



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 6, 2023 – 05:12 pm BST

PDB ID : 6YET  
BMRB ID : 34503  
Title : Second EH domain of AtEH1/Pan1  
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Deposited on : 2020-03-25

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 : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
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) : 2.33

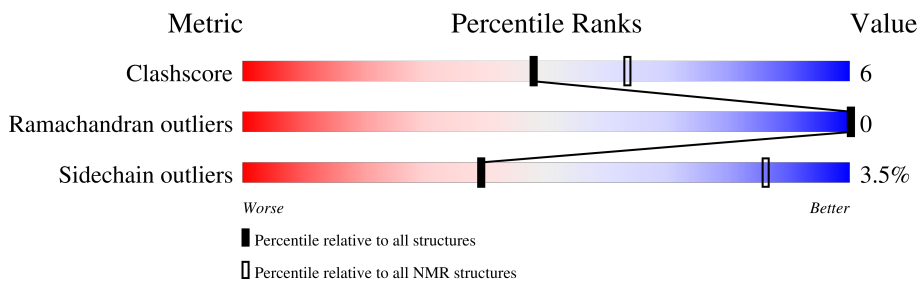
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 86%.

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	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

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	106	 75% 15% 8% .

## 2 Ensemble composition and analysis

This entry contains 20 models. Model 19 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

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

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:352-A:447 (96)	0.51	19

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 2 clusters and 1 single-model cluster was found.

Cluster number	Models
1	1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 18, 19
2	2, 17, 20
Single-model clusters	10

### 3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 1706 atoms, of which 848 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Calcium-binding EF hand family protein.

Mol	Chain	Residues	Atoms					Trace	
			Total	C	H	N	O		S
1	A	104	1705	544	848	145	162	6	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	344	GLY	-	expression tag	UNP Q9LM78
A	345	GLY	-	expression tag	UNP Q9LM78

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

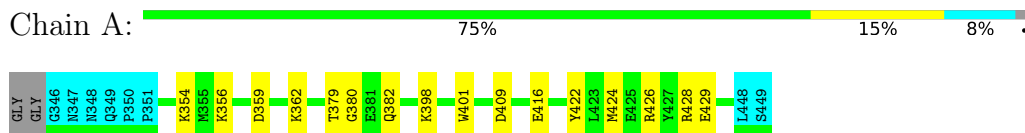
Mol	Chain	Residues	Atoms	
			Total	Ca
2	A	1	1	1

## 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: Calcium-binding EF hand family protein

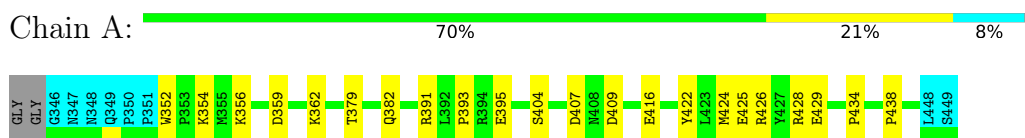


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

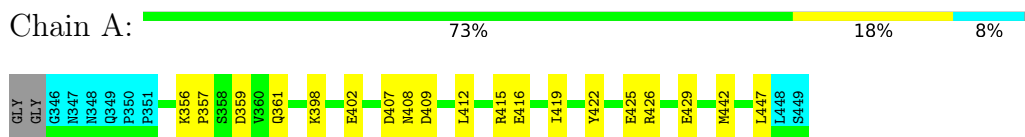
#### 4.2.1 Score per residue for model 1

- Molecule 1: Calcium-binding EF hand family protein



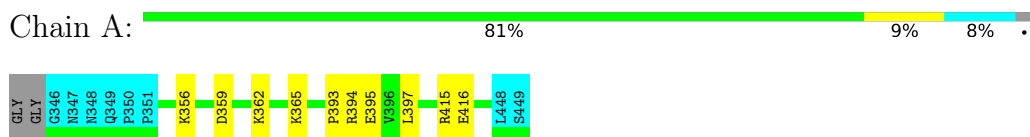
#### 4.2.2 Score per residue for model 2

- Molecule 1: Calcium-binding EF hand family protein



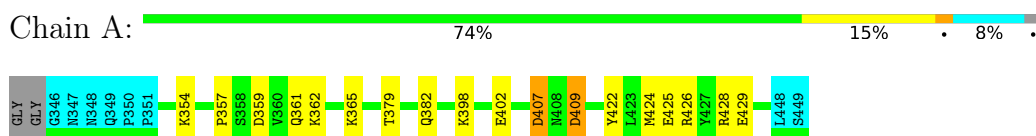
### 4.2.3 Score per residue for model 3

- Molecule 1: Calcium-binding EF hand family protein



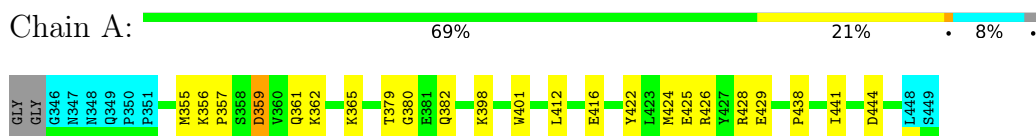
### 4.2.4 Score per residue for model 4

- Molecule 1: Calcium-binding EF hand family protein



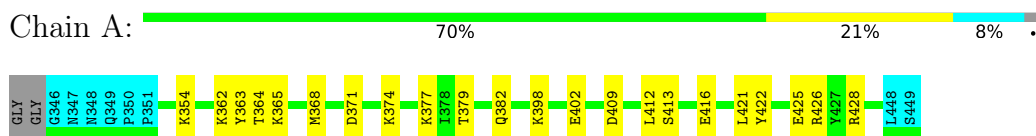
### 4.2.5 Score per residue for model 5

- Molecule 1: Calcium-binding EF hand family protein



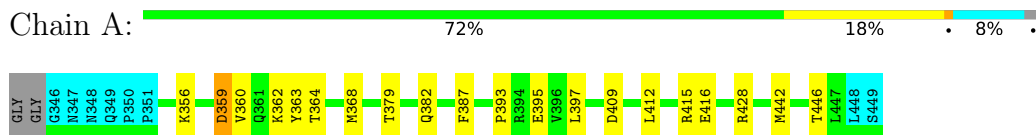
### 4.2.6 Score per residue for model 6

- Molecule 1: Calcium-binding EF hand family protein



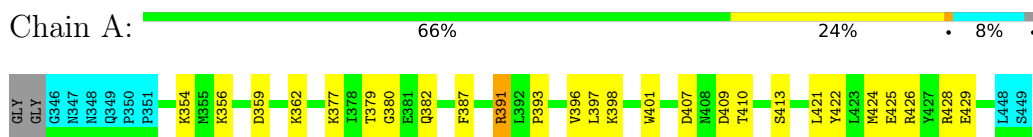
### 4.2.7 Score per residue for model 7

- Molecule 1: Calcium-binding EF hand family protein



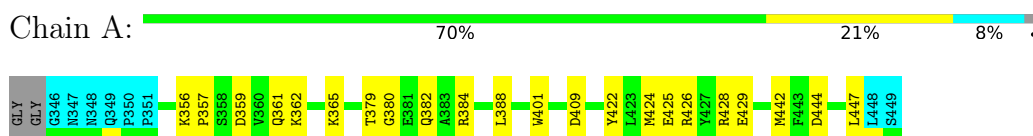
### 4.2.8 Score per residue for model 8

- Molecule 1: Calcium-binding EF hand family protein



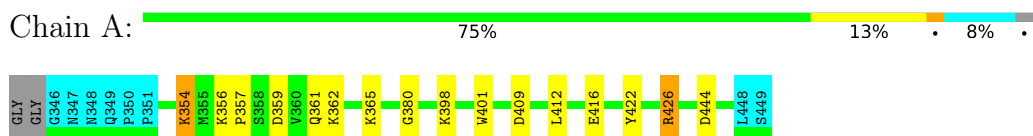
### 4.2.9 Score per residue for model 9

- Molecule 1: Calcium-binding EF hand family protein



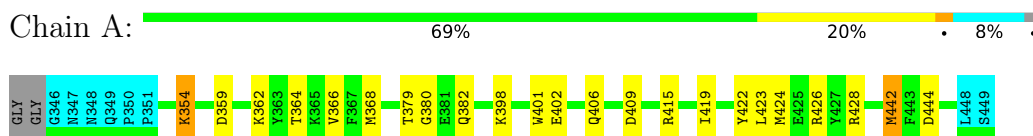
### 4.2.10 Score per residue for model 10

- Molecule 1: Calcium-binding EF hand family protein



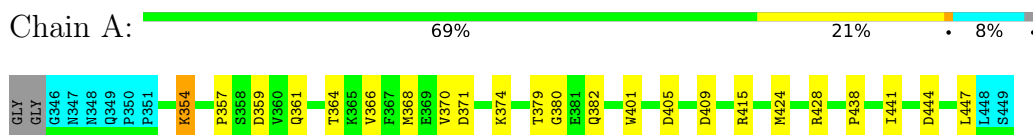
### 4.2.11 Score per residue for model 11

- Molecule 1: Calcium-binding EF hand family protein



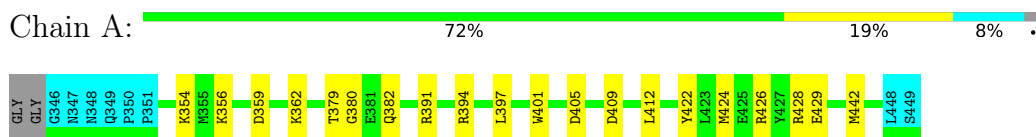
### 4.2.12 Score per residue for model 12

- Molecule 1: Calcium-binding EF hand family protein



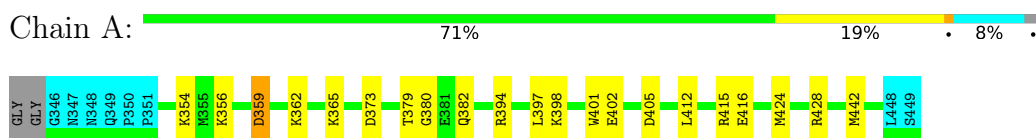
### 4.2.13 Score per residue for model 13

- Molecule 1: Calcium-binding EF hand family protein



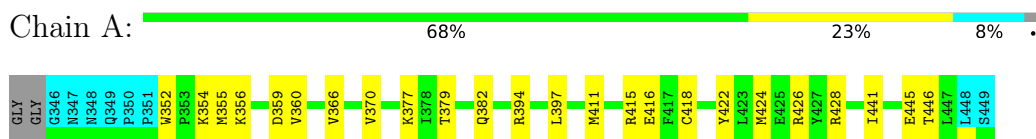
### 4.2.14 Score per residue for model 14

- Molecule 1: Calcium-binding EF hand family protein



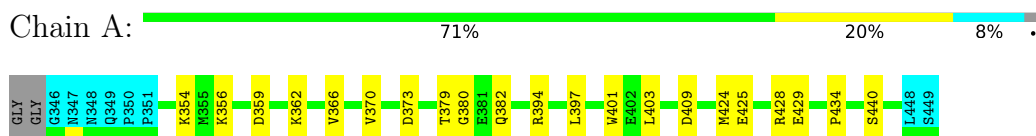
### 4.2.15 Score per residue for model 15

- Molecule 1: Calcium-binding EF hand family protein



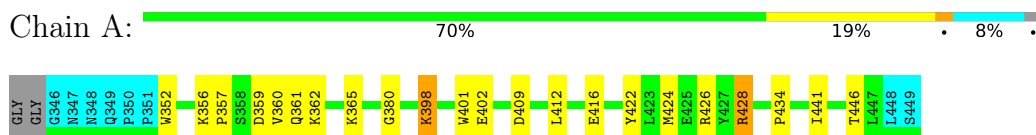
### 4.2.16 Score per residue for model 16

- Molecule 1: Calcium-binding EF hand family protein



### 4.2.17 Score per residue for model 17

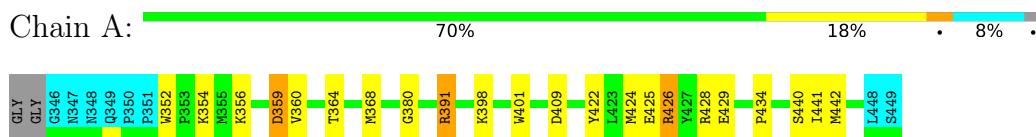
- Molecule 1: Calcium-binding EF hand family protein





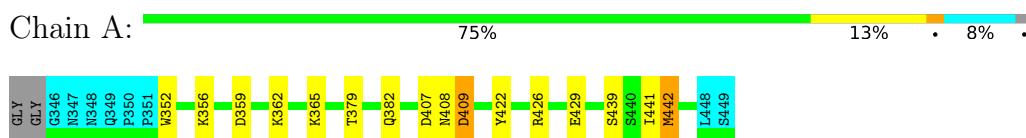
#### 4.2.18 Score per residue for model 18

- Molecule 1: Calcium-binding EF hand family protein



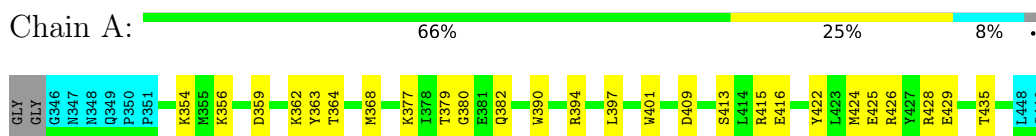
#### 4.2.19 Score per residue for model 19 (medoid)

- Molecule 1: Calcium-binding EF hand family protein



#### 4.2.20 Score per residue for model 20

- Molecule 1: Calcium-binding EF hand family protein



## 5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy*.

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

Software name	Classification	Version
CNS	refinement	
CYANA	structure calculation	

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	1268
Number of shifts mapped to atoms	1268
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	86%

## 6 Model quality i

### 6.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: CA

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#Z>5	RMSZ	#Z>5
1	A	0.80±0.02	0±0/819 ( 0.0± 0.0%)	0.76±0.03	0±0/1107 ( 0.0± 0.0%)
All	All	0.80	0/16380 ( 0.0%)	0.76	1/22140 ( 0.0%)

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

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	0.2±0.5
All	All	0	5

There are no bond-length outliers.

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
1	A	405	ASP	CB-CG-OD1	5.10	122.89	118.30	12	1

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	428	ARG	Sidechain	2
1	A	391	ARG	Sidechain	2
1	A	426	ARG	Sidechain	1

## 6.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	799	795	794	10±2
All	All	16000	15900	15880	202

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:356:LYS:HG3	1:A:359:ASP:HB2	0.84	1.49	7	1
1:A:354:LYS:HB2	1:A:444:ASP:HB3	0.75	1.57	12	1
1:A:356:LYS:HE2	1:A:359:ASP:HB2	0.67	1.65	9	1
1:A:352:TRP:HB2	1:A:441:ILE:HD11	0.66	1.66	19	4
1:A:377:LYS:HB3	1:A:413:SER:HA	0.64	1.70	20	3
1:A:356:LYS:CG	1:A:359:ASP:HB2	0.63	2.24	7	1
1:A:415:ARG:HB2	1:A:447:LEU:HB3	0.62	1.70	12	1
1:A:424:MET:O	1:A:428:ARG:HG3	0.60	1.97	13	10
1:A:426:ARG:O	1:A:429:GLU:HG2	0.60	1.97	13	1
1:A:359:ASP:O	1:A:362:LYS:HG2	0.59	1.97	8	10
1:A:356:LYS:HB2	1:A:359:ASP:HB2	0.59	1.73	16	5
1:A:380:GLY:HA2	1:A:401:TRP:CH2	0.59	2.33	16	12
1:A:394:ARG:HD3	1:A:397:LEU:HD12	0.57	1.76	13	4
1:A:422:TYR:O	1:A:426:ARG:HG2	0.56	2.00	19	15
1:A:425:GLU:O	1:A:429:GLU:HG2	0.56	2.01	8	5
1:A:356:LYS:HG2	1:A:359:ASP:OD2	0.56	2.00	1	3
1:A:424:MET:O	1:A:428:ARG:HG2	0.56	2.01	17	4
1:A:379:THR:OG1	1:A:382:GLN:HG2	0.55	2.01	7	15
1:A:415:ARG:HG3	1:A:416:GLU:HG3	0.55	1.78	7	5
1:A:406:GLN:HG3	1:A:442:MET:SD	0.54	2.43	11	1
1:A:398:LYS:O	1:A:402:GLU:HG3	0.53	2.03	17	6
1:A:362:LYS:HE3	1:A:363:TYR:CE2	0.52	2.39	20	1
1:A:407:ASP:HB2	1:A:409:ASP:HB3	0.52	1.82	2	1
1:A:357:PRO:O	1:A:361:GLN:HG2	0.52	2.05	9	5
1:A:356:LYS:HD2	1:A:359:ASP:HB2	0.51	1.81	3	1
1:A:360:VAL:HG13	1:A:418:CYS:SG	0.51	2.46	15	1
1:A:356:LYS:HD2	1:A:359:ASP:OD1	0.50	2.06	5	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:362:LYS:O	1:A:365:LYS:HG2	0.49	2.06	6	9
1:A:407:ASP:OD1	1:A:409:ASP:HB3	0.49	2.07	19	2
1:A:352:TRP:CZ2	1:A:434:PRO:HG3	0.49	2.42	17	2
1:A:356:LYS:HG3	1:A:359:ASP:OD2	0.48	2.08	15	2
1:A:364:THR:O	1:A:368:MET:HG2	0.48	2.08	18	6
1:A:354:LYS:HB2	1:A:444:ASP:OD1	0.47	2.08	11	1
1:A:362:LYS:HE2	1:A:363:TYR:CE1	0.47	2.44	6	1
1:A:428:ARG:HE	1:A:428:ARG:HA	0.47	1.69	6	1
1:A:442:MET:HA	1:A:447:LEU:HD12	0.47	1.85	9	2
1:A:393:PRO:HB2	1:A:395:GLU:HG2	0.46	1.87	1	3
1:A:407:ASP:HB2	1:A:409:ASP:CB	0.46	2.40	2	1
1:A:377:LYS:HG3	1:A:411:MET:HE2	0.46	1.88	15	1
1:A:359:ASP:O	1:A:362:LYS:HB3	0.46	2.11	10	1
1:A:356:LYS:HG3	1:A:359:ASP:OD1	0.46	2.11	17	2
1:A:426:ARG:HA	1:A:429:GLU:HG2	0.46	1.85	19	1
1:A:439:SER:HA	1:A:442:MET:HB2	0.46	1.88	19	1
1:A:425:GLU:O	1:A:429:GLU:HG3	0.45	2.11	2	4
1:A:438:PRO:HD2	1:A:441:ILE:HD12	0.45	1.87	5	2
1:A:384:ARG:O	1:A:388:LEU:HG	0.45	2.12	9	1
1:A:394:ARG:HA	1:A:397:LEU:HB2	0.45	1.89	15	1
1:A:357:PRO:O	1:A:361:GLN:HG3	0.45	2.12	17	2
1:A:387:PHE:HB2	1:A:397:LEU:CD2	0.45	2.42	8	2
1:A:421:LEU:O	1:A:425:GLU:HG3	0.44	2.13	6	1
1:A:390:TRP:CZ3	1:A:428:ARG:HD2	0.44	2.47	20	1
1:A:362:LYS:O	1:A:366:VAL:HG23	0.44	2.13	11	1
1:A:412:LEU:HA	1:A:416:GLU:OE2	0.43	2.13	2	6
1:A:356:LYS:O	1:A:360:VAL:HG23	0.43	2.13	18	1
1:A:360:VAL:HG21	1:A:446:THR:OG1	0.43	2.13	17	2
1:A:366:VAL:O	1:A:370:VAL:HG23	0.43	2.14	15	3
1:A:415:ARG:HG3	1:A:416:GLU:N	0.42	2.29	20	3
1:A:356:LYS:HB2	1:A:359:ASP:CB	0.42	2.44	3	2
1:A:371:ASP:OD2	1:A:374:LYS:HA	0.42	2.14	6	1
1:A:404:SER:O	1:A:416:GLU:HG2	0.42	2.15	1	1
1:A:393:PRO:HD2	1:A:396:VAL:HB	0.41	1.92	8	1
1:A:373:ASP:OD1	1:A:382:GLN:HG3	0.41	2.16	16	1
1:A:371:ASP:OD1	1:A:374:LYS:HD3	0.41	2.15	12	1
1:A:421:LEU:HD23	1:A:424:MET:CE	0.41	2.46	8	1
1:A:419:ILE:O	1:A:423:LEU:HG	0.41	2.16	11	1
1:A:354:LYS:HG3	1:A:444:ASP:OD1	0.41	2.16	10	1
1:A:403:LEU:HD21	1:A:434:PRO:O	0.41	2.16	16	1
1:A:405:ASP:HB2	1:A:412:LEU:CD2	0.41	2.46	14	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:360:VAL:HG21	1:A:446:THR:HB	0.40	1.93	15	1
1:A:360:VAL:HA	1:A:363:TYR:CD1	0.40	2.51	7	1
1:A:394:ARG:HA	1:A:397:LEU:HD12	0.40	1.94	14	1
1:A:415:ARG:O	1:A:419:ILE:HG13	0.40	2.17	2	1
1:A:356:LYS:HD2	1:A:359:ASP:OD2	0.40	2.16	14	1

## 6.3 Torsion angles [i](#)

### 6.3.1 Protein backbone [i](#)

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	96/106 (91%)	94±1 (98±1%)	2±1 (2±1%)	0±0 (0±0%)	100	100
All	All	1920/2120 (91%)	1886 (98%)	34 (2%)	0 (0%)	100	100

There are no Ramachandran outliers.

### 6.3.2 Protein sidechains [i](#)

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	91/98 (93%)	88±2 (96±2%)	3±2 (4±2%)	39	86
All	All	1820/1960 (93%)	1756 (96%)	64 (4%)	39	86

All 17 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	409	ASP	15
1	A	354	LYS	13
1	A	442	MET	6

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Mol	Chain	Res	Type	Models (Total)
1	A	359	ASP	5
1	A	398	LYS	5
1	A	391	ARG	4
1	A	407	ASP	3
1	A	408	ASN	2
1	A	355	MET	2
1	A	440	SER	2
1	A	410	THR	1
1	A	426	ARG	1
1	A	415	ARG	1
1	A	373	ASP	1
1	A	434	PRO	1
1	A	356	LYS	1
1	A	435	THR	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 monosaccharides in this entry.

### 6.6 Ligand geometry [i](#)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

### 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 [i](#)

The completeness of assignment taking into account all chemical shift lists is 86% for the well-defined parts and 86% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: starch\_output

#### 7.1.1 Bookkeeping [i](#)

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	1268
Number of shifts mapped to atoms	1268
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	2

#### 7.1.2 Chemical shift referencing [i](#)

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction $\pm$ precision, ppm	Suggested action
$^{13}\text{C}_\alpha$	104	$-0.06 \pm 0.16$	None needed ( $< 0.5$ ppm)
$^{13}\text{C}_\beta$	100	$0.32 \pm 0.07$	None needed ( $< 0.5$ ppm)
$^{13}\text{C}'$	0	—	None (insufficient data)
$^{15}\text{N}$	95	$0.44 \pm 0.23$	None needed ( $< 0.5$ ppm)

#### 7.1.3 Completeness of resonance assignments [i](#)

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 86%, i.e. 1186 atoms were assigned a chemical shift out of a possible 1378. 0 out of 17 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	$^1\text{H}$	$^{13}\text{C}$	$^{15}\text{N}$
Backbone	375/471 (80%)	189/189 (100%)	96/192 (50%)	90/90 (100%)
Sidechain	713/796 (90%)	483/514 (94%)	221/249 (89%)	9/33 (27%)

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	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Aromatic	98/111 (88%)	49/54 (91%)	46/52 (88%)	3/5 (60%)
Overall	1186/1378 (86%)	721/757 (95%)	363/493 (74%)	102/128 (80%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 86%, i.e. 1268 atoms were assigned a chemical shift out of a possible 1473. 0 out of 18 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Backbone	402/508 (79%)	203/204 (100%)	104/208 (50%)	95/96 (99%)
Sidechain	768/854 (90%)	520/551 (94%)	236/267 (88%)	12/36 (33%)
Aromatic	98/111 (88%)	49/54 (91%)	46/52 (88%)	3/5 (60%)
Overall	1268/1473 (86%)	772/809 (95%)	386/527 (73%)	110/137 (80%)

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

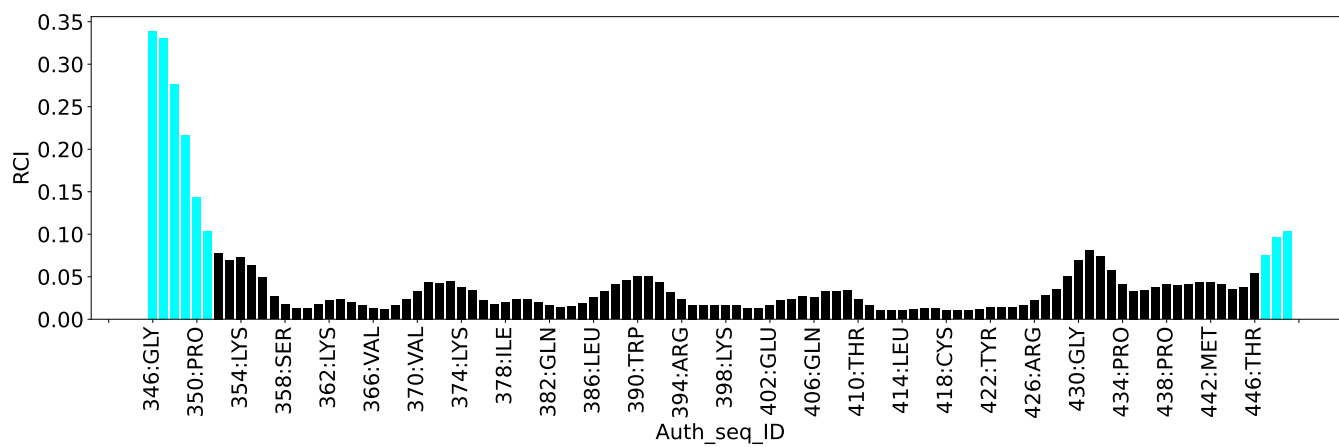
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, ppm	Expected range, ppm	Z-score
1	A	405	ASP	HB3	1.26	1.32 – 4.00	-5.2
1	A	371	ASP	HB3	1.28	1.32 – 4.00	-5.1

#### 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	2591
Intra-residue ( $ i-j =0$ )	588
Sequential ( $ i-j =1$ )	615
Medium range ( $ i-j >1$ and $ i-j <5$ )	664
Long range ( $ i-j \geq 5$ )	724
Inter-chain	0
Hydrogen bond restraints	0
Disulfide bond restraints	0
Total dihedral-angle restraints	174
Number of unmapped restraints	0
Number of restraints per residue	26.1
Number of long range restraints per residue <sup>1</sup>	6.8

<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)	18.7	0.2
0.2-0.5 (Medium)	4.0	0.32
>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)	7.8	3.5
10.0-20.0 (Medium)	None	None
>20.0 (Large)	None	None

## 9 Distance violation analysis i

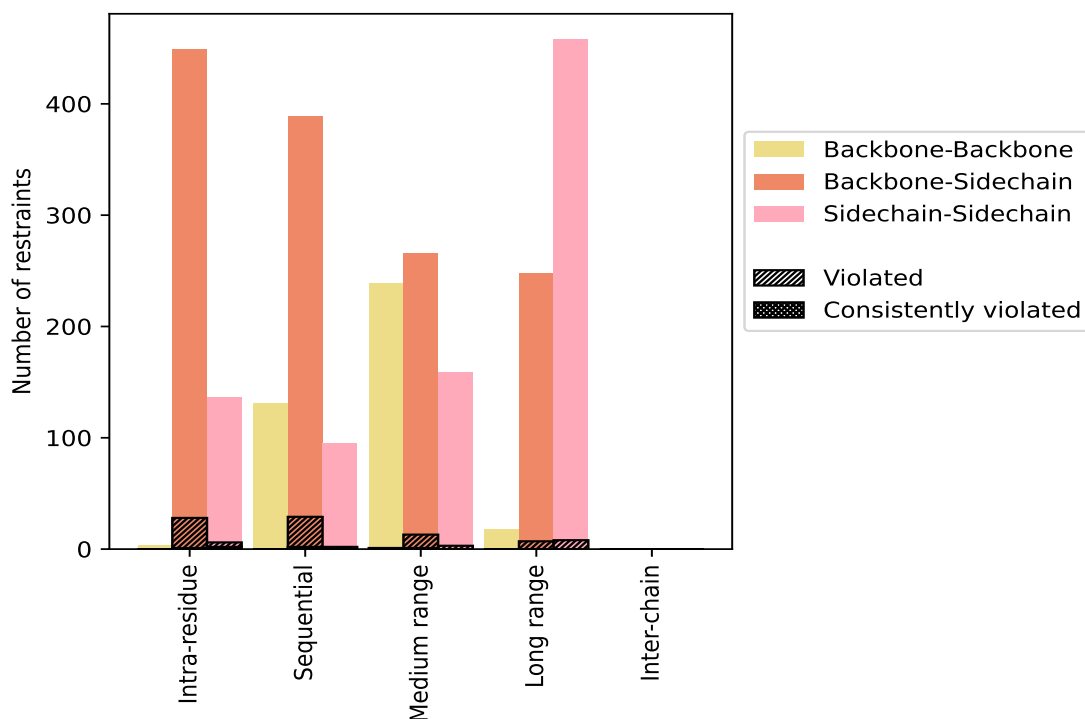
### 9.1 Summary of distance violations i

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

Restrains 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>
<b>Intra-residue ( i-j =0)</b>	<b>588</b>	<b>22.7</b>	<b>34</b>	<b>5.8</b>	<b>1.3</b>	<b>3</b>	<b>0.5</b>	<b>0.1</b>
Backbone-Backbone	3	0.1	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	449	17.3	28	6.2	1.1	1	0.2	0.0
Sidechain-Sidechain	136	5.2	6	4.4	0.2	2	1.5	0.1
<b>Sequential ( i-j =1)</b>	<b>615</b>	<b>23.7</b>	<b>31</b>	<b>5.0</b>	<b>1.2</b>	<b>2</b>	<b>0.3</b>	<b>0.1</b>
Backbone-Backbone	131	5.1	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	389	15.0	29	7.5	1.1	2	0.5	0.1
Sidechain-Sidechain	95	3.7	2	2.1	0.1	0	0.0	0.0
<b>Medium range ( i-j &gt;1 &amp;  i-j &lt;5)</b>	<b>664</b>	<b>25.6</b>	<b>17</b>	<b>2.6</b>	<b>0.7</b>	<b>1</b>	<b>0.2</b>	<b>0.0</b>
Backbone-Backbone	239	9.2	1	0.4	0.0	0	0.0	0.0
Backbone-Sidechain	266	10.3	13	4.9	0.5	1	0.4	0.0
Sidechain-Sidechain	159	6.1	3	1.9	0.1	0	0.0	0.0
<b>Long range ( i-j ≥5)</b>	<b>724</b>	<b>27.9</b>	<b>15</b>	<b>2.1</b>	<b>0.6</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	18	0.7	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	248	9.6	7	2.8	0.3	0	0.0	0.0
Sidechain-Sidechain	458	17.7	8	1.7	0.3	0	0.0	0.0
<b>Inter-chain</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
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
<b>Hydrogen bond</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Disulfide bond</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>2591</b>	<b>100.0</b>	<b>97</b>	<b>3.7</b>	<b>3.7</b>	<b>6</b>	<b>0.2</b>	<b>0.2</b>
Backbone-Backbone	391	15.1	1	0.3	0.0	0	0.0	0.0
Backbone-Sidechain	1352	52.2	77	5.7	3.0	4	0.3	0.2
Sidechain-Sidechain	848	32.7	19	2.2	0.7	2	0.2	0.1

<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 disulfid 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	5	7	5	4	0	21	0.16	0.31	0.06	0.13
2	11	7	5	3	0	26	0.16	0.31	0.05	0.14
3	10	7	5	1	0	23	0.16	0.32	0.05	0.14
4	10	8	4	2	0	24	0.16	0.27	0.05	0.15
5	10	8	6	1	0	25	0.16	0.31	0.05	0.15
6	9	6	3	2	0	20	0.16	0.31	0.05	0.14
7	8	8	6	3	0	25	0.16	0.29	0.05	0.13
8	6	8	6	3	0	23	0.16	0.28	0.04	0.14
9	7	6	5	5	0	23	0.15	0.31	0.05	0.13
10	9	6	4	1	0	20	0.17	0.31	0.06	0.14
11	8	7	5	4	0	24	0.16	0.32	0.05	0.15

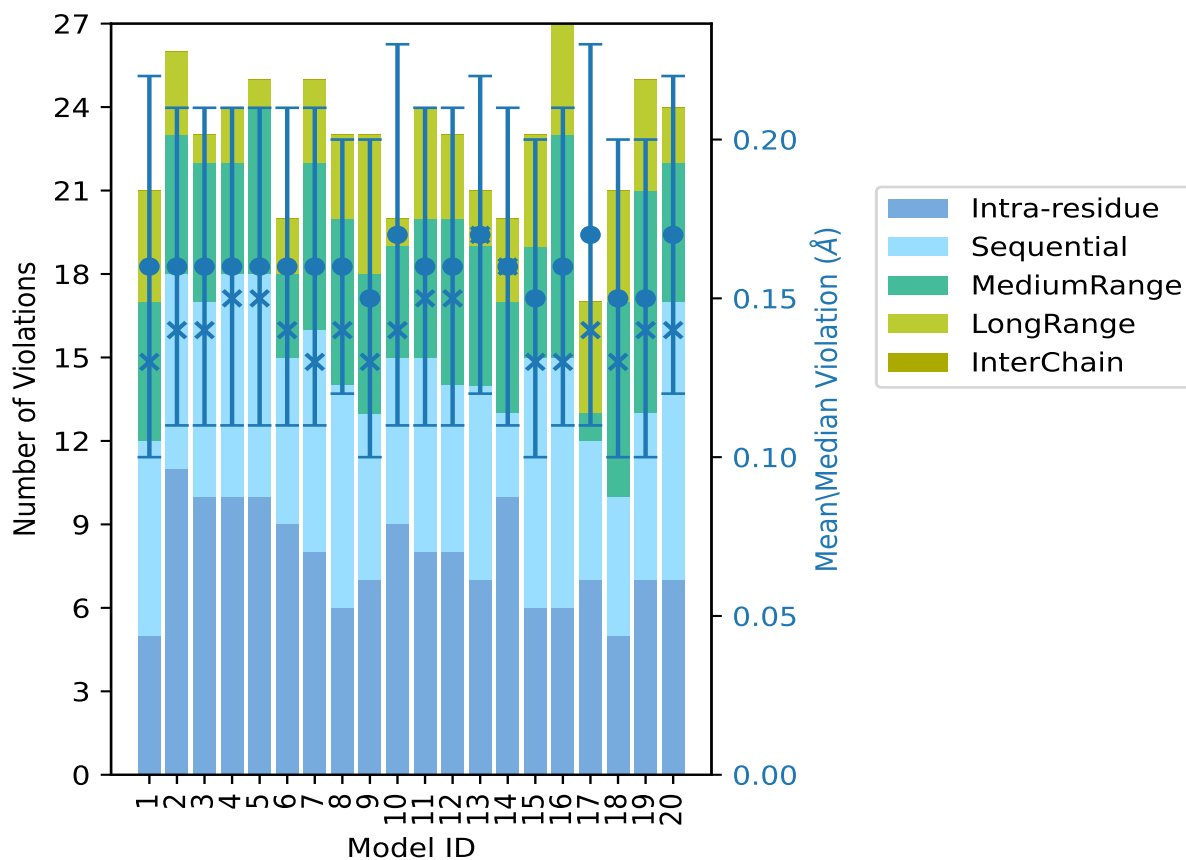
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Model ID	Number of violations					Total	Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>					
12	8	6	6	3	0	23	0.16	0.32	0.05	0.15
13	7	7	5	2	0	21	0.17	0.3	0.05	0.17
14	10	3	4	3	0	20	0.16	0.3	0.05	0.16
15	6	9	4	4	0	23	0.15	0.3	0.05	0.13
16	6	9	8	4	0	27	0.16	0.31	0.05	0.13
17	7	5	1	4	0	17	0.17	0.31	0.06	0.14
18	5	5	7	4	0	21	0.15	0.3	0.05	0.13
19	7	6	8	4	0	25	0.15	0.31	0.05	0.14
20	7	10	5	2	0	24	0.17	0.31	0.05	0.14

<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

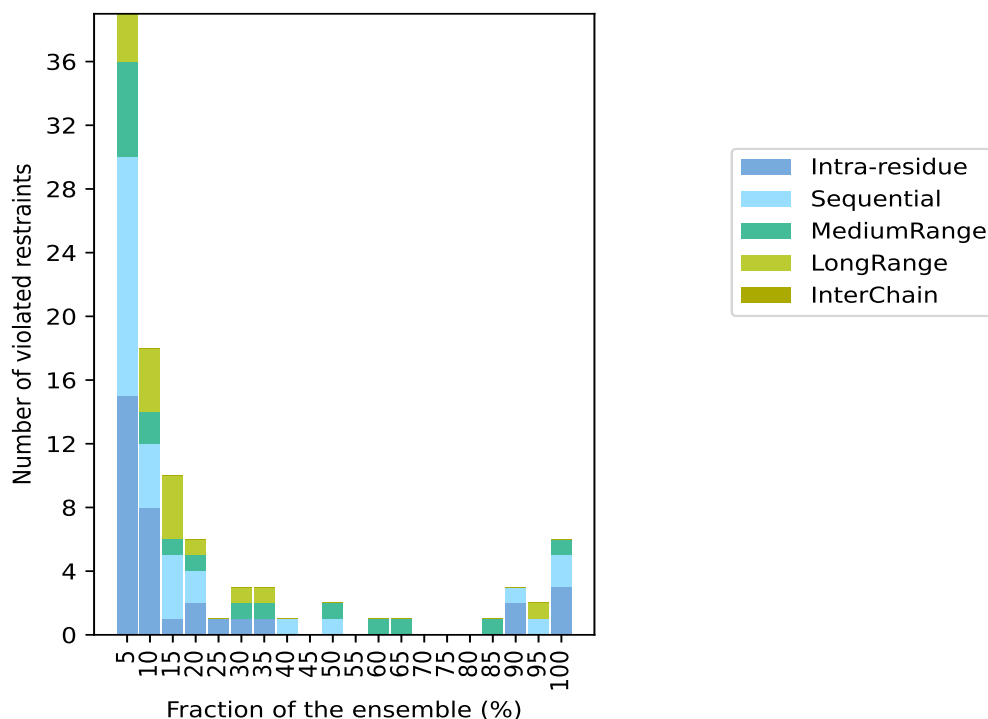
Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 2494(IR:554, SQ:584, MR:647, LR:709, IC:0) restraints are 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>	%
15	15	6	3	0	39	1	5.0
8	4	2	4	0	18	2	10.0
1	4	1	4	0	10	3	15.0
2	2	1	1	0	6	4	20.0
1	0	0	0	0	1	5	25.0
1	0	1	1	0	3	6	30.0
1	0	1	1	0	3	7	35.0
0	1	0	0	0	1	8	40.0
0	0	0	0	0	0	9	45.0
0	1	1	0	0	2	10	50.0
0	0	0	0	0	0	11	55.0
0	0	1	0	0	1	12	60.0
0	0	1	0	0	1	13	65.0
0	0	0	0	0	0	14	70.0
0	0	0	0	0	0	15	75.0
0	0	0	0	0	0	16	80.0
0	0	1	0	0	1	17	85.0
2	1	0	0	0	3	18	90.0
0	1	0	1	0	2	19	95.0
3	2	1	0	0	6	20	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



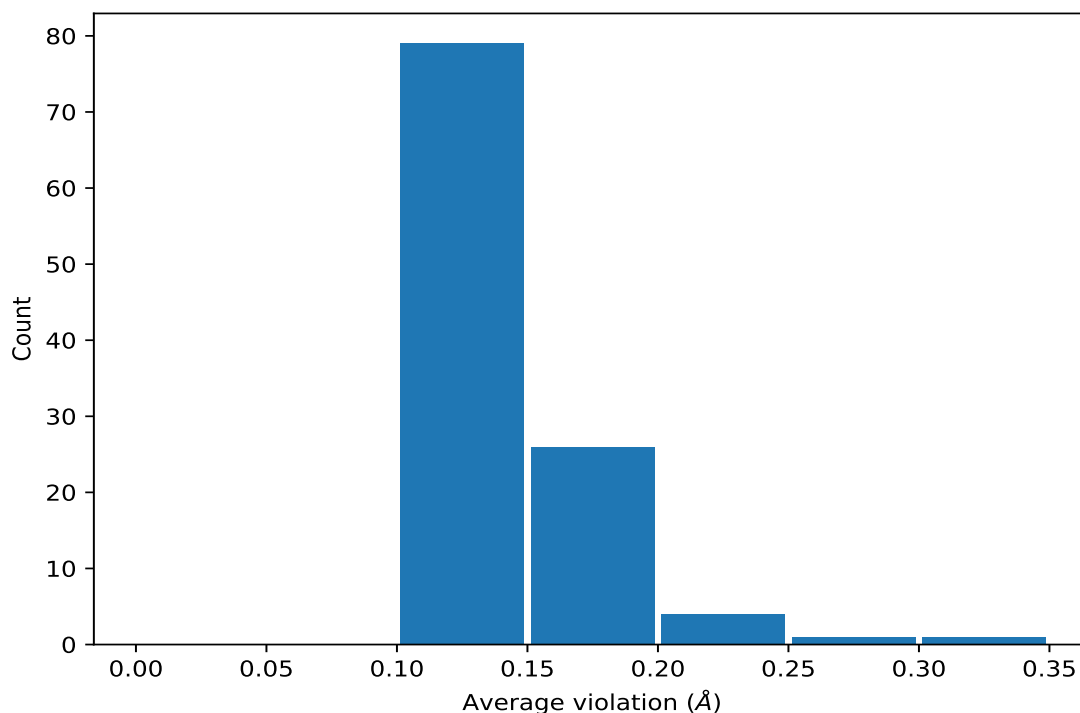
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



## 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)
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	20	0.3	0.01	0.31
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	20	0.25	0.01	0.25
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	20	0.2	0.02	0.2
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	20	0.19	0.02	0.19
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	20	0.14	0.02	0.14
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	20	0.13	0.0	0.13
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	19	0.2	0.03	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	19	0.17	0.04	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	19	0.17	0.04	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	19	0.17	0.04	0.18
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	18	0.16	0.02	0.16
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	18	0.14	0.01	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	18	0.13	0.02	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	17	0.13	0.02	0.13
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	13	0.11	0.0	0.11
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	12	0.14	0.02	0.13

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	10	0.14	0.02	0.14
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	10	0.12	0.01	0.12
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	8	0.15	0.02	0.15
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	7	0.22	0.01	0.22
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	7	0.17	0.03	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	7	0.17	0.03	0.17
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	7	0.12	0.01	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	7	0.12	0.01	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	7	0.12	0.01	0.12
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	6	0.24	0.03	0.25
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	6	0.13	0.01	0.14
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	6	0.13	0.01	0.14
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	6	0.13	0.01	0.14
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	6	0.11	0.0	0.11
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	5	0.15	0.03	0.15
(1,2105)	1:A:421:LEU:HD21	1:A:424:MET:HG2	4	0.14	0.0	0.14
(1,2105)	1:A:421:LEU:HD22	1:A:424:MET:HG2	4	0.14	0.0	0.14
(1,2105)	1:A:421:LEU:HD23	1:A:424:MET:HG2	4	0.14	0.0	0.14
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD2	4	0.13	0.02	0.13
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD3	4	0.13	0.02	0.13
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG21	4	0.12	0.01	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG22	4	0.12	0.01	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG23	4	0.12	0.01	0.12
(1,402)	1:A:365:LYS:HB2	1:A:366:VAL:H	4	0.12	0.01	0.12
(1,2494)	1:A:367:PHE:HZ	1:A:377:LYS:HA	4	0.12	0.01	0.12
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG21	4	0.11	0.0	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG22	4	0.11	0.0	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG23	4	0.11	0.0	0.11
(1,2128)	1:A:350:PRO:HA	1:A:351:PRO:HD3	3	0.19	0.01	0.2
(1,2127)	1:A:350:PRO:HA	1:A:351:PRO:HD2	3	0.18	0.01	0.18
(1,264)	1:A:379:THR:HG21	1:A:382:GLN:H	3	0.13	0.02	0.14
(1,264)	1:A:379:THR:HG22	1:A:382:GLN:H	3	0.13	0.02	0.14
(1,264)	1:A:379:THR:HG23	1:A:382:GLN:H	3	0.13	0.02	0.14
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE1	3	0.13	0.01	0.13
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE2	3	0.13	0.01	0.13

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE3	3	0.13	0.01	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE1	3	0.13	0.01	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE2	3	0.13	0.01	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE3	3	0.13	0.01	0.13
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE1	3	0.12	0.0	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE2	3	0.12	0.0	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE3	3	0.12	0.0	0.12
(1,1114)	1:A:376:GLY:H	1:A:377:LYS:HG2	3	0.12	0.01	0.11
(1,1489)	1:A:355:MET:HE1	1:A:442:MET:HA	3	0.12	0.01	0.11
(1,1489)	1:A:355:MET:HE2	1:A:442:MET:HA	3	0.12	0.01	0.11
(1,1489)	1:A:355:MET:HE3	1:A:442:MET:HA	3	0.12	0.01	0.11
(1,2121)	1:A:378:ILE:HG13	1:A:413:SER:HA	3	0.12	0.01	0.11
(1,2502)	1:A:387:PHE:HD1	1:A:397:LEU:HB2	3	0.11	0.0	0.11
(1,2502)	1:A:387:PHE:HD2	1:A:397:LEU:HB2	3	0.11	0.0	0.11
(1,1099)	1:A:367:PHE:H	1:A:368:MET:HG3	3	0.11	0.0	0.11
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE2	2	0.16	0.05	0.16
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE3	2	0.16	0.05	0.16
(1,313)	1:A:374:LYS:H	1:A:374:LYS:HD3	2	0.15	0.0	0.15
(1,2028)	1:A:377:LYS:HE2	1:A:413:SER:HA	2	0.15	0.0	0.15
(1,2028)	1:A:377:LYS:HE3	1:A:413:SER:HA	2	0.15	0.0	0.15
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG21	2	0.15	0.03	0.15
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG22	2	0.15	0.03	0.15
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG23	2	0.15	0.03	0.15
(1,463)	1:A:368:MET:HE1	1:A:369:GLU:H	2	0.14	0.02	0.14
(1,463)	1:A:368:MET:HE2	1:A:369:GLU:H	2	0.14	0.02	0.14
(1,463)	1:A:368:MET:HE3	1:A:369:GLU:H	2	0.14	0.02	0.14
(1,378)	1:A:435:THR:HG21	1:A:436:ALA:H	2	0.14	0.02	0.14
(1,378)	1:A:435:THR:HG22	1:A:436:ALA:H	2	0.14	0.02	0.14
(1,378)	1:A:435:THR:HG23	1:A:436:ALA:H	2	0.14	0.02	0.14
(1,538)	1:A:356:LYS:HD3	1:A:359:ASP:H	2	0.14	0.01	0.14
(1,509)	1:A:362:LYS:H	1:A:362:LYS:HG2	2	0.12	0.01	0.12
(1,510)	1:A:362:LYS:H	1:A:362:LYS:HG3	2	0.12	0.01	0.12
(1,1985)	1:A:391:ARG:HB2	1:A:391:ARG:HD3	2	0.12	0.02	0.12
(1,1985)	1:A:391:ARG:HB3	1:A:391:ARG:HD3	2	0.12	0.02	0.12
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE1	2	0.12	0.01	0.12
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE2	2	0.12	0.01	0.12
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE3	2	0.12	0.01	0.12
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE1	2	0.12	0.01	0.12
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE2	2	0.12	0.01	0.12
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE3	2	0.12	0.01	0.12
(1,1849)	1:A:374:LYS:HA	1:A:374:LYS:HD2	2	0.12	0.01	0.12
(1,232)	1:A:443:PHE:HD1	1:A:444:ASP:H	2	0.12	0.0	0.12

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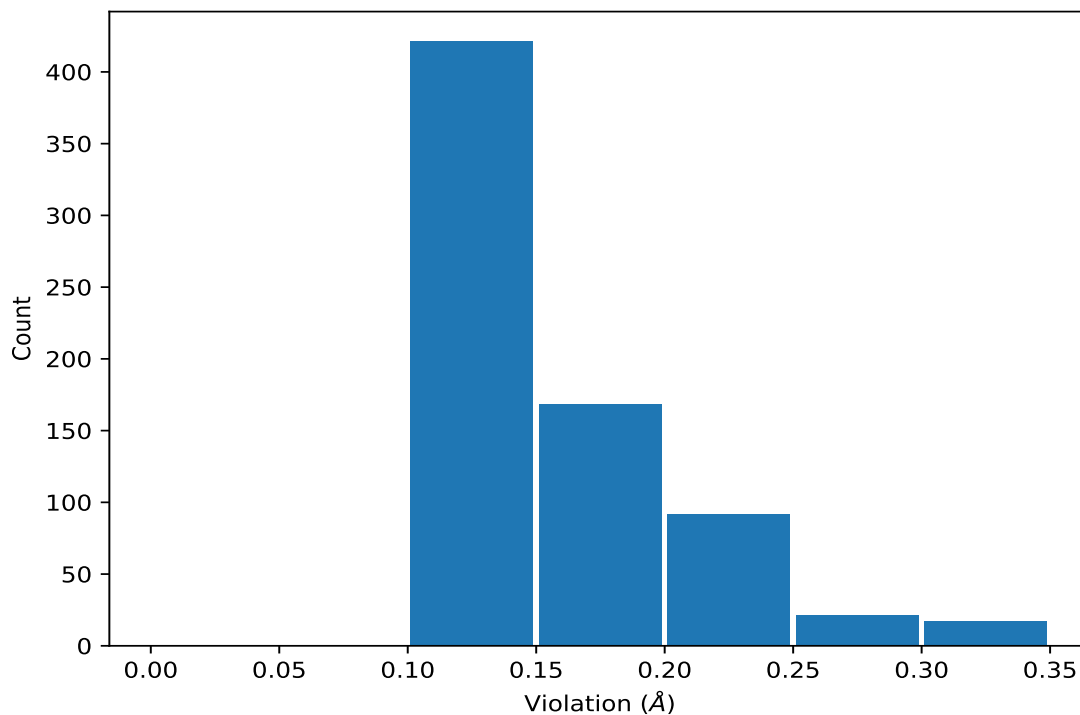
Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,232)	1:A:443:PHE:HD2	1:A:444:ASP:H	2	0.12	0.0	0.12
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE2	2	0.12	0.0	0.12
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE3	2	0.12	0.0	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE1	2	0.12	0.0	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE2	2	0.12	0.0	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE3	2	0.12	0.0	0.12
(1,2530)	1:A:399:HIS:HD2	1:A:402:GLU:HB3	2	0.12	0.0	0.12
(1,38)	1:A:424:MET:H	1:A:424:MET:HE1	2	0.11	0.0	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE2	2	0.11	0.0	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE3	2	0.11	0.0	0.11
(1,722)	1:A:393:PRO:HG2	1:A:394:ARG: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 [i](#)

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

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	3	0.32
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	11	0.32
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	12	0.32
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	1	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	2	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	5	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	6	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	9	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	10	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	16	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	17	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	19	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	20	0.31
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	13	0.3
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	14	0.3
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	15	0.3
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	18	0.3
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	7	0.29
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	8	0.28
(1,588)	1:A:396:VAL:H	1:A:397:LEU:HB3	4	0.27
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	7	0.27
(1,630)	1:A:365:LYS:H	1:A:365:LYS:HB3	20	0.26
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	1	0.26
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	4	0.26
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	17	0.26
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	1	0.26
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	17	0.26
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	2	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	5	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	7	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	8	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	9	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	11	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	18	0.25
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	19	0.25
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	10	0.25
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	11	0.25

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	6	0.25
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	3	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	6	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	10	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	12	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	13	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	14	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	15	0.24
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	20	0.24
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	4	0.24
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	2	0.24
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	7	0.24
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	4	0.23
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	10	0.23
(1,634)	1:A:374:LYS:H	1:A:374:LYS:HE3	2	0.23
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	3	0.23
(1,629)	1:A:448:LEU:H	1:A:448:LEU:HB3	16	0.23
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	12	0.23
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	12	0.23
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	12	0.23
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	20	0.23
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	5	0.23
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	2	0.22
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	5	0.22
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	16	0.22
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	5	0.22
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	11	0.22
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	17	0.22
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	18	0.22
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	20	0.22
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	20	0.22
(1,310)	1:A:372:SER:HB3	1:A:374:LYS:H	7	0.22
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	3	0.22
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	3	0.22
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	3	0.22
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	1	0.22
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	10	0.22
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	13	0.22
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	14	0.22
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	4	0.22
(1,879)	1:A:372:SER:H	1:A:372:SER:HB3	13	0.21
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	16	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	16	0.21
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	16	0.21
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	20	0.21
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	20	0.21
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	20	0.21
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	12	0.21
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	15	0.21
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	16	0.21
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	10	0.21
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	18	0.21
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	8	0.2
(1,323)	1:A:365:LYS:H	1:A:365:LYS:HG2	11	0.2
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	11	0.2
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	11	0.2
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	11	0.2
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	8	0.2
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	9	0.2
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	17	0.2
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE2	2	0.2
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE3	2	0.2
(1,2128)	1:A:350:PRO:HA	1:A:351:PRO:HD3	4	0.2
(1,2128)	1:A:350:PRO:HA	1:A:351:PRO:HD3	8	0.2
(1,2127)	1:A:350:PRO:HA	1:A:351:PRO:HD2	13	0.2
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	1	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	8	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	8	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	8	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	8	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	8	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	8	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	8	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	8	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	8	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	16	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	16	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	16	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	16	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	16	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	16	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	16	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	16	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	16	0.2

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	17	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	17	0.2
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	17	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	17	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	17	0.2
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	17	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	17	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	17	0.2
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	17	0.2
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	1	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	6	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	9	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	10	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	14	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	16	0.19
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	19	0.19
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	5	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	14	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	14	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	14	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	15	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	15	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	15	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	18	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	18	0.19
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	18	0.19
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	3	0.19
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	5	0.19
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	11	0.19
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	19	0.19
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	6	0.19
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	9	0.19
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	11	0.19
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	14	0.19
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	20	0.19
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	3	0.18
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	8	0.18
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	16	0.18
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	2	0.18
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	3	0.18
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	4	0.18
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	7	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	13	0.18
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	15	0.18
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	14	0.18
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	4	0.18
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	7	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	8	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	8	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	8	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	9	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	9	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	9	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	10	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	10	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	10	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	13	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	13	0.18
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	13	0.18
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	18	0.18
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	13	0.18
(1,2128)	1:A:350:PRO:HA	1:A:351:PRO:HD3	13	0.18
(1,2127)	1:A:350:PRO:HA	1:A:351:PRO:HD2	4	0.18
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	8	0.18
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	19	0.18
(1,1370)	1:A:441:ILE:HD11	1:A:442:MET:HE1	5	0.18
(1,1370)	1:A:441:ILE:HD11	1:A:442:MET:HE2	5	0.18
(1,1370)	1:A:441:ILE:HD11	1:A:442:MET:HE3	5	0.18
(1,1370)	1:A:441:ILE:HD12	1:A:442:MET:HE1	5	0.18
(1,1370)	1:A:441:ILE:HD12	1:A:442:MET:HE2	5	0.18
(1,1370)	1:A:441:ILE:HD12	1:A:442:MET:HE3	5	0.18
(1,1370)	1:A:441:ILE:HD13	1:A:442:MET:HE1	5	0.18
(1,1370)	1:A:441:ILE:HD13	1:A:442:MET:HE2	5	0.18
(1,1370)	1:A:441:ILE:HD13	1:A:442:MET:HE3	5	0.18
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	16	0.17
(1,798)	1:A:364:THR:H	1:A:365:LYS:HB3	20	0.17
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	3	0.17
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	12	0.17
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	10	0.17
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	13	0.17
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	15	0.17
(1,589)	1:A:393:PRO:HD3	1:A:396:VAL:H	12	0.17
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	12	0.17
(1,536)	1:A:356:LYS:HB3	1:A:359:ASP:H	19	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	2	0.17
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	7	0.17
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG21	13	0.17
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG22	13	0.17
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG23	13	0.17
(1,2127)	1:A:350:PRO:HA	1:A:351:PRO:HD2	8	0.17
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	13	0.17
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	16	0.17
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	6	0.17
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	6	0.17
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	6	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	6	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	6	0.17
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	6	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	6	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	6	0.17
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	6	0.17
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	14	0.17
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	18	0.17
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	12	0.16
(1,870)	1:A:353:PRO:HB3	1:A:354:LYS:H	7	0.16
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	5	0.16
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	7	0.16
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	9	0.16
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	14	0.16
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	1	0.16
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	9	0.16
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	19	0.16
(1,507)	1:A:362:LYS:H	1:A:362:LYS:HD2	14	0.16
(1,507)	1:A:362:LYS:H	1:A:362:LYS:HD3	14	0.16
(1,463)	1:A:368:MET:HE1	1:A:369:GLU:H	15	0.16
(1,463)	1:A:368:MET:HE2	1:A:369:GLU:H	15	0.16
(1,463)	1:A:368:MET:HE3	1:A:369:GLU:H	15	0.16
(1,2386)	1:A:352:TRP:HB2	1:A:352:TRP:HZ3	2	0.16
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	4	0.16
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	19	0.16
(1,186)	1:A:377:LYS:H	1:A:377:LYS:HE2	5	0.16
(1,186)	1:A:377:LYS:H	1:A:377:LYS:HE3	5	0.16
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	3	0.16
(1,179)	1:A:406:GLN:HG3	1:A:407:ASP:H	15	0.16
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	11	0.16
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	12	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	4	0.15
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	11	0.15
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	13	0.15
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	19	0.15
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	5	0.15
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	20	0.15
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	20	0.15
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	20	0.15
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	1	0.15
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	12	0.15
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	17	0.15
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	2	0.15
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	5	0.15
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	14	0.15
(1,378)	1:A:435:THR:HG21	1:A:436:ALA:H	20	0.15
(1,378)	1:A:435:THR:HG22	1:A:436:ALA:H	20	0.15
(1,378)	1:A:435:THR:HG23	1:A:436:ALA:H	20	0.15
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	5	0.15
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	11	0.15
(1,324)	1:A:365:LYS:H	1:A:365:LYS:HG3	12	0.15
(1,313)	1:A:374:LYS:H	1:A:374:LYS:HD3	4	0.15
(1,313)	1:A:374:LYS:H	1:A:374:LYS:HD3	14	0.15
(1,264)	1:A:379:THR:HG21	1:A:382:GLN:H	16	0.15
(1,264)	1:A:379:THR:HG22	1:A:382:GLN:H	16	0.15
(1,264)	1:A:379:THR:HG23	1:A:382:GLN:H	16	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	2	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	2	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	2	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	19	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	19	0.15
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	19	0.15
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	7	0.15
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	8	0.15
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	9	0.15
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	17	0.15
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD2	2	0.15
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD3	2	0.15
(1,2028)	1:A:377:LYS:HE2	1:A:413:SER:HA	11	0.15
(1,2028)	1:A:377:LYS:HE3	1:A:413:SER:HA	11	0.15
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	12	0.15
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	12	0.15
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	12	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	15	0.15
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	15	0.15
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	15	0.15
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	15	0.15
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	15	0.15
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	15	0.15
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	15	0.15
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	15	0.15
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	15	0.15
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	3	0.14
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	6	0.14
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	14	0.14
(1,869)	1:A:354:LYS:H	1:A:354:LYS:HB3	19	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	2	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	4	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	10	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	11	0.14
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	18	0.14
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	12	0.14
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	12	0.14
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	12	0.14
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	17	0.14
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	17	0.14
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	17	0.14
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	4	0.14
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	6	0.14
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	11	0.14
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	20	0.14
(1,608)	1:A:408:ASN:HB3	1:A:408:ASN:HD22	2	0.14
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	3	0.14
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	8	0.14
(1,538)	1:A:356:LYS:HD3	1:A:359:ASP:H	16	0.14
(1,527)	1:A:356:LYS:HE2	1:A:359:ASP:H	8	0.14
(1,527)	1:A:356:LYS:HE3	1:A:359:ASP:H	8	0.14
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	13	0.14
(1,518)	1:A:429:GLU:H	1:A:429:GLU:HB2	19	0.14
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	10	0.14
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	3	0.14
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	17	0.14
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	3	0.14
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	19	0.14
(1,264)	1:A:379:THR:HG21	1:A:382:GLN:H	6	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,264)	1:A:379:THR:HG22	1:A:382:GLN:H	6	0.14
(1,264)	1:A:379:THR:HG23	1:A:382:GLN:H	6	0.14
(1,2441)	1:A:355:MET:HG2	1:A:422:TYR:HD1	15	0.14
(1,2441)	1:A:355:MET:HG2	1:A:422:TYR:HD2	15	0.14
(1,2441)	1:A:355:MET:HG3	1:A:422:TYR:HD1	15	0.14
(1,2441)	1:A:355:MET:HG3	1:A:422:TYR:HD2	15	0.14
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	7	0.14
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	7	0.14
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	7	0.14
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	5	0.14
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	11	0.14
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	15	0.14
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD2	5	0.14
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD3	5	0.14
(1,2105)	1:A:421:LEU:HD21	1:A:424:MET:HG2	4	0.14
(1,2105)	1:A:421:LEU:HD22	1:A:424:MET:HG2	4	0.14
(1,2105)	1:A:421:LEU:HD23	1:A:424:MET:HG2	4	0.14
(1,2105)	1:A:421:LEU:HD21	1:A:424:MET:HG2	8	0.14
(1,2105)	1:A:421:LEU:HD22	1:A:424:MET:HG2	8	0.14
(1,2105)	1:A:421:LEU:HD23	1:A:424:MET:HG2	8	0.14
(1,2105)	1:A:421:LEU:HD21	1:A:424:MET:HG2	18	0.14
(1,2105)	1:A:421:LEU:HD22	1:A:424:MET:HG2	18	0.14
(1,2105)	1:A:421:LEU:HD23	1:A:424:MET:HG2	18	0.14
(1,2028)	1:A:377:LYS:HE2	1:A:413:SER:HA	14	0.14
(1,2028)	1:A:377:LYS:HE3	1:A:413:SER:HA	14	0.14
(1,1985)	1:A:391:ARG:HB2	1:A:391:ARG:HD3	19	0.14
(1,1985)	1:A:391:ARG:HB3	1:A:391:ARG:HD3	19	0.14
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	1	0.14
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	1	0.14
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	1	0.14
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	1	0.14
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	1	0.14
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	1	0.14
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	1	0.14
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	1	0.14
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	1	0.14
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE1	6	0.14
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE2	6	0.14
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE3	6	0.14
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE1	6	0.14
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE2	6	0.14
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE3	6	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	13	0.14
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	20	0.14
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG21	9	0.14
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG22	9	0.14
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG23	9	0.14
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	2	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	7	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	8	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	9	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	10	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	15	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	17	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	18	0.13
(1,965)	1:A:415:ARG:H	1:A:415:ARG:HB2	20	0.13
(1,956)	1:A:413:SER:HB2	1:A:415:ARG:H	19	0.13
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	8	0.13
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	13	0.13
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	16	0.13
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	20	0.13
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	8	0.13
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	8	0.13
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	8	0.13
(1,640)	1:A:355:MET:HE1	1:A:356:LYS:H	7	0.13
(1,640)	1:A:355:MET:HE2	1:A:356:LYS:H	7	0.13
(1,640)	1:A:355:MET:HE3	1:A:356:LYS:H	7	0.13
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	16	0.13
(1,538)	1:A:356:LYS:HD3	1:A:359:ASP:H	9	0.13
(1,533)	1:A:355:MET:HG2	1:A:359:ASP:H	7	0.13
(1,533)	1:A:355:MET:HG3	1:A:359:ASP:H	7	0.13
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	11	0.13
(1,510)	1:A:362:LYS:H	1:A:362:LYS:HG3	6	0.13
(1,509)	1:A:362:LYS:H	1:A:362:LYS:HG2	10	0.13
(1,402)	1:A:365:LYS:HB2	1:A:366:VAL:H	7	0.13
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	6	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	1	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	4	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	8	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	12	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	18	0.13
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	20	0.13
(1,319)	1:A:365:LYS:H	1:A:365:LYS:HE2	12	0.13
(1,319)	1:A:365:LYS:H	1:A:365:LYS:HE3	12	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2494)	1:A:367:PHE:HZ	1:A:377:LYS:HA	11	0.13
(1,2494)	1:A:367:PHE:HZ	1:A:377:LYS:HA	15	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	1	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	1	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	1	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	17	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	17	0.13
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	17	0.13
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	2	0.13
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	3	0.13
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	10	0.13
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	16	0.13
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	20	0.13
(1,2267)	1:A:398:LYS:HA	1:A:398:LYS:HE2	13	0.13
(1,2267)	1:A:398:LYS:HA	1:A:398:LYS:HE3	13	0.13
(1,2227)	1:A:446:THR:HA	1:A:446:THR:HG21	4	0.13
(1,2227)	1:A:446:THR:HA	1:A:446:THR:HG22	4	0.13
(1,2227)	1:A:446:THR:HA	1:A:446:THR:HG23	4	0.13
(1,2126)	1:A:434:PRO:HA	1:A:435:THR:HG21	20	0.13
(1,2126)	1:A:434:PRO:HA	1:A:435:THR:HG22	20	0.13
(1,2126)	1:A:434:PRO:HA	1:A:435:THR:HG23	20	0.13
(1,2121)	1:A:378:ILE:HG13	1:A:413:SER:HA	1	0.13
(1,2105)	1:A:421:LEU:HD21	1:A:424:MET:HG2	16	0.13
(1,2105)	1:A:421:LEU:HD22	1:A:424:MET:HG2	16	0.13
(1,2105)	1:A:421:LEU:HD23	1:A:424:MET:HG2	16	0.13
(1,1849)	1:A:374:LYS:HA	1:A:374:LYS:HD2	4	0.13
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	18	0.13
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	18	0.13
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	18	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	1	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	3	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	4	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	5	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	7	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	8	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	10	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	11	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	12	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	13	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	15	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	17	0.13
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	18	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE1	16	0.13
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE2	16	0.13
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE3	16	0.13
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE1	16	0.13
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE2	16	0.13
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE3	16	0.13
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE1	5	0.13
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE2	5	0.13
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE3	5	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE1	5	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE2	5	0.13
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE3	5	0.13
(1,1489)	1:A:355:MET:HE1	1:A:442:MET:HA	11	0.13
(1,1489)	1:A:355:MET:HE2	1:A:442:MET:HA	11	0.13
(1,1489)	1:A:355:MET:HE3	1:A:442:MET:HA	11	0.13
(1,1114)	1:A:376:GLY:H	1:A:377:LYS:HG2	16	0.13
(1,967)	1:A:414:LEU:HB2	1:A:415:ARG:H	12	0.12
(1,955)	1:A:415:ARG:H	1:A:415:ARG:HD3	12	0.12
(1,927)	1:A:427:TYR:HE1	1:A:428:ARG:H	3	0.12
(1,927)	1:A:427:TYR:HE2	1:A:428:ARG:H	3	0.12
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	6	0.12
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	7	0.12
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	17	0.12
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	19	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE1	2	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE2	2	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE3	2	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE1	17	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE2	17	0.12
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE3	17	0.12
(1,704)	1:A:354:LYS:HD2	1:A:355:MET:H	15	0.12
(1,704)	1:A:354:LYS:HD3	1:A:355:MET:H	15	0.12
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	9	0.12
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	9	0.12
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	9	0.12
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE2	6	0.12
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE3	6	0.12
(1,631)	1:A:365:LYS:HB3	1:A:366:VAL:H	2	0.12
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	2	0.12
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	11	0.12
(1,626)	1:A:408:ASN:HA	1:A:408:ASN:HD22	18	0.12
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	6	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	12	0.12
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	2	0.12
(1,510)	1:A:362:LYS:H	1:A:362:LYS:HG3	3	0.12
(1,509)	1:A:362:LYS:H	1:A:362:LYS:HG2	14	0.12
(1,463)	1:A:368:MET:HE1	1:A:369:GLU:H	10	0.12
(1,463)	1:A:368:MET:HE2	1:A:369:GLU:H	10	0.12
(1,463)	1:A:368:MET:HE3	1:A:369:GLU:H	10	0.12
(1,402)	1:A:365:LYS:HB2	1:A:366:VAL:H	16	0.12
(1,402)	1:A:365:LYS:HB2	1:A:366:VAL:H	18	0.12
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	4	0.12
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	9	0.12
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	16	0.12
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	20	0.12
(1,378)	1:A:435:THR:HG21	1:A:436:ALA:H	15	0.12
(1,378)	1:A:435:THR:HG22	1:A:436:ALA:H	15	0.12
(1,378)	1:A:435:THR:HG23	1:A:436:ALA:H	15	0.12
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	9	0.12
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	10	0.12
(1,294)	1:A:448:LEU:HD11	1:A:449:SER:H	15	0.12
(1,294)	1:A:448:LEU:HD12	1:A:449:SER:H	15	0.12
(1,294)	1:A:448:LEU:HD13	1:A:449:SER:H	15	0.12
(1,2530)	1:A:399:HIS:HD2	1:A:402:GLU:HB3	19	0.12
(1,2502)	1:A:387:PHE:HD1	1:A:397:LEU:HB2	4	0.12
(1,2502)	1:A:387:PHE:HD2	1:A:397:LEU:HB2	4	0.12
(1,232)	1:A:443:PHE:HD1	1:A:444:ASP:H	6	0.12
(1,232)	1:A:443:PHE:HD2	1:A:444:ASP:H	6	0.12
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG21	19	0.12
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG22	19	0.12
(1,2293)	1:A:352:TRP:HD1	1:A:441:ILE:HG23	19	0.12
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	12	0.12
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	14	0.12
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	18	0.12
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD2	17	0.12
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD3	17	0.12
(1,2184)	1:A:354:LYS:HA	1:A:354:LYS:HE2	7	0.12
(1,2184)	1:A:354:LYS:HA	1:A:354:LYS:HE3	7	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	3	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	3	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	3	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	20	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	20	0.12
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	20	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	2	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	6	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	9	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	14	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	16	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	19	0.12
(1,1724)	1:A:448:LEU:HB3	1:A:448:LEU:HG	20	0.12
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG21	19	0.12
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG22	19	0.12
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG23	19	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE1	6	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE2	6	0.12
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE3	6	0.12
(1,1520)	1:A:377:LYS:HB2	1:A:411:MET:HE1	18	0.12
(1,1520)	1:A:377:LYS:HB2	1:A:411:MET:HE2	18	0.12
(1,1520)	1:A:377:LYS:HB2	1:A:411:MET:HE3	18	0.12
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD11	9	0.12
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD12	9	0.12
(1,1515)	1:A:442:MET:HE1	1:A:447:LEU:HD13	9	0.12
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD11	9	0.12
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD12	9	0.12
(1,1515)	1:A:442:MET:HE2	1:A:447:LEU:HD13	9	0.12
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD11	9	0.12
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD12	9	0.12
(1,1515)	1:A:442:MET:HE3	1:A:447:LEU:HD13	9	0.12
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE1	7	0.12
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE2	7	0.12
(1,1497)	1:A:355:MET:HB2	1:A:355:MET:HE3	7	0.12
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE1	7	0.12
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE2	7	0.12
(1,1497)	1:A:355:MET:HB3	1:A:355:MET:HE3	7	0.12
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	8	0.12
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	15	0.12
(1,1218)	1:A:348:ASN:HD21	1:A:349:GLN:H	16	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG21	8	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG22	8	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG23	8	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG21	11	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG22	11	0.12
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG23	11	0.12
(1,978)	1:A:365:LYS:HB3	1:A:367:PHE:H	15	0.11
(1,920)	1:A:378:ILE:HG12	1:A:379:THR:H	15	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,88)	1:A:425:GLU:HG3	1:A:426:ARG:H	3	0.11
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	1	0.11
(1,735)	1:A:437:LEU:H	1:A:438:PRO:HD2	9	0.11
(1,722)	1:A:393:PRO:HG2	1:A:394:ARG:H	10	0.11
(1,722)	1:A:393:PRO:HG2	1:A:394:ARG:H	20	0.11
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE1	16	0.11
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE2	16	0.11
(1,712)	1:A:380:GLY:H	1:A:411:MET:HE3	16	0.11
(1,695)	1:A:378:ILE:HG21	1:A:412:LEU:H	7	0.11
(1,695)	1:A:378:ILE:HG22	1:A:412:LEU:H	7	0.11
(1,695)	1:A:378:ILE:HG23	1:A:412:LEU:H	7	0.11
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE2	10	0.11
(1,637)	1:A:356:LYS:H	1:A:356:LYS:HE3	10	0.11
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	3	0.11
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	4	0.11
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	6	0.11
(1,627)	1:A:382:GLN:HB2	1:A:382:GLN:HE22	15	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	1	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	2	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	5	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	7	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	9	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	10	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	11	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	13	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	16	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	18	0.11
(1,586)	1:A:393:PRO:HB3	1:A:396:VAL:H	19	0.11
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	4	0.11
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	13	0.11
(1,540)	1:A:356:LYS:HG2	1:A:359:ASP:H	18	0.11
(1,522)	1:A:428:ARG:HG2	1:A:429:GLU:H	12	0.11
(1,41)	1:A:426:ARG:HA	1:A:426:ARG:HE	3	0.11
(1,402)	1:A:365:LYS:HB2	1:A:366:VAL:H	8	0.11
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	1	0.11
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	11	0.11
(1,388)	1:A:441:ILE:HG12	1:A:442:MET:H	15	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE1	2	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE2	2	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE3	2	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE1	17	0.11
(1,38)	1:A:424:MET:H	1:A:424:MET:HE2	17	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,38)	1:A:424:MET:H	1:A:424:MET:HE3	17	0.11
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	13	0.11
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	14	0.11
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	15	0.11
(1,377)	1:A:434:PRO:HG3	1:A:436:ALA:H	16	0.11
(1,264)	1:A:379:THR:HG21	1:A:382:GLN:H	19	0.11
(1,264)	1:A:379:THR:HG22	1:A:382:GLN:H	19	0.11
(1,264)	1:A:379:THR:HG23	1:A:382:GLN:H	19	0.11
(1,2532)	1:A:396:VAL:HA	1:A:399:HIS:HD2	9	0.11
(1,2530)	1:A:399:HIS:HD2	1:A:402:GLU:HB3	5	0.11
(1,2502)	1:A:387:PHE:HD1	1:A:397:LEU:HB2	2	0.11
(1,2502)	1:A:387:PHE:HD2	1:A:397:LEU:HB2	2	0.11
(1,2502)	1:A:387:PHE:HD1	1:A:397:LEU:HB2	18	0.11
(1,2502)	1:A:387:PHE:HD2	1:A:397:LEU:HB2	18	0.11
(1,2494)	1:A:367:PHE:HZ	1:A:377:LYS:HA	14	0.11
(1,2494)	1:A:367:PHE:HZ	1:A:377:LYS:HA	19	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	4	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	4	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	4	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD21	5	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD22	5	0.11
(1,24)	1:A:406:GLN:H	1:A:412:LEU:HD23	5	0.11
(1,232)	1:A:443:PHE:HD1	1:A:444:ASP:H	5	0.11
(1,232)	1:A:443:PHE:HD2	1:A:444:ASP:H	5	0.11
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	1	0.11
(1,2285)	1:A:351:PRO:HA	1:A:352:TRP:HB3	6	0.11
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE2	20	0.11
(1,2232)	1:A:362:LYS:HA	1:A:362:LYS:HE3	20	0.11
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD2	9	0.11
(1,2186)	1:A:354:LYS:HA	1:A:354:LYS:HD3	9	0.11
(1,2121)	1:A:378:ILE:HG13	1:A:413:SER:HA	9	0.11
(1,2121)	1:A:378:ILE:HG13	1:A:413:SER:HA	19	0.11
(1,1985)	1:A:391:ARG:HB2	1:A:391:ARG:HD3	3	0.11
(1,1985)	1:A:391:ARG:HB3	1:A:391:ARG:HD3	3	0.11
(1,195)	1:A:377:LYS:H	1:A:377:LYS:HD3	1	0.11
(1,1849)	1:A:374:LYS:HA	1:A:374:LYS:HD2	14	0.11
(1,1783)	1:A:441:ILE:HG21	1:A:447:LEU:HD21	12	0.11
(1,1783)	1:A:441:ILE:HG21	1:A:447:LEU:HD22	12	0.11
(1,1783)	1:A:441:ILE:HG21	1:A:447:LEU:HD23	12	0.11
(1,1783)	1:A:441:ILE:HG22	1:A:447:LEU:HD21	12	0.11
(1,1783)	1:A:441:ILE:HG22	1:A:447:LEU:HD22	12	0.11
(1,1783)	1:A:441:ILE:HG22	1:A:447:LEU:HD23	12	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1783)	1:A:441:ILE:HG23	1:A:447:LEU:HD21	12	0.11
(1,1783)	1:A:441:ILE:HG23	1:A:447:LEU:HD22	12	0.11
(1,1783)	1:A:441:ILE:HG23	1:A:447:LEU:HD23	12	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	2	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	2	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	2	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	5	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	5	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	5	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG21	7	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG22	7	0.11
(1,1782)	1:A:438:PRO:HD3	1:A:441:ILE:HG23	7	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG21	2	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG22	2	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG23	2	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG21	5	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG22	5	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG23	5	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG21	8	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG22	8	0.11
(1,1703)	1:A:365:LYS:HB3	1:A:366:VAL:HG23	8	0.11
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE1	9	0.11
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE2	9	0.11
(1,1521)	1:A:377:LYS:HB3	1:A:411:MET:HE3	9	0.11
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE1	1	0.11
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE2	1	0.11
(1,1518)	1:A:377:LYS:HE2	1:A:411:MET:HE3	1	0.11
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE1	1	0.11
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE2	1	0.11
(1,1518)	1:A:377:LYS:HE3	1:A:411:MET:HE3	1	0.11
(1,1489)	1:A:355:MET:HE1	1:A:442:MET:HA	7	0.11
(1,1489)	1:A:355:MET:HE2	1:A:442:MET:HA	7	0.11
(1,1489)	1:A:355:MET:HE3	1:A:442:MET:HA	7	0.11
(1,1489)	1:A:355:MET:HE1	1:A:442:MET:HA	18	0.11
(1,1489)	1:A:355:MET:HE2	1:A:442:MET:HA	18	0.11
(1,1489)	1:A:355:MET:HE3	1:A:442:MET:HA	18	0.11
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	1	0.11
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	3	0.11
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	16	0.11
(1,1251)	1:A:407:ASP:H	1:A:409:ASP:H	19	0.11
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG21	5	0.11
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG22	5	0.11

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<b>Key</b>	<b>Atom-1</b>	<b>Atom-2</b>	<b>Model ID</b>	<b>Violation (Å)</b>
(1,1117)	1:A:410:THR:H	1:A:410:THR:HG23	5	0.11
(1,1114)	1:A:376:GLY:H	1:A:377:LYS:HG2	5	0.11
(1,1114)	1:A:376:GLY:H	1:A:377:LYS:HG2	7	0.11
(1,1099)	1:A:367:PHE:H	1:A:368:MET:HG3	11	0.11
(1,1099)	1:A:367:PHE:H	1:A:368:MET:HG3	12	0.11
(1,1099)	1:A:367:PHE:H	1:A:368:MET:HG3	20	0.11
(1,1015)	1:A:410:THR:HG21	1:A:411:MET:H	16	0.11
(1,1015)	1:A:410:THR:HG22	1:A:411:MET:H	16	0.11
(1,1015)	1:A:410:THR:HG23	1:A:411:MET:H	16	0.11
(1,1001)	1:A:408:ASN:HB3	1:A:409:ASP:H	1	0.11

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

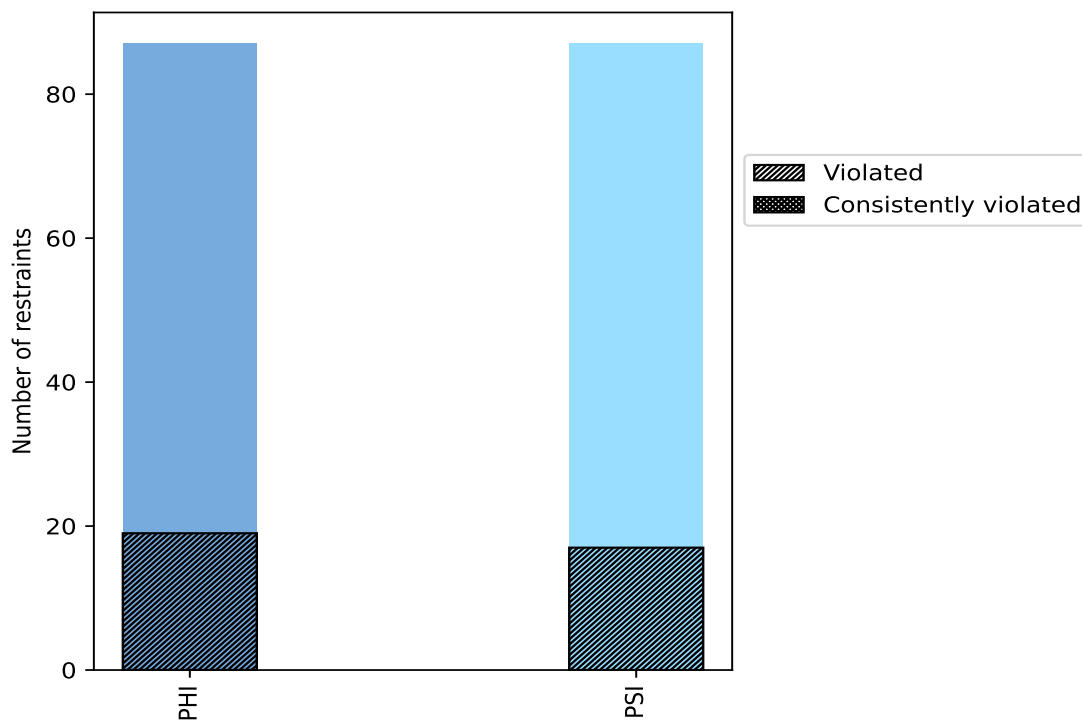
### 10.1 Summary of dihedral-angle violations [i](#)

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>
PHI	87	50.0	19	21.8	10.9	0	0.0	0.0
PSI	87	50.0	17	19.5	9.8	0	0.0	0.0
Total	174	100.0	36	20.7	20.7	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

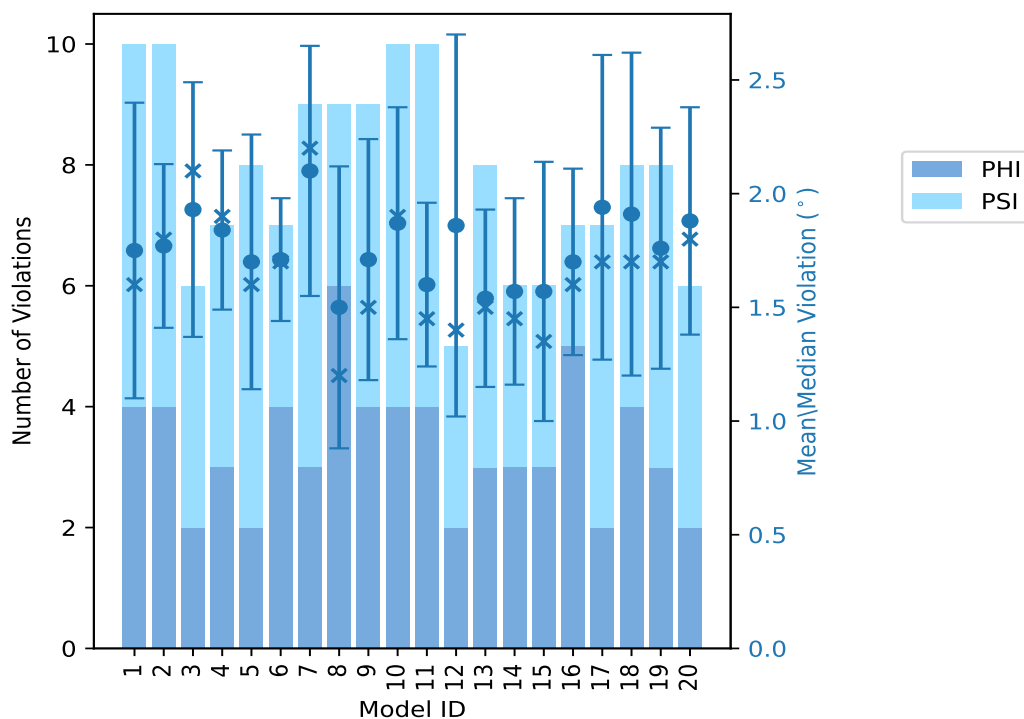


## 10.2 Dihedral-angle violation statistics for each model [i](#)

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

Model ID	Number of violations			Mean (°)	Max (°)	SD (°)	Median (°)
	PHI	PSI	Total				
1	4	6	10	1.75	3.2	0.65	1.6
2	4	6	10	1.77	2.5	0.36	1.8
3	2	4	6	1.93	2.7	0.56	2.1
4	3	4	7	1.84	2.3	0.35	1.9
5	2	6	8	1.7	2.5	0.56	1.6
6	4	3	7	1.71	2.2	0.27	1.7
7	3	6	9	2.1	3.0	0.55	2.2
8	6	3	9	1.5	3.1	0.62	1.2
9	4	5	9	1.71	2.9	0.53	1.5
10	4	6	10	1.87	2.7	0.51	1.9
11	4	6	10	1.6	2.4	0.36	1.45
12	2	3	5	1.86	3.5	0.84	1.4
13	3	5	8	1.54	2.4	0.39	1.5
14	3	3	6	1.57	2.4	0.41	1.45
15	3	3	6	1.57	2.8	0.57	1.35
16	5	2	7	1.7	2.3	0.41	1.6
17	2	5	7	1.94	3.0	0.67	1.7
18	4	4	8	1.91	3.0	0.71	1.7
19	3	5	8	1.76	2.7	0.53	1.7
20	2	4	6	1.88	2.6	0.5	1.8

### 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	
PHI	PSI	Total	Count <sup>1</sup>	%
11	8	19	1	5.0
1	1	2	2	10.0
1	1	2	3	15.0
2	1	3	4	20.0
1	1	2	5	25.0
0	0	0	6	30.0
0	0	0	7	35.0
0	0	0	8	40.0
0	0	0	9	45.0
0	2	2	10	50.0
1	0	1	11	55.0

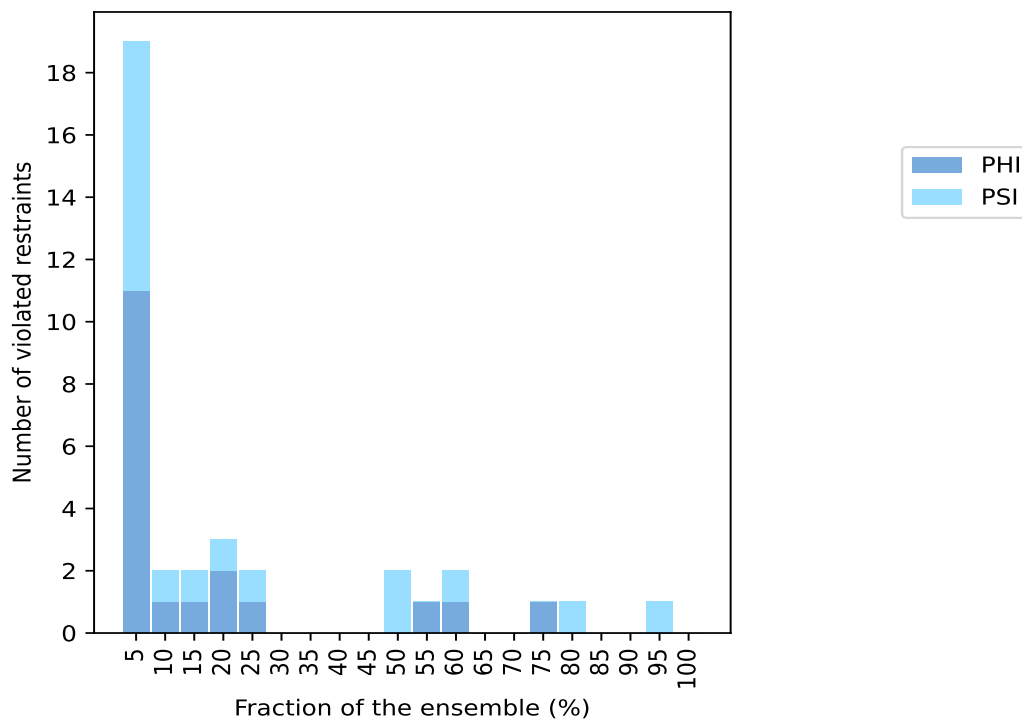
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Number of violated restraints			Fraction of the ensemble	
PHI	PSI	Total	Count <sup>1</sup>	%
1	1	2	12	60.0
0	0	0	13	65.0
0	0	0	14	70.0
1	0	1	15	75.0
0	1	1	16	80.0
0	0	0	17	85.0
0	0	0	18	90.0
0	1	1	19	95.0
0	0	0	20	100.0

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

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

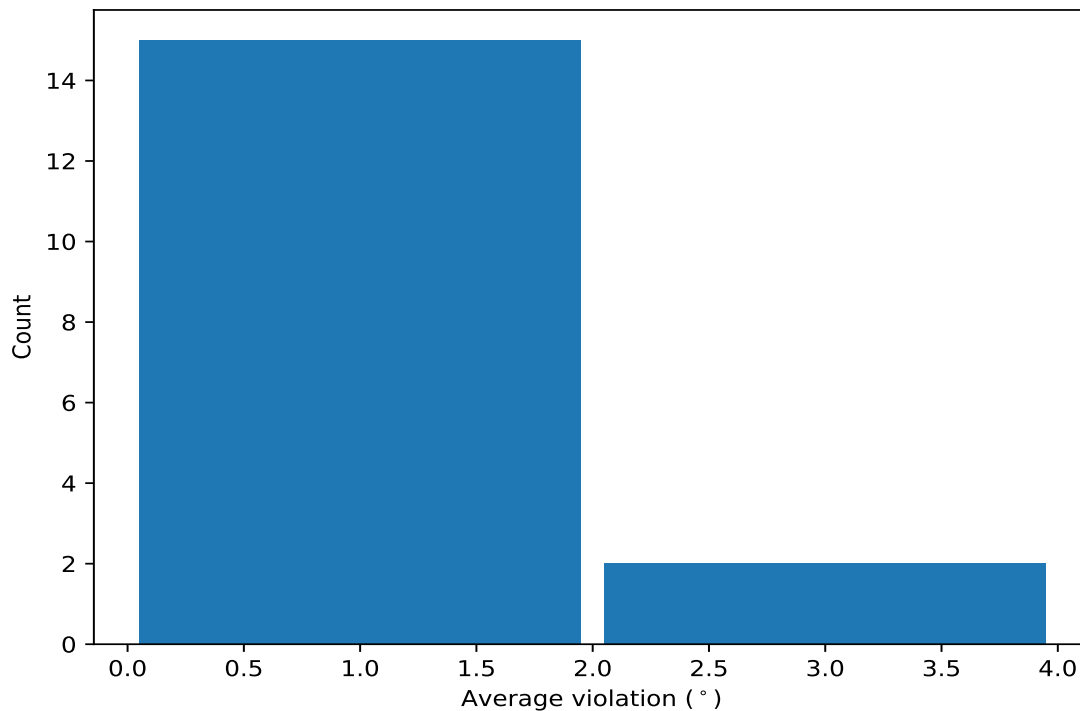


## 10.4 Most violated dihedral-angle restraints in the ensemble [i](#)

### 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.

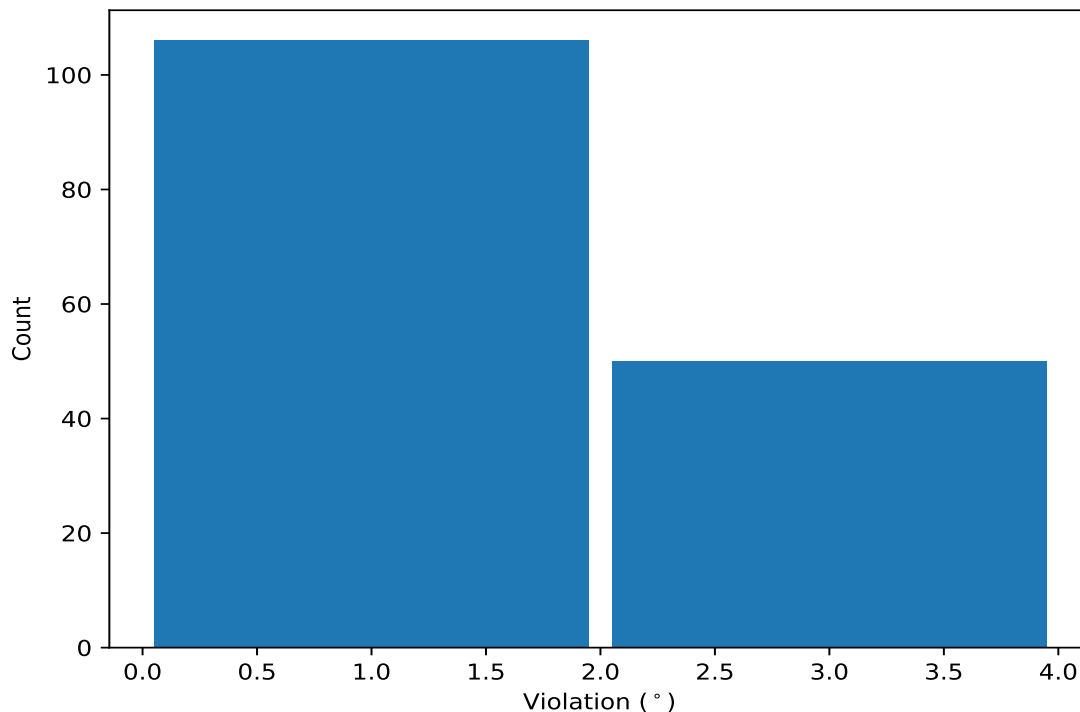
Key	Atom-1	Atom-2	Atom-3	Atom-4	Models <sup>1</sup>	Mean	SD <sup>2</sup>	Median
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	19	2.55	0.4	2.5
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	16	1.76	0.38	1.8
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	15	1.73	0.42	1.6
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	12	1.66	0.45	1.6
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	12	1.35	0.18	1.4
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	11	1.92	0.7	1.6
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	10	2.03	0.53	1.95
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	10	1.83	0.33	1.7
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	5	1.3	0.17	1.3
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	5	1.28	0.15	1.2
(1,43)	1:A:375:ASP:C	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	4	1.83	0.29	1.8
(1,108)	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1:A:410:THR:N	4	1.8	0.43	1.95
(1,95)	1:A:402:GLU:C	1:A:403:LEU:N	1:A:403:LEU:CA	1:A:403:LEU:C	4	1.72	0.38	1.7
(1,166)	1:A:442:MET:N	1:A:442:MET:CA	1:A:442:MET:C	1:A:443:PHE:N	3	1.97	0.52	1.7
(1,75)	1:A:391:ARG:C	1:A:392:LEU:N	1:A:392:LEU:CA	1:A:392:LEU:C	3	1.33	0.19	1.2
(1,18)	1:A:362:LYS:N	1:A:362:LYS:CA	1:A:362:LYS:C	1:A:363:TYR:N	2	1.4	0.2	1.4
(1,45)	1:A:376:GLY:C	1:A:377:LYS:N	1:A:377:LYS:CA	1:A:377:LYS:C	2	1.1	0.0	1.1

<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 (°)
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	12	3.5
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	1	3.2
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	8	3.1
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	18	3.0
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	7	3.0
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	18	3.0
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	17	3.0
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	9	2.9
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	15	2.8
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	17	2.8
(1,166)	1:A:442:MET:N	1:A:442:MET:CA	1:A:442:MET:C	1:A:443:PHE:N	19	2.7
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	3	2.7
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	10	2.7
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	20	2.6

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,36)	1:A:371:ASP:N	1:A:371:ASP:CA	1:A:371:ASP:C	1:A:372:SER:N	7	2.6
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	7	2.5
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	1	2.5
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	5	2.5
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	2	2.5
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	10	2.5
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	11	2.4
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	13	2.4
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	14	2.4
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	20	2.4
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	19	2.4
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	5	2.4
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	3	2.3
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	16	2.3
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	7	2.3
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	4	2.3
(1,95)	1:A:402:GLU:C	1:A:403:LEU:N	1:A:403:LEU:CA	1:A:403:LEU:C	3	2.2
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	10	2.2
(1,43)	1:A:375:ASP:C	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	10	2.2
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	18	2.2
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	9	2.2
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	5	2.2
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	16	2.2
(1,108)	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1:A:410:THR:N	7	2.2
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	4	2.2
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	6	2.2
(1,44)	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	1:A:377:LYS:N	10	2.1
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	2	2.1
(1,108)	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1:A:410:THR:N	17	2.1
(1,95)	1:A:402:GLU:C	1:A:403:LEU:N	1:A:403:LEU:CA	1:A:403:LEU:C	4	2.0
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	2	2.0
(1,43)	1:A:375:ASP:C	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	1	2.0
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	3	2.0
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	9	2.0
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	11	2.0
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	7	2.0
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	6	1.9
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	2	1.9
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	16	1.9
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	4	1.9
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	8	1.9
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	18	1.9
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	19	1.9
(1,171)	1:A:445:GLU:C	1:A:446:THR:N	1:A:446:THR:CA	1:A:446:THR:C	11	1.9
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	19	1.9
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	20	1.9
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	1	1.9
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	12	1.8
(1,19)	1:A:362:LYS:C	1:A:363:TYR:N	1:A:363:TYR:CA	1:A:363:TYR:C	2	1.8
(1,108)	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1:A:410:THR:N	2	1.8
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	6	1.8

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	4	1.7
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	10	1.7
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	17	1.7
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	13	1.7
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	14	1.7
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	20	1.7
(1,166)	1:A:442:MET:N	1:A:442:MET:CA	1:A:442:MET:C	1:A:443:PHE:N	7	1.7
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	13	1.7
(1,110)	1:A:410:THR:N	1:A:410:THR:CA	1:A:410:THR:C	1:A:411:MET:N	6	1.7
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	13	1.6
(1,75)	1:A:391:ARG:C	1:A:392:LEU:N	1:A:392:LEU:CA	1:A:392:LEU:C	6	1.6
(1,43)	1:A:375:ASP:C	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	16	1.6
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	5	1.6
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	8	1.6
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	11	1.6
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	5	1.6
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	20	1.6
(1,18)	1:A:362:LYS:N	1:A:362:LYS:CA	1:A:362:LYS:C	1:A:363:TYR:N	1	1.6
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1	1.6
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	15	1.6
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	9	1.6
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	4	1.6
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	2	1.5
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	14	1.5
(1,43)	1:A:375:ASP:C	1:A:376:GLY:N	1:A:376:GLY:CA	1:A:376:GLY:C	18	1.5
(1,40)	1:A:373:ASP:N	1:A:373:ASP:CA	1:A:373:ASP:C	1:A:374:LYS:N	9	1.5
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	17	1.5
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	2	1.5
(1,166)	1:A:442:MET:N	1:A:442:MET:CA	1:A:442:MET:C	1:A:443:PHE:N	11	1.5
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	6	1.5
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	19	1.5
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	16	1.4
(1,95)	1:A:402:GLU:C	1:A:403:LEU:N	1:A:403:LEU:CA	1:A:403:LEU:C	16	1.4
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	1	1.4
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	12	1.4
(1,7)	1:A:355:MET:C	1:A:356:LYS:N	1:A:356:LYS:CA	1:A:356:LYS:C	7	1.4
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	11	1.4
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	13	1.4
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	10	1.4
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	2	1.4
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	10	1.4
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	14	1.4
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	15	1.4
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	9	1.4
(1,95)	1:A:402:GLU:C	1:A:403:LEU:N	1:A:403:LEU:CA	1:A:403:LEU:C	18	1.3
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	9	1.3
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	11	1.3
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	15	1.3
(1,31)	1:A:368:MET:C	1:A:369:GLU:N	1:A:369:GLU:CA	1:A:369:GLU:C	6	1.3
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	11	1.3
(1,174)	1:A:447:LEU:N	1:A:447:LEU:CA	1:A:447:LEU:C	1:A:448:LEU:N	11	1.3

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Key	Atom-1	Atom-2	Atom-3	Atom-4	Model ID	Violation (°)
(1,164)	1:A:441:ILE:N	1:A:441:ILE:CA	1:A:441:ILE:C	1:A:442:MET:N	12	1.3
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	9	1.3
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	11	1.3
(1,118)	1:A:414:LEU:N	1:A:414:LEU:CA	1:A:414:LEU:C	1:A:415:ARG:N	12	1.3
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	8	1.3
(1,105)	1:A:407:ASP:C	1:A:408:ASN:N	1:A:408:ASN:CA	1:A:408:ASN:C	19	1.3
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	10	1.3
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	17	1.3
(1,102)	1:A:406:GLN:N	1:A:406:GLN:CA	1:A:406:GLN:C	1:A:407:ASP:N	3	1.3
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	15	1.2
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	18	1.2
(1,81)	1:A:395:GLU:C	1:A:396:VAL:N	1:A:396:VAL:CA	1:A:396:VAL:C	19	1.2
(1,79)	1:A:394:ARG:C	1:A:395:GLU:N	1:A:395:GLU:CA	1:A:395:GLU:C	8	1.2
(1,75)	1:A:391:ARG:C	1:A:392:LEU:N	1:A:392:LEU:CA	1:A:392:LEU:C	2	1.2
(1,75)	1:A:391:ARG:C	1:A:392:LEU:N	1:A:392:LEU:CA	1:A:392:LEU:C	7	1.2
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	17	1.2
(1,18)	1:A:362:LYS:N	1:A:362:LYS:CA	1:A:362:LYS:C	1:A:363:TYR:N	13	1.2
(1,167)	1:A:443:PHE:C	1:A:444:ASP:N	1:A:444:ASP:CA	1:A:444:ASP:C	10	1.2
(1,165)	1:A:441:ILE:C	1:A:442:MET:N	1:A:442:MET:CA	1:A:442:MET:C	18	1.2
(1,148)	1:A:429:GLU:N	1:A:429:GLU:CA	1:A:429:GLU:C	1:A:430:GLY:N	4	1.2
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	9	1.2
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	13	1.2
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	14	1.2
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	14	1.2
(1,100)	1:A:405:ASP:N	1:A:405:ASP:CA	1:A:405:ASP:C	1:A:406:GLN:N	19	1.2
(1,98)	1:A:404:SER:N	1:A:404:SER:CA	1:A:404:SER:C	1:A:405:ASP:N	1	1.1
(1,45)	1:A:376:GLY:C	1:A:377:LYS:N	1:A:377:LYS:CA	1:A:377:LYS:C	8	1.1
(1,45)	1:A:376:GLY:C	1:A:377:LYS:N	1:A:377:LYS:CA	1:A:377:LYS:C	15	1.1
(1,37)	1:A:371:ASP:C	1:A:372:SER:N	1:A:372:SER:CA	1:A:372:SER:C	8	1.1
(1,26)	1:A:366:VAL:N	1:A:366:VAL:CA	1:A:366:VAL:C	1:A:367:PHE:N	3	1.1
(1,173)	1:A:446:THR:C	1:A:447:LEU:N	1:A:447:LEU:CA	1:A:447:LEU:C	1	1.1
(1,147)	1:A:428:ARG:C	1:A:429:GLU:N	1:A:429:GLU:CA	1:A:429:GLU:C	8	1.1
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	1	1.1
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	5	1.1
(1,130)	1:A:420:SER:N	1:A:420:SER:CA	1:A:420:SER:C	1:A:421:LEU:N	20	1.1
(1,108)	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	1:A:410:THR:N	13	1.1
(1,107)	1:A:408:ASN:C	1:A:409:ASP:N	1:A:409:ASP:CA	1:A:409:ASP:C	16	1.1
(1,104)	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	1:A:408:ASN:N	5	1.1
(1,103)	1:A:406:GLN:C	1:A:407:ASP:N	1:A:407:ASP:CA	1:A:407:ASP:C	5	1.1
(1,101)	1:A:405:ASP:C	1:A:406:GLN:N	1:A:406:GLN:CA	1:A:406:GLN:C	8	1.1