Full wwPDB NMR Structure Validation Report (i)

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PDB ID	:	6QWR
BMRB ID	:	34365
Title	:	Solid-state NMR structure of outer membrane protein AlkL in DMPC lipid bilayers
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Deposited on	:	2019-03-06

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

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

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

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

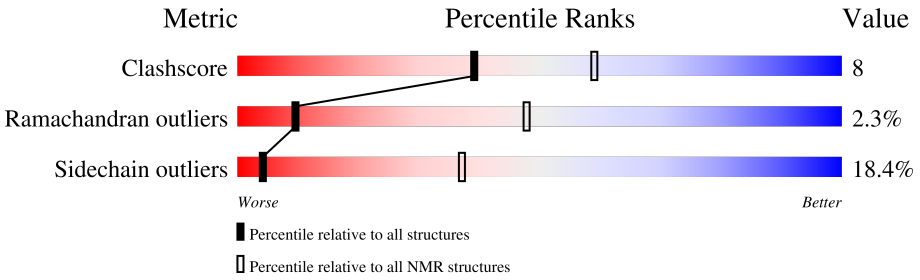
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
BMRB Restraints Analysis	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal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

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
SOLID-STATE NMR

The overall completeness of chemical shifts assignment is 66%.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	219	58% 20% 19% .

2 Ensemble composition and analysis

This entry contains 20 models. Model 1 is the overall representative, medoid model (most similar to other models).

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

Well-defined (core) protein residues			
Well-defined core	**Residue range (total)**	**Backbone RMSD (Å)**	**Medoid model**
1	A:14-A:33, A:45-A:108, A:116-A:179, A:184-A:205 (170)	0.95	1

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

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

The models can be grouped into 3 clusters. No single-model clusters were found.

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

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 3202 atoms, of which 1574 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Outer membrane protein AlkL.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	211	3202	1056	1574	258	312	2	0

There are 16 discrepancies between the modelled and reference sequences:

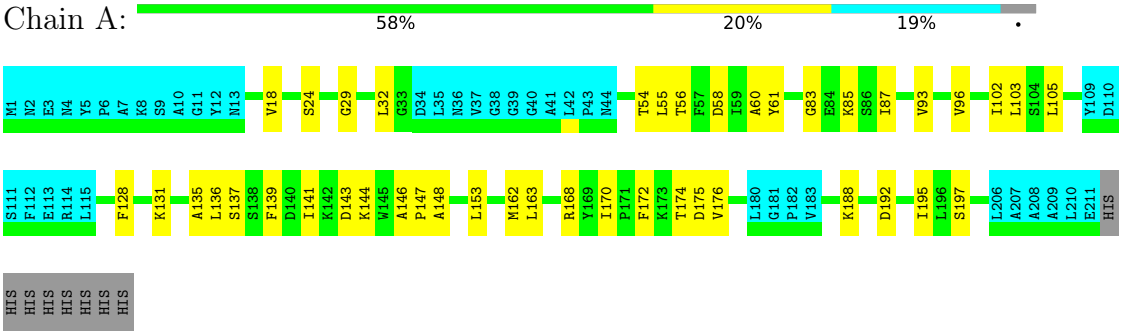
Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP Q00595
A	205	LYS	-	expression tag	UNP Q00595
A	206	LEU	-	expression tag	UNP Q00595
A	207	ALA	-	expression tag	UNP Q00595
A	208	ALA	-	expression tag	UNP Q00595
A	209	ALA	-	expression tag	UNP Q00595
A	210	LEU	-	expression tag	UNP Q00595
A	211	GLU	-	expression tag	UNP Q00595
A	212	HIS	-	expression tag	UNP Q00595
A	213	HIS	-	expression tag	UNP Q00595
A	214	HIS	-	expression tag	UNP Q00595
A	215	HIS	-	expression tag	UNP Q00595
A	216	HIS	-	expression tag	UNP Q00595
A	217	HIS	-	expression tag	UNP Q00595
A	218	HIS	-	expression tag	UNP Q00595
A	219	HIS	-	expression tag	UNP Q00595

4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

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

• Molecule 1: Outer membrane protein AlkL

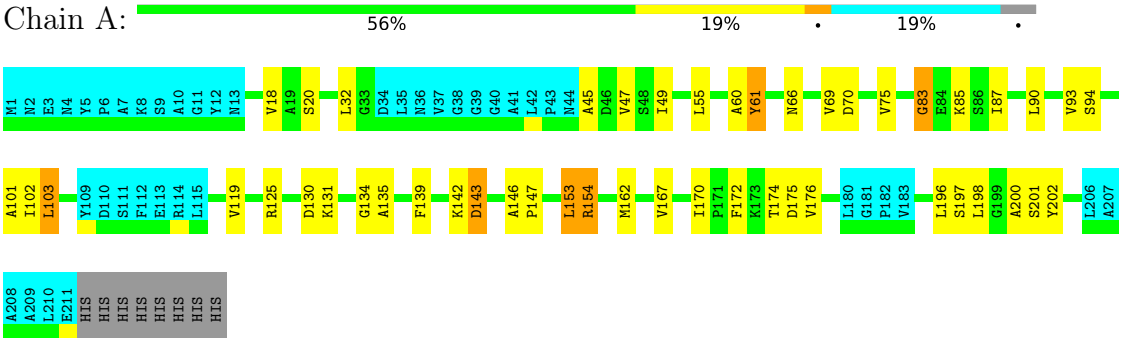


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1 (medoid)

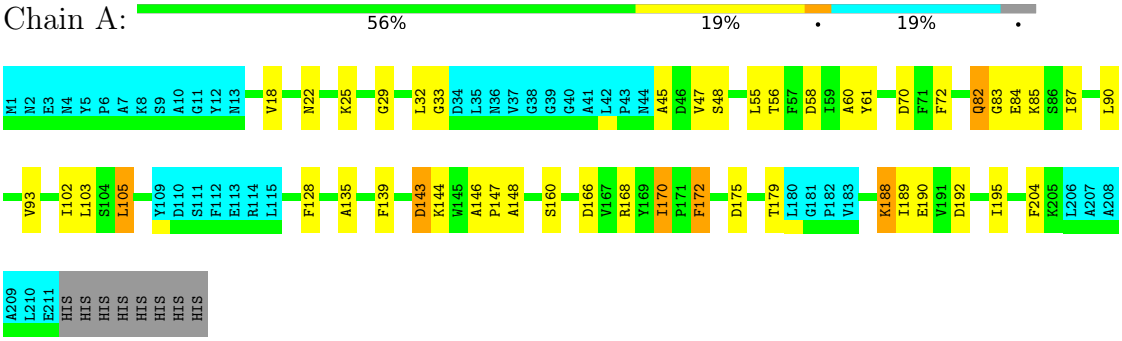
• Molecule 1: Outer membrane protein AlkL



4.2.2 Score per residue for model 2

• Molecule 1: Outer membrane protein AlkL

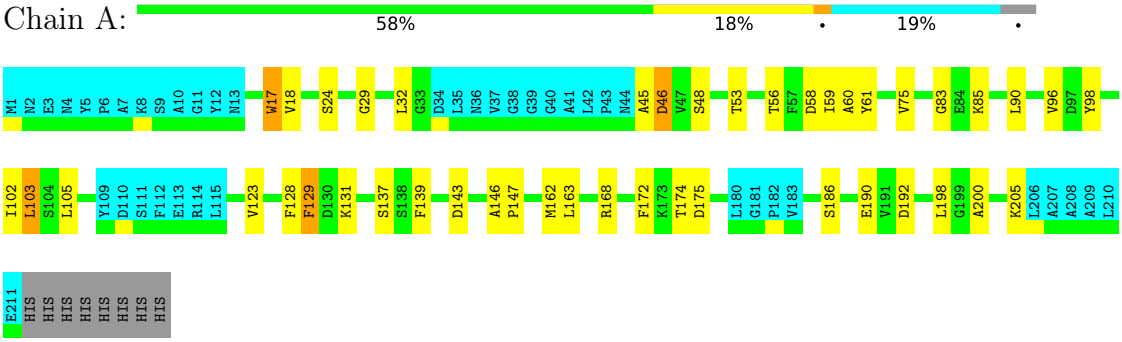
Chain A:



4.2.3 Score per residue for model 3

• Molecule 1: Outer membrane protein AlkL

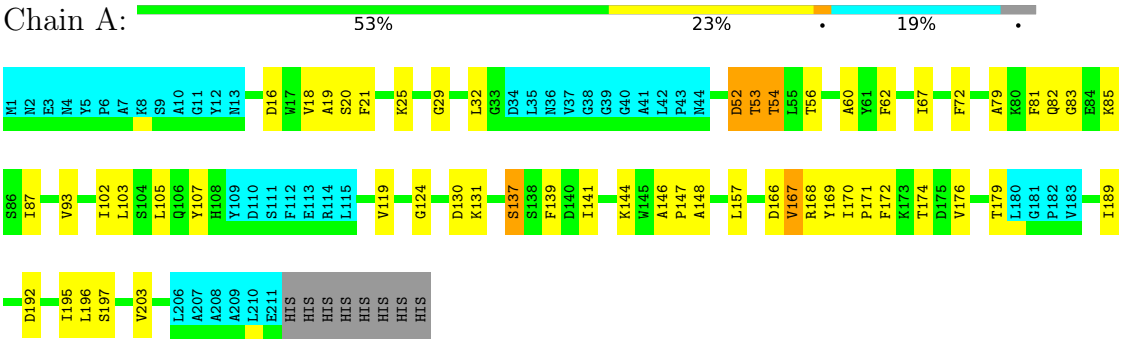
Chain A:



4.2.4 Score per residue for model 4

• Molecule 1: Outer membrane protein AlkL

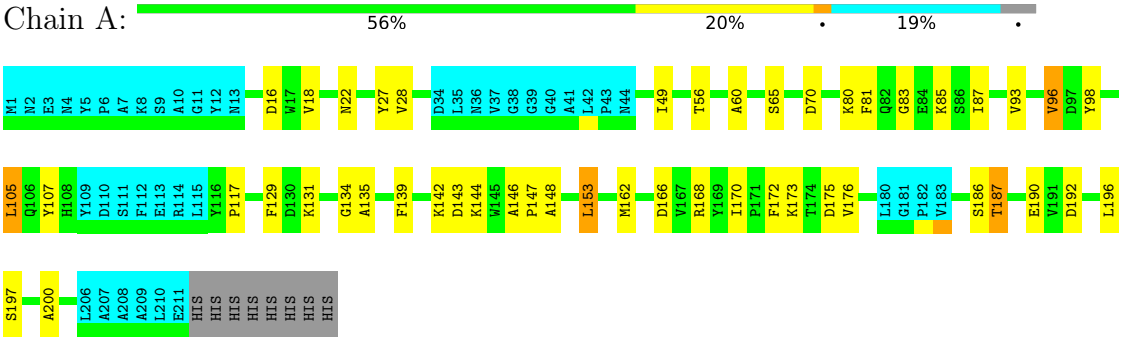
Chain A:



4.2.5 Score per residue for model 5

• Molecule 1: Outer membrane protein AlkL

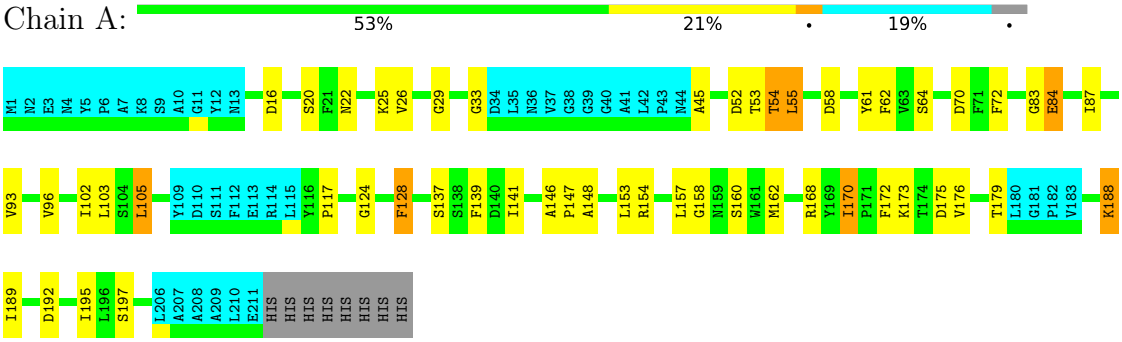
Chain A:



4.2.6 Score per residue for model 6

• Molecule 1: Outer membrane protein AlkL

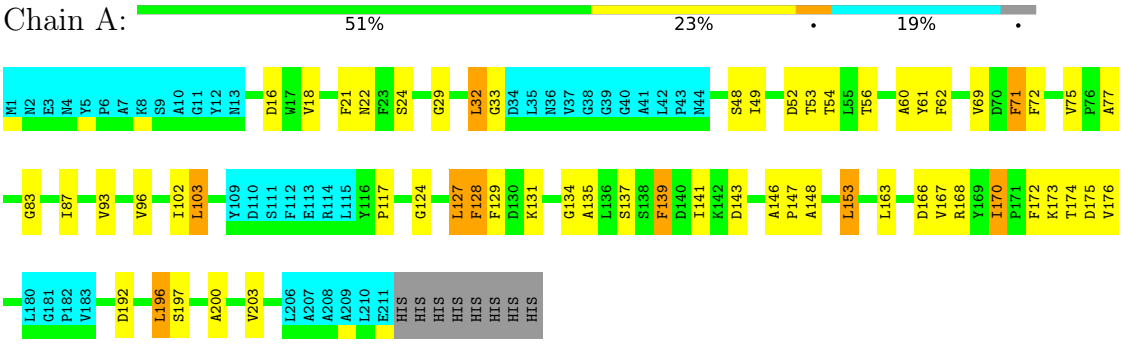
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: Outer membrane protein AlkL

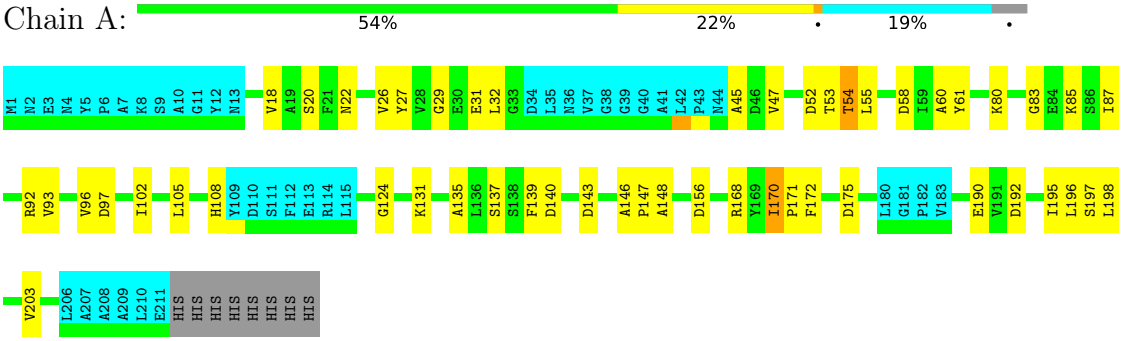
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: Outer membrane protein AlkL

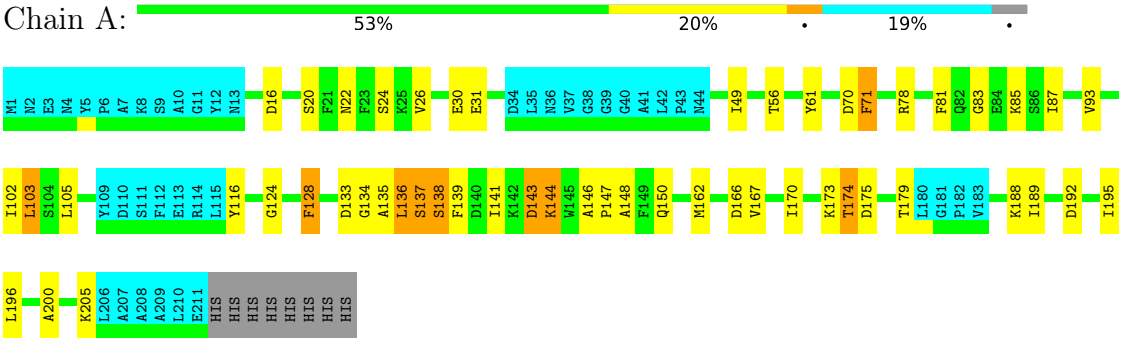
Chain A:



4.2.9 Score per residue for model 9

• Molecule 1: Outer membrane protein AlkL

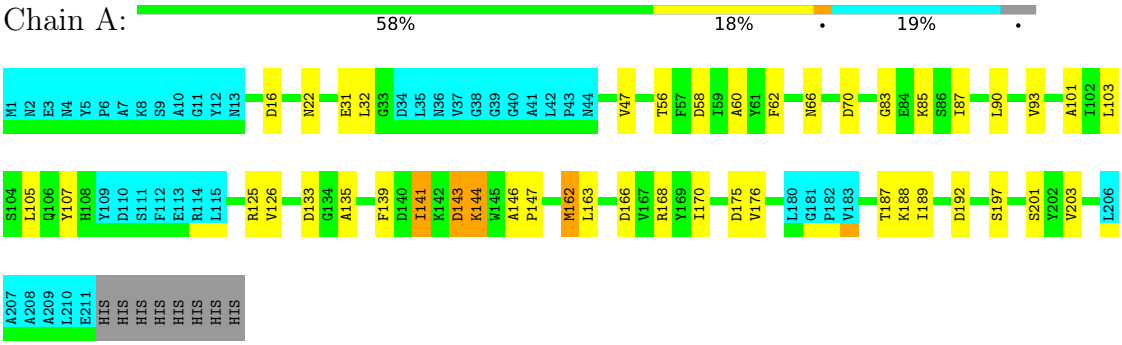
Chain A:



4.2.10 Score per residue for model 10

• Molecule 1: Outer membrane protein AlkL

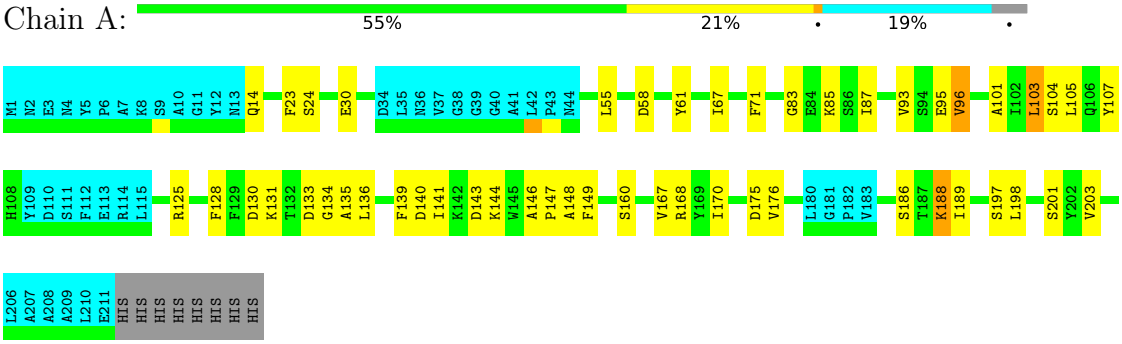
Chain A:



4.2.11 Score per residue for model 11

• Molecule 1: Outer membrane protein AlkL

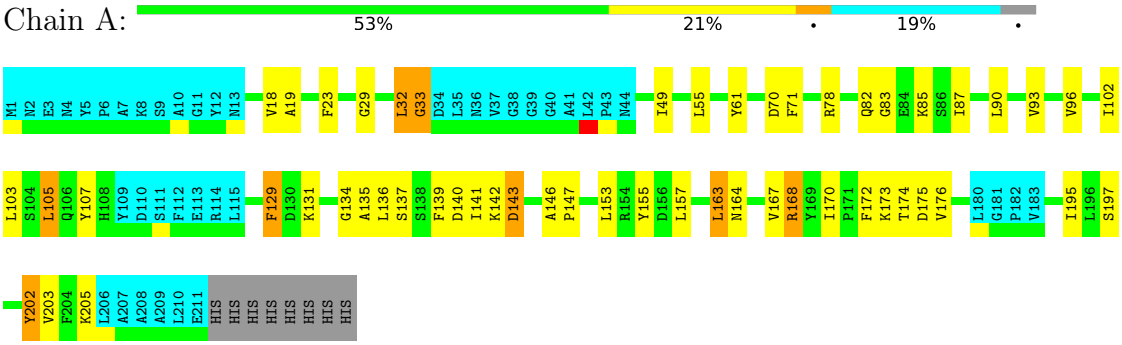
Chain A:



4.2.12 Score per residue for model 12

• Molecule 1: Outer membrane protein AlkL

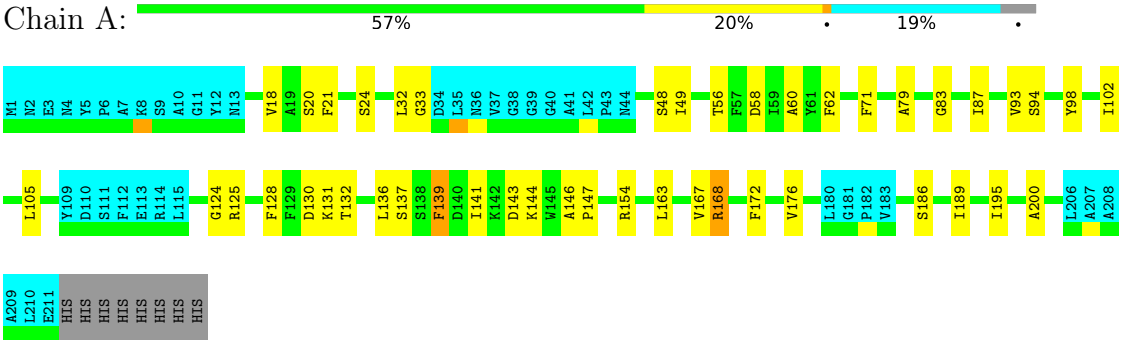
Chain A:



4.2.13 Score per residue for model 13

• Molecule 1: Outer membrane protein AlkL

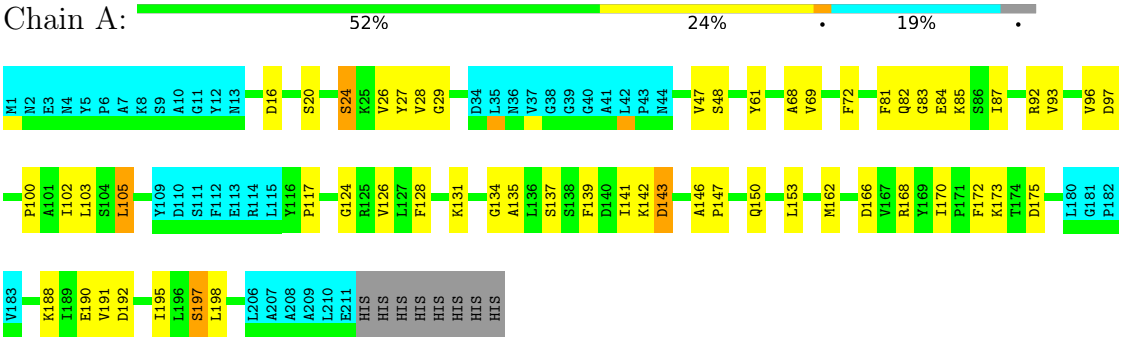
Chain A:



4.2.14 Score per residue for model 14

• Molecule 1: Outer membrane protein AlkL

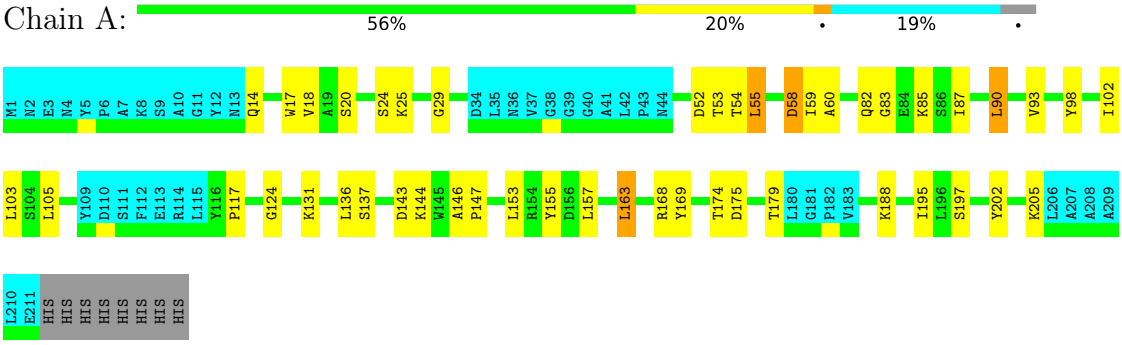
Chain A:



4.2.15 Score per residue for model 15

• Molecule 1: Outer membrane protein AlkL

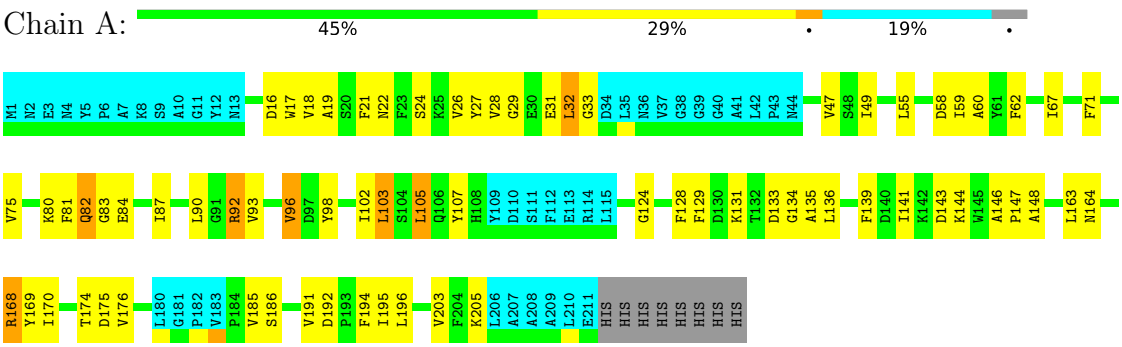
Chain A:



4.2.16 Score per residue for model 16

• Molecule 1: Outer membrane protein AlkL

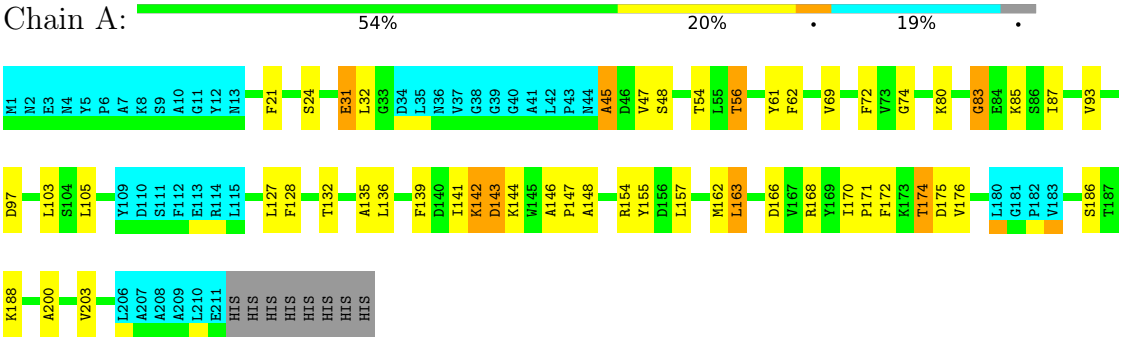
Chain A:



4.2.17 Score per residue for model 17

• Molecule 1: Outer membrane protein AlkL

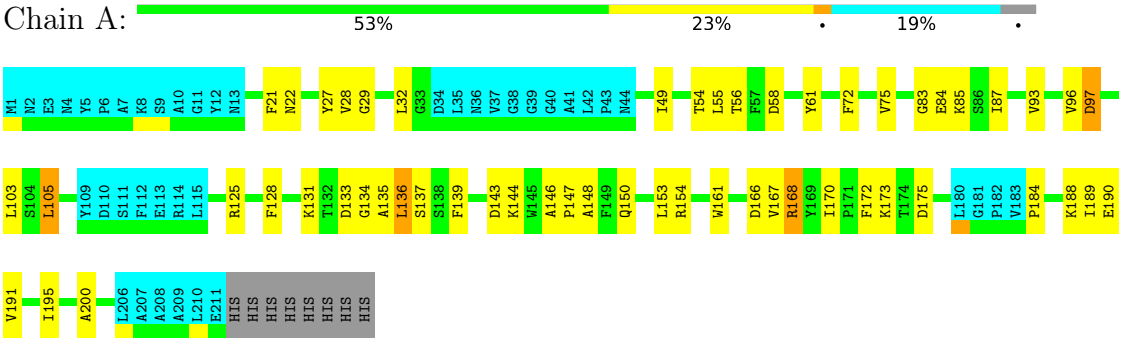
Chain A:



4.2.18 Score per residue for model 18

• Molecule 1: Outer membrane protein AlkL

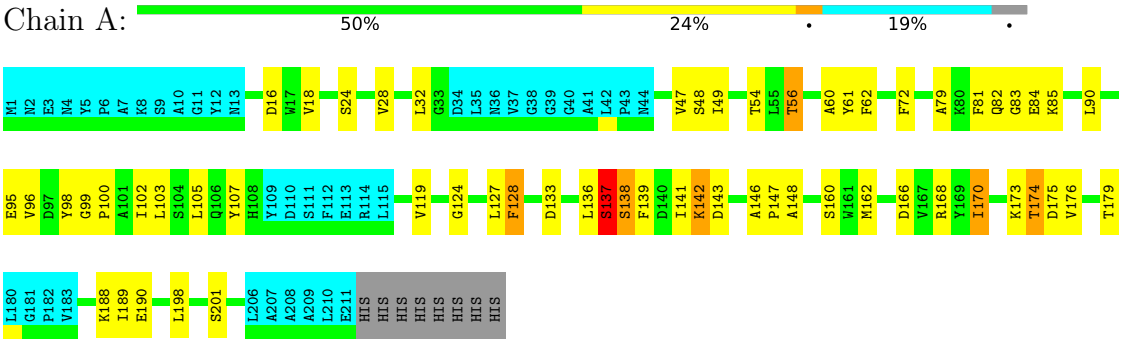
Chain A:



4.2.19 Score per residue for model 19

• Molecule 1: Outer membrane protein AlkL

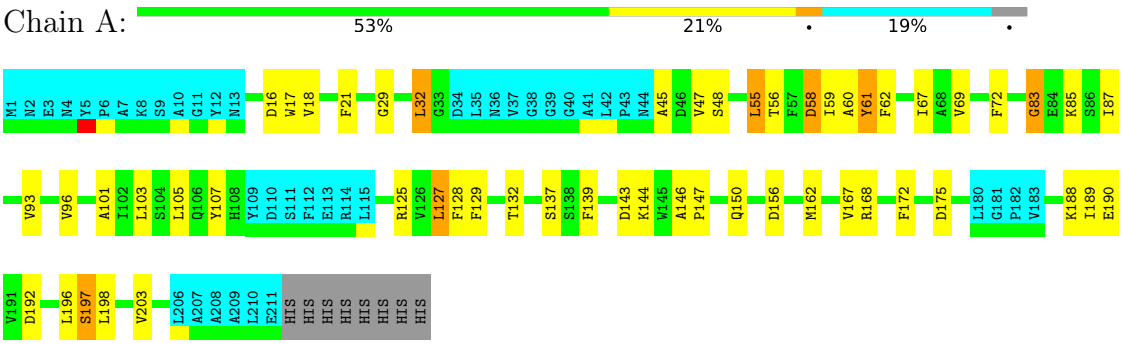
Chain A:



4.2.20 Score per residue for model 20

• Molecule 1: Outer membrane protein AlkL

Chain A:



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy.*

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

Software name	Classification	Version
CYANA	structure calculation	

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	1567
Number of shifts mapped to atoms	1567
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	66%

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

6 Model quality

6.1 Standard geometry

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	1325	1287	1287	20±5
All	All	26500	25740	25740	406

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 8.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:87:ILE:HG21	1:A:135:ALA:HB2	0.78	1.52	1	9
1:A:146:ALA:HB1	1:A:147:PRO:HD2	0.78	1.54	14	20
1:A:87:ILE:HG22	1:A:93:VAL:HG22	0.78	1.56	9	18
1:A:141:ILE:HD13	1:A:176:VAL:HG13	0.76	1.57	12	1
1:A:28:VAL:HG23	1:A:191:VAL:HG11	0.75	1.57	16	2
1:A:163:LEU:C	1:A:163:LEU:HD22	0.75	2.02	17	1
1:A:170:ILE:O	1:A:170:ILE:HD13	0.71	1.86	2	1
1:A:167:VAL:HG22	1:A:196:LEU:HD12	0.70	1.62	1	2
1:A:141:ILE:HG23	1:A:176:VAL:HG12	0.67	1.65	4	1
1:A:28:VAL:HG11	1:A:47:VAL:HG11	0.67	1.66	19	1
1:A:87:ILE:CG2	1:A:93:VAL:HG22	0.66	2.20	1	13
1:A:153:LEU:HD13	1:A:154:ARG:N	0.66	2.06	6	1
1:A:18:VAL:HG22	1:A:203:VAL:HG23	0.66	1.65	12	1
1:A:49:ILE:HD11	1:A:98:TYR:CE2	0.66	2.25	13	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:21:PHE:CZ	1:A:200:ALA:HB3	0.66	2.26	13	1
1:A:18:VAL:CG2	1:A:60:ALA:HB3	0.65	2.21	2	6
1:A:18:VAL:HG22	1:A:60:ALA:HB3	0.65	1.68	2	2
1:A:71:PHE:CZ	1:A:103:LEU:HD22	0.64	2.26	9	3
1:A:96:VAL:HG21	1:A:129:PHE:O	0.64	1.92	7	6
1:A:18:VAL:HG23	1:A:60:ALA:HB3	0.63	1.68	8	5
1:A:32:LEU:HA	1:A:189:ILE:HG21	0.63	1.71	19	1
1:A:167:VAL:CG2	1:A:196:LEU:HD12	0.63	2.24	20	1
1:A:163:LEU:HD13	1:A:163:LEU:N	0.63	2.09	12	1
1:A:141:ILE:HG13	1:A:176:VAL:HG23	0.63	1.70	10	1
1:A:72:PHE:HB2	1:A:102:ILE:HG23	0.63	1.70	2	1
1:A:142:LYS:O	1:A:174:THR:HG22	0.62	1.95	19	2
1:A:61:TYR:HB3	1:A:69:VAL:HG22	0.62	1.70	14	3
1:A:26:VAL:HG12	1:A:195:ILE:CD1	0.61	2.25	8	1
1:A:26:VAL:HG12	1:A:195:ILE:HD12	0.61	1.72	8	3
1:A:141:ILE:HG22	1:A:176:VAL:HG13	0.61	1.70	16	2
1:A:32:LEU:HD22	1:A:32:LEU:C	0.60	2.16	16	1
1:A:18:VAL:HG13	1:A:60:ALA:HB3	0.60	1.73	1	3
1:A:139:PHE:CE1	1:A:176:VAL:HG12	0.60	2.31	7	2
1:A:168:ARG:HD3	1:A:195:ILE:HD13	0.60	1.73	2	1
1:A:21:PHE:CE2	1:A:200:ALA:HB3	0.60	2.32	7	2
1:A:32:LEU:HD22	1:A:45:ALA:HB3	0.59	1.73	3	1
1:A:56:THR:HG21	1:A:72:PHE:CZ	0.59	2.32	17	1
1:A:18:VAL:HG23	1:A:202:TYR:C	0.59	2.18	1	2
1:A:28:VAL:HG23	1:A:191:VAL:CG1	0.59	2.28	16	1
1:A:146:ALA:HB2	1:A:172:PHE:CZ	0.59	2.33	2	1
1:A:102:ILE:HG22	1:A:124:GLY:CA	0.58	2.28	16	6
1:A:141:ILE:HG23	1:A:176:VAL:CG1	0.58	2.27	4	1
1:A:146:ALA:HB3	1:A:172:PHE:CZ	0.58	2.34	18	2
1:A:96:VAL:HG23	1:A:131:LYS:CB	0.58	2.28	7	1
1:A:168:ARG:HD2	1:A:195:ILE:HD12	0.58	1.74	15	2
1:A:23:PHE:HB3	1:A:55:LEU:HD23	0.58	1.74	11	1
1:A:170:ILE:HD13	1:A:170:ILE:C	0.57	2.19	2	1
1:A:101:ALA:HB3	1:A:125:ARG:HG3	0.57	1.76	1	4
1:A:26:VAL:HG22	1:A:195:ILE:CD1	0.57	2.27	16	1
1:A:56:THR:HG21	1:A:72:PHE:CE1	0.57	2.34	20	1
1:A:103:LEU:O	1:A:103:LEU:HD13	0.57	2.00	11	1
1:A:170:ILE:HD12	1:A:171:PRO:HD2	0.57	1.76	4	2
1:A:21:PHE:CE1	1:A:200:ALA:HB3	0.56	2.35	17	1
1:A:79:ALA:HB3	1:A:98:TYR:CE2	0.56	2.35	13	1
1:A:153:LEU:HD13	1:A:153:LEU:N	0.56	2.16	5	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:GLU:C	1:A:47:VAL:HG12	0.56	2.21	8	1
1:A:102:ILE:C	1:A:103:LEU:HD23	0.55	2.22	3	2
1:A:117:PRO:HB3	1:A:153:LEU:HD12	0.55	1.77	5	2
1:A:95:GLU:O	1:A:96:VAL:HG13	0.55	2.02	19	2
1:A:102:ILE:HG23	1:A:124:GLY:CA	0.55	2.31	9	4
1:A:49:ILE:HG22	1:A:81:PHE:HB3	0.55	1.77	9	1
1:A:52:ASP:O	1:A:54:THR:HG23	0.55	2.02	7	1
1:A:87:ILE:CG2	1:A:135:ALA:HB2	0.55	2.31	5	2
1:A:148:ALA:HB1	1:A:169:TYR:O	0.54	2.02	16	1
1:A:168:ARG:HG2	1:A:195:ILE:HD12	0.54	1.80	18	1
1:A:137:SER:O	1:A:138:SER:C	0.54	2.46	9	2
1:A:71:PHE:CE2	1:A:103:LEU:HD13	0.54	2.37	16	1
1:A:105:LEU:HD12	1:A:105:LEU:O	0.54	2.02	15	8
1:A:96:VAL:HG23	1:A:131:LYS:HB2	0.53	1.79	16	3
1:A:28:VAL:CG2	1:A:191:VAL:HG11	0.53	2.34	14	2
1:A:58:ASP:O	1:A:59:ILE:HD13	0.53	2.03	16	2
1:A:60:ALA:HB2	1:A:70:ASP:OD2	0.53	2.04	10	1
1:A:162:MET:SD	1:A:203:VAL:HG13	0.53	2.43	10	2
1:A:144:LYS:NZ	1:A:170:ILE:HG23	0.53	2.18	17	1
1:A:139:PHE:CE2	1:A:176:VAL:HG12	0.53	2.38	11	2
1:A:93:VAL:CG1	1:A:135:ALA:HB2	0.52	2.34	18	1
1:A:32:LEU:HD13	1:A:189:ILE:HG13	0.52	1.81	20	1
1:A:32:LEU:HD23	1:A:33:GLY:N	0.52	2.20	12	1
1:A:176:VAL:HG12	1:A:187:THR:OG1	0.52	2.04	5	1
1:A:54:THR:C	1:A:55:LEU:HD13	0.52	2.25	6	1
1:A:163:LEU:C	1:A:163:LEU:CD2	0.52	2.76	17	1
1:A:18:VAL:HG12	1:A:203:VAL:HG13	0.52	1.82	7	1
1:A:107:TYR:CE2	1:A:119:VAL:HG13	0.52	2.39	19	1
1:A:25:LYS:O	1:A:196:LEU:HD12	0.52	2.05	4	1
1:A:55:LEU:HD13	1:A:55:LEU:N	0.52	2.19	6	1
1:A:31:GLU:HA	1:A:47:VAL:HG22	0.51	1.81	17	1
1:A:167:VAL:HG22	1:A:196:LEU:HD23	0.51	1.81	9	1
1:A:72:PHE:CD1	1:A:102:ILE:HD11	0.51	2.41	4	1
1:A:197:SER:O	1:A:198:LEU:HD12	0.51	2.05	14	2
1:A:55:LEU:O	1:A:55:LEU:HD12	0.51	2.05	15	1
1:A:32:LEU:HD12	1:A:189:ILE:HG21	0.51	1.80	4	2
1:A:96:VAL:HG23	1:A:131:LYS:HB3	0.51	1.82	7	1
1:A:19:ALA:HB3	1:A:202:TYR:CD1	0.51	2.40	12	1
1:A:128:PHE:CE1	1:A:141:ILE:HG23	0.51	2.40	13	1
1:A:32:LEU:HD13	1:A:33:GLY:N	0.51	2.21	7	1
1:A:133:ASP:OD1	1:A:141:ILE:HD12	0.50	2.05	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:18:VAL:HG12	1:A:203:VAL:HA	0.50	1.84	16	2
1:A:47:VAL:HG23	1:A:82:GLN:O	0.50	2.07	16	3
1:A:148:ALA:HB2	1:A:170:ILE:HG21	0.50	1.83	7	11
1:A:117:PRO:HA	1:A:153:LEU:HD12	0.50	1.84	14	1
1:A:146:ALA:HB3	1:A:172:PHE:CE2	0.50	2.41	5	3
1:A:47:VAL:HG12	1:A:83:GLY:HA2	0.49	1.83	17	2
1:A:19:ALA:HB3	1:A:202:TYR:CE1	0.49	2.42	12	1
1:A:17:TRP:CZ2	1:A:59:ILE:HG21	0.49	2.42	3	1
1:A:24:SER:OG	1:A:195:ILE:HG23	0.49	2.07	14	1
1:A:49:ILE:HG22	1:A:81:PHE:CE2	0.49	2.42	19	1
1:A:170:ILE:O	1:A:170:ILE:HG23	0.49	2.07	16	3
1:A:32:LEU:HD23	1:A:47:VAL:HB	0.49	1.84	20	1
1:A:141:ILE:HG22	1:A:176:VAL:HA	0.49	1.84	6	1
1:A:67:ILE:HG22	1:A:107:TYR:CD1	0.49	2.43	20	1
1:A:32:LEU:HD13	1:A:46:ASP:O	0.49	2.08	3	1
1:A:102:ILE:HD13	1:A:168:ARG:CZ	0.49	2.38	16	1
1:A:141:ILE:HG22	1:A:176:VAL:HG22	0.49	1.84	17	1
1:A:19:ALA:HB1	1:A:21:PHE:CZ	0.48	2.43	4	2
1:A:18:VAL:HG21	1:A:162:MET:HE1	0.48	1.86	1	1
1:A:58:ASP:C	1:A:59:ILE:HD13	0.48	2.27	16	1
1:A:141:ILE:CG2	1:A:176:VAL:HG22	0.48	2.39	17	1
1:A:127:LEU:HD12	1:A:128:PHE:N	0.48	2.22	19	1
1:A:117:PRO:HA	1:A:153:LEU:HD13	0.48	1.84	15	1
1:A:167:VAL:CG2	1:A:196:LEU:HD23	0.48	2.39	9	1
1:A:103:LEU:HG	1:A:123:VAL:HG13	0.48	1.86	3	1
1:A:157:LEU:HD23	1:A:158:GLY:N	0.48	2.24	6	1
1:A:141:ILE:CG1	1:A:176:VAL:HG23	0.48	2.38	10	1
1:A:102:ILE:HD13	1:A:168:ARG:HD2	0.48	1.84	7	1
1:A:103:LEU:HD22	1:A:104:SER:N	0.48	2.24	11	1
1:A:79:ALA:HB3	1:A:81:PHE:CZ	0.47	2.44	4	1
1:A:102:ILE:HG23	1:A:124:GLY:HA2	0.47	1.86	9	3
1:A:133:ASP:CG	1:A:141:ILE:HD12	0.47	2.30	10	1
1:A:117:PRO:HA	1:A:153:LEU:HD23	0.47	1.86	6	1
1:A:72:PHE:CD2	1:A:102:ILE:HD13	0.47	2.44	6	1
1:A:32:LEU:HD22	1:A:33:GLY:N	0.47	2.25	16	1
1:A:28:VAL:HG11	1:A:47:VAL:CG1	0.47	2.37	19	1
1:A:47:VAL:HG13	1:A:82:GLN:O	0.46	2.10	14	1
1:A:49:ILE:HG22	1:A:81:PHE:CB	0.46	2.40	9	1
1:A:167:VAL:HG21	1:A:196:LEU:HD12	0.46	1.87	20	1
1:A:28:VAL:HG21	1:A:191:VAL:HG11	0.46	1.88	18	1
1:A:144:LYS:CE	1:A:174:THR:HG22	0.46	2.41	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:102:ILE:HG22	1:A:124:GLY:HA2	0.46	1.87	16	1
1:A:61:TYR:HB2	1:A:69:VAL:HG13	0.46	1.87	1	1
1:A:61:TYR:HB3	1:A:69:VAL:HG13	0.46	1.88	7	1
1:A:21:PHE:CE2	1:A:55:LEU:HD21	0.46	2.46	20	1
1:A:32:LEU:O	1:A:45:ALA:HB3	0.46	2.10	20	1
1:A:96:VAL:HG22	1:A:129:PHE:HB3	0.46	1.88	5	1
1:A:167:VAL:HG13	1:A:196:LEU:CD1	0.46	2.41	7	1
1:A:162:MET:C	1:A:163:LEU:HD22	0.46	2.31	10	1
1:A:58:ASP:C	1:A:59:ILE:HD12	0.46	2.31	15	1
1:A:105:LEU:HD12	1:A:107:TYR:CE1	0.46	2.46	5	1
1:A:163:LEU:HD22	1:A:163:LEU:O	0.46	2.10	17	1
1:A:162:MET:O	1:A:163:LEU:HD22	0.45	2.11	10	1
1:A:146:ALA:HB1	1:A:147:PRO:CD	0.45	2.34	14	1
1:A:18:VAL:HB	1:A:60:ALA:HB3	0.45	1.88	20	2
1:A:67:ILE:HG22	1:A:107:TYR:HB2	0.45	1.89	11	1
1:A:18:VAL:HG23	1:A:202:TYR:O	0.45	2.12	1	1
1:A:32:LEU:HB2	1:A:45:ALA:HB3	0.45	1.89	1	1
1:A:52:ASP:O	1:A:53:THR:HG23	0.45	2.11	4	1
1:A:18:VAL:HG12	1:A:203:VAL:HG23	0.45	1.87	8	1
1:A:87:ILE:HA	1:A:90:LEU:HD12	0.45	1.88	10	1
1:A:87:ILE:HD13	1:A:135:ALA:CB	0.45	2.42	16	1
1:A:75:VAL:O	1:A:75:VAL:HG13	0.45	2.13	1	5
1:A:141:ILE:CD1	1:A:176:VAL:HG13	0.45	2.37	12	1
1:A:197:SER:C	1:A:198:LEU:HD12	0.45	2.32	14	1
1:A:49:ILE:HG22	1:A:81:PHE:CD1	0.45	2.47	16	1
1:A:196:LEU:O	1:A:196:LEU:HD23	0.44	2.12	5	1
1:A:23:PHE:HB3	1:A:55:LEU:HD13	0.44	1.89	12	1
1:A:18:VAL:HG21	1:A:162:MET:CE	0.44	2.41	1	1
1:A:188:LYS:O	1:A:189:ILE:HD13	0.44	2.12	6	2
1:A:32:LEU:HD12	1:A:47:VAL:HG22	0.44	1.89	10	1
1:A:96:VAL:HG21	1:A:128:PHE:CD2	0.44	2.48	6	1
1:A:31:GLU:O	1:A:189:ILE:HD12	0.44	2.13	9	1
1:A:102:ILE:HG21	1:A:168:ARG:NH1	0.44	2.28	13	2
1:A:148:ALA:HA	1:A:170:ILE:HD13	0.44	1.90	18	1
1:A:153:LEU:HD12	1:A:154:ARG:N	0.44	2.27	18	1
1:A:45:ALA:HB1	1:A:84:GLU:HA	0.44	1.89	2	1
1:A:157:LEU:HD22	1:A:160:SER:HB2	0.44	1.88	6	1
1:A:93:VAL:HG12	1:A:135:ALA:HB2	0.44	1.90	8	2
1:A:168:ARG:NE	1:A:195:ILE:HD13	0.44	2.27	4	1
1:A:32:LEU:HD23	1:A:45:ALA:CB	0.44	2.43	8	2
1:A:167:VAL:HG13	1:A:195:ILE:O	0.44	2.12	13	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:157:LEU:HD11	1:A:163:LEU:HD12	0.44	1.90	15	1
1:A:87:ILE:HG21	1:A:135:ALA:CB	0.43	2.36	1	2
1:A:33:GLY:H	1:A:189:ILE:HD11	0.43	1.73	6	1
1:A:135:ALA:O	1:A:136:LEU:HD22	0.43	2.13	18	1
1:A:75:VAL:O	1:A:75:VAL:HG22	0.43	2.12	1	3
1:A:146:ALA:HB2	1:A:172:PHE:CE2	0.43	2.47	17	1
1:A:53:THR:O	1:A:54:THR:HG23	0.43	2.13	4	2
1:A:127:LEU:HD23	1:A:128:PHE:N	0.43	2.29	7	1
1:A:139:PHE:HE1	1:A:176:VAL:HG12	0.43	1.71	7	1
1:A:128:PHE:CE2	1:A:141:ILE:HG23	0.43	2.48	9	1
1:A:170:ILE:O	1:A:170:ILE:CD1	0.43	2.64	2	1
1:A:90:LEU:HD13	1:A:90:LEU:O	0.43	2.13	15	1
1:A:67:ILE:HG22	1:A:107:TYR:CB	0.43	2.44	16	1
1:A:162:MET:O	1:A:200:ALA:HB1	0.43	2.14	5	4
1:A:33:GLY:N	1:A:189:ILE:HD11	0.43	2.29	6	2
1:A:127:LEU:HD13	1:A:128:PHE:N	0.43	2.29	20	1
1:A:100:PRO:HA	1:A:126:VAL:HG12	0.43	1.91	14	1
1:A:28:VAL:O	1:A:49:ILE:HD13	0.43	2.14	5	1
1:A:45:ALA:HB1	1:A:84:GLU:CA	0.43	2.44	6	1
1:A:162:MET:CE	1:A:203:VAL:HG13	0.43	2.43	20	1
1:A:49:ILE:HG23	1:A:81:PHE:CE2	0.42	2.49	5	1
1:A:141:ILE:CG2	1:A:176:VAL:HG23	0.42	2.44	6	1
1:A:141:ILE:HG22	1:A:176:VAL:CA	0.42	2.44	6	1
1:A:26:VAL:HA	1:A:195:ILE:HD13	0.42	1.91	14	1
1:A:32:LEU:HD22	1:A:33:GLY:C	0.42	2.34	16	1
1:A:31:GLU:CA	1:A:47:VAL:HG22	0.42	2.44	17	1
1:A:96:VAL:HG22	1:A:97:ASP:N	0.42	2.30	8	2
1:A:102:ILE:HG21	1:A:168:ARG:CZ	0.42	2.44	15	1
1:A:107:TYR:CE1	1:A:119:VAL:HG13	0.42	2.50	4	1
1:A:32:LEU:C	1:A:32:LEU:CD2	0.42	2.87	16	1
1:A:56:THR:HG22	1:A:74:GLY:HA3	0.42	1.92	17	1
1:A:153:LEU:HD23	1:A:154:ARG:N	0.42	2.30	1	1
1:A:141:ILE:HG22	1:A:176:VAL:CB	0.42	2.44	6	1
1:A:56:THR:HG21	1:A:72:PHE:CE2	0.42	2.50	19	1
1:A:147:PRO:C	1:A:170:ILE:HD12	0.41	2.35	1	2
1:A:32:LEU:HD12	1:A:189:ILE:HG13	0.41	1.91	2	1
1:A:146:ALA:CB	1:A:147:PRO:HD2	0.41	2.37	14	1
1:A:21:PHE:CZ	1:A:55:LEU:HD21	0.41	2.50	20	1
1:A:32:LEU:CD2	1:A:45:ALA:HB3	0.41	2.45	3	1
1:A:167:VAL:HG11	1:A:169:TYR:OH	0.41	2.16	4	1
1:A:95:GLU:O	1:A:96:VAL:CG1	0.41	2.68	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:170:ILE:HD13	1:A:171:PRO:N	0.41	2.29	8	1
1:A:134:GLY:O	1:A:135:ALA:C	0.41	2.58	9	2
1:A:188:LYS:C	1:A:189:ILE:HD12	0.41	2.36	11	1
1:A:90:LEU:HD23	1:A:92:ARG:CG	0.41	2.46	16	1
1:A:141:ILE:HA	1:A:176:VAL:HG23	0.41	1.91	19	1
1:A:79:ALA:HB3	1:A:98:TYR:CZ	0.41	2.50	19	1
1:A:52:ASP:O	1:A:53:THR:C	0.41	2.58	15	2
1:A:61:TYR:O	1:A:68:ALA:HB1	0.41	2.15	14	1
1:A:83:GLY:H	1:A:93:VAL:HG21	0.41	1.76	20	1
1:A:168:ARG:NH2	1:A:170:ILE:HG21	0.41	2.31	10	1
1:A:163:LEU:HD23	1:A:164:ASN:N	0.41	2.31	16	1
1:A:126:VAL:HG13	1:A:144:LYS:HD2	0.41	1.92	10	1
1:A:146:ALA:HB3	1:A:170:ILE:HD11	0.41	1.93	10	1
1:A:103:LEU:HD13	1:A:103:LEU:C	0.41	2.35	11	1
1:A:168:ARG:CD	1:A:195:ILE:HD13	0.40	2.47	4	1
1:A:32:LEU:HA	1:A:189:ILE:HD12	0.40	1.94	10	1
1:A:27:TYR:CD1	1:A:196:LEU:HD13	0.40	2.51	16	1
1:A:99:GLY:N	1:A:100:PRO:CD	0.40	2.84	19	1
1:A:103:LEU:HD22	1:A:103:LEU:C	0.40	2.36	11	1
1:A:148:ALA:CB	1:A:170:ILE:HG21	0.40	2.47	19	1
1:A:47:VAL:HG12	1:A:83:GLY:CA	0.40	2.46	1	1
1:A:136:LEU:O	1:A:137:SER:CB	0.40	2.70	9	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	170/219 (78%)	146±2 (86±1%)	20±2 (12±1%)	4±1 (2±1%)	9	48
All	All	3400/4380 (78%)	2925 (86%)	398 (12%)	77 (2%)	9	48

All 15 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	83	GLY	20
1	A	29	GLY	12
1	A	137	SER	11
1	A	143	ASP	8
1	A	134	GLY	7
1	A	130	ASP	4
1	A	96	VAL	4
1	A	138	SER	2
1	A	31	GLU	2
1	A	33	GLY	2
1	A	160	SER	1
1	A	53	THR	1
1	A	77	ALA	1
1	A	45	ALA	1
1	A	157	LEU	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	143/181 (79%)	117±3 (82±2%)	26±3 (18±2%)	4 37
All	All	2860/3620 (79%)	2334 (82%)	526 (18%)	4 37

All 97 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	175	ASP	18
1	A	103	LEU	17
1	A	143	ASP	17
1	A	139	PHE	17
1	A	85	LYS	16
1	A	105	LEU	16
1	A	168	ARG	13
1	A	197	SER	12
1	A	192	ASP	12
1	A	61	TYR	11
1	A	56	THR	11

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Mol	Chain	Res	Type	Models (Total)
1	A	128	PHE	11
1	A	144	LYS	11
1	A	188	LYS	11
1	A	172	PHE	10
1	A	174	THR	10
1	A	58	ASP	10
1	A	166	ASP	10
1	A	24	SER	10
1	A	16	ASP	10
1	A	131	LYS	9
1	A	22	ASN	9
1	A	62	PHE	9
1	A	20	SER	8
1	A	55	LEU	8
1	A	48	SER	8
1	A	173	LYS	8
1	A	170	ILE	7
1	A	190	GLU	7
1	A	54	THR	7
1	A	70	ASP	6
1	A	90	LEU	6
1	A	142	LYS	6
1	A	163	LEU	6
1	A	186	SER	6
1	A	136	LEU	6
1	A	198	LEU	5
1	A	82	GLN	5
1	A	179	THR	5
1	A	205	LYS	5
1	A	32	LEU	5
1	A	71	PHE	5
1	A	133	ASP	5
1	A	49	ILE	4
1	A	153	LEU	4
1	A	201	SER	4
1	A	98	TYR	4
1	A	27	TYR	4
1	A	80	LYS	4
1	A	84	GLU	4
1	A	162	MET	4
1	A	141	ILE	4
1	A	150	GLN	4

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Mol	Chain	Res	Type	Models (Total)
1	A	154	ARG	3
1	A	25	LYS	3
1	A	17	TRP	3
1	A	137	SER	3
1	A	72	PHE	3
1	A	127	LEU	3
1	A	92	ARG	3
1	A	140	ASP	3
1	A	155	TYR	3
1	A	132	THR	3
1	A	97	ASP	3
1	A	66	ASN	2
1	A	94	SER	2
1	A	53	THR	2
1	A	129	PHE	2
1	A	52	ASP	2
1	A	157	LEU	2
1	A	167	VAL	2
1	A	187	THR	2
1	A	196	LEU	2
1	A	156	ASP	2
1	A	30	GLU	2
1	A	78	ARG	2
1	A	107	TYR	2
1	A	14	GLN	2
1	A	160	SER	2
1	A	125	ARG	2
1	A	204	PHE	1
1	A	46	ASP	1
1	A	67	ILE	1
1	A	65	SER	1
1	A	64	SER	1
1	A	108	HIS	1
1	A	116	TYR	1
1	A	149	PHE	1
1	A	102	ILE	1
1	A	164	ASN	1
1	A	202	TYR	1
1	A	189	ILE	1
1	A	81	PHE	1
1	A	169	TYR	1
1	A	194	PHE	1

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Mol	Chain	Res	Type	Models (Total)
1	A	31	GLU	1
1	A	161	TRP	1

6.3.3 RNA

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains

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

6.5 Carbohydrates

There are no monosaccharides in this entry.

6.6 Ligand geometry

There are no ligands in this entry.

6.7 Other polymers

There are no such molecules in this entry.

6.8 Polymer linkage issues

There are no chain breaks in this entry.

7 Chemical shift validation

The completeness of assignment taking into account all chemical shift lists is 66% for the well-defined parts and 56% 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

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	1567
Number of shifts mapped to atoms	1567
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	11

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction ± precision, *ppm*	Suggested action
$^{13}C_{\alpha}$	173	0.40 ± 0.09	None needed (< 0.5 ppm)
$^{13}C_{\beta}$	146	-0.61 ± 0.29	Should be checked
$^{13}C'$	167	0.87 ± 0.11	Should be applied
^{15}N	166	-0.03 ± 0.24	None needed (< 0.5 ppm)

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 66%, i.e. 1486 atoms were assigned a chemical shift out of a possible 2259. 0 out of 32 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	786/852 (92%)	317/349 (91%)	316/340 (93%)	153/163 (94%)
Sidechain	697/1143 (61%)	452/750 (60%)	240/360 (67%)	5/33 (15%)

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	Total	^{1}H	^{13}C	^{15}N
Aromatic	3/264 (1%)	2/128 (2%)	0/132 (0%)	1/4 (25%)
Overall	1486/2259 (66%)	771/1227 (63%)	556/832 (67%)	159/200 (80%)

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 56%, i.e. 1566 atoms were assigned a chemical shift out of a possible 2772. 0 out of 40 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	843/1056 (80%)	338/433 (78%)	340/422 (81%)	165/201 (82%)
Sidechain	720/1415 (51%)	464/928 (50%)	251/445 (56%)	5/42 (12%)
Aromatic	3/301 (1%)	2/145 (1%)	0/152 (0%)	1/4 (25%)
Overall	1566/2772 (56%)	804/1506 (53%)	591/1019 (58%)	171/247 (69%)

Note: This is a solid-state NMR structure, where hydrogen atoms are typically not assigned a chemical shift value, which may lead to lower completeness of assignment measure.

7.1.4 Statistically unusual chemical shifts (i)

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

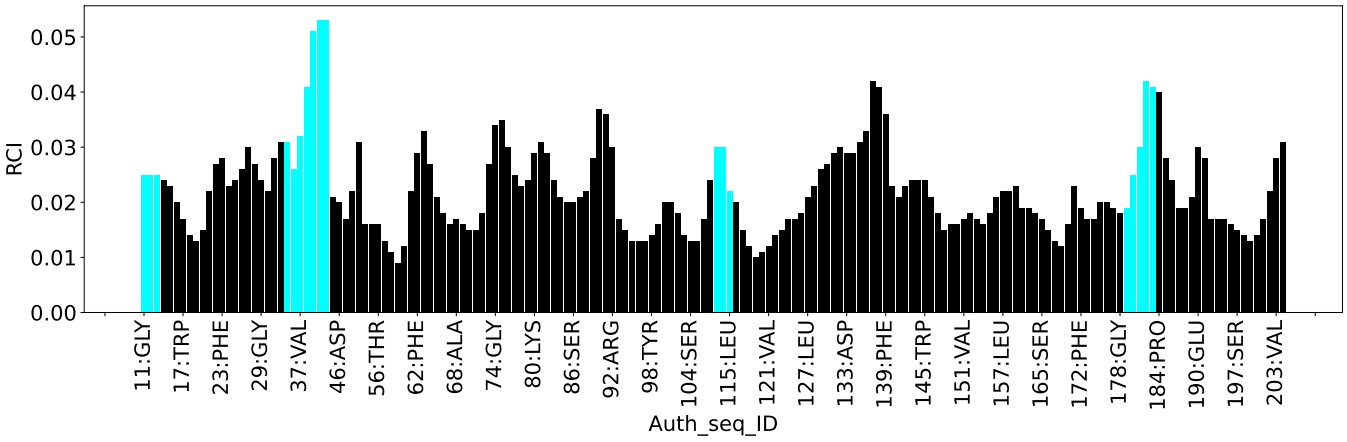
List Id	Chain	Res	Type	Atom	Shift, *ppm*	Expected range, *ppm*	Z-score
1	A	68	ALA	HB1	-0.56	0.14 – 2.58	-7.9
1	A	68	ALA	HB2	-0.56	0.14 – 2.58	-7.9
1	A	68	ALA	HB3	-0.56	0.14 – 2.58	-7.9
1	A	168	ARG	HD2	1.32	1.97 – 4.26	-7.8
1	A	76	PRO	HD2	1.15	1.93 – 5.38	-7.3
1	A	193	PRO	HD2	1.15	1.93 – 5.38	-7.2
1	A	188	LYS	HD3	2.88	0.54 – 2.65	6.1
1	A	94	SER	HB2	2.45	2.61 – 5.13	-5.6
1	A	191	VAL	HB	0.23	0.43 – 3.54	-5.6
1	A	188	LYS	HD2	2.76	0.58 – 2.64	5.6
1	A	168	ARG	NE	93.19	76.53 – 92.65	5.3

7.1.5 Random Coil Index (RCI) plots (i)

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from

the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition.If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:



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	943
Intra-residue (|i-j|=0)	123
Sequential (|i-j|=1)	294
Medium range (|i-j|>1 and |i-j|<5)	21
Long range (|i-j|≥5)	321
Inter-chain	0
Hydrogen bond restraints	184
Disulfide bond restraints	0
Total dihedral-angle restraints	0
Number of unmapped restraints	0
Number of restraints per residue	4.3
Number of long range restraints per residue[1]	2.3

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

8.2 Residual restraint violations

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)	8.4	0.2
0.2-0.5 (Medium)	1.6	0.48
>0.5 (Large)	1.6	1.57

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

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

9 Distance violation analysis (i)

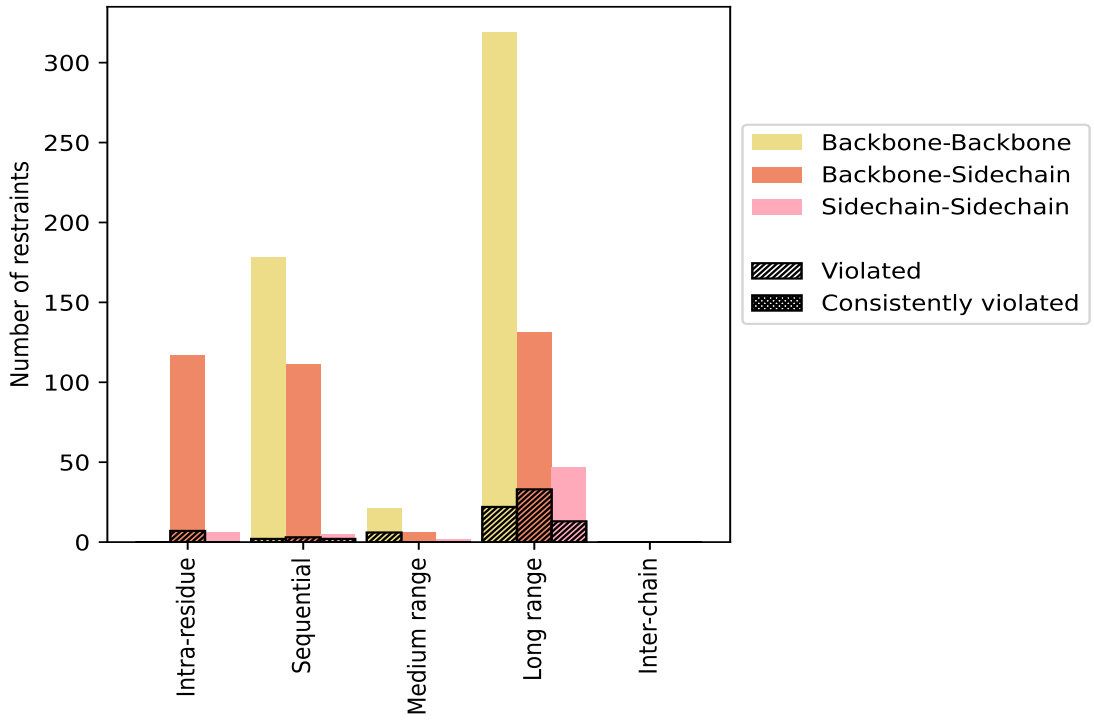
9.1 Summary of distance violations (i)

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

Restraints type	Count	%[1]	Violated[3]			Consistently Violated[4]		
			Count	%[2]	%[1]	Count	%[2]	%[1]
Intra-residue (|i-j|=0)	123	13.0	7	5.7	0.7	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	117	12.4	7	6.0	0.7	0	0.0	0.0
Sidechain-Sidechain	6	0.6	0	0.0	0.0	0	0.0	0.0
Sequential (|i-j|=1)	294	31.2	7	2.4	0.7	0	0.0	0.0
Backbone-Backbone	178	18.9	2	1.1	0.2	0	0.0	0.0
Backbone-Sidechain	111	11.8	3	2.7	0.3	0	0.0	0.0
Sidechain-Sidechain	5	0.5	2	40.0	0.2	0	0.0	0.0
Medium range (|i-j|>1 & |i-j|<5)	21	2.2	3	14.3	0.3	0	0.0	0.0
Backbone-Backbone	13	1.4	3	23.1	0.3	0	0.0	0.0
Backbone-Sidechain	6	0.6	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	2	0.2	0	0.0	0.0	0	0.0	0.0
Long range (|i-j|≥5)	321	34.0	56	17.4	5.9	0	0.0	0.0
Backbone-Backbone	143	15.2	10	7.0	1.1	0	0.0	0.0
Backbone-Sidechain	131	13.9	33	25.2	3.5	0	0.0	0.0
Sidechain-Sidechain	47	5.0	13	27.7	1.4	0	0.0	0.0
Inter-chain	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Hydrogen bond	184	19.5	15	8.2	1.6	0	0.0	0.0
Disulfide bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Total	943	100.0	88	9.3	9.3	0	0.0	0.0
Backbone-Backbone	518	54.9	30	5.8	3.2	0	0.0	0.0
Backbone-Sidechain	365	38.7	43	11.8	4.6	0	0.0	0.0
Sidechain-Sidechain	60	6.4	15	25.0	1.6	0	0.0	0.0

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

9.1.1 Bar chart : Distribution of distance restraints and violations



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

9.2 Distance violation statistics for each model

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

Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
1	1	0	1	6	0	8	0.31	1.52	0.46	0.14
2	0	0	1	7	0	8	0.46	1.42	0.43	0.31
3	0	0	1	10	0	11	0.4	1.53	0.51	0.17
4	0	0	1	14	0	15	0.24	1.49	0.34	0.13
5	0	1	1	6	0	8	0.47	1.54	0.44	0.35
6	0	1	1	2	0	4	0.2	0.37	0.1	0.16
7	3	1	1	8	0	13	0.35	1.54	0.4	0.15
8	0	1	1	14	0	16	0.31	1.48	0.41	0.16
9	0	0	1	6	0	7	0.19	0.56	0.15	0.12
10	1	0	1	8	0	10	0.16	0.32	0.06	0.14
11	1	1	0	9	0	11	0.26	0.79	0.2	0.15

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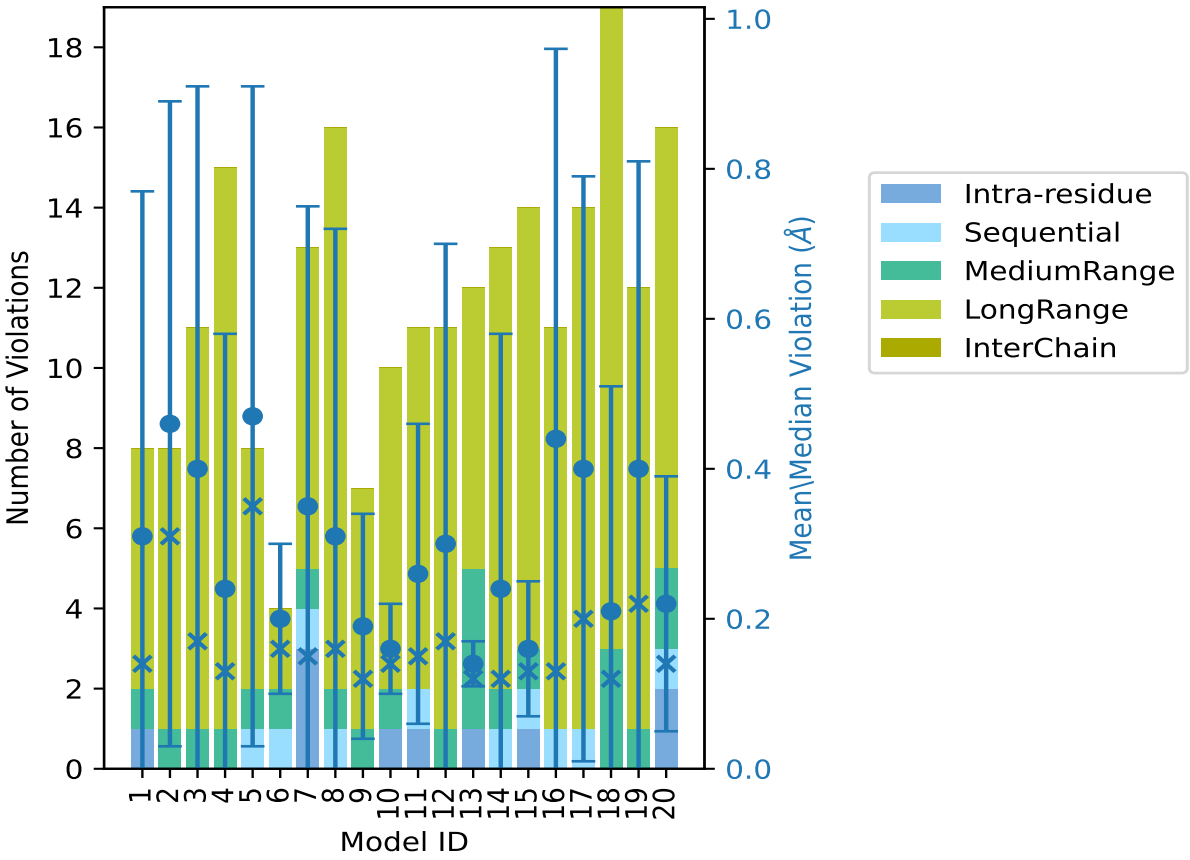
Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
12	0	0	1	10	0	11	0.3	1.55	0.4	0.17
13	1	0	4	7	0	12	0.14	0.2	0.03	0.12
14	0	1	1	11	0	13	0.24	1.4	0.34	0.12
15	1	1	1	11	0	14	0.16	0.46	0.09	0.13
16	0	1	0	10	0	11	0.44	1.46	0.52	0.13
17	0	1	0	13	0	14	0.4	1.56	0.39	0.2
18	0	0	3	16	0	19	0.21	1.47	0.3	0.12
19	0	0	1	11	0	12	0.4	1.57	0.41	0.22
20	2	1	2	11	0	16	0.22	0.64	0.17	0.14

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

9.2.1 Bar graph : Distance Violation statistics for each model



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

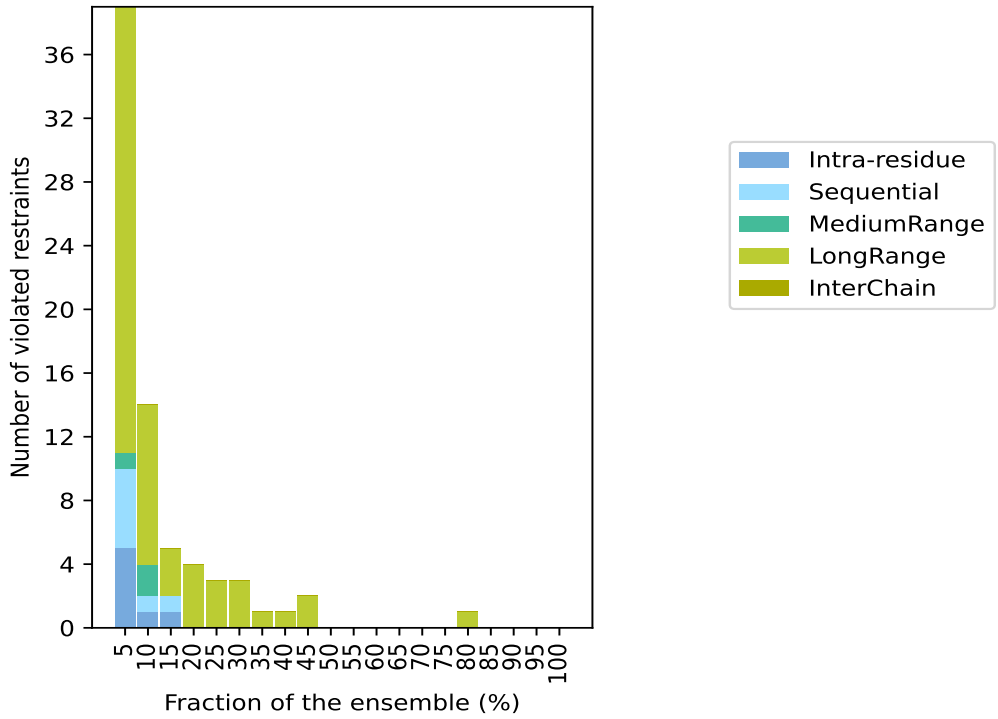
9.3 Distance violation statistics for the ensemble (i)

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 686(IR:116, SQ:287, MR:18, LR:265, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
5	5	1	28	0	39	1	5.0
1	1	2	10	0	14	2	10.0
1	1	0	3	0	5	3	15.0
0	0	0	4	0	4	4	20.0
0	0	0	3	0	3	5	25.0
0	0	0	3	0	3	6	30.0
0	0	0	1	0	1	7	35.0
0	0	0	1	0	1	8	40.0
0	0	0	2	0	2	9	45.0
0	0	0	0	0	0	10	50.0
0	0	0	0	0	0	11	55.0
0	0	0	0	0	0	12	60.0
0	0	0	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	1	0	1	16	80.0
0	0	0	0	0	0	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

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

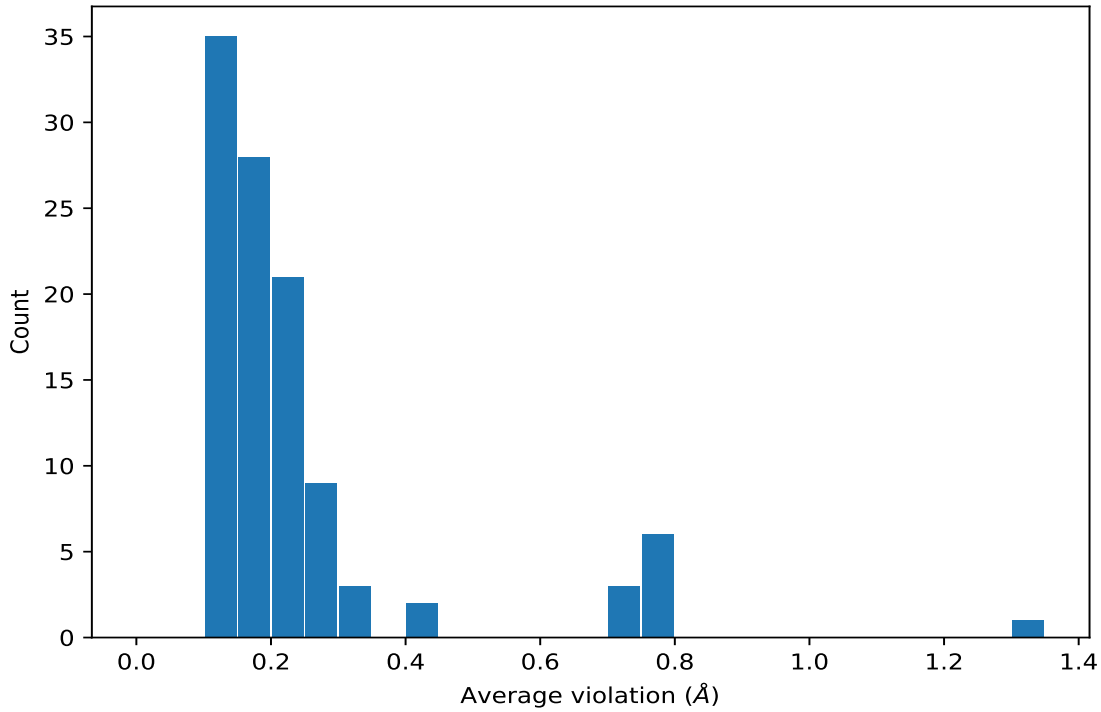
9.3.1 Bar graph : Distance violation statistics for the ensemble



9.4 Most violated distance restraints in the ensemble

9.4.1 Histogram : Distribution of mean distance violations

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



9.4.2 Table: Most violated distance restraints (i)

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

Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	16	1.3	0.42	1.48
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	16	0.12	0.01	0.12
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	9	0.78	0.42	0.56
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	9	0.78	0.42	0.56
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	9	0.78	0.42	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	9	0.78	0.42	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	9	0.78	0.42	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	9	0.78	0.42	0.56
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	9	0.32	0.16	0.29
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	9	0.32	0.16	0.29
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	9	0.32	0.16	0.29
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	8	0.28	0.21	0.18

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	8	0.28	0.21	0.18
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	8	0.28	0.21	0.18
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	7	0.15	0.03	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	7	0.15	0.03	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	7	0.15	0.03	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	7	0.15	0.03	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	7	0.15	0.03	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	7	0.15	0.03	0.14
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	7	0.12	0.01	0.12
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	6	0.71	0.29	0.82
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	6	0.71	0.29	0.82
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	6	0.71	0.29	0.82
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	6	0.18	0.04	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	6	0.18	0.04	0.18
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	6	0.14	0.03	0.14
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	6	0.14	0.03	0.14
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	6	0.14	0.03	0.14
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	5	0.19	0.03	0.18
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	5	0.19	0.03	0.18
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	5	0.16	0.04	0.14
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	5	0.14	0.01	0.14
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	5	0.14	0.01	0.14
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	5	0.14	0.01	0.14
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	5	0.11	0.0	0.11
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB2	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB2	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB2	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB2	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB2	4	0.24	0.14	0.18

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB2	4	0.24	0.14	0.18
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB3	4	0.24	0.14	0.18
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG11	4	0.16	0.03	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG12	4	0.16	0.03	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG13	4	0.16	0.03	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG21	4	0.16	0.03	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG22	4	0.16	0.03	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG23	4	0.16	0.03	0.16
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB2	4	0.16	0.05	0.15
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB3	4	0.16	0.05	0.15
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB2	4	0.16	0.05	0.15
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB3	4	0.16	0.05	0.15
(1,82)	1:A:177:THR:HA	1:A:184:PRO:HB2	4	0.15	0.01	0.15
(4,99)	1:A:139:PHE:H	1:A:133:ASP:O	4	0.15	0.02	0.15
(4,13)	1:A:22:ASN:H	1:A:56:THR:O	4	0.12	0.0	0.12
(1,681)	1:A:168:ARG:HD2	1:A:169:TYR:H	3	0.43	0.04	0.45
(1,681)	1:A:168:ARG:HD3	1:A:169:TYR:H	3	0.43	0.04	0.45
(1,49)	1:A:60:ALA:HB1	1:A:164:ASN:HB2	3	0.23	0.15	0.12
(1,49)	1:A:60:ALA:HB2	1:A:164:ASN:HB2	3	0.23	0.15	0.12
(1,49)	1:A:60:ALA:HB3	1:A:164:ASN:HB2	3	0.23	0.15	0.12
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG21	3	0.15	0.0	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG22	3	0.15	0.0	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG23	3	0.15	0.0	0.15
(1,13)	1:A:143:ASP:HA	1:A:175:ASP:H	3	0.14	0.01	0.15
(4,95)	1:A:144:LYS:H	1:A:126:VAL:O	3	0.13	0.0	0.13
(1,683)	1:A:168:ARG:HD2	1:A:195:ILE:HB	3	0.12	0.01	0.12
(1,683)	1:A:168:ARG:HD3	1:A:195:ILE:HB	3	0.12	0.01	0.12
(4,113)	1:A:149:PHE:H	1:A:169:TYR:O	3	0.12	0.01	0.12
(1,415)	1:A:130:ASP:H	1:A:131:LYS:H	2	0.24	0.05	0.24
(1,84)	1:A:61:TYR:H	1:A:69:VAL:HB	2	0.22	0.05	0.22
(1,521)	1:A:58:ASP:HB2	1:A:71:PHE:H	2	0.2	0.0	0.2
(1,521)	1:A:58:ASP:HB3	1:A:71:PHE:H	2	0.2	0.0	0.2
(1,682)	1:A:168:ARG:HD2	1:A:195:ILE:H	2	0.2	0.02	0.2
(1,682)	1:A:168:ARG:HD3	1:A:195:ILE:H	2	0.2	0.02	0.2
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB2	2	0.18	0.03	0.18
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB3	2	0.18	0.03	0.18
(1,280)	1:A:85:LYS:H	1:A:85:LYS:HD3	2	0.17	0.03	0.17
(1,77)	1:A:179:THR:HB	1:A:184:PRO:HB3	2	0.16	0.04	0.16
(1,630)	1:A:140:ASP:HB2	1:A:177:THR:H	2	0.16	0.04	0.16
(1,630)	1:A:140:ASP:HB3	1:A:177:THR:H	2	0.16	0.04	0.16
(1,360)	1:A:13:ASN:H	1:A:16:ASP:H	2	0.15	0.0	0.15

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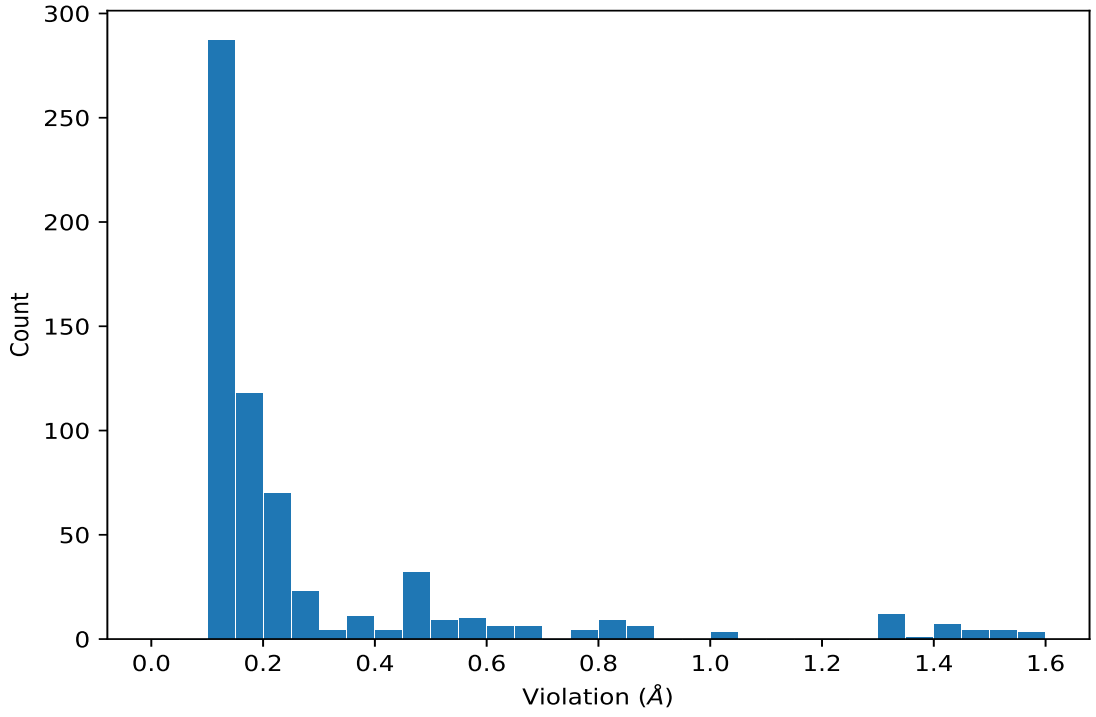
Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,366)	1:A:123:VAL:H	1:A:148:ALA:H	2	0.12	0.01	0.12
(4,1)	1:A:16:ASP:H	1:A:62:PHE:O	2	0.12	0.01	0.12
(4,139)	1:A:195:ILE:H	1:A:168:ARG:O	2	0.12	0.0	0.12
(1,381)	1:A:64:SER:H	1:A:67:ILE:H	2	0.12	0.0	0.12
(1,474)	1:A:19:ALA:H	1:A:202:TYR:H	2	0.12	0.0	0.12
(1,251)	1:A:155:TYR:H	1:A:164:ASN:HB2	2	0.11	0.0	0.11
(3,6)	1:A:18:VAL:N	1:A:62:PHE:H	2	0.11	0.0	0.11
(4,69)	1:A:99:GLY:H	1:A:127:LEU:O	2	0.11	0.0	0.11

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

9.5 All violated distance restraints

9.5.1 Histogram : Distribution of distance violations

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

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)
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	19	1.57
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	17	1.56
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	12	1.55
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	5	1.54
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	7	1.54
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	3	1.53
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	1	1.52
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	4	1.49
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	8	1.48
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	18	1.47
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	16	1.46
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	3	1.42
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	3	1.42
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	3	1.42
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	3	1.42
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	3	1.42
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	3	1.42
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	2	1.42
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	14	1.4
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	16	1.33
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	16	1.33
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	16	1.33
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	16	1.33
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	16	1.33
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	16	1.33
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	8	1.31
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	8	1.31
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	8	1.31
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	8	1.31
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	8	1.31
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	8	1.31
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	16	1.02
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	16	1.02
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	16	1.02
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	7	0.87
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	7	0.87
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	7	0.87
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	17	0.87
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	17	0.87
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	17	0.87
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	19	0.8

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	19	0.8
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	19	0.8
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	19	0.8
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	19	0.8
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	19	0.8
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	19	0.8
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	19	0.8
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	19	0.8
(1,125)	1:A:103:LEU:HB2	1:A:104:SER:HA	11	0.79
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	2	0.77
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	2	0.77
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	2	0.77
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	17	0.65
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	17	0.65
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	17	0.65
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	17	0.65
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	17	0.65
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	17	0.65
(1,657)	1:A:154:ARG:HD2	1:A:162:MET:HB3	20	0.64
(1,657)	1:A:154:ARG:HD3	1:A:162:MET:HB3	20	0.64
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	5	0.64
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	5	0.64
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	5	0.64
(1,331)	1:A:162:MET:HB2	1:A:201:SER:H	20	0.61
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	17	0.58
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	17	0.58
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	17	0.58
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	2	0.56
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	2	0.56
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	2	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	2	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	2	0.56
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	2	0.56
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	9	0.56
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	19	0.54
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	19	0.54
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	19	0.54
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	19	0.54
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	19	0.54
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	19	0.54
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	19	0.52
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	19	0.52

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	19	0.52
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	7	0.48
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	7	0.48
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	7	0.48
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	7	0.48
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	7	0.48
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	7	0.48
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	2	0.47
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	2	0.47
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	2	0.47
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	5	0.46
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	5	0.46
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	5	0.46
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	5	0.46
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	5	0.46
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	5	0.46
(1,681)	1:A:168:ARG:HD2	1:A:169:TYR:H	5	0.46
(1,681)	1:A:168:ARG:HD3	1:A:169:TYR:H	5	0.46
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB3	15	0.46
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB3	15	0.46
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB3	15	0.46
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB3	15	0.46
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB3	15	0.46
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB2	15	0.46
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB3	15	0.46
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	11	0.46
(1,681)	1:A:168:ARG:HD2	1:A:169:TYR:H	20	0.45
(1,681)	1:A:168:ARG:HD3	1:A:169:TYR:H	20	0.45
(1,49)	1:A:60:ALA:HB1	1:A:164:ASN:HB2	12	0.44
(1,49)	1:A:60:ALA:HB2	1:A:164:ASN:HB2	12	0.44
(1,49)	1:A:60:ALA:HB3	1:A:164:ASN:HB2	12	0.44
(1,124)	1:A:71:PHE:HA	1:A:103:LEU:HB3	11	0.41
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	17	0.37
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	17	0.37
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	17	0.37
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	17	0.37
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	17	0.37

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	17	0.37
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	17	0.37
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	17	0.37
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	17	0.37
(1,681)	1:A:168:ARG:HD2	1:A:169:TYR:H	6	0.37
(1,681)	1:A:168:ARG:HD3	1:A:169:TYR:H	6	0.37
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	7	0.33
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	7	0.33
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	7	0.33
(1,194)	1:A:82:GLN:HB2	1:A:92:ARG:H	10	0.32
(1,415)	1:A:130:ASP:H	1:A:131:LYS:H	14	0.29
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	4	0.29
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	4	0.29
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	4	0.29
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG11	4	0.28
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG12	4	0.28
(1,88)	1:A:80:LYS:HG2	1:A:93:VAL:HG13	4	0.28
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG11	4	0.28
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG12	4	0.28
(1,88)	1:A:80:LYS:HG3	1:A:93:VAL:HG13	4	0.28
(1,84)	1:A:61:TYR:H	1:A:69:VAL:HB	7	0.27
(1,248)	1:A:151:VAL:H	1:A:167:VAL:HB	11	0.27
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	3	0.26
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	3	0.26
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	3	0.26
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	3	0.26
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	3	0.26
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	3	0.26
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	3	0.26
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	3	0.26
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	3	0.26
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	8	0.25
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	8	0.25
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	19	0.24
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	19	0.24
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	19	0.24
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	19	0.24
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	19	0.24
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	19	0.24
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	19	0.24
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	19	0.24
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	19	0.24

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	5	0.24
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	5	0.24
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	5	0.24
(1,646)	1:A:150:GLN:HE21	1:A:168:ARG:H	14	0.23
(1,646)	1:A:150:GLN:HE22	1:A:168:ARG:H	14	0.23
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB2	18	0.23
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB3	18	0.23
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB2	18	0.23
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB3	18	0.23
(1,215)	1:A:121:VAL:HB	1:A:150:GLN:H	19	0.23
(1,682)	1:A:168:ARG:HD2	1:A:195:ILE:H	15	0.22
(1,682)	1:A:168:ARG:HD3	1:A:195:ILE:H	15	0.22
(1,641)	1:A:149:PHE:H	1:A:169:TYR:HB2	10	0.22
(1,641)	1:A:149:PHE:H	1:A:169:TYR:HB3	10	0.22
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB3	18	0.22
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB3	18	0.22
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB3	18	0.22
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB3	18	0.22
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB3	18	0.22
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB2	18	0.22
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB3	18	0.22
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	19	0.22
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	17	0.21
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	17	0.21
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	17	0.21
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	17	0.21
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	17	0.21
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	17	0.21
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	17	0.21
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	17	0.21
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	17	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG11	12	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG12	12	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG13	12	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG21	12	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG22	12	0.21
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG23	12	0.21

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB2	17	0.21
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB3	17	0.21
(1,162)	1:A:168:ARG:HA	1:A:168:ARG:HD3	20	0.21
(1,77)	1:A:179:THR:HB	1:A:184:PRO:HB3	16	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	17	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	17	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	17	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	17	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	17	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	17	0.2
(1,521)	1:A:58:ASP:HB2	1:A:71:PHE:H	8	0.2
(1,521)	1:A:58:ASP:HB3	1:A:71:PHE:H	8	0.2
(1,521)	1:A:58:ASP:HB2	1:A:71:PHE:H	13	0.2
(1,521)	1:A:58:ASP:HB3	1:A:71:PHE:H	13	0.2
(1,280)	1:A:85:LYS:H	1:A:85:LYS:HD3	13	0.2
(1,249)	1:A:101:ALA:HB1	1:A:125:ARG:H	12	0.2
(1,249)	1:A:101:ALA:HB2	1:A:125:ARG:H	12	0.2
(1,249)	1:A:101:ALA:HB3	1:A:125:ARG:H	12	0.2
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	11	0.2
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	19	0.19
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	19	0.19
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	19	0.19
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	19	0.19
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	19	0.19
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	19	0.19
(1,630)	1:A:140:ASP:HB2	1:A:177:THR:H	17	0.19
(1,630)	1:A:140:ASP:HB3	1:A:177:THR:H	17	0.19
(1,415)	1:A:130:ASP:H	1:A:131:LYS:H	17	0.19
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	8	0.19
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	8	0.19
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	8	0.19
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	8	0.19
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	8	0.19
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	8	0.19
(4,99)	1:A:139:PHE:H	1:A:133:ASP:O	19	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	4	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	4	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	4	0.18
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	4	0.18
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	4	0.18
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	4	0.18
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	4	0.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	4	0.18
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	4	0.18
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	3	0.18
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	3	0.18
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	3	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	3	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	3	0.18
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	3	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	3	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	3	0.18
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	3	0.18
(1,674)	1:A:168:ARG:H	1:A:168:ARG:HD2	15	0.18
(1,674)	1:A:168:ARG:H	1:A:168:ARG:HD3	15	0.18
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	3	0.18
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	3	0.18
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	15	0.18
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	15	0.18
(1,232)	1:A:148:ALA:HB1	1:A:169:TYR:H	4	0.18
(1,232)	1:A:148:ALA:HB2	1:A:169:TYR:H	4	0.18
(1,232)	1:A:148:ALA:HB3	1:A:169:TYR:H	4	0.18
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	6	0.17
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	6	0.17
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	6	0.17
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	6	0.17
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	6	0.17
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	6	0.17
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	6	0.17
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	6	0.17
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	6	0.17
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	7	0.17
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	7	0.17
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	7	0.17
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	7	0.17
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	7	0.17
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	7	0.17
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	7	0.17
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	7	0.17
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	7	0.17
(1,84)	1:A:61:TYR:H	1:A:69:VAL:HB	1	0.17
(1,82)	1:A:177:THR:HA	1:A:184:PRO:HB2	17	0.17
(1,682)	1:A:168:ARG:HD2	1:A:195:ILE:H	16	0.17
(1,682)	1:A:168:ARG:HD3	1:A:195:ILE:H	16	0.17

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	12	0.17
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	12	0.17
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	12	0.17
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	12	0.17
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	12	0.17
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	12	0.17
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	18	0.17
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	18	0.17
(1,57)	1:A:141:ILE:HB	1:A:176:VAL:HA	12	0.17
(1,539)	1:A:76:PRO:HB2	1:A:98:TYR:H	8	0.17
(1,539)	1:A:76:PRO:HB3	1:A:98:TYR:H	8	0.17
(1,48)	1:A:154:ARG:HB2	1:A:164:ASN:HB2	18	0.17
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	3	0.17
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	3	0.17
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	3	0.17
(1,20)	1:A:84:GLU:HA	1:A:93:VAL:HG21	17	0.17
(1,20)	1:A:84:GLU:HA	1:A:93:VAL:HG22	17	0.17
(1,20)	1:A:84:GLU:HA	1:A:93:VAL:HG23	17	0.17
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	8	0.16
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	8	0.16
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	8	0.16
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	8	0.16
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	8	0.16
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	8	0.16
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	8	0.16
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	8	0.16
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	8	0.16
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	4	0.16
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	4	0.16
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	4	0.16
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	4	0.16
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	4	0.16
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	4	0.16
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	4	0.16
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	4	0.16
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	4	0.16
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	18	0.16
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	18	0.16
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	18	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG11	6	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG12	6	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG13	6	0.16

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG21	6	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG22	6	0.16
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG23	6	0.16
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB2	3	0.16
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB3	3	0.16
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB2	3	0.16
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB3	3	0.16
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	3	0.16
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	3	0.16
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	3	0.16
(1,147)	1:A:154:ARG:HE	1:A:163:LEU:HA	13	0.16
(4,99)	1:A:139:PHE:H	1:A:133:ASP:O	9	0.15
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	7	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG11	20	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG12	20	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG13	20	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG21	20	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG22	20	0.15
(3,27)	1:A:85:LYS:HD2	1:A:185:VAL:HG23	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG11	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG12	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG13	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG21	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG22	20	0.15
(3,27)	1:A:85:LYS:HD3	1:A:185:VAL:HG23	20	0.15
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	2	0.15
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	2	0.15
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	2	0.15
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	2	0.15
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	2	0.15
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	2	0.15
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	2	0.15
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	2	0.15
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	2	0.15
(1,82)	1:A:177:THR:HA	1:A:184:PRO:HB2	5	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG11	8	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG12	8	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG13	8	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG21	8	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG22	8	0.15
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG23	8	0.15
(1,625)	1:A:139:PHE:HA	1:A:140:ASP:HB2	8	0.15

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,625)	1:A:139:PHE:HA	1:A:140:ASP:HB3	8	0.15
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB2	20	0.15
(1,620)	1:A:134:GLY:H	1:A:139:PHE:HB3	20	0.15
(1,572)	1:A:93:VAL:HA	1:A:134:GLY:HA2	9	0.15
(1,572)	1:A:93:VAL:HA	1:A:134:GLY:HA3	9	0.15
(1,468)	1:A:176:VAL:H	1:A:187:THR:H	4	0.15
(1,360)	1:A:13:ASN:H	1:A:16:ASP:H	13	0.15
(1,285)	1:A:85:LYS:H	1:A:85:LYS:HD2	7	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG21	1	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG22	1	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG23	1	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG21	7	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG22	7	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG23	7	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG21	11	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG22	11	0.15
(1,277)	1:A:69:VAL:H	1:A:69:VAL:HG23	11	0.15
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	20	0.15
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	20	0.15
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	20	0.15
(1,13)	1:A:143:ASP:HA	1:A:175:ASP:H	10	0.15
(1,13)	1:A:143:ASP:HA	1:A:175:ASP:H	17	0.15
(4,99)	1:A:139:PHE:H	1:A:133:ASP:O	15	0.14
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	20	0.14
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	1	0.14
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	1	0.14
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	1	0.14
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	7	0.14
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	7	0.14
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	7	0.14
(1,82)	1:A:177:THR:HA	1:A:184:PRO:HB2	10	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	1	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	1	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	1	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	1	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	1	0.14
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	1	0.14
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB2	14	0.14
(1,581)	1:A:97:ASP:H	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB2	14	0.14
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB2	14	0.14

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB2	14	0.14
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB2	14	0.14
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB2	14	0.14
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB3	14	0.14
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB2	14	0.14
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB3	14	0.14
(1,360)	1:A:13:ASN:H	1:A:16:ASP:H	18	0.14
(1,280)	1:A:85:LYS:H	1:A:85:LYS:HD3	20	0.14
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	10	0.14
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	15	0.14
(1,217)	1:A:19:ALA:HB1	1:A:202:TYR:H	11	0.14
(1,217)	1:A:19:ALA:HB2	1:A:202:TYR:H	11	0.14
(1,217)	1:A:19:ALA:HB3	1:A:202:TYR:H	11	0.14
(1,18)	1:A:156:ASP:HA	1:A:162:MET:HB3	20	0.14
(4,95)	1:A:144:LYS:H	1:A:126:VAL:O	4	0.13
(4,95)	1:A:144:LYS:H	1:A:126:VAL:O	19	0.13
(4,180)	1:A:85:LYS:O	1:A:89:SER:N	1	0.13
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	15	0.13
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	11	0.13
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	14	0.13
(4,113)	1:A:149:PHE:H	1:A:169:TYR:O	15	0.13
(4,1)	1:A:16:ASP:H	1:A:62:PHE:O	13	0.13
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	12	0.13
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	12	0.13
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	12	0.13
(1,82)	1:A:177:THR:HA	1:A:184:PRO:HB2	16	0.13
(1,77)	1:A:179:THR:HB	1:A:184:PRO:HB3	10	0.13
(1,683)	1:A:168:ARG:HD2	1:A:195:ILE:HB	11	0.13
(1,683)	1:A:168:ARG:HD3	1:A:195:ILE:HB	11	0.13
(1,677)	1:A:168:ARG:HB2	1:A:195:ILE:H	18	0.13
(1,677)	1:A:168:ARG:HB3	1:A:195:ILE:H	18	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG11	3	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG12	3	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG13	3	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG21	3	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG22	3	0.13
(1,634)	1:A:141:ILE:HB	1:A:176:VAL:HG23	3	0.13
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB2	8	0.13
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB3	8	0.13

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB2	8	0.13
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB3	8	0.13
(1,366)	1:A:123:VAL:H	1:A:148:ALA:H	20	0.13
(1,204)	1:A:59:ILE:HD11	1:A:71:PHE:H	4	0.13
(1,204)	1:A:59:ILE:HD12	1:A:71:PHE:H	4	0.13
(1,204)	1:A:59:ILE:HD13	1:A:71:PHE:H	4	0.13
(1,158)	1:A:168:ARG:HA	1:A:168:ARG:HD2	10	0.13
(4,97)	1:A:133:ASP:H	1:A:139:PHE:O	20	0.12
(4,95)	1:A:144:LYS:H	1:A:126:VAL:O	18	0.12
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	8	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	3	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	5	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	6	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	8	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	10	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	12	0.12
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	18	0.12
(4,139)	1:A:195:ILE:H	1:A:168:ARG:O	4	0.12
(4,139)	1:A:195:ILE:H	1:A:168:ARG:O	13	0.12
(4,13)	1:A:22:ASN:H	1:A:56:THR:O	12	0.12
(4,13)	1:A:22:ASN:H	1:A:56:THR:O	15	0.12
(4,13)	1:A:22:ASN:H	1:A:56:THR:O	18	0.12
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	9	0.12
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	20	0.12
(4,113)	1:A:149:PHE:H	1:A:169:TYR:O	20	0.12
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG21	2	0.12
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG22	2	0.12
(1,90)	1:A:87:ILE:HD11	1:A:93:VAL:HG23	2	0.12
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG21	2	0.12
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG22	2	0.12
(1,90)	1:A:87:ILE:HD12	1:A:93:VAL:HG23	2	0.12
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG21	2	0.12
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG22	2	0.12
(1,90)	1:A:87:ILE:HD13	1:A:93:VAL:HG23	2	0.12
(1,89)	1:A:60:ALA:HB1	1:A:154:ARG:HB2	9	0.12
(1,89)	1:A:60:ALA:HB2	1:A:154:ARG:HB2	9	0.12
(1,89)	1:A:60:ALA:HB3	1:A:154:ARG:HB2	9	0.12
(1,699)	1:A:183:VAL:HB	1:A:184:PRO:HD2	16	0.12
(1,699)	1:A:183:VAL:HB	1:A:184:PRO:HD3	16	0.12
(1,683)	1:A:168:ARG:HD2	1:A:195:ILE:HB	13	0.12
(1,683)	1:A:168:ARG:HD3	1:A:195:ILE:HB	13	0.12
(1,675)	1:A:168:ARG:HA	1:A:168:ARG:HD2	7	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,675)	1:A:168:ARG:HA	1:A:168:ARG:HD3	7	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	5	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	16	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG11	18	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG12	18	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG13	18	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG21	18	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG22	18	0.12
(1,647)	1:A:151:VAL:H	1:A:167:VAL:HG23	18	0.12
(1,630)	1:A:140:ASP:HB2	1:A:177:THR:H	12	0.12
(1,630)	1:A:140:ASP:HB3	1:A:177:THR:H	12	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG11	4	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG12	4	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG13	4	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG21	4	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG22	4	0.12
(1,627)	1:A:140:ASP:H	1:A:176:VAL:HG23	4	0.12
(1,596)	1:A:117:PRO:HB2	1:A:118:TYR:HB2	7	0.12
(1,596)	1:A:117:PRO:HB2	1:A:118:TYR:HB3	7	0.12
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG11	1:A:129:PHE:HB3	10	0.12
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG12	1:A:129:PHE:HB3	10	0.12
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG13	1:A:129:PHE:HB3	10	0.12
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG21	1:A:129:PHE:HB3	10	0.12
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG22	1:A:129:PHE:HB3	10	0.12
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB2	10	0.12
(1,577)	1:A:96:VAL:HG23	1:A:129:PHE:HB3	10	0.12
(1,573)	1:A:94:SER:HA	1:A:133:ASP:HB2	10	0.12

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,573)	1:A:94:SER:HA	1:A:133:ASP:HB3	10	0.12
(1,49)	1:A:60:ALA:HB1	1:A:164:ASN:HB2	2	0.12
(1,49)	1:A:60:ALA:HB2	1:A:164:ASN:HB2	2	0.12
(1,49)	1:A:60:ALA:HB3	1:A:164:ASN:HB2	2	0.12
(1,49)	1:A:60:ALA:HB1	1:A:164:ASN:HB2	18	0.12
(1,49)	1:A:60:ALA:HB2	1:A:164:ASN:HB2	18	0.12
(1,49)	1:A:60:ALA:HB3	1:A:164:ASN:HB2	18	0.12
(1,474)	1:A:19:ALA:H	1:A:202:TYR:H	11	0.12
(1,399)	1:A:83:GLY:H	1:A:88:SER:H	14	0.12
(1,386)	1:A:61:TYR:H	1:A:70:ASP:H	14	0.12
(1,381)	1:A:64:SER:H	1:A:67:ILE:H	13	0.12
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	18	0.12
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	18	0.12
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	18	0.12
(1,206)	1:A:71:PHE:H	1:A:72:PHE:H	15	0.12
(1,13)	1:A:143:ASP:HA	1:A:175:ASP:H	14	0.12
(4,99)	1:A:139:PHE:H	1:A:133:ASP:O	13	0.11
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	4	0.11
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	11	0.11
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	15	0.11
(4,75)	1:A:132:THR:H	1:A:95:GLU:O	20	0.11
(4,71)	1:A:127:LEU:H	1:A:99:GLY:O	15	0.11
(4,69)	1:A:99:GLY:H	1:A:127:LEU:O	14	0.11
(4,69)	1:A:99:GLY:H	1:A:127:LEU:O	18	0.11
(4,181)	1:A:86:SER:O	1:A:90:LEU:H	20	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	2	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	4	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	9	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	13	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	14	0.11
(4,177)	1:A:84:GLU:O	1:A:88:SER:H	19	0.11
(4,155)	1:A:17:TRP:H	1:A:204:PHE:O	18	0.11
(4,13)	1:A:22:ASN:H	1:A:56:THR:O	16	0.11
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	1	0.11
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	4	0.11
(4,119)	1:A:175:ASP:H	1:A:142:LYS:O	13	0.11
(4,113)	1:A:149:PHE:H	1:A:169:TYR:O	8	0.11
(4,1)	1:A:16:ASP:H	1:A:62:PHE:O	17	0.11
(3,6)	1:A:18:VAL:N	1:A:62:PHE:H	3	0.11
(3,6)	1:A:18:VAL:N	1:A:62:PHE:H	19	0.11
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB1	9	0.11
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB2	9	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,96)	1:A:93:VAL:HG21	1:A:135:ALA:HB3	9	0.11
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB1	9	0.11
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB2	9	0.11
(1,96)	1:A:93:VAL:HG22	1:A:135:ALA:HB3	9	0.11
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB1	9	0.11
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB2	9	0.11
(1,96)	1:A:93:VAL:HG23	1:A:135:ALA:HB3	9	0.11
(1,683)	1:A:168:ARG:HD2	1:A:195:ILE:HB	16	0.11
(1,683)	1:A:168:ARG:HD3	1:A:195:ILE:HB	16	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG11	14	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG12	14	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG13	14	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG21	14	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG22	14	0.11
(1,635)	1:A:141:ILE:HG12	1:A:176:VAL:HG23	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG11	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG12	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG13	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG21	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG22	14	0.11
(1,635)	1:A:141:ILE:HG13	1:A:176:VAL:HG23	14	0.11
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB2	15	0.11
(1,621)	1:A:134:GLY:HA2	1:A:139:PHE:HB3	15	0.11
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB2	15	0.11
(1,621)	1:A:134:GLY:HA3	1:A:139:PHE:HB3	15	0.11
(1,506)	1:A:61:TYR:H	1:A:69:VAL:H	12	0.11
(1,477)	1:A:72:PHE:H	1:A:102:ILE:H	8	0.11
(1,474)	1:A:19:ALA:H	1:A:202:TYR:H	18	0.11
(1,41)	1:A:93:VAL:HG21	1:A:135:ALA:HA	14	0.11
(1,41)	1:A:93:VAL:HG22	1:A:135:ALA:HA	14	0.11
(1,41)	1:A:93:VAL:HG23	1:A:135:ALA:HA	14	0.11
(1,381)	1:A:64:SER:H	1:A:67:ILE:H	18	0.11
(1,372)	1:A:14:GLN:H	1:A:16:ASP:H	13	0.11
(1,366)	1:A:123:VAL:H	1:A:148:ALA:H	8	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	4	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	4	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	4	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB1	15	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB2	15	0.11
(1,26)	1:A:93:VAL:HA	1:A:135:ALA:HB3	15	0.11
(1,251)	1:A:155:TYR:H	1:A:164:ASN:HB2	7	0.11
(1,251)	1:A:155:TYR:H	1:A:164:ASN:HB2	18	0.11

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,231)	1:A:96:VAL:HB	1:A:132:THR:H	1	0.11
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG11	16	0.11
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG12	16	0.11
(1,223)	1:A:81:PHE:H	1:A:93:VAL:HG13	16	0.11

10 Dihedral-angle violation analysis (i)

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