



# Full wwPDB NMR Structure Validation Report ⓘ

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PDB ID : 6SJX  
BMRB ID : 34424  
Title : Precursor structure of the self-processing module of iron-regulated FrpC of *N. Meningitidis* with calcium ions  
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<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

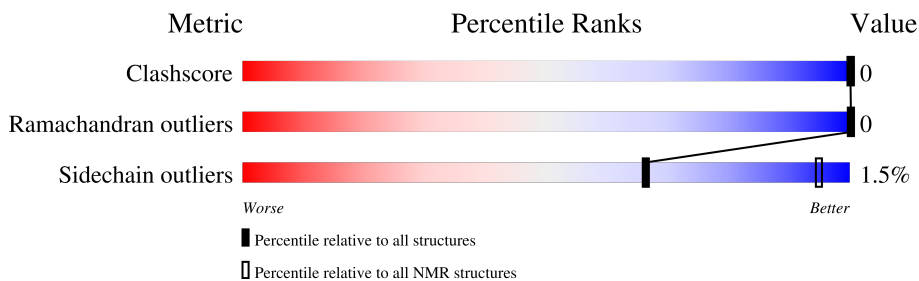
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 88%.

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	182	 71% 27%

## 2 Ensemble composition and analysis

This entry contains 14 models. Model 1 is the overall representative, medoid model (most similar to other models).

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

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:0-A:15, A:36-A:49, A:55-A:66, A:78-A:168 (133)	0.99	1

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

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

The models can be grouped into 2 clusters and 2 single-model clusters were found.

Cluster number	Models
1	3, 4, 10, 11, 12, 13
2	1, 2, 5, 6, 8, 9
Single-model clusters	7; 14

### 3 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 2651 atoms, of which 1291 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Iron-regulated protein FrpC.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	182	2646	829	1291	238	287	1	0

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	GLY	-	expression tag	UNP P55127
A	-1	SER	-	expression tag	UNP P55127
A	0	ASP	-	expression tag	UNP P55127
A	1	ALA	-	expression tag	UNP P55127
A	39	SER	ALA	conflict	UNP P55127
A	101	SER	THR	conflict	UNP P55127
A	157	ASN	ASP	conflict	UNP P55127
A	178	LEU	-	expression tag	UNP P55127
A	179	GLU	-	expression tag	UNP P55127

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

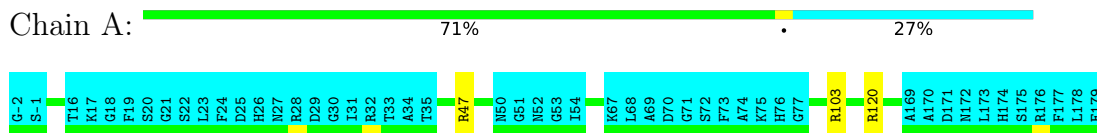
Mol	Chain	Residues	Atoms	
			Total	Ca
2	A	5	5	5

## 4 Residue-property plots

### 4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

- Molecule 1: Iron-regulated protein FrpC

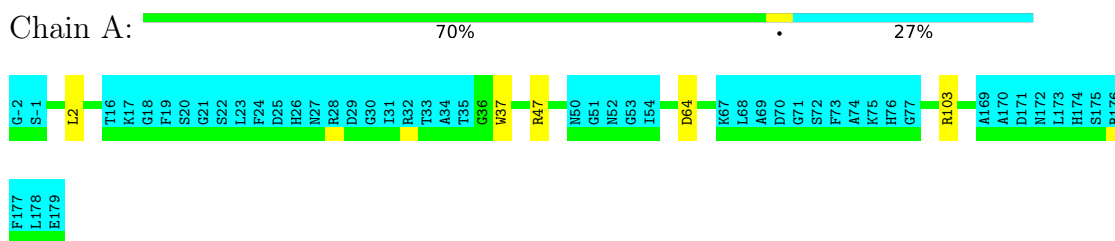


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

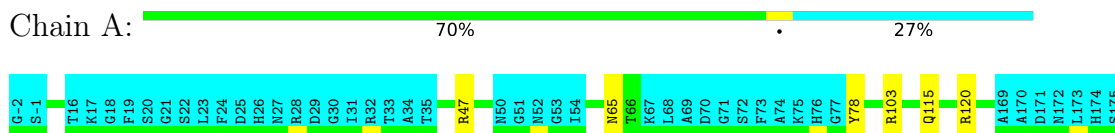
#### 4.2.1 Score per residue for model 1 (medoid)

- Molecule 1: Iron-regulated protein FrpC



#### 4.2.2 Score per residue for model 2

- Molecule 1: Iron-regulated protein FrpC



R176  
F177  
L178  
E179

### 4.2.3 Score per residue for model 3

- Molecule 1: Iron-regulated protein FrpC

Chain A:  70% 27%

G-2 S-1 T16 K17 G18 F19 S20 G21 S22 L23 F24 D25 H26 M27 R28 D29 G30 I31 I32 R32 T33 A34 T35 R47 N50 G51 N52 G53 I54 K67 L68 A69 D70 G71 S72 F73 A74 K75 H76 G77 R103 R120 Y153 A161 A169 A170 D171 M172 L173 H174 S175 R176

F177  
L178  
E179

### 4.2.4 Score per residue for model 4

- Molecule 1: Iron-regulated protein FrpC

Chain A:  70% 27%

G-2 S-1 T16 K17 G18 F19 S20 G21 S22 L23 F24 D25 H26 M27 R28 D29 G30 I31 I32 R32 T33 A34 T35 D42 G43 L44 N50 G51 N52 G53 I54 D64 K67 L68 A69 D70 G71 S72 F73 A74 K75 H76 G77 R103 R120 A169 A170 D171 M172 L173 H174 S175 R176

F177  
L178  
E179

### 4.2.5 Score per residue for model 5

- Molecule 1: Iron-regulated protein FrpC

Chain A:  71% 27%

G-2 S-1 T16 K17 G18 F19 S20 G21 S22 L23 F24 D25 H26 M27 R28 D29 G30 I31 I32 R32 T33 A34 T35 R47 N50 G51 N52 G53 I54 K67 L68 A69 D70 G71 S72 F73 A74 K75 H76 G77 R103 R120 A169 A170 D171 M172 L173 H174 S175 F177 E179

### 4.2.6 Score per residue for model 6

- Molecule 1: Iron-regulated protein FrpC

Chain A:  70% 27%

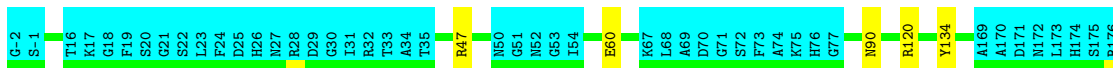
G-2 S-1 T16 K17 G18 F19 S20 G21 S22 L23 F24 D25 H26 M27 R28 D29 G30 I31 I32 R32 T33 A34 T35 R47 M55 T66 K67 L68 A69 D70 G71 S72 F73 A74 K75 H76 G77 Y78 R103 N109 Q128 A169 A170 D171 M172 L173 H174 S175



#### 4.2.7 Score per residue for model 7

- Molecule 1: Iron-regulated protein FrpC

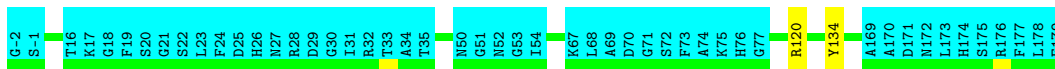
Chain A: 70% 27%



#### 4.2.8 Score per residue for model 8

- Molecule 1: Iron-regulated protein FrpC

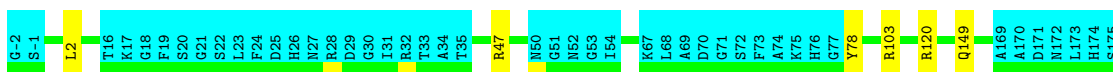
Chain A: 72% 27%



#### 4.2.9 Score per residue for model 9

- Molecule 1: Iron-regulated protein FrpC

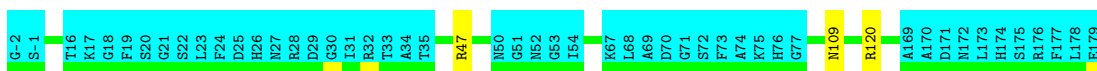
Chain A: 70% 27%



#### 4.2.10 Score per residue for model 10

- Molecule 1: Iron-regulated protein FrpC

Chain A: 71% 27%



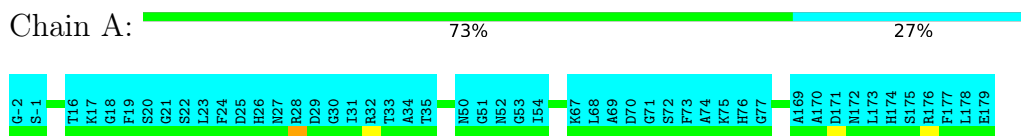
#### 4.2.11 Score per residue for model 11

- Molecule 1: Iron-regulated protein FrpC



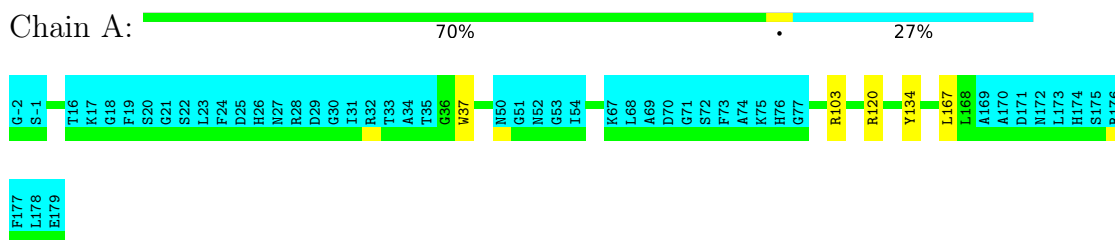
#### 4.2.12 Score per residue for model 12

- Molecule 1: Iron-regulated protein FrpC



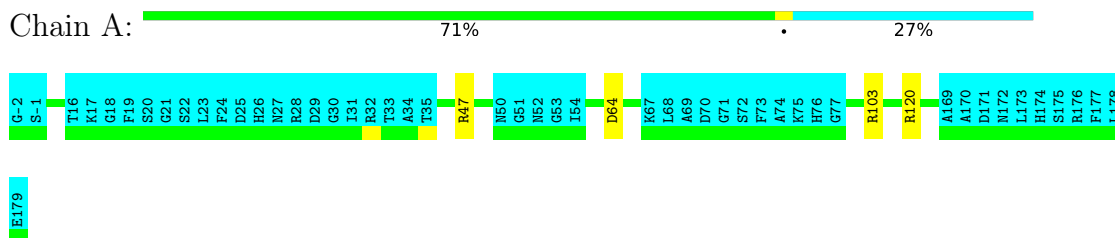
#### 4.2.13 Score per residue for model 13

- Molecule 1: Iron-regulated protein FrpC



#### 4.2.14 Score per residue for model 14

- Molecule 1: Iron-regulated protein FrpC





## 5 Refinement protocol and experimental data overview

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

Of the 20 calculated structures, 14 were deposited, based on the following criterion: *structures with the least restraint violations*.

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

Software name	Classification	Version
CYANA	structure calculation	3.97
GROMACS	refinement	5.1.1

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	1665
Number of shifts mapped to atoms	1665
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	88%

## 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	0.47±0.01	0±0/1000 ( 0.0± 0.0%)	1.08±0.03	3±1/1360 ( 0.2± 0.1%)
All	All	0.47	0/14000 ( 0.0%)	1.08	37/19040 ( 0.2%)

There are no bond-length outliers.

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
1	A	47	ARG	NE-CZ-NH2	9.38	124.99	120.30	7	6
1	A	120	ARG	NE-CZ-NH2	9.37	124.99	120.30	9	5
1	A	120	ARG	NE-CZ-NH1	7.99	124.30	120.30	4	6
1	A	47	ARG	NE-CZ-NH1	7.76	124.18	120.30	9	3
1	A	103	ARG	NE-CZ-NH2	7.66	124.13	120.30	9	5
1	A	134	TYR	CB-CG-CD2	-7.12	116.73	121.00	7	2
1	A	64	ASP	CB-CG-OD2	6.82	124.44	118.30	4	2
1	A	103	ARG	NE-CZ-NH1	6.80	123.70	120.30	5	4
1	A	64	ASP	CB-CG-OD1	5.72	123.45	118.30	14	1
1	A	60	GLU	OE1-CD-OE2	-5.29	116.95	123.30	7	1
1	A	134	TYR	CB-CG-CD1	-5.20	117.88	121.00	8	1
1	A	42	ASP	CB-CG-OD1	5.10	122.89	118.30	4	1

There are no chirality outliers.

There are no planarity outliers.

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

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	991	947	947	0±0
All	All	13944	13258	13258	1

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 0.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:153:TYR:CZ	1:A:161:ALA:HB3	0.40	2.52	3	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	133/182 (73%)	130±1 (98±1%)	3±1 (2±1%)	0±0 (0±0%)	100	100
All	All	1862/2548 (73%)	1820 (98%)	42 (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	103/139 (74%)	102±1 (99±1%)	2±1 (1±1%)	66	95
All	All	1442/1946 (74%)	1421 (99%)	21 (1%)	66	95

All 14 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	78	TYR	4
1	A	2	LEU	2
1	A	37	TRP	2
1	A	65	ASN	2
1	A	109	ASN	2
1	A	115	GLN	1
1	A	47	ARG	1
1	A	44	LEU	1
1	A	64	ASP	1
1	A	128	GLN	1
1	A	90	ASN	1
1	A	149	GLN	1
1	A	166	LEU	1
1	A	167	LEU	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 5 ligands modelled in this entry, 5 are monoatomic - leaving 0 for Mogul analysis.

### 6.7 Other polymers [i](#)

There are no such molecules in this entry.

## 6.8 Polymer linkage issues

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 88% for the well-defined parts and 73% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: *NMRStar-CS-spm-p1a.cif*

#### 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	1665
Number of shifts mapped to atoms	1665
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	6

#### 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
$^{13}\text{C}_\alpha$	147	$-0.14 \pm 0.11$	None needed (< 0.5 ppm)
$^{13}\text{C}_\beta$	133	$-0.06 \pm 0.19$	None needed (< 0.5 ppm)
$^{13}\text{C}'$	141	$-0.01 \pm 0.18$	None needed (< 0.5 ppm)
$^{15}\text{N}$	144	$0.55 \pm 0.24$	Should be applied

#### 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 88%, i.e. 1479 atoms were assigned a chemical shift out of a possible 1682. 0 out of 26 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	$^1\text{H}$	$^{13}\text{C}$	$^{15}\text{N}$
Backbone	644/679 (95%)	264/280 (94%)	254/266 (95%)	126/133 (95%)
Sidechain	812/932 (87%)	554/604 (92%)	247/296 (83%)	11/32 (34%)

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	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Aromatic	23/71 (32%)	12/34 (35%)	10/35 (29%)	1/2 (50%)
Overall	1479/1682 (88%)	830/918 (90%)	511/597 (86%)	138/167 (83%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 73%, i.e. 1665 atoms were assigned a chemical shift out of a possible 2292. 0 out of 30 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Backbone	735/932 (79%)	303/386 (78%)	288/364 (79%)	144/182 (79%)
Sidechain	899/1228 (73%)	614/794 (77%)	274/386 (71%)	11/48 (23%)
Aromatic	31/132 (23%)	16/66 (24%)	14/61 (23%)	1/5 (20%)
Overall	1665/2292 (73%)	933/1246 (75%)	576/811 (71%)	156/235 (66%)

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

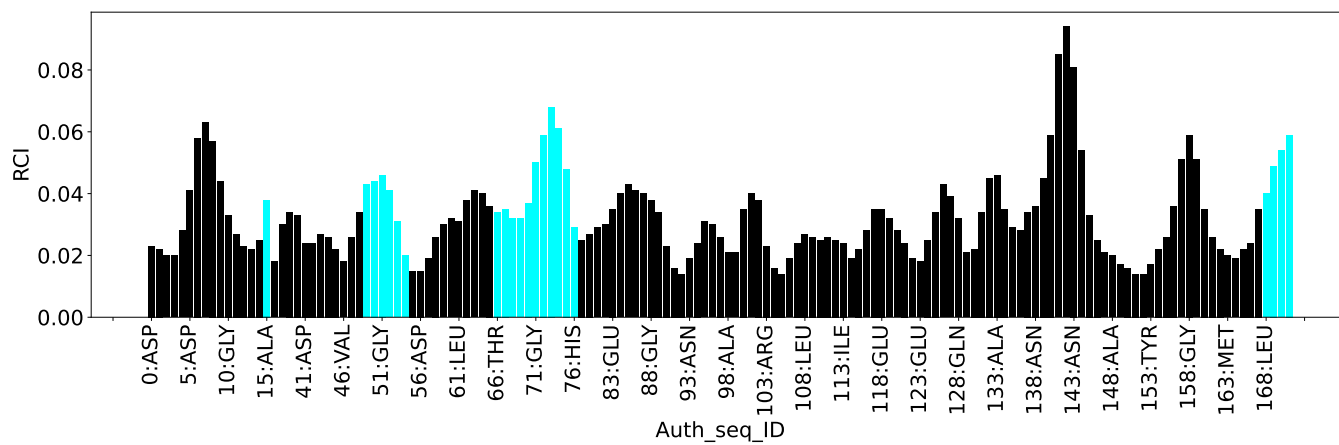
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, ppm	Expected range, ppm	Z-score
1	A	114	SER	HB2	1.49	2.61 – 5.13	-9.4
1	A	118	GLU	HB3	3.33	0.95 – 3.05	6.3
1	A	44	LEU	HD11	-0.62	-0.61 – 2.12	-5.0
1	A	44	LEU	HD12	-0.62	-0.61 – 2.12	-5.0
1	A	44	LEU	HD13	-0.62	-0.61 – 2.12	-5.0
1	A	107	ASP	HB2	1.40	1.41 – 4.01	-5.0

#### 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	2056
Intra-residue ( $ i-j =0$ )	512
Sequential ( $ i-j =1$ )	506
Medium range ( $ i-j >1$ and $ i-j <5$ )	278
Long range ( $ i-j \geq 5$ )	760
Inter-chain	0
Hydrogen bond restraints	0
Disulfide bond restraints	0
Total dihedral-angle restraints	0
Number of unmapped restraints	0
Number of restraints per residue	11.3
Number of long range restraints per residue <sup>1</sup>	4.2

<sup>1</sup>Long range hydrogen bonds and disulfide bonds are counted as long range restraints while calculating the number of long range restraints per residue

### 8.2 Residual restraint violations

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

#### 8.2.1 Average number of distance violations per model

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

Bins (Å)	Average number of violations per model	Max (Å)
0.1-0.2 (Small)	4.8	0.2
0.2-0.5 (Medium)	7.0	0.5
>0.5 (Large)	2.2	1.16

### 8.2.2 Average number of dihedral-angle violations per model

Dihedral-angle violations less than  $1^\circ$  are not included in the calculation. There are no dihedral-angle violations

## 9 Distance violation analysis [i](#)

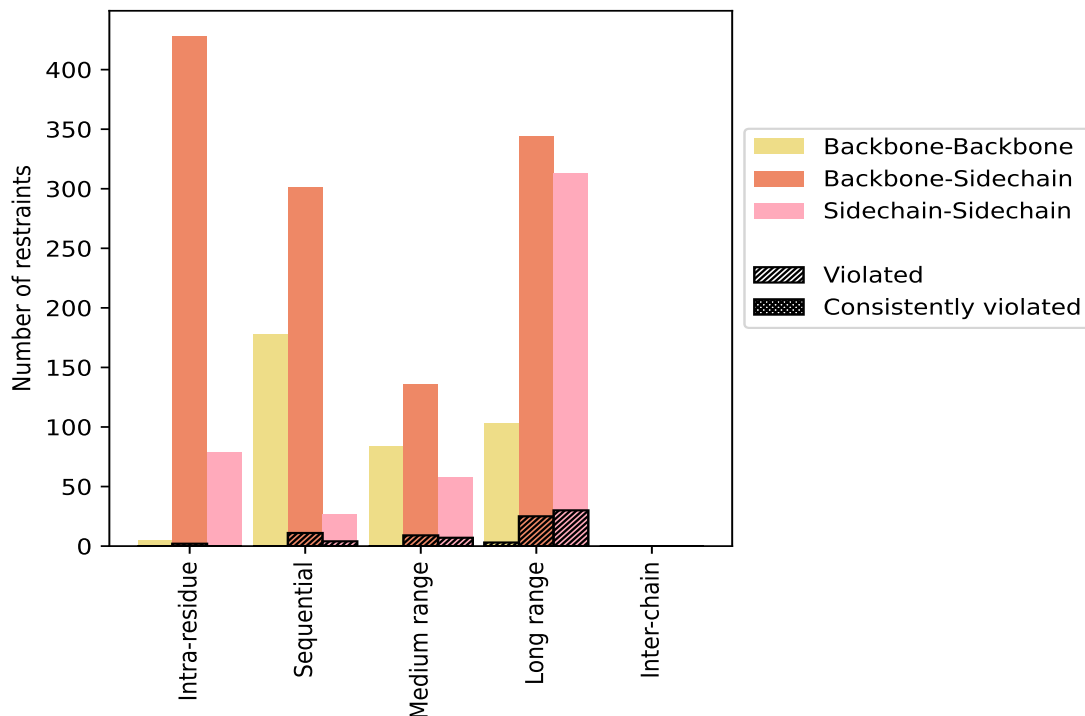
### 9.1 Summary of distance violations [i](#)

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 (<math> i-j =0</math>)</b>	<b>512</b>	<b>24.9</b>	<b>2</b>	<b>0.4</b>	<b>0.1</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	5	0.2	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	428	20.8	2	0.5	0.1	0	0.0	0.0
Sidechain-Sidechain	79	3.8	0	0.0	0.0	0	0.0	0.0
<b>Sequential (<math> i-j =1</math>)</b>	<b>506</b>	<b>24.6</b>	<b>15</b>	<b>3.0</b>	<b>0.7</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	178	8.7	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	301	14.6	11	3.7	0.5	0	0.0	0.0
Sidechain-Sidechain	27	1.3	4	14.8	0.2	0	0.0	0.0
<b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b>	<b>278</b>	<b>13.5</b>	<b>16</b>	<b>5.8</b>	<b>0.8</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	84	4.1	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	136	6.6	9	6.6	0.4	0	0.0	0.0
Sidechain-Sidechain	58	2.8	7	12.1	0.3	0	0.0	0.0
<b>Long range (<math> i-j \geq 5</math>)</b>	<b>760</b>	<b>37.0</b>	<b>58</b>	<b>7.6</b>	<b>2.8</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	103	5.0	3	2.9	0.1	0	0.0	0.0
Backbone-Sidechain	344	16.7	25	7.3	1.2	0	0.0	0.0
Sidechain-Sidechain	313	15.2	30	9.6	1.5	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>2056</b>	<b>100.0</b>	<b>91</b>	<b>4.4</b>	<b>4.4</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	370	18.0	3	0.8	0.1	0	0.0	0.0
Backbone-Sidechain	1209	58.8	47	3.9	2.3	0	0.0	0.0
Sidechain-Sidechain	477	23.2	41	8.6	2.0	0	0.0	0.0

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

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



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

## 9.2 Distance violation statistics for each model [i](#)

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

Model ID	Number of violations						Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
1	0	5	2	9	0	16	0.29	0.8	0.18	0.2
2	0	3	1	2	0	6	0.28	0.73	0.22	0.17
3	2	3	7	7	0	19	0.33	1.0	0.21	0.27
4	0	3	2	8	0	13	0.38	0.93	0.23	0.27
5	0	2	7	4	0	13	0.27	0.67	0.15	0.25
6	1	2	0	10	0	13	0.32	0.59	0.14	0.27
7	0	3	3	14	0	20	0.33	0.79	0.19	0.26
8	1	2	3	9	0	15	0.37	0.86	0.24	0.34
9	0	3	2	5	0	10	0.32	0.93	0.23	0.26
10	0	1	2	5	0	8	0.31	0.92	0.27	0.15
11	0	3	3	7	0	13	0.3	0.66	0.16	0.25

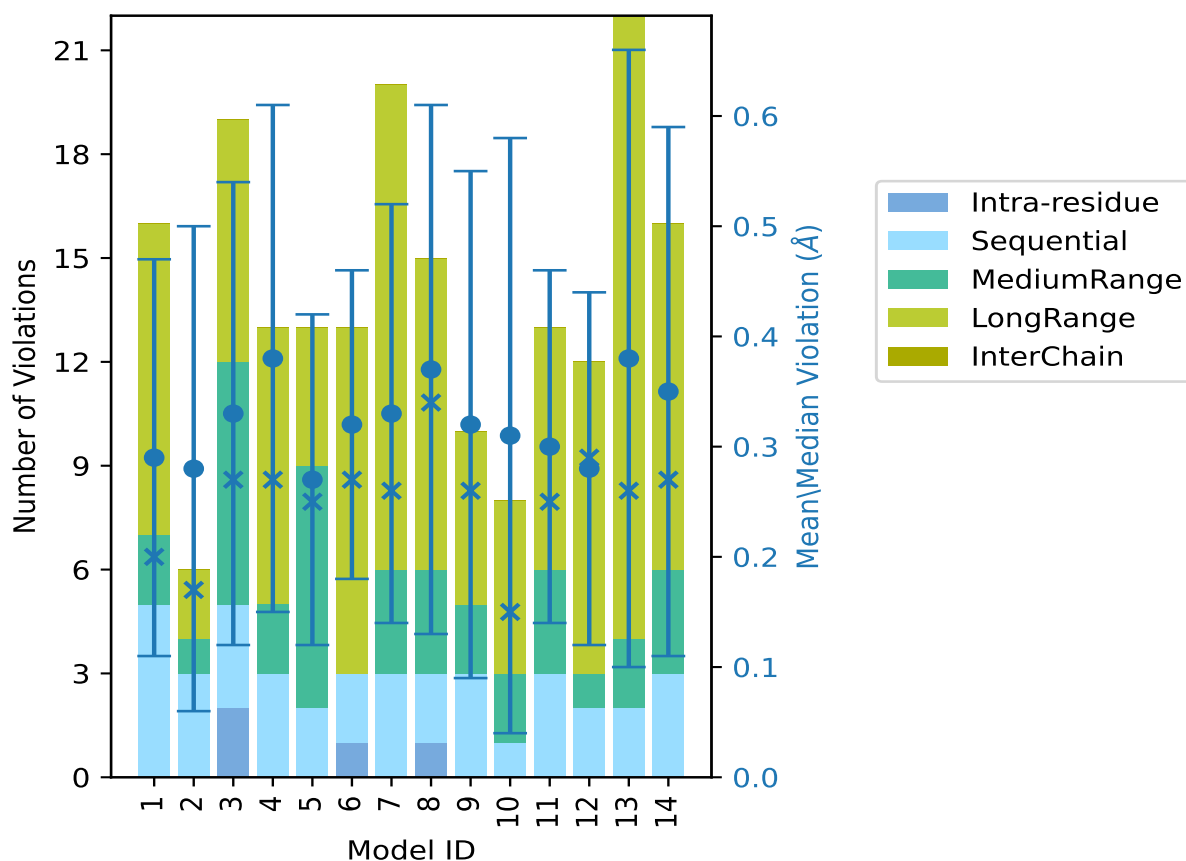
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Model ID	Number of violations						Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
12	0	2	1	9	0	12	0.28	0.75	0.16	0.29
13	0	2	2	18	0	22	0.38	1.16	0.28	0.26
14	0	3	3	10	0	16	0.35	1.09	0.24	0.27

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints, <sup>5</sup>Inter-chain restraints, <sup>6</sup>Standard deviation

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



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

### 9.3 Distance violation statistics for the ensemble [i](#)

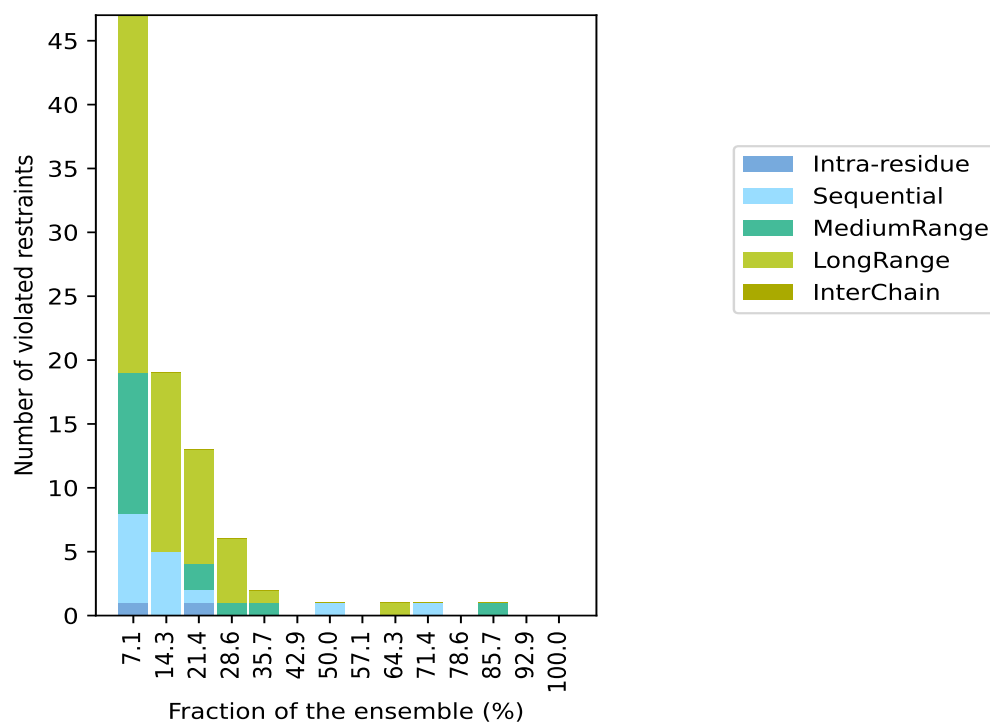
Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for

a given fraction of the ensemble. In total, 1965(IR:510, SQ:491, MR:262, LR:702, 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>	%
1	7	11	28	0	47	1	7.1
0	5	0	14	0	19	2	14.3
1	1	2	9	0	13	3	21.4
0	0	1	5	0	6	4	28.6
0	0	1	1	0	2	5	35.7
0	0	0	0	0	0	6	42.9
0	1	0	0	0	1	7	50.0
0	0	0	0	0	0	8	57.1
0	0	0	1	0	1	9	64.3
0	1	0	0	0	1	10	71.4
0	0	0	0	0	0	11	78.6
0	0	1	0	0	1	12	85.7
0	0	0	0	0	0	13	92.9
0	0	0	0	0	0	14	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

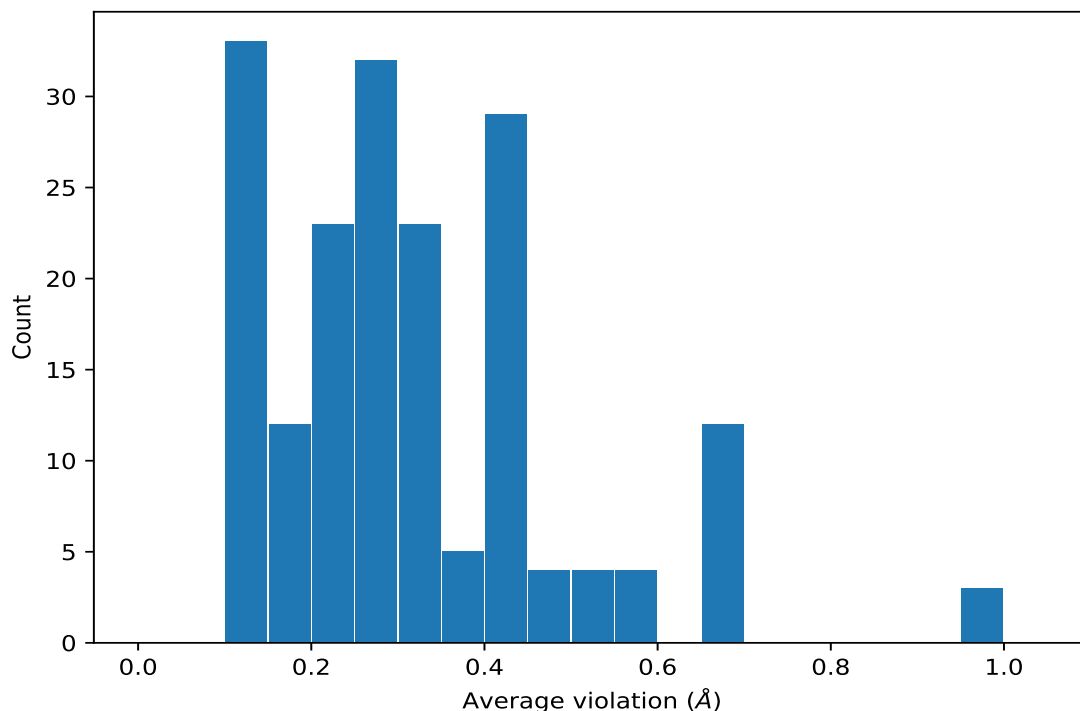
### 9.3.1 Bar graph : Distance violation statistics for the ensemble ⓘ



## 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)
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	12	0.6	0.15	0.63
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	12	0.6	0.15	0.63
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	12	0.6	0.15	0.63
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	10	0.31	0.03	0.32
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	10	0.31	0.03	0.32
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	10	0.31	0.03	0.32
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	10	0.31	0.03	0.32
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	10	0.31	0.03	0.32
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	10	0.31	0.03	0.32

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	9	0.23	0.07	0.23
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	9	0.23	0.07	0.23
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	7	0.31	0.14	0.28
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	7	0.31	0.14	0.28
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	5	0.65	0.3	0.69
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	5	0.65	0.3	0.69
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	5	0.26	0.07	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	5	0.26	0.07	0.25
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG2	4	0.54	0.33	0.55
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG3	4	0.54	0.33	0.55
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE1	4	0.46	0.12	0.44
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE2	4	0.46	0.12	0.44

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE3	4	0.46	0.12	0.44
(1,93)	1:A:40:ALA:HB1	1:A:108:LEU:HA	4	0.43	0.25	0.34
(1,93)	1:A:40:ALA:HB2	1:A:108:LEU:HA	4	0.43	0.25	0.34
(1,93)	1:A:40:ALA:HB3	1:A:108:LEU:HA	4	0.43	0.25	0.34
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	4	0.38	0.04	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	4	0.38	0.04	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	4	0.38	0.04	0.4
(2,137)	1:A:9:ASP:H	1:A:162:LYS:H	4	0.32	0.12	0.34
(2,75)	1:A:135:LYS:HE2	1:A:137:VAL:HB	4	0.3	0.13	0.29
(2,75)	1:A:135:LYS:HE3	1:A:137:VAL:HB	4	0.3	0.13	0.29
(1,134)	1:A:147:LEU:HD21	1:A:166:LEU:HG	3	0.98	0.13	0.93
(1,134)	1:A:147:LEU:HD22	1:A:166:LEU:HG	3	0.98	0.13	0.93
(1,134)	1:A:147:LEU:HD23	1:A:166:LEU:HG	3	0.98	0.13	0.93
(1,484)	1:A:135:LYS:HG2	1:A:136:ASP:HA	3	0.45	0.07	0.47
(1,555)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	3	0.42	0.11	0.47
(1,555)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	3	0.42	0.11	0.47
(1,1643)	1:A:108:LEU:HD11	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1643)	1:A:108:LEU:HD12	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1643)	1:A:108:LEU:HD13	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1643)	1:A:108:LEU:HD21	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1643)	1:A:108:LEU:HD22	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1643)	1:A:108:LEU:HD23	1:A:118:GLU:HA	3	0.4	0.13	0.48
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	3	0.35	0.08	0.34
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG3	3	0.35	0.08	0.34
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	3	0.35	0.08	0.34
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG3	3	0.35	0.08	0.34
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG21	3	0.27	0.14	0.24
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG22	3	0.27	0.14	0.24
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG23	3	0.27	0.14	0.24
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB1	3	0.26	0.11	0.29
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB2	3	0.26	0.11	0.29
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB3	3	0.26	0.11	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB1	3	0.26	0.11	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB2	3	0.26	0.11	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB3	3	0.26	0.11	0.29
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG2	3	0.22	0.11	0.17
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG3	3	0.22	0.11	0.17
(1,218)	1:A:68:LEU:HB3	1:A:83:GLU:HG2	3	0.18	0.05	0.21
(1,622)	1:A:46:VAL:HA	1:A:61:LEU:HB2	3	0.18	0.05	0.17
(1,1420)	1:A:47:ARG:HB2	1:A:49:LEU:H	3	0.17	0.02	0.18
(1,1420)	1:A:47:ARG:HB3	1:A:49:LEU:H	3	0.17	0.02	0.18
(1,736)	1:A:61:LEU:H	1:A:61:LEU:HG	3	0.15	0.03	0.15

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB1	3	0.14	0.0	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB2	3	0.14	0.0	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB3	3	0.14	0.0	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	3	0.14	0.0	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	3	0.14	0.0	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	3	0.14	0.0	0.14
(1,255)	1:A:107:ASP:HA	1:A:108:LEU:HG	2	0.55	0.11	0.55
(1,1724)	1:A:128:GLN:HE21	1:A:156:THR:HB	2	0.51	0.08	0.51
(1,1724)	1:A:128:GLN:HE22	1:A:156:THR:HB	2	0.51	0.08	0.51
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD11	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD12	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD13	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD21	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD22	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD23	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD11	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD12	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD13	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD21	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD22	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD23	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD11	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD12	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD13	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD21	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD22	2	0.4	0.02	0.4
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD23	2	0.4	0.02	0.4
(1,1650)	1:A:114:SER:HB2	1:A:119:LEU:HG	2	0.38	0.15	0.38
(1,1650)	1:A:114:SER:HB3	1:A:119:LEU:HG	2	0.38	0.15	0.38
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD21	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD22	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD23	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD21	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD22	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD23	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD21	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD22	2	0.29	0.11	0.29
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD23	2	0.29	0.11	0.29
(1,519)	1:A:163:MET:HE1	1:A:164:GLY:HA2	2	0.24	0.05	0.24
(1,519)	1:A:163:MET:HE2	1:A:164:GLY:HA2	2	0.24	0.05	0.24
(1,519)	1:A:163:MET:HE3	1:A:164:GLY:HA2	2	0.24	0.05	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD21	2	0.24	0.0	0.24

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD22	2	0.24	0.0	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD23	2	0.24	0.0	0.24
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD21	2	0.24	0.03	0.24
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD22	2	0.24	0.03	0.24
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD23	2	0.24	0.03	0.24
(1,62)	1:A:11:ILE:HD11	1:A:162:LYS:HA	2	0.22	0.09	0.22
(1,62)	1:A:11:ILE:HD12	1:A:162:LYS:HA	2	0.22	0.09	0.22
(1,62)	1:A:11:ILE:HD13	1:A:162:LYS:HA	2	0.22	0.09	0.22
(2,136)	1:A:2:LEU:HG	1:A:166:LEU:H	2	0.2	0.03	0.2
(2,186)	1:A:81:LEU:HD11	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,186)	1:A:81:LEU:HD12	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,186)	1:A:81:LEU:HD13	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,186)	1:A:81:LEU:HD21	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,186)	1:A:81:LEU:HD22	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,186)	1:A:81:LEU:HD23	1:A:130:LEU:H	2	0.2	0.05	0.2
(2,198)	1:A:103:ARG:HD2	1:A:122:LEU:H	2	0.18	0.04	0.18
(2,198)	1:A:103:ARG:HD3	1:A:122:LEU:H	2	0.18	0.04	0.18
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB2	2	0.18	0.07	0.18
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB3	2	0.18	0.07	0.18
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB2	2	0.18	0.07	0.18
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB3	2	0.18	0.07	0.18
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG12	2	0.16	0.03	0.16
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG13	2	0.16	0.03	0.16
(1,1360)	1:A:11:ILE:HG12	1:A:163:MET:HB3	2	0.15	0.01	0.15
(1,1360)	1:A:11:ILE:HG13	1:A:163:MET:HB3	2	0.15	0.01	0.15
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD11	2	0.15	0.04	0.15
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD12	2	0.15	0.04	0.15
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD13	2	0.15	0.04	0.15
(2,68)	1:A:0:ASP:HA	1:A:166:LEU:HB2	2	0.13	0.01	0.13
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE1	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE3	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE1	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE3	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE1	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE3	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE1	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE3	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE1	2	0.12	0.02	0.12

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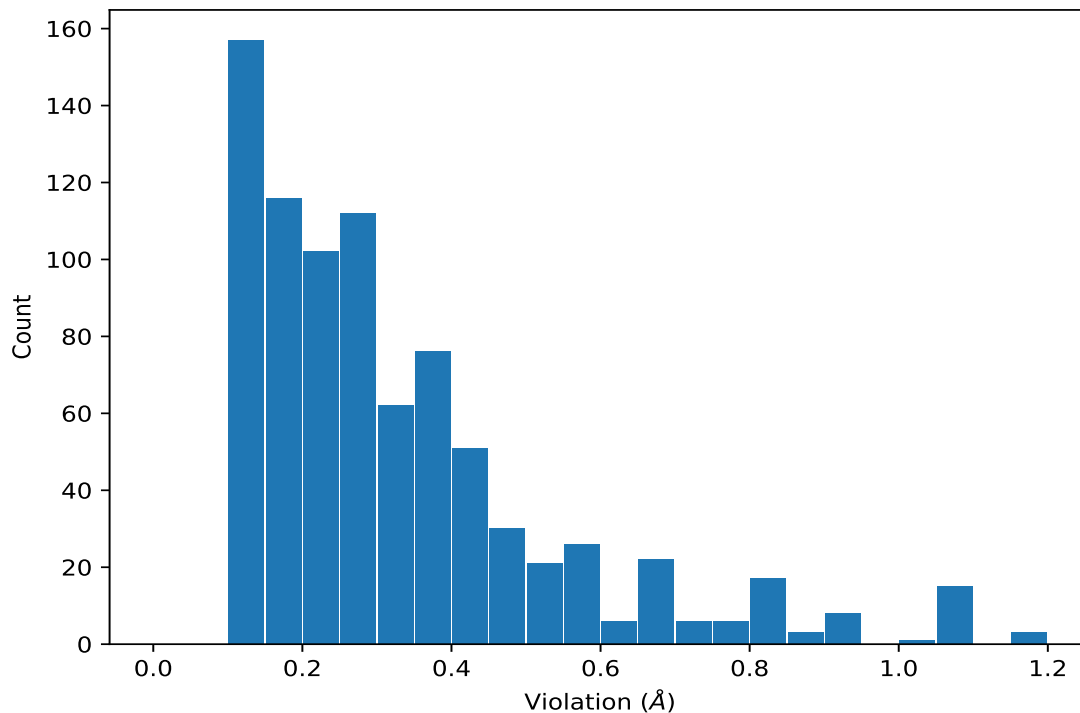
Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE3	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE1	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE2	2	0.12	0.02	0.12
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE3	2	0.12	0.02	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG2	2	0.12	0.0	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG3	2	0.12	0.0	0.12

<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)
(1,134)	1:A:147:LEU:HD21	1:A:166:LEU:HG	13	1.16
(1,134)	1:A:147:LEU:HD22	1:A:166:LEU:HG	13	1.16
(1,134)	1:A:147:LEU:HD23	1:A:166:LEU:HG	13	1.16
(1,145)	1:A:48:ASP:HA	1:A:55:ILE:HD11	14	1.09
(1,145)	1:A:48:ASP:HA	1:A:55:ILE:HD12	14	1.09
(1,145)	1:A:48:ASP:HA	1:A:55:ILE:HD13	14	1.09
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	13	1.05
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	13	1.05
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	13	1.05
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	13	1.05
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	13	1.05
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	13	1.05
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	13	1.05
(1,915)	1:A:101:SER:H	1:A:102:LEU:HG	3	1.0
(1,343)	1:A:90:ASN:HB3	1:A:91:ILE:HG21	4	0.93
(1,343)	1:A:90:ASN:HB3	1:A:91:ILE:HG22	4	0.93
(1,343)	1:A:90:ASN:HB3	1:A:91:ILE:HG23	4	0.93
(1,134)	1:A:147:LEU:HD21	1:A:166:LEU:HG	9	0.93
(1,134)	1:A:147:LEU:HD22	1:A:166:LEU:HG	9	0.93
(1,134)	1:A:147:LEU:HD23	1:A:166:LEU:HG	9	0.93
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG2	10	0.92
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG3	10	0.92
(1,134)	1:A:147:LEU:HD21	1:A:166:LEU:HG	8	0.86
(1,134)	1:A:147:LEU:HD22	1:A:166:LEU:HG	8	0.86
(1,134)	1:A:147:LEU:HD23	1:A:166:LEU:HG	8	0.86
(1,93)	1:A:40:ALA:HB1	1:A:108:LEU:HA	13	0.83
(1,93)	1:A:40:ALA:HB2	1:A:108:LEU:HA	13	0.83
(1,93)	1:A:40:ALA:HB3	1:A:108:LEU:HA	13	0.83
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG2	8	0.81
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG3	8	0.81
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	1	0.8
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	1	0.8
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	1	0.8
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	1	0.8

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	1	0.8
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	1	0.8
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	1	0.8
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	7	0.79
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	7	0.79
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	7	0.79
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	12	0.75
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	12	0.75
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	12	0.75
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	2	0.73
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	2	0.73
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	2	0.73
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	8	0.72
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	8	0.72
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	8	0.72
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	7	0.69
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	7	0.69
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	7	0.69
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	7	0.69
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	7	0.69
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	7	0.69
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	7	0.69
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	5	0.67
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	5	0.67
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	5	0.67
(1,255)	1:A:107:ASP:HA	1:A:108:LEU:HG	14	0.66
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	11	0.66
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	11	0.66
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	11	0.66
(1,1272)	1:A:91:ILE:HD11	1:A:93:ASN:HD22	4	0.65
(1,1272)	1:A:91:ILE:HD12	1:A:93:ASN:HD22	4	0.65
(1,1272)	1:A:91:ILE:HD13	1:A:93:ASN:HD22	4	0.65
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE1	7	0.64
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE2	7	0.64
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE3	7	0.64
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	3	0.6

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	3	0.6
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	3	0.6
(1,1724)	1:A:128:GLN:HE21	1:A:156:THR:HB	6	0.59
(1,1724)	1:A:128:GLN:HE22	1:A:156:THR:HB	6	0.59
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	4	0.58
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	4	0.58
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	4	0.58
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	4	0.58
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	4	0.58
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	4	0.58
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	4	0.58
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	1	0.55
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	1	0.55
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	1	0.55
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	1	0.55
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	1	0.55
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	1	0.55
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	1	0.55
(1,1145)	1:A:153:TYR:H	1:A:160:THR:HB	14	0.54
(1,555)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	3	0.52
(1,555)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	3	0.52
(1,484)	1:A:135:LYS:HG2	1:A:136:ASP:HA	4	0.52
(1,1650)	1:A:114:SER:HB2	1:A:119:LEU:HG	13	0.52
(1,1650)	1:A:114:SER:HB3	1:A:119:LEU:HG	13	0.52
(1,1643)	1:A:108:LEU:HD11	1:A:118:GLU:HA	7	0.51
(1,1643)	1:A:108:LEU:HD12	1:A:118:GLU:HA	7	0.51
(1,1643)	1:A:108:LEU:HD13	1:A:118:GLU:HA	7	0.51
(1,1643)	1:A:108:LEU:HD21	1:A:118:GLU:HA	7	0.51
(1,1643)	1:A:108:LEU:HD22	1:A:118:GLU:HA	7	0.51
(1,1643)	1:A:108:LEU:HD23	1:A:118:GLU:HA	7	0.51
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	9	0.51
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	9	0.51

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	9	0.51
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE1	13	0.5
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE2	13	0.5
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE3	13	0.5
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	13	0.5
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	13	0.5
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	13	0.5
(1,1643)	1:A:108:LEU:HD11	1:A:118:GLU:HA	6	0.48
(1,1643)	1:A:108:LEU:HD12	1:A:118:GLU:HA	6	0.48
(1,1643)	1:A:108:LEU:HD13	1:A:118:GLU:HA	6	0.48
(1,1643)	1:A:108:LEU:HD21	1:A:118:GLU:HA	6	0.48
(1,1643)	1:A:108:LEU:HD22	1:A:118:GLU:HA	6	0.48
(1,1643)	1:A:108:LEU:HD23	1:A:118:GLU:HA	6	0.48
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	10	0.48
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	10	0.48
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	10	0.48
(2,137)	1:A:9:ASP:H	1:A:162:LYS:H	6	0.47
(1,555)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	8	0.47
(1,555)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	8	0.47
(1,484)	1:A:135:LYS:HG2	1:A:136:ASP:HA	5	0.47
(1,1463)	1:A:67:LYS:HD2	1:A:71:GLY:H	14	0.47
(1,1463)	1:A:67:LYS:HD3	1:A:71:GLY:H	14	0.47
(2,75)	1:A:135:LYS:HE2	1:A:137:VAL:HB	3	0.46
(2,75)	1:A:135:LYS:HE3	1:A:137:VAL:HB	3	0.46
(1,93)	1:A:40:ALA:HB1	1:A:108:LEU:HA	11	0.46
(1,93)	1:A:40:ALA:HB2	1:A:108:LEU:HA	11	0.46
(1,93)	1:A:40:ALA:HB3	1:A:108:LEU:HA	11	0.46
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG21	3	0.46
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG22	3	0.46
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG23	3	0.46
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	3	0.46
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG3	3	0.46
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	3	0.46
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG3	3	0.46
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	1	0.46
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	1	0.46
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	1	0.46
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	6	0.44
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	6	0.44
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	6	0.44
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	6	0.44
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	6	0.44

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	6	0.44
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	6	0.44
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	6	0.44
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	6	0.44
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	6	0.44
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	6	0.44
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	6	0.44
(1,255)	1:A:107:ASP:HA	1:A:108:LEU:HG	10	0.44
(1,1724)	1:A:128:GLN:HE21	1:A:156:THR:HB	11	0.43
(1,1724)	1:A:128:GLN:HE22	1:A:156:THR:HB	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD11	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD12	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD13	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD21	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD22	11	0.43
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD23	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD11	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD12	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD13	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD21	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD22	11	0.43
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD23	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD11	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD12	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD13	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD21	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD22	11	0.43
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD23	11	0.43
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	7	0.41
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	7	0.41
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	7	0.41
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD21	4	0.4
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD22	4	0.4
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD23	4	0.4
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD21	4	0.4
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD22	4	0.4
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD23	4	0.4
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD21	4	0.4
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD22	4	0.4
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD23	4	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	1	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	1	0.4

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	1	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	11	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	11	0.4
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	11	0.4
(2,75)	1:A:135:LYS:HE2	1:A:137:VAL:HB	7	0.39
(2,75)	1:A:135:LYS:HE3	1:A:137:VAL:HB	7	0.39
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE1	8	0.39
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE2	8	0.39
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE3	8	0.39
(1,1808)	1:A:152:SER:HB2	1:A:160:THR:HG21	4	0.39
(1,1808)	1:A:152:SER:HB2	1:A:160:THR:HG22	4	0.39
(1,1808)	1:A:152:SER:HB2	1:A:160:THR:HG23	4	0.39
(1,1808)	1:A:152:SER:HB3	1:A:160:THR:HG21	4	0.39
(1,1808)	1:A:152:SER:HB3	1:A:160:THR:HG22	4	0.39
(1,1808)	1:A:152:SER:HB3	1:A:160:THR:HG23	4	0.39
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB1	9	0.38
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB2	9	0.38
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB3	9	0.38
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB1	9	0.38
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB2	9	0.38
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB3	9	0.38
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	8	0.38
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	8	0.38
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	8	0.38
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	8	0.38
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	8	0.38
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	8	0.38
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	8	0.38
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	1	0.38
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	1	0.38
(1,292)	1:A:87:ASN:HD21	1:A:95:ALA:HB1	12	0.38
(1,292)	1:A:87:ASN:HD21	1:A:95:ALA:HB2	12	0.38
(1,292)	1:A:87:ASN:HD21	1:A:95:ALA:HB3	12	0.38
(1,1816)	1:A:161:ALA:HA	1:A:162:LYS:HD2	14	0.38
(1,1816)	1:A:161:ALA:HA	1:A:162:LYS:HD3	14	0.38
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	13	0.38
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	13	0.38

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	13	0.38
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	13	0.38
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	13	0.38
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	13	0.38
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	13	0.38
(1,1461)	1:A:67:LYS:HG2	1:A:71:GLY:H	14	0.38
(1,1461)	1:A:67:LYS:HG3	1:A:71:GLY:H	14	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD11	13	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD12	13	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD13	13	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD21	13	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD22	13	0.38
(1,1392)	1:A:40:ALA:HB1	1:A:108:LEU:HD23	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD11	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD12	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD13	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD21	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD22	13	0.38
(1,1392)	1:A:40:ALA:HB2	1:A:108:LEU:HD23	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD11	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD12	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD13	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD21	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD22	13	0.38
(1,1392)	1:A:40:ALA:HB3	1:A:108:LEU:HD23	13	0.38
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG2	7	0.37
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG3	7	0.37
(1,1277)	1:A:0:ASP:HB2	1:A:167:LEU:HG	6	0.36
(1,1277)	1:A:0:ASP:HB3	1:A:167:LEU:HG	6	0.36
(1,484)	1:A:135:LYS:HG2	1:A:136:ASP:HA	7	0.35
(1,407)	1:A:91:ILE:HG21	1:A:129:SER:HB3	13	0.35
(1,407)	1:A:91:ILE:HG22	1:A:129:SER:HB3	13	0.35
(1,407)	1:A:91:ILE:HG23	1:A:129:SER:HB3	13	0.35
(2,137)	1:A:9:ASP:H	1:A:162:LYS:H	12	0.34
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	8	0.34
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG3	8	0.34
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	8	0.34

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG3	8	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	2	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	2	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	2	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	2	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	2	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	2	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	3	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	3	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	3	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	3	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	3	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	3	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	8	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	8	0.34
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	8	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	8	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	8	0.34
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	8	0.34
(2,137)	1:A:9:ASP:H	1:A:162:LYS:H	14	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	1	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	1	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	1	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	1	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	1	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	1	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	11	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	11	0.33
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	11	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	11	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	11	0.33
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	11	0.33
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE1	12	0.31
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE2	12	0.31
(2,46)	1:A:3:ALA:H	1:A:163:MET:HE3	12	0.31
(1,62)	1:A:11:ILE:HD11	1:A:162:LYS:HA	5	0.31
(1,62)	1:A:11:ILE:HD12	1:A:162:LYS:HA	5	0.31
(1,62)	1:A:11:ILE:HD13	1:A:162:LYS:HA	5	0.31
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	3	0.31
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	3	0.31
(1,290)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	3	0.31
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	7	0.31

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	7	0.31
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	7	0.31
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	7	0.31
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	7	0.31
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	7	0.31
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	12	0.3
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	12	0.3
(1,519)	1:A:163:MET:HE1	1:A:164:GLY:HA2	3	0.3
(1,519)	1:A:163:MET:HE2	1:A:164:GLY:HA2	3	0.3
(1,519)	1:A:163:MET:HE3	1:A:164:GLY:HA2	3	0.3
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	12	0.3
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	12	0.3
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	12	0.3
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	12	0.3
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	12	0.3
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	12	0.3
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB1	5	0.29
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB2	5	0.29
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB3	5	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB1	5	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB2	5	0.29
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB3	5	0.29
(1,795)	1:A:83:GLU:H	1:A:84:LEU:HG	14	0.29
(1,1644)	1:A:108:LEU:HD11	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD11	1:A:118:GLU:HG3	6	0.29
(1,1644)	1:A:108:LEU:HD12	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD12	1:A:118:GLU:HG3	6	0.29
(1,1644)	1:A:108:LEU:HD13	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD13	1:A:118:GLU:HG3	6	0.29
(1,1644)	1:A:108:LEU:HD21	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD21	1:A:118:GLU:HG3	6	0.29
(1,1644)	1:A:108:LEU:HD22	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD22	1:A:118:GLU:HG3	6	0.29
(1,1644)	1:A:108:LEU:HD23	1:A:118:GLU:HG2	6	0.29
(1,1644)	1:A:108:LEU:HD23	1:A:118:GLU:HG3	6	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	9	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	9	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	9	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	9	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	9	0.29
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	9	0.29
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	9	0.29

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	9	0.29
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	9	0.29
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	9	0.29
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	9	0.29
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	9	0.29
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	9	0.29
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	9	0.29
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	9	0.29
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	9	0.29
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	9	0.29
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	9	0.29
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	13	0.28
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	13	0.28
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	13	0.28
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	13	0.28
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	13	0.28
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	13	0.28
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	13	0.28
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG2	7	0.28
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG3	7	0.28
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	5	0.28
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	5	0.28
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	5	0.28
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	5	0.28
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	5	0.28
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	5	0.28
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	3	0.27
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	3	0.27
(1,210)	1:A:59:ALA:HA	1:A:66:THR:HA	12	0.27
(1,2)	1:A:59:ALA:HB1	1:A:66:THR:HA	6	0.27
(1,2)	1:A:59:ALA:HB2	1:A:66:THR:HA	6	0.27
(1,2)	1:A:59:ALA:HB3	1:A:66:THR:HA	6	0.27
(1,1682)	1:A:121:THR:H	1:A:124:GLU:HG2	3	0.27
(1,1682)	1:A:121:THR:H	1:A:124:GLU:HG3	3	0.27
(1,1134)	1:A:135:LYS:HG2	1:A:150:GLN:H	5	0.27
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG21	4	0.27
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG22	4	0.27

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,104)	1:A:44:LEU:HG	1:A:46:VAL:HG23	4	0.27
(1,555)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	13	0.26
(1,555)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	13	0.26
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD21	4	0.26
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD22	4	0.26
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD23	4	0.26
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG2	13	0.26
(1,1753)	1:A:134:TYR:HE1	1:A:149:GLN:HG3	13	0.26
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG2	13	0.26
(1,1753)	1:A:134:TYR:HE2	1:A:149:GLN:HG3	13	0.26
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG21	6	0.26
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG22	6	0.26
(1,1443)	1:A:53:GLY:HA2	1:A:54:ILE:HG23	6	0.26
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG21	6	0.26
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG22	6	0.26
(1,1443)	1:A:53:GLY:HA3	1:A:54:ILE:HG23	6	0.26
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB2	1	0.25
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB3	1	0.25
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB2	1	0.25
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB3	1	0.25
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	11	0.25
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	11	0.25
(2,186)	1:A:81:LEU:HD11	1:A:130:LEU:H	13	0.25
(2,186)	1:A:81:LEU:HD12	1:A:130:LEU:H	13	0.25
(2,186)	1:A:81:LEU:HD13	1:A:130:LEU:H	13	0.25
(2,186)	1:A:81:LEU:HD21	1:A:130:LEU:H	13	0.25
(2,186)	1:A:81:LEU:HD22	1:A:130:LEU:H	13	0.25
(2,186)	1:A:81:LEU:HD23	1:A:130:LEU:H	13	0.25
(1,941)	1:A:40:ALA:HA	1:A:107:ASP:H	13	0.25
(1,78)	1:A:137:VAL:HG21	1:A:147:LEU:HG	14	0.25
(1,78)	1:A:137:VAL:HG22	1:A:147:LEU:HG	14	0.25
(1,78)	1:A:137:VAL:HG23	1:A:147:LEU:HG	14	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	5	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	5	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	5	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	5	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	5	0.25
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	5	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	5	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	5	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	5	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	5	0.25

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	5	0.25
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	5	0.25
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD21	4	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD22	4	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD23	4	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD21	13	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD22	13	0.24
(2,20)	1:A:85:ASP:H	1:A:132:LEU:HD23	13	0.24
(2,136)	1:A:2:LEU:HG	1:A:166:LEU:H	9	0.24
(1,981)	1:A:120:ARG:H	1:A:120:ARG:HD3	3	0.24
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG21	8	0.24
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG22	8	0.24
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG23	8	0.24
(1,622)	1:A:46:VAL:HA	1:A:61:LEU:HB2	14	0.24
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	11	0.23
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	11	0.23
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	11	0.23
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	11	0.23
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	11	0.23
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	11	0.23
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	11	0.23
(2,198)	1:A:103:ARG:HD2	1:A:122:LEU:H	6	0.23
(2,198)	1:A:103:ARG:HD3	1:A:122:LEU:H	6	0.23
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	9	0.23
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	9	0.23
(2,113)	1:A:90:ASN:H	1:A:132:LEU:HG	13	0.23
(1,1650)	1:A:114:SER:HB2	1:A:119:LEU:HG	4	0.23
(1,1650)	1:A:114:SER:HB3	1:A:119:LEU:HG	4	0.23
(1,1414)	1:A:45:LEU:HD11	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD11	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD11	1:A:163:MET:HE3	7	0.23
(1,1414)	1:A:45:LEU:HD12	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD12	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD12	1:A:163:MET:HE3	7	0.23
(1,1414)	1:A:45:LEU:HD13	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD13	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD13	1:A:163:MET:HE3	7	0.23

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1414)	1:A:45:LEU:HD21	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD21	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD21	1:A:163:MET:HE3	7	0.23
(1,1414)	1:A:45:LEU:HD22	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD22	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD22	1:A:163:MET:HE3	7	0.23
(1,1414)	1:A:45:LEU:HD23	1:A:163:MET:HE1	7	0.23
(1,1414)	1:A:45:LEU:HD23	1:A:163:MET:HE2	7	0.23
(1,1414)	1:A:45:LEU:HD23	1:A:163:MET:HE3	7	0.23
(1,112)	1:A:46:VAL:HG11	1:A:55:ILE:HB	7	0.23
(1,112)	1:A:46:VAL:HG12	1:A:55:ILE:HB	7	0.23
(1,112)	1:A:46:VAL:HG13	1:A:55:ILE:HB	7	0.23
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	8	0.22
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	8	0.22
(1,218)	1:A:68:LEU:HB3	1:A:83:GLU:HG2	6	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	3	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	3	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	3	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	3	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	3	0.22
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	3	0.22
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	3	0.22
(1,93)	1:A:40:ALA:HB1	1:A:108:LEU:HA	7	0.21
(1,93)	1:A:40:ALA:HB2	1:A:108:LEU:HA	7	0.21
(1,93)	1:A:40:ALA:HB3	1:A:108:LEU:HA	7	0.21
(1,93)	1:A:40:ALA:HB1	1:A:108:LEU:HA	8	0.21
(1,93)	1:A:40:ALA:HB2	1:A:108:LEU:HA	8	0.21
(1,93)	1:A:40:ALA:HB3	1:A:108:LEU:HA	8	0.21
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD21	13	0.21
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD22	13	0.21
(1,338)	1:A:82:ALA:HA	1:A:132:LEU:HD23	13	0.21
(1,218)	1:A:68:LEU:HB3	1:A:83:GLU:HG2	14	0.21
(1,1643)	1:A:108:LEU:HD11	1:A:118:GLU:HA	1	0.21
(1,1643)	1:A:108:LEU:HD12	1:A:118:GLU:HA	1	0.21
(1,1643)	1:A:108:LEU:HD13	1:A:118:GLU:HA	1	0.21
(1,1643)	1:A:108:LEU:HD21	1:A:118:GLU:HA	1	0.21
(1,1643)	1:A:108:LEU:HD22	1:A:118:GLU:HA	1	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1643)	1:A:108:LEU:HD23	1:A:118:GLU:HA	1	0.21
(1,1480)	1:A:68:LEU:HD11	1:A:75:LYS:H	6	0.21
(1,1480)	1:A:68:LEU:HD12	1:A:75:LYS:H	6	0.21
(1,1480)	1:A:68:LEU:HD13	1:A:75:LYS:H	6	0.21
(1,1480)	1:A:68:LEU:HD21	1:A:75:LYS:H	6	0.21
(1,1480)	1:A:68:LEU:HD22	1:A:75:LYS:H	6	0.21
(1,1480)	1:A:68:LEU:HD23	1:A:75:LYS:H	6	0.21
(1,123)	1:A:47:ARG:H	1:A:49:LEU:HD11	5	0.21
(1,123)	1:A:47:ARG:H	1:A:49:LEU:HD12	5	0.21
(1,123)	1:A:47:ARG:H	1:A:49:LEU:HD13	5	0.21
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD11	1	0.2
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD12	1	0.2
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD13	1	0.2
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD21	1	0.2
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD22	1	0.2
(2,65)	1:A:0:ASP:HA	1:A:61:LEU:HD23	1	0.2
(1,1420)	1:A:47:ARG:HB2	1:A:49:LEU:H	5	0.2
(1,1420)	1:A:47:ARG:HB3	1:A:49:LEU:H	5	0.2
(1,1354)	1:A:10:GLY:H	1:A:162:LYS:HG2	14	0.2
(1,1354)	1:A:10:GLY:H	1:A:162:LYS:HG3	14	0.2
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD11	1	0.19
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD12	1	0.19
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD13	1	0.19
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	2	0.19
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	2	0.19
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	2	0.19
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	2	0.19
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	2	0.19
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	2	0.19
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	2	0.19
(1,885)	1:A:47:ARG:H	1:A:49:LEU:HD21	7	0.19
(1,885)	1:A:47:ARG:H	1:A:49:LEU:HD22	7	0.19
(1,885)	1:A:47:ARG:H	1:A:49:LEU:HD23	7	0.19
(1,519)	1:A:163:MET:HE1	1:A:164:GLY:HA2	12	0.19
(1,519)	1:A:163:MET:HE2	1:A:164:GLY:HA2	12	0.19
(1,519)	1:A:163:MET:HE3	1:A:164:GLY:HA2	12	0.19
(1,313)	1:A:81:LEU:HD11	1:A:92:ILE:HD11	1	0.19

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,313)	1:A:81:LEU:HD11	1:A:92:ILE:HD12	1	0.19
(1,313)	1:A:81:LEU:HD11	1:A:92:ILE:HD13	1	0.19
(1,313)	1:A:81:LEU:HD12	1:A:92:ILE:HD11	1	0.19
(1,313)	1:A:81:LEU:HD12	1:A:92:ILE:HD12	1	0.19
(1,313)	1:A:81:LEU:HD12	1:A:92:ILE:HD13	1	0.19
(1,313)	1:A:81:LEU:HD13	1:A:92:ILE:HD11	1	0.19
(1,313)	1:A:81:LEU:HD13	1:A:92:ILE:HD12	1	0.19
(1,313)	1:A:81:LEU:HD13	1:A:92:ILE:HD13	1	0.19
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG12	13	0.19
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG13	13	0.19
(1,1101)	1:A:139:LYS:H	1:A:147:LEU:HG	14	0.19
(2,75)	1:A:135:LYS:HE2	1:A:137:VAL:HB	1	0.18
(2,75)	1:A:135:LYS:HE3	1:A:137:VAL:HB	1	0.18
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	7	0.18
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	7	0.18
(1,859)	1:A:93:ASN:HD21	1:A:94:ALA:H	4	0.18
(1,736)	1:A:61:LEU:H	1:A:61:LEU:HG	8	0.18
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD21	13	0.18
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD22	13	0.18
(1,337)	1:A:82:ALA:HB1	1:A:132:LEU:HD23	13	0.18
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD21	13	0.18
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD22	13	0.18
(1,337)	1:A:82:ALA:HB2	1:A:132:LEU:HD23	13	0.18
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD21	13	0.18
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD22	13	0.18
(1,337)	1:A:82:ALA:HB3	1:A:132:LEU:HD23	13	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD11	11	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD12	11	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD13	11	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD21	11	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD22	11	0.18
(1,1636)	1:A:106:GLN:HE21	1:A:108:LEU:HD23	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD11	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD12	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD13	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD21	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD22	11	0.18
(1,1636)	1:A:106:GLN:HE22	1:A:108:LEU:HD23	11	0.18
(1,1420)	1:A:47:ARG:HB2	1:A:49:LEU:H	3	0.18
(1,1420)	1:A:47:ARG:HB3	1:A:49:LEU:H	3	0.18
(2,50)	1:A:152:SER:HA	1:A:160:THR:HB	14	0.17
(2,212)	1:A:131:ASP:HB2	1:A:154:THR:H	12	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,212)	1:A:131:ASP:HB3	1:A:154:THR:H	12	0.17
(2,136)	1:A:2:LEU:HG	1:A:166:LEU:H	1	0.17
(1,622)	1:A:46:VAL:HA	1:A:61:LEU:HB2	7	0.17
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG2	5	0.17
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG3	5	0.17
(1,1500)	1:A:80:ALA:HA	1:A:83:GLU:HG2	8	0.17
(1,1500)	1:A:80:ALA:HA	1:A:83:GLU:HG3	8	0.17
(2,75)	1:A:135:LYS:HE2	1:A:137:VAL:HB	10	0.16
(2,75)	1:A:135:LYS:HE3	1:A:137:VAL:HB	10	0.16
(1,1360)	1:A:11:ILE:HG12	1:A:163:MET:HB3	11	0.16
(1,1360)	1:A:11:ILE:HG13	1:A:163:MET:HB3	11	0.16
(2,217)	1:A:141:LEU:HD11	1:A:145:ASN:H	5	0.15
(2,217)	1:A:141:LEU:HD12	1:A:145:ASN:H	5	0.15
(2,217)	1:A:141:LEU:HD13	1:A:145:ASN:H	5	0.15
(2,217)	1:A:141:LEU:HD21	1:A:145:ASN:H	5	0.15
(2,217)	1:A:141:LEU:HD22	1:A:145:ASN:H	5	0.15
(2,217)	1:A:141:LEU:HD23	1:A:145:ASN:H	5	0.15
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	2	0.15
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	2	0.15
(2,186)	1:A:81:LEU:HD11	1:A:130:LEU:H	12	0.15
(2,186)	1:A:81:LEU:HD12	1:A:130:LEU:H	12	0.15
(2,186)	1:A:81:LEU:HD13	1:A:130:LEU:H	12	0.15
(2,186)	1:A:81:LEU:HD21	1:A:130:LEU:H	12	0.15
(2,186)	1:A:81:LEU:HD22	1:A:130:LEU:H	12	0.15
(2,186)	1:A:81:LEU:HD23	1:A:130:LEU:H	12	0.15
(1,736)	1:A:61:LEU:H	1:A:61:LEU:HG	6	0.15
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB1	7	0.15
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB2	7	0.15
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB3	7	0.15
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	7	0.15
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	7	0.15
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	7	0.15
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG2	4	0.15
(1,1471)	1:A:68:LEU:HG	1:A:83:GLU:HG3	4	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD11	3	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD12	3	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD13	3	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD21	3	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD22	3	0.15
(1,1422)	1:A:47:ARG:HB2	1:A:49:LEU:HD23	3	0.15
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD11	3	0.15
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD12	3	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD13	3	0.15
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD21	3	0.15
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD22	3	0.15
(1,1422)	1:A:47:ARG:HB3	1:A:49:LEU:HD23	3	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD11	5	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD12	5	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD13	5	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD21	5	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD22	5	0.15
(1,1419)	1:A:47:ARG:H	1:A:49:LEU:HD23	5	0.15
(2,68)	1:A:0:ASP:HA	1:A:166:LEU:HB2	13	0.14
(2,198)	1:A:103:ARG:HD2	1:A:122:LEU:H	3	0.14
(2,198)	1:A:103:ARG:HD3	1:A:122:LEU:H	3	0.14
(2,137)	1:A:9:ASP:H	1:A:162:LYS:H	10	0.14
(1,623)	1:A:46:VAL:HB	1:A:55:ILE:HG21	7	0.14
(1,623)	1:A:46:VAL:HB	1:A:55:ILE:HG22	7	0.14
(1,623)	1:A:46:VAL:HB	1:A:55:ILE:HG23	7	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB1	1	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB2	1	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB3	1	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	1	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	1	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	1	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB1	11	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB2	11	0.14
(1,1556)	1:A:87:ASN:HD21	1:A:95:ALA:HB3	11	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB1	11	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB2	11	0.14
(1,1556)	1:A:87:ASN:HD22	1:A:95:ALA:HB3	11	0.14
(1,1420)	1:A:47:ARG:HB2	1:A:49:LEU:H	11	0.14
(1,1420)	1:A:47:ARG:HB3	1:A:49:LEU:H	11	0.14
(1,1360)	1:A:11:ILE:HG12	1:A:163:MET:HB3	9	0.14
(1,1360)	1:A:11:ILE:HG13	1:A:163:MET:HB3	9	0.14
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE3	7	0.14
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE3	7	0.14
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE3	7	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE3	7	0.14
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE3	7	0.14
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE1	7	0.14
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE2	7	0.14
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE3	7	0.14
(2,191)	1:A:87:ASN:HD21	1:A:96:ASP:H	10	0.13
(2,191)	1:A:87:ASN:HD22	1:A:96:ASP:H	10	0.13
(1,62)	1:A:11:ILE:HD11	1:A:162:LYS:HA	2	0.13
(1,62)	1:A:11:ILE:HD12	1:A:162:LYS:HA	2	0.13
(1,62)	1:A:11:ILE:HD13	1:A:162:LYS:HA	2	0.13
(1,471)	1:A:134:TYR:HE1	1:A:149:GLN:HG3	3	0.13
(1,471)	1:A:134:TYR:HE2	1:A:149:GLN:HG3	3	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD11	14	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD12	14	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD13	14	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD21	14	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD22	14	0.13
(1,1828)	1:A:166:LEU:HB2	1:A:168:LEU:HD23	14	0.13
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD11	1:A:117:ASN:HD22	6	0.13
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD12	1:A:117:ASN:HD22	6	0.13
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD13	1:A:117:ASN:HD22	6	0.13
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD21	1:A:117:ASN:HD22	6	0.13
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD22	1:A:117:ASN:HD22	6	0.13
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD21	6	0.13
(1,1642)	1:A:108:LEU:HD23	1:A:117:ASN:HD22	6	0.13
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG12	1	0.13
(1,1566)	1:A:90:ASN:HB3	1:A:91:ILE:HG13	1	0.13
(1,1470)	1:A:68:LEU:HB3	1:A:83:GLU:HB2	12	0.13
(1,1470)	1:A:68:LEU:HB3	1:A:83:GLU:HB3	12	0.13
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD11	14	0.13
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD12	14	0.13
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD13	14	0.13
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD21	14	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD22	14	0.13
(1,1283)	1:A:1:ALA:HB1	1:A:168:LEU:HD23	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD11	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD12	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD13	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD21	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD22	14	0.13
(1,1283)	1:A:1:ALA:HB2	1:A:168:LEU:HD23	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD11	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD12	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD13	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD21	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD22	14	0.13
(1,1283)	1:A:1:ALA:HB3	1:A:168:LEU:HD23	14	0.13
(1,1191)	1:A:159:THR:HB	1:A:160:THR:H	1	0.13
(2,68)	1:A:0:ASP:HA	1:A:166:LEU:HB2	8	0.12
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD11	1:A:109:ASN:HD22	9	0.12
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD12	1:A:109:ASN:HD22	9	0.12
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD13	1:A:109:ASN:HD22	9	0.12
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD21	1:A:109:ASN:HD22	9	0.12
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD22	1:A:109:ASN:HD22	9	0.12
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD21	9	0.12
(2,204)	1:A:108:LEU:HD23	1:A:109:ASN:HD22	9	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG2	2	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG3	2	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG2	9	0.12
(2,187)	1:A:82:ALA:H	1:A:83:GLU:HG3	9	0.12
(1,622)	1:A:46:VAL:HA	1:A:61:LEU:HB2	10	0.12
(1,521)	1:A:163:MET:HE1	1:A:164:GLY:H	7	0.12
(1,521)	1:A:163:MET:HE2	1:A:164:GLY:H	7	0.12
(1,521)	1:A:163:MET:HE3	1:A:164:GLY:H	7	0.12
(1,323)	1:A:84:LEU:HB3	1:A:92:ILE:HG21	4	0.12
(1,323)	1:A:84:LEU:HB3	1:A:92:ILE:HG22	4	0.12
(1,323)	1:A:84:LEU:HB3	1:A:92:ILE:HG23	4	0.12
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG2	13	0.12
(1,272)	1:A:94:ALA:HA	1:A:100:GLN:HG3	13	0.12
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD11	13	0.12

*Continued on next page...*

*Continued from previous page...*

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD12	13	0.12
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD13	13	0.12
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD21	13	0.12
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD22	13	0.12
(1,1561)	1:A:90:ASN:H	1:A:132:LEU:HD23	13	0.12
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD11	11	0.11
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD12	11	0.11
(2,9)	1:A:90:ASN:HB3	1:A:91:ILE:HD13	11	0.11
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB2	10	0.11
(2,76)	1:A:135:LYS:HE2	1:A:150:GLN:HB3	10	0.11
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB2	10	0.11
(2,76)	1:A:135:LYS:HE3	1:A:150:GLN:HB3	10	0.11
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB1	12	0.11
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB2	12	0.11
(2,61)	1:A:134:TYR:HE1	1:A:148:ALA:HB3	12	0.11
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB1	12	0.11
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB2	12	0.11
(2,61)	1:A:134:TYR:HE2	1:A:148:ALA:HB3	12	0.11
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG21	5	0.11
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG22	5	0.11
(1,79)	1:A:135:LYS:HB3	1:A:137:VAL:HG23	5	0.11
(1,736)	1:A:61:LEU:H	1:A:61:LEU:HG	3	0.11
(1,218)	1:A:68:LEU:HB3	1:A:83:GLU:HG2	3	0.11
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD11	1:A:163:MET:HE3	8	0.11
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD12	1:A:163:MET:HE3	8	0.11
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD13	1:A:163:MET:HE3	8	0.11
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD21	1:A:163:MET:HE3	8	0.11
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD22	1:A:163:MET:HE3	8	0.11
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE1	8	0.11
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE2	8	0.11
(1,1330)	1:A:4:LEU:HD23	1:A:163:MET:HE3	8	0.11



## 10 Dihedral-angle violation analysis

Dihedral angle analysis failed due to data error in the dihedral angle restraints, possibly missing target value