Full wwPDB NMR Structure Validation Report (i)

Nov 4, 2025 – 02:40 PM JST

PDB ID	:	8ZD2 / pdb_00008zd2
BMRB ID	:	36662
Title	:	NMR structure of the (CGG-dsDNA:ND=) 1:2 complex
Authors	:	Sakurabayashi, S.; Furuita, K.; Yamada, T.; Nomura, M.; Nakatani, K.; Kojima, C.
Deposited on	:	2024-05-01

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

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

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

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

MolProbity	:	FAILED
Mogul	:	1.8.5 (274361), CSD as541be (2020)
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
BMRB Restraints Analysis	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
SOLUTION NMR

The overall completeness of chemical shifts assignment is 38%.

There are no overall percentile quality scores available for this entry.

The sequence quality summary graphics cannot be shown.

2 Ensemble composition and analysis (i)

This entry contains 30 models. This entry does not contain polypeptide chains, therefore identification of well-defined residues and clustering analysis are not possible. All residues are included in the validation scores.

3 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 816 atoms, of which 302 are hydrogens and 0 are deuteriums.

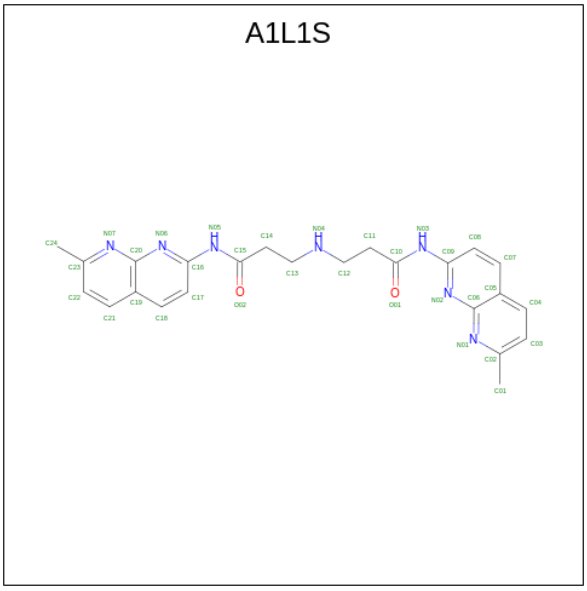
- Molecule 1 is a DNA chain called DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3').

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	P	
1	1	11	350	108	125	45	62	10	0

- Molecule 2 is a DNA chain called DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3').

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	P	
2	2	11	350	108	127	39	66	10	0

- Molecule 3 is {N}-(7-methyl-1,8-naphthyridin-2-yl)-3-[[3-[(7-methyl-1,8-naphthyridin-2-yl)amino]-3-oxidanylidene-propyl]amino]propanamide (CCD ID: A1L1S) (formula: $C_{24}H_{25}N_7O_2$) (labeled as "Ligand of Interest" by depositor).



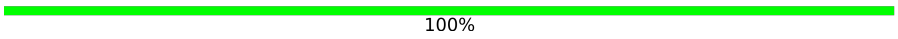
Mol	Chain	Residues	Atoms					
			Total	C	H	N	O	
3	1	1	58	24	25	7	2	
			Total	C	H	N	O	
3	2	1	58	24	25	7	2	

4 Residue-property plots (i)

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-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 outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

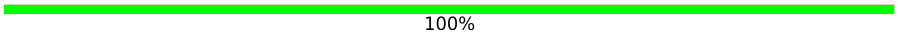
There are no outlier residues in this chain.

4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

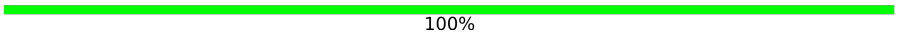
4.2.1 Score per residue for model 1

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

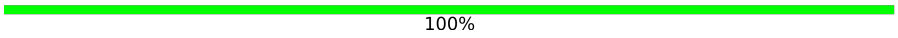
4.2.2 Score per residue for model 2

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

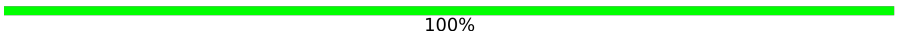
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

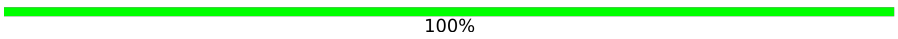
4.2.3 Score per residue for model 3

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

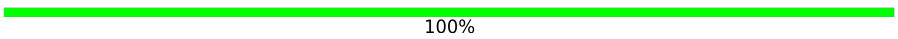
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

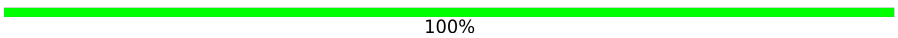
4.2.4 Score per residue for model 4

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

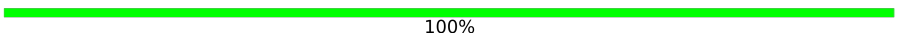
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.5 Score per residue for model 5

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

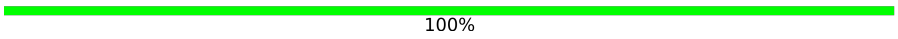
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

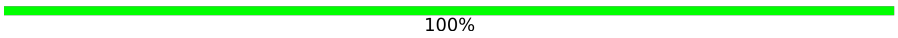
4.2.6 Score per residue for model 6

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

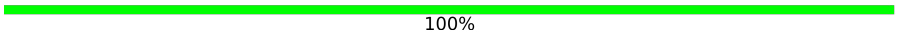
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.7 Score per residue for model 7

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

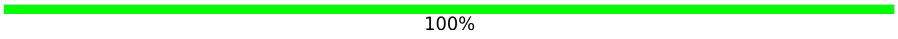
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

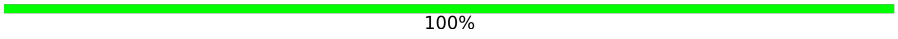
4.2.8 Score per residue for model 8

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

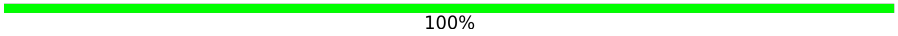
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.9 Score per residue for model 9

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

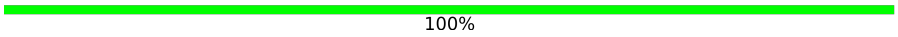
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

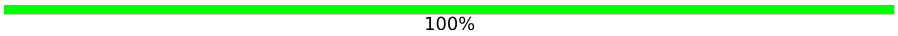
4.2.10 Score per residue for model 10

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

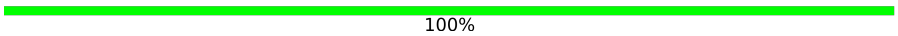
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

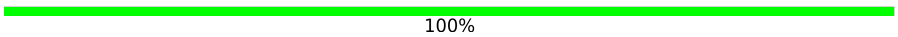
4.2.11 Score per residue for model 11

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

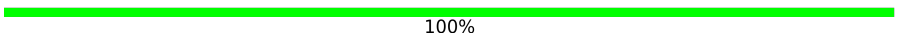
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

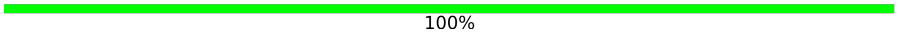
4.2.12 Score per residue for model 12

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

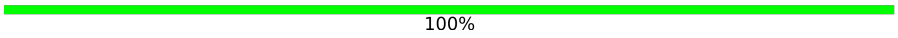
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.13 Score per residue for model 13

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

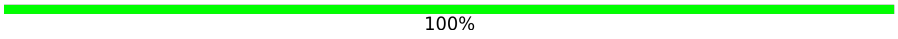
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

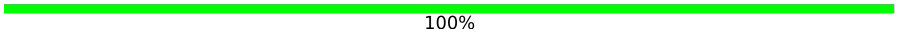
4.2.14 Score per residue for model 14

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

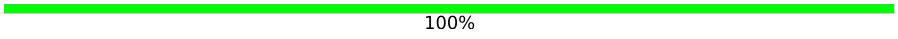
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

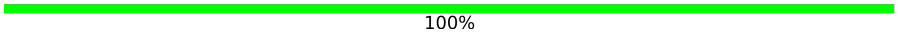
4.2.15 Score per residue for model 15

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

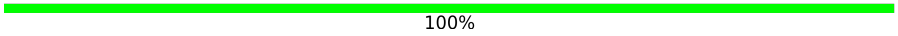
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.16 Score per residue for model 16

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

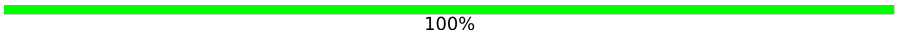
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

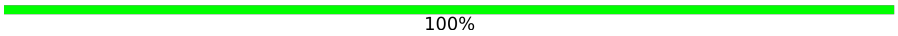
4.2.17 Score per residue for model 17

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

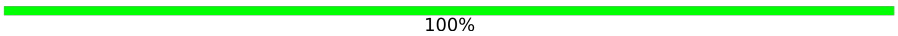
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

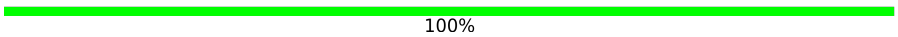
4.2.18 Score per residue for model 18

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

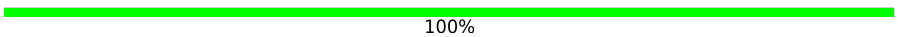
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

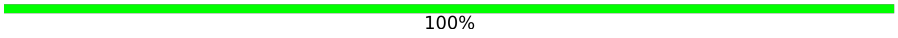
4.2.19 Score per residue for model 19

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

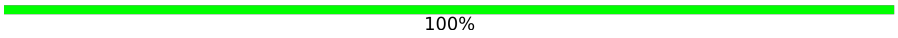
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.20 Score per residue for model 20

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

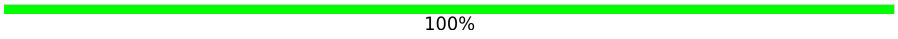
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

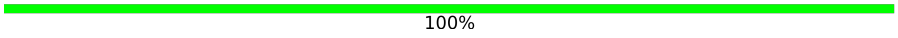
4.2.21 Score per residue for model 21

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

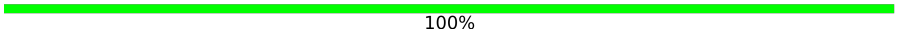
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

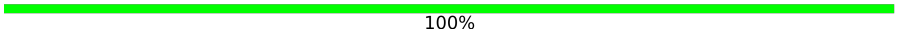
4.2.22 Score per residue for model 22

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

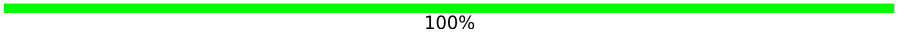
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.23 Score per residue for model 23

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

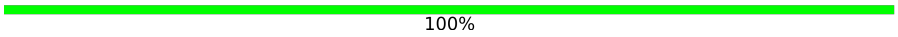
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

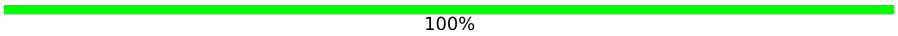
4.2.24 Score per residue for model 24

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

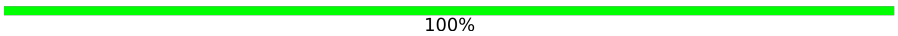
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

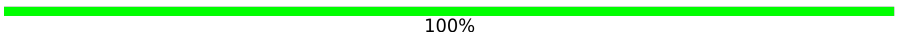
4.2.25 Score per residue for model 25

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

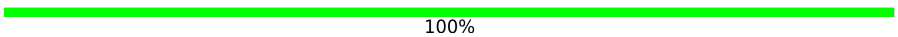
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

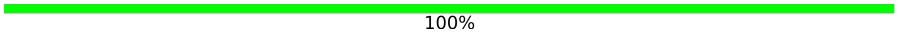
4.2.26 Score per residue for model 26

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

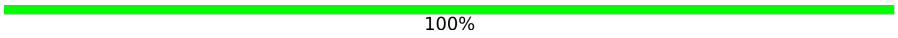
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.27 Score per residue for model 27

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

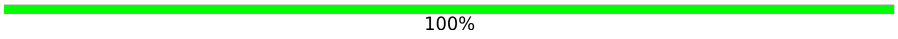
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

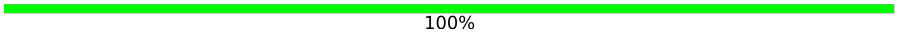
4.2.28 Score per residue for model 28

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

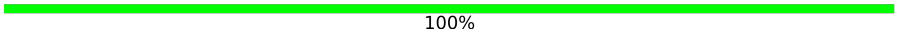
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

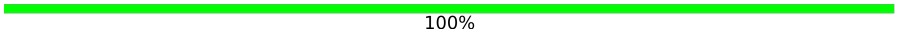
4.2.29 Score per residue for model 29

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

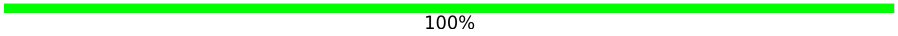
• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

4.2.30 Score per residue for model 30

• Molecule 1: DNA (5'-D(*CP*TP*AP*AP*CP*GP*GP*AP*AP*TP*G)-3')

Chain 1: 

There are no outlier residues in this chain.

• Molecule 2: DNA (5'-D(*CP*AP*TP*TP*CP*GP*GP*TP*TP*AP*G)-3')

Chain 2: 

There are no outlier residues in this chain.

5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing*.

Of the 150 calculated structures, 30 were deposited, based on the following criterion: *structures with the lowest energy*.

The following table shows the software used for structure solution, optimisation and refinement.

Software name	Classification	Version
CNS	structure calculation	
CNS	refinement	

The following table shows chemical shift validation statistics as aggregates over all chemical shift files. Detailed validation can be found in section 7 of this report.

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	184
Number of shifts mapped to atoms	184
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	38%

6 Model quality

6.1 Standard geometry

MolProbity failed to run properly - this section will have to be empty.

6.2 Too-close contacts

MolProbity failed to run properly - this section will have to be empty.

6.3 Torsion angles

6.3.1 Protein backbone

MolProbity failed to run properly - this section will have to be empty.

6.3.2 Protein sidechains

MolProbity failed to run properly - this section will have to be empty.

6.3.3 RNA

MolProbity failed to run properly - this section will have to be empty.

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

MolProbity failed to run properly - this section will have to be empty.

6.5 Carbohydrates

MolProbity failed to run properly - this section will have to be empty.

6.6 Ligand geometry

MolProbity failed to run properly - this section will have to be empty.

6.7 Other polymers

MolProbity failed to run properly - this section will have to be empty.

6.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

7 Chemical shift validation

The completeness of assignment taking into account all chemical shift lists is 38% for the well-defined parts and 38% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *chem_shift_list_ID*

7.1.1 Bookkeeping

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

Total number of shifts	184
Number of shifts mapped to atoms	184
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	1

7.1.2 Chemical shift referencing

No chemical shift referencing corrections were calculated (not enough data).

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 38%, i.e. 166 atoms were assigned a chemical shift out of a possible 434. 0 out of 0 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Sugar	126/264 (48%)	126/154 (82%)	0/110 (0%)	0/0 (—%)
Base	40/170 (24%)	40/104 (38%)	0/38 (0%)	0/28 (0%)
Overall	166/434 (38%)	166/258 (64%)	0/148 (0%)	0/28 (0%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 38%, i.e. 166 atoms were assigned a chemical shift out of a possible 434. 0 out of 0 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Sugar	126/264 (48%)	126/154 (82%)	0/110 (0%)	0/0 (—%)
Base	40/170 (24%)	40/104 (38%)	0/38 (0%)	0/28 (0%)
Overall	166/434 (38%)	166/258 (64%)	0/148 (0%)	0/28 (0%)

7.1.4 Statistically unusual chemical shifts (i)

The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, *ppm*	Expected range, *ppm*	Z-score
1	1	6	DG	H1'	4.46	4.50 – 7.35	-5.2

7.1.5 Random Coil Index (RCI) plots (i)

No *random coil index*(RCI) plot could be generated from the current chemical shift list. RCI is only applicable to proteins

8 NMR restraints analysis

8.1 Conformationally restricting restraints

The following table provides the summary of experimentally observed NMR restraints in different categories. Restraints are classified into different categories based on the sequence separation of the atoms involved.

Description	Value
Total distance restraints	92
Intra-residue (|i-j|=0)	44
Sequential (|i-j|=1)	48
Medium range (|i-j|>1 and |i-j|<5)	0
Long range (|i-j|≥5)	0
Inter-chain	0
Hydrogen bond restraints	0
Disulfide bond restraints	0
Total dihedral-angle restraints	90
Number of unmapped restraints	19
Number of restraints per residue	7.6
Number of long range restraints per residue[1]	0.0

[1]Long range hydrogen bonds and disulfide bonds are counted as long range restraints while calculating the number of long range restraints per residue

8.2 Residual restraint violations

This section provides the overview of the restraint violations analysis. The violations are binned as small, medium and large violations based on its absolute value. Average number of violations per model is calculated by dividing the total number of violations in each bin by the size of the ensemble.

8.2.1 Average number of distance violations per model

Distance violations less than 0.1 Å
are not included in the calculation.

Bins (Å)	Average number of violations per model	Max (Å)
0.1-0.2 (Small)	3.3	0.2
0.2-0.5 (Medium)	2.1	0.37
>0.5 (Large)	4.0	1.11

8.2.2 Average number of dihedral-angle violations per model (i)

Dihedral-angle violations less than 1° are not included in the calculation.

Bins (°)	Average number of violations per model	Max (°)
1.0-10.0 (Small)	23.8	4.81
10.0-20.0 (Medium)	None	None
>20.0 (Large)	None	None

9 Distance violation analysis (i)

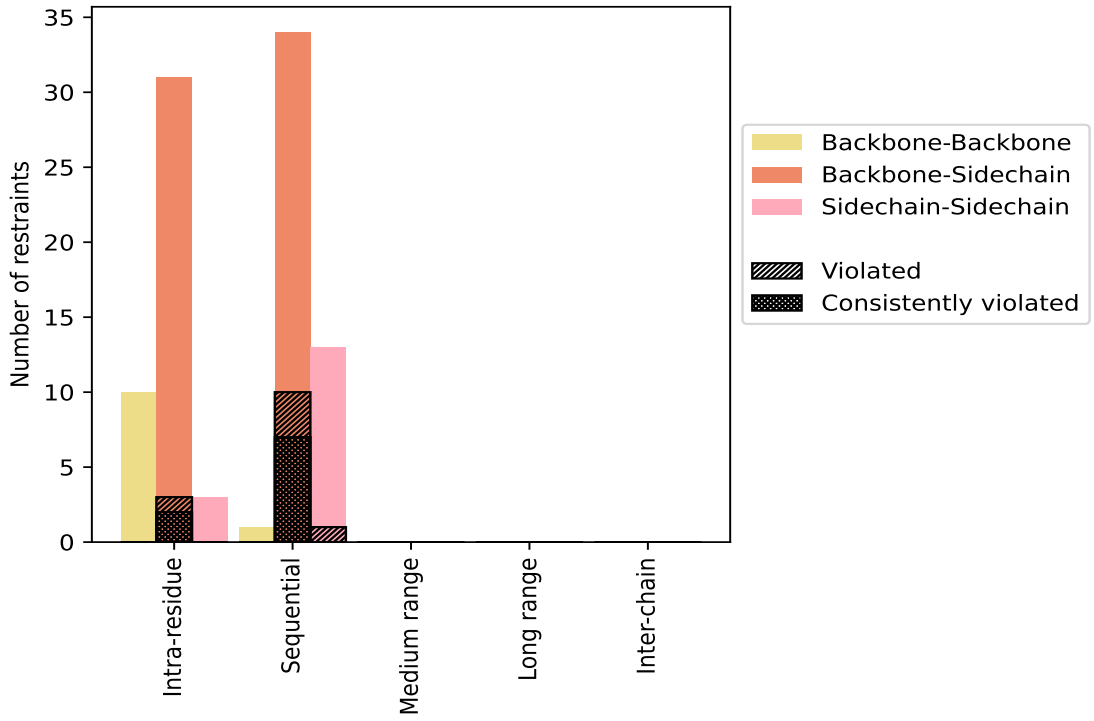
9.1 Summary of distance violations (i)

The following table shows the summary of distance violations in different restraint categories based on the sequence separation of the atoms involved. Each category is further sub-divided into three sub-categories based on the atoms involved. Violations less than 0.1 Å are not included in the statistics.

Restraints type	Count	%[1]	Violated[3]			Consistently Violated[4]		
			Count	%[2]	%[1]	Count	%[2]	%[1]
Intra-residue (|i-j|=0)	44	47.8	3	6.8	3.3	2	4.5	2.2
Backbone-Backbone	10	10.9	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	31	33.7	3	9.7	3.3	2	6.5	2.2
Sidechain-Sidechain	3	3.3	0	0.0	0.0	0	0.0	0.0
Sequential (|i-j|=1)	48	52.2	11	22.9	12.0	7	14.6	7.6
Backbone-Backbone	1	1.1	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	34	37.0	10	29.4	10.9	7	20.6	7.6
Sidechain-Sidechain	13	14.1	1	7.7	1.1	0	0.0	0.0
Medium range (|i-j|>1 & |i-j|<5)	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Long range (|i-j|≥5)	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Inter-chain	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Hydrogen bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Disulfide bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Total	92	100.0	14	15.2	15.2	9	9.8	9.8
Backbone-Backbone	11	12.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	65	70.7	13	20.0	14.1	9	13.8	9.8
Sidechain-Sidechain	16	17.4	1	6.2	1.1	0	0.0	0.0

[1] percentage calculated with respect to the total number of distance restraints, [2] percentage calculated with respect to the number of restraints in a particular restraint category, [3] violated in at least one model, [4] violated in all the models

9.1.1 Bar chart : Distribution of distance restraints and violations



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories. The hydrogen bonds and disulfied bonds are counted in their appropriate category on the x-axis

9.2 Distance violation statistics for each model

The following table provides the distance violation statistics for each model in the ensemble. Violations less than 0.1 Å
are not included in the statistics.

Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
1	2	8	0	0	0	10	0.49	1.08	0.37	0.3
2	2	8	0	0	0	10	0.5	1.09	0.37	0.3
3	3	8	0	0	0	11	0.47	1.11	0.38	0.27
4	3	7	0	0	0	10	0.5	1.1	0.37	0.31
5	2	7	0	0	0	9	0.58	1.07	0.39	0.36
6	2	8	0	0	0	10	0.5	1.09	0.37	0.32
7	2	7	0	0	0	9	0.55	1.1	0.36	0.36
8	2	7	0	0	0	9	0.54	1.09	0.37	0.35
9	2	7	0	0	0	9	0.55	1.09	0.36	0.36
10	2	7	0	0	0	9	0.53	1.04	0.35	0.36

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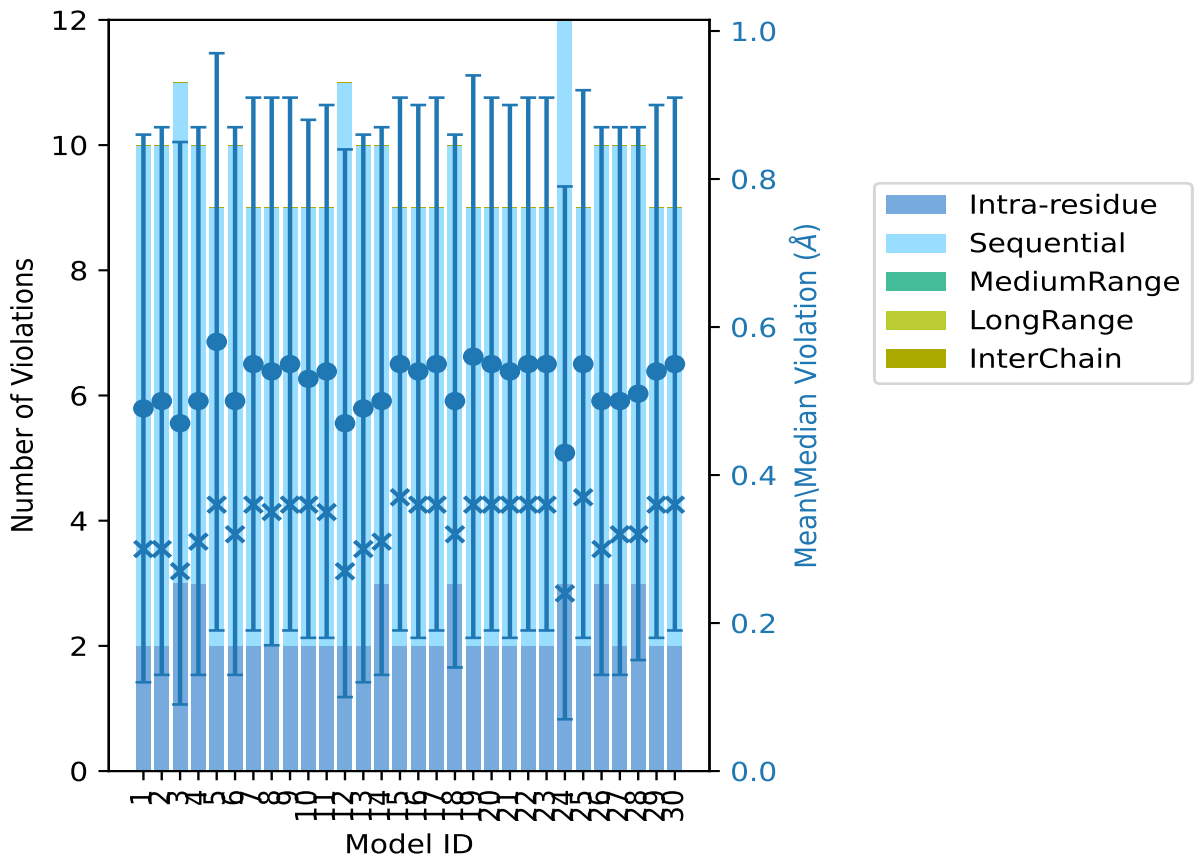
Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
11	2	7	0	0	0	9	0.54	1.08	0.36	0.35
12	2	9	0	0	0	11	0.47	1.1	0.37	0.27
13	2	8	0	0	0	10	0.49	1.08	0.37	0.3
14	3	7	0	0	0	10	0.5	1.08	0.37	0.31
15	2	7	0	0	0	9	0.55	1.09	0.36	0.37
16	2	7	0	0	0	9	0.54	1.08	0.36	0.36
17	2	7	0	0	0	9	0.55	1.09	0.36	0.36
18	3	7	0	0	0	10	0.5	1.08	0.36	0.32
19	2	7	0	0	0	9	0.56	1.08	0.38	0.36
20	2	7	0	0	0	9	0.55	1.09	0.36	0.36
21	2	7	0	0	0	9	0.54	1.09	0.36	0.36
22	2	7	0	0	0	9	0.55	1.1	0.36	0.36
23	2	7	0	0	0	9	0.55	1.1	0.36	0.36
24	3	9	0	0	0	12	0.43	1.07	0.36	0.24
25	2	7	0	0	0	9	0.55	1.1	0.37	0.37
26	3	7	0	0	0	10	0.5	1.08	0.37	0.3
27	2	8	0	0	0	10	0.5	1.09	0.37	0.32
28	3	7	0	0	0	10	0.51	1.1	0.36	0.32
29	2	7	0	0	0	9	0.54	1.08	0.36	0.36
30	2	7	0	0	0	9	0.55	1.09	0.36	0.36

[1]Intra-residue restraints, [2]Sequential restraints, [3]Medium range restraints, [4]Long range restraints, [5]Inter-chain restraints, [6]Standard deviation

9.2.1 Bar graph : Distance Violation statistics for each model (i)



The mean(dot),median(x) and the standard deviation are shown in blue with respect to the y axis on the right

9.3 Distance violation statistics for the ensemble (i)

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 78(IR:41, SQ:37, MR:0, LR:0, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
0	2	0	0	0	2	1	3.3
0	1	0	0	0	1	2	6.7
0	0	0	0	0	0	3	10.0
0	0	0	0	0	0	4	13.3
0	0	0	0	0	0	5	16.7
0	1	0	0	0	1	6	20.0

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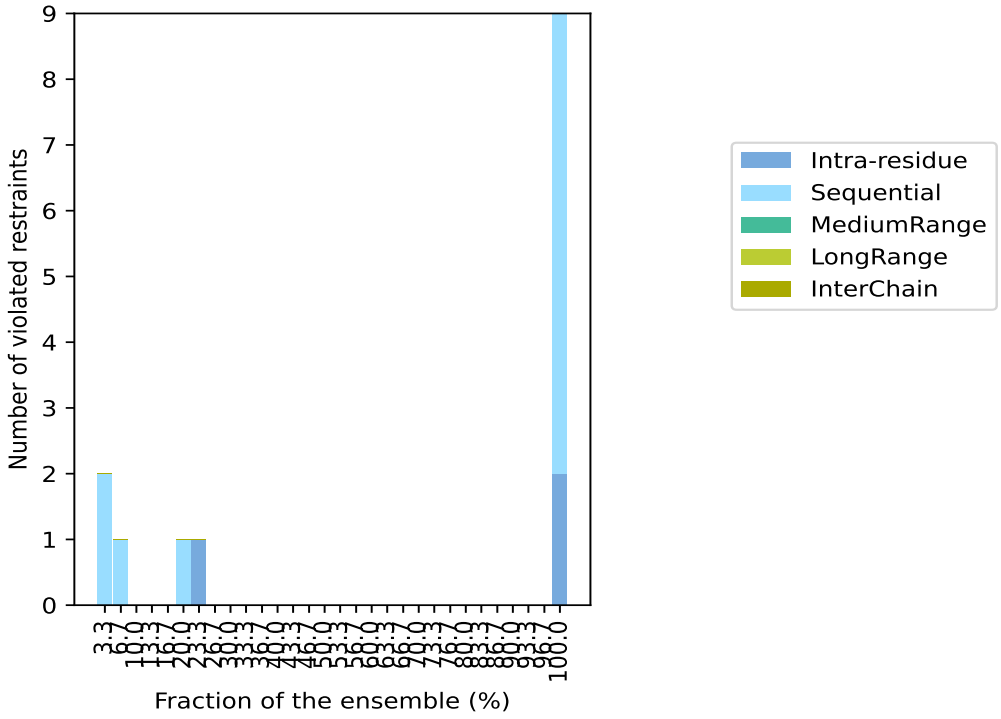
Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
1	0	0	0	0	1	7	23.3
0	0	0	0	0	0	8	26.7
0	0	0	0	0	0	9	30.0
0	0	0	0	0	0	10	33.3
0	0	0	0	0	0	11	36.7
0	0	0	0	0	0	12	40.0
0	0	0	0	0	0	13	43.3
0	0	0	0	0	0	14	46.7
0	0	0	0	0	0	15	50.0
0	0	0	0	0	0	16	53.3
0	0	0	0	0	0	17	56.7
0	0	0	0	0	0	18	60.0
0	0	0	0	0	0	19	63.3
0	0	0	0	0	0	20	66.7
0	0	0	0	0	0	21	70.0
0	0	0	0	0	0	22	73.3
0	0	0	0	0	0	23	76.7
0	0	0	0	0	0	24	80.0
0	0	0	0	0	0	25	83.3
0	0	0	0	0	0	26	86.7
0	0	0	0	0	0	27	90.0
0	0	0	0	0	0	28	93.3
0	0	0	0	0	0	29	96.7
2	7	0	0	0	9	30	100.0

[1]Intra-residue restraints, [2]Sequential restraints, [3]Medium range restraints, [4]Long range restraints, [5]Inter-chain restraints, [6] Number of models with violations

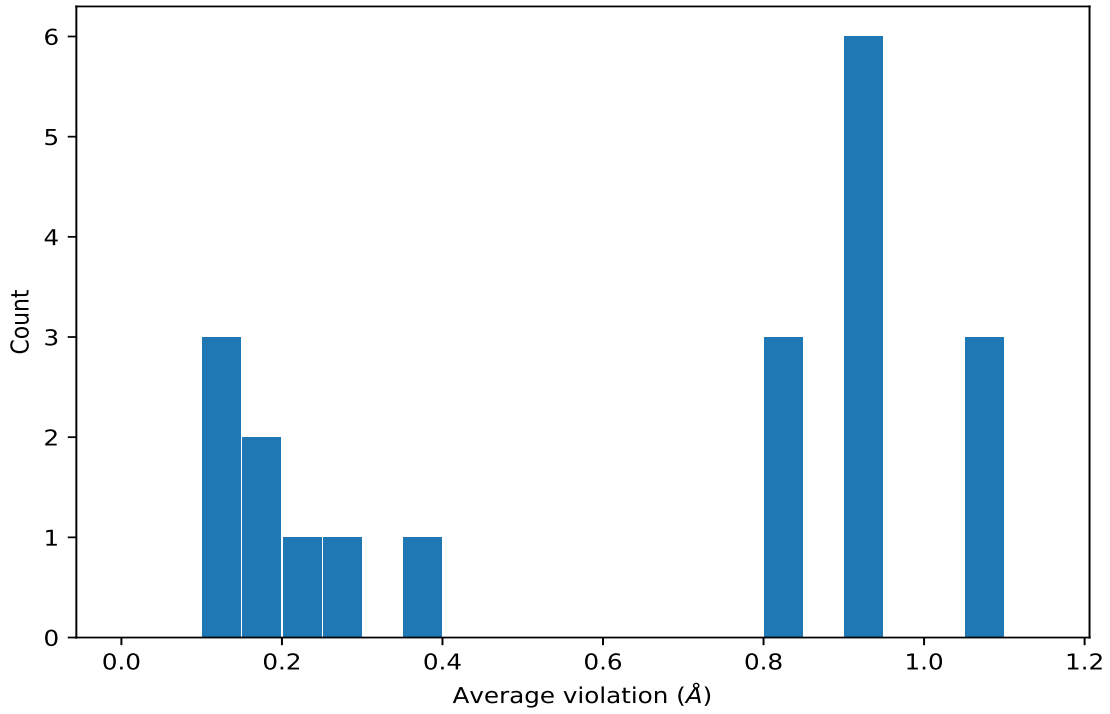
9.3.1 Bar graph : Distance violation statistics for the ensemble



9.4 Most violated distance restraints in the ensemble

9.4.1 Histogram : Distribution of mean distance violations

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



9.4.2 Table: Most violated distance restraints

The following table provides the mean and the standard deviation of theviolation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	30	1.08	0.02	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	30	1.08	0.02	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	30	1.08	0.02	1.09
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	30	0.94	0.04	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	30	0.94	0.04	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	30	0.94	0.04	0.95
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1’	30	0.9	0.04	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1’	30	0.9	0.04	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1’	30	0.9	0.04	0.89
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2’	30	0.84	0.06	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2’	30	0.84	0.06	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2’	30	0.84	0.06	0.82
(1,54)	1:8:1:DA:H2”	1:8:1:DA:H8	30	0.36	0.01	0.36
(1,65)	1:9:1:DA:H2”	1:9:1:DA:H8	30	0.26	0.01	0.26
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	30	0.2	0.01	0.2
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	30	0.18	0.01	0.18

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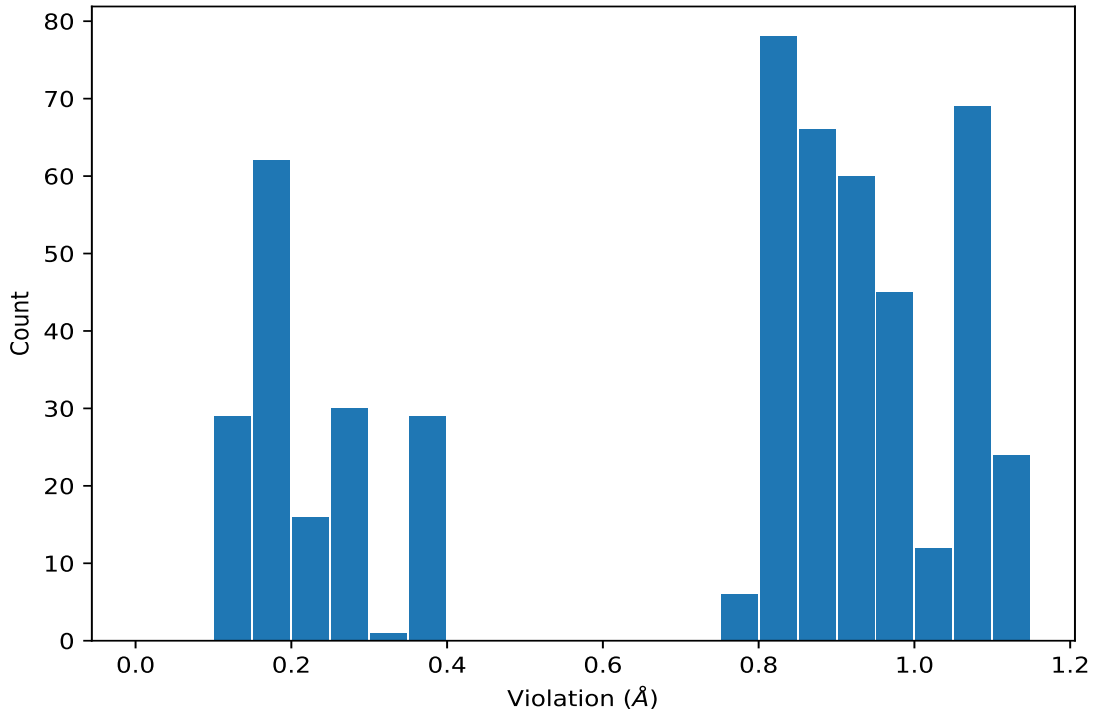
Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	30	0.15	0.01	0.15
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	7	0.12	0.02	0.12
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	6	0.1	0.0	0.1
(1,69)	1:10:1:DT:H6	1:9:1:DA:H8	2	0.11	0.01	0.11

[1]Number of violated models, [2]Standard deviation

9.5 All violated distance restraints (i)

9.5.1 Histogram : Distribution of distance violations (i)

The following histogram shows the distribution of the absolute value of the violation for all violated restraints in the ensemble.



9.5.2 Table : All distance violations (i)

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	3	1.11
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	3	1.11
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	3	1.11
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	4	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	4	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	4	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	7	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	7	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	7	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	12	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	12	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	12	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	22	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	22	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	22	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	23	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	23	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	23	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	25	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	25	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	25	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	28	1.1
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	28	1.1
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	28	1.1
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	2	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	2	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	2	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	6	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	6	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	6	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	8	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	8	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	8	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	9	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	9	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	9	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	15	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	15	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	15	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	17	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	17	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	17	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	20	1.09

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	20	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	20	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	21	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	21	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	21	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	27	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	27	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	27	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	30	1.09
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	30	1.09
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	30	1.09
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	1	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	1	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	1	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	11	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	11	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	11	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	13	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	13	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	13	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	14	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	14	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	14	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	16	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	16	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	16	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	18	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	18	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	18	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	26	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	26	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	26	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	29	1.08
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	29	1.08
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	29	1.08
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2’	19	1.08
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2’	19	1.08
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2’	19	1.08
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	5	1.07
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	5	1.07
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	5	1.07
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	24	1.07

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	24	1.07
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	24	1.07
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2’	5	1.07
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2’	5	1.07
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2’	5	1.07
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1’	19	1.06
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1’	19	1.06
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1’	19	1.06
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	10	1.04
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	10	1.04
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	10	1.04
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1’	5	1.02
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1’	5	1.02
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1’	5	1.02
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	2	1.01
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	2	1.01
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	2	1.01
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	12	1.0
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	12	1.0
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	12	1.0
(3,8)	1:10:1:DT:H71	1:9:1:DA:H2”	19	0.98
(3,8)	1:10:1:DT:H72	1:9:1:DA:H2”	19	0.98
(3,8)	1:10:1:DT:H73	1:9:1:DA:H2”	19	0.98
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	4	0.97
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	4	0.97
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	4	0.97
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	3	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	3	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	3	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	8	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	8	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	8	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	9	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	9	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	9	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	13	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	13	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	13	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	22	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3’	22	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3’	22	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3’	25	0.96

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	25	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	25	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	26	0.96
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	26	0.96
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	26	0.96
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	6	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	6	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	6	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	14	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	14	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	14	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	16	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	16	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	16	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	28	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	28	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	28	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	29	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	29	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	29	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	30	0.95
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	30	0.95
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	30	0.95
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	1	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	1	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	1	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	7	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	7	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	7	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	10	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	10	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	10	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	11	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	11	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	11	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	15	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	15	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	15	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	17	0.94
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	17	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	17	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	23	0.94

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	23	0.94
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	23	0.94
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	18	0.93
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	18	0.93
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	18	0.93
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	21	0.93
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	21	0.93
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	21	0.93
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	27	0.93
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	27	0.93
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	27	0.93
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	20	0.92
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	20	0.92
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	20	0.92
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	24	0.92
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	24	0.92
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	24	0.92
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	20	0.92
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	20	0.92
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	20	0.92
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	7	0.91
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	7	0.91
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	7	0.91
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	3	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	3	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	3	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	17	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	17	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	17	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	18	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	18	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	18	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	21	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	21	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	21	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	23	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	23	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	23	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	27	0.9
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	27	0.9
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	27	0.9
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	1	0.89

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	1	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	1	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	6	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	6	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	6	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	8	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	8	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	8	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	9	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	9	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	9	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	11	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	11	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	11	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	15	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	15	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	15	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	24	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	24	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	24	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	25	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	25	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	25	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	28	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	28	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	28	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	30	0.89
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	30	0.89
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	30	0.89
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	4	0.88
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	4	0.88
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	4	0.88
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	14	0.88
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	14	0.88
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	14	0.88
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	16	0.88
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	16	0.88
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	16	0.88
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	22	0.88
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	22	0.88
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	22	0.88
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	29	0.88

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	29	0.88
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	29	0.88
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	5	0.87
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	5	0.87
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	5	0.87
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	12	0.87
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	12	0.87
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	12	0.87
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	13	0.87
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	13	0.87
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	13	0.87
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	26	0.87
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	26	0.87
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	26	0.87
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	10	0.86
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	10	0.86
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	10	0.86
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	3	0.85
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	3	0.85
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	3	0.85
(3,5)	1:10:1:DT:H71	1:9:1:DA:H1'	2	0.85
(3,5)	1:10:1:DT:H72	1:9:1:DA:H1'	2	0.85
(3,5)	1:10:1:DT:H73	1:9:1:DA:H1'	2	0.85
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	25	0.84
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	25	0.84
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	25	0.84
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	7	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	7	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	7	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	9	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	9	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	9	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	14	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	14	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	14	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	17	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	17	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	17	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	22	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	22	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	22	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	23	0.83

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	23	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	23	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	27	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	27	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	27	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	28	0.83
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	28	0.83
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	28	0.83
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	1	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	1	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	1	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	2	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	2	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	2	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	6	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	6	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	6	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	8	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	8	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	8	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	12	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	12	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	12	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	15	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	15	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	15	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	16	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	16	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	16	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	20	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	20	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	20	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	21	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	21	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	21	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	26	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	26	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	26	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	29	0.82
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	29	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	29	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	30	0.82

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	30	0.82
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	30	0.82
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	4	0.81
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	4	0.81
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	4	0.81
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	11	0.81
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	11	0.81
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	11	0.81
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	13	0.81
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	13	0.81
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	13	0.81
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	18	0.81
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	18	0.81
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	18	0.81
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	24	0.8
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	24	0.8
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	24	0.8
(3,9)	1:10:1:DT:H71	1:9:1:DA:H3'	19	0.79
(3,9)	1:10:1:DT:H72	1:9:1:DA:H3'	19	0.79
(3,9)	1:10:1:DT:H73	1:9:1:DA:H3'	19	0.79
(3,7)	1:10:1:DT:H71	1:9:1:DA:H2'	10	0.79
(3,7)	1:10:1:DT:H72	1:9:1:DA:H2'	10	0.79
(3,7)	1:10:1:DT:H73	1:9:1:DA:H2'	10	0.79
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	15	0.37
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	25	0.37
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	28	0.37
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	3	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	4	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	5	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	6	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	7	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	9	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	10	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	12	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	14	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	16	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	17	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	18	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	19	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	20	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	21	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	22	0.36

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	23	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	27	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	29	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	30	0.36
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	1	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	2	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	8	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	11	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	24	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	26	0.35
(1,54)	1:8:1:DA:H2"	1:8:1:DA:H8	13	0.34
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	3	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	5	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	6	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	7	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	8	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	12	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	18	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	19	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	20	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	21	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	22	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	23	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	24	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	27	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	28	0.27
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	1	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	2	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	4	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	9	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	10	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	11	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	13	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	14	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	15	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	16	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	17	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	25	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	26	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	29	0.26
(1,65)	1:9:1:DA:H2"	1:9:1:DA:H8	30	0.26
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2"	5	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	10	0.21
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	1	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	7	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	9	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	13	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	15	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	16	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	19	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	20	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	21	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	23	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	24	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	28	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	29	0.2
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	30	0.2
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	16	0.19
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	23	0.19
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	27	0.19
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	28	0.19
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	30	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	2	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	3	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	4	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	6	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	8	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	11	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	12	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	14	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	17	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	18	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	22	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	25	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	26	0.19
(1,14)	1:3:1:DA:H8	1:2:1:DT:H2”	27	0.19
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	1	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	2	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	3	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	6	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	7	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	8	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	9	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2’	11	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	12	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	13	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	14	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	15	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	17	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	18	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	20	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	21	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	22	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	24	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	25	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	26	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	29	0.18
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	4	0.17
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	10	0.17
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	15	0.17
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	5	0.16
(1,70)	1:10:1:DT:H6	1:9:1:DA:H2'	19	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	7	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	9	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	16	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	17	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	20	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	25	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	28	0.16
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	3	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	5	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	10	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	11	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	18	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	19	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	22	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	29	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	30	0.15
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	28	0.15
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	2	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	4	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	8	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	12	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	14	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	23	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	26	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	27	0.14
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	24	0.14
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	1	0.13
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	6	0.13
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	21	0.13
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	14	0.13
(1,69)	1:10:1:DT:H6	1:9:1:DA:H8	12	0.12
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	24	0.12
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	4	0.12
(1,59)	1:9:1:DA:H8	1:8:1:DA:H2'	12	0.11
(1,49)	1:8:1:DA:H8	1:7:1:DG:H2"	24	0.11
(1,48)	1:8:1:DA:H8	1:7:1:DG:H2'	13	0.11
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	13	0.11
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	27	0.11
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	3	0.11
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	26	0.11
(1,69)	1:10:1:DT:H6	1:9:1:DA:H8	2	0.1
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	1	0.1
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	3	0.1
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	6	0.1
(1,39)	1:7:1:DG:H8	1:6:1:DG:H2"	24	0.1
(1,33)	1:6:1:DG:H2'	1:6:1:DG:H8	18	0.1

10 Dihedral-angle violation analysis

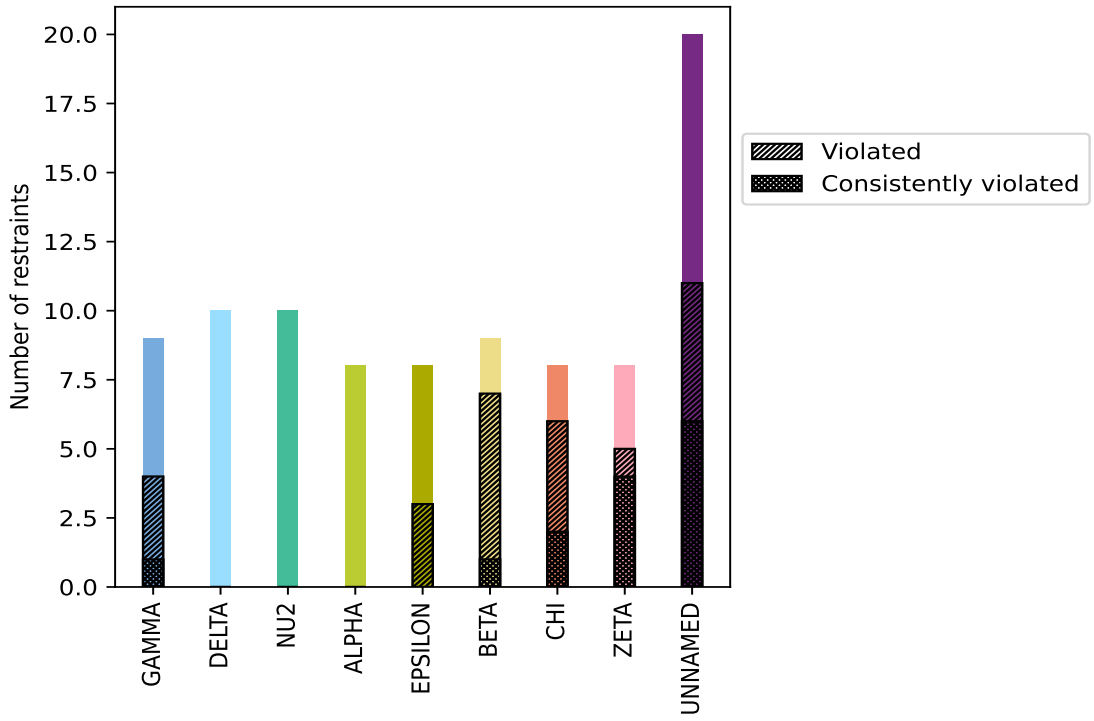
10.1 Summary of dihedral-angle violations

The following table provides the summary of dihedral-angle violations in different dihedral-angle types. Violations less than 1° are not included in the calculation.

Angle type	Count	%[1]	Violated[3]			Consistently Violated[4]		
			Count	%[2]	%[1]	Count	%[2]	%[1]
GAMMA	9	10.0	4	44.4	4.4	1	11.1	1.1
DELTA	10	11.1	0	0.0	0.0	0	0.0	0.0
NU2	10	11.1	0	0.0	0.0	0	0.0	0.0
ALPHA	8	8.9	0	0.0	0.0	0	0.0	0.0
EPSILON	8	8.9	3	37.5	3.3	0	0.0	0.0
BETA	9	10.0	7	77.8	7.8	1	11.1	1.1
CHI	8	8.9	6	75.0	6.7	2	25.0	2.2
ZETA	8	8.9	5	62.5	5.6	4	50.0	4.4
UNNAMED	20	22.2	11	55.0	12.2	6	30.0	6.7
Total	90	100.0	36	40.0	40.0	14	15.6	15.6

[1] percentage calculated with respect to total number of dihedral-angle restraints, [2] percentage calculated with respect to number of restraints in a particular dihedral-angle type, [3] violated in at least one model, [4] violated in all the models

10.1.1 Bar chart : Distribution of dihedral-angles and violations (i)



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

10.2 Dihedral-angle violation statistics for each model (i)

The following table provides the dihedral-angle violation statistics for each model in the ensemble. Violations less than 1° are not included in the statistics.

Model ID	Number of violations										Mean (°)	Max (°)	SD (°)	Media
	GAMMA	DELTA	NU2	ALPHA	EPSILON	BETA	CHI	ZETA	UNNAMED	Total				
1	2	0	0	0	1	3	6	5	7	24	1.96	4.19	0.96	1.5
2	2	0	0	0	1	3	4	4	7	21	2.04	4.11	0.87	1.5
3	1	0	0	0	2	4	5	5	7	24	1.85	4.31	0.92	1.5
4	3	0	0	0	1	6	4	5	9	28	1.83	3.96	0.8	1.5
5	2	0	0	0	1	4	3	5	7	22	2.11	4.32	0.96	1.7
6	2	0	0	0	1	4	4	5	7	23	1.91	4.16	0.9	1.6
7	2	0	0	0	1	4	4	5	7	23	1.9	4.15	0.85	1.
8	2	0	0	0	1	5	4	5	8	25	1.84	4.06	0.84	1.5
9	3	0	0	0	1	4	4	5	7	24	1.98	4.16	0.9	1.7
10	1	0	0	0	2	5	4	5	8	25	1.88	4.22	0.96	1.
11	3	0	0	0	1	5	5	5	8	27	1.93	4.81	0.97	1.7
12	2	0	0	0	1	3	4	4	7	21	2.07	3.95	0.81	2.
13	1	0	0	0	1	4	4	5	7	22	1.99	4.27	0.95	1.6
14	2	0	0	0	1	4	5	5	7	24	1.9	4.13	0.9	1.6
15	3	0	0	0	1	4	5	5	8	26	1.93	4.14	0.9	1.
16	2	0	0	0	1	4	5	5	7	24	1.87	4.11	0.86	1.5
17	2	0	0	0	1	4	5	5	7	24	1.92	4.15	0.87	1.6
18	1	0	0	0	2	4	5	5	8	25	1.88	4.15	0.84	1.6
19	2	0	0	0	0	4	4	5	8	23	2.05	3.95	0.82	1.7
20	2	0	0	0	1	4	4	5	7	23	1.98	4.24	0.87	1.6
21	2	0	0	0	1	4	5	5	7	24	1.93	4.21	0.91	1.5
22	2	0	0	0	2	3	3	5	7	22	2.05	4.3	0.99	1.
23	2	0	0	0	1	4	4	5	8	24	1.87	4.17	0.87	1.5
24	1	0	0	0	2	4	5	5	7	24	1.96	4.1	0.91	1.6
25	2	0	0	0	1	4	5	5	8	25	1.87	4.15	0.85	1.5
26	1	0	0	0	1	5	5	5	7	24	1.85	4.04	0.88	1.4
27	2	0	0	0	2	4	5	5	7	25	1.88	4.15	0.91	1.5
28	2	0	0	0	2	4	4	5	6	23	2.01	4.25	0.93	1.6

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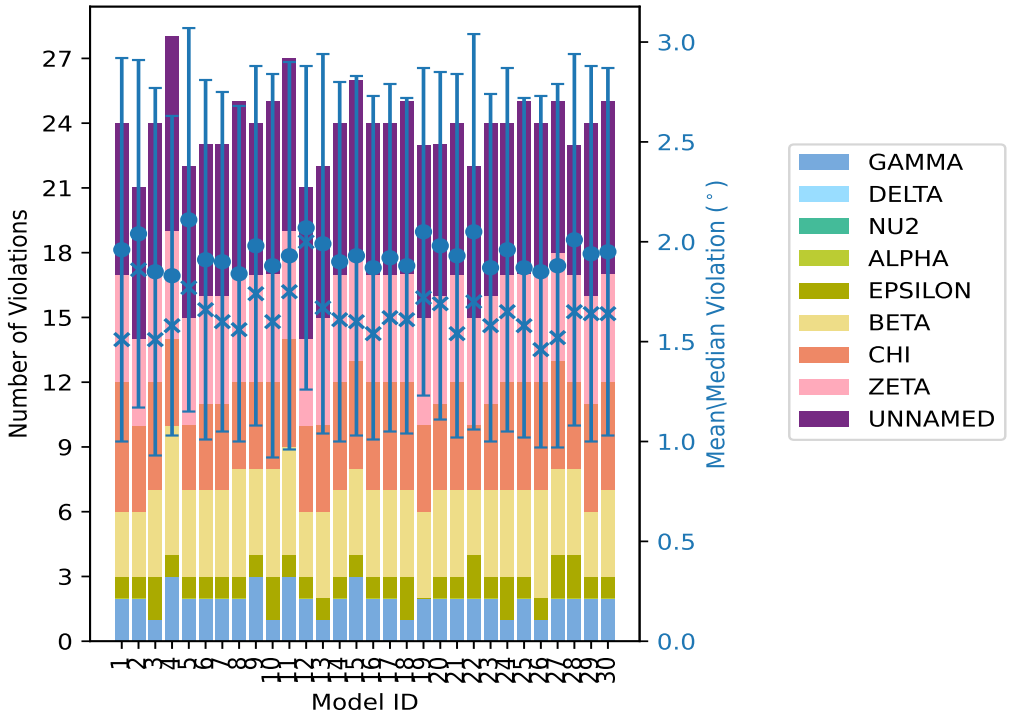
Model ID	Number of violations										Mean (°)	Max (°)	SD (°)	Media
	GAMMA	DELTA	NU2	ALPHA	EPSILON	BETA	CHI	ZETA	UNNAMED	Total				
29	2	0	0	0	1	3	5	5	8	24	1.94	4.16	0.94	1.6
30	2	0	0	0	1	4	5	5	8	25	1.95	4.22	0.92	1.6

10.2.1 Bar graph : Dihedral violation statistics for each model



The mean(dot),median(x) and the standard deviation are shown in blue with respect to the y axis on the right

10.3 Dihedral-angle violation statistics for the ensemble

Violation analysis may find that some restraints are violated in very few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of ensemble.

Number of violated restraints										Fraction of the ense	
GAMMA	DELTA	NU2	ALPHA	EPSILON	BETA	CHI	ZETA	UNNAMED	Total	Count[1]	%
1	0	0	0	0	1	0	0	1	3	1	3.3
0	0	0	0	1	1	0	0	1	3	2	6.7
0	0	0	0	0	0	1	0	0	1	3	10.0
1	0	0	0	0	1	0	0	0	2	4	13.3
0	0	0	0	0	0	0	0	1	1	5	16.7
0	0	0	0	1	0	0	0	1	2	6	20.0
0	0	0	0	0	0	0	0	0	0	7	23.3
0	0	0	0	0	0	0	0	0	0	8	26.7
0	0	0	0	0	0	0	0	0	0	9	30.0

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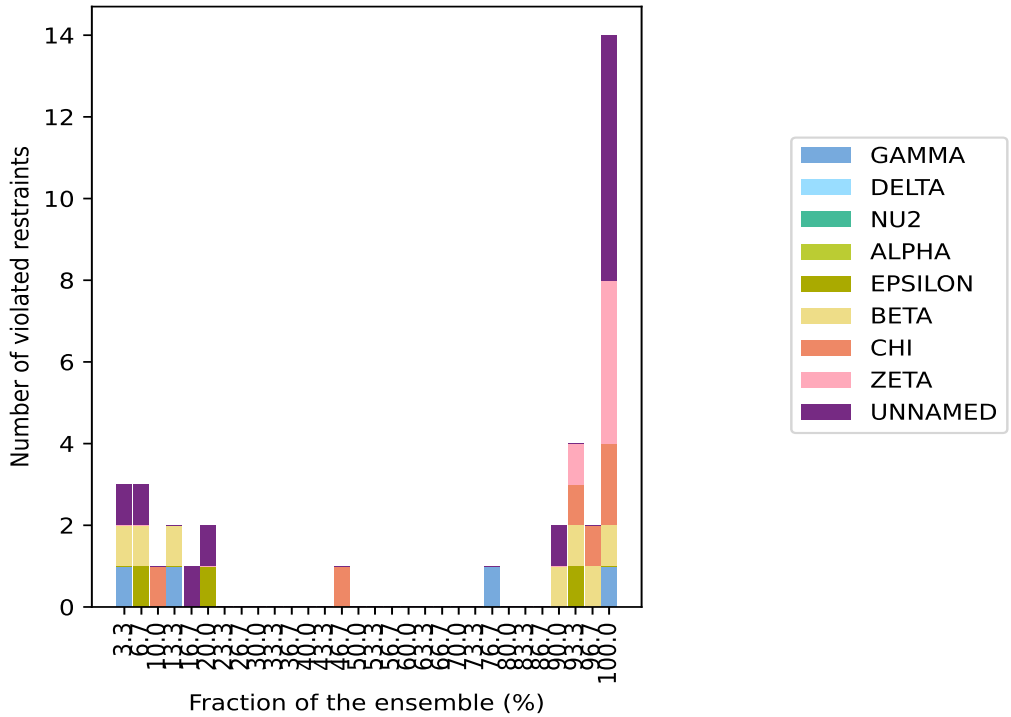
Number of violated restraints										Fraction of the ense	
GAMMA	DELTA	NU2	ALPHA	EPSILON	BETA	CHI	ZETA	UNNAMED	Total	Count[1]	%
0	0	0	0	0	0	0	0	0	0	10	33.3
0	0	0	0	0	0	0	0	0	0	11	36.7
0	0	0	0	0	0	0	0	0	0	12	40.0
0	0	0	0	0	0	0	0	0	0	13	43.3
0	0	0	0	0	0	1	0	0	1	14	46.7
0	0	0	0	0	0	0	0	0	0	15	50.0
0	0	0	0	0	0	0	0	0	0	16	53.3
0	0	0	0	0	0	0	0	0	0	17	56.7
0	0	0	0	0	0	0	0	0	0	18	60.0
0	0	0	0	0	0	0	0	0	0	19	63.3
0	0	0	0	0	0	0	0	0	0	20	66.7
0	0	0	0	0	0	0	0	0	0	21	70.0
0	0	0	0	0	0	0	0	0	0	22	73.3
1	0	0	0	0	0	0	0	0	1	23	76.7
0	0	0	0	0	0	0	0	0	0	24	80.0
0	0	0	0	0	0	0	0	0	0	25	83.3
0	0	0	0	0	0	0	0	0	0	26	86.7
0	0	0	0	0	1	0	0	1	2	27	90.0
0	0	0	0	1	1	1	1	0	4	28	93.3
0	0	0	0	0	1	1	0	0	2	29	96.7
1	0	0	0	0	1	2	4	6	14	30	100.0

[1] Number of models with violations

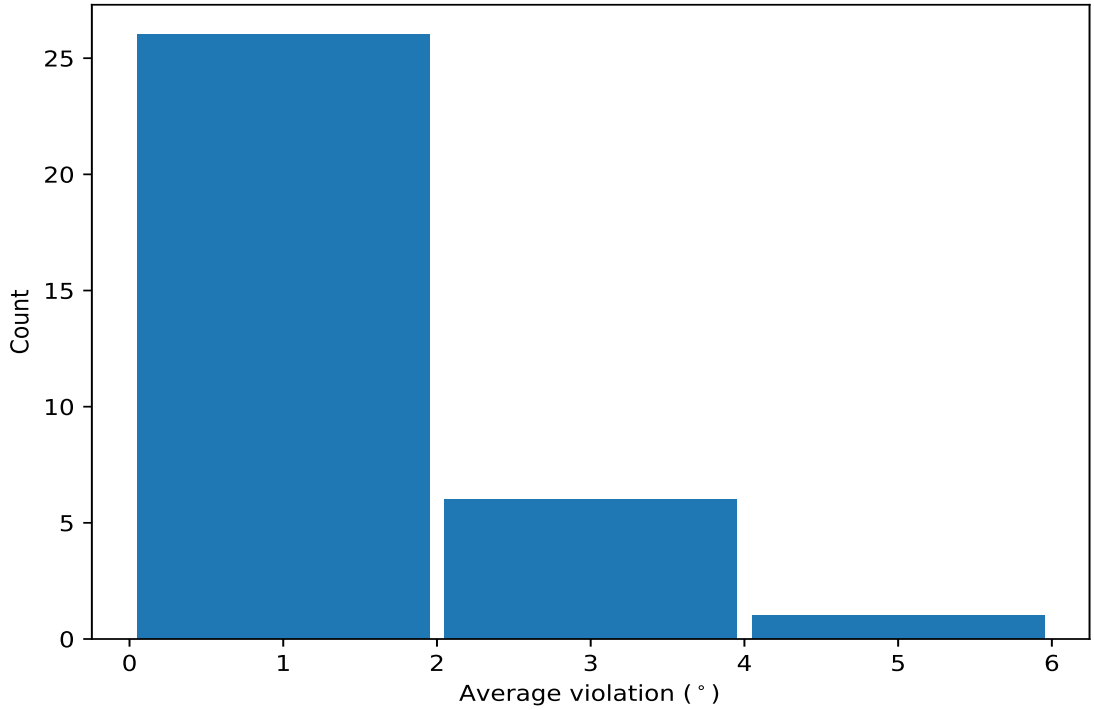
10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble



10.4 Most violated dihedral-angle restraints in the ensemble

10.4.1 Histogram : Distribution of mean dihedral-angle violations

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



10.4.2 Table: Most violated dihedral-angle restraints

The following table provides the mean and the standard deviation of the violation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint.

Key	Atom-1	Atom-2	Atom-3	Atom-4	Models[1]	Mean	SD[2]	Median
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	30	4.11	0.12	4.14
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	30	3.99	0.25	3.95
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	30	3.15	0.17	3.16
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	30	3.01	0.25	3.03
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	30	2.94	0.16	2.92
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	30	2.65	0.24	2.65
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	30	2.09	0.31	2.01
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	30	1.79	0.14	1.77
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	30	1.77	0.12	1.8
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	30	1.71	0.22	1.7
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	30	1.71	0.38	1.64
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	30	1.67	0.19	1.65
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	30	1.6	0.12	1.6

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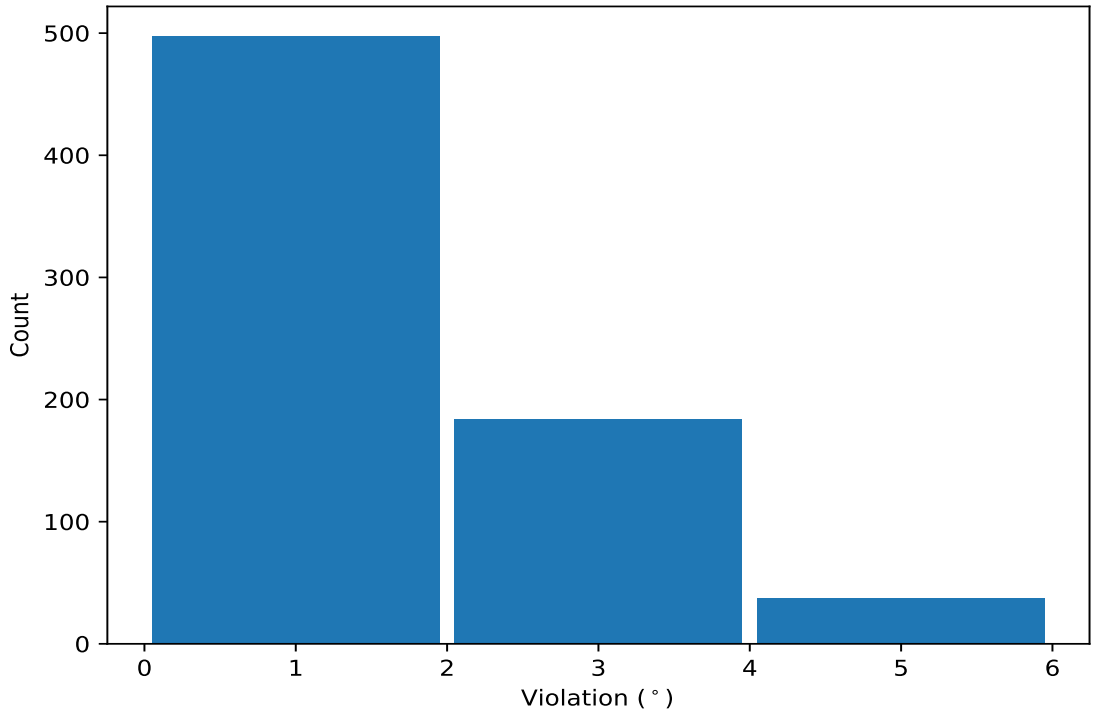
Key	Atom-1	Atom-2	Atom-3	Atom-4	Models[1]	Mean	SD[2]	Median
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	30	1.23	0.14	1.23
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	29	1.69	0.22	1.67
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	29	1.28	0.21	1.27
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	28	1.42	0.23	1.38
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	28	1.35	0.14	1.33
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	28	1.34	0.1	1.34
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	28	1.31	0.11	1.29
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	27	1.24	0.41	1.12
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	27	1.1	0.05	1.09
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	23	1.11	0.09	1.1
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	14	1.1	0.07	1.1
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	6	1.38	0.38	1.25
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	6	1.1	0.08	1.08
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	5	1.21	0.29	1.07
(1,48)	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	4	1.09	0.06	1.08
(1,30)	1:8:1:DA:P	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	4	1.07	0.02	1.08
(1,86)	1:4:1:DA:O4'	1:4:1:DA:C1'	1:4:1:DA:N9	1:4:1:DA:C4	3	1.09	0.1	1.04
(1,28)	1:6:1:DG:P	1:6:1:DG:O5'	1:6:1:DG:C5'	1:6:1:DG:C4'	2	1.44	0.04	1.44
(1,3)	1:3:1:DA:C4'	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	2	1.41	0.25	1.41
(1,64)	1:4:1:DA:C1'	1:4:1:DA:O4'	1:4:1:DA:C4'	1:4:1:DA:C5'	2	1.04	0.03	1.04

[1] Number of violated models, [2]Standard deviation, All angle values are in degree (°)

10.5 All violated dihedral-angle restraints (i)

10.5.1 Histogram : Distribution of violations (i)

The following histogram shows the distribution of the absolute value of the violation for all violated restraints in the ensemble.



10.5.2 Table: All violated dihedral-angle restraints

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint.

Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	11	4.81
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	5	4.32
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	3	4.31
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	22	4.3
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	13	4.27
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	28	4.25
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	20	4.24
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	10	4.22
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	30	4.22
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	21	4.21
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	1	4.19
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	11	4.17
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	23	4.17
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	6	4.16
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	9	4.16
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	29	4.16
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	7	4.15
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	17	4.15
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	18	4.15
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	25	4.15
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	27	4.15

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	15	4.14
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	14	4.13
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	30	4.13
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	22	4.12
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	1	4.11
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	2	4.11
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	16	4.11
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	9	4.1
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	15	4.1
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	24	4.1
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	29	4.1
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	28	4.09
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	24	4.09
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	13	4.07
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	8	4.06
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	26	4.04
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	14	3.98
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	26	3.96
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	4	3.96
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	19	3.95
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	20	3.95
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	12	3.95
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	5	3.94
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	12	3.91
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	27	3.9
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	7	3.89
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	16	3.89
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	10	3.89
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	21	3.88
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	25	3.87
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	3	3.84
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	6	3.83
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	17	3.83
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	4	3.79
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	2	3.77
(1,16)	1:10:1:DT:C3'	1:10:1:DT:O3'	1:11:1:DG:P	1:11:1:DG:O5'	19	3.72
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	23	3.66
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	18	3.63
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	1	3.58
(1,61)	1:3:1:DA:C1'	1:3:1:DA:O4'	1:3:1:DA:C4'	1:3:1:DA:C5'	8	3.53
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	14	3.44
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	27	3.4
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	2	3.34
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	3	3.33
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	23	3.32
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	13	3.31
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	26	3.29
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	30	3.27
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	24	3.24
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	28	3.24
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	10	3.23

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	29	3.23
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	11	3.22
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	21	3.19
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	6	3.19
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	22	3.18
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	13	3.17
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	1	3.17
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	19	3.17
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	27	3.17
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	28	3.17
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	4	3.17
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	12	3.17
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	6	3.16
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	8	3.16
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	11	3.16
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	10	3.15
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	22	3.15
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	1	3.14
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	29	3.14
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	21	3.14
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	5	3.14
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	7	3.13
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	15	3.12
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	29	3.12
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	10	3.11
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	17	3.1
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	22	3.1
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	17	3.1
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	21	3.1
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	9	3.09
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	25	3.09
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	24	3.07
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	28	3.07
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	22	3.06
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	30	3.06
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	16	3.06
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	15	3.04
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	10	3.03
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	16	3.03
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	5	3.03
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	23	3.03
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	19	3.02
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	5	3.01
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	8	3.01
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	14	3.01
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	26	3.01
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	18	3.01
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	3	3.0
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	5	3.0
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	9	3.0
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	15	3.0

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	20	3.0
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	18	2.99
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	30	2.99
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	9	2.98
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	20	2.95
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	15	2.95
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	21	2.93
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	27	2.92
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	20	2.92
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	18	2.91
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	28	2.91
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	25	2.9
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	4	2.89
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	1	2.89
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	5	2.89
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	24	2.88
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	11	2.87
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	19	2.87
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	25	2.87
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	22	2.86
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	30	2.86
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	14	2.85
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	17	2.85
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	9	2.85
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	29	2.85
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	3	2.84
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	23	2.84
(1,73)	1:8:1:DA:C1'	1:8:1:DA:O4'	1:8:1:DA:C4'	1:8:1:DA:C5'	7	2.82
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	8	2.81
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	12	2.8
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	13	2.8
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	2	2.79
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	2	2.76
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	6	2.74
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	5	2.73
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	4	2.73
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	24	2.73
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	27	2.73
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	13	2.71
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	7	2.7
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	16	2.67
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	19	2.66
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	18	2.66
(1,84)	1:2:1:DT:O4'	1:2:1:DT:C1'	1:2:1:DT:N1	1:2:1:DT:C2	26	2.65
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	20	2.64
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	11	2.63
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	4	2.61
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	6	2.59
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	2	2.56
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	19	2.55
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	12	2.52

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	3	2.48
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	24	2.46
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	23	2.43
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	8	2.42
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	17	2.42
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	25	2.4
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	10	2.39
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	14	2.35
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	17	2.31
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	9	2.28
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	11	2.27
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	15	2.27
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	20	2.25
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	16	2.24
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	11	2.24
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	26	2.23
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	19	2.23
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	4	2.22
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	12	2.2
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	12	2.19
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	19	2.18
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	2	2.17
(1,58)	1:2:1:DT:C1'	1:2:1:DT:O4'	1:2:1:DT:C4'	1:2:1:DT:C5'	7	2.17
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	24	2.17
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	30	2.14
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	12	2.13
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	5	2.12
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	28	2.12
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	21	2.11
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	11	2.1
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	30	2.1
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	13	2.08
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	12	2.08
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	26	2.08
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	16	2.07
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	15	2.06
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	12	2.05
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	14	2.05
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	8	2.04
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	4	2.03
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	7	2.02
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	13	2.02
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	8	2.01
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	2	2.01
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	2	2.01
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	3	2.01
(1,76)	1:9:1:DA:C1'	1:9:1:DA:O4'	1:9:1:DA:C4'	1:9:1:DA:C5'	12	2.0
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	16	1.99
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	20	1.99
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	9	1.98
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	4	1.97

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	1	1.97
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	5	1.96
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	25	1.93
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	30	1.93
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	15	1.93
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	29	1.93
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	15	1.92
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	15	1.92
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	6	1.92
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	14	1.91
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	18	1.91
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	7	1.91
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	25	1.91
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	9	1.9
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	19	1.89
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	18	1.89
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	2	1.88
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	28	1.88
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	30	1.88
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	6	1.88
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	11	1.87
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	17	1.87
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	26	1.87
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	12	1.87
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	27	1.87
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	4	1.86
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	29	1.86
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	2	1.86
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	5	1.86
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	2	1.85
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	6	1.85
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	23	1.85
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	8	1.84
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	29	1.84
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	8	1.84
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	16	1.84
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	25	1.84
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	10	1.84
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	21	1.84
(1,11)	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	1:4:1:DA:O5'	17	1.84
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	18	1.83
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	27	1.83
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	1	1.82
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	9	1.82
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	6	1.81
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	12	1.81
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	22	1.81
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	30	1.81
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	27	1.81
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	10	1.8
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	11	1.8

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	25	1.79
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	12	1.79
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	13	1.79
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	17	1.78
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	29	1.78
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	3	1.78
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	11	1.78
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	16	1.78
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	18	1.78
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	19	1.78
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	11	1.77
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	4	1.77
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	1	1.77
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	20	1.77
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	1	1.76
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	20	1.76
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	1	1.76
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	23	1.76
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	7	1.76
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	22	1.76
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	23	1.75
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	9	1.75
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	11	1.75
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	9	1.75
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	14	1.75
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	22	1.75
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	29	1.75
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	9	1.74
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	22	1.74
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	20	1.74
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	8	1.74
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	26	1.74
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	10	1.74
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	24	1.73
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	13	1.73
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	17	1.73
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	10	1.72
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	26	1.72
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	13	1.72
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	19	1.72
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	30	1.72
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	23	1.71
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	18	1.71
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	24	1.71
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	21	1.71
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	29	1.7
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	3	1.7
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	24	1.7
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	28	1.7
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	28	1.7
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	24	1.7

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	20	1.69
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	25	1.69
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	14	1.69
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	2	1.69
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	27	1.68
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	5	1.68
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	7	1.68
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	6	1.68
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	28	1.67
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	18	1.67
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	10	1.67
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	6	1.66
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	27	1.66
(1,3)	1:3:1:DA:C4'	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	22	1.66
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	28	1.65
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	23	1.65
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	4	1.65
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	4	1.64
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	15	1.64
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	30	1.64
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	4	1.64
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	17	1.64
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	14	1.63
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	19	1.63
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	21	1.63
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	19	1.63
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	12	1.63
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	13	1.62
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	15	1.62
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	2	1.62
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	9	1.62
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	12	1.62
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	21	1.61
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	7	1.61
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	14	1.61
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	28	1.61
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	14	1.61
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	18	1.61
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	17	1.61
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	18	1.61
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	16	1.6
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	28	1.6
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	10	1.6
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	7	1.6
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	24	1.6
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	8	1.6
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	3	1.59
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	9	1.59
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	15	1.59
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	25	1.59
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	19	1.59

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	23	1.59
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	25	1.58
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	16	1.58
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	20	1.58
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	5	1.58
(1,14)	1:8:1:DA:C3'	1:8:1:DA:O3'	1:9:1:DA:P	1:9:1:DA:O5'	13	1.58
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	29	1.58
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	19	1.57
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	26	1.57
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	7	1.56
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	30	1.56
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	25	1.56
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	21	1.56
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	23	1.56
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	20	1.56
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	8	1.56
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	20	1.56
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	28	1.55
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	8	1.54
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	19	1.54
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	18	1.54
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	15	1.54
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	14	1.53
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	25	1.53
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	27	1.52
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	2	1.52
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	3	1.52
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1	1.52
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	27	1.52
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	3	1.52
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	21	1.52
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	4	1.52
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	6	1.51
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	14	1.51
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	24	1.51
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	20	1.51
(1,78)	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1:10:1:DT:C2'	3	1.5
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	22	1.5
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	1	1.5
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	3	1.5
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	16	1.5
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	30	1.5
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	19	1.49
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	1	1.49
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	24	1.49
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	11	1.49
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	22	1.48
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	17	1.48
(1,28)	1:6:1:DG:P	1:6:1:DG:O5'	1:6:1:DG:C5'	1:6:1:DG:C4'	4	1.48
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	21	1.48
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	26	1.48

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	15	1.47
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	4	1.47
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	23	1.47
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	7	1.46
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	21	1.46
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	13	1.46
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	24	1.45
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	18	1.45
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	26	1.44
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	29	1.44
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	16	1.44
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	17	1.44
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	23	1.44
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	11	1.43
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	15	1.43
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	19	1.42
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	7	1.42
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	5	1.42
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	25	1.42
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	25	1.4
(1,28)	1:6:1:DG:P	1:6:1:DG:O5'	1:6:1:DG:C5'	1:6:1:DG:C4'	26	1.4
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	15	1.4
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	27	1.4
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	8	1.4
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	20	1.4
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	16	1.39
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	25	1.39
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	29	1.39
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	23	1.39
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	18	1.39
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	27	1.38
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	26	1.38
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	21	1.38
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	22	1.38
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	11	1.38
(1,10)	1:2:1:DT:C3'	1:2:1:DT:O3'	1:3:1:DA:P	1:3:1:DA:O5'	27	1.38
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	2	1.38
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	24	1.38
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	3	1.37
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	12	1.37
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	16	1.37
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1	1.37
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	7	1.37
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	17	1.37
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1	1.37
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	28	1.37
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	23	1.36
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	17	1.36
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	21	1.36
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	27	1.36
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	7	1.36

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	10	1.36
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	26	1.35
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	9	1.35
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	9	1.35
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	5	1.34
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	22	1.34
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	9	1.34
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	16	1.34
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	29	1.33
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	30	1.33
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	6	1.33
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	22	1.33
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	1	1.33
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	1	1.33
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	29	1.33
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	30	1.33
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	5	1.32
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	11	1.32
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	30	1.32
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	11	1.32
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	21	1.32
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	27	1.32
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	30	1.31
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	6	1.31
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	10	1.31
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	6	1.31
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	7	1.31
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	15	1.31
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	23	1.31
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	9	1.3
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	24	1.3
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	14	1.3
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	8	1.29
(1,87)	1:8:1:DA:O4'	1:8:1:DA:C1'	1:8:1:DA:N9	1:8:1:DA:C4	5	1.29
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	4	1.29
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	24	1.29
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	13	1.29
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	3	1.29
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	16	1.29
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	6	1.29
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	17	1.29
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	1	1.28
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	1	1.27
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	7	1.27
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	17	1.27
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	18	1.27
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	20	1.27
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	8	1.27
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	26	1.27
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	28	1.27
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	8	1.27

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	25	1.27
(1,47)	1:6:1:DG:O5'	1:6:1:DG:C5'	1:6:1:DG:C4'	1:6:1:DG:C3'	4	1.26
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	23	1.26
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	29	1.26
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	4	1.25
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	21	1.25
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	19	1.25
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	28	1.25
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	4	1.25
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	13	1.25
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	14	1.25
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	30	1.25
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	28	1.25
(1,86)	1:4:1:DA:O4'	1:4:1:DA:C1'	1:4:1:DA:N9	1:4:1:DA:C4	28	1.24
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	1	1.24
(1,49)	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	5	1.24
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	25	1.24
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	4	1.24
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	13	1.24
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	18	1.24
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	30	1.24
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	16	1.24
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	6	1.24
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	15	1.23
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	20	1.23
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	26	1.23
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	21	1.22
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	4	1.22
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	28	1.22
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	14	1.22
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	29	1.21
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	27	1.21
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	21	1.21
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	3	1.21
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	13	1.21
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	7	1.2
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	13	1.2
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	26	1.2
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	6	1.19
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	9	1.19
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	29	1.19
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	3	1.19
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	5	1.19
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	22	1.18
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	17	1.18
(1,27)	1:4:1:DA:P	1:4:1:DA:O5'	1:4:1:DA:C5'	1:4:1:DA:C4'	5	1.18
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	10	1.18
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	22	1.18
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	18	1.18
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	11	1.17
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	20	1.17

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	27	1.17
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	29	1.17
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	10	1.17
(1,48)	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	11	1.17
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	20	1.17
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	7	1.16
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	27	1.16
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	28	1.16
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	28	1.16
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	3	1.16
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	9	1.16
(1,3)	1:3:1:DA:C4'	1:3:1:DA:C3'	1:3:1:DA:O3'	1:4:1:DA:P	5	1.16
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	20	1.15
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	10	1.15
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	12	1.14
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	14	1.14
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	26	1.14
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	24	1.14
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	26	1.14
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	2	1.14
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	7	1.14
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	17	1.14
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	21	1.14
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	18	1.14
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	30	1.14
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	27	1.14
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	23	1.13
(1,63)	1:4:1:DA:C5'	1:4:1:DA:C4'	1:4:1:DA:C3'	1:4:1:DA:C2'	19	1.13
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	4	1.13
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	11	1.13
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	3	1.13
(1,7)	1:9:1:DA:C4'	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	26	1.13
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	14	1.12
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	16	1.12
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	18	1.12
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	6	1.12
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	14	1.12
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	18	1.12
(1,69)	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:C2'	6	1.12
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	9	1.12
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	22	1.12
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	25	1.12
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	11	1.12
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	12	1.12
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	17	1.12
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	18	1.11
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	27	1.11
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	2	1.11
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	16	1.11
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	25	1.11
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	30	1.11

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	2	1.11
(1,48)	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	4	1.11
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	14	1.11
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	24	1.11
(1,29)	1:7:1:DG:P	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	8	1.11
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	14	1.11
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	25	1.11
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	21	1.1
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	10	1.1
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	11	1.1
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	14	1.1
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	16	1.1
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	17	1.1
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	2	1.1
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	11	1.09
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	10	1.09
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	8	1.09
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	9	1.09
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	22	1.09
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	15	1.09
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	8	1.09
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	23	1.09
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	8	1.09
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	13	1.09
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	15	1.09
(1,30)	1:8:1:DA:P	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	4	1.09
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	24	1.08
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	10	1.08
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	2	1.08
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	7	1.08
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	23	1.08
(1,30)	1:8:1:DA:P	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	10	1.08
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	24	1.08
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	25	1.07
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	4	1.07
(1,67)	1:6:1:DG:C1'	1:6:1:DG:O4'	1:6:1:DG:C4'	1:6:1:DG:C5'	29	1.07
(1,64)	1:4:1:DA:C1'	1:4:1:DA:O4'	1:4:1:DA:C4'	1:4:1:DA:C5'	8	1.07
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	5	1.07
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	6	1.07
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	27	1.07
(1,30)	1:8:1:DA:P	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	11	1.07
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	15	1.07
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	3	1.07
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	17	1.06
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	8	1.06
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	1	1.06
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	1	1.06
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	20	1.06
(1,48)	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	15	1.06
(1,32)	1:10:1:DT:P	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	10	1.06
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	16	1.06

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	26	1.05
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	4	1.05
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	13	1.05
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	6	1.05
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	22	1.05
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	10	1.05
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	16	1.05
(1,15)	1:9:1:DA:C3'	1:9:1:DA:O3'	1:10:1:DT:P	1:10:1:DT:O5'	19	1.05
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	3	1.04
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	15	1.04
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	3	1.04
(1,86)	1:4:1:DA:O4'	1:4:1:DA:C1'	1:4:1:DA:N9	1:4:1:DA:C4	1	1.04
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	18	1.04
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	15	1.04
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	12	1.04
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	21	1.04
(1,88)	1:9:1:DA:O4'	1:9:1:DA:C1'	1:9:1:DA:N9	1:9:1:DA:C4	13	1.03
(1,85)	1:3:1:DA:O4'	1:3:1:DA:C1'	1:3:1:DA:N9	1:3:1:DA:C4	23	1.03
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	29	1.03
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	30	1.03
(1,30)	1:8:1:DA:P	1:8:1:DA:O5'	1:8:1:DA:C5'	1:8:1:DA:C4'	19	1.03
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	8	1.03
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	27	1.03
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	12	1.02
(1,48)	1:7:1:DG:O5'	1:7:1:DG:C5'	1:7:1:DG:C4'	1:7:1:DG:C3'	9	1.02
(1,33)	1:11:1:DG:P	1:11:1:DG:O5'	1:11:1:DG:C5'	1:11:1:DG:C4'	26	1.02
(1,90)	1:11:1:DG:O4'	1:11:1:DG:C1'	1:11:1:DG:N9	1:11:1:DG:C4	24	1.01
(1,79)	1:10:1:DT:C1'	1:10:1:DT:O4'	1:10:1:DT:C4'	1:10:1:DT:C5'	3	1.01
(1,64)	1:4:1:DA:C1'	1:4:1:DA:O4'	1:4:1:DA:C4'	1:4:1:DA:C5'	23	1.01
(1,26)	1:3:1:DA:P	1:3:1:DA:O5'	1:3:1:DA:C5'	1:3:1:DA:C4'	29	1.01
(1,5)	1:7:1:DG:C4'	1:7:1:DG:C3'	1:7:1:DG:O3'	1:8:1:DA:P	10	1.01
(1,86)	1:4:1:DA:O4'	1:4:1:DA:C1'	1:4:1:DA:N9	1:4:1:DA:C4	30	1.0
(1,72)	1:8:1:DA:C5'	1:8:1:DA:C4'	1:8:1:DA:C3'	1:8:1:DA:C2'	11	1.0
(1,51)	1:10:1:DT:O5'	1:10:1:DT:C5'	1:10:1:DT:C4'	1:10:1:DT:C3'	25	1.0