:979:A:H2'	1:0:980:G:O4'	1.92	0.70
1:0:1271:C:H2'	1:0:1272:G:C8	2.26	0.70
1:0:2053:G:H2'	1:0:2054:A:H8	1.55	0.70
1:0:2642:G:H2'	1:0:2643:G:O4'	1.89	0.70
1:0:2768:C:H1'	1:0:2784:A:N7	2.07	0.70
1:0:17:G:H2'	1:0:18:U:C6	2.27	0.70
1:0:699:G:H3'	1:0:699:G:N3	2.07	0.70
1:0:940:G:N7	1:0:941:U:C6	2.59	0.70
1:0:984:A:H1'	1:0:1202:U:C5	2.27	0.70
1:0:1091:C:H2'	1:0:1092:U:C6	2.26	0.70
1:0:1204:G:H2'	1:0:1205:G:C8	2.25	0.70
1:0:1354:A:O2'	1:0:1355:A:OP1	2.09	0.70
1:0:1953:A:H1'	1:0:1955:G:C1'	2.20	0.70
1:0:508:G:H1	1:0:516:G:H22	1.37	0.70
1:0:976:C:H5'	1:0:2252:A:C1'	2.21	0.70
1:0:1125:G:O2'	1:0:1126:A:H5'	1.92	0.70
1:0:2669:C:O2	1:0:2669:C:H2'	1.91	0.70
1:0:815:A:H2'	1:0:816:U:O4'	1.92	0.70
1:0:930:A:H5'	1:0:931:G:N7	2.06	0.70
1:0:1065:A:H2'	1:0:1066:G:H8	1.55	0.70
1:0:1547:U:H2'	1:0:1548:U:C6	2.27	0.70
1:0:2038:C:H5'	1:0:2039:G:H5''	1.73	0.70
1:0:114:C:O2'	1:0:124:A:H1'	1.92	0.70
1:0:210:A:N6	1:0:442:A:H61	1.89	0.70
1:0:490:A:O2'	1:0:491:A:H5'	1.92	0.70
1:0:1293:A:O2'	1:0:1294:G:H5'	1.92	0.70
1:0:1317:G:O2'	1:0:1318:A:H5'	1.92	0.70
1:0:2618:A:C2	1:0:2619:G:H1'	2.27	0.70
1:0:2658:A:O2'	1:0:2659:C:H5'	1.92	0.70
1:0:83:A:H8	1:0:83:A:O5'	1.74	0.70
1:0:414:A:H2'	1:0:415:A:O4'	1.91	0.70
1:0:1677:C:O2'	1:0:1678:G:H5'	1.92	0.69
1:0:1804:U:H2'	1:0:1805:G:C8	2.26	0.69
1:0:651:C:C2'	1:0:652:C:H5''	2.22	0.69
1:0:2162:C:H2'	1:0:2163:U:C6	2.27	0.69
1:0:2613:A:O2'	1:0:2614:A:H5'	1.92	0.69
1:0:88:G:H3'	1:0:89:A:C5'	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:162:C:H2'	1:0:163:A:C8	2.26	0.69
1:0:1560:A:H2'	1:0:1561:A:O4'	1.93	0.69
1:0:1972:G:H2'	1:0:1973:C:O4'	1.92	0.69
1:0:2038:C:H2'	1:0:2483:U:C4'	2.23	0.69
1:0:2015:G:N2	1:0:2038:C:H1'	2.08	0.69
1:0:2491:C:H2'	1:0:2492:G:O4'	1.91	0.69
1:0:174:A:C4'	1:0:2051:U:H2'	2.23	0.69
1:0:1194:U:H2'	1:0:1195:U:C6	2.27	0.69
1:0:2034:A:H5'	1:0:2557:G:O4'	1.92	0.69
1:0:1991:C:H2'	1:0:1992:G:H8	1.56	0.69
1:0:2030:U:H2'	1:0:2031:A:H8	1.58	0.69
1:0:401:G:H2'	1:0:403:A:N7	2.08	0.69
1:0:564:U:H2'	1:0:565:A:C8	2.28	0.69
1:0:931:G:N2	1:0:2247:A:H5''	2.07	0.69
1:0:1284:G:C2	1:0:1633:C:H5'	2.27	0.69
1:0:71:A:N6	1:0:110:U:H4'	2.08	0.69
1:0:73:A:N3	1:0:73:A:H5''	2.08	0.69
1:0:639:G:H2'	1:0:640:C:C6	2.28	0.69
1:0:663:G:H2'	1:0:664:C:O4'	1.92	0.69
1:0:1181:C:C3'	1:0:1182:U:H5''	2.23	0.69
1:0:1301:U:H5''	1:0:1302:C:OP1	1.93	0.69
1:0:1618:U:C6	1:0:1618:U:O5'	2.45	0.69
1:0:1854:G:H1	1:0:1863:U:H3	1.37	0.69
1:0:2438:A:N6	1:0:2473:G:C6	2.61	0.69
1:0:2756:A:C6	1:0:2762:G:H1'	2.28	0.69
1:0:2001:G:H2'	1:0:2002:A:C8	2.27	0.69
1:0:2872:U:H2'	1:0:2873:G:H8	1.56	0.69
1:0:681:A:N6	1:0:683:A:H2'	2.07	0.69
1:0:719:A:H2'	1:0:720:A:O4'	1.93	0.69
1:0:870:C:H2'	1:0:871:U:C6	2.29	0.69
1:0:1325:U:H4'	1:0:1326:U:C5	2.27	0.69
1:0:79:G:H2'	1:0:80:A:C8	2.28	0.68
1:0:1429:A:H62	1:0:1601:U:H5''	1.57	0.68
1:0:1471:G:H1	1:0:2682:C:H42	1.39	0.68
1:0:1974:U:H2'	1:0:1975:G:H5''	1.75	0.68
1:0:788:G:N2	1:0:801:A:OP2	2.25	0.68
1:0:811:G:O2'	1:0:812:G:H5'	1.92	0.68
1:0:968:C:N4	1:0:970:A:H1'	2.08	0.68
1:0:1196:G:H2'	1:0:1197:U:O4'	1.94	0.68
1:0:1970:G:O2'	1:0:1971:C:H5'	1.93	0.68
1:0:242:A:N6	1:0:441:A:N7	2.42	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:541:C:N4	1:0:572:G:H8	1.91	0.68
1:0:1440:G:H1'	1:0:1588:A:N6	2.07	0.68
1:0:1587:A:H2'	1:0:1588:A:H8	1.57	0.68
1:0:2595:C:H2'	1:0:2596:C:C6	2.29	0.68
1:0:1102:G:H2'	1:0:1103:C:H6	1.56	0.68
1:0:1191:G:H2'	1:0:1192:A:H8	1.57	0.68
1:0:1727:C:H4'	1:0:2833:C:C2	2.29	0.68
1:0:1763:G:H21	1:0:1765:C:H5''	1.56	0.68
1:0:2549:G:N2	1:0:2550:C:H1'	2.08	0.68
1:0:2678:C:H2'	1:0:2679:G:C8	2.29	0.68
1:0:2791:C:C2	1:0:2806:G:N2	2.61	0.68
1:0:225:G:H5'	1:0:226:C:H5'	1.75	0.68
1:0:612:G:O3'	1:0:613:A:H4'	1.94	0.68
1:0:1162:A:O2'	1:0:1163:C:H5'	1.93	0.68
1:0:1807:A:O2'	1:0:1808:C:H4'	1.94	0.68
1:0:2034:A:N6	1:0:2593:A:N7	2.42	0.68
1:0:2498:U:OP1	1:0:2498:U:H3'	1.93	0.68
1:0:538:A:H2'	1:0:539:A:H5''	1.75	0.68
1:0:931:G:O2'	1:0:932:G:H5'	1.93	0.68
1:0:2456:U:H1'	1:0:2460:G:N2	2.08	0.68
1:0:475:U:H1'	1:0:801:A:N1	2.08	0.68
1:0:861:G:N2	1:0:943:U:O2'	2.27	0.68
1:0:1036:G:H1'	1:0:1145:C:H4'	1.76	0.68
1:0:2261:G:H4'	1:0:2262:C:OP2	1.92	0.68
1:0:2273:C:H2'	1:0:2274:C:H6	1.58	0.68
1:0:462:G:H2'	1:0:463:C:H5''	1.76	0.68
1:0:1141:U:O2'	1:0:1142:G:OP1	2.12	0.68
1:0:597:U:H3	1:0:683:A:HO2'	1.42	0.68
1:0:685:U:O2'	1:0:686:C:H5'	1.93	0.68
1:0:837:U:H2'	1:0:838:A:C8	2.29	0.68
1:0:1347:C:O2'	1:0:1348:C:H5'	1.93	0.68
1:0:1858:C:H2'	1:0:1859:A:H8	1.59	0.68
1:0:1994:U:C2'	1:0:1995:G:H5'	2.24	0.68
1:0:2781:G:H2'	1:0:2782:G:O4'	1.94	0.68
1:0:1073:G:H2'	1:0:1074:G:C4'	2.19	0.67
1:0:1271:C:H2'	1:0:1272:G:H8	1.59	0.67
1:0:1346:C:H6	1:0:1346:C:P	2.17	0.67
1:0:2194:A:C2'	1:0:2195:C:H5''	2.24	0.67
1:0:2559:U:C2'	1:0:2560:G:H5'	2.23	0.67
1:0:698:A:HO2'	1:0:700:C:H5	1.42	0.67
1:0:1591:U:H2'	1:0:1592:U:O4'	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:317:U:H3	1:0:321:A:H62	1.39	0.67
1:0:759:C:H1'	1:0:761:G:N2	2.07	0.67
1:0:1456:C:O2'	1:0:1457:A:H5'	1.94	0.67
1:0:1621:C:O2'	1:0:1626:A:N7	2.26	0.67
1:0:1685:A:H1'	1:0:1686:A:C2	2.29	0.67
1:0:2686:C:H2'	1:0:2687:G:H8	1.59	0.67
1:0:1036:G:H1'	1:0:1145:C:C4'	2.25	0.67
1:0:1259:A:O2'	1:0:1260:A:H5'	1.94	0.67
1:0:1653:C:H2'	1:0:1654:A:C8	2.29	0.67
1:0:1319:C:H2'	1:0:1320:A:C8	2.28	0.67
1:0:1437:A:O2'	1:0:1438:G:H5'	1.93	0.67
1:0:1750:A:H1'	1:0:2690:A:C2	2.29	0.67
1:0:2198:U:C3'	1:0:2199:C:H5''	2.25	0.67
1:0:2761:A:H5''	1:0:2762:G:C5'	2.23	0.67
1:0:1259:A:C2'	1:0:1260:A:H5'	2.24	0.67
1:0:1685:A:N6	1:0:1691:G:N3	2.43	0.67
1:0:2549:G:H2'	1:0:2550:C:O4'	1.94	0.67
1:0:2633:A:N6	1:0:2646:C:N4	2.41	0.67
1:0:1313:U:H4'	1:0:1314:A:O5'	1.95	0.67
1:0:1588:A:H2'	1:0:1589:G:H8	1.58	0.67
1:0:1825:C:C2'	1:0:1826:U:H5'	2.25	0.67
1:0:2427:A:H5'	1:0:2428:U:H5''	1.75	0.67
1:0:2870:C:H2'	1:0:2871:U:H6	1.59	0.67
1:0:115:G:C6	1:0:117:A:N6	2.63	0.67
1:0:888:G:H2'	1:0:889:C:O4'	1.95	0.67
1:0:1918:G:H1'	1:0:1947:G:C2	2.30	0.67
1:0:2409:A:O2'	1:0:2410:U:H5'	1.94	0.67
1:0:346:C:O2'	1:0:347:C:H5'	1.95	0.67
1:0:2636:A:H62	1:0:2643:G:N2	1.92	0.67
1:0:425:A:H2'	1:0:426:C:O4'	1.94	0.67
1:0:1194:U:H2'	1:0:1195:U:C5	2.29	0.67
1:0:317:U:C2'	1:0:318:G:H5''	2.24	0.66
1:0:879:A:H2'	1:0:879:A:N3	2.09	0.66
1:0:2105:U:H2'	1:0:2106:G:C8	2.30	0.66
1:0:2463:G:O2'	1:0:2464:G:H5'	1.95	0.66
1:0:524:A:O2'	1:0:525:A:H5'	1.95	0.66
1:0:873:U:H1'	1:0:2246:A:OP1	1.96	0.66
1:0:1226:A:C4	1:0:1250:A:N3	2.63	0.66
1:0:631:G:H5''	1:0:632:A:OP1	1.95	0.66
1:0:689:A:C8	1:0:2422:C:H1'	2.30	0.66
1:0:1225:G:H2'	1:0:1249:G:H22	1.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2164:G:H2'	1:0:2165:A:H8	1.61	0.66
1:0:2318:U:H2'	1:0:2319:G:C8	2.28	0.66
1:0:81:C:H2'	1:0:82:G:O4'	1.95	0.66
1:0:692:C:H2'	1:0:693:A:H8	1.60	0.66
1:0:697:G:O2'	1:0:698:A:H5'	1.95	0.66
1:0:1352:G:H2'	1:0:1353:A:C8	2.31	0.66
1:0:1821:A:H3'	1:0:1822:C:H6	1.61	0.66
1:0:313:U:H2'	1:0:314:G:C8	2.30	0.66
1:0:490:A:N7	1:0:492:G:H1'	2.11	0.66
1:0:826:U:O2'	1:0:1238:A:H1'	1.95	0.66
1:0:1459:U:P	1:0:1459:U:H6	2.19	0.66
1:0:1953:A:H1'	1:0:1955:G:H1'	1.75	0.66
1:0:2057:U:H2'	1:0:2058:U:C6	2.30	0.66
1:0:176:A:H3'	1:0:177:U:H5	1.60	0.66
1:0:427:C:H2'	1:0:428:A:H8	1.59	0.66
1:0:632:A:H2'	1:0:633:G:O4'	1.96	0.66
1:0:835:U:H2'	1:0:836:G:C8	2.31	0.66
1:0:837:U:H2'	1:0:838:A:H8	1.60	0.66
1:0:1374:G:O2'	1:0:2193:C:H1'	1.96	0.66
1:0:2678:C:H2'	1:0:2679:G:H8	1.60	0.66
1:0:1196:G:H2'	1:0:1197:U:C5'	2.26	0.66
1:0:1323:G:H1'	1:0:1627:C:C5'	2.26	0.66
1:0:216:U:H5''	1:0:601:A:N6	2.11	0.66
1:0:437:G:O2'	1:0:438:G:H5'	1.96	0.66
1:0:618:A:H2'	1:0:619:A:O4'	1.95	0.66
1:0:1101:U:H3	1:0:1113:C:H1'	1.60	0.66
1:0:1242:A:H2'	1:0:1243:G:H8	1.57	0.66
1:0:1491:C:H2'	1:0:1492:A:H8	1.61	0.66
1:0:1830:C:N4	1:0:1881:U:H3'	2.11	0.66
1:0:2495:G:H2'	1:0:2496:C:O4'	1.95	0.66
1:0:2761:A:C5'	1:0:2762:G:H5'	2.22	0.66
1:0:2770:A:C4'	1:0:2867:G:H22	2.06	0.66
1:0:162:C:H4'	1:0:195:A:H4'	1.77	0.65
1:0:951:G:C3'	1:0:952:A:H5''	2.26	0.65
1:0:2609:G:H21	1:0:2866:A:H2	1.44	0.65
1:0:2754:C:H2'	1:0:2755:A:H8	1.61	0.65
1:0:1055:A:OP1	1:0:1057:A:H5'	1.96	0.65
1:0:1588:A:H2'	1:0:1589:G:C8	2.32	0.65
1:0:2299:A:H5'	1:0:2300:G:C5	2.29	0.65
1:0:2633:A:N6	1:0:2646:C:H42	1.94	0.65
1:0:2770:A:H5'	1:0:2867:G:H1	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:192:G:C1'	1:0:193:A:H4'	2.26	0.65
1:0:362:C:C2'	1:0:363:G:H4'	2.17	0.65
1:0:1958:G:H2'	1:0:1959:U:H6	1.56	0.65
1:0:2657:G:O2'	1:0:2658:A:H5'	1.97	0.65
1:0:705:C:H2'	1:0:706:A:H8	1.62	0.65
1:0:931:G:C2'	1:0:932:G:H5'	2.26	0.65
1:0:1196:G:H2'	1:0:1197:U:H5'	1.77	0.65
1:0:2119:A:O2'	1:0:2120:C:H5'	1.96	0.65
1:0:2273:C:H2'	1:0:2274:C:C6	2.31	0.65
1:0:245:C:H5'	1:0:372:U:O2'	1.96	0.65
1:0:818:G:O6	1:0:2051:U:H5'	1.97	0.65
1:0:1004:A:H2'	1:0:1005:U:C5'	2.26	0.65
1:0:1669:A:N6	1:0:1670:G:H21	1.94	0.65
1:0:2011:U:H2'	1:0:2012:A:C8	2.31	0.65
1:0:174:A:H2	1:0:2413:A:H62	1.44	0.65
1:0:870:C:H2'	1:0:871:U:H6	1.61	0.65
1:0:1680:U:H6	1:0:1680:U:H5'	1.61	0.65
1:0:2466:G:H2'	1:0:2467:A:C8	2.32	0.65
1:0:190:A:H2'	1:0:191:G:H8	1.60	0.65
1:0:1514:C:H5'	1:0:1593:C:C5'	2.27	0.65
1:0:1654:A:H4'	1:0:2690:A:O2'	1.96	0.65
1:0:1683:G:N7	1:0:1684:G:N2	2.45	0.65
1:0:1975:G:N2	1:0:1978:U:H5	1.94	0.65
1:0:2194:A:H2'	1:0:2195:C:H5''	1.79	0.65
1:0:2363:G:H5''	1:0:2365:U:OP1	1.95	0.65
1:0:1679:U:H2'	1:0:1680:U:C5'	2.15	0.65
1:0:133:C:H2'	1:0:134:G:O4'	1.96	0.65
1:0:583:C:O2'	1:0:584:A:OP2	2.14	0.65
1:0:927:C:H2'	1:0:928:G:O4'	1.96	0.65
1:0:1949:A:H1'	1:0:2572:U:C4'	2.27	0.65
1:0:1964:A:OP1	1:0:1965:U:OP2	2.13	0.65
1:0:1356:G:H1'	1:0:1613:G:C2	2.32	0.65
1:0:1594:U:H2'	1:0:1595:A:H8	1.62	0.65
1:0:1811:A:H1'	1:0:1813:A:C4	2.32	0.65
1:0:2757:G:H5'	1:0:2761:A:H1'	1.78	0.65
1:0:208:C:C2'	1:0:209:G:H5'	2.27	0.64
1:0:646:C:O2	1:0:650:U:H4'	1.97	0.64
1:0:669:G:H2'	1:0:670:U:C6	2.32	0.64
1:0:835:U:H2'	1:0:836:G:H8	1.59	0.64
1:0:1253:C:H2'	1:0:1254:G:O4'	1.97	0.64
1:0:2122:G:H2'	1:0:2123:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2753:C:H2'	1:0:2754:C:H6	1.63	0.64
1:0:2274:C:H2'	1:0:2275:U:C5'	2.27	0.64
1:0:2375:G:H2'	1:0:2376:G:H8	1.62	0.64
1:0:9:U:H3	1:0:2608:A:N6	1.95	0.64
1:0:139:A:H2'	1:0:140:G:C8	2.32	0.64
1:0:388:G:O2'	1:0:389:G:H5'	1.97	0.64
1:0:483:A:H2'	1:0:484:G:H5'	1.79	0.64
1:0:788:G:H2'	1:0:807:A:C5	2.31	0.64
1:0:1280:U:O2	1:0:1280:U:H2'	1.96	0.64
1:0:1436:G:H2'	1:0:1437:A:C8	2.33	0.64
1:0:1540:C:H2'	1:0:1541:G:O4'	1.97	0.64
1:0:1644:G:O2'	1:0:1645:U:H5'	1.98	0.64
1:0:2484:G:C8	1:0:2555:G:N2	2.65	0.64
1:0:2828:C:O2'	1:0:2829:A:H5'	1.97	0.64
1:0:187:U:H2'	1:0:188:G:C8	2.32	0.64
1:0:792:U:H2'	1:0:793:G:C5'	2.26	0.64
1:0:840:U:H4'	1:0:841:G:C2	2.33	0.64
1:0:1026:U:H2'	1:0:1027:C:C6	2.33	0.64
1:0:1697:U:H2'	1:0:1698:C:O4'	1.96	0.64
1:0:2082:C:H2'	1:0:2083:G:O4'	1.97	0.64
1:0:2497:A:H5''	1:0:2498:U:OP2	1.97	0.64
1:0:777:A:H62	1:0:1767:G:H1'	1.62	0.64
1:0:2510:A:H61	1:0:2641:A:N6	1.94	0.64
1:0:2769:C:O2'	1:0:2866:A:N1	2.30	0.64
1:0:542:A:N6	1:0:570:G:H21	1.96	0.64
1:0:782:U:H2'	1:0:783:G:C8	2.33	0.64
1:0:792:U:O2'	1:0:793:G:H5'	1.97	0.64
1:0:2104:G:H2'	1:0:2105:U:H6	1.63	0.64
1:0:2651:U:O2'	1:0:2652:G:H5'	1.97	0.64
1:0:612:G:H4'	1:0:613:A:O2'	1.98	0.64
1:0:1956:G:H2'	1:0:1957:C:C6	2.33	0.64
1:0:2398:U:H2'	1:0:2399:C:C6	2.32	0.64
1:0:2447:G:C8	1:0:2455:A:N6	2.63	0.64
1:0:2617:G:O2'	1:0:2618:A:H8	1.81	0.64
1:0:2705:A:O2'	1:0:2706:U:C6	2.51	0.64
1:0:165:G:H2'	1:0:166:G:O4'	1.98	0.64
1:0:333:A:O2'	1:0:350:U:H2'	1.98	0.64
1:0:2202:G:H2'	1:0:2203:G:O4'	1.98	0.64
1:0:170:U:H2'	1:0:171:G:C8	2.29	0.64
1:0:587:A:OP1	1:0:1268:U:O2'	2.11	0.64
1:0:755:C:H2'	1:0:756:C:H6	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1621:C:H2'	1:0:1622:G:O4'	1.97	0.64
1:0:1938:U:O2'	1:0:1939:U:OP1	2.15	0.64
1:0:2407:G:H5'	1:0:2408:G:C2	2.33	0.64
1:0:84:G:O2'	1:0:85:C:H5'	1.97	0.63
1:0:114:C:H4'	1:0:124:A:O2'	1.97	0.63
1:0:639:G:H2'	1:0:640:C:H6	1.63	0.63
1:0:1065:A:H2'	1:0:1066:G:C8	2.33	0.63
1:0:1713:G:N7	1:0:1714:A:N7	2.45	0.63
1:0:1871:G:H2'	1:0:1871:G:N3	2.14	0.63
1:0:2204:A:O2'	1:0:2205:C:OP2	2.14	0.63
1:0:2721:A:H2'	1:0:2722:C:O4'	1.97	0.63
1:0:128:C:H2'	1:0:129:A:C4'	2.28	0.63
1:0:1312:G:H5''	1:0:1313:U:C5'	2.28	0.63
1:0:2195:C:H2'	1:0:2196:U:H5'	1.79	0.63
1:0:1534:A:O2'	1:0:1535:C:H5'	1.98	0.63
1:0:2173:G:H2'	1:0:2174:G:O4'	1.98	0.63
1:0:239:A:H4'	1:0:620:G:H5'	1.80	0.63
1:0:760:U:O2	1:0:1997:A:H1'	1.98	0.63
1:0:788:G:H2'	1:0:807:A:N7	2.12	0.63
1:0:246:C:H42	1:0:247:A:H62	1.46	0.63
1:0:443:A:O2'	1:0:444:U:H5'	1.98	0.63
1:0:752:G:H5'	1:0:753:U:OP1	1.99	0.63
1:0:1854:G:H2'	1:0:1855:G:H8	1.63	0.63
1:0:69:G:H4'	1:0:70:A:O5'	1.97	0.63
1:0:308:C:H2'	1:0:309:G:O4'	1.97	0.63
1:0:657:A:H2'	1:0:658:G:C8	2.33	0.63
1:0:692:C:H2'	1:0:693:A:C8	2.33	0.63
1:0:2010:G:H2'	1:0:2011:U:C6	2.33	0.63
1:0:141:G:H2'	1:0:142:U:C6	2.34	0.63
1:0:427:C:H2'	1:0:428:A:C8	2.33	0.63
1:0:584:A:O2'	1:0:585:U:H5'	1.99	0.63
1:0:1681:A:C2	1:0:2706:U:H1'	2.34	0.63
1:0:2160:C:H2'	1:0:2161:C:C6	2.34	0.63
1:0:2546:G:H2'	1:0:2547:C:H6	1.64	0.63
1:0:236:C:H2'	1:0:237:G:H8	1.64	0.63
1:0:995:A:H5''	1:0:996:C:H5	1.63	0.63
1:0:1278:A:O2'	1:0:1279:G:P	2.56	0.63
1:0:1333:G:N2	1:0:1344:C:H41	1.97	0.63
1:0:1459:U:H6	1:0:1459:U:O5'	1.82	0.63
1:0:2104:G:H2'	1:0:2105:U:C6	2.34	0.63
1:0:2243:C:H2'	1:0:2244:C:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2395:C:H2'	1:0:2396:C:H5''	1.80	0.63
1:0:651:C:C3'	1:0:652:C:H5''	2.29	0.63
1:0:1101:U:N3	1:0:1113:C:H1'	2.13	0.63
1:0:1376:C:H2'	1:0:1377:G:O4'	1.98	0.63
1:0:1517:C:H2'	1:0:1518:C:C6	2.34	0.63
1:0:746:G:N7	1:0:774:A:C5	2.66	0.62
1:0:1333:G:N7	1:0:1342:U:H5'	2.13	0.62
1:0:2820:C:H2'	1:0:2821:G:H8	1.63	0.62
1:0:38:G:H1	1:0:453:U:H3	1.47	0.62
1:0:1095:A:H2'	1:0:1096:A:O4'	1.99	0.62
1:0:1313:U:H5'	1:0:1314:A:N3	2.14	0.62
1:0:1571:G:H3'	1:0:1571:G:OP2	1.99	0.62
1:0:1911:A:C2'	1:0:1912:G:H5'	2.29	0.62
1:0:2324:G:N3	1:0:2326:C:H5	1.97	0.62
1:0:2712:G:H3'	1:0:2713:A:H5'	1.82	0.62
1:0:697:G:H1	1:0:807:A:H2	1.47	0.62
1:0:726:G:H2'	1:0:727:U:O4'	1.98	0.62
1:0:732:G:H8	1:0:732:G:O5'	1.81	0.62
1:0:770:U:O2'	1:0:771:C:H5'	1.99	0.62
1:0:1558:C:C2'	1:0:1559:G:H5'	2.29	0.62
1:0:2470:U:H2'	1:0:2471:U:H6	1.64	0.62
1:0:5:A:H2'	1:0:6:A:H8	1.64	0.62
1:0:334:G:N3	1:0:344:G:H1'	2.15	0.62
1:0:1257:U:H2'	1:0:1258:G:C8	2.35	0.62
1:0:1430:G:H2'	1:0:1431:U:C6	2.34	0.62
1:0:1604:A:H2'	1:0:1605:A:O4'	1.99	0.62
1:0:2299:A:H5'	1:0:2300:G:N9	2.15	0.62
1:0:2447:G:H8	1:0:2447:G:O5'	1.81	0.62
1:0:2507:U:HO2'	1:0:2508:G:H8	1.48	0.62
1:0:2770:A:C5'	1:0:2867:G:H1	2.13	0.62
1:0:428:A:H2'	1:0:429:C:H6	1.65	0.62
1:0:520:C:O2'	1:0:1249:G:H5'	1.99	0.62
1:0:577:U:H2'	1:0:579:G:OP2	1.99	0.62
1:0:1054:C:H2'	1:0:1055:A:H5'	1.82	0.62
1:0:2002:A:H2'	1:0:2003:A:O5'	2.00	0.62
1:0:2559:U:H2'	1:0:2560:G:H5'	1.79	0.62
1:0:452:G:H2'	1:0:453:U:O4'	1.99	0.62
1:0:757:U:C2	1:0:767:G:N2	2.67	0.62
1:0:831:G:C2'	1:0:832:A:H5''	2.30	0.62
1:0:871:U:H1'	1:0:2248:A:H5''	1.81	0.62
1:0:2002:A:C2'	1:0:2003:A:O5'	2.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2737:A:H2'	1:0:2738:A:H5'	1.81	0.62
1:0:2759:U:O5'	1:0:2759:U:H6	1.81	0.62
1:0:2770:A:H4'	1:0:2867:G:N2	2.10	0.62
1:0:847:C:H41	1:0:955:G:N2	1.85	0.62
1:0:936:A:H2'	1:0:937:C:C6	2.35	0.62
1:0:1590:C:O5'	1:0:1590:C:H6	1.83	0.62
1:0:1856:U:H2'	1:0:1857:G:O4'	2.00	0.62
1:0:551:A:C2	1:0:562:G:C2	2.88	0.62
1:0:763:A:C2	1:0:765:C:H1'	2.32	0.62
1:0:1388:C:H2'	1:0:1389:C:H6	1.65	0.62
4:0:2881:TAO:H421	4:0:2881:TAO:C37	2.28	0.62
1:0:68:C:O2	1:0:68:C:H2'	1.98	0.62
1:0:485:G:O6	1:0:520:C:N4	2.33	0.62
1:0:644:A:H2'	1:0:645:G:H5'	1.81	0.62
1:0:1281:A:C2	1:0:1996:A:C4	2.88	0.62
1:0:2081:U:H2'	1:0:2082:C:C5'	2.24	0.62
1:0:1528:C:H2'	1:0:1529:C:H5''	1.82	0.61
1:0:2491:C:H2'	1:0:2492:G:C4'	2.30	0.61
1:0:14:A:N6	1:0:15:G:C2	2.68	0.61
1:0:773:G:H2'	1:0:774:A:H5'	1.82	0.61
1:0:1029:C:H3'	1:0:1030:U:H5''	1.82	0.61
1:0:1399:C:O2'	1:0:1400:A:H5'	2.00	0.61
1:0:1602:G:O3'	1:0:1603:A:H8	1.83	0.61
1:0:2177:U:H2'	1:0:2178:U:C6	2.33	0.61
1:0:191:G:O2'	1:0:192:G:H5'	2.01	0.61
1:0:338:G:C2'	1:0:339:U:H5'	2.29	0.61
1:0:487:G:H1'	1:0:515:A:C2	2.36	0.61
1:0:542:A:H62	1:0:570:G:N2	1.99	0.61
1:0:1889:G:H2'	1:0:1890:G:C8	2.35	0.61
1:0:2039:G:H2'	1:0:2039:G:N3	2.14	0.61
1:0:457:C:O2'	1:0:458:G:H5'	2.00	0.61
1:0:968:C:H41	1:0:970:A:C1'	2.12	0.61
1:0:1371:G:H1'	1:0:1386:A:H62	1.66	0.61
1:0:1452:U:H5''	1:0:1533:G:H5'	1.83	0.61
1:0:2324:G:H4'	1:0:2326:C:H5''	1.82	0.61
1:0:12:U:H2'	1:0:13:A:O4'	2.01	0.61
1:0:300:C:H2'	1:0:301:C:H5'	1.82	0.61
1:0:1323:G:H1'	1:0:1627:C:H5''	1.81	0.61
1:0:1329:U:H5'	1:0:1405:A:H1'	1.82	0.61
1:0:1341:G:H2'	1:0:1343:C:C5	2.35	0.61
1:0:1791:C:H1'	1:0:1793:A:H5'	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1830:C:H42	1:0:1881:U:H3'	1.65	0.61
1:0:2556:A:C2	1:0:2593:A:H2	2.19	0.61
1:0:2592:U:O2'	1:0:2593:A:OP1	2.16	0.61
1:0:94:C:H2'	1:0:95:G:O4'	2.01	0.61
1:0:213:C:H42	1:0:238:G:H1	1.47	0.61
1:0:475:U:H2'	1:0:476:G:O4'	2.01	0.61
1:0:1618:U:OP2	1:0:1618:U:H5	1.83	0.61
1:0:2546:G:H2'	1:0:2547:C:C6	2.34	0.61
1:0:2800:C:H2'	1:0:2801:A:O4'	2.00	0.61
1:0:513:A:C6	1:0:515:A:N6	2.69	0.61
1:0:743:A:C2	1:0:744:C:C2	2.88	0.61
1:0:859:U:H4'	1:0:860:U:C5	2.36	0.61
1:0:1000:G:P	1:0:1168:G:H4'	2.41	0.61
1:0:1651:U:H5''	1:0:1652:G:OP2	2.00	0.61
1:0:1699:A:N6	1:0:1723:U:H3	1.99	0.61
1:0:482:A:O2'	1:0:483:A:H5'	2.00	0.61
1:0:550:C:H2'	1:0:551:A:C8	2.36	0.61
1:0:829:C:C2	1:0:1206:G:N2	2.69	0.61
1:0:1137:A:H5''	1:0:1138:A:OP1	2.01	0.61
1:0:1272:G:H2'	1:0:1273:G:H8	1.66	0.61
1:0:1956:G:H2'	1:0:1957:C:H6	1.66	0.61
1:0:2803:C:O2'	1:0:2804:G:H5'	2.01	0.61
1:0:2809:A:N7	1:0:2854:G:N7	2.49	0.61
1:0:322:A:H1'	1:0:343:A:C5	2.34	0.61
1:0:640:C:H5''	1:0:660:G:O2'	2.01	0.61
1:0:688:A:H1'	1:0:2422:C:O2'	2.01	0.61
1:0:946:U:O2'	1:0:947:C:H5'	2.00	0.61
1:0:66:U:C2	1:0:67:G:N7	2.69	0.61
1:0:813:A:H2'	1:0:813:A:N3	2.15	0.61
1:0:1816:G:O2'	1:0:1817:U:H5'	1.99	0.61
1:0:1843:U:H2'	1:0:1844:C:H6	1.66	0.61
1:0:2321:C:H2'	1:0:2322:U:O4'	2.01	0.61
1:0:2461:G:H2'	1:0:2462:C:O4'	2.00	0.61
1:0:616:U:H2'	1:0:617:U:C5'	2.27	0.60
1:0:643:A:O2'	1:0:644:A:H5'	2.00	0.60
1:0:653:G:H2'	1:0:654:A:H4'	1.83	0.60
1:0:982:C:H4'	1:0:994:A:O2'	2.01	0.60
1:0:1440:G:H1'	1:0:1588:A:H61	1.65	0.60
1:0:1500:U:H3	1:0:1520:G:H22	1.48	0.60
1:0:1739:G:H2'	1:0:1740:G:H8	1.66	0.60
1:0:2535:C:H2'	1:0:2536:G:O4'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:591:G:H2'	1:0:592:G:C8	2.35	0.60
1:0:788:G:H5''	1:0:790:A:H1'	1.81	0.60
1:0:2225:G:H2'	1:0:2226:A:H8	1.65	0.60
1:0:174:A:O4'	1:0:2051:U:H2'	2.00	0.60
1:0:701:U:H4'	1:0:1771:A:H2	1.66	0.60
1:0:243:G:H2'	1:0:244:C:O4'	2.02	0.60
1:0:482:A:C2'	1:0:483:A:H5'	2.31	0.60
1:0:1300:A:C2	1:0:1301:U:C2	2.89	0.60
1:0:1313:U:H4'	1:0:1314:A:O4'	2.01	0.60
1:0:1342:U:H5''	1:0:1343:C:H5	1.66	0.60
1:0:1467:U:H3'	1:0:1468:A:H5'	1.82	0.60
1:0:2299:A:H5''	1:0:2300:G:O5'	2.02	0.60
1:0:2503:G:C2'	1:0:2504:G:H5''	2.31	0.60
1:0:367:G:C2'	1:0:368:A:H5''	2.31	0.60
1:0:698:A:C1'	1:0:700:C:H41	2.15	0.60
1:0:999:A:H4'	1:0:1166:A:N1	2.17	0.60
1:0:1332:G:O2'	1:0:1333:G:H5'	2.02	0.60
1:0:1353:A:H5''	1:0:1354:A:N7	2.16	0.60
1:0:1440:G:H3'	1:0:1441:A:C5'	2.31	0.60
1:0:1707:A:H2'	1:0:1708:C:H5'	1.83	0.60
1:0:2210:C:H2'	1:0:2211:U:O4'	2.01	0.60
1:0:2436:U:H2'	1:0:2437:G:O4'	2.01	0.60
1:0:755:C:O2'	1:0:756:C:H5'	2.01	0.60
1:0:951:G:H2'	1:0:952:A:H5''	1.83	0.60
1:0:1102:G:H2'	1:0:1103:C:C6	2.36	0.60
1:0:1241:G:O2'	1:0:1242:A:H5'	2.01	0.60
1:0:1685:A:HO2'	1:0:1686:A:P	2.24	0.60
1:0:2390:A:H2'	1:0:2391:A:H8	1.65	0.60
1:0:2866:A:H2'	1:0:2867:G:O4'	2.02	0.60
1:0:54:G:H2'	1:0:55:A:H8	1.67	0.60
1:0:1549:C:N3	1:0:1554:G:N1	2.49	0.60
1:0:1707:A:N7	1:0:1714:A:H2	2.00	0.60
1:0:1861:G:O2'	1:0:1862:C:H5'	2.01	0.60
1:0:2163:U:H2'	1:0:2164:G:C8	2.37	0.60
1:0:688:A:O2'	1:0:689:A:H5'	2.02	0.60
1:0:777:A:N6	1:0:1767:G:H1'	2.16	0.60
1:0:944:A:H2'	1:0:945:G:O4'	2.02	0.60
1:0:1680:U:O2'	1:0:2665:G:H4'	2.00	0.60
1:0:2475:C:H2'	1:0:2476:A:O4'	2.00	0.60
1:0:153:A:H2'	1:0:154:U:C6	2.36	0.60
1:0:955:G:H5'	1:0:956:A:C5'	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1479:G:N2	1:0:1543:G:N2	2.49	0.60
1:0:1760:G:H1'	1:0:1941:C:OP1	2.02	0.60
1:0:1779:C:H2'	1:0:1780:A:O4'	2.02	0.60
1:0:2473:G:N2	1:0:2474:G:C4	2.70	0.60
1:0:2663:U:C4	1:0:2664:G:N7	2.70	0.60
1:0:24:G:H2'	1:0:25:U:C6	2.36	0.60
1:0:242:A:O2'	1:0:243:G:O4'	2.20	0.60
1:0:799:C:O2'	1:0:800:U:H5'	2.02	0.60
1:0:1135:C:H2'	1:0:1136:G:H8	1.67	0.60
1:0:1223:G:N1	1:0:1250:A:N7	2.50	0.60
1:0:1512:A:H8	1:0:1512:A:O5'	1.84	0.60
1:0:1622:G:H4'	1:0:1624:A:N3	2.16	0.60
1:0:222:G:N2	1:0:231:G:H1'	2.17	0.59
1:0:2672:U:H2'	1:0:2673:G:C8	2.32	0.59
1:0:757:U:H2'	1:0:758:G:O4'	2.02	0.59
1:0:764:A:H2'	1:0:764:A:N3	2.17	0.59
1:0:1007:A:H2'	1:0:1008:G:H8	1.66	0.59
1:0:1225:G:H2'	1:0:1249:G:N2	2.17	0.59
1:0:1430:G:H22	1:0:1599:G:H1'	1.67	0.59
1:0:2030:U:H2'	1:0:2031:A:C8	2.37	0.59
1:0:2162:C:H2'	1:0:2163:U:H6	1.66	0.59
1:0:2195:C:C2'	1:0:2196:U:H5'	2.33	0.59
1:0:813:A:O2'	1:0:814:G:H8	1.83	0.59
1:0:1843:U:H2'	1:0:1844:C:C6	2.37	0.59
1:0:2240:C:H2'	1:0:2241:U:C5'	2.32	0.59
1:0:796:A:H4'	1:0:2567:G:O3'	2.02	0.59
1:0:990:A:H3'	1:0:991:A:C5'	2.33	0.59
1:0:1139:A:H1'	1:0:2495:G:O2'	2.01	0.59
1:0:2788:C:H2'	1:0:2789:U:H6	1.66	0.59
1:0:736:G:H2'	1:0:737:C:C6	2.38	0.59
1:0:843:G:HO2'	1:0:844:G:P	2.25	0.59
1:0:1312:G:C5'	1:0:1314:A:H1'	2.30	0.59
1:0:2702:G:C5	1:0:2703:C:C4	2.91	0.59
1:0:868:U:H2'	1:0:869:C:C6	2.38	0.59
1:0:1547:U:H2'	1:0:1548:U:H6	1.67	0.59
1:0:1691:G:H21	1:0:1694:A:H61	1.48	0.59
1:0:2447:G:N2	1:0:2460:G:H2'	2.15	0.59
1:0:2658:A:H2'	1:0:2659:C:O4'	2.01	0.59
1:0:702:A:N3	1:0:792:U:H1'	2.18	0.59
1:0:1196:G:O2'	1:0:1197:U:H5'	2.03	0.59
1:0:1936:A:O2'	1:0:2538:C:H1'	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2380:U:C2'	1:0:2381:A:H5'	2.30	0.59
1:0:2824:C:H1'	1:0:2843:A:C2	2.38	0.59
1:0:216:U:H2'	1:0:217:U:O4'	2.02	0.59
1:0:487:G:H1'	1:0:515:A:H2	1.68	0.59
1:0:1166:A:C3'	1:0:1167:A:H5''	2.33	0.59
1:0:1182:U:C2'	1:0:1183:C:H5''	2.32	0.59
1:0:1300:A:C2	1:0:1666:G:H4'	2.37	0.59
1:0:1312:G:H5''	1:0:1313:U:H5''	1.84	0.59
1:0:2563:U:H2'	1:0:2564:U:H3'	1.83	0.59
1:0:2636:A:N6	1:0:2643:G:H21	1.96	0.59
1:0:2779:C:H2'	1:0:2780:A:C8	2.38	0.59
1:0:369:C:H2'	1:0:370:U:O4'	2.03	0.59
1:0:1004:A:H2'	1:0:1005:U:H5''	1.84	0.59
1:0:1212:U:H2'	1:0:1213:U:C6	2.37	0.59
1:0:1348:C:H2'	1:0:1349:A:H8	1.65	0.59
1:0:1760:G:O2'	1:0:1761:G:H5'	2.03	0.59
1:0:1938:U:O2'	1:0:1939:U:H5'	2.03	0.59
1:0:2594:U:N1	3:Z:7:PRO:CA	2.66	0.59
1:0:523:A:H4'	1:0:1230:C:H5'	1.85	0.58
1:0:1459:U:P	1:0:1459:U:C6	2.97	0.58
1:0:1301:U:H2'	1:0:1664:G:H21	1.67	0.58
1:0:1662:G:O5'	1:0:1662:G:H8	1.86	0.58
1:0:2324:G:N2	1:0:2361:G:C4	2.71	0.58
1:0:2622:G:O2'	1:0:2623:A:H5'	2.03	0.58
1:0:2816:C:O2	1:0:2852:G:N2	2.36	0.58
1:0:536:A:C2	1:0:2605:C:H1'	2.37	0.58
1:0:614:G:H2'	1:0:615:C:H6	1.69	0.58
1:0:781:G:H2'	1:0:782:U:O4'	2.03	0.58
1:0:839:U:H5''	1:0:2408:G:P	2.43	0.58
1:0:1250:A:O2'	1:0:1251:G:H4'	2.03	0.58
1:0:1480:G:H2'	1:0:1481:U:H5'	1.85	0.58
1:0:1886:G:H2'	1:0:1887:G:C8	2.33	0.58
1:0:2433:G:O2'	1:0:2434:G:H5'	2.03	0.58
1:0:2544:A:H2'	1:0:2545:A:H1'	1.85	0.58
4:0:2881:TAO:H373	4:0:2881:TAO:C36	2.32	0.58
1:0:543:G:H2'	1:0:544:U:C6	2.38	0.58
1:0:1038:U:H2'	1:0:1039:A:H8	1.68	0.58
1:0:1162:A:H2'	1:0:1163:C:O4'	2.03	0.58
1:0:1226:A:N1	1:0:1250:A:H1'	2.17	0.58
1:0:2315:A:HO2'	1:0:2364:C:H5''	1.65	0.58
1:0:2327:U:H2'	1:0:2328:G:H8	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:313:U:H2'	1:0:314:G:H8	1.69	0.58
1:0:915:C:H2'	1:0:916:U:C6	2.39	0.58
1:0:1529:C:H2'	1:0:1530:U:O4'	2.02	0.58
1:0:1685:A:O2'	1:0:1686:A:H3'	2.04	0.58
1:0:2055:G:O2'	1:0:2056:C:H5'	2.04	0.58
1:0:2663:U:C2	1:0:2664:G:C8	2.92	0.58
1:0:2733:A:O2'	1:0:2734:U:H5'	2.03	0.58
1:0:212:U:O2'	1:0:213:C:H5'	2.03	0.58
1:0:330:C:O2'	1:0:331:U:H5'	2.03	0.58
1:0:509:U:C2'	1:0:510:G:H5'	2.31	0.58
1:0:788:G:H5''	1:0:789:G:OP1	2.03	0.58
1:0:1594:U:H2'	1:0:1595:A:C8	2.38	0.58
1:0:1687:C:H1'	1:0:1976:U:O2	2.02	0.58
1:0:1884:A:O2'	1:0:1885:C:H5'	2.03	0.58
1:0:1994:U:H2'	1:0:1995:G:C5'	2.32	0.58
1:0:2079:A:H2'	1:0:2080:U:C6	2.39	0.58
1:0:2301:A:H2'	1:0:2302:G:O4'	2.04	0.58
1:0:152:G:H2'	1:0:153:A:O4'	2.04	0.58
1:0:733:G:O2'	1:0:734:G:H5'	2.04	0.58
1:0:1537:U:H2'	1:0:1538:A:C8	2.39	0.58
1:0:1837:G:H2'	1:0:1838:G:H8	1.67	0.58
1:0:2526:U:C5	1:0:2545:A:N7	2.72	0.58
1:0:2548:G:O2'	1:0:2549:G:H5''	2.03	0.58
1:0:2840:U:C6	1:0:2841:U:H5	2.21	0.58
1:0:298:C:H2'	1:0:299:C:H6	1.68	0.58
1:0:459:A:N6	1:0:484:G:H1'	2.18	0.58
1:0:1141:U:O5'	1:0:1141:U:H6	1.87	0.58
1:0:1999:U:H2'	1:0:2000:U:O4'	2.02	0.58
1:0:2225:G:C2	1:0:2405:A:H1'	2.39	0.58
1:0:445:A:O2'	1:0:446:C:H5'	2.04	0.58
1:0:974:U:O2'	1:0:975:C:H5'	2.04	0.58
1:0:1624:A:C2'	1:0:1625:A:H5'	2.34	0.58
1:0:1664:G:O5'	1:0:1665:C:OP1	2.22	0.58
1:0:597:U:H2'	1:0:598:U:C6	2.38	0.58
1:0:1865:C:H2'	1:0:1866:G:O4'	2.04	0.57
1:0:2085:G:H2'	1:0:2086:U:C6	2.37	0.57
1:0:2499:C:N4	1:0:2521:A:H2	2.01	0.57
1:0:2862:G:O2'	1:0:2863:U:H5'	2.03	0.57
1:0:824:U:H2'	1:0:825:C:H5''	1.86	0.57
1:0:1541:G:N2	1:0:1562:G:N2	2.52	0.57
1:0:1630:A:H8	1:0:1630:A:OP2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1748:U:N3	1:0:1753:A:C2	2.62	0.57
1:0:2503:G:C3'	1:0:2504:G:H5''	2.33	0.57
1:0:2825:A:H2'	1:0:2826:C:H6	1.67	0.57
1:0:174:A:H4'	1:0:2051:U:H2'	1.86	0.57
1:0:831:G:H2'	1:0:832:A:H5''	1.85	0.57
1:0:1141:U:O2'	1:0:1142:G:P	2.63	0.57
1:0:1791:C:H42	1:0:1809:G:H22	1.52	0.57
1:0:220:U:H2'	1:0:221:A:H8	1.69	0.57
1:0:756:C:H2'	1:0:757:U:C6	2.40	0.57
1:0:932:G:H2'	1:0:933:G:O4'	2.04	0.57
1:0:964:A:H2'	1:0:965:G:C8	2.37	0.57
1:0:1229:C:H2'	1:0:1230:C:H6	1.68	0.57
1:0:1291:G:O2'	1:0:1292:A:H5'	2.04	0.57
1:0:1374:G:N2	1:0:1384:G:H1'	2.19	0.57
1:0:1908:C:H2'	1:0:1909:U:C4'	2.19	0.57
1:0:422:C:H2'	1:0:423:G:O4'	2.05	0.57
1:0:474:G:N2	1:0:476:G:H3'	2.18	0.57
1:0:1035:G:H21	1:0:1155:G:H4'	1.68	0.57
1:0:1057:A:H3'	1:0:1058:G:C5'	2.34	0.57
1:0:1202:U:H2'	1:0:1203:A:C8	2.29	0.57
1:0:403:A:H5''	1:0:404:A:OP1	2.03	0.57
1:0:871:U:H1'	1:0:2248:A:C5'	2.35	0.57
1:0:1073:G:C2'	1:0:1074:G:H4'	2.23	0.57
1:0:1636:G:H2'	1:0:1637:U:C6	2.38	0.57
1:0:115:G:H8	1:0:115:G:O5'	1.88	0.57
1:0:542:A:H62	1:0:570:G:H21	1.52	0.57
1:0:629:C:O2'	1:0:630:G:H5'	2.04	0.57
1:0:670:U:O2'	1:0:671:A:H5'	2.03	0.57
1:0:701:U:H4'	1:0:1771:A:C2	2.40	0.57
1:0:958:G:H2'	1:0:959:C:H6	1.68	0.57
1:0:1040:A:C2'	1:0:1041:G:H5'	2.34	0.57
1:0:1086:C:C2'	1:0:1087:C:H5''	2.33	0.57
1:0:1196:G:H2'	1:0:1197:U:C4'	2.34	0.57
1:0:1352:G:H2'	1:0:1353:A:H8	1.70	0.57
1:0:1611:U:H2'	1:0:1612:U:O4'	2.05	0.57
1:0:2841:U:H1'	1:0:2843:A:H1'	1.86	0.57
1:0:608:G:O2'	1:0:609:U:H5'	2.04	0.57
1:0:1112:U:H2'	1:0:1113:C:C6	2.39	0.57
1:0:1372:A:H2'	1:0:1373:G:H5'	1.87	0.57
1:0:1392:U:C2'	1:0:1393:G:H5'	2.35	0.57
1:0:2680:U:H3'	1:0:2681:A:H5'	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2751:C:H2'	1:0:2752:C:H6	1.70	0.57
1:0:2814:G:H1	1:0:2853:U:H3	1.53	0.57
1:0:165:G:H4'	1:0:1378:A:C2	2.40	0.57
1:0:203:G:O2'	1:0:204:A:H5'	2.05	0.57
1:0:362:C:C4	1:0:363:G:H1'	2.39	0.57
1:0:635:C:C2'	1:0:636:G:H5''	2.31	0.57
1:0:642:A:H2'	1:0:643:A:C8	2.40	0.57
1:0:931:G:H2'	1:0:932:G:C5'	2.34	0.57
1:0:1561:A:H2'	1:0:1562:G:O4'	2.05	0.57
1:0:1692:C:H2'	1:0:1693:A:H5'	1.86	0.57
1:0:2425:G:O2'	1:0:2426:G:H5'	2.04	0.57
1:0:2544:A:H5''	1:0:2545:A:OP2	2.05	0.57
1:0:2671:C:O2'	1:0:2672:U:H5'	2.04	0.57
1:0:931:G:H2'	1:0:932:G:H5'	1.87	0.57
1:0:1373:G:H2'	1:0:1374:G:H5'	1.87	0.57
1:0:1479:G:N2	1:0:1543:G:H21	2.03	0.57
1:0:2555:G:H2'	1:0:2555:G:N3	2.20	0.57
1:0:13:A:H1'	1:0:536:A:N6	2.19	0.56
1:0:942:U:H2'	1:0:943:U:C4'	2.35	0.56
1:0:1661:C:H2'	1:0:1662:G:C8	2.40	0.56
1:0:2042:A:H8	1:0:2042:A:H3'	1.69	0.56
1:0:2311:U:HO2'	1:0:2312:A:H8	1.53	0.56
1:0:2411:A:H8	1:0:2411:A:O5'	1.88	0.56
1:0:575:U:H2'	1:0:576:A:C8	2.40	0.56
1:0:1004:A:H2'	1:0:1005:U:H5'	1.87	0.56
1:0:1008:G:N2	1:0:1009:C:C2	2.73	0.56
1:0:1290:A:H2'	1:0:1291:G:C8	2.40	0.56
1:0:1436:G:H8	1:0:1436:G:O5'	1.88	0.56
1:0:1809:G:O5'	1:0:1809:G:H8	1.88	0.56
1:0:1981:A:H4'	1:0:2704:U:O2'	2.05	0.56
1:0:2470:U:H2'	1:0:2471:U:C6	2.39	0.56
1:0:2587:G:H8	1:0:2587:G:O5'	1.88	0.56
1:0:20:C:O2'	1:0:21:A:H5'	2.05	0.56
1:0:66:U:H2'	1:0:67:G:C8	2.40	0.56
1:0:71:A:O2'	1:0:72:A:OP1	2.18	0.56
1:0:186:C:H2'	1:0:187:U:O4'	2.05	0.56
1:0:218:A:O2'	1:0:219:G:H4'	2.05	0.56
1:0:389:G:H2'	1:0:390:U:C6	2.40	0.56
1:0:461:A:C2	1:0:462:G:C8	2.93	0.56
1:0:742:G:C4	1:0:1766:U:O2	2.58	0.56
1:0:781:G:H5'	1:0:1638:G:H4'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:829:C:C4	1:0:1206:G:N1	2.74	0.56
1:0:942:U:H2'	1:0:943:U:O4'	2.05	0.56
1:0:976:C:O2'	1:0:977:G:H5'	2.06	0.56
1:0:1020:A:H2'	1:0:1021:A:C8	2.40	0.56
1:0:1184:G:H2'	1:0:1185:C:H5''	1.88	0.56
1:0:1245:G:H2'	1:0:1246:G:H8	1.69	0.56
1:0:1380:C:C2'	1:0:1381:G:H5'	2.36	0.56
1:0:1625:A:H3'	1:0:1625:A:N3	2.21	0.56
1:0:1725:C:H2'	1:0:1726:C:H6	1.71	0.56
1:0:1754:G:OP1	1:0:1754:G:H4'	2.05	0.56
1:0:1764:A:C2'	1:0:1765:C:H5'	2.35	0.56
1:0:2196:U:H2'	1:0:2197:U:C6	2.40	0.56
1:0:2713:A:O2'	1:0:2714:A:H5'	2.04	0.56
1:0:71:A:O2'	1:0:72:A:P	2.63	0.56
1:0:994:A:N7	1:0:995:A:N3	2.52	0.56
1:0:1164:C:H2'	1:0:1165:G:O4'	2.05	0.56
1:0:1204:G:H2'	1:0:1205:G:H8	1.71	0.56
1:0:1851:A:N6	1:0:1867:A:H1'	2.20	0.56
1:0:1962:C:C2'	1:0:1963:G:H5'	2.35	0.56
1:0:2002:A:C2	1:0:2003:A:H1'	2.41	0.56
1:0:2583:U:O2'	1:0:2584:U:H5'	2.05	0.56
1:0:2813:G:C2'	1:0:2814:G:H5'	2.35	0.56
1:0:14:A:C2	1:0:2604:G:O2'	2.54	0.56
1:0:984:A:H1'	1:0:1202:U:C6	2.40	0.56
1:0:2383:C:H2'	1:0:2384:G:O4'	2.05	0.56
1:0:2841:U:O2	1:0:2843:A:H1'	2.06	0.56
1:0:79:G:H2'	1:0:80:A:H8	1.71	0.56
1:0:608:G:H2'	1:0:609:U:C6	2.41	0.56
1:0:1353:A:C2	1:0:1618:U:C4	2.94	0.56
1:0:1798:G:O2'	1:0:1800:A:C6	2.58	0.56
1:0:1982:C:H5''	1:0:2703:C:O2'	2.05	0.56
1:0:2663:U:N3	1:0:2664:G:N7	2.53	0.56
1:0:202:A:H2'	1:0:203:G:O4'	2.06	0.56
1:0:847:C:H2'	1:0:848:A:C8	2.40	0.56
1:0:932:G:H2'	1:0:933:G:C8	2.40	0.56
1:0:953:G:H2'	1:0:954:U:C6	2.41	0.56
1:0:1312:G:H4'	1:0:1314:A:C4	2.40	0.56
1:0:2580:C:H5''	1:0:2581:A:OP2	2.06	0.56
1:0:153:A:H2'	1:0:154:U:C5	2.39	0.56
1:0:319:G:H1'	1:0:511:A:O4'	2.05	0.56
1:0:1838:G:C2'	1:0:1839:A:H5'	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:G:H2'	1:0:339:U:H5'	1.88	0.56
1:0:343:A:N6	1:0:346:C:C5	2.74	0.56
1:0:393:U:H2'	1:0:394:U:H6	1.71	0.56
1:0:696:U:O5'	1:0:696:U:H6	1.89	0.56
1:0:859:U:H4'	1:0:860:U:H5	1.70	0.56
1:0:1110:G:H2'	1:0:1111:C:C6	2.40	0.56
1:0:1213:U:N3	1:0:1260:A:C2	2.73	0.56
1:0:1311:C:H5'	1:0:1315:A:N6	2.21	0.56
1:0:2052:G:O2'	1:0:2053:G:H5'	2.05	0.56
1:0:2059:U:C2'	1:0:2060:A:H5''	2.26	0.56
1:0:2783:U:H2'	1:0:2784:A:O4'	2.05	0.56
1:0:331:U:C2'	1:0:332:C:H5''	2.34	0.56
1:0:464:G:N1	1:0:465:C:N4	2.54	0.56
1:0:990:A:H3'	1:0:991:A:H5''	1.88	0.56
1:0:1234:C:O2'	1:0:1235:C:H5'	2.06	0.56
1:0:1790:G:C8	1:0:1811:A:N6	2.74	0.56
1:0:2517:C:O2'	1:0:2518:C:H5'	2.05	0.56
1:0:10:A:H2'	1:0:11:G:C8	2.41	0.55
1:0:1503:G:C6	1:0:1504:G:C6	2.93	0.55
1:0:2301:A:C2	1:0:2302:G:H1'	2.41	0.55
1:0:2422:C:O2'	1:0:2423:G:H5'	2.06	0.55
4:0:2881:TAO:H163	4:0:2881:TAO:H203	1.88	0.55
1:0:73:A:H4'	1:0:74:G:O4'	2.07	0.55
1:0:195:A:H2'	1:0:196:A:O4'	2.07	0.55
1:0:223:C:H4'	1:0:398:C:H1'	1.88	0.55
1:0:755:C:H2'	1:0:756:C:C6	2.41	0.55
1:0:1408:A:C2	1:0:1411:C:C2	2.94	0.55
1:0:2070:G:H2'	1:0:2071:G:O4'	2.05	0.55
1:0:587:A:H2'	1:0:588:G:H5''	1.88	0.55
1:0:771:C:O2'	1:0:772:G:H5'	2.07	0.55
1:0:775:U:O2	1:0:1445:A:H5''	2.07	0.55
1:0:813:A:H1'	1:0:815:A:C4'	2.36	0.55
1:0:1583:A:H8	1:0:1583:A:O5'	1.88	0.55
1:0:2042:A:H3'	1:0:2042:A:C8	2.42	0.55
1:0:2233:C:O2'	1:0:2234:G:H5'	2.07	0.55
1:0:2395:C:C2'	1:0:2396:C:H5''	2.36	0.55
1:0:2511:G:H2'	1:0:2512:A:O4'	2.07	0.55
1:0:616:U:C3'	1:0:617:U:H5''	2.36	0.55
1:0:1442:C:N4	1:0:1585:A:C8	2.75	0.55
1:0:1685:A:H2'	1:0:1686:A:OP2	2.06	0.55
1:0:2609:G:N2	1:0:2866:A:H2	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:109:A:H3'	1:0:110:U:H5''	1.87	0.55
1:0:1029:C:C3'	1:0:1030:U:H5''	2.37	0.55
1:0:1223:G:H21	1:0:1225:G:N2	2.04	0.55
1:0:1912:G:H3'	1:0:1912:G:N3	2.22	0.55
1:0:1917:C:H2'	1:0:1918:G:O4'	2.07	0.55
1:0:2024:U:H2'	1:0:2025:A:C8	2.42	0.55
1:0:2202:G:H3'	1:0:2203:G:C8	2.42	0.55
4:0:2881:TAO:H373	4:0:2881:TAO:H36	1.88	0.55
1:0:788:G:N2	1:0:800:U:O3'	2.40	0.55
1:0:810:U:H2'	1:0:811:G:H8	1.70	0.55
1:0:1075:C:H2'	1:0:1076:U:O4'	2.07	0.55
1:0:1198:C:O5'	1:0:1199:U:H4'	2.06	0.55
1:0:1252:C:O2'	1:0:1253:C:H5''	2.05	0.55
1:0:1332:G:N1	1:0:1333:G:N2	2.54	0.55
1:0:1440:G:C6	1:0:1441:A:N7	2.74	0.55
1:0:2177:U:O2'	1:0:2178:U:H5'	2.06	0.55
1:0:2433:G:H2'	1:0:2434:G:C8	2.39	0.55
1:0:2812:A:H2'	1:0:2813:G:H8	1.72	0.55
1:0:7:G:O2'	1:0:8:A:H5'	2.06	0.55
1:0:211:U:O2'	1:0:212:U:H5'	2.07	0.55
1:0:318:G:H5'	1:0:318:G:H8	1.72	0.55
1:0:595:A:H62	1:0:1264:C:H42	1.53	0.55
1:0:1356:G:C4'	1:0:1613:G:H2'	2.37	0.55
1:0:1736:C:H2'	1:0:1737:G:C8	2.42	0.55
1:0:1801:C:H1'	1:0:2208:U:H5'	1.89	0.55
1:0:1943:A:C2'	1:0:1944:C:H5'	2.37	0.55
1:0:2005:U:H2'	1:0:2595:C:O2'	2.05	0.55
1:0:2008:C:O5'	1:0:2008:C:H6	1.90	0.55
1:0:2590:U:O2	4:0:2881:TAO:H442	2.06	0.55
1:0:2633:A:H4'	1:0:2634:G:O5'	2.06	0.55
1:0:2687:G:O2'	1:0:2688:G:H5'	2.06	0.55
1:0:246:C:N4	1:0:247:A:H62	2.04	0.55
1:0:464:G:C2	1:0:465:C:C4	2.94	0.55
1:0:929:A:H8	1:0:2247:A:H61	1.54	0.55
1:0:1003:C:O2'	1:0:1004:A:H5'	2.07	0.55
1:0:1017:C:O2'	1:0:1018:C:H5'	2.07	0.55
1:0:1245:G:H2'	1:0:1246:G:C8	2.41	0.55
1:0:1592:U:O5'	1:0:1592:U:H6	1.90	0.55
1:0:1837:G:H2'	1:0:1838:G:C8	2.41	0.55
1:0:1943:A:H2'	1:0:1944:C:H5'	1.87	0.55
1:0:1976:U:H2'	1:0:1976:U:O2	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:193:A:H2'	1:0:194:G:O4'	2.06	0.55
1:0:840:U:H4'	1:0:841:G:N2	2.21	0.55
1:0:1429:A:H1'	1:0:1603:A:C6	2.41	0.55
1:0:1827:G:H1'	1:0:1914:U:N3	2.22	0.55
1:0:2240:C:H2'	1:0:2241:U:H5'	1.89	0.55
1:0:2492:G:H2'	1:0:2493:U:H6	1.70	0.55
1:0:2538:C:O2'	1:0:2539:C:H5'	2.06	0.55
1:0:2751:C:H2'	1:0:2752:C:C6	2.42	0.55
1:0:1226:A:H2'	1:0:1227:A:C8	2.42	0.55
1:0:1424:U:H2'	1:0:1425:G:C8	2.41	0.55
1:0:1814:G:H2'	1:0:1815:G:C8	2.42	0.55
1:0:2021:G:H2'	1:0:2022:C:C6	2.42	0.55
1:0:2177:U:H2'	1:0:2178:U:H6	1.72	0.55
1:0:28:A:H5''	1:0:460:U:O4	2.08	0.54
1:0:597:U:H2'	1:0:598:U:H6	1.70	0.54
1:0:852:U:H6	1:0:852:U:O5'	1.90	0.54
1:0:1295:U:C2'	1:0:1296:G:H5'	2.36	0.54
1:0:1789:U:HO2'	1:0:1793:A:H1'	1.72	0.54
1:0:1821:A:H3'	1:0:1822:C:C6	2.42	0.54
1:0:1871:G:N3	1:0:1871:G:C2'	2.70	0.54
1:0:2180:U:O2'	1:0:2181:A:N7	2.36	0.54
1:0:2669:C:O2	1:0:2669:C:C2'	2.55	0.54
1:0:73:A:H4'	1:0:74:G:C1'	2.37	0.54
1:0:202:A:C2	1:0:203:G:H1'	2.43	0.54
1:0:1698:C:O2'	1:0:1753:A:C2'	2.54	0.54
1:0:471:A:C2	1:0:481:A:C4	2.96	0.54
1:0:703:A:O2'	1:0:704:G:H5'	2.06	0.54
1:0:957:G:O2'	1:0:958:G:H5'	2.07	0.54
1:0:1436:G:N2	1:0:1514:C:H1'	2.20	0.54
1:0:1641:C:H2'	1:0:1642:G:O4'	2.07	0.54
1:0:2429:A:H5''	1:0:2476:A:C6	2.41	0.54
1:0:416:U:C5'	1:0:417:C:H5'	2.35	0.54
1:0:1182:U:H2'	1:0:1183:C:C5'	2.35	0.54
1:0:1354:A:H3'	1:0:1410:U:O2	2.08	0.54
1:0:2276:C:O2'	1:0:2277:A:H5'	2.07	0.54
1:0:357:A:C2'	1:0:358:C:H5'	2.36	0.54
1:0:986:A:H2'	1:0:987:G:H5'	1.88	0.54
1:0:1363:C:H2'	1:0:1364:C:C6	2.43	0.54
1:0:1789:U:C2'	1:0:1790:G:H5'	2.36	0.54
1:0:2727:G:C2'	1:0:2728:A:H5''	2.37	0.54
1:0:2810:A:H2	1:0:2853:U:C5	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:12:U:O2'	1:0:13:A:H5'	2.08	0.54
1:0:12:U:C2'	1:0:13:A:H5'	2.37	0.54
1:0:298:C:H2'	1:0:299:C:C6	2.42	0.54
1:0:605:G:H2'	1:0:606:A:C8	2.42	0.54
1:0:706:A:H2'	1:0:707:U:C6	2.43	0.54
1:0:1132:C:H2'	1:0:1133:G:O4'	2.07	0.54
1:0:1463:A:H1'	1:0:1543:G:C2	2.42	0.54
1:0:1631:C:C5	1:0:1633:C:C4	2.95	0.54
1:0:1922:U:O2'	1:0:2571:G:H1'	2.07	0.54
1:0:2427:A:OP1	1:0:2478:C:OP2	2.26	0.54
4:0:2881:TAO:C26	4:0:2881:TAO:C37	2.78	0.54
1:0:226:C:H4'	1:0:227:G:C8	2.42	0.54
1:0:635:C:O2	1:0:670:U:H4'	2.08	0.54
1:0:810:U:H2'	1:0:811:G:C8	2.43	0.54
1:0:929:A:OP1	1:0:929:A:H4'	2.08	0.54
1:0:1392:U:H2'	1:0:1393:G:H5'	1.90	0.54
1:0:1447:U:H1'	1:0:1577:G:H22	1.71	0.54
1:0:1554:G:H2'	1:0:1555:A:O4'	2.08	0.54
1:0:1558:C:O2'	1:0:1559:G:H5'	2.06	0.54
1:0:1624:A:O2'	1:0:1625:A:H5'	2.07	0.54
1:0:2054:A:H2	1:0:2419:C:H41	1.54	0.54
1:0:2394:G:H2'	1:0:2395:C:C6	2.43	0.54
1:0:604:U:H2'	1:0:605:G:C8	2.43	0.54
1:0:940:G:C8	1:0:941:U:H5''	2.43	0.54
1:0:958:G:H2'	1:0:959:C:C5	2.42	0.54
1:0:1058:G:H2'	1:0:1121:G:H1	1.73	0.54
1:0:1763:G:N2	1:0:1765:C:C5'	2.68	0.54
1:0:1764:A:H2'	1:0:1765:C:H5'	1.90	0.54
1:0:2096:U:C2'	1:0:2097:A:H5''	2.33	0.54
1:0:2341:G:O2'	1:0:2342:U:H5'	2.08	0.54
1:0:2870:C:H2'	1:0:2871:U:C6	2.40	0.54
1:0:491:A:C2	1:0:509:U:H2'	2.43	0.54
1:0:570:G:C2'	1:0:571:U:H5''	2.38	0.54
1:0:1171:A:H2'	1:0:1172:U:H6	1.72	0.54
1:0:1267:A:H5''	1:0:1268:U:H5'	1.90	0.54
1:0:1380:C:H2'	1:0:1381:G:H5'	1.90	0.54
1:0:2839:G:C5	1:0:2840:U:C4	2.96	0.54
1:0:2857:C:H2'	1:0:2858:A:O5'	2.08	0.54
1:0:1087:C:H2'	1:0:1088:A:O4'	2.08	0.53
1:0:1178:C:O2'	1:0:1179:A:H5'	2.08	0.53
1:0:1323:G:H1'	1:0:1627:C:H5'	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1725:C:O2'	1:0:1726:C:H5'	2.08	0.53
1:0:1872:A:H2'	1:0:1873:A:H8	1.72	0.53
1:0:1914:U:O2'	1:0:1915:A:H5'	2.09	0.53
1:0:2824:C:C2'	1:0:2825:A:OP2	2.57	0.53
1:0:347:C:H2'	1:0:348:U:O4'	2.07	0.53
1:0:514:G:N3	1:0:514:G:H2'	2.23	0.53
1:0:1288:A:H2'	1:0:1289:A:O4'	2.09	0.53
1:0:1802:A:O2'	1:0:1803:G:H5'	2.08	0.53
1:0:312:G:H4'	1:0:312:G:OP1	2.09	0.53
1:0:482:A:H2'	1:0:483:A:O4'	2.09	0.53
1:0:620:G:O2'	1:0:621:U:H5'	2.08	0.53
1:0:735:G:O2'	1:0:736:G:H5'	2.09	0.53
1:0:763:A:H5''	1:0:1631:C:N4	2.24	0.53
1:0:847:C:H2'	1:0:848:A:H8	1.73	0.53
1:0:940:G:C8	1:0:941:U:O4'	2.61	0.53
1:0:1302:C:O2'	1:0:1343:C:H4'	2.08	0.53
1:0:1339:U:O4	1:0:1664:G:H1'	2.08	0.53
1:0:1359:G:H5'	1:0:1359:G:H8	1.73	0.53
1:0:1399:C:H2'	1:0:1400:A:C8	2.43	0.53
1:0:1464:A:H2'	1:0:1465:G:O4'	2.08	0.53
1:0:2011:U:H2'	1:0:2012:A:H8	1.73	0.53
1:0:2012:A:C5	1:0:2014:A:H5'	2.43	0.53
1:0:2034:A:N6	1:0:2593:A:C8	2.76	0.53
1:0:2618:A:C6	1:0:2619:G:H1'	2.43	0.53
1:0:461:A:H2'	1:0:461:A:N3	2.21	0.53
1:0:538:A:C2'	1:0:539:A:H5''	2.38	0.53
1:0:818:G:H1	1:0:2051:U:H5''	1.73	0.53
1:0:860:U:H2'	1:0:860:U:O2	2.06	0.53
1:0:872:G:O2'	1:0:2247:A:C4	2.61	0.53
1:0:877:G:O2'	1:0:878:C:H5'	2.07	0.53
1:0:955:G:H5'	1:0:956:A:H5''	1.90	0.53
1:0:1491:C:H2'	1:0:1492:A:C8	2.42	0.53
1:0:2041:A:H2	4:0:2881:TAO:O33	1.90	0.53
1:0:2674:C:C2	1:0:2675:U:C5	2.97	0.53
1:0:539:A:H2'	1:0:540:G:OP2	2.08	0.53
1:0:678:G:O2'	1:0:679:C:H5'	2.08	0.53
1:0:1057:A:H3'	1:0:1058:G:H5''	1.89	0.53
1:0:1064:C:H2'	1:0:1065:A:C8	2.43	0.53
1:0:1147:G:O2'	1:0:1148:G:H5'	2.08	0.53
1:0:1288:A:N6	1:0:1309:G:H5'	2.23	0.53
1:0:1333:G:C5	1:0:1342:U:H5'	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1424:U:H2'	1:0:1425:G:H8	1.73	0.53
1:0:1657:A:H2'	1:0:1658:A:O4'	2.08	0.53
1:0:1685:A:C2'	1:0:1686:A:OP2	2.55	0.53
1:0:1920:A:C4	1:0:1922:U:H5	2.25	0.53
1:0:80:A:O2'	1:0:81:C:H5'	2.09	0.53
1:0:328:A:O2'	1:0:329:C:H5'	2.07	0.53
1:0:612:G:H4'	1:0:613:A:H4'	1.89	0.53
1:0:843:G:O2'	1:0:844:G:P	2.66	0.53
1:0:1370:U:O2'	1:0:1371:G:H5'	2.09	0.53
1:0:1514:C:H5'	1:0:1593:C:H5''	1.91	0.53
1:0:2832:G:N2	1:0:2835:A:OP2	2.41	0.53
1:0:29:U:H2'	1:0:30:G:C8	2.44	0.53
1:0:239:A:C5'	1:0:620:G:H5'	2.38	0.53
1:0:927:C:O2'	1:0:928:G:H5'	2.08	0.53
1:0:1227:A:H4'	1:0:1252:C:H4'	1.90	0.53
1:0:1327:C:O5'	1:0:1327:C:H6	1.92	0.53
1:0:1930:C:C4	1:0:1931:G:N7	2.77	0.53
1:0:1937:G:N3	1:0:2530:C:H5'	2.24	0.53
1:0:2390:A:H2'	1:0:2391:A:C8	2.43	0.53
1:0:2785:A:H62	1:0:2865:G:H21	1.57	0.53
1:0:630:G:H5''	1:0:631:G:OP2	2.09	0.53
1:0:968:C:N4	1:0:970:A:C1'	2.71	0.53
1:0:1151:U:H5''	1:0:1153:A:OP1	2.08	0.53
1:0:1229:C:N3	1:0:1247:U:O2	2.42	0.53
1:0:1263:G:O2'	1:0:1264:C:P	2.67	0.53
1:0:1411:C:H2'	1:0:1412:C:H6	1.73	0.53
1:0:2307:A:H2'	1:0:2308:A:C8	2.43	0.53
1:0:501:G:H2'	1:0:502:A:H8	1.74	0.53
1:0:629:C:C2'	1:0:630:G:H5'	2.38	0.53
1:0:782:U:H2'	1:0:783:G:H8	1.73	0.53
1:0:1458:A:C3'	1:0:1459:U:C5'	2.68	0.53
1:0:1811:A:H2'	1:0:1811:A:N3	2.24	0.53
1:0:2047:C:H6	1:0:2047:C:H5''	1.73	0.53
1:0:2335:U:H2'	1:0:2336:G:O4'	2.09	0.53
1:0:2588:U:C3'	1:0:2589:C:H5'	2.39	0.53
1:0:187:U:H1'	1:0:1379:A:C2	2.43	0.53
1:0:484:G:O2'	1:0:485:G:H5'	2.09	0.53
1:0:486:U:C2'	1:0:487:G:H5'	2.39	0.53
1:0:502:A:H2'	1:0:503:G:H5'	1.91	0.53
1:0:581:A:C2	1:0:582:G:H1'	2.43	0.53
1:0:687:G:O2'	1:0:688:A:H5'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:923:A:H2'	1:0:923:A:N3	2.24	0.53
1:0:1680:U:H6	1:0:1680:U:C5'	2.22	0.53
1:0:1715:A:HO2'	1:0:1716:G:H8	1.57	0.53
1:0:2010:G:H2'	1:0:2011:U:H6	1.74	0.53
1:0:2404:A:O2'	1:0:2405:A:OP2	2.22	0.53
1:0:451:A:H2'	1:0:452:G:H8	1.70	0.52
1:0:661:C:O2'	1:0:662:G:H5'	2.08	0.52
1:0:789:G:H1'	1:0:806:A:N7	2.24	0.52
1:0:1010:U:H2'	1:0:1011:A:C8	2.44	0.52
1:0:1655:C:H5''	1:0:2689:C:O2'	2.09	0.52
1:0:1854:G:O2'	1:0:1855:G:H5'	2.08	0.52
1:0:2371:A:H2'	1:0:2372:A:O4'	2.08	0.52
1:0:2396:C:H6	1:0:2396:C:H5'	1.73	0.52
1:0:15:G:N2	1:0:2027:C:O2'	2.42	0.52
1:0:163:A:O2'	1:0:164:G:H5'	2.09	0.52
1:0:198:A:O2'	1:0:199:A:OP2	2.26	0.52
1:0:486:U:O2'	1:0:487:G:H5'	2.08	0.52
1:0:657:A:H2'	1:0:658:G:H8	1.71	0.52
1:0:785:U:H5'	1:0:1368:G:O2'	2.09	0.52
1:0:864:C:O2'	1:0:865:A:H5'	2.09	0.52
1:0:1083:C:H42	1:0:1103:C:N4	2.06	0.52
1:0:1442:C:N4	1:0:1585:A:H8	2.07	0.52
1:0:1535:C:O2	1:0:1535:C:H2'	2.09	0.52
1:0:2052:G:C2'	1:0:2053:G:H5'	2.39	0.52
1:0:2117:A:N6	1:0:2139:G:H21	2.06	0.52
1:0:2630:C:H2'	1:0:2631:C:H6	1.75	0.52
1:0:2760:G:H2'	1:0:2761:A:OP1	2.09	0.52
1:0:41:G:O2'	1:0:42:G:H5'	2.09	0.52
1:0:109:A:H2'	1:0:110:U:C5'	2.33	0.52
1:0:192:G:H4'	1:0:193:A:O5'	2.10	0.52
1:0:215:G:N2	1:0:632:A:H8	1.95	0.52
1:0:222:G:H1'	1:0:397:U:O2	2.10	0.52
1:0:600:G:C6	1:0:602:C:C4	2.97	0.52
1:0:1451:C:H2'	1:0:1452:U:C6	2.44	0.52
1:0:1621:C:H4'	1:0:1626:A:N6	2.23	0.52
1:0:2005:U:H5''	1:0:2006:G:OP1	2.08	0.52
1:0:2182:A:H2'	1:0:2183:C:O4'	2.09	0.52
1:0:2448:A:H2'	1:0:2449:G:O4'	2.08	0.52
1:0:2621:G:O2'	1:0:2622:G:H5'	2.09	0.52
1:0:2668:U:P	1:0:2699:G:H22	2.32	0.52
1:0:2755:A:HO2'	1:0:2756:A:H5'	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:163:A:H2'	1:0:164:G:C8	2.41	0.52
1:0:173:A:H2'	1:0:173:A:N3	2.25	0.52
1:0:204:A:N1	1:0:2386:G:H1'	2.24	0.52
1:0:459:A:C4	1:0:466:A:N7	2.78	0.52
1:0:636:G:H2'	1:0:637:G:H5'	1.92	0.52
1:0:951:G:C2'	1:0:952:A:H5''	2.39	0.52
1:0:1123:G:O2'	1:0:1124:U:H5'	2.10	0.52
1:0:1624:A:H2'	1:0:1625:A:H5'	1.90	0.52
1:0:1740:G:O2'	1:0:1741:G:H5'	2.09	0.52
1:0:2579:A:H2'	1:0:2580:C:C6	2.45	0.52
1:0:473:C:C4	1:0:474:G:N7	2.78	0.52
1:0:744:C:N4	1:0:745:C:H41	2.08	0.52
1:0:763:A:C5'	1:0:1631:C:H42	2.22	0.52
1:0:940:G:C3'	1:0:941:U:C5'	2.73	0.52
1:0:1117:G:H2'	1:0:1118:G:C8	2.45	0.52
1:0:1373:G:H1	1:0:2192:U:H3	1.56	0.52
1:0:1791:C:H2'	1:0:1792:C:C5'	2.32	0.52
1:0:2094:C:C4	1:0:2103:G:H1'	2.45	0.52
1:0:90:G:H3'	1:0:91:A:C5'	2.39	0.52
1:0:563:U:H6	1:0:563:U:O5'	1.93	0.52
1:0:765:C:O2'	1:0:766:A:O4'	2.27	0.52
1:0:1441:A:H2'	1:0:1441:A:N3	2.23	0.52
1:0:1618:U:C6	1:0:1618:U:P	3.02	0.52
1:0:1739:G:H2'	1:0:1740:G:C8	2.45	0.52
1:0:1974:U:C2'	1:0:1975:G:H5''	2.40	0.52
1:0:2375:G:H2'	1:0:2376:G:C8	2.44	0.52
1:0:941:U:H4'	1:0:941:U:OP1	2.08	0.52
1:0:1664:G:H4'	1:0:1665:C:OP1	2.10	0.52
1:0:2204:A:O2'	1:0:2205:C:P	2.68	0.52
1:0:2624:G:H4'	1:0:2712:G:O2'	2.09	0.52
1:0:195:A:H61	1:0:212:U:H4'	1.75	0.52
1:0:238:G:O4'	1:0:618:A:H2	1.91	0.52
1:0:330:C:C2'	1:0:331:U:H5'	2.39	0.52
1:0:984:A:H2	1:0:1200:G:H1	1.58	0.52
1:0:1198:C:OP1	1:0:1199:U:O4'	2.28	0.52
1:0:1763:G:H2'	1:0:1764:A:C4'	2.35	0.52
1:0:2238:G:H1'	1:0:2406:C:C2	2.45	0.52
1:0:2813:G:O2'	1:0:2814:G:H5'	2.09	0.52
1:0:365:U:H2'	1:0:366:U:C6	2.45	0.52
1:0:805:G:H2'	1:0:2419:C:N3	2.25	0.52
1:0:1998:A:H2'	1:0:1999:U:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2048:C:O2'	1:0:2049:C:H5'	2.09	0.52
1:0:2429:A:OP1	1:0:2476:A:H2'	2.09	0.52
1:0:2466:G:H2'	1:0:2467:A:H8	1.72	0.52
1:0:132:U:H2'	1:0:133:C:C6	2.45	0.52
1:0:158:A:H2'	1:0:159:A:C8	2.45	0.52
1:0:321:A:H2'	1:0:323:G:C8	2.45	0.52
1:0:336:A:H2'	1:0:337:G:O4'	2.09	0.52
1:0:746:G:O6	1:0:774:A:H2'	2.09	0.52
1:0:1004:A:C2'	1:0:1005:U:H5''	2.39	0.52
1:0:1124:U:H2'	1:0:1125:G:H8	1.75	0.52
1:0:1213:U:N3	1:0:1260:A:H2	2.08	0.52
1:0:1257:U:H2'	1:0:1258:G:H8	1.74	0.52
1:0:1312:G:H4'	1:0:1314:A:N3	2.25	0.52
1:0:1429:A:N6	1:0:1602:G:H5'	2.25	0.52
1:0:195:A:C6	1:0:212:U:H4'	2.45	0.51
1:0:573:C:H2'	1:0:574:C:O4'	2.10	0.51
1:0:839:U:C4	1:0:841:G:H1'	2.45	0.51
1:0:1679:U:C3'	1:0:1680:U:H5''	2.39	0.51
1:0:1781:C:H2'	1:0:1782:A:N7	2.26	0.51
1:0:2080:U:H2'	1:0:2081:U:C6	2.45	0.51
1:0:2491:C:H3'	1:0:2492:G:H5''	1.91	0.51
1:0:2708:U:H2'	1:0:2709:C:H6	1.73	0.51
1:0:2795:A:N3	1:0:2795:A:H2'	2.24	0.51
1:0:71:A:HO2'	1:0:72:A:P	2.32	0.51
1:0:839:U:OP1	1:0:2408:G:OP2	2.27	0.51
1:0:951:G:H3'	1:0:952:A:H5''	1.92	0.51
1:0:1010:U:C2	1:0:1168:G:N2	2.78	0.51
1:0:1714:A:H3'	1:0:1715:A:N7	2.25	0.51
1:0:1920:A:N6	1:0:1923:U:C6	2.78	0.51
1:0:2225:G:O2'	1:0:2226:A:H5'	2.11	0.51
1:0:2469:G:H4'	1:0:2470:U:C5	2.46	0.51
1:0:2558:C:H2'	1:0:2559:U:O4'	2.11	0.51
1:0:19:C:H5'	1:0:563:U:OP1	2.10	0.51
1:0:446:C:H2'	1:0:447:U:O4'	2.10	0.51
1:0:475:U:C1'	1:0:801:A:N1	2.72	0.51
1:0:492:G:H22	1:0:519:C:H42	1.58	0.51
1:0:757:U:O2	1:0:767:G:N2	2.43	0.51
1:0:821:A:O2'	1:0:1267:A:H4'	2.11	0.51
1:0:837:U:H2'	1:0:838:A:O4'	2.09	0.51
1:0:1038:U:N3	1:0:2467:A:H5'	2.24	0.51
1:0:1072:U:O5'	1:0:1072:U:H6	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1462:C:O2'	1:0:1560:A:H1'	2.11	0.51
1:0:1644:G:N2	1:0:1645:U:C2	2.78	0.51
1:0:2505:G:N2	1:0:2517:C:C2	2.78	0.51
1:0:929:A:H3'	1:0:930:A:C5'	2.35	0.51
1:0:975:C:O5'	1:0:975:C:H6	1.93	0.51
1:0:1314:A:N7	1:0:1316:G:C8	2.79	0.51
1:0:1440:G:H3'	1:0:1441:A:H5'	1.91	0.51
1:0:2053:G:C2	1:0:2421:C:C2	2.98	0.51
1:0:2369:U:H2'	1:0:2370:G:C8	2.45	0.51
1:0:139:A:O2'	1:0:140:G:H5'	2.11	0.51
1:0:222:G:O2'	1:0:223:C:H5'	2.11	0.51
1:0:429:C:H2'	1:0:430:C:O4'	2.08	0.51
1:0:583:C:O2'	1:0:584:A:P	2.68	0.51
1:0:688:A:N6	1:0:816:U:H3	1.96	0.51
1:0:698:A:C6	1:0:786:U:C5	2.98	0.51
1:0:788:G:N2	1:0:801:A:P	2.84	0.51
1:0:957:G:N2	1:0:983:G:H1'	2.25	0.51
1:0:1009:C:O5'	1:0:1009:C:H6	1.92	0.51
1:0:1135:C:H2'	1:0:1136:G:C8	2.44	0.51
1:0:1174:G:H2'	1:0:1175:A:C8	2.46	0.51
1:0:1558:C:H2'	1:0:1559:G:H5'	1.92	0.51
1:0:1620:C:O2'	1:0:1621:C:H5'	2.11	0.51
1:0:2321:C:C2'	1:0:2322:U:H5'	2.40	0.51
1:0:27:G:O2'	1:0:28:A:O4'	2.28	0.51
1:0:76:C:H2'	1:0:77:C:C6	2.46	0.51
1:0:178:C:H2'	1:0:179:U:C6	2.46	0.51
1:0:333:A:H2'	1:0:350:U:O2	2.11	0.51
1:0:357:A:H2'	1:0:357:A:N3	2.25	0.51
1:0:813:A:O2'	1:0:814:G:O5'	2.29	0.51
1:0:1220:G:C2	1:0:1221:C:N3	2.79	0.51
1:0:1924:C:H2'	1:0:1925:C:O4'	2.10	0.51
1:0:2169:A:C2'	1:0:2170:C:H5'	2.41	0.51
1:0:2662:C:H42	1:0:2707:G:H21	1.58	0.51
1:0:475:U:C2	1:0:801:A:C6	2.98	0.51
1:0:818:G:N1	1:0:2051:U:H5''	2.26	0.51
1:0:1318:A:C6	1:0:1319:C:C4	2.99	0.51
1:0:1472:C:HO2'	1:0:1474:A:H8	1.58	0.51
1:0:1480:G:C2'	1:0:1481:U:H5'	2.41	0.51
1:0:1730:G:H2'	1:0:1731:C:C6	2.45	0.51
1:0:1783:G:O6	1:0:1820:G:H1'	2.11	0.51
1:0:2396:C:C2'	1:0:2397:A:H5'	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2396:C:O2'	1:0:2397:A:H5'	2.11	0.51
1:0:2799:C:H2'	1:0:2800:C:O4'	2.10	0.51
1:0:490:A:N7	1:0:492:G:N3	2.59	0.51
1:0:510:G:H8	1:0:510:G:O5'	1.94	0.51
1:0:782:U:HO2'	1:0:1392:U:H5	1.59	0.51
1:0:886:A:H2'	1:0:887:G:O4'	2.11	0.51
1:0:2015:G:N1	1:0:2038:C:O2	2.36	0.51
1:0:2082:C:N4	1:0:2083:G:C6	2.79	0.51
1:0:2507:U:O2'	1:0:2508:G:H3'	2.11	0.51
1:0:322:A:H2	1:0:342:G:OP2	1.94	0.51
1:0:474:G:H22	1:0:476:G:H3'	1.75	0.51
1:0:764:A:N3	1:0:764:A:C2'	2.74	0.51
1:0:1333:G:N2	1:0:1344:C:N4	2.58	0.51
1:0:1494:G:H2'	1:0:1495:G:O4'	2.11	0.51
1:0:2432:A:H4'	1:0:2551:A:O2'	2.10	0.51
1:0:2544:A:H2'	1:0:2545:A:C1'	2.41	0.51
1:0:2594:U:N3	1:0:2595:C:C5	2.79	0.51
1:0:525:A:H2'	1:0:526:C:O4'	2.10	0.51
1:0:537:C:C6	1:0:2759:U:H2'	2.46	0.51
1:0:625:A:O5'	1:0:625:A:H8	1.93	0.51
1:0:790:A:O2'	1:0:791:G:H5'	2.11	0.51
1:0:1026:U:H2'	1:0:1027:C:H6	1.74	0.51
1:0:1363:C:H2'	1:0:1364:C:O4'	2.11	0.51
1:0:1823:G:H2'	1:0:1824:C:C6	2.46	0.51
1:0:1933:G:H8	1:0:1933:G:O5'	1.93	0.51
1:0:2394:G:H2'	1:0:2395:C:H6	1.76	0.51
1:0:2402:U:H5'	1:0:2404:A:C5	2.46	0.51
1:0:2701:A:H2'	1:0:2702:G:O4'	2.10	0.51
1:0:887:G:O2'	1:0:888:G:H5'	2.11	0.50
1:0:1383:C:O2'	1:0:1384:G:H5'	2.11	0.50
1:0:1435:G:N2	1:0:1512:A:C2	2.79	0.50
1:0:186:C:O2'	1:0:187:U:H5'	2.12	0.50
1:0:931:G:N2	1:0:2247:A:C5'	2.72	0.50
1:0:1390:G:H8	1:0:1390:G:O5'	1.93	0.50
1:0:1666:G:H2'	1:0:1667:A:H8	1.75	0.50
1:0:65:C:O2'	1:0:66:U:H5'	2.11	0.50
1:0:159:A:O2'	1:0:160:C:H5'	2.12	0.50
1:0:520:C:H2'	1:0:521:U:O4'	2.11	0.50
1:0:534:U:H4'	1:0:564:U:H4'	1.92	0.50
1:0:847:C:N4	1:0:955:G:H21	1.86	0.50
1:0:1579:G:H2'	1:0:1580:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1636:G:H2'	1:0:1637:U:H6	1.76	0.50
1:0:1710:U:H3	1:0:1821:A:N6	2.00	0.50
1:0:1785:A:H2'	1:0:1786:C:C6	2.47	0.50
1:0:2032:G:N2	1:0:2599:U:C2	2.79	0.50
1:0:161:U:H5'	1:0:193:A:N1	2.27	0.50
1:0:305:A:C2'	1:0:306:G:H5'	2.42	0.50
1:0:704:G:O2'	1:0:705:C:H5'	2.11	0.50
1:0:1398:G:O2'	1:0:1399:C:H5'	2.10	0.50
1:0:1729:C:H2'	1:0:1730:G:C8	2.46	0.50
1:0:1732:U:H2'	1:0:1733:U:O5'	2.11	0.50
1:0:2026:C:H2'	1:0:2027:C:H6	1.77	0.50
1:0:2266:A:H62	1:0:2323:U:H1'	1.67	0.50
1:0:2471:U:O2	1:0:2471:U:H2'	2.12	0.50
1:0:2670:C:H4'	1:0:2846:G:O2'	2.11	0.50
1:0:141:G:H2'	1:0:142:U:H6	1.77	0.50
1:0:585:U:H2'	1:0:586:G:C8	2.46	0.50
1:0:588:G:C2	1:0:1275:A:C6	2.99	0.50
1:0:611:C:O2'	1:0:614:G:H5''	2.11	0.50
1:0:691:C:O2'	1:0:692:C:H5'	2.12	0.50
1:0:764:A:N1	1:0:802:A:C4	2.80	0.50
1:0:824:U:H2'	1:0:825:C:C5'	2.40	0.50
1:0:914:C:O2'	1:0:915:C:H5'	2.11	0.50
1:0:1287:A:C5	1:0:1315:A:C2	3.00	0.50
1:0:1304:U:C2'	1:0:1305:C:H5'	2.40	0.50
1:0:1418:C:H2'	1:0:1419:G:C8	2.46	0.50
1:0:1704:G:H8	1:0:1704:G:O5'	1.94	0.50
1:0:1872:A:H1'	1:0:2070:G:H5'	1.92	0.50
1:0:2033:C:H2'	1:0:2034:A:C1'	2.41	0.50
1:0:2060:A:OP1	1:0:2061:C:OP2	2.29	0.50
1:0:2409:A:H2'	1:0:2410:U:C5'	2.40	0.50
1:0:2587:G:H5''	1:0:2588:U:OP1	2.10	0.50
1:0:2683:C:O5'	1:0:2683:C:H6	1.95	0.50
1:0:2703:C:O2'	1:0:2704:U:H5'	2.11	0.50
1:0:658:G:H4'	1:0:2331:A:C5'	2.39	0.50
1:0:740:A:N6	1:0:741:G:N1	2.60	0.50
1:0:741:G:C5	1:0:743:A:C8	3.00	0.50
1:0:964:A:H1'	1:0:2245:A:OP2	2.11	0.50
1:0:1392:U:H2'	1:0:1392:U:O2	2.11	0.50
1:0:1979:C:H2'	1:0:1979:C:O2	2.10	0.50
1:0:2725:C:H2'	1:0:2726:U:C6	2.47	0.50
1:0:2812:A:H2'	1:0:2813:G:C8	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:108:G:H2'	1:0:109:A:C8	2.47	0.50
1:0:147:G:O5'	1:0:147:G:H8	1.94	0.50
1:0:788:G:H21	1:0:801:A:P	2.34	0.50
1:0:843:G:H3'	1:0:843:G:OP1	2.11	0.50
1:0:1218:C:H2'	1:0:1219:C:O4'	2.11	0.50
1:0:1846:A:H2'	1:0:1847:G:O4'	2.11	0.50
1:0:2655:C:O2'	1:0:2656:G:H5'	2.11	0.50
1:0:2830:U:H2'	1:0:2831:A:H8	1.77	0.50
1:0:538:A:C3'	1:0:539:A:H5''	2.42	0.50
1:0:1252:C:O5'	1:0:1252:C:H6	1.94	0.50
1:0:1259:A:H2'	1:0:1260:A:H5'	1.92	0.50
1:0:1468:A:P	1:0:1468:A:H8	2.33	0.50
1:0:1474:A:N3	1:0:1474:A:C3'	2.70	0.50
1:0:1717:A:H2'	1:0:1718:A:H5'	1.94	0.50
1:0:1959:U:H2'	1:0:1960:A:C8	2.47	0.50
1:0:2272:A:C2	1:0:2273:C:C2	3.00	0.50
1:0:2356:A:O2'	1:0:2357:A:H5'	2.12	0.50
1:0:2790:C:H2'	1:0:2791:C:H6	1.75	0.50
1:0:50:G:H2'	1:0:117:A:N1	2.26	0.50
1:0:58:C:H1'	1:0:72:A:C8	2.47	0.50
1:0:198:A:O2'	1:0:199:A:P	2.70	0.50
1:0:500:G:C6	1:0:1297:A:C2	3.00	0.50
1:0:745:C:H2'	1:0:746:G:C5'	2.42	0.50
1:0:845:U:O2'	1:0:846:A:H5'	2.12	0.50
1:0:959:C:O2'	1:0:960:U:H5'	2.12	0.50
1:0:995:A:H5''	1:0:996:C:C5	2.45	0.50
1:0:1313:U:H1'	1:0:1642:G:C2	2.47	0.50
1:0:1714:A:H5''	1:0:1715:A:C8	2.47	0.50
1:0:2076:G:H2'	1:0:2077:G:C8	2.47	0.50
1:0:2709:C:H2'	1:0:2710:C:C6	2.47	0.50
1:0:2842:C:H6	1:0:2842:C:H5''	1.77	0.50
1:0:45:C:H2'	1:0:46:C:C6	2.47	0.49
1:0:616:U:N3	1:0:632:A:N1	2.54	0.49
1:0:763:A:H5''	1:0:1631:C:H42	1.76	0.49
1:0:790:A:C2	1:0:791:G:C8	3.00	0.49
1:0:2650:G:HO2'	1:0:2651:U:H5'	1.74	0.49
1:0:65:C:C2'	1:0:66:U:H5'	2.42	0.49
1:0:93:A:O2'	1:0:94:C:H5'	2.11	0.49
1:0:114:C:H2'	1:0:115:G:C8	2.47	0.49
1:0:202:A:O2'	1:0:234:C:H4'	2.12	0.49
1:0:478:G:O2'	1:0:479:G:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:889:C:O2'	1:0:890:U:H5'	2.12	0.49
1:0:974:U:C1'	1:0:2229:G:H21	2.25	0.49
1:0:1458:A:C6	1:0:1460:G:N7	2.80	0.49
1:0:1719:G:O2'	1:0:1720:G:H5'	2.11	0.49
1:0:1799:A:C8	1:0:1800:A:N7	2.80	0.49
1:0:1965:U:C5	1:0:1966:C:H5	2.29	0.49
1:0:2377:U:H2'	1:0:2378:G:C8	2.47	0.49
1:0:2459:C:H2'	1:0:2460:G:H5'	1.94	0.49
1:0:2515:G:H2'	1:0:2516:U:C6	2.47	0.49
1:0:2717:G:H2'	1:0:2718:A:C8	2.47	0.49
1:0:1091:C:H2'	1:0:1092:U:H6	1.74	0.49
1:0:1278:A:O2'	1:0:1279:G:OP2	2.30	0.49
1:0:1310:C:O2'	1:0:1315:A:N1	2.44	0.49
1:0:1680:U:O2'	1:0:1681:A:H5''	2.12	0.49
1:0:1848:U:H2'	1:0:1849:G:O4'	2.12	0.49
1:0:31:C:H2'	1:0:32:C:H6	1.77	0.49
1:0:421:G:O2'	1:0:422:C:H5'	2.12	0.49
1:0:612:G:O3'	1:0:613:A:C4'	2.60	0.49
1:0:745:C:C2'	1:0:746:G:H5'	2.42	0.49
1:0:814:G:H8	1:0:814:G:O5'	1.96	0.49
1:0:833:A:N3	1:0:954:U:O2'	2.46	0.49
1:0:929:A:N7	1:0:2247:A:N1	2.60	0.49
1:0:1226:A:H2'	1:0:1227:A:H8	1.78	0.49
1:0:1721:G:O2'	1:0:1722:G:H5'	2.12	0.49
1:0:1724:C:H1'	1:0:1747:G:C4	2.48	0.49
1:0:1826:U:O2	1:0:1953:A:N7	2.45	0.49
1:0:1904:G:O2'	1:0:1905:G:H5'	2.12	0.49
1:0:1915:A:H2'	1:0:1916:G:O4'	2.12	0.49
1:0:1923:U:O2	1:0:1923:U:H2'	2.11	0.49
1:0:2117:A:H62	1:0:2139:G:H21	1.61	0.49
1:0:457:C:C2'	1:0:458:G:H5'	2.42	0.49
1:0:604:U:H2'	1:0:605:G:H8	1.76	0.49
1:0:689:A:H2'	1:0:690:A:H5'	1.93	0.49
1:0:1550:C:O5'	1:0:1550:C:H6	1.96	0.49
1:0:1773:C:O4'	1:0:2588:U:C2	2.65	0.49
1:0:1858:C:H2'	1:0:1859:A:C8	2.44	0.49
1:0:1955:G:H2'	1:0:1956:G:H5'	1.93	0.49
1:0:2498:U:C5'	1:0:2499:C:OP1	2.49	0.49
1:0:2792:C:N3	1:0:2805:G:C2	2.81	0.49
1:0:16:G:O2'	1:0:17:G:H5'	2.12	0.49
1:0:162:C:H2'	1:0:163:A:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:323:G:OP2	1:0:343:A:H5'	2.12	0.49
1:0:701:U:C4'	1:0:1771:A:H2	2.25	0.49
1:0:1038:U:H2'	1:0:1039:A:C8	2.47	0.49
1:0:1540:C:O2'	1:0:1541:G:H5'	2.11	0.49
1:0:1683:G:C2'	1:0:1684:G:H5'	2.42	0.49
1:0:1690:U:C2'	1:0:1691:G:H5'	2.35	0.49
1:0:1895:A:N6	1:0:1900:U:H5	2.10	0.49
1:0:1940:C:H2'	1:0:1941:C:C6	2.47	0.49
1:0:2261:G:H5''	1:0:2262:C:O5'	2.12	0.49
1:0:2441:U:H2'	1:0:2442:C:C6	2.48	0.49
1:0:2705:A:C2'	1:0:2706:U:O5'	2.61	0.49
1:0:218:A:H5'	1:0:220:U:H1'	1.95	0.49
1:0:365:U:H2'	1:0:366:U:H6	1.77	0.49
1:0:699:G:N3	1:0:699:G:C3'	2.75	0.49
1:0:1168:G:H8	1:0:1168:G:O5'	1.96	0.49
1:0:1278:A:HO2'	1:0:1279:G:P	2.35	0.49
1:0:1682:A:N6	1:0:1683:G:C6	2.80	0.49
1:0:1741:G:O2'	1:0:1742:G:H5'	2.11	0.49
1:0:1783:G:O2'	1:0:1784:C:H5'	2.11	0.49
1:0:1818:G:H2'	1:0:1819:U:C6	2.47	0.49
1:0:1989:C:O5'	1:0:1989:C:H6	1.96	0.49
1:0:2019:C:H5'	1:0:2019:C:H6	1.78	0.49
1:0:2245:A:C4	1:0:2251:U:O4	2.65	0.49
1:0:2541:U:H2'	1:0:2542:U:O4'	2.13	0.49
1:0:2608:A:N6	1:0:2869:U:N3	2.60	0.49
1:0:2727:G:H2'	1:0:2728:A:H5''	1.94	0.49
1:0:605:G:C2	1:0:606:A:C5	3.01	0.49
1:0:701:U:O2'	1:0:702:A:H5'	2.13	0.49
1:0:1226:A:N9	1:0:1250:A:C2	2.81	0.49
1:0:1495:G:H2'	1:0:1496:G:C8	2.48	0.49
1:0:1685:A:O2'	1:0:1686:A:P	2.70	0.49
1:0:1919:A:C6	1:0:1928:G:C4	3.01	0.49
1:0:1944:C:H2'	1:0:1945:C:O4'	2.13	0.49
1:0:1957:C:O2'	1:0:1958:G:H5'	2.12	0.49
1:0:2097:A:H5'	1:0:2105:U:OP1	2.13	0.49
1:0:2571:G:N1	1:0:2582:G:C6	2.81	0.49
1:0:65:C:H2'	1:0:66:U:O4'	2.12	0.49
1:0:239:A:C2	1:0:443:A:H1'	2.48	0.49
1:0:466:A:C2'	1:0:467:U:OP2	2.61	0.49
1:0:495:C:H2'	1:0:496:C:C6	2.48	0.49
1:0:578:U:OP1	1:0:956:A:C6	2.66	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1171:A:H2'	1:0:1172:U:C6	2.46	0.49
1:0:1407:G:C2	1:0:1408:A:C2	3.01	0.49
1:0:2458:U:OP1	1:0:2516:U:H1'	2.13	0.49
1:0:172:A:N1	1:0:178:C:N3	2.61	0.49
1:0:539:A:C2'	1:0:540:G:OP2	2.61	0.49
1:0:697:G:H2'	1:0:787:A:N1	2.28	0.49
1:0:798:G:H2'	1:0:798:G:N3	2.28	0.49
1:0:953:G:H1'	1:0:1203:A:C2	2.40	0.49
1:0:1083:C:N4	1:0:1103:C:H41	2.07	0.49
1:0:1199:U:O4	1:0:1201:G:O6	2.31	0.49
1:0:1358:C:OP1	1:0:1358:C:H6	1.96	0.49
1:0:1411:C:H2'	1:0:1412:C:C6	2.48	0.49
1:0:2044:G:C8	1:0:2482:A:H1'	2.47	0.49
1:0:2048:C:H2'	1:0:2049:C:O4'	2.12	0.49
1:0:2133:G:H2'	1:0:2134:U:C6	2.47	0.49
1:0:2217:G:H3'	1:0:2217:G:N3	2.27	0.49
1:0:2219:U:O2'	1:0:2220:A:H5'	2.11	0.49
1:0:2264:C:H2'	1:0:2265:A:H5'	1.95	0.49
1:0:2391:A:H2'	1:0:2392:G:O4'	2.13	0.49
1:0:2617:G:N2	1:0:2755:A:H2'	2.27	0.49
1:0:42:G:H2'	1:0:43:A:O4'	2.12	0.48
1:0:75:C:H2'	1:0:76:C:C5'	2.34	0.48
1:0:195:A:N6	1:0:212:U:H4'	2.26	0.48
1:0:837:U:H1'	1:0:2337:A:N7	2.27	0.48
1:0:1062:G:C5	1:0:1063:C:H5	2.30	0.48
1:0:1217:U:H2'	1:0:1218:C:C6	2.48	0.48
1:0:1418:C:H2'	1:0:1419:G:H8	1.76	0.48
1:0:1523:A:H8	1:0:1523:A:O5'	1.95	0.48
1:0:1543:G:H2'	1:0:1544:A:O4'	2.13	0.48
1:0:2585:C:O2'	1:0:2586:G:H5'	2.12	0.48
1:0:2803:C:C2'	1:0:2804:G:H5'	2.43	0.48
1:0:2876:C:H2'	1:0:2877:A:O4'	2.13	0.48
1:0:66:U:H2'	1:0:67:G:H8	1.78	0.48
1:0:627:A:H2'	1:0:628:A:C8	2.48	0.48
1:0:965:G:N3	1:0:2253:A:C2	2.80	0.48
1:0:1000:G:OP1	1:0:1168:G:H4'	2.14	0.48
1:0:1212:U:H2'	1:0:1213:U:H6	1.78	0.48
1:0:1313:U:O5'	1:0:1313:U:H6	1.97	0.48
1:0:1785:A:H2'	1:0:1786:C:H6	1.78	0.48
1:0:1787:U:H2'	1:0:1788:C:H6	1.77	0.48
1:0:2522:G:H21	1:0:2625:U:H5''	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2633:A:C2	1:0:2644:A:H5''	2.48	0.48
1:0:2739:G:H2'	1:0:2740:C:O4'	2.14	0.48
1:0:1:G:H2'	1:0:2:G:O4'	2.14	0.48
1:0:181:A:H5''	1:0:182:G:OP1	2.13	0.48
1:0:456:C:H2'	1:0:457:C:H6	1.77	0.48
1:0:459:A:O2'	1:0:461:A:N6	2.37	0.48
1:0:541:C:N4	1:0:572:G:C8	2.72	0.48
1:0:615:C:O2'	1:0:671:A:H4'	2.13	0.48
1:0:791:G:C5	1:0:792:U:C4	3.01	0.48
1:0:814:G:O5'	1:0:814:G:C8	2.66	0.48
1:0:1028:G:H2'	1:0:1029:C:O4'	2.13	0.48
1:0:1058:G:O2'	1:0:1121:G:N2	2.46	0.48
1:0:1643:A:H1'	1:0:1657:A:C2	2.48	0.48
1:0:1940:C:H2'	1:0:1941:C:H6	1.79	0.48
1:0:2020:G:H2'	1:0:2021:G:C8	2.48	0.48
1:0:2769:C:H2'	1:0:2770:A:H5'	1.94	0.48
1:0:2800:C:O2'	1:0:2801:A:H5'	2.14	0.48
1:0:43:A:H61	1:0:446:C:H42	1.61	0.48
1:0:242:A:O2'	1:0:243:G:P	2.71	0.48
1:0:625:A:O5'	1:0:625:A:C8	2.66	0.48
1:0:1781:C:H2'	1:0:1782:A:C8	2.48	0.48
1:0:2026:C:H2'	1:0:2027:C:C6	2.48	0.48
1:0:2655:C:H2'	1:0:2656:G:O4'	2.13	0.48
1:0:2685:A:H4'	1:0:2826:C:H4'	1.95	0.48
1:0:2757:G:OP2	1:0:2761:A:O2'	2.32	0.48
1:0:1166:A:C2'	1:0:1167:A:H5''	2.44	0.48
1:0:1670:G:OP1	1:0:2797:G:N2	2.30	0.48
1:0:1800:A:H5''	1:0:1801:C:OP1	2.12	0.48
1:0:1845:A:N6	1:0:1872:A:N7	2.61	0.48
1:0:1927:U:O2	1:0:1927:U:H2'	2.12	0.48
1:0:1990:U:H4'	1:0:2799:C:H4'	1.95	0.48
1:0:2594:U:C2	1:0:2595:C:C5	3.02	0.48
1:0:57:G:N2	1:0:69:G:C4	2.81	0.48
1:0:122:G:O2'	1:0:123:A:H5''	2.12	0.48
1:0:223:C:O2'	1:0:398:C:H4'	2.14	0.48
1:0:538:A:O5'	1:0:538:A:H8	1.96	0.48
1:0:580:A:C6	1:0:584:A:C5	3.02	0.48
1:0:594:G:C4	1:0:1264:C:N4	2.82	0.48
1:0:789:G:N3	1:0:806:A:N7	2.60	0.48
1:0:971:A:O2'	1:0:972:C:H3'	2.14	0.48
1:0:1445:A:C2	1:0:1446:U:H1'	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2343:C:O2'	1:0:2344:G:H5'	2.13	0.48
1:0:2384:G:H2'	1:0:2390:A:H62	1.79	0.48
1:0:2497:A:O4'	1:0:2497:A:N3	2.47	0.48
1:0:36:G:C1'	1:0:462:G:H21	2.26	0.48
1:0:487:G:O3'	1:0:511:A:N6	2.46	0.48
1:0:605:G:H2'	1:0:606:A:H8	1.77	0.48
1:0:1025:A:O2'	1:0:1026:U:H5'	2.14	0.48
1:0:1153:A:C2	1:0:1155:G:C6	3.01	0.48
1:0:1234:C:H2'	1:0:1235:C:C6	2.48	0.48
1:0:1293:A:C2	1:0:1304:U:N3	2.82	0.48
1:0:1323:G:C1'	1:0:1627:C:H5''	2.43	0.48
1:0:1345:G:H5''	1:0:1346:C:OP1	2.14	0.48
1:0:1496:G:H1	1:0:1527:G:H1	1.61	0.48
1:0:1771:A:C8	1:0:1772:C:H5	2.31	0.48
1:0:1919:A:N6	1:0:1928:G:N3	2.62	0.48
1:0:2034:A:H5'	1:0:2557:G:C4'	2.43	0.48
1:0:2093:G:H2'	1:0:2094:C:H6	1.78	0.48
1:0:2347:C:N4	1:0:2361:G:H1	2.12	0.48
1:0:2455:A:C2'	1:0:2456:U:H5'	2.43	0.48
1:0:2495:G:H2'	1:0:2496:C:C6	2.48	0.48
1:0:2760:G:C2'	1:0:2761:A:OP1	2.62	0.48
1:0:14:A:N6	1:0:15:G:N2	2.59	0.48
1:0:203:G:H5'	1:0:234:C:H4'	1.96	0.48
1:0:488:A:H2'	1:0:489:A:C8	2.49	0.48
1:0:699:G:C5'	1:0:700:C:OP2	2.54	0.48
1:0:1008:G:O2'	1:0:1009:C:H5'	2.13	0.48
1:0:1630:A:OP2	1:0:1630:A:C8	2.65	0.48
1:0:1802:A:H2'	1:0:1803:G:O4'	2.14	0.48
1:0:2425:G:H2'	1:0:2480:C:C5	2.37	0.48
1:0:2471:U:H2'	1:0:2472:U:C6	2.49	0.48
1:0:701:U:C5'	1:0:1771:A:H2	2.27	0.48
1:0:853:C:C2	1:0:950:G:C6	3.02	0.48
1:0:911:A:H8	1:0:911:A:O5'	1.96	0.48
1:0:953:G:H2'	1:0:954:U:H6	1.77	0.48
1:0:978:U:H2'	1:0:979:A:C8	2.48	0.48
1:0:1666:G:H2'	1:0:1667:A:C8	2.49	0.48
1:0:1673:C:H2'	1:0:1674:C:H6	1.78	0.48
1:0:1750:A:H4'	1:0:2695:C:O4'	2.14	0.48
1:0:1782:A:H62	1:0:1820:G:H2'	1.79	0.48
1:0:1835:C:H2'	1:0:1836:C:C6	2.49	0.48
1:0:1962:C:O2'	1:0:1963:G:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2019:C:O2'	1:0:2020:G:H5'	2.14	0.48
1:0:2119:A:H2'	1:0:2120:C:H6	1.78	0.48
1:0:2202:G:H3'	1:0:2203:G:H8	1.79	0.48
1:0:2274:C:C2'	1:0:2275:U:H5''	2.37	0.48
1:0:2407:G:H4'	1:0:2408:G:C5	2.49	0.48
1:0:158:A:C2	1:0:447:U:H4'	2.48	0.48
1:0:443:A:H8	1:0:443:A:O5'	1.97	0.48
1:0:464:G:H8	1:0:464:G:O5'	1.97	0.48
1:0:490:A:C5	1:0:492:G:H1'	2.48	0.48
1:0:600:G:H3'	1:0:601:A:H5''	1.94	0.48
1:0:630:G:H8	1:0:630:G:O5'	1.95	0.48
1:0:651:C:C3'	1:0:652:C:C5'	2.91	0.48
1:0:765:C:O2'	1:0:766:A:P	2.72	0.48
1:0:775:U:H4'	1:0:776:G:C8	2.49	0.48
1:0:1199:U:H3'	1:0:1200:G:H5''	1.96	0.48
1:0:1255:A:H2'	1:0:1256:C:C6	2.49	0.48
1:0:1399:C:O2'	1:0:1400:A:C5'	2.61	0.48
1:0:2627:G:H2'	1:0:2628:C:O4'	2.13	0.48
1:0:115:G:N1	1:0:117:A:N6	2.62	0.47
1:0:743:A:N1	1:0:744:C:C2	2.82	0.47
1:0:1278:A:C8	1:0:1280:U:C4	3.02	0.47
1:0:1315:A:H5''	1:0:1316:G:P	2.54	0.47
1:0:1354:A:H2'	1:0:1410:U:O2	2.15	0.47
1:0:1531:C:H2'	1:0:1532:A:H5'	1.95	0.47
1:0:1691:G:H21	1:0:1694:A:N6	2.13	0.47
1:0:1950:C:H2'	1:0:1951:G:O4'	2.13	0.47
1:0:1992:G:O2'	1:0:1993:G:H5'	2.14	0.47
1:0:2497:A:C5'	1:0:2498:U:OP2	2.60	0.47
1:0:2717:G:H2'	1:0:2718:A:H8	1.78	0.47
1:0:2759:U:H4'	1:0:2760:G:O5'	2.14	0.47
1:0:73:A:H4'	1:0:74:G:H1'	1.95	0.47
1:0:398:C:O2'	1:0:401:G:N2	2.47	0.47
1:0:541:C:O2	1:0:541:C:H2'	2.14	0.47
1:0:644:A:C2'	1:0:645:G:H5'	2.43	0.47
1:0:1004:A:C2'	1:0:1005:U:C5'	2.91	0.47
1:0:1549:C:N4	1:0:1554:G:C6	2.71	0.47
1:0:1910:A:C2	1:0:1911:A:C2	3.03	0.47
1:0:1952:A:O2'	1:0:1955:G:N2	2.46	0.47
1:0:2019:C:H2'	1:0:2020:G:O5'	2.13	0.47
1:0:2170:C:H2'	1:0:2171:U:O4'	2.14	0.47
1:0:2275:U:H3'	1:0:2275:U:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2618:A:N1	1:0:2619:G:H1'	2.29	0.47
1:0:2793:G:H1'	1:0:2804:G:H22	1.78	0.47
1:0:2841:U:H1'	1:0:2843:A:C1'	2.45	0.47
1:0:294:U:H2'	1:0:295:C:C6	2.49	0.47
1:0:425:A:N7	1:0:2390:A:H2	2.12	0.47
1:0:428:A:H2'	1:0:429:C:C6	2.46	0.47
1:0:584:A:OP2	1:0:2038:C:C5	2.67	0.47
1:0:927:C:C2'	1:0:928:G:H5'	2.44	0.47
1:0:1101:U:H3	1:0:1113:C:C1'	2.26	0.47
1:0:1101:U:C2	1:0:1113:C:H1'	2.50	0.47
1:0:1312:G:H5''	1:0:1313:U:H5'	1.94	0.47
1:0:1573:G:O6	1:0:1574:A:N6	2.48	0.47
1:0:1775:A:H5''	1:0:1776:A:OP1	2.15	0.47
1:0:16:G:C2'	1:0:17:G:H5'	2.45	0.47
1:0:197:G:H2'	1:0:440:U:O4	2.14	0.47
1:0:295:C:N4	1:0:296:A:N6	2.63	0.47
1:0:310:A:C4	1:0:333:A:N6	2.83	0.47
1:0:474:G:C6	1:0:478:G:O6	2.68	0.47
1:0:708:G:H2'	1:0:709:A:H8	1.79	0.47
1:0:745:C:O2'	1:0:746:G:H5'	2.14	0.47
1:0:828:C:H2'	1:0:829:C:H6	1.79	0.47
1:0:1675:C:O5'	1:0:1675:C:H6	1.97	0.47
1:0:1947:G:H2'	1:0:1950:C:OP1	2.13	0.47
1:0:2585:C:H2'	1:0:2586:G:O4'	2.14	0.47
1:0:122:G:C2'	1:0:123:A:H5''	2.45	0.47
1:0:176:A:H5'	1:0:177:U:OP2	2.14	0.47
1:0:633:G:H8	1:0:633:G:O5'	1.97	0.47
1:0:639:G:O2'	1:0:640:C:H5'	2.14	0.47
1:0:814:G:H3'	1:0:815:A:C5'	2.45	0.47
1:0:873:U:H3'	1:0:874:A:C5'	2.44	0.47
1:0:1219:C:O5'	1:0:1219:C:H6	1.97	0.47
1:0:1251:G:H2'	1:0:1252:C:O4'	2.15	0.47
1:0:1296:G:H2'	1:0:1298:G:OP2	2.14	0.47
1:0:1313:U:O5'	1:0:1313:U:C6	2.67	0.47
1:0:1447:U:H1'	1:0:1577:G:N2	2.29	0.47
1:0:1457:A:H2'	1:0:1458:A:O4'	2.14	0.47
1:0:1634:A:H4'	1:0:1635:G:OP1	2.14	0.47
1:0:1678:G:O2'	1:0:1679:U:H5'	2.13	0.47
1:0:1764:A:C2	1:0:1960:A:N1	2.83	0.47
1:0:1776:A:C8	1:0:1778:U:C5	3.02	0.47
1:0:1806:G:C5	1:0:1807:A:N7	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2245:A:N3	1:0:2251:U:O4	2.47	0.47
1:0:2773:G:H3'	1:0:2774:U:H5''	1.96	0.47
1:0:2826:C:N4	1:0:2827:G:C6	2.83	0.47
1:0:3:U:H6	1:0:3:U:O5'	1.96	0.47
1:0:1034:U:H2'	1:0:1035:G:O4'	2.15	0.47
1:0:1142:G:O6	1:0:2008:C:H1'	2.14	0.47
1:0:1253:C:C2'	1:0:1254:G:H5'	2.44	0.47
1:0:1279:G:H2'	1:0:1995:G:O6	2.14	0.47
1:0:1356:G:O4'	1:0:1613:G:H2'	2.14	0.47
1:0:1479:G:H21	1:0:1543:G:N2	2.11	0.47
1:0:1514:C:H2'	1:0:1515:U:O4'	2.14	0.47
1:0:1556:A:H2'	1:0:1557:G:H8	1.80	0.47
1:0:1684:G:H2'	1:0:1974:U:O4	2.14	0.47
1:0:1714:A:H5'	1:0:1715:A:O5'	2.15	0.47
1:0:1715:A:N3	1:0:1717:A:O4'	2.47	0.47
1:0:1727:C:H4'	1:0:2833:C:O2	2.15	0.47
1:0:1778:U:H4'	1:0:2568:A:O3'	2.14	0.47
1:0:1849:G:H8	1:0:1849:G:O5'	1.97	0.47
1:0:1926:U:O5'	1:0:1926:U:H6	1.97	0.47
1:0:2396:C:H2'	1:0:2397:A:C5'	2.44	0.47
1:0:119:G:H1'	1:0:129:A:C2	2.50	0.47
1:0:204:A:C6	1:0:2386:G:H1'	2.50	0.47
1:0:445:A:C2'	1:0:446:C:H5'	2.45	0.47
1:0:486:U:C4'	1:0:520:C:H5'	2.39	0.47
1:0:486:U:H2'	1:0:487:G:H5'	1.97	0.47
1:0:781:G:H5'	1:0:1638:G:C4'	2.45	0.47
1:0:1356:G:H4'	1:0:1613:G:H2'	1.96	0.47
1:0:1439:G:H2'	1:0:1440:G:C8	2.49	0.47
1:0:1452:U:O2'	1:0:1453:A:H5'	2.13	0.47
1:0:1624:A:N6	1:0:1627:C:C2	2.83	0.47
1:0:1643:A:H2'	1:0:1644:G:H8	1.79	0.47
1:0:1768:U:O2'	1:0:1769:U:H5'	2.14	0.47
1:0:2037:A:N7	1:0:2039:G:H1'	2.29	0.47
1:0:2045:A:C6	4:0:2881:TAO:H411	2.49	0.47
1:0:2093:G:H2'	1:0:2094:C:C6	2.50	0.47
1:0:2396:C:H2'	1:0:2397:A:H5'	1.97	0.47
1:0:2579:A:H2'	1:0:2580:C:H6	1.79	0.47
1:0:2607:C:H3'	1:0:2608:A:H5'	1.96	0.47
1:0:2702:G:H2'	1:0:2703:C:C6	2.50	0.47
1:0:228:A:H2'	1:0:229:G:O4'	2.15	0.47
1:0:305:A:H2'	1:0:306:G:H5'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:339:U:O2	1:0:339:U:H2'	2.14	0.47
1:0:488:A:H8	1:0:488:A:OP1	1.98	0.47
1:0:765:C:O2'	1:0:766:A:O5'	2.32	0.47
1:0:800:U:H3'	1:0:804:C:H41	1.79	0.47
1:0:1005:U:O2	1:0:1007:A:N7	2.47	0.47
1:0:1110:G:H2'	1:0:1111:C:H6	1.79	0.47
1:0:1531:C:O5'	1:0:1531:C:H6	1.98	0.47
1:0:1787:U:H2'	1:0:1788:C:C6	2.50	0.47
1:0:2235:G:O2'	1:0:2236:U:H5'	2.15	0.47
1:0:2286:G:H21	1:0:2290:A:H62	1.61	0.47
1:0:2726:U:H3'	1:0:2727:G:H8	1.80	0.47
1:0:2818:G:N2	1:0:2850:U:C2	2.83	0.47
1:0:10:A:C2	1:0:2608:A:C2	3.02	0.47
1:0:67:G:N2	1:0:73:A:N3	2.63	0.47
1:0:671:A:H2'	1:0:672:C:C6	2.50	0.47
1:0:697:G:O2'	1:0:801:A:N6	2.48	0.47
1:0:764:A:C2	1:0:802:A:N3	2.83	0.47
1:0:968:C:C2	1:0:2438:A:H5'	2.49	0.47
1:0:1545:G:O2'	1:0:1546:C:H5'	2.14	0.47
1:0:1791:C:H1'	1:0:1793:A:C5'	2.44	0.47
1:0:1791:C:H42	1:0:1809:G:N2	2.12	0.47
1:0:2312:A:H2'	1:0:2312:A:N3	2.30	0.47
1:0:2397:A:H2'	1:0:2398:U:O4'	2.15	0.47
1:0:9:U:H3	1:0:2608:A:H62	1.62	0.47
1:0:201:G:H2'	1:0:202:A:C8	2.50	0.47
1:0:216:U:O5'	1:0:216:U:H6	1.97	0.47
1:0:456:C:O2'	1:0:457:C:H5'	2.14	0.47
1:0:514:G:N3	1:0:514:G:C2'	2.77	0.47
1:0:669:G:H2'	1:0:670:U:H6	1.79	0.47
1:0:987:G:H4'	1:0:1167:A:N7	2.29	0.47
1:0:1090:C:O2'	1:0:1091:C:H5'	2.15	0.47
1:0:1160:C:O2'	1:0:1161:U:H5'	2.15	0.47
1:0:1440:G:C3'	1:0:1441:A:C5'	2.93	0.47
1:0:1686:A:N3	1:0:1686:A:H2'	2.29	0.47
1:0:1745:C:H2'	1:0:1745:C:O2	2.15	0.47
1:0:1852:G:N2	1:0:1853:C:C2	2.83	0.47
1:0:1969:G:O2'	1:0:1970:G:H5'	2.15	0.47
1:0:2042:A:C8	1:0:2042:A:C3'	2.98	0.47
1:0:2772:U:O2'	1:0:2773:G:H5'	2.15	0.47
1:0:2812:A:C2	1:0:2813:G:C5	3.03	0.47
1:0:681:A:C5	1:0:683:A:H2'	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:915:C:H2'	1:0:916:U:H6	1.80	0.46
1:0:942:U:H2'	1:0:943:U:C5'	2.45	0.46
1:0:1184:G:C2'	1:0:1185:C:H5''	2.44	0.46
1:0:1457:A:O2'	1:0:1458:A:H5'	2.15	0.46
1:0:1683:G:H2'	1:0:1684:G:H5'	1.96	0.46
1:0:1918:G:H1'	1:0:1947:G:N2	2.30	0.46
1:0:1920:A:C2	1:0:1922:U:H5	2.33	0.46
1:0:1972:G:O2'	1:0:1973:C:H5'	2.15	0.46
1:0:2311:U:O2'	1:0:2312:A:H8	1.97	0.46
1:0:2426:G:O6	1:0:2479:U:H2'	2.15	0.46
1:0:13:A:H1'	1:0:536:A:H62	1.80	0.46
1:0:171:G:N3	1:0:179:U:O2	2.49	0.46
1:0:228:A:C5	1:0:229:G:H1'	2.50	0.46
1:0:929:A:H2'	1:0:930:A:C4'	2.42	0.46
1:0:1021:A:H1'	1:0:1164:C:H1'	1.96	0.46
1:0:1922:U:HO2'	1:0:2571:G:H1'	1.80	0.46
1:0:1928:G:N1	1:0:1929:U:C4	2.84	0.46
1:0:2627:G:O2'	1:0:2628:C:H5'	2.15	0.46
1:0:2724:G:O2'	1:0:2725:C:H5'	2.15	0.46
1:0:210:A:H61	1:0:442:A:H61	1.59	0.46
1:0:580:A:N3	1:0:582:G:N7	2.64	0.46
1:0:912:A:H2'	1:0:913:A:H8	1.81	0.46
1:0:1001:A:C3'	1:0:1002:C:H5''	2.46	0.46
1:0:1167:A:H5'	1:0:1168:G:N7	2.29	0.46
1:0:1226:A:O2'	1:0:1227:A:H5'	2.15	0.46
1:0:1432:G:N2	1:0:1596:A:H62	1.98	0.46
1:0:1436:G:H2'	1:0:1437:A:H8	1.78	0.46
1:0:1477:C:H1'	1:0:2681:A:C2	2.50	0.46
1:0:1662:G:H5''	1:0:1663:C:O4'	2.15	0.46
1:0:2060:A:C2	1:0:2414:A:N7	2.84	0.46
1:0:2240:C:H2'	1:0:2241:U:H5''	1.97	0.46
1:0:2241:U:H4'	1:0:2307:A:C2	2.51	0.46
1:0:2395:C:H2'	1:0:2396:C:C5'	2.46	0.46
1:0:161:U:H5'	1:0:193:A:C2	2.50	0.46
1:0:169:C:H2'	1:0:170:U:H5'	1.97	0.46
1:0:225:G:O5'	1:0:226:C:H5'	2.14	0.46
1:0:689:A:C2'	1:0:690:A:H5'	2.46	0.46
1:0:755:C:H5'	1:0:1692:C:O2'	2.15	0.46
1:0:866:U:O2'	1:0:867:G:H5'	2.15	0.46
1:0:1697:U:O2	1:0:1755:G:H4'	2.15	0.46
1:0:1791:C:N4	1:0:1810:U:O2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1834:G:N2	1:0:1835:C:H1'	2.30	0.46
1:0:1903:C:H2'	1:0:1904:G:C8	2.50	0.46
1:0:2002:A:C2	1:0:2003:A:C1'	2.98	0.46
1:0:2434:G:C6	1:0:2435:C:N4	2.83	0.46
1:0:2437:G:C6	1:0:2469:G:H2'	2.50	0.46
1:0:2594:U:C6	1:0:2594:U:H5'	2.51	0.46
1:0:2813:G:H2'	1:0:2814:G:H5'	1.96	0.46
1:0:1181:C:O5'	1:0:1181:C:H6	1.99	0.46
1:0:1234:C:H2'	1:0:1235:C:H6	1.81	0.46
1:0:1343:C:O2'	1:0:1344:C:H5'	2.15	0.46
1:0:1402:G:H2'	1:0:1403:U:O4'	2.15	0.46
1:0:1429:A:P	1:0:1429:A:H8	2.38	0.46
1:0:1473:U:H4'	1:0:1474:A:C8	2.51	0.46
1:0:1681:A:C4	1:0:2706:U:C2	3.04	0.46
1:0:1783:G:C6	1:0:1820:G:H1'	2.51	0.46
1:0:1792:C:H6	1:0:1792:C:O5'	1.98	0.46
1:0:1872:A:H2'	1:0:1873:A:C8	2.50	0.46
1:0:2447:G:N2	1:0:2461:G:OP2	2.48	0.46
1:0:2665:G:H2'	1:0:2666:U:O4'	2.15	0.46
1:0:2781:G:H2'	1:0:2782:G:C8	2.50	0.46
1:0:711:C:H4'	1:0:748:A:C2	2.51	0.46
1:0:712:A:H2'	1:0:713:G:O4'	2.15	0.46
1:0:1001:A:H3'	1:0:1002:C:H5''	1.96	0.46
1:0:1322:G:O2'	1:0:1323:G:H5'	2.15	0.46
1:0:1467:U:H3'	1:0:1467:U:H6	1.79	0.46
1:0:1656:U:H2'	1:0:1657:A:C5'	2.40	0.46
1:0:1692:C:H2'	1:0:1693:A:C5'	2.45	0.46
1:0:2057:U:C2	1:0:2415:G:C2	3.03	0.46
1:0:2459:C:C2'	1:0:2460:G:H5'	2.46	0.46
1:0:2592:U:O2'	1:0:2593:A:P	2.73	0.46
1:0:32:C:H2'	1:0:33:C:C6	2.51	0.46
1:0:242:A:O2'	1:0:243:G:OP2	2.33	0.46
1:0:791:G:C6	1:0:792:U:C4	3.03	0.46
1:0:1408:A:H2	1:0:1411:C:C2	2.31	0.46
1:0:1653:C:O2	1:0:1751:A:H2	1.98	0.46
1:0:1696:C:O2	1:0:1972:G:N2	2.49	0.46
1:0:1701:C:C2	1:0:1722:G:N2	2.83	0.46
1:0:1706:A:N6	1:0:1714:A:H2'	2.30	0.46
1:0:1753:A:H8	1:0:1753:A:H3'	1.80	0.46
1:0:1926:U:C6	1:0:1926:U:OP1	2.69	0.46
1:0:2343:C:H2'	1:0:2344:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2402:U:H5'	1:0:2404:A:N7	2.30	0.46
1:0:2523:G:H5'	1:0:2624:G:N7	2.30	0.46
1:0:2605:C:C2'	1:0:2606:G:O4'	2.62	0.46
1:0:2652:G:H2'	1:0:2653:A:C8	2.39	0.46
1:0:199:A:N1	1:0:201:G:C2	2.84	0.46
1:0:426:C:O5'	1:0:426:C:H6	1.98	0.46
1:0:573:C:O2'	1:0:574:C:H5'	2.16	0.46
1:0:575:U:H2'	1:0:576:A:H8	1.79	0.46
1:0:582:G:O6	1:0:2013:A:H2'	2.16	0.46
1:0:875:G:C6	1:0:928:G:N2	2.83	0.46
1:0:926:C:H2'	1:0:927:C:H5'	1.97	0.46
1:0:1023:U:H1'	1:0:1154:A:C8	2.49	0.46
1:0:1502:G:H2'	1:0:1503:G:H8	1.81	0.46
1:0:1920:A:C5	1:0:1922:U:H5	2.33	0.46
1:0:2266:A:N6	1:0:2323:U:C1'	2.57	0.46
1:0:2337:A:C6	1:0:2338:C:N3	2.83	0.46
1:0:2482:A:H5'	1:0:2483:U:OP2	2.15	0.46
1:0:2617:G:H21	1:0:2758:A:H62	1.64	0.46
1:0:201:G:C2	1:0:202:A:C4	3.04	0.46
1:0:580:A:N6	1:0:584:A:C5	2.84	0.46
1:0:928:G:H2'	1:0:929:A:O5'	2.16	0.46
1:0:1105:U:O2	1:0:1107:A:N7	2.48	0.46
1:0:1145:C:O2	1:0:1145:C:H2'	2.15	0.46
1:0:1206:G:H2'	1:0:1207:G:H8	1.81	0.46
1:0:1288:A:N6	1:0:1309:G:C4'	2.72	0.46
1:0:1825:C:H2'	1:0:1826:U:H5'	1.98	0.46
1:0:1900:U:C3'	1:0:1901:A:H8	2.16	0.46
1:0:1920:A:N6	1:0:1923:U:H6	2.14	0.46
1:0:1989:C:O5'	1:0:1989:C:C6	2.68	0.46
1:0:2313:G:H2'	1:0:2314:A:H5'	1.98	0.46
1:0:2428:U:H2'	1:0:2428:U:O2	2.16	0.46
1:0:2484:G:C2'	1:0:2485:U:H5''	2.46	0.46
1:0:2554:C:O5'	1:0:2554:C:H6	1.99	0.46
1:0:2630:C:O2'	1:0:2631:C:H5'	2.16	0.46
1:0:2800:C:O5'	1:0:2800:C:H6	1.98	0.46
1:0:2824:C:O2'	1:0:2825:A:P	2.73	0.46
1:0:458:G:H4'	1:0:461:A:C4	2.50	0.46
1:0:993:C:O5'	1:0:993:C:H6	1.99	0.46
1:0:1223:G:H4'	1:0:1224:A:O5'	2.16	0.46
1:0:1226:A:C1'	1:0:1250:A:H2	2.28	0.46
1:0:1345:G:C4	1:0:1625:A:N6	2.85	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1421:U:H6	1:0:1421:U:O5'	1.99	0.46
1:0:1486:A:H2'	1:0:1487:C:C6	2.51	0.46
1:0:1686:A:H2'	1:0:1687:C:H5'	1.97	0.46
1:0:1859:A:H2'	1:0:1860:A:C8	2.50	0.46
1:0:2039:G:N2	1:0:2040:A:C1'	2.79	0.46
1:0:2607:C:H3'	1:0:2608:A:C5'	2.45	0.46
1:0:82:G:H2'	1:0:83:A:C8	2.51	0.45
1:0:1482:U:H2'	1:0:1483:G:H8	1.81	0.45
1:0:1713:G:N7	1:0:1714:A:C8	2.84	0.45
1:0:1714:A:C5	1:0:1715:A:N6	2.82	0.45
1:0:2235:G:N2	1:0:2254:C:C4	2.84	0.45
1:0:2670:C:C4	1:0:2699:G:N2	2.85	0.45
1:0:2863:U:H2'	1:0:2864:C:H6	1.80	0.45
1:0:539:A:N6	1:0:2006:G:C2	2.84	0.45
1:0:727:U:C2'	1:0:728:G:H5''	2.41	0.45
1:0:929:A:C2	1:0:930:A:H1'	2.51	0.45
1:0:983:G:O6	1:0:984:A:N6	2.49	0.45
1:0:1229:C:H2'	1:0:1230:C:C6	2.50	0.45
1:0:1982:C:O2'	1:0:1983:G:H5'	2.17	0.45
1:0:2209:G:H2'	1:0:2210:C:H6	1.82	0.45
1:0:2262:C:N4	1:0:2368:G:C5	2.84	0.45
1:0:2522:G:H2'	1:0:2523:G:C8	2.50	0.45
1:0:2608:A:N6	1:0:2869:U:C2	2.84	0.45
1:0:2633:A:H2	1:0:2644:A:H5''	1.81	0.45
1:0:2840:U:C5	1:0:2841:U:H5	2.34	0.45
1:0:36:G:H1'	1:0:462:G:H21	1.80	0.45
1:0:192:G:C4'	1:0:193:A:H4'	2.46	0.45
1:0:194:G:C6	1:0:195:A:N7	2.84	0.45
1:0:397:U:H2'	1:0:398:C:H6	1.81	0.45
1:0:477:A:H2'	1:0:478:G:H5'	1.99	0.45
1:0:745:C:H2'	1:0:746:G:H5'	1.98	0.45
1:0:825:C:O2'	1:0:826:U:H5'	2.17	0.45
1:0:834:A:N7	1:0:957:G:C5	2.84	0.45
1:0:874:A:H2'	1:0:874:A:N3	2.31	0.45
1:0:1066:G:C2'	1:0:1067:G:H4'	2.43	0.45
1:0:1226:A:N9	1:0:1250:A:H2	2.14	0.45
1:0:1453:A:H2'	1:0:1454:U:H5'	1.98	0.45
1:0:1684:G:O6	1:0:1974:U:OP2	2.35	0.45
1:0:2002:A:N1	1:0:2003:A:C4	2.85	0.45
1:0:2058:U:H4'	1:0:2575:U:O2	2.16	0.45
1:0:2630:C:H2'	1:0:2631:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2838:U:O2'	1:0:2839:G:H5'	2.16	0.45
1:0:2840:U:C5	1:0:2841:U:C5	3.05	0.45
1:0:68:C:C2	1:0:72:A:N3	2.84	0.45
1:0:672:C:O2'	1:0:673:G:H5'	2.15	0.45
1:0:689:A:H1'	1:0:2422:C:O4'	2.16	0.45
1:0:752:G:OP2	1:0:752:G:H8	1.99	0.45
1:0:957:G:H2'	1:0:958:G:H8	1.81	0.45
1:0:1226:A:C4	1:0:1250:A:C2	3.05	0.45
1:0:1439:G:N2	1:0:1590:C:H42	2.15	0.45
1:0:1663:C:O5'	1:0:1663:C:H6	2.00	0.45
1:0:1672:A:C2	1:0:1673:C:H1'	2.52	0.45
1:0:1773:C:O4'	1:0:2588:U:N1	2.50	0.45
1:0:2214:G:O2'	1:0:2215:C:H5'	2.17	0.45
1:0:2487:G:C2	1:0:2561:G:C6	3.04	0.45
1:0:2650:G:C2'	1:0:2651:U:H5'	2.46	0.45
1:0:2728:A:N7	1:0:2729:A:N7	2.64	0.45
1:0:83:A:N1	1:0:98:U:O2'	2.34	0.45
1:0:192:G:H1'	1:0:193:A:H4'	1.98	0.45
1:0:471:A:C8	1:0:472:C:C5	3.04	0.45
1:0:700:C:H2'	1:0:701:U:C6	2.52	0.45
1:0:721:C:H2'	1:0:722:C:C6	2.52	0.45
1:0:811:G:C2'	1:0:812:G:H5'	2.46	0.45
1:0:1090:C:H2'	1:0:1091:C:O4'	2.17	0.45
1:0:1226:A:H2	1:0:1250:A:HO2'	1.62	0.45
1:0:2075:U:H1'	1:0:2204:A:C2	2.51	0.45
1:0:2324:G:C4	1:0:2326:C:H5	2.34	0.45
1:0:2487:G:O3'	1:0:2534:U:H5'	2.15	0.45
1:0:90:G:H3'	1:0:91:A:H5'	1.99	0.45
1:0:297:A:H2'	1:0:298:C:C6	2.52	0.45
1:0:473:C:H2'	1:0:474:G:O4'	2.17	0.45
1:0:749:C:H2'	1:0:750:C:C6	2.51	0.45
1:0:956:A:H4'	1:0:956:A:OP2	2.17	0.45
1:0:1230:C:O2'	1:0:1231:A:H5'	2.17	0.45
1:0:1278:A:O2'	1:0:1279:G:O5'	2.35	0.45
1:0:1358:C:OP1	1:0:1358:C:C6	2.69	0.45
1:0:1407:G:C6	1:0:1408:A:N6	2.85	0.45
1:0:1555:A:N6	1:0:1556:A:N6	2.65	0.45
1:0:1681:A:H5'	1:0:1681:A:H8	1.81	0.45
1:0:1782:A:N6	1:0:1820:G:H2'	2.31	0.45
1:0:1801:C:H1'	1:0:2207:G:O2'	2.16	0.45
1:0:1821:A:H5''	1:0:1822:C:C5	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1991:C:H2'	1:0:1992:G:C8	2.45	0.45
1:0:2171:U:O5'	1:0:2171:U:H6	2.00	0.45
1:0:2414:A:C3'	1:0:2415:G:H5''	2.47	0.45
1:0:2504:G:C2	1:0:2518:C:C2	3.05	0.45
1:0:2742:G:O2'	1:0:2743:G:H5'	2.17	0.45
1:0:80:A:H2'	1:0:81:C:O4'	2.17	0.45
1:0:170:U:H5'	1:0:815:A:H2	1.82	0.45
1:0:295:C:N4	1:0:296:A:H62	2.15	0.45
1:0:431:G:H2'	1:0:432:C:C6	2.51	0.45
1:0:539:A:H62	1:0:2024:U:H3	1.64	0.45
1:0:1012:A:H61	1:0:1165:G:H1'	1.82	0.45
1:0:1032:A:C2'	1:0:1033:G:H4'	2.42	0.45
1:0:1362:A:O5'	1:0:1362:A:H8	1.99	0.45
1:0:1482:U:H1'	1:0:1562:G:N2	2.32	0.45
1:0:1687:C:O2'	1:0:1977:C:H4'	2.17	0.45
1:0:2181:A:O5'	1:0:2181:A:H8	2.00	0.45
1:0:2182:A:H3'	1:0:2183:C:C6	2.52	0.45
1:0:515:A:C2'	1:0:516:G:H5'	2.47	0.45
1:0:570:G:H2'	1:0:571:U:H5''	1.98	0.45
1:0:708:G:H2'	1:0:709:A:C8	2.52	0.45
1:0:824:U:H4'	1:0:1264:C:H1'	1.97	0.45
1:0:942:U:C2'	1:0:943:U:C5'	2.89	0.45
1:0:1365:U:H1'	1:0:1586:A:H2	1.82	0.45
1:0:1707:A:C2'	1:0:1708:C:H5'	2.47	0.45
1:0:1711:C:H6	1:0:1711:C:OP1	2.00	0.45
1:0:1753:A:H3'	1:0:1753:A:C8	2.51	0.45
1:0:1936:A:HO2'	1:0:2538:C:H1'	1.79	0.45
1:0:2090:U:H2'	1:0:2091:C:H6	1.80	0.45
1:0:2208:U:H2'	1:0:2209:G:C8	2.52	0.45
1:0:2321:C:H2'	1:0:2322:U:H5'	1.98	0.45
1:0:2824:C:H2'	1:0:2825:A:OP2	2.17	0.45
1:0:10:A:H2'	1:0:11:G:H8	1.80	0.45
1:0:173:A:H61	1:0:844:G:H21	1.65	0.45
1:0:543:G:H2'	1:0:544:U:H6	1.80	0.45
1:0:614:G:O2'	1:0:615:C:H5'	2.17	0.45
1:0:657:A:H8	1:0:657:A:O5'	2.00	0.45
1:0:860:U:H2'	1:0:861:G:H5'	1.99	0.45
1:0:929:A:C6	1:0:930:A:N3	2.84	0.45
1:0:1356:G:H5''	1:0:1614:C:OP2	2.17	0.45
1:0:1366:A:N1	1:0:1391:A:C2	2.84	0.45
1:0:1928:G:N2	1:0:1929:U:C2	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2441:U:H2'	1:0:2442:C:H6	1.82	0.45
1:0:2753:C:H2'	1:0:2754:C:C6	2.49	0.45
1:0:2770:A:C5'	1:0:2867:G:H22	2.30	0.45
1:0:2782:G:H3'	1:0:2783:U:C5'	2.41	0.45
1:0:2855:C:O2'	1:0:2856:U:H5'	2.17	0.45
1:0:28:A:C2	1:0:523:A:C8	3.04	0.45
1:0:309:G:N2	1:0:350:U:C5	2.85	0.45
1:0:464:G:O2'	1:0:465:C:H5'	2.17	0.45
1:0:1014:G:O2'	1:0:1021:A:N1	2.34	0.45
1:0:2034:A:C2	1:0:2035:G:O6	2.70	0.45
1:0:2091:C:H3'	1:0:2092:U:C6	2.52	0.45
1:0:2163:U:H2'	1:0:2164:G:H8	1.81	0.45
1:0:2245:A:O2'	1:0:2246:A:N3	2.47	0.45
1:0:2431:C:N4	1:0:2432:A:C6	2.85	0.45
1:0:2487:G:C2	1:0:2561:G:O6	2.70	0.45
1:0:2545:A:C2'	1:0:2546:G:OP2	2.64	0.45
1:0:2758:A:H2'	1:0:2759:U:OP2	2.17	0.45
1:0:60:A:H2'	1:0:61:U:H5'	1.99	0.44
1:0:95:G:H2'	1:0:96:C:C6	2.52	0.44
1:0:542:A:C8	1:0:542:A:H3'	2.53	0.44
1:0:757:U:O2'	1:0:758:G:H5'	2.17	0.44
1:0:1814:G:H2'	1:0:1815:G:H8	1.81	0.44
1:0:2169:A:O2'	1:0:2170:C:H5'	2.17	0.44
1:0:2208:U:H2'	1:0:2209:G:H8	1.82	0.44
1:0:2511:G:N2	1:0:2642:G:O2'	2.50	0.44
1:0:2733:A:H2'	1:0:2734:U:O4'	2.16	0.44
1:0:195:A:C2'	1:0:196:A:H5'	2.48	0.44
1:0:212:U:C2	1:0:443:A:H2	2.36	0.44
1:0:541:C:O2'	1:0:542:A:OP2	2.34	0.44
1:0:677:G:H4'	1:0:952:A:P	2.57	0.44
1:0:765:C:O2	1:0:766:A:N7	2.49	0.44
1:0:846:A:C8	1:0:847:C:C5	3.05	0.44
1:0:873:U:C3'	1:0:874:A:H5'	2.47	0.44
1:0:952:A:H2'	1:0:953:G:O4'	2.17	0.44
1:0:1040:A:H2'	1:0:1041:G:C5'	2.42	0.44
1:0:1116:U:H2'	1:0:1117:G:C8	2.52	0.44
1:0:1346:C:P	1:0:1346:C:C6	3.04	0.44
1:0:1407:G:C2	1:0:1408:A:N1	2.85	0.44
1:0:1857:G:H2'	1:0:1859:A:OP2	2.17	0.44
1:0:2019:C:C2'	1:0:2020:G:O5'	2.65	0.44
1:0:2045:A:H62	1:0:2482:A:H61	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2225:G:H2'	1:0:2226:A:C8	2.49	0.44
1:0:2495:G:C2	1:0:2548:G:C2	3.05	0.44
1:0:2523:G:H5'	1:0:2624:G:C8	2.52	0.44
1:0:2753:C:O2'	1:0:2754:C:H5'	2.17	0.44
1:0:2795:A:N3	1:0:2795:A:C2'	2.80	0.44
1:0:62:U:C2'	1:0:63:A:C8	2.97	0.44
1:0:154:U:O2	1:0:154:U:H2'	2.16	0.44
1:0:342:G:H2'	1:0:343:A:C5'	2.48	0.44
1:0:471:A:N7	1:0:472:C:C4	2.86	0.44
1:0:476:G:N2	1:0:697:G:N2	2.64	0.44
1:0:513:A:C4	1:0:515:A:N7	2.85	0.44
1:0:600:G:C2'	1:0:601:A:OP1	2.65	0.44
1:0:768:U:C4	1:0:769:C:C4	3.05	0.44
1:0:1721:G:H2'	1:0:1722:G:O4'	2.16	0.44
1:0:2055:G:H2'	1:0:2056:C:O4'	2.18	0.44
1:0:2867:G:O3'	1:0:2868:G:H4'	2.17	0.44
1:0:84:G:N3	1:0:101:A:C2	2.85	0.44
1:0:305:A:H2'	1:0:306:G:C5'	2.47	0.44
1:0:322:A:H2'	1:0:322:A:N3	2.32	0.44
1:0:337:G:H2'	1:0:338:G:H8	1.81	0.44
1:0:338:G:N2	1:0:339:U:H1'	2.31	0.44
1:0:540:G:O6	1:0:2006:G:OP1	2.35	0.44
1:0:556:A:C2'	1:0:557:U:H5'	2.36	0.44
1:0:974:U:H2'	1:0:975:C:O4'	2.18	0.44
1:0:1011:A:N6	1:0:1165:G:H2'	2.32	0.44
1:0:1299:A:N6	1:0:1302:C:C4	2.85	0.44
1:0:1780:A:C5	1:0:1781:C:C5	3.06	0.44
1:0:1975:G:C5	1:0:1980:A:C6	3.06	0.44
1:0:2038:C:H2'	1:0:2483:U:C5'	2.47	0.44
1:0:2229:G:H2'	1:0:2475:C:OP1	2.18	0.44
1:0:2651:U:H2'	1:0:2652:G:O4'	2.17	0.44
1:0:2734:U:H2'	1:0:2736:U:OP1	2.18	0.44
1:0:109:A:C3'	1:0:110:U:C5'	2.95	0.44
1:0:192:G:O4'	1:0:193:A:H4'	2.17	0.44
1:0:420:C:O2'	1:0:421:G:H5'	2.17	0.44
1:0:581:A:N3	1:0:582:G:H1'	2.32	0.44
1:0:750:C:H2'	1:0:751:G:H8	1.82	0.44
1:0:762:A:O2'	1:0:1633:C:H1'	2.16	0.44
1:0:829:C:H2'	1:0:830:C:O4'	2.16	0.44
1:0:931:G:C2'	1:0:932:G:C5'	2.94	0.44
1:0:1714:A:H3'	1:0:1715:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1947:G:H5''	1:0:1948:C:OP1	2.17	0.44
1:0:2347:C:H41	1:0:2361:G:H1	1.65	0.44
1:0:2612:G:H5'	1:0:2786:G:O2'	2.17	0.44
1:0:2790:C:H2'	1:0:2791:C:C6	2.51	0.44
1:0:2842:C:C3'	1:0:2842:C:C6	3.01	0.44
1:0:310:A:O2'	1:0:311:A:H5'	2.17	0.44
1:0:475:U:C1'	1:0:801:A:C2	3.01	0.44
1:0:541:C:HO2'	1:0:542:A:P	2.39	0.44
1:0:784:U:O2'	1:0:785:U:H5'	2.17	0.44
1:0:829:C:N3	1:0:1206:G:C2	2.85	0.44
1:0:854:G:C6	1:0:949:G:N1	2.86	0.44
1:0:872:G:H22	1:0:929:A:P	2.39	0.44
1:0:978:U:H2'	1:0:979:A:H8	1.83	0.44
1:0:1221:C:O5'	1:0:1221:C:H6	2.01	0.44
1:0:1385:C:C2	1:0:1386:A:C8	3.06	0.44
1:0:1404:C:N4	1:0:1407:G:N7	2.62	0.44
1:0:1780:A:C6	1:0:1781:C:C5	3.06	0.44
1:0:2246:A:N3	1:0:2246:A:H2'	2.32	0.44
1:0:2523:G:H2'	1:0:2524:G:H8	1.82	0.44
1:0:2695:C:H2'	1:0:2696:A:C8	2.52	0.44
1:0:2758:A:C2'	1:0:2759:U:OP2	2.66	0.44
1:0:24:G:H2'	1:0:25:U:H6	1.82	0.44
1:0:158:A:H2'	1:0:159:A:O4'	2.17	0.44
1:0:485:G:O6	1:0:520:C:C4	2.70	0.44
1:0:639:G:H8	1:0:639:G:O5'	2.01	0.44
1:0:921:A:H2'	1:0:924:C:C5	2.53	0.44
1:0:1141:U:OP2	1:0:2549:G:N2	2.51	0.44
1:0:1299:A:C6	1:0:1302:C:C4	3.06	0.44
1:0:1707:A:N7	1:0:1714:A:C2	2.83	0.44
1:0:1793:A:H2'	1:0:1794:A:C8	2.52	0.44
1:0:1809:G:O5'	1:0:1809:G:C8	2.71	0.44
1:0:2499:C:O2'	1:0:2500:C:H5'	2.17	0.44
1:0:2695:C:H2'	1:0:2696:A:H8	1.83	0.44
1:0:4:C:O2'	1:0:5:A:H5'	2.17	0.44
1:0:239:A:H4'	1:0:620:G:C5'	2.48	0.44
1:0:353:G:H2'	1:0:354:C:C6	2.52	0.44
1:0:411:C:OP1	1:0:2073:A:H1'	2.18	0.44
1:0:433:G:N2	1:0:434:C:H1'	2.33	0.44
1:0:507:A:O2'	1:0:508:G:H5'	2.18	0.44
1:0:658:G:C4'	1:0:2331:A:H5'	2.42	0.44
1:0:712:A:C2	1:0:1650:A:N3	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:763:A:C5'	1:0:1631:C:N4	2.79	0.44
1:0:1355:A:C8	1:0:1410:U:H1'	2.53	0.44
1:0:1479:G:O2'	1:0:1480:G:H5'	2.17	0.44
1:0:1667:A:N1	1:0:1668:G:C5	2.85	0.44
1:0:1715:A:O2'	1:0:1716:G:H8	2.01	0.44
1:0:1820:G:H4'	1:0:1821:A:OP1	2.18	0.44
1:0:2490:U:H2'	1:0:2491:C:C6	2.52	0.44
1:0:2761:A:O5'	1:0:2761:A:H8	2.01	0.44
1:0:2844:G:C2'	1:0:2845:C:H5'	2.47	0.44
1:0:210:A:H61	1:0:442:A:N6	2.16	0.44
1:0:620:G:H2'	1:0:621:U:C6	2.53	0.44
1:0:635:C:O2'	1:0:670:U:H5''	2.18	0.44
1:0:786:U:H2'	1:0:787:A:H5'	2.00	0.44
1:0:1198:C:OP1	1:0:1199:U:C1'	2.66	0.44
1:0:1215:A:C2	1:0:1258:G:C2	3.06	0.44
1:0:1473:U:H4'	1:0:1474:A:C5	2.53	0.44
1:0:1699:A:C5	1:0:1748:U:H1'	2.53	0.44
1:0:1730:G:H2'	1:0:1731:C:H6	1.82	0.44
1:0:1734:C:C5	1:0:1735:G:H1'	2.53	0.44
1:0:2033:C:H2'	1:0:2034:A:O4'	2.18	0.44
1:0:2638:G:O5'	1:0:2638:G:H8	2.01	0.44
1:0:2728:A:C2	1:0:2736:U:H1'	2.53	0.44
1:0:5:A:H2'	1:0:6:A:C8	2.49	0.43
1:0:342:G:H2'	1:0:343:A:H5'	2.00	0.43
1:0:712:A:N1	1:0:1650:A:N3	2.66	0.43
1:0:765:C:O2	1:0:766:A:C8	2.71	0.43
1:0:788:G:H2'	1:0:807:A:C8	2.53	0.43
1:0:1253:C:H5'	1:0:1253:C:H6	1.82	0.43
1:0:1425:G:H2'	1:0:1426:U:C6	2.53	0.43
1:0:1573:G:C8	1:0:1574:A:N7	2.85	0.43
1:0:2310:G:C2'	1:0:2311:U:H5'	2.48	0.43
1:0:2592:U:H4'	1:0:2593:A:OP1	2.18	0.43
1:0:2644:A:C2	1:0:2645:C:C4	3.06	0.43
1:0:2700:U:H2'	1:0:2701:A:H8	1.83	0.43
1:0:2796:A:O2'	1:0:2801:A:C2	2.66	0.43
1:0:161:U:H2'	1:0:162:C:C6	2.53	0.43
1:0:195:A:H61	1:0:212:U:C4'	2.30	0.43
1:0:309:G:C2	1:0:350:U:H5	2.36	0.43
1:0:312:G:N2	1:0:328:A:H1'	2.33	0.43
1:0:421:G:H2'	1:0:422:C:C6	2.53	0.43
1:0:562:G:H2'	1:0:563:U:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:774:A:H3'	1:0:774:A:H8	1.83	0.43
1:0:787:A:C2'	1:0:788:G:C8	3.01	0.43
1:0:832:A:O2'	1:0:833:A:H5'	2.17	0.43
1:0:1011:A:N7	1:0:1165:G:C2	2.86	0.43
1:0:1012:A:N7	1:0:1013:G:C4	2.86	0.43
1:0:1053:G:H8	1:0:1053:G:O5'	2.01	0.43
1:0:1422:C:H2'	1:0:1423:A:C8	2.53	0.43
1:0:1429:A:H61	1:0:1602:G:H5'	1.83	0.43
1:0:1917:C:O2'	1:0:1918:G:H5'	2.17	0.43
1:0:2034:A:N3	1:0:2035:G:N7	2.65	0.43
1:0:118:U:H5''	1:0:120:G:OP2	2.18	0.43
1:0:201:G:H2'	1:0:202:A:H8	1.83	0.43
1:0:508:G:H22	1:0:516:G:N2	2.17	0.43
1:0:685:U:C2'	1:0:686:C:H5'	2.48	0.43
1:0:798:G:O2'	1:0:1770:U:H4'	2.18	0.43
1:0:929:A:C3'	1:0:930:A:H5''	2.35	0.43
1:0:939:C:H2'	1:0:940:G:C8	2.53	0.43
1:0:1036:G:H1'	1:0:1145:C:O4'	2.17	0.43
1:0:1140:A:O2'	1:0:2494:C:H1'	2.17	0.43
1:0:1327:C:O5'	1:0:1327:C:C6	2.70	0.43
1:0:1350:G:H2'	1:0:1351:G:H8	1.84	0.43
1:0:1370:U:C2'	1:0:1371:G:H5'	2.48	0.43
1:0:1569:A:C6	1:0:1571:G:H1'	2.53	0.43
1:0:1629:G:C2	1:0:1633:C:N3	2.86	0.43
1:0:1683:G:N7	1:0:1684:G:C2	2.86	0.43
1:0:1714:A:H5''	1:0:1715:A:H8	1.82	0.43
1:0:1725:C:C2	1:0:1742:G:N2	2.86	0.43
1:0:1933:G:O5'	1:0:1933:G:C8	2.72	0.43
1:0:2216:G:O5'	1:0:2216:G:H8	2.01	0.43
1:0:2302:G:H2'	1:0:2303:C:H5'	2.00	0.43
1:0:2617:G:H22	1:0:2755:A:H2'	1.83	0.43
1:0:305:A:H2'	1:0:306:G:O4'	2.19	0.43
1:0:367:G:C3'	1:0:368:A:H5''	2.47	0.43
1:0:649:G:N1	1:0:660:G:N1	2.66	0.43
1:0:658:G:H1'	1:0:2330:G:C5'	2.48	0.43
1:0:1066:G:H3'	1:0:1067:G:H5''	2.01	0.43
1:0:1174:G:H2'	1:0:1175:A:H8	1.83	0.43
1:0:1223:G:N3	1:0:1225:G:N3	2.65	0.43
1:0:1528:C:C2'	1:0:1529:C:H5''	2.47	0.43
1:0:1563:U:N3	1:0:1564:U:C4	2.87	0.43
1:0:1572:C:H2'	1:0:1573:G:C5'	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1672:A:C2	1:0:2032:G:H5''	2.53	0.43
1:0:1697:U:N3	1:0:1755:G:OP2	2.41	0.43
1:0:2225:G:N1	1:0:2405:A:H1'	2.33	0.43
1:0:2469:G:C5'	1:0:2470:U:OP1	2.57	0.43
1:0:2633:A:C5'	1:0:2634:G:OP1	2.61	0.43
1:0:2856:U:C2'	1:0:2857:C:H5'	2.48	0.43
1:0:450:C:H2'	1:0:451:A:C8	2.54	0.43
1:0:953:G:O2'	1:0:954:U:H5'	2.19	0.43
1:0:1180:A:O2'	1:0:1181:C:H5'	2.19	0.43
1:0:1182:U:C4	1:0:1183:C:C5	3.07	0.43
1:0:1256:C:C4	1:0:1257:U:C4	3.07	0.43
1:0:1342:U:H5''	1:0:1343:C:C5	2.50	0.43
1:0:1636:G:C6	1:0:1637:U:C4	3.06	0.43
1:0:1732:U:C2'	1:0:1733:U:O5'	2.66	0.43
1:0:1756:C:H2'	1:0:1757:C:C6	2.54	0.43
1:0:1961:A:O2'	1:0:1962:C:H5'	2.18	0.43
1:0:56:C:O5'	1:0:56:C:H6	2.02	0.43
1:0:501:G:H2'	1:0:502:A:C8	2.53	0.43
1:0:652:C:H41	1:0:653:G:N2	2.16	0.43
1:0:666:U:H2'	1:0:668:A:P	2.58	0.43
1:0:796:A:H2	1:0:1770:U:H5'	1.83	0.43
1:0:921:A:H2'	1:0:924:C:H5	1.84	0.43
1:0:1045:G:H2'	1:0:1046:U:O4'	2.18	0.43
1:0:1855:G:H4'	1:0:2390:A:H4'	2.00	0.43
1:0:1997:A:H2'	1:0:1998:A:C8	2.54	0.43
1:0:2094:C:N4	1:0:2103:G:N3	2.67	0.43
1:0:2378:G:N2	1:0:2397:A:H1'	2.34	0.43
1:0:2499:C:C2	1:0:2546:G:C8	3.06	0.43
1:0:2534:U:O5'	1:0:2534:U:H6	2.01	0.43
1:0:2553:G:H8	1:0:2553:G:O5'	2.02	0.43
1:0:965:G:N3	1:0:2253:A:H2	2.16	0.43
1:0:1271:C:C2	1:0:1272:G:C8	3.06	0.43
1:0:1272:G:H2'	1:0:1273:G:C8	2.49	0.43
1:0:1346:C:H6	1:0:1346:C:OP2	2.02	0.43
1:0:1449:C:C4	1:0:1450:G:N7	2.87	0.43
1:0:2230:G:C6	1:0:2231:G:C6	3.07	0.43
1:0:2241:U:H4'	1:0:2307:A:H2	1.83	0.43
1:0:2793:G:H1'	1:0:2804:G:N2	2.33	0.43
1:0:127:C:H5''	1:0:1615:C:O2'	2.19	0.43
1:0:510:G:N3	1:0:512:A:OP2	2.52	0.43
1:0:776:G:H2'	1:0:778:G:H5''	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:829:C:C2	1:0:1206:G:C2	3.07	0.43
1:0:1077:U:H6	1:0:1077:U:O5'	2.01	0.43
1:0:1427:G:OP2	1:0:1428:G:C6	2.72	0.43
1:0:1685:A:O2'	1:0:1686:A:O5'	2.35	0.43
1:0:1920:A:C6	1:0:1922:U:C5	3.07	0.43
1:0:2018:G:O2'	1:0:2019:C:OP1	2.32	0.43
1:0:2030:U:O2'	1:0:2031:A:H5'	2.18	0.43
1:0:2166:G:O2'	1:0:2167:A:H5'	2.18	0.43
1:0:2270:U:O5'	1:0:2270:U:H6	2.02	0.43
1:0:2407:G:H5''	1:0:2408:G:OP1	2.19	0.43
1:0:2550:C:O5'	1:0:2550:C:H6	2.01	0.43
1:0:2766:U:H2'	1:0:2767:C:C6	2.54	0.43
1:0:10:A:C2	1:0:2608:A:N1	2.87	0.43
1:0:15:G:H2'	1:0:16:G:H5'	2.01	0.43
1:0:41:G:H2'	1:0:42:G:H8	1.84	0.43
1:0:430:C:H2'	1:0:431:G:O4'	2.19	0.43
1:0:483:A:H2'	1:0:484:G:C5'	2.46	0.43
1:0:600:G:O6	1:0:602:C:N4	2.52	0.43
1:0:1449:C:O2'	1:0:1450:G:H5'	2.18	0.43
1:0:1469:U:OP2	1:0:1471:G:N7	2.50	0.43
1:0:1789:U:O2	1:0:1793:A:H2	2.02	0.43
1:0:1825:C:O2'	1:0:1952:A:C2	2.63	0.43
1:0:1883:A:C2	1:0:1953:A:N6	2.87	0.43
1:0:2082:C:C4	1:0:2083:G:C5	3.06	0.43
1:0:2164:G:H2'	1:0:2165:A:C8	2.47	0.43
1:0:2201:G:O2'	1:0:2202:G:H5'	2.19	0.43
1:0:2523:G:H2'	1:0:2524:G:O4'	2.19	0.43
1:0:2608:A:C6	1:0:2869:U:C2	3.07	0.43
1:0:2814:G:O2'	1:0:2815:C:H5'	2.19	0.43
1:0:28:A:H5''	1:0:460:U:C4	2.54	0.43
1:0:84:G:N3	1:0:101:A:H2	2.17	0.43
1:0:340:G:H1'	1:0:488:A:H1'	2.01	0.43
1:0:698:A:O2'	1:0:700:C:H5	2.00	0.43
1:0:843:G:H5'	1:0:956:A:H1'	2.01	0.43
1:0:879:A:N3	1:0:879:A:C2'	2.79	0.43
1:0:1307:U:H2'	1:0:1308:C:O4'	2.19	0.43
1:0:1336:G:H2'	1:0:1337:G:C5'	2.44	0.43
1:0:1621:C:O2'	1:0:1622:G:H5'	2.19	0.43
1:0:2024:U:O5'	1:0:2024:U:H6	2.02	0.43
1:0:2204:A:H1'	1:0:2205:C:C5	2.54	0.43
1:0:2781:G:H2'	1:0:2782:G:H1'	1.95	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2796:A:C6	1:0:2797:G:C5	3.07	0.43
1:0:2820:C:C2	1:0:2821:G:N7	2.86	0.43
1:0:2824:C:H3'	1:0:2824:C:H6	1.84	0.43
1:0:2857:C:C2'	1:0:2858:A:O5'	2.67	0.43
1:0:15:G:C2'	1:0:16:G:H5'	2.49	0.42
1:0:83:A:N1	1:0:98:U:C1'	2.72	0.42
1:0:393:U:H2'	1:0:394:U:C6	2.52	0.42
1:0:641:G:N1	1:0:644:A:OP2	2.42	0.42
1:0:878:C:C2'	1:0:879:A:O5'	2.67	0.42
1:0:972:C:C4	1:0:2014:A:C2	3.06	0.42
1:0:1645:U:O2	1:0:2677:U:H4'	2.19	0.42
1:0:1713:G:C5	1:0:1714:A:C8	3.07	0.42
1:0:1906:U:H2'	1:0:1907:C:C6	2.54	0.42
1:0:1934:U:O2	1:0:1936:A:H8	2.01	0.42
1:0:2321:C:O2'	1:0:2353:G:H5''	2.18	0.42
1:0:2519:C:O2	1:0:2720:A:H2	2.02	0.42
1:0:2610:G:C6	1:0:2611:A:C5	3.07	0.42
1:0:2618:A:C4	1:0:2619:G:H1'	2.54	0.42
4:0:2881:TAO:H163	4:0:2881:TAO:C20	2.47	0.42
1:0:500:G:H8	1:0:500:G:OP1	2.01	0.42
1:0:612:G:C4'	1:0:613:A:H4'	2.50	0.42
1:0:619:A:H2'	1:0:620:G:C8	2.54	0.42
1:0:733:G:H2'	1:0:734:G:H8	1.84	0.42
1:0:749:C:H2'	1:0:750:C:H6	1.84	0.42
1:0:1086:C:C3'	1:0:1087:C:H5''	2.49	0.42
1:0:1164:C:O2'	1:0:1165:G:H5'	2.19	0.42
1:0:1312:G:H2'	1:0:1643:A:N6	2.34	0.42
1:0:1341:G:H2'	1:0:1343:C:C4	2.53	0.42
1:0:1366:A:C6	1:0:1367:A:C6	3.06	0.42
1:0:1440:G:C3'	1:0:1441:A:H5''	2.49	0.42
1:0:1541:G:H22	1:0:1561:A:N6	2.17	0.42
1:0:1725:C:H2'	1:0:1726:C:C6	2.51	0.42
1:0:1937:G:N3	1:0:2530:C:C5'	2.82	0.42
1:0:2066:G:H2'	1:0:2067:U:O4'	2.19	0.42
1:0:2502:G:O6	1:0:2520:A:C2	2.72	0.42
1:0:2590:U:O2	4:0:2881:TAO:C44	2.67	0.42
1:0:2697:G:C6	1:0:2698:G:N7	2.87	0.42
1:0:174:A:H4'	1:0:2052:G:OP2	2.19	0.42
1:0:714:G:N2	1:0:745:C:C2	2.87	0.42
1:0:830:C:H2'	1:0:831:G:H8	1.85	0.42
1:0:1284:G:H2'	1:0:1633:C:H5''	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1345:G:C5	1:0:1625:A:N6	2.88	0.42
1:0:1487:C:O5'	1:0:1487:C:H6	2.02	0.42
1:0:1625:A:O2'	1:0:1632:A:H4'	2.19	0.42
1:0:1699:A:C6	1:0:1748:U:H1'	2.54	0.42
1:0:1755:G:C6	1:0:1972:G:N1	2.87	0.42
1:0:1905:G:H2'	1:0:1906:U:O4'	2.19	0.42
1:0:2027:C:O2'	1:0:2028:C:H5'	2.19	0.42
1:0:2205:C:C2'	1:0:2206:C:H5'	2.49	0.42
1:0:2640:G:H2'	1:0:2641:A:C8	2.55	0.42
1:0:54:G:N2	1:0:114:C:C2	2.87	0.42
1:0:358:C:O5'	1:0:358:C:H6	2.01	0.42
1:0:430:C:H2'	1:0:431:G:C8	2.53	0.42
1:0:542:A:H5''	1:0:542:A:C8	2.40	0.42
1:0:651:C:H3'	1:0:652:C:C5'	2.49	0.42
1:0:956:A:C5	1:0:2427:A:N3	2.87	0.42
1:0:974:U:H2'	1:0:975:C:C6	2.54	0.42
1:0:982:C:C5	1:0:983:G:N7	2.87	0.42
1:0:1699:A:H61	1:0:1723:U:H3	1.67	0.42
1:0:1820:G:O2'	1:0:1821:A:OP1	2.35	0.42
1:0:1960:A:H2'	1:0:1961:A:C8	2.54	0.42
1:0:1975:G:O2'	1:0:1976:U:P	2.76	0.42
1:0:2302:G:C2'	1:0:2303:C:H5'	2.49	0.42
1:0:2354:G:N2	1:0:2357:A:OP2	2.47	0.42
1:0:2717:G:C2	1:0:2748:C:C2	3.08	0.42
1:0:587:A:H5''	1:0:1268:U:O3'	2.20	0.42
1:0:952:A:O2'	1:0:1204:G:H4'	2.19	0.42
1:0:1077:U:O2	1:0:1079:G:C8	2.73	0.42
1:0:1250:A:O2'	1:0:1251:G:C4'	2.67	0.42
1:0:1373:G:C2'	1:0:1374:G:H5'	2.50	0.42
1:0:1569:A:O2'	1:0:1570:C:C5	2.72	0.42
1:0:1669:A:H61	1:0:1670:G:H21	1.64	0.42
1:0:1975:G:HO2'	1:0:1976:U:P	2.42	0.42
1:0:1979:C:OP1	1:0:1979:C:C6	2.58	0.42
1:0:2290:A:H2'	1:0:2291:U:H5'	2.02	0.42
1:0:2427:A:OP1	1:0:2477:C:O5'	2.37	0.42
1:0:2493:U:O2	1:0:2493:U:H2'	2.19	0.42
1:0:2560:G:N3	1:0:2560:G:C2'	2.82	0.42
1:0:136:A:O5'	1:0:136:A:H8	2.02	0.42
1:0:597:U:N3	1:0:683:A:O2'	2.40	0.42
1:0:619:A:H8	1:0:619:A:O5'	2.02	0.42
1:0:873:U:H2'	1:0:874:A:H5'	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:983:G:OP2	1:0:985:G:C5'	2.68	0.42
1:0:992:A:H2	1:0:2010:G:N3	2.18	0.42
1:0:1618:U:O5'	1:0:1618:U:H6	1.97	0.42
1:0:1817:U:H2'	1:0:1818:G:O4'	2.20	0.42
1:0:1908:C:C4	1:0:1909:U:H1'	2.54	0.42
1:0:1947:G:P	1:0:1947:G:H8	2.43	0.42
1:0:1953:A:C2	1:0:1955:G:N7	2.88	0.42
1:0:2136:G:H2'	1:0:2137:G:C8	2.55	0.42
1:0:2417:U:O2'	1:0:2419:C:OP1	2.28	0.42
1:0:676:G:O2'	1:0:951:G:H4'	2.20	0.42
1:0:678:G:H2'	1:0:679:C:O4'	2.19	0.42
1:0:697:G:C6	1:0:788:G:C5	3.08	0.42
1:0:761:G:O6	1:0:764:A:H4'	2.19	0.42
1:0:765:C:C2'	1:0:766:A:OP2	2.67	0.42
1:0:867:G:H2'	1:0:868:U:C6	2.55	0.42
1:0:1279:G:O2'	1:0:1280:U:OP2	2.37	0.42
1:0:1457:A:C2'	1:0:1458:A:H5'	2.49	0.42
1:0:1931:G:N2	1:0:1942:G:C4	2.88	0.42
1:0:2135:C:O5'	1:0:2135:C:H6	2.02	0.42
1:0:2310:G:O2'	1:0:2311:U:H5'	2.20	0.42
1:0:2319:G:H2'	1:0:2320:G:C8	2.55	0.42
1:0:2543:A:OP1	1:0:2627:G:H4'	2.20	0.42
1:0:2608:A:N6	1:0:2869:U:H3	2.17	0.42
1:0:2661:G:H2'	1:0:2662:C:O4'	2.19	0.42
1:0:2821:G:H2'	1:0:2822:U:O4'	2.20	0.42
1:0:26:G:H1'	1:0:525:A:H61	1.85	0.42
1:0:80:A:H2'	1:0:81:C:C6	2.54	0.42
1:0:181:A:H4'	1:0:182:G:OP1	2.18	0.42
1:0:221:A:H2'	1:0:222:G:H5'	2.02	0.42
1:0:318:G:H5'	1:0:318:G:C8	2.53	0.42
1:0:353:G:H2'	1:0:354:C:H6	1.85	0.42
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.42
1:0:521:U:C5	1:0:522:G:N3	2.88	0.42
1:0:742:G:N3	1:0:1766:U:O2	2.53	0.42
1:0:789:G:H4'	1:0:790:A:C8	2.54	0.42
1:0:813:A:O2'	1:0:814:G:C8	2.66	0.42
1:0:859:U:C4'	1:0:860:U:C5	3.03	0.42
1:0:1066:G:H3'	1:0:1067:G:C5'	2.50	0.42
1:0:1191:G:O2'	1:0:1192:A:H5'	2.20	0.42
1:0:1278:A:H4'	1:0:1279:G:O5'	2.20	0.42
1:0:1313:U:C4	1:0:1651:U:H5'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1543:G:H2'	1:0:1544:A:C5'	2.48	0.42
1:0:1639:U:O2'	1:0:1640:C:H5'	2.20	0.42
1:0:1799:A:H8	1:0:1800:A:N7	2.17	0.42
1:0:1821:A:H2'	1:0:1821:A:N3	2.34	0.42
1:0:2009:U:H6	1:0:2009:U:O5'	2.03	0.42
1:0:2058:U:H3'	1:0:2217:G:N1	2.35	0.42
1:0:2068:C:H2'	1:0:2069:U:O4'	2.20	0.42
1:0:2327:U:H2'	1:0:2328:G:C8	2.50	0.42
1:0:2696:A:O2'	1:0:2697:G:H5'	2.20	0.42
1:0:2797:G:H4'	1:0:2800:C:H42	1.85	0.42
1:0:117:A:H5'	1:0:118:U:O5'	2.20	0.42
1:0:658:G:H1'	1:0:2330:G:H5''	2.01	0.42
1:0:832:A:N7	1:0:1202:U:O4	2.53	0.42
1:0:1064:C:O5'	1:0:1064:C:H6	2.03	0.42
1:0:1295:U:H2'	1:0:1296:G:C5'	2.46	0.42
1:0:1538:A:O2'	1:0:1539:U:H5'	2.20	0.42
1:0:1895:A:N6	1:0:1900:U:C5	2.88	0.42
1:0:2032:G:O2'	1:0:2033:C:H5'	2.19	0.42
1:0:2058:U:H2'	1:0:2217:G:O6	2.20	0.42
1:0:2241:U:H2'	1:0:2242:C:C6	2.55	0.42
1:0:2324:G:C4	1:0:2326:C:C5	3.08	0.42
1:0:2327:U:C2	1:0:2328:G:C8	3.08	0.42
1:0:2493:U:O2	1:0:2494:C:C5	2.73	0.42
1:0:2709:C:H2'	1:0:2710:C:H6	1.85	0.42
1:0:2763:U:O2'	1:0:2764:U:H5'	2.19	0.42
1:0:106:G:H2'	1:0:107:G:H8	1.84	0.42
1:0:128:C:H2'	1:0:129:A:C5'	2.50	0.42
1:0:394:U:O2'	1:0:395:G:H5'	2.19	0.42
1:0:760:U:C2	1:0:2592:U:O4	2.73	0.42
1:0:782:U:O2'	1:0:1392:U:H5	2.02	0.42
1:0:1001:A:H5'	1:0:1168:G:OP1	2.20	0.42
1:0:1216:G:H2'	1:0:1217:U:O4'	2.20	0.42
1:0:1461:C:H2'	1:0:1462:C:C6	2.55	0.42
1:0:1540:C:H2'	1:0:1541:G:H8	1.85	0.42
1:0:1704:G:O2'	1:0:1705:U:H5'	2.20	0.42
1:0:1790:G:H4'	1:0:1791:C:C5	2.55	0.42
1:0:1870:U:O5'	1:0:1870:U:H6	2.02	0.42
1:0:2173:G:H2'	1:0:2174:G:C8	2.55	0.42
4:0:2881:TAO:H19	4:0:2881:TAO:H71	1.75	0.42
1:0:119:G:H2'	1:0:120:G:H8	1.84	0.41
1:0:149:A:O2'	1:0:150:A:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:163:A:N1	1:0:188:G:C6	2.87	0.41
1:0:343:A:H2'	1:0:345:U:OP2	2.20	0.41
1:0:507:A:H2'	1:0:508:G:O4'	2.20	0.41
1:0:520:C:O2'	1:0:1249:G:C5'	2.67	0.41
1:0:542:A:C8	1:0:542:A:C3'	3.03	0.41
1:0:548:G:O2'	1:0:549:G:H5'	2.19	0.41
1:0:930:A:H4'	1:0:930:A:OP1	2.21	0.41
1:0:1036:G:N3	1:0:1036:G:H2'	2.35	0.41
1:0:1188:A:H2'	1:0:1189:G:H5'	2.02	0.41
1:0:1273:G:H2'	1:0:1274:C:H6	1.85	0.41
1:0:1323:G:N2	1:0:1621:C:O2	2.53	0.41
1:0:1572:C:H2'	1:0:1573:G:H5'	2.02	0.41
1:0:1574:A:H2	1:0:1576:G:N9	2.18	0.41
1:0:1626:A:C8	1:0:1626:A:OP2	2.74	0.41
1:0:1771:A:H8	1:0:1772:C:H5	1.68	0.41
1:0:1856:U:OP1	1:0:2389:G:O2'	2.36	0.41
1:0:1922:U:O2'	1:0:2571:G:C1'	2.68	0.41
1:0:1939:U:H1'	1:0:2531:U:OP1	2.19	0.41
1:0:2426:G:O2'	1:0:2427:A:OP2	2.30	0.41
1:0:2474:G:H8	1:0:2474:G:O5'	2.03	0.41
1:0:2821:G:O6	1:0:2846:G:C6	2.73	0.41
1:0:171:G:O2'	1:0:172:A:H5'	2.20	0.41
1:0:222:G:C6	1:0:231:G:C2	3.08	0.41
1:0:500:G:C5	1:0:1297:A:C2	3.08	0.41
1:0:677:G:H1'	1:0:951:G:OP1	2.20	0.41
1:0:718:A:C8	1:0:740:A:C2	3.08	0.41
1:0:984:A:N3	1:0:984:A:H2'	2.35	0.41
1:0:1276:U:H2'	1:0:1277:G:O4'	2.20	0.41
1:0:2245:A:H2'	1:0:2246:A:OP2	2.21	0.41
1:0:2265:A:H5''	1:0:2266:A:O4'	2.20	0.41
1:0:2439:U:H2'	1:0:2440:C:H5'	2.01	0.41
1:0:2447:G:O2'	1:0:2448:A:H5'	2.19	0.41
1:0:2503:G:H3'	1:0:2504:G:H5''	2.02	0.41
1:0:2597:G:O2'	1:0:2598:C:H5'	2.19	0.41
1:0:2611:A:C2	1:0:2767:C:C2	3.08	0.41
1:0:2784:A:H3'	1:0:2785:A:C8	2.56	0.41
1:0:321:A:C2	1:0:323:G:H1'	2.55	0.41
1:0:464:G:C4	1:0:469:G:N2	2.88	0.41
1:0:589:C:O2'	1:0:590:C:H5'	2.19	0.41
1:0:675:C:H2'	1:0:676:G:H8	1.86	0.41
1:0:1130:U:O2	1:0:1130:U:H2'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1293:A:HO2'	1:0:1294:G:H5'	1.84	0.41
1:0:1383:C:H2'	1:0:1384:G:O4'	2.20	0.41
1:0:1388:C:O2'	1:0:1389:C:H5'	2.20	0.41
1:0:1451:C:O2'	1:0:1452:U:H5'	2.20	0.41
1:0:1576:G:H2'	1:0:1577:G:O4'	2.19	0.41
1:0:1820:G:O2'	1:0:1821:A:P	2.78	0.41
1:0:1938:U:C2'	1:0:1939:U:H5'	2.51	0.41
1:0:2253:A:O2'	1:0:2255:G:OP1	2.27	0.41
1:0:2516:U:H2'	1:0:2517:C:H6	1.84	0.41
1:0:2610:G:H5'	1:0:2866:A:H4'	2.02	0.41
1:0:2692:A:OP1	1:0:2692:A:O4'	2.38	0.41
1:0:2696:A:H2'	1:0:2697:G:H8	1.85	0.41
1:0:2705:A:C5	1:0:2707:G:C8	3.08	0.41
1:0:2788:C:HO2'	1:0:2789:U:H5'	1.81	0.41
1:0:113:C:N4	1:0:114:C:H41	2.18	0.41
1:0:212:U:O2	1:0:443:A:H2	2.01	0.41
1:0:300:C:H2'	1:0:301:C:C5'	2.49	0.41
1:0:310:A:H2	1:0:330:C:O2	2.03	0.41
1:0:483:A:C2'	1:0:484:G:H5'	2.48	0.41
1:0:491:A:N3	1:0:509:U:O2'	2.36	0.41
1:0:503:G:H2'	1:0:504:G:C8	2.55	0.41
1:0:822:G:O2'	1:0:823:U:H5'	2.20	0.41
1:0:1312:G:H4'	1:0:1313:U:H5'	2.01	0.41
1:0:1783:G:H1'	1:0:1822:C:P	2.60	0.41
1:0:2015:G:N3	1:0:2015:G:H2'	2.35	0.41
1:0:2041:A:C2	4:0:2881:TAO:O33	2.72	0.41
1:0:2237:C:C2	1:0:2405:A:H4'	2.54	0.41
1:0:2324:G:N7	1:0:2351:G:C2	2.89	0.41
1:0:2464:G:O2'	1:0:2465:G:H5'	2.20	0.41
1:0:2793:G:N3	1:0:2804:G:C2	2.88	0.41
1:0:2848:A:O2'	1:0:2849:C:OP1	2.35	0.41
1:0:76:C:H2'	1:0:77:C:H6	1.83	0.41
1:0:300:C:C2'	1:0:301:C:H5'	2.48	0.41
1:0:324:C:H2'	1:0:325:U:O4'	2.21	0.41
1:0:836:G:H2'	1:0:837:U:C6	2.56	0.41
1:0:871:U:O2	1:0:2247:A:C2'	2.58	0.41
1:0:983:G:C6	1:0:984:A:N6	2.89	0.41
1:0:1067:G:H21	1:0:1115:C:H41	1.66	0.41
1:0:1246:G:O2'	1:0:1247:U:H5'	2.20	0.41
1:0:1656:U:O2'	1:0:1657:A:H5''	2.19	0.41
1:0:1678:G:H2'	1:0:1679:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1876:C:H2'	1:0:1877:C:H5'	2.02	0.41
1:0:2044:G:N7	1:0:2480:C:H4'	2.35	0.41
1:0:2178:U:H2'	1:0:2179:C:C6	2.55	0.41
1:0:2370:G:H8	1:0:2370:G:O5'	2.03	0.41
1:0:2550:C:OP2	1:0:2552:C:H4'	2.20	0.41
1:0:2625:U:O5'	1:0:2625:U:H6	2.02	0.41
1:0:2684:A:N7	1:0:2685:A:C8	2.88	0.41
1:0:2712:G:H5'	1:0:2713:A:C8	2.55	0.41
1:0:2720:A:C6	1:0:2744:A:C8	3.08	0.41
1:0:2809:A:N6	1:0:2854:G:C4	2.88	0.41
1:0:2813:G:H2'	1:0:2814:G:C5'	2.50	0.41
4:0:2881:TAO:H26	4:0:2881:TAO:H222	2.02	0.41
1:0:337:G:H2'	1:0:338:G:C8	2.56	0.41
1:0:462:G:C2'	1:0:463:C:H5''	2.47	0.41
1:0:500:G:C2	1:0:1297:A:C6	3.08	0.41
1:0:515:A:H2'	1:0:516:G:H5'	2.03	0.41
1:0:657:A:H2'	1:0:658:G:O4'	2.20	0.41
1:0:788:G:C5'	1:0:789:G:OP1	2.67	0.41
1:0:925:U:H5''	1:0:926:C:OP1	2.20	0.41
1:0:944:A:O2'	1:0:945:G:H5'	2.20	0.41
1:0:1166:A:H2'	1:0:1167:A:H5''	2.01	0.41
1:0:1279:G:C2'	1:0:1280:U:OP2	2.68	0.41
1:0:1388:C:H2'	1:0:1389:C:C6	2.51	0.41
1:0:1579:G:O2'	1:0:1580:C:H5'	2.21	0.41
1:0:1678:G:C4	1:0:1983:G:N2	2.89	0.41
1:0:2173:G:O2'	1:0:2174:G:H5'	2.20	0.41
1:0:2267:A:H8	1:0:2267:A:O5'	2.04	0.41
1:0:2560:G:N3	1:0:2560:G:H3'	2.35	0.41
1:0:2737:A:H2'	1:0:2738:A:C5'	2.49	0.41
1:0:491:A:C2	1:0:509:U:C2'	3.04	0.41
1:0:502:A:C2'	1:0:503:G:H5'	2.51	0.41
1:0:674:U:H2'	1:0:675:C:C6	2.56	0.41
1:0:742:G:C2	1:0:1766:U:C2	3.08	0.41
1:0:747:A:H2'	1:0:748:A:O4'	2.21	0.41
1:0:764:A:H1'	4:0:2881:TAO:C16	2.51	0.41
1:0:964:A:O2'	1:0:965:G:H5'	2.21	0.41
1:0:974:U:H1'	1:0:2229:G:H21	1.85	0.41
1:0:1008:G:C2	1:0:1170:U:C2	3.09	0.41
1:0:1227:A:C4'	1:0:1252:C:H4'	2.50	0.41
1:0:1332:G:C6	1:0:1333:G:N1	2.89	0.41
1:0:1353:A:H2	1:0:1618:U:C4	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1613:G:H5''	1:0:1614:C:H5'	2.02	0.41
1:0:1753:A:C8	1:0:1753:A:C3'	3.03	0.41
1:0:1928:G:C6	1:0:1929:U:O4	2.74	0.41
1:0:1980:A:C2	1:0:1981:A:C4	3.09	0.41
1:0:2119:A:H2'	1:0:2120:C:C6	2.56	0.41
1:0:2157:C:H2'	1:0:2158:C:C6	2.55	0.41
1:0:2408:G:OP1	1:0:2408:G:O4'	2.38	0.41
1:0:2509:A:C2'	1:0:2510:A:H5''	2.38	0.41
1:0:2516:U:H2'	1:0:2517:C:C6	2.56	0.41
1:0:2535:C:C2'	1:0:2536:G:H5'	2.50	0.41
1:0:2842:C:C6	1:0:2842:C:H3'	2.56	0.41
1:0:714:G:C2	1:0:745:C:N3	2.89	0.41
1:0:765:C:H2'	1:0:766:A:OP2	2.21	0.41
1:0:790:A:C2	1:0:791:G:N9	2.89	0.41
1:0:828:C:H2'	1:0:829:C:C6	2.56	0.41
1:0:839:U:H5''	1:0:2408:G:OP2	2.21	0.41
1:0:936:A:O2'	1:0:937:C:H5'	2.20	0.41
1:0:1302:C:OP1	1:0:1302:C:C6	2.73	0.41
1:0:1307:U:C2'	1:0:1308:C:H5'	2.51	0.41
1:0:1371:G:O2'	1:0:1386:A:N6	2.53	0.41
1:0:1407:G:O5'	1:0:1407:G:H8	2.04	0.41
1:0:1467:U:H6	1:0:1468:A:H5'	1.85	0.41
1:0:1624:A:O2'	1:0:1625:A:C5'	2.68	0.41
1:0:1823:G:N2	1:0:1958:G:H1'	2.35	0.41
1:0:1896:A:H8	1:0:1896:A:O5'	2.03	0.41
1:0:2002:A:N1	1:0:2003:A:N3	2.69	0.41
1:0:2230:G:C8	1:0:2476:A:N6	2.89	0.41
1:0:2404:A:P	1:0:2406:C:H5'	2.61	0.41
1:0:2520:A:O5'	1:0:2520:A:H8	2.03	0.41
1:0:2533:U:H2'	1:0:2534:U:C6	2.55	0.41
1:0:2594:U:C5	3:Z:7:PRO:CA	3.02	0.41
1:0:2618:A:C5	1:0:2619:G:H1'	2.56	0.41
1:0:2687:G:H2'	1:0:2688:G:O4'	2.20	0.41
1:0:2746:G:H2'	1:0:2746:G:N3	2.36	0.41
1:0:2768:C:O5'	1:0:2768:C:H6	2.04	0.41
1:0:2837:G:H8	1:0:2837:G:O5'	2.03	0.41
1:0:2851:G:H2'	1:0:2852:G:O4'	2.20	0.41
1:0:28:A:O3'	1:0:460:U:O4	2.38	0.41
1:0:81:C:H4'	1:0:307:C:H5'	2.02	0.41
1:0:112:U:C4	1:0:113:C:C4	3.09	0.41
1:0:221:A:N6	1:0:231:G:H21	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:324:C:O5'	1:0:324:C:H6	2.03	0.41
1:0:468:A:HO2'	1:0:469:G:H4'	1.80	0.41
1:0:603:C:H2'	1:0:604:U:C6	2.56	0.41
1:0:636:G:H2'	1:0:637:G:C5'	2.51	0.41
1:0:700:C:O2	1:0:800:U:O3'	2.38	0.41
1:0:722:C:C4	1:0:723:C:C4	3.09	0.41
1:0:774:A:H3'	1:0:774:A:C8	2.56	0.41
1:0:813:A:O2'	1:0:815:A:C5'	2.66	0.41
1:0:830:C:O2'	1:0:852:U:H5''	2.19	0.41
1:0:878:C:O2'	1:0:879:A:C8	2.74	0.41
1:0:931:G:H8	1:0:931:G:O5'	2.03	0.41
1:0:1010:U:H2'	1:0:1011:A:H8	1.84	0.41
1:0:1087:C:C2'	1:0:1088:A:H5'	2.51	0.41
1:0:1193:G:H2'	1:0:1194:U:H6	1.85	0.41
1:0:1281:A:C2	1:0:1996:A:C5	3.08	0.41
1:0:1322:G:N2	1:0:1627:C:H5'	2.36	0.41
1:0:1337:G:H1'	1:0:1632:A:N6	2.36	0.41
1:0:1443:G:H2'	1:0:1444:C:O4'	2.21	0.41
1:0:1491:C:C2	1:0:1492:A:C8	3.09	0.41
1:0:1495:G:O2'	1:0:1496:G:OP1	2.33	0.41
1:0:1530:U:O5'	1:0:1530:U:H6	2.04	0.41
1:0:1581:C:N4	1:0:1583:A:H1'	2.36	0.41
1:0:1636:G:C5	1:0:1637:U:C4	3.09	0.41
1:0:1703:C:H2'	1:0:1704:G:O4'	2.21	0.41
1:0:1711:C:OP1	1:0:1711:C:C6	2.74	0.41
1:0:1759:A:C6	1:0:1968:G:C6	3.09	0.41
1:0:1781:C:H2'	1:0:1782:A:C5	2.56	0.41
1:0:1895:A:H8	1:0:1895:A:O5'	2.04	0.41
1:0:2182:A:N7	1:0:2183:C:C2	2.89	0.41
1:0:2347:C:H2'	1:0:2348:A:C8	2.56	0.41
1:0:2449:G:O6	1:0:2455:A:H2	2.03	0.41
1:0:2456:U:O2	1:0:2456:U:H2'	2.20	0.41
1:0:2473:G:H2'	1:0:2473:G:N3	2.35	0.41
1:0:2499:C:N3	1:0:2546:G:C8	2.89	0.41
1:0:2522:G:H2'	1:0:2523:G:H8	1.84	0.41
1:0:2522:G:O2'	1:0:2624:G:C5	2.74	0.41
1:0:2523:G:H1'	1:0:2625:U:H5'	2.02	0.41
1:0:2557:G:N2	1:0:2558:C:C2	2.89	0.41
1:0:2667:C:N4	1:0:2699:G:H3'	2.36	0.41
1:0:2678:C:C2	1:0:2688:G:N2	2.89	0.41
4:0:2881:TAO:H221	4:0:2881:TAO:H82	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:150:A:H2'	1:0:151:G:O4'	2.20	0.41
1:0:167:A:H2'	1:0:168:A:O4'	2.20	0.41
1:0:192:G:O2'	1:0:193:A:C5'	2.69	0.41
1:0:366:U:H2'	1:0:367:G:O4'	2.20	0.41
1:0:538:A:O5'	1:0:538:A:C8	2.73	0.41
1:0:546:A:H61	1:0:565:A:N6	2.19	0.41
1:0:546:A:N6	1:0:565:A:N6	2.69	0.41
1:0:559:C:H6	1:0:559:C:O5'	2.02	0.41
1:0:744:C:H6	1:0:744:C:O5'	2.03	0.41
1:0:1139:A:HO2'	1:0:2495:G:C3'	2.34	0.41
1:0:1429:A:N6	1:0:1601:U:H5''	2.28	0.41
1:0:1725:C:H6	1:0:1725:C:O5'	2.03	0.41
1:0:1841:G:H8	1:0:1841:G:O5'	2.03	0.41
1:0:2161:C:O2'	1:0:2162:C:P	2.78	0.41
1:0:2634:G:O2'	1:0:2643:G:C6	2.70	0.41
1:0:2748:C:H2'	1:0:2749:A:O4'	2.21	0.41
1:0:187:U:H1'	1:0:1379:A:H2	1.84	0.40
1:0:234:C:H2'	1:0:235:C:C6	2.56	0.40
1:0:234:C:H2'	1:0:235:C:H6	1.85	0.40
1:0:475:U:C4	1:0:476:G:C6	3.10	0.40
1:0:593:C:C5	1:0:594:G:N7	2.89	0.40
1:0:773:G:O2'	1:0:774:A:H5'	2.21	0.40
1:0:801:A:H5''	1:0:802:A:OP1	2.21	0.40
1:0:843:G:OP1	1:0:843:G:H8	2.04	0.40
1:0:1057:A:C5'	1:0:1058:G:H5'	2.51	0.40
1:0:1147:G:H2'	1:0:1148:G:C8	2.56	0.40
1:0:1372:A:C2'	1:0:1373:G:H5'	2.49	0.40
1:0:1558:C:H2'	1:0:1559:G:C5'	2.51	0.40
1:0:1755:G:C6	1:0:1756:C:N4	2.89	0.40
1:0:1773:C:O5'	1:0:1773:C:H6	2.04	0.40
1:0:2000:U:O2'	3:Z:9:LYS:CA	2.70	0.40
1:0:2091:C:H3'	1:0:2092:U:H6	1.86	0.40
1:0:2195:C:H2'	1:0:2196:U:C5'	2.49	0.40
1:0:2224:U:O2	1:0:2414:A:C8	2.74	0.40
1:0:2426:G:O2'	1:0:2427:A:P	2.80	0.40
1:0:488:A:C6	1:0:489:A:N6	2.89	0.40
1:0:490:A:O2'	1:0:491:A:C8	2.74	0.40
1:0:528:G:O2'	1:0:529:U:H5'	2.21	0.40
1:0:584:A:H2'	1:0:585:U:H6	1.86	0.40
1:0:718:A:C2	1:0:740:A:H1'	2.57	0.40
1:0:754:G:C6	1:0:755:C:N4	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:921:A:O2'	1:0:923:A:OP2	2.24	0.40
1:0:962:C:C4	1:0:963:G:N7	2.90	0.40
1:0:1455:C:H2'	1:0:1456:C:C6	2.57	0.40
1:0:1903:C:H2'	1:0:1904:G:H8	1.85	0.40
1:0:1920:A:C6	1:0:1922:U:H5	2.39	0.40
1:0:2001:G:H2'	1:0:2002:A:H8	1.84	0.40
1:0:2061:C:O5'	1:0:2061:C:H6	2.04	0.40
1:0:2161:C:O5'	1:0:2161:C:H6	2.04	0.40
1:0:2338:C:N4	1:0:2339:A:N6	2.69	0.40
1:0:2550:C:C6	1:0:2553:G:O4'	2.75	0.40
1:0:2602:G:O2'	1:0:2603:G:H5'	2.21	0.40
1:0:2608:A:C6	1:0:2869:U:N3	2.89	0.40
1:0:2705:A:H2'	1:0:2706:U:O5'	2.22	0.40
1:0:2866:A:C2'	1:0:2867:G:O4'	2.68	0.40
1:0:158:A:C2	1:0:447:U:O2'	2.74	0.40
1:0:160:C:O2'	1:0:445:A:N3	2.51	0.40
1:0:369:C:O2'	1:0:370:U:H5'	2.21	0.40
1:0:471:A:C2	1:0:481:A:C5	3.10	0.40
1:0:594:G:C6	1:0:1264:C:C5	3.09	0.40
1:0:732:G:O5'	1:0:732:G:C8	2.69	0.40
1:0:836:G:O2'	1:0:837:U:H5'	2.21	0.40
1:0:1098:G:O2'	1:0:1100:G:OP1	2.39	0.40
1:0:1300:A:C2	1:0:1666:G:C4'	3.04	0.40
1:0:1478:U:H2'	1:0:1479:G:C8	2.56	0.40
1:0:1618:U:H2'	1:0:1619:A:H5'	2.03	0.40
1:0:2280:A:H2'	1:0:2281:C:C6	2.56	0.40
1:0:2500:C:H4'	1:0:2544:A:O4'	2.21	0.40
1:0:2658:A:H8	1:0:2658:A:O5'	2.04	0.40
1:0:2689:C:N4	1:0:2690:A:N6	2.70	0.40
1:0:2791:C:O2'	1:0:2792:C:H5'	2.21	0.40
1:0:91:A:H2'	1:0:92:U:C6	2.56	0.40
1:0:203:G:H4'	1:0:234:C:O2'	2.21	0.40
1:0:226:C:C5	1:0:2374:C:OP1	2.74	0.40
1:0:236:C:H2'	1:0:237:G:C8	2.49	0.40
1:0:329:C:O2'	1:0:330:C:H5'	2.21	0.40
1:0:341:A:C2	1:0:1223:G:N7	2.89	0.40
1:0:392:G:H8	1:0:392:G:O5'	2.05	0.40
1:0:401:G:C2'	1:0:403:A:H62	2.34	0.40
1:0:738:G:H2'	1:0:739:G:O4'	2.21	0.40
1:0:929:A:C8	1:0:2247:A:N6	2.86	0.40
1:0:1179:A:H2'	1:0:1180:A:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1223:G:C4	1:0:1250:A:N6	2.90	0.40
1:0:1338:G:H5'	1:0:1339:U:OP2	2.21	0.40
1:0:1501:C:O2'	1:0:1502:G:H5'	2.21	0.40
1:0:1962:C:H2'	1:0:1963:G:H5'	2.04	0.40
1:0:2271:C:O2'	1:0:2354:G:H4'	2.22	0.40
1:0:2337:A:C5	1:0:2338:C:C4	3.10	0.40
1:0:2408:G:H3'	1:0:2409:A:C5'	2.51	0.40
1:0:2488:G:C2	1:0:2559:U:O2	2.74	0.40
1:0:2697:G:N1	1:0:2698:G:C5	2.89	0.40
1:0:2697:G:C4	1:0:2698:G:C8	3.09	0.40
1:0:2756:A:N7	1:0:2762:G:C4	2.90	0.40
1:0:41:G:C2	1:0:451:A:C2	3.10	0.40
1:0:220:U:H2'	1:0:221:A:C8	2.52	0.40
1:0:480:G:H8	1:0:480:G:O5'	2.05	0.40
1:0:529:U:O2'	1:0:530:G:H5'	2.21	0.40
1:0:737:C:H2'	1:0:738:G:O4'	2.22	0.40
1:0:1016:C:H2'	1:0:1017:C:C6	2.57	0.40
1:0:1034:U:H4'	1:0:1134:C:OP1	2.21	0.40
1:0:1199:U:O4	1:0:1201:G:C6	2.75	0.40
1:0:1407:G:C5	1:0:1408:A:N6	2.89	0.40
1:0:1956:G:H5'	1:0:1956:G:H8	1.86	0.40
1:0:1981:A:O3'	1:0:2704:U:H4'	2.22	0.40
1:0:2061:C:C4	1:0:2062:U:C5	3.10	0.40
1:0:2093:G:O2'	1:0:2094:C:P	2.80	0.40
1:0:2181:A:O5'	1:0:2181:A:C8	2.74	0.40
1:0:2686:C:O2'	1:0:2687:G:H5'	2.22	0.40
1:0:2773:G:H3'	1:0:2774:U:C5'	2.52	0.40
1:0:2819:G:H2'	1:0:2820:C:C6	2.56	0.40
1:0:2841:U:O2'	1:0:2842:C:H5'	2.22	0.40
1:0:2842:C:H5''	1:0:2842:C:C6	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [\(i\)](#)

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

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

5.3.2 Protein sidechains [i](#)

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

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2755/2880 (95%)	523 (18%)	52 (1%)

All (523) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	A
1	0	35	G
1	0	45	C
1	0	48	A
1	0	49	U
1	0	50	G
1	0	59	G
1	0	70	A
1	0	71	A
1	0	72	A
1	0	74	G
1	0	76	C
1	0	87	G
1	0	89	A
1	0	90	G
1	0	91	A
1	0	99	U
1	0	105	G
1	0	110	U
1	0	111	G
1	0	116	A
1	0	118	U
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	169	C
1	0	173	A

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Mol	Chain	Res	Type
1	0	174	A
1	0	176	A
1	0	181	A
1	0	182	G
1	0	193	A
1	0	199	A
1	0	200	A
1	0	201	G
1	0	205	A
1	0	206	U
1	0	210	A
1	0	218	A
1	0	219	G
1	0	225	G
1	0	227	G
1	0	229	G
1	0	242	A
1	0	243	G
1	0	305	A
1	0	318	G
1	0	322	A
1	0	334	G
1	0	335	A
1	0	340	G
1	0	341	A
1	0	343	A
1	0	358	C
1	0	363	G
1	0	368	A
1	0	373	A
1	0	399	G
1	0	401	G
1	0	408	U
1	0	411	C
1	0	414	A
1	0	418	C
1	0	424	G
1	0	443	A
1	0	455	A
1	0	456	C
1	0	460	U
1	0	461	A

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Mol	Chain	Res	Type
1	0	463	C
1	0	467	U
1	0	484	G
1	0	486	U
1	0	490	A
1	0	491	A
1	0	492	G
1	0	514	G
1	0	515	A
1	0	518	A
1	0	519	C
1	0	537	C
1	0	539	A
1	0	541	C
1	0	542	A
1	0	544	U
1	0	554	U
1	0	556	A
1	0	558	G
1	0	572	G
1	0	582	G
1	0	583	C
1	0	584	A
1	0	587	A
1	0	588	G
1	0	601	A
1	0	613	A
1	0	617	U
1	0	624	A
1	0	632	A
1	0	636	G
1	0	638	A
1	0	648	A
1	0	652	C
1	0	654	A
1	0	655	A
1	0	666	U
1	0	667	U
1	0	684	C
1	0	697	G
1	0	699	G
1	0	700	C

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Mol	Chain	Res	Type
1	0	728	G
1	0	740	A
1	0	742	G
1	0	743	A
1	0	753	U
1	0	760	U
1	0	762	A
1	0	766	A
1	0	774	A
1	0	776	G
1	0	778	G
1	0	789	G
1	0	790	A
1	0	794	A
1	0	796	A
1	0	797	A
1	0	798	G
1	0	802	A
1	0	803	C
1	0	806	A
1	0	807	A
1	0	813	A
1	0	815	A
1	0	818	G
1	0	819	C
1	0	825	C
1	0	832	A
1	0	840	U
1	0	841	G
1	0	843	G
1	0	844	G
1	0	859	U
1	0	873	U
1	0	874	A
1	0	919	U
1	0	922	A
1	0	926	C
1	0	930	A
1	0	931	G
1	0	941	U
1	0	943	U
1	0	944	A

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Mol	Chain	Res	Type
1	0	952	A
1	0	957	G
1	0	968	C
1	0	969	U
1	0	970	A
1	0	972	C
1	0	973	U
1	0	984	A
1	0	985	G
1	0	994	A
1	0	996	C
1	0	1002	C
1	0	1005	U
1	0	1006	C
1	0	1007	A
1	0	1019	U
1	0	1022	A
1	0	1023	U
1	0	1024	G
1	0	1030	U
1	0	1032	A
1	0	1033	G
1	0	1036	G
1	0	1037	U
1	0	1044	U
1	0	1045	G
1	0	1055	A
1	0	1056	U
1	0	1057	A
1	0	1067	G
1	0	1073	G
1	0	1074	G
1	0	1075	C
1	0	1081	A
1	0	1082	G
1	0	1083	C
1	0	1087	C
1	0	1090	C
1	0	1099	A
1	0	1130	U
1	0	1137	A
1	0	1138	A

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Mol	Chain	Res	Type
1	0	1142	G
1	0	1145	C
1	0	1146	G
1	0	1149	G
1	0	1155	G
1	0	1166	A
1	0	1167	A
1	0	1168	G
1	0	1182	U
1	0	1183	C
1	0	1185	C
1	0	1194	U
1	0	1195	U
1	0	1199	U
1	0	1200	G
1	0	1224	A
1	0	1233	A
1	0	1234	C
1	0	1253	C
1	0	1261	G
1	0	1262	U
1	0	1264	C
1	0	1266	G
1	0	1267	A
1	0	1268	U
1	0	1269	G
1	0	1278	A
1	0	1279	G
1	0	1281	A
1	0	1284	G
1	0	1285	A
1	0	1286	U
1	0	1288	A
1	0	1289	A
1	0	1302	C
1	0	1314	A
1	0	1316	G
1	0	1324	G
1	0	1327	C
1	0	1334	A
1	0	1338	G
1	0	1339	U

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Mol	Chain	Res	Type
1	0	1342	U
1	0	1343	C
1	0	1346	C
1	0	1354	A
1	0	1355	A
1	0	1356	G
1	0	1359	G
1	0	1391	A
1	0	1392	U
1	0	1397	A
1	0	1398	G
1	0	1411	C
1	0	1430	G
1	0	1433	A
1	0	1439	G
1	0	1441	A
1	0	1442	C
1	0	1443	G
1	0	1459	U
1	0	1465	G
1	0	1466	C
1	0	1467	U
1	0	1468	A
1	0	1469	U
1	0	1470	G
1	0	1473	U
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	1505	U
1	0	1509	A
1	0	1513	U
1	0	1524	C
1	0	1529	C
1	0	1532	A
1	0	1544	A
1	0	1552	C
1	0	1563	U
1	0	1571	G

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Mol	Chain	Res	Type
1	0	1573	G
1	0	1574	A
1	0	1582	A
1	0	1583	A
1	0	1585	A
1	0	1618	U
1	0	1623	C
1	0	1624	A
1	0	1625	A
1	0	1626	A
1	0	1631	C
1	0	1635	G
1	0	1638	G
1	0	1648	C
1	0	1652	G
1	0	1657	A
1	0	1663	C
1	0	1664	G
1	0	1665	C
1	0	1670	G
1	0	1671	A
1	0	1680	U
1	0	1681	A
1	0	1685	A
1	0	1686	A
1	0	1691	G
1	0	1692	C
1	0	1699	A
1	0	1710	U
1	0	1711	C
1	0	1712	G
1	0	1713	G
1	0	1715	A
1	0	1716	G
1	0	1717	A
1	0	1718	A
1	0	1724	C
1	0	1748	U
1	0	1749	G
1	0	1750	A
1	0	1754	G
1	0	1755	G

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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	1778	U
1	0	1791	C
1	0	1792	C
1	0	1800	A
1	0	1801	C
1	0	1802	A
1	0	1807	A
1	0	1808	C
1	0	1809	G
1	0	1811	A
1	0	1813	A
1	0	1821	A
1	0	1830	C
1	0	1831	G
1	0	1840	A
1	0	1884	A
1	0	1889	G
1	0	1908	C
1	0	1909	U
1	0	1920	A
1	0	1921	A
1	0	1922	U
1	0	1924	C
1	0	1926	U
1	0	1927	U
1	0	1928	G
1	0	1938	U
1	0	1939	U
1	0	1948	C
1	0	1949	A
1	0	1950	C
1	0	1953	A
1	0	1954	A
1	0	1955	G
1	0	1956	G
1	0	1964	A

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Mol	Chain	Res	Type
1	0	1974	U
1	0	1976	U
1	0	1979	C
1	0	1980	A
1	0	2003	A
1	0	2004	U
1	0	2006	G
1	0	2014	A
1	0	2015	G
1	0	2016	A
1	0	2019	C
1	0	2034	A
1	0	2038	C
1	0	2044	G
1	0	2045	A
1	0	2051	U
1	0	2052	G
1	0	2060	A
1	0	2076	G
1	0	2082	C
1	0	2094	C
1	0	2096	U
1	0	2118	A
1	0	2119	A
1	0	2140	G
1	0	2162	C
1	0	2168	A
1	0	2181	A
1	0	2191	A
1	0	2195	C
1	0	2199	C
1	0	2205	C
1	0	2218	G
1	0	2229	G
1	0	2238	G
1	0	2241	U
1	0	2245	A
1	0	2246	A
1	0	2247	A
1	0	2255	G
1	0	2262	C
1	0	2265	A

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Mol	Chain	Res	Type
1	0	2268	G
1	0	2285	U
1	0	2286	G
1	0	2287	G
1	0	2288	A
1	0	2298	U
1	0	2299	A
1	0	2300	G
1	0	2301	A
1	0	2313	G
1	0	2314	A
1	0	2315	A
1	0	2316	G
1	0	2325	A
1	0	2326	C
1	0	2362	G
1	0	2364	C
1	0	2369	U
1	0	2378	G
1	0	2381	A
1	0	2385	U
1	0	2396	C
1	0	2403	C
1	0	2405	A
1	0	2406	C
1	0	2407	G
1	0	2408	G
1	0	2409	A
1	0	2415	G
1	0	2419	C
1	0	2420	C
1	0	2427	A
1	0	2428	U
1	0	2437	G
1	0	2438	A
1	0	2448	A
1	0	2455	A
1	0	2457	A
1	0	2470	U
1	0	2476	A
1	0	2477	C
1	0	2481	G

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Mol	Chain	Res	Type
1	0	2482	A
1	0	2483	U
1	0	2484	G
1	0	2485	U
1	0	2492	G
1	0	2499	C
1	0	2504	G
1	0	2508	G
1	0	2521	A
1	0	2522	G
1	0	2533	U
1	0	2545	A
1	0	2546	G
1	0	2549	G
1	0	2558	C
1	0	2561	G
1	0	2565	C
1	0	2578	G
1	0	2581	A
1	0	2582	G
1	0	2588	U
1	0	2589	C
1	0	2591	C
1	0	2593	A
1	0	2594	U
1	0	2608	A
1	0	2609	G
1	0	2613	A
1	0	2625	U
1	0	2633	A
1	0	2634	G
1	0	2661	G
1	0	2669	C
1	0	2670	C
1	0	2681	A
1	0	2692	A
1	0	2693	U
1	0	2707	G
1	0	2712	G
1	0	2713	A
1	0	2728	A
1	0	2730	A

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Mol	Chain	Res	Type
1	0	2732	C
1	0	2737	A
1	0	2745	A
1	0	2756	A
1	0	2757	G
1	0	2758	A
1	0	2760	G
1	0	2770	A
1	0	2771	C
1	0	2774	U
1	0	2782	G
1	0	2783	U
1	0	2785	A
1	0	2793	G
1	0	2795	A
1	0	2807	U
1	0	2808	U
1	0	2809	A
1	0	2810	A
1	0	2811	G
1	0	2825	A
1	0	2841	U
1	0	2842	C
1	0	2847	G
1	0	2849	C
1	0	2854	G
1	0	2855	C
1	0	2861	A
1	0	2867	G
1	0	2868	G

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	69	G
1	0	71	A
1	0	73	A
1	0	173	A
1	0	181	A
1	0	192	G
1	0	198	A
1	0	242	A

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Mol	Chain	Res	Type
1	0	340	G
1	0	541	C
1	0	583	C
1	0	765	C
1	0	805	G
1	0	843	G
1	0	972	C
1	0	1141	U
1	0	1154	A
1	0	1193	G
1	0	1194	U
1	0	1223	G
1	0	1263	G
1	0	1278	A
1	0	1313	U
1	0	1338	G
1	0	1354	A
1	0	1355	A
1	0	1410	U
1	0	1495	G
1	0	1634	A
1	0	1651	U
1	0	1664	G
1	0	1685	A
1	0	1820	G
1	0	1938	U
1	0	1975	G
1	0	2005	U
1	0	2015	G
1	0	2018	G
1	0	2093	G
1	0	2161	C
1	0	2204	A
1	0	2228	U
1	0	2261	G
1	0	2377	U
1	0	2404	A
1	0	2426	G
1	0	2437	G
1	0	2521	A
1	0	2592	U
1	0	2633	A

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Mol	Chain	Res	Type
1	0	2759	U
1	0	2824	C

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
4	TAO	0	2881	-	59,60,60	4.30	35 (59%)	77,89,89	4.28	48 (62%)

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
4	TAO	0	2881	-	-	45/77/113/113	1/4/4/4

All (35) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	2881	TAO	C31-C26	11.80	1.82	1.55
4	0	2881	TAO	O11-C9	10.13	1.60	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	2881	TAO	O11-C15	9.06	1.55	1.35
4	0	2881	TAO	C31-C27	8.79	1.71	1.51
4	0	2881	TAO	O18-C24	8.52	1.65	1.41
4	0	2881	TAO	C51-C49	8.13	1.67	1.52
4	0	2881	TAO	O33-C38	7.80	1.52	1.35
4	0	2881	TAO	C24-C28	7.65	1.72	1.52
4	0	2881	TAO	O23-C27	6.80	1.50	1.34
4	0	2881	TAO	O23-C17	-6.69	1.35	1.46
4	0	2881	TAO	C28-C34	5.00	1.64	1.53
4	0	2881	TAO	C7-C10	-4.99	1.47	1.54
4	0	2881	TAO	O54-C51	4.97	1.52	1.44
4	0	2881	TAO	C51-C48	4.92	1.66	1.52
4	0	2881	TAO	O54-C55	4.33	1.45	1.35
4	0	2881	TAO	C42-C48	4.21	1.60	1.52
4	0	2881	TAO	O50-C48	4.01	1.54	1.43
4	0	2881	TAO	C4-C9	3.90	1.64	1.55
4	0	2881	TAO	C10-C14	-3.83	1.47	1.53
4	0	2881	TAO	C19-C26	3.78	1.63	1.54
4	0	2881	TAO	O18-C14	3.33	1.52	1.43
4	0	2881	TAO	C52-C49	3.14	1.59	1.51
4	0	2881	TAO	C34-N39	3.12	1.55	1.48
4	0	2881	TAO	C22-C17	3.01	1.58	1.51
4	0	2881	TAO	O32-C27	2.94	1.28	1.21
4	0	2881	TAO	C19-C14	2.85	1.61	1.54
4	0	2881	TAO	O33-C28	2.82	1.49	1.44
4	0	2881	TAO	C12-C9	2.78	1.61	1.54
4	0	2881	TAO	C37-C31	2.75	1.59	1.53
4	0	2881	TAO	O1-C2	2.70	1.26	1.21
4	0	2881	TAO	C16-C12	2.63	1.58	1.53
4	0	2881	TAO	O6-C3	-2.43	1.40	1.43
4	0	2881	TAO	C13-C10	2.42	1.59	1.53
4	0	2881	TAO	C25-C19	2.31	1.58	1.53
4	0	2881	TAO	C5-C3	2.25	1.51	1.47

All (48) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	2881	TAO	O23-C27-C31	11.74	137.34	111.56
4	0	2881	TAO	C16-C12-C17	-11.23	97.66	112.18
4	0	2881	TAO	C26-C31-C27	11.18	132.86	110.01
4	0	2881	TAO	O18-C14-C19	9.77	119.99	108.22
4	0	2881	TAO	C16-C12-C9	-8.26	96.58	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	2881	TAO	C9-O11-C15	8.22	130.44	117.72
4	0	2881	TAO	C22-C17-C12	-7.72	103.21	114.39
4	0	2881	TAO	O11-C15-C20	7.64	125.14	111.09
4	0	2881	TAO	O23-C27-O32	-7.46	110.01	123.94
4	0	2881	TAO	O33-C38-C44	7.37	124.66	111.09
4	0	2881	TAO	C13-C10-C14	-7.28	99.22	111.15
4	0	2881	TAO	O54-C55-C56	6.83	123.65	111.09
4	0	2881	TAO	O43-C36-C42	-6.00	101.82	110.87
4	0	2881	TAO	O11-C9-C12	5.69	120.74	107.50
4	0	2881	TAO	C24-O18-C14	5.35	131.20	117.96
4	0	2881	TAO	C52-C49-C51	4.90	120.88	113.41
4	0	2881	TAO	O18-C24-C28	4.81	118.85	109.10
4	0	2881	TAO	C25-C19-C14	4.55	119.57	111.40
4	0	2881	TAO	O32-C27-C31	-4.28	112.63	124.08
4	0	2881	TAO	O30-C36-C42	4.23	116.57	108.41
4	0	2881	TAO	C14-C19-C26	-4.02	101.81	112.70
4	0	2881	TAO	C36-O30-C26	3.83	122.40	114.66
4	0	2881	TAO	O30-C26-C19	-3.72	103.74	108.22
4	0	2881	TAO	C31-C26-C19	3.57	123.39	113.05
4	0	2881	TAO	C41-C35-C40	-3.49	107.92	113.40
4	0	2881	TAO	O23-C17-C12	3.42	115.14	106.30
4	0	2881	TAO	C13-C10-C7	-3.39	104.74	112.45
4	0	2881	TAO	O18-C24-O29	-3.37	101.27	110.67
4	0	2881	TAO	O29-C24-C28	-3.32	102.94	109.51
4	0	2881	TAO	O30-C26-C31	3.27	116.83	111.14
4	0	2881	TAO	O11-C15-O21	-3.13	116.74	122.96
4	0	2881	TAO	C25-C19-C26	3.04	116.86	111.40
4	0	2881	TAO	O33-C28-C24	2.98	115.21	108.40
4	0	2881	TAO	C48-C51-C49	-2.77	106.44	110.61
4	0	2881	TAO	O33-C38-O45	-2.59	117.82	122.96
4	0	2881	TAO	O54-C55-O57	-2.55	117.89	122.96
4	0	2881	TAO	C17-O23-C27	2.49	121.11	117.51
4	0	2881	TAO	C3-C7-C10	2.40	121.90	117.47
4	0	2881	TAO	C47-N39-C46	-2.35	103.43	110.38
4	0	2881	TAO	O21-C15-C20	-2.33	116.34	124.81
4	0	2881	TAO	C40-C34-N39	-2.25	109.33	115.67
4	0	2881	TAO	O1-C2-C4	-2.20	113.01	120.29
4	0	2881	TAO	O45-C38-C44	-2.19	116.83	124.81
4	0	2881	TAO	O43-C49-C52	-2.18	101.99	106.70
4	0	2881	TAO	O43-C49-C51	2.08	113.01	109.13
4	0	2881	TAO	O57-C55-C56	-2.03	117.42	124.81
4	0	2881	TAO	O29-C35-C40	2.01	112.22	109.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	0	2881	TAO	O11-C9-C4	2.01	111.10	107.55

There are no chirality outliers.

All (45) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C56-C55-O54-C51
4	0	2881	TAO	C31-C26-O30-C36
4	0	2881	TAO	C19-C26-O30-C36
4	0	2881	TAO	C31-C27-O23-C17
4	0	2881	TAO	O32-C27-O23-C17
4	0	2881	TAO	C16-C12-C17-O23
4	0	2881	TAO	C9-C12-C17-O23
4	0	2881	TAO	C16-C12-C17-C22
4	0	2881	TAO	C9-C12-C17-C22
4	0	2881	TAO	C17-C12-C9-O11
4	0	2881	TAO	C17-C12-C9-C4
4	0	2881	TAO	C8-C4-C9-C12
4	0	2881	TAO	C8-C4-C9-O11
4	0	2881	TAO	O21-C15-O11-C9
4	0	2881	TAO	C20-C15-O11-C9
4	0	2881	TAO	C3-C2-C4-C9
4	0	2881	TAO	O1-C2-C4-C8
4	0	2881	TAO	O1-C2-C3-C5
4	0	2881	TAO	O1-C2-C3-C7
4	0	2881	TAO	C19-C14-O18-C24
4	0	2881	TAO	C40-C34-N39-C46
4	0	2881	TAO	C40-C34-N39-C47
4	0	2881	TAO	C28-C34-N39-C47
4	0	2881	TAO	C44-C38-O33-C28
4	0	2881	TAO	O57-C55-O54-C51
4	0	2881	TAO	O45-C38-O33-C28
4	0	2881	TAO	C42-C36-O30-C26
4	0	2881	TAO	C22-C17-O23-C27
4	0	2881	TAO	O23-C27-C31-C26
4	0	2881	TAO	O29-C24-O18-C14
4	0	2881	TAO	C19-C26-C31-C27
4	0	2881	TAO	C24-C28-O33-C38
4	0	2881	TAO	O32-C27-C31-C26
4	0	2881	TAO	O43-C36-O30-C26
4	0	2881	TAO	O6-C3-C7-C10
4	0	2881	TAO	C16-C12-C9-O11

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Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C16-C12-C9-C4
4	0	2881	TAO	C28-C34-N39-C46
4	0	2881	TAO	O1-C2-C3-O6
4	0	2881	TAO	C3-C2-C4-C8
4	0	2881	TAO	C28-C24-O18-C14
4	0	2881	TAO	C12-C17-O23-C27
4	0	2881	TAO	C34-C28-O33-C38
4	0	2881	TAO	O1-C2-C4-C9
4	0	2881	TAO	C10-C14-C19-C26

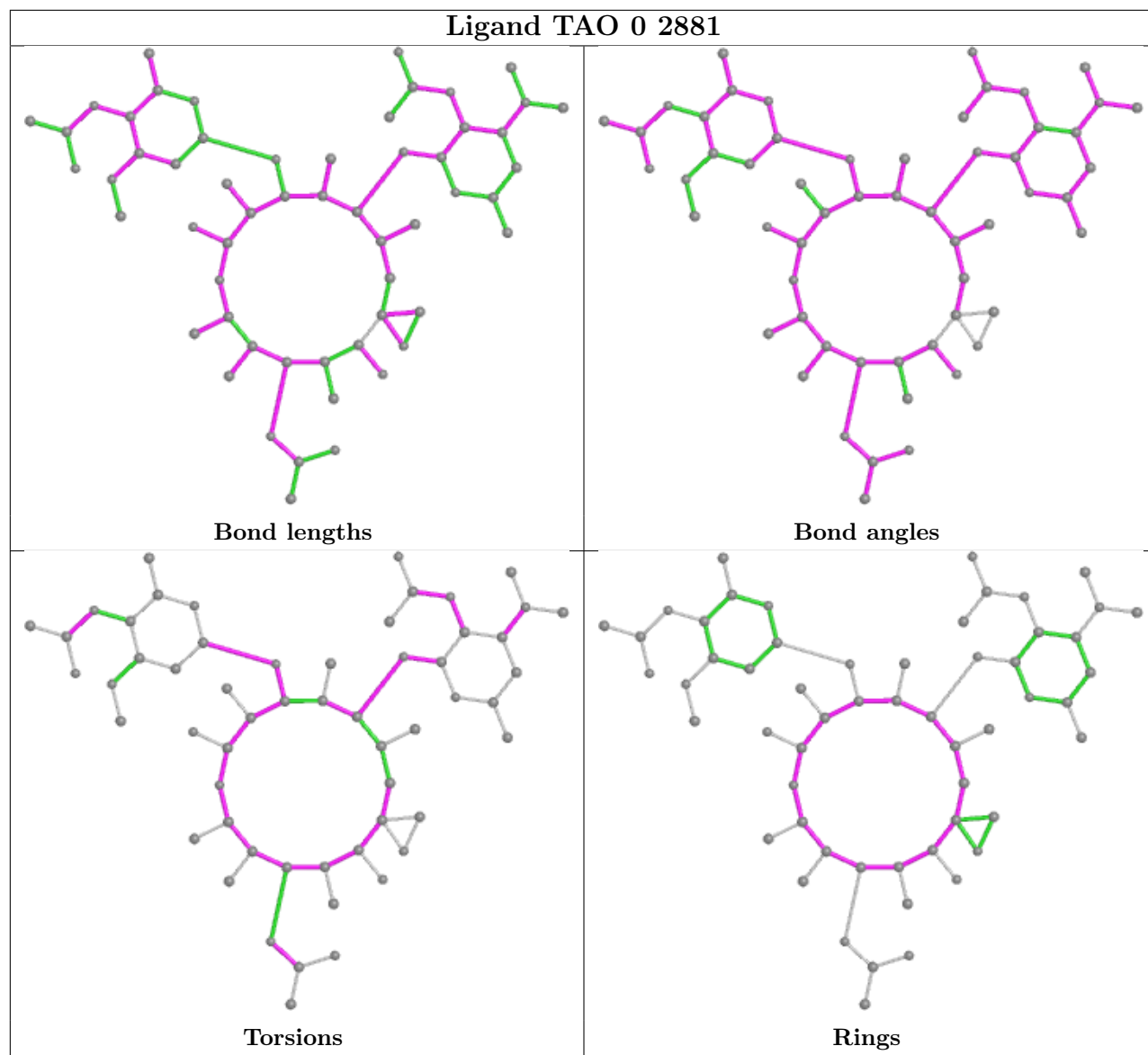
All (1) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	0	2881	TAO	C10-C12-C14-C17-C19-C2-C26-C27-C3-C31-C4-C7-C9-O23

1 monomer is involved in 22 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	0	2881	TAO	22	0

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

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

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

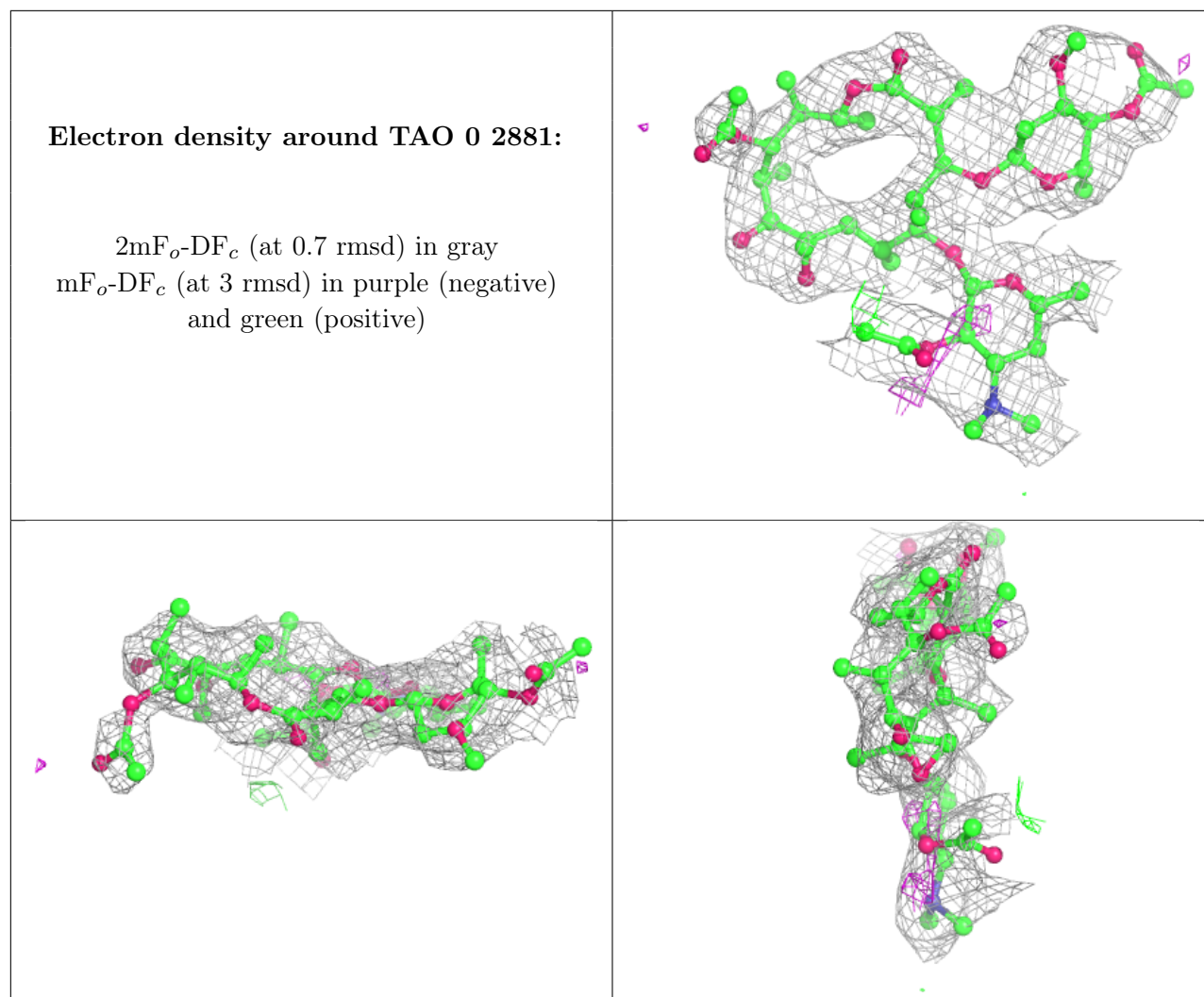
6.3 Carbohydrates

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

6.4 Ligands

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.



6.5 Other polymers [i](#)

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