



# Full wwPDB NMR Structure Validation Report ⓘ

Jun 6, 2023 – 06:45 pm BST

PDB ID : 6R1V  
BMRB ID : 34379  
Title : Solution structure of sortase A from *S. aureus* in complex with 2-(aminomethyl)-3-hydroxy-4H-pyran-4-one based prodrug  
Authors : Jaudzems, K.; Leonchiks, A.  
Deposited on : 2019-03-15

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.4, CSD as541be (2020)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
wwPDB-RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
wwPDB-ShiftChecker : v1.2  
BMRB Restraints Analysis : v1.2  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.33

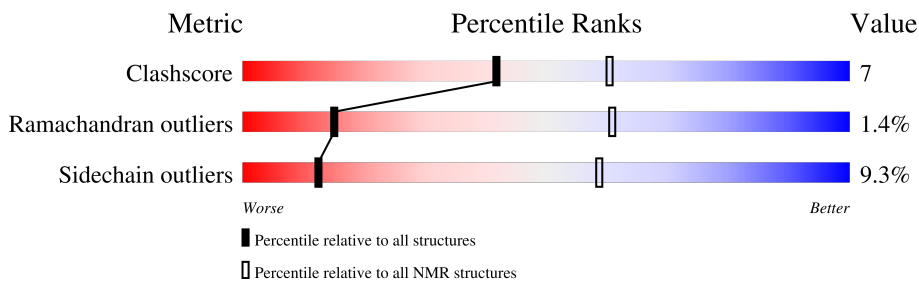
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment is 93%.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	NMR archive (#Entries)
Clashscore	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

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

Mol	Chain	Length	Quality of chain
1	A	148	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA and RNA chains that are outliers for geometric criteria:

Mol	Chain	Compound	Res	Total models with violations	
				Chirality	Geometry
2	A	JPT	201	-	1

## 2 Ensemble composition and analysis i

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:4-A:148 (145)	1.18	16

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

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

The models can be grouped into 2 clusters and 5 single-model clusters were found.

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

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

There are 2 unique types of molecules in this entry. The entry contains 2389 atoms, of which 1192 are hydrogens and 0 are deuteriums.

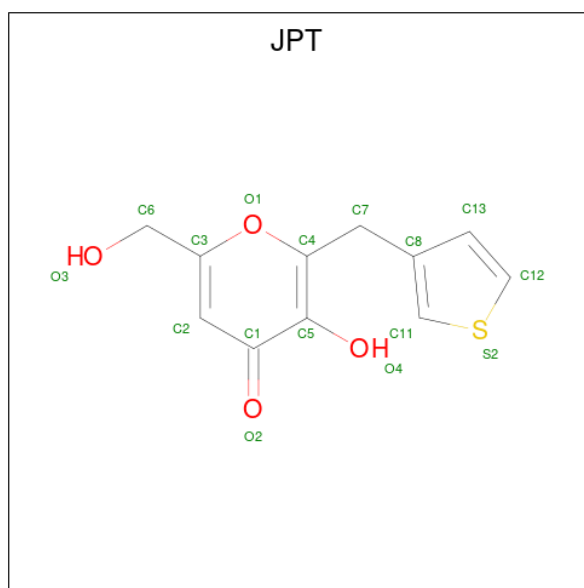
- Molecule 1 is a protein called Sortase A.

Mol	Chain	Residues	Atoms					Trace	
			Total	C	H	N	O		S
1	A	148	2364	746	1183	199	232	4	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP Q2FV99
A	109	GLU	GLY	conflict	UNP Q2FV99

- Molecule 2 is 6-(hydroxymethyl)-3-oxidanyl-2-(thiophen-3-ylmethyl)pyran-4-one (three-letter code: JPT) (formula: C<sub>11</sub>H<sub>10</sub>O<sub>4</sub>S).



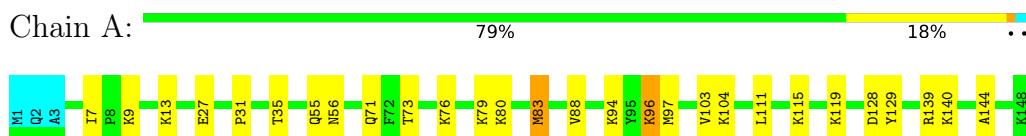
Mol	Chain	Residues	Atoms				
			Total	C	H	O	S
2	A	1	25	11	9	4	1

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

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

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

- Molecule 1: Sortase A

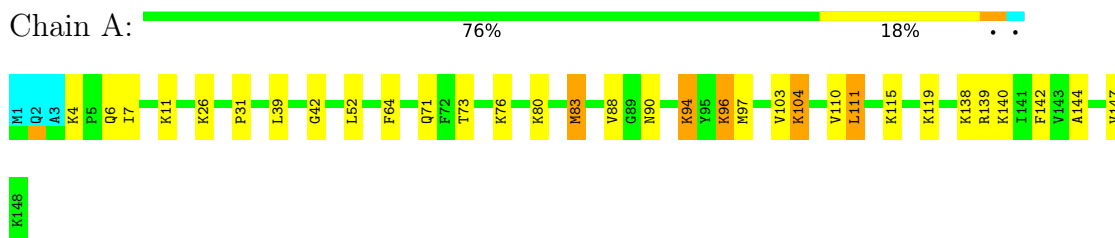


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

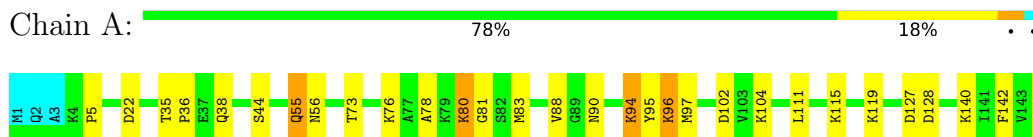
#### 4.2.1 Score per residue for model 1

- Molecule 1: Sortase A



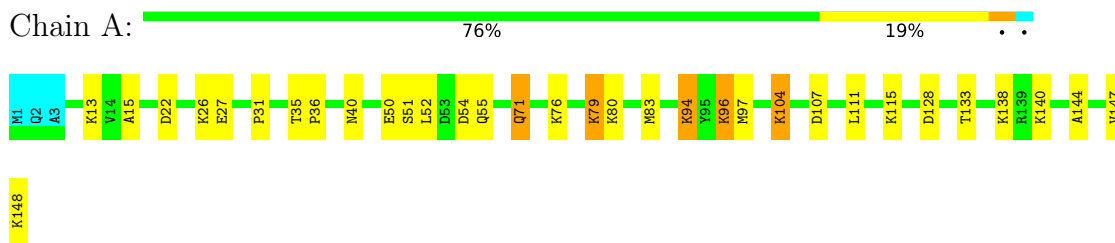
#### 4.2.2 Score per residue for model 2

- Molecule 1: Sortase A



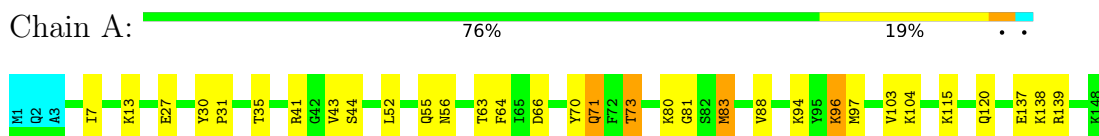
### 4.2.3 Score per residue for model 3

- Molecule 1: Sortase A



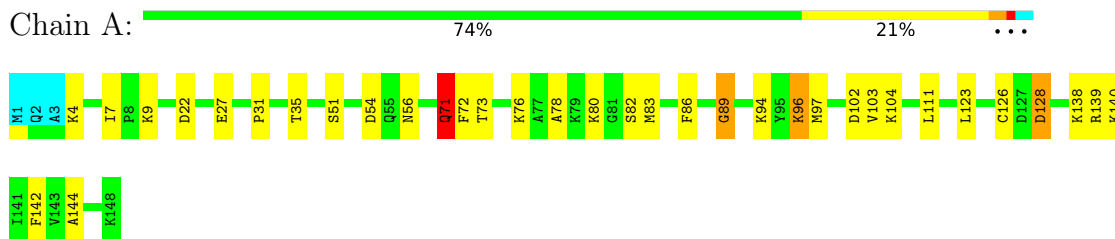
### 4.2.4 Score per residue for model 4

- Molecule 1: Sortase A



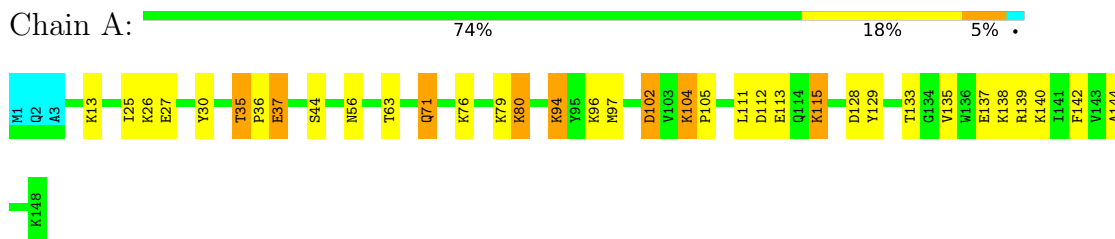
### 4.2.5 Score per residue for model 5

- Molecule 1: Sortase A



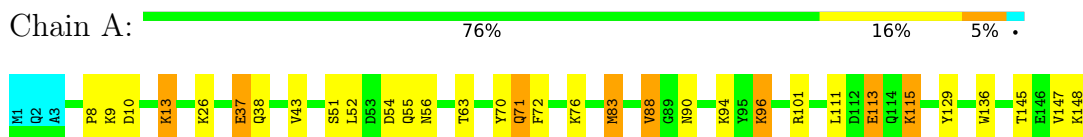
### 4.2.6 Score per residue for model 6

- Molecule 1: Sortase A



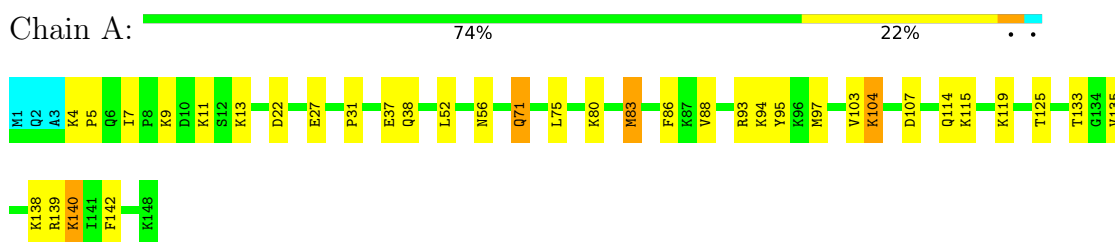
### 4.2.7 Score per residue for model 7

- Molecule 1: Sortase A



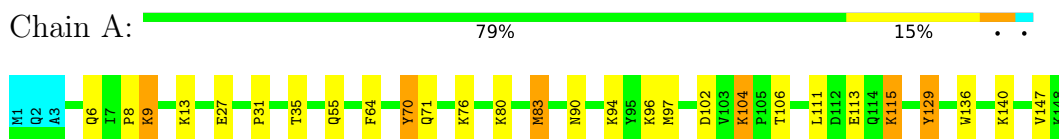
### 4.2.8 Score per residue for model 8

- Molecule 1: Sortase A



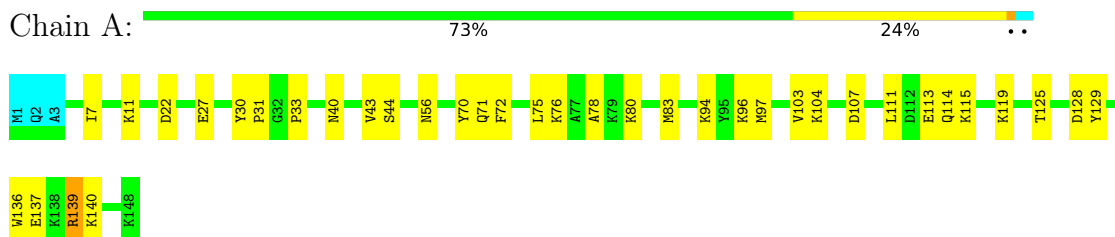
### 4.2.9 Score per residue for model 9

- Molecule 1: Sortase A



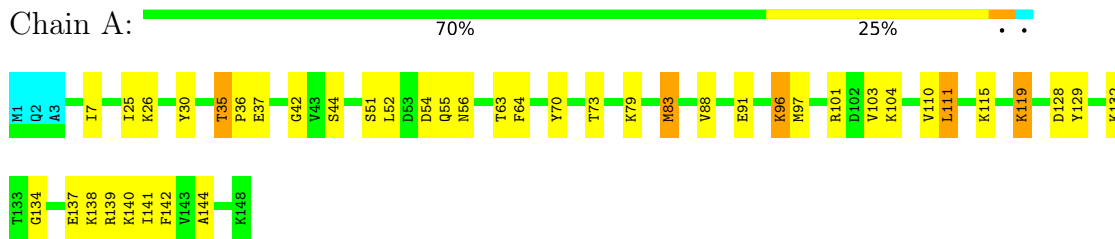
### 4.2.10 Score per residue for model 10

- Molecule 1: Sortase A



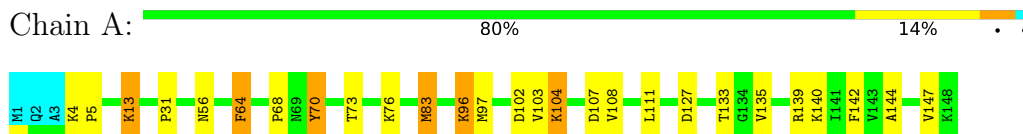
### 4.2.11 Score per residue for model 11

- Molecule 1: Sortase A



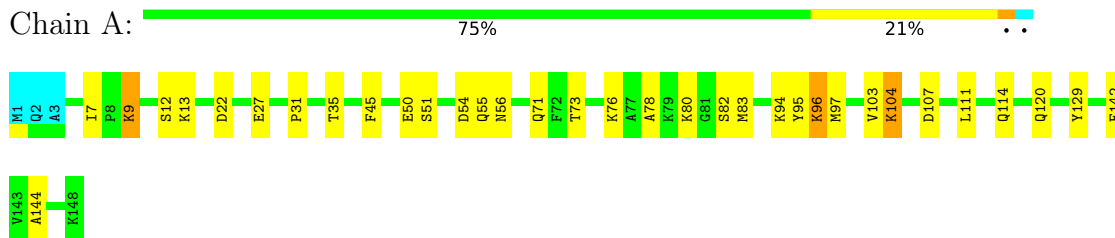
#### 4.2.12 Score per residue for model 12

- Molecule 1: Sortase A



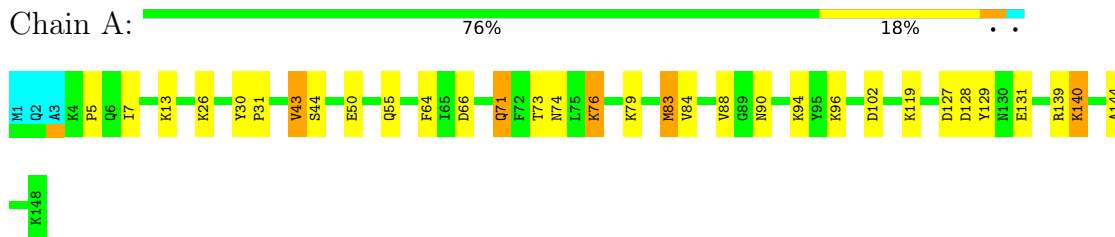
#### 4.2.13 Score per residue for model 13

- Molecule 1: Sortase A



#### 4.2.14 Score per residue for model 14

- Molecule 1: Sortase A



#### 4.2.15 Score per residue for model 15

- Molecule 1: Sortase A

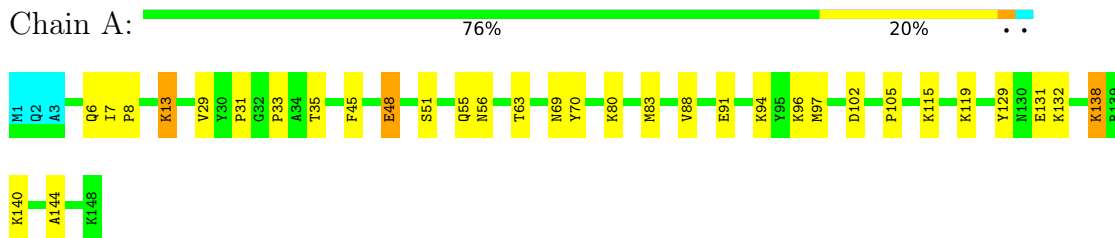






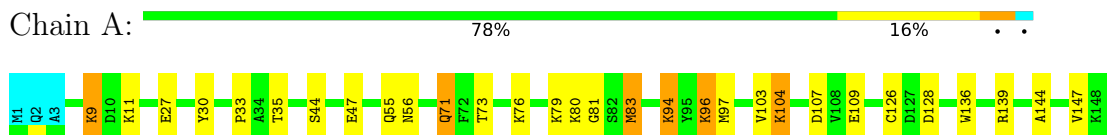
#### 4.2.16 Score per residue for model 16 (medoid)

- Molecule 1: Sortase A



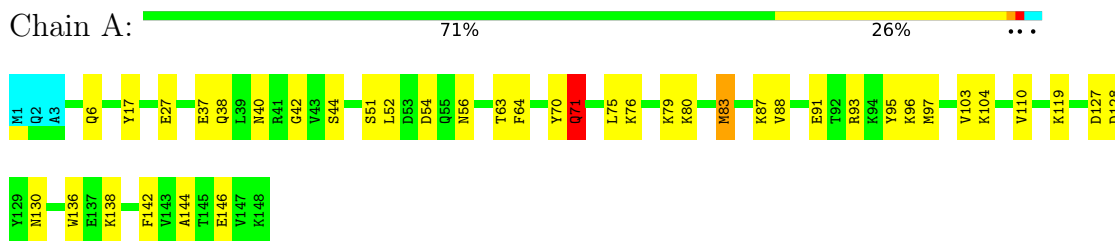
#### 4.2.17 Score per residue for model 17

- Molecule 1: Sortase A



#### 4.2.18 Score per residue for model 18

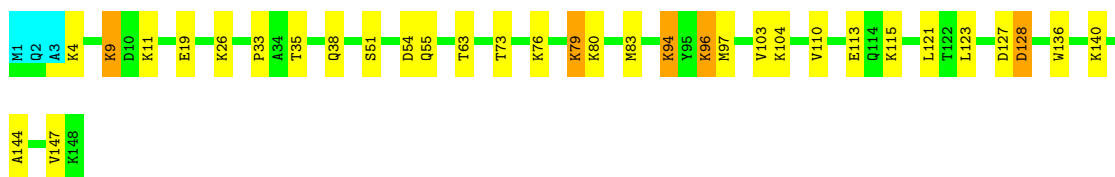
- Molecule 1: Sortase A



#### 4.2.19 Score per residue for model 19

- Molecule 1: Sortase A

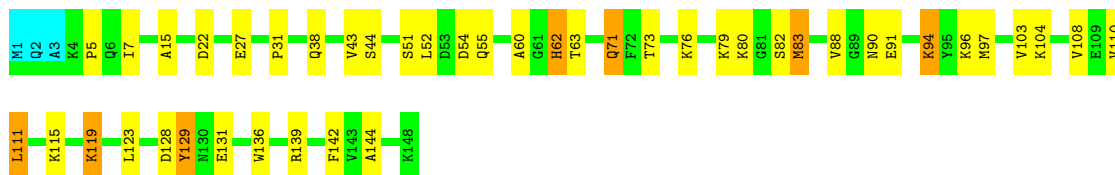




#### 4.2.20 Score per residue for model 20

- Molecule 1: Sortase A

Chain A: 68% 25% 5%



## 5 Refinement protocol and experimental data overview

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

Of the 100 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
CNS	refinement	1.2
CYANA	structure calculation	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	1867
Number of shifts mapped to atoms	1866
Number of unparsed shifts	0
Number of shifts with mapping errors	1
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	93%

## 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: JPT

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 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	1159	1162	1162	17±4
2	A	16	9	0	1±1
All	All	23500	23420	23240	341

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 7.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:132:LYS:HA	1:A:132:LYS:HE2	0.84	1.46	16	1
1:A:43:VAL:HB	1:A:71:GLN:HG3	0.84	1.48	14	1
1:A:105:PRO:HA	2:A:201:JPT:O2	0.78	1.79	16	1
1:A:51:SER:HB3	1:A:54:ASP:HB2	0.76	1.57	20	1
1:A:102:ASP:HB3	1:A:140:LYS:HG3	0.75	1.59	9	3
1:A:83:MET:SD	1:A:96:LYS:HE2	0.74	2.22	19	3
1:A:103:VAL:HG23	1:A:139:ARG:HG3	0.72	1.61	4	4
1:A:9:LYS:HD3	1:A:9:LYS:H	0.72	1.44	9	3
1:A:104:LYS:HG2	1:A:107:ASP:HB3	0.72	1.58	13	2
1:A:51:SER:HB2	1:A:54:ASP:HB2	0.72	1.62	19	8
1:A:52:LEU:HG	1:A:88:VAL:HG21	0.72	1.60	15	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:27:GLU:HB3	1:A:71:GLN:HG2	0.70	1.63	13	1
1:A:5:PRO:HB3	1:A:88:VAL:HB	0.69	1.63	14	2
1:A:103:VAL:HG11	1:A:110:VAL:HG11	0.67	1.65	20	2
1:A:88:VAL:HG23	1:A:91:GLU:HB2	0.66	1.65	16	3
1:A:35:THR:HB	1:A:37:GLU:OE2	0.65	1.92	6	1
1:A:104:LYS:HG2	1:A:107:ASP:HB2	0.64	1.69	12	2
1:A:102:ASP:HB3	1:A:140:LYS:HD2	0.63	1.69	15	4
1:A:63:THR:HA	1:A:70:TYR:OH	0.63	1.94	7	4
1:A:63:THR:OG1	1:A:127:ASP:HA	0.63	1.92	18	1
1:A:128:ASP:O	1:A:136:TRP:HA	0.62	1.94	18	3
1:A:139:ARG:NH1	2:A:201:JPT:O2	0.61	2.30	20	7
1:A:38:GLN:HB3	1:A:44:SER:HB2	0.61	1.70	20	1
1:A:27:GLU:HG3	1:A:71:GLN:HA	0.61	1.71	3	4
1:A:136:TRP:HB2	2:A:201:JPT:O4	0.60	1.96	15	1
1:A:10:ASP:OD2	1:A:13:LYS:HG3	0.60	1.97	7	1
1:A:140:LYS:HD3	1:A:142:PHE:HE1	0.60	1.55	11	1
1:A:27:GLU:OE2	1:A:70:TYR:HA	0.59	1.98	10	1
1:A:94:LYS:HD3	1:A:94:LYS:H	0.58	1.57	1	4
1:A:129:TYR:HB3	1:A:136:TRP:CE3	0.58	2.34	20	1
1:A:102:ASP:HB2	1:A:138:LYS:HD2	0.58	1.74	16	1
1:A:138:LYS:HA	1:A:138:LYS:HE2	0.57	1.74	1	1
1:A:139:ARG:HD3	2:A:201:JPT:O2	0.57	1.99	17	1
1:A:38:GLN:HB3	1:A:44:SER:OG	0.57	2.00	2	2
1:A:137:GLU:HB2	1:A:138:LYS:HD2	0.57	1.76	4	1
1:A:80:LYS:HA	1:A:97:MET:O	0.57	1.99	1	16
1:A:127:ASP:HB3	1:A:140:LYS:HB2	0.57	1.76	14	1
1:A:119:LYS:HB2	1:A:146:GLU:HB2	0.56	1.76	15	2
1:A:31:PRO:HA	1:A:45:PHE:HD2	0.56	1.61	13	1
1:A:104:LYS:N	1:A:104:LYS:HD3	0.55	2.17	1	6
1:A:7:ILE:HG23	1:A:31:PRO:HB2	0.55	1.77	1	5
1:A:88:VAL:O	1:A:91:GLU:HG2	0.55	2.02	11	1
1:A:97:MET:SD	1:A:142:PHE:HB3	0.54	2.42	1	8
1:A:94:LYS:HD2	1:A:94:LYS:H	0.53	1.61	15	3
1:A:13:LYS:O	1:A:31:PRO:HD2	0.53	2.03	9	6
1:A:105:PRO:HG3	1:A:137:GLU:HG2	0.53	1.79	15	1
1:A:25:ILE:O	1:A:26:LYS:HG3	0.52	2.04	11	2
1:A:68:PRO:O	1:A:73:THR:HB	0.52	2.04	12	1
1:A:128:ASP:H	1:A:136:TRP:HE3	0.52	1.45	17	2
1:A:11:LYS:HD2	1:A:33:PRO:HD3	0.52	1.80	19	1
1:A:27:GLU:CB	1:A:71:GLN:HG3	0.52	2.35	20	4
1:A:35:THR:HG23	1:A:38:GLN:HB2	0.52	1.81	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:35:THR:HB	1:A:36:PRO:HD2	0.52	1.80	2	1
1:A:102:ASP:HB3	1:A:140:LYS:HE3	0.52	1.82	14	1
1:A:33:PRO:HA	1:A:47:GLU:HA	0.52	1.80	17	1
1:A:129:TYR:CE1	1:A:131:GLU:HG2	0.51	2.40	14	1
1:A:31:PRO:HB3	1:A:45:PHE:CE2	0.51	2.40	16	1
1:A:9:LYS:HD2	1:A:9:LYS:H	0.51	1.65	17	1
1:A:35:THR:HG22	1:A:36:PRO:HD2	0.51	1.81	11	2
1:A:37:GLU:HA	1:A:40:ASN:ND2	0.51	2.20	18	1
1:A:64:PHE:HB2	1:A:70:TYR:CE2	0.51	2.40	12	1
1:A:97:MET:SD	1:A:144:ALA:HB2	0.51	2.46	1	10
1:A:7:ILE:HG13	1:A:52:LEU:HD21	0.51	1.83	15	2
1:A:140:LYS:HE2	1:A:142:PHE:CZ	0.51	2.41	8	1
1:A:93:ARG:HG3	1:A:95:TYR:CE2	0.51	2.40	18	1
1:A:126:CYS:HA	1:A:139:ARG:HA	0.51	1.83	5	2
1:A:93:ARG:HD3	1:A:95:TYR:OH	0.51	2.05	8	1
1:A:94:LYS:HD3	1:A:94:LYS:N	0.51	2.21	20	2
1:A:7:ILE:HD11	1:A:52:LEU:HG	0.50	1.83	11	1
1:A:8:PRO:HG2	1:A:13:LYS:HE3	0.50	1.82	7	1
1:A:22:ASP:OD1	1:A:79:LYS:HE2	0.50	2.07	3	1
1:A:93:ARG:HG3	1:A:95:TYR:HE2	0.49	1.66	18	1
1:A:30:TYR:O	1:A:44:SER:HA	0.49	2.07	14	6
1:A:43:VAL:HG12	1:A:71:GLN:HG2	0.49	1.85	7	1
1:A:128:ASP:HB2	1:A:138:LYS:HG2	0.48	1.84	3	1
1:A:113:GLU:HB3	1:A:115:LYS:HE2	0.48	1.83	9	1
1:A:129:TYR:CE1	1:A:131:GLU:HA	0.48	2.43	16	1
1:A:55:GLN:O	1:A:119:LYS:HA	0.48	2.09	2	1
1:A:129:TYR:HB2	1:A:136:TRP:CZ3	0.48	2.43	7	3
1:A:64:PHE:HB2	1:A:70:TYR:OH	0.48	2.09	9	1
1:A:84:VAL:O	1:A:94:LYS:HA	0.48	2.08	14	1
1:A:36:PRO:O	1:A:40:ASN:HB2	0.48	2.09	3	2
1:A:96:LYS:HB2	1:A:147:VAL:CG2	0.48	2.39	3	2
1:A:103:VAL:HB	1:A:107:ASP:OD2	0.48	2.08	10	2
1:A:139:ARG:NH2	2:A:201:JPT:C1	0.48	2.76	14	1
1:A:96:LYS:O	1:A:144:ALA:HA	0.48	2.09	17	10
1:A:96:LYS:HB2	1:A:147:VAL:HG22	0.48	1.84	17	3
1:A:129:TYR:CZ	1:A:134:GLY:HA2	0.48	2.43	11	1
1:A:93:ARG:HB3	1:A:95:TYR:CE2	0.47	2.44	15	1
1:A:132:LYS:HE2	1:A:132:LYS:CA	0.47	2.30	16	1
1:A:132:LYS:N	1:A:132:LYS:HD3	0.47	2.25	15	1
1:A:64:PHE:HA	1:A:70:TYR:OH	0.47	2.10	18	1
1:A:68:PRO:HA	1:A:73:THR:CG2	0.47	2.40	12	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:94:LYS:HD2	1:A:94:LYS:N	0.47	2.24	15	1
1:A:139:ARG:NH2	2:A:201:JPT:O2	0.47	2.36	15	1
1:A:103:VAL:HG23	1:A:139:ARG:HB2	0.46	1.87	10	1
1:A:83:MET:HE1	1:A:94:LYS:HD3	0.46	1.88	14	1
1:A:108:VAL:O	1:A:111:LEU:HG	0.46	2.09	12	1
1:A:32:GLY:HA3	1:A:38:GLN:HG2	0.46	1.86	15	1
1:A:127:ASP:O	1:A:128:ASP:HB2	0.46	2.10	19	1
1:A:22:ASP:OD2	1:A:78:ALA:HA	0.46	2.10	2	2
1:A:128:ASP:OD1	1:A:137:GLU:HB2	0.46	2.11	10	2
1:A:27:GLU:HB2	1:A:71:GLN:HG3	0.46	1.85	20	1
1:A:62:HIS:HB3	2:A:201:JPT:C12	0.46	2.40	20	1
1:A:121:LEU:HG	1:A:123:LEU:HD21	0.46	1.86	19	1
1:A:22:ASP:HB3	1:A:82:SER:OG	0.46	2.11	20	3
1:A:7:ILE:CD1	1:A:52:LEU:HG	0.46	2.41	11	1
1:A:19:GLU:HG2	1:A:26:LYS:HD2	0.46	1.87	19	1
1:A:75:LEU:HD12	1:A:125:THR:HG21	0.46	1.87	8	1
1:A:103:VAL:HG11	1:A:110:VAL:HG13	0.46	1.87	18	1
1:A:81:GLY:HA2	1:A:96:LYS:HD2	0.45	1.87	17	3
1:A:96:LYS:HE3	1:A:147:VAL:HG11	0.45	1.87	9	1
1:A:11:LYS:HD3	1:A:33:PRO:HD2	0.45	1.87	10	1
1:A:119:LYS:N	1:A:119:LYS:HD3	0.45	2.26	20	1
1:A:113:GLU:OE1	1:A:115:LYS:HE2	0.45	2.11	7	1
1:A:42:GLY:HA2	1:A:71:GLN:NE2	0.45	2.26	18	1
1:A:38:GLN:HG3	1:A:44:SER:OG	0.45	2.12	15	1
1:A:27:GLU:HB3	1:A:71:GLN:HG3	0.45	1.88	18	1
1:A:101:ARG:HG3	1:A:141:ILE:CG2	0.45	2.41	11	1
1:A:22:ASP:OD1	1:A:78:ALA:HA	0.45	2.11	5	3
1:A:27:GLU:HG3	1:A:71:GLN:N	0.45	2.27	9	1
1:A:103:VAL:HG23	1:A:139:ARG:HE	0.45	1.71	5	1
1:A:7:ILE:HG13	1:A:52:LEU:HG	0.45	1.88	8	1
1:A:107:ASP:O	1:A:111:LEU:HG	0.45	2.11	3	1
1:A:54:ASP:O	1:A:119:LYS:HG3	0.45	2.12	20	2
1:A:52:LEU:HB3	1:A:88:VAL:HG11	0.45	1.89	18	1
1:A:128:ASP:HB2	1:A:138:LYS:HB3	0.44	1.89	5	1
1:A:133:THR:OG1	1:A:135:VAL:HG22	0.44	2.12	6	1
1:A:79:LYS:HD2	1:A:79:LYS:N	0.44	2.28	19	3
1:A:43:VAL:HG22	1:A:71:GLN:HG2	0.44	1.89	4	1
1:A:113:GLU:O	1:A:115:LYS:HD3	0.44	2.13	6	1
1:A:6:GLN:O	1:A:8:PRO:HD3	0.44	2.13	16	2
1:A:79:LYS:O	1:A:82:SER:HB2	0.43	2.13	20	1
1:A:115:LYS:N	1:A:115:LYS:HD2	0.43	2.27	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:133:THR:HG23	1:A:135:VAL:HG22	0.43	1.89	12	1
1:A:103:VAL:HG21	1:A:110:VAL:HG11	0.43	1.89	11	1
1:A:74:ASN:OD1	1:A:76:LYS:HE3	0.43	2.13	14	1
1:A:7:ILE:HG23	1:A:31:PRO:CB	0.43	2.42	4	3
1:A:29:VAL:O	1:A:31:PRO:HD3	0.43	2.13	16	1
1:A:33:PRO:HA	1:A:48:GLU:HB2	0.43	1.90	16	1
1:A:138:LYS:HD2	1:A:138:LYS:N	0.43	2.28	4	1
1:A:11:LYS:HB2	1:A:38:GLN:HE22	0.43	1.73	8	1
1:A:113:GLU:CG	1:A:115:LYS:HE3	0.43	2.44	10	1
1:A:119:LYS:HB2	1:A:146:GLU:CB	0.43	2.44	18	1
1:A:108:VAL:HA	1:A:111:LEU:HD21	0.43	1.90	20	1
1:A:72:PHE:CZ	1:A:123:LEU:HD12	0.43	2.48	5	1
1:A:86:PHE:HB3	1:A:93:ARG:HG3	0.43	1.90	8	1
1:A:111:LEU:N	1:A:111:LEU:HD13	0.43	2.28	11	1
1:A:128:ASP:HB3	1:A:138:LYS:HB3	0.43	1.90	6	1
1:A:7:ILE:HG23	1:A:31:PRO:HB3	0.43	1.91	13	1
1:A:70:TYR:CE2	1:A:73:THR:HG23	0.43	2.49	4	1
1:A:111:LEU:H	1:A:111:LEU:CD1	0.42	2.27	1	1
1:A:64:PHE:CE1	1:A:66:ASP:HB2	0.42	2.49	4	1
1:A:102:ASP:HB3	1:A:140:LYS:CD	0.42	2.44	2	1
1:A:43:VAL:HG21	1:A:72:PHE:CE1	0.42	2.49	7	1
1:A:140:LYS:NZ	1:A:140:LYS:HB2	0.42	2.29	11	1
1:A:148:LYS:HE2	1:A:148:LYS:HA	0.42	1.91	3	1
1:A:15:ALA:HB1	1:A:52:LEU:HD11	0.42	1.92	3	2
1:A:43:VAL:HG13	1:A:60:ALA:O	0.42	2.14	20	1
1:A:39:LEU:HA	1:A:42:GLY:O	0.42	2.14	1	1
1:A:125:THR:HB	1:A:140:LYS:HB3	0.42	1.91	10	1
1:A:133:THR:OG1	1:A:135:VAL:HG12	0.42	2.15	15	1
1:A:96:LYS:HE3	1:A:147:VAL:HG21	0.42	1.92	1	1
1:A:64:PHE:CE2	1:A:66:ASP:HB2	0.42	2.49	14	1
1:A:123:LEU:HB2	1:A:142:PHE:HB2	0.42	1.91	20	1
1:A:111:LEU:O	1:A:111:LEU:HD22	0.42	2.15	1	1
1:A:13:LYS:HD2	1:A:13:LYS:C	0.42	2.36	16	1
1:A:95:TYR:HB3	1:A:144:ALA:HB1	0.42	1.92	13	2
1:A:17:TYR:HB2	1:A:87:LYS:HB3	0.42	1.92	18	1
1:A:9:LYS:N	1:A:9:LYS:HD2	0.41	2.30	8	1
1:A:129:TYR:CE1	1:A:134:GLY:HA2	0.41	2.50	11	1
1:A:52:LEU:CG	1:A:88:VAL:HG21	0.41	2.40	15	1
1:A:33:PRO:HD2	1:A:35:THR:HG22	0.41	1.93	19	1
1:A:94:LYS:N	1:A:94:LYS:HD2	0.41	2.30	6	1
1:A:129:TYR:CZ	1:A:131:GLU:HG2	0.41	2.49	20	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:38:GLN:O	1:A:41:ARG:HG2	0.41	2.14	15	1
1:A:133:THR:HG23	1:A:135:VAL:HG12	0.41	1.93	8	1
1:A:96:LYS:HD3	1:A:147:VAL:HG21	0.41	1.90	15	1
1:A:9:LYS:HD2	1:A:9:LYS:N	0.41	2.30	17	1
1:A:105:PRO:HB3	1:A:137:GLU:HB3	0.41	1.91	6	1
1:A:52:LEU:HD13	1:A:88:VAL:CG1	0.41	2.44	7	1
1:A:138:LYS:HE2	1:A:138:LYS:CA	0.41	2.45	1	1
1:A:52:LEU:HD13	1:A:88:VAL:CG2	0.41	2.46	1	1
1:A:5:PRO:CB	1:A:88:VAL:HB	0.41	2.45	2	2
1:A:79:LYS:O	1:A:97:MET:HB2	0.41	2.15	6	1
1:A:140:LYS:HE2	1:A:142:PHE:CE2	0.41	2.50	8	1
1:A:104:LYS:HG3	1:A:138:LYS:HG2	0.41	1.92	18	1
1:A:19:GLU:HB3	1:A:26:LYS:HD2	0.41	1.92	15	1
1:A:7:ILE:CD1	1:A:51:SER:HA	0.41	2.46	16	1
1:A:140:LYS:HB3	1:A:140:LYS:NZ	0.40	2.30	8	1
1:A:17:TYR:HA	1:A:28:PRO:HA	0.40	1.93	15	1
1:A:103:VAL:HG23	1:A:139:ARG:HD2	0.40	1.93	15	1
1:A:37:GLU:OE1	1:A:38:GLN:HG2	0.40	2.17	7	1
1:A:27:GLU:HG3	1:A:71:GLN:H	0.40	1.75	9	1
1:A:43:VAL:HG11	1:A:72:PHE:CE2	0.40	2.51	10	1
1:A:102:ASP:HA	1:A:140:LYS:HA	0.40	1.94	12	1
1:A:64:PHE:CZ	1:A:66:ASP:HB2	0.40	2.52	4	1
1:A:33:PRO:CA	1:A:48:GLU:HB2	0.40	2.47	16	1
1:A:5:PRO:HB2	1:A:88:VAL:HG22	0.40	1.92	8	1
1:A:114:GLN:HB3	1:A:120:GLN:HE22	0.40	1.76	13	1
1:A:11:LYS:CD	1:A:33:PRO:HD3	0.40	2.46	17	1
1:A:103:VAL:HG11	1:A:110:VAL:CG1	0.40	2.45	19	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	144/148 (97%)	127±2 (88±2%)	15±2 (10±2%)	2±1 (1±1%)	15	61
All	All	2880/2960 (97%)	2543 (88%)	297 (10%)	40 (1%)	15	61

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	71	GLN	11
1	A	83	MET	10
1	A	4	LYS	5
1	A	128	ASP	3
1	A	90	ASN	2
1	A	63	THR	2
1	A	89	GLY	1
1	A	114	GLN	1
1	A	42	GLY	1
1	A	12	SER	1
1	A	73	THR	1
1	A	130	ASN	1
1	A	113	GLU	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	129/131 (98%)	117±2 (91±2%)	12±2 (9±2%)	12 59
All	All	2580/2620 (98%)	2340 (91%)	240 (9%)	12 59

All 55 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	76	LYS	16
1	A	83	MET	16
1	A	94	LYS	15
1	A	96	LYS	15
1	A	104	LYS	15
1	A	56	ASN	14
1	A	55	GLN	12
1	A	115	LYS	11
1	A	111	LEU	10
1	A	73	THR	9
1	A	35	THR	9

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Mol	Chain	Res	Type	Models (Total)
1	A	119	LYS	8
1	A	9	LYS	6
1	A	140	LYS	5
1	A	79	LYS	5
1	A	13	LYS	5
1	A	37	GLU	5
1	A	26	LYS	4
1	A	71	GLN	4
1	A	129	TYR	4
1	A	64	PHE	3
1	A	90	ASN	3
1	A	50	GLU	3
1	A	138	LYS	3
1	A	75	LEU	3
1	A	80	LYS	2
1	A	127	ASP	2
1	A	128	ASP	2
1	A	139	ARG	2
1	A	70	TYR	2
1	A	132	LYS	2
1	A	63	THR	2
1	A	11	LYS	1
1	A	133	THR	1
1	A	41	ARG	1
1	A	120	GLN	1
1	A	86	PHE	1
1	A	27	GLU	1
1	A	102	ASP	1
1	A	112	ASP	1
1	A	88	VAL	1
1	A	101	ARG	1
1	A	113	GLU	1
1	A	145	THR	1
1	A	148	LYS	1
1	A	22	ASP	1
1	A	114	GLN	1
1	A	106	THR	1
1	A	40	ASN	1
1	A	43	VAL	1
1	A	48	GLU	1
1	A	69	ASN	1
1	A	109	GLU	1

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Mol	Chain	Res	Type	Models (Total)
1	A	6	GLN	1
1	A	62	HIS	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](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds for which Mogul statistics could be retrieved, the number of bonds that are observed in the model and the number of bonds that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length is the number of standard deviations the observed value is removed from the expected value. A bond length with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond lengths.

Mol	Type	Chain	Res	Link	Bond lengths		
					Counts	RMSZ	#Z>2
2	JPT	A	201	1	16,17,17	2.63±0.03	8±0 (49±2%)

In the following table, the Counts columns list the number of angles for which Mogul statistics could be retrieved, the number of angles that are observed in the model and the number of angles that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond angle is the number of standard deviations the observed value is removed from the expected value. A bond angle with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond angles.

Mol	Type	Chain	Res	Link	Counts	Bond angles	
						RMSZ	#Z>2
2	JPT	A	201	1	18,23,23	3.84±0.10	9±0 (50±2%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	JPT	A	201	1	-	0±0,6,6,6	0±0,2,2,2

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
2	A	201	JPT	C5-C4	5.08	1.39	1.35	18	20
2	A	201	JPT	C6-C3	4.74	1.39	1.50	16	20
2	A	201	JPT	C5-C1	4.24	1.36	1.45	20	20
2	A	201	JPT	C7-C4	4.09	1.38	1.49	20	20
2	A	201	JPT	C11-S2	3.75	1.66	1.70	11	20
2	A	201	JPT	C11-C8	2.98	1.35	1.37	1	20
2	A	201	JPT	C2-C1	2.76	1.37	1.44	8	20
2	A	201	JPT	C2-C3	2.20	1.39	1.34	6	17

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

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
2	A	201	JPT	C8-C11-S2	9.92	105.90	112.29	4	20
2	A	201	JPT	C4-O1-C3	9.36	113.39	119.52	14	20
2	A	201	JPT	O1-C4-C7	6.31	118.04	109.31	3	20
2	A	201	JPT	O1-C3-C6	5.19	116.02	111.35	14	20
2	A	201	JPT	C6-C3-C2	3.89	120.40	126.74	16	20
2	A	201	JPT	C1-C5-C4	3.76	122.74	121.07	16	19
2	A	201	JPT	C7-C4-C5	3.37	121.87	126.78	7	20
2	A	201	JPT	O1-C3-C2	2.92	123.92	121.94	16	17
2	A	201	JPT	C12-S2-C11	2.83	98.14	92.37	14	20
2	A	201	JPT	O1-C4-C5	2.44	119.61	121.71	14	5

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 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 93% for the well-defined parts and 92% for the entire structure.

### 7.1 Chemical shift list 1

File name: working\_cs.cif

Chemical shift list name: *starch\_output*

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

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

Total number of shifts	1867
Number of shifts mapped to atoms	1866
Number of unparsed shifts	0
Number of shifts with mapping errors	1
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	0

The following assigned chemical shifts were not mapped to the molecules present in the coordinate file.

- No matching atom found in the structure. All 1 occurrences are reported below.

List ID	Chain	Res	Type	Atom	Shift Data		
					Value	Uncertainty	Ambiguity
1	A	201	JPT	H7	5.13	0.020	1

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

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction $\pm$ precision, ppm	Suggested action
$^{13}\text{C}_\alpha$	147	$-0.14 \pm 0.14$	None needed (< 0.5 ppm)
$^{13}\text{C}_\beta$	138	$-0.02 \pm 0.09$	None needed (< 0.5 ppm)
$^{13}\text{C}'$	136	$0.09 \pm 0.08$	None needed (< 0.5 ppm)
$^{15}\text{N}$	135	$-0.18 \pm 0.22$	None needed (< 0.5 ppm)

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

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 93%, i.e. 1839 atoms were assigned a chemical shift out of a possible 1987. 0 out of 17 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	<b>Total</b>	<b><sup>1</sup>H</b>	<b><sup>13</sup>C</b>	<b><sup>15</sup>N</b>
Backbone	701/715 (98%)	288/289 (100%)	279/290 (96%)	134/136 (99%)
Sidechain	1028/1149 (89%)	693/736 (94%)	322/366 (88%)	13/47 (28%)
Aromatic	110/123 (89%)	55/59 (93%)	54/62 (87%)	1/2 (50%)
Overall	1839/1987 (93%)	1036/1084 (96%)	655/718 (91%)	148/185 (80%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 92%, i.e. 1861 atoms were assigned a chemical shift out of a possible 2026. 0 out of 17 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	<b>Total</b>	<b><sup>1</sup>H</b>	<b><sup>13</sup>C</b>	<b><sup>15</sup>N</b>
Backbone	709/730 (97%)	291/295 (99%)	283/296 (96%)	135/139 (97%)
Sidechain	1042/1173 (89%)	703/752 (93%)	326/373 (87%)	13/48 (27%)
Aromatic	110/123 (89%)	55/59 (93%)	54/62 (87%)	1/2 (50%)
Overall	1861/2026 (92%)	1049/1106 (95%)	663/731 (91%)	149/189 (79%)

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

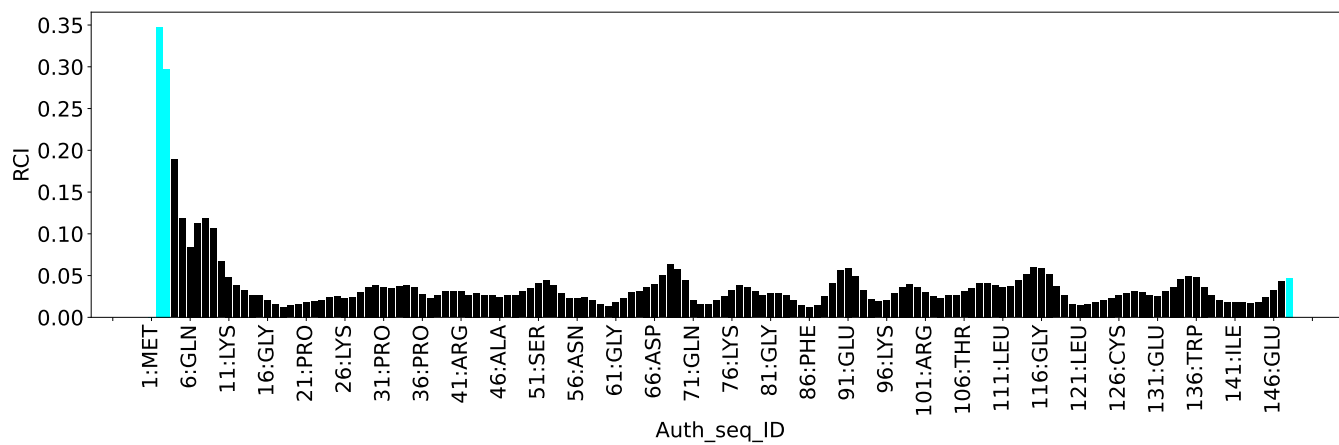
There are no statistically unusual chemical shifts.

### 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	2172
Intra-residue ( $ i-j =0$ )	583
Sequential ( $ i-j =1$ )	621
Medium range ( $ i-j >1$ and $ i-j <5$ )	259
Long range ( $ i-j \geq 5$ )	709
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	14.7
Number of long range restraints per residue <sup>1</sup>	4.8

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

### 8.2 Residual restraint violations

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

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

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

Bins (Å)	Average number of violations per model	Max (Å)
0.1-0.2 (Small)	22.5	0.2
0.2-0.5 (Medium)	5.0	0.48
>0.5 (Large)	0.1	0.82

### 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](#)

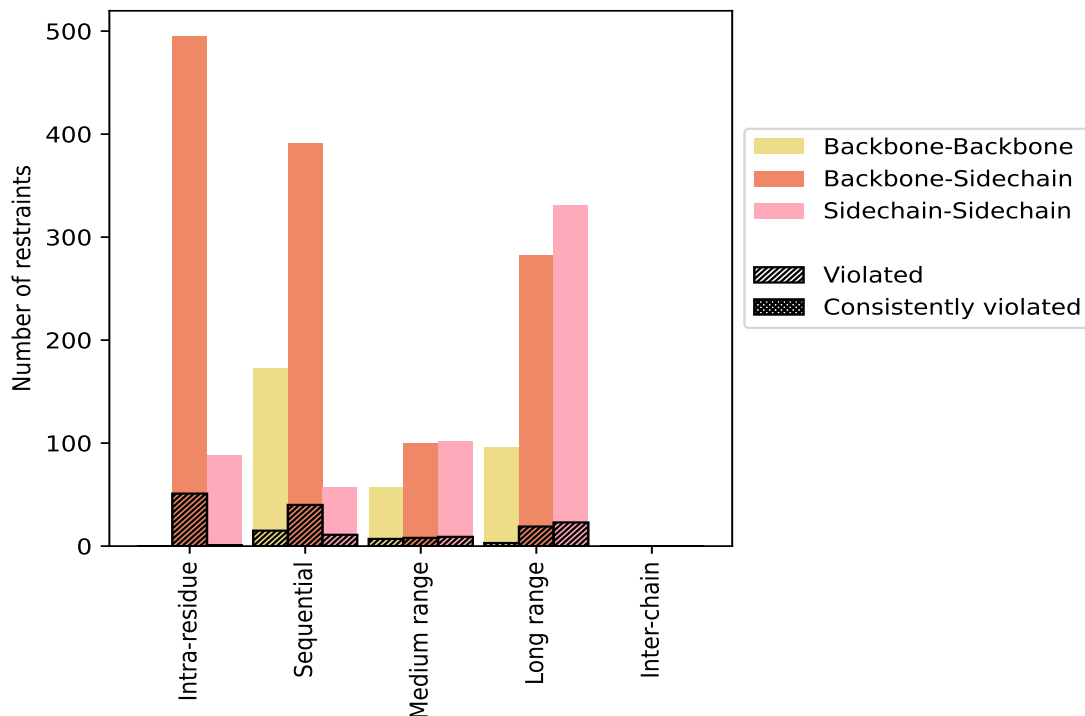
### 9.1 Summary of distance violations [i](#)

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>583</b>	<b>26.8</b>	<b>52</b>	<b>8.9</b>	<b>2.4</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	495	22.8	51	10.3	2.3	0	0.0	0.0
Sidechain-Sidechain	88	4.1	1	1.1	0.0	0	0.0	0.0
<b>Sequential (<math> i-j =1</math>)</b>	<b>621</b>	<b>28.6</b>	<b>66</b>	<b>10.6</b>	<b>3.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	173	8.0	15	8.7	0.7	0	0.0	0.0
Backbone-Sidechain	391	18.0	40	10.2	1.8	0	0.0	0.0
Sidechain-Sidechain	57	2.6	11	19.3	0.5	0	0.0	0.0
<b>Medium range (<math> i-j &gt;1</math> &amp; <math> i-j &lt;5</math>)</b>	<b>259</b>	<b>11.9</b>	<b>24</b>	<b>9.3</b>	<b>1.1</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	57	2.6	7	12.3	0.3	0	0.0	0.0
Backbone-Sidechain	100	4.6	8	8.0	0.4	0	0.0	0.0
Sidechain-Sidechain	102	4.7	9	8.8	0.4	0	0.0	0.0
<b>Long range (<math> i-j \geq 5</math>)</b>	<b>709</b>	<b>32.6</b>	<b>45</b>	<b>6.3</b>	<b>2.1</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	96	4.4	3	3.1	0.1	0	0.0	0.0
Backbone-Sidechain	282	13.0	19	6.7	0.9	0	0.0	0.0
Sidechain-Sidechain	331	15.2	23	6.9	1.1	0	0.0	0.0
<b>Inter-chain</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
<b>Hydrogen bond</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Disulfide bond</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>2172</b>	<b>100.0</b>	<b>187</b>	<b>8.6</b>	<b>8.6</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
Backbone-Backbone	326	15.0	25	7.7	1.2	0	0.0	0.0
Backbone-Sidechain	1268	58.4	118	9.3	5.4	0	0.0	0.0
Sidechain-Sidechain	578	26.6	44	7.6	2.0	0	0.0	0.0

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

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



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories. The hydrogen bonds and 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	7	7	2	6	0	22	0.17	0.29	0.05	0.16
2	6	11	6	5	0	28	0.17	0.35	0.06	0.16
3	6	15	1	9	0	31	0.15	0.3	0.04	0.14
4	12	10	6	6	0	34	0.17	0.41	0.06	0.16
5	9	9	5	7	0	30	0.16	0.28	0.05	0.14
6	9	10	3	7	0	29	0.17	0.39	0.06	0.17
7	10	11	2	9	0	32	0.16	0.43	0.07	0.14
8	7	6	3	4	0	20	0.16	0.35	0.06	0.13
9	10	15	2	6	0	33	0.18	0.48	0.08	0.15
10	7	9	3	10	0	29	0.17	0.48	0.08	0.14
11	10	10	5	3	0	28	0.16	0.28	0.04	0.16

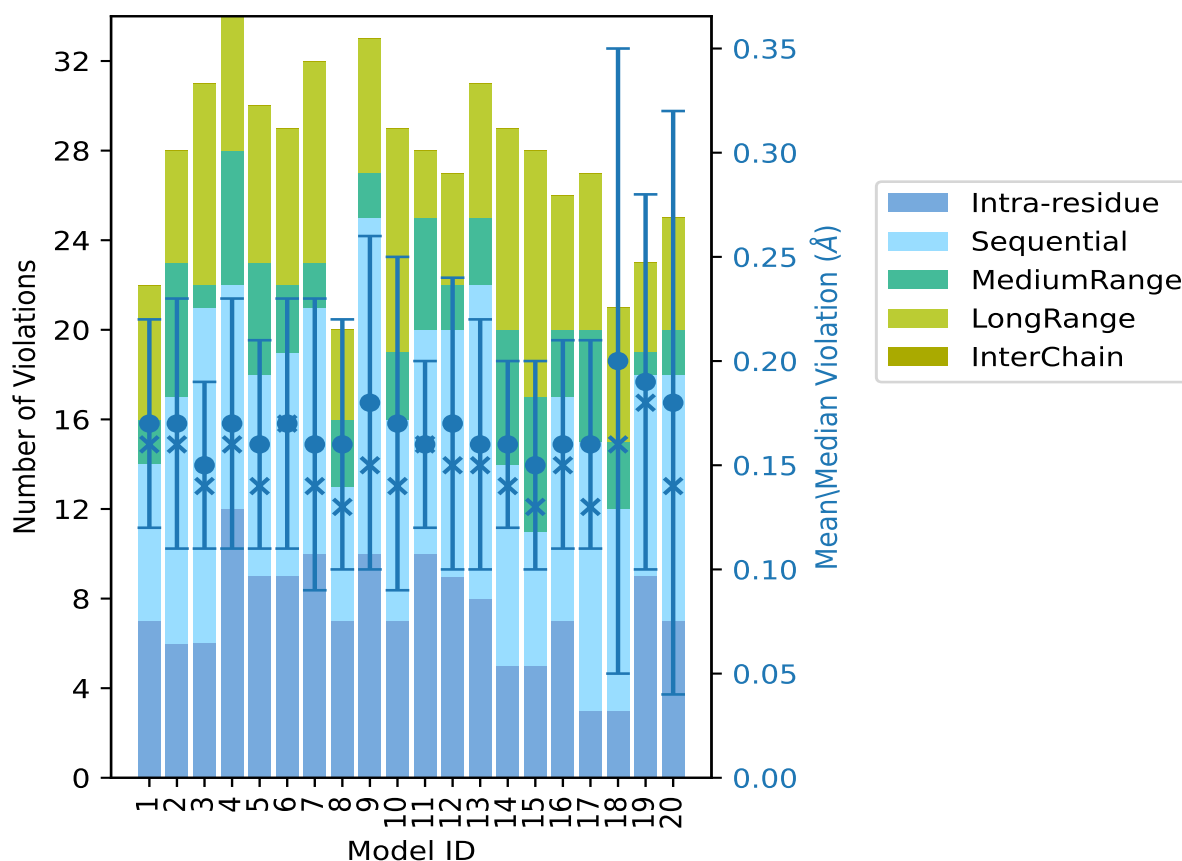
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Model ID	Number of violations					Total	Mean (Å)	Max (Å)	SD <sup>6</sup> (Å)	Median (Å)
	IR <sup>1</sup>	SQ <sup>2</sup>	MR <sup>3</sup>	LR <sup>4</sup>	IC <sup>5</sup>					
12	9	11	2	5	0	27	0.17	0.39	0.07	0.15
13	8	14	3	6	0	31	0.16	0.34	0.06	0.15
14	5	9	6	9	0	29	0.16	0.27	0.04	0.14
15	5	6	6	11	0	28	0.15	0.31	0.05	0.13
16	7	10	3	6	0	26	0.16	0.3	0.05	0.15
17	3	12	5	7	0	27	0.16	0.29	0.05	0.13
18	3	9	3	6	0	21	0.2	0.82	0.15	0.16
19	9	9	1	4	0	23	0.19	0.46	0.09	0.18
20	7	11	2	5	0	25	0.18	0.81	0.14	0.14

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

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



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

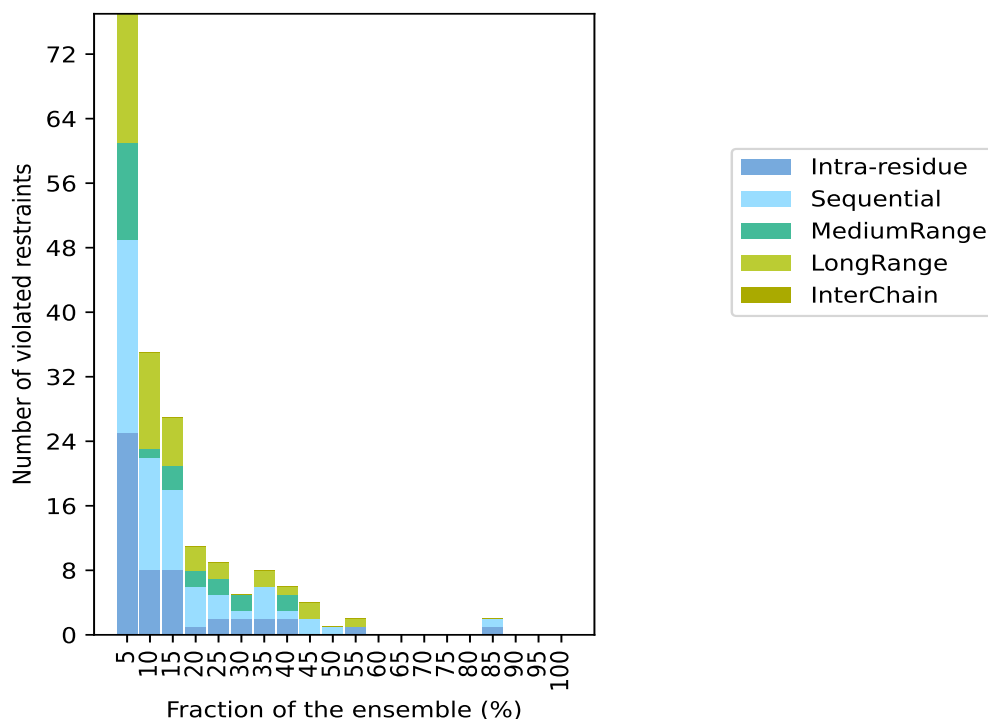
### 9.3 Distance violation statistics for the ensemble

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 1985(IR:531, SQ:555, MR:235, LR:664, 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>	%
25	24	12	16	0	77	1	5.0
8	14	1	12	0	35	2	10.0
8	10	3	6	0	27	3	15.0
1	5	2	3	0	11	4	20.0
2	3	2	2	0	9	5	25.0
2	1	2	0	0	5	6	30.0
2	4	0	2	0	8	7	35.0
2	1	2	1	0	6	8	40.0
0	2	0	2	0	4	9	45.0
0	1	0	0	0	1	10	50.0
1	0	0	1	0	2	11	55.0
0	0	0	0	0	0	12	60.0
0	0	0	0	0	0	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
1	1	0	0	0	2	17	85.0
0	0	0	0	0	0	18	90.0
0	0	0	0	0	0	19	95.0
0	0	0	0	0	0	20	100.0

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

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

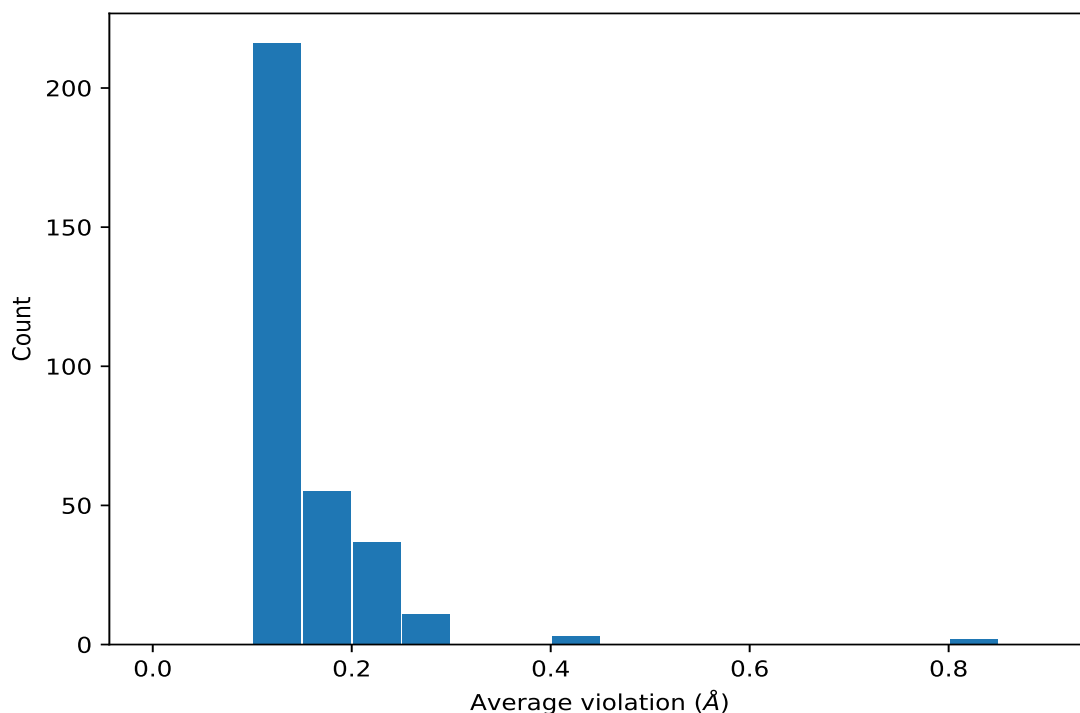


## 9.4 Most violated distance restraints in the ensemble [i](#)

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

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





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

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

Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	17	0.2	0.03	0.2
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	17	0.2	0.03	0.21
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	11	0.16	0.03	0.16
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	11	0.16	0.03	0.16
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	11	0.12	0.01	0.12
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	10	0.14	0.02	0.14
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	10	0.14	0.02	0.14
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	10	0.14	0.02	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	9	0.17	0.02	0.16

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	9	0.17	0.02	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	9	0.17	0.02	0.16
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	9	0.16	0.04	0.16
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	9	0.16	0.04	0.16
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	9	0.14	0.02	0.13
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	9	0.14	0.02	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	9	0.14	0.02	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	9	0.14	0.02	0.13
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	9	0.13	0.02	0.13
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	8	0.29	0.02	0.29
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	8	0.26	0.14	0.18
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	8	0.23	0.07	0.24
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	8	0.23	0.07	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	8	0.23	0.01	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	8	0.23	0.01	0.23
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	8	0.18	0.05	0.18
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	8	0.18	0.05	0.18
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	8	0.18	0.05	0.18
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	8	0.14	0.03	0.14
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	8	0.14	0.03	0.14
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	8	0.14	0.03	0.14
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	8	0.14	0.03	0.14
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	7	0.22	0.04	0.2
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	7	0.16	0.05	0.14
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	7	0.16	0.05	0.14
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	7	0.16	0.05	0.14
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	7	0.15	0.03	0.15
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	7	0.15	0.03	0.15
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	7	0.15	0.03	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	7	0.15	0.03	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	7	0.15	0.03	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	7	0.15	0.03	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	7	0.14	0.02	0.15

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	7	0.14	0.02	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	7	0.14	0.02	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	7	0.14	0.02	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	7	0.14	0.02	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	7	0.14	0.02	0.15
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	7	0.13	0.02	0.14
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	7	0.13	0.02	0.13
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	7	0.13	0.01	0.13
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	7	0.13	0.01	0.13
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	7	0.12	0.01	0.12
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	7	0.12	0.01	0.12
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	6	0.28	0.08	0.28
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	6	0.28	0.08	0.28
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	6	0.18	0.03	0.18
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	6	0.18	0.03	0.18
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	6	0.18	0.03	0.18
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	6	0.18	0.03	0.18
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	6	0.14	0.04	0.12
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	6	0.14	0.04	0.12
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	6	0.13	0.03	0.12
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	6	0.13	0.03	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	6	0.13	0.01	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	6	0.13	0.01	0.12
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	5	0.25	0.06	0.28
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	5	0.19	0.01	0.2
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	5	0.15	0.01	0.16
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	5	0.15	0.01	0.16
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	5	0.15	0.01	0.16
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	5	0.15	0.02	0.15
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	5	0.15	0.02	0.15
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	5	0.15	0.02	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	5	0.15	0.02	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	5	0.15	0.02	0.13
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	5	0.15	0.04	0.14
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	5	0.13	0.01	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	5	0.12	0.01	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	5	0.12	0.01	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	5	0.12	0.01	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	5	0.12	0.01	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	5	0.12	0.01	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	5	0.12	0.01	0.12
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	5	0.12	0.01	0.11

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	5	0.12	0.01	0.11
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	5	0.12	0.01	0.11
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD2	4	0.22	0.08	0.22
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD3	4	0.22	0.08	0.22
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD2	4	0.22	0.08	0.22
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD3	4	0.22	0.08	0.22
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD2	4	0.22	0.08	0.22
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD3	4	0.22	0.08	0.22
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB2	4	0.17	0.04	0.18
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB3	4	0.17	0.04	0.18
(1,2063)	1:A:119:LYS:HG2	1:A:120:GLN:H	4	0.16	0.02	0.16
(1,2063)	1:A:119:LYS:HG3	1:A:120:GLN:H	4	0.16	0.02	0.16
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD2	4	0.14	0.03	0.14
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD3	4	0.14	0.03	0.14
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD2	4	0.14	0.03	0.14
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD3	4	0.14	0.03	0.14
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG11	4	0.14	0.02	0.13
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG12	4	0.14	0.02	0.13
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG13	4	0.14	0.02	0.13
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG2	4	0.14	0.01	0.14
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG3	4	0.14	0.01	0.14
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD2	4	0.13	0.01	0.14
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD3	4	0.13	0.01	0.14
(1,125)	1:A:119:LYS:H	1:A:120:GLN:H	4	0.13	0.02	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD21	4	0.13	0.02	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD22	4	0.13	0.02	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD21	4	0.13	0.02	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD22	4	0.13	0.02	0.12
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD1	4	0.12	0.02	0.12
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD2	4	0.12	0.02	0.12
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD1	4	0.12	0.02	0.12
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD2	4	0.12	0.02	0.12
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB1	4	0.12	0.02	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB2	4	0.12	0.02	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB3	4	0.12	0.02	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB1	4	0.12	0.02	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB2	4	0.12	0.02	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB3	4	0.12	0.02	0.11
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG21	3	0.43	0.01	0.43
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG22	3	0.43	0.01	0.43
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG23	3	0.43	0.01	0.43
(1,439)	1:A:112:ASP:HB2	1:A:113:GLU:H	3	0.27	0.14	0.21

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,439)	1:A:112:ASP:HB3	1:A:113:GLU:H	3	0.27	0.14	0.21
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE2	3	0.25	0.06	0.22
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE3	3	0.25	0.06	0.22
(1,340)	1:A:112:ASP:HB2	1:A:114:GLN:HE22	3	0.21	0.06	0.23
(1,340)	1:A:112:ASP:HB3	1:A:114:GLN:HE22	3	0.21	0.06	0.23
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG2	3	0.19	0.01	0.19
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG3	3	0.19	0.01	0.19
(1,130)	1:A:114:GLN:HG2	1:A:115:LYS:H	3	0.19	0.05	0.2
(1,130)	1:A:114:GLN:HG3	1:A:115:LYS:H	3	0.19	0.05	0.2
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD2	3	0.18	0.03	0.19
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD3	3	0.18	0.03	0.19
(1,1219)	1:A:127:ASP:HA	1:A:128:ASP:H	3	0.18	0.04	0.2
(1,696)	1:A:111:LEU:H	1:A:111:LEU:HG	3	0.17	0.04	0.2
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE2	3	0.17	0.03	0.17
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE3	3	0.17	0.03	0.17
(1,401)	1:A:41:ARG:H	1:A:41:ARG:HD2	3	0.17	0.01	0.16
(1,622)	1:A:119:LYS:HD2	1:A:120:GLN:H	3	0.16	0.01	0.15
(1,622)	1:A:119:LYS:HD3	1:A:120:GLN:H	3	0.16	0.01	0.15
(1,152)	1:A:90:ASN:HA	1:A:91:GLU:H	3	0.15	0.02	0.15
(1,1109)	1:A:141:ILE:HG21	1:A:142:PHE:H	3	0.15	0.01	0.15
(1,1109)	1:A:141:ILE:HG22	1:A:142:PHE:H	3	0.15	0.01	0.15
(1,1109)	1:A:141:ILE:HG23	1:A:142:PHE:H	3	0.15	0.01	0.15
(1,489)	1:A:32:GLY:H	1:A:45:PHE:HB3	3	0.15	0.02	0.14
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD2	3	0.15	0.03	0.15
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD3	3	0.15	0.03	0.15
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG2	3	0.15	0.04	0.12
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG3	3	0.15	0.04	0.12
(1,284)	1:A:73:THR:HB	1:A:74:ASN:H	3	0.14	0.01	0.14
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG21	3	0.14	0.04	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG22	3	0.14	0.04	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG23	3	0.14	0.04	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG21	3	0.14	0.04	0.11

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG22	3	0.14	0.04	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG23	3	0.14	0.04	0.11
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG11	3	0.14	0.01	0.14
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG12	3	0.14	0.01	0.14
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG13	3	0.14	0.01	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG11	3	0.14	0.01	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG12	3	0.14	0.01	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG13	3	0.14	0.01	0.14
(1,704)	1:A:52:LEU:H	1:A:52:LEU:HG	3	0.13	0.02	0.14
(1,694)	1:A:7:ILE:H	1:A:52:LEU:HG	3	0.13	0.01	0.13
(1,1103)	1:A:54:ASP:HA	1:A:56:ASN:H	3	0.13	0.02	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD1	3	0.13	0.0	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD2	3	0.13	0.0	0.13
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB1	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB2	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB3	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB1	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB2	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB3	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB1	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB2	3	0.13	0.01	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB3	3	0.13	0.01	0.12
(1,1040)	1:A:3:ALA:HB1	1:A:4:LYS:H	3	0.12	0.01	0.12
(1,1040)	1:A:3:ALA:HB2	1:A:4:LYS:H	3	0.12	0.01	0.12
(1,1040)	1:A:3:ALA:HB3	1:A:4:LYS:H	3	0.12	0.01	0.12
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG2	3	0.11	0.0	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG3	3	0.11	0.0	0.11
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE1	2	0.82	0.0	0.82
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE2	2	0.82	0.0	0.82
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG2	2	0.26	0.03	0.26
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG3	2	0.26	0.03	0.26
(1,459)	1:A:24:ASP:H	1:A:24:ASP:HB3	2	0.24	0.12	0.24
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD2	2	0.22	0.12	0.22
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD3	2	0.22	0.12	0.22
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA2	2	0.22	0.04	0.22
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA3	2	0.22	0.04	0.22
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA2	2	0.22	0.04	0.22
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA3	2	0.22	0.04	0.22
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD21	2	0.22	0.1	0.22
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD22	2	0.22	0.1	0.22
(1,1705)	1:A:50:GLU:HG2	1:A:51:SER:H	2	0.22	0.01	0.22
(1,1705)	1:A:50:GLU:HG3	1:A:51:SER:H	2	0.22	0.01	0.22

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD21	2	0.21	0.01	0.21
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD22	2	0.21	0.01	0.21
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD21	2	0.21	0.01	0.21
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD22	2	0.21	0.01	0.21
(1,129)	1:A:114:GLN:HA	1:A:115:LYS:H	2	0.18	0.02	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD2	2	0.18	0.0	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD3	2	0.18	0.0	0.18
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG2	2	0.18	0.03	0.18
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG3	2	0.18	0.03	0.18
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG2	2	0.18	0.0	0.18
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG3	2	0.18	0.0	0.18
(1,2114)	1:A:130:ASN:HB2	1:A:135:VAL:HB	2	0.17	0.06	0.17
(1,2114)	1:A:130:ASN:HB3	1:A:135:VAL:HB	2	0.17	0.06	0.17
(1,358)	1:A:37:GLU:HA	1:A:40:ASN:HD22	2	0.16	0.02	0.16
(1,795)	1:A:56:ASN:HA	1:A:57:ILE:HA	2	0.16	0.01	0.16
(1,425)	1:A:53:ASP:HB2	1:A:54:ASP:H	2	0.15	0.01	0.15
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE2	2	0.15	0.02	0.15
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE3	2	0.15	0.02	0.15
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE2	2	0.15	0.02	0.15
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE3	2	0.15	0.02	0.15
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE2	2	0.15	0.02	0.15
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE3	2	0.15	0.02	0.15
(1,801)	1:A:79:LYS:HG2	1:A:80:LYS:H	2	0.15	0.0	0.15
(1,801)	1:A:79:LYS:HG3	1:A:80:LYS:H	2	0.15	0.0	0.15
(1,568)	1:A:114:GLN:H	1:A:114:GLN:HG2	2	0.14	0.03	0.14
(1,1280)	1:A:57:ILE:HD11	1:A:58:SER:H	2	0.14	0.01	0.14
(1,1280)	1:A:57:ILE:HD12	1:A:58:SER:H	2	0.14	0.01	0.14
(1,1280)	1:A:57:ILE:HD13	1:A:58:SER:H	2	0.14	0.01	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG11	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG12	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG13	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG21	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG22	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG23	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG11	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG12	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG13	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG21	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG22	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG23	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG11	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG12	2	0.14	0.0	0.14

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Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG13	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG21	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG22	2	0.14	0.0	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG23	2	0.14	0.0	0.14
(1,548)	1:A:52:LEU:HD21	1:A:88:VAL:HB	2	0.14	0.02	0.14
(1,548)	1:A:52:LEU:HD22	1:A:88:VAL:HB	2	0.14	0.02	0.14
(1,548)	1:A:52:LEU:HD23	1:A:88:VAL:HB	2	0.14	0.02	0.14
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG2	2	0.14	0.02	0.14
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG3	2	0.14	0.02	0.14
(1,1063)	1:A:101:ARG:H	1:A:142:PHE:HA	2	0.14	0.02	0.14
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG21	2	0.13	0.02	0.13
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG22	2	0.13	0.02	0.13
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG23	2	0.13	0.02	0.13
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG21	2	0.13	0.02	0.13
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG22	2	0.13	0.02	0.13
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG23	2	0.13	0.02	0.13
(1,1728)	1:A:53:ASP:HB2	1:A:54:ASP:H	2	0.13	0.0	0.13
(1,1728)	1:A:53:ASP:HB3	1:A:54:ASP:H	2	0.13	0.0	0.13
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD21	2	0.12	0.02	0.12
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD22	2	0.12	0.02	0.12
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD21	2	0.12	0.02	0.12
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD22	2	0.12	0.02	0.12
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB2	2	0.12	0.02	0.12
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB3	2	0.12	0.02	0.12
(1,192)	1:A:128:ASP:H	1:A:129:TYR:H	2	0.12	0.0	0.12
(1,979)	1:A:29:VAL:HG21	1:A:30:TYR:H	2	0.12	0.0	0.12
(1,979)	1:A:29:VAL:HG22	1:A:30:TYR:H	2	0.12	0.0	0.12
(1,979)	1:A:29:VAL:HG23	1:A:30:TYR:H	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB1	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB2	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB3	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB1	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB2	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB3	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB1	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB2	2	0.12	0.0	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB3	2	0.12	0.0	0.12
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB2	2	0.12	0.0	0.12
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB3	2	0.12	0.0	0.12
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB2	2	0.12	0.0	0.12
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB3	2	0.12	0.0	0.12
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB2	2	0.12	0.0	0.12

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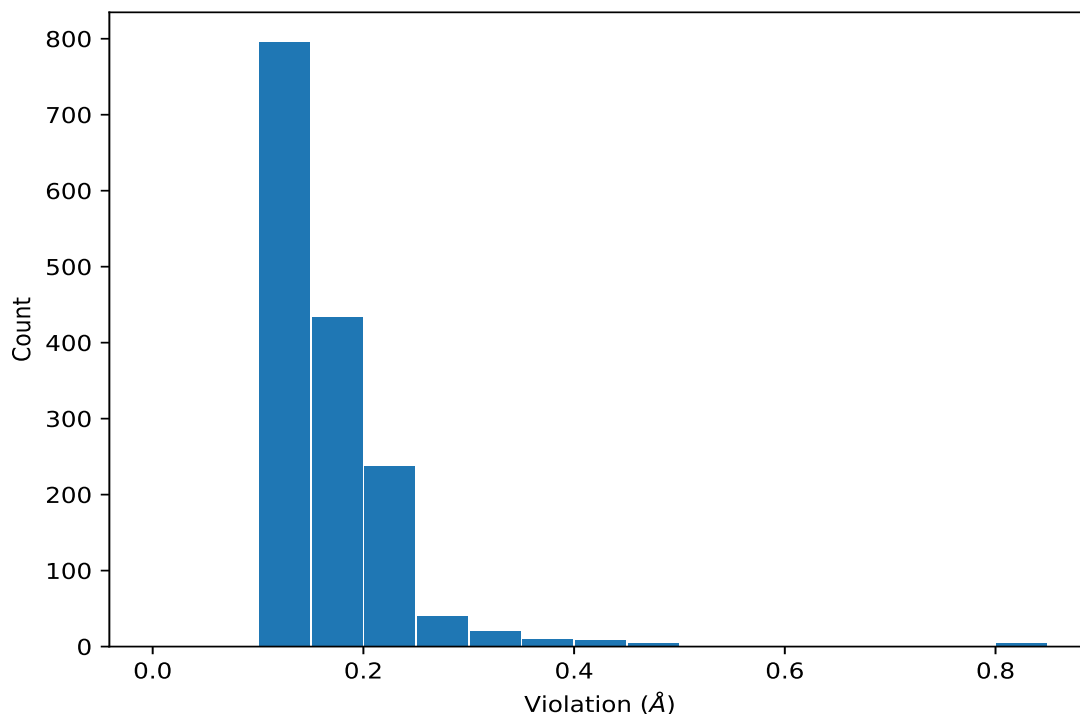
Key	Atom-1	Atom-2	Models <sup>1</sup>	Mean (Å)	SD <sup>1</sup> (Å)	Median (Å)
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB3	2	0.12	0.0	0.12
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG21	2	0.11	0.0	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG22	2	0.11	0.0	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG23	2	0.11	0.0	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG21	2	0.11	0.0	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG22	2	0.11	0.0	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG23	2	0.11	0.0	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD11	2	0.11	0.0	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD12	2	0.11	0.0	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD13	2	0.11	0.0	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB2	2	0.11	0.0	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB3	2	0.11	0.0	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB2	2	0.11	0.0	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB3	2	0.11	0.0	0.11

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

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

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

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



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

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

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE1	18	0.82
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE2	18	0.82
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE1	20	0.81
(1,1134)	1:A:64:PHE:HA	1:A:64:PHE:HE2	20	0.81
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	9	0.48
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	10	0.48
(1,439)	1:A:112:ASP:HB2	1:A:113:GLU:H	19	0.46
(1,439)	1:A:112:ASP:HB3	1:A:113:GLU:H	19	0.46
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG21	9	0.44
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG22	9	0.44
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG23	9	0.44
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG21	7	0.43
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG22	7	0.43
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG23	7	0.43
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG21	4	0.41
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG22	4	0.41
(1,923)	1:A:110:VAL:H	1:A:110:VAL:HG23	4	0.41
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	12	0.39
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	12	0.39
(1,1079)	1:A:110:VAL:H	1:A:110:VAL:HG11	6	0.39
(1,1079)	1:A:110:VAL:H	1:A:110:VAL:HG12	6	0.39
(1,1079)	1:A:110:VAL:H	1:A:110:VAL:HG13	6	0.39
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	2	0.35
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	2	0.35
(1,459)	1:A:24:ASP:H	1:A:24:ASP:HB3	8	0.35
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	19	0.35
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	19	0.35
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD2	13	0.34
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD3	13	0.34
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	2	0.33
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	9	0.33
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	9	0.33
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE2	13	0.33
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE3	13	0.33
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	12	0.32
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	7	0.32
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD2	18	0.31

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD3	18	0.31
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD2	18	0.31
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD3	18	0.31
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD2	18	0.31
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD3	18	0.31
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD21	15	0.31
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD22	15	0.31
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	15	0.3
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	3	0.3
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	16	0.3
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	17	0.29
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	18	0.29
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD2	10	0.29
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD3	10	0.29
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD2	10	0.29
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD3	10	0.29
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD2	10	0.29
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD3	10	0.29
(1,571)	1:A:114:GLN:H	1:A:114:GLN:HG3	10	0.29
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	1	0.29
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	1	0.29
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	11	0.28
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	5	0.28
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	12	0.28
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG2	20	0.28
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG3	20	0.28
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	14	0.27
(1,340)	1:A:112:ASP:HB2	1:A:114:GLN:HE22	2	0.27
(1,340)	1:A:112:ASP:HB3	1:A:114:GLN:HE22	2	0.27
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	5	0.27
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	5	0.27
(1,987)	1:A:115:LYS:HA	1:A:117:LYS:H	5	0.26
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	4	0.26
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	4	0.26
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	4	0.26
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	19	0.26
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA2	19	0.26
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA3	19	0.26
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA2	19	0.26
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA3	19	0.26
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	12	0.26
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	12	0.26

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,610)	1:A:26:LYS:H	1:A:26:LYS:HD2	16	0.25
(1,610)	1:A:26:LYS:H	1:A:26:LYS:HD3	16	0.25
(1,601)	1:A:80:LYS:HB2	1:A:81:GLY:H	19	0.25
(1,601)	1:A:80:LYS:HB3	1:A:81:GLY:H	19	0.25
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	1	0.25
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	14	0.25
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	14	0.25
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	14	0.25
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	15	0.24
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	17	0.24
(1,1836)	1:A:79:LYS:HA	1:A:79:LYS:HD2	10	0.24
(1,1836)	1:A:79:LYS:HA	1:A:79:LYS:HD3	10	0.24
(1,130)	1:A:114:GLN:HG2	1:A:115:LYS:H	17	0.24
(1,130)	1:A:114:GLN:HG3	1:A:115:LYS:H	17	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	11	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	11	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	11	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	11	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	11	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	11	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	11	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	11	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	11	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	19	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	19	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	19	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	19	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	19	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	19	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	19	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	19	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	19	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	20	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	20	0.24
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	20	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	20	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	20	0.24
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	20	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	20	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	20	0.24
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	20	0.24
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	4	0.23

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	4	0.23
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	7	0.23
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	7	0.23
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	8	0.23
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	8	0.23
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	14	0.23
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	14	0.23
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	19	0.23
(1,340)	1:A:112:ASP:HB2	1:A:114:GLN:HE22	17	0.23
(1,340)	1:A:112:ASP:HB3	1:A:114:GLN:HE22	17	0.23
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	1	0.23
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	9	0.23
(1,2114)	1:A:130:ASN:HB2	1:A:135:VAL:HB	6	0.23
(1,2114)	1:A:130:ASN:HB3	1:A:135:VAL:HB	6	0.23
(1,1699)	1:A:48:GLU:HA	1:A:48:GLU:HG2	4	0.23
(1,1699)	1:A:48:GLU:HA	1:A:48:GLU:HG3	4	0.23
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG2	1	0.23
(1,1399)	1:A:2:GLN:HA	1:A:2:GLN:HG3	1	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	1	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	1	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	1	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	1	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	1	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	1	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	1	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	1	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	1	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	4	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	4	0.23
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	4	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	4	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	4	0.23
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	4	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	4	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	4	0.23
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	4	0.23
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	5	0.23
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	5	0.23
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	5	0.23
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	6	0.23
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	6	0.23
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	6	0.23

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD2	16	0.22
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD3	16	0.22
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	6	0.22
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	12	0.22
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	10	0.22
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	13	0.22
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	20	0.22
(1,2041)	1:A:114:GLN:HA	1:A:114:GLN:HE21	6	0.22
(1,2041)	1:A:114:GLN:HA	1:A:114:GLN:HE22	6	0.22
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	19	0.22
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	19	0.22
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	19	0.22
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	19	0.22
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD21	1	0.22
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD22	1	0.22
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD21	1	0.22
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD22	1	0.22
(1,1705)	1:A:50:GLU:HG2	1:A:51:SER:H	7	0.22
(1,1705)	1:A:50:GLU:HG3	1:A:51:SER:H	7	0.22
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	8	0.22
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	8	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	2	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	2	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	2	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	2	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	2	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	2	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	2	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	2	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	2	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	14	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	14	0.22
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	14	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	14	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	14	0.22
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	14	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	14	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	14	0.22
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	14	0.22
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE2	9	0.22
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE3	9	0.22
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	3	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG2	5	0.21
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG3	5	0.21
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	6	0.21
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	6	0.21
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	10	0.21
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	10	0.21
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	16	0.21
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	16	0.21
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	4	0.21
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	13	0.21
(1,439)	1:A:112:ASP:HB2	1:A:113:GLU:H	17	0.21
(1,439)	1:A:112:ASP:HB3	1:A:113:GLU:H	17	0.21
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE2	7	0.21
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE3	7	0.21
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	2	0.21
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	4	0.21
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	8	0.21
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	16	0.21
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	17	0.21
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	19	0.21
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG3	3	0.21
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG3	3	0.21
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG3	3	0.21
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG3	3	0.21
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG3	3	0.21
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG2	3	0.21
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG3	3	0.21
(1,203)	1:A:48:GLU:H	1:A:50:GLU:H	13	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	17	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	17	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	17	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	17	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	17	0.21
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	17	0.21
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	17	0.21
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	17	0.21
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	17	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	17	0.21
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	17	0.21
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	17	0.21
(1,1705)	1:A:50:GLU:HG2	1:A:51:SER:H	12	0.21
(1,1705)	1:A:50:GLU:HG3	1:A:51:SER:H	12	0.21
(1,129)	1:A:114:GLN:HA	1:A:115:LYS:H	9	0.21
(1,1219)	1:A:127:ASP:HA	1:A:128:ASP:H	4	0.21
(1,1006)	1:A:70:TYR:HA	1:A:71:GLN:H	12	0.21
(1,696)	1:A:111:LEU:H	1:A:111:LEU:HG	11	0.2
(1,696)	1:A:111:LEU:H	1:A:111:LEU:HG	13	0.2
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB2	6	0.2
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB3	6	0.2
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB2	13	0.2
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB3	13	0.2
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	1	0.2
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	3	0.2
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	5	0.2
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	9	0.2
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	14	0.2
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	9	0.2
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	11	0.2
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	6	0.2
(1,2063)	1:A:119:LYS:HG2	1:A:120:GLN:H	5	0.2
(1,2063)	1:A:119:LYS:HG3	1:A:120:GLN:H	5	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	13	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	13	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	19	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	19	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	19	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	19	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	19	0.2
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	19	0.2

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	19	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	19	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	19	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	19	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	19	0.2
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	19	0.2
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD21	6	0.2
(1,1909)	1:A:89:GLY:HA2	1:A:90:ASN:HD22	6	0.2
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD21	6	0.2
(1,1909)	1:A:89:GLY:HA3	1:A:90:ASN:HD22	6	0.2
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG21	4	0.2
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG22	4	0.2
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG23	4	0.2
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG21	4	0.2
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG22	4	0.2
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG23	4	0.2
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG2	13	0.2
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG3	13	0.2
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	9	0.2
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	9	0.2
(1,130)	1:A:114:GLN:HG2	1:A:115:LYS:H	2	0.2
(1,130)	1:A:114:GLN:HG3	1:A:115:LYS:H	2	0.2
(1,1219)	1:A:127:ASP:HA	1:A:128:ASP:H	6	0.2
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD11	9	0.2
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD12	9	0.2
(1,1152)	1:A:57:ILE:HG21	1:A:57:ILE:HD13	9	0.2
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD11	9	0.2
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD12	9	0.2
(1,1152)	1:A:57:ILE:HG22	1:A:57:ILE:HD13	9	0.2
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD11	9	0.2
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD12	9	0.2
(1,1152)	1:A:57:ILE:HG23	1:A:57:ILE:HD13	9	0.2
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	10	0.2
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	10	0.2
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	10	0.2
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD2	13	0.19
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD3	13	0.19
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	14	0.19
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	14	0.19
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	16	0.19
(1,522)	1:A:48:GLU:HA	1:A:48:GLU:HG3	4	0.19
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	3	0.19

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	16	0.19
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	7	0.19
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	15	0.19
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	18	0.19
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	8	0.19
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	8	0.19
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	8	0.19
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	8	0.19
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	18	0.19
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	18	0.19
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	18	0.19
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	18	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	7	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	7	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	7	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	7	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	7	0.19
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	7	0.19
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	7	0.19
(1,1739)	1:A:55:GLN:HB2	1:A:56:ASN:HD21	9	0.19
(1,1739)	1:A:55:GLN:HB2	1:A:56:ASN:HD22	9	0.19
(1,1739)	1:A:55:GLN:HB3	1:A:56:ASN:HD21	9	0.19
(1,1739)	1:A:55:GLN:HB3	1:A:56:ASN:HD22	9	0.19
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG2	3	0.19
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG3	3	0.19
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA2	17	0.19
(1,1667)	1:A:41:ARG:HG2	1:A:42:GLY:HA3	17	0.19
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA2	17	0.19
(1,1667)	1:A:41:ARG:HG3	1:A:42:GLY:HA3	17	0.19
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	6	0.19
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	6	0.19
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	6	0.19
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	6	0.19
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	16	0.19
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	16	0.19
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	16	0.19
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	16	0.19

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	16	0.19
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	16	0.19
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	14	0.19
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	14	0.19
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	12	0.19
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE2	19	0.19
(1,1027)	1:A:9:LYS:HA	1:A:9:LYS:HE3	19	0.19
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	3	0.18
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	3	0.18
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	3	0.18
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	4	0.18
(1,697)	1:A:39:LEU:H	1:A:39:LEU:HG	11	0.18
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	2	0.18
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	2	0.18
(1,622)	1:A:119:LYS:HD2	1:A:120:GLN:H	17	0.18
(1,622)	1:A:119:LYS:HD3	1:A:120:GLN:H	17	0.18
(1,615)	1:A:87:LYS:HD2	1:A:88:VAL:H	2	0.18
(1,615)	1:A:87:LYS:HD3	1:A:88:VAL:H	2	0.18
(1,568)	1:A:114:GLN:H	1:A:114:GLN:HG2	19	0.18
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	7	0.18
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	3	0.18
(1,401)	1:A:41:ARG:H	1:A:41:ARG:HD2	6	0.18
(1,358)	1:A:37:GLU:HA	1:A:40:ASN:HD22	4	0.18
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	1	0.18
(1,296)	1:A:135:VAL:H	1:A:135:VAL:HB	20	0.18
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	5	0.18
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	3	0.18
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	3	0.18
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	3	0.18
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	3	0.18
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD2	2	0.18
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD3	2	0.18
(1,1976)	1:A:101:ARG:H	1:A:140:LYS:HE2	8	0.18
(1,1976)	1:A:101:ARG:H	1:A:140:LYS:HE3	8	0.18
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG2	7	0.18
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG3	7	0.18
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG2	5	0.18
(1,1736)	1:A:55:GLN:HA	1:A:119:LYS:HG3	5	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD2	6	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD3	6	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD2	11	0.18
(1,1663)	1:A:41:ARG:H	1:A:41:ARG:HD3	11	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,152)	1:A:90:ASN:HA	1:A:91:GLU:H	6	0.18
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD2	13	0.18
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD3	13	0.18
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD2	13	0.18
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD3	13	0.18
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	20	0.18
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	20	0.18
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	20	0.18
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	20	0.18
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	20	0.18
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	20	0.18
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	9	0.18
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	9	0.18
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	8	0.18
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	11	0.18
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	11	0.18
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	11	0.18
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG11	7	0.17
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG12	7	0.17
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG13	7	0.17
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	14	0.17
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	14	0.17
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	14	0.17
(1,877)	1:A:106:THR:H	1:A:106:THR:HG21	11	0.17
(1,877)	1:A:106:THR:H	1:A:106:THR:HG22	11	0.17
(1,877)	1:A:106:THR:H	1:A:106:THR:HG23	11	0.17
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD2	1	0.17
(1,644)	1:A:132:LYS:HA	1:A:132:LYS:HD3	1	0.17
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	4	0.17
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	4	0.17
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	2	0.17
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	2	0.17
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	20	0.17
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	20	0.17
(1,489)	1:A:32:GLY:H	1:A:45:PHE:HB3	2	0.17
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE2	11	0.17
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE3	11	0.17
(1,411)	1:A:76:LYS:H	1:A:76:LYS:HE2	16	0.17
(1,411)	1:A:76:LYS:H	1:A:76:LYS:HE3	16	0.17
(1,352)	1:A:110:VAL:H	1:A:111:LEU:HG	6	0.17
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	18	0.17
(1,245)	1:A:117:LYS:H	1:A:117:LYS:HG3	10	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2036)	1:A:113:GLU:HG2	1:A:115:LYS:HD2	17	0.17
(1,2036)	1:A:113:GLU:HG2	1:A:115:LYS:HD3	17	0.17
(1,2036)	1:A:113:GLU:HG3	1:A:115:LYS:HD2	17	0.17
(1,2036)	1:A:113:GLU:HG3	1:A:115:LYS:HD3	17	0.17
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG2	18	0.17
(1,1975)	1:A:101:ARG:H	1:A:101:ARG:HG3	18	0.17
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	18	0.17
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	18	0.17
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	18	0.17
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	18	0.17
(1,1749)	1:A:56:ASN:HD21	1:A:57:ILE:HD11	12	0.17
(1,1749)	1:A:56:ASN:HD21	1:A:57:ILE:HD12	12	0.17
(1,1749)	1:A:56:ASN:HD21	1:A:57:ILE:HD13	12	0.17
(1,1749)	1:A:56:ASN:HD22	1:A:57:ILE:HD11	12	0.17
(1,1749)	1:A:56:ASN:HD22	1:A:57:ILE:HD12	12	0.17
(1,1749)	1:A:56:ASN:HD22	1:A:57:ILE:HD13	12	0.17
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	9	0.17
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	9	0.17
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	9	0.17
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	9	0.17
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE2	11	0.17
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE3	11	0.17
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE2	11	0.17
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE3	11	0.17
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE2	11	0.17
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE3	11	0.17
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	13	0.17
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	13	0.17
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	2	0.17
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	2	0.17
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	2	0.17
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	4	0.17
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	4	0.17
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	4	0.17
(1,977)	1:A:43:VAL:H	1:A:43:VAL:HG21	14	0.16
(1,977)	1:A:43:VAL:H	1:A:43:VAL:HG22	14	0.16
(1,977)	1:A:43:VAL:H	1:A:43:VAL:HG23	14	0.16
(1,948)	1:A:88:VAL:HG21	1:A:89:GLY:H	7	0.16
(1,948)	1:A:88:VAL:HG22	1:A:89:GLY:H	7	0.16
(1,948)	1:A:88:VAL:HG23	1:A:89:GLY:H	7	0.16
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	5	0.16
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	9	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,795)	1:A:56:ASN:HA	1:A:57:ILE:HA	14	0.16
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	1	0.16
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	1	0.16
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	3	0.16
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	3	0.16
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	3	0.16
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	3	0.16
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD2	11	0.16
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD3	11	0.16
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD2	11	0.16
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD3	11	0.16
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD2	11	0.16
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD3	11	0.16
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB2	7	0.16
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB3	7	0.16
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	18	0.16
(1,425)	1:A:53:ASP:HB2	1:A:54:ASP:H	16	0.16
(1,401)	1:A:41:ARG:H	1:A:41:ARG:HD2	11	0.16
(1,401)	1:A:41:ARG:H	1:A:41:ARG:HD2	12	0.16
(1,34)	1:A:70:TYR:HB2	1:A:71:GLN:H	12	0.16
(1,34)	1:A:70:TYR:HB3	1:A:71:GLN:H	12	0.16
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	6	0.16
(1,265)	1:A:39:LEU:H	1:A:41:ARG:H	4	0.16
(1,2063)	1:A:119:LYS:HG2	1:A:120:GLN:H	3	0.16
(1,2063)	1:A:119:LYS:HG3	1:A:120:GLN:H	3	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	4	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	15	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	16	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	16	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	16	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	16	0.16
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	16	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	16	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	2	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	2	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	8	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	8	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	18	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	18	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	18	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	18	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	18	0.16
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	18	0.16
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	18	0.16
(1,1855)	1:A:82:SER:HB2	1:A:97:MET:HB2	15	0.16
(1,1855)	1:A:82:SER:HB2	1:A:97:MET:HB3	15	0.16
(1,1855)	1:A:82:SER:HB3	1:A:97:MET:HB2	15	0.16
(1,1855)	1:A:82:SER:HB3	1:A:97:MET:HB3	15	0.16
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	2	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	2	0.16
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	2	0.16
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	2	0.16
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD21	20	0.16
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD22	20	0.16
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD21	20	0.16
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD22	20	0.16
(1,1756)	1:A:57:ILE:HG12	1:A:58:SER:H	3	0.16
(1,1756)	1:A:57:ILE:HG13	1:A:58:SER:H	3	0.16
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD2	11	0.16
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD3	11	0.16
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD2	11	0.16
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD3	11	0.16
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	2	0.16
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	2	0.16
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	2	0.16
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	2	0.16
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	2	0.16
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	2	0.16
(1,1317)	1:A:64:PHE:HD1	1:A:65:ILE:HD11	20	0.16
(1,1317)	1:A:64:PHE:HD1	1:A:65:ILE:HD12	20	0.16
(1,1317)	1:A:64:PHE:HD1	1:A:65:ILE:HD13	20	0.16
(1,1317)	1:A:64:PHE:HD2	1:A:65:ILE:HD11	20	0.16
(1,1317)	1:A:64:PHE:HD2	1:A:65:ILE:HD12	20	0.16
(1,1317)	1:A:64:PHE:HD2	1:A:65:ILE:HD13	20	0.16
(1,129)	1:A:114:GLN:HA	1:A:115:LYS:H	16	0.16
(1,125)	1:A:119:LYS:H	1:A:120:GLN:H	18	0.16
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	12	0.16
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	12	0.16
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	12	0.16
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	4	0.16
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	4	0.16
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	4	0.16
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	9	0.16
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	9	0.16
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	9	0.16
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	14	0.16
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	14	0.16
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	14	0.16
(1,1109)	1:A:141:ILE:HG21	1:A:142:PHE:H	1	0.16
(1,1109)	1:A:141:ILE:HG22	1:A:142:PHE:H	1	0.16
(1,1109)	1:A:141:ILE:HG23	1:A:142:PHE:H	1	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	14	0.16
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	17	0.16
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	11	0.16
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	11	0.16
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	11	0.16
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG21	8	0.15
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG22	8	0.15
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG23	8	0.15
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG21	8	0.15
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG22	8	0.15
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG23	8	0.15
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG11	16	0.15
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG12	16	0.15
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG13	16	0.15
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG11	16	0.15
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG12	16	0.15
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG13	16	0.15
(1,912)	1:A:48:GLU:HA	1:A:48:GLU:HG2	4	0.15
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	5	0.15
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	10	0.15
(1,801)	1:A:79:LYS:HG2	1:A:80:LYS:H	2	0.15
(1,801)	1:A:79:LYS:HG3	1:A:80:LYS:H	2	0.15
(1,801)	1:A:79:LYS:HG2	1:A:80:LYS:H	6	0.15
(1,801)	1:A:79:LYS:HG3	1:A:80:LYS:H	6	0.15
(1,795)	1:A:56:ASN:HA	1:A:57:ILE:HA	12	0.15
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG2	9	0.15
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG3	9	0.15
(1,704)	1:A:52:LEU:H	1:A:52:LEU:HG	10	0.15
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD1	4	0.15
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD2	4	0.15
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD1	4	0.15
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD2	4	0.15
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	19	0.15
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	19	0.15
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	9	0.15
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	9	0.15
(1,622)	1:A:119:LYS:HD2	1:A:120:GLN:H	4	0.15
(1,622)	1:A:119:LYS:HD3	1:A:120:GLN:H	4	0.15
(1,622)	1:A:119:LYS:HD2	1:A:120:GLN:H	20	0.15
(1,622)	1:A:119:LYS:HD3	1:A:120:GLN:H	20	0.15
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	20	0.15
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	20	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	3	0.15
(1,548)	1:A:52:LEU:HD21	1:A:88:VAL:HB	15	0.15
(1,548)	1:A:52:LEU:HD22	1:A:88:VAL:HB	15	0.15
(1,548)	1:A:52:LEU:HD23	1:A:88:VAL:HB	15	0.15
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	5	0.15
(1,358)	1:A:37:GLU:HA	1:A:40:ASN:HD22	5	0.15
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	7	0.15
(1,284)	1:A:73:THR:HB	1:A:74:ASN:H	13	0.15
(1,2063)	1:A:119:LYS:HG2	1:A:120:GLN:H	13	0.15
(1,2063)	1:A:119:LYS:HG3	1:A:120:GLN:H	13	0.15
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG2	18	0.15
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG3	18	0.15
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	12	0.15
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	12	0.15
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	12	0.15
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	12	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	17	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	17	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	17	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	17	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	17	0.15
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	17	0.15
(1,2006)	1:A:105:PRO:HB2	1:A:106:THR:HG21	11	0.15
(1,2006)	1:A:105:PRO:HB2	1:A:106:THR:HG22	11	0.15
(1,2006)	1:A:105:PRO:HB2	1:A:106:THR:HG23	11	0.15
(1,2006)	1:A:105:PRO:HB3	1:A:106:THR:HG21	11	0.15
(1,2006)	1:A:105:PRO:HB3	1:A:106:THR:HG22	11	0.15
(1,2006)	1:A:105:PRO:HB3	1:A:106:THR:HG23	11	0.15
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD2	20	0.15
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD3	20	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	12	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	12	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	12	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	12	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	12	0.15
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	12	0.15
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	12	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	1	0.15
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	1	0.15
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	1	0.15
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	1	0.15
(1,159)	1:A:88:VAL:H	1:A:91:GLU:HB2	4	0.15
(1,159)	1:A:88:VAL:H	1:A:91:GLU:HB3	4	0.15
(1,152)	1:A:90:ASN:HA	1:A:91:GLU:H	1	0.15
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	15	0.15
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	15	0.15
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	15	0.15
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	15	0.15
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	6	0.15
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	6	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD11	10	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD12	10	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD13	10	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD21	10	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD22	10	0.15
(1,1410)	1:A:5:PRO:HA	1:A:52:LEU:HD23	10	0.15
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD2	14	0.15
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD3	14	0.15
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	6	0.15
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	6	0.15
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	6	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	6	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	6	0.15
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	6	0.15
(1,1280)	1:A:57:ILE:HD11	1:A:58:SER:H	18	0.15
(1,1280)	1:A:57:ILE:HD12	1:A:58:SER:H	18	0.15
(1,1280)	1:A:57:ILE:HD13	1:A:58:SER:H	18	0.15
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	3	0.15
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	3	0.15
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	5	0.15
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	5	0.15
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	5	0.15
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	13	0.15
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	13	0.15
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	13	0.15
(1,1109)	1:A:141:ILE:HG21	1:A:142:PHE:H	13	0.15
(1,1109)	1:A:141:ILE:HG22	1:A:142:PHE:H	13	0.15
(1,1109)	1:A:141:ILE:HG23	1:A:142:PHE:H	13	0.15
(1,1103)	1:A:54:ASP:HA	1:A:56:ASN:H	4	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1063)	1:A:101:ARG:H	1:A:142:PHE:HA	14	0.15
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB1	4	0.15
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB2	4	0.15
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB3	4	0.15
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB1	4	0.15
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB2	4	0.15
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB3	4	0.15
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	14	0.14
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG11	3	0.14
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG12	3	0.14
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG13	3	0.14
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG11	10	0.14
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG12	10	0.14
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG13	10	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG11	10	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG12	10	0.14
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG13	10	0.14
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	1	0.14
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	1	0.14
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	1	0.14
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	7	0.14
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG2	20	0.14
(1,799)	1:A:78:ALA:HA	1:A:79:LYS:HG3	20	0.14
(1,704)	1:A:52:LEU:H	1:A:52:LEU:HG	15	0.14
(1,694)	1:A:7:ILE:H	1:A:52:LEU:HG	4	0.14
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD2	9	0.14
(1,652)	1:A:117:LYS:HA	1:A:117:LYS:HD3	9	0.14
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	12	0.14
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	12	0.14
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	4	0.14
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	4	0.14
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD2	16	0.14
(1,611)	1:A:25:ILE:HG21	1:A:26:LYS:HD3	16	0.14
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD2	16	0.14
(1,611)	1:A:25:ILE:HG22	1:A:26:LYS:HD3	16	0.14
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD2	16	0.14
(1,611)	1:A:25:ILE:HG23	1:A:26:LYS:HD3	16	0.14
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	10	0.14
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	11	0.14
(1,533)	1:A:33:PRO:HB3	1:A:34:ALA:H	20	0.14
(1,499)	1:A:37:GLU:HG2	1:A:38:GLN:H	13	0.14
(1,493)	1:A:47:GLU:H	1:A:47:GLU:HG3	9	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,489)	1:A:32:GLY:H	1:A:45:PHE:HB3	20	0.14
(1,425)	1:A:53:ASP:HB2	1:A:54:ASP:H	15	0.14
(1,284)	1:A:73:THR:HB	1:A:74:ASN:H	9	0.14
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	12	0.14
(1,269)	1:A:132:LYS:H	1:A:132:LYS:HB3	14	0.14
(1,2121)	1:A:132:LYS:H	1:A:132:LYS:HG2	11	0.14
(1,2121)	1:A:132:LYS:H	1:A:132:LYS:HG3	11	0.14
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB2	16	0.14
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB3	16	0.14
(1,2063)	1:A:119:LYS:HG2	1:A:120:GLN:H	18	0.14
(1,2063)	1:A:119:LYS:HG3	1:A:120:GLN:H	18	0.14
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG2	10	0.14
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG3	10	0.14
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG2	10	0.14
(1,2032)	1:A:112:ASP:HB2	1:A:113:GLU:HG3	10	0.14
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG2	10	0.14
(1,2032)	1:A:112:ASP:HB3	1:A:113:GLU:HG3	10	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	12	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	12	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	12	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	12	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	12	0.14
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	12	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG11	14	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG12	14	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG13	14	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG21	14	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG22	14	0.14
(1,2008)	1:A:107:ASP:H	1:A:108:VAL:HG23	14	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG11	3	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG12	3	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG13	3	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG21	3	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG22	3	0.14
(1,1942)	1:A:96:LYS:HG2	1:A:147:VAL:HG23	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG11	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG12	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG13	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG21	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG22	3	0.14
(1,1942)	1:A:96:LYS:HG3	1:A:147:VAL:HG23	3	0.14
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	15	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	15	0.14
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	9	0.14
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	9	0.14
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	9	0.14
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	9	0.14
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD21	17	0.14
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD22	17	0.14
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD21	17	0.14
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD22	17	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG11	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG12	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG13	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG21	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG22	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG23	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG11	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG12	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG13	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG21	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG22	7	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG23	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG11	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG12	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG13	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG21	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG22	7	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG23	7	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG11	16	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG12	16	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG13	16	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG21	16	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG22	16	0.14
(1,1501)	1:A:15:ALA:HB1	1:A:29:VAL:HG23	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG11	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG12	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG13	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG21	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG22	16	0.14
(1,1501)	1:A:15:ALA:HB2	1:A:29:VAL:HG23	16	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG11	16	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG12	16	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG13	16	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG21	16	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG22	16	0.14
(1,1501)	1:A:15:ALA:HB3	1:A:29:VAL:HG23	16	0.14
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	18	0.14
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	18	0.14
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	18	0.14
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	18	0.14
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	1	0.14
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	1	0.14
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	19	0.14
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	19	0.14
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	7	0.14
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	7	0.14
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD2	10	0.14
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD3	10	0.14
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	18	0.14
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	18	0.14
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	18	0.14
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	18	0.14
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	18	0.14
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	18	0.14
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	3	0.14
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	3	0.14
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	3	0.14
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	9	0.14
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	9	0.14
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	9	0.14
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB1	5	0.14
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB2	5	0.14
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB3	5	0.14
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB1	5	0.14
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB2	5	0.14
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB3	5	0.14
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB1	5	0.14
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB2	5	0.14
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB3	5	0.14
(1,1109)	1:A:141:ILE:HG21	1:A:142:PHE:H	19	0.14
(1,1109)	1:A:141:ILE:HG22	1:A:142:PHE:H	19	0.14
(1,1109)	1:A:141:ILE:HG23	1:A:142:PHE:H	19	0.14
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	16	0.14
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	16	0.14
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	16	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,969)	1:A:147:VAL:H	1:A:147:VAL:HG21	5	0.13
(1,969)	1:A:147:VAL:H	1:A:147:VAL:HG22	5	0.13
(1,969)	1:A:147:VAL:H	1:A:147:VAL:HG23	5	0.13
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	18	0.13
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	18	0.13
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	18	0.13
(1,802)	1:A:79:LYS:H	1:A:79:LYS:HG2	5	0.13
(1,802)	1:A:79:LYS:H	1:A:79:LYS:HG3	5	0.13
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	9	0.13
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	16	0.13
(1,694)	1:A:7:ILE:H	1:A:52:LEU:HG	15	0.13
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD1	17	0.13
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD2	17	0.13
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD1	17	0.13
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD2	17	0.13
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	8	0.13
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	8	0.13
(1,640)	1:A:9:LYS:HD2	1:A:10:ASP:H	20	0.13
(1,640)	1:A:9:LYS:HD3	1:A:10:ASP:H	20	0.13
(1,547)	1:A:101:ARG:HB2	1:A:102:ASP:H	7	0.13
(1,494)	1:A:47:GLU:HG3	1:A:48:GLU:H	13	0.13
(1,489)	1:A:32:GLY:H	1:A:45:PHE:HB3	18	0.13
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	7	0.13
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	15	0.13
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	17	0.13
(1,439)	1:A:112:ASP:HB2	1:A:113:GLU:H	2	0.13
(1,439)	1:A:112:ASP:HB3	1:A:113:GLU:H	2	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD1	9	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD2	9	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD1	11	0.13
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD2	11	0.13
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE2	13	0.13
(1,415)	1:A:78:ALA:HA	1:A:79:LYS:HE3	13	0.13
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	14	0.13
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	16	0.13
(1,284)	1:A:73:THR:HB	1:A:74:ASN:H	8	0.13
(1,220)	1:A:14:VAL:H	1:A:30:TYR:HE1	20	0.13
(1,220)	1:A:14:VAL:H	1:A:30:TYR:HE2	20	0.13
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG2	4	0.13
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG3	4	0.13
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	5	0.13
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	5	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	5	0.13
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	5	0.13
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	5	0.13
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	5	0.13
(1,189)	1:A:70:TYR:H	1:A:70:TYR:HE1	9	0.13
(1,189)	1:A:70:TYR:H	1:A:70:TYR:HE2	9	0.13
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	10	0.13
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	10	0.13
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	20	0.13
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	20	0.13
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	6	0.13
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	6	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	6	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	6	0.13
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	12	0.13
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	12	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	12	0.13
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	12	0.13
(1,1728)	1:A:53:ASP:HB2	1:A:54:ASP:H	15	0.13
(1,1728)	1:A:53:ASP:HB3	1:A:54:ASP:H	15	0.13
(1,1728)	1:A:53:ASP:HB2	1:A:54:ASP:H	16	0.13
(1,1728)	1:A:53:ASP:HB3	1:A:54:ASP:H	16	0.13
(1,1666)	1:A:41:ARG:HB2	1:A:42:GLY:H	10	0.13
(1,1666)	1:A:41:ARG:HB3	1:A:42:GLY:H	10	0.13
(1,152)	1:A:90:ASN:HA	1:A:91:GLU:H	9	0.13
(1,15)	1:A:147:VAL:HG21	1:A:148:LYS:H	10	0.13
(1,15)	1:A:147:VAL:HG22	1:A:148:LYS:H	10	0.13
(1,15)	1:A:147:VAL:HG23	1:A:148:LYS:H	10	0.13
(1,1476)	1:A:13:LYS:H	1:A:13:LYS:HB2	5	0.13
(1,1476)	1:A:13:LYS:H	1:A:13:LYS:HB3	5	0.13
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	11	0.13
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	11	0.13
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	11	0.13
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	11	0.13
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	8	0.13
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	8	0.13
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	10	0.13
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	10	0.13
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	11	0.13
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	11	0.13
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD2	2	0.13
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD3	2	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	5	0.13
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	5	0.13
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	9	0.13
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	9	0.13
(1,1368)	1:A:129:TYR:HD1	1:A:130:ASN:H	20	0.13
(1,1368)	1:A:129:TYR:HD2	1:A:130:ASN:H	20	0.13
(1,1280)	1:A:57:ILE:HD11	1:A:58:SER:H	5	0.13
(1,1280)	1:A:57:ILE:HD12	1:A:58:SER:H	5	0.13
(1,1280)	1:A:57:ILE:HD13	1:A:58:SER:H	5	0.13
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE2	17	0.13
(1,1233)	1:A:83:MET:HE1	1:A:96:LYS:HE3	17	0.13
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE2	17	0.13
(1,1233)	1:A:83:MET:HE2	1:A:96:LYS:HE3	17	0.13
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE2	17	0.13
(1,1233)	1:A:83:MET:HE3	1:A:96:LYS:HE3	17	0.13
(1,1219)	1:A:127:ASP:HA	1:A:128:ASP:H	11	0.13
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	17	0.13
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	17	0.13
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	17	0.13
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	17	0.13
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	17	0.13
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	17	0.13
(1,1167)	1:A:97:MET:HE1	1:A:123:LEU:HG	19	0.13
(1,1167)	1:A:97:MET:HE2	1:A:123:LEU:HG	19	0.13
(1,1167)	1:A:97:MET:HE3	1:A:123:LEU:HG	19	0.13
(1,1123)	1:A:127:ASP:HA	1:A:128:ASP:HA	9	0.13
(1,1103)	1:A:54:ASP:HA	1:A:56:ASN:H	8	0.13
(1,1095)	1:A:7:ILE:HD11	1:A:50:GLU:HA	16	0.13
(1,1095)	1:A:7:ILE:HD12	1:A:50:GLU:HA	16	0.13
(1,1095)	1:A:7:ILE:HD13	1:A:50:GLU:HA	16	0.13
(1,1092)	1:A:23:ALA:H	1:A:24:ASP:HA	16	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	15	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	15	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	15	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	17	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	17	0.13
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	17	0.13
(1,1040)	1:A:3:ALA:HB1	1:A:4:LYS:H	6	0.13
(1,1040)	1:A:3:ALA:HB2	1:A:4:LYS:H	6	0.13
(1,1040)	1:A:3:ALA:HB3	1:A:4:LYS:H	6	0.13
(1,979)	1:A:29:VAL:HG21	1:A:30:TYR:H	9	0.12
(1,979)	1:A:29:VAL:HG22	1:A:30:TYR:H	9	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,979)	1:A:29:VAL:HG23	1:A:30:TYR:H	9	0.12
(1,979)	1:A:29:VAL:HG21	1:A:30:TYR:H	12	0.12
(1,979)	1:A:29:VAL:HG22	1:A:30:TYR:H	12	0.12
(1,979)	1:A:29:VAL:HG23	1:A:30:TYR:H	12	0.12
(1,957)	1:A:55:GLN:HG3	1:A:119:LYS:HA	15	0.12
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG11	13	0.12
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG12	13	0.12
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG13	13	0.12
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG11	15	0.12
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG12	15	0.12
(1,931)	1:A:96:LYS:HE2	1:A:147:VAL:HG13	15	0.12
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG11	15	0.12
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG12	15	0.12
(1,931)	1:A:96:LYS:HE3	1:A:147:VAL:HG13	15	0.12
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	6	0.12
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	6	0.12
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	6	0.12
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	7	0.12
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	7	0.12
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	7	0.12
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	13	0.12
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	13	0.12
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	13	0.12
(1,83)	1:A:114:GLN:H	1:A:114:GLN:HG2	7	0.12
(1,83)	1:A:114:GLN:H	1:A:114:GLN:HG3	7	0.12
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	2	0.12
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	3	0.12
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	7	0.12
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	8	0.12
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	14	0.12
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG2	19	0.12
(1,756)	1:A:8:PRO:HA	1:A:9:LYS:HG3	19	0.12
(1,718)	1:A:65:ILE:HA	1:A:67:ARG:H	18	0.12
(1,71)	1:A:7:ILE:H	1:A:52:LEU:HD21	7	0.12
(1,71)	1:A:7:ILE:H	1:A:52:LEU:HD22	7	0.12
(1,71)	1:A:7:ILE:H	1:A:52:LEU:HD23	7	0.12
(1,696)	1:A:111:LEU:H	1:A:111:LEU:HG	2	0.12
(1,694)	1:A:7:ILE:H	1:A:52:LEU:HG	10	0.12
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	19	0.12
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	19	0.12
(1,634)	1:A:131:GLU:HB2	1:A:133:THR:H	7	0.12
(1,634)	1:A:131:GLU:HB3	1:A:133:THR:H	7	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,584)	1:A:91:GLU:HA	1:A:92:THR:HB	3	0.12
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	14	0.12
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	14	0.12
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	18	0.12
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	18	0.12
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	11	0.12
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	13	0.12
(1,548)	1:A:52:LEU:HD21	1:A:88:VAL:HB	4	0.12
(1,548)	1:A:52:LEU:HD22	1:A:88:VAL:HB	4	0.12
(1,548)	1:A:52:LEU:HD23	1:A:88:VAL:HB	4	0.12
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	10	0.12
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	12	0.12
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	14	0.12
(1,459)	1:A:24:ASP:H	1:A:24:ASP:HB3	13	0.12
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD1	6	0.12
(1,435)	1:A:140:LYS:HE2	1:A:142:PHE:HD2	6	0.12
(1,434)	1:A:100:ILE:HG21	1:A:140:LYS:HE3	14	0.12
(1,434)	1:A:100:ILE:HG22	1:A:140:LYS:HE3	14	0.12
(1,434)	1:A:100:ILE:HG23	1:A:140:LYS:HE3	14	0.12
(1,433)	1:A:140:LYS:HE3	1:A:142:PHE:HD1	8	0.12
(1,433)	1:A:140:LYS:HE3	1:A:142:PHE:HD2	8	0.12
(1,349)	1:A:69:ASN:H	1:A:73:THR:HG21	12	0.12
(1,349)	1:A:69:ASN:H	1:A:73:THR:HG22	12	0.12
(1,349)	1:A:69:ASN:H	1:A:73:THR:HG23	12	0.12
(1,340)	1:A:112:ASP:HB2	1:A:114:GLN:HE22	6	0.12
(1,340)	1:A:112:ASP:HB3	1:A:114:GLN:HE22	6	0.12
(1,297)	1:A:130:ASN:HB2	1:A:135:VAL:H	5	0.12
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG3	8	0.12
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG3	8	0.12
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG3	8	0.12
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG3	8	0.12
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG3	8	0.12
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG2	8	0.12
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG3	8	0.12
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG2	14	0.12
(1,2060)	1:A:119:LYS:H	1:A:146:GLU:HG3	14	0.12
(1,2038)	1:A:114:GLN:H	1:A:114:GLN:HG2	7	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2038)	1:A:114:GLN:H	1:A:114:GLN:HG3	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	5	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD11	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD12	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD13	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD21	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD22	7	0.12
(1,2030)	1:A:111:LEU:HA	1:A:111:LEU:HD23	7	0.12
(1,1993)	1:A:103:VAL:HG11	1:A:140:LYS:HA	14	0.12
(1,1993)	1:A:103:VAL:HG12	1:A:140:LYS:HA	14	0.12
(1,1993)	1:A:103:VAL:HG13	1:A:140:LYS:HA	14	0.12
(1,1993)	1:A:103:VAL:HG21	1:A:140:LYS:HA	14	0.12
(1,1993)	1:A:103:VAL:HG22	1:A:140:LYS:HA	14	0.12
(1,1993)	1:A:103:VAL:HG23	1:A:140:LYS:HA	14	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	10	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	10	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	10	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	10	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	10	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	10	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	14	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	14	0.12
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	14	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	14	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	14	0.12
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	14	0.12
(1,192)	1:A:128:ASP:H	1:A:129:TYR:H	4	0.12
(1,192)	1:A:128:ASP:H	1:A:129:TYR:H	10	0.12
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	5	0.12
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	5	0.12
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	13	0.12
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	13	0.12
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	13	0.12
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	13	0.12
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB2	7	0.12
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB3	7	0.12
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB2	7	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB3	7	0.12
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB2	7	0.12
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB3	7	0.12
(1,1795)	1:A:71:GLN:H	1:A:71:GLN:HE21	12	0.12
(1,1795)	1:A:71:GLN:H	1:A:71:GLN:HE22	12	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD21	1	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD22	1	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD21	1	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD22	1	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD21	15	0.12
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD22	15	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD21	15	0.12
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD22	15	0.12
(1,1724)	1:A:52:LEU:HD11	1:A:88:VAL:HB	7	0.12
(1,1724)	1:A:52:LEU:HD12	1:A:88:VAL:HB	7	0.12
(1,1724)	1:A:52:LEU:HD13	1:A:88:VAL:HB	7	0.12
(1,1724)	1:A:52:LEU:HD21	1:A:88:VAL:HB	7	0.12
(1,1724)	1:A:52:LEU:HD22	1:A:88:VAL:HB	7	0.12
(1,1724)	1:A:52:LEU:HD23	1:A:88:VAL:HB	7	0.12
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD21	12	0.12
(1,1701)	1:A:49:ASN:HA	1:A:49:ASN:HD22	12	0.12
(1,1555)	1:A:19:GLU:HG2	1:A:27:GLU:H	17	0.12
(1,1555)	1:A:19:GLU:HG3	1:A:27:GLU:H	17	0.12
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	10	0.12
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	10	0.12
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	10	0.12
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	10	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	3	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	3	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	5	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	5	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	7	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	7	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG2	11	0.12
(1,1467)	1:A:11:LYS:HA	1:A:11:LYS:HG3	11	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD11	15	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD12	15	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD13	15	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD21	15	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD22	15	0.12
(1,1417)	1:A:5:PRO:HG2	1:A:52:LEU:HD23	15	0.12
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD11	15	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD12	15	0.12
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD13	15	0.12
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD21	15	0.12
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD22	15	0.12
(1,1417)	1:A:5:PRO:HG3	1:A:52:LEU:HD23	15	0.12
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	14	0.12
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	14	0.12
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB2	15	0.12
(1,1404)	1:A:4:LYS:H	1:A:4:LYS:HB3	15	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	3	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	3	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	3	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	3	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	3	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	3	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB1	13	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB2	13	0.12
(1,1401)	1:A:2:GLN:HB2	1:A:3:ALA:HB3	13	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB1	13	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB2	13	0.12
(1,1401)	1:A:2:GLN:HB3	1:A:3:ALA:HB3	13	0.12
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	13	0.12
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	13	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB1	9	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB2	9	0.12
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB3	9	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB1	9	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB2	9	0.12
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB3	9	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB1	9	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB2	9	0.12
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB3	9	0.12
(1,130)	1:A:114:GLN:HG2	1:A:115:LYS:H	13	0.12
(1,130)	1:A:114:GLN:HG3	1:A:115:LYS:H	13	0.12
(1,125)	1:A:119:LYS:H	1:A:120:GLN:H	11	0.12
(1,125)	1:A:119:LYS:H	1:A:120:GLN:H	13	0.12
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	7	0.12
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	7	0.12
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE2	17	0.12
(1,1204)	1:A:114:GLN:HA	1:A:115:LYS:HE3	17	0.12
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	4	0.12
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	4	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	4	0.12
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	6	0.12
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	6	0.12
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	6	0.12
(1,1186)	1:A:18:ILE:HG21	1:A:19:GLU:H	20	0.12
(1,1186)	1:A:18:ILE:HG22	1:A:19:GLU:H	20	0.12
(1,1186)	1:A:18:ILE:HG23	1:A:19:GLU:H	20	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB1	1	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB2	1	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB3	1	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB1	1	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB2	1	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB3	1	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB1	1	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB2	1	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB3	1	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB1	12	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB2	12	0.12
(1,1184)	1:A:7:ILE:HG21	1:A:15:ALA:HB3	12	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB1	12	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB2	12	0.12
(1,1184)	1:A:7:ILE:HG22	1:A:15:ALA:HB3	12	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB1	12	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB2	12	0.12
(1,1184)	1:A:7:ILE:HG23	1:A:15:ALA:HB3	12	0.12
(1,1069)	1:A:2:GLN:HA	1:A:3:ALA:H	4	0.12
(1,1063)	1:A:101:ARG:H	1:A:142:PHE:HA	3	0.12
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	2	0.12
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	2	0.12
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	2	0.12
(1,1053)	1:A:88:VAL:HG11	1:A:91:GLU:H	13	0.12
(1,1053)	1:A:88:VAL:HG12	1:A:91:GLU:H	13	0.12
(1,1053)	1:A:88:VAL:HG13	1:A:91:GLU:H	13	0.12
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB1	2	0.12
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB2	2	0.12
(1,1046)	1:A:76:LYS:HA	1:A:78:ALA:HB3	2	0.12
(1,1040)	1:A:3:ALA:HB1	1:A:4:LYS:H	2	0.12
(1,1040)	1:A:3:ALA:HB2	1:A:4:LYS:H	2	0.12
(1,1040)	1:A:3:ALA:HB3	1:A:4:LYS:H	2	0.12
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG21	14	0.11
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG22	14	0.11
(1,970)	1:A:96:LYS:HE2	1:A:147:VAL:HG23	14	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG21	14	0.11
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG22	14	0.11
(1,970)	1:A:96:LYS:HE3	1:A:147:VAL:HG23	14	0.11
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	16	0.11
(1,943)	1:A:108:VAL:H	1:A:109:GLU:HA	20	0.11
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG11	10	0.11
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG12	10	0.11
(1,932)	1:A:96:LYS:HB3	1:A:147:VAL:HG13	10	0.11
(1,915)	1:A:63:THR:HG21	1:A:73:THR:HA	5	0.11
(1,915)	1:A:63:THR:HG22	1:A:73:THR:HA	5	0.11
(1,915)	1:A:63:THR:HG23	1:A:73:THR:HA	5	0.11
(1,855)	1:A:70:TYR:HB2	1:A:73:THR:HG21	15	0.11
(1,855)	1:A:70:TYR:HB2	1:A:73:THR:HG22	15	0.11
(1,855)	1:A:70:TYR:HB2	1:A:73:THR:HG23	15	0.11
(1,855)	1:A:70:TYR:HB3	1:A:73:THR:HG21	15	0.11
(1,855)	1:A:70:TYR:HB3	1:A:73:THR:HG22	15	0.11
(1,855)	1:A:70:TYR:HB3	1:A:73:THR:HG23	15	0.11
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	3	0.11
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	3	0.11
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	3	0.11
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	12	0.11
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	12	0.11
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	12	0.11
(1,836)	1:A:14:VAL:HG11	1:A:29:VAL:H	17	0.11
(1,836)	1:A:14:VAL:HG12	1:A:29:VAL:H	17	0.11
(1,836)	1:A:14:VAL:HG13	1:A:29:VAL:H	17	0.11
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	2	0.11
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	3	0.11
(1,809)	1:A:76:LYS:HG2	1:A:77:ALA:H	6	0.11
(1,794)	1:A:133:THR:HA	1:A:133:THR:HG21	5	0.11
(1,794)	1:A:133:THR:HA	1:A:133:THR:HG22	5	0.11
(1,794)	1:A:133:THR:HA	1:A:133:THR:HG23	5	0.11
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	5	0.11
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	12	0.11
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	17	0.11
(1,784)	1:A:121:LEU:H	1:A:143:VAL:HA	19	0.11
(1,704)	1:A:52:LEU:H	1:A:52:LEU:HG	4	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG21	15	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG22	15	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG23	15	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG21	15	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG22	15	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG23	15	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG21	17	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG22	17	0.11
(1,653)	1:A:117:LYS:HD2	1:A:145:THR:HG23	17	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG21	17	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG22	17	0.11
(1,653)	1:A:117:LYS:HD3	1:A:145:THR:HG23	17	0.11
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD1	7	0.11
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD2	7	0.11
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD1	7	0.11
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD2	7	0.11
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD1	15	0.11
(1,646)	1:A:140:LYS:HD2	1:A:142:PHE:HD2	15	0.11
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD1	15	0.11
(1,646)	1:A:140:LYS:HD3	1:A:142:PHE:HD2	15	0.11
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD2	9	0.11
(1,643)	1:A:148:LYS:H	1:A:148:LYS:HD3	9	0.11
(1,641)	1:A:13:LYS:HD2	1:A:14:VAL:H	17	0.11
(1,641)	1:A:13:LYS:HD3	1:A:14:VAL:H	17	0.11
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD2	4	0.11
(1,636)	1:A:115:LYS:HA	1:A:115:LYS:HD3	4	0.11
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB2	20	0.11
(1,590)	1:A:115:LYS:H	1:A:115:LYS:HB3	20	0.11
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	1	0.11
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	1	0.11
(1,583)	1:A:70:TYR:HE1	1:A:73:THR:HB	19	0.11
(1,583)	1:A:70:TYR:HE2	1:A:73:THR:HB	19	0.11
(1,581)	1:A:14:VAL:H	1:A:14:VAL:HB	17	0.11
(1,568)	1:A:114:GLN:H	1:A:114:GLN:HG2	3	0.11
(1,47)	1:A:107:ASP:H	1:A:108:VAL:H	4	0.11
(1,454)	1:A:22:ASP:HB2	1:A:78:ALA:HA	10	0.11
(1,392)	1:A:133:THR:H	1:A:134:GLY:HA3	5	0.11
(1,347)	1:A:69:ASN:H	1:A:69:ASN:HB2	8	0.11
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	3	0.11
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	4	0.11
(1,345)	1:A:69:ASN:H	1:A:70:TYR:H	17	0.11
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG11	1:A:148:LYS:HG3	11	0.11
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG12	1:A:148:LYS:HG3	11	0.11
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG13	1:A:148:LYS:HG3	11	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG21	1:A:148:LYS:HG3	11	0.11
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG22	1:A:148:LYS:HG3	11	0.11
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG2	11	0.11
(1,2170)	1:A:147:VAL:HG23	1:A:148:LYS:HG3	11	0.11
(1,2114)	1:A:130:ASN:HB2	1:A:135:VAL:HB	15	0.11
(1,2114)	1:A:130:ASN:HB3	1:A:135:VAL:HB	15	0.11
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB2	5	0.11
(1,2094)	1:A:125:THR:H	1:A:139:ARG:HB3	5	0.11
(1,2091)	1:A:124:ILE:HG21	1:A:141:ILE:HG12	3	0.11
(1,2091)	1:A:124:ILE:HG21	1:A:141:ILE:HG13	3	0.11
(1,2091)	1:A:124:ILE:HG22	1:A:141:ILE:HG12	3	0.11
(1,2091)	1:A:124:ILE:HG22	1:A:141:ILE:HG13	3	0.11
(1,2091)	1:A:124:ILE:HG23	1:A:141:ILE:HG12	3	0.11
(1,2091)	1:A:124:ILE:HG23	1:A:141:ILE:HG13	3	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG2	2	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG3	2	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG2	8	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG3	8	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG2	19	0.11
(1,2044)	1:A:115:LYS:H	1:A:115:LYS:HG3	19	0.11
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD2	19	0.11
(1,1998)	1:A:104:LYS:HA	1:A:104:LYS:HD3	19	0.11
(1,1962)	1:A:99:SER:HB2	1:A:100:ILE:H	15	0.11
(1,1962)	1:A:99:SER:HB3	1:A:100:ILE:H	15	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG11	1	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG12	1	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG13	1	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG21	1	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG22	1	0.11
(1,1944)	1:A:96:LYS:HD2	1:A:147:VAL:HG23	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG11	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG12	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG13	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG21	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG22	1	0.11
(1,1944)	1:A:96:LYS:HD3	1:A:147:VAL:HG23	1	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	3	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	3	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	3	0.11
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	3	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	3	0.11
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	3	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG21	20	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG22	20	0.11
(1,1940)	1:A:96:LYS:HB2	1:A:98:THR:HG23	20	0.11
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG21	20	0.11
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG22	20	0.11
(1,1940)	1:A:96:LYS:HB3	1:A:98:THR:HG23	20	0.11
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	2	0.11
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	2	0.11
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	6	0.11
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	6	0.11
(1,1850)	1:A:81:GLY:HA2	1:A:97:MET:H	19	0.11
(1,1850)	1:A:81:GLY:HA3	1:A:97:MET:H	19	0.11
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	3	0.11
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	3	0.11
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	3	0.11
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	3	0.11
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB2	7	0.11
(1,1848)	1:A:81:GLY:HA2	1:A:96:LYS:HB3	7	0.11
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB2	7	0.11
(1,1848)	1:A:81:GLY:HA3	1:A:96:LYS:HB3	7	0.11
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB2	9	0.11
(1,1832)	1:A:78:ALA:HB1	1:A:97:MET:HB3	9	0.11
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB2	9	0.11
(1,1832)	1:A:78:ALA:HB2	1:A:97:MET:HB3	9	0.11
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB2	9	0.11
(1,1832)	1:A:78:ALA:HB3	1:A:97:MET:HB3	9	0.11
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD21	9	0.11
(1,1787)	1:A:68:PRO:HG2	1:A:69:ASN:HD22	9	0.11
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD21	9	0.11
(1,1787)	1:A:68:PRO:HG3	1:A:69:ASN:HD22	9	0.11
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD21	13	0.11
(1,1784)	1:A:68:PRO:HB2	1:A:69:ASN:HD22	13	0.11
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD21	13	0.11
(1,1784)	1:A:68:PRO:HB3	1:A:69:ASN:HD22	13	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG21	6	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG22	6	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG23	6	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG21	6	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG22	6	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG23	6	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG21	15	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG22	15	0.11
(1,1781)	1:A:67:ARG:HB2	1:A:73:THR:HG23	15	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG21	15	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG22	15	0.11
(1,1781)	1:A:67:ARG:HB3	1:A:73:THR:HG23	15	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB2	6	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB3	6	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB2	6	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB3	6	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB2	16	0.11
(1,1686)	1:A:45:PHE:HB2	1:A:50:GLU:HB3	16	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB2	16	0.11
(1,1686)	1:A:45:PHE:HB3	1:A:50:GLU:HB3	16	0.11
(1,165)	1:A:41:ARG:H	1:A:41:ARG:HD3	11	0.11
(1,158)	1:A:88:VAL:H	1:A:91:GLU:H	1	0.11
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	1	0.11
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	1	0.11
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	1	0.11
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	1	0.11
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG2	20	0.11
(1,1472)	1:A:11:LYS:HD2	1:A:33:PRO:HG3	20	0.11
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG2	20	0.11
(1,1472)	1:A:11:LYS:HD3	1:A:33:PRO:HG3	20	0.11
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD2	10	0.11
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD3	10	0.11
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD2	10	0.11
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD3	10	0.11
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD2	20	0.11
(1,1451)	1:A:8:PRO:HG2	1:A:13:LYS:HD3	20	0.11
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD2	20	0.11
(1,1451)	1:A:8:PRO:HG3	1:A:13:LYS:HD3	20	0.11
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	2	0.11
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	2	0.11
(1,1416)	1:A:5:PRO:HG2	1:A:6:GLN:H	13	0.11
(1,1416)	1:A:5:PRO:HG3	1:A:6:GLN:H	13	0.11
(1,1408)	1:A:4:LYS:HB2	1:A:6:GLN:HE21	15	0.11
(1,1408)	1:A:4:LYS:HB2	1:A:6:GLN:HE22	15	0.11
(1,1408)	1:A:4:LYS:HB3	1:A:6:GLN:HE21	15	0.11
(1,1408)	1:A:4:LYS:HB3	1:A:6:GLN:HE22	15	0.11
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD2	16	0.11
(1,1403)	1:A:3:ALA:HA	1:A:5:PRO:HD3	16	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	2	0.11
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	2	0.11
(1,1397)	1:A:129:TYR:HE1	1:A:131:GLU:H	11	0.11
(1,1397)	1:A:129:TYR:HE2	1:A:131:GLU:H	11	0.11
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB1	1	0.11
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB2	1	0.11
(1,1345)	1:A:7:ILE:HD11	1:A:15:ALA:HB3	1	0.11
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB1	1	0.11
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB2	1	0.11
(1,1345)	1:A:7:ILE:HD12	1:A:15:ALA:HB3	1	0.11
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB1	1	0.11
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB2	1	0.11
(1,1345)	1:A:7:ILE:HD13	1:A:15:ALA:HB3	1	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD11	10	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD12	10	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD13	10	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD11	14	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD12	14	0.11
(1,1288)	1:A:80:LYS:H	1:A:100:ILE:HD13	14	0.11
(1,126)	1:A:82:SER:HA	1:A:83:MET:H	7	0.11
(1,125)	1:A:119:LYS:H	1:A:120:GLN:H	3	0.11
(1,113)	1:A:51:SER:H	1:A:54:ASP:H	8	0.11
(1,1103)	1:A:54:ASP:HA	1:A:56:ASN:H	15	0.11
(1,1040)	1:A:3:ALA:HB1	1:A:4:LYS:H	16	0.11
(1,1040)	1:A:3:ALA:HB2	1:A:4:LYS:H	16	0.11
(1,1040)	1:A:3:ALA:HB3	1:A:4:LYS:H	16	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB1	8	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB2	8	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB3	8	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB1	8	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB2	8	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB3	8	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB1	11	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB2	11	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB3	11	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB1	11	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB2	11	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB3	11	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB1	18	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB2	18	0.11
(1,1038)	1:A:76:LYS:HD2	1:A:77:ALA:HB3	18	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB1	18	0.11

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<b>Key</b>	<b>Atom-1</b>	<b>Atom-2</b>	<b>Model ID</b>	<b>Violation (Å)</b>
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB2	18	0.11
(1,1038)	1:A:76:LYS:HD3	1:A:77:ALA:HB3	18	0.11
(1,1007)	1:A:148:LYS:HA	1:A:148:LYS:HE2	14	0.11
(1,1007)	1:A:148:LYS:HA	1:A:148:LYS:HE3	14	0.11

## 10 Dihedral-angle violation analysis

No dihedral-angle restraints found