



# Full wwPDB NMR Structure Validation Report ⓘ

Dec 24, 2024 – 01:14 PM EST

PDB ID : 2KFS  
BMRB ID : 16188  
Title : NMR structure of Rv2175c  
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Deposited on : 2009-02-27

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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 ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
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) : 2.40

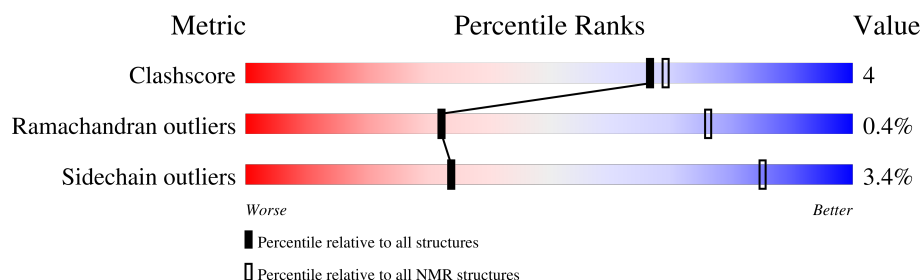
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 77%.

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	210492	14027
Ramachandran outliers	207382	12486
Sidechain outliers	206894	12463

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  $\geq 3$ , 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  $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	148	

## 2 Ensemble composition and analysis

This entry contains 30 models. Model 1 is the overall representative, medoid model (most similar to other models).

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:18-A:111, A:120-A:146 (121)	0.83	1

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 8 single-model clusters were found.

Cluster number	Models
1	1, 4, 11, 17, 21, 24, 25, 27, 29
2	3, 5, 7, 14, 30
3	13, 15, 22
4	8, 9, 26
5	23, 28
Single-model clusters	2; 6; 10; 12; 16; 18; 19; 20

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 2226 atoms, of which 1117 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Conserved hypothetical regulatory protein.

Mol	Chain	Residues	Atoms						Trace
1	A	146	Total	C	H	N	O	S	0
			2226	693	1117	207	206	3	

There are 2 discrepancies between the modelled and reference sequences:

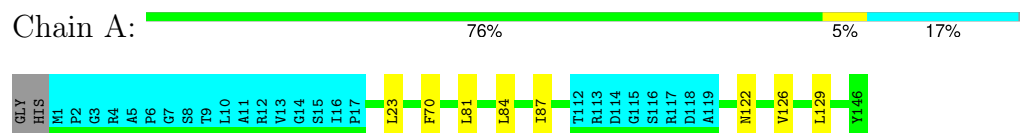
Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP O53509
A	0	HIS	-	expression tag	UNP O53509

## 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: Conserved hypothetical regulatory protein

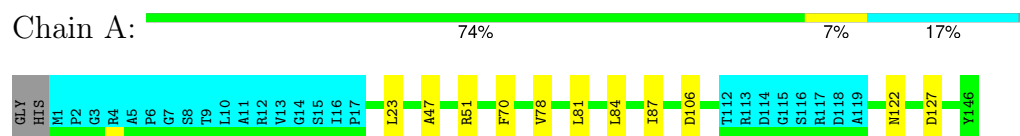


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

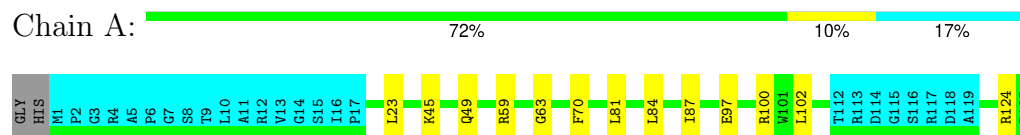
#### 4.2.1 Score per residue for model 1 (medoid)

- Molecule 1: Conserved hypothetical regulatory protein



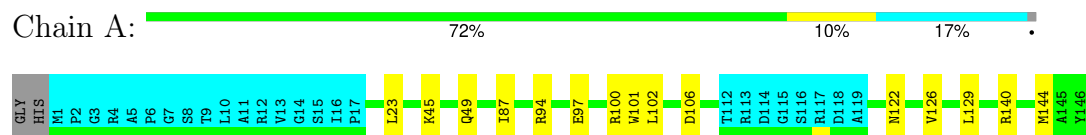
#### 4.2.2 Score per residue for model 2

- Molecule 1: Conserved hypothetical regulatory protein



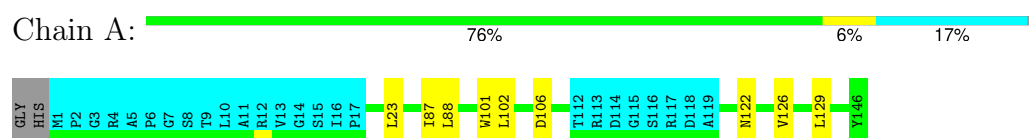
### 4.2.3 Score per residue for model 3

- Molecule 1: Conserved hypothetical regulatory protein



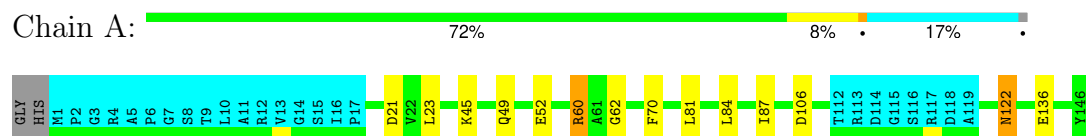
### 4.2.4 Score per residue for model 4

- Molecule 1: Conserved hypothetical regulatory protein



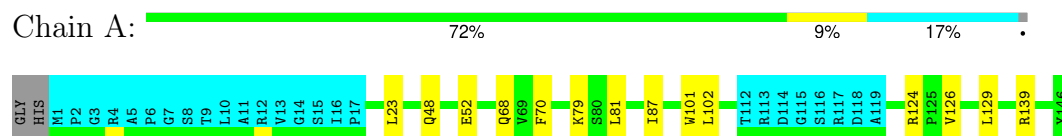
### 4.2.5 Score per residue for model 5

- Molecule 1: Conserved hypothetical regulatory protein



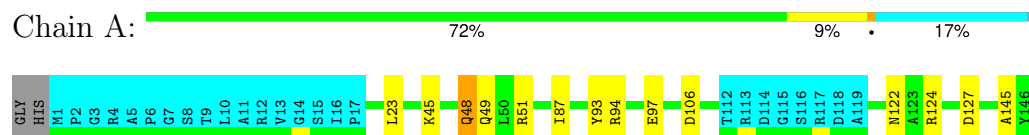
### 4.2.6 Score per residue for model 6

- Molecule 1: Conserved hypothetical regulatory protein



### 4.2.7 Score per residue for model 7

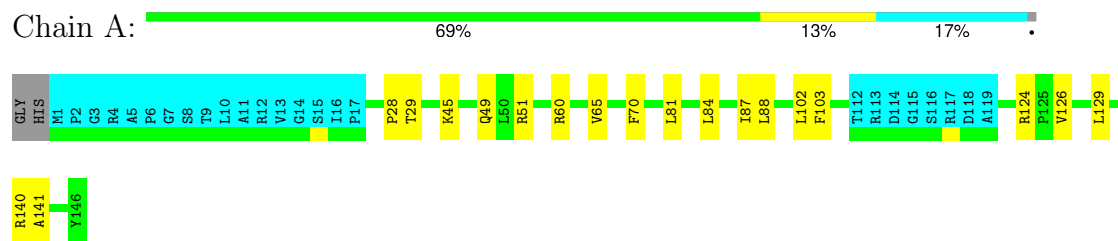
- Molecule 1: Conserved hypothetical regulatory protein





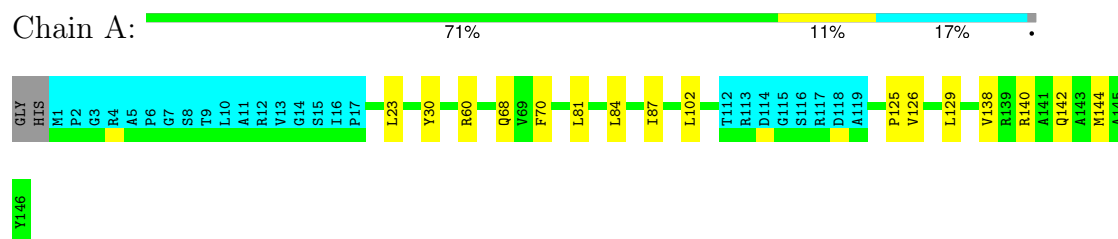
### 4.2.12 Score per residue for model 12

- Molecule 1: Conserved hypothetical regulatory protein



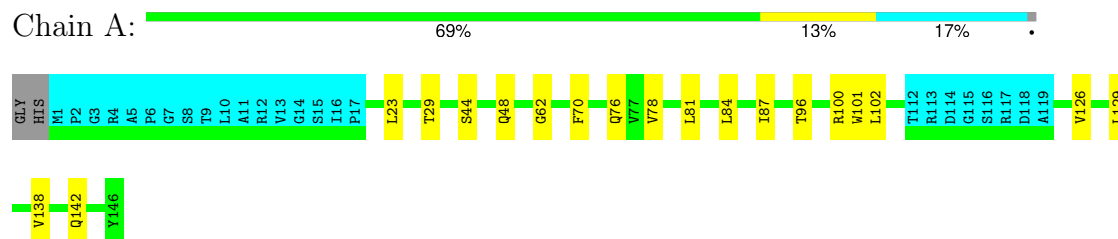
### 4.2.13 Score per residue for model 13

- Molecule 1: Conserved hypothetical regulatory protein



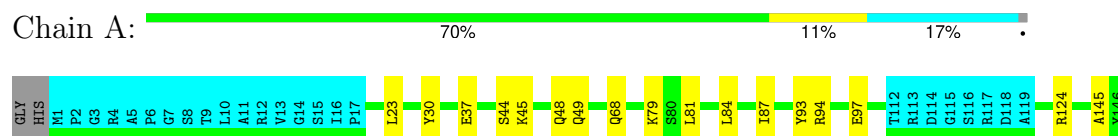
### 4.2.14 Score per residue for model 14

- Molecule 1: Conserved hypothetical regulatory protein



### 4.2.15 Score per residue for model 15

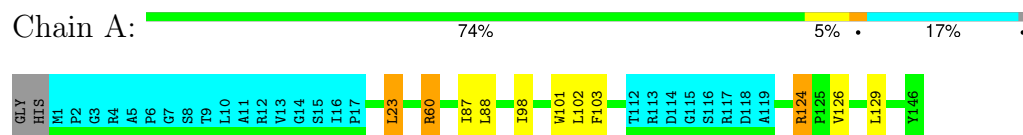
- Molecule 1: Conserved hypothetical regulatory protein





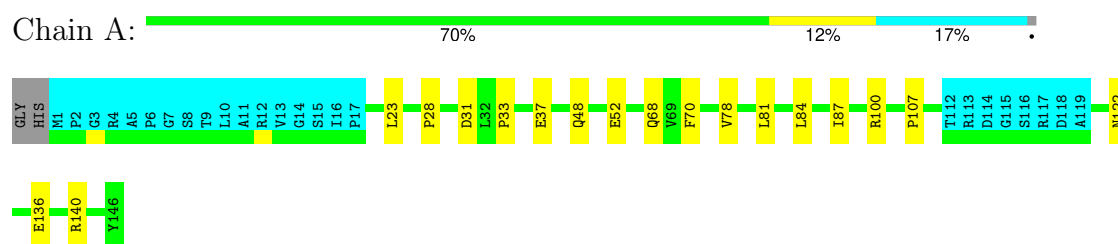
### 4.2.16 Score per residue for model 16

- Molecule 1: Conserved hypothetical regulatory protein



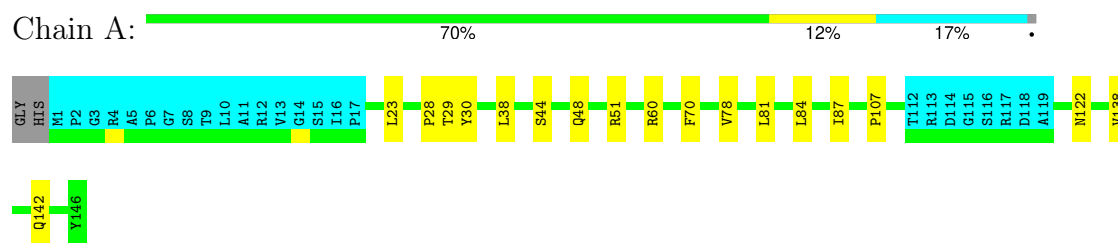
### 4.2.17 Score per residue for model 17

- Molecule 1: Conserved hypothetical regulatory protein



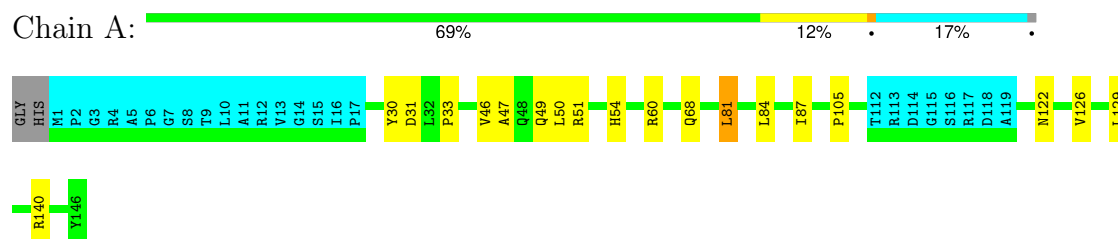
#### 4.2.20 Score per residue for model 20

- Molecule 1: Conserved hypothetical regulatory protein



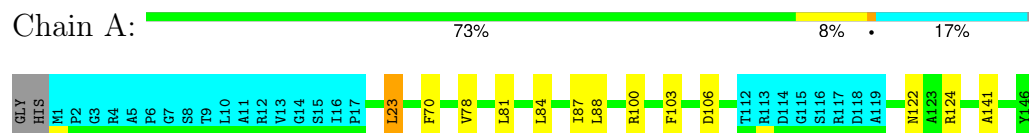
#### 4.2.21 Score per residue for model 21

- Molecule 1: Conserved hypothetical regulatory protein



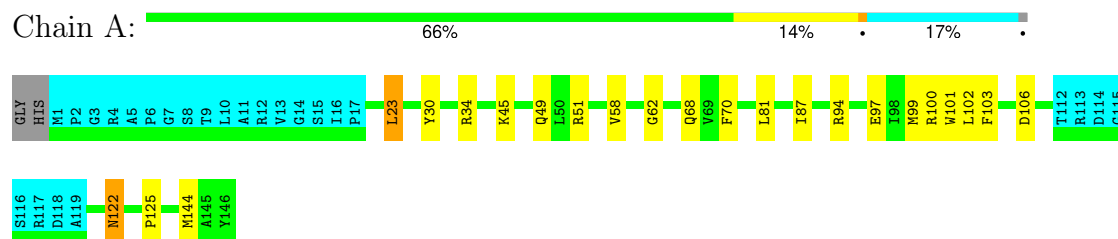
#### 4.2.22 Score per residue for model 22

- Molecule 1: Conserved hypothetical regulatory protein



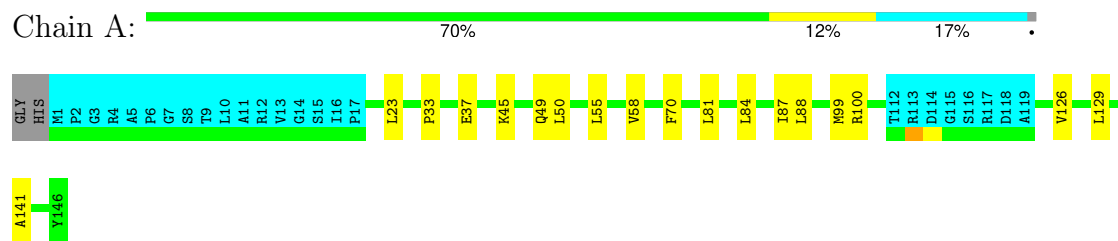
#### 4.2.23 Score per residue for model 23

- Molecule 1: Conserved hypothetical regulatory protein



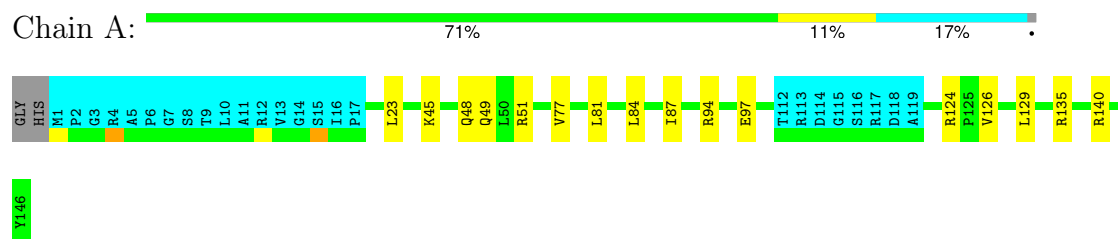
#### 4.2.24 Score per residue for model 24

- Molecule 1: Conserved hypothetical regulatory protein



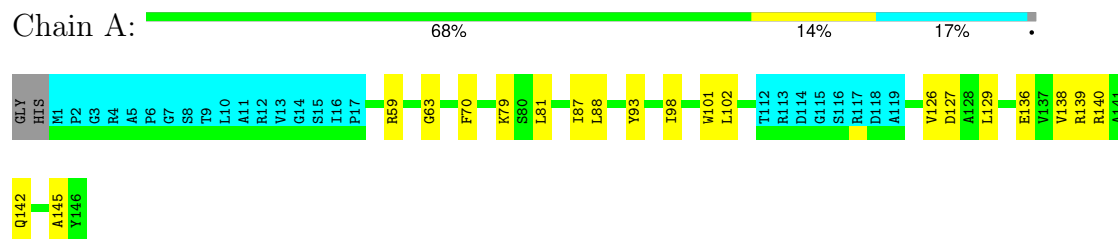
#### 4.2.25 Score per residue for model 25

- Molecule 1: Conserved hypothetical regulatory protein



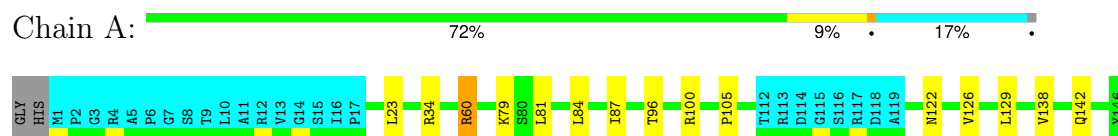
#### 4.2.26 Score per residue for model 26

- Molecule 1: Conserved hypothetical regulatory protein



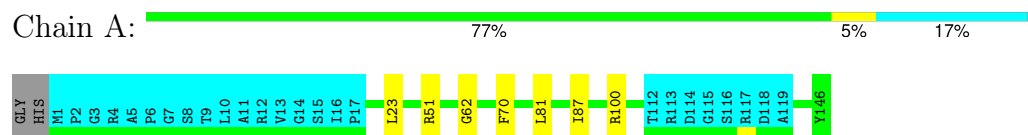
#### 4.2.27 Score per residue for model 27

- Molecule 1: Conserved hypothetical regulatory protein



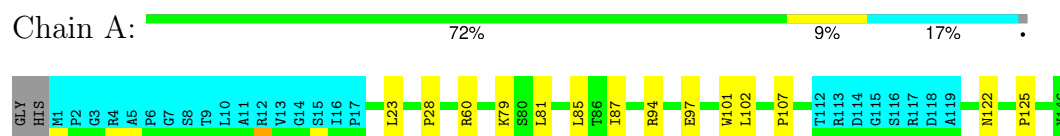
#### 4.2.28 Score per residue for model 28

- Molecule 1: Conserved hypothetical regulatory protein



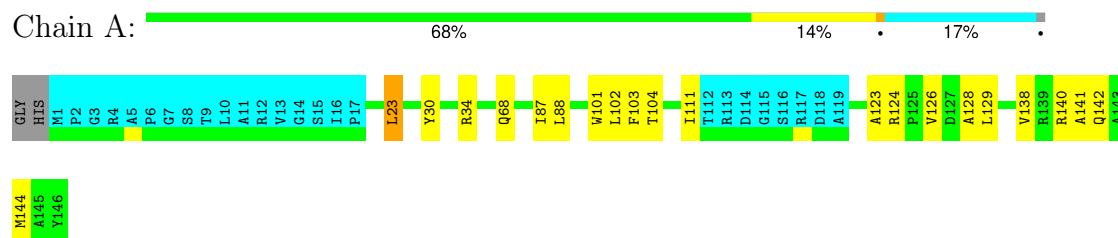
#### 4.2.29 Score per residue for model 29

- Molecule 1: Conserved hypothetical regulatory protein



#### 4.2.30 Score per residue for model 30

- Molecule 1: Conserved hypothetical regulatory protein



## 5 Refinement protocol and experimental data overview

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

Of the 30 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
CYANA	structure solution	2.1
CNS	refinement	1.2

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	1519
Number of shifts mapped to atoms	1519
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	77%

## 6 Model quality [i](#)

### 6.1 Standard geometry [i](#)

There are no covalent bond-length or bond-angle outliers.

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

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	0.5±0.6
All	All	0	16

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

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

Mol	Chain	Res	Type	Group	Models (Total)
1	A	124	ARG	Sidechain	5
1	A	60	ARG	Sidechain	3
1	A	100	ARG	Sidechain	3
1	A	34	ARG	Sidechain	2
1	A	135	ARG	Sidechain	1
1	A	94	ARG	Sidechain	1
1	A	51	ARG	Sidechain	1

### 6.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in 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	934	940	940	7±2
All	All	28020	28200	28200	206

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 4.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:126:VAL:O	1:A:129:LEU:HG	0.60	1.96	6	19
1:A:45:LYS:O	1:A:49:GLN:HG2	0.60	1.97	3	8
1:A:23:LEU:HD21	1:A:103:PHE:CE1	0.54	2.38	8	1
1:A:70:PHE:CD2	1:A:81:LEU:HD11	0.54	2.38	24	16
1:A:28:PRO:O	1:A:68:GLN:HB2	0.54	2.03	17	2
1:A:81:LEU:O	1:A:84:LEU:HG	0.53	2.04	17	18
1:A:102:LEU:HD23	1:A:125:PRO:HB2	0.53	1.81	11	3
1:A:48:GLN:O	1:A:52:GLU:HG3	0.52	2.04	18	2
1:A:44:SER:O	1:A:48:GLN:HG3	0.52	2.04	18	2
1:A:102:LEU:HB3	1:A:126:VAL:CG2	0.51	2.35	12	2
1:A:21:ASP:OD2	1:A:60:ARG:HD3	0.51	2.05	8	1
1:A:48:GLN:O	1:A:52:GLU:HG2	0.51	2.05	17	2
1:A:81:LEU:O	1:A:85:LEU:HG	0.51	2.06	10	2
1:A:45:LYS:HA	1:A:48:GLN:HG3	0.50	1.82	7	1
1:A:88:LEU:HD11	1:A:101:TRP:HZ2	0.50	1.67	26	3
1:A:106:ASP:O	1:A:122:ASN:HA	0.49	2.08	10	10
1:A:94:ARG:HG2	1:A:97:GLU:HG2	0.49	1.83	7	7
1:A:45:LYS:O	1:A:49:GLN:HG3	0.49	2.08	5	3
1:A:96:THR:O	1:A:100:ARG:HG3	0.49	2.08	27	2
1:A:136:GLU:O	1:A:140:ARG:HG2	0.49	2.07	17	2
1:A:23:LEU:HB3	1:A:103:PHE:CE2	0.49	2.42	30	3
1:A:31:ASP:OD1	1:A:34:ARG:HD3	0.48	2.08	8	1
1:A:105:PRO:HB3	1:A:122:ASN:O	0.48	2.08	21	2
1:A:88:LEU:HD13	1:A:98:ILE:HD12	0.48	1.83	26	2
1:A:101:TRP:CZ3	1:A:102:LEU:HG	0.48	2.43	6	9
1:A:107:PRO:HA	1:A:122:ASN:OD1	0.48	2.07	20	2
1:A:102:LEU:O	1:A:124:ARG:HB2	0.48	2.08	16	1
1:A:124:ARG:HG2	1:A:127:ASP:OD2	0.48	2.09	7	1
1:A:93:TYR:CE1	1:A:145:ALA:HA	0.47	2.44	26	3
1:A:44:SER:O	1:A:48:GLN:HG2	0.47	2.09	15	2
1:A:30:TYR:CE2	1:A:68:GLN:HG3	0.47	2.45	23	6
1:A:31:ASP:OD1	1:A:33:PRO:HD2	0.47	2.10	21	2
1:A:94:ARG:HG2	1:A:97:GLU:OE1	0.47	2.09	19	1
1:A:78:VAL:HB	1:A:81:LEU:HB2	0.47	1.85	1	6
1:A:60:ARG:O	1:A:60:ARG:HD2	0.46	2.10	27	2
1:A:50:LEU:HA	1:A:55:LEU:O	0.46	2.10	24	2
1:A:138:VAL:O	1:A:142:GLN:HG2	0.46	2.11	14	3
1:A:88:LEU:HD21	1:A:141:ALA:HB1	0.46	1.87	12	5
1:A:58:VAL:HG12	1:A:95:ASP:OD2	0.46	2.11	18	1
1:A:101:TRP:CD1	1:A:144:MET:HG2	0.46	2.45	23	2
1:A:107:PRO:HA	1:A:122:ASN:ND2	0.46	2.26	17	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:88:LEU:HD11	1:A:101:TRP:CZ2	0.45	2.46	4	3
1:A:21:ASP:OD2	1:A:60:ARG:HD2	0.45	2.11	5	1
1:A:34:ARG:O	1:A:37:GLU:HB2	0.45	2.10	11	1
1:A:45:LYS:O	1:A:48:GLN:HG2	0.45	2.12	25	1
1:A:23:LEU:HD22	1:A:27:GLU:HG2	0.45	1.89	8	1
1:A:140:ARG:O	1:A:144:MET:HG2	0.44	2.13	3	2
1:A:138:VAL:O	1:A:142:GLN:HG3	0.44	2.13	26	4
1:A:49:GLN:O	1:A:54:HIS:HB3	0.44	2.13	21	1
1:A:23:LEU:HD23	1:A:103:PHE:CZ	0.44	2.47	22	1
1:A:59:ARG:HA	1:A:63:GLY:O	0.43	2.12	2	2
1:A:33:PRO:O	1:A:37:GLU:HG3	0.43	2.13	17	1
1:A:47:ALA:O	1:A:51:ARG:HD3	0.43	2.14	10	1
1:A:47:ALA:O	1:A:51:ARG:HG3	0.43	2.14	21	1
1:A:23:LEU:HD23	1:A:103:PHE:CE1	0.42	2.49	22	1
1:A:60:ARG:NE	1:A:65:VAL:HG11	0.42	2.29	12	2
1:A:27:GLU:OE2	1:A:28:PRO:HD2	0.42	2.15	8	1
1:A:33:PRO:O	1:A:37:GLU:HG2	0.42	2.14	24	1
1:A:126:VAL:O	1:A:129:LEU:HB3	0.42	2.15	26	1
1:A:102:LEU:O	1:A:126:VAL:HG23	0.41	2.15	18	2
1:A:58:VAL:HG11	1:A:99:MET:SD	0.41	2.55	23	2
1:A:111:ILE:HD12	1:A:123:ALA:HB3	0.41	1.92	30	1
1:A:47:ALA:O	1:A:51:ARG:HG2	0.41	2.16	1	1
1:A:135:ARG:H	1:A:135:ARG:HD2	0.41	1.76	25	1
1:A:97:GLU:O	1:A:100:ARG:HB3	0.41	2.15	3	2
1:A:102:LEU:O	1:A:125:PRO:HD2	0.41	2.16	23	1
1:A:101:TRP:O	1:A:104:THR:HG22	0.41	2.15	30	1
1:A:103:PHE:CE1	1:A:126:VAL:HG21	0.41	2.51	12	1
1:A:46:VAL:O	1:A:50:LEU:HG	0.41	2.15	21	1
1:A:94:ARG:CG	1:A:97:GLU:HG2	0.41	2.46	25	1
1:A:30:TYR:CE2	1:A:38:LEU:HD22	0.40	2.50	20	1
1:A:111:ILE:HD13	1:A:128:ALA:HB2	0.40	1.93	30	1

## 6.3 Torsion angles ⓘ

### 6.3.1 Protein backbone ⓘ

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	120/148 (81%)	117±1 (97±1%)	3±1 (2±1%)	0±1 (0±0%)	32 76
All	All	3600/4440 (81%)	3502 (97%)	85 (2%)	13 (0%)	32 76

All 4 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	28	PRO	6
1	A	62	GLY	5
1	A	22	VAL	1
1	A	122	ASN	1

### 6.3.2 Protein sidechains ⓘ

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	100/119 (84%)	97±1 (97±1%)	3±1 (3±1%)	34 85
All	All	3000/3570 (84%)	2897 (97%)	103 (3%)	34 85

All 25 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	87	ILE	30
1	A	23	LEU	23
1	A	79	LYS	6
1	A	60	ARG	6
1	A	29	THR	5
1	A	124	ARG	5
1	A	140	ARG	4
1	A	136	GLU	3
1	A	127	ASP	2
1	A	139	ARG	2
1	A	81	LEU	2
1	A	100	ARG	2
1	A	122	ASN	1
1	A	68	GLN	1

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Mol	Chain	Res	Type	Models (Total)
1	A	48	GLN	1
1	A	144	MET	1
1	A	65	VAL	1
1	A	108	SER	1
1	A	135	ARG	1
1	A	70	PHE	1
1	A	76	GLN	1
1	A	37	GLU	1
1	A	51	ARG	1
1	A	77	VAL	1
1	A	34	ARG	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 77% for the well-defined parts and 77% 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	1519
Number of shifts mapped to atoms	1519
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

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction $\pm$ precision, ppm	Suggested action
$^{13}\text{C}_\alpha$	141	$-0.47 \pm 0.11$	None needed ( $< 0.5$ ppm)
$^{13}\text{C}_\beta$	102	$0.08 \pm 0.05$	None needed ( $< 0.5$ ppm)
$^{13}\text{C}'$	126	$-0.41 \pm 0.11$	None needed ( $< 0.5$ ppm)
$^{15}\text{N}$	133	$0.68 \pm 0.36$	None needed (imprecise)

#### 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 77%, i.e. 1283 atoms were assigned a chemical shift out of a possible 1658. 0 out of 29 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	$^1\text{H}$	$^{13}\text{C}$	$^{15}\text{N}$
Backbone	570/596 (96%)	238/242 (98%)	221/242 (91%)	111/112 (99%)
Sidechain	677/965 (70%)	576/633 (91%)	84/292 (29%)	17/40 (42%)

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	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Aromatic	36/97 (37%)	35/49 (71%)	0/43 (0%)	1/5 (20%)
Overall	1283/1658 (77%)	849/924 (92%)	305/577 (53%)	129/157 (82%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 77%, i.e. 1519 atoms were assigned a chemical shift out of a possible 1967. 0 out of 31 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Backbone	689/719 (96%)	289/293 (99%)	267/292 (91%)	133/134 (99%)
Sidechain	794/1151 (69%)	674/754 (89%)	102/345 (30%)	18/52 (35%)
Aromatic	36/97 (37%)	35/49 (71%)	0/43 (0%)	1/5 (20%)
Overall	1519/1967 (77%)	998/1096 (91%)	369/680 (54%)	152/191 (80%)

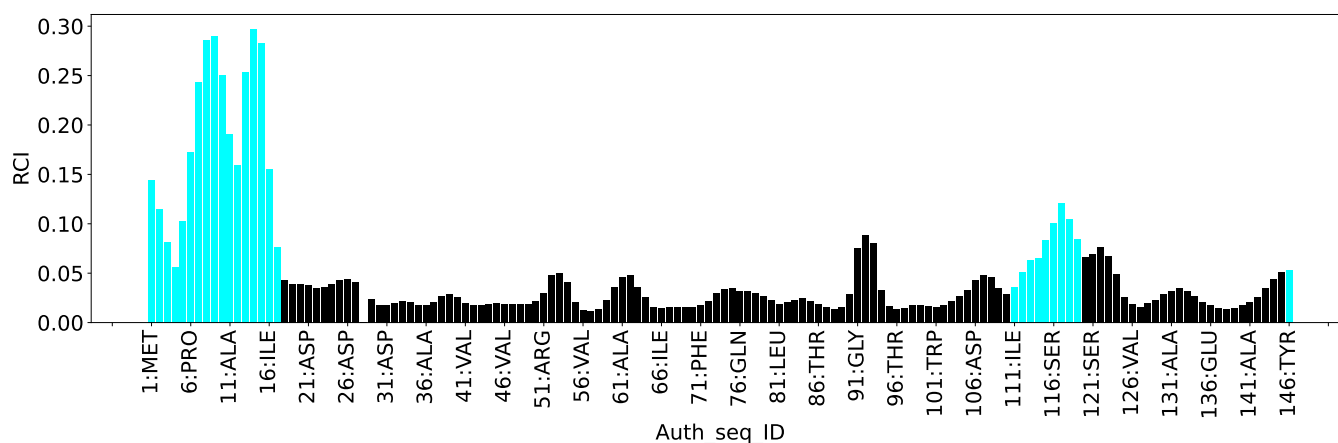
#### 7.1.4 Statistically unusual chemical shifts [i](#)

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	1742
Intra-residue ( $ i-j =0$ )	477
Sequential ( $ i-j =1$ )	576
Medium range ( $ i-j >1$ and $ i-j <5$ )	278
Long range ( $ i-j \geq 5$ )	345
Inter-chain	0
Hydrogen bond restraints	66
Disulfide bond restraints	0
Total dihedral-angle restraints	207
Number of unmapped restraints	0
Number of restraints per residue	13.2
Number of long range restraints per residue <sup>1</sup>	2.4

<sup>1</sup>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)	4.7	0.2
0.2-0.5 (Medium)	0.0	0.21
>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)	19.1	5.96
10.0-20.0 (Medium)	None	None
>20.0 (Large)	None	None

## 9 Distance violation analysis ⓘ

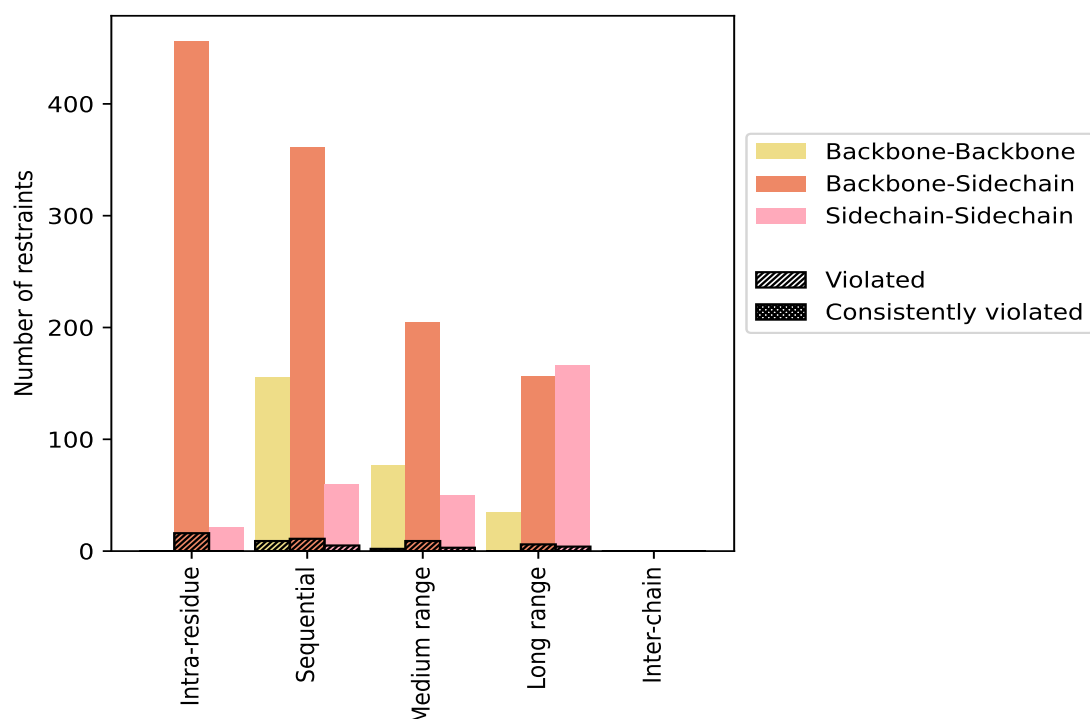
### 9.1 Summary of distance violations ⓘ

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	% <sup>1</sup>	Violated <sup>3</sup>			Consistently Violated <sup>4</sup>		
			Count	% <sup>2</sup>	% <sup>1</sup>	Count	% <sup>2</sup>	% <sup>1</sup>
Intra-residue ( $ i-j =0$ )	477	27.4	16	3.4	0.9	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	456	26.2	16	3.5	0.9	0	0.0	0.0
Sidechain-Sidechain	21	1.2	0	0.0	0.0	0	0.0	0.0
Sequential ( $ i-j =1$ )	576	33.1	25	4.3	1.4	0	0.0	0.0
Backbone-Backbone	155	8.9	9	5.8	0.5	0	0.0	0.0
Backbone-Sidechain	361	20.7	11	3.0	0.6	0	0.0	0.0
Sidechain-Sidechain	60	3.4	5	8.3	0.3	0	0.0	0.0
Medium range ( $ i-j >1$ & $ i-j <5$ )	278	16.0	13	4.7	0.7	0	0.0	0.0
Backbone-Backbone	77	4.4	2	2.6	0.1	0	0.0	0.0
Backbone-Sidechain	151	8.7	8	5.3	0.5	0	0.0	0.0
Sidechain-Sidechain	50	2.9	3	6.0	0.2	0	0.0	0.0
Long range ( $ i-j \geq 5$ )	345	19.8	10	2.9	0.6	0	0.0	0.0
Backbone-Backbone	35	2.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	144	8.3	6	4.2	0.3	0	0.0	0.0
Sidechain-Sidechain	166	9.5	4	2.4	0.2	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	66	3.8	1	1.5	0.1	0	0.0	0.0
Disulfide bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Total	1742	100.0	65	3.7	3.7	0	0.0	0.0
Backbone-Backbone	267	15.3	11	4.1	0.6	0	0.0	0.0
Backbone-Sidechain	1178	67.6	42	3.6	2.4	0	0.0	0.0
Sidechain-Sidechain	297	17.0	12	4.0	0.7	0	0.0	0.0

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

### 9.1.1 Bar chart : Distribution of distance restraints and violations [i](#)



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 [i](#)

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 <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
1	0	1	2	2	0	5	0.12	0.17	0.03	0.11
2	1	1	2	1	0	5	0.13	0.15	0.02	0.13
3	2	1	1	1	0	5	0.13	0.16	0.02	0.13
4	5	2	1	2	0	10	0.12	0.16	0.02	0.12
5	3	5	1	0	0	9	0.12	0.17	0.02	0.12
6	2	3	1	0	0	6	0.13	0.21	0.04	0.11
7	1	3	0	0	0	4	0.11	0.14	0.02	0.11
8	1	1	2	0	0	4	0.14	0.2	0.04	0.12
9	2	1	1	0	0	4	0.12	0.14	0.02	0.12
10	3	2	4	0	0	9	0.13	0.19	0.03	0.11

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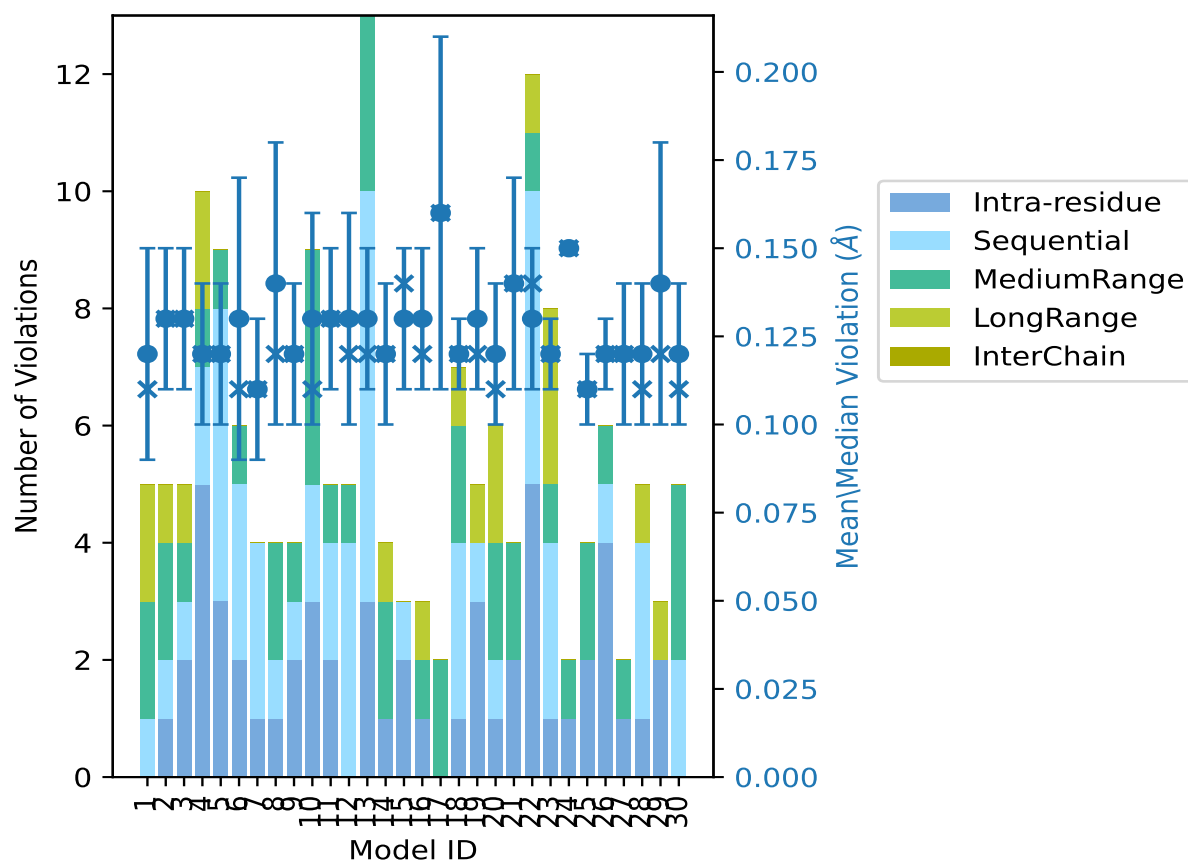
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Model ID	Number of violations						Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
11	2	2	1	0	0	5	0.13	0.16	0.02	0.13
12	0	4	1	0	0	5	0.13	0.18	0.03	0.12
13	3	7	3	0	0	13	0.13	0.19	0.02	0.12
14	1	0	2	1	0	4	0.12	0.14	0.02	0.12
15	2	1	0	0	0	3	0.13	0.16	0.02	0.14
16	1	0	1	1	0	3	0.13	0.15	0.02	0.12
17	0	0	2	0	0	2	0.16	0.2	0.05	0.16
18	1	3	2	1	0	7	0.12	0.14	0.01	0.12
19	3	1	0	1	0	5	0.13	0.15	0.02	0.12
20	1	1	2	2	0	6	0.12	0.16	0.02	0.11
21	2	0	2	0	0	4	0.14	0.17	0.03	0.14
22	5	5	1	1	0	12	0.13	0.18	0.02	0.14
23	1	3	1	3	0	8	0.12	0.14	0.01	0.12
24	1	0	1	0	0	2	0.15	0.15	0.0	0.15
25	2	0	2	0	0	4	0.11	0.12	0.01	0.11
26	4	1	1	0	0	6	0.12	0.15	0.01	0.12
27	1	0	1	0	0	2	0.12	0.15	0.02	0.12
28	1	3	0	1	0	5	0.12	0.16	0.02	0.11
29	2	0	0	1	0	3	0.14	0.2	0.04	0.12
30	0	2	3	0	0	5	0.12	0.16	0.02	0.11

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints,

<sup>5</sup>Inter-chain restraints, <sup>6</sup>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, 1612(IR:461, SQ:551, MR:265, LR:335, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total	Count <sup>6</sup>	%
9	12	7	8	0	36	1	3.3
2	7	2	0	0	11	2	6.7
1	2	2	1	0	6	3	10.0
1	1	0	0	0	2	4	13.3
0	2	1	0	0	3	5	16.7
1	0	0	0	0	1	6	20.0

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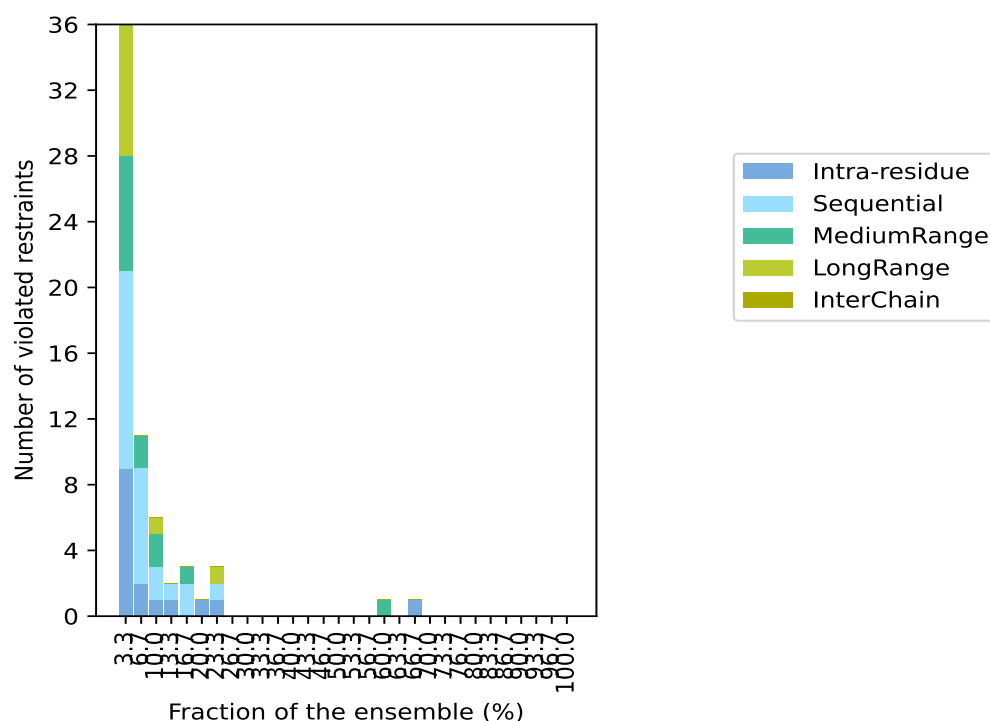
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Number of violated restraints						Fraction of the ensemble	
IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total	Count <sup>6</sup>	%
1	1	0	1	0	3	7	23.3
0	0	0	0	0	0	8	26.7
0	0	0	0	0	0	9	30.0
0	0	0	0	0	0	10	33.3
0	0	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	1	0	0	1	18	60.0
0	0	0	0	0	0	19	63.3
1	0	0	0	0	1	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
0	0	0	0	0	0	30	100.0

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints,

<sup>5</sup>Inter-chain restraints, <sup>6</sup> Number of models with violations

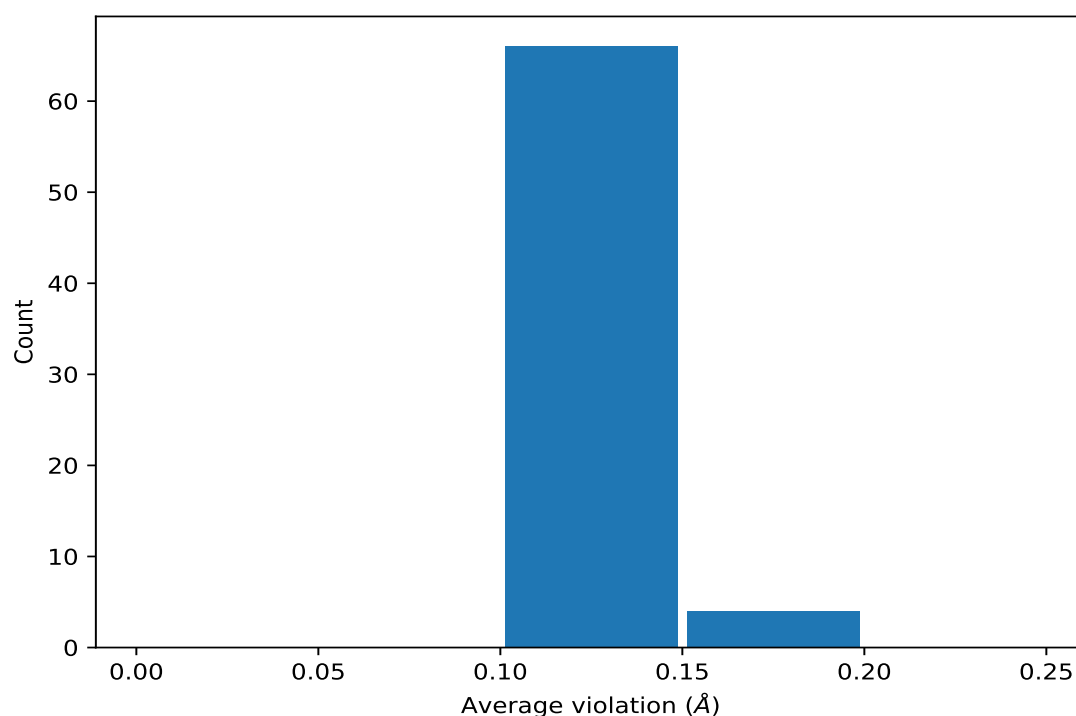
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 9.4 Most violated distance restraints in the ensemble [i](#)

### 9.4.1 Histogram : Distribution of mean distance violations [i](#)

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 [i](#)

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. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	20	0.16	0.02	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	20	0.16	0.02	0.15
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	18	0.11	0.01	0.11
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	7	0.15	0.04	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	7	0.15	0.04	0.15
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	7	0.12	0.02	0.13
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	7	0.12	0.02	0.13
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	7	0.12	0.02	0.13
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	7	0.12	0.02	0.11

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	6	0.11	0.01	0.11
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	5	0.14	0.02	0.14
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	5	0.13	0.02	0.14
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	5	0.11	0.0	0.11
(1,741)	1:68:A:GLN:H	1:68:A:GLN:HE22	4	0.11	0.01	0.11
(1,537)	1:49:A:GLN:HG2	1:50:A:LEU:H	4	0.11	0.0	0.11
(1,325)	1:35:A:VAL:HA	1:37:A:GLU:HB3	3	0.17	0.02	0.17
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG2	3	0.14	0.0	0.14
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG3	3	0.14	0.0	0.14
(1,65)	1:14:A:GLY:H	1:15:A:SER:H	3	0.11	0.01	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG11	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG12	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG13	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG11	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG12	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG13	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG11	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG12	3	0.11	0.0	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG13	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD11	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD12	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD13	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD11	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD12	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD13	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD11	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD12	3	0.11	0.0	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD13	3	0.11	0.0	0.11
(1,1194)	1:100:A:ARG:HD2	1:101:A:TRP:HE1	3	0.11	0.01	0.1
(1,1194)	1:100:A:ARG:HD3	1:101:A:TRP:HE1	3	0.11	0.01	0.1
(1,900)	1:81:A:LEU:HA	1:81:A:LEU:HG	2	0.18	0.02	0.18
(1,19)	1:7:A:GLY:H	1:8:A:SER:H	2	0.14	0.01	0.14
(1,1475)	1:124:A:ARG:HG2	1:127:A:ASP:H	2	0.14	0.02	0.14
(1,1475)	1:124:A:ARG:HG3	1:127:A:ASP:H	2	0.14	0.02	0.14
(1,44)	1:12:A:ARG:HA	1:13:A:VAL:H	2	0.12	0.02	0.12
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB2	2	0.12	0.02	0.12
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB3	2	0.12	0.02	0.12
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB2	2	0.12	0.02	0.12
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB3	2	0.12	0.02	0.12
(1,1377)	1:112:A:THR:HB	1:113:A:ARG:H	2	0.12	0.01	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD21	2	0.12	0.0	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD22	2	0.12	0.0	0.12

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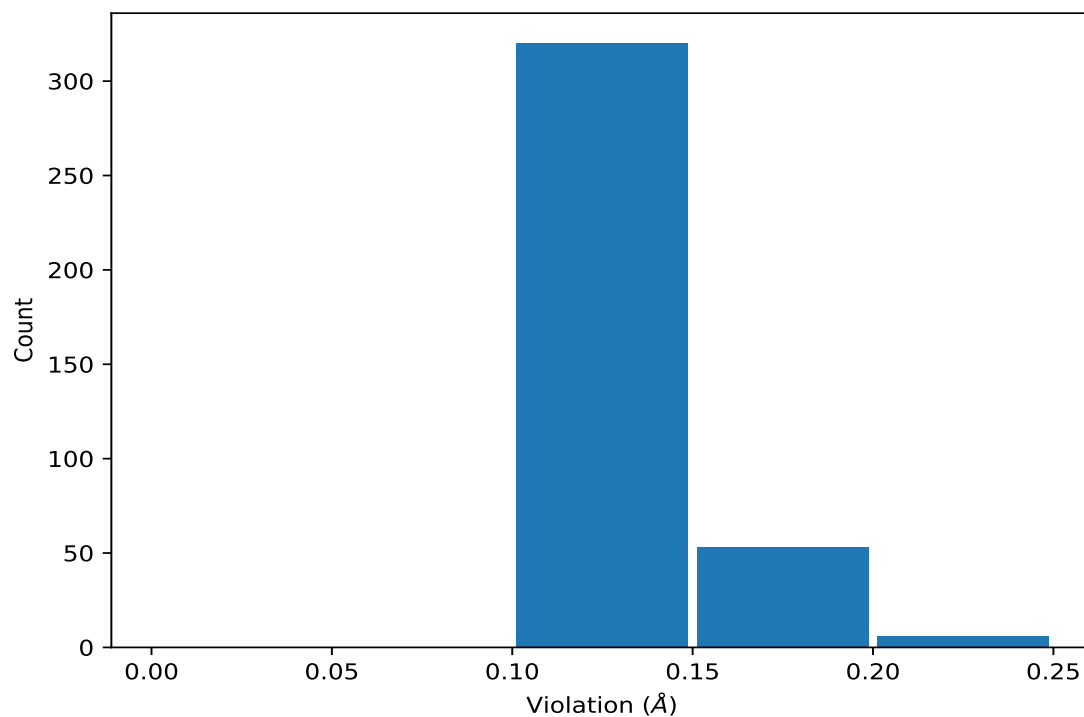
Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD23	2	0.12	0.0	0.12
(1,698)	1:62:A:GLY:H	1:63:A:GLY:H	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD1	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD2	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD1	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD2	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD1	2	0.11	0.0	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD2	2	0.11	0.0	0.11
(1,1427)	1:118:A:ASP:HB2	1:119:A:ALA:H	2	0.11	0.0	0.11
(1,1427)	1:118:A:ASP:HB3	1:119:A:ALA:H	2	0.11	0.0	0.11
(1,683)	1:60:A:ARG:HG2	1:63:A:GLY:H	2	0.11	0.0	0.11
(1,683)	1:60:A:ARG:HG3	1:63:A:GLY:H	2	0.11	0.0	0.11

<sup>1</sup>Number of violated models, <sup>2</sup>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

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)
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	6	0.21
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	6	0.21
(1,900)	1:81:A:LEU:HA	1:81:A:LEU:HG	8	0.2
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	29	0.2
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	29	0.2
(1,325)	1:35:A:VAL:HA	1:37:A:GLU:HB3	17	0.2
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	10	0.19
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	10	0.19
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	10	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	10	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	10	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	10	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	10	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	10	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	10	0.19
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	13	0.19
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	13	0.19
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	13	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	13	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	13	0.19
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	13	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	13	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	13	0.19
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	13	0.19
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	10	0.19
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	10	0.19
(1,1559)	1:135:A:ARG:HA	1:135:A:ARG:HD2	22	0.18
(1,1559)	1:135:A:ARG:HA	1:135:A:ARG:HD3	22	0.18
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	12	0.18
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	12	0.18
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	12	0.18
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	12	0.18
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	12	0.18
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	12	0.18
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	12	0.18
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	12	0.18
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	12	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,900)	1:81:A:LEU:HA	1:81:A:LEU:HG	21	0.17
(1,325)	1:35:A:VAL:HA	1:37:A:GLU:HB3	1	0.17
(1,56)	1:13:A:VAL:HA	1:14:A:GLY:H	5	0.17
(1,1475)	1:124:A:ARG:HG2	1:127:A:ASP:H	30	0.16
(1,1475)	1:124:A:ARG:HG3	1:127:A:ASP:H	30	0.16
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	22	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	4	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	4	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	11	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	11	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	15	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	15	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	20	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	20	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	21	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	21	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	28	0.16
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	28	0.16
(1,480)	1:45:A:LYS:HB2	1:49:A:GLN:HE21	3	0.16
(1,480)	1:45:A:LYS:HB2	1:49:A:GLN:HE22	3	0.16
(1,480)	1:45:A:LYS:HB3	1:49:A:GLN:HE21	3	0.16
(1,480)	1:45:A:LYS:HB3	1:49:A:GLN:HE22	3	0.16
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	22	0.15
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	22	0.15
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	22	0.15
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	11	0.15
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	11	0.15
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	11	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	11	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	11	0.15
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	11	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	11	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	11	0.15
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	11	0.15
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	2	0.15
(1,1183)	1:99:A:MET:H	1:99:A:MET:HE1	19	0.15
(1,1183)	1:99:A:MET:H	1:99:A:MET:HE2	19	0.15
(1,1183)	1:99:A:MET:H	1:99:A:MET:HE3	19	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	2	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	2	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	3	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	3	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	5	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	5	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	16	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	16	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	19	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	19	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	24	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	24	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	26	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	26	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	27	0.15
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	27	0.15
(1,325)	1:35:A:VAL:HA	1:37:A:GLU:HB3	24	0.15
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	4	0.15
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	13	0.15
(1,22)	1:9:A:THR:HA	1:10:A:LEU:H	13	0.15
(1,1473)	1:124:A:ARG:HD2	1:127:A:ASP:H	18	0.14
(1,1473)	1:124:A:ARG:HD3	1:127:A:ASP:H	18	0.14
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	14	0.14
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	14	0.14
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	14	0.14
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	9	0.14
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB2	18	0.14
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB3	18	0.14
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB2	18	0.14
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB3	18	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	13	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	13	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	22	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	22	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG2	23	0.14
(1,880)	1:79:A:LYS:HA	1:79:A:LYS:HG3	23	0.14
(1,675)	1:60:A:ARG:HA	1:62:A:GLY:H	14	0.14
(1,642)	1:57:A:ALA:HB1	1:66:A:ILE:HG12	23	0.14
(1,642)	1:57:A:ALA:HB1	1:66:A:ILE:HG13	23	0.14
(1,642)	1:57:A:ALA:HB2	1:66:A:ILE:HG12	23	0.14
(1,642)	1:57:A:ALA:HB2	1:66:A:ILE:HG13	23	0.14
(1,642)	1:57:A:ALA:HB3	1:66:A:ILE:HG12	23	0.14
(1,642)	1:57:A:ALA:HB3	1:66:A:ILE:HG13	23	0.14
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	15	0.14
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	6	0.14
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	22	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG2	9	0.14
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG3	9	0.14
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG2	18	0.14
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG3	18	0.14
(1,44)	1:12:A:ARG:HA	1:13:A:VAL:H	7	0.14
(1,19)	1:7:A:GLY:H	1:8:A:SER:H	22	0.14
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	8	0.13
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	12	0.13
(1,1387)	1:113:A:ARG:HG2	1:114:A:ASP:H	4	0.13
(1,1387)	1:113:A:ARG:HG3	1:114:A:ASP:H	4	0.13
(1,1377)	1:112:A:THR:HB	1:113:A:ARG:H	23	0.13
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	2	0.13
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	2	0.13
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	2	0.13
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	3	0.13
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	3	0.13
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	3	0.13
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	22	0.13
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	22	0.13
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	22	0.13
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	22	0.13
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	22	0.13
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	22	0.13
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	22	0.13
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	22	0.13
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	22	0.13
(1,741)	1:68:A:GLN:H	1:68:A:GLN:HE22	4	0.13
(1,213)	1:26:A:ASP:H	1:26:A:ASP:HB2	13	0.13
(1,65)	1:14:A:GLY:H	1:15:A:SER:H	13	0.13
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG2	26	0.13
(1,52)	1:12:A:ARG:H	1:12:A:ARG:HG3	26	0.13
(1,49)	1:12:A:ARG:HG2	1:13:A:VAL:H	5	0.13
(1,49)	1:12:A:ARG:HG3	1:13:A:VAL:H	5	0.13
(1,19)	1:7:A:GLY:H	1:8:A:SER:H	11	0.13
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD21	5	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD22	5	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD23	5	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD21	26	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD22	26	0.12
(1,1521)	1:129:A:LEU:H	1:129:A:LEU:HD23	26	0.12
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	5	0.12
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	10	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	16	0.12
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	18	0.12
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	26	0.12
(1,1409)	1:116:A:SER:H	1:117:A:ARG:H	12	0.12
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	23	0.12
(1,1314)	1:109:A:LEU:HD21	1:110:A:THR:H	19	0.12
(1,1314)	1:109:A:LEU:HD22	1:110:A:THR:H	19	0.12
(1,1314)	1:109:A:LEU:HD23	1:110:A:THR:H	19	0.12
(1,1194)	1:100:A:ARG:HD2	1:101:A:TRP:HE1	28	0.12
(1,1194)	1:100:A:ARG:HD3	1:101:A:TRP:HE1	28	0.12
(1,1054)	1:88:A:LEU:HG	1:101:A:TRP:HE1	4	0.12
(1,580)	1:51:A:ARG:H	1:51:A:ARG:HG2	29	0.12
(1,580)	1:51:A:ARG:H	1:51:A:ARG:HG3	29	0.12
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	21	0.12
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	26	0.12
(1,297)	1:32:A:LEU:H	1:32:A:LEU:HG	25	0.12
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	22	0.12
(1,269)	1:30:A:TYR:H	1:66:A:ILE:HG21	23	0.12
(1,269)	1:30:A:TYR:H	1:66:A:ILE:HG22	23	0.12
(1,269)	1:30:A:TYR:H	1:66:A:ILE:HG23	23	0.12
(1,39)	1:10:A:LEU:H	1:10:A:LEU:HG	13	0.12
(2,23)	1:52:A:GLU:H	1:49:A:GLN:O	8	0.11
(1,1602)	1:138:A:VAL:HB	1:139:A:ARG:HB2	12	0.11
(1,1602)	1:138:A:VAL:HB	1:139:A:ARG:HB3	12	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	1	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	2	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	4	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	13	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	17	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	21	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	22	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	23	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	25	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	30	0.11
(1,1475)	1:124:A:ARG:HG2	1:127:A:ASP:H	11	0.11
(1,1475)	1:124:A:ARG:HG3	1:127:A:ASP:H	11	0.11
(1,1427)	1:118:A:ASP:HB2	1:119:A:ALA:H	3	0.11
(1,1427)	1:118:A:ASP:HB3	1:119:A:ALA:H	3	0.11
(1,1427)	1:118:A:ASP:HB2	1:119:A:ALA:H	12	0.11
(1,1427)	1:118:A:ASP:HB3	1:119:A:ALA:H	12	0.11
(1,1382)	1:112:A:THR:H	1:133:A:GLN:HE21	18	0.11
(1,1377)	1:112:A:THR:HB	1:113:A:ARG:H	13	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	29	0.11
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	29	0.11
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	29	0.11
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	18	0.11
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	18	0.11
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	18	0.11
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	18	0.11
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	18	0.11
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	18	0.11
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	18	0.11
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	18	0.11
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	18	0.11
(1,1354)	1:111:A:ILE:HB	1:112:A:THR:H	28	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD1	6	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD2	6	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD1	6	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD2	6	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD1	6	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD2	6	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD1	8	0.11
(1,1244)	1:102:A:LEU:HD21	1:103:A:PHE:HD2	8	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD1	8	0.11
(1,1244)	1:102:A:LEU:HD22	1:103:A:PHE:HD2	8	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD1	8	0.11
(1,1244)	1:102:A:LEU:HD23	1:103:A:PHE:HD2	8	0.11
(1,1196)	1:100:A:ARG:H	1:100:A:ARG:HD2	22	0.11
(1,1196)	1:100:A:ARG:H	1:100:A:ARG:HD3	22	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD11	10	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD12	10	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD13	10	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD11	10	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD12	10	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD13	10	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD11	10	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD12	10	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD13	10	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD11	13	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD12	13	0.11
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD13	13	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD11	13	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD12	13	0.11
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD13	13	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD11	13	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD12	13	0.11
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD13	13	0.11
(1,741)	1:68:A:GLN:H	1:68:A:GLN:HE22	19	0.11
(1,741)	1:68:A:GLN:H	1:68:A:GLN:HE22	22	0.11
(1,740)	1:68:A:GLN:H	1:68:A:GLN:HE21	11	0.11
(1,698)	1:62:A:GLY:H	1:63:A:GLY:H	10	0.11
(1,698)	1:62:A:GLY:H	1:63:A:GLY:H	23	0.11
(1,697)	1:61:A:ALA:H	1:63:A:GLY:H	10	0.11
(1,683)	1:60:A:ARG:HG2	1:63:A:GLY:H	30	0.11
(1,683)	1:60:A:ARG:HG3	1:63:A:GLY:H	30	0.11
(1,537)	1:49:A:GLN:HG2	1:50:A:LEU:H	5	0.11
(1,537)	1:49:A:GLN:HG2	1:50:A:LEU:H	18	0.11
(1,497)	1:46:A:VAL:HA	1:50:A:LEU:HB2	20	0.11
(1,497)	1:46:A:VAL:HA	1:50:A:LEU:HB3	20	0.11
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	2	0.11
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	10	0.11
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	13	0.11
(1,326)	1:35:A:VAL:HA	1:37:A:GLU:HB2	20	0.11
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	5	0.11
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	6	0.11
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	10	0.11
(1,318)	1:34:A:ARG:H	1:34:A:ARG:HD3	25	0.11
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	3	0.11
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	7	0.11
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	10	0.11
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	14	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD11	1	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD12	1	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD13	1	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD21	1	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD22	1	0.11
(1,238)	1:30:A:TYR:HA	1:38:A:LEU:HD23	1	0.11
(1,187)	1:23:A:LEU:HG	1:103:A:PHE:HZ	16	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG11	19	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG12	19	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG13	19	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG11	19	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG12	19	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG13	19	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG11	19	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG12	19	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG13	19	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG11	20	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG12	20	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG13	20	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG11	20	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG12	20	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG13	20	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG11	20	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG12	20	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG13	20	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG11	28	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG12	28	0.11
(1,95)	1:18:A:ALA:HB1	1:58:A:VAL:HG13	28	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG11	28	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG12	28	0.11
(1,95)	1:18:A:ALA:HB2	1:58:A:VAL:HG13	28	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG11	28	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG12	28	0.11
(1,95)	1:18:A:ALA:HB3	1:58:A:VAL:HG13	28	0.11
(1,73)	1:15:A:SER:H	1:16:A:ILE:HD11	20	0.11
(1,73)	1:15:A:SER:H	1:16:A:ILE:HD12	20	0.11
(1,73)	1:15:A:SER:H	1:16:A:ILE:HD13	20	0.11
(1,65)	1:14:A:GLY:H	1:15:A:SER:H	6	0.11
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	28	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG11	13	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG12	13	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG13	13	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG21	13	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG22	13	0.11
(1,53)	1:12:A:ARG:H	1:13:A:VAL:HG23	13	0.11
(1,44)	1:12:A:ARG:HA	1:13:A:VAL:H	1	0.11
(1,1)	1:1:A:MET:HA	1:2:A:PRO:HD2	30	0.11
(1,1)	1:1:A:MET:HA	1:2:A:PRO:HD3	30	0.11
(1,1519)	1:129:A:LEU:HG	1:131:A:ALA:H	9	0.1
(1,1417)	1:117:A:ARG:HG2	1:118:A:ASP:H	5	0.1
(1,1417)	1:117:A:ARG:HG3	1:118:A:ASP:H	5	0.1
(1,1400)	1:115:A:GLY:H	1:116:A:SER:H	13	0.1
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	20	0.1
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	20	0.1
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	20	0.1
(1,1364)	1:111:A:ILE:HG21	1:123:A:ALA:H	23	0.1
(1,1364)	1:111:A:ILE:HG22	1:123:A:ALA:H	23	0.1

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1364)	1:111:A:ILE:HG23	1:123:A:ALA:H	23	0.1
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG21	15	0.1
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG22	15	0.1
(1,1362)	1:111:A:ILE:HG21	1:112:A:THR:HG23	15	0.1
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG21	15	0.1
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG22	15	0.1
(1,1362)	1:111:A:ILE:HG22	1:112:A:THR:HG23	15	0.1
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG21	15	0.1
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG22	15	0.1
(1,1362)	1:111:A:ILE:HG23	1:112:A:THR:HG23	15	0.1
(1,1194)	1:100:A:ARG:HD2	1:101:A:TRP:HE1	7	0.1
(1,1194)	1:100:A:ARG:HD3	1:101:A:TRP:HE1	7	0.1
(1,1194)	1:100:A:ARG:HD2	1:101:A:TRP:HE1	22	0.1
(1,1194)	1:100:A:ARG:HD3	1:101:A:TRP:HE1	22	0.1
(1,946)	1:84:A:LEU:HG	1:86:A:THR:H	27	0.1
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB2	7	0.1
(1,887)	1:79:A:LYS:HG2	1:80:A:SER:HB3	7	0.1
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB2	7	0.1
(1,887)	1:79:A:LYS:HG3	1:80:A:SER:HB3	7	0.1
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD11	6	0.1
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD12	6	0.1
(1,857)	1:77:A:VAL:HG21	1:81:A:LEU:HD13	6	0.1
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD11	6	0.1
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD12	6	0.1
(1,857)	1:77:A:VAL:HG22	1:81:A:LEU:HD13	6	0.1
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD11	6	0.1
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD12	6	0.1
(1,857)	1:77:A:VAL:HG23	1:81:A:LEU:HD13	6	0.1
(1,855)	1:77:A:VAL:HG11	1:81:A:LEU:HD11	25	0.1
(1,855)	1:77:A:VAL:HG11	1:81:A:LEU:HD12	25	0.1
(1,855)	1:77:A:VAL:HG11	1:81:A:LEU:HD13	25	0.1
(1,855)	1:77:A:VAL:HG12	1:81:A:LEU:HD11	25	0.1
(1,855)	1:77:A:VAL:HG12	1:81:A:LEU:HD12	25	0.1
(1,855)	1:77:A:VAL:HG12	1:81:A:LEU:HD13	25	0.1
(1,855)	1:77:A:VAL:HG13	1:81:A:LEU:HD11	25	0.1
(1,855)	1:77:A:VAL:HG13	1:81:A:LEU:HD12	25	0.1
(1,855)	1:77:A:VAL:HG13	1:81:A:LEU:HD13	25	0.1
(1,741)	1:68:A:GLN:H	1:68:A:GLN:HE22	9	0.1
(1,683)	1:60:A:ARG:HG2	1:63:A:GLY:H	14	0.1
(1,683)	1:60:A:ARG:HG3	1:63:A:GLY:H	14	0.1
(1,578)	1:51:A:ARG:H	1:51:A:ARG:HD3	4	0.1
(1,537)	1:49:A:GLN:HG2	1:50:A:LEU:H	4	0.1

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,537)	1:49:A:GLN:HG2	1:50:A:LEU:H	26	0.1
(1,290)	1:32:A:LEU:HA	1:32:A:LEU:HG	4	0.1
(1,225)	1:29:A:THR:HB	1:68:A:GLN:H	4	0.1
(1,118)	1:20:A:ASP:H	1:96:A:THR:HB	1	0.1
(1,65)	1:14:A:GLY:H	1:15:A:SER:H	5	0.1
(1,63)	1:13:A:VAL:H	1:14:A:GLY:H	30	0.1

## 10 Dihedral-angle violation analysis [i](#)

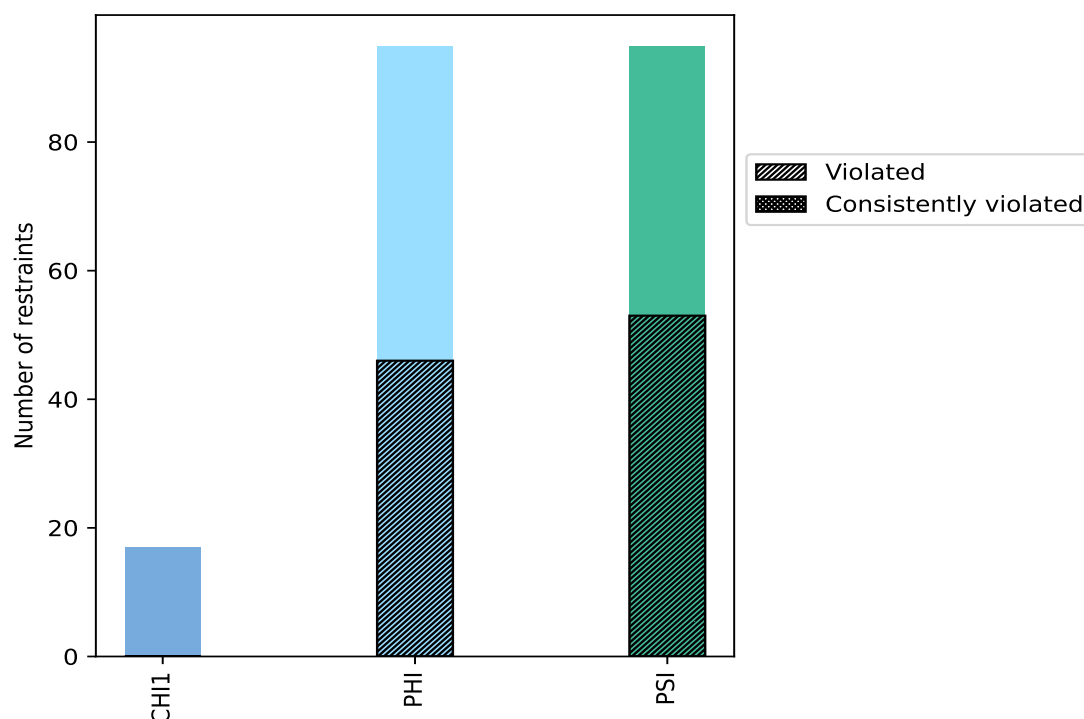
### 10.1 Summary of dihedral-angle violations [i](#)

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	% <sup>1</sup>	Violated <sup>3</sup>			Consistently Violated <sup>4</sup>		
			Count	% <sup>2</sup>	% <sup>1</sup>	Count	% <sup>2</sup>	% <sup>1</sup>
CHI1	17	8.2	0	0.0	0.0	0	0.0	0.0
PHI	95	45.9	46	48.4	22.2	0	0.0	0.0
PSI	95	45.9	53	55.8	25.6	0	0.0	0.0
Total	207	100.0	99	47.8	47.8	0	0.0	0.0

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

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



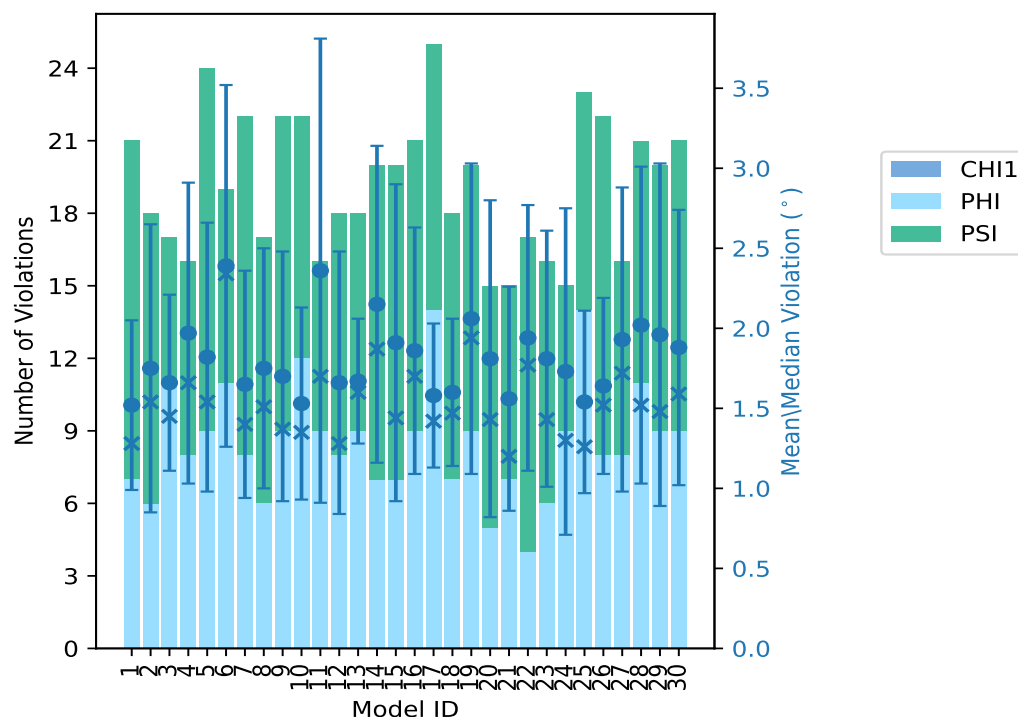
Violated and consistently violated restraints are shown using different hatch patterns in their respective categories

## 10.2 Dihedral-angle violation statistics for each model

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 (°)
	CHI1	PHI	PSI	Total				
1	0	7	14	21	1.52	2.82	0.53	1.28
2	0	6	12	18	1.75	4.99	0.9	1.54
3	0	11	6	17	1.66	3.05	0.55	1.45
4	0	8	8	16	1.97	4.4	0.94	1.66
5	0	9	15	24	1.82	4.04	0.84	1.54
6	0	11	8	19	2.39	5.96	1.13	2.34
7	0	8	14	22	1.65	3.5	0.71	1.4
8	0	6	11	17	1.75	3.38	0.75	1.51
9	0	9	13	22	1.7	4.09	0.78	1.37
10	0	12	10	22	1.53	3.59	0.6	1.35
11	0	9	7	16	2.36	5.9	1.45	1.7
12	0	8	10	18	1.66	3.86	0.82	1.28
13	0	9	9	18	1.67	2.4	0.39	1.6
14	0	7	13	20	2.15	4.24	0.99	1.87
15	0	7	13	20	1.91	4.6	0.99	1.44
16	0	9	12	21	1.86	3.71	0.77	1.7
17	0	14	11	25	1.58	2.86	0.45	1.42
18	0	7	11	18	1.6	3.07	0.46	1.47
19	0	9	11	20	2.06	4.59	0.97	1.94
20	0	5	10	15	1.81	4.72	0.99	1.43
21	0	7	8	15	1.56	3.34	0.7	1.2
22	0	4	13	17	1.94	3.89	0.83	1.77
23	0	6	10	16	1.81	3.51	0.8	1.43
24	0	9	6	15	1.73	4.86	1.02	1.3
25	0	14	9	23	1.54	3.24	0.57	1.26
26	0	8	14	22	1.64	3.16	0.55	1.52
27	0	8	8	16	1.93	4.81	0.95	1.72
28	0	11	10	21	2.02	4.34	0.99	1.52
29	0	9	11	20	1.96	5.2	1.07	1.48
30	0	9	12	21	1.88	3.77	0.86	1.59

### 10.2.1 Bar graph : Dihedral 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

### 10.3 Dihedral-angle violation statistics for the ensemble [i](#)

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	
CHI1	PHI	PSI	Total	Count <sup>1</sup>	%
0	10	13	23	1	3.3
0	10	10	20	2	6.7
0	7	3	10	3	10.0
0	3	4	7	4	13.3
0	2	4	6	5	16.7
0	2	4	6	6	20.0
0	1	3	4	7	23.3
0	1	2	3	8	26.7
0	1	1	2	9	30.0
0	3	1	4	10	33.3
0	0	1	1	11	36.7

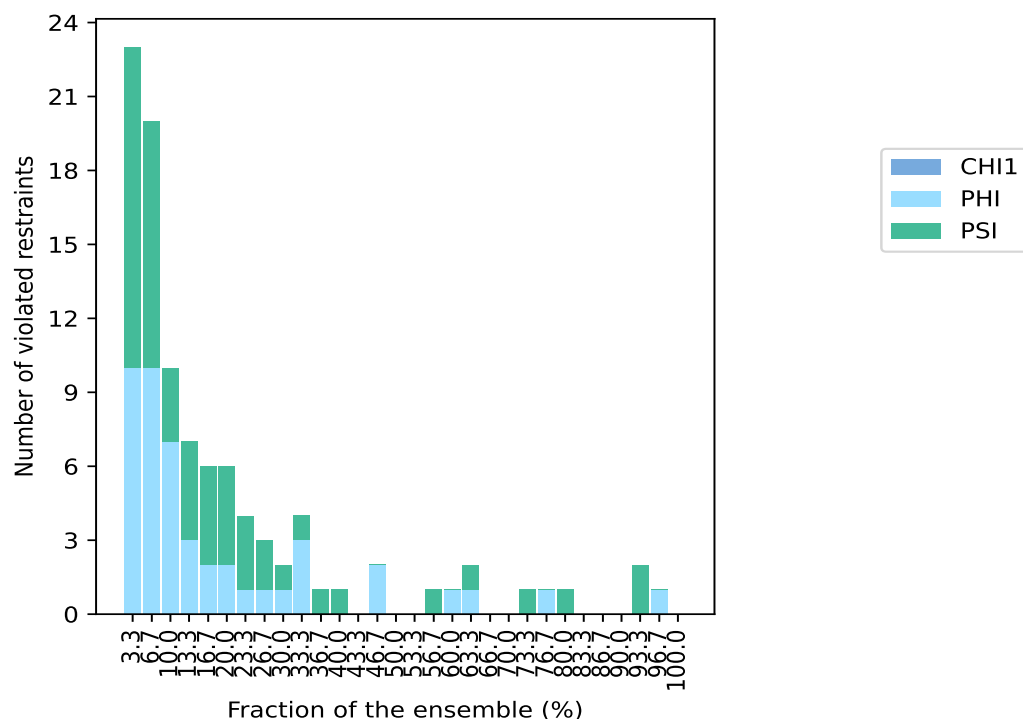
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Number of violated restraints				Fraction of the ensemble	
CHI1	PHI	PSI	Total	Count <sup>1</sup>	%
0	0	1	1	12	40.0
0	0	0	0	13	43.3
0	2	0	2	14	46.7
0	0	0	0	15	50.0
0	0	0	0	16	53.3
0	0	1	1	17	56.7
0	1	0	1	18	60.0
0	1	1	2	19	63.3
0	0	0	0	20	66.7
0	0	0	0	21	70.0
0	0	1	1	22	73.3
0	1	0	1	23	76.7
0	0	1	1	24	80.0
0	0	0	0	25	83.3
0	0	0	0	26	86.7
0	0	0	0	27	90.0
0	0	2	2	28	93.3
0	1	0	1	29	96.7
0	0	0	0	30	100.0

<sup>1</sup> Number of models with violations

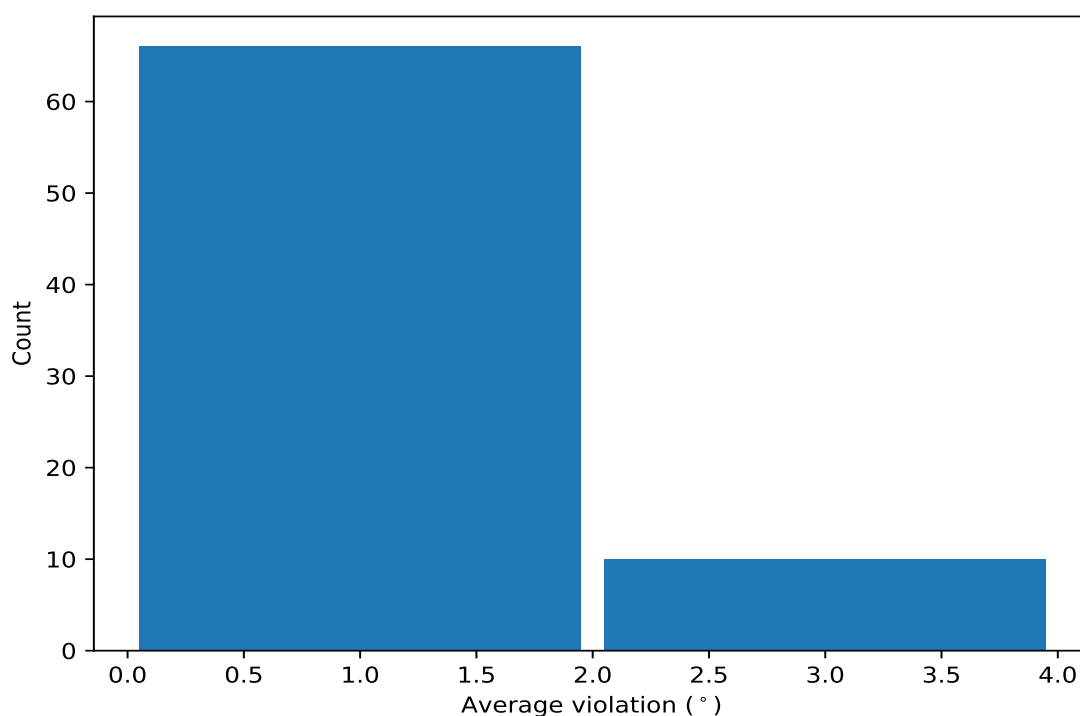
### 10.3.1 Bar graph : Dihedral-angle Violation statistics for the ensemble [i](#)



## 10.4 Most violated dihedral-angle restraints in the ensemble [i](#)

### 10.4.1 Histogram : Distribution of mean dihedral-angle violations [i](#)

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 [i](#)

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 <sup>1</sup>	Mean	SD <sup>2</sup>	Median
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	29	3.4	1.1	3.33
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	28	2.87	0.81	2.96
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	28	2.37	0.79	2.3
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	24	2.82	1.07	2.79
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	23	1.87	0.74	1.56
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	22	2.36	1.27	1.8
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	19	1.66	0.4	1.51
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	19	1.49	0.42	1.44
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	18	1.71	0.58	1.51
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	17	1.87	0.56	1.9
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	14	2.08	0.58	2.24
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	14	1.41	0.36	1.4
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	12	1.41	0.25	1.4
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	11	1.46	0.35	1.36
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	10	1.99	0.51	2.12
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	10	1.4	0.3	1.44
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	10	1.36	0.35	1.23
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	10	1.35	0.24	1.27
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	9	1.61	0.37	1.54
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	9	1.29	0.19	1.27
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	8	2.0	0.71	1.9

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Models <sup>1</sup>	Mean	SD <sup>2</sup>	Median
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	8	1.42	0.27	1.35
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	8	1.27	0.18	1.26
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	7	1.57	0.46	1.43
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	7	1.46	0.34	1.42
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	7	1.43	0.27	1.41
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	7	1.23	0.18	1.21
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	6	1.61	0.49	1.56
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	6	1.46	0.33	1.43
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	6	1.32	0.19	1.26
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	6	1.25	0.27	1.11
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	6	1.24	0.25	1.15
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	6	1.23	0.24	1.16
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	5	1.55	0.56	1.27
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	5	1.42	0.43	1.34
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	5	1.24	0.17	1.16
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	5	1.21	0.17	1.11
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	5	1.2	0.22	1.09
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	5	1.16	0.09	1.16
(1,127)	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	1:59:A:ARG:N	4	2.23	0.84	2.06
(1,33)	1:58:A:VAL:C	1:59:A:ARG:N	1:59:A:ARG:CA	1:59:A:ARG:C	4	2.18	1.04	1.97
(1,3)	1:16:A:ILE:C	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	4	1.77	0.44	1.72
(1,136)	1:73:A:ASN:N	1:73:A:ASN:CA	1:73:A:ASN:C	1:74:A:SER:N	4	1.54	0.35	1.5
(1,49)	1:83:A:GLY:C	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	4	1.42	0.38	1.25
(1,122)	1:52:A:GLU:N	1:52:A:GLU:CA	1:52:A:GLU:C	1:53:A:GLY:N	4	1.36	0.28	1.27
(1,185)	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	1:140:A:ARG:N	4	1.2	0.22	1.11
(1,8)	1:29:A:THR:C	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	3	2.0	0.81	1.45
(1,166)	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	1:112:A:THR:N	3	1.81	0.26	1.97
(1,72)	1:111:A:ILE:C	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	3	1.66	0.73	1.15
(1,159)	1:102:A:LEU:N	1:102:A:LEU:CA	1:102:A:LEU:C	1:103:A:PHE:N	3	1.58	0.22	1.45
(1,34)	1:59:A:ARG:C	1:60:A:ARG:N	1:60:A:ARG:CA	1:60:A:ARG:C	3	1.48	0.37	1.28
(1,12)	1:34:A:ARG:C	1:35:A:VAL:N	1:35:A:VAL:CA	1:35:A:VAL:C	3	1.41	0.3	1.35
(1,42)	1:73:A:ASN:C	1:74:A:SER:N	1:74:A:SER:CA	1:74:A:SER:C	3	1.38	0.17	1.44
(1,70)	1:109:A:LEU:C	1:110:A:THR:N	1:110:A:THR:CA	1:110:A:THR:C	3	1.21	0.17	1.14
(1,168)	1:119:A:ALA:N	1:119:A:ALA:CA	1:119:A:ALA:C	1:120:A:VAL:N	3	1.2	0.12	1.19
(1,61)	1:97:A:GLU:C	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	3	1.19	0.2	1.09
(1,175)	1:129:A:LEU:N	1:129:A:LEU:CA	1:129:A:LEU:C	1:130:A:HIS:N	2	1.82	0.26	1.82
(1,172)	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	1:127:A:ASP:N	2	1.69	0.58	1.69
(1,153)	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	1:96:A:THR:N	2	1.61	0.55	1.61
(1,19)	1:43:A:VAL:C	1:44:A:SER:N	1:44:A:SER:CA	1:44:A:SER:C	2	1.56	0.09	1.56
(1,167)	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	1:113:A:ARG:N	2	1.48	0.38	1.48
(1,140)	1:79:A:LYS:N	1:79:A:LYS:CA	1:79:A:LYS:C	1:80:A:SER:N	2	1.43	0.11	1.43
(1,32)	1:57:A:ALA:C	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	2	1.42	0.34	1.42
(1,6)	1:24:A:ASP:C	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	2	1.42	0.09	1.42
(1,67)	1:104:A:THR:C	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	2	1.31	0.29	1.31
(1,173)	1:127:A:ASP:N	1:127:A:ASP:CA	1:127:A:ASP:C	1:128:A:ALA:N	2	1.27	0.25	1.27
(1,117)	1:47:A:ALA:N	1:47:A:ALA:CA	1:47:A:ALA:C	1:48:A:GLN:N	2	1.27	0.24	1.27
(1,71)	1:110:A:THR:C	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	2	1.25	0.07	1.25
(1,11)	1:33:A:PRO:C	1:34:A:ARG:N	1:34:A:ARG:CA	1:34:A:ARG:C	2	1.23	0.22	1.23
(1,169)	1:120:A:VAL:N	1:120:A:VAL:CA	1:120:A:VAL:C	1:121:A:SER:N	2	1.21	0.11	1.21
(1,77)	1:125:A:PRO:C	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	2	1.18	0.08	1.18
(1,101)	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	1:26:A:ASP:N	2	1.16	0.1	1.16

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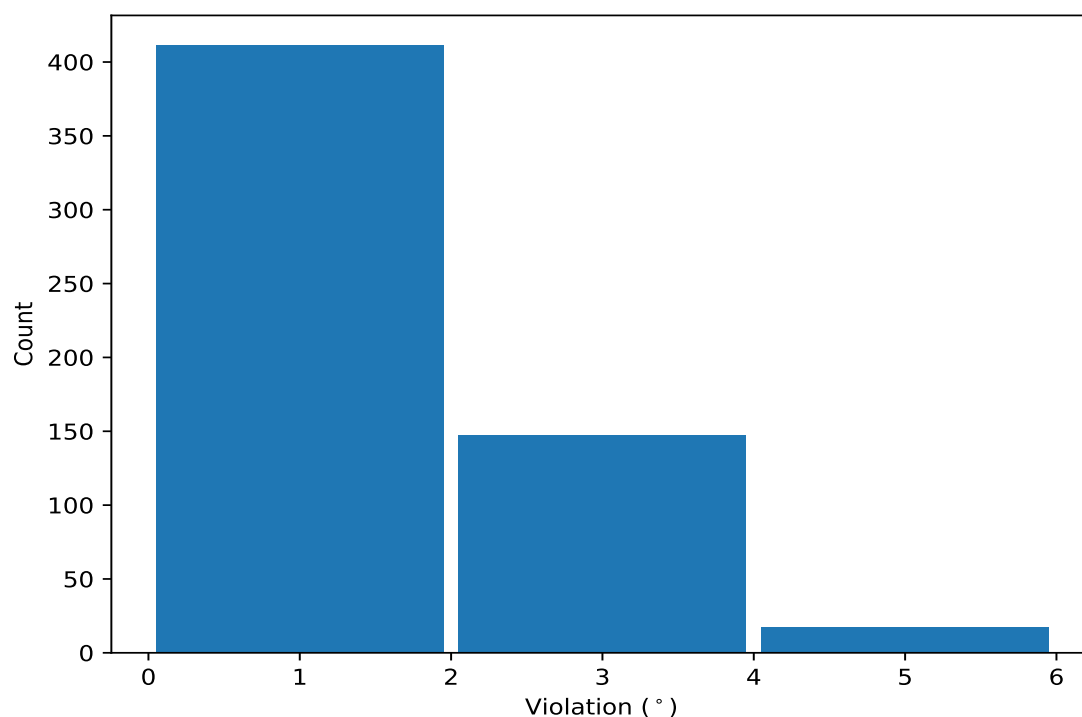
Key	Atom-1	Atom-2	Atom-3	Atom-4	Models <sup>1</sup>	Mean	SD <sup>2</sup>	Median
(1,30)	1:55:A:LEU:C	1:56:A:VAL:N	1:56:A:VAL:CA	1:56:A:VAL:C	2	1.16	0.02	1.16
(1,23)	1:47:A:ALA:C	1:48:A:GLN:N	1:48:A:GLN:CA	1:48:A:GLN:C	2	1.12	0.09	1.12
(1,143)	1:83:A:GLY:N	1:83:A:GLY:CA	1:83:A:GLY:C	1:84:A:LEU:N	2	1.1	0.06	1.1
(1,46)	1:80:A:SER:C	1:81:A:LEU:N	1:81:A:LEU:CA	1:81:A:LEU:C	2	1.06	0.0	1.06

<sup>1</sup> Number of violated models, <sup>2</sup>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 [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.

Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	6	5.96
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	11	5.9
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	29	5.2

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	2	4.99
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	24	4.86
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	27	4.81
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	20	4.72
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	15	4.6
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	19	4.59
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	4	4.4
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	28	4.34
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	14	4.24
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	11	4.22
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	11	4.19
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	28	4.1
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	9	4.09
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	5	4.04
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	4	3.94
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	15	3.92
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	22	3.89
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	12	3.86
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	5	3.86
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	19	3.84
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	30	3.77
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	16	3.71
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	11	3.7
(1,33)	1:58:A:VAL:C	1:59:A:ARG:N	1:59:A:ARG:CA	1:59:A:ARG:C	14	3.7
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	30	3.69
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	28	3.69
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	6	3.63
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	10	3.59
(1,127)	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	1:59:A:ARG:N	14	3.53
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	20	3.52
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	23	3.51
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	16	3.51
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	7	3.5
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	24	3.5
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	30	3.45
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	22	3.44
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	11	3.4
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	8	3.38
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	21	3.34
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	7	3.33
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	6	3.32
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	23	3.31
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	14	3.26
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	25	3.24
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	6	3.23
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	9	3.21
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	29	3.21
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	22	3.17
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	26	3.16
(1,8)	1:29:A:THR:C	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	19	3.15
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	14	3.13

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	8	3.13
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	29	3.12
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	14	3.11
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	23	3.09
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	15	3.09
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	29	3.09
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	12	3.09
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	18	3.07
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	3	3.05
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	28	3.04
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	2	3.03
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	29	3.03
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	21	2.98
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	15	2.97
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	9	2.97
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	19	2.96
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	16	2.95
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	3	2.93
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	25	2.89
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	12	2.87
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	8	2.87
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	17	2.86
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	27	2.83
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	14	2.83
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	1	2.82
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	6	2.81
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	28	2.81
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	5	2.76
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	5	2.75
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	29	2.7
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	19	2.69
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	30	2.69
(1,72)	1:111:A:ILE:C	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	1	2.69
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	27	2.68
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	27	2.67
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	5	2.65
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	6	2.63
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	22	2.61
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	6	2.59
(1,33)	1:58:A:VAL:C	1:59:A:ARG:N	1:59:A:ARG:CA	1:59:A:ARG:C	30	2.57
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	6	2.55
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	4	2.52
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	10	2.51
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	6	2.5
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	7	2.49
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	15	2.49
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	11	2.49
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	16	2.48
(1,3)	1:16:A:ILE:C	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	19	2.45
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	28	2.43
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	9	2.42

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	17	2.42
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	13	2.4
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	11	2.39
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	26	2.38
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	26	2.38
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	15	2.38
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	16	2.37
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	25	2.35
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	23	2.35
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	16	2.35
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	8	2.34
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	6	2.34
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	6	2.33
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	13	2.31
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	19	2.3
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	4	2.3
(1,127)	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	1:59:A:ARG:N	30	2.3
(1,172)	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	1:127:A:ASP:N	28	2.28
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	12	2.28
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	26	2.27
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	27	2.25
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	19	2.24
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	8	2.23
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	17	2.23
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	26	2.23
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	7	2.23
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	18	2.22
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	9	2.22
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	5	2.2
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	26	2.2
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	13	2.19
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	4	2.18
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	12	2.17
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	20	2.17
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	1	2.16
(1,153)	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	1:96:A:THR:N	6	2.16
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	17	2.15
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	1	2.15
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	7	2.15
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	4	2.13
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	7	2.12
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	19	2.12
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	7	2.11
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	21	2.11
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	23	2.11
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	14	2.1
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	10	2.1
(1,175)	1:129:A:LEU:N	1:129:A:LEU:CA	1:129:A:LEU:C	1:130:A:HIS:N	5	2.08
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	22	2.08
(1,49)	1:83:A:GLY:C	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	27	2.08
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	17	2.08

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	10	2.07
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	30	2.07
(1,136)	1:73:A:ASN:N	1:73:A:ASN:CA	1:73:A:ASN:C	1:74:A:SER:N	5	2.07
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	16	2.07
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	30	2.07
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	19	2.02
(1,166)	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	1:112:A:THR:N	18	2.01
(1,34)	1:59:A:ARG:C	1:60:A:ARG:N	1:60:A:ARG:CA	1:60:A:ARG:C	14	2.0
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	13	1.99
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	17	1.98
(1,166)	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	1:112:A:THR:N	1	1.97
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	3	1.96
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	20	1.96
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	29	1.96
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	13	1.95
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	3	1.95
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	4	1.95
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	14	1.94
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	25	1.92
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	8	1.91
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	21	1.9
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	16	1.9
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	13	1.89
(1,159)	1:102:A:LEU:N	1:102:A:LEU:CA	1:102:A:LEU:C	1:103:A:PHE:N	29	1.89
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	22	1.88
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	5	1.87
(1,167)	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	1:113:A:ARG:N	11	1.86
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	27	1.86
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	28	1.85
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	15	1.85
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	19	1.85
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	22	1.85
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	20	1.85
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	4	1.84
(1,104)	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	1:32:A:LEU:N	3	1.84
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	15	1.83
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	17	1.83
(1,127)	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	1:59:A:ARG:N	2	1.83
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	3	1.83
(1,122)	1:52:A:GLU:N	1:52:A:GLU:CA	1:52:A:GLU:C	1:53:A:GLY:N	2	1.82
(1,12)	1:34:A:ARG:C	1:35:A:VAL:N	1:35:A:VAL:CA	1:35:A:VAL:C	24	1.81
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	18	1.8
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	1	1.8
(1,118)	1:48:A:GLN:N	1:48:A:GLN:CA	1:48:A:GLN:C	1:49:A:GLN:N	25	1.8
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	14	1.8
(1,78)	1:126:A:VAL:C	1:127:A:ASP:N	1:127:A:ASP:CA	1:127:A:ASP:C	28	1.8
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	22	1.79
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	24	1.79
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	16	1.78
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	18	1.78
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	23	1.78

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	25	1.78
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	26	1.77
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	22	1.77
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	9	1.77
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	5	1.77
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	20	1.76
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	13	1.76
(1,32)	1:57:A:ALA:C	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	6	1.76
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	2	1.75
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	2	1.74
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	8	1.74
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	27	1.73
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	16	1.73
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	2	1.73
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	13	1.73
(1,3)	1:16:A:ILE:C	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	10	1.72
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	22	1.71
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	27	1.71
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	29	1.71
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	10	1.71
(1,3)	1:16:A:ILE:C	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	28	1.71
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	16	1.7
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	18	1.69
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	26	1.68
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	24	1.68
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	17	1.67
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	16	1.65
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	2	1.65
(1,19)	1:43:A:VAL:C	1:44:A:SER:N	1:44:A:SER:CA	1:44:A:SER:C	10	1.65
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	25	1.65
(1,5)	1:23:A:LEU:C	1:24:A:ASP:N	1:24:A:ASP:CA	1:24:A:ASP:C	10	1.64
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	10	1.63
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	14	1.63
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	13	1.63
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	22	1.62
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	30	1.62
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	25	1.61
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	29	1.61
(1,136)	1:73:A:ASN:N	1:73:A:ASN:CA	1:73:A:ASN:C	1:74:A:SER:N	26	1.61
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	21	1.61
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	1	1.6
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	5	1.6
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	25	1.6
(1,67)	1:104:A:THR:C	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	30	1.6
(1,2)	1:15:A:SER:C	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	3	1.6
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	30	1.59
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	18	1.58
(1,185)	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	1:140:A:ARG:N	6	1.57
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	16	1.57
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	13	1.57
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	9	1.57

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	13	1.56
(1,42)	1:73:A:ASN:C	1:74:A:SER:N	1:74:A:SER:CA	1:74:A:SER:C	5	1.56
(1,175)	1:129:A:LEU:N	1:129:A:LEU:CA	1:129:A:LEU:C	1:130:A:HIS:N	26	1.55
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	11	1.55
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	2	1.55
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	22	1.54
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	2	1.54
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	26	1.54
(1,140)	1:79:A:LYS:N	1:79:A:LYS:CA	1:79:A:LYS:C	1:80:A:SER:N	7	1.54
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	8	1.54
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	19	1.54
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	16	1.53
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	1	1.53
(1,173)	1:127:A:ASP:N	1:127:A:ASP:CA	1:127:A:ASP:C	1:128:A:ALA:N	28	1.52
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	26	1.51
(1,149)	1:89:A:HIS:N	1:89:A:HIS:CA	1:89:A:HIS:C	1:90:A:ASP:N	9	1.51
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	17	1.51
(1,117)	1:47:A:ALA:N	1:47:A:ALA:CA	1:47:A:ALA:C	1:48:A:GLN:N	28	1.51
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	8	1.51
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	7	1.51
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	18	1.51
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	3	1.51
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	5	1.51
(1,6)	1:24:A:ASP:C	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	13	1.51
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	20	1.5
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	26	1.49
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	2	1.49
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	12	1.48
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	15	1.48
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	17	1.48
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	30	1.48
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	17	1.48
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	6	1.48
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	18	1.48
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	7	1.47
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	4	1.47
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	17	1.47
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	13	1.46
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	23	1.46
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	4	1.46
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	18	1.46
(1,61)	1:97:A:GLU:C	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	28	1.46
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	13	1.46
(1,19)	1:43:A:VAL:C	1:44:A:SER:N	1:44:A:SER:CA	1:44:A:SER:C	15	1.46
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	5	1.45
(1,166)	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	1:112:A:THR:N	19	1.45
(1,159)	1:102:A:LEU:N	1:102:A:LEU:CA	1:102:A:LEU:C	1:103:A:PHE:N	18	1.45
(1,70)	1:109:A:LEU:C	1:110:A:THR:N	1:110:A:THR:CA	1:110:A:THR:C	25	1.45
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	3	1.45
(1,11)	1:33:A:PRO:C	1:34:A:ARG:N	1:34:A:ARG:CA	1:34:A:ARG:C	27	1.45
(1,8)	1:29:A:THR:C	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	13	1.45

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	11	1.44
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	7	1.44
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	9	1.44
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	23	1.44
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	24	1.44
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	4	1.44
(1,42)	1:73:A:ASN:C	1:74:A:SER:N	1:74:A:SER:CA	1:74:A:SER:C	3	1.44
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	20	1.43
(1,124)	1:55:A:LEU:N	1:55:A:LEU:CA	1:55:A:LEU:C	1:56:A:VAL:N	9	1.43
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	12	1.43
(1,90)	1:138:A:VAL:C	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	28	1.43
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	30	1.43
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	5	1.42
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	23	1.42
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	18	1.42
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	17	1.42
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	23	1.42
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	15	1.41
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	3	1.41
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	18	1.4
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	28	1.4
(1,8)	1:29:A:THR:C	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	10	1.4
(1,159)	1:102:A:LEU:N	1:102:A:LEU:CA	1:102:A:LEU:C	1:103:A:PHE:N	2	1.39
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	17	1.39
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	23	1.39
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	15	1.39
(1,129)	1:60:A:ARG:N	1:60:A:ARG:CA	1:60:A:ARG:C	1:61:A:ALA:N	14	1.39
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	17	1.39
(1,136)	1:73:A:ASN:N	1:73:A:ASN:CA	1:73:A:ASN:C	1:74:A:SER:N	16	1.38
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	17	1.38
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	9	1.38
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	21	1.38
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	26	1.37
(1,33)	1:58:A:VAL:C	1:59:A:ARG:N	1:59:A:ARG:CA	1:59:A:ARG:C	17	1.37
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	9	1.36
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	15	1.36
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	9	1.36
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	21	1.36
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	7	1.35
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	24	1.35
(1,168)	1:119:A:ALA:N	1:119:A:ALA:CA	1:119:A:ALA:C	1:120:A:VAL:N	8	1.35
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	10	1.35
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	6	1.35
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	3	1.35
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	29	1.35
(1,12)	1:34:A:ARG:C	1:35:A:VAL:N	1:35:A:VAL:CA	1:35:A:VAL:C	1	1.35
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	20	1.34
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	10	1.34
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	9	1.34
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	19	1.33
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	25	1.33

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	30	1.33
(1,169)	1:120:A:VAL:N	1:120:A:VAL:CA	1:120:A:VAL:C	1:121:A:SER:N	14	1.32
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	9	1.32
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	30	1.32
(1,140)	1:79:A:LYS:N	1:79:A:LYS:CA	1:79:A:LYS:C	1:80:A:SER:N	18	1.32
(1,71)	1:110:A:THR:C	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	27	1.32
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	9	1.32
(1,6)	1:24:A:ASP:C	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	12	1.32
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	12	1.31
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	14	1.31
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	29	1.31
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	14	1.31
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	28	1.31
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	15	1.3
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	24	1.3
(1,54)	1:88:A:LEU:C	1:89:A:HIS:N	1:89:A:HIS:CA	1:89:A:HIS:C	24	1.3
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1	1.29
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	11	1.28
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	1	1.28
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	15	1.28
(1,49)	1:83:A:GLY:C	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	18	1.28
(1,34)	1:59:A:ARG:C	1:60:A:ARG:N	1:60:A:ARG:CA	1:60:A:ARG:C	26	1.28
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	20	1.27
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	5	1.27
(1,122)	1:52:A:GLU:N	1:52:A:GLU:CA	1:52:A:GLU:C	1:53:A:GLY:N	5	1.27
(1,122)	1:52:A:GLU:N	1:52:A:GLU:CA	1:52:A:GLU:C	1:53:A:GLY:N	17	1.27
(1,101)	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	1:26:A:ASP:N	4	1.27
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	17	1.27
(1,77)	1:125:A:PRO:C	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	1	1.27
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	24	1.26
(1,127)	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	1:59:A:ARG:N	12	1.26
(1,103)	1:30:A:TYR:N	1:30:A:TYR:CA	1:30:A:TYR:C	1:31:A:ASP:N	3	1.26
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	9	1.26
(1,86)	1:134:A:ALA:C	1:135:A:ARG:N	1:135:A:ARG:CA	1:135:A:ARG:C	25	1.26
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	7	1.26
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	25	1.26
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	2	1.25
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	22	1.24
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	23	1.24
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	2	1.24
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	1	1.24
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	25	1.23
(1,107)	1:35:A:VAL:N	1:35:A:VAL:CA	1:35:A:VAL:C	1:36:A:ALA:N	17	1.23
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	9	1.23
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	3	1.23
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	4	1.23
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	17	1.23
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	24	1.22
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	14	1.22
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	25	1.22
(1,49)	1:83:A:GLY:C	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	15	1.22

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,23)	1:47:A:ALA:C	1:48:A:GLN:N	1:48:A:GLN:CA	1:48:A:GLN:C	7	1.22
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	17	1.21
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	8	1.21
(1,100)	1:24:A:ASP:N	1:24:A:ASP:CA	1:24:A:ASP:C	1:25:A:PRO:N	5	1.21
(1,98)	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	1:18:A:ALA:N	23	1.21
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	16	1.21
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	27	1.21
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	28	1.21
(1,3)	1:16:A:ILE:C	1:17:A:PRO:N	1:17:A:PRO:CA	1:17:A:PRO:C	4	1.21
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	29	1.2
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	25	1.2
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	21	1.2
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	12	1.2
(1,180)	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	1:135:A:ARG:N	2	1.19
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	20	1.19
(1,168)	1:119:A:ALA:N	1:119:A:ALA:CA	1:119:A:ALA:C	1:120:A:VAL:N	20	1.19
(1,125)	1:56:A:VAL:N	1:56:A:VAL:CA	1:56:A:VAL:C	1:57:A:ALA:N	19	1.19
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	1	1.19
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	10	1.19
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	25	1.19
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	14	1.18
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	22	1.18
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	30	1.18
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	7	1.18
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	28	1.18
(1,71)	1:110:A:THR:C	1:111:A:ILE:N	1:111:A:ILE:CA	1:111:A:ILE:C	24	1.18
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	7	1.18
(1,30)	1:55:A:LEU:C	1:56:A:VAL:N	1:56:A:VAL:CA	1:56:A:VAL:C	3	1.18
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	26	1.17
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	10	1.17
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	8	1.16
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	25	1.16
(1,143)	1:83:A:GLY:N	1:83:A:GLY:CA	1:83:A:GLY:C	1:84:A:LEU:N	29	1.16
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	21	1.16
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	28	1.16
(1,185)	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	1:140:A:ARG:N	9	1.15
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	23	1.15
(1,113)	1:43:A:VAL:N	1:43:A:VAL:CA	1:43:A:VAL:C	1:44:A:SER:N	12	1.15
(1,72)	1:111:A:ILE:C	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	6	1.15
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	28	1.15
(1,42)	1:73:A:ASN:C	1:74:A:SER:N	1:74:A:SER:CA	1:74:A:SER:C	26	1.15
(1,34)	1:59:A:ARG:C	1:60:A:ARG:N	1:60:A:ARG:CA	1:60:A:ARG:C	11	1.15
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	24	1.15
(1,174)	1:128:A:ALA:N	1:128:A:ALA:CA	1:128:A:ALA:C	1:129:A:LEU:N	1	1.14
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	13	1.14
(1,72)	1:111:A:ILE:C	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	19	1.14
(1,70)	1:109:A:LEU:C	1:110:A:THR:N	1:110:A:THR:CA	1:110:A:THR:C	12	1.14
(1,30)	1:55:A:LEU:C	1:56:A:VAL:N	1:56:A:VAL:CA	1:56:A:VAL:C	19	1.14
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	3	1.13
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	26	1.13
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	29	1.13

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	18	1.13
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	12	1.13
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	29	1.12
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	18	1.12
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	1	1.12
(1,133)	1:68:A:GLN:N	1:68:A:GLN:CA	1:68:A:GLN:C	1:69:A:VAL:N	23	1.12
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	3	1.12
(1,179)	1:133:A:GLN:N	1:133:A:GLN:CA	1:133:A:GLN:C	1:134:A:ALA:N	1	1.11
(1,172)	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	1:127:A:ASP:N	30	1.11
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	18	1.11
(1,136)	1:73:A:ASN:N	1:73:A:ASN:CA	1:73:A:ASN:C	1:74:A:SER:N	22	1.11
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	29	1.11
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	25	1.11
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	16	1.11
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	21	1.11
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	13	1.11
(1,49)	1:83:A:GLY:C	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	10	1.11
(1,4)	1:17:A:PRO:C	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	8	1.11
(1,169)	1:120:A:VAL:N	1:120:A:VAL:CA	1:120:A:VAL:C	1:121:A:SER:N	22	1.1
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	7	1.1
(1,154)	1:96:A:THR:N	1:96:A:THR:CA	1:96:A:THR:C	1:97:A:GLU:N	29	1.1
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	10	1.1
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	30	1.1
(1,135)	1:72:A:THR:N	1:72:A:THR:CA	1:72:A:THR:C	1:73:A:ASN:N	29	1.1
(1,77)	1:125:A:PRO:C	1:126:A:VAL:N	1:126:A:VAL:CA	1:126:A:VAL:C	4	1.1
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	6	1.1
(1,33)	1:58:A:VAL:C	1:59:A:ARG:N	1:59:A:ARG:CA	1:59:A:ARG:C	2	1.1
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	26	1.1
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	7	1.1
(1,167)	1:112:A:THR:N	1:112:A:THR:CA	1:112:A:THR:C	1:113:A:ARG:N	24	1.09
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	2	1.09
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	27	1.09
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	5	1.09
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	15	1.09
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	7	1.09
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	1	1.09
(1,68)	1:106:A:ASP:C	1:107:A:PRO:N	1:107:A:PRO:CA	1:107:A:PRO:C	30	1.09
(1,61)	1:97:A:GLU:C	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	12	1.09
(1,58)	1:94:A:ARG:C	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	25	1.09
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	17	1.09
(1,44)	1:76:A:GLN:C	1:77:A:VAL:N	1:77:A:VAL:CA	1:77:A:VAL:C	24	1.09
(1,32)	1:57:A:ALA:C	1:58:A:VAL:N	1:58:A:VAL:CA	1:58:A:VAL:C	5	1.09
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	20	1.09
(1,1)	1:3:A:GLY:C	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	8	1.09
(1,184)	1:138:A:VAL:N	1:138:A:VAL:CA	1:138:A:VAL:C	1:139:A:ARG:N	21	1.08
(1,150)	1:90:A:ASP:N	1:90:A:ASP:CA	1:90:A:ASP:C	1:91:A:GLY:N	8	1.08
(1,122)	1:52:A:GLU:N	1:52:A:GLU:CA	1:52:A:GLU:C	1:53:A:GLY:N	9	1.08
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	10	1.08
(1,12)	1:34:A:ARG:C	1:35:A:VAL:N	1:35:A:VAL:CA	1:35:A:VAL:C	17	1.08
(1,185)	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	1:140:A:ARG:N	4	1.07
(1,158)	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	1:102:A:LEU:N	14	1.07

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	19	1.07
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	1	1.07
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	26	1.07
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	21	1.07
(1,109)	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	1:38:A:LEU:N	12	1.07
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	19	1.07
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	19	1.07
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	11	1.07
(1,24)	1:48:A:GLN:C	1:49:A:GLN:N	1:49:A:GLN:CA	1:49:A:GLN:C	25	1.07
(1,168)	1:119:A:ALA:N	1:119:A:ALA:CA	1:119:A:ALA:C	1:120:A:VAL:N	27	1.06
(1,153)	1:95:A:ASP:N	1:95:A:ASP:CA	1:95:A:ASP:C	1:96:A:THR:N	26	1.06
(1,126)	1:57:A:ALA:N	1:57:A:ALA:CA	1:57:A:ALA:C	1:58:A:VAL:N	27	1.06
(1,101)	1:25:A:PRO:N	1:25:A:PRO:CA	1:25:A:PRO:C	1:26:A:ASP:N	21	1.06
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	15	1.06
(1,62)	1:98:A:ILE:C	1:99:A:MET:N	1:99:A:MET:CA	1:99:A:MET:C	21	1.06
(1,46)	1:80:A:SER:C	1:81:A:LEU:N	1:81:A:LEU:CA	1:81:A:LEU:C	11	1.06
(1,46)	1:80:A:SER:C	1:81:A:LEU:N	1:81:A:LEU:CA	1:81:A:LEU:C	17	1.06
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	9	1.06
(1,28)	1:52:A:GLU:C	1:53:A:GLY:N	1:53:A:GLY:CA	1:53:A:GLY:C	2	1.06
(1,26)	1:50:A:LEU:C	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	26	1.06
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	28	1.05
(1,112)	1:41:A:VAL:N	1:41:A:VAL:CA	1:41:A:VAL:C	1:42:A:PRO:N	20	1.05
(1,97)	1:16:A:ILE:N	1:16:A:ILE:CA	1:16:A:ILE:C	1:17:A:PRO:N	10	1.05
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	5	1.05
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	10	1.05
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	20	1.05
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	27	1.05
(1,9)	1:30:A:TYR:C	1:31:A:ASP:N	1:31:A:ASP:CA	1:31:A:ASP:C	10	1.05
(1,85)	1:133:A:GLN:C	1:134:A:ALA:N	1:134:A:ALA:CA	1:134:A:ALA:C	16	1.04
(1,70)	1:109:A:LEU:C	1:110:A:THR:N	1:110:A:THR:CA	1:110:A:THR:C	6	1.04
(1,69)	1:108:A:SER:C	1:109:A:LEU:N	1:109:A:LEU:CA	1:109:A:LEU:C	10	1.04
(1,66)	1:103:A:PHE:C	1:104:A:THR:N	1:104:A:THR:CA	1:104:A:THR:C	11	1.04
(1,25)	1:49:A:GLN:C	1:50:A:LEU:N	1:50:A:LEU:CA	1:50:A:LEU:C	15	1.04
(1,14)	1:36:A:ALA:C	1:37:A:GLU:N	1:37:A:GLU:CA	1:37:A:GLU:C	29	1.04
(1,178)	1:132:A:HIS:N	1:132:A:HIS:CA	1:132:A:HIS:C	1:133:A:GLN:N	12	1.03
(1,162)	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	1:106:A:ASP:N	16	1.03
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	8	1.03
(1,152)	1:94:A:ARG:N	1:94:A:ARG:CA	1:94:A:ARG:C	1:95:A:ASP:N	10	1.03
(1,143)	1:83:A:GLY:N	1:83:A:GLY:CA	1:83:A:GLY:C	1:84:A:LEU:N	7	1.03
(1,130)	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	1:65:A:VAL:N	30	1.03
(1,23)	1:47:A:ALA:C	1:48:A:GLN:N	1:48:A:GLN:CA	1:48:A:GLN:C	25	1.03
(1,173)	1:127:A:ASP:N	1:127:A:ASP:CA	1:127:A:ASP:C	1:128:A:ALA:N	1	1.02
(1,117)	1:47:A:ALA:N	1:47:A:ALA:CA	1:47:A:ALA:C	1:48:A:GLN:N	14	1.02
(1,106)	1:34:A:ARG:N	1:34:A:ARG:CA	1:34:A:ARG:C	1:35:A:VAL:N	5	1.02
(1,67)	1:104:A:THR:C	1:105:A:PRO:N	1:105:A:PRO:CA	1:105:A:PRO:C	5	1.02
(1,63)	1:100:A:ARG:C	1:101:A:TRP:N	1:101:A:TRP:CA	1:101:A:TRP:C	8	1.02
(1,53)	1:87:A:ILE:C	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	12	1.02
(1,20)	1:44:A:SER:C	1:45:A:LYS:N	1:45:A:LYS:CA	1:45:A:LYS:C	1	1.02
(1,185)	1:139:A:ARG:N	1:139:A:ARG:CA	1:139:A:ARG:C	1:140:A:ARG:N	11	1.01
(1,156)	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	1:99:A:MET:N	16	1.01
(1,148)	1:88:A:LEU:N	1:88:A:LEU:CA	1:88:A:LEU:C	1:89:A:HIS:N	15	1.01

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,121)	1:51:A:ARG:N	1:51:A:ARG:CA	1:51:A:ARG:C	1:52:A:GLU:N	22	1.01
(1,111)	1:39:A:LEU:N	1:39:A:LEU:CA	1:39:A:LEU:C	1:40:A:GLY:N	13	1.01
(1,99)	1:18:A:ALA:N	1:18:A:ALA:CA	1:18:A:ALA:C	1:19:A:GLY:N	16	1.01
(1,61)	1:97:A:GLU:C	1:98:A:ILE:N	1:98:A:ILE:CA	1:98:A:ILE:C	30	1.01
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	5	1.01
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	21	1.01
(1,35)	1:63:A:GLY:C	1:64:A:VAL:N	1:64:A:VAL:CA	1:64:A:VAL:C	25	1.01
(1,11)	1:33:A:PRO:C	1:34:A:ARG:N	1:34:A:ARG:CA	1:34:A:ARG:C	23	1.01
(1,144)	1:84:A:LEU:N	1:84:A:LEU:CA	1:84:A:LEU:C	1:85:A:LEU:N	7	1.0
(1,96)	1:4:A:ARG:N	1:4:A:ARG:CA	1:4:A:ARG:C	1:5:A:ALA:N	7	1.0
(1,60)	1:96:A:THR:C	1:97:A:GLU:N	1:97:A:GLU:CA	1:97:A:GLU:C	9	1.0