



Full wwPDB NMR Structure Validation Report ⓘ

Apr 26, 2016 – 06:54 PM BST

PDB ID : 1ZIT
Title : Structure of the receiver domain of NtrC4 from Aquifex aeolicus
Authors : Matsubara, K.; Pelton, J.G.; Wemmer, D.E.
Deposited on : 2005-04-27

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
<http://wwpdb.org/validation/2016/NMRValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

Cyrange : Kirchner and Güntert (2011)
NmrClust : Kelley et al. (1996)
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
ShiftChecker : rb-20027457
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20027457

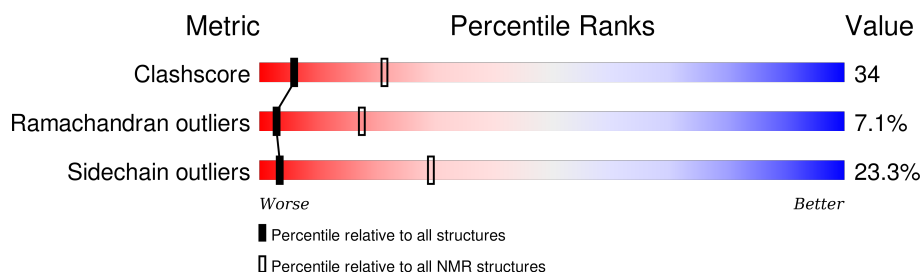
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment was not calculated.

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	114402	11133
Ramachandran outliers	111179	9975
Sidechain outliers	111093	9958

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

Mol	Chain	Length	Quality of chain
1	A	121	<div> <div></div> <div>28%</div> <div>52%</div> <div>7%</div> <div>12%</div> </div>

2 Ensemble composition and analysis

This entry contains 38 models. Model 11 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:2-A:10, A:14-A:80, A:85-A:101, A:106-A:118 (106)	0.50	11

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

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

The models can be grouped into 4 clusters and 1 single-model cluster was found.

Cluster number	Models
1	5, 6, 7, 9, 10, 11, 13, 15, 17, 18, 20, 23, 27, 30, 34, 37
2	2, 3, 4, 8, 14, 16, 21, 24, 26, 36, 38
3	1, 12, 25, 28, 29, 31, 33, 35
4	22, 32
Single-model clusters	19

3 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 1931 atoms, of which 968 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called transcriptional regulator (NtrC family).

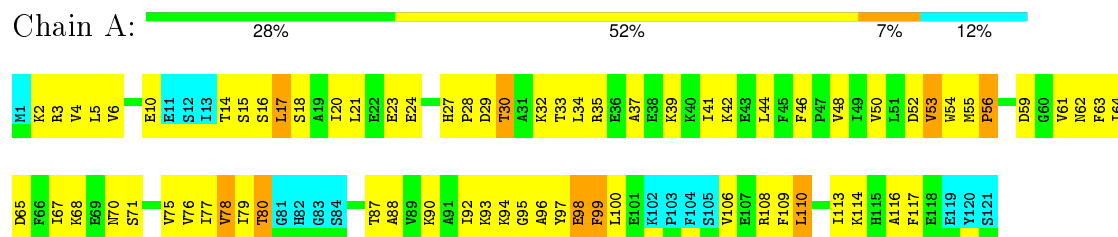
Mol	Chain	Residues	Atoms						Trace
1	A	121	Total	C	H	N	O	S	0
			1931	624	968	150	187	2	

4 Residue-property plots [i](#)

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA and DNA 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: transcriptional regulator (NtrC family)

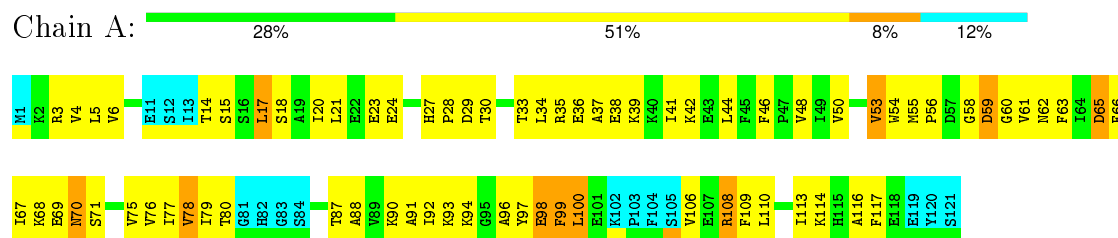


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

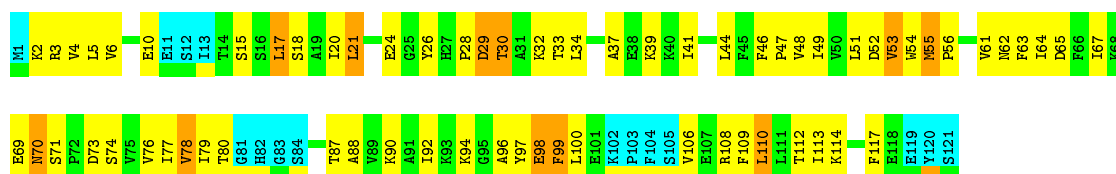
- Molecule 1: transcriptional regulator (NtrC family)



4.2.2 Score per residue for model 2

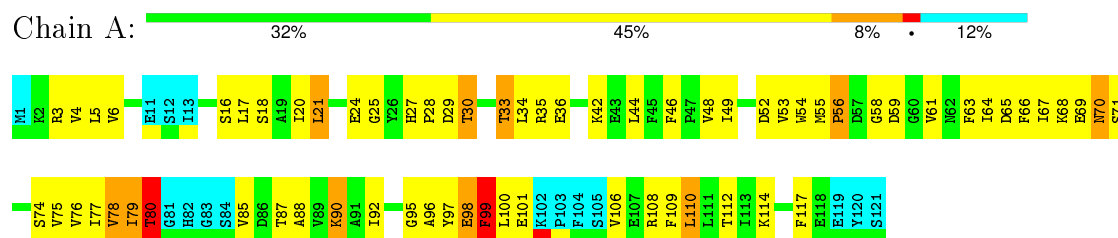
- Molecule 1: transcriptional regulator (NtrC family)





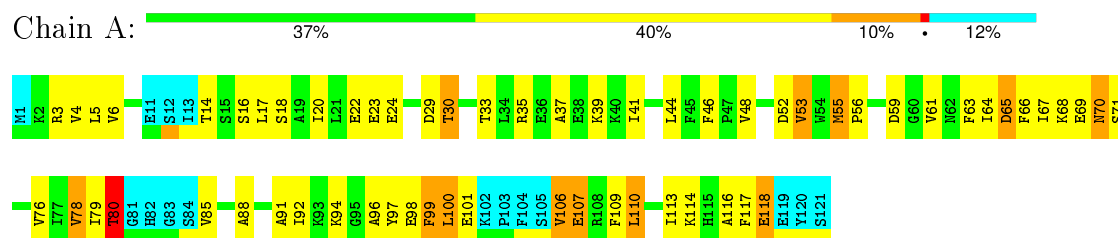
4.2.3 Score per residue for model 3

- Molecule 1: transcriptional regulator (NtrC family)



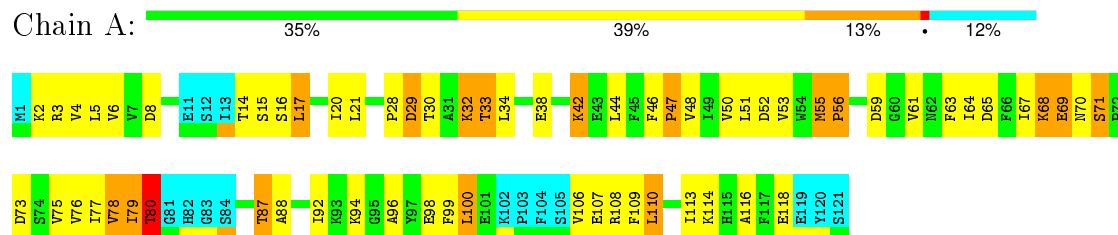
4.2.4 Score per residue for model 4

- Molecule 1: transcriptional regulator (NtrC family)



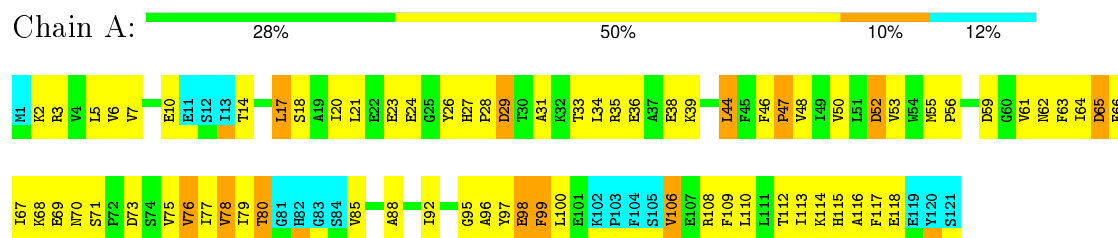
4.2.5 Score per residue for model 5

- Molecule 1: transcriptional regulator (NtrC family)



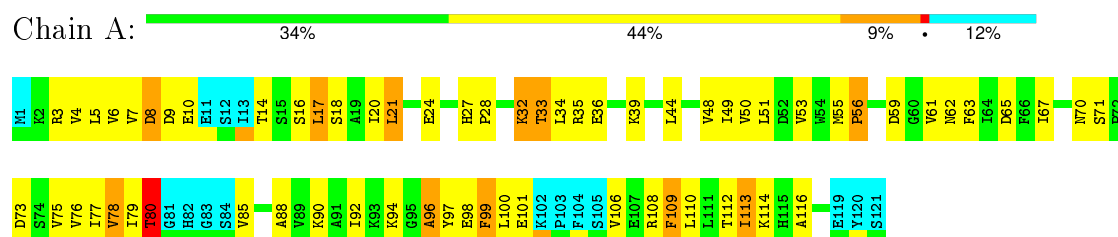
4.2.6 Score per residue for model 6

- Molecule 1: transcriptional regulator (NtrC family)



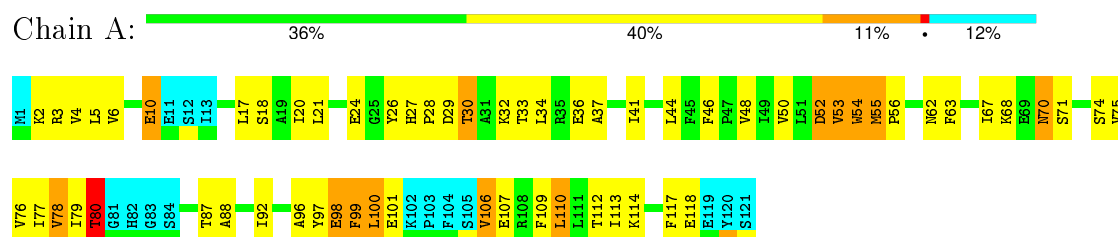
4.2.7 Score per residue for model 7

- Molecule 1: transcriptional regulator (NtrC family)



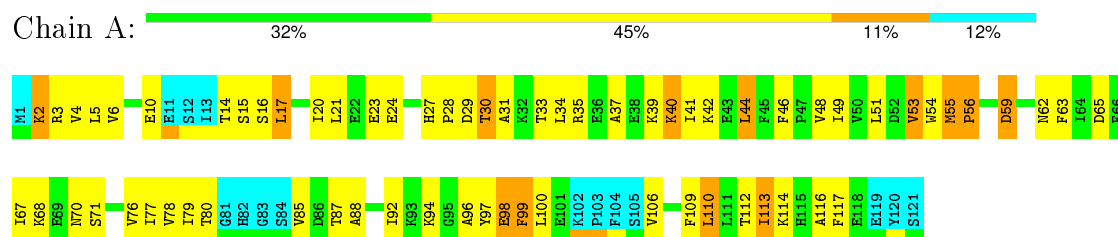
4.2.8 Score per residue for model 8

- Molecule 1: transcriptional regulator (NtrC family)



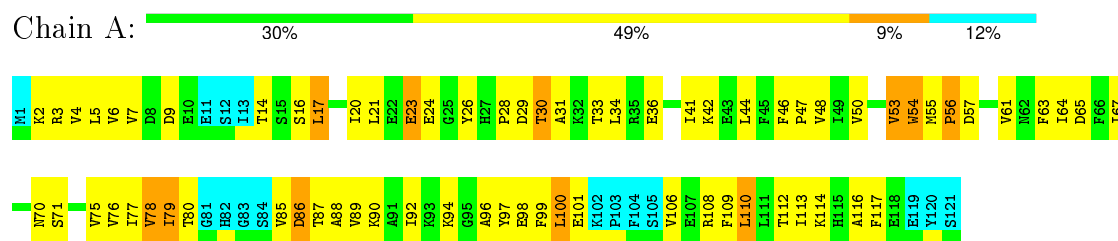
4.2.9 Score per residue for model 9

- Molecule 1: transcriptional regulator (NtrC family)



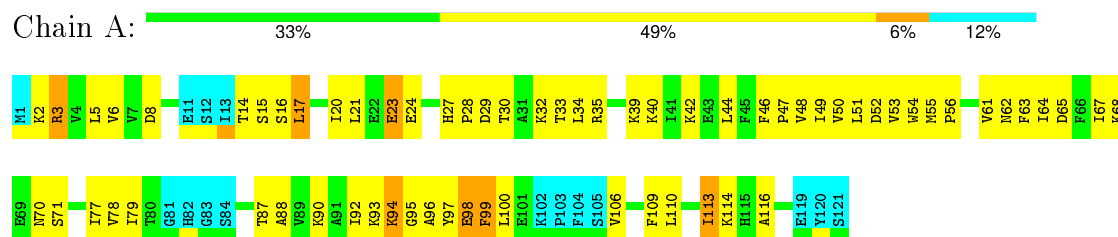
4.2.10 Score per residue for model 10

- Molecule 1: transcriptional regulator (NtrC family)



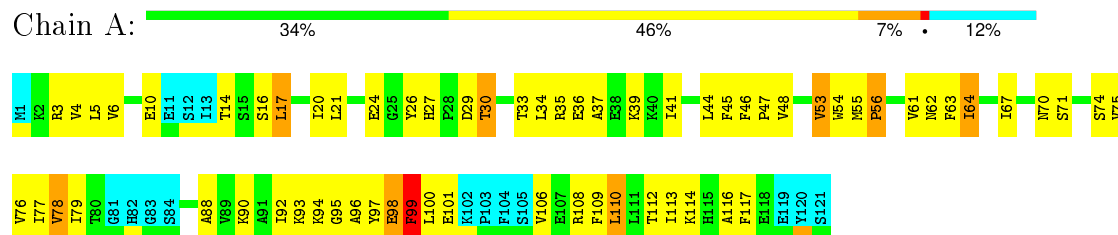
4.2.11 Score per residue for model 11 (medoid)

- Molecule 1: transcriptional regulator (NtrC family)



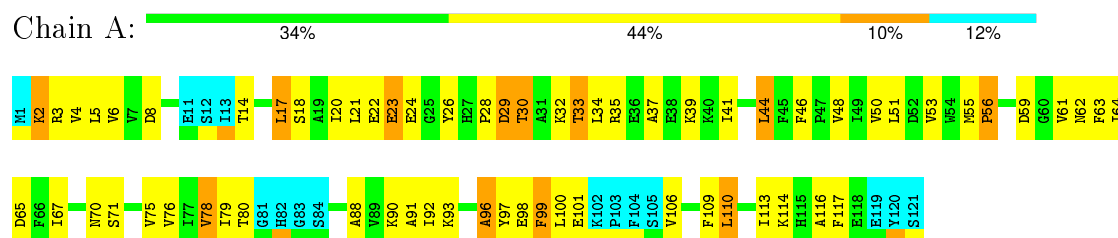
4.2.12 Score per residue for model 12

- Molecule 1: transcriptional regulator (NtrC family)



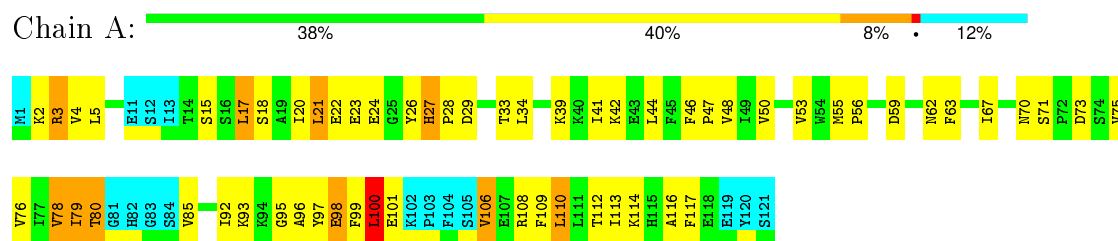
4.2.13 Score per residue for model 13

- Molecule 1: transcriptional regulator (NtrC family)



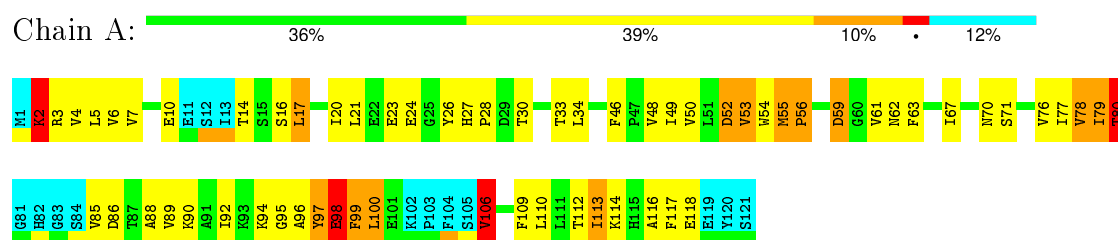
4.2.14 Score per residue for model 14

- Molecule 1: transcriptional regulator (NtrC family)



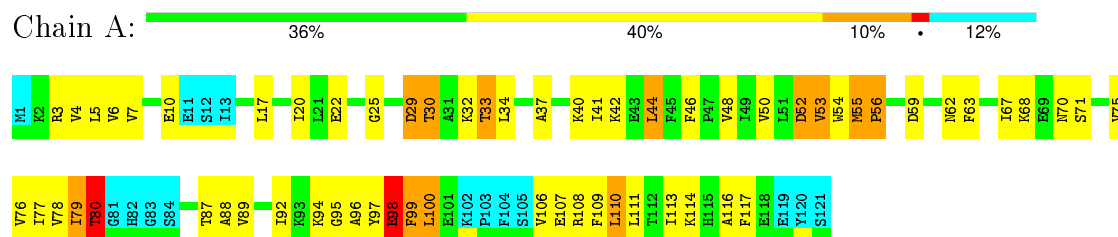
4.2.15 Score per residue for model 15

- Molecule 1: transcriptional regulator (NtrC family)



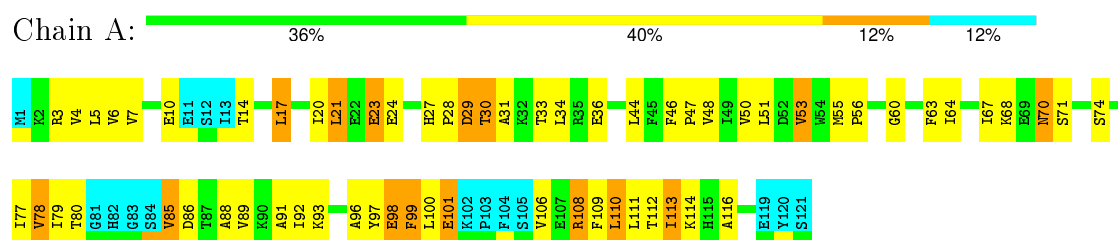
4.2.16 Score per residue for model 16

- Molecule 1: transcriptional regulator (NtrC family)



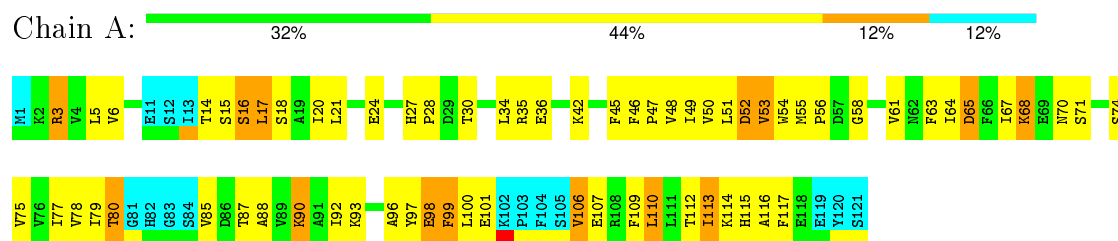
4.2.17 Score per residue for model 17

- Molecule 1: transcriptional regulator (NtrC family)



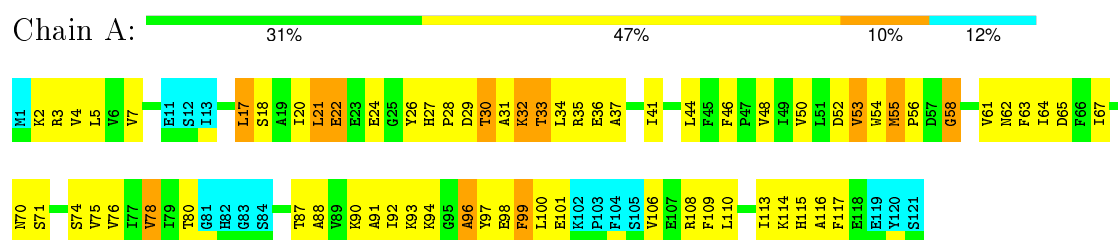
4.2.18 Score per residue for model 18

- Molecule 1: transcriptional regulator (NtrC family)



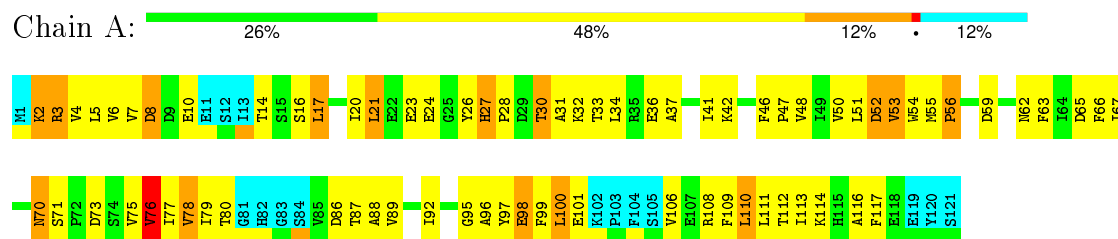
4.2.19 Score per residue for model 19

- Molecule 1: transcriptional regulator (NtrC family)



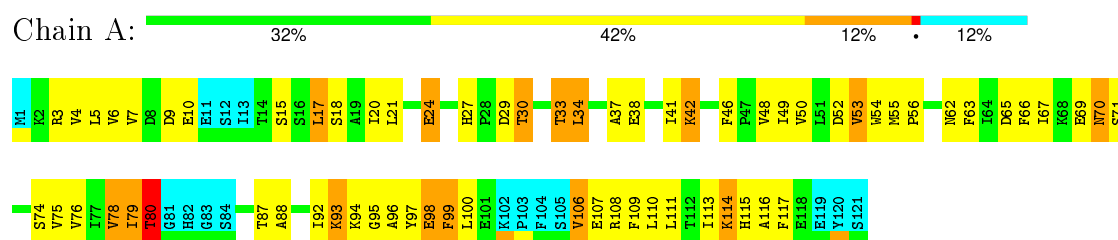
4.2.20 Score per residue for model 20

- Molecule 1: transcriptional regulator (NtrC family)



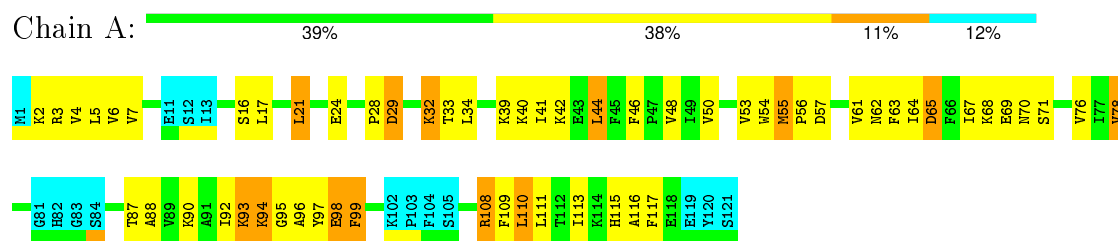
4.2.21 Score per residue for model 21

- Molecule 1: transcriptional regulator (NtrC family)



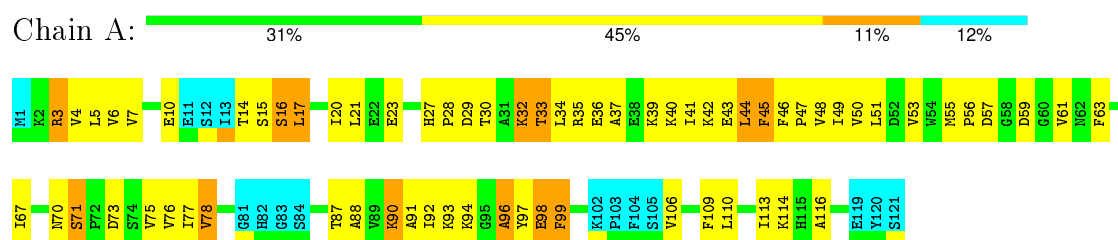
4.2.22 Score per residue for model 22

- Molecule 1: transcriptional regulator (NtrC family)



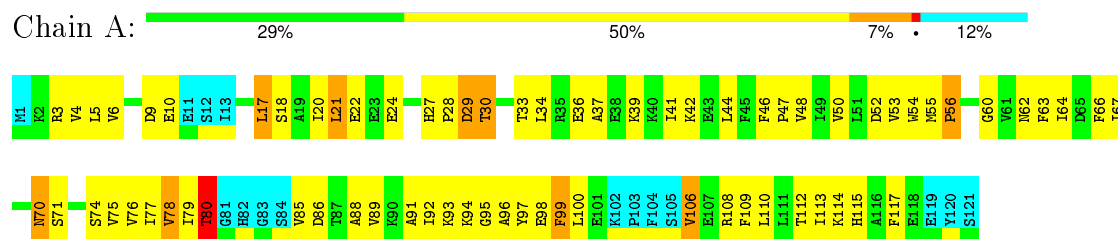
4.2.23 Score per residue for model 23

- Molecule 1: transcriptional regulator (NtrC family)



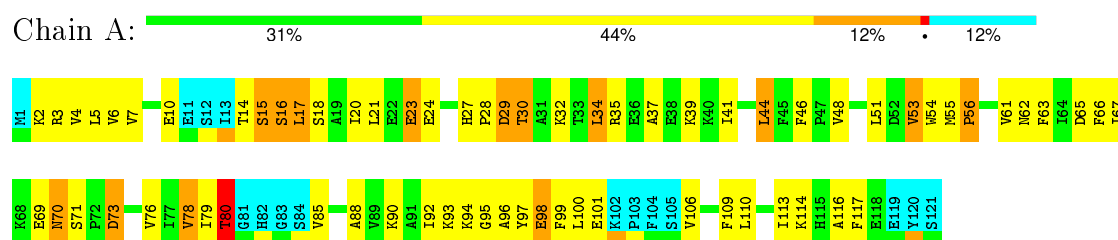
4.2.24 Score per residue for model 24

- Molecule 1: transcriptional regulator (NtrC family)



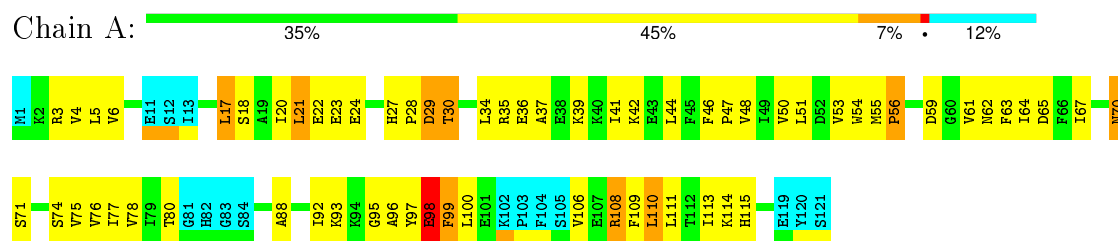
4.2.25 Score per residue for model 25

- Molecule 1: transcriptional regulator (NtrC family)



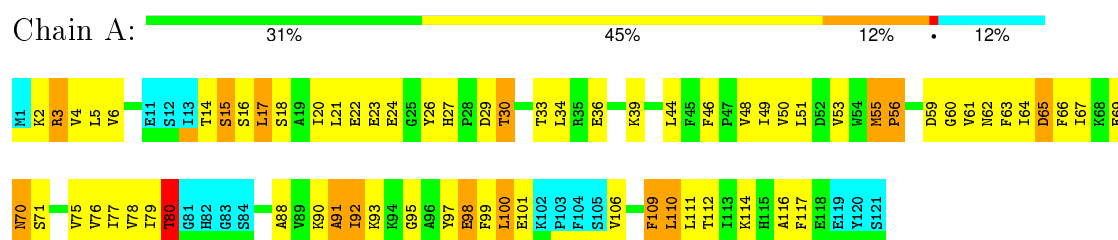
4.2.26 Score per residue for model 26

- Molecule 1: transcriptional regulator (NtrC family)



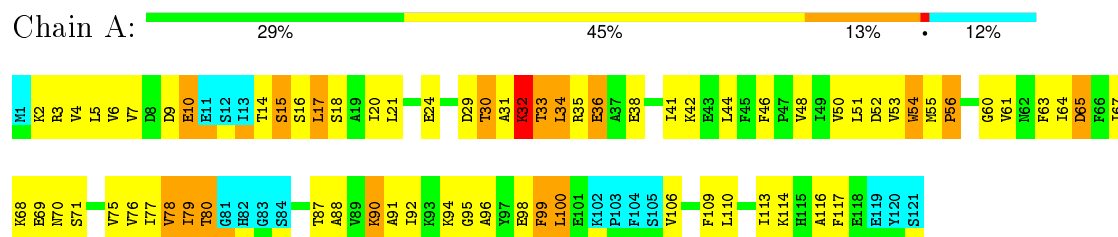
4.2.27 Score per residue for model 27

- Molecule 1: transcriptional regulator (NtrC family)



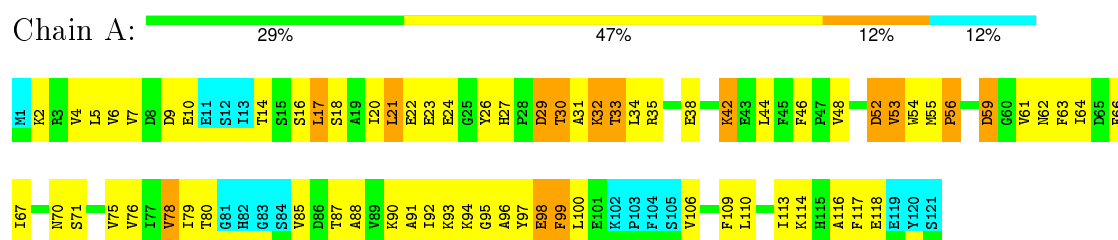
4.2.28 Score per residue for model 28

- Molecule 1: transcriptional regulator (NtrC family)



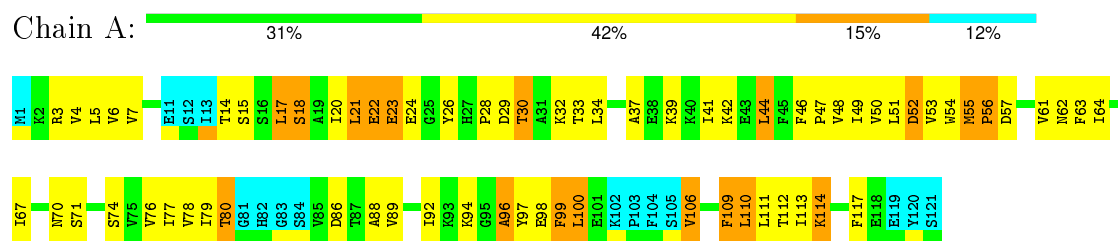
4.2.29 Score per residue for model 29

- Molecule 1: transcriptional regulator (NtrC family)



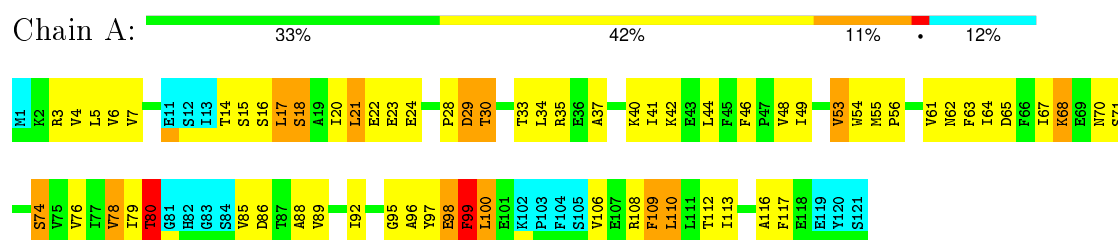
4.2.30 Score per residue for model 30

- Molecule 1: transcriptional regulator (NtrC family)



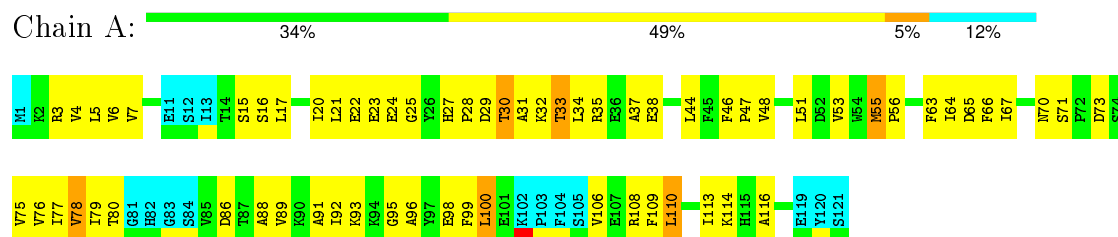
4.2.31 Score per residue for model 31

- Molecule 1: transcriptional regulator (NtrC family)



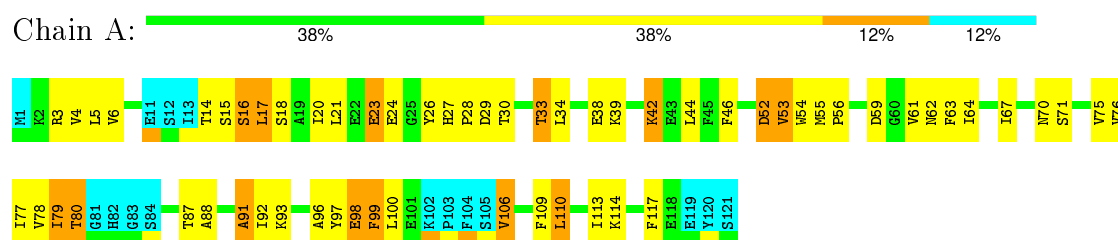
4.2.32 Score per residue for model 32

- Molecule 1: transcriptional regulator (NtrC family)



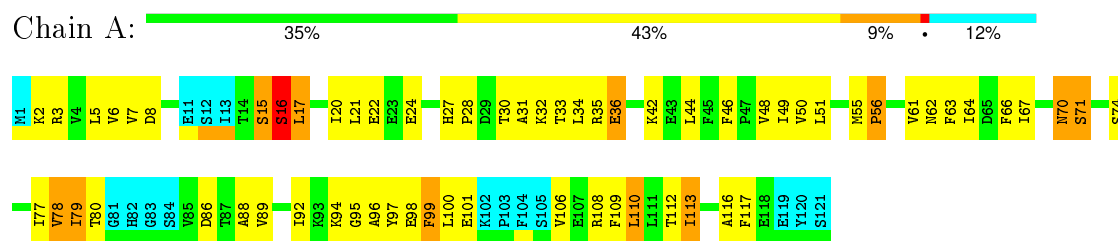
4.2.33 Score per residue for model 33

- Molecule 1: transcriptional regulator (NtrC family)



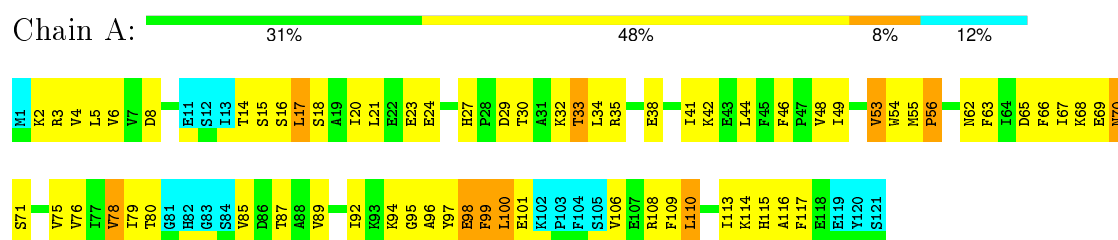
4.2.34 Score per residue for model 34

- Molecule 1: transcriptional regulator (NtrC family)



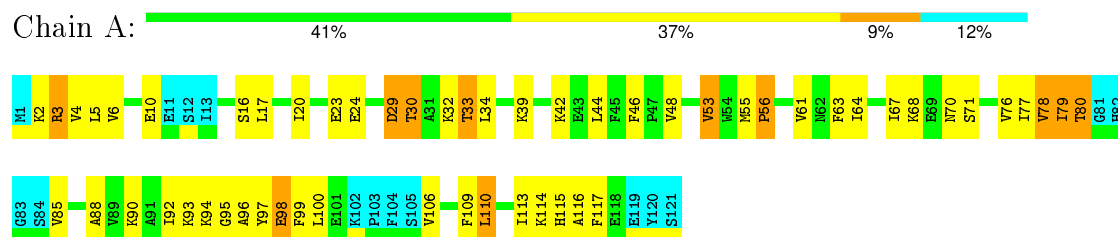
4.2.35 Score per residue for model 35

- Molecule 1: transcriptional regulator (NtrC family)



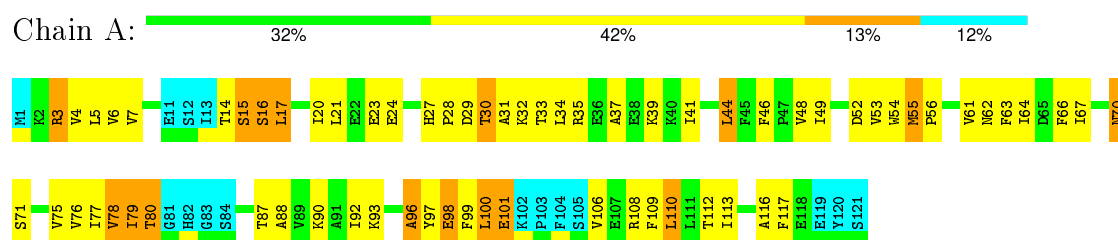
4.2.36 Score per residue for model 36

- Molecule 1: transcriptional regulator (NtrC family)



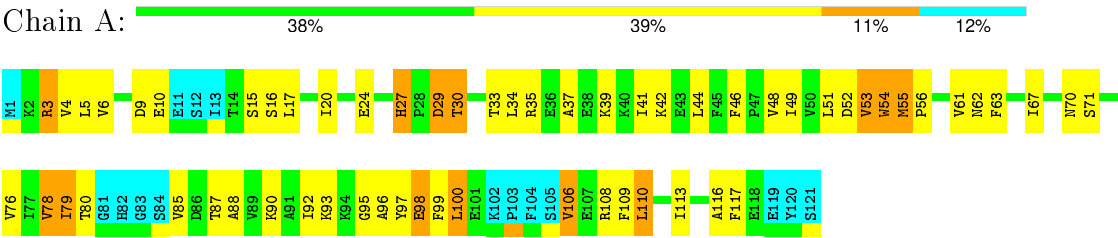
4.2.37 Score per residue for model 37

- Molecule 1: transcriptional regulator (NtrC family)



4.2.38 Score per residue for model 38

- Molecule 1: transcriptional regulator (NtrC family)



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 38 were deposited, based on the following criterion: *structures with favorable non-bond energy*.

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

Software name	Classification	Version
CNS	structure solution	1.1
DYANA	structure solution	1.5
DYANA	refinement	1.5

No chemical shift data was provided. No validations of the models with respect to experimental NMR restraints is performed at this time.

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	848	862	860	58±10
All	All	32224	32756	32680	2220

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 34.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:17:LEU:HD13	1:A:21:LEU:HD11	1.10	1.16	18	23
1:A:67:ILE:HG21	1:A:76:VAL:HG22	1.03	1.30	10	14
1:A:34:LEU:HD21	1:A:51:LEU:HD22	0.99	1.34	32	1
1:A:44:LEU:N	1:A:44:LEU:HD13	0.97	1.73	23	1
1:A:17:LEU:HD23	1:A:106:VAL:HG21	0.94	1.38	21	23
1:A:64:ILE:HD11	1:A:91:ALA:HB1	0.92	1.41	17	5
1:A:5:LEU:HD23	1:A:49:ILE:HG23	0.91	1.42	34	9
1:A:63:PHE:CE2	1:A:67:ILE:HD11	0.91	2.01	18	34
1:A:5:LEU:HD22	1:A:46:PHE:CD2	0.86	2.05	20	13
1:A:6:VAL:HG21	1:A:17:LEU:CD1	0.85	2.01	6	23
1:A:76:VAL:HG12	1:A:78:VAL:HG23	0.84	1.49	27	31
1:A:44:LEU:HD11	1:A:46:PHE:CE1	0.84	2.07	25	2
1:A:21:LEU:HD13	1:A:22:GLU:N	0.84	1.86	19	4
1:A:44:LEU:HD21	1:A:46:PHE:CZ	0.83	2.08	25	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:21:LEU:HD22	1:A:21:LEU:C	0.83	1.94	30	2
1:A:48:VAL:HG23	1:A:117:PHE:CE1	0.83	2.09	14	2
1:A:17:LEU:CD1	1:A:21:LEU:HD11	0.83	2.04	10	21
1:A:21:LEU:O	1:A:21:LEU:HD22	0.82	1.73	14	4
1:A:5:LEU:HD13	1:A:46:PHE:CE2	0.82	2.09	23	12
1:A:79:ILE:HG23	1:A:100:LEU:O	0.82	1.74	25	9
1:A:44:LEU:HD11	1:A:46:PHE:CZ	0.82	2.09	25	2
1:A:5:LEU:HD12	1:A:29:ASP:O	0.82	1.75	6	9
1:A:6:VAL:HG21	1:A:17:LEU:HD11	0.81	1.50	17	7
1:A:109:PHE:CZ	1:A:113:ILE:HD11	0.81	2.11	17	23
1:A:21:LEU:HD13	1:A:28:PRO:HB3	0.81	1.53	2	10
1:A:61:VAL:O	1:A:64:ILE:HD12	0.80	1.77	3	17
1:A:21:LEU:C	1:A:21:LEU:HD22	0.80	1.95	24	2
1:A:17:LEU:HD13	1:A:21:LEU:CD1	0.79	2.06	26	19
1:A:88:ALA:O	1:A:92:ILE:HG23	0.79	1.76	10	30
1:A:79:ILE:HD11	1:A:109:PHE:CD1	0.79	2.11	31	6
1:A:34:LEU:HD11	1:A:59:ASP:O	0.79	1.77	27	3
1:A:20:ILE:CD1	1:A:106:VAL:HG11	0.79	2.07	32	8
1:A:20:ILE:HD13	1:A:106:VAL:HG11	0.79	1.55	32	3
1:A:20:ILE:HD13	1:A:106:VAL:HG22	0.79	1.55	21	3
1:A:17:LEU:HD13	1:A:21:LEU:HD12	0.78	1.55	31	3
1:A:63:PHE:CD2	1:A:67:ILE:HD11	0.78	2.12	5	28
1:A:40:LYS:O	1:A:44:LEU:HD22	0.78	1.77	23	1
1:A:67:ILE:HG21	1:A:76:VAL:CG2	0.77	2.08	10	2
1:A:50:VAL:HG13	1:A:77:ILE:O	0.77	1.79	18	2
1:A:20:ILE:HD12	1:A:106:VAL:HG23	0.77	1.56	12	2
1:A:92:ILE:HA	1:A:96:ALA:HB3	0.77	1.57	18	36
1:A:100:LEU:HD13	1:A:101:GLU:N	0.77	1.94	13	3
1:A:34:LEU:HD22	1:A:63:PHE:CD2	0.76	2.15	34	34
1:A:17:LEU:HD22	1:A:17:LEU:O	0.76	1.81	24	3
1:A:50:VAL:HG21	1:A:109:PHE:CZ	0.76	2.14	1	10
1:A:20:ILE:HD11	1:A:106:VAL:HG13	0.76	1.58	9	10
1:A:7:VAL:HG13	1:A:32:LYS:O	0.75	1.81	29	5
1:A:20:ILE:HG23	1:A:110:LEU:CD1	0.74	2.12	29	24
1:A:48:VAL:O	1:A:49:ILE:HD13	0.74	1.82	7	3
1:A:21:LEU:HD11	1:A:28:PRO:CG	0.74	2.12	14	2
1:A:77:ILE:HD12	1:A:112:THR:CG2	0.74	2.12	24	8
1:A:20:ILE:HD11	1:A:106:VAL:HG11	0.73	1.58	26	4
1:A:44:LEU:CD1	1:A:44:LEU:N	0.73	2.46	23	1
1:A:21:LEU:HD21	1:A:28:PRO:HG3	0.73	1.57	19	3
1:A:24:GLU:HG3	1:A:110:LEU:HD21	0.73	1.61	13	21

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:97:TYR:CE2	1:A:112:THR:HG23	0.73	2.19	20	6
1:A:17:LEU:O	1:A:21:LEU:HD12	0.72	1.84	27	11
1:A:50:VAL:HG22	1:A:77:ILE:CG1	0.72	2.15	34	3
1:A:20:ILE:HG23	1:A:110:LEU:HD11	0.72	1.58	28	18
1:A:44:LEU:HD11	1:A:46:PHE:CD1	0.72	2.18	12	2
1:A:100:LEU:HD22	1:A:112:THR:OG1	0.72	1.84	2	2
1:A:63:PHE:O	1:A:67:ILE:HD12	0.71	1.85	35	20
1:A:51:LEU:HB3	1:A:78:VAL:HG13	0.71	1.63	26	7
1:A:24:GLU:HG2	1:A:110:LEU:HD21	0.71	1.62	26	3
1:A:21:LEU:HD23	1:A:21:LEU:C	0.71	2.06	29	1
1:A:7:VAL:HA	1:A:31:ALA:HB3	0.71	1.61	32	5
1:A:21:LEU:C	1:A:21:LEU:HD23	0.71	2.06	26	2
1:A:20:ILE:HD13	1:A:106:VAL:CG2	0.70	2.15	21	2
1:A:55:MET:N	1:A:56:PRO:HD3	0.70	2.01	7	31
1:A:48:VAL:HG22	1:A:75:VAL:CG2	0.70	2.16	20	1
1:A:53:VAL:HG22	1:A:80:THR:CB	0.70	2.17	25	5
1:A:21:LEU:HD13	1:A:28:PRO:CB	0.70	2.16	6	6
1:A:24:GLU:CG	1:A:110:LEU:HD21	0.70	2.17	1	17
1:A:9:ASP:HB2	1:A:33:THR:HG23	0.70	1.64	21	1
1:A:17:LEU:HD13	1:A:18:SER:N	0.69	2.01	19	3
1:A:6:VAL:HG21	1:A:17:LEU:HD12	0.69	1.62	18	30
1:A:6:VAL:CG1	1:A:14:THR:HG21	0.69	2.17	6	7
1:A:64:ILE:CD1	1:A:91:ALA:HB1	0.69	2.17	17	2
1:A:100:LEU:HD21	1:A:109:PHE:HA	0.68	1.63	30	10
1:A:5:LEU:HD23	1:A:49:ILE:CG2	0.68	2.17	34	3
1:A:79:ILE:HG23	1:A:100:LEU:HB3	0.68	1.66	27	15
1:A:6:VAL:HB	1:A:30:THR:HG22	0.68	1.66	25	20
1:A:64:ILE:HD13	1:A:94:LYS:HB2	0.68	1.64	11	1
1:A:75:VAL:HG21	1:A:116:ALA:HB1	0.67	1.66	27	6
1:A:21:LEU:HD11	1:A:28:PRO:HG3	0.67	1.65	24	4
1:A:31:ALA:HB2	1:A:40:LYS:CD	0.67	2.20	9	1
1:A:75:VAL:HG11	1:A:116:ALA:HB1	0.67	1.66	28	5
1:A:48:VAL:HG13	1:A:75:VAL:HB	0.67	1.64	20	8
1:A:55:MET:N	1:A:56:PRO:CD	0.67	2.58	19	26
1:A:21:LEU:HD13	1:A:28:PRO:HG3	0.67	1.65	20	7
1:A:16:SER:O	1:A:20:ILE:HD12	0.67	1.90	29	11
1:A:78:VAL:HG12	1:A:99:PHE:CZ	0.66	2.24	31	8
1:A:53:VAL:HG23	1:A:53:VAL:O	0.66	1.90	31	9
1:A:48:VAL:HG21	1:A:117:PHE:CE1	0.66	2.25	27	14
1:A:106:VAL:HG22	1:A:106:VAL:O	0.66	1.91	8	3
1:A:18:SER:HA	1:A:21:LEU:HD12	0.66	1.66	14	7

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:29:ASP:O	1:A:30:THR:O	0.66	2.13	29	24
1:A:4:VAL:HG21	1:A:113:ILE:HD12	0.66	1.67	15	3
1:A:6:VAL:HG11	1:A:14:THR:HG21	0.65	1.67	6	5
1:A:7:VAL:HB	1:A:51:LEU:HD12	0.65	1.68	7	5
1:A:21:LEU:CD2	1:A:21:LEU:C	0.65	2.64	29	4
1:A:5:LEU:HD11	1:A:40:LYS:HD3	0.65	1.69	9	1
1:A:17:LEU:HD13	1:A:21:LEU:HD13	0.65	1.67	26	1
1:A:86:ASP:O	1:A:89:VAL:HG22	0.64	1.92	10	9
1:A:48:VAL:HG11	1:A:113:ILE:CD1	0.64	2.23	16	4
1:A:77:ILE:HD13	1:A:97:TYR:HB3	0.64	1.69	1	10
1:A:76:VAL:HG12	1:A:78:VAL:CG2	0.64	2.23	23	17
1:A:21:LEU:HD21	1:A:28:PRO:HD3	0.64	1.69	24	2
1:A:77:ILE:HG21	1:A:112:THR:HG21	0.63	1.68	9	2
1:A:20:ILE:HG23	1:A:110:LEU:HD12	0.63	1.71	6	5
1:A:77:ILE:CG2	1:A:112:THR:HG21	0.63	2.24	9	3
1:A:5:LEU:HD11	1:A:40:LYS:CE	0.63	2.24	9	1
1:A:20:ILE:CD1	1:A:106:VAL:HG13	0.63	2.23	2	4
1:A:17:LEU:CD2	1:A:106:VAL:HG21	0.63	2.24	10	3
1:A:21:LEU:HD22	1:A:28:PRO:HB3	0.63	1.71	7	8
1:A:21:LEU:HD23	1:A:22:GLU:N	0.62	2.09	26	3
1:A:32:LYS:O	1:A:33:THR:HG23	0.62	1.94	5	12
1:A:20:ILE:CD1	1:A:106:VAL:HG23	0.62	2.24	12	5
1:A:18:SER:O	1:A:21:LEU:HD22	0.62	1.94	26	3
1:A:50:VAL:HG22	1:A:77:ILE:HB	0.62	1.72	18	3
1:A:53:VAL:HG22	1:A:80:THR:HB	0.62	1.70	10	13
1:A:16:SER:HB2	1:A:106:VAL:HG11	0.62	1.72	10	2
1:A:88:ALA:HB2	1:A:99:PHE:CD2	0.61	2.30	32	17
1:A:61:VAL:HG21	1:A:90:LYS:CD	0.61	2.25	1	2
1:A:4:VAL:HG11	1:A:113:ILE:CD1	0.61	2.26	8	1
1:A:61:VAL:HG21	1:A:90:LYS:HD3	0.61	1.72	1	7
1:A:52:ASP:C	1:A:80:THR:HG22	0.60	2.16	28	2
1:A:109:PHE:CE1	1:A:113:ILE:HD11	0.60	2.31	23	11
1:A:50:VAL:CG1	1:A:79:ILE:HD11	0.59	2.27	24	1
1:A:31:ALA:HB2	1:A:40:LYS:HD2	0.59	1.72	9	1
1:A:24:GLU:HG2	1:A:110:LEU:HD22	0.59	1.74	21	2
1:A:33:THR:HG23	1:A:56:PRO:HB3	0.59	1.73	3	1
1:A:79:ILE:HD11	1:A:109:PHE:CE1	0.59	2.32	21	2
1:A:7:VAL:CG1	1:A:37:ALA:HB2	0.59	2.27	16	2
1:A:16:SER:CB	1:A:106:VAL:HG11	0.58	2.28	10	5
1:A:21:LEU:HD21	1:A:28:PRO:CD	0.58	2.28	24	1
1:A:5:LEU:HD11	1:A:40:LYS:CD	0.58	2.29	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:37:ALA:C	1:A:41:ILE:HD12	0.58	2.18	1	2
1:A:24:GLU:CD	1:A:110:LEU:HD21	0.58	2.19	35	3
1:A:21:LEU:CD2	1:A:22:GLU:N	0.58	2.67	26	3
1:A:7:VAL:HG22	1:A:31:ALA:HB3	0.58	1.76	17	1
1:A:50:VAL:HG13	1:A:77:ILE:HB	0.58	1.76	20	4
1:A:88:ALA:HB1	1:A:99:PHE:HB2	0.58	1.74	29	9
1:A:24:GLU:HG3	1:A:110:LEU:HD11	0.58	1.75	14	2
1:A:53:VAL:N	1:A:80:THR:HG21	0.58	2.14	8	3
1:A:53:VAL:O	1:A:53:VAL:HG23	0.57	1.99	32	7
1:A:64:ILE:HD13	1:A:94:LYS:CB	0.57	2.29	22	3
1:A:3:ARG:NH1	1:A:44:LEU:HD11	0.57	2.14	37	1
1:A:53:VAL:HG13	1:A:80:THR:HB	0.57	1.76	15	6
1:A:50:VAL:HG21	1:A:109:PHE:CE1	0.57	2.35	23	2
1:A:53:VAL:HG12	1:A:53:VAL:O	0.57	2.00	28	5
1:A:17:LEU:C	1:A:21:LEU:HD12	0.57	2.20	27	8
1:A:111:LEU:O	1:A:114:LYS:HG3	0.57	1.99	21	2
1:A:88:ALA:HB2	1:A:99:PHE:CG	0.56	2.35	27	1
1:A:34:LEU:HD12	1:A:58:GLY:HA3	0.56	1.75	19	1
1:A:78:VAL:HG12	1:A:99:PHE:CE1	0.56	2.35	25	12
1:A:97:TYR:O	1:A:98:GLU:CB	0.56	2.54	15	18
1:A:44:LEU:HD21	1:A:46:PHE:CE2	0.56	2.34	25	1
1:A:76:VAL:CG1	1:A:78:VAL:HG23	0.56	2.29	26	6
1:A:108:ARG:HA	1:A:111:LEU:HD12	0.56	1.76	22	1
1:A:17:LEU:HA	1:A:20:ILE:HD12	0.56	1.78	14	2
1:A:50:VAL:HG21	1:A:109:PHE:HZ	0.56	1.57	10	7
1:A:87:THR:HG23	1:A:99:PHE:CE2	0.56	2.36	10	1
1:A:20:ILE:CG2	1:A:110:LEU:HD11	0.56	2.30	36	4
1:A:21:LEU:HD11	1:A:28:PRO:CB	0.56	2.31	14	1
1:A:53:VAL:O	1:A:53:VAL:HG12	0.56	2.00	37	3
1:A:75:VAL:HG12	1:A:76:VAL:H	0.56	1.60	20	1
1:A:85:VAL:O	1:A:85:VAL:HG22	0.55	2.01	18	2
1:A:92:ILE:HD12	1:A:98:GLU:CD	0.55	2.22	20	1
1:A:100:LEU:HD11	1:A:108:ARG:HB3	0.55	1.77	1	1
1:A:55:MET:N	1:A:56:PRO:HD2	0.55	2.17	32	6
1:A:51:LEU:HB3	1:A:78:VAL:HG22	0.55	1.78	5	3
1:A:17:LEU:O	1:A:17:LEU:HD22	0.55	2.01	19	2
1:A:7:VAL:HG13	1:A:37:ALA:HB2	0.55	1.77	21	2
1:A:46:PHE:HB2	1:A:49:ILE:HD11	0.55	1.78	18	5
1:A:60:GLY:O	1:A:64:ILE:HD12	0.55	2.01	17	2
1:A:5:LEU:HD23	1:A:41:ILE:HD11	0.55	1.76	4	3
1:A:77:ILE:HG21	1:A:109:PHE:CD1	0.55	2.37	28	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:85:VAL:HG13	1:A:85:VAL:O	0.55	2.01	17	1
1:A:17:LEU:C	1:A:17:LEU:HD22	0.55	2.22	24	2
1:A:20:ILE:HD11	1:A:106:VAL:CG1	0.54	2.32	6	3
1:A:77:ILE:HG21	1:A:109:PHE:CE1	0.54	2.38	16	4
1:A:43:GLU:C	1:A:44:LEU:HD13	0.54	2.22	23	1
1:A:15:SER:HB3	1:A:106:VAL:HG13	0.54	1.79	27	1
1:A:50:VAL:HG12	1:A:51:LEU:H	0.54	1.62	27	2
1:A:44:LEU:HD22	1:A:46:PHE:CE2	0.54	2.37	30	5
1:A:113:ILE:O	1:A:116:ALA:HB3	0.54	2.03	36	22
1:A:20:ILE:HD12	1:A:106:VAL:CG2	0.54	2.33	35	4
1:A:6:VAL:HG11	1:A:14:THR:CG2	0.54	2.33	5	9
1:A:4:VAL:HG11	1:A:113:ILE:HD11	0.54	1.80	8	1
1:A:21:LEU:HD21	1:A:28:PRO:CG	0.54	2.32	24	2
1:A:79:ILE:HD13	1:A:100:LEU:HD23	0.54	1.80	8	1
1:A:20:ILE:HD12	1:A:106:VAL:HG13	0.54	1.80	2	1
1:A:6:VAL:CG2	1:A:17:LEU:HD12	0.54	2.32	3	5
1:A:16:SER:HB3	1:A:106:VAL:HG11	0.54	1.78	5	2
1:A:106:VAL:O	1:A:106:VAL:HG23	0.54	2.03	28	2
1:A:5:LEU:HD13	1:A:46:PHE:CZ	0.53	2.38	29	29
1:A:79:ILE:HG22	1:A:80:THR:H	0.53	1.62	2	14
1:A:24:GLU:CG	1:A:110:LEU:HD11	0.53	2.33	14	1
1:A:48:VAL:HG22	1:A:75:VAL:HG21	0.53	1.80	20	1
1:A:77:ILE:HG22	1:A:77:ILE:O	0.53	2.04	16	6
1:A:50:VAL:HG22	1:A:77:ILE:HG13	0.53	1.80	34	1
1:A:21:LEU:CD1	1:A:28:PRO:HG3	0.53	2.34	14	2
1:A:85:VAL:HG13	1:A:101:GLU:OE2	0.53	2.04	14	1
1:A:85:VAL:O	1:A:85:VAL:HG12	0.53	2.03	29	5
1:A:61:VAL:HG21	1:A:90:LYS:HD2	0.53	1.80	12	1
1:A:80:THR:HG23	1:A:99:PHE:CE2	0.53	2.38	19	1
1:A:77:ILE:HG21	1:A:100:LEU:HD23	0.53	1.81	30	1
1:A:85:VAL:HG22	1:A:85:VAL:O	0.53	2.04	4	1
1:A:26:TYR:CE2	1:A:113:ILE:HG21	0.53	2.39	33	2
1:A:5:LEU:HD22	1:A:46:PHE:CE2	0.53	2.39	20	3
1:A:52:ASP:O	1:A:80:THR:HG21	0.53	2.04	3	1
1:A:77:ILE:HG22	1:A:79:ILE:HG13	0.52	1.80	8	1
1:A:7:VAL:HA	1:A:31:ALA:O	0.52	2.04	29	2
1:A:20:ILE:HG12	1:A:106:VAL:HG11	0.52	1.81	24	1
1:A:5:LEU:O	1:A:50:VAL:HG23	0.52	2.04	27	2
1:A:48:VAL:HG22	1:A:75:VAL:HG23	0.52	1.82	20	1
1:A:52:ASP:O	1:A:80:THR:HG22	0.52	2.04	37	2
1:A:97:TYR:O	1:A:98:GLU:HB3	0.52	2.04	9	12

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:85:VAL:HG12	1:A:85:VAL:O	0.52	2.05	7	2
1:A:77:ILE:O	1:A:77:ILE:HG22	0.52	2.04	5	1
1:A:5:LEU:HD23	1:A:49:ILE:HD12	0.52	1.80	35	3
1:A:97:TYR:HE2	1:A:112:THR:HG23	0.52	1.63	37	3
1:A:65:ASP:O	1:A:68:LYS:HG3	0.52	2.05	5	3
1:A:24:GLU:OE2	1:A:110:LEU:HD13	0.51	2.05	21	1
1:A:21:LEU:HD23	1:A:26:TYR:HB2	0.51	1.82	27	1
1:A:50:VAL:HG22	1:A:77:ILE:CB	0.51	2.36	15	1
1:A:18:SER:O	1:A:21:LEU:CD2	0.51	2.58	26	3
1:A:64:ILE:HD11	1:A:91:ALA:CB	0.51	2.36	27	5
1:A:79:ILE:O	1:A:80:THR:HG23	0.51	2.05	25	3
1:A:44:LEU:HD12	1:A:45:PHE:N	0.51	2.19	12	1
1:A:77:ILE:HD12	1:A:112:THR:HG22	0.51	1.81	20	4
1:A:48:VAL:HG21	1:A:117:PHE:CE2	0.51	2.41	28	5
1:A:88:ALA:CB	1:A:99:PHE:CD2	0.51	2.94	32	6
1:A:77:ILE:CG2	1:A:100:LEU:HD23	0.50	2.36	30	1
1:A:64:ILE:HD11	1:A:91:ALA:HA	0.50	1.83	29	1
1:A:53:VAL:O	1:A:53:VAL:CG2	0.50	2.60	32	1
1:A:2:LYS:O	1:A:47:PRO:HG3	0.50	2.07	2	1
1:A:4:VAL:HG13	1:A:48:VAL:HB	0.50	1.83	29	32
1:A:78:VAL:CG1	1:A:99:PHE:CE1	0.50	2.95	20	16
1:A:48:VAL:CG2	1:A:117:PHE:CE1	0.50	2.89	14	4
1:A:20:ILE:HD13	1:A:106:VAL:HG23	0.50	1.82	31	3
1:A:9:ASP:HB2	1:A:33:THR:HG22	0.50	1.83	29	1
1:A:44:LEU:CD2	1:A:46:PHE:CZ	0.50	2.92	12	2
1:A:79:ILE:C	1:A:80:THR:HG23	0.50	2.27	28	4
1:A:76:VAL:O	1:A:96:ALA:HB1	0.50	2.06	35	7
1:A:6:VAL:HG11	1:A:14:THR:HG23	0.50	1.83	35	1
1:A:47:PRO:O	1:A:74:SER:HA	0.50	2.07	17	4
1:A:21:LEU:HD13	1:A:28:PRO:CG	0.50	2.35	23	4
1:A:70:ASN:N	1:A:70:ASN:ND2	0.49	2.60	1	8
1:A:18:SER:HA	1:A:21:LEU:CD1	0.49	2.37	30	2
1:A:26:TYR:CE1	1:A:117:PHE:CE2	0.49	3.01	2	5
1:A:51:LEU:HD21	1:A:60:GLY:HA3	0.49	1.83	28	1
1:A:17:LEU:C	1:A:17:LEU:HD13	0.49	2.28	14	2
1:A:88:ALA:CB	1:A:99:PHE:CG	0.49	2.96	27	5
1:A:44:LEU:HD11	1:A:46:PHE:CE2	0.49	2.41	25	1
1:A:79:ILE:HD11	1:A:109:PHE:CE2	0.49	2.43	2	1
1:A:97:TYR:CD2	1:A:112:THR:HG23	0.49	2.43	20	1
1:A:109:PHE:CZ	1:A:113:ILE:CG1	0.49	2.96	12	8
1:A:7:VAL:CG2	1:A:37:ALA:HB2	0.49	2.38	32	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:3:ARG:HB3	1:A:27:HIS:CB	0.49	2.37	14	1
1:A:8:ASP:O	1:A:32:LYS:O	0.49	2.31	20	1
1:A:70:ASN:ND2	1:A:70:ASN:N	0.49	2.61	35	6
1:A:17:LEU:HD22	1:A:17:LEU:C	0.49	2.28	19	2
1:A:21:LEU:CD2	1:A:28:PRO:HG3	0.49	2.34	19	2
1:A:106:VAL:O	1:A:109:PHE:HB3	0.49	2.08	12	4
1:A:34:LEU:HD12	1:A:58:GLY:C	0.49	2.27	3	1
1:A:41:ILE:HD12	1:A:63:PHE:HZ	0.48	1.67	28	2
1:A:51:LEU:HD23	1:A:78:VAL:HG13	0.48	1.84	30	6
1:A:17:LEU:HD11	1:A:21:LEU:HD11	0.48	1.86	21	2
1:A:48:VAL:HG23	1:A:117:PHE:CD1	0.48	2.44	14	1
1:A:6:VAL:O	1:A:31:ALA:N	0.48	2.46	20	1
1:A:4:VAL:HG22	1:A:117:PHE:CZ	0.48	2.43	24	11
1:A:53:VAL:CG2	1:A:53:VAL:O	0.48	2.61	31	3
1:A:85:VAL:HG12	1:A:88:ALA:HB3	0.48	1.85	31	1
1:A:34:LEU:HD13	1:A:59:ASP:O	0.48	2.08	15	1
1:A:8:ASP:O	1:A:32:LYS:HA	0.48	2.07	20	7
1:A:48:VAL:C	1:A:49:ILE:HD13	0.48	2.29	7	1
1:A:6:VAL:O	1:A:30:THR:HA	0.48	2.09	20	1
1:A:34:LEU:HD22	1:A:63:PHE:CG	0.48	2.44	14	18
1:A:20:ILE:CD1	1:A:106:VAL:HG22	0.48	2.39	18	2
1:A:106:VAL:CG2	1:A:106:VAL:O	0.48	2.61	8	1
1:A:53:VAL:H	1:A:80:THR:HG22	0.48	1.67	5	1
1:A:6:VAL:CG1	1:A:14:THR:CG2	0.47	2.91	28	11
1:A:77:ILE:HG21	1:A:109:PHE:HE1	0.47	1.69	32	1
1:A:53:VAL:HG22	1:A:80:THR:CG2	0.47	2.39	32	1
1:A:44:LEU:CD2	1:A:46:PHE:CG	0.47	2.97	6	3
1:A:29:ASP:O	1:A:30:THR:C	0.47	2.52	8	16
1:A:52:ASP:HA	1:A:80:THR:OG1	0.47	2.08	30	3
1:A:20:ILE:HD12	1:A:106:VAL:CG1	0.47	2.39	2	1
1:A:21:LEU:HD13	1:A:22:GLU:H	0.47	1.66	30	2
1:A:63:PHE:CE1	1:A:66:PHE:CD2	0.47	3.02	29	2
1:A:100:LEU:HD13	1:A:112:THR:OG1	0.47	2.10	24	1
1:A:29:ASP:CB	1:A:46:PHE:CZ	0.47	2.98	26	4
1:A:26:TYR:CE2	1:A:113:ILE:CG2	0.47	2.98	33	4
1:A:106:VAL:O	1:A:109:PHE:N	0.47	2.48	9	15
1:A:37:ALA:O	1:A:41:ILE:HD12	0.47	2.09	37	15
1:A:3:ARG:O	1:A:47:PRO:HG2	0.47	2.10	20	2
1:A:44:LEU:CD2	1:A:46:PHE:CD1	0.47	2.97	13	2
1:A:64:ILE:HD13	1:A:94:LYS:HB3	0.47	1.85	29	2
1:A:15:SER:O	1:A:16:SER:CB	0.47	2.62	18	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:75:VAL:HG12	1:A:76:VAL:N	0.47	2.24	5	6
1:A:18:SER:O	1:A:21:LEU:CD1	0.47	2.63	24	1
1:A:53:VAL:H	1:A:80:THR:HG21	0.47	1.70	31	1
1:A:17:LEU:HD13	1:A:17:LEU:C	0.47	2.29	19	2
1:A:33:THR:OG1	1:A:34:LEU:N	0.47	2.48	27	2
1:A:63:PHE:CE2	1:A:67:ILE:CD1	0.46	2.98	12	1
1:A:2:LYS:CA	1:A:117:PHE:CE1	0.46	2.99	22	2
1:A:18:SER:OG	1:A:30:THR:HG21	0.46	2.10	8	1
1:A:79:ILE:HD11	1:A:109:PHE:CD2	0.46	2.45	2	1
1:A:61:VAL:HG13	1:A:90:LYS:O	0.46	2.10	19	9
1:A:32:LYS:CB	1:A:36:GLU:CB	0.46	2.93	28	1
1:A:50:VAL:HG12	1:A:51:LEU:N	0.46	2.24	27	2
1:A:17:LEU:HD22	1:A:21:LEU:HB3	0.46	1.87	30	1
1:A:44:LEU:HD22	1:A:46:PHE:CE1	0.46	2.46	13	1
1:A:80:THR:CG2	1:A:99:PHE:CE2	0.46	2.99	32	3
1:A:16:SER:C	1:A:20:ILE:HD12	0.46	2.30	23	1
1:A:50:VAL:HG13	1:A:79:ILE:HD11	0.46	1.87	30	1
1:A:6:VAL:CG1	1:A:14:THR:HG23	0.46	2.40	31	4
1:A:79:ILE:HG22	1:A:80:THR:N	0.46	2.24	20	1
1:A:97:TYR:O	1:A:98:GLU:CG	0.46	2.64	15	17
1:A:38:GLU:O	1:A:42:LYS:N	0.46	2.48	28	7
1:A:65:ASP:O	1:A:69:GLU:N	0.46	2.49	5	12
1:A:97:TYR:O	1:A:97:TYR:CG	0.46	2.68	17	6
1:A:75:VAL:HG21	1:A:116:ALA:O	0.46	2.11	18	2
1:A:109:PHE:CE1	1:A:113:ILE:CD1	0.46	2.99	6	3
1:A:50:VAL:HG11	1:A:109:PHE:CZ	0.46	2.46	8	1
1:A:53:VAL:HG12	1:A:79:ILE:O	0.46	2.11	21	3
1:A:92:ILE:HG21	1:A:99:PHE:H	0.46	1.70	20	3
1:A:92:ILE:CA	1:A:96:ALA:HB3	0.46	2.36	14	2
1:A:2:LYS:CG	1:A:26:TYR:CE1	0.46	2.99	13	1
1:A:54:TRP:CG	1:A:55:MET:N	0.46	2.83	8	3
1:A:21:LEU:HD13	1:A:21:LEU:C	0.46	2.31	14	2
1:A:41:ILE:O	1:A:41:ILE:HG22	0.46	2.11	28	4
1:A:88:ALA:HA	1:A:99:PHE:CD1	0.46	2.46	11	7
1:A:97:TYR:CE2	1:A:112:THR:CG2	0.45	2.98	31	3
1:A:4:VAL:HG12	1:A:5:LEU:N	0.45	2.26	1	15
1:A:97:TYR:CG	1:A:97:TYR:O	0.45	2.68	24	4
1:A:100:LEU:HD12	1:A:101:GLU:H	0.45	1.71	17	1
1:A:6:VAL:CG2	1:A:17:LEU:HD11	0.45	2.39	30	5
1:A:20:ILE:CG1	1:A:106:VAL:HG11	0.45	2.41	24	1
1:A:43:GLU:CB	1:A:44:LEU:HD13	0.45	2.41	23	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:10:GLU:CB	1:A:54:TRP:CD1	0.45	2.99	28	1
1:A:97:TYR:CD2	1:A:97:TYR:O	0.45	2.70	12	6
1:A:5:LEU:O	1:A:50:VAL:N	0.45	2.49	13	4
1:A:48:VAL:HG21	1:A:117:PHE:CZ	0.45	2.47	24	1
1:A:44:LEU:O	1:A:45:PHE:C	0.45	2.54	23	1
1:A:52:ASP:O	1:A:54:TRP:N	0.45	2.50	18	9
1:A:18:SER:O	1:A:22:GLU:HB2	0.45	2.12	19	2
1:A:109:PHE:CD1	1:A:109:PHE:O	0.45	2.70	20	3
1:A:21:LEU:C	1:A:21:LEU:CD2	0.45	2.71	24	2
1:A:109:PHE:CZ	1:A:113:ILE:CD1	0.45	3.00	35	4
1:A:34:LEU:CD2	1:A:63:PHE:CD2	0.45	3.00	13	7
1:A:7:VAL:O	1:A:52:ASP:N	0.45	2.50	20	3
1:A:100:LEU:HD13	1:A:100:LEU:C	0.45	2.32	3	2
1:A:44:LEU:CD2	1:A:46:PHE:CD2	0.45	3.00	16	3
1:A:100:LEU:HD11	1:A:108:ARG:CB	0.45	2.41	1	1
1:A:109:PHE:CE1	1:A:113:ILE:CG1	0.45	2.99	2	2
1:A:21:LEU:HD21	1:A:28:PRO:HB3	0.45	1.89	14	1
1:A:20:ILE:O	1:A:23:GLU:N	0.45	2.49	25	9
1:A:92:ILE:HG21	1:A:98:GLU:C	0.45	2.32	25	3
1:A:53:VAL:HG22	1:A:80:THR:HG21	0.45	1.88	1	1
1:A:48:VAL:HG11	1:A:113:ILE:HD13	0.45	1.89	16	1
1:A:53:VAL:CG1	1:A:80:THR:HB	0.44	2.42	18	1
1:A:66:PHE:O	1:A:70:ASN:ND2	0.44	2.50	3	6
1:A:16:SER:O	1:A:17:LEU:C	0.44	2.56	27	1
1:A:10:GLU:CG	1:A:54:TRP:CD1	0.44	3.00	29	1
1:A:108:ARG:O	1:A:111:LEU:HD12	0.44	2.12	17	2
1:A:44:LEU:CD1	1:A:46:PHE:CZ	0.44	2.93	25	1
1:A:79:ILE:CD1	1:A:109:PHE:CD1	0.44	3.00	17	1
1:A:4:VAL:O	1:A:28:PRO:HA	0.44	2.12	22	8
1:A:24:GLU:CD	1:A:110:LEU:HD13	0.44	2.33	21	1
1:A:7:VAL:HG21	1:A:37:ALA:CB	0.44	2.43	31	2
1:A:6:VAL:CG2	1:A:17:LEU:CD1	0.44	2.93	37	3
1:A:17:LEU:C	1:A:21:LEU:HD13	0.44	2.33	31	1
1:A:61:VAL:O	1:A:64:ILE:HG12	0.44	2.13	12	3
1:A:17:LEU:N	1:A:106:VAL:HG22	0.44	2.27	27	1
1:A:2:LYS:O	1:A:47:PRO:CG	0.44	2.65	2	1
1:A:50:VAL:HG13	1:A:79:ILE:HG13	0.44	1.90	10	1
1:A:21:LEU:C	1:A:21:LEU:HD13	0.44	2.33	24	1
1:A:34:LEU:HD12	1:A:58:GLY:O	0.44	2.13	1	1
1:A:5:LEU:CD1	1:A:29:ASP:O	0.44	2.66	11	1
1:A:106:VAL:HB	1:A:109:PHE:CG	0.44	2.48	30	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:67:ILE:O	1:A:71:SER:CB	0.44	2.66	23	3
1:A:9:ASP:O	1:A:54:TRP:CE3	0.43	2.71	38	2
1:A:41:ILE:HG22	1:A:41:ILE:O	0.43	2.13	21	3
1:A:77:ILE:HG21	1:A:109:PHE:CE2	0.43	2.48	27	1
1:A:79:ILE:HG23	1:A:100:LEU:CB	0.43	2.43	31	1
1:A:78:VAL:O	1:A:99:PHE:CD1	0.43	2.71	5	7
1:A:47:PRO:HG2	1:A:117:PHE:CE2	0.43	2.48	12	1
1:A:79:ILE:O	1:A:80:THR:CB	0.43	2.67	9	3
1:A:53:VAL:CA	1:A:80:THR:HG21	0.43	2.43	8	1
1:A:66:PHE:CE1	1:A:70:ASN:OD1	0.43	2.71	1	5
1:A:50:VAL:HG21	1:A:109:PHE:CE2	0.43	2.49	11	1
1:A:16:SER:O	1:A:20:ILE:CD1	0.43	2.67	15	5
1:A:97:TYR:CD2	1:A:98:GLU:CG	0.43	3.02	15	1
1:A:77:ILE:HG23	1:A:112:THR:HG21	0.43	1.90	27	1
1:A:7:VAL:N	1:A:50:VAL:O	0.43	2.52	16	2
1:A:77:ILE:HG22	1:A:79:ILE:HG12	0.43	1.89	12	1
1:A:46:PHE:CB	1:A:49:ILE:CD1	0.43	2.97	11	2
1:A:44:LEU:HD22	1:A:46:PHE:CZ	0.43	2.49	9	3
1:A:14:THR:OG1	1:A:17:LEU:HB2	0.43	2.14	20	5
1:A:34:LEU:HD13	1:A:63:PHE:HB2	0.43	1.89	25	1
1:A:77:ILE:HG22	1:A:79:ILE:CG1	0.43	2.44	8	1
1:A:44:LEU:HD23	1:A:44:LEU:C	0.43	2.34	30	1
1:A:87:THR:HG23	1:A:99:PHE:CZ	0.43	2.49	10	1
1:A:24:GLU:OE2	1:A:110:LEU:HD21	0.43	2.14	27	1
1:A:21:LEU:CD2	1:A:26:TYR:HB2	0.43	2.44	19	2
1:A:78:VAL:O	1:A:99:PHE:CE1	0.42	2.72	35	3
1:A:52:ASP:O	1:A:53:VAL:HG22	0.42	2.13	3	1
1:A:100:LEU:HD21	1:A:112:THR:OG1	0.42	2.13	27	1
1:A:3:ARG:O	1:A:47:PRO:HD2	0.42	2.14	11	2
1:A:20:ILE:CG2	1:A:110:LEU:CD1	0.42	2.96	8	7
1:A:53:VAL:HG22	1:A:53:VAL:O	0.42	2.13	18	1
1:A:6:VAL:CG2	1:A:30:THR:HG22	0.42	2.44	3	1
1:A:76:VAL:HB	1:A:96:ALA:HA	0.42	1.91	16	2
1:A:79:ILE:HD11	1:A:109:PHE:CZ	0.42	2.49	36	1
1:A:98:GLU:O	1:A:99:PHE:CB	0.42	2.66	14	2
1:A:112:THR:O	1:A:113:ILE:C	0.42	2.57	15	4
1:A:53:VAL:CG2	1:A:80:THR:HG22	0.42	2.44	26	1
1:A:26:TYR:CZ	1:A:113:ILE:CG2	0.42	3.02	20	2
1:A:112:THR:O	1:A:116:ALA:N	0.42	2.52	9	4
1:A:44:LEU:C	1:A:44:LEU:HD23	0.42	2.34	9	2
1:A:80:THR:OG1	1:A:99:PHE:CE2	0.42	2.72	10	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:48:VAL:CG2	1:A:117:PHE:CZ	0.42	3.03	24	1
1:A:20:ILE:HD13	1:A:106:VAL:CG1	0.42	2.39	14	1
1:A:20:ILE:HD13	1:A:106:VAL:HG21	0.42	1.89	14	1
1:A:77:ILE:CD1	1:A:112:THR:CG2	0.42	2.98	30	1
1:A:74:SER:OG	1:A:75:VAL:N	0.42	2.53	3	5
1:A:10:GLU:O	1:A:54:TRP:CG	0.42	2.73	8	1
1:A:44:LEU:HD22	1:A:46:PHE:CD2	0.42	2.50	6	1
1:A:85:VAL:O	1:A:89:VAL:HG13	0.42	2.15	35	1
1:A:17:LEU:O	1:A:20:ILE:N	0.42	2.52	19	2
1:A:46:PHE:CB	1:A:49:ILE:HD11	0.42	2.45	30	1
1:A:75:VAL:C	1:A:76:VAL:CG2	0.42	2.88	20	1
1:A:38:GLU:HG3	1:A:63:PHE:CE1	0.42	2.50	28	1
1:A:92:ILE:CG1	1:A:93:LYS:N	0.42	2.82	22	3
1:A:2:LYS:CD	1:A:117:PHE:CD2	0.42	3.03	14	1
1:A:97:TYR:CD2	1:A:98:GLU:HG3	0.42	2.50	15	1
1:A:17:LEU:CD1	1:A:21:LEU:CD1	0.42	2.98	8	2
1:A:50:VAL:HG11	1:A:79:ILE:HD11	0.42	1.90	34	1
1:A:97:TYR:CE2	1:A:98:GLU:OE2	0.42	2.73	25	2
1:A:88:ALA:HB1	1:A:99:PHE:CB	0.42	2.45	25	2
1:A:47:PRO:O	1:A:75:VAL:N	0.42	2.53	32	5
1:A:3:ARG:CD	1:A:3:ARG:N	0.42	2.81	36	3
1:A:45:PHE:O	1:A:45:PHE:CD2	0.42	2.73	23	1
1:A:79:ILE:CG2	1:A:100:LEU:HB3	0.42	2.45	15	1
1:A:77:ILE:O	1:A:79:ILE:N	0.41	2.53	28	1
1:A:106:VAL:HG13	1:A:107:GLU:N	0.41	2.30	4	1
1:A:88:ALA:HA	1:A:99:PHE:CE1	0.41	2.50	13	2
1:A:20:ILE:CD1	1:A:106:VAL:CG2	0.41	2.98	37	1
1:A:2:LYS:CG	1:A:26:TYR:CE2	0.41	3.03	15	1
1:A:14:THR:O	1:A:17:LEU:HB2	0.41	2.15	7	2
1:A:10:GLU:HB2	1:A:54:TRP:CD1	0.41	2.50	28	1
1:A:97:TYR:O	1:A:97:TYR:CD2	0.41	2.73	7	4
1:A:80:THR:O	1:A:99:PHE:CE2	0.41	2.73	24	1
1:A:61:VAL:HG22	1:A:90:LYS:O	0.41	2.16	23	1
1:A:61:VAL:HG13	1:A:94:LYS:HG3	0.41	1.91	25	1
1:A:79:ILE:CD1	1:A:100:LEU:CB	0.41	2.98	1	1
1:A:18:SER:O	1:A:21:LEU:HD13	0.41	2.15	14	1
1:A:78:VAL:O	1:A:99:PHE:CZ	0.41	2.73	12	2
1:A:67:ILE:N	1:A:67:ILE:HD13	0.41	2.31	10	1
1:A:38:GLU:HG3	1:A:66:PHE:CE2	0.41	2.50	6	1
1:A:85:VAL:O	1:A:85:VAL:HG23	0.41	2.16	25	1
1:A:17:LEU:N	1:A:106:VAL:CG2	0.41	2.84	27	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:111:LEU:H	1:A:111:LEU:HD12	0.41	1.74	27	1
1:A:31:ALA:HB1	1:A:36:GLU:HB3	0.41	1.91	34	1
1:A:97:TYR:OH	1:A:115:HIS:CG	0.41	2.74	24	1
1:A:89:VAL:HA	1:A:92:ILE:HG12	0.41	1.91	16	1
1:A:3:ARG:CB	1:A:27:HIS:CB	0.41	2.99	20	1
1:A:45:PHE:CD2	1:A:45:PHE:O	0.41	2.74	18	1
1:A:100:LEU:CD2	1:A:109:PHE:HA	0.41	2.46	33	2
1:A:29:ASP:HB2	1:A:46:PHE:CE1	0.41	2.51	2	2
1:A:17:LEU:O	1:A:21:LEU:HD13	0.41	2.16	31	1
1:A:109:PHE:CZ	1:A:113:ILE:HG13	0.41	2.51	30	2
1:A:97:TYR:CZ	1:A:112:THR:HG23	0.41	2.51	15	1
1:A:20:ILE:CG2	1:A:110:LEU:HD12	0.41	2.45	29	1
1:A:100:LEU:CD2	1:A:112:THR:CB	0.41	2.99	10	1
1:A:100:LEU:HG	1:A:101:GLU:N	0.41	2.31	25	1
1:A:64:ILE:HG23	1:A:76:VAL:HG11	0.41	1.91	31	1
1:A:48:VAL:HG21	1:A:117:PHE:CD1	0.41	2.51	31	1
1:A:54:TRP:CD1	1:A:55:MET:CG	0.41	3.03	16	1
1:A:54:TRP:CD1	1:A:55:MET:HG2	0.41	2.51	16	1
1:A:100:LEU:C	1:A:100:LEU:HD13	0.41	2.35	13	1
1:A:17:LEU:CD2	1:A:106:VAL:CG2	0.41	2.99	11	1
1:A:92:ILE:HG21	1:A:98:GLU:HA	0.41	1.93	14	1
1:A:2:LYS:HG3	1:A:117:PHE:CD2	0.40	2.50	29	1
1:A:47:PRO:CG	1:A:117:PHE:CE2	0.40	3.04	12	1
1:A:77:ILE:HD12	1:A:112:THR:HG21	0.40	1.93	6	1
1:A:79:ILE:HG23	1:A:100:LEU:C	0.40	2.36	7	1
1:A:53:VAL:HG13	1:A:53:VAL:O	0.40	2.16	33	1
1:A:67:ILE:H	1:A:67:ILE:HD12	0.40	1.75	11	1
1:A:111:LEU:HD12	1:A:111:LEU:H	0.40	1.75	20	1
1:A:53:VAL:HG22	1:A:80:THR:HG22	0.40	1.91	32	1
1:A:76:VAL:O	1:A:97:TYR:N	0.40	2.51	8	1
1:A:51:LEU:HD23	1:A:78:VAL:CG1	0.40	2.45	5	1
1:A:48:VAL:HG13	1:A:75:VAL:CB	0.40	2.43	20	1
1:A:3:ARG:CB	1:A:27:HIS:HB3	0.40	2.47	38	1
1:A:52:ASP:O	1:A:80:THR:CB	0.40	2.70	3	1
1:A:37:ALA:O	1:A:41:ILE:N	0.40	2.53	23	1
1:A:17:LEU:HG	1:A:106:VAL:HG11	0.40	1.93	30	1
1:A:7:VAL:CA	1:A:31:ALA:HB3	0.40	2.43	10	1
1:A:100:LEU:CD2	1:A:112:THR:OG1	0.40	2.70	3	1
1:A:109:PHE:C	1:A:109:PHE:CD1	0.40	2.95	27	1
1:A:45:PHE:CG	1:A:45:PHE:O	0.40	2.74	23	1
1:A:64:ILE:HD13	1:A:91:ALA:HA	0.40	1.94	33	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:2:LYS:HD2	1:A:117:PHE:CD2	0.40	2.51	14	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	106/121 (88%)	79±4 (75±4%)	19±3 (18±3%)	8±2 (7±2%)	3	17
All	All	4028/4598 (88%)	3004 (75%)	738 (18%)	286 (7%)	3	17

All 36 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	78	VAL	30
1	A	53	VAL	28
1	A	30	THR	25
1	A	95	GLY	22
1	A	56	PRO	20
1	A	54	TRP	18
1	A	98	GLU	14
1	A	80	THR	14
1	A	79	ILE	13
1	A	106	VAL	12
1	A	2	LYS	11
1	A	113	ILE	7
1	A	101	GLU	7
1	A	96	ALA	6
1	A	91	ALA	6
1	A	100	LEU	4
1	A	85	VAL	4
1	A	16	SER	4
1	A	33	THR	4
1	A	59	ASP	4
1	A	57	ASP	3

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Mol	Chain	Res	Type	Models (Total)
1	A	9	ASP	3
1	A	34	LEU	3
1	A	99	PHE	3
1	A	47	PRO	3
1	A	25	GLY	3
1	A	32	LYS	3
1	A	60	GLY	2
1	A	58	GLY	2
1	A	10	GLU	2
1	A	77	ILE	1
1	A	3	ARG	1
1	A	76	VAL	1
1	A	45	PHE	1
1	A	118	GLU	1
1	A	74	SER	1

6.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	95/108 (88%)	73±2 (77±2%)	22±2 (23±2%)	3	29
All	All	3610/4104 (88%)	2770 (77%)	840 (23%)	3	29

All 58 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	71	SER	38
1	A	70	ASN	38
1	A	3	ARG	36
1	A	44	LEU	33
1	A	114	LYS	33
1	A	17	LEU	30
1	A	99	PHE	30
1	A	33	THR	28
1	A	62	ASN	28
1	A	110	LEU	27

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Mol	Chain	Res	Type	Models (Total)
1	A	27	HIS	27
1	A	98	GLU	26
1	A	108	ARG	23
1	A	35	ARG	22
1	A	23	GLU	21
1	A	39	LYS	21
1	A	42	LYS	21
1	A	80	THR	20
1	A	87	THR	20
1	A	94	LYS	20
1	A	93	LYS	20
1	A	100	LEU	19
1	A	36	GLU	17
1	A	65	ASP	16
1	A	68	LYS	16
1	A	10	GLU	15
1	A	52	ASP	15
1	A	55	MET	14
1	A	29	ASP	14
1	A	15	SER	13
1	A	21	LEU	13
1	A	59	ASP	13
1	A	18	SER	12
1	A	16	SER	9
1	A	73	ASP	8
1	A	22	GLU	8
1	A	2	LYS	7
1	A	115	HIS	7
1	A	90	LYS	7
1	A	107	GLU	6
1	A	32	LYS	6
1	A	101	GLU	6
1	A	118	GLU	6
1	A	40	LYS	5
1	A	24	GLU	5
1	A	74	SER	4
1	A	109	PHE	4
1	A	76	VAL	2
1	A	8	ASP	2
1	A	92	ILE	1
1	A	111	LEU	1
1	A	97	TYR	1

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Mol	Chain	Res	Type	Models (Total)
1	A	38	GLU	1
1	A	106	VAL	1
1	A	57	ASP	1
1	A	64	ILE	1
1	A	86	ASP	1
1	A	69	GLU	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 carbohydrates in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation

No chemical shift data were provided