



Full wwPDB EM Validation Report ⓘ

May 4, 2025 – 01:03 AM JST

PDB ID : 9L0R / pdb_00009l0r
EMDB ID : EMD-62721
Title : Streptococcus agalactiae GOLLD RNA dodecamer
Authors : Peng, X.; Wang, L.; Su, Z.
Deposited on : 2024-12-12
Resolution : 4.72 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : **FAILED**
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.43.1

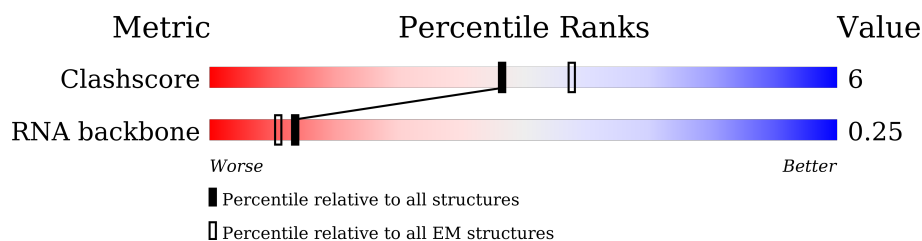
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY


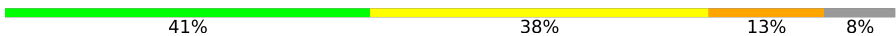


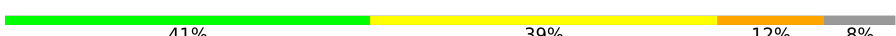
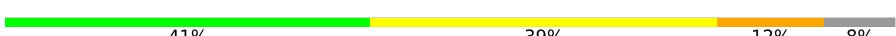
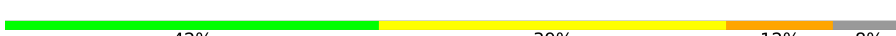
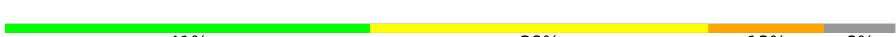
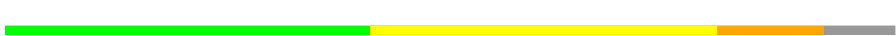

The reported resolution of this entry is 4.72 Å.

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)	EM structures (#Entries)
Clashscore	210492	15764
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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	A	700	
1	B	700	
1	C	700	
1	D	700	
1	E	700	
1	F	700	
1	G	700	
1	H	700	
1	I	700	
1	J	700	

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Mol	Chain	Length	Quality of chain
1	K	700	<div><div></div><div>41%38%13%8%</div></div>
1	L	700	<div><div></div><div>41%39%12%8%</div></div>

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 165876 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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.

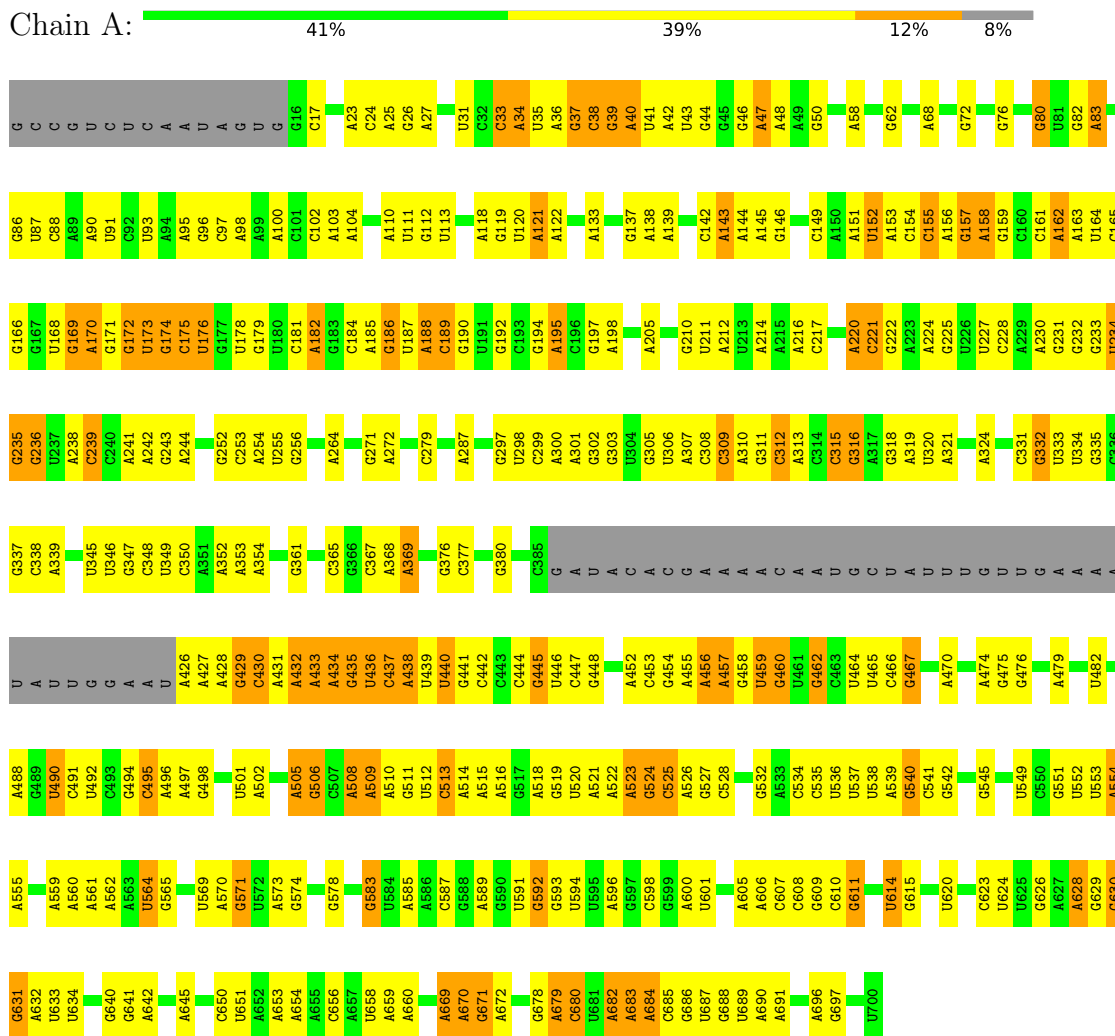
- Molecule 1 is a RNA chain called RNA (700-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	B	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	C	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	D	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	E	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	F	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	G	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	H	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	I	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	J	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	K	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0
1	L	645	Total 13823	C 6181	N 2540	O 4457	P 645	0	0

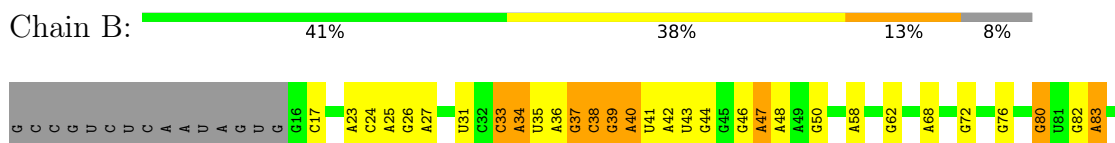
3 Residue-property plots

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

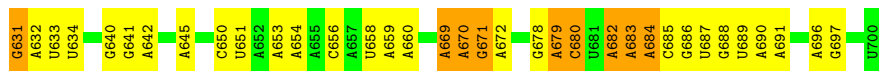
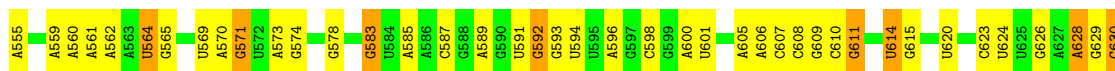
• Molecule 1: RNA (700-MER)



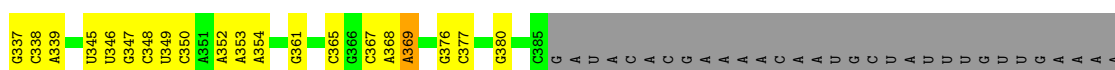
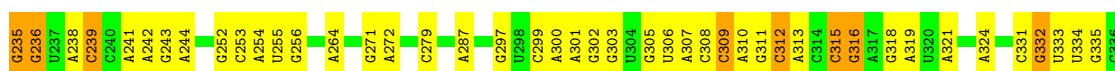
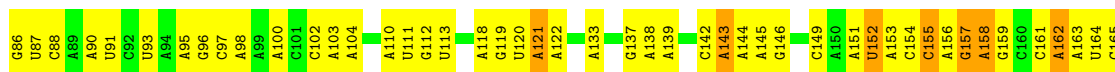
• Molecule 1: RNA (700-MER)



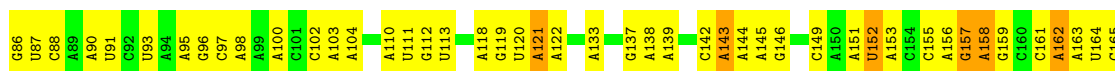
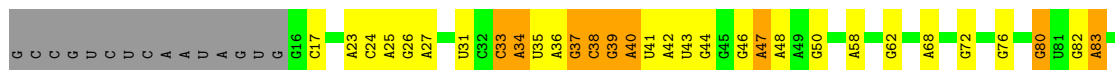




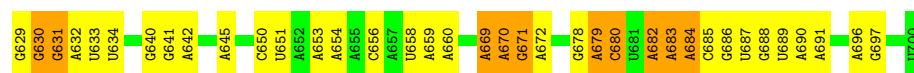
• Molecule 1: RNA (700-MER)



• Molecule 1: RNA (700-MER)

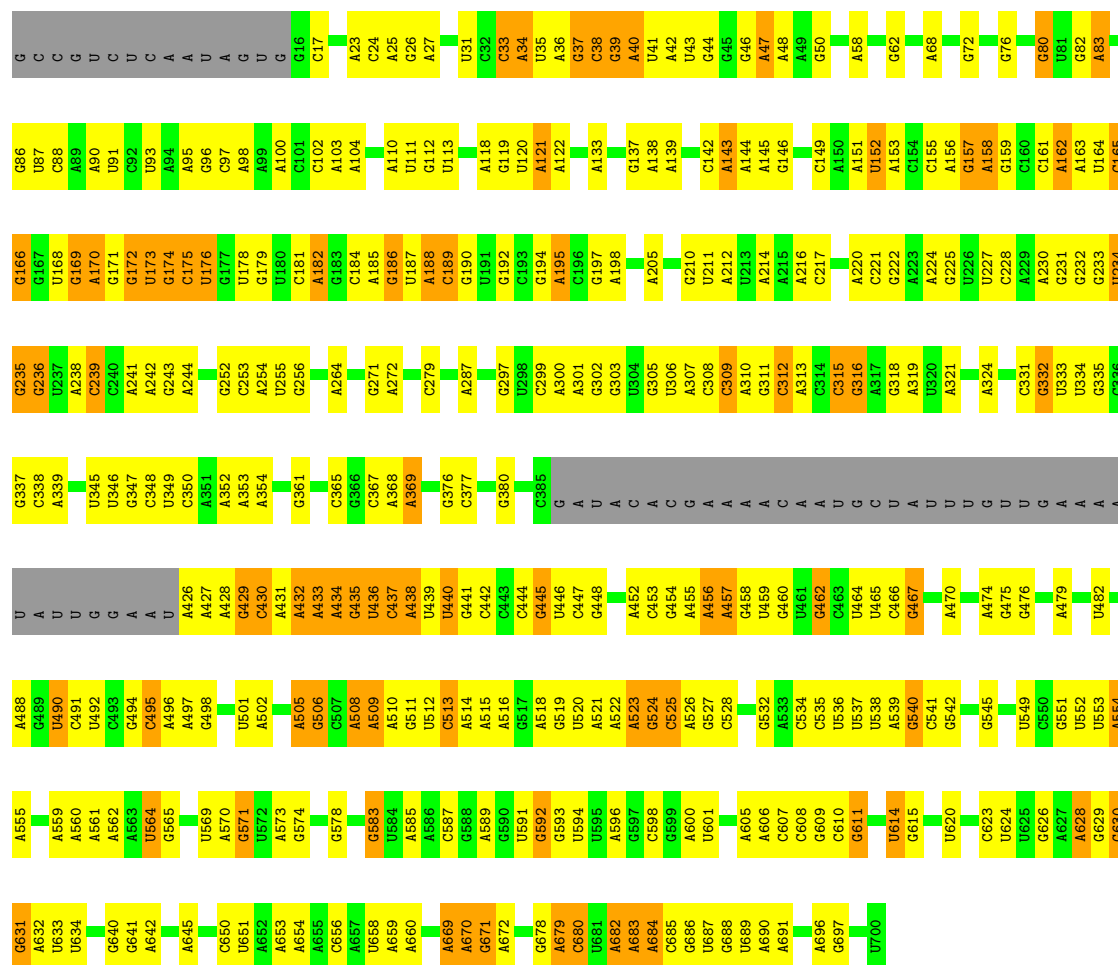






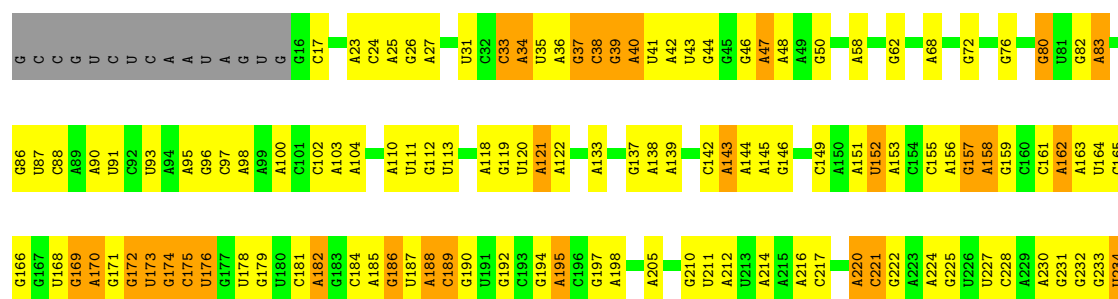
• Molecule 1: RNA (700-MER)

Chain G: 42% 39% 12% 8%



• Molecule 1: RNA (700-MER)

Chain H: 41% 38% 13% 8%





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	66723	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	55	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	A	0.39	0/15487	0.56	0/24144
1	B	0.39	0/15487	0.56	0/24144
1	C	0.39	0/15487	0.56	0/24144
1	D	0.39	0/15487	0.56	0/24144
1	E	0.39	0/15487	0.56	0/24144
1	F	0.39	0/15487	0.56	0/24144
1	G	0.39	0/15487	0.56	0/24144
1	H	0.39	0/15487	0.56	0/24144
1	I	0.39	0/15487	0.56	0/24144
1	J	0.39	0/15487	0.56	0/24144
1	K	0.39	0/15487	0.56	0/24144
1	L	0.39	0/15487	0.56	0/24144
All	All	0.39	0/185844	0.56	0/289728

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	13823	0	6950	116	0
1	B	13823	0	6950	118	0
1	C	13823	0	6950	115	0
1	D	13823	0	6950	115	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	13823	0	6950	115	0
1	F	13823	0	6950	114	0
1	G	13823	0	6950	112	0
1	H	13823	0	6950	118	0
1	I	13823	0	6950	118	0
1	J	13823	0	6950	117	0
1	K	13823	0	6950	117	0
1	L	13823	0	6950	118	0
All	All	165876	0	83400	1330	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 6.

All (1330) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:242:A:H3'	1:F:243:G:H8	1.45	0.82
1:I:242:A:H3'	1:I:243:G:H8	1.45	0.81
1:D:242:A:H3'	1:D:243:G:H8	1.45	0.81
1:G:242:A:H3'	1:G:243:G:H8	1.45	0.81
1:A:242:A:H3'	1:A:243:G:H8	1.46	0.81
1:B:242:A:H3'	1:B:243:G:H8	1.45	0.80
1:C:242:A:H3'	1:C:243:G:H8	1.46	0.80
1:K:242:A:H3'	1:K:243:G:H8	1.45	0.80
1:E:242:A:H3'	1:E:243:G:H8	1.45	0.80
1:H:242:A:H3'	1:H:243:G:H8	1.46	0.80
1:B:158:A:H1'	1:L:161:C:H2'	1.64	0.79
1:J:242:A:H3'	1:J:243:G:H8	1.45	0.79
1:L:242:A:H3'	1:L:243:G:H8	1.46	0.79
1:A:161:C:H2'	1:G:158:A:H1'	1.64	0.78
1:I:161:C:H2'	1:J:158:A:H1'	1.67	0.77
1:F:161:C:H2'	1:L:158:A:H1'	1.67	0.77
1:B:161:C:H2'	1:C:158:A:H1'	1.67	0.77
1:E:157:G:H2'	1:E:158:A:C8	2.20	0.77
1:H:157:G:H2'	1:H:158:A:C8	2.20	0.77
1:J:161:C:H2'	1:K:158:A:H1'	1.67	0.77
1:B:157:G:H2'	1:B:158:A:C8	2.20	0.76
1:L:157:G:H2'	1:L:158:A:C8	2.20	0.76
1:A:158:A:H1'	1:K:161:C:H2'	1.67	0.76
1:J:157:G:H2'	1:J:158:A:C8	2.20	0.76
1:K:157:G:H2'	1:K:158:A:C8	2.20	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:161:C:H2'	1:F:158:A:H1'	1.67	0.76
1:F:689:U:O2'	1:F:690:A:O4'	2.04	0.76
1:I:689:U:O2'	1:I:690:A:O4'	2.04	0.76
1:D:157:G:H2'	1:D:158:A:C8	2.20	0.76
1:G:157:G:H2'	1:G:158:A:C8	2.20	0.76
1:I:157:G:H2'	1:I:158:A:C8	2.20	0.76
1:F:157:G:H2'	1:F:158:A:C8	2.20	0.76
1:A:157:G:H2'	1:A:158:A:C8	2.20	0.75
1:G:161:C:H2'	1:H:158:A:H1'	1.67	0.75
1:C:157:G:H2'	1:C:158:A:C8	2.20	0.75
1:H:161:C:H2'	1:I:158:A:H1'	1.68	0.75
1:D:689:U:O2'	1:D:690:A:O4'	2.04	0.75
1:A:689:U:O2'	1:A:690:A:O4'	2.04	0.75
1:B:689:U:O2'	1:B:690:A:O4'	2.04	0.75
1:D:161:C:H2'	1:E:158:A:H1'	1.67	0.75
1:G:689:U:O2'	1:G:690:A:O4'	2.04	0.75
1:C:689:U:O2'	1:C:690:A:O4'	2.04	0.75
1:K:689:U:O2'	1:K:690:A:O4'	2.04	0.74
1:C:161:C:H2'	1:D:158:A:H1'	1.68	0.74
1:L:689:U:O2'	1:L:690:A:O4'	2.04	0.74
1:J:689:U:O2'	1:J:690:A:O4'	2.04	0.74
1:E:689:U:O2'	1:E:690:A:O4'	2.04	0.73
1:H:689:U:O2'	1:H:690:A:O4'	2.04	0.73
1:K:497:A:H3'	1:K:498:G:H8	1.54	0.73
1:B:497:A:H3'	1:B:498:G:H8	1.54	0.73
1:C:497:A:H3'	1:C:498:G:H8	1.54	0.73
1:J:497:A:H3'	1:J:498:G:H8	1.54	0.73
1:L:497:A:H3'	1:L:498:G:H8	1.54	0.73
1:F:497:A:H3'	1:F:498:G:H8	1.54	0.73
1:A:497:A:H3'	1:A:498:G:H8	1.54	0.72
1:D:497:A:H3'	1:D:498:G:H8	1.54	0.72
1:E:497:A:H3'	1:E:498:G:H8	1.54	0.72
1:G:497:A:H3'	1:G:498:G:H8	1.54	0.72
1:I:497:A:H3'	1:I:498:G:H8	1.54	0.72
1:H:497:A:H3'	1:H:498:G:H8	1.54	0.72
1:E:332:G:H1'	1:E:432:A:N6	2.05	0.71
1:H:332:G:H1'	1:H:432:A:N6	2.05	0.71
1:J:332:G:H1'	1:J:432:A:N6	2.05	0.71
1:L:332:G:H1'	1:L:432:A:N6	2.05	0.71
1:F:332:G:H1'	1:F:432:A:N6	2.05	0.71
1:I:332:G:H1'	1:I:432:A:N6	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:332:G:H1'	1:B:432:A:N6	2.05	0.71
1:J:332:G:H1'	1:J:432:A:H61	1.56	0.71
1:K:332:G:H1'	1:K:432:A:N6	2.06	0.71
1:L:332:G:H1'	1:L:432:A:H61	1.56	0.70
1:B:242:A:H3'	1:B:243:G:C8	2.26	0.70
1:F:332:G:H1'	1:F:432:A:H61	1.56	0.70
1:K:242:A:H3'	1:K:243:G:C8	2.26	0.70
1:A:332:G:H1'	1:A:432:A:N6	2.05	0.70
1:D:332:G:H1'	1:D:432:A:N6	2.05	0.70
1:G:332:G:H1'	1:G:432:A:N6	2.05	0.70
1:I:332:G:H1'	1:I:432:A:H61	1.56	0.70
1:E:242:A:H3'	1:E:243:G:C8	2.26	0.70
1:C:332:G:H1'	1:C:432:A:N6	2.06	0.70
1:D:242:A:H3'	1:D:243:G:C8	2.26	0.70
1:B:332:G:H1'	1:B:432:A:H61	1.56	0.70
1:H:242:A:H3'	1:H:243:G:C8	2.26	0.70
1:G:242:A:H3'	1:G:243:G:C8	2.26	0.70
1:A:332:G:H1'	1:A:432:A:H61	1.56	0.69
1:E:332:G:H1'	1:E:432:A:H61	1.56	0.69
1:H:332:G:H1'	1:H:432:A:H61	1.56	0.69
1:K:332:G:H1'	1:K:432:A:H61	1.56	0.69
1:G:332:G:H1'	1:G:432:A:H61	1.56	0.69
1:L:242:A:H3'	1:L:243:G:C8	2.26	0.69
1:C:332:G:H1'	1:C:432:A:H61	1.57	0.69
1:C:457:A:N1	1:C:607:C:O2'	2.24	0.69
1:J:242:A:H3'	1:J:243:G:C8	2.26	0.69
1:D:332:G:H1'	1:D:432:A:H61	1.56	0.69
1:F:242:A:H3'	1:F:243:G:C8	2.26	0.69
1:I:242:A:H3'	1:I:243:G:C8	2.26	0.69
1:A:242:A:H3'	1:A:243:G:C8	2.26	0.69
1:A:457:A:N1	1:A:607:C:O2'	2.23	0.69
1:C:242:A:H3'	1:C:243:G:C8	2.26	0.69
1:J:457:A:N1	1:J:607:C:O2'	2.24	0.69
1:L:457:A:N1	1:L:607:C:O2'	2.23	0.68
1:K:457:A:N1	1:K:607:C:O2'	2.24	0.68
1:B:457:A:N1	1:B:607:C:O2'	2.24	0.68
1:H:538:U:H4'	1:L:538:U:H4'	1.75	0.68
1:A:538:U:H4'	1:C:538:U:H4'	1.75	0.68
1:C:80:G:N2	1:C:83:A:OP2	2.28	0.67
1:A:80:G:N2	1:A:83:A:OP2	2.28	0.67
1:E:80:G:N2	1:E:83:A:OP2	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:80:G:N2	1:H:83:A:OP2	2.28	0.67
1:J:80:G:N2	1:J:83:A:OP2	2.28	0.67
1:L:80:G:N2	1:L:83:A:OP2	2.28	0.67
1:K:31:U:O2'	1:K:83:A:N6	2.28	0.67
1:B:31:U:O2'	1:B:83:A:N6	2.28	0.67
1:E:312:C:H2'	1:E:313:A:C8	2.31	0.66
1:H:312:C:H2'	1:H:313:A:C8	2.31	0.66
1:B:80:G:N2	1:B:83:A:OP2	2.28	0.66
1:B:312:C:H2'	1:B:313:A:C8	2.31	0.66
1:C:31:U:O2'	1:C:83:A:N6	2.28	0.66
1:D:80:G:N2	1:D:83:A:OP2	2.27	0.66
1:I:80:G:N2	1:I:83:A:OP2	2.27	0.66
1:K:80:G:N2	1:K:83:A:OP2	2.28	0.66
1:K:312:C:H2'	1:K:313:A:C8	2.30	0.66
1:F:538:U:H4'	1:I:538:U:H4'	1.76	0.66
1:A:31:U:O2'	1:A:83:A:N6	2.28	0.66
1:I:457:A:N1	1:I:607:C:O2'	2.24	0.66
1:J:312:C:H2'	1:J:313:A:C8	2.31	0.66
1:G:80:G:N2	1:G:83:A:OP2	2.28	0.66
1:L:312:C:H2'	1:L:313:A:C8	2.31	0.66
1:F:80:G:N2	1:F:83:A:OP2	2.28	0.66
1:F:457:A:N1	1:F:607:C:O2'	2.24	0.66
1:F:31:U:O2'	1:F:83:A:N6	2.28	0.66
1:F:312:C:H2'	1:F:313:A:C8	2.31	0.66
1:I:312:C:H2'	1:I:313:A:C8	2.30	0.66
1:I:31:U:O2'	1:I:83:A:N6	2.28	0.66
1:D:538:U:H4'	1:K:538:U:H4'	1.76	0.65
1:F:630:G:H3'	1:F:631:G:H8	1.62	0.65
1:J:630:G:H3'	1:J:631:G:H8	1.62	0.65
1:E:630:G:H3'	1:E:631:G:H8	1.62	0.65
1:G:312:C:H2'	1:G:313:A:C8	2.30	0.65
1:I:630:G:H3'	1:I:631:G:H8	1.62	0.65
1:L:630:G:H3'	1:L:631:G:H8	1.62	0.65
1:D:315:C:O2'	1:D:316:G:OP1	2.14	0.65
1:H:630:G:H3'	1:H:631:G:H8	1.62	0.65
1:A:312:C:H2'	1:A:313:A:C8	2.30	0.65
1:A:630:G:H3'	1:A:631:G:H8	1.62	0.65
1:D:312:C:H2'	1:D:313:A:C8	2.31	0.65
1:G:630:G:H3'	1:G:631:G:H8	1.62	0.65
1:L:31:U:O2'	1:L:83:A:N6	2.28	0.65
1:B:315:C:O2'	1:B:316:G:OP1	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:312:C:H2'	1:C:313:A:C8	2.31	0.65
1:C:630:G:H3'	1:C:631:G:H8	1.62	0.65
1:G:315:C:O2'	1:G:316:G:OP1	2.14	0.65
1:D:31:U:O2'	1:D:83:A:N6	2.28	0.65
1:D:630:G:H3'	1:D:631:G:H8	1.62	0.65
1:E:31:U:O2'	1:E:83:A:N6	2.28	0.65
1:F:33:C:H2'	1:F:34:A:C8	2.32	0.65
1:H:31:U:O2'	1:H:83:A:N6	2.28	0.65
1:J:31:U:O2'	1:J:83:A:N6	2.28	0.65
1:K:315:C:O2'	1:K:316:G:OP1	2.14	0.65
1:A:33:C:H2'	1:A:34:A:C8	2.32	0.65
1:B:538:U:H4'	1:G:538:U:H4'	1.77	0.65
1:B:630:G:H3'	1:B:631:G:H8	1.62	0.65
1:C:33:C:H2'	1:C:34:A:C8	2.32	0.65
1:G:31:U:O2'	1:G:83:A:N6	2.28	0.65
1:G:33:C:H2'	1:G:34:A:C8	2.32	0.65
1:D:33:C:H2'	1:D:34:A:C8	2.32	0.65
1:F:315:C:O2'	1:F:316:G:OP1	2.14	0.65
1:K:33:C:H2'	1:K:34:A:C8	2.32	0.65
1:K:630:G:H3'	1:K:631:G:H8	1.62	0.65
1:I:33:C:H2'	1:I:34:A:C8	2.32	0.64
1:I:315:C:O2'	1:I:316:G:OP1	2.14	0.64
1:B:33:C:H2'	1:B:34:A:C8	2.32	0.64
1:A:688:G:O2'	1:A:696:A:N6	2.30	0.64
1:C:688:G:O2'	1:C:696:A:N6	2.30	0.64
1:F:508:A:O2'	1:F:509:A:OP1	2.14	0.64
1:H:33:C:H2'	1:H:34:A:C8	2.32	0.64
1:H:688:G:O2'	1:H:696:A:N6	2.30	0.64
1:I:508:A:O2'	1:I:509:A:OP1	2.14	0.64
1:E:688:G:O2'	1:E:696:A:N6	2.30	0.64
1:C:315:C:O2'	1:C:316:G:OP1	2.14	0.64
1:E:538:U:H4'	1:J:538:U:H4'	1.78	0.64
1:J:33:C:H2'	1:J:34:A:C8	2.32	0.64
1:L:33:C:H2'	1:L:34:A:C8	2.32	0.64
1:E:33:C:H2'	1:E:34:A:C8	2.32	0.64
1:F:688:G:O2'	1:F:696:A:N6	2.30	0.64
1:A:315:C:O2'	1:A:316:G:OP1	2.14	0.64
1:G:457:A:N1	1:G:607:C:O2'	2.24	0.64
1:I:688:G:O2'	1:I:696:A:N6	2.30	0.64
1:J:688:G:O2'	1:J:696:A:N6	2.30	0.63
1:L:688:G:O2'	1:L:696:A:N6	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:688:G:O2'	1:K:696:A:N6	2.30	0.63
1:D:457:A:N1	1:D:607:C:O2'	2.23	0.63
1:B:688:G:O2'	1:B:696:A:N6	2.30	0.63
1:E:457:A:N1	1:E:607:C:O2'	2.24	0.63
1:H:508:A:O2'	1:H:509:A:OP1	2.14	0.63
1:E:436:U:H3'	1:E:437:C:H4'	1.80	0.63
1:E:508:A:O2'	1:E:509:A:OP1	2.14	0.63
1:F:37:G:H2'	1:F:40:A:H61	1.64	0.63
1:H:436:U:H3'	1:H:437:C:H4'	1.80	0.63
1:G:436:U:H3'	1:G:437:C:H4'	1.81	0.63
1:G:508:A:O2'	1:G:509:A:OP1	2.14	0.63
1:A:508:A:O2'	1:A:509:A:OP1	2.14	0.62
1:D:436:U:H3'	1:D:437:C:H4'	1.81	0.62
1:D:688:G:O2'	1:D:696:A:N6	2.30	0.62
1:G:688:G:O2'	1:G:696:A:N6	2.30	0.62
1:H:315:C:O2'	1:H:316:G:OP1	2.14	0.62
1:I:37:G:H2'	1:I:40:A:H61	1.64	0.62
1:E:315:C:O2'	1:E:316:G:OP1	2.14	0.62
1:I:156:A:H3'	1:I:157:G:H8	1.64	0.62
1:J:37:G:H2'	1:J:40:A:H61	1.64	0.62
1:L:37:G:H2'	1:L:40:A:H61	1.64	0.62
1:F:156:A:H3'	1:F:157:G:H8	1.64	0.62
1:H:37:G:H2'	1:H:40:A:H61	1.64	0.62
1:J:436:U:H3'	1:J:437:C:H4'	1.80	0.62
1:C:508:A:O2'	1:C:509:A:OP1	2.14	0.62
1:D:508:A:O2'	1:D:509:A:OP1	2.14	0.62
1:E:37:G:H2'	1:E:40:A:H61	1.64	0.62
1:A:436:U:H3'	1:A:437:C:H4'	1.81	0.62
1:B:37:G:H2'	1:B:40:A:H61	1.64	0.62
1:C:436:U:H3'	1:C:437:C:H4'	1.81	0.62
1:E:156:A:H3'	1:E:157:G:H8	1.64	0.62
1:K:37:G:H2'	1:K:40:A:H61	1.64	0.62
1:L:436:U:H3'	1:L:437:C:H4'	1.80	0.62
1:B:436:U:H3'	1:B:437:C:H4'	1.80	0.62
1:C:37:G:H2'	1:C:40:A:H61	1.64	0.62
1:H:156:A:H3'	1:H:157:G:H8	1.64	0.62
1:K:436:U:H3'	1:K:437:C:H4'	1.81	0.62
1:B:143:A:O5'	1:B:174:G:N2	2.33	0.62
1:K:508:A:O2'	1:K:509:A:OP1	2.14	0.62
1:L:315:C:O2'	1:L:316:G:OP1	2.14	0.62
1:A:37:G:H2'	1:A:40:A:H61	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:143:A:O5'	1:K:174:G:N2	2.33	0.62
1:K:623:C:O2'	1:K:669:A:N6	2.33	0.62
1:J:315:C:O2'	1:J:316:G:OP1	2.14	0.62
1:D:143:A:O5'	1:D:174:G:N2	2.33	0.62
1:B:508:A:O2'	1:B:509:A:OP1	2.14	0.61
1:B:623:C:O2'	1:B:669:A:N6	2.33	0.61
1:C:143:A:O5'	1:C:174:G:N2	2.33	0.61
1:F:143:A:O5'	1:F:174:G:N2	2.33	0.61
1:G:143:A:O5'	1:G:174:G:N2	2.33	0.61
1:K:156:A:H3'	1:K:157:G:H8	1.64	0.61
1:L:156:A:H3'	1:L:157:G:H8	1.64	0.61
1:A:623:C:O2'	1:A:669:A:N6	2.33	0.61
1:B:156:A:H3'	1:B:157:G:H8	1.64	0.61
1:C:623:C:O2'	1:C:669:A:N6	2.33	0.61
1:D:37:G:H2'	1:D:40:A:H61	1.64	0.61
1:D:623:C:O2'	1:D:669:A:N6	2.33	0.61
1:G:37:G:H2'	1:G:40:A:H61	1.64	0.61
1:I:143:A:O5'	1:I:174:G:N2	2.33	0.61
1:I:436:U:H3'	1:I:437:C:H4'	1.80	0.61
1:A:143:A:O5'	1:A:174:G:N2	2.33	0.61
1:E:143:A:O5'	1:E:174:G:N2	2.33	0.61
1:F:436:U:H3'	1:F:437:C:H4'	1.81	0.61
1:I:623:C:O2'	1:I:669:A:N6	2.33	0.61
1:A:444:C:H2'	1:A:445:G:H8	1.66	0.61
1:C:444:C:H2'	1:C:445:G:H8	1.66	0.61
1:E:623:C:O2'	1:E:669:A:N6	2.33	0.61
1:F:623:C:O2'	1:F:669:A:N6	2.33	0.61
1:G:623:C:O2'	1:G:669:A:N6	2.33	0.61
1:H:143:A:O5'	1:H:174:G:N2	2.33	0.61
1:J:143:A:O5'	1:J:174:G:N2	2.33	0.61
1:J:156:A:H3'	1:J:157:G:H8	1.64	0.61
1:H:623:C:O2'	1:H:669:A:N6	2.33	0.61
1:L:143:A:O5'	1:L:174:G:N2	2.33	0.61
1:D:156:A:H3'	1:D:157:G:H8	1.64	0.61
1:G:156:A:H3'	1:G:157:G:H8	1.64	0.61
1:A:156:A:H3'	1:A:157:G:H8	1.64	0.61
1:C:156:A:H3'	1:C:157:G:H8	1.64	0.61
1:I:444:C:H2'	1:I:445:G:H8	1.66	0.61
1:D:444:C:H2'	1:D:445:G:H8	1.66	0.61
1:J:614:U:N3	1:J:696:A:O2'	2.33	0.61
1:J:623:C:O2'	1:J:669:A:N6	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:614:U:N3	1:C:696:A:O2'	2.33	0.61
1:L:614:U:N3	1:L:696:A:O2'	2.33	0.61
1:A:614:U:N3	1:A:696:A:O2'	2.33	0.60
1:G:444:C:H2'	1:G:445:G:H8	1.66	0.60
1:L:623:C:O2'	1:L:669:A:N6	2.33	0.60
1:B:456:A:N1	1:B:571:G:O6	2.34	0.60
1:F:444:C:H2'	1:F:445:G:H8	1.66	0.60
1:F:614:U:N3	1:F:696:A:O2'	2.33	0.60
1:G:33:C:H2'	1:G:34:A:H8	1.66	0.60
1:K:444:C:H2'	1:K:445:G:H8	1.66	0.60
1:B:444:C:H2'	1:B:445:G:H8	1.66	0.60
1:C:456:A:N1	1:C:571:G:O6	2.34	0.60
1:F:33:C:H2'	1:F:34:A:H8	1.66	0.60
1:H:614:U:N3	1:H:696:A:O2'	2.33	0.60
1:I:614:U:N3	1:I:696:A:O2'	2.33	0.60
1:K:456:A:N1	1:K:571:G:O6	2.34	0.60
1:A:456:A:N1	1:A:571:G:O6	2.34	0.60
1:C:33:C:H2'	1:C:34:A:H8	1.66	0.60
1:E:614:U:N3	1:E:696:A:O2'	2.33	0.60
1:D:33:C:H2'	1:D:34:A:H8	1.66	0.60
1:H:33:C:H2'	1:H:34:A:H8	1.66	0.60
1:H:456:A:N1	1:H:571:G:O6	2.34	0.60
1:I:456:A:N1	1:I:571:G:O6	2.34	0.60
1:B:614:U:N3	1:B:696:A:O2'	2.33	0.60
1:F:456:A:N1	1:F:571:G:O6	2.34	0.60
1:G:462:G:H21	1:G:513:C:H5'	1.67	0.60
1:J:33:C:H2'	1:J:34:A:H8	1.66	0.60
1:D:462:G:H21	1:D:513:C:H5'	1.67	0.60
1:D:614:U:N3	1:D:696:A:O2'	2.33	0.60
1:E:33:C:H2'	1:E:34:A:H8	1.66	0.60
1:E:444:C:H2'	1:E:445:G:H8	1.66	0.60
1:E:456:A:N1	1:E:571:G:O6	2.34	0.60
1:E:462:G:H21	1:E:513:C:H5'	1.67	0.60
1:G:614:U:N3	1:G:696:A:O2'	2.33	0.60
1:K:614:U:N3	1:K:696:A:O2'	2.33	0.60
1:L:33:C:H2'	1:L:34:A:H8	1.66	0.60
1:D:456:A:N1	1:D:571:G:O6	2.34	0.60
1:F:175:C:O2'	1:F:176:U:O5'	2.20	0.60
1:G:456:A:N1	1:G:571:G:O6	2.34	0.60
1:H:462:G:H21	1:H:513:C:H5'	1.67	0.60
1:B:33:C:H2'	1:B:34:A:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:462:G:H21	1:C:513:C:H5'	1.67	0.60
1:K:33:C:H2'	1:K:34:A:H8	1.66	0.60
1:B:462:G:H21	1:B:513:C:H5'	1.67	0.59
1:H:444:C:H2'	1:H:445:G:H8	1.66	0.59
1:I:175:C:O2'	1:I:176:U:O5'	2.20	0.59
1:F:462:G:H21	1:F:513:C:H5'	1.67	0.59
1:I:462:G:H21	1:I:513:C:H5'	1.67	0.59
1:A:162:A:N6	1:G:157:G:H1'	2.17	0.59
1:A:462:G:H21	1:A:513:C:H5'	1.67	0.59
1:K:462:G:H21	1:K:513:C:H5'	1.67	0.59
1:L:456:A:N1	1:L:571:G:O6	2.34	0.59
1:B:157:G:H1'	1:L:162:A:N6	2.17	0.59
1:D:175:C:O2'	1:D:176:U:O5'	2.20	0.59
1:G:175:C:O2'	1:G:176:U:O5'	2.20	0.59
1:J:456:A:N1	1:J:571:G:O6	2.34	0.59
1:K:175:C:O2'	1:K:176:U:O5'	2.20	0.59
1:B:175:C:O2'	1:B:176:U:O5'	2.20	0.59
1:L:444:C:H2'	1:L:445:G:H8	1.66	0.59
1:L:462:G:H21	1:L:513:C:H5'	1.67	0.59
1:J:444:C:H2'	1:J:445:G:H8	1.66	0.59
1:J:508:A:O2'	1:J:509:A:OP1	2.14	0.59
1:A:497:A:H3'	1:A:498:G:C8	2.38	0.59
1:C:497:A:H3'	1:C:498:G:C8	2.38	0.59
1:J:462:G:H21	1:J:513:C:H5'	1.67	0.59
1:J:175:C:O2'	1:J:176:U:O5'	2.20	0.58
1:K:497:A:H3'	1:K:498:G:C8	2.38	0.58
1:L:508:A:O2'	1:L:509:A:OP1	2.14	0.58
1:B:497:A:H3'	1:B:498:G:C8	2.38	0.58
1:J:312:C:H2'	1:J:313:A:H8	1.68	0.58
1:K:312:C:H2'	1:K:313:A:H8	1.68	0.58
1:L:312:C:H2'	1:L:313:A:H8	1.68	0.58
1:G:505:A:O2'	1:G:506:G:OP1	2.19	0.58
1:L:175:C:O2'	1:L:176:U:O5'	2.20	0.58
1:D:505:A:O2'	1:D:506:G:OP1	2.19	0.58
1:F:312:C:H2'	1:F:313:A:H8	1.68	0.58
1:I:33:C:H2'	1:I:34:A:H8	1.66	0.58
1:I:312:C:H2'	1:I:313:A:H8	1.68	0.58
1:B:312:C:H2'	1:B:313:A:H8	1.68	0.58
1:A:33:C:H2'	1:A:34:A:H8	1.66	0.58
1:A:175:C:O2'	1:A:176:U:O5'	2.20	0.58
1:H:312:C:H2'	1:H:313:A:H8	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:440:U:H2'	1:B:441:G:C8	2.40	0.57
1:I:505:A:O2'	1:I:506:G:OP1	2.19	0.57
1:K:440:U:H2'	1:K:441:G:C8	2.40	0.57
1:A:440:U:H2'	1:A:441:G:C8	2.40	0.57
1:C:175:C:O2'	1:C:176:U:O5'	2.20	0.57
1:C:440:U:H2'	1:C:441:G:C8	2.40	0.57
1:E:175:C:O2'	1:E:176:U:O5'	2.20	0.57
1:E:312:C:H2'	1:E:313:A:H8	1.68	0.57
1:A:312:C:H2'	1:A:313:A:H8	1.68	0.57
1:D:440:U:H2'	1:D:441:G:C8	2.40	0.57
1:F:505:A:O2'	1:F:506:G:OP1	2.19	0.57
1:G:312:C:H2'	1:G:313:A:H8	1.68	0.57
1:C:312:C:H2'	1:C:313:A:H8	1.68	0.57
1:D:312:C:H2'	1:D:313:A:H8	1.68	0.57
1:H:432:A:H2'	1:H:433:A:C8	2.40	0.57
1:G:630:G:H3'	1:G:631:G:C8	2.39	0.57
1:A:505:A:O2'	1:A:506:G:OP1	2.19	0.57
1:B:309:C:H3'	1:B:310:A:H8	1.69	0.57
1:D:162:A:N6	1:E:157:G:H1'	2.20	0.57
1:D:630:G:H3'	1:D:631:G:C8	2.39	0.57
1:E:432:A:H2'	1:E:433:A:C8	2.40	0.57
1:E:440:U:H2'	1:E:441:G:C8	2.40	0.57
1:G:440:U:H2'	1:G:441:G:C8	2.40	0.57
1:H:175:C:O2'	1:H:176:U:O5'	2.20	0.57
1:H:440:U:H2'	1:H:441:G:C8	2.40	0.57
1:J:309:C:H3'	1:J:310:A:H8	1.69	0.57
1:K:309:C:H3'	1:K:310:A:H8	1.69	0.57
1:F:440:U:H2'	1:F:441:G:C8	2.40	0.57
1:I:440:U:H2'	1:I:441:G:C8	2.40	0.57
1:C:630:G:H3'	1:C:631:G:C8	2.39	0.57
1:D:432:A:H2'	1:D:433:A:C8	2.40	0.57
1:A:630:G:H3'	1:A:631:G:C8	2.39	0.56
1:B:162:A:N6	1:C:157:G:H1'	2.20	0.56
1:C:505:A:O2'	1:C:506:G:OP1	2.19	0.56
1:E:162:A:N6	1:F:157:G:H1'	2.20	0.56
1:G:432:A:H2'	1:G:433:A:C8	2.40	0.56
1:J:630:G:H3'	1:J:631:G:C8	2.39	0.56
1:L:309:C:H3'	1:L:310:A:H8	1.69	0.56
1:B:630:G:H3'	1:B:631:G:C8	2.39	0.56
1:F:309:C:H3'	1:F:310:A:H8	1.69	0.56
1:F:432:A:H2'	1:F:433:A:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:162:A:N6	1:I:157:G:H1'	2.21	0.56
1:I:162:A:N6	1:J:157:G:H1'	2.20	0.56
1:I:432:A:H2'	1:I:433:A:C8	2.40	0.56
1:J:162:A:N6	1:K:157:G:H1'	2.20	0.56
1:K:630:G:H3'	1:K:631:G:C8	2.39	0.56
1:L:630:G:H3'	1:L:631:G:C8	2.39	0.56
1:A:513:C:H1'	1:A:611:G:H1'	1.87	0.56
1:G:162:A:N6	1:H:157:G:H1'	2.20	0.56
1:G:513:C:H1'	1:G:611:G:H1'	1.87	0.56
1:I:309:C:H3'	1:I:310:A:H8	1.69	0.56
1:A:157:G:H1'	1:K:162:A:N6	2.21	0.56
1:B:432:A:H2'	1:B:433:A:C8	2.40	0.56
1:C:162:A:N6	1:D:157:G:H1'	2.21	0.56
1:C:513:C:H1'	1:C:611:G:H1'	1.87	0.56
1:D:513:C:H1'	1:D:611:G:H1'	1.87	0.56
1:I:513:C:H1'	1:I:611:G:H1'	1.87	0.56
1:E:47:A:N6	1:E:86:G:O3'	2.39	0.56
1:F:47:A:N6	1:F:86:G:O3'	2.39	0.56
1:F:513:C:H1'	1:F:611:G:H1'	1.87	0.56
1:I:47:A:N6	1:I:86:G:O3'	2.39	0.56
1:I:630:G:H3'	1:I:631:G:C8	2.39	0.56
1:J:440:U:H2'	1:J:441:G:C8	2.40	0.56
1:L:440:U:H2'	1:L:441:G:C8	2.40	0.56
1:B:488:A:N6	1:B:502:A:C8	2.74	0.56
1:E:309:C:H3'	1:E:310:A:H8	1.69	0.56
1:F:630:G:H3'	1:F:631:G:C8	2.39	0.56
1:H:47:A:N6	1:H:86:G:O3'	2.39	0.56
1:K:432:A:H2'	1:K:433:A:C8	2.40	0.56
1:K:539:A:H3'	1:K:540:G:C8	2.41	0.56
1:L:539:A:H3'	1:L:540:G:C8	2.41	0.56
1:J:539:A:H3'	1:J:540:G:C8	2.41	0.56
1:K:488:A:N6	1:K:502:A:C8	2.74	0.56
1:C:309:C:H3'	1:C:310:A:H8	1.69	0.56
1:F:162:A:N6	1:L:157:G:H1'	2.21	0.56
1:J:47:A:N6	1:J:86:G:O3'	2.39	0.56
1:A:309:C:H3'	1:A:310:A:H8	1.69	0.56
1:B:539:A:H3'	1:B:540:G:C8	2.41	0.56
1:D:309:C:H3'	1:D:310:A:H8	1.69	0.56
1:G:309:C:H3'	1:G:310:A:H8	1.69	0.56
1:I:539:A:H3'	1:I:540:G:C8	2.41	0.56
1:L:47:A:N6	1:L:86:G:O3'	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:488:A:N6	1:L:502:A:C8	2.74	0.56
1:D:47:A:N6	1:D:86:G:O3'	2.39	0.55
1:F:539:A:H3'	1:F:540:G:C8	2.41	0.55
1:G:47:A:N6	1:G:86:G:O3'	2.39	0.55
1:H:309:C:H3'	1:H:310:A:H8	1.69	0.55
1:J:513:C:H1'	1:J:611:G:H1'	1.87	0.55
1:L:513:C:H1'	1:L:611:G:H1'	1.87	0.55
1:A:432:A:H2'	1:A:433:A:C8	2.40	0.55
1:A:488:A:N6	1:A:502:A:C8	2.74	0.55
1:C:432:A:H2'	1:C:433:A:C8	2.40	0.55
1:C:488:A:N6	1:C:502:A:C8	2.74	0.55
1:J:488:A:N6	1:J:502:A:C8	2.74	0.55
1:A:539:A:H3'	1:A:540:G:C8	2.41	0.55
1:C:539:A:H3'	1:C:540:G:C8	2.41	0.55
1:E:513:C:H1'	1:E:611:G:H1'	1.87	0.55
1:J:432:A:H2'	1:J:433:A:C8	2.40	0.55
1:L:432:A:H2'	1:L:433:A:C8	2.40	0.55
1:H:513:C:H1'	1:H:611:G:H1'	1.87	0.55
1:K:47:A:N6	1:K:86:G:O3'	2.39	0.55
1:A:47:A:N6	1:A:86:G:O3'	2.39	0.55
1:B:47:A:N6	1:B:86:G:O3'	2.39	0.55
1:E:488:A:N6	1:E:502:A:C8	2.74	0.55
1:H:488:A:N6	1:H:502:A:C8	2.74	0.55
1:I:497:A:H3'	1:I:498:G:C8	2.38	0.55
1:C:47:A:N6	1:C:86:G:O3'	2.39	0.55
1:H:539:A:H3'	1:H:540:G:C8	2.41	0.55
1:E:539:A:H3'	1:E:540:G:C8	2.41	0.55
1:D:488:A:N6	1:D:502:A:C8	2.74	0.55
1:E:630:G:H3'	1:E:631:G:C8	2.39	0.55
1:F:497:A:H3'	1:F:498:G:C8	2.38	0.55
1:H:497:A:H3'	1:H:498:G:C8	2.38	0.55
1:G:488:A:N6	1:G:502:A:C8	2.74	0.55
1:H:630:G:H3'	1:H:631:G:C8	2.39	0.55
1:B:488:A:N6	1:B:502:A:H8	2.05	0.54
1:D:539:A:H3'	1:D:540:G:C8	2.41	0.54
1:E:497:A:H3'	1:E:498:G:C8	2.38	0.54
1:G:539:A:H3'	1:G:540:G:C8	2.41	0.54
1:K:488:A:N6	1:K:502:A:H8	2.05	0.54
1:K:505:A:O2'	1:K:506:G:OP1	2.19	0.54
1:C:488:A:N6	1:C:502:A:H8	2.05	0.54
1:K:513:C:H1'	1:K:611:G:H1'	1.87	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:488:A:N6	1:F:502:A:C8	2.74	0.54
1:I:488:A:N6	1:I:502:A:C8	2.74	0.54
1:A:488:A:N6	1:A:502:A:H8	2.05	0.54
1:B:513:C:H1'	1:B:611:G:H1'	1.87	0.54
1:B:380:G:H1'	1:B:432:A:H2	1.73	0.54
1:G:488:A:N6	1:G:502:A:H8	2.05	0.54
1:G:497:A:H3'	1:G:498:G:C8	2.38	0.54
1:J:497:A:H3'	1:J:498:G:C8	2.38	0.54
1:K:380:G:H1'	1:K:432:A:H2	1.73	0.54
1:B:505:A:O2'	1:B:506:G:OP1	2.19	0.54
1:C:369:A:H62	1:C:583:G:H22	1.56	0.54
1:D:497:A:H3'	1:D:498:G:C8	2.38	0.54
1:F:369:A:H62	1:F:583:G:H22	1.56	0.54
1:I:369:A:H62	1:I:583:G:H22	1.56	0.54
1:A:369:A:H62	1:A:583:G:H22	1.56	0.54
1:D:488:A:N6	1:D:502:A:H8	2.05	0.54
1:E:488:A:N6	1:E:502:A:H8	2.05	0.54
1:J:380:G:H1'	1:J:432:A:H2	1.73	0.54
1:L:488:A:N6	1:L:502:A:H8	2.05	0.54
1:D:369:A:H62	1:D:583:G:H22	1.56	0.54
1:G:369:A:H62	1:G:583:G:H22	1.56	0.54
1:H:369:A:H62	1:H:583:G:H22	1.56	0.54
1:H:488:A:N6	1:H:502:A:H8	2.06	0.54
1:J:488:A:N6	1:J:502:A:H8	2.06	0.54
1:D:233:G:H3'	1:D:234:U:C6	2.43	0.54
1:L:380:G:H1'	1:L:432:A:H2	1.73	0.54
1:L:497:A:H3'	1:L:498:G:C8	2.38	0.54
1:A:380:G:H1'	1:A:432:A:H2	1.73	0.53
1:B:38:C:H3'	1:B:39:G:H8	1.74	0.53
1:E:369:A:H62	1:E:583:G:H22	1.56	0.53
1:G:233:G:H3'	1:G:234:U:C6	2.43	0.53
1:I:488:A:N6	1:I:502:A:H8	2.06	0.53
1:K:38:C:H3'	1:K:39:G:H8	1.74	0.53
1:K:369:A:H62	1:K:583:G:H22	1.56	0.53
1:B:369:A:H62	1:B:583:G:H22	1.56	0.53
1:L:369:A:H62	1:L:583:G:H22	1.56	0.53
1:H:505:A:O2'	1:H:506:G:OP1	2.19	0.53
1:J:369:A:H62	1:J:583:G:H22	1.56	0.53
1:C:380:G:H1'	1:C:432:A:H2	1.73	0.53
1:J:505:A:O2'	1:J:506:G:OP1	2.19	0.53
1:L:233:G:H3'	1:L:234:U:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:233:G:H3'	1:A:234:U:C6	2.43	0.53
1:C:233:G:H3'	1:C:234:U:C6	2.43	0.53
1:H:457:A:N1	1:H:607:C:O2'	2.24	0.53
1:L:505:A:O2'	1:L:506:G:OP1	2.19	0.53
1:D:380:G:H1'	1:D:432:A:H2	1.73	0.53
1:E:233:G:H3'	1:E:234:U:C6	2.43	0.53
1:E:380:G:H1'	1:E:432:A:H2	1.73	0.53
1:G:380:G:H1'	1:G:432:A:H2	1.73	0.53
1:J:144:A:H5'	1:J:186:G:H21	1.74	0.53
1:J:233:G:H3'	1:J:234:U:C6	2.43	0.53
1:L:144:A:H5'	1:L:186:G:H21	1.74	0.53
1:B:233:G:H3'	1:B:234:U:C6	2.43	0.53
1:H:233:G:H3'	1:H:234:U:C6	2.43	0.53
1:I:380:G:H1'	1:I:432:A:H2	1.73	0.53
1:A:144:A:H5'	1:A:186:G:H21	1.74	0.53
1:B:669:A:O2'	1:B:670:A:OP2	2.27	0.53
1:C:144:A:H5'	1:C:186:G:H21	1.74	0.53
1:E:505:A:O2'	1:E:506:G:OP1	2.19	0.53
1:F:233:G:H3'	1:F:234:U:C6	2.44	0.53
1:K:233:G:H3'	1:K:234:U:C6	2.43	0.53
1:B:144:A:H5'	1:B:186:G:H21	1.74	0.53
1:D:144:A:H5'	1:D:186:G:H21	1.74	0.53
1:E:144:A:H5'	1:E:186:G:H21	1.74	0.53
1:F:380:G:H1'	1:F:432:A:H2	1.73	0.53
1:H:380:G:H1'	1:H:432:A:H2	1.73	0.53
1:I:233:G:H3'	1:I:234:U:C6	2.43	0.53
1:G:144:A:H5'	1:G:186:G:H21	1.74	0.52
1:H:38:C:H3'	1:H:39:G:H8	1.73	0.52
1:I:38:C:H3'	1:I:39:G:H8	1.73	0.52
1:K:144:A:H5'	1:K:186:G:H21	1.74	0.52
1:C:38:C:H3'	1:C:39:G:H8	1.73	0.52
1:F:38:C:H3'	1:F:39:G:H8	1.74	0.52
1:H:144:A:H5'	1:H:186:G:H21	1.74	0.52
1:J:38:C:H3'	1:J:39:G:H8	1.74	0.52
1:F:144:A:H5'	1:F:186:G:H21	1.74	0.52
1:F:488:A:N6	1:F:502:A:H8	2.06	0.52
1:G:38:C:H3'	1:G:39:G:H8	1.74	0.52
1:A:38:C:H3'	1:A:39:G:H8	1.73	0.52
1:D:38:C:H3'	1:D:39:G:H8	1.74	0.52
1:F:669:A:O2'	1:F:670:A:OP2	2.27	0.52
1:I:144:A:H5'	1:I:186:G:H21	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:669:A:O2'	1:I:670:A:OP2	2.27	0.52
1:L:38:C:H3'	1:L:39:G:H8	1.74	0.52
1:E:38:C:H3'	1:E:39:G:H8	1.73	0.52
1:E:309:C:H3'	1:E:310:A:C8	2.45	0.52
1:D:309:C:H3'	1:D:310:A:C8	2.45	0.52
1:G:309:C:H3'	1:G:310:A:C8	2.45	0.52
1:H:309:C:H3'	1:H:310:A:C8	2.45	0.52
1:B:591:U:O2'	1:B:592:G:O5'	2.26	0.52
1:G:591:U:O2'	1:G:592:G:O5'	2.26	0.52
1:E:39:G:H2'	1:E:40:A:C5	2.46	0.51
1:F:309:C:H3'	1:F:310:A:C8	2.45	0.51
1:H:39:G:H2'	1:H:40:A:C5	2.46	0.51
1:D:669:A:O2'	1:D:670:A:OP2	2.27	0.51
1:F:39:G:H2'	1:F:40:A:C5	2.46	0.51
1:I:309:C:H3'	1:I:310:A:C8	2.45	0.51
1:G:669:A:O2'	1:G:670:A:OP2	2.27	0.51
1:H:669:A:O2'	1:H:670:A:OP2	2.27	0.51
1:D:39:G:H2'	1:D:40:A:C5	2.46	0.51
1:G:39:G:H2'	1:G:40:A:C5	2.46	0.51
1:E:669:A:O2'	1:E:670:A:OP2	2.27	0.51
1:I:39:G:H2'	1:I:40:A:C5	2.46	0.51
1:J:39:G:H2'	1:J:40:A:C5	2.46	0.51
1:A:39:G:H2'	1:A:40:A:C5	2.46	0.51
1:C:39:G:H2'	1:C:40:A:C5	2.46	0.51
1:B:309:C:H3'	1:B:310:A:C8	2.45	0.51
1:L:39:G:H2'	1:L:40:A:C5	2.46	0.51
1:C:309:C:H3'	1:C:310:A:C8	2.45	0.51
1:C:669:A:O2'	1:C:670:A:OP2	2.27	0.51
1:K:39:G:H2'	1:K:40:A:C5	2.46	0.51
1:K:309:C:H3'	1:K:310:A:C8	2.45	0.51
1:B:39:G:H2'	1:B:40:A:C5	2.46	0.50
1:A:669:A:O2'	1:A:670:A:OP2	2.27	0.50
1:J:682:A:H1'	1:J:683:A:C5	2.46	0.50
1:L:682:A:H1'	1:L:683:A:C5	2.46	0.50
1:A:309:C:H3'	1:A:310:A:C8	2.45	0.50
1:I:682:A:H1'	1:I:683:A:C5	2.46	0.50
1:D:682:A:H1'	1:D:683:A:C5	2.46	0.50
1:F:564:U:H2'	1:F:565:G:O4'	2.12	0.50
1:F:682:A:H1'	1:F:683:A:C5	2.46	0.50
1:G:118:A:O2'	1:G:243:G:N2	2.45	0.50
1:G:380:G:H1'	1:G:432:A:C2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:682:A:H1'	1:G:683:A:C5	2.46	0.50
1:D:118:A:O2'	1:D:243:G:N2	2.45	0.50
1:D:591:U:O2'	1:D:592:G:O5'	2.26	0.50
1:E:564:U:H2'	1:E:565:G:O4'	2.12	0.50
1:H:564:U:H2'	1:H:565:G:O4'	2.12	0.50
1:I:564:U:H2'	1:I:565:G:O4'	2.12	0.50
1:J:564:U:H2'	1:J:565:G:O4'	2.12	0.50
1:A:380:G:H1'	1:A:432:A:C2	2.47	0.50
1:D:380:G:H1'	1:D:432:A:C2	2.47	0.50
1:H:380:G:H1'	1:H:432:A:C2	2.47	0.50
1:L:564:U:H2'	1:L:565:G:O4'	2.12	0.50
1:C:380:G:H1'	1:C:432:A:C2	2.47	0.50
1:D:564:U:H2'	1:D:565:G:O4'	2.12	0.50
1:G:564:U:H2'	1:G:565:G:O4'	2.12	0.50
1:L:669:A:O2'	1:L:670:A:OP2	2.27	0.50
1:A:682:A:H1'	1:A:683:A:C5	2.46	0.50
1:E:380:G:H1'	1:E:432:A:C2	2.47	0.50
1:E:591:U:O2'	1:E:592:G:O5'	2.26	0.50
1:J:309:C:H3'	1:J:310:A:C8	2.45	0.50
1:J:669:A:O2'	1:J:670:A:OP2	2.27	0.50
1:C:682:A:H1'	1:C:683:A:C5	2.46	0.50
1:E:118:A:O2'	1:E:243:G:N2	2.45	0.50
1:H:118:A:O2'	1:H:243:G:N2	2.45	0.50
1:A:118:A:O2'	1:A:243:G:N2	2.45	0.49
1:B:118:A:O2'	1:B:243:G:N2	2.45	0.49
1:B:380:G:H1'	1:B:432:A:C2	2.47	0.49
1:B:682:A:H1'	1:B:683:A:C5	2.46	0.49
1:H:591:U:O2'	1:H:592:G:O5'	2.26	0.49
1:H:682:A:H1'	1:H:683:A:C5	2.46	0.49
1:L:309:C:H3'	1:L:310:A:C8	2.45	0.49
1:C:118:A:O2'	1:C:243:G:N2	2.45	0.49
1:E:682:A:H1'	1:E:683:A:C5	2.46	0.49
1:K:118:A:O2'	1:K:243:G:N2	2.45	0.49
1:L:118:A:O2'	1:L:243:G:N2	2.45	0.49
1:D:310:A:H3'	1:D:311:G:H8	1.78	0.49
1:E:175:C:HO2'	1:E:176:U:P	2.35	0.49
1:F:235:G:H3'	1:F:236:G:H8	1.78	0.49
1:F:380:G:H1'	1:F:432:A:C2	2.47	0.49
1:J:118:A:O2'	1:J:243:G:N2	2.45	0.49
1:K:380:G:H1'	1:K:432:A:C2	2.47	0.49
1:F:118:A:O2'	1:F:243:G:N2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:380:G:H1'	1:I:432:A:C2	2.47	0.49
1:K:682:A:H1'	1:K:683:A:C5	2.46	0.49
1:G:310:A:H3'	1:G:311:G:H8	1.78	0.49
1:I:235:G:H3'	1:I:236:G:H8	1.78	0.49
1:K:310:A:H3'	1:K:311:G:H8	1.78	0.49
1:L:380:G:H1'	1:L:432:A:C2	2.47	0.49
1:A:564:U:H2'	1:A:565:G:O4'	2.12	0.49
1:B:235:G:H3'	1:B:236:G:H8	1.78	0.49
1:B:310:A:H3'	1:B:311:G:H8	1.78	0.49
1:D:235:G:H3'	1:D:236:G:H8	1.78	0.49
1:D:523:A:H3'	1:D:524:G:H8	1.78	0.49
1:G:523:A:H3'	1:G:524:G:H8	1.78	0.49
1:J:380:G:H1'	1:J:432:A:C2	2.47	0.49
1:C:564:U:H2'	1:C:565:G:O4'	2.12	0.49
1:E:495:C:H2'	1:E:496:A:O4'	2.13	0.49
1:G:235:G:H3'	1:G:236:G:H8	1.78	0.49
1:H:495:C:H2'	1:H:496:A:O4'	2.13	0.49
1:I:118:A:O2'	1:I:243:G:N2	2.45	0.49
1:E:102:C:O2'	1:E:103:A:O5'	2.29	0.49
1:H:310:A:H3'	1:H:311:G:H8	1.78	0.49
1:J:235:G:H3'	1:J:236:G:H8	1.78	0.49
1:J:495:C:H2'	1:J:496:A:O4'	2.13	0.49
1:K:235:G:H3'	1:K:236:G:H8	1.78	0.49
1:E:310:A:H3'	1:E:311:G:H8	1.78	0.49
1:E:523:A:H3'	1:E:524:G:H8	1.78	0.49
1:H:523:A:H3'	1:H:524:G:H8	1.78	0.49
1:I:310:A:H3'	1:I:311:G:H8	1.78	0.49
1:L:495:C:H2'	1:L:496:A:O4'	2.13	0.49
1:D:537:U:H2'	1:D:538:U:O4'	2.13	0.48
1:F:310:A:H3'	1:F:311:G:H8	1.78	0.48
1:G:537:U:H2'	1:G:538:U:O4'	2.13	0.48
1:H:102:C:O2'	1:H:103:A:O5'	2.29	0.48
1:I:444:C:H2'	1:I:445:G:C8	2.48	0.48
1:L:235:G:H3'	1:L:236:G:H8	1.78	0.48
1:A:235:G:H3'	1:A:236:G:H8	1.78	0.48
1:B:564:U:H2'	1:B:565:G:O4'	2.12	0.48
1:C:235:G:H3'	1:C:236:G:H8	1.78	0.48
1:H:537:U:H2'	1:H:538:U:O4'	2.13	0.48
1:J:310:A:H3'	1:J:311:G:H8	1.78	0.48
1:B:523:A:H3'	1:B:524:G:H8	1.78	0.48
1:E:537:U:H2'	1:E:538:U:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:310:A:H2'	1:F:311:G:O4'	2.14	0.48
1:K:588:G:N2	1:K:601:U:O4	2.43	0.48
1:B:310:A:H2'	1:B:311:G:O4'	2.13	0.48
1:B:588:G:N2	1:B:601:U:O4	2.43	0.48
1:C:315:C:HO2'	1:C:316:G:P	2.33	0.48
1:I:310:A:H2'	1:I:311:G:O4'	2.14	0.48
1:J:523:A:H3'	1:J:524:G:H8	1.78	0.48
1:K:179:G:N2	1:K:182:A:OP2	2.46	0.48
1:K:523:A:H3'	1:K:524:G:H8	1.78	0.48
1:K:564:U:H2'	1:K:565:G:O4'	2.12	0.48
1:A:179:G:N2	1:A:182:A:OP2	2.46	0.48
1:C:179:G:N2	1:C:182:A:OP2	2.46	0.48
1:E:679:A:H3'	1:E:680:C:H6	1.79	0.48
1:F:444:C:H2'	1:F:445:G:C8	2.48	0.48
1:B:179:G:N2	1:B:182:A:OP2	2.46	0.48
1:B:495:C:H2'	1:B:496:A:O4'	2.13	0.48
1:C:310:A:H2'	1:C:311:G:O4'	2.13	0.48
1:E:310:A:H2'	1:E:311:G:O4'	2.13	0.48
1:F:591:U:O2'	1:F:592:G:O5'	2.26	0.48
1:H:235:G:H3'	1:H:236:G:H8	1.77	0.48
1:L:310:A:H3'	1:L:311:G:H8	1.78	0.48
1:L:523:A:H3'	1:L:524:G:H8	1.78	0.48
1:A:310:A:H2'	1:A:311:G:O4'	2.14	0.48
1:A:315:C:HO2'	1:A:316:G:P	2.33	0.48
1:A:495:C:H2'	1:A:496:A:O4'	2.13	0.48
1:H:679:A:H3'	1:H:680:C:H6	1.79	0.48
1:I:591:U:O2'	1:I:592:G:O5'	2.26	0.48
1:K:310:A:H2'	1:K:311:G:O4'	2.14	0.48
1:K:679:A:H3'	1:K:680:C:H6	1.79	0.48
1:A:310:A:H3'	1:A:311:G:H8	1.78	0.48
1:A:537:U:H2'	1:A:538:U:O4'	2.13	0.48
1:B:679:A:H3'	1:B:680:C:H6	1.79	0.48
1:C:310:A:H3'	1:C:311:G:H8	1.78	0.48
1:C:537:U:H2'	1:C:538:U:O4'	2.14	0.48
1:H:179:G:N2	1:H:182:A:OP2	2.46	0.48
1:H:310:A:H2'	1:H:311:G:O4'	2.14	0.48
1:I:179:G:N2	1:I:182:A:OP2	2.46	0.48
1:J:179:G:N2	1:J:182:A:OP2	2.46	0.48
1:A:523:A:H3'	1:A:524:G:H8	1.78	0.48
1:C:495:C:H2'	1:C:496:A:O4'	2.13	0.48
1:C:523:A:H3'	1:C:524:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:235:G:H3'	1:E:236:G:H8	1.78	0.48
1:F:523:A:H3'	1:F:524:G:H8	1.78	0.48
1:G:310:A:H2'	1:G:311:G:O4'	2.13	0.48
1:G:495:C:H2'	1:G:496:A:O4'	2.13	0.48
1:J:537:U:H2'	1:J:538:U:O4'	2.13	0.48
1:J:679:A:H3'	1:J:680:C:H6	1.79	0.48
1:K:495:C:H2'	1:K:496:A:O4'	2.13	0.48
1:L:179:G:N2	1:L:182:A:OP2	2.46	0.48
1:B:102:C:O2'	1:B:103:A:O5'	2.29	0.48
1:D:495:C:H2'	1:D:496:A:O4'	2.13	0.48
1:D:679:A:H3'	1:D:680:C:H6	1.79	0.48
1:E:179:G:N2	1:E:182:A:OP2	2.46	0.48
1:F:179:G:N2	1:F:182:A:OP2	2.46	0.48
1:I:523:A:H3'	1:I:524:G:H8	1.78	0.48
1:L:310:A:H2'	1:L:311:G:O4'	2.13	0.48
1:L:679:A:H3'	1:L:680:C:H6	1.79	0.48
1:A:102:C:O2'	1:A:103:A:O5'	2.29	0.47
1:B:537:U:H2'	1:B:538:U:O4'	2.13	0.47
1:D:310:A:H2'	1:D:311:G:O4'	2.14	0.47
1:F:495:C:H2'	1:F:496:A:O4'	2.13	0.47
1:G:679:A:H3'	1:G:680:C:H6	1.79	0.47
1:H:588:G:N2	1:H:601:U:O4	2.43	0.47
1:K:537:U:H2'	1:K:538:U:O4'	2.13	0.47
1:C:591:U:O2'	1:C:592:G:O5'	2.26	0.47
1:I:495:C:H2'	1:I:496:A:O4'	2.13	0.47
1:I:537:U:H2'	1:I:538:U:O4'	2.13	0.47
1:J:310:A:H2'	1:J:311:G:O4'	2.14	0.47
1:K:102:C:O2'	1:K:103:A:O5'	2.29	0.47
1:L:537:U:H2'	1:L:538:U:O4'	2.14	0.47
1:D:238:A:H3'	1:D:239:C:C6	2.49	0.47
1:E:588:G:N2	1:E:601:U:O4	2.43	0.47
1:F:679:A:H3'	1:F:680:C:H6	1.79	0.47
1:G:238:A:H3'	1:G:239:C:C6	2.49	0.47
1:A:679:A:H3'	1:A:680:C:H6	1.79	0.47
1:D:310:A:H3'	1:D:311:G:C8	2.50	0.47
1:E:238:A:H3'	1:E:239:C:C6	2.49	0.47
1:E:444:C:H2'	1:E:445:G:C8	2.48	0.47
1:F:537:U:H2'	1:F:538:U:O4'	2.14	0.47
1:I:679:A:H3'	1:I:680:C:H6	1.79	0.47
1:J:238:A:H3'	1:J:239:C:C6	2.49	0.47
1:L:238:A:H3'	1:L:239:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:679:A:H3'	1:C:680:C:H6	1.79	0.47
1:G:310:A:H3'	1:G:311:G:C8	2.50	0.47
1:H:238:A:H3'	1:H:239:C:C6	2.49	0.47
1:H:444:C:H2'	1:H:445:G:C8	2.48	0.47
1:I:175:C:HO2'	1:I:176:U:P	2.37	0.47
1:K:310:A:H3'	1:K:311:G:C8	2.50	0.47
1:B:310:A:H3'	1:B:311:G:C8	2.50	0.47
1:F:175:C:HO2'	1:F:176:U:P	2.37	0.47
1:I:35:U:H2'	1:I:36:A:C8	2.50	0.47
1:A:591:U:O2'	1:A:592:G:O5'	2.26	0.47
1:B:119:G:N1	1:B:121:A:OP2	2.48	0.47
1:F:35:U:H2'	1:F:36:A:C8	2.50	0.47
1:I:238:A:H3'	1:I:239:C:C6	2.49	0.47
1:K:119:G:N1	1:K:121:A:OP2	2.48	0.47
1:D:119:G:N1	1:D:121:A:OP2	2.48	0.47
1:F:238:A:H3'	1:F:239:C:C6	2.49	0.47
1:F:671:G:OP2	1:F:671:G:N2	2.48	0.47
1:G:119:G:N1	1:G:121:A:OP2	2.48	0.47
1:H:35:U:H2'	1:H:36:A:C8	2.50	0.47
1:J:38:C:C5	1:K:470:A:H1'	2.50	0.47
1:E:35:U:H2'	1:E:36:A:C8	2.50	0.47
1:E:310:A:H3'	1:E:311:G:C8	2.50	0.47
1:H:310:A:H3'	1:H:311:G:C8	2.50	0.47
1:J:35:U:H2'	1:J:36:A:C8	2.50	0.47
1:J:310:A:H3'	1:J:311:G:C8	2.50	0.47
1:B:671:G:N2	1:B:671:G:OP2	2.49	0.46
1:E:38:C:C5	1:F:470:A:H1'	2.49	0.46
1:E:119:G:N1	1:E:121:A:OP2	2.48	0.46
1:H:671:G:N2	1:H:671:G:OP2	2.48	0.46
1:J:671:G:N2	1:J:671:G:OP2	2.48	0.46
1:K:671:G:OP2	1:K:671:G:N2	2.49	0.46
1:E:671:G:N2	1:E:671:G:OP2	2.49	0.46
1:H:119:G:N1	1:H:121:A:OP2	2.48	0.46
1:I:119:G:N1	1:I:121:A:OP2	2.48	0.46
1:I:671:G:OP2	1:I:671:G:N2	2.49	0.46
1:L:35:U:H2'	1:L:36:A:C8	2.50	0.46
1:L:310:A:H3'	1:L:311:G:C8	2.50	0.46
1:L:671:G:N2	1:L:671:G:OP2	2.48	0.46
1:A:238:A:H3'	1:A:239:C:C6	2.49	0.46
1:C:38:C:C5	1:D:470:A:H1'	2.51	0.46
1:C:119:G:N1	1:C:121:A:OP2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:238:A:H3'	1:C:239:C:C6	2.49	0.46
1:F:119:G:N1	1:F:121:A:OP2	2.48	0.46
1:K:238:A:H3'	1:K:239:C:C6	2.49	0.46
1:A:119:G:N1	1:A:121:A:OP2	2.48	0.46
1:A:310:A:H3'	1:A:311:G:C8	2.50	0.46
1:B:233:G:H21	1:B:238:A:H62	1.63	0.46
1:F:310:A:H3'	1:F:311:G:C8	2.50	0.46
1:G:179:G:N2	1:G:182:A:OP2	2.46	0.46
1:G:234:U:H2'	1:G:236:G:OP2	2.16	0.46
1:A:35:U:H2'	1:A:36:A:C8	2.50	0.46
1:B:238:A:H3'	1:B:239:C:C6	2.49	0.46
1:C:310:A:H3'	1:C:311:G:C8	2.50	0.46
1:D:234:U:H2'	1:D:236:G:OP2	2.16	0.46
1:I:310:A:H3'	1:I:311:G:C8	2.50	0.46
1:J:119:G:N1	1:J:121:A:OP2	2.48	0.46
1:L:119:G:N1	1:L:121:A:OP2	2.48	0.46
1:A:234:U:H2'	1:A:236:G:OP2	2.16	0.46
1:D:35:U:H2'	1:D:36:A:C8	2.50	0.46
1:D:179:G:N2	1:D:182:A:OP2	2.46	0.46
1:L:591:U:O2'	1:L:592:G:O5'	2.26	0.46
1:C:35:U:H2'	1:C:36:A:C8	2.50	0.46
1:C:671:G:N2	1:C:671:G:OP2	2.49	0.46
1:F:102:C:O2'	1:F:103:A:O5'	2.29	0.46
1:G:35:U:H2'	1:G:36:A:C8	2.50	0.46
1:I:195:A:O2'	1:I:196:C:O5'	2.28	0.46
1:I:588:G:N2	1:I:601:U:O4	2.43	0.46
1:J:588:G:N2	1:J:601:U:O4	2.43	0.46
1:K:233:G:H21	1:K:238:A:H62	1.63	0.46
1:L:233:G:H3'	1:L:234:U:H6	1.81	0.46
1:A:671:G:OP2	1:A:671:G:N2	2.49	0.46
1:E:233:G:H3'	1:E:234:U:H6	1.81	0.46
1:F:195:A:O2'	1:F:196:C:O5'	2.28	0.46
1:F:588:G:N2	1:F:601:U:O4	2.43	0.46
1:G:233:G:H21	1:G:238:A:H62	1.63	0.46
1:H:233:G:H3'	1:H:234:U:H6	1.81	0.46
1:J:233:G:H21	1:J:238:A:H62	1.63	0.46
1:K:669:A:O2'	1:K:670:A:OP2	2.27	0.46
1:L:233:G:H21	1:L:238:A:H62	1.63	0.46
1:L:588:G:N2	1:L:601:U:O4	2.43	0.46
1:B:346:U:O2'	1:B:429:G:N3	2.49	0.46
1:C:234:U:H2'	1:C:236:G:OP2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:233:G:H21	1:D:238:A:H62	1.63	0.46
1:E:195:A:O2'	1:E:196:C:O5'	2.28	0.46
1:E:234:U:H2'	1:E:236:G:OP2	2.16	0.46
1:H:233:G:H21	1:H:238:A:H62	1.63	0.46
1:J:233:G:H3'	1:J:234:U:H6	1.81	0.46
1:K:346:U:O2'	1:K:429:G:N3	2.49	0.46
1:L:346:U:O2'	1:L:429:G:N3	2.49	0.46
1:B:35:U:H2'	1:B:36:A:C8	2.50	0.46
1:B:152:U:H1'	1:B:189:C:H2'	1.98	0.46
1:J:346:U:O2'	1:J:429:G:N3	2.49	0.46
1:J:591:U:O2'	1:J:592:G:O5'	2.26	0.46
1:K:234:U:H2'	1:K:236:G:OP2	2.16	0.46
1:A:470:A:H1'	1:K:38:C:C5	2.52	0.45
1:B:234:U:H2'	1:B:236:G:OP2	2.16	0.45
1:G:671:G:N2	1:G:671:G:OP2	2.49	0.45
1:H:234:U:H2'	1:H:236:G:OP2	2.16	0.45
1:I:102:C:O2'	1:I:103:A:O5'	2.29	0.45
1:K:35:U:H2'	1:K:36:A:C8	2.50	0.45
1:K:152:U:H1'	1:K:189:C:H2'	1.98	0.45
1:B:233:G:H3'	1:B:234:U:H6	1.81	0.45
1:D:671:G:OP2	1:D:671:G:N2	2.49	0.45
1:E:233:G:H21	1:E:238:A:H62	1.63	0.45
1:K:233:G:H3'	1:K:234:U:H6	1.81	0.45
1:F:152:U:H1'	1:F:189:C:H2'	1.98	0.45
1:H:38:C:C5	1:I:470:A:H1'	2.51	0.45
1:B:38:C:C5	1:C:470:A:H1'	2.52	0.45
1:C:233:G:H21	1:C:238:A:H62	1.63	0.45
1:F:118:A:H1'	1:F:243:G:H21	1.82	0.45
1:G:233:G:H3'	1:G:234:U:H6	1.81	0.45
1:I:118:A:H1'	1:I:243:G:H21	1.81	0.45
1:I:152:U:H1'	1:I:189:C:H2'	1.98	0.45
1:L:43:U:H2'	1:L:44:G:C8	2.52	0.45
1:D:233:G:H3'	1:D:234:U:H6	1.81	0.45
1:F:555:A:O4'	1:H:632:A:H2	2.00	0.45
1:I:233:G:H3'	1:I:234:U:H6	1.81	0.45
1:E:152:U:H1'	1:E:189:C:H2'	1.98	0.45
1:F:233:G:H3'	1:F:234:U:H6	1.81	0.45
1:J:43:U:H2'	1:J:44:G:C8	2.52	0.45
1:A:233:G:H21	1:A:238:A:H62	1.63	0.45
1:G:118:A:H1'	1:G:243:G:H21	1.82	0.45
1:G:346:U:O2'	1:G:429:G:N3	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:234:U:H2'	1:I:236:G:OP2	2.16	0.45
1:L:118:A:H1'	1:L:243:G:H21	1.81	0.45
1:A:118:A:H1'	1:A:243:G:H21	1.81	0.45
1:A:346:U:O2'	1:A:429:G:N3	2.49	0.45
1:A:429:G:H2'	1:A:430:C:C6	2.52	0.45
1:C:118:A:H1'	1:C:243:G:H21	1.81	0.45
1:C:152:U:H1'	1:C:189:C:H2'	1.98	0.45
1:C:346:U:O2'	1:C:429:G:N3	2.49	0.45
1:D:118:A:H1'	1:D:243:G:H21	1.82	0.45
1:D:346:U:O2'	1:D:429:G:N3	2.49	0.45
1:D:429:G:H2'	1:D:430:C:C6	2.52	0.45
1:F:346:U:O2'	1:F:429:G:N3	2.49	0.45
1:H:152:U:H1'	1:H:189:C:H2'	1.98	0.45
1:H:346:U:O2'	1:H:429:G:N3	2.49	0.45
1:I:346:U:O2'	1:I:429:G:N3	2.49	0.45
1:J:152:U:H1'	1:J:189:C:H2'	1.98	0.45
1:K:591:U:O2'	1:K:592:G:O5'	2.26	0.45
1:B:38:C:H3'	1:B:39:G:C8	2.52	0.45
1:C:429:G:H2'	1:C:430:C:C6	2.52	0.45
1:D:38:C:C5	1:E:470:A:H1'	2.51	0.45
1:E:346:U:O2'	1:E:429:G:N3	2.49	0.45
1:I:38:C:C5	1:J:470:A:H1'	2.51	0.45
1:J:118:A:H1'	1:J:243:G:H21	1.82	0.45
1:K:38:C:H3'	1:K:39:G:C8	2.52	0.45
1:A:152:U:H1'	1:A:189:C:H2'	1.98	0.45
1:C:435:G:H3'	1:C:436:U:H5''	1.99	0.45
1:F:234:U:H2'	1:F:236:G:OP2	2.16	0.45
1:G:152:U:H1'	1:G:189:C:H2'	1.98	0.45
1:G:429:G:H2'	1:G:430:C:C6	2.52	0.45
1:H:118:A:H1'	1:H:243:G:H21	1.81	0.45
1:L:152:U:H1'	1:L:189:C:H2'	1.98	0.45
1:A:43:U:H2'	1:A:44:G:C8	2.52	0.44
1:E:118:A:H1'	1:E:243:G:H21	1.81	0.44
1:F:233:G:H21	1:F:238:A:H62	1.63	0.44
1:H:538:U:O2'	1:H:541:C:N4	2.50	0.44
1:L:539:A:H3'	1:L:540:G:H8	1.82	0.44
1:B:429:G:H2'	1:B:430:C:C6	2.52	0.44
1:C:43:U:H2'	1:C:44:G:C8	2.52	0.44
1:C:220:A:O2'	1:C:221:C:OP1	2.33	0.44
1:D:152:U:H1'	1:D:189:C:H2'	1.98	0.44
1:D:538:U:O2'	1:D:541:C:N4	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:38:C:C5	1:H:470:A:H1'	2.52	0.44
1:G:538:U:O2'	1:G:541:C:N4	2.50	0.44
1:K:429:G:H2'	1:K:430:C:C6	2.52	0.44
1:B:628:A:H3'	1:B:629:G:C8	2.52	0.44
1:I:233:G:H21	1:I:238:A:H62	1.63	0.44
1:J:539:A:H3'	1:J:540:G:H8	1.82	0.44
1:K:444:C:H2'	1:K:445:G:C8	2.48	0.44
1:A:220:A:O2'	1:A:221:C:OP1	2.33	0.44
1:A:435:G:H3'	1:A:436:U:H5''	1.99	0.44
1:B:628:A:H3'	1:B:629:G:H8	1.83	0.44
1:E:429:G:H2'	1:E:430:C:C6	2.52	0.44
1:F:628:A:H3'	1:F:629:G:H8	1.83	0.44
1:H:43:U:H2'	1:H:44:G:C8	2.52	0.44
1:L:429:G:H2'	1:L:430:C:C6	2.52	0.44
1:A:169:G:H8	1:A:170:A:N7	2.16	0.44
1:B:169:G:H8	1:B:170:A:N7	2.16	0.44
1:B:444:C:H2'	1:B:445:G:C8	2.48	0.44
1:E:538:U:O2'	1:E:541:C:N4	2.51	0.44
1:E:628:A:H3'	1:E:629:G:H8	1.83	0.44
1:F:429:G:H2'	1:F:430:C:C6	2.52	0.44
1:G:43:U:H2'	1:G:44:G:C8	2.52	0.44
1:H:429:G:H2'	1:H:430:C:C6	2.52	0.44
1:H:459:U:O2'	1:H:460:G:OP1	2.31	0.44
1:H:628:A:H3'	1:H:629:G:H8	1.83	0.44
1:J:429:G:H2'	1:J:430:C:C6	2.52	0.44
1:K:169:G:H8	1:K:170:A:N7	2.16	0.44
1:K:628:A:H3'	1:K:629:G:C8	2.53	0.44
1:L:234:U:H2'	1:L:236:G:OP2	2.16	0.44
1:B:43:U:H2'	1:B:44:G:C8	2.52	0.44
1:B:538:U:O2'	1:B:541:C:N4	2.51	0.44
1:D:43:U:H2'	1:D:44:G:C8	2.52	0.44
1:D:527:G:O6	1:D:552:U:O2	2.36	0.44
1:E:43:U:H2'	1:E:44:G:C8	2.52	0.44
1:F:43:U:H2'	1:F:44:G:C8	2.52	0.44
1:F:169:G:H8	1:F:170:A:N7	2.16	0.44
1:G:527:G:O6	1:G:552:U:O2	2.36	0.44
1:I:169:G:H8	1:I:170:A:N7	2.16	0.44
1:I:435:G:H3'	1:I:436:U:H5''	1.99	0.44
1:J:628:A:H3'	1:J:629:G:H8	1.83	0.44
1:K:118:A:H1'	1:K:243:G:H21	1.82	0.44
1:K:435:G:H3'	1:K:436:U:H5''	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:628:A:H3'	1:L:629:G:H8	1.83	0.44
1:A:459:U:O2'	1:A:460:G:OP1	2.31	0.44
1:C:169:G:H8	1:C:170:A:N7	2.16	0.44
1:F:38:C:C5	1:L:470:A:H1'	2.52	0.44
1:F:538:U:O2'	1:F:541:C:N4	2.51	0.44
1:H:435:G:H3'	1:H:436:U:H5''	1.99	0.44
1:I:43:U:H2'	1:I:44:G:C8	2.52	0.44
1:I:429:G:H2'	1:I:430:C:C6	2.52	0.44
1:I:628:A:H3'	1:I:629:G:H8	1.83	0.44
1:J:195:A:O2'	1:J:196:C:O5'	2.28	0.44
1:J:234:U:H2'	1:J:236:G:OP2	2.16	0.44
1:J:444:C:H2'	1:J:445:G:C8	2.48	0.44
1:J:628:A:H3'	1:J:629:G:C8	2.53	0.44
1:K:43:U:H2'	1:K:44:G:C8	2.52	0.44
1:K:628:A:H3'	1:K:629:G:H8	1.83	0.44
1:L:102:C:O2'	1:L:103:A:O5'	2.29	0.44
1:A:538:U:O2'	1:A:541:C:N4	2.51	0.44
1:B:435:G:H3'	1:B:436:U:H5''	1.99	0.44
1:C:538:U:O2'	1:C:541:C:N4	2.51	0.44
1:C:628:A:H3'	1:C:629:G:C8	2.53	0.44
1:E:527:G:O6	1:E:552:U:O2	2.36	0.44
1:E:628:A:H3'	1:E:629:G:C8	2.52	0.44
1:F:435:G:H3'	1:F:436:U:H5''	1.99	0.44
1:G:628:A:H3'	1:G:629:G:H8	1.83	0.44
1:H:169:G:H8	1:H:170:A:N7	2.16	0.44
1:H:628:A:H3'	1:H:629:G:C8	2.52	0.44
1:I:538:U:O2'	1:I:541:C:N4	2.51	0.44
1:K:538:U:O2'	1:K:541:C:N4	2.51	0.44
1:L:628:A:H3'	1:L:629:G:C8	2.53	0.44
1:A:628:A:H3'	1:A:629:G:C8	2.53	0.44
1:B:118:A:H1'	1:B:243:G:H21	1.82	0.44
1:C:38:C:H3'	1:C:39:G:C8	2.52	0.44
1:C:628:A:H3'	1:C:629:G:H8	1.83	0.44
1:D:628:A:H3'	1:D:629:G:H8	1.83	0.44
1:D:628:A:H3'	1:D:629:G:C8	2.53	0.44
1:E:435:G:H3'	1:E:436:U:H5''	1.99	0.44
1:E:459:U:O2'	1:E:460:G:OP1	2.31	0.44
1:G:628:A:H3'	1:G:629:G:C8	2.52	0.44
1:I:527:G:O6	1:I:552:U:O2	2.36	0.44
1:J:169:G:H8	1:J:170:A:N7	2.16	0.44
1:J:538:U:O2'	1:J:541:C:N4	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:169:G:H8	1:L:170:A:N7	2.16	0.44
1:A:38:C:H3'	1:A:39:G:C8	2.52	0.43
1:A:527:G:O6	1:A:552:U:O2	2.36	0.43
1:A:624:U:O4'	1:A:669:A:N6	2.51	0.43
1:A:628:A:H3'	1:A:629:G:H8	1.83	0.43
1:C:624:U:O4'	1:C:669:A:N6	2.51	0.43
1:E:169:G:H8	1:E:170:A:N7	2.16	0.43
1:F:527:G:O6	1:F:552:U:O2	2.36	0.43
1:G:169:G:H8	1:G:170:A:N7	2.16	0.43
1:H:527:G:O6	1:H:552:U:O2	2.36	0.43
1:J:102:C:O2'	1:J:103:A:O5'	2.29	0.43
1:L:435:G:H3'	1:L:436:U:H5''	1.99	0.43
1:L:538:U:O2'	1:L:541:C:N4	2.51	0.43
1:A:37:G:H2'	1:A:40:A:N6	2.32	0.43
1:A:38:C:C5	1:G:470:A:H1'	2.53	0.43
1:A:541:C:H3'	1:A:542:G:H8	1.83	0.43
1:C:102:C:O2'	1:C:103:A:O5'	2.29	0.43
1:C:459:U:O2'	1:C:460:G:OP1	2.31	0.43
1:C:527:G:O6	1:C:552:U:O2	2.36	0.43
1:D:169:G:H8	1:D:170:A:N7	2.16	0.43
1:I:459:U:O2'	1:I:460:G:OP1	2.31	0.43
1:J:435:G:H3'	1:J:436:U:H5''	1.99	0.43
1:J:527:G:O6	1:J:552:U:O2	2.36	0.43
1:L:444:C:H2'	1:L:445:G:C8	2.48	0.43
1:L:505:A:HO2'	1:L:506:G:P	2.39	0.43
1:L:527:G:O6	1:L:552:U:O2	2.36	0.43
1:B:541:C:H3'	1:B:542:G:H8	1.83	0.43
1:B:624:U:O4'	1:B:669:A:N6	2.51	0.43
1:C:632:A:H2	1:K:555:A:O4'	2.01	0.43
1:G:175:C:HO2'	1:G:176:U:P	2.41	0.43
1:K:541:C:H3'	1:K:542:G:H8	1.83	0.43
1:C:233:G:H3'	1:C:234:U:H6	1.81	0.43
1:C:444:C:H2'	1:C:445:G:C8	2.48	0.43
1:D:175:C:HO2'	1:D:176:U:P	2.41	0.43
1:F:628:A:H3'	1:F:629:G:C8	2.52	0.43
1:K:527:G:O6	1:K:552:U:O2	2.36	0.43
1:K:539:A:H3'	1:K:540:G:H8	1.82	0.43
1:K:624:U:O4'	1:K:669:A:N6	2.51	0.43
1:A:233:G:H3'	1:A:234:U:H6	1.81	0.43
1:A:683:A:H1'	1:A:684:A:C4	2.54	0.43
1:B:470:A:H1'	1:L:38:C:C5	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:527:G:O6	1:B:552:U:O2	2.36	0.43
1:C:37:G:H2'	1:C:40:A:N6	2.32	0.43
1:C:541:C:H3'	1:C:542:G:H8	1.83	0.43
1:C:683:A:H1'	1:C:684:A:C4	2.54	0.43
1:I:539:A:H3'	1:I:540:G:H8	1.83	0.43
1:I:628:A:H3'	1:I:629:G:C8	2.53	0.43
1:A:444:C:H2'	1:A:445:G:C8	2.48	0.43
1:B:539:A:H3'	1:B:540:G:H8	1.83	0.43
1:D:102:C:O2'	1:D:103:A:O5'	2.29	0.43
1:E:38:C:H3'	1:E:39:G:C8	2.52	0.43
1:G:624:U:O4'	1:G:669:A:N6	2.51	0.43
1:H:38:C:H3'	1:H:39:G:C8	2.52	0.43
1:B:433:A:H2'	1:B:434:A:O4'	2.19	0.43
1:D:349:U:H2'	1:D:350:C:C6	2.54	0.43
1:F:539:A:H3'	1:F:540:G:H8	1.83	0.43
1:G:349:U:H2'	1:G:350:C:C6	2.54	0.43
1:J:467:G:OP2	1:J:509:A:O2'	2.37	0.43
1:J:505:A:HO2'	1:J:506:G:P	2.39	0.43
1:K:467:G:OP2	1:K:509:A:O2'	2.37	0.43
1:A:433:A:H2'	1:A:434:A:O4'	2.19	0.43
1:B:467:G:OP2	1:B:509:A:O2'	2.37	0.43
1:B:683:A:H1'	1:B:684:A:C4	2.54	0.43
1:D:195:A:O2'	1:D:196:C:O5'	2.28	0.43
1:D:435:G:H3'	1:D:436:U:H5''	1.99	0.43
1:F:220:A:O2'	1:F:221:C:OP1	2.33	0.43
1:K:433:A:H2'	1:K:434:A:O4'	2.19	0.43
1:K:683:A:H1'	1:K:684:A:C4	2.54	0.43
1:A:539:A:H3'	1:A:540:G:H8	1.83	0.43
1:C:433:A:H2'	1:C:434:A:O4'	2.19	0.43
1:C:539:A:H3'	1:C:540:G:H8	1.83	0.43
1:F:467:G:OP2	1:F:509:A:O2'	2.37	0.43
1:G:433:A:H2'	1:G:434:A:O4'	2.19	0.43
1:G:683:A:H1'	1:G:684:A:C4	2.54	0.43
1:L:467:G:OP2	1:L:509:A:O2'	2.37	0.43
1:D:624:U:O4'	1:D:669:A:N6	2.52	0.43
1:D:683:A:H1'	1:D:684:A:C4	2.54	0.43
1:E:433:A:H2'	1:E:434:A:O4'	2.19	0.43
1:F:554:A:H2'	1:F:555:A:C8	2.54	0.43
1:F:683:A:H1'	1:F:684:A:C4	2.54	0.43
1:H:175:C:HO2'	1:H:176:U:P	2.41	0.43
1:H:433:A:H2'	1:H:434:A:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:349:U:H2'	1:I:350:C:C6	2.54	0.43
1:I:683:A:H1'	1:I:684:A:C4	2.54	0.43
1:K:554:A:H2'	1:K:555:A:C8	2.54	0.43
1:B:554:A:H2'	1:B:555:A:C8	2.54	0.42
1:D:433:A:H2'	1:D:434:A:O4'	2.19	0.42
1:D:541:C:H3'	1:D:542:G:H8	1.83	0.42
1:E:541:C:H3'	1:E:542:G:H8	1.83	0.42
1:F:349:U:H2'	1:F:350:C:C6	2.54	0.42
1:G:102:C:O2'	1:G:103:A:O5'	2.29	0.42
1:G:435:G:H3'	1:G:436:U:H5''	1.99	0.42
1:H:338:C:O2'	1:H:339:A:OP2	2.33	0.42
1:I:554:A:H2'	1:I:555:A:C8	2.54	0.42
1:L:541:C:H3'	1:L:542:G:H8	1.83	0.42
1:L:554:A:H2'	1:L:555:A:C8	2.54	0.42
1:E:632:A:H2	1:I:555:A:O4'	2.03	0.42
1:G:38:C:H3'	1:G:39:G:C8	2.52	0.42
1:I:220:A:O2'	1:I:221:C:OP1	2.33	0.42
1:I:467:G:OP2	1:I:509:A:O2'	2.37	0.42
1:L:490:U:H2'	1:L:491:C:C6	2.55	0.42
1:A:554:A:H2'	1:A:555:A:C8	2.54	0.42
1:C:188:A:H2'	1:C:189:C:O4'	2.20	0.42
1:D:38:C:H3'	1:D:39:G:C8	2.52	0.42
1:J:541:C:H3'	1:J:542:G:H8	1.83	0.42
1:J:554:A:H2'	1:J:555:A:C8	2.54	0.42
1:A:467:G:OP2	1:A:509:A:O2'	2.37	0.42
1:D:554:A:H2'	1:D:555:A:C8	2.54	0.42
1:E:338:C:O2'	1:E:339:A:OP2	2.33	0.42
1:E:554:A:H2'	1:E:555:A:C8	2.54	0.42
1:E:683:A:H1'	1:E:684:A:C4	2.54	0.42
1:F:38:C:H3'	1:F:39:G:C8	2.52	0.42
1:F:436:U:H2'	1:F:438:A:C8	2.55	0.42
1:F:624:U:O4'	1:F:669:A:N6	2.52	0.42
1:G:541:C:H3'	1:G:542:G:H8	1.83	0.42
1:G:554:A:H2'	1:G:555:A:C8	2.54	0.42
1:H:683:A:H1'	1:H:684:A:C4	2.54	0.42
1:I:311:G:HO2'	1:I:312:C:H6	1.64	0.42
1:L:624:U:O4'	1:L:669:A:N6	2.52	0.42
1:L:683:A:H1'	1:L:684:A:C4	2.54	0.42
1:A:188:A:H2'	1:A:189:C:O4'	2.20	0.42
1:B:349:U:H2'	1:B:350:C:C6	2.54	0.42
1:C:467:G:OP2	1:C:509:A:O2'	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:554:A:H2'	1:C:555:A:C8	2.54	0.42
1:F:490:U:H2'	1:F:491:C:C6	2.54	0.42
1:G:632:A:H2	1:L:555:A:O4'	2.02	0.42
1:H:554:A:H2'	1:H:555:A:C8	2.54	0.42
1:H:624:U:O4'	1:H:669:A:N6	2.52	0.42
1:I:38:C:H3'	1:I:39:G:C8	2.52	0.42
1:I:188:A:H2'	1:I:189:C:O4'	2.20	0.42
1:I:490:U:H2'	1:I:491:C:C6	2.55	0.42
1:I:624:U:O4'	1:I:669:A:N6	2.52	0.42
1:J:349:U:H2'	1:J:350:C:C6	2.54	0.42
1:J:490:U:H2'	1:J:491:C:C6	2.55	0.42
1:L:349:U:H2'	1:L:350:C:C6	2.54	0.42
1:E:624:U:O4'	1:E:669:A:N6	2.51	0.42
1:F:541:C:H3'	1:F:542:G:H8	1.83	0.42
1:F:632:A:H2	1:H:555:A:O4'	2.02	0.42
1:H:541:C:H3'	1:H:542:G:H8	1.83	0.42
1:I:433:A:H2'	1:I:434:A:O4'	2.19	0.42
1:I:436:U:H2'	1:I:438:A:C8	2.55	0.42
1:J:624:U:O4'	1:J:669:A:N6	2.52	0.42
1:L:315:C:HO2'	1:L:316:G:P	2.41	0.42
1:B:188:A:H2'	1:B:189:C:O4'	2.20	0.42
1:B:220:A:O2'	1:B:221:C:OP1	2.33	0.42
1:F:433:A:H2'	1:F:434:A:O4'	2.19	0.42
1:J:433:A:H2'	1:J:434:A:O4'	2.19	0.42
1:J:683:A:H1'	1:J:684:A:C4	2.54	0.42
1:K:338:C:O2'	1:K:339:A:OP2	2.33	0.42
1:L:433:A:H2'	1:L:434:A:O4'	2.19	0.42
1:L:436:U:H2'	1:L:438:A:C8	2.55	0.42
1:A:349:U:H2'	1:A:350:C:C6	2.54	0.42
1:B:158:A:C1'	1:L:161:C:H2'	2.44	0.42
1:C:349:U:H2'	1:C:350:C:C6	2.54	0.42
1:G:539:A:H3'	1:G:540:G:H8	1.82	0.42
1:H:39:G:H1	1:I:480:C:H1'	1.85	0.42
1:H:172:G:O2'	1:H:173:U:OP2	2.32	0.42
1:I:541:C:H3'	1:I:542:G:H8	1.83	0.42
1:J:188:A:H2'	1:J:189:C:O4'	2.20	0.42
1:J:436:U:H2'	1:J:438:A:C8	2.55	0.42
1:K:188:A:H2'	1:K:189:C:O4'	2.20	0.42
1:K:349:U:H2'	1:K:350:C:C6	2.54	0.42
1:A:490:U:H2'	1:A:491:C:C6	2.55	0.42
1:B:338:C:O2'	1:B:339:A:OP2	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:39:G:H1	1:D:480:C:H1'	1.85	0.42
1:D:188:A:H2'	1:D:189:C:O4'	2.20	0.42
1:E:436:U:H2'	1:E:438:A:C8	2.55	0.42
1:F:188:A:H2'	1:F:189:C:O4'	2.20	0.42
1:G:37:G:H2'	1:G:40:A:N6	2.32	0.42
1:G:188:A:H2'	1:G:189:C:O4'	2.20	0.42
1:C:490:U:H2'	1:C:491:C:C6	2.55	0.42
1:D:37:G:H2'	1:D:40:A:N6	2.32	0.42
1:E:188:A:H2'	1:E:189:C:O4'	2.20	0.42
1:E:349:U:H2'	1:E:350:C:C6	2.54	0.42
1:H:188:A:H2'	1:H:189:C:O4'	2.20	0.42
1:K:220:A:O2'	1:K:221:C:OP1	2.33	0.42
1:L:188:A:H2'	1:L:189:C:O4'	2.20	0.42
1:B:175:C:HO2'	1:B:176:U:P	2.43	0.41
1:D:467:G:OP2	1:D:509:A:O2'	2.37	0.41
1:D:539:A:H3'	1:D:540:G:H8	1.83	0.41
1:G:490:U:H2'	1:G:491:C:C6	2.55	0.41
1:H:349:U:H2'	1:H:350:C:C6	2.54	0.41
1:J:459:U:O2'	1:J:460:G:OP1	2.31	0.41
1:K:175:C:HO2'	1:K:176:U:P	2.43	0.41
1:D:490:U:H2'	1:D:491:C:C6	2.55	0.41
1:G:467:G:OP2	1:G:509:A:O2'	2.37	0.41
1:H:467:G:OP2	1:H:509:A:O2'	2.37	0.41
1:K:37:G:H2'	1:K:40:A:N6	2.32	0.41
1:K:153:A:H61	1:K:168:U:H3	1.69	0.41
1:A:298:U:N3	1:A:320:U:O2	2.52	0.41
1:A:436:U:H2'	1:A:438:A:C8	2.55	0.41
1:B:37:G:H2'	1:B:40:A:N6	2.32	0.41
1:C:298:U:N3	1:C:320:U:O2	2.52	0.41
1:E:467:G:OP2	1:E:509:A:O2'	2.37	0.41
1:H:436:U:H2'	1:H:438:A:C8	2.55	0.41
1:J:153:A:H61	1:J:168:U:H3	1.69	0.41
1:L:153:A:H61	1:L:168:U:H3	1.69	0.41
1:A:153:A:H61	1:A:168:U:H3	1.68	0.41
1:A:525:C:H2'	1:A:526:A:C8	2.56	0.41
1:B:153:A:H61	1:B:168:U:H3	1.69	0.41
1:C:436:U:H2'	1:C:438:A:C8	2.55	0.41
1:F:144:A:N6	1:F:195:A:O4'	2.54	0.41
1:F:153:A:H61	1:F:168:U:H3	1.68	0.41
1:H:298:U:N3	1:H:320:U:O2	2.53	0.41
1:I:144:A:N6	1:I:195:A:O4'	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:459:U:O2'	1:L:460:G:OP1	2.31	0.41
1:B:490:U:H2'	1:B:491:C:C6	2.54	0.41
1:D:444:C:H2'	1:D:445:G:C8	2.48	0.41
1:K:436:U:H2'	1:K:438:A:C8	2.55	0.41
1:L:38:C:H3'	1:L:39:G:C8	2.52	0.41
1:B:436:U:H2'	1:B:438:A:C8	2.55	0.41
1:C:153:A:H61	1:C:168:U:H3	1.69	0.41
1:C:525:C:H2'	1:C:526:A:C8	2.56	0.41
1:C:555:A:O4'	1:K:632:A:H2	2.03	0.41
1:D:238:A:H3'	1:D:239:C:H6	1.86	0.41
1:D:525:C:H2'	1:D:526:A:C8	2.56	0.41
1:D:541:C:H3'	1:D:542:G:C8	2.56	0.41
1:E:298:U:N3	1:E:320:U:O2	2.53	0.41
1:E:539:A:H3'	1:E:540:G:H8	1.83	0.41
1:E:555:A:O4'	1:I:632:A:H2	2.03	0.41
1:G:444:C:H2'	1:G:445:G:C8	2.48	0.41
1:I:153:A:H61	1:I:168:U:H3	1.69	0.41
1:J:37:G:H2'	1:J:40:A:N6	2.32	0.41
1:A:436:U:H5'	1:A:437:C:H4'	2.03	0.41
1:A:632:A:H2	1:B:555:A:O4'	2.03	0.41
1:B:238:A:H3'	1:B:239:C:H6	1.86	0.41
1:E:490:U:H2'	1:E:491:C:C6	2.55	0.41
1:F:536:U:H3	1:F:543:G:H1	1.68	0.41
1:G:541:C:H3'	1:G:542:G:C8	2.56	0.41
1:H:37:G:H2'	1:H:40:A:N6	2.32	0.41
1:H:539:A:H3'	1:H:540:G:H8	1.83	0.41
1:I:298:U:N3	1:I:320:U:O2	2.53	0.41
1:J:38:C:H3'	1:J:39:G:C8	2.52	0.41
1:J:315:C:HO2'	1:J:316:G:P	2.41	0.41
1:K:238:A:H3'	1:K:239:C:H6	1.86	0.41
1:K:490:U:H2'	1:K:491:C:C6	2.55	0.41
1:A:555:A:O4'	1:B:632:A:H2	2.03	0.41
1:B:111:U:O2'	1:B:112:G:OP2	2.33	0.41
1:D:632:A:H2	1:J:555:A:O4'	2.04	0.41
1:E:37:G:H2'	1:E:40:A:N6	2.32	0.41
1:E:541:C:H3'	1:E:542:G:C8	2.56	0.41
1:F:37:G:H2'	1:F:40:A:N6	2.32	0.41
1:F:298:U:N3	1:F:320:U:O2	2.53	0.41
1:G:238:A:H3'	1:G:239:C:H6	1.86	0.41
1:G:525:C:H2'	1:G:526:A:C8	2.56	0.41
1:I:37:G:H2'	1:I:40:A:N6	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:536:U:H3	1:I:543:G:H1	1.68	0.41
1:J:525:C:H2'	1:J:526:A:C8	2.56	0.41
1:K:459:U:O2'	1:K:460:G:OP1	2.31	0.41
1:L:37:G:H2'	1:L:40:A:N6	2.32	0.41
1:L:238:A:H3'	1:L:239:C:H6	1.86	0.41
1:L:525:C:H2'	1:L:526:A:C8	2.56	0.41
1:A:541:C:H3'	1:A:542:G:C8	2.56	0.41
1:C:40:A:H2'	1:D:481:C:O2'	2.20	0.41
1:C:238:A:H3'	1:C:239:C:H6	1.86	0.41
1:C:436:U:H5'	1:C:437:C:H4'	2.03	0.41
1:F:525:C:H2'	1:F:526:A:C8	2.56	0.41
1:H:40:A:H2'	1:I:481:C:O2'	2.20	0.41
1:H:490:U:H2'	1:H:491:C:C6	2.55	0.41
1:I:525:C:H2'	1:I:526:A:C8	2.56	0.41
1:I:541:C:H3'	1:I:542:G:C8	2.56	0.41
1:K:658:U:H6	1:K:658:U:H2'	1.75	0.41
1:L:220:A:O2'	1:L:221:C:OP1	2.33	0.41
1:E:144:A:N6	1:E:195:A:O4'	2.54	0.41
1:E:220:A:O2'	1:E:221:C:OP1	2.33	0.41
1:E:315:C:HO2'	1:E:316:G:P	2.40	0.41
1:G:436:U:H2'	1:G:438:A:C8	2.55	0.41
1:H:541:C:H3'	1:H:542:G:C8	2.56	0.41
1:I:40:A:H2'	1:J:481:C:O2'	2.21	0.41
1:J:238:A:H3'	1:J:239:C:H6	1.86	0.41
1:K:111:U:O2'	1:K:112:G:OP2	2.33	0.41
1:A:238:A:H3'	1:A:239:C:H6	1.86	0.40
1:B:525:C:H2'	1:B:526:A:C8	2.56	0.40
1:D:144:A:N6	1:D:195:A:O4'	2.54	0.40
1:F:541:C:H3'	1:F:542:G:C8	2.56	0.40
1:G:144:A:N6	1:G:195:A:O4'	2.54	0.40
1:G:172:G:O2'	1:G:173:U:OP2	2.32	0.40
1:H:144:A:N6	1:H:195:A:O4'	2.54	0.40
1:J:220:A:O2'	1:J:221:C:OP1	2.33	0.40
1:J:298:U:N3	1:J:320:U:O2	2.52	0.40
1:K:436:U:H5'	1:K:437:C:H4'	2.03	0.40
1:A:144:A:N6	1:A:195:A:O4'	2.54	0.40
1:A:172:G:O2'	1:A:173:U:OP2	2.32	0.40
1:B:436:U:H5'	1:B:437:C:H4'	2.03	0.40
1:B:459:U:O2'	1:B:460:G:OP1	2.31	0.40
1:B:536:U:H3	1:B:543:G:H1	1.68	0.40
1:C:541:C:H3'	1:C:542:G:C8	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:436:U:H2'	1:D:438:A:C8	2.55	0.40
1:H:536:U:H3	1:H:543:G:H1	1.68	0.40
1:J:154:C:H3'	1:J:155:C:H6	1.86	0.40
1:K:525:C:H2'	1:K:526:A:C8	2.56	0.40
1:B:481:C:O2'	1:L:40:A:H2'	2.21	0.40
1:D:153:A:H61	1:D:168:U:H3	1.69	0.40
1:E:153:A:H61	1:E:168:U:H3	1.69	0.40
1:E:536:U:H3	1:E:543:G:H1	1.68	0.40
1:G:165:C:H2'	1:G:166:G:O4'	2.22	0.40
1:H:153:A:H61	1:H:168:U:H3	1.69	0.40
1:K:536:U:H3	1:K:543:G:H1	1.69	0.40
1:L:154:C:H3'	1:L:155:C:H6	1.86	0.40
1:A:154:C:H3'	1:A:155:C:H6	1.86	0.40
1:B:154:C:H3'	1:B:155:C:H6	1.86	0.40
1:G:153:A:H61	1:G:168:U:H3	1.69	0.40
1:G:555:A:O4'	1:L:632:A:H2	2.03	0.40
1:H:220:A:O2'	1:H:221:C:OP1	2.33	0.40
1:H:315:C:HO2'	1:H:316:G:P	2.41	0.40
1:K:144:A:N6	1:K:195:A:O4'	2.54	0.40
1:L:298:U:N3	1:L:320:U:O2	2.53	0.40
1:A:162:A:H61	1:G:157:G:H1'	1.84	0.40
1:B:144:A:N6	1:B:195:A:O4'	2.54	0.40
1:C:144:A:N6	1:C:195:A:O4'	2.54	0.40
1:D:154:C:H3'	1:D:155:C:H6	1.86	0.40
1:D:172:G:O2'	1:D:173:U:OP2	2.32	0.40
1:D:436:U:H5'	1:D:437:C:H4'	2.03	0.40
1:D:555:A:O4'	1:J:632:A:H2	2.03	0.40
1:F:162:A:H61	1:L:157:G:H1'	1.87	0.40
1:H:297:G:H3'	1:H:298:U:C6	2.57	0.40
1:J:536:U:H3	1:J:543:G:H1	1.68	0.40
1:J:541:C:H3'	1:J:542:G:C8	2.56	0.40
1:K:541:C:H3'	1:K:542:G:C8	2.56	0.40
1:L:536:U:H3	1:L:543:G:H1	1.68	0.40
1:L:541:C:H3'	1:L:542:G:C8	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	644/700 (92%)	291 (45%)	26 (4%)
1	B	644/700 (92%)	291 (45%)	26 (4%)
1	C	644/700 (92%)	291 (45%)	26 (4%)
1	D	644/700 (92%)	291 (45%)	26 (4%)
1	E	644/700 (92%)	291 (45%)	26 (4%)
1	F	644/700 (92%)	292 (45%)	26 (4%)
1	G	644/700 (92%)	291 (45%)	26 (4%)
1	H	644/700 (92%)	290 (45%)	26 (4%)
1	I	644/700 (92%)	291 (45%)	26 (4%)
1	J	644/700 (92%)	290 (45%)	26 (4%)
1	K	644/700 (92%)	291 (45%)	26 (4%)
1	L	644/700 (92%)	291 (45%)	26 (4%)
All	All	7728/8400 (92%)	3491 (45%)	312 (4%)

All (3491) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	17	C
1	A	23	A
1	A	24	C
1	A	25	A
1	A	26	G
1	A	27	A
1	A	33	C
1	A	34	A
1	A	37	G
1	A	38	C
1	A	39	G
1	A	40	A
1	A	41	U

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Mol	Chain	Res	Type
1	A	42	A
1	A	46	G
1	A	47	A
1	A	48	A
1	A	50	G
1	A	58	A
1	A	62	G
1	A	68	A
1	A	72	G
1	A	76	G
1	A	80	G
1	A	82	G
1	A	83	A
1	A	87	U
1	A	88	C
1	A	90	A
1	A	91	U
1	A	93	U
1	A	95	A
1	A	96	G
1	A	97	C
1	A	98	A
1	A	100	A
1	A	104	A
1	A	110	A
1	A	111	U
1	A	112	G
1	A	113	U
1	A	120	U
1	A	121	A
1	A	122	A
1	A	133	A
1	A	137	G
1	A	138	A
1	A	139	A
1	A	142	C
1	A	143	A
1	A	145	A
1	A	146	G
1	A	149	C
1	A	151	A
1	A	152	U

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Mol	Chain	Res	Type
1	A	155	C
1	A	157	G
1	A	158	A
1	A	159	G
1	A	162	A
1	A	163	A
1	A	164	U
1	A	165	C
1	A	166	G
1	A	169	G
1	A	170	A
1	A	171	G
1	A	172	G
1	A	173	U
1	A	174	G
1	A	175	C
1	A	176	U
1	A	178	U
1	A	181	C
1	A	182	A
1	A	184	C
1	A	185	A
1	A	186	G
1	A	187	U
1	A	188	A
1	A	189	C
1	A	190	G
1	A	192	G
1	A	194	G
1	A	195	A
1	A	197	G
1	A	198	A
1	A	205	A
1	A	210	G
1	A	211	U
1	A	212	A
1	A	214	A
1	A	216	A
1	A	217	C
1	A	220	A
1	A	221	C
1	A	222	G

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Mol	Chain	Res	Type
1	A	224	A
1	A	225	G
1	A	227	U
1	A	228	C
1	A	230	A
1	A	231	G
1	A	232	G
1	A	234	U
1	A	235	G
1	A	236	G
1	A	239	C
1	A	241	A
1	A	244	A
1	A	252	G
1	A	253	C
1	A	254	A
1	A	255	U
1	A	256	G
1	A	264	A
1	A	271	G
1	A	272	A
1	A	279	C
1	A	287	A
1	A	297	G
1	A	299	C
1	A	300	A
1	A	301	A
1	A	302	G
1	A	303	G
1	A	305	G
1	A	306	U
1	A	307	A
1	A	309	C
1	A	312	C
1	A	315	C
1	A	316	G
1	A	318	G
1	A	319	A
1	A	321	A
1	A	324	A
1	A	331	C
1	A	332	G

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Mol	Chain	Res	Type
1	A	333	U
1	A	334	U
1	A	335	G
1	A	337	G
1	A	338	C
1	A	339	A
1	A	345	U
1	A	347	G
1	A	348	C
1	A	352	A
1	A	353	A
1	A	354	A
1	A	361	G
1	A	365	C
1	A	367	C
1	A	368	A
1	A	369	A
1	A	376	G
1	A	377	C
1	A	427	A
1	A	428	A
1	A	429	G
1	A	430	C
1	A	431	A
1	A	432	A
1	A	433	A
1	A	434	A
1	A	435	G
1	A	436	U
1	A	437	C
1	A	438	A
1	A	439	U
1	A	440	U
1	A	442	C
1	A	445	G
1	A	446	U
1	A	447	C
1	A	448	G
1	A	452	A
1	A	453	C
1	A	454	G
1	A	455	A

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Mol	Chain	Res	Type
1	A	456	A
1	A	457	A
1	A	458	G
1	A	460	G
1	A	462	G
1	A	464	U
1	A	465	U
1	A	466	C
1	A	467	G
1	A	474	A
1	A	475	G
1	A	476	G
1	A	479	A
1	A	482	U
1	A	490	U
1	A	492	U
1	A	494	G
1	A	495	C
1	A	501	U
1	A	506	G
1	A	508	A
1	A	509	A
1	A	510	A
1	A	511	G
1	A	512	U
1	A	513	C
1	A	514	A
1	A	515	A
1	A	516	A
1	A	518	A
1	A	519	G
1	A	520	U
1	A	521	A
1	A	522	A
1	A	523	A
1	A	525	C
1	A	528	C
1	A	532	G
1	A	534	C
1	A	535	C
1	A	536	U
1	A	540	G

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Mol	Chain	Res	Type
1	A	545	G
1	A	549	U
1	A	551	G
1	A	553	U
1	A	554	A
1	A	559	A
1	A	560	A
1	A	561	A
1	A	562	A
1	A	564	U
1	A	569	U
1	A	570	A
1	A	571	G
1	A	573	A
1	A	574	G
1	A	578	G
1	A	583	G
1	A	585	A
1	A	587	C
1	A	589	A
1	A	592	G
1	A	593	G
1	A	594	U
1	A	596	A
1	A	598	C
1	A	600	A
1	A	601	U
1	A	605	A
1	A	606	A
1	A	608	C
1	A	609	G
1	A	610	C
1	A	611	G
1	A	615	G
1	A	620	U
1	A	626	G
1	A	628	A
1	A	630	G
1	A	631	G
1	A	633	U
1	A	634	U
1	A	640	G

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Mol	Chain	Res	Type
1	A	641	G
1	A	642	A
1	A	645	A
1	A	650	C
1	A	651	U
1	A	653	A
1	A	654	A
1	A	656	C
1	A	658	U
1	A	659	A
1	A	660	A
1	A	669	A
1	A	670	A
1	A	671	G
1	A	672	A
1	A	678	G
1	A	679	A
1	A	680	C
1	A	682	A
1	A	683	A
1	A	684	A
1	A	685	C
1	A	686	G
1	A	687	U
1	A	691	A
1	A	697	G
1	B	17	C
1	B	23	A
1	B	24	C
1	B	25	A
1	B	26	G
1	B	27	A
1	B	33	C
1	B	34	A
1	B	37	G
1	B	38	C
1	B	39	G
1	B	40	A
1	B	41	U
1	B	42	A
1	B	46	G
1	B	47	A

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Mol	Chain	Res	Type
1	B	48	A
1	B	50	G
1	B	58	A
1	B	62	G
1	B	68	A
1	B	72	G
1	B	76	G
1	B	80	G
1	B	82	G
1	B	83	A
1	B	87	U
1	B	88	C
1	B	90	A
1	B	91	U
1	B	93	U
1	B	95	A
1	B	96	G
1	B	97	C
1	B	98	A
1	B	100	A
1	B	104	A
1	B	110	A
1	B	111	U
1	B	112	G
1	B	113	U
1	B	120	U
1	B	121	A
1	B	122	A
1	B	133	A
1	B	137	G
1	B	138	A
1	B	139	A
1	B	142	C
1	B	143	A
1	B	145	A
1	B	146	G
1	B	149	C
1	B	151	A
1	B	152	U
1	B	155	C
1	B	157	G
1	B	158	A

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Mol	Chain	Res	Type
1	B	159	G
1	B	162	A
1	B	163	A
1	B	164	U
1	B	165	C
1	B	166	G
1	B	169	G
1	B	170	A
1	B	171	G
1	B	172	G
1	B	173	U
1	B	174	G
1	B	175	C
1	B	176	U
1	B	178	U
1	B	181	C
1	B	182	A
1	B	184	C
1	B	185	A
1	B	186	G
1	B	187	U
1	B	188	A
1	B	189	C
1	B	190	G
1	B	192	G
1	B	194	G
1	B	195	A
1	B	197	G
1	B	198	A
1	B	205	A
1	B	210	G
1	B	211	U
1	B	212	A
1	B	214	A
1	B	216	A
1	B	217	C
1	B	220	A
1	B	221	C
1	B	222	G
1	B	224	A
1	B	225	G
1	B	227	U

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Mol	Chain	Res	Type
1	B	228	C
1	B	230	A
1	B	231	G
1	B	232	G
1	B	234	U
1	B	235	G
1	B	236	G
1	B	239	C
1	B	241	A
1	B	244	A
1	B	252	G
1	B	253	C
1	B	254	A
1	B	255	U
1	B	256	G
1	B	264	A
1	B	271	G
1	B	272	A
1	B	279	C
1	B	287	A
1	B	297	G
1	B	299	C
1	B	300	A
1	B	301	A
1	B	302	G
1	B	303	G
1	B	305	G
1	B	306	U
1	B	307	A
1	B	309	C
1	B	312	C
1	B	315	C
1	B	316	G
1	B	318	G
1	B	319	A
1	B	321	A
1	B	324	A
1	B	331	C
1	B	332	G
1	B	333	U
1	B	334	U
1	B	335	G

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Mol	Chain	Res	Type
1	B	337	G
1	B	338	C
1	B	339	A
1	B	345	U
1	B	347	G
1	B	348	C
1	B	352	A
1	B	353	A
1	B	354	A
1	B	361	G
1	B	365	C
1	B	367	C
1	B	368	A
1	B	369	A
1	B	376	G
1	B	377	C
1	B	427	A
1	B	428	A
1	B	429	G
1	B	430	C
1	B	431	A
1	B	432	A
1	B	433	A
1	B	434	A
1	B	435	G
1	B	436	U
1	B	437	C
1	B	438	A
1	B	439	U
1	B	440	U
1	B	442	C
1	B	445	G
1	B	446	U
1	B	447	C
1	B	448	G
1	B	452	A
1	B	453	C
1	B	454	G
1	B	455	A
1	B	456	A
1	B	457	A
1	B	458	G

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Mol	Chain	Res	Type
1	B	460	G
1	B	462	G
1	B	464	U
1	B	465	U
1	B	466	C
1	B	467	G
1	B	474	A
1	B	475	G
1	B	476	G
1	B	479	A
1	B	482	U
1	B	490	U
1	B	492	U
1	B	494	G
1	B	495	C
1	B	501	U
1	B	506	G
1	B	508	A
1	B	509	A
1	B	510	A
1	B	511	G
1	B	512	U
1	B	513	C
1	B	514	A
1	B	515	A
1	B	516	A
1	B	518	A
1	B	519	G
1	B	520	U
1	B	521	A
1	B	522	A
1	B	523	A
1	B	525	C
1	B	528	C
1	B	532	G
1	B	534	C
1	B	535	C
1	B	536	U
1	B	540	G
1	B	545	G
1	B	549	U
1	B	551	G

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Mol	Chain	Res	Type
1	B	553	U
1	B	554	A
1	B	559	A
1	B	560	A
1	B	561	A
1	B	562	A
1	B	564	U
1	B	569	U
1	B	570	A
1	B	571	G
1	B	573	A
1	B	574	G
1	B	578	G
1	B	583	G
1	B	585	A
1	B	587	C
1	B	589	A
1	B	592	G
1	B	593	G
1	B	594	U
1	B	596	A
1	B	598	C
1	B	600	A
1	B	601	U
1	B	605	A
1	B	606	A
1	B	608	C
1	B	609	G
1	B	610	C
1	B	611	G
1	B	615	G
1	B	620	U
1	B	626	G
1	B	628	A
1	B	630	G
1	B	631	G
1	B	633	U
1	B	634	U
1	B	640	G
1	B	641	G
1	B	642	A
1	B	645	A

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Mol	Chain	Res	Type
1	B	650	C
1	B	651	U
1	B	653	A
1	B	654	A
1	B	656	C
1	B	658	U
1	B	659	A
1	B	660	A
1	B	669	A
1	B	670	A
1	B	671	G
1	B	672	A
1	B	678	G
1	B	679	A
1	B	680	C
1	B	682	A
1	B	683	A
1	B	684	A
1	B	685	C
1	B	686	G
1	B	687	U
1	B	691	A
1	B	697	G
1	C	17	C
1	C	23	A
1	C	24	C
1	C	25	A
1	C	26	G
1	C	27	A
1	C	33	C
1	C	34	A
1	C	37	G
1	C	38	C
1	C	39	G
1	C	40	A
1	C	41	U
1	C	42	A
1	C	46	G
1	C	47	A
1	C	48	A
1	C	50	G
1	C	58	A

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Mol	Chain	Res	Type
1	C	62	G
1	C	68	A
1	C	72	G
1	C	76	G
1	C	80	G
1	C	82	G
1	C	83	A
1	C	87	U
1	C	88	C
1	C	90	A
1	C	91	U
1	C	93	U
1	C	95	A
1	C	96	G
1	C	97	C
1	C	98	A
1	C	100	A
1	C	104	A
1	C	110	A
1	C	111	U
1	C	112	G
1	C	113	U
1	C	120	U
1	C	121	A
1	C	122	A
1	C	133	A
1	C	137	G
1	C	138	A
1	C	139	A
1	C	142	C
1	C	143	A
1	C	145	A
1	C	146	G
1	C	149	C
1	C	151	A
1	C	152	U
1	C	155	C
1	C	157	G
1	C	158	A
1	C	159	G
1	C	162	A
1	C	163	A

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Mol	Chain	Res	Type
1	C	164	U
1	C	165	C
1	C	166	G
1	C	169	G
1	C	170	A
1	C	171	G
1	C	172	G
1	C	173	U
1	C	174	G
1	C	175	C
1	C	176	U
1	C	178	U
1	C	181	C
1	C	182	A
1	C	184	C
1	C	185	A
1	C	186	G
1	C	187	U
1	C	188	A
1	C	189	C
1	C	190	G
1	C	192	G
1	C	194	G
1	C	195	A
1	C	197	G
1	C	198	A
1	C	205	A
1	C	210	G
1	C	211	U
1	C	212	A
1	C	214	A
1	C	216	A
1	C	217	C
1	C	220	A
1	C	221	C
1	C	222	G
1	C	224	A
1	C	225	G
1	C	227	U
1	C	228	C
1	C	230	A
1	C	231	G

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Mol	Chain	Res	Type
1	C	232	G
1	C	234	U
1	C	235	G
1	C	236	G
1	C	239	C
1	C	241	A
1	C	244	A
1	C	252	G
1	C	253	C
1	C	254	A
1	C	255	U
1	C	256	G
1	C	264	A
1	C	271	G
1	C	272	A
1	C	279	C
1	C	287	A
1	C	297	G
1	C	299	C
1	C	300	A
1	C	301	A
1	C	302	G
1	C	303	G
1	C	305	G
1	C	306	U
1	C	307	A
1	C	309	C
1	C	312	C
1	C	315	C
1	C	316	G
1	C	318	G
1	C	319	A
1	C	321	A
1	C	324	A
1	C	331	C
1	C	332	G
1	C	333	U
1	C	334	U
1	C	335	G
1	C	337	G
1	C	338	C
1	C	339	A

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Mol	Chain	Res	Type
1	C	345	U
1	C	347	G
1	C	348	C
1	C	352	A
1	C	353	A
1	C	354	A
1	C	361	G
1	C	365	C
1	C	367	C
1	C	368	A
1	C	369	A
1	C	376	G
1	C	377	C
1	C	427	A
1	C	428	A
1	C	429	G
1	C	430	C
1	C	431	A
1	C	432	A
1	C	433	A
1	C	434	A
1	C	435	G
1	C	436	U
1	C	437	C
1	C	438	A
1	C	439	U
1	C	440	U
1	C	442	C
1	C	445	G
1	C	446	U
1	C	447	C
1	C	448	G
1	C	452	A
1	C	453	C
1	C	454	G
1	C	455	A
1	C	456	A
1	C	457	A
1	C	458	G
1	C	460	G
1	C	462	G
1	C	464	U

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Mol	Chain	Res	Type
1	C	465	U
1	C	466	C
1	C	467	G
1	C	474	A
1	C	475	G
1	C	476	G
1	C	479	A
1	C	482	U
1	C	490	U
1	C	492	U
1	C	494	G
1	C	495	C
1	C	501	U
1	C	506	G
1	C	508	A
1	C	509	A
1	C	510	A
1	C	511	G
1	C	512	U
1	C	513	C
1	C	514	A
1	C	515	A
1	C	516	A
1	C	518	A
1	C	519	G
1	C	520	U
1	C	521	A
1	C	522	A
1	C	523	A
1	C	525	C
1	C	528	C
1	C	532	G
1	C	534	C
1	C	535	C
1	C	536	U
1	C	540	G
1	C	545	G
1	C	549	U
1	C	551	G
1	C	553	U
1	C	554	A
1	C	559	A

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Mol	Chain	Res	Type
1	C	560	A
1	C	561	A
1	C	562	A
1	C	564	U
1	C	569	U
1	C	570	A
1	C	571	G
1	C	573	A
1	C	574	G
1	C	578	G
1	C	583	G
1	C	585	A
1	C	587	C
1	C	589	A
1	C	592	G
1	C	593	G
1	C	594	U
1	C	596	A
1	C	598	C
1	C	600	A
1	C	601	U
1	C	605	A
1	C	606	A
1	C	608	C
1	C	609	G
1	C	610	C
1	C	611	G
1	C	615	G
1	C	620	U
1	C	626	G
1	C	628	A
1	C	630	G
1	C	631	G
1	C	633	U
1	C	634	U
1	C	640	G
1	C	641	G
1	C	642	A
1	C	645	A
1	C	650	C
1	C	651	U
1	C	653	A

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Mol	Chain	Res	Type
1	C	654	A
1	C	656	C
1	C	658	U
1	C	659	A
1	C	660	A
1	C	669	A
1	C	670	A
1	C	671	G
1	C	672	A
1	C	678	G
1	C	679	A
1	C	680	C
1	C	682	A
1	C	683	A
1	C	684	A
1	C	685	C
1	C	686	G
1	C	687	U
1	C	691	A
1	C	697	G
1	D	17	C
1	D	23	A
1	D	24	C
1	D	25	A
1	D	26	G
1	D	27	A
1	D	33	C
1	D	34	A
1	D	37	G
1	D	38	C
1	D	39	G
1	D	40	A
1	D	41	U
1	D	42	A
1	D	46	G
1	D	47	A
1	D	48	A
1	D	50	G
1	D	58	A
1	D	62	G
1	D	68	A
1	D	72	G

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Mol	Chain	Res	Type
1	D	76	G
1	D	80	G
1	D	82	G
1	D	83	A
1	D	87	U
1	D	88	C
1	D	90	A
1	D	91	U
1	D	93	U
1	D	95	A
1	D	96	G
1	D	97	C
1	D	98	A
1	D	100	A
1	D	104	A
1	D	110	A
1	D	111	U
1	D	112	G
1	D	113	U
1	D	120	U
1	D	121	A
1	D	122	A
1	D	133	A
1	D	137	G
1	D	138	A
1	D	139	A
1	D	142	C
1	D	143	A
1	D	145	A
1	D	146	G
1	D	149	C
1	D	151	A
1	D	152	U
1	D	155	C
1	D	157	G
1	D	158	A
1	D	159	G
1	D	162	A
1	D	163	A
1	D	164	U
1	D	165	C
1	D	166	G

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Mol	Chain	Res	Type
1	D	169	G
1	D	170	A
1	D	171	G
1	D	172	G
1	D	173	U
1	D	174	G
1	D	175	C
1	D	176	U
1	D	178	U
1	D	181	C
1	D	182	A
1	D	184	C
1	D	185	A
1	D	186	G
1	D	187	U
1	D	188	A
1	D	189	C
1	D	190	G
1	D	192	G
1	D	194	G
1	D	195	A
1	D	197	G
1	D	198	A
1	D	205	A
1	D	210	G
1	D	211	U
1	D	212	A
1	D	214	A
1	D	216	A
1	D	217	C
1	D	220	A
1	D	221	C
1	D	222	G
1	D	224	A
1	D	225	G
1	D	227	U
1	D	228	C
1	D	230	A
1	D	231	G
1	D	232	G
1	D	234	U
1	D	235	G

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Mol	Chain	Res	Type
1	D	236	G
1	D	239	C
1	D	241	A
1	D	244	A
1	D	252	G
1	D	253	C
1	D	254	A
1	D	255	U
1	D	256	G
1	D	264	A
1	D	271	G
1	D	272	A
1	D	279	C
1	D	287	A
1	D	297	G
1	D	299	C
1	D	300	A
1	D	301	A
1	D	302	G
1	D	303	G
1	D	305	G
1	D	306	U
1	D	307	A
1	D	309	C
1	D	312	C
1	D	315	C
1	D	316	G
1	D	318	G
1	D	319	A
1	D	321	A
1	D	324	A
1	D	331	C
1	D	332	G
1	D	333	U
1	D	334	U
1	D	335	G
1	D	337	G
1	D	338	C
1	D	339	A
1	D	345	U
1	D	347	G
1	D	348	C

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Mol	Chain	Res	Type
1	D	352	A
1	D	353	A
1	D	354	A
1	D	361	G
1	D	365	C
1	D	367	C
1	D	368	A
1	D	369	A
1	D	376	G
1	D	377	C
1	D	427	A
1	D	428	A
1	D	429	G
1	D	430	C
1	D	431	A
1	D	432	A
1	D	433	A
1	D	434	A
1	D	435	G
1	D	436	U
1	D	437	C
1	D	438	A
1	D	439	U
1	D	440	U
1	D	442	C
1	D	445	G
1	D	446	U
1	D	447	C
1	D	448	G
1	D	452	A
1	D	453	C
1	D	454	G
1	D	455	A
1	D	456	A
1	D	457	A
1	D	458	G
1	D	460	G
1	D	462	G
1	D	464	U
1	D	465	U
1	D	466	C
1	D	467	G

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Mol	Chain	Res	Type
1	D	474	A
1	D	475	G
1	D	476	G
1	D	479	A
1	D	482	U
1	D	490	U
1	D	492	U
1	D	494	G
1	D	495	C
1	D	501	U
1	D	506	G
1	D	508	A
1	D	509	A
1	D	510	A
1	D	511	G
1	D	512	U
1	D	513	C
1	D	514	A
1	D	515	A
1	D	516	A
1	D	518	A
1	D	519	G
1	D	520	U
1	D	521	A
1	D	522	A
1	D	523	A
1	D	525	C
1	D	528	C
1	D	532	G
1	D	534	C
1	D	535	C
1	D	536	U
1	D	540	G
1	D	545	G
1	D	549	U
1	D	551	G
1	D	553	U
1	D	554	A
1	D	559	A
1	D	560	A
1	D	561	A
1	D	562	A

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Mol	Chain	Res	Type
1	D	564	U
1	D	569	U
1	D	570	A
1	D	571	G
1	D	573	A
1	D	574	G
1	D	578	G
1	D	583	G
1	D	585	A
1	D	587	C
1	D	589	A
1	D	592	G
1	D	593	G
1	D	594	U
1	D	596	A
1	D	598	C
1	D	600	A
1	D	601	U
1	D	605	A
1	D	606	A
1	D	608	C
1	D	609	G
1	D	610	C
1	D	611	G
1	D	615	G
1	D	620	U
1	D	626	G
1	D	628	A
1	D	630	G
1	D	631	G
1	D	633	U
1	D	634	U
1	D	640	G
1	D	641	G
1	D	642	A
1	D	645	A
1	D	650	C
1	D	651	U
1	D	653	A
1	D	654	A
1	D	656	C
1	D	658	U

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Mol	Chain	Res	Type
1	D	659	A
1	D	660	A
1	D	669	A
1	D	670	A
1	D	671	G
1	D	672	A
1	D	678	G
1	D	679	A
1	D	680	C
1	D	682	A
1	D	683	A
1	D	684	A
1	D	685	C
1	D	686	G
1	D	687	U
1	D	691	A
1	D	697	G
1	E	17	C
1	E	23	A
1	E	24	C
1	E	25	A
1	E	26	G
1	E	27	A
1	E	33	C
1	E	34	A
1	E	37	G
1	E	38	C
1	E	39	G
1	E	40	A
1	E	41	U
1	E	42	A
1	E	46	G
1	E	47	A
1	E	48	A
1	E	50	G
1	E	58	A
1	E	62	G
1	E	68	A
1	E	72	G
1	E	76	G
1	E	80	G
1	E	82	G

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Mol	Chain	Res	Type
1	E	83	A
1	E	87	U
1	E	88	C
1	E	90	A
1	E	91	U
1	E	93	U
1	E	95	A
1	E	96	G
1	E	97	C
1	E	98	A
1	E	100	A
1	E	104	A
1	E	110	A
1	E	111	U
1	E	112	G
1	E	113	U
1	E	120	U
1	E	121	A
1	E	122	A
1	E	133	A
1	E	137	G
1	E	138	A
1	E	139	A
1	E	142	C
1	E	143	A
1	E	145	A
1	E	146	G
1	E	149	C
1	E	151	A
1	E	152	U
1	E	155	C
1	E	157	G
1	E	158	A
1	E	159	G
1	E	162	A
1	E	163	A
1	E	164	U
1	E	165	C
1	E	166	G
1	E	169	G
1	E	170	A
1	E	171	G

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Mol	Chain	Res	Type
1	E	172	G
1	E	173	U
1	E	174	G
1	E	175	C
1	E	176	U
1	E	178	U
1	E	181	C
1	E	182	A
1	E	184	C
1	E	185	A
1	E	186	G
1	E	187	U
1	E	188	A
1	E	189	C
1	E	190	G
1	E	192	G
1	E	194	G
1	E	195	A
1	E	197	G
1	E	198	A
1	E	205	A
1	E	210	G
1	E	211	U
1	E	212	A
1	E	214	A
1	E	216	A
1	E	217	C
1	E	220	A
1	E	221	C
1	E	222	G
1	E	224	A
1	E	225	G
1	E	227	U
1	E	228	C
1	E	230	A
1	E	231	G
1	E	232	G
1	E	234	U
1	E	235	G
1	E	236	G
1	E	239	C
1	E	241	A

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Mol	Chain	Res	Type
1	E	244	A
1	E	252	G
1	E	253	C
1	E	254	A
1	E	255	U
1	E	256	G
1	E	264	A
1	E	271	G
1	E	272	A
1	E	279	C
1	E	287	A
1	E	297	G
1	E	299	C
1	E	300	A
1	E	301	A
1	E	302	G
1	E	303	G
1	E	305	G
1	E	306	U
1	E	307	A
1	E	309	C
1	E	312	C
1	E	315	C
1	E	316	G
1	E	318	G
1	E	319	A
1	E	321	A
1	E	324	A
1	E	331	C
1	E	332	G
1	E	333	U
1	E	334	U
1	E	335	G
1	E	337	G
1	E	338	C
1	E	339	A
1	E	345	U
1	E	347	G
1	E	348	C
1	E	352	A
1	E	353	A
1	E	354	A

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Mol	Chain	Res	Type
1	E	361	G
1	E	365	C
1	E	367	C
1	E	368	A
1	E	369	A
1	E	376	G
1	E	377	C
1	E	427	A
1	E	428	A
1	E	429	G
1	E	430	C
1	E	431	A
1	E	432	A
1	E	433	A
1	E	434	A
1	E	435	G
1	E	436	U
1	E	437	C
1	E	438	A
1	E	439	U
1	E	440	U
1	E	442	C
1	E	445	G
1	E	446	U
1	E	447	C
1	E	448	G
1	E	452	A
1	E	453	C
1	E	454	G
1	E	455	A
1	E	456	A
1	E	457	A
1	E	458	G
1	E	460	G
1	E	462	G
1	E	464	U
1	E	465	U
1	E	466	C
1	E	467	G
1	E	474	A
1	E	475	G
1	E	476	G

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Mol	Chain	Res	Type
1	E	479	A
1	E	482	U
1	E	490	U
1	E	492	U
1	E	494	G
1	E	495	C
1	E	501	U
1	E	506	G
1	E	508	A
1	E	509	A
1	E	510	A
1	E	511	G
1	E	512	U
1	E	513	C
1	E	514	A
1	E	515	A
1	E	516	A
1	E	518	A
1	E	519	G
1	E	520	U
1	E	521	A
1	E	522	A
1	E	523	A
1	E	525	C
1	E	528	C
1	E	532	G
1	E	534	C
1	E	535	C
1	E	536	U
1	E	540	G
1	E	545	G
1	E	549	U
1	E	551	G
1	E	553	U
1	E	554	A
1	E	559	A
1	E	560	A
1	E	561	A
1	E	562	A
1	E	564	U
1	E	569	U
1	E	570	A

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Mol	Chain	Res	Type
1	E	571	G
1	E	573	A
1	E	574	G
1	E	578	G
1	E	583	G
1	E	585	A
1	E	587	C
1	E	589	A
1	E	592	G
1	E	593	G
1	E	594	U
1	E	596	A
1	E	598	C
1	E	600	A
1	E	601	U
1	E	605	A
1	E	606	A
1	E	608	C
1	E	609	G
1	E	610	C
1	E	611	G
1	E	615	G
1	E	620	U
1	E	626	G
1	E	628	A
1	E	630	G
1	E	631	G
1	E	633	U
1	E	634	U
1	E	640	G
1	E	641	G
1	E	642	A
1	E	645	A
1	E	650	C
1	E	651	U
1	E	653	A
1	E	654	A
1	E	656	C
1	E	658	U
1	E	659	A
1	E	660	A
1	E	669	A

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Mol	Chain	Res	Type
1	E	670	A
1	E	671	G
1	E	672	A
1	E	678	G
1	E	679	A
1	E	680	C
1	E	682	A
1	E	683	A
1	E	684	A
1	E	685	C
1	E	686	G
1	E	687	U
1	E	691	A
1	E	697	G
1	F	17	C
1	F	23	A
1	F	24	C
1	F	25	A
1	F	26	G
1	F	27	A
1	F	33	C
1	F	34	A
1	F	37	G
1	F	38	C
1	F	39	G
1	F	40	A
1	F	41	U
1	F	42	A
1	F	46	G
1	F	47	A
1	F	48	A
1	F	50	G
1	F	58	A
1	F	62	G
1	F	68	A
1	F	72	G
1	F	76	G
1	F	80	G
1	F	82	G
1	F	83	A
1	F	87	U
1	F	88	C

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Mol	Chain	Res	Type
1	F	90	A
1	F	91	U
1	F	93	U
1	F	95	A
1	F	96	G
1	F	97	C
1	F	98	A
1	F	100	A
1	F	104	A
1	F	110	A
1	F	111	U
1	F	112	G
1	F	113	U
1	F	120	U
1	F	121	A
1	F	122	A
1	F	133	A
1	F	137	G
1	F	138	A
1	F	139	A
1	F	142	C
1	F	143	A
1	F	145	A
1	F	146	G
1	F	149	C
1	F	151	A
1	F	152	U
1	F	155	C
1	F	157	G
1	F	158	A
1	F	159	G
1	F	162	A
1	F	163	A
1	F	164	U
1	F	165	C
1	F	166	G
1	F	169	G
1	F	170	A
1	F	171	G
1	F	172	G
1	F	173	U
1	F	174	G

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Mol	Chain	Res	Type
1	F	175	C
1	F	176	U
1	F	178	U
1	F	181	C
1	F	182	A
1	F	184	C
1	F	185	A
1	F	186	G
1	F	187	U
1	F	188	A
1	F	189	C
1	F	190	G
1	F	192	G
1	F	194	G
1	F	195	A
1	F	197	G
1	F	198	A
1	F	205	A
1	F	210	G
1	F	211	U
1	F	212	A
1	F	214	A
1	F	216	A
1	F	217	C
1	F	220	A
1	F	221	C
1	F	222	G
1	F	224	A
1	F	225	G
1	F	227	U
1	F	228	C
1	F	230	A
1	F	231	G
1	F	232	G
1	F	234	U
1	F	235	G
1	F	236	G
1	F	239	C
1	F	241	A
1	F	244	A
1	F	252	G
1	F	253	C

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Mol	Chain	Res	Type
1	F	254	A
1	F	255	U
1	F	256	G
1	F	264	A
1	F	271	G
1	F	272	A
1	F	279	C
1	F	287	A
1	F	297	G
1	F	299	C
1	F	300	A
1	F	301	A
1	F	302	G
1	F	303	G
1	F	305	G
1	F	306	U
1	F	307	A
1	F	309	C
1	F	312	C
1	F	315	C
1	F	316	G
1	F	318	G
1	F	319	A
1	F	321	A
1	F	324	A
1	F	331	C
1	F	332	G
1	F	333	U
1	F	334	U
1	F	335	G
1	F	337	G
1	F	338	C
1	F	339	A
1	F	344	G
1	F	345	U
1	F	347	G
1	F	348	C
1	F	352	A
1	F	353	A
1	F	354	A
1	F	361	G
1	F	365	C

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Mol	Chain	Res	Type
1	F	367	C
1	F	368	A
1	F	369	A
1	F	376	G
1	F	377	C
1	F	427	A
1	F	428	A
1	F	429	G
1	F	430	C
1	F	431	A
1	F	432	A
1	F	433	A
1	F	434	A
1	F	435	G
1	F	436	U
1	F	437	C
1	F	438	A
1	F	439	U
1	F	440	U
1	F	442	C
1	F	445	G
1	F	446	U
1	F	447	C
1	F	448	G
1	F	452	A
1	F	453	C
1	F	454	G
1	F	455	A
1	F	456	A
1	F	457	A
1	F	458	G
1	F	460	G
1	F	462	G
1	F	464	U
1	F	465	U
1	F	466	C
1	F	467	G
1	F	474	A
1	F	475	G
1	F	476	G
1	F	479	A
1	F	482	U

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Mol	Chain	Res	Type
1	F	490	U
1	F	492	U
1	F	494	G
1	F	495	C
1	F	501	U
1	F	506	G
1	F	508	A
1	F	509	A
1	F	510	A
1	F	511	G
1	F	512	U
1	F	513	C
1	F	514	A
1	F	515	A
1	F	516	A
1	F	518	A
1	F	519	G
1	F	520	U
1	F	521	A
1	F	522	A
1	F	523	A
1	F	525	C
1	F	528	C
1	F	532	G
1	F	534	C
1	F	535	C
1	F	536	U
1	F	540	G
1	F	545	G
1	F	549	U
1	F	551	G
1	F	553	U
1	F	554	A
1	F	559	A
1	F	560	A
1	F	561	A
1	F	562	A
1	F	564	U
1	F	569	U
1	F	570	A
1	F	571	G
1	F	573	A

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Mol	Chain	Res	Type
1	F	574	G
1	F	578	G
1	F	583	G
1	F	585	A
1	F	587	C
1	F	589	A
1	F	592	G
1	F	593	G
1	F	594	U
1	F	596	A
1	F	598	C
1	F	600	A
1	F	601	U
1	F	605	A
1	F	606	A
1	F	608	C
1	F	609	G
1	F	610	C
1	F	611	G
1	F	615	G
1	F	620	U
1	F	626	G
1	F	628	A
1	F	630	G
1	F	631	G
1	F	633	U
1	F	634	U
1	F	640	G
1	F	641	G
1	F	642	A
1	F	645	A
1	F	650	C
1	F	651	U
1	F	653	A
1	F	654	A
1	F	656	C
1	F	658	U
1	F	659	A
1	F	660	A
1	F	669	A
1	F	670	A
1	F	671	G

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Mol	Chain	Res	Type
1	F	672	A
1	F	678	G
1	F	679	A
1	F	680	C
1	F	682	A
1	F	683	A
1	F	684	A
1	F	685	C
1	F	686	G
1	F	687	U
1	F	691	A
1	F	697	G
1	G	17	C
1	G	23	A
1	G	24	C
1	G	25	A
1	G	26	G
1	G	27	A
1	G	33	C
1	G	34	A
1	G	37	G
1	G	38	C
1	G	39	G
1	G	40	A
1	G	41	U
1	G	42	A
1	G	46	G
1	G	47	A
1	G	48	A
1	G	50	G
1	G	58	A
1	G	62	G
1	G	68	A
1	G	72	G
1	G	76	G
1	G	80	G
1	G	82	G
1	G	83	A
1	G	87	U
1	G	88	C
1	G	90	A
1	G	91	U

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Mol	Chain	Res	Type
1	G	93	U
1	G	95	A
1	G	96	G
1	G	97	C
1	G	98	A
1	G	100	A
1	G	104	A
1	G	110	A
1	G	111	U
1	G	112	G
1	G	113	U
1	G	120	U
1	G	121	A
1	G	122	A
1	G	133	A
1	G	137	G
1	G	138	A
1	G	139	A
1	G	142	C
1	G	143	A
1	G	145	A
1	G	146	G
1	G	149	C
1	G	151	A
1	G	152	U
1	G	155	C
1	G	157	G
1	G	158	A
1	G	159	G
1	G	162	A
1	G	163	A
1	G	164	U
1	G	165	C
1	G	166	G
1	G	169	G
1	G	170	A
1	G	171	G
1	G	172	G
1	G	173	U
1	G	174	G
1	G	175	C
1	G	176	U

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Mol	Chain	Res	Type
1	G	178	U
1	G	181	C
1	G	182	A
1	G	184	C
1	G	185	A
1	G	186	G
1	G	187	U
1	G	188	A
1	G	189	C
1	G	190	G
1	G	192	G
1	G	194	G
1	G	195	A
1	G	197	G
1	G	198	A
1	G	205	A
1	G	210	G
1	G	211	U
1	G	212	A
1	G	214	A
1	G	216	A
1	G	217	C
1	G	220	A
1	G	221	C
1	G	222	G
1	G	224	A
1	G	225	G
1	G	227	U
1	G	228	C
1	G	230	A
1	G	231	G
1	G	232	G
1	G	234	U
1	G	235	G
1	G	236	G
1	G	239	C
1	G	241	A
1	G	244	A
1	G	252	G
1	G	253	C
1	G	254	A
1	G	255	U

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Mol	Chain	Res	Type
1	G	256	G
1	G	264	A
1	G	271	G
1	G	272	A
1	G	279	C
1	G	287	A
1	G	297	G
1	G	299	C
1	G	300	A
1	G	301	A
1	G	302	G
1	G	303	G
1	G	305	G
1	G	306	U
1	G	307	A
1	G	309	C
1	G	312	C
1	G	315	C
1	G	316	G
1	G	318	G
1	G	319	A
1	G	321	A
1	G	324	A
1	G	331	C
1	G	332	G
1	G	333	U
1	G	334	U
1	G	335	G
1	G	337	G
1	G	338	C
1	G	339	A
1	G	345	U
1	G	347	G
1	G	348	C
1	G	352	A
1	G	353	A
1	G	354	A
1	G	361	G
1	G	365	C
1	G	367	C
1	G	368	A
1	G	369	A

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Mol	Chain	Res	Type
1	G	376	G
1	G	377	C
1	G	427	A
1	G	428	A
1	G	429	G
1	G	430	C
1	G	431	A
1	G	432	A
1	G	433	A
1	G	434	A
1	G	435	G
1	G	436	U
1	G	437	C
1	G	438	A
1	G	439	U
1	G	440	U
1	G	442	C
1	G	445	G
1	G	446	U
1	G	447	C
1	G	448	G
1	G	452	A
1	G	453	C
1	G	454	G
1	G	455	A
1	G	456	A
1	G	457	A
1	G	458	G
1	G	460	G
1	G	462	G
1	G	464	U
1	G	465	U
1	G	466	C
1	G	467	G
1	G	474	A
1	G	475	G
1	G	476	G
1	G	479	A
1	G	482	U
1	G	490	U
1	G	492	U
1	G	494	G

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Mol	Chain	Res	Type
1	G	495	C
1	G	501	U
1	G	506	G
1	G	508	A
1	G	509	A
1	G	510	A
1	G	511	G
1	G	512	U
1	G	513	C
1	G	514	A
1	G	515	A
1	G	516	A
1	G	518	A
1	G	519	G
1	G	520	U
1	G	521	A
1	G	522	A
1	G	523	A
1	G	525	C
1	G	528	C
1	G	532	G
1	G	534	C
1	G	535	C
1	G	536	U
1	G	540	G
1	G	545	G
1	G	549	U
1	G	551	G
1	G	553	U
1	G	554	A
1	G	559	A
1	G	560	A
1	G	561	A
1	G	562	A
1	G	564	U
1	G	569	U
1	G	570	A
1	G	571	G
1	G	573	A
1	G	574	G
1	G	578	G
1	G	583	G

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Mol	Chain	Res	Type
1	G	585	A
1	G	587	C
1	G	589	A
1	G	592	G
1	G	593	G
1	G	594	U
1	G	596	A
1	G	598	C
1	G	600	A
1	G	601	U
1	G	605	A
1	G	606	A
1	G	608	C
1	G	609	G
1	G	610	C
1	G	611	G
1	G	615	G
1	G	620	U
1	G	626	G
1	G	628	A
1	G	630	G
1	G	631	G
1	G	633	U
1	G	634	U
1	G	640	G
1	G	641	G
1	G	642	A
1	G	645	A
1	G	650	C
1	G	651	U
1	G	653	A
1	G	654	A
1	G	656	C
1	G	658	U
1	G	659	A
1	G	660	A
1	G	669	A
1	G	670	A
1	G	671	G
1	G	672	A
1	G	678	G
1	G	679	A

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Mol	Chain	Res	Type
1	G	680	C
1	G	682	A
1	G	683	A
1	G	684	A
1	G	685	C
1	G	686	G
1	G	687	U
1	G	691	A
1	G	697	G
1	H	17	C
1	H	23	A
1	H	24	C
1	H	25	A
1	H	26	G
1	H	27	A
1	H	33	C
1	H	34	A
1	H	37	G
1	H	38	C
1	H	39	G
1	H	40	A
1	H	41	U
1	H	42	A
1	H	46	G
1	H	47	A
1	H	48	A
1	H	50	G
1	H	58	A
1	H	62	G
1	H	68	A
1	H	72	G
1	H	76	G
1	H	80	G
1	H	82	G
1	H	83	A
1	H	87	U
1	H	88	C
1	H	90	A
1	H	91	U
1	H	93	U
1	H	95	A
1	H	96	G

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Mol	Chain	Res	Type
1	H	97	C
1	H	98	A
1	H	100	A
1	H	104	A
1	H	110	A
1	H	111	U
1	H	112	G
1	H	113	U
1	H	120	U
1	H	121	A
1	H	122	A
1	H	133	A
1	H	137	G
1	H	138	A
1	H	139	A
1	H	142	C
1	H	143	A
1	H	145	A
1	H	146	G
1	H	149	C
1	H	151	A
1	H	152	U
1	H	155	C
1	H	157	G
1	H	158	A
1	H	159	G
1	H	162	A
1	H	163	A
1	H	164	U
1	H	165	C
1	H	166	G
1	H	169	G
1	H	170	A
1	H	171	G
1	H	172	G
1	H	173	U
1	H	174	G
1	H	175	C
1	H	176	U
1	H	178	U
1	H	181	C
1	H	182	A

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Mol	Chain	Res	Type
1	H	184	C
1	H	185	A
1	H	186	G
1	H	187	U
1	H	188	A
1	H	189	C
1	H	190	G
1	H	192	G
1	H	194	G
1	H	195	A
1	H	197	G
1	H	198	A
1	H	205	A
1	H	210	G
1	H	211	U
1	H	212	A
1	H	214	A
1	H	216	A
1	H	217	C
1	H	220	A
1	H	221	C
1	H	222	G
1	H	224	A
1	H	225	G
1	H	227	U
1	H	228	C
1	H	230	A
1	H	231	G
1	H	232	G
1	H	234	U
1	H	235	G
1	H	236	G
1	H	239	C
1	H	241	A
1	H	244	A
1	H	252	G
1	H	253	C
1	H	254	A
1	H	255	U
1	H	256	G
1	H	264	A
1	H	271	G

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Mol	Chain	Res	Type
1	H	272	A
1	H	279	C
1	H	287	A
1	H	297	G
1	H	299	C
1	H	300	A
1	H	301	A
1	H	302	G
1	H	303	G
1	H	305	G
1	H	306	U
1	H	307	A
1	H	309	C
1	H	312	C
1	H	315	C
1	H	316	G
1	H	318	G
1	H	319	A
1	H	321	A
1	H	324	A
1	H	331	C
1	H	332	G
1	H	333	U
1	H	334	U
1	H	335	G
1	H	337	G
1	H	338	C
1	H	339	A
1	H	345	U
1	H	347	G
1	H	348	C
1	H	352	A
1	H	353	A
1	H	354	A
1	H	361	G
1	H	365	C
1	H	367	C
1	H	368	A
1	H	369	A
1	H	376	G
1	H	377	C
1	H	427	A

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Mol	Chain	Res	Type
1	H	428	A
1	H	429	G
1	H	430	C
1	H	431	A
1	H	432	A
1	H	433	A
1	H	434	A
1	H	435	G
1	H	436	U
1	H	437	C
1	H	438	A
1	H	439	U
1	H	440	U
1	H	442	C
1	H	445	G
1	H	446	U
1	H	447	C
1	H	448	G
1	H	452	A
1	H	453	C
1	H	454	G
1	H	455	A
1	H	456	A
1	H	457	A
1	H	458	G
1	H	460	G
1	H	462	G
1	H	464	U
1	H	465	U
1	H	466	C
1	H	467	G
1	H	474	A
1	H	475	G
1	H	476	G
1	H	479	A
1	H	482	U
1	H	490	U
1	H	492	U
1	H	494	G
1	H	495	C
1	H	501	U
1	H	506	G

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Mol	Chain	Res	Type
1	H	508	A
1	H	509	A
1	H	510	A
1	H	511	G
1	H	512	U
1	H	513	C
1	H	514	A
1	H	515	A
1	H	516	A
1	H	518	A
1	H	519	G
1	H	520	U
1	H	521	A
1	H	522	A
1	H	523	A
1	H	525	C
1	H	528	C
1	H	532	G
1	H	534	C
1	H	535	C
1	H	536	U
1	H	540	G
1	H	545	G
1	H	549	U
1	H	551	G
1	H	553	U
1	H	554	A
1	H	559	A
1	H	560	A
1	H	561	A
1	H	562	A
1	H	564	U
1	H	569	U
1	H	570	A
1	H	571	G
1	H	573	A
1	H	574	G
1	H	578	G
1	H	583	G
1	H	585	A
1	H	587	C
1	H	589	A

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Mol	Chain	Res	Type
1	H	592	G
1	H	593	G
1	H	594	U
1	H	596	A
1	H	598	C
1	H	600	A
1	H	601	U
1	H	605	A
1	H	608	C
1	H	609	G
1	H	610	C
1	H	611	G
1	H	615	G
1	H	620	U
1	H	626	G
1	H	628	A
1	H	630	G
1	H	631	G
1	H	633	U
1	H	634	U
1	H	640	G
1	H	641	G
1	H	642	A
1	H	645	A
1	H	650	C
1	H	651	U
1	H	653	A
1	H	654	A
1	H	656	C
1	H	658	U
1	H	659	A
1	H	660	A
1	H	669	A
1	H	670	A
1	H	671	G
1	H	672	A
1	H	678	G
1	H	679	A
1	H	680	C
1	H	682	A
1	H	683	A
1	H	684	A

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Mol	Chain	Res	Type
1	H	685	C
1	H	686	G
1	H	687	U
1	H	691	A
1	H	697	G
1	I	17	C
1	I	23	A
1	I	24	C
1	I	25	A
1	I	26	G
1	I	27	A
1	I	33	C
1	I	34	A
1	I	37	G
1	I	38	C
1	I	39	G
1	I	40	A
1	I	41	U
1	I	42	A
1	I	46	G
1	I	47	A
1	I	48	A
1	I	50	G
1	I	58	A
1	I	62	G
1	I	68	A
1	I	72	G
1	I	76	G
1	I	80	G
1	I	82	G
1	I	83	A
1	I	87	U
1	I	88	C
1	I	90	A
1	I	91	U
1	I	93	U
1	I	95	A
1	I	96	G
1	I	97	C
1	I	98	A
1	I	100	A
1	I	104	A

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Mol	Chain	Res	Type
1	I	110	A
1	I	111	U
1	I	112	G
1	I	113	U
1	I	120	U
1	I	121	A
1	I	122	A
1	I	133	A
1	I	137	G
1	I	138	A
1	I	139	A
1	I	142	C
1	I	143	A
1	I	145	A
1	I	146	G
1	I	149	C
1	I	151	A
1	I	152	U
1	I	155	C
1	I	157	G
1	I	158	A
1	I	159	G
1	I	162	A
1	I	163	A
1	I	164	U
1	I	165	C
1	I	166	G
1	I	169	G
1	I	170	A
1	I	171	G
1	I	172	G
1	I	173	U
1	I	174	G
1	I	175	C
1	I	176	U
1	I	178	U
1	I	181	C
1	I	182	A
1	I	184	C
1	I	185	A
1	I	186	G
1	I	187	U

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Mol	Chain	Res	Type
1	I	188	A
1	I	189	C
1	I	190	G
1	I	192	G
1	I	194	G
1	I	195	A
1	I	197	G
1	I	198	A
1	I	205	A
1	I	210	G
1	I	211	U
1	I	212	A
1	I	214	A
1	I	216	A
1	I	217	C
1	I	220	A
1	I	221	C
1	I	222	G
1	I	224	A
1	I	225	G
1	I	227	U
1	I	228	C
1	I	230	A
1	I	231	G
1	I	232	G
1	I	234	U
1	I	235	G
1	I	236	G
1	I	239	C
1	I	241	A
1	I	244	A
1	I	252	G
1	I	253	C
1	I	254	A
1	I	255	U
1	I	256	G
1	I	264	A
1	I	271	G
1	I	272	A
1	I	279	C
1	I	287	A
1	I	297	G

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Mol	Chain	Res	Type
1	I	299	C
1	I	300	A
1	I	301	A
1	I	302	G
1	I	303	G
1	I	305	G
1	I	306	U
1	I	307	A
1	I	309	C
1	I	312	C
1	I	315	C
1	I	316	G
1	I	318	G
1	I	319	A
1	I	321	A
1	I	324	A
1	I	331	C
1	I	332	G
1	I	333	U
1	I	334	U
1	I	335	G
1	I	337	G
1	I	338	C
1	I	339	A
1	I	345	U
1	I	347	G
1	I	348	C
1	I	352	A
1	I	353	A
1	I	354	A
1	I	361	G
1	I	365	C
1	I	367	C
1	I	368	A
1	I	369	A
1	I	376	G
1	I	377	C
1	I	427	A
1	I	428	A
1	I	429	G
1	I	430	C
1	I	431	A

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Mol	Chain	Res	Type
1	I	432	A
1	I	433	A
1	I	434	A
1	I	435	G
1	I	436	U
1	I	437	C
1	I	438	A
1	I	439	U
1	I	440	U
1	I	442	C
1	I	445	G
1	I	446	U
1	I	447	C
1	I	448	G
1	I	452	A
1	I	453	C
1	I	454	G
1	I	455	A
1	I	456	A
1	I	457	A
1	I	458	G
1	I	460	G
1	I	462	G
1	I	464	U
1	I	465	U
1	I	466	C
1	I	467	G
1	I	474	A
1	I	475	G
1	I	476	G
1	I	479	A
1	I	482	U
1	I	490	U
1	I	492	U
1	I	494	G
1	I	495	C
1	I	501	U
1	I	506	G
1	I	508	A
1	I	509	A
1	I	510	A
1	I	511	G

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Mol	Chain	Res	Type
1	I	512	U
1	I	513	C
1	I	514	A
1	I	515	A
1	I	516	A
1	I	518	A
1	I	519	G
1	I	520	U
1	I	521	A
1	I	522	A
1	I	523	A
1	I	525	C
1	I	528	C
1	I	532	G
1	I	534	C
1	I	535	C
1	I	536	U
1	I	540	G
1	I	545	G
1	I	549	U
1	I	551	G
1	I	553	U
1	I	554	A
1	I	559	A
1	I	560	A
1	I	561	A
1	I	562	A
1	I	564	U
1	I	569	U
1	I	570	A
1	I	571	G
1	I	573	A
1	I	574	G
1	I	578	G
1	I	583	G
1	I	585	A
1	I	587	C
1	I	589	A
1	I	592	G
1	I	593	G
1	I	594	U
1	I	596	A

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Mol	Chain	Res	Type
1	I	598	C
1	I	600	A
1	I	601	U
1	I	605	A
1	I	606	A
1	I	608	C
1	I	609	G
1	I	610	C
1	I	611	G
1	I	615	G
1	I	620	U
1	I	626	G
1	I	628	A
1	I	630	G
1	I	631	G
1	I	633	U
1	I	634	U
1	I	640	G
1	I	641	G
1	I	642	A
1	I	645	A
1	I	650	C
1	I	651	U
1	I	653	A
1	I	654	A
1	I	656	C
1	I	658	U
1	I	659	A
1	I	660	A
1	I	669	A
1	I	670	A
1	I	671	G
1	I	672	A
1	I	678	G
1	I	679	A
1	I	680	C
1	I	682	A
1	I	683	A
1	I	684	A
1	I	685	C
1	I	686	G
1	I	687	U

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Mol	Chain	Res	Type
1	I	691	A
1	I	697	G
1	J	17	C
1	J	23	A
1	J	24	C
1	J	25	A
1	J	26	G
1	J	27	A
1	J	33	C
1	J	34	A
1	J	37	G
1	J	38	C
1	J	39	G
1	J	40	A
1	J	41	U
1	J	42	A
1	J	46	G
1	J	47	A
1	J	48	A
1	J	50	G
1	J	58	A
1	J	62	G
1	J	68	A
1	J	72	G
1	J	76	G
1	J	80	G
1	J	82	G
1	J	83	A
1	J	87	U
1	J	88	C
1	J	90	A
1	J	91	U
1	J	93	U
1	J	95	A
1	J	96	G
1	J	97	C
1	J	98	A
1	J	100	A
1	J	104	A
1	J	110	A
1	J	111	U
1	J	112	G

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Mol	Chain	Res	Type
1	J	113	U
1	J	120	U
1	J	121	A
1	J	122	A
1	J	133	A
1	J	137	G
1	J	138	A
1	J	139	A
1	J	142	C
1	J	143	A
1	J	145	A
1	J	146	G
1	J	149	C
1	J	151	A
1	J	152	U
1	J	155	C
1	J	157	G
1	J	158	A
1	J	159	G
1	J	162	A
1	J	163	A
1	J	164	U
1	J	165	C
1	J	166	G
1	J	169	G
1	J	170	A
1	J	171	G
1	J	172	G
1	J	173	U
1	J	174	G
1	J	175	C
1	J	176	U
1	J	178	U
1	J	181	C
1	J	182	A
1	J	184	C
1	J	185	A
1	J	186	G
1	J	187	U
1	J	188	A
1	J	189	C
1	J	190	G

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Mol	Chain	Res	Type
1	J	192	G
1	J	194	G
1	J	195	A
1	J	197	G
1	J	198	A
1	J	205	A
1	J	210	G
1	J	211	U
1	J	212	A
1	J	214	A
1	J	216	A
1	J	217	C
1	J	220	A
1	J	221	C
1	J	222	G
1	J	224	A
1	J	225	G
1	J	227	U
1	J	228	C
1	J	230	A
1	J	231	G
1	J	232	G
1	J	234	U
1	J	235	G
1	J	236	G
1	J	239	C
1	J	241	A
1	J	244	A
1	J	252	G
1	J	253	C
1	J	254	A
1	J	255	U
1	J	256	G
1	J	264	A
1	J	271	G
1	J	272	A
1	J	279	C
1	J	287	A
1	J	297	G
1	J	299	C
1	J	300	A
1	J	301	A

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Mol	Chain	Res	Type
1	J	302	G
1	J	303	G
1	J	305	G
1	J	306	U
1	J	307	A
1	J	309	C
1	J	312	C
1	J	315	C
1	J	316	G
1	J	318	G
1	J	319	A
1	J	321	A
1	J	324	A
1	J	331	C
1	J	332	G
1	J	333	U
1	J	334	U
1	J	335	G
1	J	337	G
1	J	338	C
1	J	339	A
1	J	345	U
1	J	347	G
1	J	348	C
1	J	352	A
1	J	353	A
1	J	354	A
1	J	361	G
1	J	365	C
1	J	367	C
1	J	368	A
1	J	369	A
1	J	376	G
1	J	377	C
1	J	427	A
1	J	428	A
1	J	429	G
1	J	430	C
1	J	431	A
1	J	432	A
1	J	433	A
1	J	434	A

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Mol	Chain	Res	Type
1	J	435	G
1	J	436	U
1	J	437	C
1	J	438	A
1	J	439	U
1	J	440	U
1	J	442	C
1	J	445	G
1	J	446	U
1	J	447	C
1	J	448	G
1	J	452	A
1	J	453	C
1	J	454	G
1	J	455	A
1	J	456	A
1	J	457	A
1	J	458	G
1	J	460	G
1	J	462	G
1	J	464	U
1	J	465	U
1	J	466	C
1	J	467	G
1	J	474	A
1	J	475	G
1	J	476	G
1	J	479	A
1	J	482	U
1	J	490	U
1	J	492	U
1	J	494	G
1	J	495	C
1	J	501	U
1	J	506	G
1	J	508	A
1	J	509	A
1	J	510	A
1	J	511	G
1	J	512	U
1	J	513	C
1	J	514	A

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Mol	Chain	Res	Type
1	J	515	A
1	J	516	A
1	J	518	A
1	J	519	G
1	J	520	U
1	J	521	A
1	J	522	A
1	J	523	A
1	J	525	C
1	J	528	C
1	J	532	G
1	J	534	C
1	J	535	C
1	J	536	U
1	J	540	G
1	J	545	G
1	J	549	U
1	J	551	G
1	J	553	U
1	J	554	A
1	J	559	A
1	J	560	A
1	J	561	A
1	J	562	A
1	J	564	U
1	J	569	U
1	J	570	A
1	J	571	G
1	J	573	A
1	J	574	G
1	J	578	G
1	J	583	G
1	J	585	A
1	J	587	C
1	J	589	A
1	J	592	G
1	J	593	G
1	J	594	U
1	J	596	A
1	J	598	C
1	J	600	A
1	J	601	U

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Mol	Chain	Res	Type
1	J	605	A
1	J	608	C
1	J	609	G
1	J	610	C
1	J	611	G
1	J	615	G
1	J	620	U
1	J	626	G
1	J	628	A
1	J	630	G
1	J	631	G
1	J	633	U
1	J	634	U
1	J	640	G
1	J	641	G
1	J	642	A
1	J	645	A
1	J	650	C
1	J	651	U
1	J	653	A
1	J	654	A
1	J	656	C
1	J	658	U
1	J	659	A
1	J	660	A
1	J	669	A
1	J	670	A
1	J	671	G
1	J	672	A
1	J	678	G
1	J	679	A
1	J	680	C
1	J	682	A
1	J	683	A
1	J	684	A
1	J	685	C
1	J	686	G
1	J	687	U
1	J	691	A
1	J	697	G
1	K	17	C
1	K	23	A

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Mol	Chain	Res	Type
1	K	24	C
1	K	25	A
1	K	26	G
1	K	27	A
1	K	33	C
1	K	34	A
1	K	37	G
1	K	38	C
1	K	39	G
1	K	40	A
1	K	41	U
1	K	42	A
1	K	46	G
1	K	47	A
1	K	48	A
1	K	50	G
1	K	58	A
1	K	62	G
1	K	68	A
1	K	72	G
1	K	76	G
1	K	80	G
1	K	82	G
1	K	83	A
1	K	87	U
1	K	88	C
1	K	90	A
1	K	91	U
1	K	93	U
1	K	95	A
1	K	96	G
1	K	97	C
1	K	98	A
1	K	100	A
1	K	104	A
1	K	110	A
1	K	111	U
1	K	112	G
1	K	113	U
1	K	120	U
1	K	121	A
1	K	122	A

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Mol	Chain	Res	Type
1	K	133	A
1	K	137	G
1	K	138	A
1	K	139	A
1	K	142	C
1	K	143	A
1	K	145	A
1	K	146	G
1	K	149	C
1	K	151	A
1	K	152	U
1	K	155	C
1	K	157	G
1	K	158	A
1	K	159	G
1	K	162	A
1	K	163	A
1	K	164	U
1	K	165	C
1	K	166	G
1	K	169	G
1	K	170	A
1	K	171	G
1	K	172	G
1	K	173	U
1	K	174	G
1	K	175	C
1	K	176	U
1	K	178	U
1	K	181	C
1	K	182	A
1	K	184	C
1	K	185	A
1	K	186	G
1	K	187	U
1	K	188	A
1	K	189	C
1	K	190	G
1	K	192	G
1	K	194	G
1	K	195	A
1	K	197	G

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Mol	Chain	Res	Type
1	K	198	A
1	K	205	A
1	K	210	G
1	K	211	U
1	K	212	A
1	K	214	A
1	K	216	A
1	K	217	C
1	K	220	A
1	K	221	C
1	K	222	G
1	K	224	A
1	K	225	G
1	K	227	U
1	K	228	C
1	K	230	A
1	K	231	G
1	K	232	G
1	K	234	U
1	K	235	G
1	K	236	G
1	K	239	C
1	K	241	A
1	K	244	A
1	K	252	G
1	K	253	C
1	K	254	A
1	K	255	U
1	K	256	G
1	K	264	A
1	K	271	G
1	K	272	A
1	K	279	C
1	K	287	A
1	K	297	G
1	K	299	C
1	K	300	A
1	K	301	A
1	K	302	G
1	K	303	G
1	K	305	G
1	K	306	U

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Mol	Chain	Res	Type
1	K	307	A
1	K	309	C
1	K	312	C
1	K	315	C
1	K	316	G
1	K	318	G
1	K	319	A
1	K	321	A
1	K	324	A
1	K	331	C
1	K	332	G
1	K	333	U
1	K	334	U
1	K	335	G
1	K	337	G
1	K	338	C
1	K	339	A
1	K	345	U
1	K	347	G
1	K	348	C
1	K	352	A
1	K	353	A
1	K	354	A
1	K	361	G
1	K	365	C
1	K	367	C
1	K	368	A
1	K	369	A
1	K	376	G
1	K	377	C
1	K	427	A
1	K	428	A
1	K	429	G
1	K	430	C
1	K	431	A
1	K	432	A
1	K	433	A
1	K	434	A
1	K	435	G
1	K	436	U
1	K	437	C
1	K	438	A

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Mol	Chain	Res	Type
1	K	439	U
1	K	440	U
1	K	442	C
1	K	445	G
1	K	446	U
1	K	447	C
1	K	448	G
1	K	452	A
1	K	453	C
1	K	454	G
1	K	455	A
1	K	456	A
1	K	457	A
1	K	458	G
1	K	460	G
1	K	462	G
1	K	464	U
1	K	465	U
1	K	466	C
1	K	467	G
1	K	474	A
1	K	475	G
1	K	476	G
1	K	479	A
1	K	482	U
1	K	490	U
1	K	492	U
1	K	494	G
1	K	495	C
1	K	501	U
1	K	506	G
1	K	508	A
1	K	509	A
1	K	510	A
1	K	511	G
1	K	512	U
1	K	513	C
1	K	514	A
1	K	515	A
1	K	516	A
1	K	518	A
1	K	519	G

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Mol	Chain	Res	Type
1	K	520	U
1	K	521	A
1	K	522	A
1	K	523	A
1	K	525	C
1	K	528	C
1	K	532	G
1	K	534	C
1	K	535	C
1	K	536	U
1	K	540	G
1	K	545	G
1	K	549	U
1	K	551	G
1	K	553	U
1	K	554	A
1	K	559	A
1	K	560	A
1	K	561	A
1	K	562	A
1	K	564	U
1	K	569	U
1	K	570	A
1	K	571	G
1	K	573	A
1	K	574	G
1	K	578	G
1	K	583	G
1	K	585	A
1	K	587	C
1	K	589	A
1	K	592	G
1	K	593	G
1	K	594	U
1	K	596	A
1	K	598	C
1	K	600	A
1	K	601	U
1	K	605	A
1	K	606	A
1	K	608	C
1	K	609	G

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Mol	Chain	Res	Type
1	K	610	C
1	K	611	G
1	K	615	G
1	K	620	U
1	K	626	G
1	K	628	A
1	K	630	G
1	K	631	G
1	K	633	U
1	K	634	U
1	K	640	G
1	K	641	G
1	K	642	A
1	K	645	A
1	K	650	C
1	K	651	U
1	K	653	A
1	K	654	A
1	K	656	C
1	K	658	U
1	K	659	A
1	K	660	A
1	K	669	A
1	K	670	A
1	K	671	G
1	K	672	A
1	K	678	G
1	K	679	A
1	K	680	C
1	K	682	A
1	K	683	A
1	K	684	A
1	K	685	C
1	K	686	G
1	K	687	U
1	K	691	A
1	K	697	G
1	L	17	C
1	L	23	A
1	L	24	C
1	L	25	A
1	L	26	G

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Mol	Chain	Res	Type
1	L	27	A
1	L	33	C
1	L	34	A
1	L	37	G
1	L	38	C
1	L	39	G
1	L	40	A
1	L	41	U
1	L	42	A
1	L	46	G
1	L	47	A
1	L	48	A
1	L	50	G
1	L	58	A
1	L	62	G
1	L	68	A
1	L	72	G
1	L	76	G
1	L	80	G
1	L	82	G
1	L	83	A
1	L	87	U
1	L	88	C
1	L	90	A
1	L	91	U
1	L	93	U
1	L	95	A
1	L	96	G
1	L	97	C
1	L	98	A
1	L	100	A
1	L	104	A
1	L	110	A
1	L	111	U
1	L	112	G
1	L	113	U
1	L	120	U
1	L	121	A
1	L	122	A
1	L	133	A
1	L	137	G
1	L	138	A

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Mol	Chain	Res	Type
1	L	139	A
1	L	142	C
1	L	143	A
1	L	145	A
1	L	146	G
1	L	149	C
1	L	151	A
1	L	152	U
1	L	155	C
1	L	157	G
1	L	158	A
1	L	159	G
1	L	162	A
1	L	163	A
1	L	164	U
1	L	165	C
1	L	166	G
1	L	169	G
1	L	170	A
1	L	171	G
1	L	172	G
1	L	173	U
1	L	174	G
1	L	175	C
1	L	176	U
1	L	178	U
1	L	181	C
1	L	182	A
1	L	184	C
1	L	185	A
1	L	186	G
1	L	187	U
1	L	188	A
1	L	189	C
1	L	190	G
1	L	192	G
1	L	194	G
1	L	195	A
1	L	197	G
1	L	198	A
1	L	205	A
1	L	210	G

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Mol	Chain	Res	Type
1	L	211	U
1	L	212	A
1	L	214	A
1	L	216	A
1	L	217	C
1	L	220	A
1	L	221	C
1	L	222	G
1	L	224	A
1	L	225	G
1	L	227	U
1	L	228	C
1	L	230	A
1	L	231	G
1	L	232	G
1	L	234	U
1	L	235	G
1	L	236	G
1	L	239	C
1	L	241	A
1	L	244	A
1	L	252	G
1	L	253	C
1	L	254	A
1	L	255	U
1	L	256	G
1	L	264	A
1	L	271	G
1	L	272	A
1	L	279	C
1	L	287	A
1	L	297	G
1	L	299	C
1	L	300	A
1	L	301	A
1	L	302	G
1	L	303	G
1	L	305	G
1	L	306	U
1	L	307	A
1	L	309	C
1	L	312	C

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Mol	Chain	Res	Type
1	L	315	C
1	L	316	G
1	L	318	G
1	L	319	A
1	L	321	A
1	L	324	A
1	L	331	C
1	L	332	G
1	L	333	U
1	L	334	U
1	L	335	G
1	L	337	G
1	L	338	C
1	L	339	A
1	L	345	U
1	L	347	G
1	L	348	C
1	L	352	A
1	L	353	A
1	L	354	A
1	L	361	G
1	L	365	C
1	L	367	C
1	L	368	A
1	L	369	A
1	L	376	G
1	L	377	C
1	L	427	A
1	L	428	A
1	L	429	G
1	L	430	C
1	L	431	A
1	L	432	A
1	L	433	A
1	L	434	A
1	L	435	G
1	L	436	U
1	L	437	C
1	L	438	A
1	L	439	U
1	L	440	U
1	L	442	C

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Mol	Chain	Res	Type
1	L	445	G
1	L	446	U
1	L	447	C
1	L	448	G
1	L	452	A
1	L	453	C
1	L	454	G
1	L	455	A
1	L	456	A
1	L	457	A
1	L	458	G
1	L	460	G
1	L	462	G
1	L	464	U
1	L	465	U
1	L	466	C
1	L	467	G
1	L	474	A
1	L	475	G
1	L	476	G
1	L	479	A
1	L	482	U
1	L	490	U
1	L	492	U
1	L	494	G
1	L	495	C
1	L	501	U
1	L	506	G
1	L	508	A
1	L	509	A
1	L	510	A
1	L	511	G
1	L	512	U
1	L	513	C
1	L	514	A
1	L	515	A
1	L	516	A
1	L	518	A
1	L	519	G
1	L	520	U
1	L	521	A
1	L	522	A

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Mol	Chain	Res	Type
1	L	523	A
1	L	525	C
1	L	528	C
1	L	532	G
1	L	534	C
1	L	535	C
1	L	536	U
1	L	540	G
1	L	545	G
1	L	549	U
1	L	551	G
1	L	553	U
1	L	554	A
1	L	559	A
1	L	560	A
1	L	561	A
1	L	562	A
1	L	564	U
1	L	569	U
1	L	570	A
1	L	571	G
1	L	573	A
1	L	574	G
1	L	578	G
1	L	583	G
1	L	585	A
1	L	587	C
1	L	589	A
1	L	592	G
1	L	593	G
1	L	594	U
1	L	596	A
1	L	598	C
1	L	600	A
1	L	601	U
1	L	605	A
1	L	606	A
1	L	608	C
1	L	609	G
1	L	610	C
1	L	611	G
1	L	615	G

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Mol	Chain	Res	Type
1	L	620	U
1	L	626	G
1	L	628	A
1	L	630	G
1	L	631	G
1	L	633	U
1	L	634	U
1	L	640	G
1	L	641	G
1	L	642	A
1	L	645	A
1	L	650	C
1	L	651	U
1	L	653	A
1	L	654	A
1	L	656	C
1	L	658	U
1	L	659	A
1	L	660	A
1	L	669	A
1	L	670	A
1	L	671	G
1	L	672	A
1	L	678	G
1	L	679	A
1	L	680	C
1	L	682	A
1	L	683	A
1	L	684	A
1	L	685	C
1	L	686	G
1	L	687	U
1	L	691	A
1	L	697	G

All (312) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	23	A
1	A	39	G
1	A	110	A
1	A	220	A

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Mol	Chain	Res	Type
1	A	231	G
1	A	235	G
1	A	308	C
1	A	315	C
1	A	338	C
1	A	426	A
1	A	430	C
1	A	436	U
1	A	459	U
1	A	505	A
1	A	508	A
1	A	512	U
1	A	524	G
1	A	553	U
1	A	570	A
1	A	609	G
1	A	614	U
1	A	630	G
1	A	640	G
1	A	650	C
1	A	685	C
1	A	686	G
1	B	23	A
1	B	39	G
1	B	110	A
1	B	220	A
1	B	231	G
1	B	235	G
1	B	308	C
1	B	315	C
1	B	338	C
1	B	426	A
1	B	430	C
1	B	436	U
1	B	459	U
1	B	505	A
1	B	508	A
1	B	512	U
1	B	524	G
1	B	553	U
1	B	570	A
1	B	609	G

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Mol	Chain	Res	Type
1	B	614	U
1	B	630	G
1	B	640	G
1	B	650	C
1	B	685	C
1	B	686	G
1	C	23	A
1	C	39	G
1	C	110	A
1	C	220	A
1	C	231	G
1	C	235	G
1	C	308	C
1	C	315	C
1	C	338	C
1	C	426	A
1	C	430	C
1	C	436	U
1	C	459	U
1	C	505	A
1	C	508	A
1	C	512	U
1	C	524	G
1	C	553	U
1	C	570	A
1	C	609	G
1	C	614	U
1	C	630	G
1	C	640	G
1	C	650	C
1	C	685	C
1	C	686	G
1	D	23	A
1	D	39	G
1	D	110	A
1	D	220	A
1	D	231	G
1	D	235	G
1	D	308	C
1	D	315	C
1	D	338	C
1	D	426	A

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Mol	Chain	Res	Type
1	D	430	C
1	D	436	U
1	D	459	U
1	D	505	A
1	D	508	A
1	D	512	U
1	D	524	G
1	D	553	U
1	D	570	A
1	D	609	G
1	D	614	U
1	D	630	G
1	D	640	G
1	D	650	C
1	D	685	C
1	D	686	G
1	E	23	A
1	E	39	G
1	E	110	A
1	E	220	A
1	E	231	G
1	E	235	G
1	E	308	C
1	E	315	C
1	E	338	C
1	E	426	A
1	E	430	C
1	E	436	U
1	E	459	U
1	E	505	A
1	E	508	A
1	E	512	U
1	E	524	G
1	E	553	U
1	E	570	A
1	E	609	G
1	E	614	U
1	E	630	G
1	E	640	G
1	E	650	C
1	E	685	C
1	E	686	G

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Mol	Chain	Res	Type
1	F	23	A
1	F	39	G
1	F	110	A
1	F	220	A
1	F	231	G
1	F	235	G
1	F	308	C
1	F	315	C
1	F	338	C
1	F	426	A
1	F	430	C
1	F	436	U
1	F	459	U
1	F	505	A
1	F	508	A
1	F	512	U
1	F	524	G
1	F	553	U
1	F	570	A
1	F	609	G
1	F	614	U
1	F	630	G
1	F	640	G
1	F	650	C
1	F	685	C
1	F	686	G
1	G	23	A
1	G	39	G
1	G	110	A
1	G	220	A
1	G	231	G
1	G	235	G
1	G	308	C
1	G	315	C
1	G	338	C
1	G	426	A
1	G	430	C
1	G	436	U
1	G	459	U
1	G	505	A
1	G	508	A
1	G	512	U

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Mol	Chain	Res	Type
1	G	524	G
1	G	553	U
1	G	570	A
1	G	609	G
1	G	614	U
1	G	630	G
1	G	640	G
1	G	650	C
1	G	685	C
1	G	686	G
1	H	23	A
1	H	39	G
1	H	110	A
1	H	220	A
1	H	231	G
1	H	235	G
1	H	308	C
1	H	315	C
1	H	338	C
1	H	426	A
1	H	430	C
1	H	436	U
1	H	459	U
1	H	505	A
1	H	508	A
1	H	512	U
1	H	524	G
1	H	553	U
1	H	570	A
1	H	609	G
1	H	614	U
1	H	630	G
1	H	640	G
1	H	650	C
1	H	685	C
1	H	686	G
1	I	23	A
1	I	39	G
1	I	110	A
1	I	220	A
1	I	231	G
1	I	235	G

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Mol	Chain	Res	Type
1	I	308	C
1	I	315	C
1	I	338	C
1	I	426	A
1	I	430	C
1	I	436	U
1	I	459	U
1	I	505	A
1	I	508	A
1	I	512	U
1	I	524	G
1	I	553	U
1	I	570	A
1	I	609	G
1	I	614	U
1	I	630	G
1	I	640	G
1	I	650	C
1	I	685	C
1	I	686	G
1	J	23	A
1	J	39	G
1	J	110	A
1	J	220	A
1	J	231	G
1	J	235	G
1	J	308	C
1	J	315	C
1	J	338	C
1	J	426	A
1	J	430	C
1	J	436	U
1	J	459	U
1	J	505	A
1	J	508	A
1	J	512	U
1	J	524	G
1	J	553	U
1	J	570	A
1	J	609	G
1	J	614	U
1	J	630	G

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Mol	Chain	Res	Type
1	J	640	G
1	J	650	C
1	J	685	C
1	J	686	G
1	K	23	A
1	K	39	G
1	K	110	A
1	K	220	A
1	K	231	G
1	K	235	G
1	K	308	C
1	K	315	C
1	K	338	C
1	K	426	A
1	K	430	C
1	K	436	U
1	K	459	U
1	K	505	A
1	K	508	A
1	K	512	U
1	K	524	G
1	K	553	U
1	K	570	A
1	K	609	G
1	K	614	U
1	K	630	G
1	K	640	G
1	K	650	C
1	K	685	C
1	K	686	G
1	L	23	A
1	L	39	G
1	L	110	A
1	L	220	A
1	L	231	G
1	L	235	G
1	L	308	C
1	L	315	C
1	L	338	C
1	L	426	A
1	L	430	C
1	L	436	U

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Mol	Chain	Res	Type
1	L	459	U
1	L	505	A
1	L	508	A
1	L	512	U
1	L	524	G
1	L	553	U
1	L	570	A
1	L	609	G
1	L	614	U
1	L	630	G
1	L	640	G
1	L	650	C
1	L	685	C
1	L	686	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.