Full wwPDB NMR Structure Validation Report (i)

Mar 6, 2026 – 06:58 PM UTC

PDB ID	:	2LNG / pdb_00002lng
BMRB ID	:	18164
Title	:	Neurotensin 40 structures in DMPC:CHAPS:GM1(q= 0.25) bicelle pH 5.5 & 298K. NMR data & Structures
Authors	:	Mukhopadhyay, C.; Khatun, U.
Deposited on	:	2011-12-27

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:

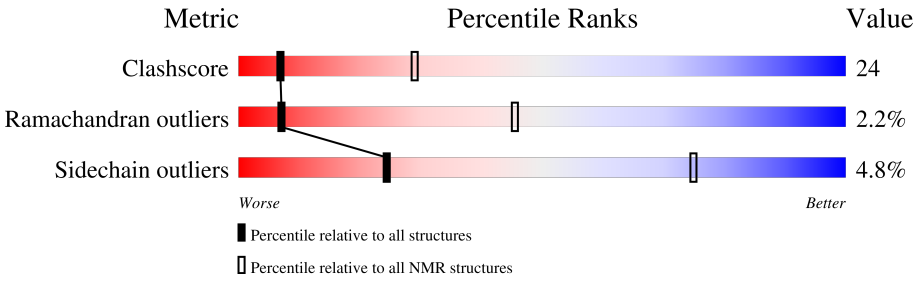
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
BMRB Restraints Analysis	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 51%.

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



Metric	Whole archive (#Entries)	NMR archive (#Entries)
Clashscore	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	A	13	54% 31% 15%

2 Ensemble composition and analysis (i)

This entry contains 40 models. Model 28 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

The following residues are included in the computation of the global validation metrics.

Well-defined (core) protein residues			
Well-defined core	**Residue range (total)**	**Backbone RMSD (Å)**	**Medoid model**
1	A:3-A:13 (11)	0.59	28

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 5 clusters and 5 single-model clusters were found.

Cluster number	Models
1	1, 2, 5, 6, 10, 14, 17, 18, 23, 26, 28, 29, 30, 33, 38
2	12, 15, 20, 24, 34, 35, 36, 37, 39
3	9, 22, 27, 31, 32
4	3, 4, 7, 13
5	19, 21
Single-model clusters	8; 11; 16; 25; 40

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 244 atoms, of which 124 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Neurotensin.

Mol	Chain	Residues	Atoms					Trace
1	A	13	Total	C	H	N	O	0
			244	78	124	21	21	

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	GLU	GLN	conflict	UNP P30990

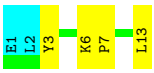
4 Residue-property plots

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: Neurotensin

Chain A: 

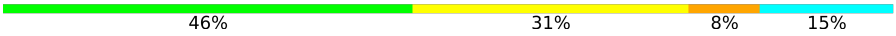


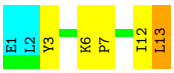
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

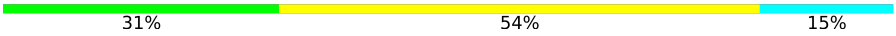
• Molecule 1: Neurotensin

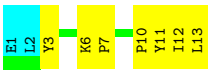
Chain A: 



4.2.2 Score per residue for model 2

• Molecule 1: Neurotensin

Chain A: 



4.2.3 Score per residue for model 3

• Molecule 1: Neurotensin

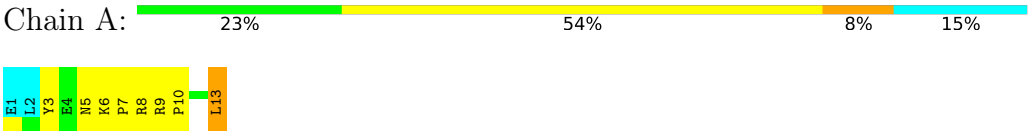
Chain A:



4.2.4 Score per residue for model 4

• Molecule 1: Neurotensin

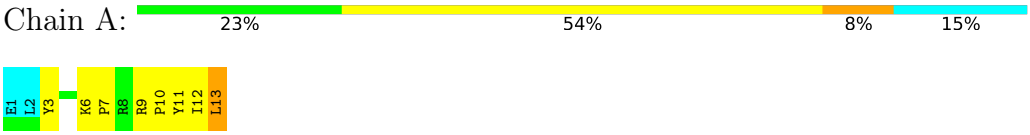
Chain A:



4.2.5 Score per residue for model 5

• Molecule 1: Neurotensin

Chain A:



4.2.6 Score per residue for model 6

• Molecule 1: Neurotensin

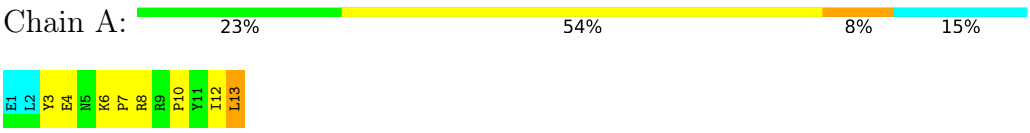
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: Neurotensin

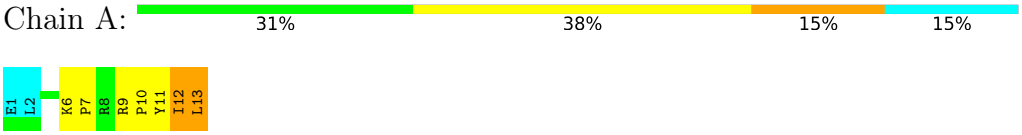
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: Neurotensin

Chain A:



4.2.9 Score per residue for model 9

• Molecule 1: Neurotensin

Chain A:



4.2.10 Score per residue for model 10

• Molecule 1: Neurotensin

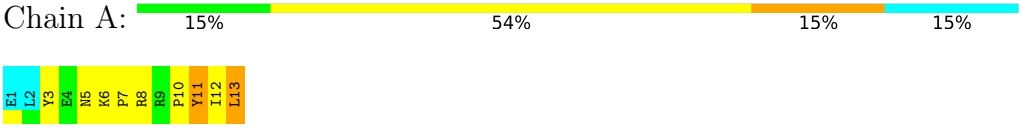
Chain A:



4.2.11 Score per residue for model 11

• Molecule 1: Neurotensin

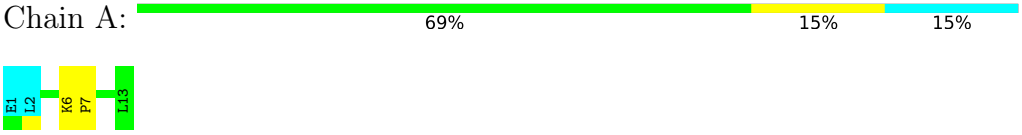
Chain A:



4.2.12 Score per residue for model 12

• Molecule 1: Neurotensin

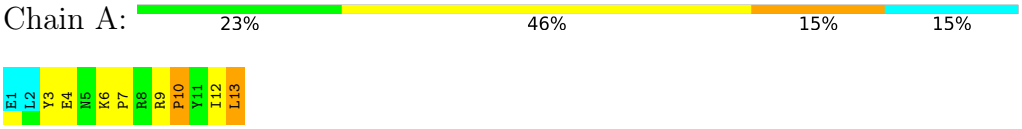
Chain A:



4.2.13 Score per residue for model 13

• Molecule 1: Neurotensin

Chain A:



4.2.14 Score per residue for model 14

• Molecule 1: Neurotensin

Chain A:



4.2.15 Score per residue for model 15

• Molecule 1: Neurotensin

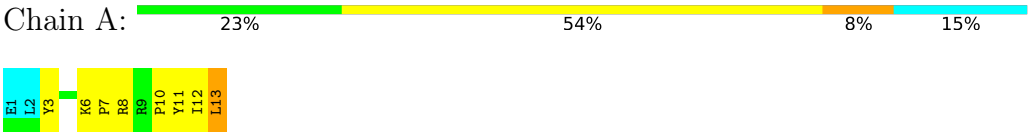
Chain A:



4.2.16 Score per residue for model 16

• Molecule 1: Neurotensin

Chain A:



4.2.17 Score per residue for model 17

• Molecule 1: Neurotensin

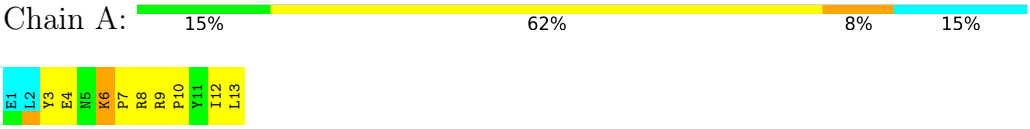
Chain A:



4.2.18 Score per residue for model 18

• Molecule 1: Neurotensin

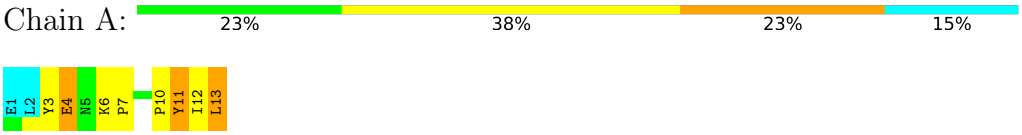
Chain A:



4.2.19 Score per residue for model 19

• Molecule 1: Neurotensin

Chain A:



4.2.20 Score per residue for model 20

• Molecule 1: Neurotensin

Chain A:



4.2.21 Score per residue for model 21

• Molecule 1: Neurotensin

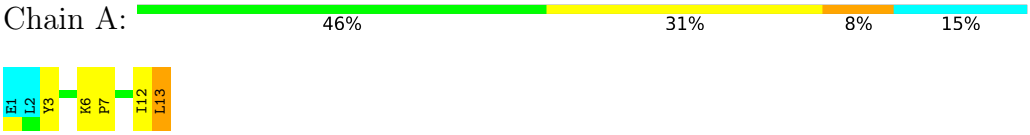
Chain A:



4.2.22 Score per residue for model 22

• Molecule 1: Neurotensin

Chain A:



4.2.23 Score per residue for model 23

• Molecule 1: Neurotensin

Chain A:



4.2.24 Score per residue for model 24

• Molecule 1: Neurotensin

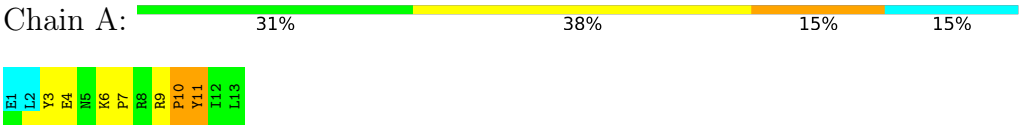
Chain A:



4.2.25 Score per residue for model 25

• Molecule 1: Neurotensin

Chain A:



4.2.26 Score per residue for model 26

• Molecule 1: Neurotensin

Chain A:



4.2.27 Score per residue for model 27

• Molecule 1: Neurotensin

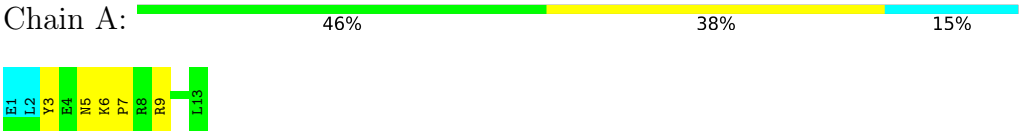
Chain A:



4.2.28 Score per residue for model 28 (medoid)

• Molecule 1: Neurotensin

Chain A:



4.2.29 Score per residue for model 29

• Molecule 1: Neurotensin

Chain A:



4.2.30 Score per residue for model 30

• Molecule 1: Neurotensin

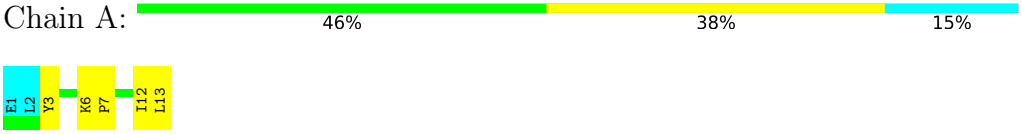
Chain A:



4.2.31 Score per residue for model 31

• Molecule 1: Neurotensin

Chain A:



4.2.32 Score per residue for model 32

• Molecule 1: Neurotensin

Chain A:



4.2.33 Score per residue for model 33

• Molecule 1: Neurotensin

Chain A:



4.2.34 Score per residue for model 34

• Molecule 1: Neurotensin

Chain A:



4.2.35 Score per residue for model 35

• Molecule 1: Neurotensin

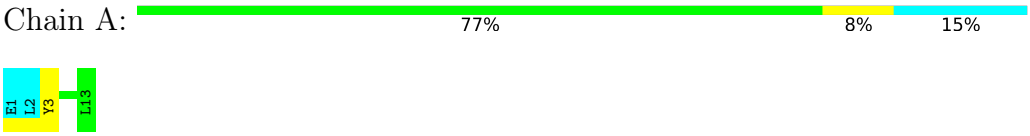
Chain A:



4.2.36 Score per residue for model 36

• Molecule 1: Neurotensin

Chain A:



4.2.37 Score per residue for model 37

• Molecule 1: Neurotensin

Chain A:



4.2.38 Score per residue for model 38

• Molecule 1: Neurotensin

Chain A:



4.2.39 Score per residue for model 39

• Molecule 1: Neurotensin

Chain A:



4.2.40 Score per residue for model 40

• Molecule 1: Neurotensin

Chain A:



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 40 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
X-PLOR NIH	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	111
Number of shifts mapped to atoms	111
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	51%

6 Model quality

6.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#Z>5	RMSZ	#Z>5
1	A	0.69±0.02	0±0/106 (0.0± 0.0%)	1.10±0.03	0±0/141 (0.1± 0.2%)
All	All	0.69	0/4240 (0.0%)	1.11	4/5640 (0.1%)

There are no bond-length outliers.

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	8	ARG	N-CA-C	-5.49	107.13	113.88	3	4

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	103	105	105	5±2
All	All	4120	4200	4200	202

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All unique clashes are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:13:LEU:HD13	1:A:13:LEU:H	0.91	1.26	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:13:LEU:HD13	1:A:13:LEU:N	0.68	2.03	11	1
1:A:13:LEU:C	1:A:13:LEU:HD23	0.68	2.14	21	2
1:A:6:LYS:N	1:A:7:PRO:CD	0.65	2.60	33	39
1:A:13:LEU:H	1:A:13:LEU:CD1	0.63	2.04	1	3
1:A:12:ILE:O	1:A:12:ILE:HG23	0.62	1.94	14	4
1:A:5:ASN:ND2	1:A:8:ARG:NH2	0.60	2.48	4	1
1:A:3:TYR:CD2	1:A:3:TYR:O	0.59	2.55	9	32
1:A:3:TYR:O	1:A:3:TYR:CG	0.58	2.56	29	23
1:A:10:PRO:O	1:A:11:TYR:CG	0.58	2.57	25	1
1:A:11:TYR:CD2	1:A:12:ILE:N	0.57	2.73	40	1
1:A:4:GLU:OE1	1:A:4:GLU:N	0.55	2.39	26	3
1:A:8:ARG:O	1:A:9:ARG:NE	0.55	2.40	17	1
1:A:4:GLU:H	1:A:4:GLU:CD	0.54	2.09	19	1
1:A:12:ILE:HG23	1:A:13:LEU:N	0.54	2.18	13	3
1:A:4:GLU:O	1:A:8:ARG:NH1	0.54	2.41	7	2
1:A:12:ILE:HD12	1:A:12:ILE:N	0.53	2.18	2	1
1:A:5:ASN:OD1	1:A:8:ARG:NH2	0.53	2.42	11	1
1:A:10:PRO:O	1:A:13:LEU:N	0.53	2.41	2	2
1:A:10:PRO:O	1:A:12:ILE:N	0.52	2.42	19	2
1:A:10:PRO:O	1:A:11:TYR:CD2	0.52	2.63	25	1
1:A:3:TYR:CG	1:A:3:TYR:O	0.52	2.62	24	1
1:A:5:ASN:O	1:A:9:ARG:NH1	0.51	2.44	28	1
1:A:6:LYS:NZ	1:A:11:TYR:OH	0.50	2.42	35	2
1:A:13:LEU:HD12	1:A:13:LEU:N	0.50	2.22	33	2
1:A:10:PRO:O	1:A:11:TYR:C	0.50	2.55	19	9
1:A:13:LEU:C	1:A:13:LEU:CD2	0.49	2.85	21	4
1:A:13:LEU:O	1:A:13:LEU:HD13	0.49	2.07	4	1
1:A:9:ARG:C	1:A:11:TYR:H	0.49	2.15	8	1
1:A:13:LEU:HD12	1:A:13:LEU:H	0.48	1.68	5	1
1:A:12:ILE:O	1:A:13:LEU:CB	0.48	2.62	22	2
1:A:5:ASN:CG	1:A:8:ARG:HH21	0.47	2.17	11	2
1:A:9:ARG:N	1:A:10:PRO:CD	0.47	2.78	18	2
1:A:13:LEU:N	1:A:13:LEU:CD1	0.47	2.74	11	1
1:A:13:LEU:C	1:A:13:LEU:CD1	0.46	2.87	8	5
1:A:10:PRO:C	1:A:12:ILE:N	0.46	2.72	19	1
1:A:13:LEU:HD13	1:A:13:LEU:C	0.46	2.36	34	2
1:A:9:ARG:O	1:A:10:PRO:O	0.46	2.33	13	1
1:A:13:LEU:H	1:A:13:LEU:HD23	0.46	1.71	24	2
1:A:13:LEU:HD12	1:A:13:LEU:C	0.46	2.35	3	2
1:A:9:ARG:O	1:A:10:PRO:C	0.46	2.59	25	1
1:A:4:GLU:CD	1:A:4:GLU:N	0.45	2.74	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:4:GLU:O	1:A:4:GLU:CD	0.45	2.59	34	1
1:A:9:ARG:O	1:A:11:TYR:N	0.45	2.50	8	1
1:A:12:ILE:O	1:A:12:ILE:CG2	0.45	2.63	14	2
1:A:12:ILE:HD12	1:A:12:ILE:H	0.45	1.70	2	1
1:A:12:ILE:CG2	1:A:13:LEU:N	0.44	2.81	13	2
1:A:5:ASN:OD1	1:A:5:ASN:O	0.44	2.36	14	1
1:A:13:LEU:H	1:A:13:LEU:CD2	0.44	2.26	24	1
1:A:12:ILE:O	1:A:12:ILE:HG22	0.43	2.12	15	1
1:A:5:ASN:CG	1:A:8:ARG:NH2	0.43	2.77	4	1
1:A:6:LYS:O	1:A:9:ARG:C	0.43	2.62	4	1
1:A:12:ILE:O	1:A:13:LEU:O	0.43	2.37	18	3
1:A:6:LYS:C	1:A:8:ARG:H	0.43	2.21	16	1
1:A:12:ILE:O	1:A:13:LEU:C	0.42	2.62	8	2
1:A:3:TYR:O	1:A:3:TYR:CD2	0.42	2.73	24	3
1:A:5:ASN:OD1	1:A:5:ASN:C	0.42	2.62	40	4
1:A:4:GLU:OE2	1:A:5:ASN:OD1	0.42	2.38	34	1
1:A:13:LEU:C	1:A:13:LEU:HD12	0.42	2.40	19	1
1:A:6:LYS:C	1:A:8:ARG:N	0.41	2.77	16	1
1:A:5:ASN:C	1:A:5:ASN:OD1	0.41	2.63	21	1
1:A:4:GLU:CD	1:A:4:GLU:C	0.41	2.89	34	1
1:A:9:ARG:C	1:A:11:TYR:N	0.40	2.80	8	1
1:A:13:LEU:C	1:A:13:LEU:HD13	0.40	2.40	22	1

6.3 Torsion angles (i)

6.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	10/13 (77%)	7±1 (74±12%)	2±1 (24±10%)	0±1 (2±5%)	7	45
All	All	400/520 (77%)	295 (74%)	96 (24%)	9 (2%)	7	45

All 3 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	10	PRO	5
1	A	11	TYR	3
1	A	12	ILE	1

6.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	11/13 (85%)	10±1 (95±6%)	1±1 (5±6%)	24 75
All	All	440/520 (85%)	419 (95%)	21 (5%)	24 75

All 4 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	13	LEU	13
1	A	6	LYS	6
1	A	9	ARG	1
1	A	4	GLU	1

6.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.6 Ligand geometry (i)

There are no ligands in this entry.

6.7 Other polymers (i)

There are no such molecules in this entry.

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 51% for the well-defined parts and 51% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

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	111
Number of shifts mapped to atoms	111
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	0

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 51%, i.e. 92 atoms were assigned a chemical shift out of a possible 182. 0 out of 1 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	20/51 (39%)	20/20 (100%)	0/22 (0%)	0/9 (0%)
Sidechain	64/113 (57%)	64/72 (89%)	0/33 (0%)	0/8 (0%)
Aromatic	8/18 (44%)	8/8 (100%)	0/10 (0%)	0/0 (—%)
Overall	92/182 (51%)	92/100 (92%)	0/65 (0%)	0/17 (0%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 51%, i.e. 108 atoms were assigned a chemical shift out of a possible 212. 0 out of 2 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	23/61 (38%)	23/24 (96%)	0/26 (0%)	0/11 (0%)
Sidechain	77/133 (58%)	77/85 (91%)	0/40 (0%)	0/8 (0%)
Aromatic	8/18 (44%)	8/8 (100%)	0/10 (0%)	0/0 (—%)
Overall	108/212 (51%)	108/117 (92%)	0/76 (0%)	0/19 (0%)

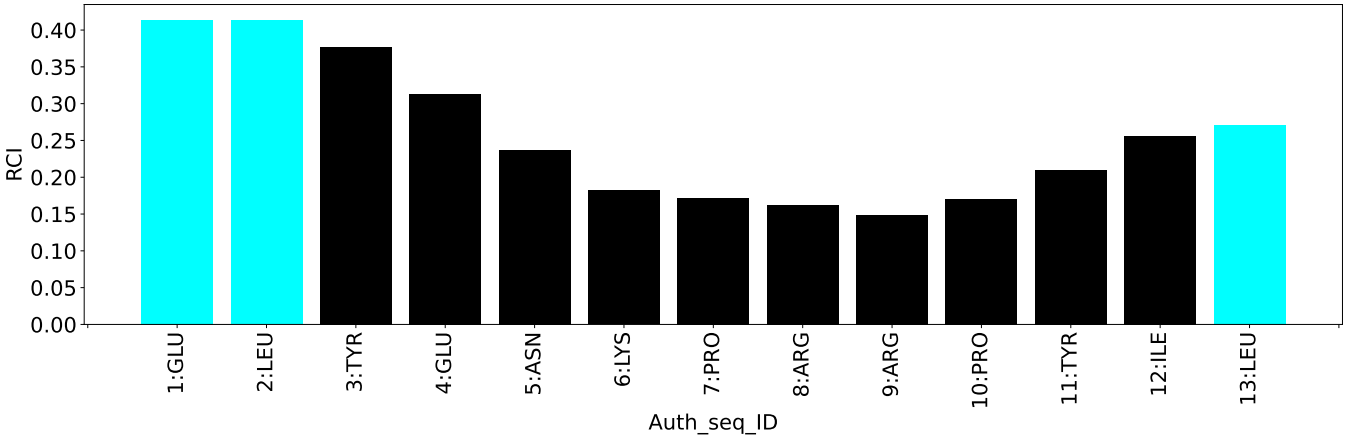
7.1.4 Statistically unusual chemical shifts (i)

There are no statistically unusual chemical shifts.

7.1.5 Random Coil Index (RCI) plots (i)

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition.If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:



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	70
Intra-residue (|i-j|=0)	48
Sequential (|i-j|=1)	5
Medium range (|i-j|>1 and |i-j|<5)	17
Long range (|i-j|≥5)	0
Inter-chain	0
Hydrogen bond restraints	0
Disulfide bond restraints	0
Total dihedral-angle restraints	10
Number of unmapped restraints	0
Number of restraints per residue	6.2
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)	1.4	0.2
0.2-0.5 (Medium)	3.1	0.5
>0.5 (Large)	None	None

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)	2.5	9.78
10.0-20.0 (Medium)	0.6	19.86
>20.0 (Large)	1.7	166.43

9 Distance violation analysis (i)

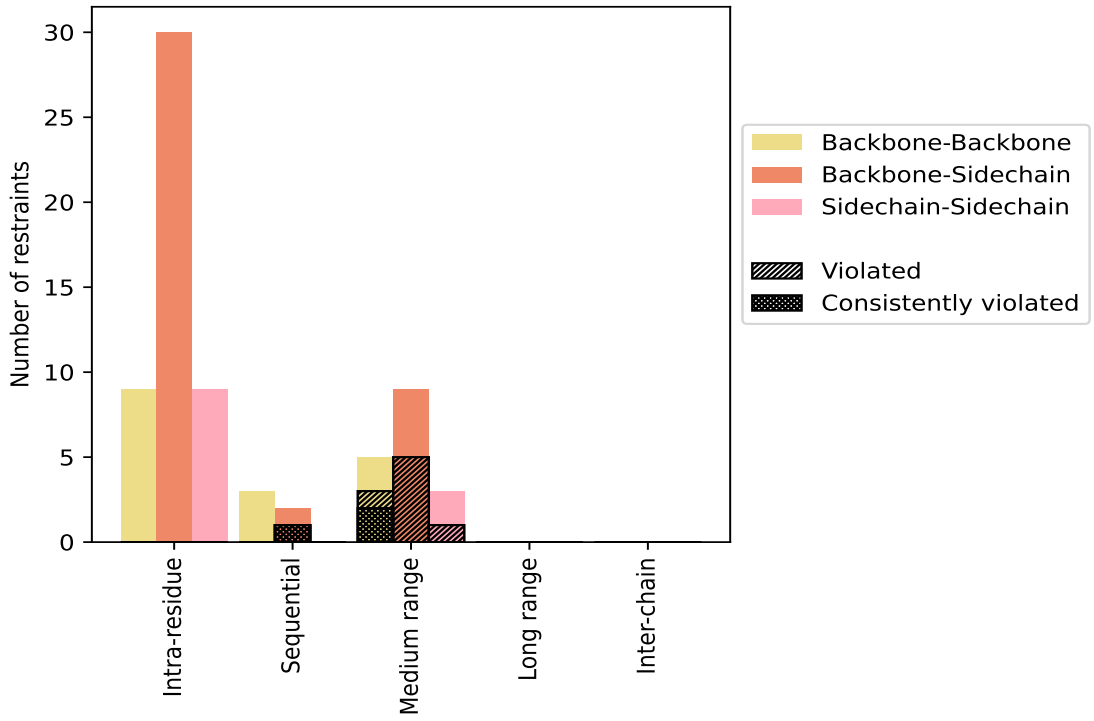
9.1 Summary of distance violations (i)

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)	48	68.6	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	9	12.9	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	30	42.9	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	9	12.9	0	0.0	0.0	0	0.0	0.0
Sequential (|i-j|=1)	5	7.1	1	20.0	1.4	1	20.0	1.4
Backbone-Backbone	3	4.3	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	2	2.9	1	50.0	1.4	1	50.0	1.4
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Medium range (|i-j|>1 & |i-j|<5)	17	24.3	9	52.9	12.9	2	11.8	2.9
Backbone-Backbone	5	7.1	3	60.0	4.3	2	40.0	2.9
Backbone-Sidechain	9	12.9	5	55.6	7.1	0	0.0	0.0
Sidechain-Sidechain	3	4.3	1	33.3	1.4	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	70	100.0	10	14.3	14.3	3	4.3	4.3
Backbone-Backbone	17	24.3	3	17.6	4.3	2	11.8	2.9
Backbone-Sidechain	41	58.6	6	14.6	8.6	1	2.4	1.4
Sidechain-Sidechain	12	17.1	1	8.3	1.4	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	0	1	4	0	0	5	0.24	0.37	0.1	0.21
2	0	1	4	0	0	5	0.23	0.36	0.1	0.25
3	0	1	2	0	0	3	0.26	0.33	0.06	0.27
4	0	1	3	0	0	4	0.32	0.5	0.12	0.3
5	0	1	3	0	0	4	0.24	0.33	0.09	0.26
6	0	1	3	0	0	4	0.27	0.35	0.08	0.27
7	0	1	2	0	0	3	0.31	0.36	0.07	0.35
8	0	1	5	0	0	6	0.21	0.34	0.08	0.18
9	0	1	3	0	0	4	0.26	0.4	0.12	0.27
10	0	1	3	0	0	4	0.26	0.39	0.1	0.26

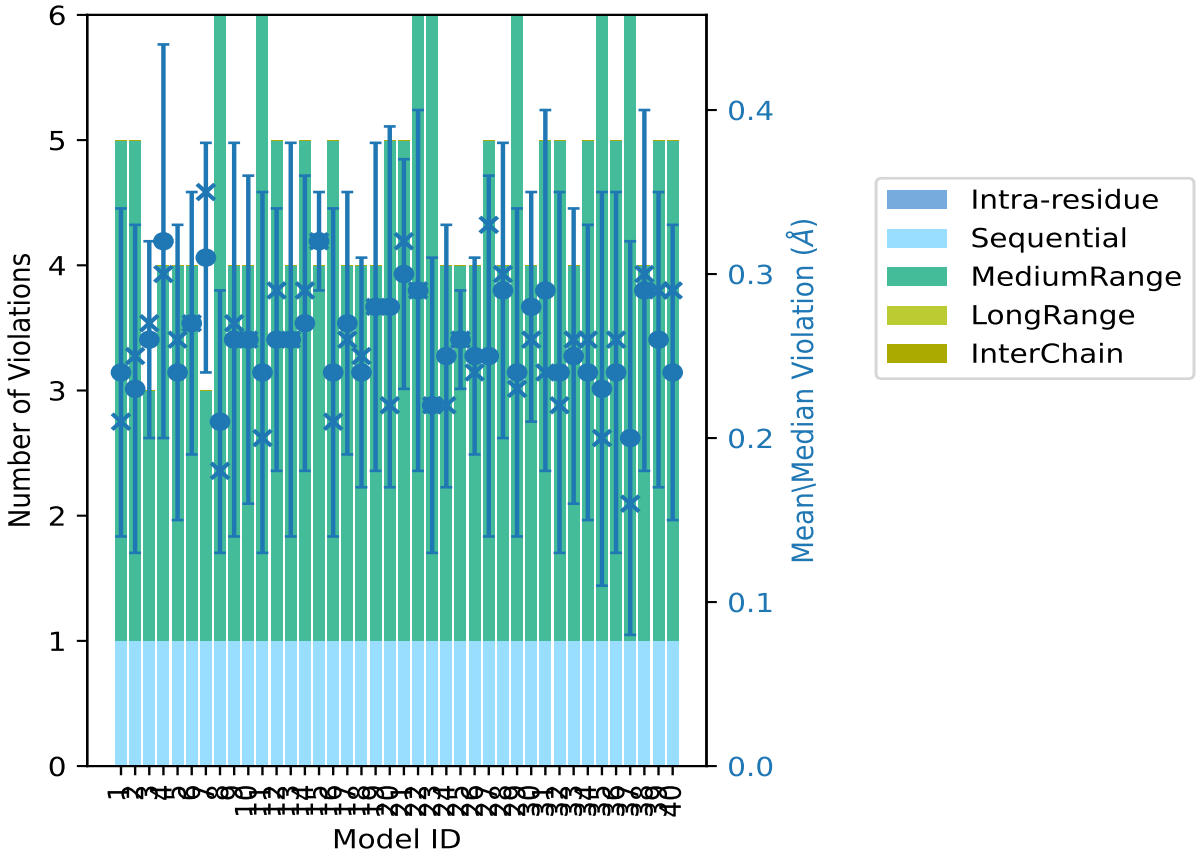
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Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
11	0	1	5	0	0	6	0.24	0.44	0.11	0.2
12	0	1	4	0	0	5	0.26	0.35	0.08	0.29
13	0	1	3	0	0	4	0.26	0.43	0.12	0.26
14	0	1	4	0	0	5	0.27	0.38	0.09	0.29
15	0	1	3	0	0	4	0.32	0.36	0.03	0.32
16	0	1	4	0	0	5	0.24	0.39	0.1	0.21
17	0	1	3	0	0	4	0.27	0.37	0.08	0.26
18	0	1	3	0	0	4	0.24	0.33	0.07	0.25
19	0	1	3	0	0	4	0.28	0.41	0.1	0.28
20	0	1	4	0	0	5	0.28	0.42	0.11	0.22
21	0	1	4	0	0	5	0.3	0.38	0.07	0.32
22	0	1	5	0	0	6	0.29	0.42	0.11	0.29
23	0	1	5	0	0	6	0.22	0.37	0.09	0.22
24	0	1	3	0	0	4	0.25	0.39	0.08	0.22
25	0	1	3	0	0	4	0.26	0.29	0.03	0.26
26	0	1	3	0	0	4	0.25	0.34	0.06	0.24
27	0	1	4	0	0	5	0.25	0.35	0.11	0.33
28	0	1	3	0	0	4	0.29	0.4	0.09	0.3
29	0	1	5	0	0	6	0.24	0.39	0.1	0.23
30	0	1	3	0	0	4	0.28	0.38	0.07	0.26
31	0	1	4	0	0	5	0.29	0.47	0.11	0.24
32	0	1	4	0	0	5	0.24	0.39	0.11	0.22
33	0	1	3	0	0	4	0.25	0.36	0.09	0.26
34	0	1	4	0	0	5	0.24	0.39	0.09	0.26
35	0	1	5	0	0	6	0.23	0.42	0.12	0.2
36	0	1	4	0	0	5	0.24	0.38	0.11	0.26
37	0	1	5	0	0	6	0.2	0.45	0.12	0.16
38	0	1	3	0	0	4	0.29	0.42	0.11	0.3
39	0	1	4	0	0	5	0.26	0.36	0.09	0.29
40	0	1	4	0	0	5	0.24	0.33	0.09	0.29

[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, 60(IR:48, SQ:4, MR:8, 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	0	1	0	0	1	1	2.5
0	0	0	0	0	0	2	5.0
0	0	0	0	0	0	3	7.5
0	0	2	0	0	2	4	10.0
0	0	1	0	0	1	5	12.5
0	0	1	0	0	1	6	15.0

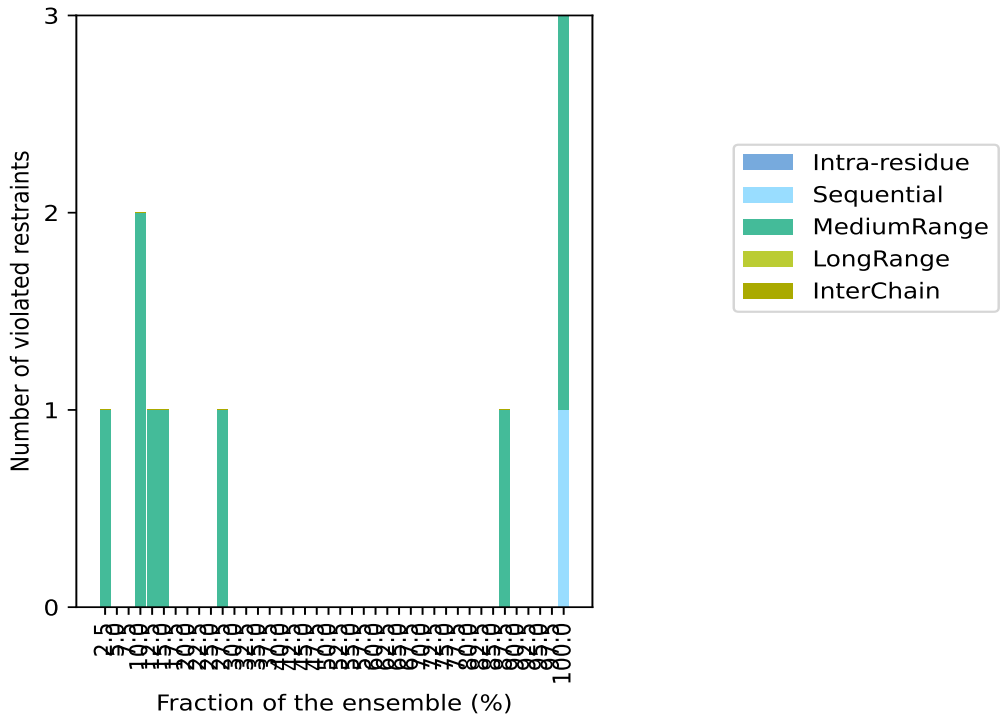
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Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
0	0	0	0	0	0	7	17.5
0	0	0	0	0	0	8	20.0
0	0	0	0	0	0	9	22.5
0	0	0	0	0	0	10	25.0
0	0	1	0	0	1	11	27.5
0	0	0	0	0	0	12	30.0
0	0	0	0	0	0	13	32.5
0	0	0	0	0	0	14	35.0
0	0	0	0	0	0	15	37.5
0	0	0	0	0	0	16	40.0
0	0	0	0	0	0	17	42.5
0	0	0	0	0	0	18	45.0
0	0	0	0	0	0	19	47.5
0	0	0	0	0	0	20	50.0
0	0	0	0	0	0	21	52.5
0	0	0	0	0	0	22	55.0
0	0	0	0	0	0	23	57.5
0	0	0	0	0	0	24	60.0
0	0	0	0	0	0	25	62.5
0	0	0	0	0	0	26	65.0
0	0	0	0	0	0	27	67.5
0	0	0	0	0	0	28	70.0
0	0	0	0	0	0	29	72.5
0	0	0	0	0	0	30	75.0
0	0	0	0	0	0	31	77.5
0	0	0	0	0	0	32	80.0
0	0	0	0	0	0	33	82.5
0	0	0	0	0	0	34	85.0
0	0	1	0	0	1	35	87.5
0	0	0	0	0	0	36	90.0
0	0	0	0	0	0	37	92.5
0	0	0	0	0	0	38	95.0
0	0	0	0	0	0	39	97.5
0	1	2	0	0	3	40	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

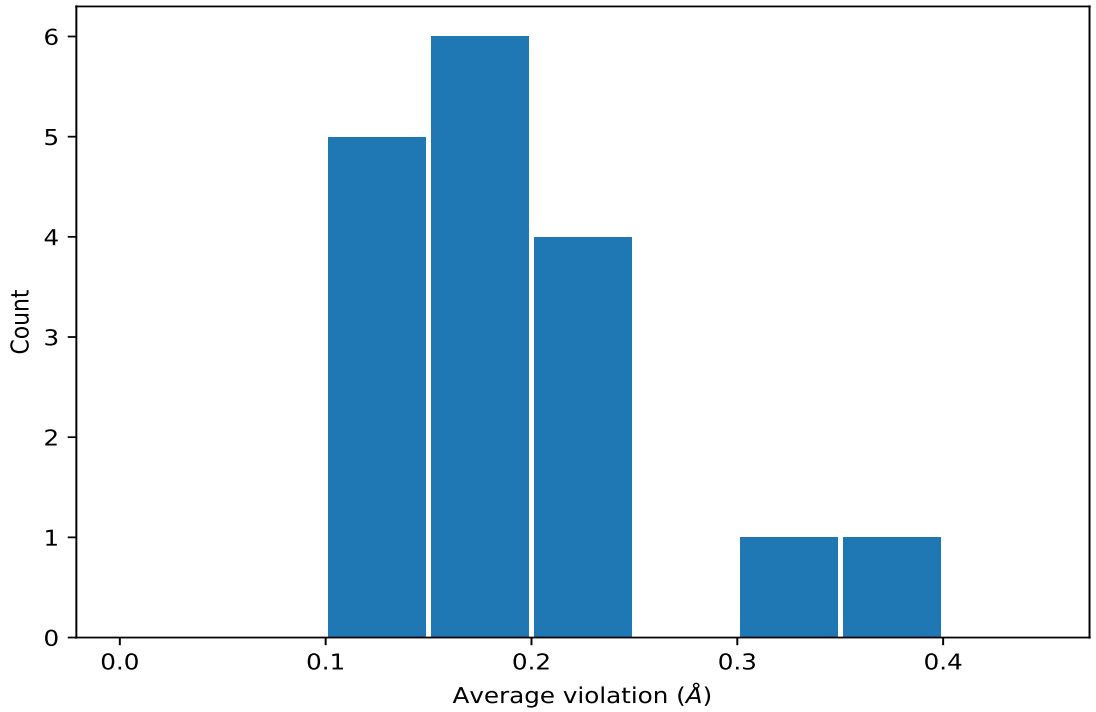
9.3.1 Bar graph : Distance violation statistics for the ensemble



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)
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	40	0.38	0.04	0.38
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	40	0.32	0.04	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	40	0.23	0.05	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	40	0.23	0.05	0.22
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	35	0.17	0.04	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	35	0.17	0.04	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	35	0.17	0.04	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	35	0.17	0.04	0.16
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	11	0.2	0.09	0.17
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	11	0.2	0.09	0.17
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	6	0.13	0.01	0.12
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	6	0.13	0.01	0.12
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	5	0.13	0.02	0.11
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	5	0.13	0.02	0.11
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB2	4	0.16	0.05	0.14
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB3	4	0.16	0.05	0.14

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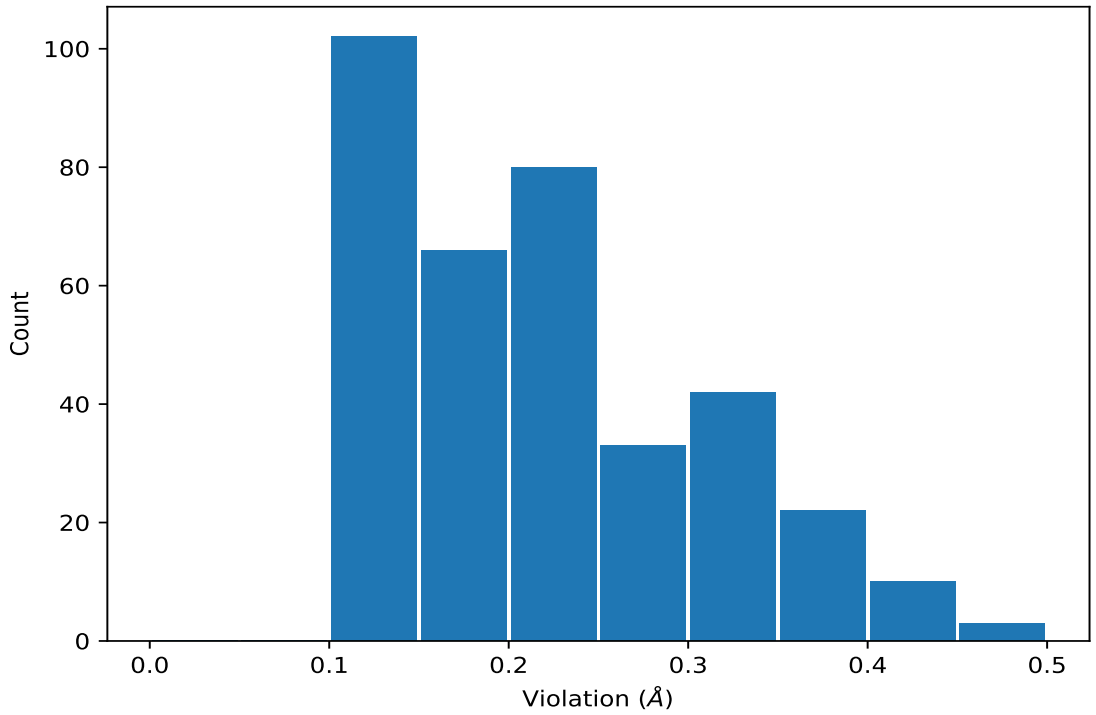
Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,63)	1:9:A:ARG:H	1:6:A:LYS:H	4	0.11	0.0	0.11

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

9.5 All violated distance restraints

9.5.1 Histogram : Distribution of distance violations

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

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)
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	4	0.5
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	31	0.47
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	37	0.45

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	11	0.44
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	13	0.43
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	20	0.42
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	22	0.42
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	35	0.42
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	38	0.42
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	19	0.41
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	20	0.4
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	9	0.4
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	28	0.4
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	10	0.39
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	16	0.39
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	24	0.39
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	29	0.39
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	32	0.39
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	34	0.39
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	22	0.38
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	14	0.38
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	21	0.38
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	30	0.38
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	36	0.38
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	1	0.37
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	21	0.37
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	38	0.37
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	17	0.37
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	23	0.37
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	4	0.36
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	15	0.36
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	2	0.36
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	7	0.36
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	33	0.36
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	39	0.36
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	39	0.35
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	39	0.35
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	6	0.35
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	7	0.35
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	9	0.35
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	6	0.35
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	12	0.35
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	27	0.35
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	28	0.34
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	28	0.34

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	12	0.34
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	14	0.34
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	19	0.34
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	27	0.34
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	31	0.34
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	32	0.34
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	8	0.34
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	26	0.34
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	22	0.34
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	22	0.34
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	27	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	27	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	29	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	29	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	35	0.33
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	35	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	5	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	11	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	16	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	17	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	40	0.33
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	3	0.33
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	18	0.33
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	2	0.32
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	1	0.32
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	15	0.32
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	40	0.32
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	21	0.32
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	21	0.32
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	36	0.31
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	15	0.31
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	15	0.31
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	10	0.3
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	29	0.3
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	30	0.3
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	33	0.3
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	5	0.3
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	12	0.29
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	12	0.29
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	40	0.29
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	40	0.29
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	13	0.29

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	23	0.29
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	25	0.29
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	39	0.29
(1,60)	1:8:A:ARG:H	1:10:A:PRO:HA	25	0.29
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	14	0.29
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	14	0.29
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	15	0.28
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	15	0.28
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	34	0.27
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	34	0.27
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	34	0.27
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	34	0.27
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	3	0.27
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	8	0.27
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	18	0.27
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	36	0.26
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	36	0.26
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	28	0.26
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	34	0.26
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	35	0.26
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	2	0.25
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	2	0.25
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	26	0.25
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB2	25	0.24
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB3	25	0.24
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	22	0.24
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	22	0.24
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	22	0.24
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	22	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	26	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	26	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	31	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	31	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	38	0.24
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	38	0.24
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	24	0.24
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	30	0.23
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	30	0.23
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	30	0.23
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	30	0.23
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	4	0.23
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	4	0.23

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	11	0.23
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	11	0.23
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	18	0.23
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	18	0.23
(1,64)	1:9:A:ARG:H	1:7:A:PRO:HA	37	0.23
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	21	0.22
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	21	0.22
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	21	0.22
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	21	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	13	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	13	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	19	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	19	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	20	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	20	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	22	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	22	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	23	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	23	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	32	0.22
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	32	0.22
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	20	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	20	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	20	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	20	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	23	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	23	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	23	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	23	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	31	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	31	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	31	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	31	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	39	0.21
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	39	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	39	0.21
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	39	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	1	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	1	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	5	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	5	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	7	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	7	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	10	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	10	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	16	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	16	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	21	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	21	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	25	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	25	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	30	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	30	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	33	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	33	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	37	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	37	0.21
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	17	0.2
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	17	0.2
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	34	0.2
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	34	0.2
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	8	0.19
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	8	0.19
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	8	0.19
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	8	0.19
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	24	0.19
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	24	0.19
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	24	0.19
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	24	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	3	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	3	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	6	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	6	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	9	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	9	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	24	0.19
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	24	0.19
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	1	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	1	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	1	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	1	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	4	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	4	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	4	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	4	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	6	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	6	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	6	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	6	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	16	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	16	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	16	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	16	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	17	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	17	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	17	0.18
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	17	0.18
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	8	0.18
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	8	0.18
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB2	14	0.18
(1,65)	1:9:A:ARG:HA	1:8:A:ARG:HB3	14	0.18
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	12	0.17
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	12	0.17
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	12	0.17
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	12	0.17
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	28	0.17
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	28	0.17
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	28	0.17
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	28	0.17
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	11	0.17
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	11	0.17
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	31	0.17
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	31	0.17
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	26	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	26	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	26	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	26	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	29	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	29	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	29	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	29	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	32	0.16
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	32	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	32	0.16
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	32	0.16
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	29	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	29	0.16
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB2	8	0.15
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB3	8	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	11	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	11	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	11	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	11	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	14	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	14	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	14	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	14	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	40	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	40	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	40	0.15
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	40	0.15
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	20	0.15
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	20	0.15
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	12	0.15
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	12	0.15
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	35	0.15
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	35	0.15
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	19	0.14
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	19	0.14
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	19	0.14
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	19	0.14
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	38	0.14
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	38	0.14
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	38	0.14
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	38	0.14
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB2	40	0.13
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB3	40	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	2	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	2	0.13
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	2	0.13
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	2	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	18	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	18	0.13
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	18	0.13
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	18	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	33	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	33	0.13
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	33	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	33	0.13
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	27	0.13
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	27	0.13
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	29	0.13
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	29	0.13
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	36	0.12
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	36	0.12
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	36	0.12
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	36	0.12
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	37	0.12
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	37	0.12
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	37	0.12
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	37	0.12
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	11	0.12
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	11	0.12
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	37	0.12
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	37	0.12
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	10	0.12
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	10	0.12
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	9	0.11
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	9	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	9	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	9	0.11
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	13	0.11
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	13	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	13	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	13	0.11
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	35	0.11
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	35	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	35	0.11
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	35	0.11
(1,63)	1:9:A:ARG:H	1:6:A:LYS:H	8	0.11
(1,63)	1:9:A:ARG:H	1:6:A:LYS:H	16	0.11
(1,63)	1:9:A:ARG:H	1:6:A:LYS:H	35	0.11
(1,59)	1:8:A:ARG:H	1:5:A:ASN:HB2	36	0.11
(1,59)	1:8:A:ARG:H	1:5:A:ASN:HB3	36	0.11
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE1	22	0.11
(1,58)	1:6:A:LYS:H	1:3:A:TYR:HE2	22	0.11
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	39	0.11
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	39	0.11
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	2	0.11
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	2	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	23	0.11
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	23	0.11
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB2	34	0.1
(1,68)	1:12:A:ILE:HA	1:10:A:PRO:HB3	34	0.1
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	5	0.1
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	5	0.1
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	5	0.1
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	5	0.1
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB2	27	0.1
(1,67)	1:10:A:PRO:HD2	1:13:A:LEU:HB3	27	0.1
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB2	27	0.1
(1,67)	1:10:A:PRO:HD3	1:13:A:LEU:HB3	27	0.1
(1,63)	1:9:A:ARG:H	1:6:A:LYS:H	23	0.1
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	32	0.1
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	32	0.1
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG2	37	0.1
(1,56)	1:6:A:LYS:H	1:4:A:GLU:HG3	37	0.1
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB2	1	0.1
(1,49)	1:2:A:LEU:H	1:4:A:GLU:HB3	1	0.1

10 Dihedral-angle violation analysis

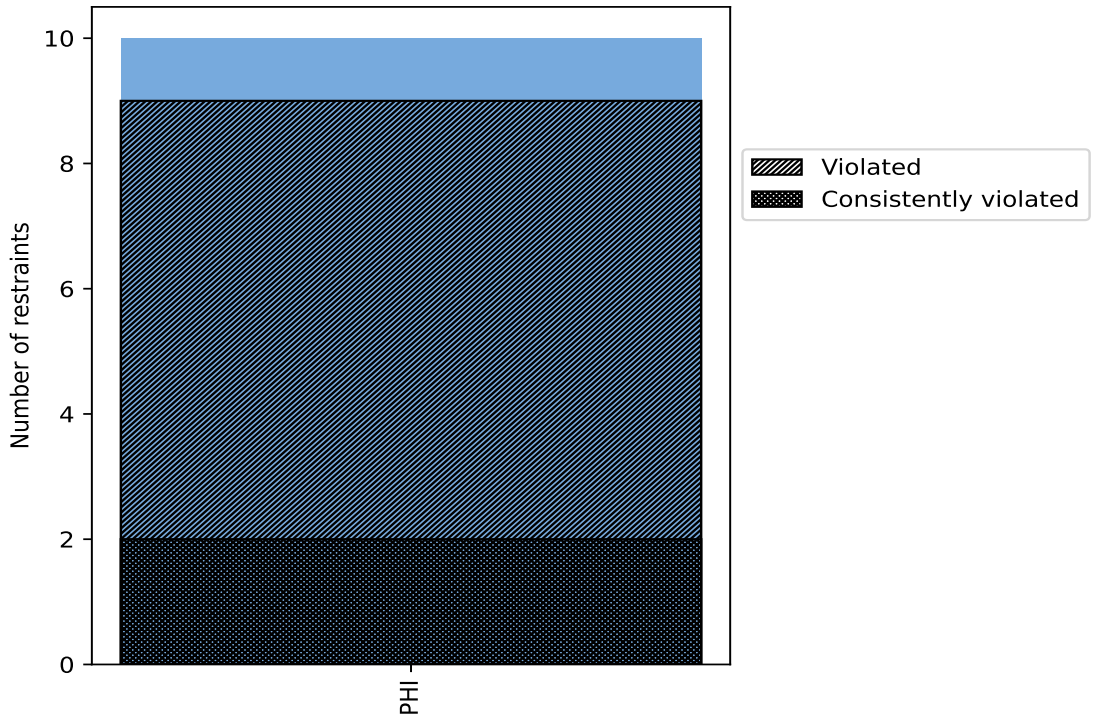
10.1 Summary of dihedral-angle violations

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]
PHI	10	100.0	9	90.0	90.0	2	20.0	20.0
Total	10	100.0	9	90.0	90.0	2	20.0	20.0

[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



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.

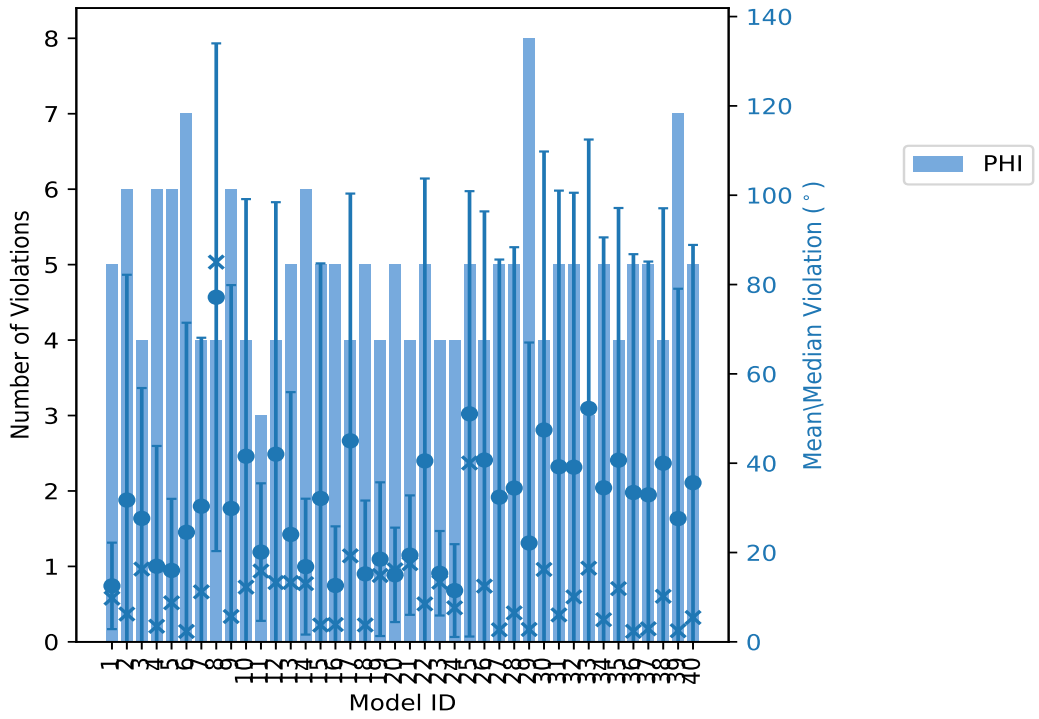
Model ID	Number of violations		Mean (°)	Max (°)	SD (°)	Median (°)
	PHI	Total				
1	5	5	12.53	25.63	9.68	9.78
2	6	6	31.75	141.49	50.44	6.23
3	4	4	27.65	75.43	29.18	16.3
4	6	6	16.93	76.16	26.93	3.49
5	6	6	15.99	39.18	16.03	8.75
6	7	7	24.54	138.11	46.91	2.34
7	4	4	30.37	95.26	37.72	11.2
8	4	4	77.16	135.57	56.84	85.02
9	6	6	29.87	140.84	50.01	5.68
10	4	4	41.56	140.3	57.57	12.25
11	3	3	20.1	40.72	15.4	15.86
12	4	4	42.02	138.95	56.42	13.28
13	5	5	24.05	86.89	31.86	13.3
14	6	6	16.84	37.27	15.21	13.04
15	5	5	32.11	136.61	52.63	3.76
16	5	5	12.62	36.92	13.24	3.88
17	4	4	45.01	139.26	55.36	19.26
18	5	5	15.22	40.31	16.42	3.78
19	4	4	18.51	42.99	17.21	14.86
20	5	5	15.0	32.51	10.57	16.12
21	4	4	19.42	39.44	13.37	17.51
22	5	5	40.51	166.43	63.23	8.5
23	4	4	15.36	29.55	9.46	13.36
24	4	4	11.48	28.84	10.39	7.62
25	5	5	51.05	136.18	49.86	40.04
26	4	4	40.71	136.08	55.67	12.48
27	5	5	32.39	138.17	53.21	2.71
28	5	5	34.44	141.3	53.92	6.49
29	8	8	22.13	139.58	44.89	2.78
30	4	4	47.44	154.77	62.35	16.21
31	5	5	39.2	162.1	61.83	6.03
32	5	5	39.11	161.42	61.44	10.07
33	3	3	52.26	137.06	60.21	16.49
34	5	5	34.5	146.01	56.06	4.96
35	4	4	40.68	137.56	56.46	11.92
36	5	5	33.44	138.96	53.36	2.36
37	5	5	32.92	136.24	52.23	2.93
38	4	4	40.0	138.45	57.08	10.2

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Model ID	Number of violations		Mean (°)	Max (°)	SD (°)	Median (°)
	PHI	Total				
39	7	7	27.6	152.27	51.46	2.49
40	5	5	35.63	140.62	53.24	5.45

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 ensemble	
PHI	Total	Count[1]	%
0	0	1	2.5
1	1	2	5.0
0	0	3	7.5
0	0	4	10.0

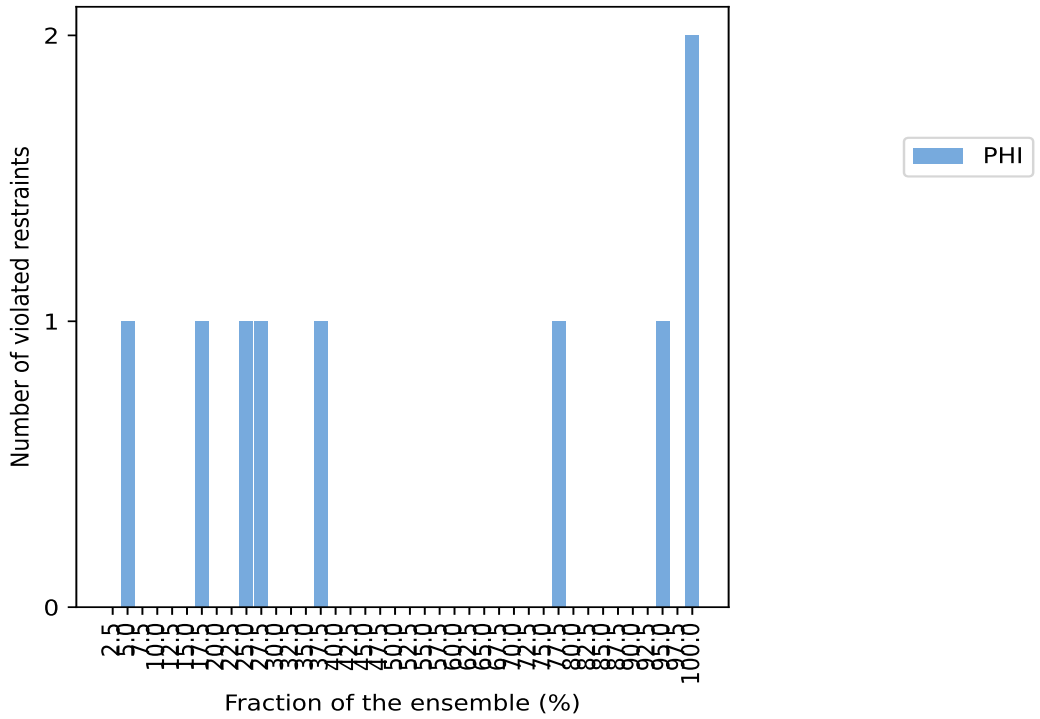
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Number of violated restraints		Fraction of the ensemble	
PHI	Total	Count[1]	%
0	0	5	12.5
0	0	6	15.0
1	1	7	17.5
0	0	8	20.0
0	0	9	22.5
1	1	10	25.0
1	1	11	27.5
0	0	12	30.0
0	0	13	32.5
0	0	14	35.0
1	1	15	37.5
0	0	16	40.0
0	0	17	42.5
0	0	18	45.0
0	0	19	47.5
0	0	20	50.0
0	0	21	52.5
0	0	22	55.0
0	0	23	57.5
0	0	24	60.0
0	0	25	62.5
0	0	26	65.0
0	0	27	67.5
0	0	28	70.0
0	0	29	72.5
0	0	30	75.0
1	1	31	77.5
0	0	32	80.0
0	0	33	82.5
0	0	34	85.0
0	0	35	87.5
0	0	36	90.0
0	0	37	92.5
1	1	38	95.0
0	0	39	97.5
2	2	40	100.0

[1] Number of models with violations

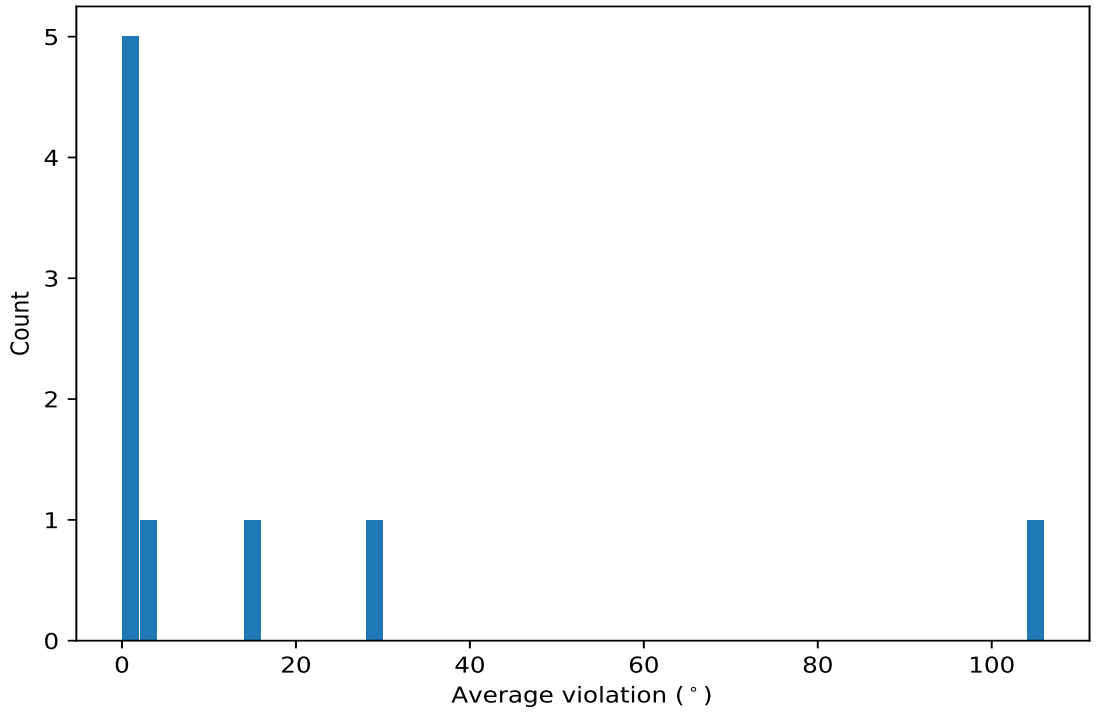
10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble



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.

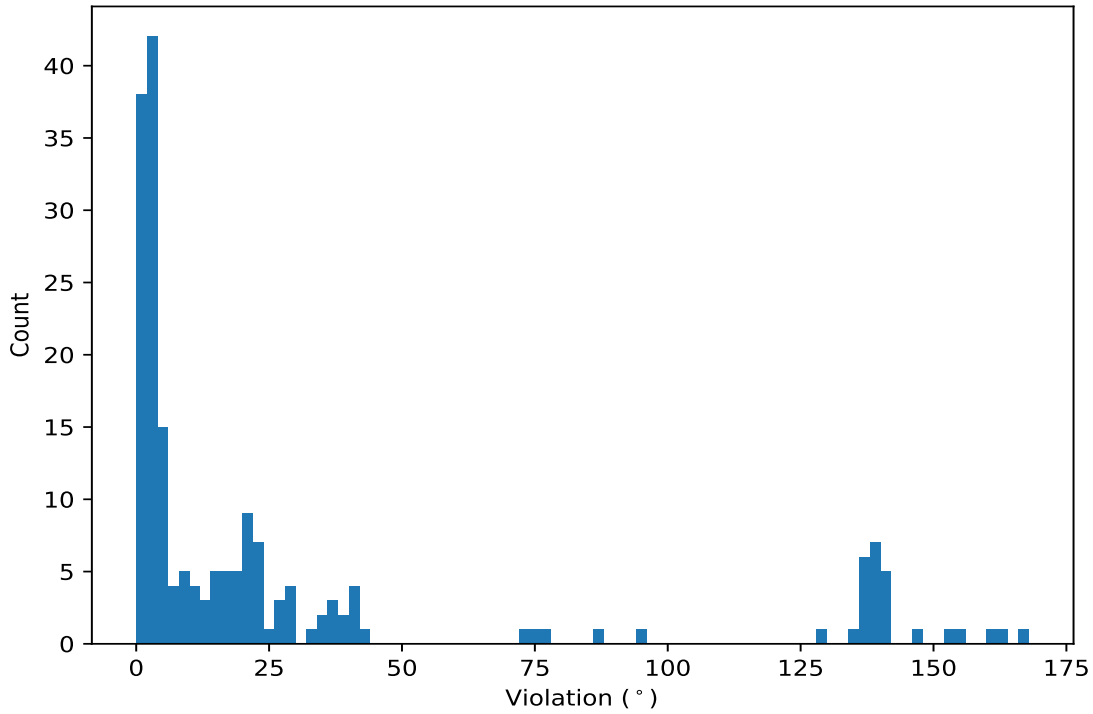
Key	Atom-1	Atom-2	Atom-3	Atom-4	Models[1]	Mean	SD[2]	Median
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	40	28.84	19.22	22.46
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	40	3.29	0.87	3.24
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	38	105.51	53.08	137.31
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	31	15.24	23.33	8.75
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	15	1.94	0.82	1.8
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	11	1.62	0.67	1.31
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	10	1.6	0.6	1.44
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	7	1.17	0.17	1.09
(1,1)	1:1:A:GLU:C	1:2:A:LEU:N	1:2:A:LEU:CA	1:2:A:LEU:C	2	1.23	0.0	1.23

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

10.5 All violated dihedral-angle restraints

10.5.1 Histogram : Distribution of violations

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 (°)
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	22	166.43
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	31	162.1
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	32	161.42
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	30	154.77
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	39	152.27
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	34	146.01
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	2	141.49
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	28	141.3
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	9	140.84
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	40	140.62
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	10	140.3
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	29	139.58
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	17	139.26
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	36	138.96
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	12	138.95
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	38	138.45
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	27	138.17
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	6	138.11
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	35	137.56
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	33	137.06
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	15	136.61

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	37	136.24
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	25	136.18
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	26	136.08
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	8	135.57
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	8	129.13
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	7	95.26
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	13	86.89
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	4	76.16
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	3	75.43
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	25	72.74
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	19	42.99
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	8	40.91
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	11	40.72
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	18	40.31
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	25	40.04
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	21	39.44
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	5	39.18
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	14	37.27
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	16	36.92
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	5	36.54
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	2	34.33
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	14	34.13
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	20	32.51
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	17	29.78
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	23	29.55
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	18	29.4
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	24	28.84
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	3	27.14
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	40	26.46
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	19	26.32
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	1	25.63
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	39	23.5
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	14	22.72
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	6	22.53
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	29	22.49
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	36	22.43
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	26	22.36
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	21	22.23
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	37	21.98
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	1	21.95
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	30	21.91
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	10	21.77
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	31	21.51
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	28	21.26
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	12	21.25
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	35	20.98
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	9	20.78
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	22	19.86
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	32	18.51
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	20	18.26
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	23	18.06

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	15	18.04
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	34	17.63
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	27	17.09
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	16	16.64
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	33	16.49
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	20	16.12
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	11	15.86
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	7	15.71
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	4	15.55
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	38	15.42
(1,8)	1:10:A:PRO:C	1:11:A:TYR:N	1:11:A:TYR:CA	1:11:A:TYR:C	13	15.02
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	5	13.7
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	13	13.3
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	21	12.79
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	39	10.8
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	30	10.51
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	2	10.35
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	32	10.07
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	1	9.78
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	24	9.54
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	17	8.75
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	23	8.65
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	22	8.5
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	9	7.81
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	7	6.69
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	28	6.49
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	31	6.03
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	24	5.69
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	6	5.54
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	3	5.45
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	40	5.45
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	12	5.31
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	29	5.28
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	23	5.16
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	38	4.98
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	34	4.96
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	22	4.71
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	20	4.66
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	32	4.38
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	31	4.34
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	25	4.32
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	1	4.22
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	13	3.98
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	16	3.88
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	7	3.81
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	5	3.8
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	18	3.78
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	15	3.76
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	11	3.73
(1,10)	1:12:A:ILE:C	1:13:A:LEU:N	1:13:A:LEU:CA	1:13:A:LEU:C	16	3.72
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	4	3.58

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	9	3.55
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	20	3.46
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	40	3.42
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	19	3.41
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	4	3.4
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	14	3.35
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	9	3.25
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	21	3.23
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	33	3.23
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	29	3.16
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	22	3.07
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	8	3.03
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	9	3.01
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	37	2.93
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	35	2.86
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	34	2.81
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	10	2.73
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	27	2.71
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	26	2.6
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	3	2.57
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	30	2.56
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	12	2.55
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	39	2.49
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	27	2.46
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	29	2.4
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	14	2.4
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	36	2.36
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	6	2.34
(1,9)	1:11:A:TYR:C	1:12:A:ILE:N	1:12:A:ILE:CA	1:12:A:ILE:C	37	2.31
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	17	2.24
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	40	2.18
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	2	2.11
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	31	2.01
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	28	1.96
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	25	1.96
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	16	1.93
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	36	1.9
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	29	1.89
(1,7)	1:8:A:ARG:C	1:9:A:ARG:N	1:9:A:ARG:CA	1:9:A:ARG:C	24	1.85
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	39	1.82
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	26	1.8
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	4	1.72
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	36	1.53
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	27	1.5
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	5	1.47
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	10	1.43
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	18	1.4
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	35	1.33
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	19	1.31
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	5	1.23
(1,1)	1:1:A:GLU:C	1:2:A:LEU:N	1:2:A:LEU:CA	1:2:A:LEU:C	29	1.23

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,1)	1:1:A:GLU:C	1:2:A:LEU:N	1:2:A:LEU:CA	1:2:A:LEU:C	39	1.23
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	18	1.21
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	6	1.2
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	2	1.2
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	28	1.19
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	4	1.19
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	38	1.16
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	32	1.15
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	14	1.15
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	37	1.15
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	6	1.09
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	39	1.09
(1,3)	1:3:A:TYR:C	1:4:A:GLU:N	1:4:A:GLU:CA	1:4:A:GLU:C	13	1.08
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	15	1.07
(1,6)	1:7:A:PRO:C	1:8:A:ARG:N	1:8:A:ARG:CA	1:8:A:ARG:C	34	1.07
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	1	1.06
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	15	1.05
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	29	1.03
(1,5)	1:5:A:ASN:C	1:6:A:LYS:N	1:6:A:LYS:CA	1:6:A:LYS:C	2	1.0
(1,2)	1:2:A:LEU:C	1:3:A:TYR:N	1:3:A:TYR:CA	1:3:A:TYR:C	6	1.0