Full wwPDB NMR Structure Validation Report (i)

Jun 3, 2023 – 09:13 PM EDT

PDB ID	:	2N34
BMRB ID	:	19966
Title	:	NMR assignments and solution structure of the JAK interaction region of SOCS5
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Deposited on	:	2015-05-21

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

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

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

The following versions of software and data (see references (1)) were used in the production of this report:

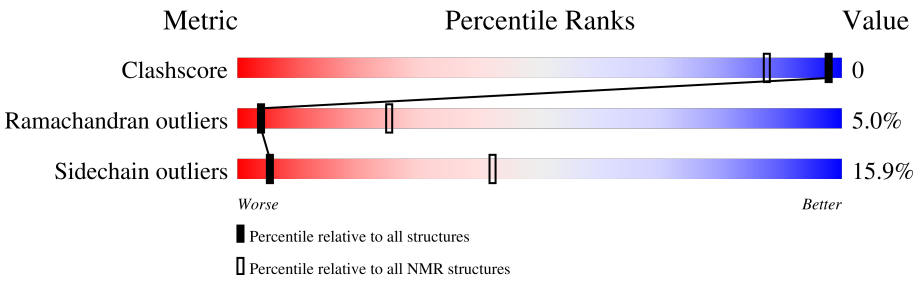
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
BMRB Restraints Analysis	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.33

1 Overall quality at a glance (i)

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

The overall completeness of chemical shifts assignment is 78%.

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 >=3, 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	A	70	43% · 53%

2 Ensemble composition and analysis (i)

This entry contains 20 models. Model 4 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *closest to the average*.

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:177-A:187 (11)	2.13	3
2	A:214-A:235 (22)	1.69	4

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 3 clusters. No single-model clusters were found.

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

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 1155 atoms, of which 587 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Suppressor of cytokine signaling 5.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	70	1155	361	587	107	96	4	0

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: Suppressor of cytokine signaling 5

Chain A:

4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

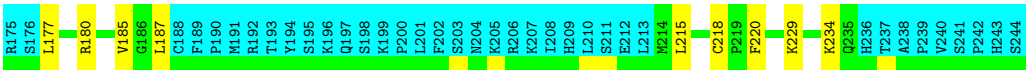
• Molecule 1: Suppressor of cytokine signaling 5

Chain A:

4.2.2 Score per residue for model 2

• Molecule 1: Suppressor of cytokine signaling 5

Chain A:



4.2.3 Score per residue for model 3

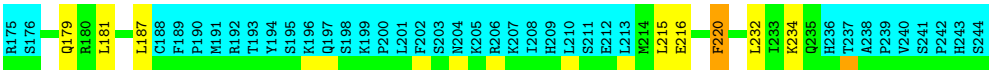
- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 41% 6% 53%

4.2.4 Score per residue for model 4 (medoid)

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 36% 10% • 53%



4.2.5 Score per residue for model 5

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 41% 6% 53%

4.2.6 Score per residue for model 6

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 39% 7% • 53%

4.2.7 Score per residue for model 7

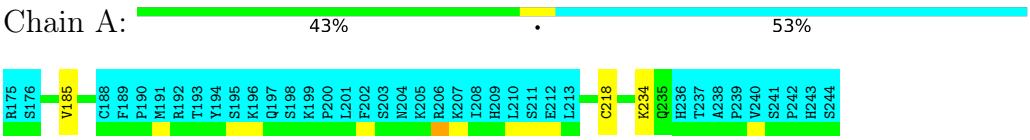
- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 36% 11% 53%

4.2.8 Score per residue for model 8

- Molecule 1: Suppressor of cytokine signaling 5

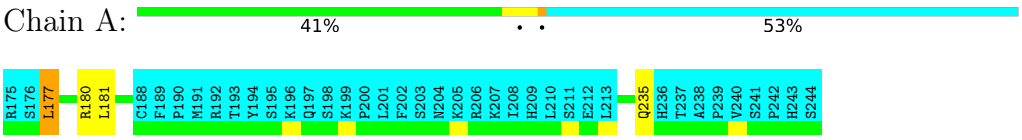
Chain A:



4.2.9 Score per residue for model 9

- Molecule 1: Suppressor of cytokine signaling 5

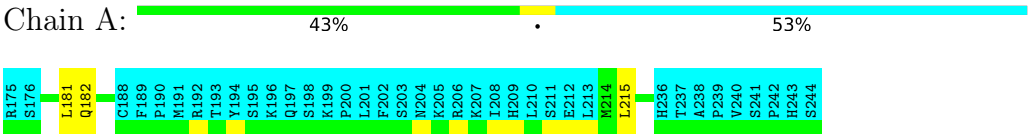
Chain A:



4.2.10 Score per residue for model 10

- Molecule 1: Suppressor of cytokine signaling 5

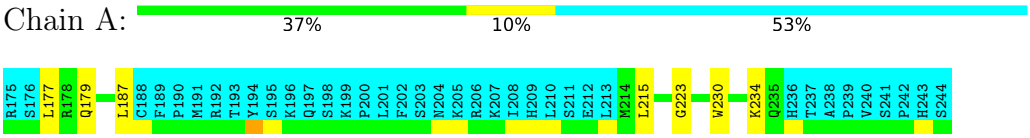
Chain A:



4.2.11 Score per residue for model 11

- Molecule 1: Suppressor of cytokine signaling 5

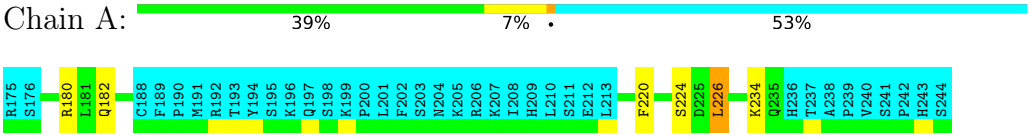
Chain A:



4.2.12 Score per residue for model 12

- Molecule 1: Suppressor of cytokine signaling 5

Chain A:



4.2.13 Score per residue for model 13

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 37% 9% • 53%

4.2.14 Score per residue for model 14

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 39% 9% 53%

4.2.15 Score per residue for model 15

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 33% 13% • 53%

4.2.16 Score per residue for model 16

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 37% 7% • 53%

4.2.17 Score per residue for model 17

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 33% 13% • 53%

4.2.18 Score per residue for model 18

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 37% 10% 53%

4.2.19 Score per residue for model 19

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 40% 6% • 53%

4.2.20 Score per residue for model 20

- Molecule 1: Suppressor of cytokine signaling 5

Chain A: 41% • • 53%

5 Refinement protocol and experimental data overview (i)

The models were refined using the following method: *torsion angle dynamics*.

Of the 40 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
CYANA	structure solution	3.0
OPALp	refinement	

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

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	747
Number of shifts mapped to atoms	747
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	78%

6 Model quality (i)

6.1 Standard geometry (i)

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	0.56±0.02	0±0/273 (0.0± 0.0%)	1.05±0.05	0±0/368 (0.0± 0.1%)
All	All	0.56	0/5460 (0.0%)	1.05	3/7360 (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	0.1±0.2
All	All	0	1

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(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	220	PHE	CB-CG-CD1	-6.92	115.96	120.80	15	2
1	A	220	PHE	CB-CG-CD2	-5.38	117.03	120.80	16	1

There are no chirality outliers.

All unique planar outliers are listed below.

Mol	Chain	Res	Type	Group	Models (Total)
1	A	180	ARG	Peptide	1

6.2 Too-close contacts (i)

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	267	279	279	0±0
All	All	5340	5580	5580	4

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:226:LEU:H	1:A:226:LEU:HD22	0.67	1.50	17	2
1:A:215:LEU:HD12	1:A:234:LYS:HZ3	0.49	1.67	2	1
1:A:226:LEU:O	1:A:226:LEU:HD12	0.42	2.14	12	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	33/70 (47%)	24±2 (73±6%)	7±2 (22±6%)	2±1 (5±3%)	4	25
All	All	660/1400 (47%)	484 (73%)	143 (22%)	33 (5%)	4	25

All 14 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	185	VAL	5
1	A	179	GLN	5
1	A	234	LYS	4
1	A	214	MET	3
1	A	235	GLN	3
1	A	177	LEU	2
1	A	223	GLY	2
1	A	178	ARG	2
1	A	186	GLY	2

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Mol	Chain	Res	Type	Models (Total)
1	A	215	LEU	1
1	A	216	GLU	1
1	A	183	ASP	1
1	A	187	LEU	1
1	A	180	ARG	1

6.3.2 Protein sidechains (i)

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	29/65 (45%)	24±2 (84±6%)	5±2 (16±6%)	5 42
All	All	580/1300 (45%)	488 (84%)	92 (16%)	5 42

All 23 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	181	LEU	11
1	A	215	LEU	11
1	A	180	ARG	9
1	A	177	LEU	7
1	A	187	LEU	6
1	A	220	PHE	6
1	A	182	GLN	5
1	A	231	HIS	4
1	A	234	LYS	4
1	A	235	GLN	4
1	A	218	CYS	3
1	A	232	LEU	3
1	A	224	SER	3
1	A	229	LYS	2
1	A	178	ARG	2
1	A	179	GLN	2
1	A	216	GLU	2
1	A	225	ASP	2
1	A	226	LEU	2
1	A	184	THR	1

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Mol	Chain	Res	Type	Models (Total)
1	A	230	TRP	1
1	A	228	GLN	1
1	A	214	MET	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)

There are no ligands in this entry.

6.7 Other polymers (i)

There are no such molecules in this entry.

6.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

7 Chemical shift validation (i)

The completeness of assignment taking into account all chemical shift lists is 78% for the well-defined parts and 74% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

7.1.1 Bookkeeping (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	747
Number of shifts mapped to atoms	747
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	1

7.1.2 Chemical shift referencing (i)

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction ± precision, *ppm*	Suggested action
$^{13}C_{\alpha}$	70	0.24 ± 0.31	None needed (< 0.5 ppm)
$^{13}C_{\beta}$	68	0.13 ± 0.10	None needed (< 0.5 ppm)
$^{13}C'$	0	—	None (insufficient data)
^{15}N	62	0.00 ± 0.26	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 78%, i.e. 373 atoms were assigned a chemical shift out of a possible 480. 0 out of 7 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	130/163 (80%)	66/66 (100%)	33/66 (50%)	31/31 (100%)
Sidechain	225/288 (78%)	153/187 (82%)	72/88 (82%)	0/13 (0%)

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	Total	^{1}H	^{13}C	^{15}N
Aromatic	18/29 (62%)	9/15 (60%)	8/12 (67%)	1/2 (50%)
Overall	373/480 (78%)	228/268 (85%)	113/166 (68%)	32/46 (70%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 74%, i.e. 747 atoms were assigned a chemical shift out of a possible 1003. 0 out of 11 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	264/340 (78%)	132/136 (97%)	70/140 (50%)	62/64 (97%)
Sidechain	449/584 (77%)	303/379 (80%)	146/177 (82%)	0/28 (0%)
Aromatic	34/79 (43%)	17/41 (41%)	16/33 (48%)	1/5 (20%)
Overall	747/1003 (74%)	452/556 (81%)	232/350 (66%)	63/97 (65%)

7.1.4 Statistically unusual chemical shifts (i)

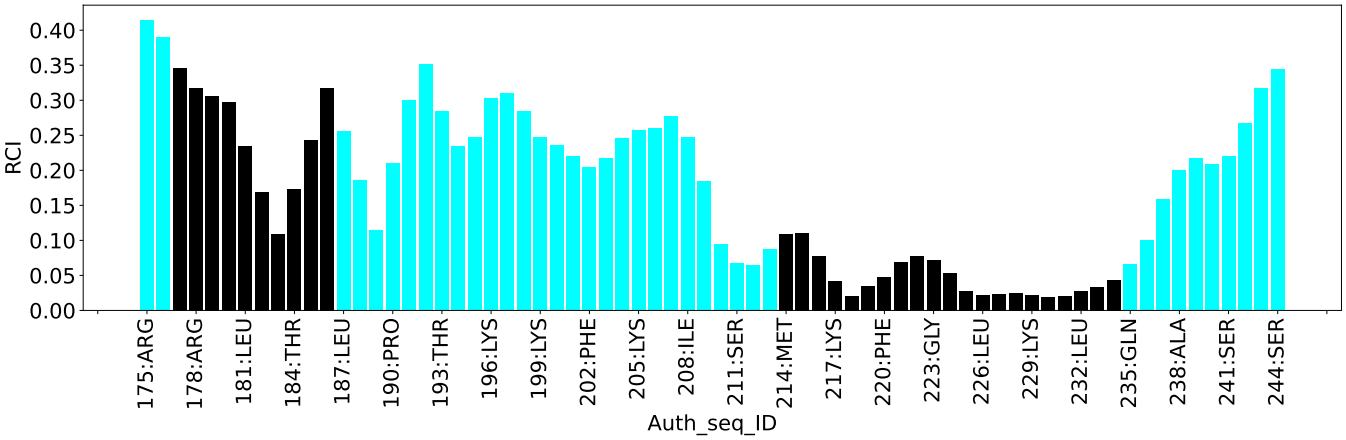
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, *ppm*	Expected range, *ppm*	Z-score
1	A	219	PRO	HG2	0.32	0.41 – 3.45	-5.3

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:


RCI
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
175:ARG
178:ARG
181:LEU
184:THR
187:LEU
190:PRO
193:THR
196:LYS
199:LYS
202:PHE
205:LYS
208:ILE
211:SER
214:MET
217:LYS
220:PHE
223:GLY
226:LEU
229:LYS
232:LEU
235:GLN
238:ALA
241:SER
244:SER
Auth_seq_ID

8 NMR restraints analysis (i)

8.1 Conformationally restricting restraints (i)

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	428
Intra-residue (|i-j|=0)	179
Sequential (|i-j|=1)	187
Medium range (|i-j|>1 and |i-j|<5)	45
Long range (|i-j|≥5)	17
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	6.1
Number of long range restraints per residue[1]	0.2

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

8.2 Residual restraint violations (i)

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 (i)

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)	4.5	0.2
0.2-0.5 (Medium)	5.8	0.5
>0.5 (Large)	8.3	2.49

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

Dihedral-angle violations less than 1° are not included in the calculation.There are no dihedral-angle violations

9 Distance violation analysis (i)

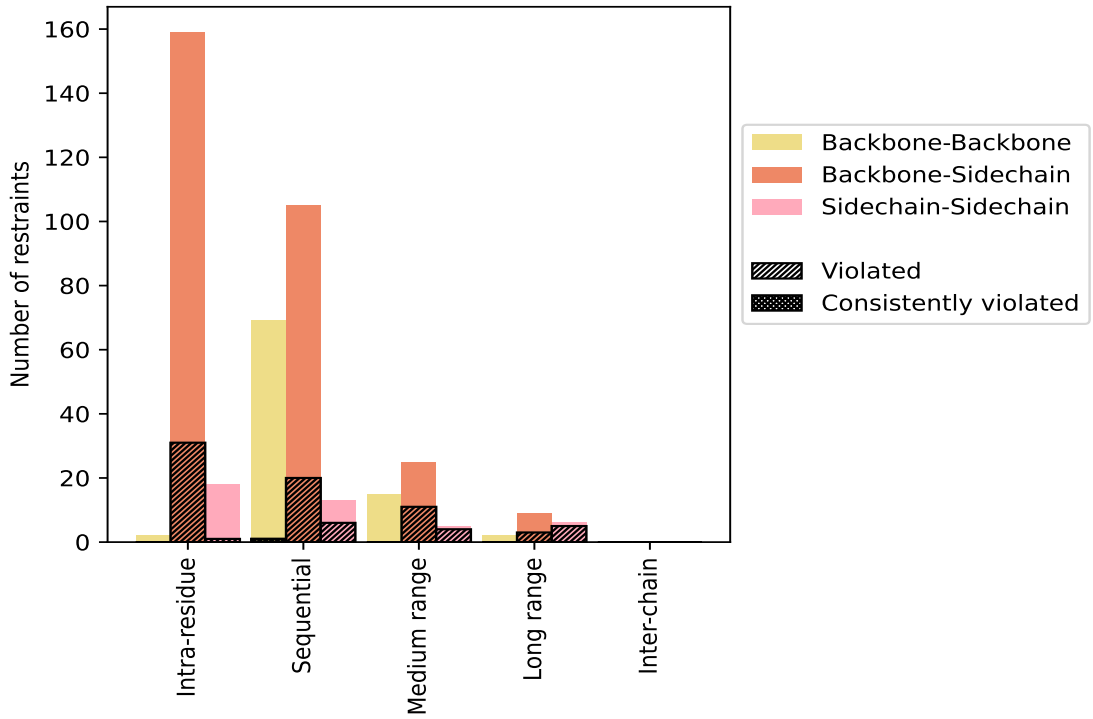
9.1 Summary of distance violations (i)

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.

Restraints type	Count	%[1]	Violated[3]			Consistently Violated[4]		
			Count	%[2]	%[1]	Count	%[2]	%[1]
Intra-residue (|i-j|=0)	179	41.8	32	17.9	7.5	0	0.0	0.0
Backbone-Backbone	2	0.5	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	159	37.1	31	19.5	7.2	0	0.0	0.0
Sidechain-Sidechain	18	4.2	1	5.6	0.2	0	0.0	0.0
Sequential (|i-j|=1)	187	43.7	27	14.4	6.3	1	0.5	0.2
Backbone-Backbone	69	16.1	1	1.4	0.2	1	1.4	0.2
Backbone-Sidechain	105	24.5	20	19.0	4.7	0	0.0	0.0
Sidechain-Sidechain	13	3.0	6	46.2	1.4	0	0.0	0.0
Medium range (|i-j|>1 & |i-j|<5)	45	10.5	15	33.3	3.5	0	0.0	0.0
Backbone-Backbone	15	3.5	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	25	5.8	11	44.0	2.6	0	0.0	0.0
Sidechain-Sidechain	5	1.2	4	80.0	0.9	0	0.0	0.0
Long range (|i-j|≥5)	17	4.0	8	47.1	1.9	0	0.0	0.0
Backbone-Backbone	2	0.5	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	9	2.1	3	33.3	0.7	0	0.0	0.0
Sidechain-Sidechain	6	1.4	5	83.3	1.2	0	0.0	0.0
Inter-chain	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Hydrogen bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Disulfide bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Total	428	100.0	82	19.2	19.2	1	0.2	0.2
Backbone-Backbone	88	20.6	1	1.1	0.2	1	1.1	0.2
Backbone-Sidechain	298	69.6	65	21.8	15.2	0	0.0	0.0
Sidechain-Sidechain	42	9.8	16	38.1	3.7	0	0.0	0.0

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

9.1.1 Bar chart : Distribution of distance restraints and violations (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[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
1	8	8	2	1	0	19	0.49	1.73	0.42	0.36
2	7	10	2	3	0	22	0.66	1.71	0.52	0.39
3	5	8	2	1	0	16	0.72	1.78	0.6	0.34
4	9	9	1	3	0	22	0.65	1.78	0.48	0.64
5	7	5	3	1	0	16	0.81	1.69	0.55	0.72
6	6	6	2	1	0	15	0.61	1.55	0.53	0.38
7	7	6	3	2	0	18	0.53	1.54	0.45	0.4
8	6	6	1	2	0	15	0.68	1.67	0.46	0.56
9	6	10	3	3	0	22	0.58	1.7	0.49	0.4
10	4	12	5	3	0	24	0.67	2.22	0.53	0.54
11	8	6	2	2	0	18	0.63	1.39	0.39	0.66

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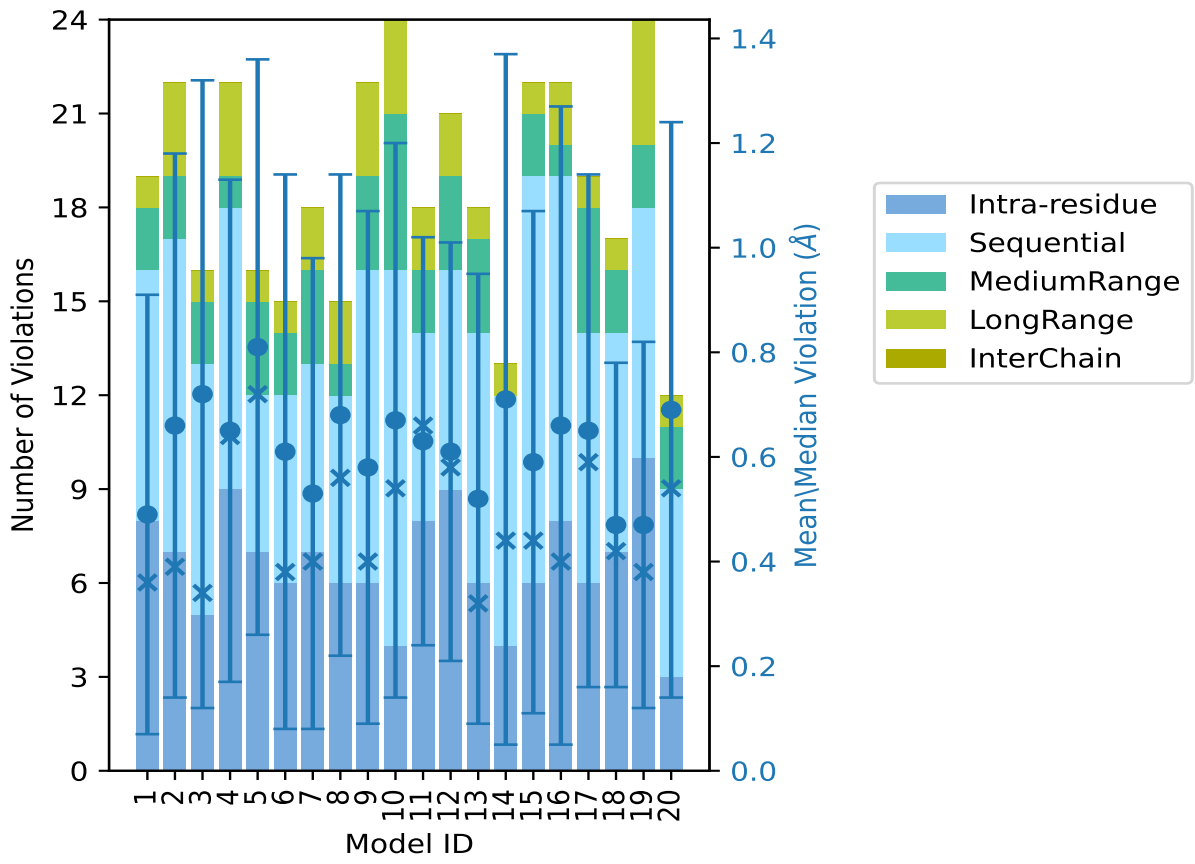
Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
12	9	7	3	2	0	21	0.61	1.28	0.4	0.58
13	6	8	3	1	0	18	0.52	1.42	0.43	0.32
14	4	8	0	1	0	13	0.71	2.49	0.66	0.44
15	6	13	2	1	0	22	0.59	2.0	0.48	0.44
16	8	11	1	2	0	22	0.66	2.48	0.61	0.4
17	6	8	4	1	0	19	0.65	1.77	0.49	0.59
18	7	7	2	1	0	17	0.47	1.2	0.31	0.42
19	10	8	2	4	0	24	0.47	1.25	0.35	0.38
20	3	6	2	1	0	12	0.69	1.76	0.55	0.54

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

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



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

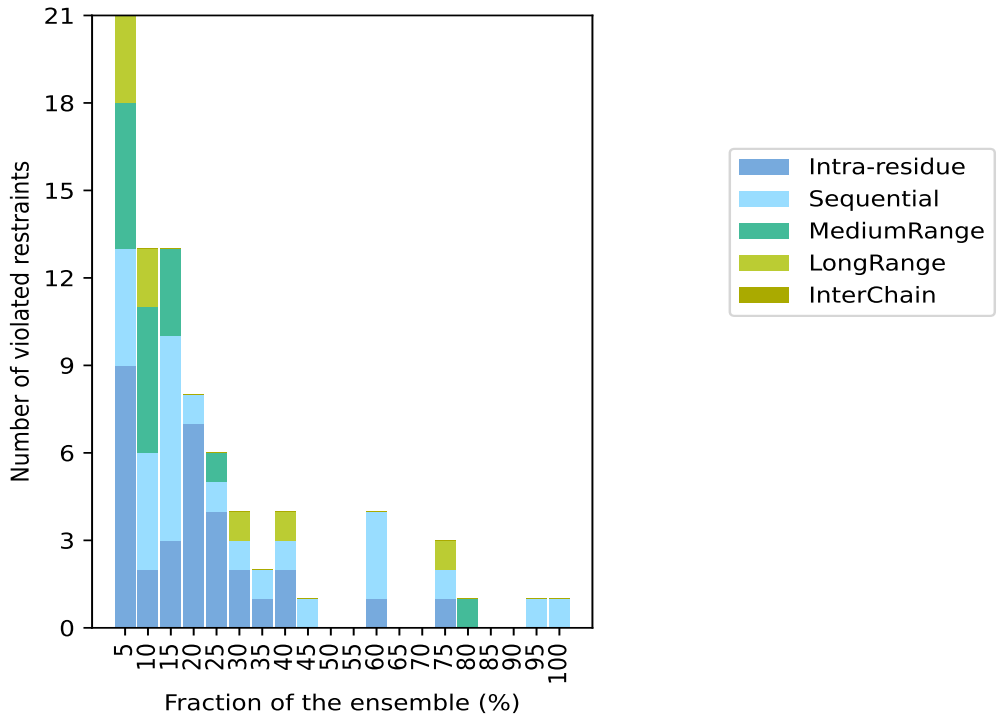
9.3 Distance violation statistics for the ensemble (i)

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 346(IR:147, SQ:160, MR:30, LR:9, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
9	4	5	3	0	21	1	5.0
2	4	5	2	0	13	2	10.0
3	7	3	0	0	13	3	15.0
7	1	0	0	0	8	4	20.0
4	1	1	0	0	6	5	25.0
2	1	0	1	0	4	6	30.0
1	1	0	0	0	2	7	35.0
2	1	0	1	0	4	8	40.0
0	1	0	0	0	1	9	45.0
0	0	0	0	0	0	10	50.0
0	0	0	0	0	0	11	55.0
1	3	0	0	0	4	12	60.0
0	0	0	0	0	0	13	65.0
0	0	0	0	0	0	14	70.0
1	1	0	1	0	3	15	75.0
0	0	1	0	0	1	16	80.0
0	0	0	0	0	0	17	85.0
0	0	0	0	0	0	18	90.0
0	1	0	0	0	1	19	95.0
0	1	0	0	0	1	20	100.0

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

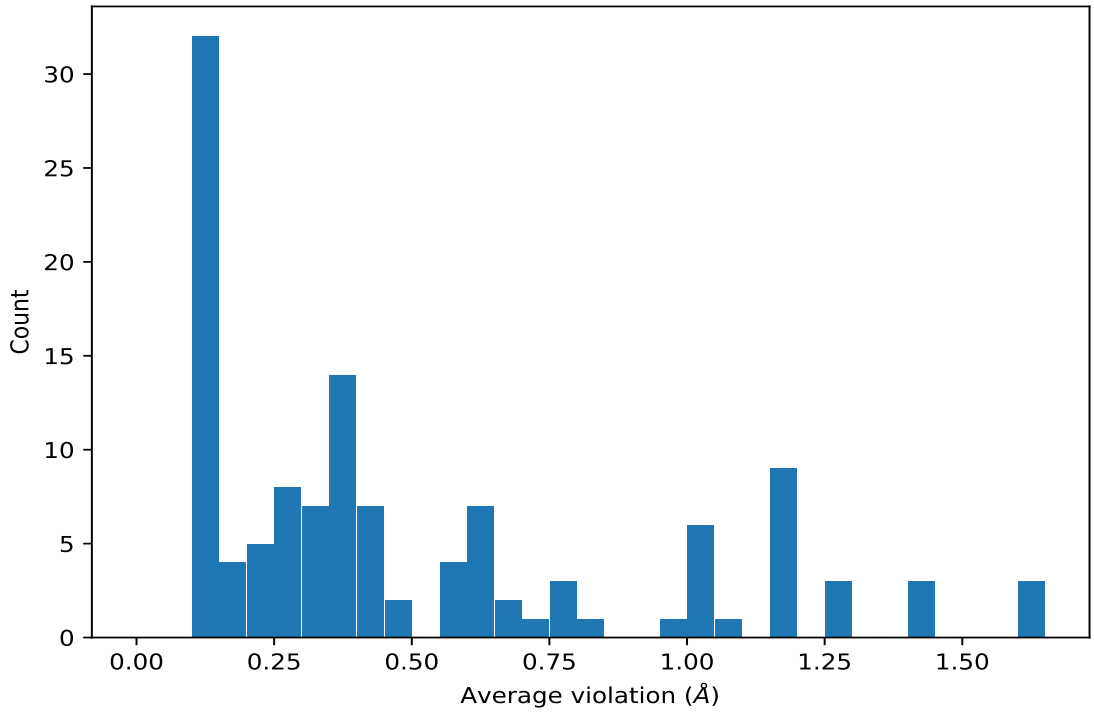
9.3.1 Bar graph : Distance violation statistics for the ensemble (i)



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[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	20	0.22	0.12	0.18
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	19	1.02	0.37	1.12
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	16	1.16	0.44	1.27
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	16	1.16	0.44	1.27
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	16	1.16	0.44	1.27
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	16	1.16	0.44	1.27
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	16	1.16	0.44	1.27
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	16	1.16	0.44	1.27
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	15	1.26	0.45	1.37
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	15	1.26	0.45	1.37
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	15	1.26	0.45	1.37
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	15	1.01	0.31	1.13
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	15	1.01	0.31	1.13
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	15	0.76	0.09	0.78
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	15	0.76	0.09	0.78
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	15	0.76	0.09	0.78

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	12	1.4	0.24	1.42
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	12	1.4	0.24	1.42
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	12	1.4	0.24	1.42
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	12	0.64	0.16	0.65
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	12	0.56	0.26	0.48
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	12	0.28	0.08	0.29
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	9	1.04	0.47	1.14
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	8	1.02	0.42	0.97
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	8	1.02	0.42	0.97
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	8	0.62	0.4	0.65
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	8	0.62	0.4	0.65
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	8	0.62	0.4	0.65
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	8	0.62	0.4	0.65
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	8	0.62	0.4	0.65
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	8	0.62	0.4	0.65
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	8	0.35	0.21	0.36
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	8	0.35	0.21	0.36
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	8	0.35	0.21	0.36
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	8	0.32	0.05	0.34
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	7	1.6	0.97	2.0
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	7	1.6	0.97	2.0
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	7	1.6	0.97	2.0
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	7	0.44	0.21	0.38
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	6	0.56	0.25	0.66
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	6	0.56	0.25	0.66
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	6	0.44	0.01	0.44
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	6	0.37	0.15	0.3
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	6	0.37	0.15	0.3
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	6	0.37	0.15	0.3
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	6	0.12	0.01	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	6	0.12	0.01	0.11
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	5	1.07	0.7	1.34
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	5	0.71	0.29	0.71
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	5	0.41	0.06	0.41
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	5	0.37	0.16	0.4
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	5	0.37	0.16	0.4
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	5	0.37	0.16	0.4
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	5	0.24	0.11	0.26
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	5	0.17	0.06	0.15
(1,124)	1:A:217:LYS:H	1:A:217:LYS:HB3	4	0.44	0.1	0.42
(1,68)	1:A:187:LEU:H	1:A:187:LEU:HB2	4	0.43	0.13	0.41
(1,180)	1:A:211:SER:H	1:A:212:GLU:HB2	4	0.41	0.14	0.4

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,118)	1:A:202:PHE:H	1:A:202:PHE:HB2	4	0.22	0.07	0.24
(1,44)	1:A:201:LEU:H	1:A:201:LEU:HB3	4	0.21	0.06	0.2
(1,262)	1:A:233:ILE:H	1:A:233:ILE:HG12	4	0.19	0.04	0.18
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE2	4	0.18	0.03	0.18
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE3	4	0.18	0.03	0.18
(1,412)	1:A:204:ASN:HA	1:A:204:ASN:HB3	4	0.11	0.0	0.11
(1,314)	1:A:208:ILE:HA	1:A:209:HIS:HB2	3	0.96	0.55	1.33
(1,309)	1:A:230:TRP:HA	1:A:232:LEU:HB3	3	0.81	0.48	1.01
(1,135)	1:A:216:GLU:H	1:A:216:GLU:HG3	3	0.68	0.13	0.59
(1,203)	1:A:209:HIS:HA	1:A:210:LEU:HB2	3	0.65	0.21	0.52
(1,264)	1:A:234:LYS:HA	1:A:234:LYS:HD2	3	0.46	0.34	0.22
(1,109)	1:A:218:CYS:HB2	1:A:220:PHE:H	3	0.42	0.38	0.15
(1,138)	1:A:215:LEU:HD21	1:A:216:GLU:H	3	0.38	0.05	0.36
(1,138)	1:A:215:LEU:HD22	1:A:216:GLU:H	3	0.38	0.05	0.36
(1,138)	1:A:215:LEU:HD23	1:A:216:GLU:H	3	0.38	0.05	0.36
(1,335)	1:A:203:SER:HA	1:A:203:SER:HB3	3	0.36	0.05	0.36
(1,182)	1:A:210:LEU:HB2	1:A:211:SER:H	3	0.35	0.08	0.32
(1,249)	1:A:212:GLU:HB3	1:A:213:LEU:H	3	0.32	0.07	0.37
(1,250)	1:A:208:ILE:HG21	1:A:212:GLU:HB2	3	0.31	0.17	0.28
(1,250)	1:A:208:ILE:HG22	1:A:212:GLU:HB2	3	0.31	0.17	0.28
(1,250)	1:A:208:ILE:HG23	1:A:212:GLU:HB2	3	0.31	0.17	0.28
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB2	3	0.12	0.0	0.12
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB3	3	0.12	0.0	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB2	3	0.12	0.0	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB3	3	0.12	0.0	0.12
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB2	3	0.11	0.0	0.11
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB3	3	0.11	0.0	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB2	3	0.11	0.0	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB3	3	0.11	0.0	0.11
(1,315)	1:A:215:LEU:HD21	1:A:217:LYS:H	2	1.19	0.05	1.19
(1,315)	1:A:215:LEU:HD22	1:A:217:LYS:H	2	1.19	0.05	1.19
(1,315)	1:A:215:LEU:HD23	1:A:217:LYS:H	2	1.19	0.05	1.19
(1,181)	1:A:209:HIS:HB3	1:A:211:SER:H	2	0.56	0.01	0.56
(1,137)	1:A:215:LEU:HB2	1:A:216:GLU:H	2	0.48	0.14	0.48
(1,211)	1:A:220:PHE:HB3	1:A:221:PRO:HD3	2	0.34	0.2	0.34
(1,226)	1:A:228:GLN:H	1:A:228:GLN:HG3	2	0.33	0.04	0.33
(1,2)	1:A:221:PRO:HG3	1:A:222:ALA:H	2	0.28	0.06	0.28
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG2	2	0.26	0.01	0.26
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG3	2	0.26	0.01	0.26
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG2	2	0.26	0.01	0.26
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG3	2	0.26	0.01	0.26
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG2	2	0.26	0.01	0.26

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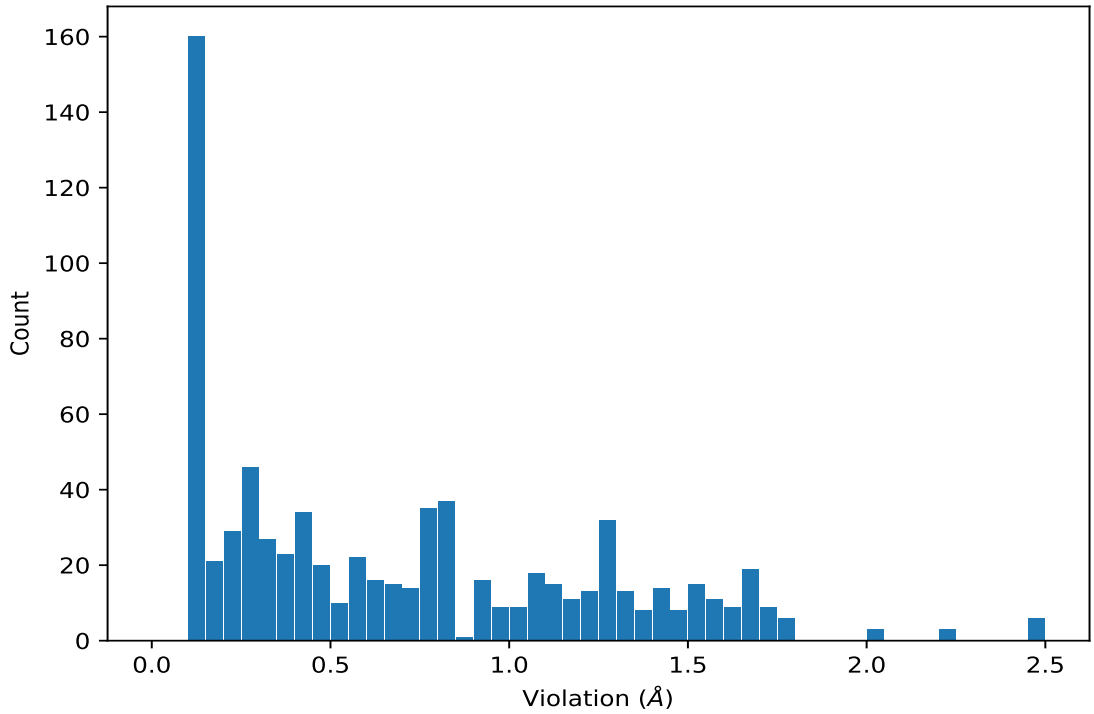
Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG3	2	0.26	0.01	0.26
(1,64)	1:A:234:LYS:H	1:A:234:LYS:HB2	2	0.22	0.06	0.22
(1,158)	1:A:194:TYR:HB3	1:A:195:SER:H	2	0.14	0.0	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD11	2	0.12	0.02	0.12
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD12	2	0.12	0.02	0.12
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD13	2	0.12	0.02	0.12
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD21	2	0.12	0.02	0.12
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD22	2	0.12	0.02	0.12
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD23	2	0.12	0.02	0.12
(1,75)	1:A:210:LEU:HD11	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,75)	1:A:210:LEU:HD12	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,75)	1:A:210:LEU:HD13	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,75)	1:A:210:LEU:HD21	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,75)	1:A:210:LEU:HD22	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,75)	1:A:210:LEU:HD23	1:A:212:GLU:H	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG21	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG22	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG23	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG21	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG22	2	0.12	0.0	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG23	2	0.12	0.0	0.12
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB2	2	0.11	0.0	0.11
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB3	2	0.11	0.0	0.11

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

9.5 All violated distance restraints (i)

9.5.1 Histogram : Distribution of distance violations (i)

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



9.5.2 Table : All distance violations (i)

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

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	14	2.49
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	14	2.49
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	14	2.49
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	16	2.48
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	16	2.48
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	16	2.48
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	10	2.22
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	10	2.22
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	10	2.22
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	15	2.0
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	15	2.0
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	15	2.0
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	3	1.78
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	4	1.78
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	17	1.77
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	20	1.76

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	20	1.76
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	20	1.76
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	1	1.73
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	1	1.73
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	1	1.73
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	1	1.73
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	1	1.73
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	1	1.73
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	2	1.71
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	2	1.71
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	2	1.71
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	9	1.7
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	9	1.7
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	9	1.7
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	9	1.7
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	9	1.7
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	9	1.7
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	20	1.69
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	20	1.69
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	20	1.69
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	5	1.69
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	5	1.69
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	5	1.69
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	2	1.69
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	3	1.67
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	3	1.67
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	3	1.67
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	8	1.67
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	8	1.67
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	8	1.67
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	17	1.65
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	17	1.65
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	17	1.65
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	9	1.64
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	9	1.64
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	9	1.64
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	16	1.61
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	16	1.61
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	16	1.61
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	3	1.59
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	3	1.59
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	3	1.58

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	3	1.58
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	3	1.58
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	3	1.58
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	3	1.58
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	3	1.58
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	6	1.55
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	6	1.55
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	6	1.55
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	7	1.54
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	7	1.54
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	7	1.54
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	5	1.51
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	5	1.51
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	5	1.51
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	8	1.5
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	8	1.5
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	8	1.5
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	8	1.5
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	8	1.5
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	8	1.5
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	10	1.5
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	10	1.5
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	10	1.5
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	6	1.49
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	6	1.49
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	6	1.49
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	6	1.49
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	6	1.49
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	6	1.49
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	4	1.49
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	4	1.49
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	15	1.45
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	15	1.45
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	15	1.45
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	2	1.45
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	5	1.44
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	5	1.44
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	5	1.44
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	5	1.44
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	5	1.44
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	5	1.44
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	5	1.43

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	5	1.43
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	13	1.42
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	16	1.42
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	11	1.39
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	11	1.39
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	11	1.39
(1,314)	1:A:208:ILE:HA	1:A:209:HIS:HB2	9	1.37
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	13	1.37
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	13	1.37
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	13	1.37
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	6	1.35
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	5	1.34
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	7	1.34
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	7	1.34
(1,314)	1:A:208:ILE:HA	1:A:209:HIS:HB2	10	1.33
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	4	1.33
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	4	1.33
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	4	1.33
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	5	1.33
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	5	1.33
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	6	1.33
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	6	1.33
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	14	1.31
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	4	1.3
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	2	1.29
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	2	1.29
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	2	1.29
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	2	1.29
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	2	1.29
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	2	1.29
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	16	1.29
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	16	1.29
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	7	1.29
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	11	1.28
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	11	1.28
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	11	1.28
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	11	1.28
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	11	1.28
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	11	1.28
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	12	1.28
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	15	1.27
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	16	1.26

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	16	1.26
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	16	1.26
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	16	1.26
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	16	1.26
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	16	1.26
(1,309)	1:A:230:TRP:HA	1:A:232:LEU:HB3	12	1.26
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	14	1.26
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	14	1.26
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	19	1.25
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	19	1.25
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	19	1.25
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	9	1.25
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	9	1.25
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	9	1.25
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	13	1.24
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	13	1.24
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	13	1.24
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	13	1.24
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	13	1.24
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	13	1.24
(1,315)	1:A:215:LEU:HD21	1:A:217:LYS:H	10	1.24
(1,315)	1:A:215:LEU:HD22	1:A:217:LYS:H	10	1.24
(1,315)	1:A:215:LEU:HD23	1:A:217:LYS:H	10	1.24
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	2	1.24
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	2	1.24
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	2	1.24
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	10	1.21
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	1	1.2
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	1	1.2
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	1	1.2
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	18	1.2
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	18	1.2
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	18	1.2
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	19	1.19
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	19	1.19
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	17	1.17
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	17	1.17
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	19	1.17
(1,252)	1:A:209:HIS:HB2	1:A:212:GLU:H	12	1.15
(1,315)	1:A:215:LEU:HD21	1:A:217:LYS:H	20	1.14
(1,315)	1:A:215:LEU:HD22	1:A:217:LYS:H	20	1.14
(1,315)	1:A:215:LEU:HD23	1:A:217:LYS:H	20	1.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	8	1.14
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	2	1.13
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	2	1.13
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	10	1.13
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	14	1.12
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	3	1.12
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	12	1.11
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	12	1.11
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	12	1.11
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	12	1.11
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	12	1.11
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	11	1.07
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	11	1.07
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	11	1.07
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	16	1.07
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	16	1.07
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	16	1.07
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	16	1.07
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	16	1.07
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	16	1.07
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	7	1.06
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	7	1.06
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	7	1.06
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	7	1.06
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	7	1.06
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	7	1.06
(1,209)	1:A:220:PHE:HB2	1:A:226:LEU:HB2	12	1.06
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	9	1.06
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	11	1.06
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	2	1.04
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	2	1.04
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	2	1.04
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	2	1.04
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	2	1.04
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	2	1.04
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	8	1.03
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	8	1.03
(1,309)	1:A:230:TRP:HA	1:A:232:LEU:HB3	15	1.01
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	10	0.99
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	10	0.99
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	10	0.99
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	10	0.99

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	10	0.99
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	10	0.99
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	17	0.96
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	15	0.96
(1,109)	1:A:218:CYS:HB2	1:A:220:PHE:H	17	0.96
(1,303)	1:A:181:LEU:HD11	1:A:182:GLN:HA	4	0.95
(1,303)	1:A:181:LEU:HD12	1:A:182:GLN:HA	4	0.95
(1,303)	1:A:181:LEU:HD13	1:A:182:GLN:HA	4	0.95
(1,203)	1:A:209:HIS:HA	1:A:210:LEU:HB2	18	0.95
(1,264)	1:A:234:LYS:HA	1:A:234:LYS:HD2	11	0.94
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	13	0.93
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	13	0.93
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	17	0.91
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	17	0.91
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	8	0.9
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	19	0.9
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	19	0.9
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	19	0.9
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	19	0.9
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	19	0.9
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	19	0.9
(1,135)	1:A:216:GLU:H	1:A:216:GLU:HG3	18	0.87
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	1	0.85
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	1	0.85
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	1	0.85
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	1	0.84
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	1	0.84
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	1	0.84
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	15	0.83
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	6	0.83
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	6	0.83
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	6	0.83
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	4	0.82
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	4	0.82
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	4	0.82
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	17	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	3	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	3	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	3	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	5	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	5	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	5	0.81

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	9	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	9	0.81
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	9	0.81
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	20	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	11	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	11	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	11	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	13	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	13	0.8
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	13	0.8
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	18	0.8
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	18	0.8
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	18	0.8
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	18	0.8
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	18	0.8
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	18	0.8
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	17	0.8
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	10	0.79
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	10	0.79
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	10	0.78
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	10	0.78
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	10	0.78
(1,387)	1:A:226:LEU:HB2	1:A:227:ALA:HA	12	0.77
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	2	0.77
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	2	0.77
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	2	0.77
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	4	0.77
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	4	0.77
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	4	0.77
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	4	0.77
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	4	0.77
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	4	0.77
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	4	0.76
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	4	0.76
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	4	0.76
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	19	0.76
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	19	0.76
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	19	0.76
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD11	5	0.75
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD12	5	0.75
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD13	5	0.75
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD21	5	0.75

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD22	5	0.75
(1,277)	1:A:229:LYS:HG2	1:A:232:LEU:HD23	5	0.75
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	4	0.75
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	4	0.75
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	4	0.75
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	4	0.75
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	4	0.75
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	4	0.75
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	11	0.75
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	11	0.75
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	16	0.74
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	8	0.73
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	8	0.73
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	8	0.73
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	16	0.73
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	16	0.73
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	16	0.73
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	11	0.73
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	14	0.72
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	14	0.72
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	3	0.71
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	19	0.71
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	1	0.71
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	20	0.71
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	11	0.69
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	11	0.69
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	15	0.69
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	1	0.69
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	1	0.69
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	5	0.68
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	4	0.66
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	4	0.66
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	5	0.66
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	12	0.65
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	12	0.65
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	12	0.65
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	7	0.65
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	7	0.65
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	7	0.65
(1,68)	1:A:187:LEU:H	1:A:187:LEU:HB2	15	0.63
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	11	0.62
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	14	0.62

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	14	0.62
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	14	0.62
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	13	0.62
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	13	0.62
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	12	0.62
(1,180)	1:A:211:SER:H	1:A:212:GLU:HB2	16	0.62
(1,137)	1:A:215:LEU:HB2	1:A:216:GLU:H	10	0.62
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	2	0.61
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	4	0.61
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	4	0.61
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	4	0.61
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	20	0.61
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	20	0.61
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	17	0.59
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	9	0.59
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	17	0.59
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	17	0.59
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	17	0.59
(1,135)	1:A:216:GLU:H	1:A:216:GLU:HG3	12	0.59
(1,418)	1:A:199:LYS:H	1:A:200:PRO:HD3	10	0.58
(1,181)	1:A:209:HIS:HB3	1:A:211:SER:H	9	0.58
(1,135)	1:A:216:GLU:H	1:A:216:GLU:HG3	8	0.58
(1,124)	1:A:217:LYS:H	1:A:217:LYS:HB3	12	0.58
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	1	0.57
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	8	0.56
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	15	0.55
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	15	0.55
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	15	0.55
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	19	0.55
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	19	0.55
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	19	0.55
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	19	0.55
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	19	0.55
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	19	0.55
(1,181)	1:A:209:HIS:HB3	1:A:211:SER:H	10	0.55
(1,211)	1:A:220:PHE:HB3	1:A:221:PRO:HD3	15	0.54
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	10	0.53
(1,250)	1:A:208:ILE:HG21	1:A:212:GLU:HB2	7	0.53
(1,250)	1:A:208:ILE:HG22	1:A:212:GLU:HB2	7	0.53
(1,250)	1:A:208:ILE:HG23	1:A:212:GLU:HB2	7	0.53
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	13	0.53
(1,95)	1:A:226:LEU:HB3	1:A:230:TRP:H	12	0.52

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,203)	1:A:209:HIS:HA	1:A:210:LEU:HB2	19	0.52
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	18	0.5
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	18	0.5
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	16	0.49
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD11	18	0.49
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD12	18	0.49
(1,342)	1:A:226:LEU:HA	1:A:226:LEU:HD13	18	0.49
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	7	0.48
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	7	0.48
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	7	0.48
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	20	0.48
(1,203)	1:A:209:HIS:HA	1:A:210:LEU:HB2	9	0.48
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	6	0.47
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	11	0.47
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	11	0.47
(1,124)	1:A:217:LYS:H	1:A:217:LYS:HB3	2	0.47
(1,182)	1:A:210:LEU:HB2	1:A:211:SER:H	19	0.46
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	10	0.45
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	15	0.45
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	15	0.45
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	15	0.45
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	18	0.45
(1,180)	1:A:211:SER:H	1:A:212:GLU:HB2	7	0.45
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	10	0.44
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	13	0.44
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	20	0.44
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	1	0.44
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	9	0.44
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	15	0.44
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	16	0.44
(1,138)	1:A:215:LEU:HD21	1:A:216:GLU:H	14	0.44
(1,138)	1:A:215:LEU:HD22	1:A:216:GLU:H	14	0.44
(1,138)	1:A:215:LEU:HD23	1:A:216:GLU:H	14	0.44
(1,68)	1:A:187:LEU:H	1:A:187:LEU:HB2	17	0.43
(1,335)	1:A:203:SER:HA	1:A:203:SER:HB3	12	0.43
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	7	0.43
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	7	0.43
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	7	0.43
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	7	0.43
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	7	0.43
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	7	0.43
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	8	0.43

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,213)	1:A:201:LEU:HA	1:A:202:PHE:HB2	8	0.43
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	18	0.42
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	2	0.41
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	2	0.41
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	2	0.41
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	9	0.41
(1,235)	1:A:191:MET:HB2	1:A:192:ARG:HB3	15	0.41
(1,235)	1:A:191:MET:HB3	1:A:192:ARG:HB3	15	0.41
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	8	0.4
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	19	0.4
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	19	0.4
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	19	0.4
(1,295)	1:A:198:SER:HB2	1:A:199:LYS:HG3	9	0.4
(1,295)	1:A:198:SER:HB3	1:A:199:LYS:HG3	9	0.4
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	6	0.4
(1,68)	1:A:187:LEU:H	1:A:187:LEU:HB2	19	0.39
(1,60)	1:A:206:ARG:H	1:A:206:ARG:HB3	1	0.39
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	6	0.38
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	19	0.38
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	19	0.38
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	19	0.38
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	19	0.38
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	17	0.38
(1,249)	1:A:212:GLU:HB3	1:A:213:LEU:H	2	0.37
(1,249)	1:A:212:GLU:HB3	1:A:213:LEU:H	16	0.37
(1,226)	1:A:228:GLN:H	1:A:228:GLN:HG3	19	0.37
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	4	0.37
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	7	0.37
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	19	0.37
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	17	0.37
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	4	0.36
(1,335)	1:A:203:SER:HA	1:A:203:SER:HB3	6	0.36
(1,294)	1:A:217:LYS:HG3	1:A:218:CYS:H	14	0.36
(1,138)	1:A:215:LEU:HD21	1:A:216:GLU:H	15	0.36
(1,138)	1:A:215:LEU:HD22	1:A:216:GLU:H	15	0.36
(1,138)	1:A:215:LEU:HD23	1:A:216:GLU:H	15	0.36
(1,124)	1:A:217:LYS:H	1:A:217:LYS:HB3	6	0.36
(1,123)	1:A:217:LYS:H	1:A:218:CYS:HB3	1	0.36
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	19	0.35
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	2	0.35
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	2	0.35
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	2	0.35

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,251)	1:A:196:LYS:H	1:A:197:GLN:HB3	3	0.35
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	11	0.35
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	5	0.34
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	8	0.34
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	9	0.34
(1,2)	1:A:221:PRO:HG3	1:A:222:ALA:H	15	0.34
(1,180)	1:A:211:SER:H	1:A:212:GLU:HB2	3	0.34
(1,137)	1:A:215:LEU:HB2	1:A:216:GLU:H	18	0.34
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	13	0.33
(1,138)	1:A:215:LEU:HD21	1:A:216:GLU:H	16	0.33
(1,138)	1:A:215:LEU:HD22	1:A:216:GLU:H	16	0.33
(1,138)	1:A:215:LEU:HD23	1:A:216:GLU:H	16	0.33
(1,124)	1:A:217:LYS:H	1:A:217:LYS:HB3	1	0.33
(1,246)	1:A:178:ARG:H	1:A:178:ARG:HB2	4	0.32
(1,182)	1:A:210:LEU:HB2	1:A:211:SER:H	18	0.32
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	11	0.31
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	11	0.31
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	11	0.31
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	2	0.31
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	2	0.31
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	2	0.31
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	16	0.31
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	2	0.31
(1,335)	1:A:203:SER:HA	1:A:203:SER:HB3	3	0.3
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	13	0.3
(1,44)	1:A:201:LEU:H	1:A:201:LEU:HB3	16	0.29
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	13	0.29
(1,226)	1:A:228:GLN:H	1:A:228:GLN:HG3	7	0.29
(1,64)	1:A:234:LYS:H	1:A:234:LYS:HB2	13	0.28
(1,250)	1:A:208:ILE:HG21	1:A:212:GLU:HB2	1	0.28
(1,250)	1:A:208:ILE:HG22	1:A:212:GLU:HB2	1	0.28
(1,250)	1:A:208:ILE:HG23	1:A:212:GLU:HB2	1	0.28
(1,118)	1:A:202:PHE:H	1:A:202:PHE:HB2	9	0.28
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	3	0.27
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	11	0.27
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	10	0.27
(1,68)	1:A:187:LEU:H	1:A:187:LEU:HB2	7	0.26
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	7	0.26
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	17	0.26
(1,262)	1:A:233:ILE:H	1:A:233:ILE:HG12	4	0.26
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG2	9	0.26
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG3	9	0.26

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG2	9	0.26
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG3	9	0.26
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG2	9	0.26
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG3	9	0.26
(1,182)	1:A:210:LEU:HB2	1:A:211:SER:H	9	0.26
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	18	0.26
(1,129)	1:A:232:LEU:HB3	1:A:233:ILE:H	15	0.26
(1,118)	1:A:202:PHE:H	1:A:202:PHE:HB2	16	0.26
(1,44)	1:A:201:LEU:H	1:A:201:LEU:HB3	10	0.25
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	5	0.25
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	5	0.25
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	5	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	9	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	9	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	9	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	10	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	10	0.25
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	10	0.25
(1,292)	1:A:217:LYS:H	1:A:217:LYS:HG2	12	0.25
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	14	0.25
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG2	12	0.25
(1,225)	1:A:213:LEU:HD21	1:A:235:GLN:HG3	12	0.25
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG2	12	0.25
(1,225)	1:A:213:LEU:HD22	1:A:235:GLN:HG3	12	0.25
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG2	12	0.25
(1,225)	1:A:213:LEU:HD23	1:A:235:GLN:HG3	12	0.25
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	14	0.25
(1,221)	1:A:216:GLU:HA	1:A:216:GLU:HG2	4	0.24
(1,180)	1:A:211:SER:H	1:A:212:GLU:HB2	2	0.24
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	4	0.22
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD11	5	0.22
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD12	5	0.22
(1,310)	1:A:213:LEU:H	1:A:213:LEU:HD13	5	0.22
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD21	3	0.22
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD22	3	0.22
(1,275)	1:A:220:PHE:HB3	1:A:226:LEU:HD23	3	0.22
(1,264)	1:A:234:LYS:HA	1:A:234:LYS:HD2	19	0.22
(1,249)	1:A:212:GLU:HB3	1:A:213:LEU:H	3	0.22
(1,2)	1:A:221:PRO:HG3	1:A:222:ALA:H	10	0.22
(1,118)	1:A:202:PHE:H	1:A:202:PHE:HB2	18	0.22
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	8	0.21
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	2	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,339)	1:A:212:GLU:HA	1:A:212:GLU:HB3	12	0.21
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE2	16	0.21
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE3	16	0.21
(1,264)	1:A:234:LYS:HA	1:A:234:LYS:HD2	7	0.21
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	12	0.2
(1,383)	1:A:220:PHE:HB2	1:A:227:ALA:HA	19	0.2
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE2	12	0.2
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE3	12	0.2
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	8	0.2
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	8	0.2
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	8	0.2
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	8	0.2
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	8	0.2
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	8	0.2
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	2	0.19
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	5	0.19
(1,330)	1:A:228:GLN:HA	1:A:228:GLN:HG2	1	0.19
(1,314)	1:A:208:ILE:HA	1:A:209:HIS:HB2	12	0.19
(1,262)	1:A:233:ILE:H	1:A:233:ILE:HG12	20	0.19
(1,237)	1:A:199:LYS:H	1:A:199:LYS:HB2	13	0.19
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	15	0.18
(1,28)	1:A:207:LYS:H	1:A:207:LYS:HG2	3	0.18
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	11	0.18
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	12	0.18
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	13	0.17
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	20	0.17
(1,400)	1:A:217:LYS:HA	1:A:218:CYS:HB3	9	0.17
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	14	0.17
(1,64)	1:A:234:LYS:H	1:A:234:LYS:HB2	11	0.16
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	10	0.16
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	14	0.16
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	18	0.16
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE2	3	0.16
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE3	3	0.16
(1,262)	1:A:233:ILE:H	1:A:233:ILE:HG12	13	0.16
(1,44)	1:A:201:LEU:H	1:A:201:LEU:HB3	18	0.15
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	1	0.15
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	6	0.15
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	17	0.15
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	6	0.15
(1,326)	1:A:231:HIS:HA	1:A:234:LYS:HB2	11	0.15
(1,309)	1:A:230:TRP:HA	1:A:232:LEU:HB3	9	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,262)	1:A:233:ILE:H	1:A:233:ILE:HG12	1	0.15
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG2	10	0.15
(1,238)	1:A:214:MET:HB3	1:A:235:GLN:HG3	10	0.15
(1,171)	1:A:192:ARG:HB2	1:A:193:THR:H	1	0.15
(1,109)	1:A:218:CYS:HB2	1:A:220:PHE:H	2	0.15
(1,109)	1:A:218:CYS:HB2	1:A:220:PHE:H	18	0.15
(1,101)	1:A:183:ASP:H	1:A:183:ASP:HB3	20	0.15
(1,71)	1:A:204:ASN:H	1:A:204:ASN:HB3	9	0.14
(1,44)	1:A:201:LEU:H	1:A:201:LEU:HB3	5	0.14
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	15	0.14
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	15	0.14
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	19	0.14
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	19	0.14
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD21	18	0.14
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD22	18	0.14
(1,391)	1:A:187:LEU:HA	1:A:187:LEU:HD23	18	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD11	17	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD12	17	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD13	17	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD21	17	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD22	17	0.14
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD23	17	0.14
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	10	0.14
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	10	0.14
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	10	0.14
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	10	0.14
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	10	0.14
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	10	0.14
(1,158)	1:A:194:TYR:HB3	1:A:195:SER:H	2	0.14
(1,158)	1:A:194:TYR:HB3	1:A:195:SER:H	3	0.14
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	19	0.13
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	4	0.13
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE2	13	0.13
(1,311)	1:A:234:LYS:HG2	1:A:234:LYS:HE3	13	0.13
(1,211)	1:A:220:PHE:HB3	1:A:221:PRO:HD3	19	0.13
(1,75)	1:A:210:LEU:HD11	1:A:212:GLU:H	7	0.12
(1,75)	1:A:210:LEU:HD12	1:A:212:GLU:H	7	0.12
(1,75)	1:A:210:LEU:HD13	1:A:212:GLU:H	7	0.12
(1,75)	1:A:210:LEU:HD21	1:A:212:GLU:H	7	0.12
(1,75)	1:A:210:LEU:HD22	1:A:212:GLU:H	7	0.12
(1,75)	1:A:210:LEU:HD23	1:A:212:GLU:H	7	0.12
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	8	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,412)	1:A:204:ASN:HA	1:A:204:ASN:HB3	15	0.12
(1,39)	1:A:194:TYR:H	1:A:194:TYR:HB3	1	0.12
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	16	0.12
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	16	0.12
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	16	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG21	13	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG22	13	0.12
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG23	13	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG21	13	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG22	13	0.12
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG23	13	0.12
(1,322)	1:A:182:GLN:HA	1:A:184:THR:HG21	15	0.12
(1,322)	1:A:182:GLN:HA	1:A:184:THR:HG22	15	0.12
(1,322)	1:A:182:GLN:HA	1:A:184:THR:HG23	15	0.12
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB2	20	0.12
(1,317)	1:A:226:LEU:HD11	1:A:229:LYS:HB3	20	0.12
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB2	20	0.12
(1,317)	1:A:226:LEU:HD12	1:A:229:LYS:HB3	20	0.12
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB2	20	0.12
(1,317)	1:A:226:LEU:HD13	1:A:229:LYS:HB3	20	0.12
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD21	15	0.12
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD22	15	0.12
(1,274)	1:A:220:PHE:HD1	1:A:226:LEU:HD23	15	0.12
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD21	15	0.12
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD22	15	0.12
(1,274)	1:A:220:PHE:HD2	1:A:226:LEU:HD23	15	0.12
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB2	16	0.12
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB3	16	0.12
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB2	16	0.12
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB3	16	0.12
(1,250)	1:A:208:ILE:HG21	1:A:212:GLU:HB2	10	0.12
(1,250)	1:A:208:ILE:HG22	1:A:212:GLU:HB2	10	0.12
(1,250)	1:A:208:ILE:HG23	1:A:212:GLU:HB2	10	0.12
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB2	15	0.12
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB3	15	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB2	15	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB3	15	0.12
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB2	16	0.12
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB3	16	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB2	16	0.12
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB3	16	0.12
(1,79)	1:A:220:PHE:HB3	1:A:227:ALA:H	19	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,75)	1:A:210:LEU:HD11	1:A:212:GLU:H	10	0.11
(1,75)	1:A:210:LEU:HD12	1:A:212:GLU:H	10	0.11
(1,75)	1:A:210:LEU:HD13	1:A:212:GLU:H	10	0.11
(1,75)	1:A:210:LEU:HD21	1:A:212:GLU:H	10	0.11
(1,75)	1:A:210:LEU:HD22	1:A:212:GLU:H	10	0.11
(1,75)	1:A:210:LEU:HD23	1:A:212:GLU:H	10	0.11
(1,65)	1:A:234:LYS:H	1:A:234:LYS:HG2	12	0.11
(1,416)	1:A:220:PHE:HD1	1:A:221:PRO:HD3	4	0.11
(1,416)	1:A:220:PHE:HD2	1:A:221:PRO:HD3	4	0.11
(1,412)	1:A:204:ASN:HA	1:A:204:ASN:HB3	6	0.11
(1,412)	1:A:204:ASN:HA	1:A:204:ASN:HB3	11	0.11
(1,412)	1:A:204:ASN:HA	1:A:204:ASN:HB3	14	0.11
(1,409)	1:A:222:ALA:HA	1:A:223:GLY:HA3	7	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	2	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	2	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	4	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	4	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	7	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	7	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD1	16	0.11
(1,399)	1:A:220:PHE:HA	1:A:220:PHE:HD2	16	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	1	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	1	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	1	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD11	17	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD12	17	0.11
(1,368)	1:A:213:LEU:HA	1:A:213:LEU:HD13	17	0.11
(1,354)	1:A:223:GLY:H	1:A:227:ALA:HB1	17	0.11
(1,354)	1:A:223:GLY:H	1:A:227:ALA:HB2	17	0.11
(1,354)	1:A:223:GLY:H	1:A:227:ALA:HB3	17	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD11	6	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD12	6	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD13	6	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD21	6	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD22	6	0.11
(1,328)	1:A:229:LYS:HA	1:A:232:LEU:HD23	6	0.11
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG21	19	0.11
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG22	19	0.11
(1,323)	1:A:182:GLN:HB2	1:A:184:THR:HG23	19	0.11
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG21	19	0.11
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG22	19	0.11
(1,323)	1:A:182:GLN:HB3	1:A:184:THR:HG23	19	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	7	0.11
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	7	0.11
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	7	0.11
(1,316)	1:A:215:LEU:HD21	1:A:216:GLU:HA	9	0.11
(1,316)	1:A:215:LEU:HD22	1:A:216:GLU:HA	9	0.11
(1,316)	1:A:215:LEU:HD23	1:A:216:GLU:HA	9	0.11
(1,276)	1:A:229:LYS:H	1:A:229:LYS:HG3	5	0.11
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB2	4	0.11
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB3	4	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB2	4	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB3	4	0.11
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB2	13	0.11
(1,272)	1:A:197:GLN:HG2	1:A:198:SER:HB3	13	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB2	13	0.11
(1,272)	1:A:197:GLN:HG3	1:A:198:SER:HB3	13	0.11
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB2	9	0.11
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB3	9	0.11
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB2	17	0.11
(1,253)	1:A:213:LEU:HA	1:A:235:GLN:HB3	17	0.11
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB2	6	0.11
(1,205)	1:A:234:LYS:HE2	1:A:235:GLN:HB3	6	0.11
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB2	6	0.11
(1,205)	1:A:234:LYS:HE3	1:A:235:GLN:HB3	6	0.11
(1,149)	1:A:235:GLN:H	1:A:235:GLN:HB2	16	0.11
(1,149)	1:A:235:GLN:H	1:A:235:GLN:HB3	16	0.11
(1,118)	1:A:202:PHE:H	1:A:202:PHE:HB2	1	0.11
(1,110)	1:A:220:PHE:H	1:A:220:PHE:HB2	19	0.11

10 Dihedral-angle violation analysis (i)

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