



# Full wwPDB NMR Structure Validation Report ⓘ

Mar 6, 2026 – 03:30 AM UTC

PDB ID : 2LF4 / pdb\_00002lf4  
BMRB ID : 17738  
Title : Structure of a monomeric mutant of the HIV-1 capsid protein  
Authors : Shin, R.S.; Tzou, Y.; Krishna, N.  
Deposited on : 2011-06-28

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
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) : 2.49

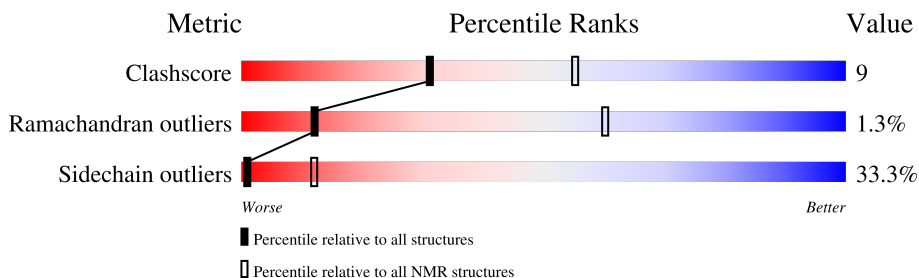
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 83%.

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	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ .

Mol	Chain	Length	Quality of chain
1	A	240	

## 2 Ensemble composition and analysis

This entry contains 20 models. Model 16 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *closest to the average*.

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

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:12-A:84, A:100-A:145 (119)	0.99	16
2	A:150-A:175, A:184-A:221 (64)	0.78	11

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

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

The models can be grouped into 5 clusters. No single-model clusters were found.

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

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 3589 atoms, of which 1799 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Gag polyprotein.

Mol	Chain	Residues	Atoms					Trace	
			Total	C	H	N	O		S
1	A	232	3589	1126	1799	317	334	13	0

There are 11 discrepancies between the modelled and reference sequences:

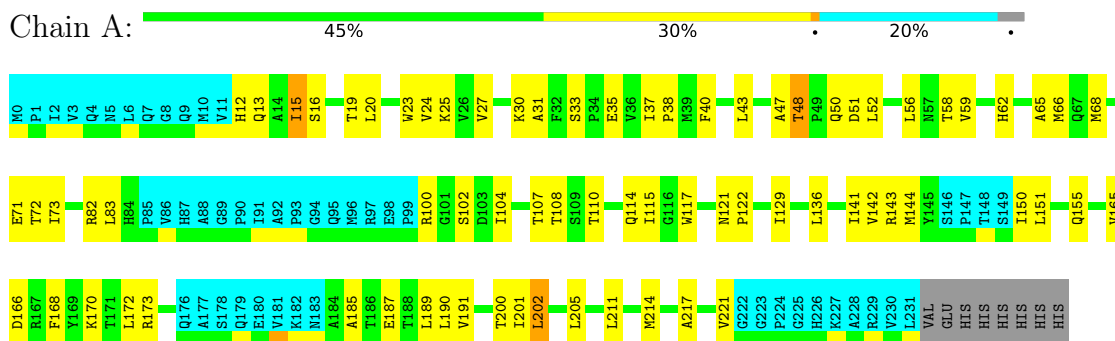
Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP Q72497
A	184	ALA	TRP	engineered mutation	UNP Q72497
A	185	ALA	MET	engineered mutation	UNP Q72497
A	232	VAL	-	expression tag	UNP Q72497
A	233	GLU	-	expression tag	UNP Q72497
A	234	HIS	-	expression tag	UNP Q72497
A	235	HIS	-	expression tag	UNP Q72497
A	236	HIS	-	expression tag	UNP Q72497
A	237	HIS	-	expression tag	UNP Q72497
A	238	HIS	-	expression tag	UNP Q72497
A	239	HIS	-	expression tag	UNP Q72497

## 4 Residue-property plots [i](#)

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

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

- Molecule 1: Gag polyprotein

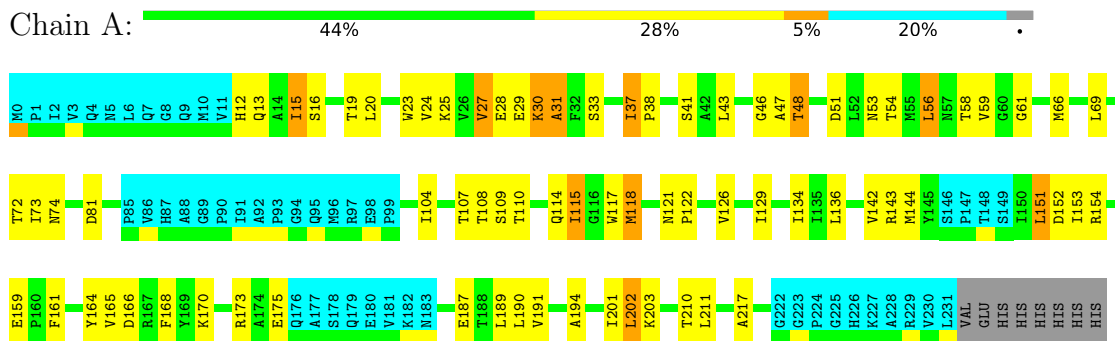


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

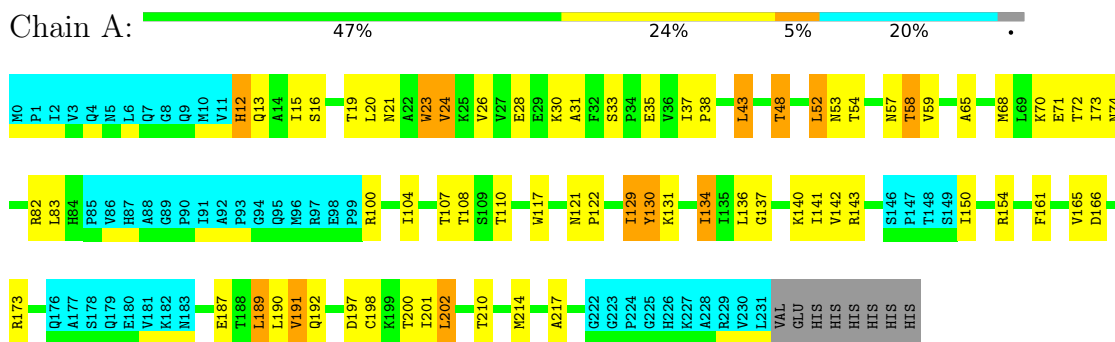
#### 4.2.1 Score per residue for model 1

- Molecule 1: Gag polyprotein



### 4.2.2 Score per residue for model 2

- Molecule 1: Gag polyprotein



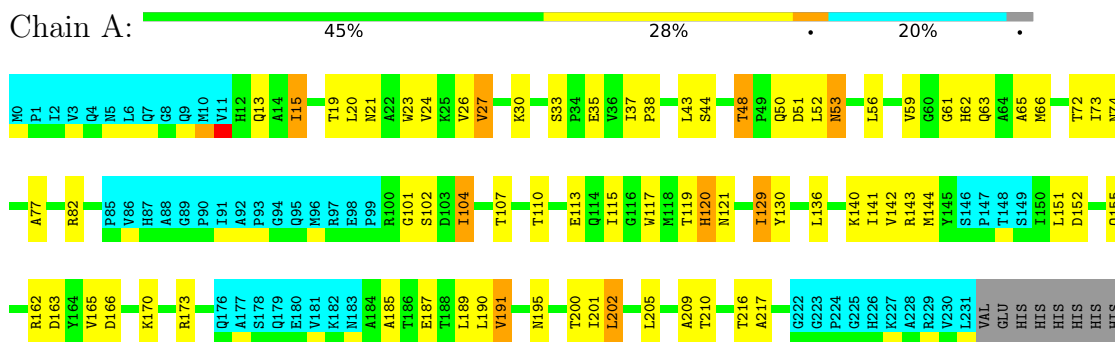
### 4.2.3 Score per residue for model 3

- Molecule 1: Gag polyprotein



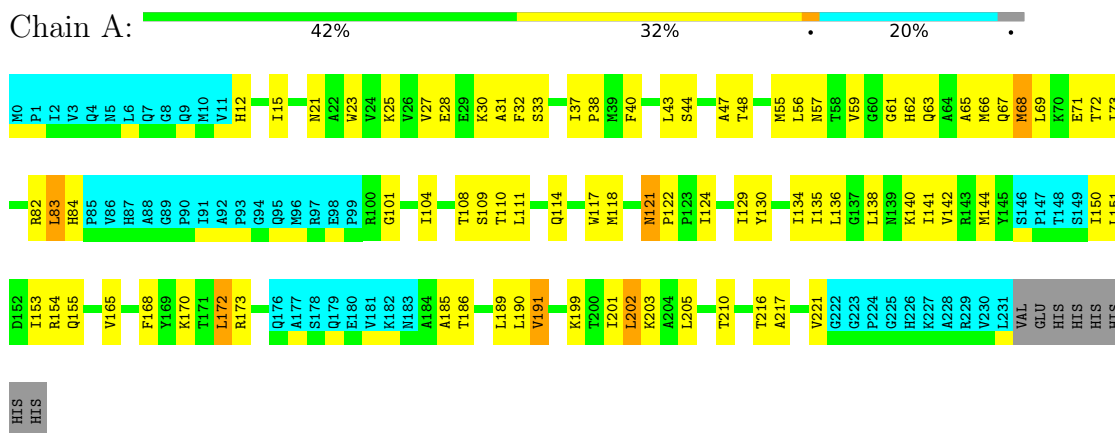
### 4.2.4 Score per residue for model 4

- Molecule 1: Gag polyprotein



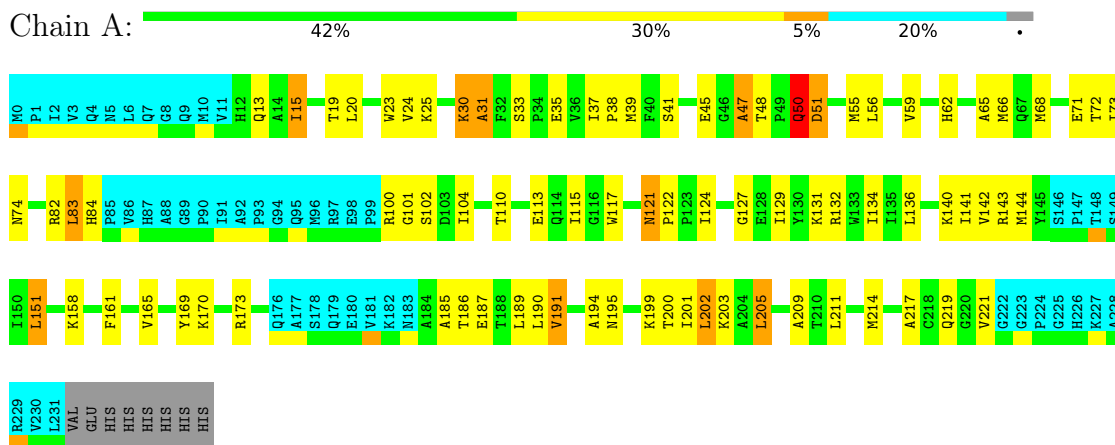
### 4.2.5 Score per residue for model 5

- Molecule 1: Gag polyprotein



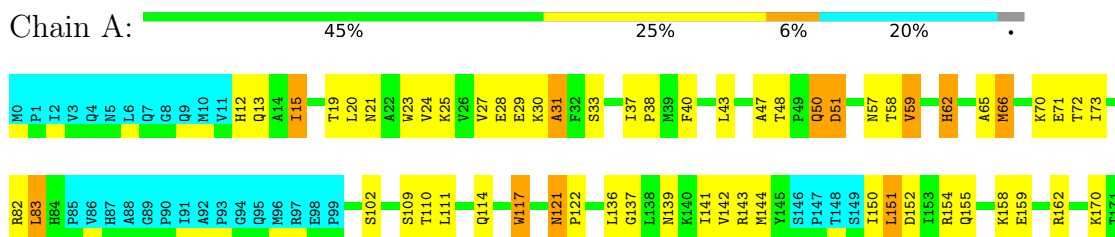
### 4.2.6 Score per residue for model 6

- Molecule 1: Gag polyprotein



### 4.2.7 Score per residue for model 7

- Molecule 1: Gag polyprotein

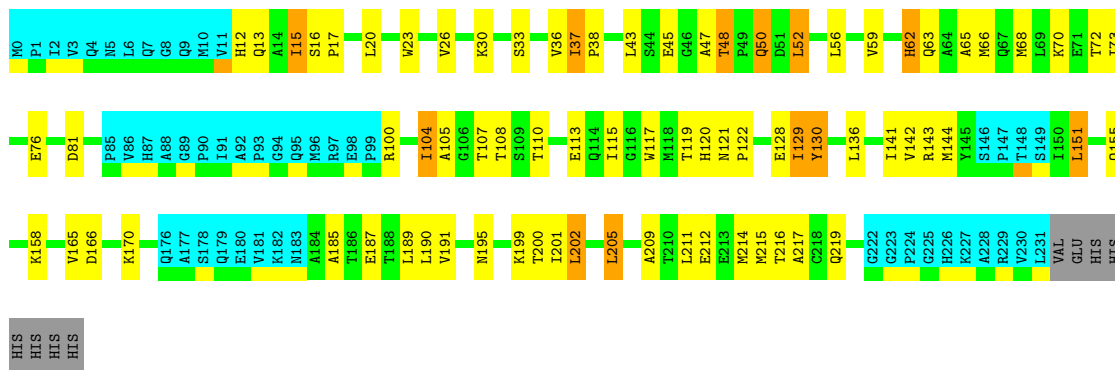




#### 4.2.8 Score per residue for model 8

- Molecule 1: Gag polyprotein

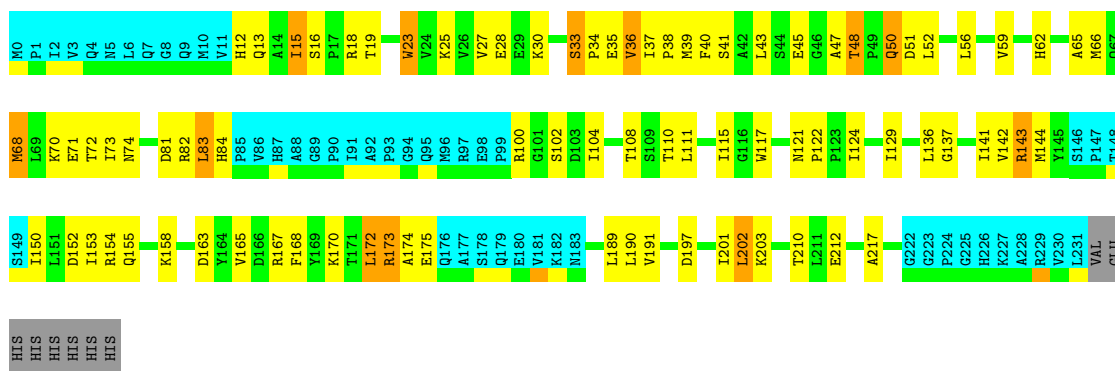
Chain A: 44% 27% 5% 20%



#### 4.2.9 Score per residue for model 9

- Molecule 1: Gag polyprotein

Chain A: 41% 30% 5% 20%

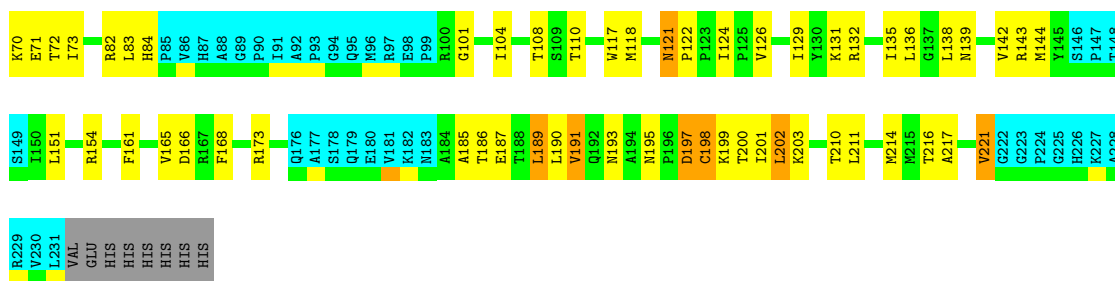


#### 4.2.10 Score per residue for model 10

- Molecule 1: Gag polyprotein

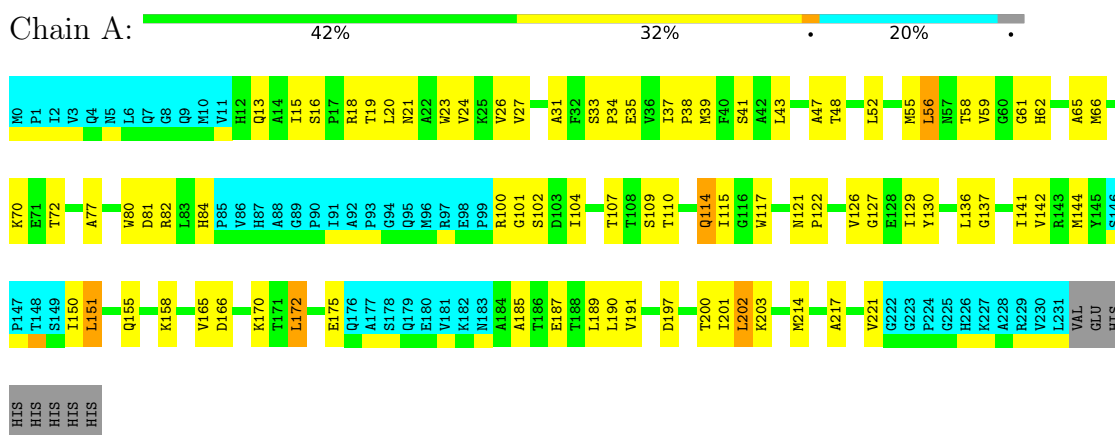
Chain A: 40% 32% 20%





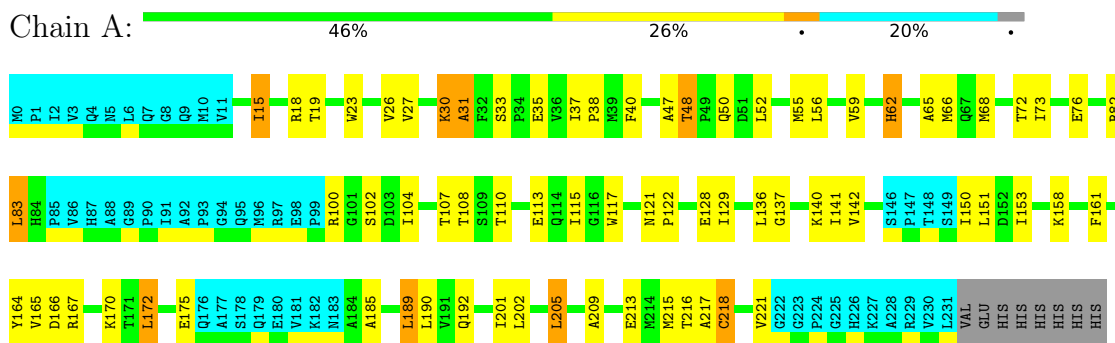
#### 4.2.11 Score per residue for model 11

- Molecule 1: Gag polyprotein



#### 4.2.12 Score per residue for model 12

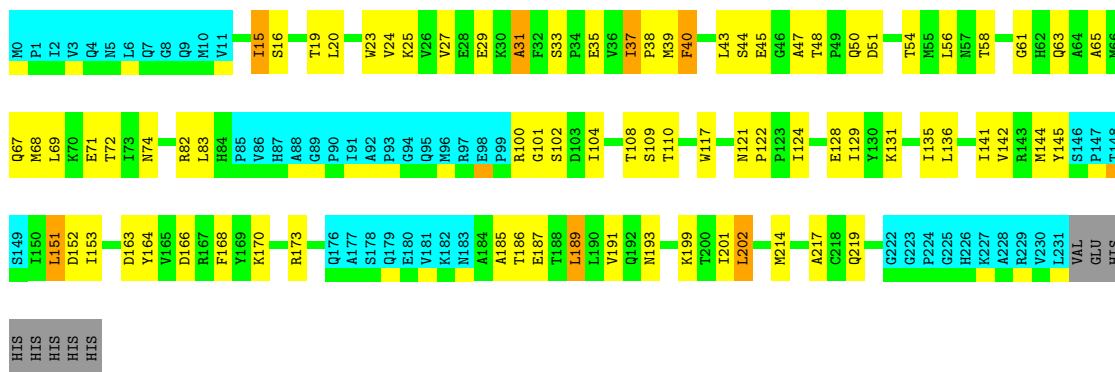
- Molecule 1: Gag polyprotein



#### 4.2.13 Score per residue for model 13

- Molecule 1: Gag polyprotein

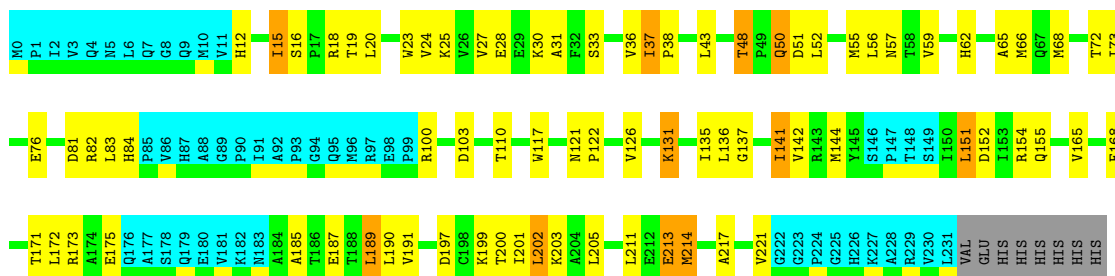




#### 4.2.14 Score per residue for model 14

- Molecule 1: Gag polyprotein

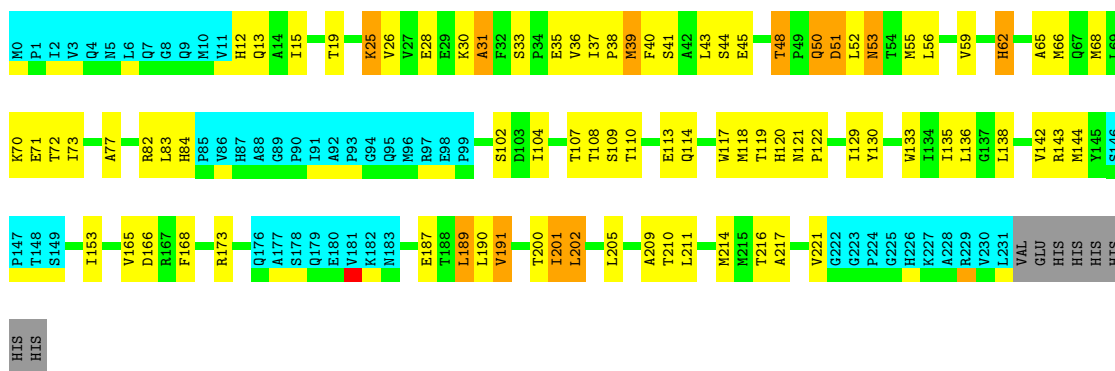
Chain A: 44% 28% 5% 20%



#### 4.2.15 Score per residue for model 15

- Molecule 1: Gag polyprotein

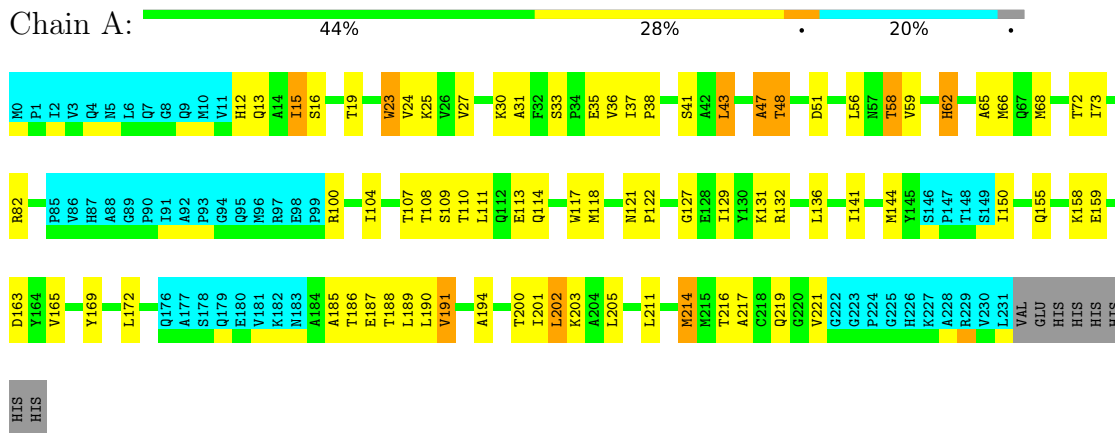
Chain A: 42% 30% 5% 20%



#### 4.2.16 Score per residue for model 16 (medoid)

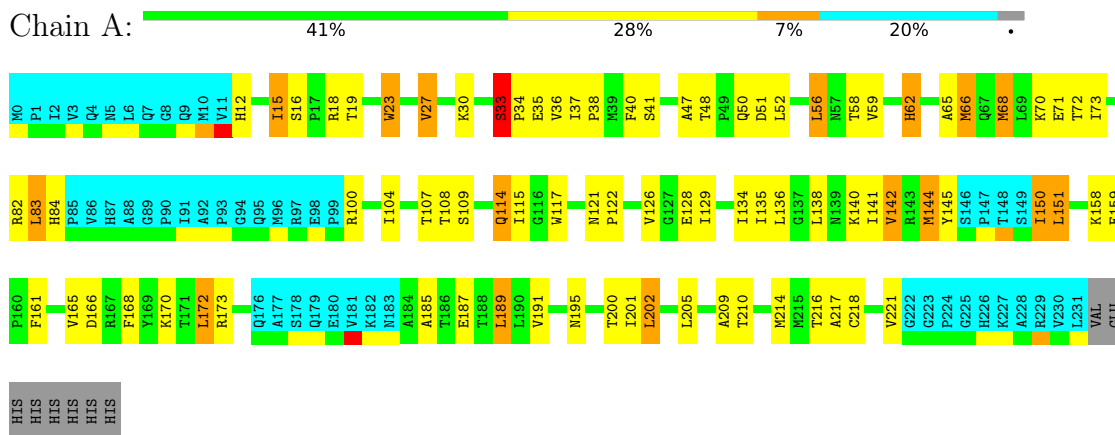
- Molecule 1: Gag polyprotein





### 4.2.20 Score per residue for model 20

- Molecule 1: Gag polyprotein



## 5 Refinement protocol and experimental data overview

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

Of the 500 calculated structures, 20 were deposited, based on the following criterion: *target function*.

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

Software name	Classification	Version
CYANA	structure solution	2.1
CYANA	refinement	2.1

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

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	2600
Number of shifts mapped to atoms	2600
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	83%

## 6 Model quality

### 6.1 Standard geometry

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	1433	1436	1436	25±4
All	All	28660	28720	28720	507

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 9.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:165:VAL:HG22	1:A:190:LEU:HD11	1.03	1.30	9	10
1:A:191:VAL:HG23	1:A:202:LEU:HD23	0.94	1.37	7	4
1:A:20:LEU:HD22	1:A:54:THR:HG21	0.92	1.40	2	1
1:A:191:VAL:HG22	1:A:202:LEU:HD23	0.82	1.50	20	11
1:A:201:ILE:HG21	1:A:217:ALA:HB1	0.82	1.49	6	20
1:A:201:ILE:HD11	1:A:221:VAL:HG11	0.74	1.59	15	1
1:A:201:ILE:HD11	1:A:221:VAL:HG21	0.71	1.60	10	2
1:A:62:HIS:CD2	1:A:66:MET:HE3	0.70	2.21	20	2
1:A:65:ALA:HB2	1:A:141:ILE:HG21	0.70	1.63	6	3
1:A:23:TRP:CH2	1:A:27:VAL:HG21	0.69	2.23	13	5
1:A:59:VAL:HG11	1:A:62:HIS:CE1	0.68	2.24	15	5
1:A:12:HIS:CG	1:A:48:THR:HG21	0.67	2.23	16	7
1:A:24:VAL:HG23	1:A:58:THR:HG22	0.66	1.68	2	2
1:A:62:HIS:CG	1:A:65:ALA:HB3	0.65	2.26	20	10

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:59:VAL:HG21	1:A:62:HIS:CE1	0.64	2.28	16	1
1:A:12:HIS:CE1	1:A:48:THR:HG21	0.63	2.28	2	2
1:A:191:VAL:HG23	1:A:202:LEU:CD2	0.63	2.23	2	3
1:A:202:LEU:HD11	1:A:214:MET:HE3	0.63	1.70	11	1
1:A:145:TYR:CD1	1:A:189:LEU:HD11	0.63	2.29	18	1
1:A:40:PHE:CZ	1:A:59:VAL:HG23	0.62	2.30	17	1
1:A:165:VAL:HG22	1:A:190:LEU:CD1	0.61	2.24	8	6
1:A:23:TRP:O	1:A:27:VAL:HG23	0.61	1.94	5	6
1:A:135:ILE:HA	1:A:138:LEU:HD12	0.61	1.72	18	5
1:A:47:ALA:HB2	1:A:131:LYS:CE	0.61	2.25	19	1
1:A:191:VAL:HG22	1:A:202:LEU:CD2	0.61	2.25	16	12
1:A:23:TRP:CZ2	1:A:27:VAL:HG21	0.61	2.30	7	6
1:A:191:VAL:HG22	1:A:202:LEU:HD12	0.61	1.72	3	2
1:A:77:ALA:HB1	1:A:101:GLY:CA	0.61	2.24	11	1
1:A:56:LEU:HD12	1:A:66:MET:HE1	0.61	1.73	3	2
1:A:104:ILE:HD13	1:A:129:ILE:HD12	0.61	1.73	9	13
1:A:105:ALA:HB2	1:A:130:TYR:CZ	0.61	2.30	8	1
1:A:168:PHE:CZ	1:A:189:LEU:HD23	0.61	2.31	15	3
1:A:12:HIS:CD2	1:A:48:THR:HG21	0.61	2.30	18	3
1:A:25:LYS:HD2	1:A:26:VAL:HG23	0.61	1.72	15	1
1:A:137:GLY:O	1:A:141:ILE:HD12	0.60	1.96	14	8
1:A:12:HIS:CE1	1:A:111:LEU:HD11	0.60	2.31	5	1
1:A:24:VAL:CG2	1:A:58:THR:HG22	0.60	2.26	19	2
1:A:59:VAL:HG11	1:A:62:HIS:NE2	0.60	2.12	9	5
1:A:24:VAL:HG23	1:A:58:THR:OG1	0.60	1.97	17	1
1:A:15:ILE:HD12	1:A:51:ASP:CG	0.60	2.22	20	3
1:A:201:ILE:HD11	1:A:221:VAL:HG23	0.59	1.73	11	2
1:A:68:MET:HE3	1:A:141:ILE:HG13	0.59	1.74	9	2
1:A:205:LEU:HD21	1:A:209:ALA:CB	0.59	2.28	12	3
1:A:114:GLN:HG3	1:A:126:VAL:HG21	0.59	1.75	3	2
1:A:15:ILE:HD12	1:A:51:ASP:OD2	0.58	1.98	7	6
1:A:104:ILE:HD12	1:A:129:ILE:HD11	0.58	1.74	11	1
1:A:27:VAL:HG11	1:A:59:VAL:O	0.58	1.99	17	2
1:A:48:THR:O	1:A:52:LEU:HD23	0.57	2.00	18	3
1:A:150:ILE:HG21	1:A:189:LEU:CD2	0.57	2.28	12	2
1:A:153:ILE:HG21	1:A:168:PHE:HA	0.57	1.75	1	8
1:A:59:VAL:HG21	1:A:66:MET:HE3	0.57	1.76	5	1
1:A:101:GLY:HA2	1:A:104:ILE:HD12	0.57	1.77	17	6
1:A:48:THR:O	1:A:52:LEU:HD22	0.57	2.00	4	1
1:A:105:ALA:HB2	1:A:130:TYR:OH	0.57	1.99	8	1
1:A:23:TRP:CH2	1:A:39:MET:HE3	0.56	2.35	9	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:153:ILE:HG22	1:A:164:TYR:CE1	0.56	2.34	12	1
1:A:145:TYR:CB	1:A:189:LEU:HD11	0.56	2.30	20	1
1:A:65:ALA:HA	1:A:141:ILE:HG21	0.56	1.77	17	5
1:A:15:ILE:HD13	1:A:20:LEU:HD21	0.56	1.76	13	1
1:A:59:VAL:HG11	1:A:66:MET:HE3	0.56	1.77	11	2
1:A:65:ALA:HA	1:A:141:ILE:HD13	0.56	1.75	5	7
1:A:15:ILE:HG21	1:A:20:LEU:HD21	0.56	1.77	8	2
1:A:23:TRP:CH2	1:A:43:LEU:HD22	0.56	2.36	2	1
1:A:23:TRP:CZ2	1:A:43:LEU:HD22	0.56	2.35	19	1
1:A:59:VAL:HG11	1:A:62:HIS:CD2	0.56	2.36	16	1
1:A:114:GLN:CD	1:A:126:VAL:HG21	0.55	2.26	11	1
1:A:161:PHE:O	1:A:165:VAL:HG12	0.55	2.02	20	6
1:A:65:ALA:CB	1:A:141:ILE:HG21	0.55	2.32	6	2
1:A:165:VAL:HG23	1:A:190:LEU:CD1	0.54	2.32	10	4
1:A:169:TYR:HB3	1:A:186:THR:HG21	0.54	1.79	19	2
1:A:83:LEU:HD12	1:A:83:LEU:O	0.54	2.03	12	7
1:A:114:GLN:CG	1:A:126:VAL:HG21	0.54	2.32	20	3
1:A:104:ILE:HD12	1:A:129:ILE:CD1	0.54	2.33	11	1
1:A:62:HIS:CE1	1:A:66:MET:HE3	0.53	2.39	7	1
1:A:202:LEU:HD11	1:A:214:MET:HB3	0.53	1.80	10	3
1:A:47:ALA:HB3	1:A:127:GLY:HA3	0.53	1.79	6	3
1:A:150:ILE:HD11	1:A:172:LEU:HA	0.53	1.79	11	2
1:A:117:TRP:CH2	1:A:124:ILE:HG21	0.53	2.38	13	7
1:A:77:ALA:HB1	1:A:101:GLY:HA3	0.53	1.79	11	2
1:A:53:ASN:HA	1:A:56:LEU:HD23	0.53	1.78	18	2
1:A:107:THR:HG22	1:A:108:THR:HG23	0.52	1.80	20	2
1:A:20:LEU:HD22	1:A:54:THR:CG2	0.52	2.27	2	1
1:A:202:LEU:HD21	1:A:214:MET:HE3	0.52	1.80	2	2
1:A:27:VAL:HG22	1:A:36:VAL:HG21	0.52	1.80	14	1
1:A:145:TYR:HB2	1:A:189:LEU:HD11	0.52	1.81	20	1
1:A:172:LEU:HD23	1:A:173:ARG:N	0.52	2.18	9	1
1:A:77:ALA:HB2	1:A:133:TRP:CZ3	0.52	2.40	15	1
1:A:65:ALA:CA	1:A:141:ILE:HG21	0.52	2.35	2	1
1:A:23:TRP:CZ3	1:A:27:VAL:HG21	0.51	2.40	1	1
1:A:121:ASN:HA	1:A:122:PRO:C	0.51	2.31	17	19
1:A:150:ILE:HG21	1:A:189:LEU:HD23	0.51	1.80	12	2
1:A:56:LEU:O	1:A:56:LEU:HD12	0.51	2.04	20	3
1:A:31:ALA:HB2	1:A:193:ASN:CG	0.51	2.31	13	1
1:A:191:VAL:HG22	1:A:202:LEU:HD21	0.50	1.82	6	1
1:A:32:PHE:CZ	1:A:59:VAL:HG22	0.50	2.41	18	2
1:A:191:VAL:CG2	1:A:202:LEU:HD12	0.50	2.37	11	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:104:ILE:CD1	1:A:129:ILE:HD12	0.50	2.37	8	2
1:A:23:TRP:CH2	1:A:59:VAL:HG23	0.50	2.42	1	1
1:A:24:VAL:HG22	1:A:58:THR:O	0.49	2.07	1	1
1:A:33:SER:CB	1:A:34:PRO:CD	0.49	2.90	20	1
1:A:150:ILE:CD1	1:A:172:LEU:HD12	0.49	2.37	5	2
1:A:47:ALA:HB3	1:A:127:GLY:CA	0.49	2.37	6	1
1:A:50:GLN:NE2	1:A:111:LEU:HD21	0.49	2.23	18	1
1:A:210:THR:HG23	1:A:213:GLU:H	0.49	1.67	16	1
1:A:30:LYS:O	1:A:31:ALA:HB2	0.49	2.07	15	8
1:A:37:ILE:N	1:A:38:PRO:HD2	0.49	2.23	1	20
1:A:201:ILE:CG2	1:A:217:ALA:HB1	0.48	2.34	19	5
1:A:40:PHE:HB3	1:A:135:ILE:HD11	0.48	1.84	15	2
1:A:68:MET:HB3	1:A:141:ILE:HD11	0.48	1.85	2	2
1:A:19:THR:HG22	1:A:23:TRP:CE3	0.48	2.44	3	1
1:A:165:VAL:HG23	1:A:190:LEU:HD11	0.48	1.86	10	1
1:A:33:SER:HB2	1:A:142:VAL:HG22	0.48	1.84	20	1
1:A:52:LEU:HD23	1:A:53:ASN:N	0.48	2.24	4	2
1:A:56:LEU:HB3	1:A:66:MET:HE1	0.48	1.86	11	1
1:A:68:MET:HE3	1:A:144:MET:CE	0.48	2.39	20	1
1:A:191:VAL:HG13	1:A:202:LEU:HD23	0.47	1.85	9	3
1:A:83:LEU:HD12	1:A:84:HIS:CG	0.47	2.44	15	2
1:A:23:TRP:CZ2	1:A:39:MET:HE3	0.47	2.44	17	1
1:A:191:VAL:CG2	1:A:214:MET:HE2	0.47	2.39	19	1
1:A:143:ARG:NE	1:A:174:ALA:HB2	0.47	2.24	9	1
1:A:23:TRP:CE2	1:A:27:VAL:HG21	0.47	2.44	10	1
1:A:195:ASN:ND2	1:A:198:CYS:H	0.47	2.07	7	2
1:A:52:LEU:HD12	1:A:52:LEU:O	0.47	2.08	2	1
1:A:44:SER:HB2	1:A:55:MET:HE1	0.47	1.86	5	1
1:A:56:LEU:HD13	1:A:69:LEU:HD21	0.47	1.87	13	1
1:A:185:ALA:O	1:A:189:LEU:HD23	0.47	2.10	16	2
1:A:58:THR:HG22	1:A:58:THR:O	0.47	2.10	18	1
1:A:191:VAL:CG2	1:A:202:LEU:HD23	0.47	2.33	20	1
1:A:201:ILE:HD11	1:A:221:VAL:CG2	0.47	2.39	18	3
1:A:20:LEU:CD2	1:A:54:THR:HG21	0.47	2.28	2	2
1:A:73:ILE:HD11	1:A:134:ILE:HG13	0.47	1.87	5	1
1:A:12:HIS:NE2	1:A:111:LEU:HD21	0.46	2.25	5	1
1:A:20:LEU:HD22	1:A:58:THR:HG21	0.46	1.87	7	1
1:A:17:PRO:HA	1:A:20:LEU:HD12	0.46	1.87	8	1
1:A:47:ALA:HB1	1:A:52:LEU:HD11	0.46	1.88	11	2
1:A:54:THR:O	1:A:58:THR:HG22	0.46	2.10	13	2
1:A:52:LEU:HD13	1:A:130:TYR:CD2	0.46	2.45	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:205:LEU:HD11	1:A:213:GLU:CG	0.46	2.41	12	1
1:A:68:MET:HE3	1:A:141:ILE:CG1	0.46	2.41	5	2
1:A:187:GLU:O	1:A:191:VAL:HG23	0.46	2.11	17	1
1:A:39:MET:O	1:A:43:LEU:HD13	0.46	2.11	3	1
1:A:47:ALA:HB1	1:A:127:GLY:HA3	0.45	1.87	19	1
1:A:40:PHE:CE2	1:A:55:MET:HE2	0.45	2.47	5	1
1:A:162:ARG:HB2	1:A:215:MET:HE3	0.45	1.87	7	1
1:A:150:ILE:HD11	1:A:172:LEU:CA	0.45	2.41	11	2
1:A:20:LEU:HB3	1:A:58:THR:HG21	0.45	1.89	10	2
1:A:150:ILE:HG13	1:A:172:LEU:HD12	0.45	1.88	16	1
1:A:59:VAL:HG21	1:A:62:HIS:NE2	0.45	2.26	12	2
1:A:119:THR:HG23	1:A:120:HIS:ND1	0.45	2.27	8	2
1:A:197:ASP:O	1:A:201:ILE:HD12	0.45	2.12	10	1
1:A:68:MET:CB	1:A:141:ILE:HD11	0.44	2.42	14	1
1:A:119:THR:HG23	1:A:120:HIS:CD2	0.44	2.47	16	1
1:A:151:LEU:HD12	1:A:151:LEU:O	0.44	2.13	11	5
1:A:145:TYR:CG	1:A:189:LEU:HD21	0.44	2.48	13	1
1:A:205:LEU:HD23	1:A:209:ALA:CB	0.44	2.42	4	2
1:A:218:CYS:O	1:A:221:VAL:HG12	0.44	2.12	12	3
1:A:168:PHE:CE1	1:A:189:LEU:HD23	0.44	2.48	14	1
1:A:202:LEU:CD2	1:A:214:MET:HE3	0.44	2.43	2	1
1:A:205:LEU:HD21	1:A:213:GLU:HG2	0.44	1.90	14	2
1:A:172:LEU:HD12	1:A:172:LEU:O	0.44	2.13	12	1
1:A:12:HIS:CE1	1:A:111:LEU:HD21	0.44	2.47	5	1
1:A:34:PRO:HG3	1:A:151:LEU:HD22	0.44	1.90	11	1
1:A:36:VAL:HA	1:A:39:MET:HE3	0.44	1.88	15	1
1:A:69:LEU:HD21	1:A:134:ILE:HD13	0.44	1.90	3	1
1:A:23:TRP:CZ2	1:A:43:LEU:HD13	0.44	2.48	19	1
1:A:36:VAL:HA	1:A:39:MET:HE2	0.43	1.87	9	1
1:A:44:SER:CB	1:A:55:MET:HE1	0.43	2.44	5	1
1:A:191:VAL:CG2	1:A:214:MET:HE3	0.43	2.44	14	1
1:A:56:LEU:HD12	1:A:56:LEU:O	0.43	2.14	3	1
1:A:130:TYR:CD2	1:A:134:ILE:HD11	0.43	2.49	5	1
1:A:104:ILE:HD13	1:A:129:ILE:CD1	0.43	2.43	18	2
1:A:36:VAL:HG22	1:A:39:MET:CE	0.43	2.43	9	1
1:A:37:ILE:HG22	1:A:38:PRO:N	0.43	2.29	13	2
1:A:137:GLY:C	1:A:141:ILE:HD12	0.43	2.38	7	2
1:A:15:ILE:HG23	1:A:20:LEU:HD11	0.43	1.89	14	1
1:A:50:GLN:HE21	1:A:111:LEU:HD21	0.43	1.72	18	1
1:A:205:LEU:HD21	1:A:209:ALA:HB2	0.42	1.90	6	1
1:A:130:TYR:O	1:A:134:ILE:HD12	0.42	2.14	2	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:27:VAL:HG13	1:A:32:PHE:CE2	0.42	2.49	5	1
1:A:83:LEU:HD12	1:A:84:HIS:N	0.42	2.29	15	1
1:A:150:ILE:HA	1:A:153:ILE:HD12	0.42	1.90	3	1
1:A:83:LEU:C	1:A:83:LEU:HD12	0.42	2.39	16	1
1:A:128:GLU:CD	1:A:128:GLU:C	0.42	2.87	18	1
1:A:20:LEU:O	1:A:24:VAL:HG23	0.42	2.14	1	2
1:A:115:ILE:HD13	1:A:118:MET:SD	0.42	2.54	1	1
1:A:33:SER:CB	1:A:34:PRO:HD2	0.42	2.45	9	1
1:A:190:LEU:O	1:A:194:ALA:HB2	0.42	2.14	1	3
1:A:150:ILE:HD12	1:A:172:LEU:HB2	0.42	1.91	16	1
1:A:205:LEU:HD11	1:A:213:GLU:HG2	0.42	1.92	12	1
1:A:12:HIS:CB	1:A:48:THR:HG21	0.41	2.44	14	1
1:A:83:LEU:HD11	1:A:84:HIS:CD2	0.41	2.50	14	1
1:A:131:LYS:O	1:A:135:ILE:HD12	0.41	2.15	14	1
1:A:161:PHE:O	1:A:165:VAL:HG23	0.41	2.15	12	1
1:A:47:ALA:HB2	1:A:131:LYS:HE3	0.41	1.92	19	1
1:A:40:PHE:CE1	1:A:59:VAL:HG23	0.41	2.50	20	1
1:A:195:ASN:ND2	1:A:195:ASN:H	0.41	2.14	3	1
1:A:205:LEU:HD23	1:A:209:ALA:HB2	0.41	1.93	15	2
1:A:37:ILE:CB	1:A:38:PRO:CD	0.41	2.99	12	11
1:A:62:HIS:ND1	1:A:66:MET:HE3	0.41	2.31	7	1
1:A:15:ILE:HD13	1:A:51:ASP:OD1	0.41	2.16	19	1
1:A:52:LEU:HD23	1:A:53:ASN:H	0.40	1.77	15	1
1:A:201:ILE:HG21	1:A:217:ALA:CB	0.40	2.45	16	1
1:A:37:ILE:O	1:A:135:ILE:HD12	0.40	2.17	13	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	183/240 (76%)	168±2 (92±1%)	13±2 (7±1%)	2±1 (1±0%)	12	60
All	All	3660/4800 (76%)	3360 (92%)	252 (7%)	48 (1%)	12	60

All 6 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	31	ALA	16
1	A	47	ALA	13
1	A	50	GLN	10
1	A	61	GLY	7
1	A	120	HIS	1
1	A	33	SER	1

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	154/201 (77%)	103±4 (67±3%)	51±4 (33±3%)	<b>1</b> <b>12</b>
All	All	3080/4020 (77%)	2055 (67%)	1025 (33%)	<b>1</b> <b>12</b>

All 127 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	33	SER	20
1	A	48	THR	20
1	A	72	THR	20
1	A	136	LEU	20
1	A	202	LEU	20
1	A	15	ILE	19
1	A	110	THR	19
1	A	142	VAL	19
1	A	189	LEU	18
1	A	82	ARG	18
1	A	144	MET	17
1	A	43	LEU	16
1	A	151	LEU	16
1	A	187	GLU	16
1	A	19	THR	15
1	A	30	LYS	15
1	A	56	LEU	15
1	A	73	ILE	15
1	A	170	LYS	14
1	A	200	THR	14

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Mol	Chain	Res	Type	Models (Total)
1	A	117	TRP	13
1	A	35	GLU	13
1	A	100	ARG	13
1	A	25	LYS	12
1	A	108	THR	12
1	A	173	ARG	12
1	A	211	LEU	12
1	A	102	SER	12
1	A	62	HIS	12
1	A	66	MET	12
1	A	68	MET	12
1	A	13	GLN	11
1	A	16	SER	11
1	A	114	GLN	11
1	A	143	ARG	11
1	A	166	ASP	11
1	A	23	TRP	11
1	A	71	GLU	11
1	A	155	GLN	11
1	A	109	SER	10
1	A	154	ARG	10
1	A	83	LEU	10
1	A	191	VAL	10
1	A	158	LYS	10
1	A	28	GLU	9
1	A	41	SER	9
1	A	74	ASN	9
1	A	107	THR	9
1	A	115	ILE	9
1	A	203	LYS	9
1	A	210	THR	9
1	A	50	GLN	9
1	A	152	ASP	8
1	A	24	VAL	8
1	A	70	LYS	8
1	A	216	THR	8
1	A	199	LYS	8
1	A	81	ASP	7
1	A	175	GLU	7
1	A	21	ASN	7
1	A	26	VAL	7
1	A	52	LEU	7

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Mol	Chain	Res	Type	Models (Total)
1	A	59	VAL	7
1	A	195	ASN	7
1	A	113	GLU	7
1	A	172	LEU	7
1	A	45	GLU	7
1	A	51	ASP	7
1	A	55	MET	7
1	A	214	MET	7
1	A	118	MET	6
1	A	134	ILE	6
1	A	159	GLU	6
1	A	131	LYS	6
1	A	140	LYS	6
1	A	197	ASP	6
1	A	36	VAL	6
1	A	63	GLN	6
1	A	121	ASN	6
1	A	163	ASP	6
1	A	84	HIS	6
1	A	205	LEU	6
1	A	40	PHE	6
1	A	128	GLU	6
1	A	37	ILE	5
1	A	39	MET	5
1	A	219	GLN	5
1	A	18	ARG	5
1	A	29	GLU	4
1	A	53	ASN	4
1	A	57	ASN	4
1	A	58	THR	4
1	A	129	ILE	4
1	A	130	TYR	4
1	A	111	LEU	4
1	A	186	THR	4
1	A	215	MET	4
1	A	27	VAL	3
1	A	69	LEU	3
1	A	126	VAL	3
1	A	12	HIS	3
1	A	198	CYS	3
1	A	44	SER	3
1	A	104	ILE	3

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Mol	Chain	Res	Type	Models (Total)
1	A	67	GLN	3
1	A	132	ARG	3
1	A	221	VAL	3
1	A	139	ASN	3
1	A	76	GLU	3
1	A	167	ARG	3
1	A	164	TYR	2
1	A	192	GLN	2
1	A	162	ARG	2
1	A	212	GLU	2
1	A	150	ILE	2
1	A	103	ASP	2
1	A	141	ILE	2
1	A	54	THR	1
1	A	112	GLN	1
1	A	119	THR	1
1	A	120	HIS	1
1	A	193	ASN	1
1	A	80	TRP	1
1	A	218	CYS	1
1	A	213	GLU	1
1	A	201	ILE	1
1	A	188	THR	1

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 6.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

### 6.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

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

There are no ligands in this entry.

## 6.7 Other polymers [i](#)

There are no such molecules in this entry.

## 6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 7 Chemical shift validation i

The completeness of assignment taking into account all chemical shift lists is 83% for the well-defined parts and 83% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: *assigned\_chem\_shift\_list\_1*

#### 7.1.1 Bookkeeping i

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

Total number of shifts	2600
Number of shifts mapped to atoms	2600
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	4

#### 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
<sup>13</sup> C <sub>α</sub>	225	0.21 $\pm$ 0.09	None needed (< 0.5 ppm)
<sup>13</sup> C <sub>β</sub>	206	0.85 $\pm$ 0.08	Should be checked
<sup>13</sup> C'	206	-0.09 $\pm$ 0.07	None needed (< 0.5 ppm)
<sup>15</sup> N	212	0.52 $\pm$ 0.12	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 83%, i.e. 2076 atoms were assigned a chemical shift out of a possible 2501. 0 out of 26 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Backbone	878/905 (97%)	365/367 (99%)	341/366 (93%)	172/172 (100%)
Sidechain	1162/1444 (80%)	787/943 (83%)	375/448 (84%)	0/53 (0%)

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	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Aromatic	36/152 (24%)	34/76 (45%)	0/68 (0%)	2/8 (25%)
Overall	2076/2501 (83%)	1186/1386 (86%)	716/882 (81%)	174/233 (75%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 83%, i.e. 2600 atoms were assigned a chemical shift out of a possible 3134. 0 out of 33 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	<sup>1</sup> H	<sup>13</sup> C	<sup>15</sup> N
Backbone	1102/1142 (96%)	459/464 (99%)	431/464 (93%)	212/214 (99%)
Sidechain	1459/1826 (80%)	988/1193 (83%)	471/564 (84%)	0/69 (0%)
Aromatic	39/166 (23%)	37/84 (44%)	0/72 (0%)	2/10 (20%)
Overall	2600/3134 (83%)	1484/1741 (85%)	902/1100 (82%)	214/293 (73%)

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

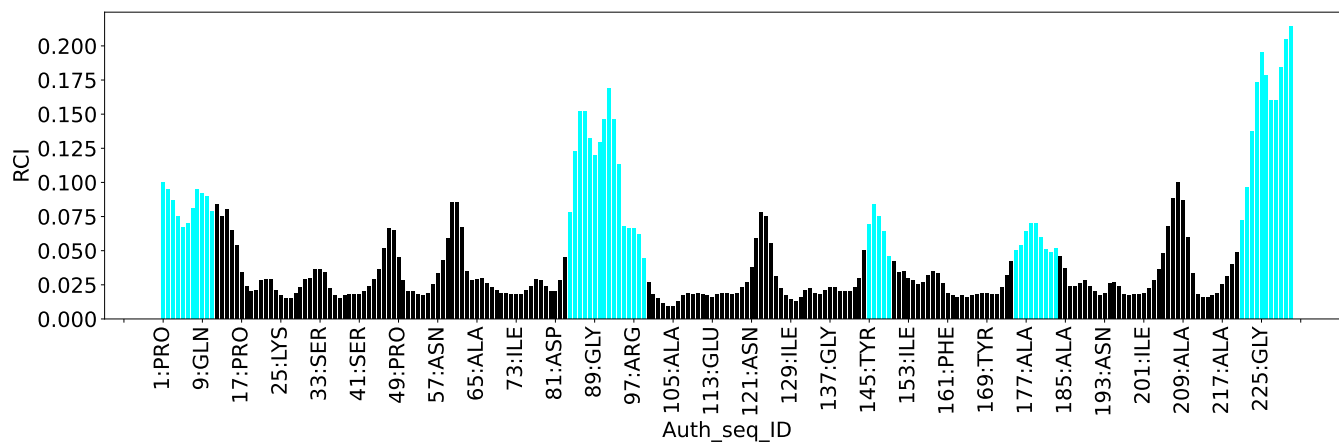
The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, ppm	Expected range, ppm	Z-score
1	A	104	ILE	HD11	-0.96	-0.72 – 2.09	-5.8
1	A	104	ILE	HD12	-0.96	-0.72 – 2.09	-5.8
1	A	104	ILE	HD13	-0.96	-0.72 – 2.09	-5.8
1	A	80	TRP	NE1	116.99	118.53 – 139.98	-5.7

#### 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	2880
Intra-residue ( $ i-j =0$ )	838
Sequential ( $ i-j =1$ )	792
Medium range ( $ i-j >1$ and $ i-j <5$ )	681
Long range ( $ i-j \geq 5$ )	379
Inter-chain	0
Hydrogen bond restraints	190
Disulfide bond restraints	0
Total dihedral-angle restraints	0
Number of unmapped restraints	0
Number of restraints per residue	12.0
Number of long range restraints per residue <sup>1</sup>	1.6

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

### 8.2 Residual restraint violations

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

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

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

Bins (Å)	Average number of violations per model	Max (Å)
0.1-0.2 (Small)	3.0	0.2
0.2-0.5 (Medium)	1.7	0.5
>0.5 (Large)	8.3	4.25

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

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

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

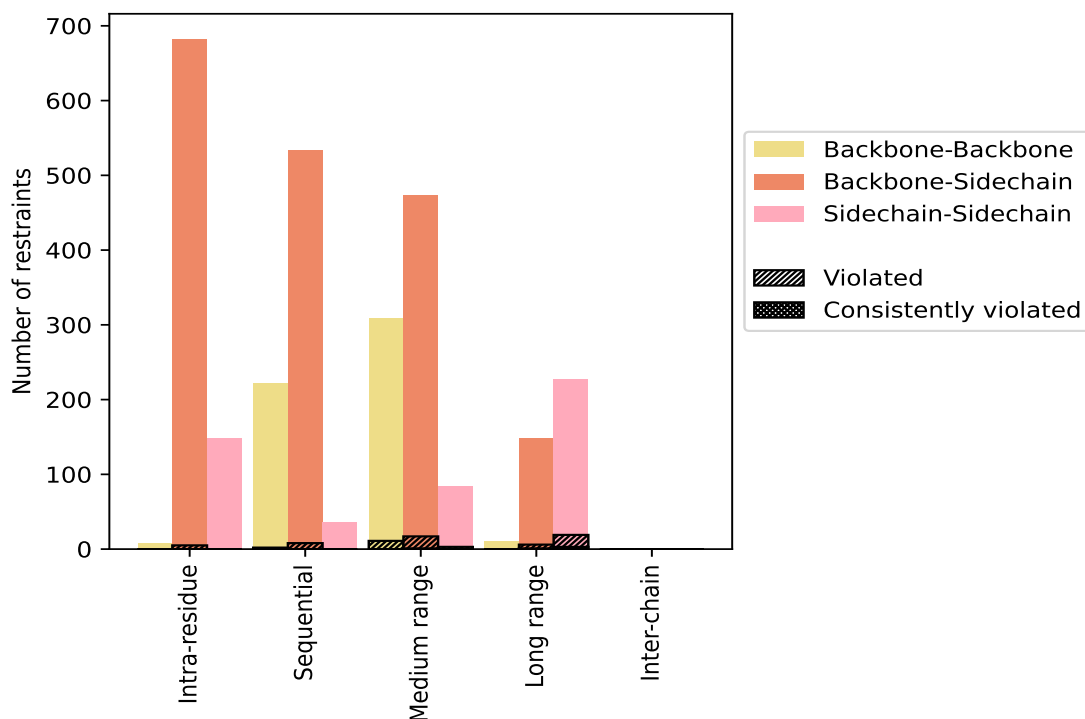
### 9.1 Summary of distance violations [i](#)

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

Restrains type	Count	% <sup>1</sup>	Violated <sup>3</sup>			Consistently Violated <sup>4</sup>		
			Count	% <sup>2</sup>	% <sup>1</sup>	Count	% <sup>2</sup>	% <sup>1</sup>
<b>Intra-residue (<math> i-j =0</math>)</b>	<b>838</b>	<b>29.1</b>	<b>5</b>	<b>0.6</b>	<b>0.2</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	8	0.3	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	682	23.7	5	0.7	0.2	0	0.0	0.0
Sidechain-Sidechain	148	5.1	0	0.0	0.0	0	0.0	0.0
<b>Sequential (<math> i-j =1</math>)</b>	<b>792</b>	<b>27.5</b>	<b>10</b>	<b>1.3</b>	<b>0.3</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	222	7.7	2	0.9	0.1	0	0.0	0.0
Backbone-Sidechain	534	18.5	8	1.5	0.3	0	0.0	0.0
Sidechain-Sidechain	36	1.2	0	0.0	0.0	0	0.0	0.0
<b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b>	<b>681</b>	<b>23.6</b>	<b>22</b>	<b>3.2</b>	<b>0.8</b>	<b>1</b>	<b>0.1</b>	<b>0.0</b>
Backbone-Backbone	308	10.7	11	3.6	0.4	0	0.0	0.0
Backbone-Sidechain	289	10.0	8	2.8	0.3	1	0.3	0.0
Sidechain-Sidechain	84	2.9	3	3.6	0.1	0	0.0	0.0
<b>Long range (<math> i-j \geq 5</math>)</b>	<b>379</b>	<b>13.2</b>	<b>25</b>	<b>6.6</b>	<b>0.9</b>	<b>4</b>	<b>1.1</b>	<b>0.1</b>
Backbone-Backbone	10	0.3	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	142	4.9	6	4.2	0.2	1	0.7	0.0
Sidechain-Sidechain	227	7.9	19	8.4	0.7	3	1.3	0.1
<b>Inter-chain</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
<b>Hydrogen bond</b>	<b>190</b>	<b>6.6</b>	<b>9</b>	<b>4.7</b>	<b>0.3</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Disulfide bond</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>2880</b>	<b>100.0</b>	<b>71</b>	<b>2.5</b>	<b>2.5</b>	<b>5</b>	<b>0.2</b>	<b>0.2</b>
Backbone-Backbone	548	19.0	13	2.4	0.5	0	0.0	0.0
Backbone-Sidechain	1837	63.8	36	2.0	1.2	2	0.1	0.1
Sidechain-Sidechain	495	17.2	22	4.4	0.8	3	0.6	0.1

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

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



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

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

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

Model ID	Number of violations						Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
1	0	0	5	8	0	13	1.39	4.24	1.15	1.48
2	0	0	1	5	0	6	1.77	3.68	1.17	1.48
3	1	0	3	10	0	14	1.16	3.89	1.09	0.78
4	0	1	2	6	0	9	1.53	3.86	1.16	1.53
5	1	0	2	10	0	13	1.38	4.04	1.09	1.4
6	2	0	3	9	0	14	1.06	4.14	1.14	0.55
7	0	1	5	12	0	18	1.07	3.7	0.98	0.81
8	1	0	4	10	0	15	1.03	4.25	1.13	0.76
9	0	0	3	8	0	11	1.3	4.11	1.2	0.75
10	2	0	2	7	0	11	1.33	4.05	1.15	1.31

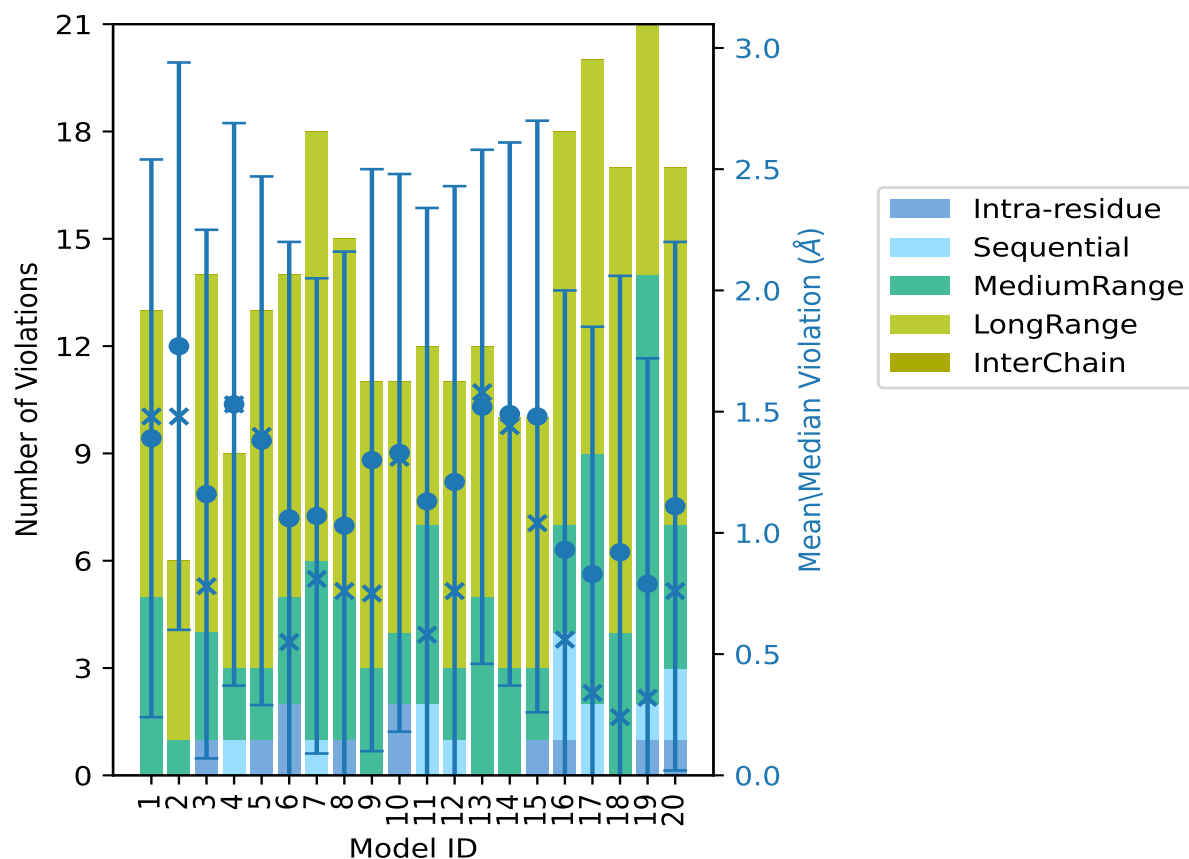
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Model ID	Number of violations						Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total				
11	0	2	5	5	0	12	1.13	3.94	1.21	0.58
12	0	1	2	8	0	11	1.21	3.99	1.22	0.76
13	0	0	5	7	0	12	1.52	4.11	1.06	1.58
14	0	0	3	7	0	10	1.49	3.96	1.12	1.44
15	1	0	2	7	0	10	1.48	4.11	1.22	1.04
16	1	3	3	11	0	18	0.93	4.06	1.07	0.56
17	0	2	7	11	0	20	0.83	3.85	1.02	0.34
18	0	0	4	13	0	17	0.92	4.15	1.14	0.24
19	1	1	12	7	0	21	0.79	3.75	0.93	0.32
20	1	2	4	10	0	17	1.11	4.22	1.09	0.76

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

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



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

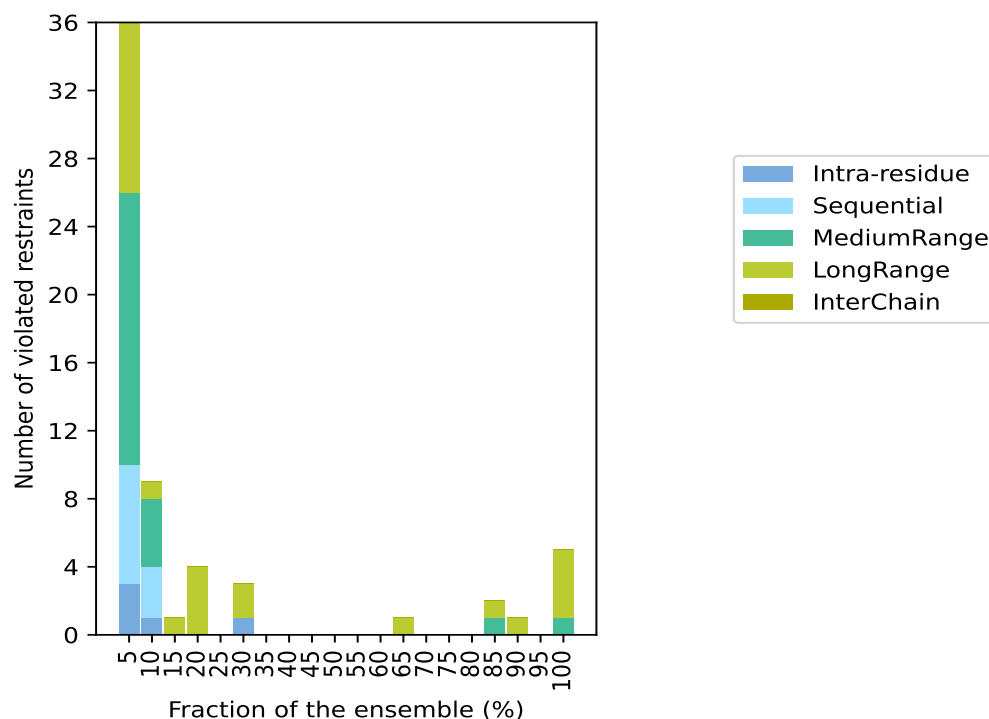
### 9.3 Distance violation statistics for the ensemble

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 2628(IR:833, SQ:782, MR:659, LR:354, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>	Total	Count <sup>6</sup>	%
3	7	16	10	0	36	1	5.0
1	3	4	1	0	9	2	10.0
0	0	0	1	0	1	3	15.0
0	0	0	4	0	4	4	20.0
0	0	0	0	0	0	5	25.0
1	0	0	2	0	3	6	30.0
0	0	0	0	0	0	7	35.0
0	0	0	0	0	0	8	40.0
0	0	0	0	0	0	9	45.0
0	0	0	0	0	0	10	50.0
0	0	0	0	0	0	11	55.0
0	0	0	0	0	0	12	60.0
0	0	0	1	0	1	13	65.0
0	0	0	0	0	0	14	70.0
0	0	0	0	0	0	15	75.0
0	0	0	0	0	0	16	80.0
0	0	1	1	0	2	17	85.0
0	0	0	1	0	1	18	90.0
0	0	0	0	0	0	19	95.0
0	0	1	4	0	5	20	100.0

<sup>1</sup>Intra-residue restraints, <sup>2</sup>Sequential restraints, <sup>3</sup>Medium range restraints, <sup>4</sup>Long range restraints, <sup>5</sup>Inter-chain restraints, <sup>6</sup> Number of models with violations

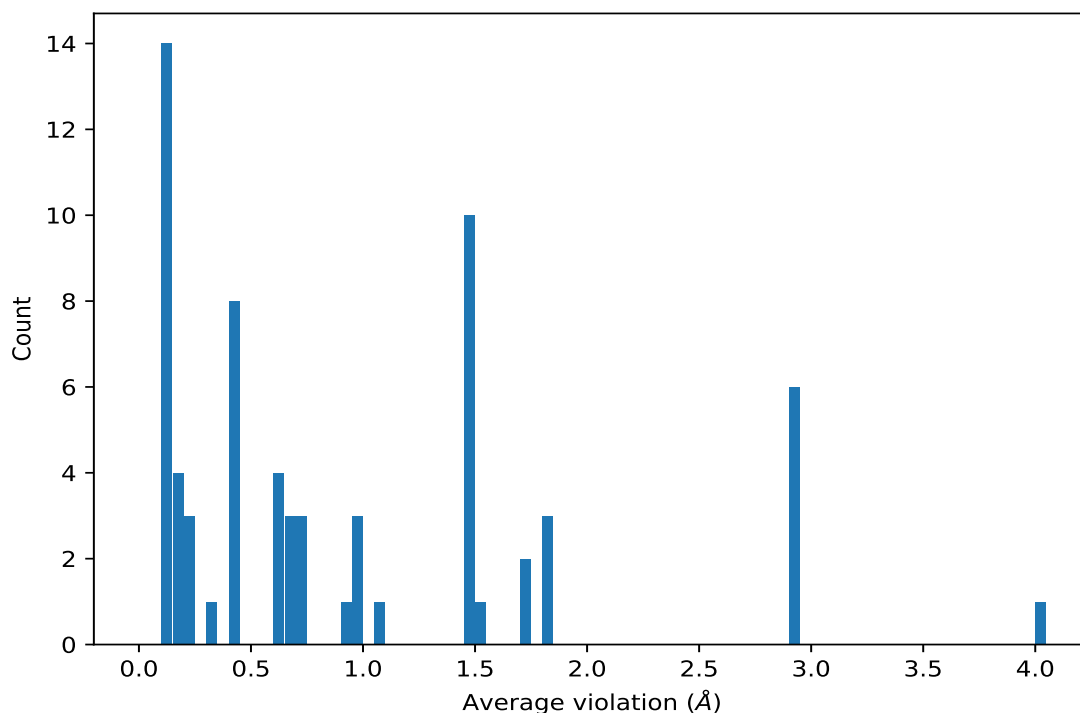
### 9.3.1 Bar graph : Distance violation statistics for the ensemble [i](#)



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

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

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



#### 9.4.2 Table: Most violated distance restraints [i](#)

The following table provides the mean and the standard deviation of the violation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	20	4.0	0.17	4.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	20	2.9	0.12	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	20	2.9	0.12	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	20	2.9	0.12	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	20	2.9	0.12	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	20	2.9	0.12	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	20	2.9	0.12	2.92
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	20	1.48	0.13	1.48
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	20	0.74	0.03	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	20	0.74	0.03	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	20	0.74	0.03	0.75
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	20	0.42	0.11	0.4
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	20	0.42	0.11	0.4
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	20	0.42	0.11	0.4
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	20	0.42	0.11	0.4
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	20	0.42	0.11	0.4

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	20	0.42	0.11	0.4
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	18	0.93	0.33	0.88
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	17	1.7	0.48	1.86
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	17	1.7	0.48	1.86
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	17	1.49	0.08	1.48
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	13	0.41	0.2	0.41
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	13	0.41	0.2	0.41
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	6	0.99	0.44	1.27
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	6	0.99	0.44	1.27
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	6	0.99	0.44	1.27
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	6	0.22	0.18	0.13
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	6	0.22	0.18	0.13
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	6	0.22	0.18	0.13
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	6	0.15	0.05	0.14
(2,1612)	1:153:A:ILE:HG21	1:168:A:PHE:HE2	4	1.84	0.05	1.85
(2,1612)	1:153:A:ILE:HG22	1:168:A:PHE:HE2	4	1.84	0.05	1.85
(2,1612)	1:153:A:ILE:HG23	1:168:A:PHE:HE2	4	1.84	0.05	1.85
(1,131)	1:159:A:GLU:OE1	1:156:A:GLY:H	4	1.5	0.26	1.43
(2,1616)	1:153:A:ILE:HG21	1:168:A:PHE:HD2	4	1.48	0.07	1.45
(2,1616)	1:153:A:ILE:HG22	1:168:A:PHE:HD2	4	1.48	0.07	1.45
(2,1616)	1:153:A:ILE:HG23	1:168:A:PHE:HD2	4	1.48	0.07	1.45
(1,132)	1:159:A:GLU:OE1	1:156:A:GLY:N	4	1.06	0.49	1.09
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD21	4	0.64	0.2	0.64
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD22	4	0.64	0.2	0.64
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD23	4	0.64	0.2	0.64
(2,1774)	1:168:A:PHE:HE2	1:189:A:LEU:HA	4	0.64	0.18	0.59
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	3	0.14	0.02	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	3	0.14	0.02	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	3	0.14	0.02	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	3	0.14	0.02	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	3	0.14	0.02	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	3	0.14	0.02	0.12
(2,1473)	1:141:A:ILE:HG21	1:145:A:TYR:HD1	2	0.68	0.57	0.68
(2,1473)	1:141:A:ILE:HG22	1:145:A:TYR:HD1	2	0.68	0.57	0.68
(2,1473)	1:141:A:ILE:HG23	1:145:A:TYR:HD1	2	0.68	0.57	0.68
(2,1917)	1:182:A:LYS:H	1:182:A:LYS:HB3	2	0.3	0.1	0.3
(3,69)	1:32:A:PHE:HB2	1:35:A:GLU:HA	2	0.16	0.06	0.16

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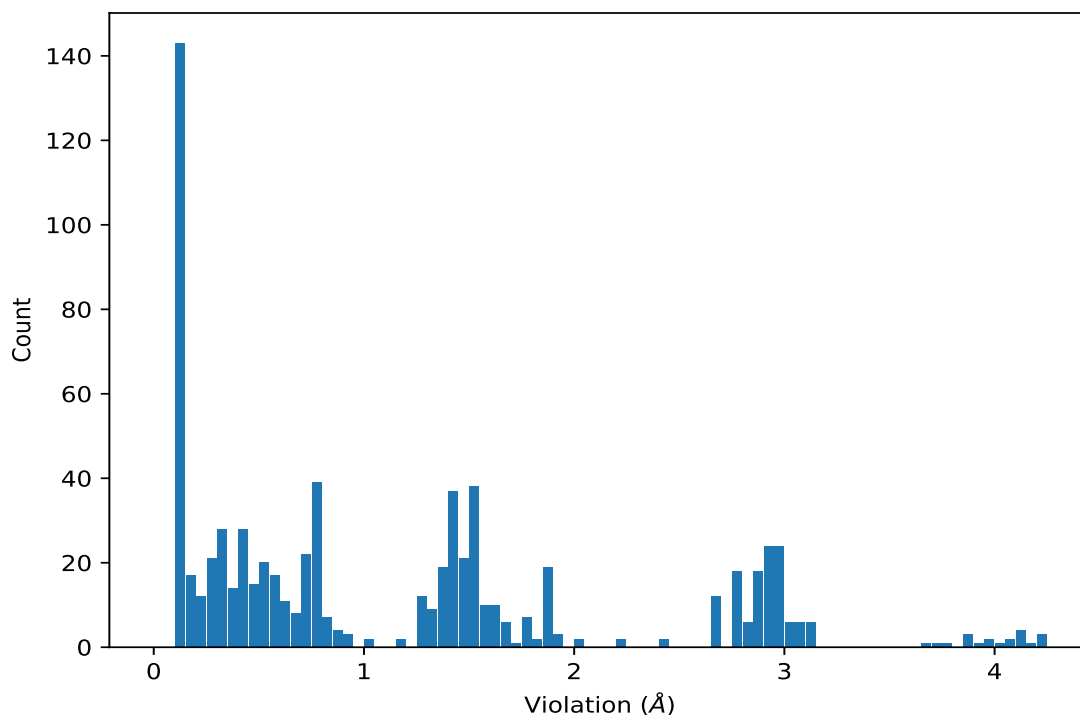
Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(3,69)	1:32:A:PHE:HB3	1:35:A:GLU:HA	2	0.16	0.06	0.16
(1,79)	1:78:A:ALA:O	1:82:A:ARG:H	2	0.15	0.0	0.15
(2,947)	1:83:A:LEU:HG	1:84:A:HIS:H	2	0.14	0.01	0.14
(2,335)	1:28:A:GLU:H	1:31:A:ALA:H	2	0.12	0.01	0.12
(2,920)	1:81:A:ASP:HA	1:84:A:HIS:H	2	0.12	0.01	0.12
(3,194)	1:145:A:TYR:HE1	1:146:A:SER:H	2	0.12	0.01	0.12
(2,1791)	1:170:A:LYS:H	1:171:A:THR:H	2	0.12	0.02	0.12
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD21	2	0.11	0.01	0.11
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD22	2	0.11	0.01	0.11
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD23	2	0.11	0.01	0.11

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

## 9.5 All violated distance restraints [i](#)

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

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



### 9.5.2 Table : All distance violations [i](#)

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

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	8	4.25
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	1	4.24
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	20	4.22
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	18	4.15
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	6	4.14
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	9	4.11
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	13	4.11
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	15	4.11
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	16	4.06
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	10	4.05
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	5	4.04
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	12	3.99
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	14	3.96
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	11	3.94
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	3	3.89
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	4	3.86
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	17	3.85
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	19	3.75
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	7	3.7
(2,1682)	1:161:A:PHE:HE1	1:215:A:MET:HA	2	3.68
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	17	3.13
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	8	3.07
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	3	3.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	3	3.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	3	3.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	3	3.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	3	3.04

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	3	3.04
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	1	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	7	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	9	2.98
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	14	2.97
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	4	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	11	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	16	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	16	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	16	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	16	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	16	2.93

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	16	2.93
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	5	2.92
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	15	2.9
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	2	2.89
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	10	2.86
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	20	2.82
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	12	2.8
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	18	2.78
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	18	2.78
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	18	2.78
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	18	2.78
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	18	2.78

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	18	2.78
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	6	2.76
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	13	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD11	19	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD12	19	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD13	19	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD21	19	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD22	19	2.69
(2,1785)	1:169:A:TYR:HE1	1:190:A:LEU:HD23	19	2.69
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	15	2.42
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	15	2.42
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	18	2.22
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	18	2.22
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	1	2.02
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	1	2.02
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	7	1.92
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	7	1.92
(1,131)	1:159:A:GLU:OE1	1:156:A:GLY:H	13	1.91
(2,1612)	1:153:A:ILE:HG21	1:168:A:PHE:HE2	5	1.89
(2,1612)	1:153:A:ILE:HG22	1:168:A:PHE:HE2	5	1.89
(2,1612)	1:153:A:ILE:HG23	1:168:A:PHE:HE2	5	1.89
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	4	1.88
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	4	1.88
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	20	1.88
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	20	1.88
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	9	1.87
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	9	1.87
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	13	1.87
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	13	1.87
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	5	1.86
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	5	1.86
(2,1612)	1:153:A:ILE:HG21	1:168:A:PHE:HE2	12	1.85

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1612)	1:153:A:ILE:HG22	1:168:A:PHE:HE2	12	1.85
(2,1612)	1:153:A:ILE:HG23	1:168:A:PHE:HE2	12	1.85
(2,1612)	1:153:A:ILE:HG21	1:168:A:PHE:HE2	16	1.85
(2,1612)	1:153:A:ILE:HG22	1:168:A:PHE:HE2	16	1.85
(2,1612)	1:153:A:ILE:HG23	1:168:A:PHE:HE2	16	1.85
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	11	1.81
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	11	1.81
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	6	1.79
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	6	1.79
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	3	1.76
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	3	1.76
(2,1612)	1:153:A:ILE:HG21	1:168:A:PHE:HE2	20	1.75
(2,1612)	1:153:A:ILE:HG22	1:168:A:PHE:HE2	20	1.75
(2,1612)	1:153:A:ILE:HG23	1:168:A:PHE:HE2	20	1.75
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	7	1.72
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	1	1.66
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	1	1.66
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	1	1.66
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	1	1.66
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	1	1.66
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	1	1.66
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	4	1.62
(1,132)	1:159:A:GLU:OE1	1:156:A:GLY:N	13	1.61
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	13	1.6
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	16	1.6
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	15	1.6
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	15	1.6
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	15	1.6
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	15	1.6
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	15	1.6
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	15	1.6
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	6	1.59
(2,1616)	1:153:A:ILE:HG21	1:168:A:PHE:HD2	5	1.59
(2,1616)	1:153:A:ILE:HG22	1:168:A:PHE:HD2	5	1.59
(2,1616)	1:153:A:ILE:HG23	1:168:A:PHE:HD2	5	1.59
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	13	1.55
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	13	1.55
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	13	1.55
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	13	1.55
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	13	1.55
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	13	1.55
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	10	1.54

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	18	1.54
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	18	1.54
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	4	1.53
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	4	1.53
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	4	1.53
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	4	1.53
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	4	1.53
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	4	1.53
(1,131)	1:159:A:GLU:OE1	1:156:A:GLY:H	1	1.53
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	11	1.52
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	12	1.52
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	14	1.52
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	11	1.52
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	14	1.52
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	20	1.52
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	20	1.52
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	20	1.52
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	20	1.52
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	20	1.52
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	20	1.52
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	10	1.52
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	10	1.52
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	1	1.49
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	2	1.49
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	17	1.48
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	19	1.48
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	3	1.48

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	3	1.48
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	3	1.48
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	3	1.48
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	3	1.48
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	3	1.48
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	7	1.48
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	7	1.48
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	7	1.48
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	7	1.48
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	7	1.48
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	7	1.48
(1,132)	1:159:A:GLU:OE1	1:156:A:GLY:N	1	1.48
(2,1616)	1:153:A:ILE:HG21	1:168:A:PHE:HD2	12	1.47
(2,1616)	1:153:A:ILE:HG22	1:168:A:PHE:HD2	12	1.47
(2,1616)	1:153:A:ILE:HG23	1:168:A:PHE:HD2	12	1.47
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	2	1.46
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	14	1.45
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	10	1.44
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	10	1.44
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	10	1.44
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	10	1.44
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	10	1.44
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	10	1.44
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	14	1.44
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	14	1.44
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	3	1.43
(2,1616)	1:153:A:ILE:HG21	1:168:A:PHE:HD2	20	1.43
(2,1616)	1:153:A:ILE:HG22	1:168:A:PHE:HD2	20	1.43
(2,1616)	1:153:A:ILE:HG23	1:168:A:PHE:HD2	20	1.43
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	19	1.43
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	19	1.43
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	19	1.43
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	19	1.43
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	19	1.43
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	19	1.43
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	5	1.42
(2,1616)	1:153:A:ILE:HG21	1:168:A:PHE:HD2	16	1.42
(2,1616)	1:153:A:ILE:HG22	1:168:A:PHE:HD2	16	1.42
(2,1616)	1:153:A:ILE:HG23	1:168:A:PHE:HD2	16	1.42
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	17	1.42
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	17	1.42
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	17	1.42

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	17	1.42
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	17	1.42
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	17	1.42
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	17	1.42
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	17	1.42
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	8	1.41
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	5	1.4
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	6	1.4
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	6	1.4
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	6	1.4
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	6	1.4
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	6	1.4
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	6	1.4
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	9	1.38
(2,1477)	1:142:A:VAL:HG11	1:145:A:TYR:HD2	9	1.36
(2,1477)	1:142:A:VAL:HG12	1:145:A:TYR:HD2	9	1.36
(2,1477)	1:142:A:VAL:HG13	1:145:A:TYR:HD2	9	1.36
(2,1477)	1:142:A:VAL:HG21	1:145:A:TYR:HD2	9	1.36
(2,1477)	1:142:A:VAL:HG22	1:145:A:TYR:HD2	9	1.36
(2,1477)	1:142:A:VAL:HG23	1:145:A:TYR:HD2	9	1.36
(1,131)	1:159:A:GLU:OE1	1:156:A:GLY:H	19	1.33
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	10	1.31
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	7	1.31
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	7	1.31
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	7	1.31
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	20	1.3
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	3	1.3
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	3	1.3
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	3	1.3
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	20	1.27
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	8	1.27
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	8	1.27

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	8	1.27
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	15	1.26
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	17	1.26
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	17	1.26
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	17	1.26
(2,1473)	1:141:A:ILE:HG21	1:145:A:TYR:HD1	19	1.26
(2,1473)	1:141:A:ILE:HG22	1:145:A:TYR:HD1	19	1.26
(2,1473)	1:141:A:ILE:HG23	1:145:A:TYR:HD1	19	1.26
(1,131)	1:159:A:GLU:OE1	1:156:A:GLY:H	7	1.25
(3,252)	1:169:A:TYR:HE2	1:171:A:THR:H	8	1.16
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	13	1.16
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	17	1.03
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	5	1.01
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	1	0.94
(2,1774)	1:168:A:PHE:HE2	1:189:A:LEU:HA	16	0.93
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	8	0.9
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD21	7	0.87
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD22	7	0.87
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD23	7	0.87
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	7	0.86
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	14	0.84
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	14	0.84
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	8	0.84
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	8	0.84
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	16	0.83
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	18	0.83
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	15	0.81
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD21	3	0.79
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD22	3	0.79
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD23	3	0.79
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	3	0.77
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	3	0.77
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	3	0.77
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	1	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	1	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	1	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	4	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	4	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	4	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	7	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	7	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	7	0.76

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	8	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	8	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	8	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	12	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	12	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	12	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	16	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	16	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	16	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	20	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	20	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	20	0.76
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	9	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	9	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	9	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	13	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	13	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	13	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	17	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	17	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	17	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	19	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	19	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	19	0.75
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	2	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	2	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	2	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	11	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	11	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	11	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	18	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	18	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	18	0.74
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	10	0.73
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	10	0.73
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	10	0.73
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	6	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	6	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	6	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	14	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	14	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	14	0.72

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	15	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	15	0.72
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	15	0.72
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	9	0.71
(1,132)	1:159:A:GLU:OE1	1:156:A:GLY:N	19	0.7
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	3	0.65
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	3	0.65
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	3	0.65
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	3	0.65
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	3	0.65
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	3	0.65
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	19	0.65
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB1	5	0.64
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB2	5	0.64
(2,1681)	1:161:A:PHE:HE2	1:194:A:ALA:HB3	5	0.64
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	4	0.64
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	20	0.62
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	20	0.62
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	20	0.62
(2,1774)	1:168:A:PHE:HE2	1:189:A:LEU:HA	7	0.61
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	16	0.61
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	16	0.61
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	16	0.61
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	7	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	17	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	17	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	17	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	17	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	17	0.6
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	17	0.6
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	18	0.59
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	18	0.59
(2,1774)	1:168:A:PHE:HE2	1:189:A:LEU:HA	3	0.57
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	6	0.56
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	6	0.56
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	1	0.53
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	1	0.53

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	1	0.53
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	1	0.53
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	1	0.53
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	1	0.53
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	5	0.53
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	5	0.53
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	13	0.53
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	13	0.53
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	6	0.53
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	16	0.52
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	16	0.52
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	16	0.52
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	16	0.52
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	16	0.52
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	16	0.52
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD21	17	0.5
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD22	17	0.5
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD23	17	0.5
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	5	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	5	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	5	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	5	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	5	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	5	0.47
(1,132)	1:159:A:GLU:OE1	1:156:A:GLY:N	7	0.47
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	8	0.46
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	8	0.46
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	8	0.46
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	8	0.46
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	8	0.46
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	8	0.46
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	16	0.45
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	16	0.45
(2,1774)	1:168:A:PHE:HE2	1:189:A:LEU:HA	8	0.43
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	4	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	9	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	9	0.42

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	9	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	9	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	9	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	9	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	11	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	11	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	11	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	11	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	11	0.42
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	11	0.42
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	15	0.41
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	15	0.41
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD21	8	0.4
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD22	8	0.4
(3,241)	1:168:A:PHE:HE2	1:189:A:LEU:HD23	8	0.4
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	10	0.4
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	10	0.4
(2,1917)	1:182:A:LYS:H	1:182:A:LYS:HB3	10	0.4
(2,370)	1:32:A:PHE:HE2	1:62:A:HIS:HB2	6	0.4
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	14	0.39
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	14	0.39
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	14	0.39
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	14	0.39
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	14	0.39
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	14	0.39
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	9	0.38
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	9	0.38
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	12	0.37
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	2	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	15	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	15	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	15	0.35

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	15	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	15	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	15	0.35
(2,369)	1:32:A:PHE:H	1:32:A:PHE:HD1	6	0.35
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	20	0.33
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	19	0.32
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	19	0.32
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	19	0.32
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	19	0.32
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	19	0.32
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	19	0.32
(2,645)	1:62:A:HIS:HB2	1:145:A:TYR:HE1	19	0.32
(2,645)	1:62:A:HIS:HB3	1:145:A:TYR:HE1	19	0.32
(2,1432)	1:138:A:LEU:HA	1:141:A:ILE:HB	19	0.31
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	13	0.3
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	6	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	10	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	10	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	10	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	10	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	10	0.29
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	10	0.29
(2,1441)	1:139:A:ASN:H	1:141:A:ILE:H	19	0.27
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	19	0.26
(2,1465)	1:141:A:ILE:HB	1:142:A:VAL:H	19	0.25
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	18	0.24
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	18	0.24

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	18	0.24
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	18	0.24
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	18	0.24
(3,254)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	18	0.24
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	20	0.24
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	20	0.24
(3,69)	1:32:A:PHE:HB2	1:35:A:GLU:HA	9	0.22
(3,69)	1:32:A:PHE:HB3	1:35:A:GLU:HA	9	0.22
(2,1677)	1:161:A:PHE:H	1:215:A:MET:HE1	12	0.21
(2,1917)	1:182:A:LYS:H	1:182:A:LYS:HB3	15	0.2
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	7	0.19
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	7	0.19
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	7	0.19
(2,469)	1:43:A:LEU:H	1:43:A:LEU:HG	20	0.19
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	1	0.18
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	1	0.18
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	3	0.17
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	3	0.17
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	3	0.17
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	3	0.17
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	3	0.17
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	3	0.17
(2,1560)	1:150:A:ILE:HD11	1:168:A:PHE:HE2	12	0.17
(2,1560)	1:150:A:ILE:HD12	1:168:A:PHE:HE2	12	0.17
(2,1560)	1:150:A:ILE:HD13	1:168:A:PHE:HE2	12	0.17
(2,960)	1:85:A:PRO:HA	1:86:A:VAL:H	17	0.17
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	8	0.16
(2,947)	1:83:A:LEU:HG	1:84:A:HIS:H	17	0.15
(2,406)	1:36:A:VAL:H	1:37:A:ILE:HD11	20	0.15
(2,406)	1:36:A:VAL:H	1:37:A:ILE:HD12	20	0.15
(2,406)	1:36:A:VAL:H	1:37:A:ILE:HD13	20	0.15
(2,383)	1:34:A:PRO:HA	1:37:A:ILE:HD11	20	0.15
(2,383)	1:34:A:PRO:HA	1:37:A:ILE:HD12	20	0.15
(2,383)	1:34:A:PRO:HA	1:37:A:ILE:HD13	20	0.15
(1,121)	1:137:A:GLY:O	1:141:A:ILE:H	19	0.15
(1,79)	1:78:A:ALA:O	1:82:A:ARG:H	11	0.15
(1,79)	1:78:A:ALA:O	1:82:A:ARG:H	17	0.15
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	3	0.14
(2,1440)	1:139:A:ASN:HA	1:142:A:VAL:H	19	0.14
(2,1091)	1:104:A:ILE:HG21	1:129:A:ILE:HG21	18	0.14
(2,1091)	1:104:A:ILE:HG21	1:129:A:ILE:HG22	18	0.14
(2,1091)	1:104:A:ILE:HG21	1:129:A:ILE:HG23	18	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1091)	1:104:A:ILE:HG22	1:129:A:ILE:HG21	18	0.14
(2,1091)	1:104:A:ILE:HG22	1:129:A:ILE:HG22	18	0.14
(2,1091)	1:104:A:ILE:HG22	1:129:A:ILE:HG23	18	0.14
(2,1091)	1:104:A:ILE:HG23	1:129:A:ILE:HG21	18	0.14
(2,1091)	1:104:A:ILE:HG23	1:129:A:ILE:HG22	18	0.14
(2,1091)	1:104:A:ILE:HG23	1:129:A:ILE:HG23	18	0.14
(2,874)	1:77:A:ALA:HB1	1:102:A:SER:H	18	0.14
(2,874)	1:77:A:ALA:HB2	1:102:A:SER:H	18	0.14
(2,874)	1:77:A:ALA:HB3	1:102:A:SER:H	18	0.14
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	5	0.13
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	5	0.13
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	5	0.13
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	16	0.13
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	16	0.13
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	16	0.13
(3,194)	1:145:A:TYR:HE1	1:146:A:SER:H	16	0.13
(3,132)	1:80:A:TRP:HD1	1:100:A:ARG:HD2	18	0.13
(3,132)	1:80:A:TRP:HD1	1:100:A:ARG:HD3	18	0.13
(3,131)	1:80:A:TRP:HE1	1:100:A:ARG:HA	18	0.13
(3,37)	1:23:A:TRP:HD1	1:58:A:THR:HG21	18	0.13
(3,37)	1:23:A:TRP:HD1	1:58:A:THR:HG22	18	0.13
(3,37)	1:23:A:TRP:HD1	1:58:A:THR:HG23	18	0.13
(2,1791)	1:170:A:LYS:H	1:171:A:THR:H	7	0.13
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	10	0.13
(2,947)	1:83:A:LEU:HG	1:84:A:HIS:H	11	0.13
(2,946)	1:83:A:LEU:HB3	1:84:A:HIS:H	16	0.13
(2,942)	1:83:A:LEU:HB2	1:84:A:HIS:H	16	0.13
(2,920)	1:81:A:ASP:HA	1:84:A:HIS:H	11	0.13
(2,335)	1:28:A:GLU:H	1:31:A:ALA:H	16	0.13
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	7	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD11	17	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD12	17	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD13	17	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD21	17	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD22	17	0.12
(3,256)	1:169:A:TYR:HD1	1:190:A:LEU:HD23	17	0.12
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD21	7	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD22	7	0.12
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD23	7	0.12
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	8	0.12
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	8	0.12
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	3	0.12
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	3	0.12
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	3	0.12
(3,93)	1:45:A:GLU:HG2	1:48:A:THR:H	13	0.12
(3,93)	1:45:A:GLU:HG3	1:48:A:THR:H	13	0.12
(2,2048)	1:194:A:ALA:HB1	1:202:A:LEU:HD11	6	0.12
(2,2048)	1:194:A:ALA:HB1	1:202:A:LEU:HD12	6	0.12
(2,2048)	1:194:A:ALA:HB1	1:202:A:LEU:HD13	6	0.12
(2,2048)	1:194:A:ALA:HB2	1:202:A:LEU:HD11	6	0.12
(2,2048)	1:194:A:ALA:HB2	1:202:A:LEU:HD12	6	0.12
(2,2048)	1:194:A:ALA:HB2	1:202:A:LEU:HD13	6	0.12
(2,2048)	1:194:A:ALA:HB3	1:202:A:LEU:HD11	6	0.12
(2,2048)	1:194:A:ALA:HB3	1:202:A:LEU:HD12	6	0.12
(2,2048)	1:194:A:ALA:HB3	1:202:A:LEU:HD13	6	0.12
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	6	0.12
(2,1457)	1:140:A:LYS:HA	1:144:A:MET:HG2	11	0.12
(2,1457)	1:140:A:LYS:HA	1:144:A:MET:HG3	11	0.12
(2,1428)	1:138:A:LEU:H	1:140:A:LYS:H	19	0.12
(2,698)	1:66:A:MET:HE1	1:67:A:GLN:H	20	0.12
(2,698)	1:66:A:MET:HE2	1:67:A:GLN:H	20	0.12
(2,698)	1:66:A:MET:HE3	1:67:A:GLN:H	20	0.12
(2,675)	1:64:A:ALA:HA	1:67:A:GLN:H	7	0.12
(2,635)	1:59:A:VAL:HG11	1:63:A:GLN:H	8	0.12
(2,635)	1:59:A:VAL:HG12	1:63:A:GLN:H	8	0.12
(2,635)	1:59:A:VAL:HG13	1:63:A:GLN:H	8	0.12
(2,635)	1:59:A:VAL:HG21	1:63:A:GLN:H	8	0.12
(2,635)	1:59:A:VAL:HG22	1:63:A:GLN:H	8	0.12
(2,635)	1:59:A:VAL:HG23	1:63:A:GLN:H	8	0.12
(2,614)	1:57:A:ASN:H	1:59:A:VAL:H	18	0.12
(2,341)	1:28:A:GLU:HA	1:31:A:ALA:HB1	20	0.12
(2,341)	1:28:A:GLU:HA	1:31:A:ALA:HB2	20	0.12
(2,341)	1:28:A:GLU:HA	1:31:A:ALA:HB3	20	0.12
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB2	19	0.11
(3,223)	1:161:A:PHE:HE1	1:218:A:CYS:HB3	19	0.11
(3,207)	1:153:A:ILE:HD11	1:168:A:PHE:HE2	17	0.11
(3,207)	1:153:A:ILE:HD12	1:168:A:PHE:HE2	17	0.11
(3,207)	1:153:A:ILE:HD13	1:168:A:PHE:HE2	17	0.11
(3,194)	1:145:A:TYR:HE1	1:146:A:SER:H	12	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(3,69)	1:32:A:PHE:HB2	1:35:A:GLU:HA	8	0.11
(3,69)	1:32:A:PHE:HB3	1:35:A:GLU:HA	8	0.11
(2,1473)	1:141:A:ILE:HG21	1:145:A:TYR:HD1	17	0.11
(2,1473)	1:141:A:ILE:HG22	1:145:A:TYR:HD1	17	0.11
(2,1473)	1:141:A:ILE:HG23	1:145:A:TYR:HD1	17	0.11
(2,1446)	1:140:A:LYS:HA	1:143:A:ARG:H	19	0.11
(2,1194)	1:115:A:ILE:HG21	1:120:A:HIS:H	1	0.11
(2,1194)	1:115:A:ILE:HG22	1:120:A:HIS:H	1	0.11
(2,1194)	1:115:A:ILE:HG23	1:120:A:HIS:H	1	0.11
(2,1179)	1:114:A:GLN:H	1:116:A:GLY:H	1	0.11
(2,959)	1:84:A:HIS:H	1:84:A:HIS:HE1	16	0.11
(2,920)	1:81:A:ASP:HA	1:84:A:HIS:H	17	0.11
(2,906)	1:80:A:TRP:HE1	1:104:A:ILE:HD11	18	0.11
(2,906)	1:80:A:TRP:HE1	1:104:A:ILE:HD12	18	0.11
(2,906)	1:80:A:TRP:HE1	1:104:A:ILE:HD13	18	0.11
(2,349)	1:29:A:GLU:H	1:31:A:ALA:H	3	0.11
(2,335)	1:28:A:GLU:H	1:31:A:ALA:H	17	0.11
(1,119)	1:136:A:LEU:O	1:140:A:LYS:H	19	0.11
(1,83)	1:80:A:TRP:O	1:84:A:HIS:H	17	0.11
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD21	17	0.1
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD22	17	0.1
(3,243)	1:168:A:PHE:HZ	1:190:A:LEU:HD23	17	0.1
(2,1791)	1:170:A:LYS:H	1:171:A:THR:H	4	0.1
(2,1508)	1:145:A:TYR:H	1:145:A:TYR:HE1	5	0.1
(2,1277)	1:126:A:VAL:HB	1:127:A:GLY:H	11	0.1
(2,682)	1:65:A:ALA:H	1:67:A:GLN:H	12	0.1
(2,512)	1:48:A:THR:HG21	1:51:A:ASP:HB2	14	0.1
(2,512)	1:48:A:THR:HG21	1:51:A:ASP:HB3	14	0.1
(2,512)	1:48:A:THR:HG22	1:51:A:ASP:HB2	14	0.1
(2,512)	1:48:A:THR:HG22	1:51:A:ASP:HB3	14	0.1
(2,512)	1:48:A:THR:HG23	1:51:A:ASP:HB2	14	0.1
(2,512)	1:48:A:THR:HG23	1:51:A:ASP:HB3	14	0.1
(2,330)	1:27:A:VAL:HG21	1:39:A:MET:HE1	9	0.1
(2,330)	1:27:A:VAL:HG21	1:39:A:MET:HE2	9	0.1
(2,330)	1:27:A:VAL:HG21	1:39:A:MET:HE3	9	0.1
(2,330)	1:27:A:VAL:HG22	1:39:A:MET:HE1	9	0.1
(2,330)	1:27:A:VAL:HG22	1:39:A:MET:HE2	9	0.1
(2,330)	1:27:A:VAL:HG22	1:39:A:MET:HE3	9	0.1
(2,330)	1:27:A:VAL:HG23	1:39:A:MET:HE1	9	0.1
(2,330)	1:27:A:VAL:HG23	1:39:A:MET:HE2	9	0.1
(2,330)	1:27:A:VAL:HG23	1:39:A:MET:HE3	9	0.1
(1,127)	1:140:A:LYS:O	1:144:A:MET:H	6	0.1

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<b>Key</b>	<b>Atom-1</b>	<b>Atom-2</b>	<b>Model ID</b>	<b>Violation (Å)</b>
(1,76)	1:76:A:GLU:O	1:80:A:TRP:N	18	0.1
(1,17)	1:22:A:ALA:O	1:26:A:VAL:H	16	0.1

## 10 Dihedral-angle violation analysis

No dihedral-angle restraints found