



Full wwPDB NMR Structure Validation Report ⓘ

Jun 8, 2024 – 01:07 pm BST

PDB ID : 5ML1
BMRB ID : 34072
Title : NMR Structure of the Littorina littorea metallothionein, a snail MT folding into three distinct domains
Authors : Baumann, C.; Beil, A.; Jurt, S.; Zerbe, O.
Deposited on : 2016-12-06

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 ⓘ 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 ⓘ](#)) 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) : 2.36.2

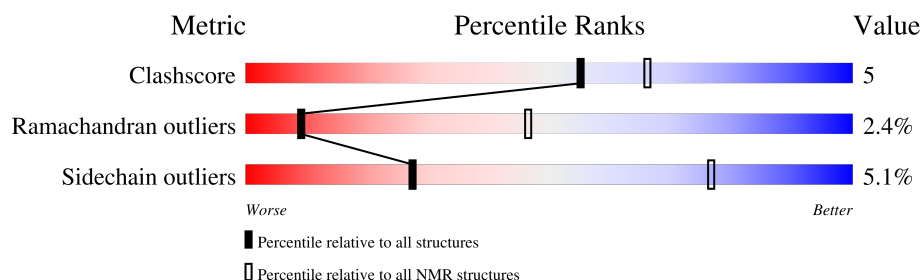
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment is 84%.

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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	102	

2 Ensemble composition and analysis

This entry contains 20 models. Model 7 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:6-A:38 (33)	0.50	4
2	A:41-A:102 (62)	0.90	7

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 and 1 single-model cluster was found.

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

3 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 1289 atoms, of which 602 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Putative metallothionein.

Mol	Chain	Residues	Atoms						Trace
1	A	102	Total	C	H	N	O	S	0
			1280	380	602	124	146	28	

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	GLY	-	expression tag	UNP Q962G0
A	2	SER	-	expression tag	UNP Q962G0

- Molecule 2 is CADMIUM ION (three-letter code: CD) (formula: Cd).

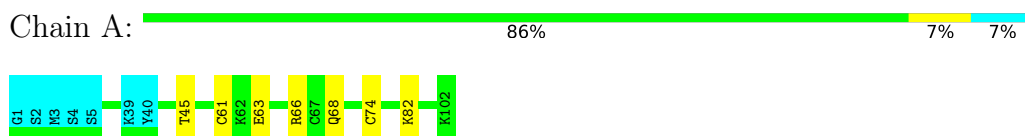
Mol	Chain	Residues	Atoms	
2	A	9	Total	Cd
			9	9

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: Putative metallothionein

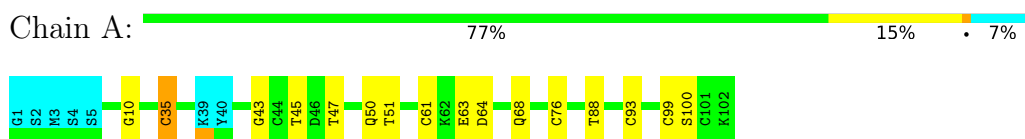


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

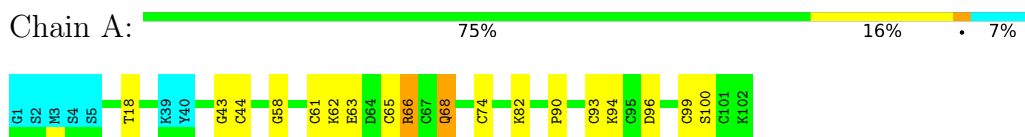
4.2.1 Score per residue for model 1

- Molecule 1: Putative metallothionein



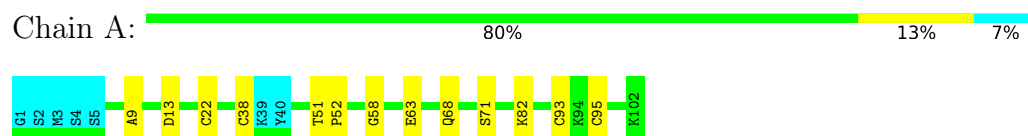
4.2.2 Score per residue for model 2

- Molecule 1: Putative metallothionein



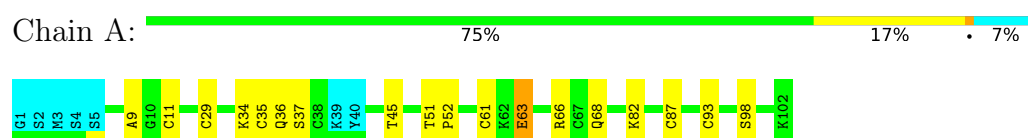
4.2.3 Score per residue for model 3

- Molecule 1: Putative metallothionein



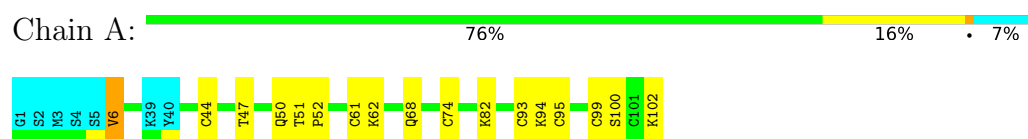
4.2.4 Score per residue for model 4

- Molecule 1: Putative metallothionein



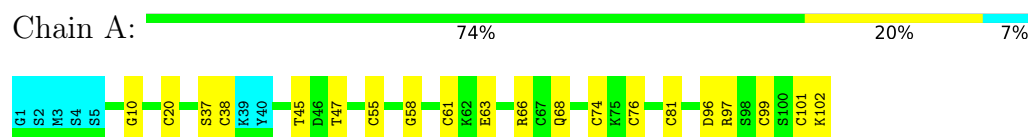
4.2.5 Score per residue for model 5

- Molecule 1: Putative metallothionein



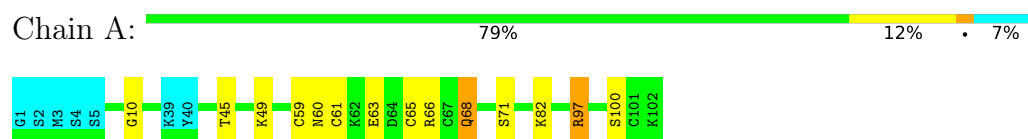
4.2.6 Score per residue for model 6

- Molecule 1: Putative metallothionein




4.2.7 Score per residue for model 7 (medoid)

- Molecule 1: Putative metallothionein



4.2.8 Score per residue for model 8


- Molecule 1: Putative metallothionein

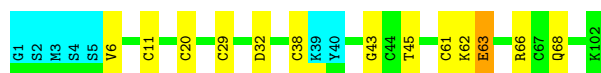
Chain A:  78% 13% • 7%



4.2.9 Score per residue for model 9

- Molecule 1: Putative metallothionein

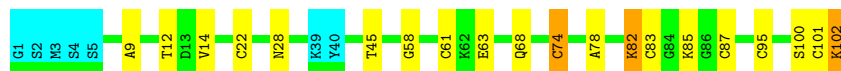
Chain A:  80% 12% • 7%



4.2.10 Score per residue for model 10


- Molecule 1: Putative metallothionein

Chain A:  74% 17% • 7%



4.2.11 Score per residue for model 11


- Molecule 1: Putative metallothionein

Chain A:  84% 7% • 7%



4.2.12 Score per residue for model 12

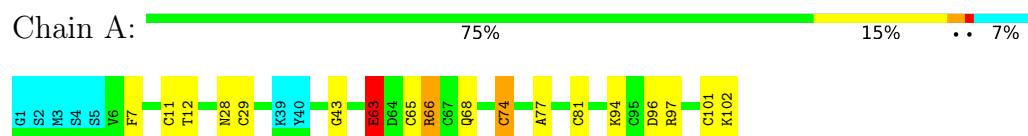
- Molecule 1: Putative metallothionein

Chain A:  82% 10% • 7%



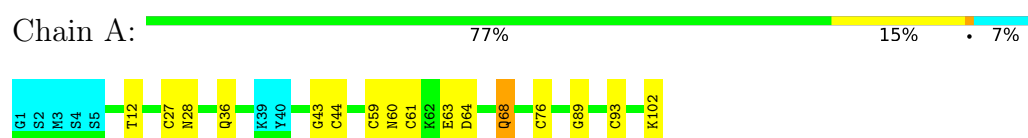
4.2.13 Score per residue for model 13

- Molecule 1: Putative metallothionein



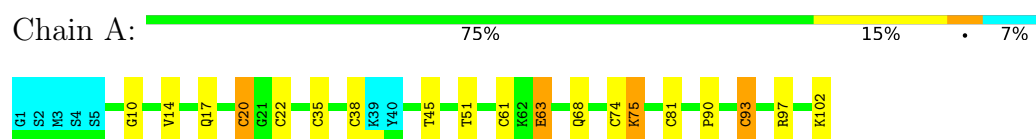
4.2.14 Score per residue for model 14

- Molecule 1: Putative metallothionein



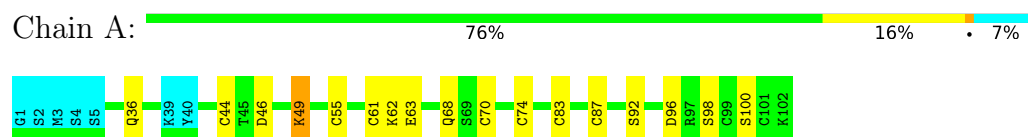
4.2.15 Score per residue for model 15

- Molecule 1: Putative metallothionein



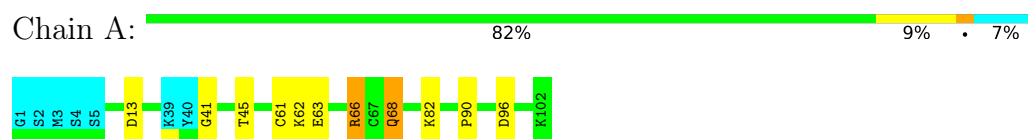
4.2.16 Score per residue for model 16

- Molecule 1: Putative metallothionein




4.2.17 Score per residue for model 17

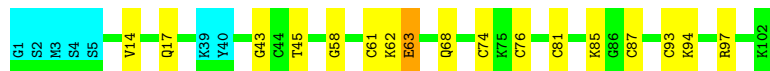
- Molecule 1: Putative metallothionein



4.2.18 Score per residue for model 18


- Molecule 1: Putative metallothionein

Chain A:  76% 16% • 7%



4.2.19 Score per residue for model 19


- Molecule 1: Putative metallothionein

Chain A:  79% 13% • 7%



4.2.20 Score per residue for model 20

- Molecule 1: Putative metallothionein

Chain A:  80% 12% • 7%



5 Refinement protocol and experimental data overview

Of the ? calculated structures, 20 were deposited, based on the following criterion: ?.

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

Software name	Classification	Version
CYANA	structure calculation	3.97
CNS-XPLOR	geometry optimization	

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	846
Number of shifts mapped to atoms	846
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	84%

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: CD

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±0.04	0±0/630 (0.0± 0.0%)	0.45±0.02	0±0/840 (0.0± 0.0%)
All	All	0.56	1/12600 (0.0%)	0.45	0/16800 (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

All unique bond outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	A	74	CYS	CB-SG	-5.91	1.72	1.81	13	1

There are no bond-angle outliers.

There are no chirality outliers.

All unique planar outliers are listed below.

Mol	Chain	Res	Type	Group	Models (Total)
1	A	97	ARG	Sidechain	1

6.2 Too-close contacts [i](#)

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	627	554	554	6±2
All	All	12720	11080	11080	126

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 5.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:74:CYS:SG	1:A:102:LYS:HE2	0.87	2.08	15	2
1:A:101:CYS:SG	1:A:102:LYS:N	0.74	2.60	13	2
1:A:14:VAL:HG23	1:A:17:GLN:NE2	0.60	2.11	15	3
1:A:68:GLN:HB2	1:A:90:PRO:O	0.59	1.98	2	3
1:A:68:GLN:HA	1:A:71:SER:OG	0.58	1.98	7	2
1:A:63:GLU:O	1:A:97:ARG:HB2	0.58	1.99	20	3
1:A:87:CYS:SG	1:A:93:CYS:HA	0.58	2.38	18	1
1:A:74:CYS:SG	1:A:102:LYS:HE3	0.58	2.38	13	2
1:A:76:CYS:SG	1:A:101:CYS:HB2	0.58	2.37	6	1
1:A:101:CYS:O	1:A:102:LYS:HB2	0.57	1.98	13	1
1:A:76:CYS:HB3	1:A:81:CYS:SG	0.57	2.40	18	1
1:A:74:CYS:SG	1:A:102:LYS:HB2	0.56	2.41	10	1
1:A:71:SER:HA	1:A:97:ARG:NH2	0.55	2.16	11	1
1:A:44:CYS:HA	1:A:61:CYS:SG	0.54	2.42	16	4
1:A:63:GLU:O	1:A:97:ARG:HG3	0.53	2.04	18	3
1:A:47:THR:HB	1:A:55:CYS:SG	0.53	2.43	8	3
1:A:85:LYS:HG3	1:A:95:CYS:SG	0.53	2.43	10	1
1:A:75:LYS:N	1:A:75:LYS:HD2	0.52	2.20	15	1
1:A:65:CYS:HB3	1:A:97:ARG:NH1	0.51	2.20	7	1
1:A:45:THR:HG22	1:A:61:CYS:SG	0.51	2.45	20	12
1:A:99:CYS:SG	1:A:101:CYS:HB3	0.51	2.46	20	1
1:A:7:PHE:HB3	1:A:11:CYS:SG	0.51	2.46	13	1
1:A:14:VAL:HG13	1:A:22:CYS:SG	0.51	2.46	10	2
1:A:12:THR:HG21	1:A:28:ASN:HB2	0.50	1.83	10	2
1:A:22:CYS:CB	1:A:38:CYS:HB3	0.50	2.36	19	1
1:A:66:ARG:HA	1:A:96:ASP:HA	0.49	1.84	13	4
1:A:76:CYS:HA	1:A:80:SER:O	0.49	2.08	8	1
1:A:11:CYS:HA	1:A:29:CYS:SG	0.48	2.47	13	2
1:A:22:CYS:HB2	1:A:38:CYS:CB	0.48	2.39	3	2
1:A:20:CYS:SG	1:A:38:CYS:HB3	0.47	2.48	6	3
1:A:96:ASP:OD2	1:A:98:SER:HB2	0.47	2.09	16	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:82:LYS:HE2	1:A:100:SER:O	0.47	2.08	7	1
1:A:83:CYS:HA	1:A:100:SER:HB2	0.47	1.87	10	1
1:A:35:CYS:SG	1:A:37:SER:HB2	0.47	2.50	4	1
1:A:97:ARG:HH11	1:A:97:ARG:CG	0.46	2.23	7	1
1:A:74:CYS:SG	1:A:102:LYS:HB3	0.46	2.50	8	1
1:A:83:CYS:HB3	1:A:101:CYS:CB	0.46	2.40	20	1
1:A:22:CYS:HB2	1:A:38:CYS:HB3	0.46	1.87	19	1
1:A:68:GLN:HB3	1:A:93:CYS:O	0.45	2.10	2	2
1:A:76:CYS:SG	1:A:81:CYS:HA	0.45	2.51	6	1
1:A:74:CYS:SG	1:A:102:LYS:HD3	0.45	2.51	5	1
1:A:68:GLN:NE2	1:A:68:GLN:H	0.45	2.09	3	1
1:A:99:CYS:SG	1:A:100:SER:N	0.44	2.90	2	3
1:A:97:ARG:HH11	1:A:97:ARG:HG3	0.44	1.72	7	1
1:A:99:CYS:C	1:A:101:CYS:H	0.44	2.15	20	1
1:A:77:ALA:HA	1:A:88:THR:O	0.44	2.12	12	1
1:A:43:GLY:O	1:A:65:CYS:HB2	0.44	2.13	2	2
1:A:82:LYS:HG3	1:A:101:CYS:HA	0.43	1.90	8	1
1:A:43:GLY:HA2	1:A:62:LYS:HB2	0.43	1.90	2	3
1:A:62:LYS:HE2	1:A:62:LYS:HA	0.43	1.91	16	3
1:A:83:CYS:HB2	1:A:101:CYS:SG	0.43	2.53	10	1
1:A:59:CYS:SG	1:A:60:ASN:N	0.43	2.92	14	2
1:A:71:SER:HA	1:A:97:ARG:CZ	0.43	2.43	11	1
1:A:83:CYS:HB2	1:A:100:SER:HB2	0.43	1.90	16	1
1:A:37:SER:HA	1:A:66:ARG:NH2	0.42	2.29	19	1
1:A:87:CYS:O	1:A:92:SER:HB2	0.42	2.14	16	1
1:A:12:THR:CG2	1:A:28:ASN:HB2	0.42	2.45	13	1
1:A:55:CYS:HB2	1:A:70:CYS:HB3	0.42	1.90	16	1
1:A:12:THR:HG21	1:A:28:ASN:CB	0.42	2.45	14	1
1:A:90:PRO:HA	1:A:93:CYS:HB2	0.42	1.92	15	1
1:A:6:VAL:HG21	1:A:66:ARG:NH2	0.41	2.30	9	1
1:A:51:THR:HA	1:A:52:PRO:C	0.41	2.35	3	1
1:A:21:GLY:HA2	1:A:24:THR:OG1	0.41	2.15	8	1
1:A:68:GLN:H	1:A:68:GLN:CD	0.41	2.18	14	1
1:A:55:CYS:HA	1:A:58:GLY:O	0.41	2.15	19	1
1:A:89:GLY:O	1:A:93:CYS:HB2	0.41	2.14	14	1
1:A:47:THR:O	1:A:50:GLN:HG3	0.41	2.15	5	2
1:A:82:LYS:H	1:A:82:LYS:HD2	0.41	1.76	10	1
1:A:43:GLY:HA3	1:A:64:ASP:HB3	0.41	1.90	1	1
1:A:97:ARG:HA	1:A:102:LYS:HG2	0.41	1.93	6	1
1:A:74:CYS:HB2	1:A:76:CYS:SG	0.41	2.56	18	1
1:A:85:LYS:HB3	1:A:87:CYS:SG	0.40	2.56	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:76:CYS:HB3	1:A:88:THR:HA	0.40	1.94	1	1
1:A:18:THR:HG22	1:A:94:LYS:HD3	0.40	1.93	2	1
1:A:11:CYS:HA	1:A:29:CYS:HB3	0.40	1.91	9	1
1:A:97:ARG:HA	1:A:102:LYS:O	0.40	2.17	13	1
1:A:87:CYS:SG	1:A:93:CYS:HB3	0.40	2.57	4	1
1:A:20:CYS:HB2	1:A:37:SER:HB3	0.40	1.93	6	1
1:A:46:ASP:HA	1:A:49:LYS:HG2	0.40	1.94	16	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	94/102 (92%)	78±3 (83±3%)	14±2 (15±3%)	2±1 (2±1%)	9	46
All	All	1880/2040 (92%)	1552 (83%)	282 (15%)	46 (2%)	9	46

All 13 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	63	GLU	17
1	A	51	THR	6
1	A	58	GLY	5
1	A	10	GLY	4
1	A	52	PRO	4
1	A	9	ALA	3
1	A	6	VAL	1
1	A	74	CYS	1
1	A	78	ALA	1
1	A	77	ALA	1
1	A	43	GLY	1
1	A	41	GLY	1
1	A	100	SER	1

6.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	76/82 (93%)	72±1 (95±2%)	4±1 (5±2%)	27 77
All	All	1520/1640 (93%)	1443 (95%)	77 (5%)	27 77

All 27 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	68	GLN	18
1	A	82	LYS	8
1	A	66	ARG	6
1	A	93	CYS	4
1	A	74	CYS	4
1	A	63	GLU	4
1	A	95	CYS	3
1	A	36	GLN	3
1	A	94	LYS	3
1	A	102	LYS	3
1	A	13	ASP	2
1	A	49	LYS	2
1	A	47	THR	2
1	A	81	CYS	2
1	A	35	CYS	1
1	A	98	SER	1
1	A	99	CYS	1
1	A	32	ASP	1
1	A	30	THR	1
1	A	27	CYS	1
1	A	64	ASP	1
1	A	76	CYS	1
1	A	20	CYS	1
1	A	75	LYS	1
1	A	85	LYS	1
1	A	34	LYS	1
1	A	62	LYS	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 9 ligands modelled in this entry, 9 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 [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 84% for the well-defined parts and 81% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *shiftFile_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	846
Number of shifts mapped to atoms	846
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	3

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
$^{13}\text{C}_\alpha$	98	-3.52 ± 0.30	Should be checked
$^{13}\text{C}_\beta$	85	-2.40 ± 0.19	Should be checked
$^{13}\text{C}'$	0	—	None (insufficient data)
^{15}N	93	-0.83 ± 0.39	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 84%, i.e. 818 atoms were assigned a chemical shift out of a possible 970. 0 out of 2 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^1H	^{13}C	^{15}N
Backbone	385/482 (80%)	199/200 (100%)	95/190 (50%)	91/92 (99%)
Sidechain	433/478 (91%)	291/304 (96%)	136/153 (89%)	6/21 (29%)

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	Total	¹ H	¹³ C	¹⁵ N
Aromatic	0/10 (0%)	0/5 (0%)	0/5 (0%)	0/0 (—%)
Overall	818/970 (84%)	490/509 (96%)	231/348 (66%)	97/113 (86%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 81%, i.e. 846 atoms were assigned a chemical shift out of a possible 1050. 0 out of 2 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	¹ H	¹³ C	¹⁵ N
Backbone	395/518 (76%)	204/215 (95%)	98/204 (48%)	93/99 (94%)
Sidechain	451/513 (88%)	303/327 (93%)	142/164 (87%)	6/22 (27%)
Aromatic	0/19 (0%)	0/9 (0%)	0/10 (0%)	0/0 (—%)
Overall	846/1050 (81%)	507/551 (92%)	240/378 (63%)	99/121 (82%)

7.1.4 Statistically unusual chemical shifts [i](#)

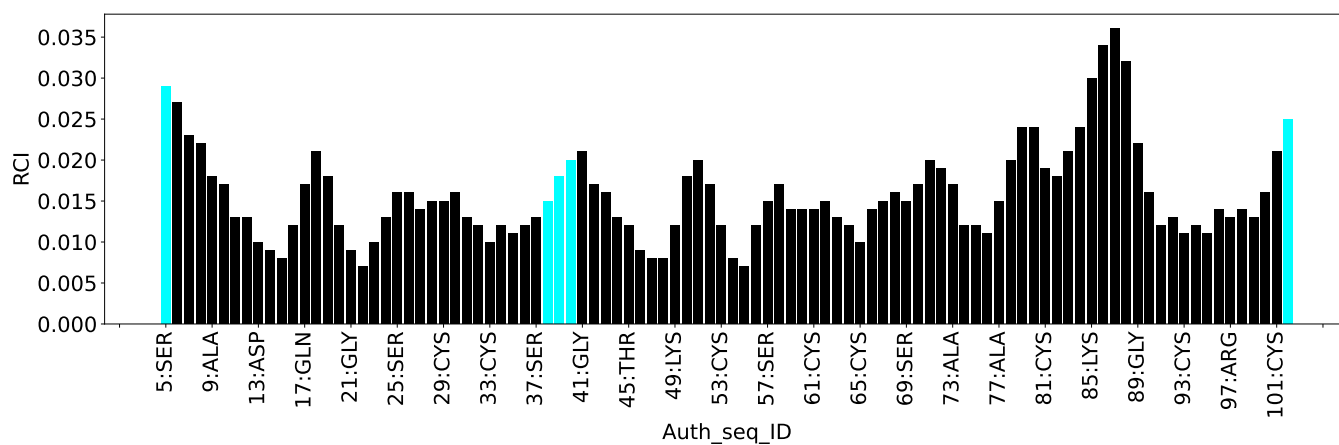
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, ppm	Expected range, ppm	Z-score
1	A	49	LYS	HG2	-0.48	0.13 – 2.61	-7.5
1	A	16	LYS	HG2	-0.41	0.13 – 2.61	-7.2
1	A	102	LYS	CE	46.32	37.57 – 46.21	5.1

7.1.5 Random Coil Index (RCI) plots [i](#)

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

Random coil index (RCI) for chain A:



8 NMR restraints analysis

8.1 Conformationally restricting restraints

The following table provides the summary of experimentally observed NMR restraints in different categories. Restraints are classified into different categories based on the sequence separation of the atoms involved.

Description	Value
Total distance restraints	1290
Intra-residue ($ i-j =0$)	264
Sequential ($ i-j =1$)	463
Medium range ($ i-j >1$ and $ i-j <5$)	286
Long range ($ i-j \geq 5$)	277
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	11.6
Number of long range restraints per residue ¹	2.5

¹Long 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)	25.8	0.2
0.2-0.5 (Medium)	9.8	0.48
>0.5 (Large)	0.3	1.11

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 ⓘ

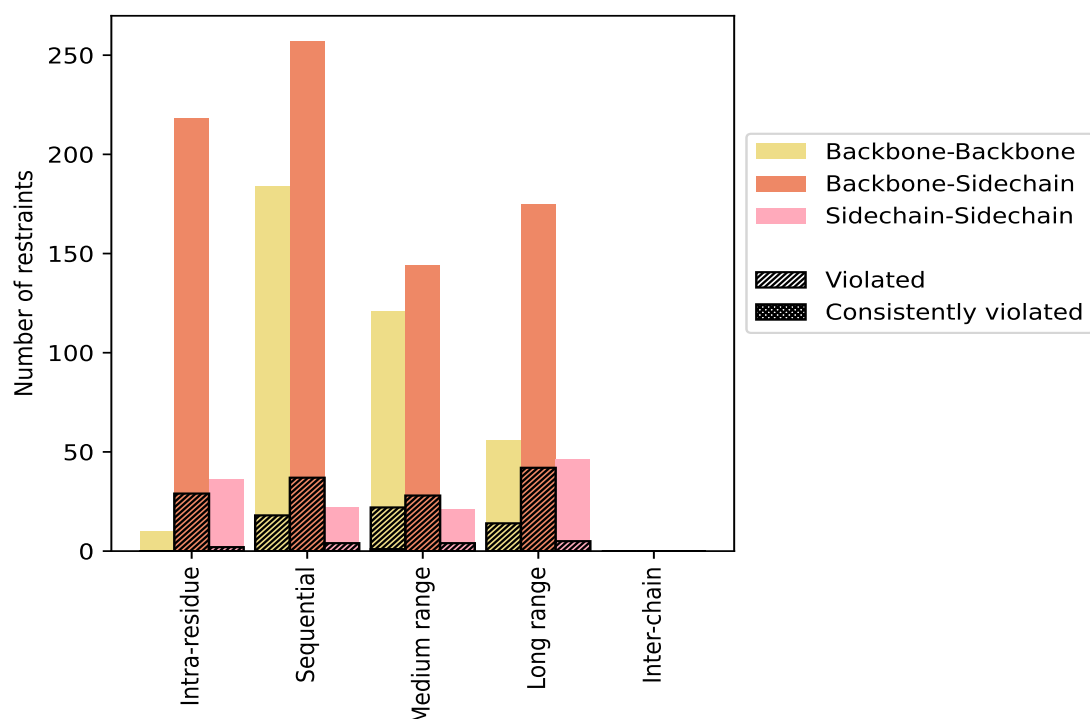
9.1 Summary of distance violations ⓘ

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

Restraints type	Count	% ¹	Violated ³			Consistently Violated ⁴		
			Count	% ²	% ¹	Count	% ²	% ¹
Intra-residue ($i-j =0$)	264	20.5	31	11.7	2.4	0	0.0	0.0
Backbone-Backbone	10	0.8	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	218	16.9	29	13.3	2.2	0	0.0	0.0
Sidechain-Sidechain	36	2.8	2	5.6	0.2	0	0.0	0.0
Sequential ($i-j =1$)	463	35.9	59	12.7	4.6	0	0.0	0.0
Backbone-Backbone	184	14.3	18	9.8	1.4	0	0.0	0.0
Backbone-Sidechain	257	19.9	37	14.4	2.9	0	0.0	0.0
Sidechain-Sidechain	22	1.7	4	18.2	0.3	0	0.0	0.0
Medium range ($i-j >1$ & $i-j <5$)	286	22.2	54	18.9	4.2	1	0.3	0.1
Backbone-Backbone	121	9.4	22	18.2	1.7	1	0.8	0.1
Backbone-Sidechain	144	11.2	28	19.4	2.2	0	0.0	0.0
Sidechain-Sidechain	21	1.6	4	19.0	0.3	0	0.0	0.0
Long range ($i-j \geq 5$)	277	21.5	61	22.0	4.7	0	0.0	0.0
Backbone-Backbone	56	4.3	14	25.0	1.1	0	0.0	0.0
Backbone-Sidechain	175	13.6	42	24.0	3.3	0	0.0	0.0
Sidechain-Sidechain	46	3.6	5	10.9	0.4	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	1290	100.0	205	15.9	15.9	1	0.1	0.1
Backbone-Backbone	371	28.8	54	14.6	4.2	1	0.3	0.1
Backbone-Sidechain	794	61.6	136	17.1	10.5	0	0.0	0.0
Sidechain-Sidechain	125	9.7	15	12.0	1.2	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	7	9	10	9	0	35	0.19	0.41	0.08	0.18
2	9	11	7	10	0	37	0.18	0.46	0.08	0.16
3	6	11	5	9	0	31	0.2	0.39	0.07	0.19
4	3	8	6	9	0	26	0.16	0.27	0.05	0.15
5	3	10	8	9	0	30	0.21	0.39	0.09	0.18
6	5	9	12	7	0	33	0.16	0.4	0.07	0.13
7	8	15	13	14	0	50	0.16	0.35	0.06	0.14
8	7	10	15	19	0	51	0.18	0.96	0.12	0.15
9	5	10	15	14	0	44	0.17	0.3	0.05	0.17
10	3	10	10	15	0	38	0.2	0.62	0.1	0.18

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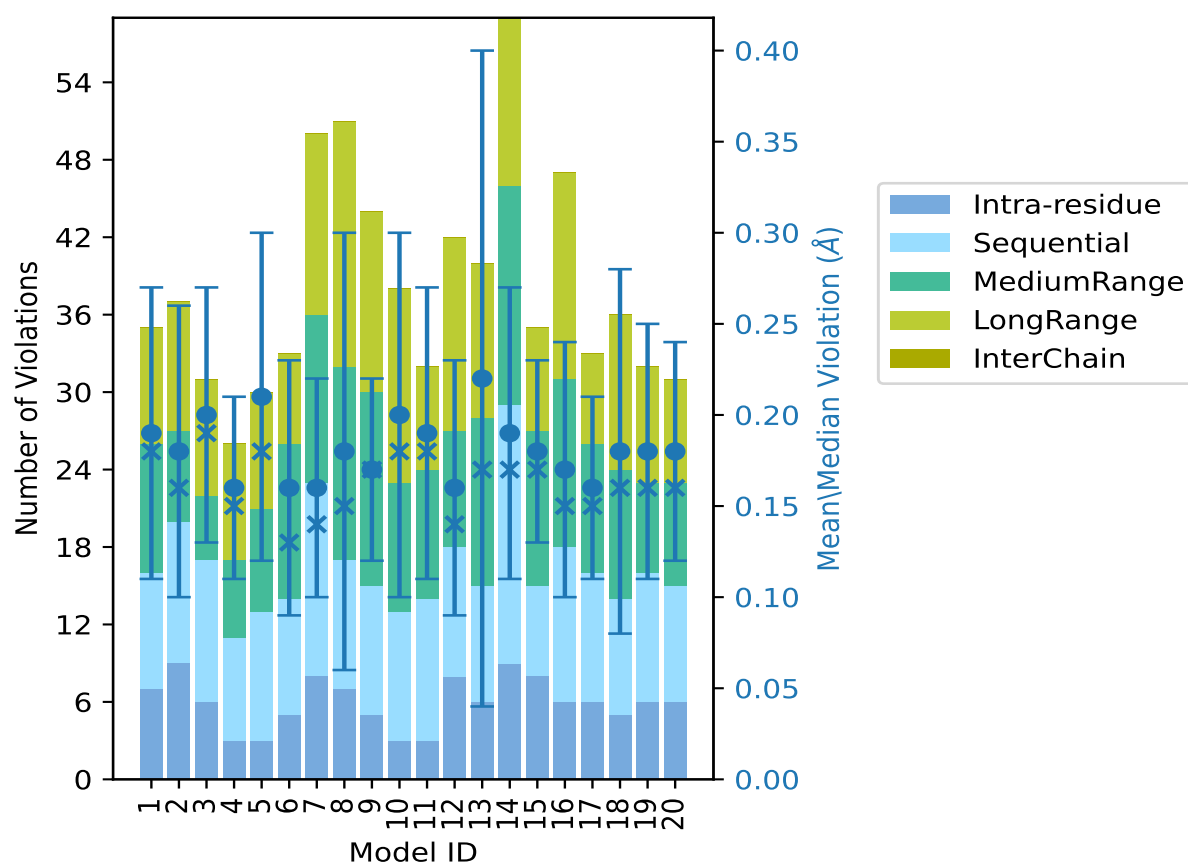
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Model ID	Number of violations						Mean (Å)	Max (Å)	SD ⁶ (Å)	Median (Å)
	IR ¹	SQ ²	MR ³	LR ⁴	IC ⁵	Total				
11	3	11	10	8	0	32	0.19	0.52	0.08	0.18
12	8	10	9	15	0	42	0.16	0.38	0.07	0.14
13	6	9	13	12	0	40	0.22	1.11	0.18	0.17
14	9	20	17	13	0	59	0.19	0.46	0.08	0.17
15	8	7	12	8	0	35	0.18	0.28	0.05	0.17
16	6	12	13	16	0	47	0.17	0.47	0.07	0.15
17	6	10	10	7	0	33	0.16	0.28	0.05	0.15
18	5	9	10	12	0	36	0.18	0.56	0.1	0.16
19	6	10	7	9	0	32	0.18	0.4	0.07	0.16
20	6	9	8	8	0	31	0.18	0.38	0.06	0.16

¹Intra-residue restraints, ²Sequential restraints, ³Medium range restraints, ⁴Long range restraints,

⁵Inter-chain restraints, ⁶Standard deviation

9.2.1 Bar graph : Distance Violation statistics for each model ⓘ



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

9.3 Distance violation statistics for the ensemble

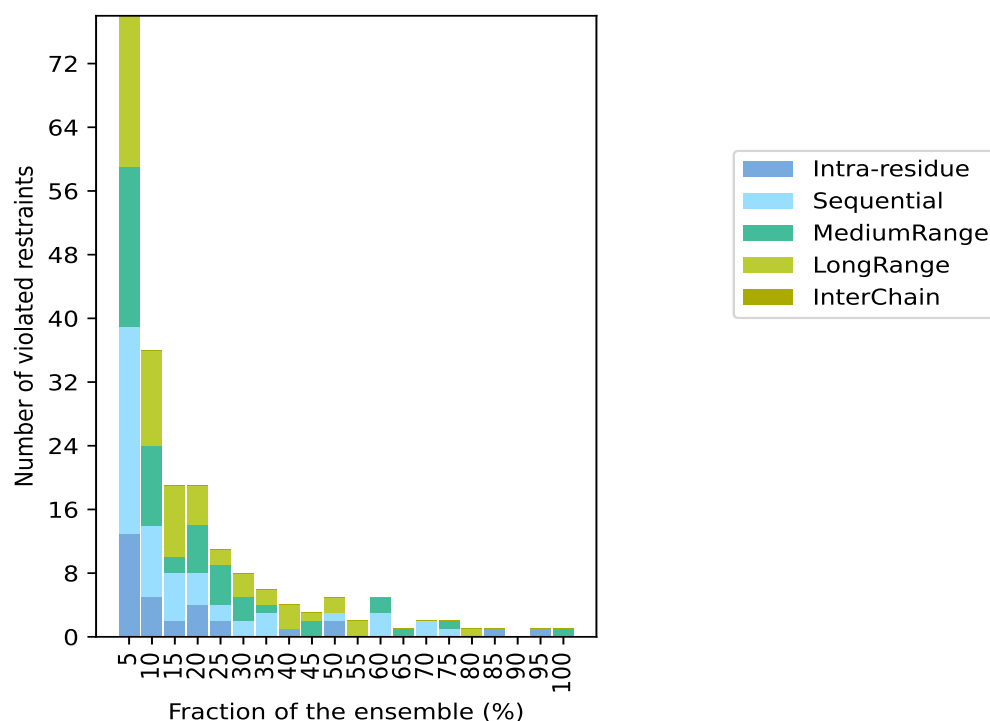
Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 1085(IR:233, SQ:404, MR:232, LR:216, IC:0) restraints are 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	%
13	26	20	19	0	78	1	5.0
5	9	10	12	0	36	2	10.0
2	6	2	9	0	19	3	15.0
4	4	6	5	0	19	4	20.0
2	2	5	2	0	11	5	25.0
0	2	3	3	0	8	6	30.0
0	3	1	2	0	6	7	35.0
1	0	0	3	0	4	8	40.0
0	0	2	1	0	3	9	45.0
2	1	0	2	0	5	10	50.0
0	0	0	2	0	2	11	55.0
0	3	2	0	0	5	12	60.0
0	0	1	0	0	1	13	65.0
0	2	0	0	0	2	14	70.0
0	1	1	0	0	2	15	75.0
0	0	0	1	0	1	16	80.0
1	0	0	0	0	1	17	85.0
0	0	0	0	0	0	18	90.0
1	0	0	0	0	1	19	95.0
0	0	1	0	0	1	20	100.0

¹Intra-residue restraints, ²Sequential restraints, ³Medium range restraints, ⁴Long range restraints,

⁵Inter-chain restraints, ⁶ Number of models with violations

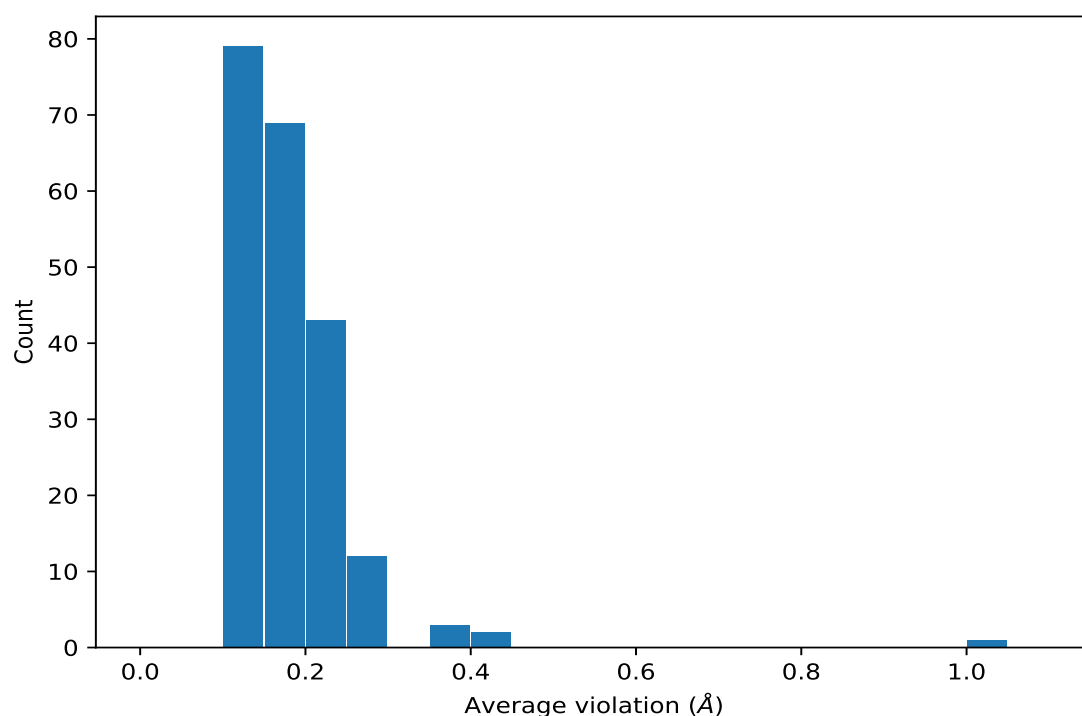
9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



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)
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	20	0.22	0.04	0.22
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	19	0.18	0.03	0.18
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	17	0.19	0.08	0.19
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	16	0.15	0.03	0.15
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	15	0.26	0.08	0.26
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	15	0.26	0.08	0.26
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	15	0.17	0.03	0.17
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	15	0.17	0.03	0.17
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	14	0.17	0.04	0.18
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	14	0.14	0.03	0.12
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	13	0.2	0.05	0.2
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	12	0.2	0.09	0.16
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	12	0.2	0.09	0.16
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	12	0.19	0.05	0.2
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	12	0.19	0.05	0.2
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	12	0.16	0.03	0.16

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Key	Atom-1	Atom-2	Models ¹	Mean (Å)	SD ¹ (Å)	Median (Å)
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	12	0.16	0.03	0.16
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	12	0.16	0.03	0.16
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	12	0.15	0.05	0.15
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	11	0.24	0.04	0.23
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	11	0.19	0.05	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	11	0.19	0.05	0.19
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	10	0.25	0.13	0.24
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	10	0.25	0.1	0.26
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	10	0.25	0.1	0.26
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	10	0.22	0.01	0.22
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	10	0.19	0.03	0.18
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	10	0.19	0.03	0.18
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	10	0.17	0.05	0.17
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	9	0.21	0.06	0.21
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	9	0.21	0.06	0.21
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	9	0.19	0.08	0.17
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	9	0.19	0.08	0.17
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	9	0.15	0.04	0.13
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	8	0.28	0.08	0.3
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	8	0.28	0.08	0.3
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	8	0.19	0.04	0.2
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	8	0.18	0.05	0.18
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	8	0.18	0.05	0.18
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	8	0.16	0.04	0.16
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	7	0.22	0.13	0.15
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	7	0.22	0.13	0.15
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	7	0.22	0.13	0.15
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	7	0.22	0.13	0.15
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	7	0.17	0.04	0.17
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	7	0.17	0.04	0.17
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	7	0.16	0.05	0.14
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	7	0.16	0.05	0.15
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	7	0.16	0.05	0.15
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	7	0.13	0.04	0.11
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	7	0.13	0.03	0.1
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	6	0.2	0.09	0.18
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	6	0.2	0.09	0.18
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	6	0.2	0.09	0.18
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	6	0.2	0.09	0.18
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	6	0.2	0.09	0.18
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	6	0.2	0.09	0.18
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	6	0.19	0.04	0.19

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Key	Atom-1	Atom-2	Models ¹	Mean (Å)	SD ¹ (Å)	Median (Å)
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	6	0.19	0.04	0.19
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	6	0.19	0.05	0.17
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	6	0.19	0.05	0.17
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	6	0.19	0.06	0.18
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	6	0.19	0.06	0.18
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	6	0.16	0.06	0.14
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	6	0.16	0.06	0.14
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	6	0.16	0.05	0.14
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	6	0.16	0.05	0.14
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	6	0.16	0.03	0.15
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	6	0.14	0.02	0.14
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	6	0.14	0.02	0.14
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	5	0.42	0.25	0.41
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	5	0.42	0.25	0.41
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	5	0.28	0.11	0.23
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	5	0.22	0.1	0.19
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	5	0.17	0.07	0.14
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	5	0.17	0.07	0.14
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	5	0.17	0.01	0.17
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	5	0.17	0.03	0.17
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	5	0.17	0.03	0.17
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	5	0.14	0.03	0.14
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	5	0.14	0.03	0.13
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	5	0.14	0.03	0.13
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	5	0.14	0.01	0.14
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	5	0.13	0.01	0.14
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	5	0.11	0.01	0.11
(1,247)	1:24:A:THR:H	1:24:A:THR:HG21	4	0.39	0.01	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG22	4	0.39	0.01	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG23	4	0.39	0.01	0.4
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD2	4	0.24	0.03	0.22
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD3	4	0.24	0.03	0.22
(1,484)	1:78:A:ALA:HA	1:79:A:GLY:H	4	0.22	0.01	0.23
(1,208)	1:77:A:ALA:HB1	1:80:A:SER:HB3	4	0.22	0.1	0.2
(1,208)	1:77:A:ALA:HB2	1:80:A:SER:HB3	4	0.22	0.1	0.2
(1,208)	1:77:A:ALA:HB3	1:80:A:SER:HB3	4	0.22	0.1	0.2
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD2	4	0.22	0.08	0.22
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD3	4	0.22	0.08	0.22
(1,724)	1:76:A:CYS:H	1:81:A:CYS:HA	4	0.2	0.04	0.2
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB2	4	0.18	0.05	0.18
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB3	4	0.18	0.05	0.18
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE21	4	0.18	0.07	0.16

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Key	Atom-1	Atom-2	Models ¹	Mean (Å)	SD ¹ (Å)	Median (Å)
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE22	4	0.18	0.07	0.16
(1,377)	1:8:A:GLY:HA2	1:32:A:ASP:H	4	0.18	0.05	0.16
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB2	4	0.17	0.04	0.16
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB3	4	0.17	0.04	0.16
(1,156)	1:77:A:ALA:HB1	1:80:A:SER:HB2	4	0.17	0.03	0.16
(1,156)	1:77:A:ALA:HB2	1:80:A:SER:HB2	4	0.17	0.03	0.16
(1,156)	1:77:A:ALA:HB3	1:80:A:SER:HB2	4	0.17	0.03	0.16
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG2	4	0.15	0.04	0.14
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG3	4	0.15	0.04	0.14
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD2	4	0.14	0.02	0.15
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD3	4	0.14	0.02	0.15
(1,898)	1:62:A:LYS:H	1:65:A:CYS:H	4	0.14	0.04	0.12
(1,70)	1:5:A:SER:HA	1:6:A:VAL:HB	4	0.14	0.01	0.15
(1,471)	1:26:A:GLY:H	1:27:A:CYS:H	4	0.13	0.02	0.12
(1,741)	1:29:A:CYS:H	1:33:A:CYS:HB2	4	0.12	0.03	0.11
(1,559)	1:8:A:GLY:H	1:34:A:LYS:HB2	4	0.12	0.01	0.12
(1,268)	1:20:A:CYS:H	1:22:A:CYS:H	4	0.12	0.01	0.12
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE2	3	0.25	0.14	0.21
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE3	3	0.25	0.14	0.21
(1,553)	1:12:A:THR:HG21	1:28:A:ASN:H	3	0.21	0.03	0.21
(1,553)	1:12:A:THR:HG22	1:28:A:ASN:H	3	0.21	0.03	0.21
(1,553)	1:12:A:THR:HG23	1:28:A:ASN:H	3	0.21	0.03	0.21
(1,1106)	1:49:A:LYS:HG2	1:50:A:GLN:HE21	3	0.19	0.08	0.15
(1,1106)	1:49:A:LYS:HG3	1:50:A:GLN:HE21	3	0.19	0.08	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG2	3	0.19	0.05	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG3	3	0.19	0.05	0.15
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG2	3	0.18	0.06	0.18
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG3	3	0.18	0.06	0.18
(1,115)	1:100:A:SER:HA	1:102:A:LYS:H	3	0.18	0.05	0.15
(1,952)	1:97:A:ARG:HA	1:102:A:LYS:H	3	0.15	0.05	0.13
(1,1001)	1:14:A:VAL:HG11	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1001)	1:14:A:VAL:HG12	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1001)	1:14:A:VAL:HG13	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1001)	1:14:A:VAL:HG21	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1001)	1:14:A:VAL:HG22	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1001)	1:14:A:VAL:HG23	1:20:A:CYS:HA	3	0.15	0.01	0.14
(1,1170)	1:71:A:SER:HB2	1:72:A:THR:H	3	0.15	0.01	0.14
(1,1170)	1:71:A:SER:HB3	1:72:A:THR:H	3	0.15	0.01	0.14
(1,164)	1:14:A:VAL:HG11	1:25:A:SER:HB2	3	0.15	0.03	0.16
(1,164)	1:14:A:VAL:HG12	1:25:A:SER:HB2	3	0.15	0.03	0.16
(1,164)	1:14:A:VAL:HG13	1:25:A:SER:HB2	3	0.15	0.03	0.16
(1,833)	1:92:A:SER:H	1:93:A:CYS:HA	3	0.15	0.02	0.14

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Key	Atom-1	Atom-2	Models ¹	Mean (Å)	SD ¹ (Å)	Median (Å)
(1,1208)	1:80:A:SER:HB2	1:88:A:THR:HB	3	0.15	0.04	0.13
(1,1208)	1:80:A:SER:HB3	1:88:A:THR:HB	3	0.15	0.04	0.13
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG2	3	0.14	0.01	0.14
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG3	3	0.14	0.01	0.14
(1,295)	1:55:A:CYS:H	1:70:A:CYS:HB2	3	0.14	0.04	0.11
(1,859)	1:50:A:GLN:HB2	1:51:A:THR:H	3	0.13	0.02	0.13
(1,859)	1:50:A:GLN:HB3	1:51:A:THR:H	3	0.13	0.02	0.13
(1,718)	1:76:A:CYS:H	1:89:A:GLY:HA2	3	0.13	0.02	0.11
(1,591)	1:37:A:SER:H	1:38:A:CYS:HA	3	0.12	0.01	0.12
(1,137)	1:69:A:SER:H	1:69:A:SER:HB3	3	0.12	0.02	0.11
(1,678)	1:23:A:ALA:HA	1:25:A:SER:H	3	0.11	0.01	0.11
(1,123)	1:74:A:CYS:HA	1:102:A:LYS:HA	2	1.04	0.08	1.04
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE2	2	0.28	0.18	0.28
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE3	2	0.28	0.18	0.28
(1,129)	1:66:A:ARG:HA	1:96:A:ASP:HB2	2	0.22	0.01	0.22
(1,1081)	1:40:A:TYR:HB2	1:44:A:CYS:HB2	2	0.22	0.06	0.22
(1,1081)	1:40:A:TYR:HB3	1:44:A:CYS:HB2	2	0.22	0.06	0.22
(1,310)	1:24:A:THR:HG21	1:26:A:GLY:H	2	0.22	0.04	0.22
(1,310)	1:24:A:THR:HG22	1:26:A:GLY:H	2	0.22	0.04	0.22
(1,310)	1:24:A:THR:HG23	1:26:A:GLY:H	2	0.22	0.04	0.22
(1,456)	1:94:A:LYS:H	1:95:A:CYS:H	2	0.22	0.08	0.22
(1,904)	1:77:A:ALA:HB1	1:89:A:GLY:H	2	0.2	0.04	0.2
(1,904)	1:77:A:ALA:HB2	1:89:A:GLY:H	2	0.2	0.04	0.2
(1,904)	1:77:A:ALA:HB3	1:89:A:GLY:H	2	0.2	0.04	0.2
(1,1079)	1:40:A:TYR:HB2	1:41:A:GLY:H	2	0.2	0.02	0.2
(1,1079)	1:40:A:TYR:HB3	1:41:A:GLY:H	2	0.2	0.02	0.2
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD2	2	0.19	0.06	0.19
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD3	2	0.19	0.06	0.19
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE2	2	0.18	0.02	0.18
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE3	2	0.18	0.02	0.18
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG2	2	0.18	0.01	0.18
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG3	2	0.18	0.01	0.18
(1,697)	1:63:A:GLU:HA	1:65:A:CYS:H	2	0.17	0.0	0.17
(1,195)	1:67:A:CYS:HA	1:68:A:GLN:HG2	2	0.16	0.02	0.16
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB2	2	0.16	0.02	0.16
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB3	2	0.16	0.02	0.16
(1,124)	1:39:A:LYS:HA	1:39:A:LYS:HD2	2	0.15	0.02	0.15
(1,181)	1:8:A:GLY:HA2	1:32:A:ASP:HA	2	0.15	0.02	0.15
(1,963)	1:37:A:SER:HA	1:40:A:TYR:H	2	0.15	0.0	0.15
(1,577)	1:9:A:ALA:H	1:11:A:CYS:H	2	0.14	0.03	0.14
(1,1193)	1:76:A:CYS:HB2	1:81:A:CYS:H	2	0.14	0.03	0.14
(1,1193)	1:76:A:CYS:HB3	1:81:A:CYS:H	2	0.14	0.03	0.14

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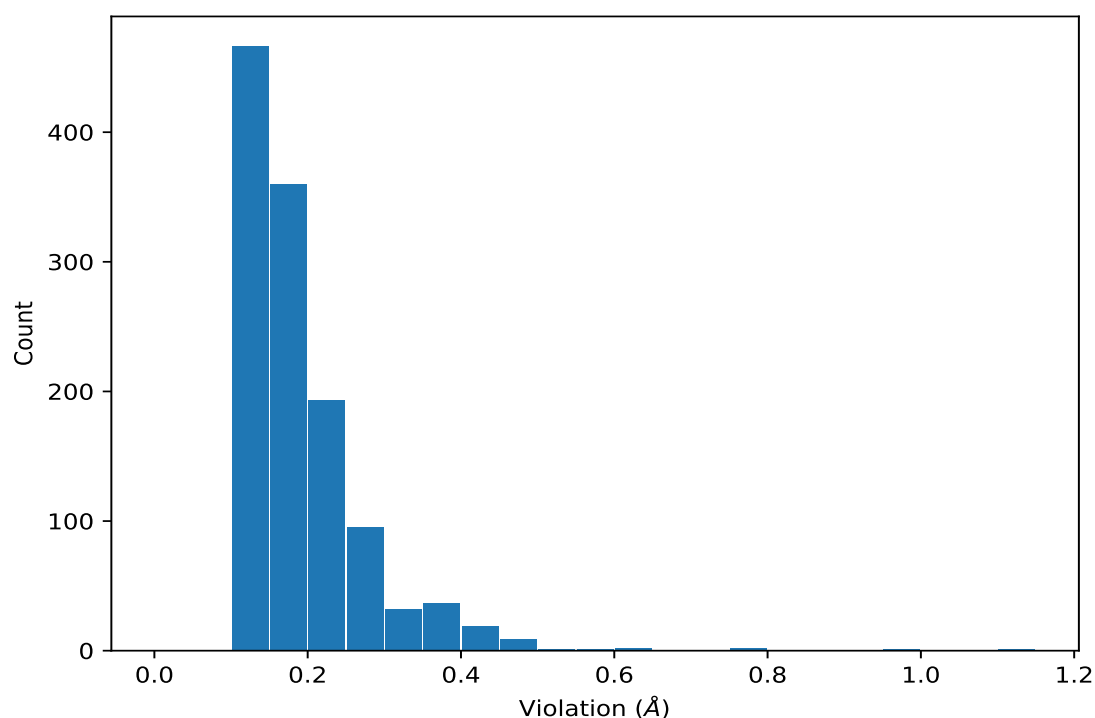
Key	Atom-1	Atom-2	Models ¹	Mean (Å)	SD ¹ (Å)	Median (Å)
(1,744)	1:12:A:THR:HG21	1:29:A:CYS:H	2	0.14	0.02	0.14
(1,744)	1:12:A:THR:HG22	1:29:A:CYS:H	2	0.14	0.02	0.14
(1,744)	1:12:A:THR:HG23	1:29:A:CYS:H	2	0.14	0.02	0.14
(1,243)	1:24:A:THR:H	1:24:A:THR:HB	2	0.14	0.02	0.14
(1,796)	1:30:A:THR:H	1:33:A:CYS:HB2	2	0.14	0.02	0.14
(1,811)	1:42:A:ALA:HB1	1:64:A:ASP:H	2	0.14	0.02	0.14
(1,811)	1:42:A:ALA:HB2	1:64:A:ASP:H	2	0.14	0.02	0.14
(1,811)	1:42:A:ALA:HB3	1:64:A:ASP:H	2	0.14	0.02	0.14
(1,154)	1:73:A:ALA:HB1	1:90:A:PRO:HG2	2	0.13	0.01	0.13
(1,154)	1:73:A:ALA:HB2	1:90:A:PRO:HG2	2	0.13	0.01	0.13
(1,154)	1:73:A:ALA:HB3	1:90:A:PRO:HG2	2	0.13	0.01	0.13
(1,227)	1:74:A:CYS:HB2	1:90:A:PRO:HA	2	0.12	0.02	0.12
(1,339)	1:81:A:CYS:HA	1:84:A:GLY:H	2	0.12	0.02	0.12
(1,412)	1:58:A:GLY:H	1:70:A:CYS:HB2	2	0.12	0.01	0.12
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB2	2	0.12	0.02	0.12
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB3	2	0.12	0.02	0.12
(1,223)	1:89:A:GLY:HA2	1:90:A:PRO:HG2	2	0.12	0.02	0.12
(1,305)	1:23:A:ALA:HA	1:26:A:GLY:H	2	0.12	0.01	0.12
(1,1128)	1:60:A:ASN:HD21	1:61:A:CYS:H	2	0.12	0.01	0.12
(1,1128)	1:60:A:ASN:HD22	1:61:A:CYS:H	2	0.12	0.01	0.12
(1,252)	1:73:A:ALA:H	1:90:A:PRO:HG3	2	0.12	0.0	0.12
(1,709)	1:69:A:SER:H	1:70:A:CYS:HB3	2	0.12	0.0	0.12
(1,308)	1:22:A:CYS:HB3	1:26:A:GLY:H	2	0.11	0.01	0.11
(1,410)	1:57:A:SER:HA	1:58:A:GLY:H	2	0.11	0.01	0.11
(1,468)	1:22:A:CYS:HA	1:27:A:CYS:H	2	0.11	0.0	0.11

¹Number of violated models, ²Standard 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)
(1,123)	1:74:A:CYS:HA	1:102:A:LYS:HA	13	1.11
(1,123)	1:74:A:CYS:HA	1:102:A:LYS:HA	8	0.96
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	13	0.78
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	13	0.78
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	10	0.62
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	10	0.62
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	18	0.56
(1,732)	1:40:A:TYR:HA	1:41:A:GLY:H	11	0.52
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	10	0.48
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE2	16	0.47
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE3	16	0.47
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	2	0.46
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	2	0.46
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	2	0.46
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	2	0.46
(1,1140)	1:64:A:ASP:HA	1:96:A:ASP:HB2	14	0.46

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1140)	1:64:A:ASP:HA	1:96:A:ASP:HB3	14	0.46
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE2	18	0.44
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE3	18	0.44
(1,45)	1:49:A:LYS:HA	1:49:A:LYS:HE2	14	0.44
(1,45)	1:49:A:LYS:HA	1:49:A:LYS:HE3	14	0.44
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	2	0.43
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	2	0.43
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	1	0.41
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	1	0.41
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	14	0.41
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	8	0.4
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	8	0.4
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	6	0.4
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	6	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG21	1	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG22	1	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG23	1	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG21	19	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG22	19	0.4
(1,247)	1:24:A:THR:H	1:24:A:THR:HG23	19	0.4
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	5	0.39
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	5	0.39
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	5	0.39
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	5	0.39
(1,628)	1:6:A:VAL:HG11	1:7:A:PHE:H	18	0.39
(1,628)	1:6:A:VAL:HG12	1:7:A:PHE:H	18	0.39
(1,628)	1:6:A:VAL:HG13	1:7:A:PHE:H	18	0.39
(1,247)	1:24:A:THR:H	1:24:A:THR:HG21	3	0.39
(1,247)	1:24:A:THR:H	1:24:A:THR:HG22	3	0.39
(1,247)	1:24:A:THR:H	1:24:A:THR:HG23	3	0.39
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	5	0.38
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	5	0.38
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	20	0.38
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	20	0.38
(1,247)	1:24:A:THR:H	1:24:A:THR:HG21	12	0.38
(1,247)	1:24:A:THR:H	1:24:A:THR:HG22	12	0.38
(1,247)	1:24:A:THR:H	1:24:A:THR:HG23	12	0.38
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	5	0.38
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	5	0.38
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	5	0.38
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	5	0.38
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	5	0.38

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	5	0.38
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	12	0.37
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	12	0.37
(1,208)	1:77:A:ALA:HB1	1:80:A:SER:HB3	13	0.37
(1,208)	1:77:A:ALA:HB2	1:80:A:SER:HB3	13	0.37
(1,208)	1:77:A:ALA:HB3	1:80:A:SER:HB3	13	0.37
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	12	0.36
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	5	0.36
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	5	0.36
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	5	0.35
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	5	0.35
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	7	0.35
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	7	0.35
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	19	0.35
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	19	0.35
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	19	0.34
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	1	0.34
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	1	0.34
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	8	0.34
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	8	0.34
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	14	0.34
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	14	0.34
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	6	0.33
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	6	0.33
(1,814)	1:68:A:GLN:HE21	1:94:A:LYS:HA	3	0.33
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	11	0.33
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	3	0.32
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	13	0.31
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	13	0.31
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD2	12	0.31
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD3	12	0.31
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	7	0.31
(1,623)	1:6:A:VAL:H	1:6:A:VAL:HG11	5	0.31
(1,623)	1:6:A:VAL:H	1:6:A:VAL:HG12	5	0.31
(1,623)	1:6:A:VAL:H	1:6:A:VAL:HG13	5	0.31
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	5	0.3
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	5	0.3
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	20	0.3
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	20	0.3
(1,1106)	1:49:A:LYS:HG2	1:50:A:GLN:HE21	9	0.3
(1,1106)	1:49:A:LYS:HG3	1:50:A:GLN:HE21	9	0.3
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	1	0.3

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	2	0.3
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	14	0.3
(1,456)	1:94:A:LYS:H	1:95:A:CYS:H	5	0.3
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	1	0.3
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	1	0.3
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	10	0.29
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	10	0.29
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD2	6	0.29
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD3	6	0.29
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	16	0.29
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	3	0.29
(1,560)	1:8:A:GLY:H	1:9:A:ALA:HB1	14	0.29
(1,560)	1:8:A:GLY:H	1:9:A:ALA:HB2	14	0.29
(1,560)	1:8:A:GLY:H	1:9:A:ALA:HB3	14	0.29
(1,206)	1:102:A:LYS:HA	1:102:A:LYS:HD3	2	0.29
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	16	0.28
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	16	0.28
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	3	0.28
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	3	0.28
(1,1081)	1:40:A:TYR:HB2	1:44:A:CYS:HB2	1	0.28
(1,1081)	1:40:A:TYR:HB3	1:44:A:CYS:HB2	1	0.28
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD2	15	0.28
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD3	15	0.28
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE21	19	0.28
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE22	19	0.28
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	11	0.28
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	11	0.28
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	5	0.28
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	14	0.28
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	12	0.28
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	12	0.28
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	17	0.28
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	14	0.28
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	14	0.28
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	7	0.27
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	7	0.27
(1,1171)	1:72:A:THR:H	1:102:A:LYS:HD2	15	0.27
(1,1171)	1:72:A:THR:H	1:102:A:LYS:HD3	15	0.27
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	8	0.27
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	8	0.27
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	10	0.27
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	10	0.27

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	9	0.27
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	9	0.27
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	10	0.27
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	10	0.27
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	15	0.27
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	7	0.27
(1,237)	1:75:A:LYS:HA	1:75:A:LYS:HD2	15	0.27
(1,237)	1:75:A:LYS:HA	1:75:A:LYS:HD3	15	0.27
(1,165)	1:102:A:LYS:HA	1:102:A:LYS:HD2	4	0.27
(1,1102)	1:49:A:LYS:HB2	1:49:A:LYS:HD2	7	0.26
(1,1102)	1:49:A:LYS:HB2	1:49:A:LYS:HD3	7	0.26
(1,1102)	1:49:A:LYS:HB3	1:49:A:LYS:HD2	7	0.26
(1,1102)	1:49:A:LYS:HB3	1:49:A:LYS:HD3	7	0.26
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG2	17	0.26
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG3	17	0.26
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	1	0.26
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	3	0.26
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	4	0.26
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	3	0.26
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	20	0.26
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	15	0.26
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	15	0.26
(1,377)	1:8:A:GLY:HA2	1:32:A:ASP:H	20	0.26
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	3	0.26
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	3	0.26
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	13	0.26
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	13	0.26
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	1	0.25
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	1	0.25
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	19	0.25
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	16	0.25
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	16	0.25
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	20	0.25
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	20	0.25
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	16	0.25
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	15	0.25
(1,904)	1:77:A:ALA:HB1	1:89:A:GLY:H	10	0.25
(1,904)	1:77:A:ALA:HB2	1:89:A:GLY:H	10	0.25
(1,904)	1:77:A:ALA:HB3	1:89:A:GLY:H	10	0.25
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	19	0.25
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	4	0.25
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	4	0.25

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	10	0.25
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	14	0.25
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	14	0.25
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD2	20	0.25
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD3	20	0.25
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG2	18	0.25
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG3	18	0.25
(1,310)	1:24:A:THR:HG21	1:26:A:GLY:H	14	0.25
(1,310)	1:24:A:THR:HG22	1:26:A:GLY:H	14	0.25
(1,310)	1:24:A:THR:HG23	1:26:A:GLY:H	14	0.25
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB2	13	0.25
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB3	13	0.25
(1,208)	1:77:A:ALA:HB1	1:80:A:SER:HB3	1	0.25
(1,208)	1:77:A:ALA:HB2	1:80:A:SER:HB3	1	0.25
(1,208)	1:77:A:ALA:HB3	1:80:A:SER:HB3	1	0.25
(1,115)	1:100:A:SER:HA	1:102:A:LYS:H	13	0.25
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	7	0.24
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	7	0.24
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	18	0.24
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	18	0.24
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	3	0.24
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	3	0.24
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	8	0.24
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	8	0.24
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	13	0.24
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	2	0.24
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	13	0.24
(1,724)	1:76:A:CYS:H	1:81:A:CYS:HA	13	0.24
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	3	0.24
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	2	0.24
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	14	0.24
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	4	0.24
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	11	0.24
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	9	0.24
(1,553)	1:12:A:THR:HG21	1:28:A:ASN:H	11	0.24
(1,553)	1:12:A:THR:HG22	1:28:A:ASN:H	11	0.24
(1,553)	1:12:A:THR:HG23	1:28:A:ASN:H	11	0.24
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	10	0.24
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	10	0.24
(1,484)	1:78:A:ALA:HA	1:79:A:GLY:H	9	0.24
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	16	0.24
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	16	0.24

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	14	0.24
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	14	0.24
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	3	0.24
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	3	0.24
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	17	0.23
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	17	0.23
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB2	11	0.23
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB3	11	0.23
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD2	15	0.23
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD3	15	0.23
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	1	0.23
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	1	0.23
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	15	0.23
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	9	0.23
(1,724)	1:76:A:CYS:H	1:81:A:CYS:HA	10	0.23
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	3	0.23
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	11	0.23
(1,541)	1:76:A:CYS:HA	1:81:A:CYS:H	2	0.23
(1,484)	1:78:A:ALA:HA	1:79:A:GLY:H	11	0.23
(1,484)	1:78:A:ALA:HA	1:79:A:GLY:H	17	0.23
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	9	0.23
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	14	0.23
(1,129)	1:66:A:ARG:HA	1:96:A:ASP:HB2	8	0.23
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	2	0.23
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	2	0.23
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	4	0.23
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	4	0.23
(1,1182)	1:75:A:LYS:H	1:75:A:LYS:HB2	15	0.22
(1,1182)	1:75:A:LYS:H	1:75:A:LYS:HB3	15	0.22
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	5	0.22
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	5	0.22
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	12	0.22
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	12	0.22
(1,1079)	1:40:A:TYR:HB2	1:41:A:GLY:H	7	0.22
(1,1079)	1:40:A:TYR:HB3	1:41:A:GLY:H	7	0.22
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	14	0.22
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	14	0.22
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	12	0.22
(1,952)	1:97:A:ARG:HA	1:102:A:LYS:H	10	0.22
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	5	0.22
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	10	0.22
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	17	0.22

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,898)	1:62:A:LYS:H	1:65:A:CYS:H	14	0.22
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	14	0.22
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	3	0.22
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	6	0.22
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	10	0.22
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	16	0.22
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	13	0.22
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	6	0.22
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	6	0.22
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	16	0.22
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	16	0.22
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	2	0.22
(1,156)	1:77:A:ALA:HB1	1:80:A:SER:HB2	2	0.22
(1,156)	1:77:A:ALA:HB2	1:80:A:SER:HB2	2	0.22
(1,156)	1:77:A:ALA:HB3	1:80:A:SER:HB2	2	0.22
(1,129)	1:66:A:ARG:HA	1:96:A:ASP:HB2	2	0.22
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE2	10	0.21
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE3	10	0.21
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	14	0.21
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	14	0.21
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD2	8	0.21
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD3	8	0.21
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD2	9	0.21
(1,1098)	1:49:A:LYS:H	1:49:A:LYS:HD3	9	0.21
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	12	0.21
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	12	0.21
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	17	0.21
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	17	0.21
(1,948)	1:81:A:CYS:HA	1:83:A:CYS:H	16	0.21
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	18	0.21
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	8	0.21
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	3	0.21
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	10	0.21
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	7	0.21
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	16	0.21
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	20	0.21
(1,702)	1:65:A:CYS:H	1:97:A:ARG:HG2	16	0.21
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	7	0.21
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG2	10	0.21
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG3	10	0.21
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	17	0.21
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	7	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	16	0.21
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	18	0.21
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	18	0.21
(1,553)	1:12:A:THR:HG21	1:28:A:ASN:H	14	0.21
(1,553)	1:12:A:THR:HG22	1:28:A:ASN:H	14	0.21
(1,553)	1:12:A:THR:HG23	1:28:A:ASN:H	14	0.21
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	8	0.21
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	8	0.21
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	9	0.21
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	9	0.21
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	11	0.21
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	11	0.21
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	6	0.21
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	18	0.21
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	13	0.21
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	13	0.21
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	15	0.21
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	15	0.21
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	9	0.21
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	9	0.21
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	9	0.21
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	9	0.21
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	9	0.21
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	9	0.21
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	6	0.21
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	6	0.21
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	19	0.21
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	19	0.21
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	1	0.2
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	1	0.2
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	18	0.2
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	18	0.2
(1,1208)	1:80:A:SER:HB2	1:88:A:THR:HB	18	0.2
(1,1208)	1:80:A:SER:HB3	1:88:A:THR:HB	18	0.2
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	6	0.2
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	6	0.2
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	12	0.2
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	12	0.2
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	11	0.2
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	11	0.2
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	9	0.2
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	9	0.2

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1070)	1:38:A:CYS:H	1:39:A:LYS:HD2	20	0.2
(1,1070)	1:38:A:CYS:H	1:39:A:LYS:HD3	20	0.2
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE21	5	0.2
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE22	5	0.2
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	13	0.2
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	13	0.2
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	1	0.2
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	7	0.2
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	14	0.2
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	7	0.2
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	3	0.2
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	8	0.2
(1,803)	1:64:A:ASP:H	1:64:A:ASP:HB3	17	0.2
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	11	0.2
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	18	0.2
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	9	0.2
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	20	0.2
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	15	0.2
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	15	0.2
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	1	0.2
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	16	0.2
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	6	0.2
(1,484)	1:78:A:ALA:HA	1:79:A:GLY:H	14	0.2
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	17	0.2
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	19	0.2
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	18	0.2
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE2	14	0.2
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE3	14	0.2
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	9	0.2
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB2	19	0.2
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB3	19	0.2
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	13	0.2
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	13	0.2
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	13	0.2
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	13	0.2
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	13	0.2
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	13	0.2
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	9	0.2
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	9	0.2
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	17	0.2
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	17	0.2
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	10	0.19

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	10	0.19
(1,1273)	1:99:A:CYS:H	1:102:A:LYS:HB2	13	0.19
(1,1273)	1:99:A:CYS:H	1:102:A:LYS:HB3	13	0.19
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	14	0.19
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	14	0.19
(1,1132)	1:63:A:GLU:H	1:63:A:GLU:HB2	2	0.19
(1,1132)	1:63:A:GLU:H	1:63:A:GLU:HB3	2	0.19
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	1	0.19
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	1	0.19
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	15	0.19
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	15	0.19
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	19	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	3	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	3	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	5	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	5	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	7	0.19
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	7	0.19
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	12	0.19
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	17	0.19
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	6	0.19
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	9	0.19
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	13	0.19
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	18	0.19
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	15	0.19
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	20	0.19
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	14	0.19
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	11	0.19
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG2	10	0.19
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG3	10	0.19
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	15	0.19
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	15	0.19
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	14	0.19
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	13	0.19
(1,295)	1:55:A:CYS:H	1:70:A:CYS:HB2	10	0.19
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	17	0.19
(1,195)	1:67:A:CYS:HA	1:68:A:GLN:HG2	15	0.19
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	16	0.19
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	16	0.19
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	20	0.19
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	20	0.19
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	9	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	9	0.18
(1,1223)	1:83:A:CYS:HB2	1:100:A:SER:H	2	0.18
(1,1223)	1:83:A:CYS:HB3	1:100:A:SER:H	2	0.18
(1,1193)	1:76:A:CYS:HB2	1:81:A:CYS:H	8	0.18
(1,1193)	1:76:A:CYS:HB3	1:81:A:CYS:H	8	0.18
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	7	0.18
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	7	0.18
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	4	0.18
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	4	0.18
(1,1185)	1:75:A:LYS:H	1:102:A:LYS:HD2	8	0.18
(1,1185)	1:75:A:LYS:H	1:102:A:LYS:HD3	8	0.18
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	5	0.18
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	5	0.18
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	13	0.18
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	13	0.18
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB2	16	0.18
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB3	16	0.18
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	16	0.18
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	16	0.18
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	9	0.18
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	9	0.18
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	8	0.18
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	8	0.18
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	11	0.18
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	11	0.18
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	10	0.18
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	10	0.18
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	9	0.18
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	9	0.18
(1,1030)	1:20:A:CYS:H	1:37:A:SER:HB2	1	0.18
(1,1030)	1:20:A:CYS:H	1:37:A:SER:HB3	1	0.18
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	1	0.18
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	1	0.18
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	11	0.18
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	11	0.18
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	14	0.18
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	4	0.18
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	9	0.18
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	1	0.18
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	11	0.18
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	16	0.18
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	19	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,833)	1:92:A:SER:H	1:93:A:CYS:HA	13	0.18
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	2	0.18
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	6	0.18
(1,646)	1:81:A:CYS:H	1:87:A:CYS:H	12	0.18
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	5	0.18
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	19	0.18
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	8	0.18
(1,577)	1:9:A:ALA:H	1:11:A:CYS:H	15	0.18
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	3	0.18
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	3	0.18
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	20	0.18
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	20	0.18
(1,482)	1:77:A:ALA:HA	1:79:A:GLY:H	17	0.18
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	14	0.18
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	14	0.18
(1,450)	1:93:A:CYS:HB2	1:95:A:CYS:H	16	0.18
(1,450)	1:93:A:CYS:HB3	1:95:A:CYS:H	16	0.18
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	8	0.18
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	9	0.18
(1,377)	1:8:A:GLY:HA2	1:32:A:ASP:H	3	0.18
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	10	0.18
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	2	0.18
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	15	0.18
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	17	0.18
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG2	9	0.18
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG3	9	0.18
(1,322)	1:32:A:ASP:HB3	1:33:A:CYS:H	9	0.18
(1,310)	1:24:A:THR:HG21	1:26:A:GLY:H	8	0.18
(1,310)	1:24:A:THR:HG22	1:26:A:GLY:H	8	0.18
(1,310)	1:24:A:THR:HG23	1:26:A:GLY:H	8	0.18
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	1	0.18
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	1	0.18
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	18	0.18
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	18	0.18
(1,164)	1:14:A:VAL:HG11	1:25:A:SER:HB2	11	0.18
(1,164)	1:14:A:VAL:HG12	1:25:A:SER:HB2	11	0.18
(1,164)	1:14:A:VAL:HG13	1:25:A:SER:HB2	11	0.18
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	2	0.18
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	2	0.18
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	20	0.17
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	20	0.17
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	20	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	20	0.17
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	8	0.17
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	8	0.17
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	16	0.17
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	16	0.17
(1,1170)	1:71:A:SER:HB2	1:72:A:THR:H	14	0.17
(1,1170)	1:71:A:SER:HB3	1:72:A:THR:H	14	0.17
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB2	19	0.17
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB3	19	0.17
(1,1136)	1:63:A:GLU:HA	1:97:A:ARG:HD2	19	0.17
(1,1136)	1:63:A:GLU:HA	1:97:A:ARG:HD3	19	0.17
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	4	0.17
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	4	0.17
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	17	0.17
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	17	0.17
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	11	0.17
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	11	0.17
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	13	0.17
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	13	0.17
(1,1079)	1:40:A:TYR:HB2	1:41:A:GLY:H	1	0.17
(1,1079)	1:40:A:TYR:HB3	1:41:A:GLY:H	1	0.17
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	6	0.17
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	6	0.17
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	15	0.17
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	15	0.17
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD2	11	0.17
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD3	11	0.17
(1,1001)	1:14:A:VAL:HG11	1:20:A:CYS:HA	9	0.17
(1,1001)	1:14:A:VAL:HG12	1:20:A:CYS:HA	9	0.17
(1,1001)	1:14:A:VAL:HG13	1:20:A:CYS:HA	9	0.17
(1,1001)	1:14:A:VAL:HG21	1:20:A:CYS:HA	9	0.17
(1,1001)	1:14:A:VAL:HG22	1:20:A:CYS:HA	9	0.17
(1,1001)	1:14:A:VAL:HG23	1:20:A:CYS:HA	9	0.17
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	15	0.17
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	15	0.17
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	18	0.17
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	4	0.17
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	18	0.17
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	3	0.17
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	20	0.17
(1,816)	1:68:A:GLN:HA	1:68:A:GLN:HE21	7	0.17
(1,741)	1:29:A:CYS:H	1:33:A:CYS:HB2	14	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	9	0.17
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	8	0.17
(1,697)	1:63:A:GLU:HA	1:65:A:CYS:H	5	0.17
(1,697)	1:63:A:GLU:HA	1:65:A:CYS:H	6	0.17
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	12	0.17
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	7	0.17
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	7	0.17
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	15	0.17
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	1	0.17
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	9	0.17
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	12	0.17
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	18	0.17
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	16	0.17
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	17	0.17
(1,553)	1:12:A:THR:HG21	1:28:A:ASN:H	8	0.17
(1,553)	1:12:A:THR:HG22	1:28:A:ASN:H	8	0.17
(1,553)	1:12:A:THR:HG23	1:28:A:ASN:H	8	0.17
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	4	0.17
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	4	0.17
(1,501)	1:9:A:ALA:HB1	1:10:A:GLY:H	8	0.17
(1,501)	1:9:A:ALA:HB2	1:10:A:GLY:H	8	0.17
(1,501)	1:9:A:ALA:HB3	1:10:A:GLY:H	8	0.17
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG2	5	0.17
(1,463)	1:38:A:CYS:H	1:39:A:LYS:HG3	5	0.17
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	13	0.17
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	13	0.17
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	14	0.17
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	15	0.17
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	7	0.17
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	19	0.17
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	20	0.17
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE2	1	0.17
(1,328)	1:94:A:LYS:H	1:94:A:LYS:HE3	1	0.17
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	12	0.17
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	12	0.17
(1,156)	1:77:A:ALA:HB1	1:80:A:SER:HB2	8	0.17
(1,156)	1:77:A:ALA:HB2	1:80:A:SER:HB2	8	0.17
(1,156)	1:77:A:ALA:HB3	1:80:A:SER:HB2	8	0.17
(1,113)	1:83:A:CYS:HA	1:100:A:SER:HA	16	0.17
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	10	0.17
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	10	0.17
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	10	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	10	0.17
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	10	0.17
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	10	0.17
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	4	0.17
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	4	0.17
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	15	0.17
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	15	0.17
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG2	2	0.16
(1,1285)	1:102:A:LYS:H	1:102:A:LYS:HG3	2	0.16
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	11	0.16
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	11	0.16
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	1	0.16
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	1	0.16
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	7	0.16
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	7	0.16
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	2	0.16
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	2	0.16
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG2	12	0.16
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG3	12	0.16
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	9	0.16
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	9	0.16
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	14	0.16
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	14	0.16
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	15	0.16
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	15	0.16
(1,1081)	1:40:A:TYR:HB2	1:44:A:CYS:HB2	7	0.16
(1,1081)	1:40:A:TYR:HB3	1:44:A:CYS:HB2	7	0.16
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD2	20	0.16
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD3	20	0.16
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	19	0.16
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	19	0.16
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD2	1	0.16
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD3	1	0.16
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	3	0.16
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	3	0.16
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	9	0.16
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	9	0.16
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	7	0.16
(1,961)	1:68:A:GLN:HG2	1:68:A:GLN:HE22	15	0.16
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	12	0.16
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	2	0.16
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	15	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	20	0.16
(1,904)	1:77:A:ALA:HB1	1:89:A:GLY:H	13	0.16
(1,904)	1:77:A:ALA:HB2	1:89:A:GLY:H	13	0.16
(1,904)	1:77:A:ALA:HB3	1:89:A:GLY:H	13	0.16
(1,859)	1:50:A:GLN:HB2	1:51:A:THR:H	4	0.16
(1,859)	1:50:A:GLN:HB3	1:51:A:THR:H	4	0.16
(1,811)	1:42:A:ALA:HB1	1:64:A:ASP:H	12	0.16
(1,811)	1:42:A:ALA:HB2	1:64:A:ASP:H	12	0.16
(1,811)	1:42:A:ALA:HB3	1:64:A:ASP:H	12	0.16
(1,796)	1:30:A:THR:H	1:33:A:CYS:HB2	18	0.16
(1,744)	1:12:A:THR:HG21	1:29:A:CYS:H	10	0.16
(1,744)	1:12:A:THR:HG22	1:29:A:CYS:H	10	0.16
(1,744)	1:12:A:THR:HG23	1:29:A:CYS:H	10	0.16
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	2	0.16
(1,724)	1:76:A:CYS:H	1:81:A:CYS:HA	16	0.16
(1,718)	1:76:A:CYS:H	1:89:A:GLY:HA2	5	0.16
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	6	0.16
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	19	0.16
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	16	0.16
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	19	0.16
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	5	0.16
(1,593)	1:18:A:THR:H	1:21:A:GLY:HA3	19	0.16
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	6	0.16
(1,574)	1:11:A:CYS:H	1:30:A:THR:HG21	11	0.16
(1,574)	1:11:A:CYS:H	1:30:A:THR:HG22	11	0.16
(1,574)	1:11:A:CYS:H	1:30:A:THR:HG23	11	0.16
(1,471)	1:26:A:GLY:H	1:27:A:CYS:H	14	0.16
(1,282)	1:12:A:THR:H	1:16:A:LYS:HE2	8	0.16
(1,282)	1:12:A:THR:H	1:16:A:LYS:HE3	8	0.16
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	13	0.16
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB2	8	0.16
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB3	8	0.16
(1,181)	1:8:A:GLY:HA2	1:32:A:ASP:HA	9	0.16
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	8	0.16
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	8	0.16
(1,164)	1:14:A:VAL:HG11	1:25:A:SER:HB2	8	0.16
(1,164)	1:14:A:VAL:HG12	1:25:A:SER:HB2	8	0.16
(1,164)	1:14:A:VAL:HG13	1:25:A:SER:HB2	8	0.16
(1,124)	1:39:A:LYS:HA	1:39:A:LYS:HD2	15	0.16
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	10	0.16
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	10	0.16
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	14	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	14	0.16
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	20	0.16
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	20	0.16
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	4	0.15
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	4	0.15
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	4	0.15
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	4	0.15
(1,1246)	1:91:A:ASP:HB2	1:92:A:SER:H	10	0.15
(1,1246)	1:91:A:ASP:HB3	1:92:A:SER:H	10	0.15
(1,1238)	1:87:A:CYS:HB2	1:94:A:LYS:H	3	0.15
(1,1238)	1:87:A:CYS:HB3	1:94:A:LYS:H	3	0.15
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	2	0.15
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	2	0.15
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	2	0.15
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	2	0.15
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	12	0.15
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	12	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	7	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	7	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	16	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	16	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	20	0.15
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	20	0.15
(1,1106)	1:49:A:LYS:HG2	1:50:A:GLN:HE21	7	0.15
(1,1106)	1:49:A:LYS:HG3	1:50:A:GLN:HE21	7	0.15
(1,963)	1:37:A:SER:HA	1:40:A:TYR:H	15	0.15
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	10	0.15
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	19	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG2	7	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG3	7	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG2	18	0.15
(1,925)	1:93:A:CYS:H	1:94:A:LYS:HG3	18	0.15
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	8	0.15
(1,760)	1:14:A:VAL:H	1:15:A:CYS:HB3	14	0.15
(1,724)	1:76:A:CYS:H	1:81:A:CYS:HA	15	0.15
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	2	0.15
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	11	0.15
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	17	0.15
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG2	9	0.15
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG3	9	0.15
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	10	0.15
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	10	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	11	0.15
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	1	0.15
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	4	0.15
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	10	0.15
(1,307)	1:26:A:GLY:H	1:27:A:CYS:HB2	14	0.15
(1,272)	1:9:A:ALA:H	1:11:A:CYS:HA	2	0.15
(1,243)	1:24:A:THR:H	1:24:A:THR:HB	8	0.15
(1,226)	1:90:A:PRO:HA	1:93:A:CYS:HB2	20	0.15
(1,226)	1:90:A:PRO:HA	1:93:A:CYS:HB3	20	0.15
(1,208)	1:77:A:ALA:HB1	1:80:A:SER:HB3	16	0.15
(1,208)	1:77:A:ALA:HB2	1:80:A:SER:HB3	16	0.15
(1,208)	1:77:A:ALA:HB3	1:80:A:SER:HB3	16	0.15
(1,207)	1:39:A:LYS:HA	1:39:A:LYS:HD3	12	0.15
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	3	0.15
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	5	0.15
(1,156)	1:77:A:ALA:HB1	1:80:A:SER:HB2	6	0.15
(1,156)	1:77:A:ALA:HB2	1:80:A:SER:HB2	6	0.15
(1,156)	1:77:A:ALA:HB3	1:80:A:SER:HB2	6	0.15
(1,115)	1:100:A:SER:HA	1:102:A:LYS:H	8	0.15
(1,70)	1:5:A:SER:HA	1:6:A:VAL:HB	8	0.15
(1,70)	1:5:A:SER:HA	1:6:A:VAL:HB	19	0.15
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	5	0.15
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	5	0.15
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB2	13	0.14
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB3	13	0.14
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	1	0.14
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	1	0.14
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	12	0.14
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	12	0.14
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	13	0.14
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	13	0.14
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	13	0.14
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	13	0.14
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	18	0.14
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	18	0.14
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	18	0.14
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	18	0.14
(1,1192)	1:76:A:CYS:HB2	1:80:A:SER:H	18	0.14
(1,1192)	1:76:A:CYS:HB3	1:80:A:SER:H	18	0.14
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	3	0.14
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	3	0.14
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	5	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	5	0.14
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	17	0.14
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	17	0.14
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	15	0.14
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	15	0.14
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG2	13	0.14
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG3	13	0.14
(1,1170)	1:71:A:SER:HB2	1:72:A:THR:H	2	0.14
(1,1170)	1:71:A:SER:HB3	1:72:A:THR:H	2	0.14
(1,1170)	1:71:A:SER:HB2	1:72:A:THR:H	9	0.14
(1,1170)	1:71:A:SER:HB3	1:72:A:THR:H	9	0.14
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB2	13	0.14
(1,1159)	1:68:A:GLN:H	1:71:A:SER:HB3	13	0.14
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB2	8	0.14
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB3	8	0.14
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB2	14	0.14
(1,1145)	1:65:A:CYS:H	1:98:A:SER:HB3	14	0.14
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	8	0.14
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	8	0.14
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	7	0.14
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	7	0.14
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB2	9	0.14
(1,1032)	1:21:A:GLY:H	1:25:A:SER:HB3	9	0.14
(1,1001)	1:14:A:VAL:HG11	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG12	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG13	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG21	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG22	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG23	1:20:A:CYS:HA	8	0.14
(1,1001)	1:14:A:VAL:HG11	1:20:A:CYS:HA	14	0.14
(1,1001)	1:14:A:VAL:HG12	1:20:A:CYS:HA	14	0.14
(1,1001)	1:14:A:VAL:HG13	1:20:A:CYS:HA	14	0.14
(1,1001)	1:14:A:VAL:HG21	1:20:A:CYS:HA	14	0.14
(1,1001)	1:14:A:VAL:HG22	1:20:A:CYS:HA	14	0.14
(1,1001)	1:14:A:VAL:HG23	1:20:A:CYS:HA	14	0.14
(1,976)	1:8:A:GLY:H	1:34:A:LYS:HG2	9	0.14
(1,976)	1:8:A:GLY:H	1:34:A:LYS:HG3	9	0.14
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	2	0.14
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	2	0.14
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	4	0.14
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	4	0.14
(1,963)	1:37:A:SER:HA	1:40:A:TYR:H	16	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	7	0.14
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	16	0.14
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	18	0.14
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	18	0.14
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	20	0.14
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	5	0.14
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	8	0.14
(1,886)	1:80:A:SER:H	1:81:A:CYS:HA	16	0.14
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	13	0.14
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	12	0.14
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	18	0.14
(1,847)	1:45:A:THR:H	1:49:A:LYS:H	7	0.14
(1,833)	1:92:A:SER:H	1:93:A:CYS:HA	7	0.14
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	8	0.14
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	15	0.14
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	18	0.14
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	10	0.14
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	7	0.14
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	11	0.14
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	8	0.14
(1,591)	1:37:A:SER:H	1:38:A:CYS:HA	19	0.14
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	7	0.14
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	17	0.14
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	17	0.14
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	18	0.14
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	18	0.14
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	1	0.14
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	7	0.14
(1,339)	1:81:A:CYS:HA	1:84:A:GLY:H	4	0.14
(1,227)	1:74:A:CYS:HB2	1:90:A:PRO:HA	7	0.14
(1,223)	1:89:A:GLY:HA2	1:90:A:PRO:HG2	16	0.14
(1,195)	1:67:A:CYS:HA	1:68:A:GLN:HG2	7	0.14
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD2	7	0.14
(1,169)	1:82:A:LYS:HA	1:82:A:LYS:HD3	7	0.14
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	17	0.14
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	19	0.14
(1,156)	1:77:A:ALA:HB1	1:80:A:SER:HB2	14	0.14
(1,156)	1:77:A:ALA:HB2	1:80:A:SER:HB2	14	0.14
(1,156)	1:77:A:ALA:HB3	1:80:A:SER:HB2	14	0.14
(1,154)	1:73:A:ALA:HB1	1:90:A:PRO:HG2	12	0.14
(1,154)	1:73:A:ALA:HB2	1:90:A:PRO:HG2	12	0.14
(1,154)	1:73:A:ALA:HB3	1:90:A:PRO:HG2	12	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,137)	1:69:A:SER:H	1:69:A:SER:HB3	17	0.14
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	11	0.14
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	11	0.14
(1,70)	1:5:A:SER:HA	1:6:A:VAL:HB	16	0.14
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	13	0.14
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	13	0.14
(1,1282)	1:101:A:CYS:H	1:102:A:LYS:HB2	8	0.13
(1,1282)	1:101:A:CYS:H	1:102:A:LYS:HB3	8	0.13
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	10	0.13
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	10	0.13
(1,1234)	1:87:A:CYS:HB2	1:92:A:SER:H	16	0.13
(1,1234)	1:87:A:CYS:HB3	1:92:A:SER:H	16	0.13
(1,1216)	1:82:A:LYS:HG2	1:83:A:CYS:H	6	0.13
(1,1216)	1:82:A:LYS:HG3	1:83:A:CYS:H	6	0.13
(1,1208)	1:80:A:SER:HB2	1:88:A:THR:HB	9	0.13
(1,1208)	1:80:A:SER:HB3	1:88:A:THR:HB	9	0.13
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	9	0.13
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	9	0.13
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	6	0.13
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	6	0.13
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG2	16	0.13
(1,1179)	1:74:A:CYS:HA	1:102:A:LYS:HG3	16	0.13
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	12	0.13
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	12	0.13
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	4	0.13
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	4	0.13
(1,1128)	1:60:A:ASN:HD21	1:61:A:CYS:H	7	0.13
(1,1128)	1:60:A:ASN:HD22	1:61:A:CYS:H	7	0.13
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	13	0.13
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	13	0.13
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	17	0.13
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	17	0.13
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE21	14	0.13
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE22	14	0.13
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	8	0.13
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	8	0.13
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD2	17	0.13
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD3	17	0.13
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	16	0.13
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	16	0.13
(1,962)	1:68:A:GLN:HE22	1:95:A:CYS:H	17	0.13
(1,952)	1:97:A:ARG:HA	1:102:A:LYS:H	6	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,941)	1:82:A:LYS:HA	1:83:A:CYS:H	9	0.13
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	4	0.13
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	4	0.13
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	17	0.13
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	17	0.13
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	3	0.13
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	4	0.13
(1,875)	1:72:A:THR:HA	1:74:A:CYS:H	11	0.13
(1,859)	1:50:A:GLN:HB2	1:51:A:THR:H	5	0.13
(1,859)	1:50:A:GLN:HB3	1:51:A:THR:H	5	0.13
(1,833)	1:92:A:SER:H	1:93:A:CYS:HA	14	0.13
(1,812)	1:43:A:GLY:H	1:64:A:ASP:H	12	0.13
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	4	0.13
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	4	0.13
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	16	0.13
(1,694)	1:63:A:GLU:H	1:63:A:GLU:HB2	2	0.13
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	18	0.13
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	6	0.13
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	14	0.13
(1,647)	1:84:A:GLY:H	1:87:A:CYS:H	18	0.13
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG2	19	0.13
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG3	19	0.13
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	3	0.13
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	9	0.13
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	9	0.13
(1,559)	1:8:A:GLY:H	1:34:A:LYS:HB2	8	0.13
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	2	0.13
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	2	0.13
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	13	0.13
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	13	0.13
(1,514)	1:16:A:LYS:HE2	1:17:A:GLN:H	19	0.13
(1,514)	1:16:A:LYS:HE3	1:17:A:GLN:H	19	0.13
(1,471)	1:26:A:GLY:H	1:27:A:CYS:H	1	0.13
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	4	0.13
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	4	0.13
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE2	20	0.13
(1,461)	1:38:A:CYS:H	1:39:A:LYS:HE3	20	0.13
(1,456)	1:94:A:LYS:H	1:95:A:CYS:H	14	0.13
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	4	0.13
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	7	0.13
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	19	0.13
(1,416)	1:56:A:GLY:H	1:58:A:GLY:H	12	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,412)	1:58:A:GLY:H	1:70:A:CYS:HB2	8	0.13
(1,377)	1:8:A:GLY:HA2	1:32:A:ASP:H	2	0.13
(1,377)	1:8:A:GLY:HA2	1:32:A:ASP:H	10	0.13
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	5	0.13
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD2	10	0.13
(1,336)	1:84:A:GLY:H	1:85:A:LYS:HD3	10	0.13
(1,305)	1:23:A:ALA:HA	1:26:A:GLY:H	11	0.13
(1,268)	1:20:A:CYS:H	1:22:A:CYS:H	12	0.13
(1,181)	1:8:A:GLY:HA2	1:32:A:ASP:HA	18	0.13
(1,124)	1:39:A:LYS:HA	1:39:A:LYS:HD2	3	0.13
(1,115)	1:100:A:SER:HA	1:102:A:LYS:H	16	0.13
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	18	0.13
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	18	0.13
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	18	0.13
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	18	0.13
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	18	0.13
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	18	0.13
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	12	0.13
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	12	0.13
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB2	3	0.12
(1,1267)	1:97:A:ARG:HB2	1:98:A:SER:HB3	3	0.12
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB2	3	0.12
(1,1267)	1:97:A:ARG:HB3	1:98:A:SER:HB3	3	0.12
(1,1208)	1:80:A:SER:HB2	1:88:A:THR:HB	19	0.12
(1,1208)	1:80:A:SER:HB3	1:88:A:THR:HB	19	0.12
(1,1207)	1:80:A:SER:HB2	1:81:A:CYS:H	1	0.12
(1,1207)	1:80:A:SER:HB3	1:81:A:CYS:H	1	0.12
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE2	16	0.12
(1,1186)	1:75:A:LYS:H	1:102:A:LYS:HE3	16	0.12
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG2	12	0.12
(1,1184)	1:75:A:LYS:H	1:102:A:LYS:HG3	12	0.12
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	7	0.12
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	7	0.12
(1,1154)	1:66:A:ARG:HG2	1:96:A:ASP:H	9	0.12
(1,1154)	1:66:A:ARG:HG3	1:96:A:ASP:H	9	0.12
(1,1144)	1:65:A:CYS:H	1:97:A:ARG:HD2	7	0.12
(1,1144)	1:65:A:CYS:H	1:97:A:ARG:HD3	7	0.12
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG2	8	0.12
(1,1139)	1:64:A:ASP:H	1:97:A:ARG:HG3	8	0.12
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	14	0.12
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	14	0.12
(1,1106)	1:49:A:LYS:HG2	1:50:A:GLN:HE21	16	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1106)	1:49:A:LYS:HG3	1:50:A:GLN:HE21	16	0.12
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD2	3	0.12
(1,1075)	1:39:A:LYS:HA	1:39:A:LYS:HD3	3	0.12
(1,1043)	1:29:A:CYS:HB2	1:33:A:CYS:H	8	0.12
(1,1043)	1:29:A:CYS:HB3	1:33:A:CYS:H	8	0.12
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	17	0.12
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	17	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG11	10	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG12	10	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG13	10	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG21	10	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG22	10	0.12
(1,992)	1:13:A:ASP:HB2	1:14:A:VAL:HG23	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG11	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG12	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG13	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG21	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG22	10	0.12
(1,992)	1:13:A:ASP:HB3	1:14:A:VAL:HG23	10	0.12
(1,964)	1:39:A:LYS:HA	1:40:A:TYR:H	12	0.12
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	7	0.12
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE2	19	0.12
(1,934)	1:43:A:GLY:H	1:62:A:LYS:HE3	19	0.12
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	7	0.12
(1,932)	1:43:A:GLY:H	1:64:A:ASP:HB3	13	0.12
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	6	0.12
(1,918)	1:53:A:CYS:H	1:53:A:CYS:HB2	9	0.12
(1,914)	1:83:A:CYS:HB2	1:101:A:CYS:H	20	0.12
(1,906)	1:81:A:CYS:HA	1:89:A:GLY:H	7	0.12
(1,898)	1:62:A:LYS:H	1:65:A:CYS:H	10	0.12
(1,898)	1:62:A:LYS:H	1:65:A:CYS:H	12	0.12
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	1	0.12
(1,756)	1:50:A:GLN:HE21	1:54:A:GLY:H	6	0.12
(1,744)	1:12:A:THR:HG21	1:29:A:CYS:H	14	0.12
(1,744)	1:12:A:THR:HG22	1:29:A:CYS:H	14	0.12
(1,744)	1:12:A:THR:HG23	1:29:A:CYS:H	14	0.12
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	6	0.12
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	3	0.12
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	9	0.12
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	14	0.12
(1,709)	1:69:A:SER:H	1:70:A:CYS:HB3	14	0.12
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	5	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	6	0.12
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	14	0.12
(1,678)	1:23:A:ALA:HA	1:25:A:SER:H	9	0.12
(1,597)	1:44:A:CYS:H	1:61:A:CYS:HA	16	0.12
(1,591)	1:37:A:SER:H	1:38:A:CYS:HA	8	0.12
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	13	0.12
(1,559)	1:8:A:GLY:H	1:34:A:LYS:HB2	7	0.12
(1,559)	1:8:A:GLY:H	1:34:A:LYS:HB2	14	0.12
(1,471)	1:26:A:GLY:H	1:27:A:CYS:H	2	0.12
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	13	0.12
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	17	0.12
(1,412)	1:58:A:GLY:H	1:70:A:CYS:HB2	20	0.12
(1,410)	1:57:A:SER:HA	1:58:A:GLY:H	15	0.12
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	13	0.12
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	20	0.12
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	6	0.12
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	9	0.12
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	12	0.12
(1,308)	1:22:A:CYS:HB3	1:26:A:GLY:H	9	0.12
(1,268)	1:20:A:CYS:H	1:22:A:CYS:H	20	0.12
(1,252)	1:73:A:ALA:H	1:90:A:PRO:HG3	13	0.12
(1,243)	1:24:A:THR:H	1:24:A:THR:HB	14	0.12
(1,154)	1:73:A:ALA:HB1	1:90:A:PRO:HG2	11	0.12
(1,154)	1:73:A:ALA:HB2	1:90:A:PRO:HG2	11	0.12
(1,154)	1:73:A:ALA:HB3	1:90:A:PRO:HG2	11	0.12
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE2	17	0.12
(1,105)	1:72:A:THR:HG21	1:75:A:LYS:HE3	17	0.12
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE2	17	0.12
(1,105)	1:72:A:THR:HG22	1:75:A:LYS:HE3	17	0.12
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE2	17	0.12
(1,105)	1:72:A:THR:HG23	1:75:A:LYS:HE3	17	0.12
(1,70)	1:5:A:SER:HA	1:6:A:VAL:HB	13	0.12
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB2	8	0.11
(1,1284)	1:102:A:LYS:H	1:102:A:LYS:HB3	8	0.11
(1,1274)	1:99:A:CYS:H	1:102:A:LYS:HG2	2	0.11
(1,1274)	1:99:A:CYS:H	1:102:A:LYS:HG3	2	0.11
(1,1239)	1:88:A:THR:H	1:92:A:SER:HB2	18	0.11
(1,1239)	1:88:A:THR:H	1:92:A:SER:HB3	18	0.11
(1,1209)	1:81:A:CYS:HB2	1:83:A:CYS:H	7	0.11
(1,1209)	1:81:A:CYS:HB3	1:83:A:CYS:H	7	0.11
(1,1193)	1:76:A:CYS:HB2	1:81:A:CYS:H	14	0.11
(1,1193)	1:76:A:CYS:HB3	1:81:A:CYS:H	14	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE2	6	0.11
(1,1172)	1:72:A:THR:H	1:102:A:LYS:HE3	6	0.11
(1,1156)	1:66:A:ARG:HG2	1:96:A:ASP:HB2	2	0.11
(1,1156)	1:66:A:ARG:HG2	1:96:A:ASP:HB3	2	0.11
(1,1156)	1:66:A:ARG:HG3	1:96:A:ASP:HB2	2	0.11
(1,1156)	1:66:A:ARG:HG3	1:96:A:ASP:HB3	2	0.11
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD2	15	0.11
(1,1130)	1:62:A:LYS:H	1:97:A:ARG:HD3	15	0.11
(1,1128)	1:60:A:ASN:HD21	1:61:A:CYS:H	17	0.11
(1,1128)	1:60:A:ASN:HD22	1:61:A:CYS:H	17	0.11
(1,1069)	1:38:A:CYS:H	1:39:A:LYS:HB2	16	0.11
(1,1069)	1:38:A:CYS:H	1:39:A:LYS:HB3	16	0.11
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD2	18	0.11
(1,1013)	1:15:A:CYS:H	1:16:A:LYS:HD3	18	0.11
(1,969)	1:5:A:SER:HB2	1:7:A:PHE:H	5	0.11
(1,969)	1:5:A:SER:HB3	1:7:A:PHE:H	5	0.11
(1,952)	1:97:A:ARG:HA	1:102:A:LYS:H	16	0.11
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	11	0.11
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	20	0.11
(1,936)	1:43:A:GLY:H	1:64:A:ASP:HB2	14	0.11
(1,898)	1:62:A:LYS:H	1:65:A:CYS:H	16	0.11
(1,855)	1:96:A:ASP:H	1:97:A:ARG:HA	2	0.11
(1,811)	1:42:A:ALA:HB1	1:64:A:ASP:H	1	0.11
(1,811)	1:42:A:ALA:HB2	1:64:A:ASP:H	1	0.11
(1,811)	1:42:A:ALA:HB3	1:64:A:ASP:H	1	0.11
(1,802)	1:64:A:ASP:H	1:65:A:CYS:HB2	7	0.11
(1,796)	1:30:A:THR:H	1:33:A:CYS:HB2	9	0.11
(1,787)	1:54:A:GLY:HA2	1:56:A:GLY:H	17	0.11
(1,741)	1:29:A:CYS:H	1:33:A:CYS:HB2	5	0.11
(1,741)	1:29:A:CYS:H	1:33:A:CYS:HB2	6	0.11
(1,735)	1:41:A:GLY:H	1:42:A:ALA:HB1	7	0.11
(1,735)	1:41:A:GLY:H	1:42:A:ALA:HB2	7	0.11
(1,735)	1:41:A:GLY:H	1:42:A:ALA:HB3	7	0.11
(1,734)	1:41:A:GLY:H	1:62:A:LYS:HG3	5	0.11
(1,718)	1:76:A:CYS:H	1:89:A:GLY:HA2	7	0.11
(1,718)	1:76:A:CYS:H	1:89:A:GLY:HA2	18	0.11
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	1	0.11
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	16	0.11
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	19	0.11
(1,709)	1:69:A:SER:H	1:70:A:CYS:HB3	6	0.11
(1,701)	1:62:A:LYS:HB2	1:65:A:CYS:H	4	0.11
(1,689)	1:67:A:CYS:HB2	1:71:A:SER:H	12	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,678)	1:23:A:ALA:HA	1:25:A:SER:H	14	0.11
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG2	1	0.11
(1,619)	1:35:A:CYS:H	1:39:A:LYS:HG3	1	0.11
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	14	0.11
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	14	0.11
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	12	0.11
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	13	0.11
(1,598)	1:43:A:GLY:HA2	1:44:A:CYS:H	18	0.11
(1,591)	1:37:A:SER:H	1:38:A:CYS:HA	2	0.11
(1,577)	1:9:A:ALA:H	1:11:A:CYS:H	1	0.11
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	4	0.11
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	4	0.11
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE2	12	0.11
(1,573)	1:11:A:CYS:H	1:16:A:LYS:HE3	12	0.11
(1,537)	1:39:A:LYS:H	1:40:A:TYR:H	11	0.11
(1,471)	1:26:A:GLY:H	1:27:A:CYS:H	16	0.11
(1,468)	1:22:A:CYS:HA	1:27:A:CYS:H	1	0.11
(1,462)	1:35:A:CYS:HB3	1:38:A:CYS:H	12	0.11
(1,446)	1:12:A:THR:H	1:28:A:ASN:HD21	19	0.11
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	6	0.11
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	10	0.11
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	13	0.11
(1,441)	1:48:A:CYS:H	1:50:A:GLN:HE21	16	0.11
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	4	0.11
(1,341)	1:46:A:ASP:H	1:61:A:CYS:HA	8	0.11
(1,339)	1:81:A:CYS:HA	1:84:A:GLY:H	16	0.11
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG2	17	0.11
(1,330)	1:94:A:LYS:H	1:94:A:LYS:HG3	17	0.11
(1,305)	1:23:A:ALA:HA	1:26:A:GLY:H	7	0.11
(1,295)	1:55:A:CYS:H	1:70:A:CYS:HB2	6	0.11
(1,295)	1:55:A:CYS:H	1:70:A:CYS:HB2	18	0.11
(1,268)	1:20:A:CYS:H	1:22:A:CYS:H	10	0.11
(1,252)	1:73:A:ALA:H	1:90:A:PRO:HG3	10	0.11
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB2	3	0.11
(1,232)	1:74:A:CYS:HB2	1:93:A:CYS:HB3	3	0.11
(1,227)	1:74:A:CYS:HB2	1:90:A:PRO:HA	14	0.11
(1,208)	1:77:A:ALA:HB1	1:80:A:SER:HB3	20	0.11
(1,208)	1:77:A:ALA:HB2	1:80:A:SER:HB3	20	0.11
(1,208)	1:77:A:ALA:HB3	1:80:A:SER:HB3	20	0.11
(1,166)	1:76:A:CYS:HB2	1:77:A:ALA:H	7	0.11
(1,164)	1:14:A:VAL:HG11	1:25:A:SER:HB2	14	0.11
(1,164)	1:14:A:VAL:HG12	1:25:A:SER:HB2	14	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,164)	1:14:A:VAL:HG13	1:25:A:SER:HB2	14	0.11
(1,137)	1:69:A:SER:H	1:69:A:SER:HB3	12	0.11
(1,110)	1:51:A:THR:HG21	1:52:A:PRO:HD2	3	0.11
(1,110)	1:51:A:THR:HG22	1:52:A:PRO:HD2	3	0.11
(1,110)	1:51:A:THR:HG23	1:52:A:PRO:HD2	3	0.11
(1,101)	1:75:A:LYS:HD2	1:76:A:CYS:HA	12	0.11
(1,101)	1:75:A:LYS:HD3	1:76:A:CYS:HA	12	0.11
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE2	6	0.11
(1,48)	1:15:A:CYS:H	1:16:A:LYS:HE3	6	0.11
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE2	2	0.1
(1,1286)	1:102:A:LYS:H	1:102:A:LYS:HE3	2	0.1
(1,1268)	1:97:A:ARG:HG2	1:98:A:SER:H	16	0.1
(1,1268)	1:97:A:ARG:HG3	1:98:A:SER:H	16	0.1
(1,1191)	1:76:A:CYS:HB2	1:77:A:ALA:H	18	0.1
(1,1191)	1:76:A:CYS:HB3	1:77:A:ALA:H	18	0.1
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB2	2	0.1
(1,1117)	1:55:A:CYS:H	1:59:A:CYS:HB3	2	0.1
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD2	8	0.1
(1,1084)	1:45:A:THR:H	1:49:A:LYS:HD3	8	0.1
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE21	20	0.1
(1,1063)	1:36:A:GLN:HA	1:36:A:GLN:HE22	20	0.1
(1,1057)	1:35:A:CYS:H	1:39:A:LYS:HB2	18	0.1
(1,1057)	1:35:A:CYS:H	1:39:A:LYS:HB3	18	0.1
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD2	14	0.1
(1,1016)	1:16:A:LYS:H	1:16:A:LYS:HD3	14	0.1
(1,973)	1:7:A:PHE:HB2	1:11:A:CYS:H	8	0.1
(1,973)	1:7:A:PHE:HB3	1:11:A:CYS:H	8	0.1
(1,960)	1:68:A:GLN:HA	1:68:A:GLN:HE22	7	0.1
(1,955)	1:99:A:CYS:HB2	1:102:A:LYS:H	7	0.1
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	1	0.1
(1,951)	1:99:A:CYS:HA	1:102:A:LYS:H	15	0.1
(1,859)	1:50:A:GLN:HB2	1:51:A:THR:H	20	0.1
(1,859)	1:50:A:GLN:HB3	1:51:A:THR:H	20	0.1
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	6	0.1
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	11	0.1
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	14	0.1
(1,858)	1:51:A:THR:H	1:52:A:PRO:HA	17	0.1
(1,844)	1:45:A:THR:H	1:47:A:THR:HB	14	0.1
(1,777)	1:77:A:ALA:H	1:88:A:THR:HB	12	0.1
(1,741)	1:29:A:CYS:H	1:33:A:CYS:HB2	8	0.1
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	7	0.1
(1,714)	1:69:A:SER:H	1:70:A:CYS:HA	13	0.1

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,712)	1:68:A:GLN:HG2	1:69:A:SER:H	20	0.1
(1,678)	1:23:A:ALA:HA	1:25:A:SER:H	6	0.1
(1,671)	1:23:A:ALA:H	1:24:A:THR:HG21	12	0.1
(1,671)	1:23:A:ALA:H	1:24:A:THR:HG22	12	0.1
(1,671)	1:23:A:ALA:H	1:24:A:THR:HG23	12	0.1
(1,667)	1:23:A:ALA:H	1:24:A:THR:HB	8	0.1
(1,662)	1:50:A:GLN:H	1:51:A:THR:H	10	0.1
(1,608)	1:85:A:LYS:HE2	1:86:A:GLY:H	9	0.1
(1,608)	1:85:A:LYS:HE3	1:86:A:GLY:H	9	0.1
(1,587)	1:36:A:GLN:HA	1:37:A:SER:H	19	0.1
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	8	0.1
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	12	0.1
(1,584)	1:47:A:THR:H	1:50:A:GLN:H	15	0.1
(1,559)	1:8:A:GLY:H	1:34:A:LYS:HB2	5	0.1
(1,499)	1:8:A:GLY:HA3	1:10:A:GLY:H	8	0.1
(1,468)	1:22:A:CYS:HA	1:27:A:CYS:H	12	0.1
(1,410)	1:57:A:SER:HA	1:58:A:GLY:H	11	0.1
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	9	0.1
(1,371)	1:50:A:GLN:HA	1:50:A:GLN:HE22	16	0.1
(1,308)	1:22:A:CYS:HB3	1:26:A:GLY:H	8	0.1
(1,287)	1:42:A:ALA:H	1:43:A:GLY:HA3	12	0.1
(1,268)	1:20:A:CYS:H	1:22:A:CYS:H	15	0.1
(1,223)	1:89:A:GLY:HA2	1:90:A:PRO:HG2	14	0.1
(1,144)	1:23:A:ALA:HA	1:26:A:GLY:HA2	17	0.1
(1,137)	1:69:A:SER:H	1:69:A:SER:HB3	2	0.1
(1,20)	1:63:A:GLU:H	1:63:A:GLU:HG2	19	0.1
(1,20)	1:63:A:GLU:H	1:63:A:GLU:HG3	19	0.1

10 Dihedral-angle violation analysis ⓘ

No dihedral-angle restraints found