



Full wwPDB NMR Structure Validation Report ⓘ

Mar 7, 2022 – 01:04 AM EST

PDB ID : 2KM2
Title : Galectin-1 dimer
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Deposited on : 2009-07-16

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 ⓘ symbol.

The following versions of software and data (see [references ⓘ](#)) 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 : 2.27
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.27

2 Ensemble composition and analysis

This entry contains 10 models. Model 8 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

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:3-A:134, B:1-B:134 (266)	0.66	8

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 and 2 single-model clusters were found.

Cluster number	Models
1	6, 8, 10
2	1, 3, 7
3	2, 9
Single-model clusters	4; 5

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 4036 atoms, of which 1986 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Galectin-1.

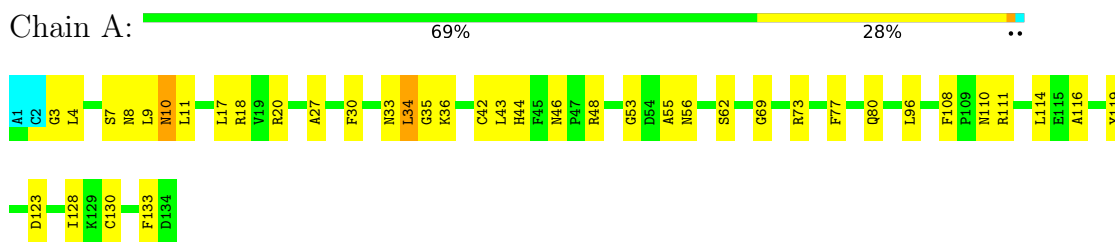
Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	134	2018	646	993	178	194	7	0
1	B	134	2018	646	993	178	194	7	0

4 Residue-property plots

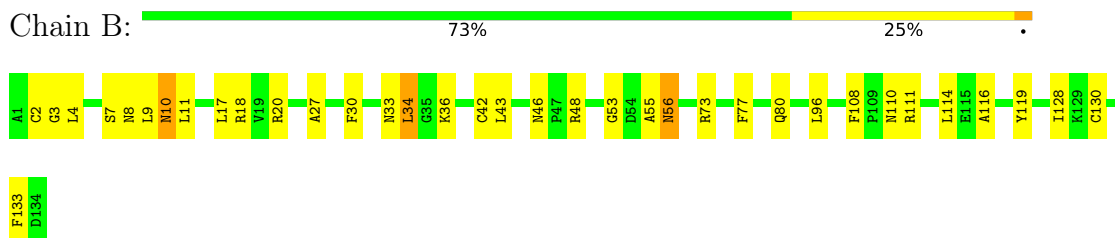
4.1 Average score per residue in the NMR ensemble

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: Galectin-1



- Molecule 1: Galectin-1

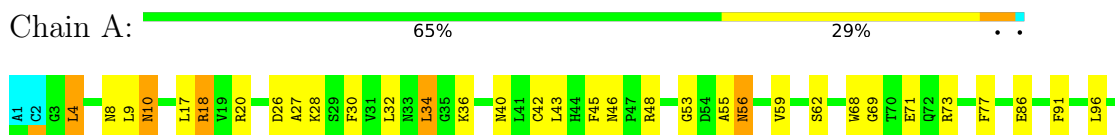


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

- Molecule 1: Galectin-1



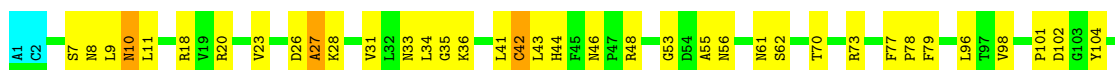


- Molecule 1: Galectin-1

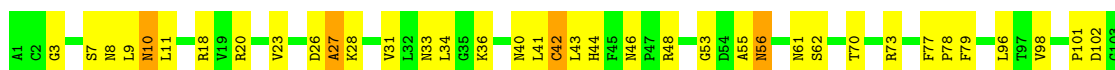


4.2.2 Score per residue for model 2

- Molecule 1: Galectin-1

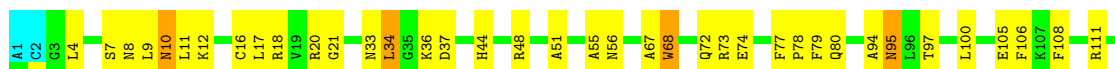


- Molecule 1: Galectin-1

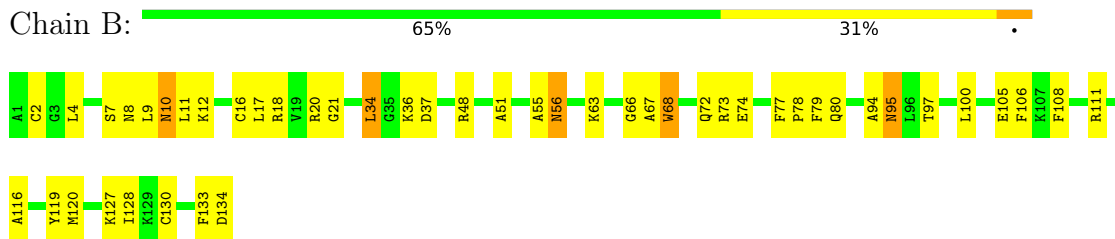


4.2.3 Score per residue for model 3

- Molecule 1: Galectin-1

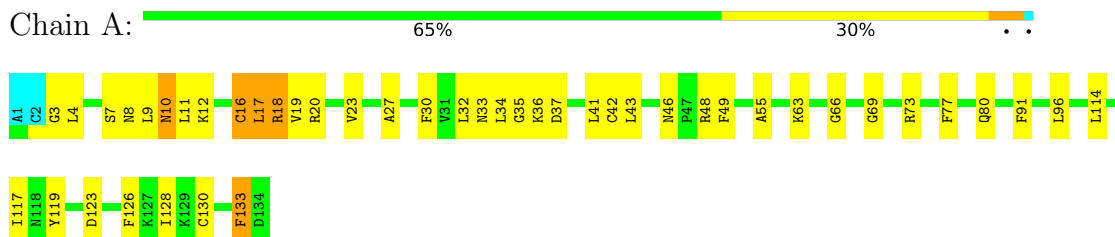


- Molecule 1: Galectin-1

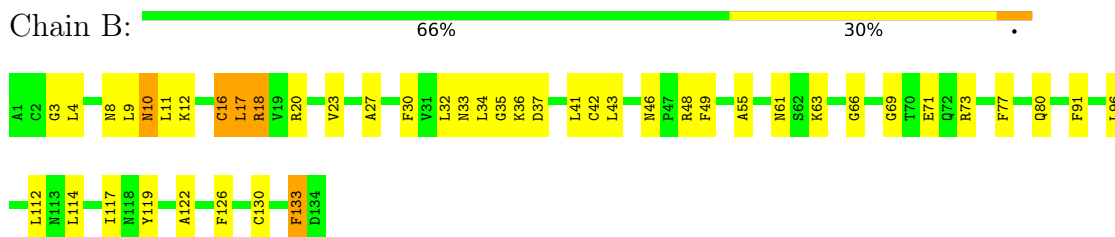


4.2.4 Score per residue for model 4

- Molecule 1: Galectin-1

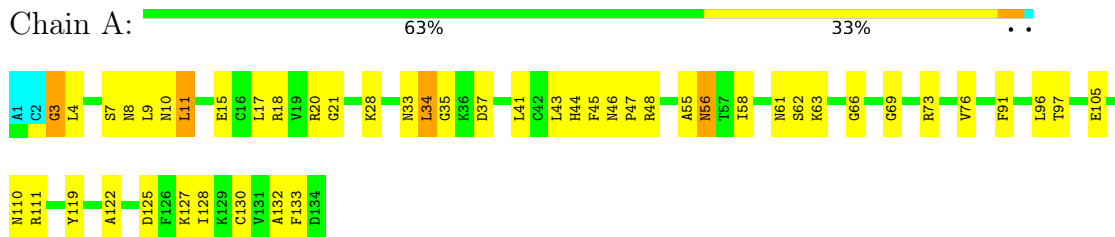


- Molecule 1: Galectin-1

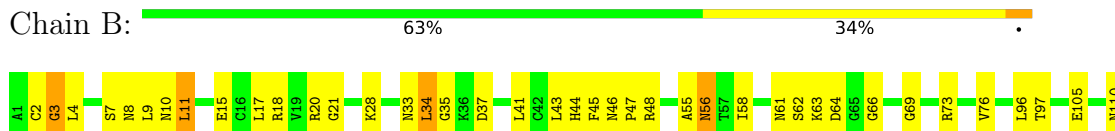


4.2.5 Score per residue for model 5

- Molecule 1: Galectin-1



- Molecule 1: Galectin-1

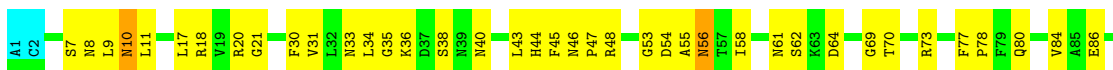




4.2.6 Score per residue for model 6

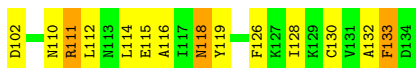
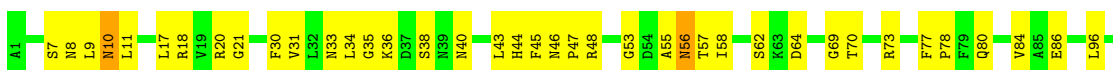
- Molecule 1: Galectin-1

Chain A: 58% 37% . .



- Molecule 1: Galectin-1

Chain B: 60% 36% .



4.2.7 Score per residue for model 7

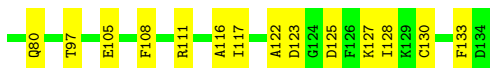
- Molecule 1: Galectin-1

Chain A: 59% 35% . .



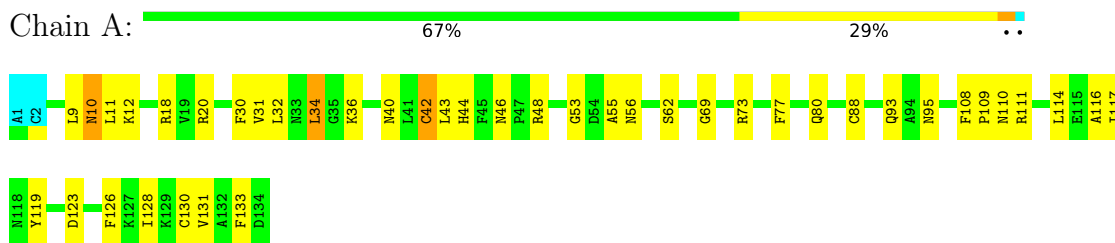
- Molecule 1: Galectin-1

Chain B: 60% 37% .

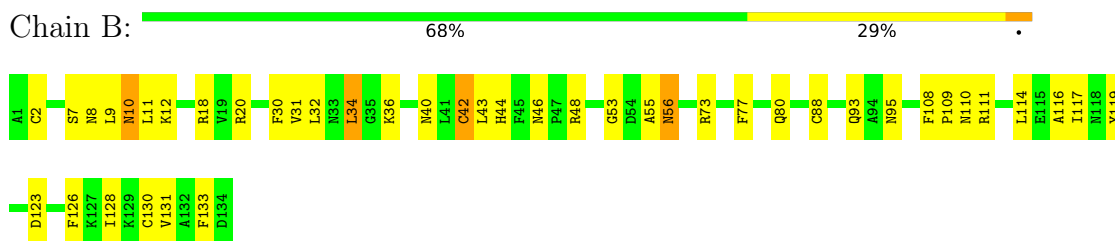


4.2.8 Score per residue for model 8 (medoid)

- Molecule 1: Galectin-1

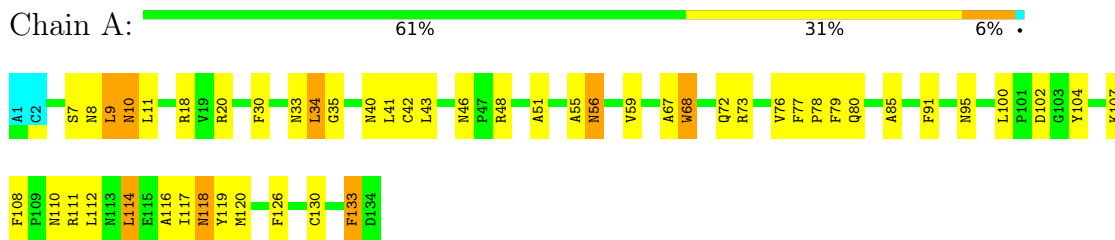


- Molecule 1: Galectin-1

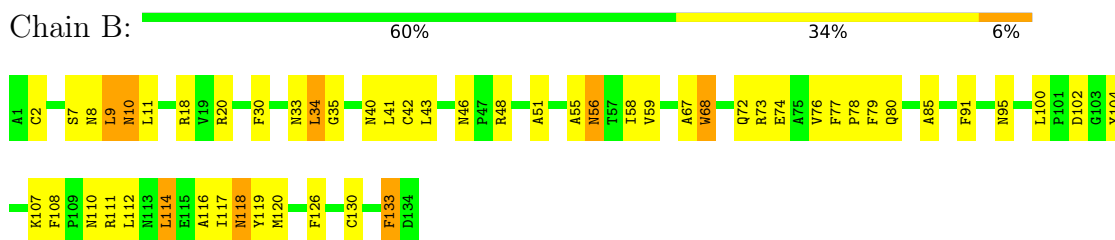


4.2.9 Score per residue for model 9

- Molecule 1: Galectin-1



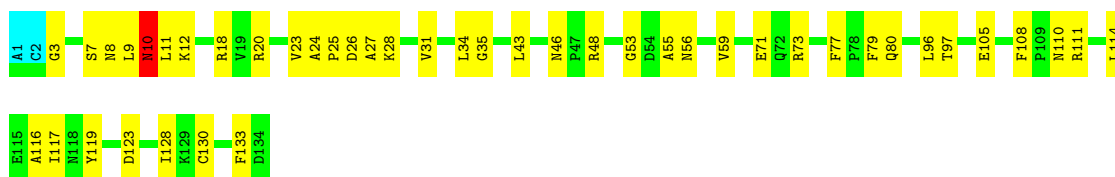
- Molecule 1: Galectin-1



4.2.10 Score per residue for model 10

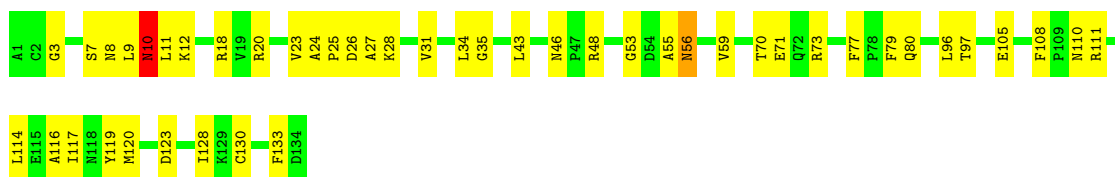
- Molecule 1: Galectin-1





- Molecule 1: Galectin-1

Chain B: 66% 33% **



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 10 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
XPLOR-NIH	refinement	2.18
XPLOR-NIH	structure solution	2.18
NMRPipe	structure solution	
NMRView	structure solution	

No chemical shift data was provided.

6 Model quality [i](#)

6.1 Standard geometry [i](#)

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

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	4.9±0.3
1	B	0.0±0.0	4.9±0.3
All	All	0	98

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

All unique planar outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Group	Models (Total)
1	A	18	ARG	Sidechain	10
1	A	20	ARG	Sidechain	10
1	A	48	ARG	Sidechain	10
1	A	73	ARG	Sidechain	10
1	B	18	ARG	Sidechain	10
1	B	20	ARG	Sidechain	10
1	B	48	ARG	Sidechain	10
1	B	73	ARG	Sidechain	10
1	A	111	ARG	Sidechain	9
1	B	111	ARG	Sidechain	9

6.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	1014	981	981	31±5

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Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	B	1025	993	993	32±5
All	All	20390	19740	19740	615

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 15.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:43:LEU:HD11	1:A:96:LEU:HD13	0.89	1.45	10	2
1:A:43:LEU:HD21	1:A:96:LEU:HD13	0.87	1.45	4	2
1:B:43:LEU:HD21	1:B:96:LEU:HD13	0.86	1.46	4	2
1:B:43:LEU:HD11	1:B:96:LEU:HD13	0.85	1.46	10	2
1:A:6:ALA:HB1	1:A:9:LEU:HD11	0.83	1.50	7	1
1:B:43:LEU:HD11	1:B:96:LEU:HD11	0.82	1.51	2	1
1:A:4:LEU:HD12	1:A:128:ILE:HG23	0.81	1.53	5	1
1:A:43:LEU:HD11	1:A:96:LEU:HD11	0.81	1.51	2	1
1:B:6:ALA:HB1	1:B:9:LEU:HD11	0.81	1.51	7	1
1:B:4:LEU:HD12	1:B:128:ILE:HG23	0.78	1.53	5	1
1:B:6:ALA:CB	1:B:9:LEU:HD11	0.77	2.10	7	1
1:A:43:LEU:HD13	1:A:96:LEU:CD2	0.76	2.09	6	1
1:B:43:LEU:HD13	1:B:96:LEU:CD2	0.76	2.09	6	1
1:A:6:ALA:CB	1:A:9:LEU:HD11	0.76	2.09	7	1
1:B:33:ASN:HB2	1:B:41:LEU:HD13	0.75	1.58	9	2
1:A:33:ASN:HB2	1:A:41:LEU:HD13	0.74	1.58	9	2
1:A:17:LEU:HD12	1:A:132:ALA:O	0.74	1.82	5	3
1:B:17:LEU:HD12	1:B:132:ALA:O	0.73	1.83	5	3
1:A:9:LEU:HD23	1:B:4:LEU:HD22	0.71	1.61	7	2
1:B:97:THR:HG23	1:B:105:GLU:OE2	0.71	1.86	5	3
1:A:97:THR:HG23	1:A:105:GLU:OE2	0.70	1.86	5	3
1:B:43:LEU:HD13	1:B:96:LEU:HD21	0.69	1.63	6	1
1:B:11:LEU:HD21	1:B:133:PHE:CD2	0.68	2.23	2	1
1:A:11:LEU:HD21	1:A:133:PHE:CD2	0.68	2.23	2	1
1:A:43:LEU:HD13	1:A:96:LEU:HD21	0.68	1.62	6	1
1:B:32:LEU:HD12	1:B:33:ASN:N	0.67	2.05	4	1
1:A:32:LEU:HD12	1:A:33:ASN:N	0.64	2.06	4	1
1:B:34:LEU:O	1:B:34:LEU:HD12	0.64	1.93	7	2
1:A:35:GLY:HA3	1:A:41:LEU:HD23	0.63	1.70	4	1
1:B:35:GLY:HA3	1:B:41:LEU:HD23	0.62	1.71	4	1
1:A:112:LEU:HD13	1:A:113:ASN:N	0.62	2.10	2	1
1:B:112:LEU:HD13	1:B:113:ASN:N	0.62	2.10	2	1
1:B:112:LEU:HB3	1:B:114:LEU:HD23	0.62	1.72	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:42:CYS:SG	1:A:43:LEU:HD23	0.61	2.35	8	1
1:A:112:LEU:HB3	1:A:114:LEU:HD23	0.61	1.71	9	1
1:A:112:LEU:CB	1:A:114:LEU:HD23	0.61	2.25	9	1
1:B:77:PHE:CD1	1:B:77:PHE:N	0.60	2.68	3	5
1:A:4:LEU:HD22	1:B:9:LEU:HD23	0.60	1.72	7	2
1:B:112:LEU:CB	1:B:114:LEU:HD23	0.60	2.25	9	1
1:A:34:LEU:HD12	1:A:34:LEU:O	0.60	1.97	7	2
1:A:11:LEU:HD11	1:A:133:PHE:CE2	0.60	2.31	8	1
1:B:33:ASN:CB	1:B:41:LEU:HD13	0.60	2.27	9	1
1:B:34:LEU:HD12	1:B:117:ILE:HD13	0.60	1.73	8	1
1:B:4:LEU:HD12	1:B:128:ILE:CG2	0.60	2.27	5	1
1:A:33:ASN:CB	1:A:41:LEU:HD13	0.59	2.26	9	1
1:A:77:PHE:N	1:A:77:PHE:CD1	0.59	2.69	3	5
1:B:11:LEU:HD11	1:B:133:PHE:CE2	0.59	2.32	8	1
1:A:34:LEU:HD12	1:A:117:ILE:HD13	0.58	1.74	8	1
1:B:128:ILE:HD11	1:B:131:VAL:HG22	0.58	1.75	8	1
1:A:4:LEU:HD12	1:A:128:ILE:CG2	0.58	2.27	5	1
1:B:23:VAL:CG1	1:B:27:ALA:HB2	0.58	2.29	10	3
1:A:128:ILE:HD11	1:A:131:VAL:HG22	0.57	1.76	8	1
1:B:23:VAL:HG22	1:B:126:PHE:CD1	0.57	2.34	4	1
1:A:34:LEU:HD21	1:A:43:LEU:HD21	0.57	1.76	8	1
1:B:42:CYS:SG	1:B:43:LEU:HD23	0.57	2.38	8	1
1:B:128:ILE:O	1:B:128:ILE:HG23	0.57	2.00	10	5
1:A:23:VAL:CG1	1:A:27:ALA:HB2	0.57	2.29	10	3
1:B:128:ILE:HD11	1:B:131:VAL:CG2	0.57	2.30	8	1
1:A:23:VAL:HG22	1:A:126:PHE:CD1	0.56	2.35	4	1
1:A:128:ILE:HG23	1:A:128:ILE:O	0.56	2.00	10	5
1:A:70:THR:O	1:A:70:THR:HG23	0.56	1.99	6	1
1:B:31:VAL:HG23	1:B:44:HIS:CE1	0.56	2.36	8	1
1:A:59:VAL:HG11	1:A:71:GLU:OE2	0.56	2.01	10	1
1:B:59:VAL:HG11	1:B:71:GLU:OE2	0.56	2.00	10	1
1:A:128:ILE:HD11	1:A:131:VAL:CG2	0.56	2.30	8	1
1:B:9:LEU:O	1:B:10:ASN:C	0.55	2.45	1	9
1:B:70:THR:HG23	1:B:70:THR:O	0.55	2.00	6	1
1:A:17:LEU:HD13	1:A:18:ARG:N	0.55	2.16	4	1
1:A:31:VAL:HG23	1:A:44:HIS:CE1	0.54	2.36	8	1
1:B:34:LEU:HD21	1:B:43:LEU:HD21	0.54	1.77	8	1
1:A:36:LYS:HD2	1:A:114:LEU:HD13	0.54	1.80	6	1
1:A:9:LEU:O	1:A:10:ASN:C	0.54	2.46	1	9
1:B:17:LEU:HD13	1:B:18:ARG:N	0.54	2.17	4	1
1:A:8:ASN:ND2	1:B:3:GLY:O	0.53	2.40	4	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:32:LEU:HD12	1:B:33:ASN:H	0.53	1.62	4	1
1:B:55:ALA:O	1:B:56:ASN:C	0.53	2.46	9	9
1:B:36:LYS:HD2	1:B:114:LEU:HD13	0.53	1.80	6	1
1:A:32:LEU:HD12	1:A:45:PHE:HB2	0.53	1.79	1	1
1:A:42:CYS:SG	1:A:114:LEU:HD22	0.53	2.44	9	1
1:B:42:CYS:SG	1:B:114:LEU:HD22	0.53	2.44	9	1
1:B:11:LEU:HD21	1:B:133:PHE:CZ	0.53	2.39	6	1
1:B:4:LEU:N	1:B:4:LEU:HD12	0.53	2.19	4	1
1:A:11:LEU:HD21	1:A:133:PHE:CZ	0.53	2.38	6	1
1:B:91:PHE:CZ	1:B:114:LEU:HD11	0.53	2.39	9	1
1:B:36:LYS:HE3	1:B:114:LEU:HD12	0.52	1.81	2	1
1:A:43:LEU:HD22	1:A:96:LEU:HD21	0.52	1.80	5	1
1:A:55:ALA:O	1:A:56:ASN:C	0.52	2.47	9	9
1:B:108:PHE:CE2	1:B:109:PRO:O	0.52	2.63	8	2
1:A:114:LEU:HD11	1:A:116:ALA:O	0.52	2.05	2	3
1:A:108:PHE:CE2	1:A:109:PRO:O	0.52	2.63	8	2
1:A:4:LEU:HD12	1:A:4:LEU:N	0.52	2.19	4	1
1:A:45:PHE:CE1	1:A:58:ILE:CG2	0.52	2.93	7	1
1:A:34:LEU:HD21	1:A:43:LEU:HB2	0.52	1.82	9	1
1:A:91:PHE:CZ	1:A:114:LEU:HD11	0.52	2.39	9	1
1:B:30:PHE:CZ	1:B:47:PRO:CG	0.52	2.93	7	1
1:B:45:PHE:CE1	1:B:58:ILE:CG2	0.52	2.93	7	1
1:B:32:LEU:HD12	1:B:45:PHE:HB2	0.52	1.79	1	1
1:A:36:LYS:HE3	1:A:114:LEU:HD12	0.51	1.82	2	1
1:B:2:CYS:O	1:B:3:GLY:O	0.51	2.28	5	1
1:B:114:LEU:HD11	1:B:116:ALA:O	0.51	2.05	2	3
1:A:30:PHE:CZ	1:A:47:PRO:CG	0.51	2.93	7	1
1:A:110:ASN:O	1:A:110:ASN:ND2	0.51	2.44	5	6
1:A:4:LEU:HD12	1:A:128:ILE:O	0.51	2.05	3	1
1:B:118:ASN:ND2	1:B:118:ASN:N	0.51	2.58	9	2
1:A:118:ASN:ND2	1:A:118:ASN:N	0.51	2.58	9	3
1:B:43:LEU:HD21	1:B:96:LEU:CD1	0.51	2.36	1	2
1:A:9:LEU:CD1	1:A:120:MET:CB	0.51	2.89	2	3
1:B:9:LEU:CD1	1:B:120:MET:CB	0.51	2.89	2	3
1:A:30:PHE:CZ	1:A:47:PRO:HG2	0.51	2.41	7	1
1:B:31:VAL:HG22	1:B:123:ASP:O	0.51	2.06	10	1
1:B:34:LEU:HD21	1:B:43:LEU:HB2	0.51	1.81	9	1
1:B:96:LEU:CD2	1:B:98:VAL:HG23	0.51	2.36	2	1
1:B:43:LEU:HD22	1:B:96:LEU:HD21	0.51	1.81	5	1
1:A:96:LEU:CD2	1:A:98:VAL:HG23	0.50	2.36	2	1
1:B:30:PHE:CZ	1:B:47:PRO:HG2	0.50	2.41	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:108:PHE:CD1	1:B:108:PHE:N	0.50	2.79	9	1
1:A:77:PHE:CD2	1:A:77:PHE:O	0.50	2.65	9	4
1:B:4:LEU:HD12	1:B:128:ILE:O	0.50	2.06	3	1
1:B:11:LEU:HD11	1:B:15:GLU:OE1	0.50	2.06	5	1
1:A:43:LEU:HD21	1:A:96:LEU:CD1	0.50	2.36	1	2
1:B:110:ASN:O	1:B:110:ASN:ND2	0.50	2.44	5	6
1:A:77:PHE:CG	1:A:77:PHE:O	0.50	2.65	4	1
1:B:9:LEU:O	1:B:11:LEU:N	0.49	2.44	2	5
1:A:11:LEU:HD11	1:A:15:GLU:OE1	0.49	2.06	5	1
1:A:33:ASN:HB2	1:A:41:LEU:HD12	0.49	1.83	7	1
1:B:77:PHE:O	1:B:77:PHE:CD2	0.49	2.65	9	5
1:B:77:PHE:CG	1:B:77:PHE:O	0.49	2.64	4	1
1:A:108:PHE:CD1	1:A:108:PHE:N	0.49	2.80	9	1
1:A:72:GLN:NE2	1:A:108:PHE:CZ	0.49	2.80	3	1
1:A:32:LEU:HD12	1:A:33:ASN:H	0.49	1.65	4	1
1:A:96:LEU:C	1:A:96:LEU:HD23	0.49	2.27	2	1
1:A:31:VAL:HG22	1:A:123:ASP:O	0.49	2.08	10	1
1:B:96:LEU:C	1:B:96:LEU:HD23	0.49	2.27	2	1
1:B:102:ASP:OD2	1:B:104:TYR:CD1	0.49	2.66	2	1
1:B:4:LEU:N	1:B:4:LEU:CD1	0.49	2.76	4	1
1:A:4:LEU:HD23	1:A:4:LEU:C	0.49	2.28	1	1
1:A:112:LEU:HD13	1:A:112:LEU:C	0.49	2.28	2	1
1:A:35:GLY:O	1:A:119:TYR:CB	0.49	2.61	9	3
1:A:31:VAL:HG12	1:A:123:ASP:O	0.49	2.08	8	1
1:B:4:LEU:C	1:B:4:LEU:HD23	0.49	2.28	1	1
1:A:102:ASP:OD2	1:A:104:TYR:CD1	0.49	2.66	2	1
1:B:112:LEU:HD13	1:B:112:LEU:C	0.49	2.28	2	1
1:A:11:LEU:HD12	1:A:133:PHE:CZ	0.49	2.42	4	1
1:A:33:ASN:OD1	1:A:41:LEU:HD22	0.49	2.08	5	1
1:B:33:ASN:HB3	1:B:41:LEU:HD22	0.48	1.85	2	1
1:B:33:ASN:HB2	1:B:41:LEU:HD12	0.48	1.85	7	1
1:B:42:CYS:O	1:B:43:LEU:HD23	0.48	2.07	4	1
1:B:33:ASN:OD1	1:B:41:LEU:HD22	0.48	2.07	5	1
1:A:35:GLY:O	1:A:119:TYR:HB3	0.48	2.09	10	3
1:A:94:ALA:O	1:A:95:ASN:ND2	0.48	2.47	3	1
1:B:35:GLY:O	1:B:119:TYR:CB	0.48	2.61	9	3
1:B:9:LEU:HD22	1:B:120:MET:HB2	0.48	1.84	9	1
1:A:33:ASN:HB3	1:A:41:LEU:HD22	0.48	1.85	2	1
1:A:33:ASN:OD1	1:A:41:LEU:HD13	0.48	2.09	5	1
1:A:37:ASP:O	1:A:41:LEU:CD2	0.48	2.62	7	1
1:A:96:LEU:HD12	1:A:108:PHE:HD2	0.48	1.69	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:11:LEU:HD12	1:B:133:PHE:CZ	0.48	2.44	4	1
1:A:4:LEU:N	1:A:4:LEU:CD1	0.48	2.77	4	1
1:B:34:LEU:HD11	1:B:43:LEU:HB2	0.48	1.86	1	1
1:B:37:ASP:O	1:B:41:LEU:CD2	0.48	2.62	7	1
1:B:34:LEU:HD13	1:B:117:ILE:HD13	0.48	1.86	7	1
1:B:72:GLN:NE2	1:B:108:PHE:CZ	0.47	2.82	3	1
1:A:123:ASP:N	1:A:123:ASP:OD1	0.47	2.47	7	1
1:A:64:ASP:HB2	1:A:112:LEU:HD21	0.47	1.86	6	1
1:B:78:PRO:O	1:B:79:PHE:CD1	0.47	2.68	3	1
1:A:9:LEU:HD22	1:A:120:MET:HB2	0.47	1.84	9	1
1:B:96:LEU:HD12	1:B:108:PHE:HD2	0.47	1.69	1	1
1:A:9:LEU:O	1:A:11:LEU:N	0.47	2.47	2	4
1:A:11:LEU:O	1:A:116:ALA:HA	0.47	2.09	3	5
1:A:78:PRO:O	1:A:79:PHE:CD1	0.47	2.68	3	1
1:A:33:ASN:OD1	1:A:44:HIS:CE1	0.47	2.68	6	1
1:A:36:LYS:O	1:A:119:TYR:CD1	0.47	2.68	8	1
1:A:91:PHE:CD1	1:A:96:LEU:CD2	0.47	2.98	4	2
1:A:23:VAL:CG1	1:A:27:ALA:CB	0.47	2.93	4	1
1:A:35:GLY:O	1:A:119:TYR:N	0.47	2.48	9	5
1:B:64:ASP:HB2	1:B:112:LEU:HD21	0.47	1.86	6	1
1:B:31:VAL:HG12	1:B:123:ASP:O	0.47	2.09	8	1
1:B:77:PHE:CE2	1:B:79:PHE:O	0.47	2.68	10	1
1:B:94:ALA:O	1:B:95:ASN:ND2	0.47	2.47	3	1
1:B:36:LYS:O	1:B:119:TYR:CD1	0.47	2.67	8	1
1:A:41:LEU:CD2	1:A:41:LEU:N	0.47	2.78	7	1
1:B:123:ASP:N	1:B:123:ASP:OD1	0.47	2.47	7	1
1:A:34:LEU:HD11	1:A:43:LEU:HB2	0.46	1.87	1	1
1:B:33:ASN:OD1	1:B:41:LEU:HD13	0.46	2.11	5	1
1:B:41:LEU:HB2	1:B:44:HIS:NE2	0.46	2.25	7	1
1:A:4:LEU:CD1	1:A:128:ILE:O	0.46	2.63	3	1
1:A:67:ALA:O	1:A:68:TRP:C	0.46	2.54	9	2
1:A:58:ILE:CD1	1:A:76:VAL:O	0.46	2.63	5	1
1:B:3:GLY:CA	1:B:122:ALA:O	0.46	2.64	5	1
1:A:38:SER:O	1:A:41:LEU:HD23	0.46	2.11	7	1
1:B:41:LEU:CD2	1:B:41:LEU:N	0.46	2.78	7	1
1:B:35:GLY:O	1:B:119:TYR:HB3	0.46	2.10	10	2
1:A:97:THR:CG2	1:A:105:GLU:OE2	0.46	2.64	10	1
1:B:11:LEU:O	1:B:116:ALA:HA	0.46	2.10	3	5
1:B:35:GLY:O	1:B:119:TYR:N	0.46	2.48	6	3
1:B:58:ILE:CD1	1:B:76:VAL:O	0.46	2.63	5	1
1:B:4:LEU:CD1	1:B:128:ILE:O	0.46	2.63	3	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:45:PHE:CD2	1:B:47:PRO:HD3	0.46	2.46	5	1
1:A:77:PHE:CE2	1:A:79:PHE:O	0.46	2.68	10	1
1:A:77:PHE:O	1:A:77:PHE:CD2	0.46	2.68	4	1
1:A:34:LEU:HD13	1:A:117:ILE:HD13	0.46	1.86	7	1
1:A:31:VAL:HG22	1:A:46:ASN:CB	0.46	2.41	6	1
1:B:62:SER:O	1:B:69:GLY:CA	0.46	2.64	6	3
1:A:36:LYS:CG	1:A:37:ASP:N	0.46	2.79	4	2
1:B:93:GLN:NE2	1:B:114:LEU:O	0.46	2.49	8	1
1:B:97:THR:CG2	1:B:105:GLU:OE2	0.46	2.63	10	1
1:A:40:ASN:N	1:A:40:ASN:ND2	0.46	2.63	1	2
1:A:62:SER:O	1:A:69:GLY:CA	0.46	2.64	6	3
1:B:91:PHE:CD1	1:B:96:LEU:CD2	0.46	2.99	4	2
1:B:33:ASN:OD1	1:B:44:HIS:CE1	0.46	2.69	6	1
1:B:40:ASN:ND2	1:B:40:ASN:N	0.45	2.63	1	5
1:B:67:ALA:O	1:B:68:TRP:C	0.45	2.55	9	2
1:B:67:ALA:O	1:B:68:TRP:O	0.45	2.34	9	2
1:B:31:VAL:HG22	1:B:46:ASN:CB	0.45	2.41	6	1
1:A:31:VAL:HA	1:A:45:PHE:O	0.45	2.11	7	1
1:A:41:LEU:HB2	1:A:44:HIS:NE2	0.45	2.26	7	1
1:A:77:PHE:O	1:A:77:PHE:CG	0.45	2.70	9	2
1:B:31:VAL:HA	1:B:45:PHE:O	0.45	2.11	7	1
1:B:2:CYS:O	1:B:126:PHE:O	0.45	2.33	8	1
1:B:37:ASP:O	1:B:119:TYR:CD1	0.45	2.69	4	1
1:A:45:PHE:CD2	1:A:47:PRO:HD3	0.45	2.46	5	1
1:B:77:PHE:O	1:B:77:PHE:CG	0.45	2.69	9	2
1:A:17:LEU:HD13	1:A:133:PHE:CE1	0.45	2.47	3	1
1:B:74:GLU:OE2	1:B:106:PHE:CD1	0.45	2.70	3	1
1:B:9:LEU:CD1	1:B:120:MET:HB3	0.45	2.42	3	4
1:A:36:LYS:O	1:A:119:TYR:HB2	0.45	2.12	3	1
1:B:31:VAL:CG2	1:B:123:ASP:O	0.45	2.65	10	1
1:A:3:GLY:CA	1:A:122:ALA:O	0.45	2.64	5	1
1:A:24:ALA:HB1	1:A:25:PRO:HD2	0.45	1.88	10	1
1:A:67:ALA:O	1:A:68:TRP:O	0.44	2.34	9	2
1:A:10:ASN:HA	1:A:117:ILE:O	0.44	2.12	4	1
1:B:24:ALA:HB1	1:B:25:PRO:HD2	0.44	1.88	10	1
1:A:11:LEU:HD21	1:A:133:PHE:CE2	0.44	2.46	2	1
1:A:44:HIS:N	1:A:61:ASN:O	0.44	2.50	7	2
1:B:44:HIS:N	1:B:61:ASN:O	0.44	2.50	7	2
1:A:17:LEU:HD13	1:A:17:LEU:C	0.44	2.32	4	1
1:A:93:GLN:NE2	1:A:114:LEU:O	0.44	2.50	8	1
1:B:102:ASP:OD2	1:B:104:TYR:CE2	0.44	2.70	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:VAL:CG2	1:A:123:ASP:O	0.44	2.65	10	1
1:B:26:ASP:O	1:B:28:LYS:N	0.44	2.49	10	3
1:A:23:VAL:HG12	1:A:27:ALA:HB2	0.44	1.88	4	1
1:A:62:SER:O	1:A:69:GLY:HA2	0.44	2.13	7	3
1:B:34:LEU:O	1:B:34:LEU:CD1	0.44	2.64	7	1
1:B:30:PHE:CE2	1:B:32:LEU:HB2	0.44	2.48	8	1
1:B:21:GLY:CA	1:B:127:LYS:O	0.44	2.66	3	2
1:B:23:VAL:CG1	1:B:27:ALA:CB	0.44	2.95	4	1
1:B:49:PHE:O	1:B:55:ALA:HA	0.44	2.11	4	1
1:A:110:ASN:O	1:A:110:ASN:CG	0.44	2.56	10	2
1:A:68:TRP:CD1	1:A:68:TRP:N	0.44	2.85	1	1
1:A:42:CYS:O	1:A:62:SER:CB	0.44	2.65	2	1
1:B:11:LEU:HD21	1:B:133:PHE:CE2	0.44	2.46	2	1
1:B:36:LYS:CG	1:B:37:ASP:N	0.44	2.79	4	2
1:A:30:PHE:CE2	1:A:32:LEU:HB2	0.44	2.48	8	1
1:A:91:PHE:CE1	1:A:96:LEU:HD21	0.44	2.48	4	1
1:B:17:LEU:HD13	1:B:17:LEU:C	0.44	2.32	4	1
1:B:62:SER:O	1:B:69:GLY:HA2	0.44	2.13	7	2
1:A:91:PHE:CZ	1:A:114:LEU:CD1	0.44	3.01	9	1
1:A:9:LEU:CD1	1:A:120:MET:HB3	0.44	2.43	1	3
1:B:31:VAL:CG1	1:B:123:ASP:OD1	0.44	2.66	2	1
1:B:68:TRP:CD1	1:B:68:TRP:N	0.44	2.85	1	1
1:A:16:CYS:O	1:A:134:ASP:N	0.44	2.51	3	1
1:A:95:ASN:OD1	1:A:95:ASN:C	0.44	2.56	8	1
1:B:91:PHE:CZ	1:B:114:LEU:CD1	0.44	3.00	9	1
1:A:31:VAL:CG1	1:A:123:ASP:OD1	0.44	2.66	2	1
1:A:21:GLY:CA	1:A:127:LYS:O	0.44	2.66	3	2
1:A:3:GLY:O	1:B:8:ASN:ND2	0.44	2.50	4	2
1:A:49:PHE:O	1:A:55:ALA:HA	0.44	2.13	4	1
1:A:26:ASP:O	1:A:28:LYS:N	0.43	2.49	10	3
1:B:10:ASN:HA	1:B:117:ILE:O	0.43	2.12	4	1
1:B:41:LEU:CB	1:B:44:HIS:NE2	0.43	2.81	7	1
1:A:34:LEU:HD21	1:A:43:LEU:HD11	0.43	1.90	8	1
1:B:110:ASN:O	1:B:110:ASN:CG	0.43	2.57	10	2
1:A:31:VAL:O	1:A:31:VAL:HG13	0.43	2.13	2	1
1:B:7:SER:O	1:B:8:ASN:HB3	0.43	2.13	5	7
1:B:38:SER:O	1:B:41:LEU:HD23	0.43	2.12	7	1
1:A:32:LEU:HD23	1:A:122:ALA:CB	0.43	2.43	1	1
1:B:30:PHE:CD2	1:B:126:PHE:HB2	0.43	2.49	6	2
1:B:79:PHE:CD2	1:B:85:ALA:HB2	0.43	2.49	9	1
1:A:7:SER:O	1:A:8:ASN:HB3	0.43	2.13	10	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:74:GLU:OE2	1:A:106:PHE:CD1	0.43	2.70	3	1
1:A:42:CYS:O	1:A:43:LEU:HD23	0.43	2.13	4	1
1:A:34:LEU:HD11	1:A:43:LEU:HB3	0.43	1.90	5	1
1:B:21:GLY:HA3	1:B:127:LYS:O	0.43	2.13	5	1
1:A:30:PHE:CE2	1:A:126:PHE:HB2	0.43	2.48	1	1
1:A:78:PRO:C	1:A:79:PHE:CD1	0.43	2.91	3	1
1:B:17:LEU:HD13	1:B:133:PHE:CE1	0.43	2.48	3	1
1:A:63:LYS:CD	1:A:66:GLY:HA2	0.43	2.44	4	3
1:B:70:THR:OG1	1:B:111:ARG:NH2	0.43	2.52	6	1
1:A:79:PHE:CD2	1:A:85:ALA:HB2	0.43	2.49	9	1
1:A:102:ASP:OD2	1:A:104:TYR:CE2	0.43	2.71	9	1
1:B:32:LEU:HD23	1:B:122:ALA:CB	0.43	2.44	1	1
1:B:22:GLU:N	1:B:127:LYS:O	0.43	2.51	7	1
1:A:30:PHE:CD2	1:A:126:PHE:HB2	0.43	2.47	1	2
1:B:2:CYS:N	1:B:123:ASP:OD1	0.43	2.51	1	1
1:B:23:VAL:HG12	1:B:27:ALA:HB2	0.43	1.91	4	1
1:A:21:GLY:HA3	1:A:127:LYS:O	0.43	2.14	5	1
1:A:128:ILE:O	1:A:128:ILE:CG2	0.43	2.67	1	1
1:B:10:ASN:CA	1:B:117:ILE:O	0.43	2.67	4	1
1:A:107:LYS:C	1:A:108:PHE:CD1	0.43	2.92	9	1
1:A:31:VAL:HG12	1:A:46:ASN:CG	0.43	2.35	10	1
1:B:42:CYS:O	1:B:62:SER:CB	0.42	2.67	2	1
1:A:10:ASN:CA	1:A:117:ILE:O	0.42	2.67	4	1
1:A:76:VAL:HG22	1:A:78:PRO:HD3	0.42	1.91	9	1
1:B:30:PHE:CE2	1:B:126:PHE:HB2	0.42	2.49	1	1
1:B:34:LEU:HD11	1:B:43:LEU:HB3	0.42	1.90	5	1
1:B:45:PHE:CE1	1:B:58:ILE:HG21	0.42	2.49	6	2
1:A:41:LEU:CB	1:A:44:HIS:NE2	0.42	2.82	7	1
1:B:2:CYS:O	1:B:3:GLY:C	0.42	2.56	7	1
1:B:95:ASN:OD1	1:B:95:ASN:C	0.42	2.57	8	1
1:A:59:VAL:O	1:A:59:VAL:HG23	0.42	2.14	9	1
1:A:16:CYS:SG	1:A:17:LEU:N	0.42	2.93	4	1
1:B:49:PHE:O	1:B:55:ALA:CA	0.42	2.67	4	1
1:A:70:THR:OG1	1:A:111:ARG:NH2	0.42	2.52	6	1
1:A:34:LEU:O	1:A:34:LEU:CD1	0.42	2.67	7	1
1:A:114:LEU:C	1:A:114:LEU:HD23	0.42	2.35	4	1
1:B:21:GLY:O	1:B:84:VAL:HG13	0.42	2.14	6	1
1:B:107:LYS:C	1:B:108:PHE:CD1	0.42	2.92	9	1
1:A:30:PHE:CE1	1:A:47:PRO:HG2	0.42	2.50	6	1
1:A:27:ALA:CB	1:A:125:ASP:HB3	0.42	2.45	7	1
1:A:56:ASN:HB3	1:A:77:PHE:CD1	0.42	2.50	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:128:ILE:O	1:B:128:ILE:CG2	0.42	2.68	1	2
1:B:63:LYS:CD	1:B:66:GLY:HA2	0.42	2.45	4	4
1:B:59:VAL:CG1	1:B:71:GLU:OE2	0.42	2.68	1	1
1:A:36:LYS:HG3	1:A:114:LEU:CD1	0.42	2.45	2	1
1:A:112:LEU:C	1:A:112:LEU:CD1	0.42	2.88	2	1
1:B:123:ASP:OD1	1:B:123:ASP:N	0.42	2.53	2	1
1:A:7:SER:O	1:A:8:ASN:CB	0.42	2.66	5	3
1:B:16:CYS:SG	1:B:17:LEU:N	0.42	2.93	4	1
1:B:91:PHE:CE1	1:B:96:LEU:HD21	0.42	2.49	4	1
1:B:31:VAL:HG12	1:B:46:ASN:CG	0.42	2.35	10	1
1:A:18:ARG:CZ	1:A:86:GLU:OE1	0.42	2.68	1	1
1:B:78:PRO:C	1:B:79:PHE:CD1	0.42	2.92	3	1
1:B:49:PHE:CD2	1:B:55:ALA:O	0.42	2.73	4	1
1:A:3:GLY:C	1:B:8:ASN:ND2	0.42	2.73	10	1
1:B:16:CYS:O	1:B:134:ASP:N	0.42	2.51	3	1
1:A:34:LEU:HD11	1:A:43:LEU:HD12	0.42	1.91	9	1
1:B:76:VAL:HG22	1:B:78:PRO:HD3	0.42	1.91	9	1
1:A:11:LEU:HD21	1:A:133:PHE:CE1	0.42	2.50	6	1
1:B:59:VAL:HG23	1:B:59:VAL:O	0.42	2.14	9	1
1:B:34:LEU:HD21	1:B:43:LEU:HD11	0.41	1.91	8	1
1:A:79:PHE:CE1	1:A:101:PRO:HG2	0.41	2.50	2	1
1:A:109:PRO:O	1:A:111:ARG:N	0.41	2.50	2	1
1:B:36:LYS:HG3	1:B:114:LEU:CD1	0.41	2.45	2	1
1:B:79:PHE:CE1	1:B:101:PRO:HG2	0.41	2.50	2	1
1:B:109:PRO:O	1:B:111:ARG:N	0.41	2.51	2	1
1:B:114:LEU:C	1:B:114:LEU:HD23	0.41	2.35	4	1
1:B:11:LEU:HG	1:B:133:PHE:CD1	0.41	2.50	5	1
1:B:30:PHE:CE1	1:B:47:PRO:HG2	0.41	2.51	6	1
1:B:56:ASN:OD1	1:B:56:ASN:N	0.41	2.53	9	1
1:B:18:ARG:CZ	1:B:86:GLU:OE1	0.41	2.68	1	1
1:B:30:PHE:CZ	1:B:32:LEU:HB2	0.41	2.51	4	1
1:A:21:GLY:O	1:A:84:VAL:HG13	0.41	2.14	6	1
1:B:45:PHE:CE2	1:B:47:PRO:HD3	0.41	2.50	6	1
1:A:59:VAL:CG1	1:A:71:GLU:OE2	0.41	2.68	1	1
1:B:31:VAL:O	1:B:31:VAL:HG13	0.41	2.14	2	1
1:B:36:LYS:O	1:B:119:TYR:HB2	0.41	2.15	3	1
1:A:35:GLY:N	1:A:119:TYR:O	0.41	2.51	4	1
1:A:72:GLN:O	1:A:73:ARG:CB	0.41	2.69	7	1
1:B:27:ALA:CB	1:B:125:ASP:HB3	0.41	2.45	7	1
1:B:32:LEU:CD2	1:B:122:ALA:HB1	0.41	2.45	7	1
1:A:45:PHE:CE1	1:A:58:ILE:HG21	0.41	2.50	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:40:ASN:ND2	1:A:40:ASN:N	0.41	2.68	9	2
1:B:9:LEU:CD1	1:B:120:MET:HB2	0.41	2.45	2	1
1:A:32:LEU:CD2	1:A:122:ALA:HB1	0.41	2.45	7	1
1:B:30:PHE:CD1	1:B:126:PHE:HB3	0.41	2.49	9	1
1:B:34:LEU:HD11	1:B:43:LEU:HD12	0.41	1.92	9	1
1:B:34:LEU:CD1	1:B:117:ILE:HD13	0.41	2.46	10	1
1:B:56:ASN:HB3	1:B:77:PHE:CD1	0.41	2.50	1	1
1:A:9:LEU:CD1	1:A:120:MET:HB2	0.41	2.45	2	1
1:B:112:LEU:C	1:B:112:LEU:CD1	0.41	2.89	2	1
1:A:36:LYS:HG2	1:A:37:ASP:N	0.41	2.31	4	1
1:B:64:ASP:OD2	1:B:112:LEU:HD22	0.41	2.16	5	1
1:B:110:ASN:O	1:B:111:ARG:C	0.41	2.59	1	1
1:A:8:ASN:ND2	1:B:3:GLY:C	0.41	2.74	10	2
1:B:78:PRO:CB	1:B:102:ASP:HB2	0.41	2.46	2	1
1:A:30:PHE:CZ	1:A:32:LEU:HB2	0.41	2.51	4	1
1:B:7:SER:O	1:B:8:ASN:CB	0.41	2.66	5	1
1:A:45:PHE:CE2	1:A:47:PRO:HD3	0.41	2.51	6	1
1:A:44:HIS:O	1:A:60:CYS:HA	0.41	2.16	7	1
1:A:114:LEU:HD13	1:A:117:ILE:HD11	0.41	1.93	9	1
1:A:42:CYS:SG	1:A:43:LEU:N	0.41	2.94	1	1
1:B:34:LEU:O	1:B:34:LEU:HG	0.41	2.16	3	1
1:B:33:ASN:OD1	1:B:44:HIS:ND1	0.41	2.54	6	1
1:A:22:GLU:N	1:A:127:LYS:O	0.41	2.52	7	1
1:B:44:HIS:O	1:B:60:CYS:HA	0.41	2.15	7	1
1:A:31:VAL:CG1	1:A:123:ASP:O	0.41	2.69	8	1
1:B:31:VAL:HG23	1:B:44:HIS:HE1	0.41	1.74	8	1
1:A:30:PHE:CD1	1:A:126:PHE:HB3	0.41	2.50	9	1
1:A:78:PRO:CB	1:A:102:ASP:HB2	0.40	2.46	2	1
1:A:91:PHE:HA	1:A:96:LEU:HD12	0.40	1.93	5	1
1:B:11:LEU:HD21	1:B:133:PHE:CE1	0.40	2.50	6	1
1:B:78:PRO:CB	1:B:102:ASP:OD2	0.40	2.69	6	1
1:A:34:LEU:CD1	1:A:117:ILE:HD13	0.40	2.46	10	1
1:A:110:ASN:O	1:A:111:ARG:C	0.40	2.60	1	1
1:A:19:VAL:HG13	1:A:128:ILE:CD1	0.40	2.46	4	1
1:A:37:ASP:O	1:A:119:TYR:CD1	0.40	2.74	4	1
1:B:28:LYS:N	1:B:125:ASP:OD2	0.40	2.51	5	1
1:B:44:HIS:CB	1:B:61:ASN:O	0.40	2.68	5	1
1:A:78:PRO:CB	1:A:102:ASP:OD2	0.40	2.69	6	1
1:A:33:ASN:OD1	1:A:44:HIS:ND1	0.40	2.53	3	2
1:A:34:LEU:O	1:A:34:LEU:HG	0.40	2.15	3	1
1:B:36:LYS:HG2	1:B:37:ASP:N	0.40	2.32	4	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:112:LEU:CD2	1:B:112:LEU:N	0.40	2.84	4	1
1:A:11:LEU:HG	1:A:133:PHE:CD1	0.40	2.51	5	1
1:A:28:LYS:N	1:A:125:ASP:OD2	0.40	2.53	5	1
1:A:44:HIS:CB	1:A:61:ASN:O	0.40	2.69	5	1
1:A:44:HIS:HB3	1:A:61:ASN:O	0.40	2.16	6	1
1:A:54:ASP:N	1:A:54:ASP:OD1	0.40	2.53	6	1
1:B:114:LEU:HD13	1:B:117:ILE:HD11	0.40	1.93	9	1
1:B:4:LEU:HG	1:B:5:VAL:N	0.40	2.32	1	1
1:A:128:ILE:O	1:A:128:ILE:HG23	0.40	2.17	4	1
1:B:3:GLY:HA3	1:B:122:ALA:O	0.40	2.15	4	1
1:B:61:ASN:HB3	1:B:71:GLU:HG2	0.40	1.94	4	1
1:B:11:LEU:HD12	1:B:133:PHE:HE2	0.40	1.76	7	1
1:A:56:ASN:OD1	1:A:56:ASN:N	0.40	2.53	9	1
1:B:58:ILE:CG2	1:B:74:GLU:O	0.40	2.70	9	1
1:B:76:VAL:HG12	1:B:78:PRO:HD3	0.40	1.93	1	1
1:A:123:ASP:OD1	1:A:123:ASP:N	0.40	2.53	2	1
1:B:34:LEU:HA	1:B:119:TYR:O	0.40	2.17	5	1
1:B:55:ALA:O	1:B:57:THR:N	0.40	2.55	6	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	131/134 (98%)	116±3 (89±3%)	11±3 (8±3%)	4±1 (3±1%)	8	43
1	B	132/134 (99%)	117±3 (88±3%)	11±4 (9±3%)	4±1 (3±1%)	7	40
All	All	2630/2680 (98%)	2330 (89%)	224 (9%)	76 (3%)	7	41

All 20 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	10	ASN	10
1	B	10	ASN	10
1	B	56	ASN	9

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Mol	Chain	Res	Type	Models (Total)
1	A	53	GLY	6
1	B	53	GLY	6
1	A	56	ASN	5
1	A	133	PHE	4
1	B	133	PHE	4
1	A	51	ALA	3
1	B	51	ALA	3
1	A	27	ALA	2
1	B	27	ALA	2
1	A	68	TRP	2
1	B	68	TRP	2
1	A	3	GLY	2
1	B	3	GLY	2
1	A	110	ASN	1
1	B	110	ASN	1
1	A	69	GLY	1
1	B	69	GLY	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	108/109 (99%)	101±2 (94±2%)	7±2 (6±2%)	22	71
1	B	109/109 (100%)	102±2 (93±2%)	7±2 (7±2%)	21	69
All	All	2170/2180 (100%)	2032 (94%)	138 (6%)	21	70

All 57 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	130	CYS	10
1	B	130	CYS	10
1	A	34	LEU	7
1	B	34	LEU	7
1	A	80	GLN	7
1	B	80	GLN	7
1	A	46	ASN	6

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Mol	Chain	Res	Type	Models (Total)
1	B	46	ASN	6
1	A	12	LYS	5
1	B	12	LYS	5
1	B	2	CYS	3
1	A	77	PHE	3
1	B	77	PHE	3
1	A	42	CYS	2
1	B	42	CYS	2
1	B	70	THR	2
1	A	95	ASN	2
1	A	100	LEU	2
1	B	95	ASN	2
1	B	100	LEU	2
1	A	118	ASN	2
1	A	133	PHE	2
1	B	118	ASN	2
1	B	133	PHE	2
1	A	72	GLN	2
1	A	108	PHE	2
1	B	72	GLN	2
1	B	108	PHE	2
1	A	4	LEU	1
1	A	36	LYS	1
1	B	4	LEU	1
1	B	36	LYS	1
1	A	70	THR	1
1	A	16	CYS	1
1	A	17	LEU	1
1	B	16	CYS	1
1	B	17	LEU	1
1	A	11	LEU	1
1	A	37	ASP	1
1	B	11	LEU	1
1	B	37	ASP	1
1	A	38	SER	1
1	A	86	GLU	1
1	A	115	GLU	1
1	B	38	SER	1
1	B	86	GLU	1
1	B	115	GLU	1
1	A	60	CYS	1
1	B	60	CYS	1

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Mol	Chain	Res	Type	Models (Total)
1	A	88	CYS	1
1	B	88	CYS	1
1	A	9	LEU	1
1	A	114	LEU	1
1	B	9	LEU	1
1	B	114	LEU	1
1	A	10	ASN	1
1	B	10	ASN	1

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.6 Ligand geometry [i](#)

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