Full wwPDB NMR Structure Validation Report (i)

Feb 9, 2022 – 08:19 AM EST

PDB ID	:	1DV9
Title	:	STRUCTURAL CHANGES ACCOMPANYING PH-INDUCED DISSOCIATION OF THE B-LACTOGLOBULIN DIMER
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Deposited on	:	2000-01-20

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

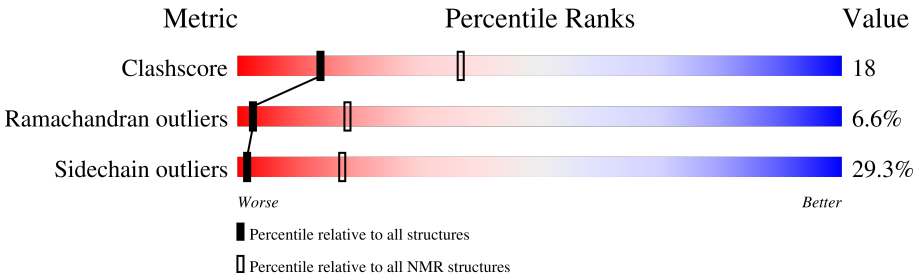
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	2.26
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.26

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	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	162	33% 53% · 12%

2 Ensemble composition and analysis (i)

This entry contains 21 models. Model 5 is the overall representative, medoid model (most similar to other models). The authors have identified model 14 as representative, based on the following criterion: *closest to the average*.

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

Well-defined (core) protein residues			
Well-defined core	**Residue range (total)**	**Backbone RMSD (Å)**	**Medoid model**
1	A:6-A:33, A:37-A:60, A:66-A:156 (143)	0.53	5

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

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

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

Cluster number	Models
1	1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
2	2, 20
Single-model clusters	8; 21

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 2590 atoms, of which 1303 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called BETA-LACTOGLOBULIN.

Mol	Chain	Residues	Atoms						Trace
1	A	162	Total	C	H	N	O	S	0
			2590	821	1303	206	251	9	

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	ALA	LEU	see remark 999	UNP P02754
A	2	TYR	ILE	see remark 999	UNP P02754
A	105	PHE	VAL	see remark 999	UNP P02754

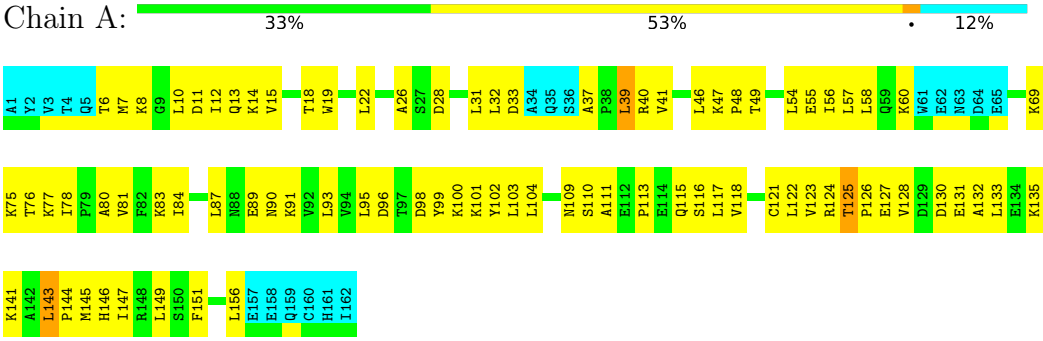
4 Residue-property plots

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: BETA-LACTOGLOBULIN

Chain A:



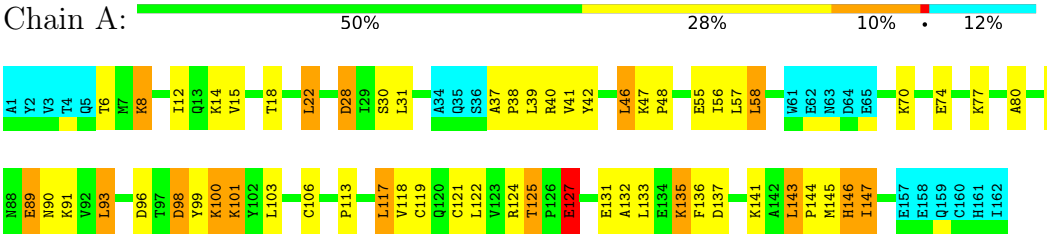
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

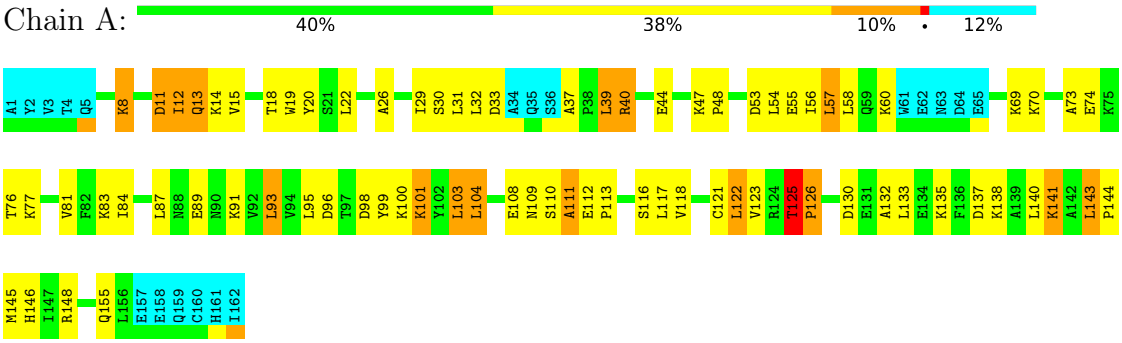
• Molecule 1: BETA-LACTOGLOBULIN

Chain A:



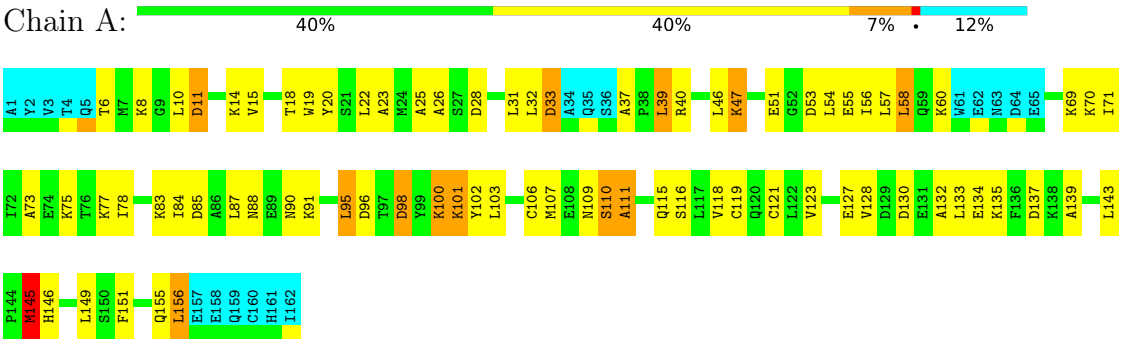
4.2.2 Score per residue for model 2

• Molecule 1: BETA-LACTOGLOBULIN



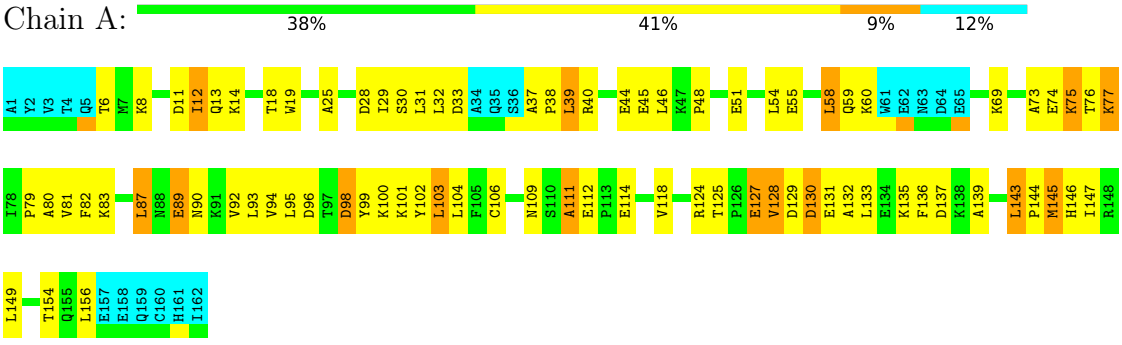
4.2.3 Score per residue for model 3

• Molecule 1: BETA-LACTOGLOBULIN



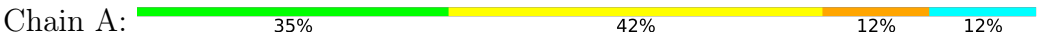
4.2.4 Score per residue for model 4

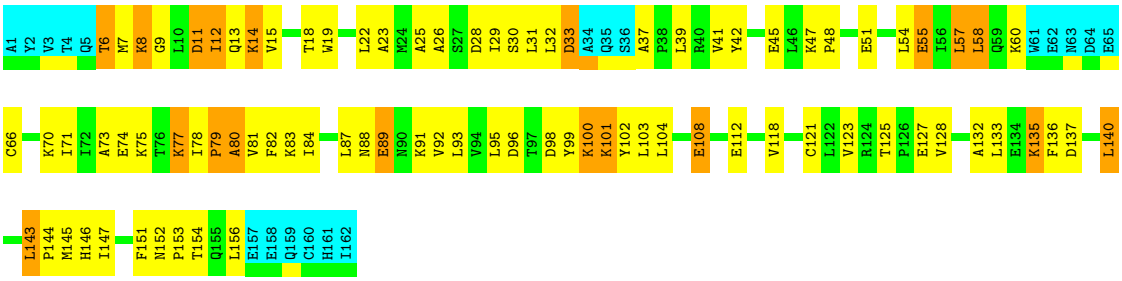
• Molecule 1: BETA-LACTOGLOBULIN



4.2.5 Score per residue for model 5 (medoid)

• Molecule 1: BETA-LACTOGLOBULIN

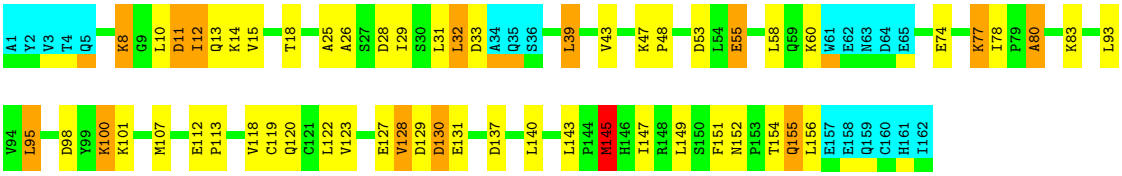




4.2.6 Score per residue for model 6

• Molecule 1: BETA-LACTOGLOBULIN

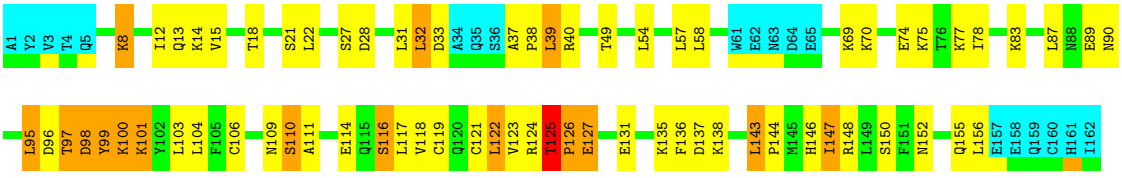
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: BETA-LACTOGLOBULIN

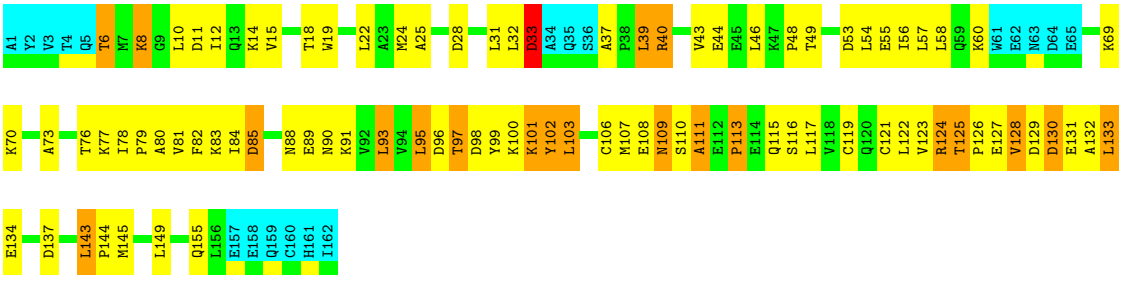
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: BETA-LACTOGLOBULIN

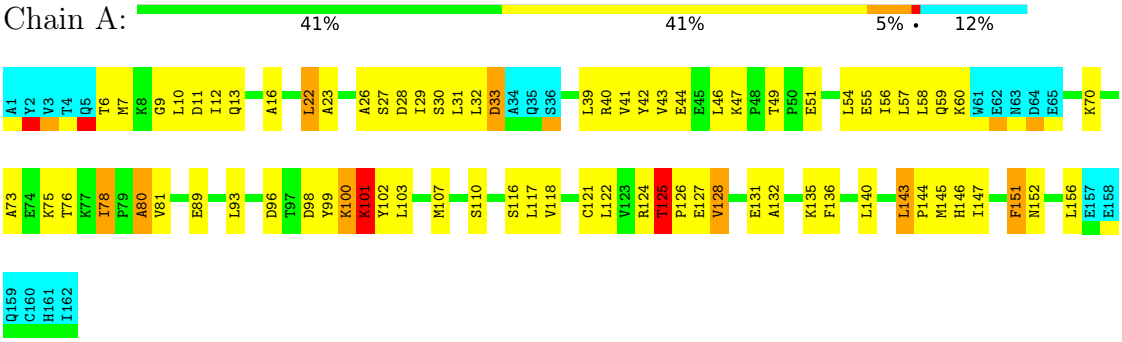
Chain A:



4.2.9 Score per residue for model 9

• Molecule 1: BETA-LACTOGLOBULIN

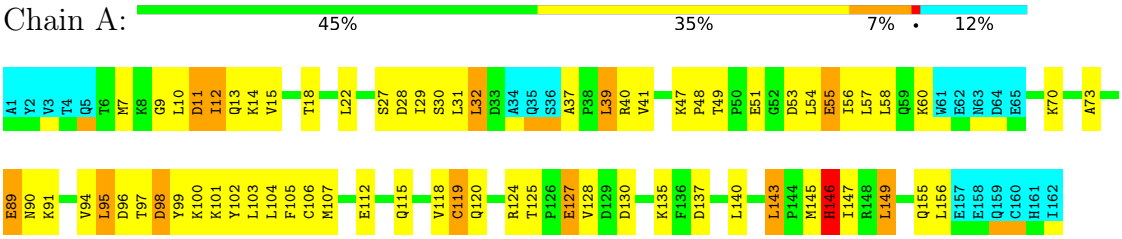
Chain A:



4.2.10 Score per residue for model 10

• Molecule 1: BETA-LACTOGLOBULIN

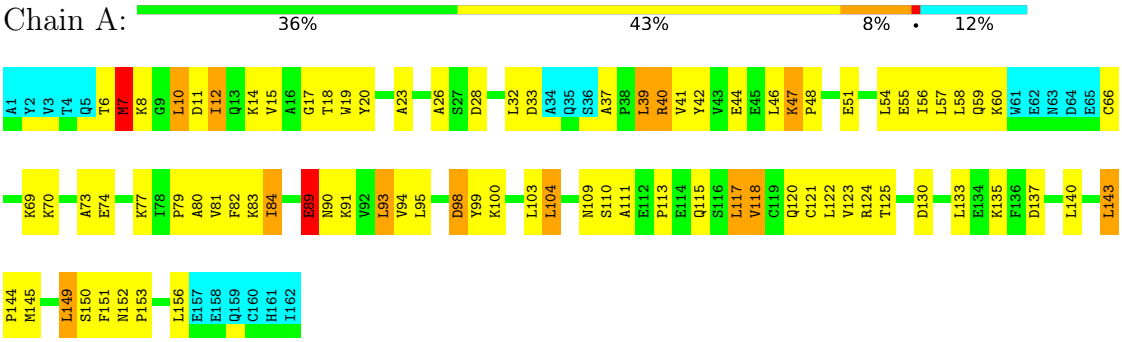
Chain A:



4.2.11 Score per residue for model 11

• Molecule 1: BETA-LACTOGLOBULIN

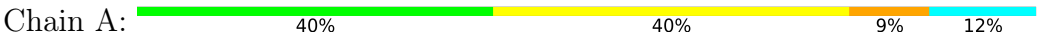
Chain A:

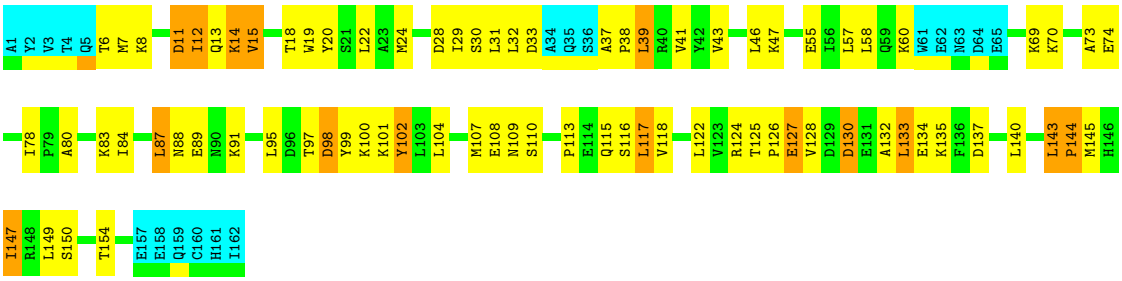


4.2.12 Score per residue for model 12

• Molecule 1: BETA-LACTOGLOBULIN

Chain A:

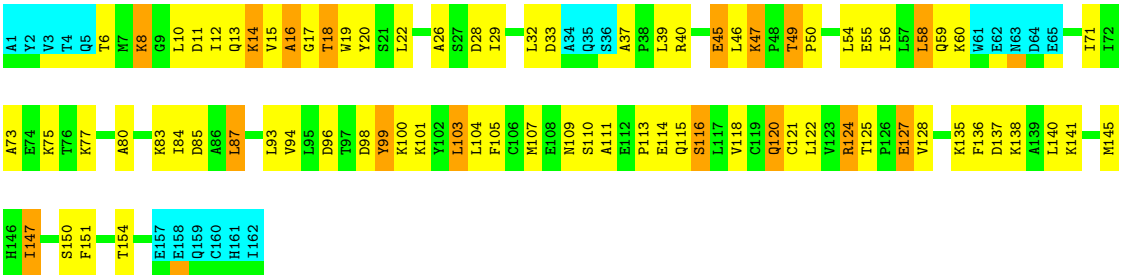




4.2.13 Score per residue for model 13

• Molecule 1: BETA-LACTOGLOBULIN

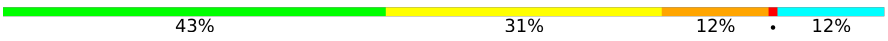
Chain A:

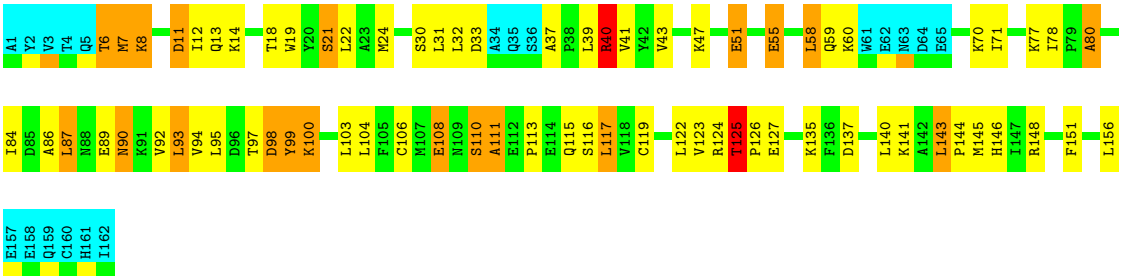


4.2.14 Score per residue for model 14

• Molecule 1: BETA-LACTOGLOBULIN

Chain A:

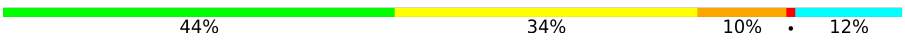


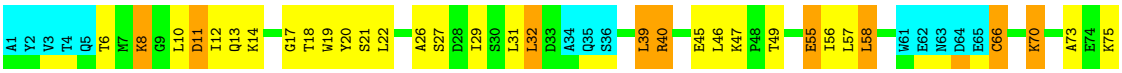


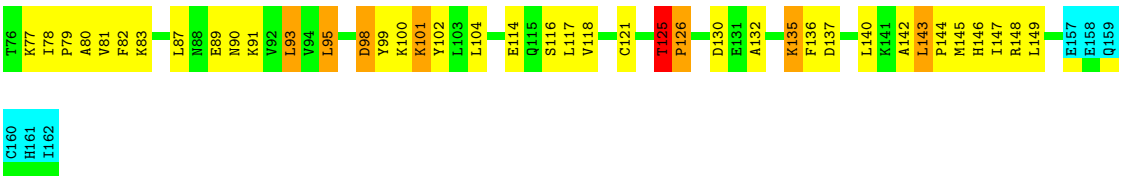
4.2.15 Score per residue for model 15

• Molecule 1: BETA-LACTOGLOBULIN

Chain A:



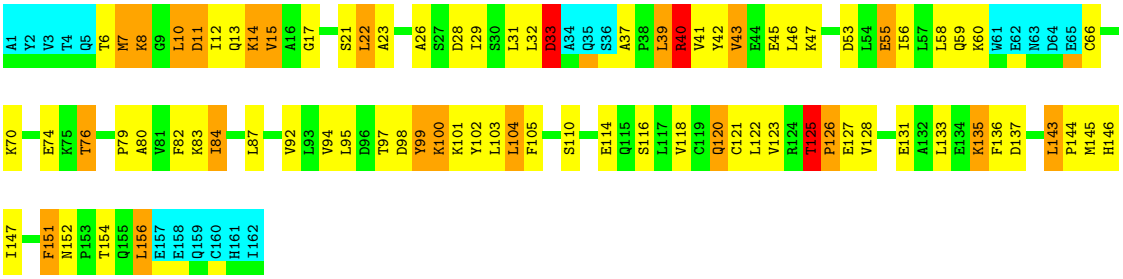




4.2.16 Score per residue for model 16

• Molecule 1: BETA-LACTOGLOBULIN

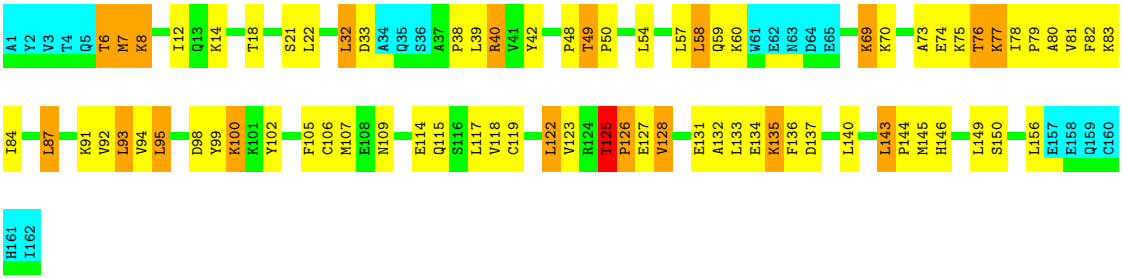
Chain A: 38% 36% 13% • 12%



4.2.17 Score per residue for model 17

• Molecule 1: BETA-LACTOGLOBULIN

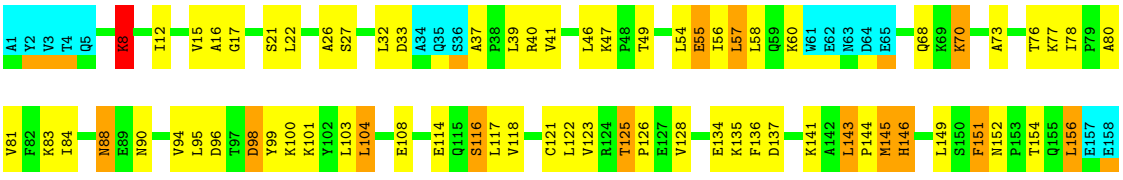
Chain A: 41% 35% 12% • 12%



4.2.18 Score per residue for model 18

• Molecule 1: BETA-LACTOGLOBULIN

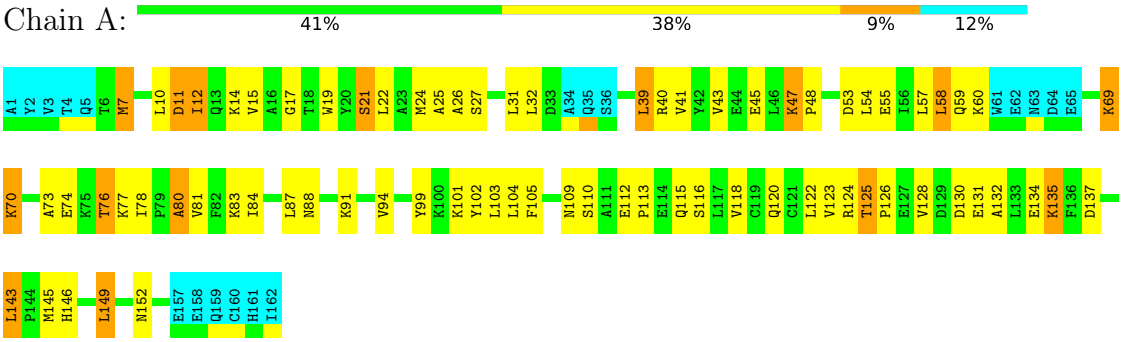
Chain A: 45% 35% 8% • 12%



4.2.19 Score per residue for model 19

• Molecule 1: BETA-LACTOGLOBULIN

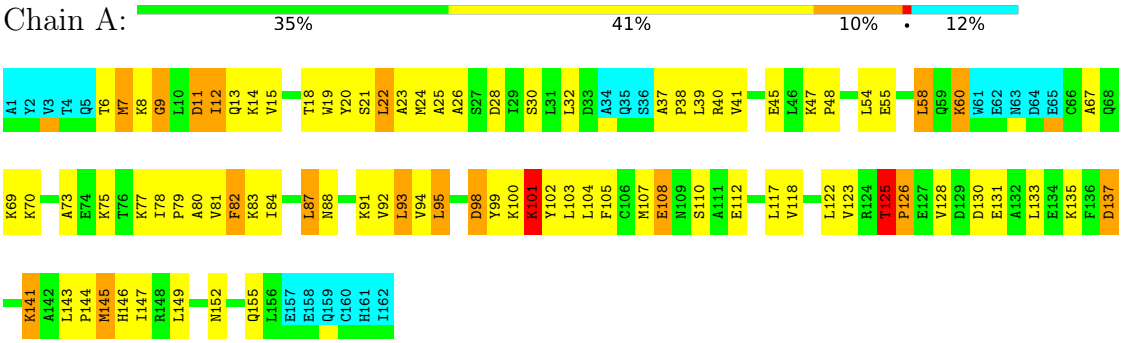
Chain A:



4.2.20 Score per residue for model 20

• Molecule 1: BETA-LACTOGLOBULIN

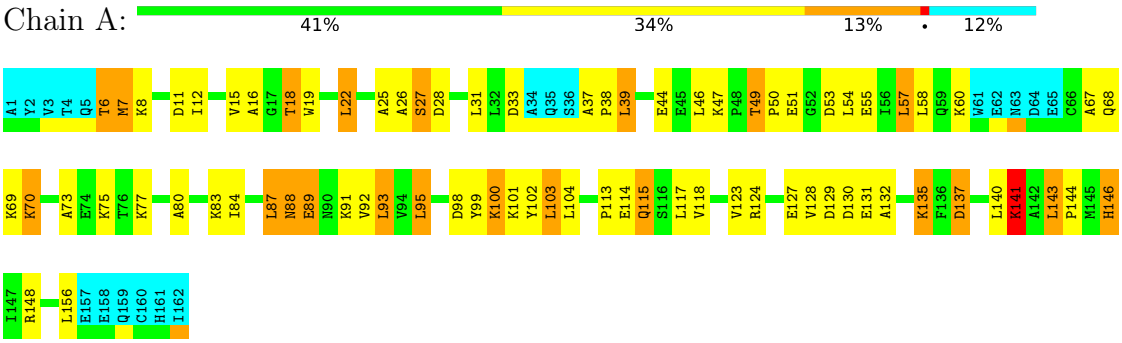
Chain A:



4.2.21 Score per residue for model 21

• Molecule 1: BETA-LACTOGLOBULIN

Chain A:



5 Refinement protocol and experimental data overview

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

Of the 60 calculated structures, 21 were deposited, based on the following criterion: *lowest total energy*.

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

Software name	Classification	Version
X-PLOR	structure solution	ARIA
CNS	structure solution	0.9
CNS	refinement	0.9

No chemical shift data was provided.

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	1127	1170	1169	41±9
All	All	23667	24570	24549	856

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 18.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:39:LEU:HD21	1:A:118:VAL:HG21	1.09	1.22	19	4
1:A:29:ILE:HG23	1:A:147:ILE:HD13	0.95	1.33	12	5
1:A:26:ALA:HB2	1:A:118:VAL:HG23	0.89	1.44	20	6
1:A:39:LEU:HD21	1:A:118:VAL:HG11	0.88	1.44	3	3
1:A:12:ILE:O	1:A:15:VAL:HG22	0.87	1.69	18	10
1:A:46:LEU:CD2	1:A:56:ILE:HG23	0.87	2.00	16	2
1:A:26:ALA:CB	1:A:118:VAL:HG12	0.87	2.00	9	3
1:A:123:VAL:HG21	1:A:127:GLU:O	0.84	1.72	14	1
1:A:41:VAL:CG2	1:A:58:LEU:HD13	0.84	2.03	11	1
1:A:39:LEU:HD11	1:A:118:VAL:HG11	0.81	1.51	7	3
1:A:26:ALA:HB1	1:A:118:VAL:HG12	0.81	1.52	9	1
1:A:23:ALA:HB3	1:A:121:CYS:SG	0.81	2.16	11	3
1:A:31:LEU:O	1:A:37:ALA:HB1	0.80	1.75	21	8
1:A:81:VAL:HG13	1:A:93:LEU:CD1	0.79	2.06	11	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:25:ALA:HB1	1:A:145:MET:SD	0.79	2.18	6	6
1:A:12:ILE:HD11	1:A:54:LEU:HD13	0.79	1.53	21	4
1:A:39:LEU:CD2	1:A:118:VAL:HG21	0.78	2.08	15	3
1:A:93:LEU:HD21	1:A:108:GLU:OE2	0.78	1.78	20	1
1:A:28:ASP:HB2	1:A:31:LEU:HD22	0.78	1.53	1	1
1:A:103:LEU:HD11	1:A:122:LEU:HD12	0.78	1.54	2	1
1:A:32:LEU:HD22	1:A:149:LEU:CD1	0.77	2.10	17	1
1:A:123:VAL:HG11	1:A:126:PRO:O	0.77	1.80	2	1
1:A:43:VAL:HG11	1:A:122:LEU:HD11	0.76	1.58	6	1
1:A:46:LEU:HD21	1:A:56:ILE:HG23	0.74	1.59	16	1
1:A:103:LEU:HD13	1:A:103:LEU:O	0.74	1.80	2	1
1:A:92:VAL:C	1:A:93:LEU:HD12	0.74	2.02	5	1
1:A:46:LEU:HD11	1:A:54:LEU:HD11	0.74	1.59	4	1
1:A:93:LEU:HD11	1:A:108:GLU:OE2	0.74	1.83	14	2
1:A:10:LEU:HD11	1:A:79:PRO:CB	0.73	2.13	16	1
1:A:10:LEU:HD11	1:A:79:PRO:HB2	0.73	1.60	16	1
1:A:92:VAL:C	1:A:93:LEU:HD13	0.72	2.05	21	2
1:A:81:VAL:HG12	1:A:93:LEU:HG	0.71	1.62	15	1
1:A:39:LEU:HD23	1:A:118:VAL:HG11	0.71	1.58	16	1
1:A:10:LEU:HD23	1:A:10:LEU:O	0.71	1.84	13	2
1:A:39:LEU:HD22	1:A:118:VAL:HG21	0.71	1.60	16	3
1:A:73:ALA:HB1	1:A:82:PHE:HB3	0.71	1.59	17	2
1:A:56:ILE:HG22	1:A:58:LEU:CD2	0.71	2.16	15	1
1:A:41:VAL:HG21	1:A:58:LEU:HD13	0.70	1.60	11	1
1:A:101:LYS:O	1:A:123:VAL:HG23	0.70	1.85	8	2
1:A:81:VAL:HG22	1:A:93:LEU:CD1	0.70	2.17	4	1
1:A:139:ALA:O	1:A:143:LEU:HD21	0.70	1.87	4	1
1:A:31:LEU:HD22	1:A:39:LEU:HD23	0.69	1.62	7	1
1:A:22:LEU:HD11	1:A:128:VAL:HG23	0.69	1.64	5	2
1:A:20:TYR:O	1:A:122:LEU:HD23	0.69	1.87	13	2
1:A:54:LEU:HB3	1:A:73:ALA:HB3	0.68	1.65	11	14
1:A:31:LEU:HD13	1:A:118:VAL:CG2	0.68	2.19	6	1
1:A:46:LEU:CD1	1:A:56:ILE:HG23	0.68	2.18	15	3
1:A:58:LEU:HD12	1:A:69:LYS:O	0.68	1.88	19	4
1:A:31:LEU:HB3	1:A:39:LEU:HD13	0.67	1.64	3	1
1:A:22:LEU:CD1	1:A:128:VAL:HG22	0.67	2.18	19	1
1:A:39:LEU:CD2	1:A:118:VAL:HG11	0.67	2.18	16	3
1:A:10:LEU:HD12	1:A:94:VAL:HG11	0.67	1.67	19	1
1:A:121:CYS:O	1:A:122:LEU:HD23	0.67	1.90	2	1
1:A:57:LEU:HD22	1:A:70:LYS:HB3	0.67	1.65	21	1
1:A:19:TRP:CE3	1:A:103:LEU:HD12	0.67	2.25	2	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:81:VAL:HG22	1:A:93:LEU:HG	0.66	1.67	5	1
1:A:39:LEU:HD22	1:A:118:VAL:HG11	0.66	1.67	6	2
1:A:81:VAL:HG22	1:A:93:LEU:HD12	0.66	1.65	17	2
1:A:38:PRO:O	1:A:87:LEU:HD22	0.66	1.91	12	2
1:A:31:LEU:HD22	1:A:39:LEU:CD1	0.66	2.21	3	1
1:A:12:ILE:HG22	1:A:48:PRO:CG	0.66	2.20	4	5
1:A:12:ILE:HG22	1:A:48:PRO:HG3	0.66	1.66	4	4
1:A:11:ASP:O	1:A:15:VAL:HG23	0.66	1.91	19	1
1:A:92:VAL:O	1:A:93:LEU:HD13	0.66	1.91	17	1
1:A:12:ILE:HD11	1:A:79:PRO:O	0.65	1.91	11	1
1:A:26:ALA:HB2	1:A:118:VAL:HG13	0.65	1.68	16	1
1:A:143:LEU:HD22	1:A:143:LEU:N	0.65	2.07	10	1
1:A:95:LEU:HD11	1:A:104:LEU:HB3	0.65	1.67	20	2
1:A:121:CYS:SG	1:A:132:ALA:HB1	0.65	2.32	15	3
1:A:29:ILE:HG23	1:A:147:ILE:HD12	0.65	1.69	9	1
1:A:19:TRP:CD1	1:A:46:LEU:HD12	0.65	2.26	11	2
1:A:93:LEU:HD22	1:A:93:LEU:N	0.65	2.07	17	2
1:A:93:LEU:HD13	1:A:93:LEU:N	0.65	2.06	21	1
1:A:28:ASP:CB	1:A:31:LEU:HD22	0.64	2.22	1	1
1:A:39:LEU:O	1:A:41:VAL:HG22	0.64	1.93	14	4
1:A:22:LEU:O	1:A:22:LEU:HD22	0.64	1.93	20	1
1:A:46:LEU:HD23	1:A:56:ILE:HG23	0.64	1.70	16	1
1:A:125:THR:HG22	1:A:126:PRO:HD2	0.63	1.70	19	2
1:A:127:GLU:O	1:A:128:VAL:HG12	0.63	1.93	6	2
1:A:39:LEU:HD13	1:A:118:VAL:HG21	0.63	1.70	6	1
1:A:95:LEU:HD23	1:A:95:LEU:N	0.63	2.09	8	5
1:A:22:LEU:HD11	1:A:128:VAL:HG13	0.63	1.71	19	1
1:A:22:LEU:HD21	1:A:133:LEU:CD2	0.62	2.24	12	2
1:A:15:VAL:HG11	1:A:103:LEU:CD1	0.62	2.24	16	1
1:A:78:ILE:HD12	1:A:78:ILE:N	0.62	2.08	3	2
1:A:38:PRO:O	1:A:87:LEU:HD21	0.62	1.93	7	3
1:A:116:SER:O	1:A:118:VAL:HG22	0.62	1.95	18	1
1:A:32:LEU:HD11	1:A:39:LEU:HD23	0.62	1.70	9	1
1:A:54:LEU:HD23	1:A:56:ILE:CG1	0.62	2.25	2	1
1:A:39:LEU:CD1	1:A:118:VAL:HG11	0.61	2.23	7	2
1:A:18:THR:HG23	1:A:45:GLU:OE1	0.61	1.95	13	1
1:A:31:LEU:HD12	1:A:118:VAL:CG2	0.61	2.25	16	1
1:A:37:ALA:HB1	1:A:40:ARG:CB	0.61	2.25	11	2
1:A:73:ALA:HA	1:A:84:ILE:HG22	0.61	1.72	8	11
1:A:45:GLU:OE1	1:A:57:LEU:HD12	0.61	1.95	5	1
1:A:43:VAL:HG21	1:A:122:LEU:HD21	0.61	1.72	6	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:15:VAL:HG23	1:A:48:PRO:HD3	0.61	1.71	1	1
1:A:33:ASP:O	1:A:37:ALA:HB2	0.61	1.96	8	6
1:A:121:CYS:C	1:A:122:LEU:HD23	0.60	2.17	2	2
1:A:12:ILE:HD13	1:A:82:PHE:CZ	0.60	2.31	8	1
1:A:81:VAL:HG13	1:A:93:LEU:HD13	0.60	1.72	11	1
1:A:93:LEU:N	1:A:93:LEU:HD23	0.60	2.11	20	2
1:A:77:LYS:C	1:A:78:ILE:HD12	0.60	2.17	17	1
1:A:39:LEU:HD21	1:A:89:GLU:OE2	0.60	1.96	8	1
1:A:22:LEU:HD12	1:A:127:GLU:O	0.59	1.97	14	2
1:A:142:ALA:C	1:A:143:LEU:HD23	0.59	2.17	15	1
1:A:22:LEU:HD13	1:A:128:VAL:HG12	0.59	1.74	18	1
1:A:143:LEU:HD23	1:A:143:LEU:N	0.59	2.12	15	1
1:A:128:VAL:HG13	1:A:128:VAL:O	0.59	1.97	16	1
1:A:38:PRO:CB	1:A:87:LEU:HD13	0.59	2.27	17	1
1:A:46:LEU:CD1	1:A:54:LEU:HD11	0.59	2.27	4	1
1:A:20:TYR:C	1:A:122:LEU:HD23	0.59	2.17	13	1
1:A:31:LEU:HD12	1:A:39:LEU:HD23	0.59	1.74	19	1
1:A:29:ILE:HG22	1:A:33:ASP:HB3	0.59	1.75	6	1
1:A:22:LEU:HD21	1:A:128:VAL:HG13	0.58	1.75	17	1
1:A:84:ILE:HD11	1:A:89:GLU:O	0.58	1.97	11	4
1:A:26:ALA:O	1:A:147:ILE:HG22	0.58	1.98	15	2
1:A:37:ALA:HB1	1:A:40:ARG:HB2	0.58	1.76	20	4
1:A:56:ILE:HD12	1:A:71:ILE:O	0.58	1.98	13	1
1:A:80:ALA:O	1:A:94:VAL:HG23	0.58	1.98	18	5
1:A:118:VAL:HG13	1:A:118:VAL:O	0.57	1.99	21	4
1:A:143:LEU:N	1:A:143:LEU:HD23	0.57	2.14	8	7
1:A:84:ILE:HD11	1:A:89:GLU:OE1	0.57	1.99	21	1
1:A:10:LEU:CD1	1:A:94:VAL:HG11	0.57	2.29	19	1
1:A:26:ALA:HB2	1:A:118:VAL:CG2	0.57	2.30	5	2
1:A:152:ASN:O	1:A:156:LEU:HD23	0.57	2.00	7	1
1:A:81:VAL:O	1:A:81:VAL:HG13	0.57	2.00	9	1
1:A:39:LEU:O	1:A:39:LEU:HD13	0.56	2.01	2	2
1:A:32:LEU:HD22	1:A:149:LEU:HD13	0.56	1.77	10	1
1:A:39:LEU:HD21	1:A:118:VAL:CG2	0.56	2.31	18	2
1:A:41:VAL:HG21	1:A:58:LEU:HD22	0.56	1.77	5	1
1:A:84:ILE:HD13	1:A:84:ILE:H	0.56	1.59	11	2
1:A:121:CYS:C	1:A:122:LEU:HD12	0.56	2.21	18	1
1:A:22:LEU:CD2	1:A:132:ALA:HB3	0.56	2.31	19	1
1:A:22:LEU:C	1:A:22:LEU:HD13	0.56	2.22	20	2
1:A:103:LEU:C	1:A:103:LEU:HD13	0.55	2.22	9	3
1:A:7:MET:SD	1:A:97:THR:HG22	0.55	2.41	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:LEU:HD22	1:A:39:LEU:CD2	0.55	2.31	7	1
1:A:31:LEU:HD13	1:A:118:VAL:HG11	0.55	1.76	9	1
1:A:6:THR:O	1:A:80:ALA:HB1	0.55	2.01	11	1
1:A:19:TRP:C	1:A:122:LEU:HD12	0.55	2.21	11	1
1:A:103:LEU:C	1:A:103:LEU:HD22	0.55	2.20	2	2
1:A:78:ILE:HB	1:A:81:VAL:HG22	0.55	1.77	15	1
1:A:29:ILE:CG2	1:A:147:ILE:HD13	0.55	2.22	12	1
1:A:39:LEU:HG	1:A:118:VAL:HG11	0.55	1.78	11	1
1:A:15:VAL:HG13	1:A:19:TRP:CZ2	0.55	2.37	3	2
1:A:46:LEU:HD22	1:A:46:LEU:N	0.55	2.17	15	1
1:A:156:LEU:C	1:A:156:LEU:HD23	0.54	2.23	6	1
1:A:24:MET:SD	1:A:32:LEU:HD11	0.54	2.42	19	1
1:A:21:SER:HA	1:A:122:LEU:HD23	0.54	1.78	17	2
1:A:87:LEU:HD13	1:A:89:GLU:OE2	0.54	2.02	21	1
1:A:43:VAL:HG11	1:A:122:LEU:CD1	0.54	2.31	6	1
1:A:31:LEU:HD22	1:A:39:LEU:HD12	0.54	1.79	4	2
1:A:129:ASP:CG	1:A:132:ALA:HB3	0.54	2.23	21	1
1:A:84:ILE:HD13	1:A:84:ILE:N	0.54	2.17	11	2
1:A:38:PRO:CB	1:A:87:LEU:HD12	0.54	2.32	20	1
1:A:127:GLU:C	1:A:128:VAL:HG23	0.54	2.23	8	1
1:A:38:PRO:HB3	1:A:87:LEU:HD13	0.54	1.79	17	1
1:A:19:TRP:CZ3	1:A:103:LEU:HD12	0.53	2.37	2	2
1:A:156:LEU:C	1:A:156:LEU:HD12	0.53	2.24	14	1
1:A:151:PHE:CB	1:A:156:LEU:HD12	0.53	2.33	6	1
1:A:22:LEU:HD12	1:A:123:VAL:HG21	0.53	1.78	21	1
1:A:46:LEU:HD11	1:A:56:ILE:HG23	0.53	1.78	15	2
1:A:22:LEU:C	1:A:22:LEU:HD23	0.53	2.24	5	3
1:A:147:ILE:HG23	1:A:147:ILE:O	0.53	2.04	7	3
1:A:105:PHE:CE1	1:A:122:LEU:HD12	0.53	2.39	13	1
1:A:121:CYS:O	1:A:122:LEU:HD12	0.52	2.04	8	1
1:A:97:THR:HG21	1:A:103:LEU:HD12	0.52	1.80	14	1
1:A:76:THR:HG22	1:A:76:THR:O	0.52	2.04	18	1
1:A:12:ILE:HG22	1:A:48:PRO:HG2	0.52	1.81	1	1
1:A:14:LYS:CD	1:A:99:TYR:CE1	0.52	2.92	16	1
1:A:12:ILE:HD12	1:A:82:PHE:CZ	0.52	2.39	11	1
1:A:156:LEU:O	1:A:156:LEU:HD23	0.52	2.05	10	1
1:A:10:LEU:HD21	1:A:80:ALA:HA	0.52	1.81	11	1
1:A:57:LEU:HD23	1:A:69:LYS:O	0.52	2.04	2	1
1:A:105:PHE:CE2	1:A:120:GLN:CG	0.52	2.93	10	1
1:A:105:PHE:CE1	1:A:122:LEU:HD11	0.52	2.40	17	1
1:A:97:THR:O	1:A:102:TYR:CE1	0.52	2.63	8	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:149:LEU:HD12	1:A:151:PHE:CE1	0.52	2.40	11	1
1:A:19:TRP:CE3	1:A:103:LEU:HD23	0.51	2.39	4	1
1:A:29:ILE:HA	1:A:147:ILE:HG21	0.51	1.81	15	1
1:A:18:THR:O	1:A:18:THR:HG23	0.51	2.05	5	2
1:A:37:ALA:HB3	1:A:40:ARG:HB2	0.51	1.82	7	1
1:A:44:GLU:OE2	1:A:57:LEU:HD22	0.51	2.05	2	1
1:A:22:LEU:HD11	1:A:128:VAL:HG22	0.51	1.82	10	1
1:A:84:ILE:HD12	1:A:92:VAL:CG2	0.51	2.36	16	1
1:A:14:LYS:NZ	1:A:99:TYR:CE2	0.51	2.79	17	1
1:A:82:PHE:N	1:A:82:PHE:CD1	0.51	2.78	20	1
1:A:29:ILE:HG22	1:A:33:ASP:HB2	0.51	1.83	2	2
1:A:105:PHE:CZ	1:A:120:GLN:CG	0.51	2.94	10	2
1:A:22:LEU:HD21	1:A:133:LEU:HD22	0.51	1.83	12	1
1:A:81:VAL:HG22	1:A:93:LEU:HD11	0.50	1.83	4	1
1:A:93:LEU:HD13	1:A:108:GLU:OE2	0.50	2.05	5	1
1:A:41:VAL:HG12	1:A:60:LYS:CB	0.50	2.36	9	1
1:A:26:ALA:HA	1:A:118:VAL:HG12	0.50	1.82	18	2
1:A:128:VAL:HG22	1:A:128:VAL:O	0.50	2.05	9	1
1:A:103:LEU:HD11	1:A:122:LEU:CB	0.50	2.36	13	1
1:A:39:LEU:HD21	1:A:118:VAL:CG1	0.50	2.29	3	1
1:A:104:LEU:HD22	1:A:121:CYS:SG	0.50	2.46	2	1
1:A:49:THR:HG1	1:A:53:ASP:CG	0.50	2.09	8	1
1:A:107:MET:O	1:A:118:VAL:HG12	0.50	2.06	13	1
1:A:151:PHE:N	1:A:151:PHE:CD1	0.50	2.80	16	3
1:A:31:LEU:C	1:A:37:ALA:HB1	0.50	2.26	1	2
1:A:151:PHE:HB3	1:A:156:LEU:HD12	0.50	1.84	6	2
1:A:28:ASP:HB3	1:A:31:LEU:HD22	0.50	1.84	8	1
1:A:43:VAL:HG11	1:A:122:LEU:HD21	0.50	1.83	12	2
1:A:15:VAL:HG11	1:A:103:LEU:HD13	0.50	1.83	8	2
1:A:28:ASP:OD2	1:A:31:LEU:HD13	0.50	2.07	8	1
1:A:56:ILE:O	1:A:58:LEU:HD23	0.49	2.07	13	1
1:A:8:LYS:H	1:A:80:ALA:HB2	0.49	1.66	1	3
1:A:7:MET:SD	1:A:10:LEU:HD12	0.49	2.47	19	1
1:A:48:PRO:HG3	1:A:54:LEU:HD12	0.49	1.85	2	1
1:A:32:LEU:HD12	1:A:32:LEU:O	0.49	2.07	6	1
1:A:39:LEU:CD1	1:A:118:VAL:HG21	0.49	2.38	2	3
1:A:31:LEU:HD13	1:A:39:LEU:HD13	0.49	1.85	6	1
1:A:143:LEU:CB	1:A:144:PRO:CD	0.49	2.90	2	6
1:A:123:VAL:HG21	1:A:127:GLU:HA	0.49	1.83	17	1
1:A:31:LEU:HD22	1:A:39:LEU:HD13	0.49	1.84	3	1
1:A:78:ILE:HB	1:A:81:VAL:HG12	0.49	1.85	18	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:128:VAL:O	1:A:128:VAL:HG23	0.49	2.08	20	1
1:A:10:LEU:HD23	1:A:79:PRO:O	0.49	2.07	15	1
1:A:12:ILE:HD12	1:A:82:PHE:HZ	0.48	1.67	11	1
1:A:103:LEU:N	1:A:103:LEU:CD1	0.48	2.76	13	1
1:A:21:SER:O	1:A:156:LEU:HD21	0.48	2.08	16	1
1:A:7:MET:HB3	1:A:80:ALA:HB2	0.48	1.85	21	1
1:A:125:THR:N	1:A:126:PRO:CD	0.48	2.76	8	1
1:A:14:LYS:CD	1:A:99:TYR:CD1	0.48	2.96	12	1
1:A:81:VAL:HG23	1:A:93:LEU:HD21	0.48	1.84	9	1
1:A:86:ALA:C	1:A:87:LEU:HD23	0.48	2.29	14	1
1:A:43:VAL:HG22	1:A:58:LEU:CD1	0.48	2.38	16	1
1:A:84:ILE:N	1:A:84:ILE:CD1	0.48	2.77	16	1
1:A:32:LEU:HD21	1:A:149:LEU:HG	0.48	1.84	19	1
1:A:104:LEU:HD11	1:A:121:CYS:SG	0.48	2.49	7	2
1:A:22:LEU:HD11	1:A:133:LEU:HD12	0.48	1.86	20	1
1:A:41:VAL:HG23	1:A:41:VAL:O	0.48	2.08	10	1
1:A:103:LEU:HD22	1:A:103:LEU:O	0.48	2.09	13	1
1:A:54:LEU:HD23	1:A:56:ILE:HG12	0.48	1.84	2	1
1:A:116:SER:O	1:A:118:VAL:HG12	0.48	2.08	7	1
1:A:125:THR:CB	1:A:126:PRO:CD	0.48	2.92	2	8
1:A:92:VAL:C	1:A:93:LEU:HD22	0.48	2.30	4	1
1:A:41:VAL:CG1	1:A:58:LEU:HD13	0.47	2.39	1	1
1:A:31:LEU:CD1	1:A:118:VAL:CG2	0.47	2.92	6	2
1:A:32:LEU:HD23	1:A:40:ARG:HB2	0.47	1.85	9	1
1:A:17:GLY:O	1:A:19:TRP:CD1	0.47	2.68	11	2
1:A:81:VAL:HG22	1:A:93:LEU:CG	0.47	2.39	5	1
1:A:19:TRP:CH2	1:A:103:LEU:HD12	0.47	2.44	13	1
1:A:23:ALA:HB1	1:A:149:LEU:O	0.47	2.09	3	1
1:A:27:SER:O	1:A:146:HIS:CG	0.47	2.67	21	1
1:A:105:PHE:CD1	1:A:105:PHE:N	0.47	2.81	13	2
1:A:14:LYS:HD2	1:A:99:TYR:CE1	0.47	2.45	16	1
1:A:78:ILE:N	1:A:78:ILE:CD1	0.47	2.77	17	2
1:A:79:PRO:O	1:A:82:PHE:CZ	0.47	2.68	17	3
1:A:71:ILE:HD11	1:A:87:LEU:HD13	0.47	1.85	5	1
1:A:143:LEU:HD12	1:A:145:MET:CE	0.47	2.40	4	1
1:A:143:LEU:HD23	1:A:144:PRO:HD2	0.47	1.87	18	2
1:A:19:TRP:CH2	1:A:99:TYR:O	0.47	2.67	5	5
1:A:31:LEU:HD13	1:A:118:VAL:HG21	0.47	1.87	6	1
1:A:26:ALA:HB2	1:A:118:VAL:HG12	0.47	1.84	9	1
1:A:41:VAL:HG11	1:A:58:LEU:HD21	0.47	1.86	16	1
1:A:10:LEU:HD22	1:A:12:ILE:HD13	0.47	1.86	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:12:ILE:HG22	1:A:48:PRO:CB	0.47	2.39	19	1
1:A:57:LEU:HD12	1:A:70:LYS:HB3	0.47	1.86	19	1
1:A:38:PRO:CA	1:A:87:LEU:CD1	0.47	2.92	20	1
1:A:19:TRP:CZ2	1:A:99:TYR:O	0.47	2.68	20	2
1:A:32:LEU:CD1	1:A:40:ARG:N	0.47	2.78	7	1
1:A:16:ALA:HB1	1:A:47:LYS:HG3	0.47	1.86	21	3
1:A:81:VAL:HG23	1:A:93:LEU:CD2	0.47	2.40	2	2
1:A:22:LEU:HD13	1:A:127:GLU:O	0.47	2.09	9	1
1:A:28:ASP:HB3	1:A:31:LEU:HD13	0.47	1.86	1	1
1:A:24:MET:CB	1:A:32:LEU:HD21	0.47	2.40	14	1
1:A:39:LEU:CD2	1:A:118:VAL:CG1	0.47	2.93	16	1
1:A:84:ILE:CD1	1:A:88:ASN:ND2	0.47	2.78	20	1
1:A:18:THR:O	1:A:19:TRP:CG	0.47	2.68	21	1
1:A:46:LEU:HD12	1:A:56:ILE:HG13	0.46	1.86	9	1
1:A:156:LEU:HD23	1:A:156:LEU:O	0.46	2.10	6	1
1:A:14:LYS:CB	1:A:99:TYR:CD1	0.46	2.98	13	1
1:A:103:LEU:N	1:A:103:LEU:HD13	0.46	2.25	13	1
1:A:79:PRO:O	1:A:82:PHE:CE1	0.46	2.68	8	1
1:A:31:LEU:O	1:A:32:LEU:HD12	0.46	2.10	7	1
1:A:152:ASN:CB	1:A:153:PRO:CD	0.46	2.93	5	2
1:A:94:VAL:HG13	1:A:104:LEU:O	0.46	2.11	10	2
1:A:76:THR:CG2	1:A:81:VAL:HG13	0.46	2.40	18	1
1:A:25:ALA:HB2	1:A:148:ARG:HG3	0.46	1.87	21	1
1:A:31:LEU:CB	1:A:39:LEU:HD13	0.46	2.38	3	1
1:A:10:LEU:HD23	1:A:12:ILE:N	0.46	2.26	19	1
1:A:39:LEU:HD21	1:A:89:GLU:OE1	0.46	2.11	11	1
1:A:22:LEU:CD2	1:A:132:ALA:CB	0.46	2.93	19	1
1:A:79:PRO:O	1:A:82:PHE:CE2	0.46	2.68	15	3
1:A:125:THR:N	1:A:126:PRO:HD3	0.46	2.25	8	1
1:A:112:GLU:N	1:A:113:PRO:CD	0.46	2.79	19	1
1:A:21:SER:HB3	1:A:43:VAL:HG12	0.46	1.87	14	2
1:A:122:LEU:HD12	1:A:122:LEU:N	0.46	2.26	14	1
1:A:105:PHE:CE1	1:A:120:GLN:CG	0.46	2.98	16	1
1:A:6:THR:O	1:A:6:THR:HG23	0.45	2.12	11	1
1:A:76:THR:HG21	1:A:81:VAL:HG13	0.45	1.88	18	2
1:A:11:ASP:O	1:A:13:GLN:N	0.45	2.49	16	11
1:A:58:LEU:HD21	1:A:71:ILE:CD1	0.45	2.41	3	1
1:A:104:LEU:N	1:A:104:LEU:HD23	0.45	2.26	11	1
1:A:49:THR:HG22	1:A:50:PRO:HD2	0.45	1.87	13	3
1:A:143:LEU:CB	1:A:144:PRO:HD2	0.45	2.41	16	14
1:A:32:LEU:HD11	1:A:40:ARG:N	0.45	2.26	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:93:LEU:CD2	1:A:93:LEU:N	0.45	2.78	13	2
1:A:105:PHE:CZ	1:A:120:GLN:HG2	0.45	2.45	13	1
1:A:10:LEU:HD23	1:A:10:LEU:C	0.45	2.32	19	1
1:A:105:PHE:CZ	1:A:120:GLN:NE2	0.45	2.83	19	1
1:A:57:LEU:HD22	1:A:70:LYS:CB	0.45	2.42	18	1
1:A:19:TRP:CZ3	1:A:103:LEU:HD23	0.45	2.46	21	1
1:A:58:LEU:HD11	1:A:71:ILE:CD1	0.45	2.41	14	1
1:A:42:TYR:CE2	1:A:44:GLU:OE2	0.45	2.70	9	1
1:A:48:PRO:HG3	1:A:54:LEU:HD13	0.45	1.89	8	1
1:A:20:TYR:O	1:A:122:LEU:HD13	0.45	2.11	11	1
1:A:26:ALA:CA	1:A:118:VAL:HG12	0.45	2.42	18	1
1:A:95:LEU:N	1:A:95:LEU:CD2	0.45	2.78	8	2
1:A:78:ILE:O	1:A:78:ILE:HG23	0.45	2.10	5	1
1:A:76:THR:HG23	1:A:81:VAL:HG13	0.45	1.88	8	1
1:A:32:LEU:HD13	1:A:40:ARG:HG2	0.45	1.88	16	1
1:A:22:LEU:HD23	1:A:22:LEU:O	0.45	2.12	21	1
1:A:140:LEU:O	1:A:143:LEU:HD12	0.45	2.12	21	2
1:A:143:LEU:HB3	1:A:144:PRO:CD	0.45	2.42	2	2
1:A:43:VAL:CG1	1:A:122:LEU:HD11	0.45	2.38	6	1
1:A:31:LEU:HD13	1:A:39:LEU:CD1	0.45	2.42	4	1
1:A:105:PHE:CZ	1:A:120:GLN:HG3	0.45	2.47	10	1
1:A:143:LEU:N	1:A:143:LEU:CD2	0.45	2.78	10	1
1:A:14:LYS:HD2	1:A:99:TYR:CG	0.44	2.47	12	2
1:A:39:LEU:HD22	1:A:118:VAL:CG1	0.44	2.40	6	1
1:A:105:PHE:CE1	1:A:120:GLN:HG3	0.44	2.47	16	1
1:A:11:ASP:OD2	1:A:99:TYR:CZ	0.44	2.70	19	1
1:A:32:LEU:HB2	1:A:147:ILE:HD13	0.44	1.87	20	1
1:A:19:TRP:CZ3	1:A:103:LEU:HB2	0.44	2.48	5	1
1:A:39:LEU:HD11	1:A:118:VAL:CG1	0.44	2.42	5	1
1:A:125:THR:CB	1:A:126:PRO:HD3	0.44	2.42	20	6
1:A:46:LEU:HD23	1:A:56:ILE:HA	0.44	1.88	3	2
1:A:41:VAL:CG1	1:A:58:LEU:HD21	0.44	2.42	16	1
1:A:20:TYR:CD1	1:A:20:TYR:N	0.44	2.86	20	1
1:A:38:PRO:CB	1:A:87:LEU:CD1	0.44	2.95	20	1
1:A:121:CYS:SG	1:A:136:PHE:CD1	0.44	3.10	1	2
1:A:79:PRO:O	1:A:80:ALA:HB2	0.44	2.13	5	1
1:A:152:ASN:O	1:A:156:LEU:N	0.44	2.51	9	1
1:A:121:CYS:HB2	1:A:136:PHE:CD1	0.44	2.48	7	4
1:A:56:ILE:HG22	1:A:58:LEU:HD22	0.44	1.89	15	1
1:A:127:GLU:O	1:A:128:VAL:CG1	0.44	2.66	4	2
1:A:93:LEU:N	1:A:93:LEU:HD22	0.44	2.27	13	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:29:ILE:O	1:A:33:ASP:N	0.43	2.51	16	3
1:A:125:THR:HG23	1:A:127:GLU:O	0.43	2.13	5	1
1:A:109:ASN:O	1:A:111:ALA:N	0.43	2.52	7	7
1:A:149:LEU:HD22	1:A:149:LEU:N	0.43	2.29	6	1
1:A:95:LEU:HD11	1:A:104:LEU:CB	0.43	2.40	20	2
1:A:98:ASP:OD1	1:A:102:TYR:CZ	0.43	2.71	15	1
1:A:32:LEU:HD12	1:A:32:LEU:N	0.43	2.28	4	1
1:A:25:ALA:HB3	1:A:140:LEU:HD21	0.43	1.89	21	2
1:A:121:CYS:SG	1:A:136:PHE:CG	0.43	3.11	16	1
1:A:31:LEU:HB2	1:A:32:LEU:HD12	0.43	1.90	4	1
1:A:102:TYR:CD2	1:A:132:ALA:CB	0.43	3.01	8	1
1:A:22:LEU:HD13	1:A:132:ALA:HB3	0.43	1.91	1	2
1:A:110:SER:O	1:A:111:ALA:HB2	0.43	2.14	8	3
1:A:23:ALA:CB	1:A:136:PHE:CE2	0.43	3.02	5	1
1:A:19:TRP:C	1:A:20:TYR:CD1	0.43	2.92	2	5
1:A:6:THR:O	1:A:8:LYS:N	0.43	2.52	5	6
1:A:152:ASN:O	1:A:156:LEU:CB	0.43	2.67	6	1
1:A:154:THR:O	1:A:155:GLN:CB	0.43	2.66	6	1
1:A:93:LEU:N	1:A:93:LEU:CD2	0.43	2.79	20	2
1:A:47:LYS:O	1:A:55:GLU:CB	0.43	2.67	14	13
1:A:104:LEU:HD22	1:A:136:PHE:CD1	0.43	2.49	4	1
1:A:78:ILE:O	1:A:80:ALA:N	0.43	2.49	14	5
1:A:150:SER:C	1:A:151:PHE:CD1	0.43	2.92	13	1
1:A:22:LEU:HD21	1:A:133:LEU:HD12	0.43	1.90	1	1
1:A:48:PRO:CB	1:A:53:ASP:O	0.43	2.67	6	1
1:A:132:ALA:O	1:A:136:PHE:CB	0.43	2.67	17	2
1:A:7:MET:N	1:A:94:VAL:O	0.43	2.52	11	4
1:A:76:THR:O	1:A:77:LYS:CB	0.43	2.67	18	1
1:A:22:LEU:HD21	1:A:133:LEU:CD1	0.43	2.43	20	1
1:A:98:ASP:O	1:A:100:LYS:N	0.42	2.53	7	16
1:A:54:LEU:HD23	1:A:56:ILE:HD11	0.42	1.91	10	1
1:A:19:TRP:CZ3	1:A:124:ARG:N	0.42	2.87	13	1
1:A:32:LEU:O	1:A:37:ALA:CB	0.42	2.67	16	1
1:A:137:ASP:O	1:A:141:LYS:N	0.42	2.52	20	3
1:A:102:TYR:CD2	1:A:132:ALA:HB2	0.42	2.50	12	2
1:A:129:ASP:O	1:A:131:GLU:N	0.42	2.52	6	4
1:A:103:LEU:CD1	1:A:122:LEU:CB	0.42	2.97	13	1
1:A:113:PRO:O	1:A:115:GLN:N	0.42	2.52	21	2
1:A:104:LEU:HD22	1:A:121:CYS:HB3	0.42	1.90	16	1
1:A:105:PHE:CZ	1:A:120:GLN:CD	0.42	2.93	19	1
1:A:143:LEU:O	1:A:145:MET:N	0.42	2.52	20	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:113:PRO:O	1:A:117:LEU:N	0.42	2.52	11	5
1:A:24:MET:O	1:A:149:LEU:N	0.42	2.53	8	2
1:A:103:LEU:HD11	1:A:122:LEU:HB3	0.42	1.90	13	1
1:A:39:LEU:O	1:A:39:LEU:CD1	0.42	2.68	19	1
1:A:101:LYS:CG	1:A:131:GLU:OE1	0.42	2.68	20	1
1:A:140:LEU:O	1:A:143:LEU:CD1	0.42	2.67	2	2
1:A:98:ASP:CG	1:A:102:TYR:CE2	0.42	2.92	5	1
1:A:22:LEU:CD1	1:A:127:GLU:O	0.42	2.68	7	3
1:A:128:VAL:O	1:A:128:VAL:HG13	0.42	2.15	9	1
1:A:31:LEU:O	1:A:39:LEU:CB	0.42	2.68	10	3
1:A:6:THR:O	1:A:80:ALA:CB	0.42	2.68	16	5
1:A:19:TRP:CD1	1:A:19:TRP:N	0.42	2.87	14	1
1:A:7:MET:CE	1:A:99:TYR:OH	0.42	2.68	16	1
1:A:145:MET:O	1:A:146:HIS:CG	0.42	2.73	18	1
1:A:12:ILE:CG2	1:A:48:PRO:CG	0.42	2.95	1	1
1:A:81:VAL:O	1:A:82:PHE:CG	0.42	2.72	4	1
1:A:39:LEU:HD21	1:A:89:GLU:CD	0.42	2.35	8	1
1:A:42:TYR:CE1	1:A:156:LEU:HD11	0.42	2.50	9	1
1:A:44:GLU:OE2	1:A:59:GLN:CG	0.42	2.68	11	1
1:A:19:TRP:O	1:A:20:TYR:CG	0.42	2.73	15	1
1:A:42:TYR:CB	1:A:59:GLN:O	0.42	2.68	17	1
1:A:21:SER:O	1:A:156:LEU:CD1	0.42	2.68	18	1
1:A:84:ILE:CD1	1:A:89:GLU:O	0.42	2.68	1	1
1:A:125:THR:O	1:A:127:GLU:N	0.42	2.53	12	2
1:A:143:LEU:HB3	1:A:144:PRO:HD2	0.42	1.91	2	2
1:A:100:LYS:O	1:A:101:LYS:CD	0.42	2.68	4	1
1:A:18:THR:O	1:A:18:THR:CG2	0.42	2.68	5	1
1:A:27:SER:O	1:A:146:HIS:CB	0.42	2.68	9	3
1:A:27:SER:O	1:A:146:HIS:ND1	0.42	2.53	10	1
1:A:80:ALA:O	1:A:94:VAL:N	0.42	2.53	18	1
1:A:92:VAL:C	1:A:93:LEU:HD23	0.42	2.35	20	1
1:A:131:GLU:O	1:A:135:LYS:CE	0.42	2.68	1	2
1:A:102:TYR:CB	1:A:122:LEU:O	0.42	2.68	19	2
1:A:22:LEU:O	1:A:151:PHE:N	0.42	2.53	13	1
1:A:17:GLY:O	1:A:45:GLU:CG	0.42	2.68	16	2
1:A:95:LEU:CD1	1:A:104:LEU:CB	0.42	2.98	15	1
1:A:102:TYR:CZ	1:A:135:LYS:HD2	0.42	2.50	16	2
1:A:123:VAL:CG1	1:A:129:ASP:OD2	0.42	2.68	21	1
1:A:53:ASP:CB	1:A:73:ALA:O	0.42	2.68	2	2
1:A:98:ASP:O	1:A:100:LYS:CG	0.42	2.67	9	2
1:A:101:LYS:O	1:A:124:ARG:N	0.42	2.53	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:24:MET:CE	1:A:41:VAL:O	0.42	2.68	19	2
1:A:14:LYS:HD3	1:A:99:TYR:CE1	0.42	2.50	16	1
1:A:31:LEU:CD1	1:A:118:VAL:HG21	0.42	2.45	16	1
1:A:39:LEU:O	1:A:41:VAL:N	0.42	2.53	18	1
1:A:22:LEU:HD12	1:A:123:VAL:HG11	0.42	1.91	3	1
1:A:75:LYS:O	1:A:76:THR:CG2	0.42	2.68	4	1
1:A:32:LEU:HD13	1:A:40:ARG:HA	0.42	1.90	14	1
1:A:14:LYS:HB3	1:A:99:TYR:CD1	0.42	2.50	7	1
1:A:95:LEU:HD11	1:A:119:CYS:SG	0.42	2.55	10	1
1:A:12:ILE:O	1:A:15:VAL:CG2	0.42	2.68	20	2
1:A:18:THR:O	1:A:124:ARG:CG	0.42	2.68	12	1
1:A:109:ASN:O	1:A:113:PRO:CD	0.42	2.68	12	1
1:A:82:PHE:CD1	1:A:82:PHE:N	0.41	2.87	5	1
1:A:102:TYR:OH	1:A:135:LYS:CD	0.41	2.68	21	4
1:A:97:THR:HG23	1:A:99:TYR:CE1	0.41	2.50	16	1
1:A:103:LEU:C	1:A:103:LEU:HD23	0.41	2.36	16	1
1:A:12:ILE:CG2	1:A:48:PRO:HB3	0.41	2.45	19	1
1:A:46:LEU:HD12	1:A:55:GLU:O	0.41	2.15	4	1
1:A:32:LEU:O	1:A:32:LEU:CD1	0.41	2.68	6	1
1:A:41:VAL:HG23	1:A:58:LEU:HD13	0.41	1.86	11	1
1:A:15:VAL:O	1:A:17:GLY:N	0.41	2.53	13	2
1:A:22:LEU:HD13	1:A:23:ALA:CB	0.41	2.45	20	1
1:A:41:VAL:HG11	1:A:58:LEU:HD13	0.41	1.92	1	1
1:A:103:LEU:C	1:A:104:LEU:HD23	0.41	2.36	14	1
1:A:140:LEU:HD13	1:A:143:LEU:HD12	0.41	1.91	14	1
1:A:32:LEU:HD12	1:A:39:LEU:HD22	0.41	1.92	15	1
1:A:31:LEU:O	1:A:37:ALA:CB	0.41	2.67	5	1
1:A:95:LEU:HD11	1:A:104:LEU:HD23	0.41	1.91	7	1
1:A:110:SER:OG	1:A:111:ALA:N	0.41	2.53	7	1
1:A:39:LEU:CD2	1:A:118:VAL:CG2	0.41	2.97	16	1
1:A:53:ASP:N	1:A:53:ASP:OD1	0.41	2.53	19	1
1:A:23:ALA:HB1	1:A:136:PHE:CE2	0.41	2.50	5	1
1:A:124:ARG:O	1:A:125:THR:CB	0.41	2.69	8	1
1:A:97:THR:OG1	1:A:98:ASP:N	0.41	2.54	12	1
1:A:60:LYS:O	1:A:67:ALA:N	0.41	2.53	20	2
1:A:14:LYS:HE3	1:A:99:TYR:CD2	0.41	2.50	5	1
1:A:46:LEU:HD12	1:A:56:ILE:HA	0.41	1.93	13	1
1:A:103:LEU:CD1	1:A:122:LEU:HB2	0.41	2.46	13	1
1:A:129:ASP:OD1	1:A:132:ALA:HB3	0.41	2.15	21	1
1:A:98:ASP:O	1:A:99:TYR:CB	0.41	2.69	4	1
1:A:152:ASN:OD1	1:A:153:PRO:CD	0.41	2.69	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:78:ILE:HG22	1:A:80:ALA:H	0.41	1.75	12	1
1:A:107:MET:N	1:A:118:VAL:O	0.41	2.54	13	1
1:A:84:ILE:HD13	1:A:92:VAL:HG21	0.41	1.93	14	1
1:A:95:LEU:CD2	1:A:104:LEU:O	0.41	2.69	21	1
1:A:101:LYS:CG	1:A:131:GLU:OE2	0.41	2.68	1	1
1:A:58:LEU:CD1	1:A:69:LYS:O	0.41	2.67	4	1
1:A:12:ILE:CG2	1:A:48:PRO:CB	0.41	2.99	5	1
1:A:39:LEU:HD12	1:A:118:VAL:HG21	0.41	1.92	5	1
1:A:119:CYS:O	1:A:120:GLN:CG	0.41	2.68	6	1
1:A:127:GLU:O	1:A:128:VAL:O	0.41	2.39	6	1
1:A:10:LEU:CD2	1:A:79:PRO:O	0.41	2.69	15	1
1:A:56:ILE:O	1:A:70:LYS:CB	0.41	2.69	15	1
1:A:32:LEU:O	1:A:37:ALA:HB2	0.41	2.15	16	1
1:A:121:CYS:HB3	1:A:136:PHE:CD1	0.41	2.51	16	1
1:A:87:LEU:O	1:A:89:GLU:N	0.41	2.54	5	1
1:A:44:GLU:N	1:A:57:LEU:O	0.41	2.54	8	1
1:A:43:VAL:HG22	1:A:58:LEU:HD11	0.41	1.94	16	1
1:A:32:LEU:HD23	1:A:40:ARG:CB	0.40	2.46	9	1
1:A:75:LYS:O	1:A:75:LYS:CG	0.40	2.69	15	1
1:A:39:LEU:HD21	1:A:118:VAL:CB	0.40	2.47	17	1
1:A:8:LYS:N	1:A:80:ALA:HB2	0.40	2.30	18	1
1:A:100:LYS:CG	1:A:100:LYS:O	0.40	2.69	5	1
1:A:76:THR:OG1	1:A:77:LYS:N	0.40	2.54	19	2
1:A:43:VAL:HG21	1:A:122:LEU:CD2	0.40	2.46	14	1
1:A:103:LEU:O	1:A:104:LEU:HD23	0.40	2.16	14	1
1:A:128:VAL:O	1:A:128:VAL:CG1	0.40	2.68	16	1
1:A:31:LEU:CD2	1:A:88:ASN:CB	0.40	2.99	21	1
1:A:98:ASP:OD2	1:A:101:LYS:CD	0.40	2.69	2	1
1:A:48:PRO:CA	1:A:53:ASP:O	0.40	2.69	6	1
1:A:103:LEU:O	1:A:122:LEU:N	0.40	2.53	11	1
1:A:123:VAL:HG11	1:A:128:VAL:H	0.40	1.75	17	1
1:A:7:MET:CE	1:A:9:GLY:O	0.40	2.69	20	1
1:A:15:VAL:HG12	1:A:15:VAL:O	0.40	2.17	3	1
1:A:112:GLU:O	1:A:112:GLU:CG	0.40	2.69	10	1
1:A:123:VAL:HG12	1:A:124:ARG:N	0.40	2.31	14	1
1:A:39:LEU:CD2	1:A:118:VAL:CB	0.40	2.98	16	1
1:A:95:LEU:N	1:A:95:LEU:HD23	0.40	2.32	6	1
1:A:56:ILE:HG22	1:A:58:LEU:HD23	0.40	1.91	15	1
1:A:104:LEU:CD2	1:A:121:CYS:SG	0.40	3.10	18	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	143/162 (88%)	108±3 (75±2%)	26±4 (18±3%)	9±3 (7±2%)	2	18
All	All	3003/3402 (88%)	2259 (75%)	545 (18%)	199 (7%)	2	18

All 51 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	8	LYS	14
1	A	12	ILE	13
1	A	40	ARG	11
1	A	99	TYR	10
1	A	101	LYS	10
1	A	125	THR	9
1	A	128	VAL	8
1	A	126	PRO	7
1	A	145	MET	7
1	A	7	MET	7
1	A	77	LYS	5
1	A	127	GLU	5
1	A	146	HIS	5
1	A	110	SER	5
1	A	111	ALA	5
1	A	130	ASP	5
1	A	80	ALA	5
1	A	33	ASP	4
1	A	89	GLU	4
1	A	9	GLY	4
1	A	6	THR	4
1	A	95	LEU	3
1	A	144	PRO	3
1	A	78	ILE	3
1	A	76	THR	3
1	A	141	LYS	2
1	A	11	ASP	2

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Mol	Chain	Res	Type	Models (Total)
1	A	87	LEU	2
1	A	113	PRO	2
1	A	116	SER	2
1	A	85	ASP	2
1	A	88	ASN	2
1	A	43	VAL	2
1	A	100	LYS	2
1	A	51	GLU	2
1	A	66	CYS	2
1	A	117	LEU	2
1	A	16	ALA	2
1	A	53	ASP	2
1	A	79	PRO	1
1	A	112	GLU	1
1	A	97	THR	1
1	A	22	LEU	1
1	A	15	VAL	1
1	A	114	GLU	1
1	A	90	ASN	1
1	A	151	PHE	1
1	A	14	LYS	1
1	A	152	ASN	1
1	A	48	PRO	1
1	A	115	GLN	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	127/144 (88%)	90±5 (71±4%)	37±5 (29±4%)	1 17
All	All	2667/3024 (88%)	1885 (71%)	782 (29%)	1 17

All 100 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	58	LEU	19

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Mol	Chain	Res	Type	Models (Total)
1	A	135	LYS	19
1	A	137	ASP	19
1	A	143	LEU	19
1	A	70	LYS	18
1	A	83	LYS	18
1	A	60	LYS	16
1	A	14	LYS	15
1	A	125	THR	15
1	A	39	LEU	15
1	A	18	THR	14
1	A	28	ASP	14
1	A	11	ASP	14
1	A	95	LEU	14
1	A	57	LEU	13
1	A	91	LYS	13
1	A	101	LYS	13
1	A	32	LEU	13
1	A	145	MET	12
1	A	55	GLU	12
1	A	77	LYS	12
1	A	74	GLU	11
1	A	96	ASP	11
1	A	98	ASP	11
1	A	146	HIS	11
1	A	87	LEU	11
1	A	116	SER	11
1	A	130	ASP	11
1	A	89	GLU	10
1	A	90	ASN	10
1	A	93	LEU	10
1	A	103	LEU	10
1	A	117	LEU	10
1	A	6	THR	9
1	A	30	SER	9
1	A	124	ARG	9
1	A	133	LEU	9
1	A	75	LYS	9
1	A	140	LEU	9
1	A	100	LYS	8
1	A	106	CYS	8
1	A	8	LYS	8
1	A	69	LYS	8

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Mol	Chain	Res	Type	Models (Total)
1	A	107	MET	8
1	A	115	GLN	8
1	A	156	LEU	8
1	A	123	VAL	8
1	A	49	THR	8
1	A	119	CYS	7
1	A	40	ARG	7
1	A	104	LEU	7
1	A	155	GLN	7
1	A	51	GLU	7
1	A	114	GLU	7
1	A	149	LEU	7
1	A	127	GLU	6
1	A	141	LYS	6
1	A	108	GLU	6
1	A	33	ASP	6
1	A	88	ASN	6
1	A	110	SER	6
1	A	134	GLU	6
1	A	59	GLN	6
1	A	154	THR	6
1	A	10	LEU	6
1	A	22	LEU	5
1	A	147	ILE	5
1	A	47	LYS	5
1	A	102	TYR	5
1	A	76	THR	4
1	A	112	GLU	4
1	A	122	LEU	4
1	A	148	ARG	4
1	A	45	GLU	4
1	A	151	PHE	4
1	A	131	GLU	4
1	A	150	SER	4
1	A	21	SER	4
1	A	13	GLN	3
1	A	138	LYS	3
1	A	42	TYR	3
1	A	15	VAL	3
1	A	27	SER	3
1	A	109	ASN	3
1	A	120	GLN	3

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Mol	Chain	Res	Type	Models (Total)
1	A	152	ASN	3
1	A	46	LEU	2
1	A	53	ASP	2
1	A	85	ASP	2
1	A	44	GLU	2
1	A	66	CYS	2
1	A	97	THR	2
1	A	7	MET	2
1	A	84	ILE	2
1	A	68	GLN	2
1	A	99	TYR	1
1	A	118	VAL	1
1	A	136	PHE	1
1	A	41	VAL	1
1	A	82	PHE	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

No chemical shift data were provided