Full wwPDB NMR Structure Validation Report (i)

Mar 6, 2022 – 05:44 PM EST

PDB ID	:	2PON
Title	:	Solution structure of the Bcl-xL/Beclin-1 complex
Authors	:	Feng, W.; Huang, S.; Wu, H.; Zhang, M.
Deposited on	:	2007-04-27

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
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:

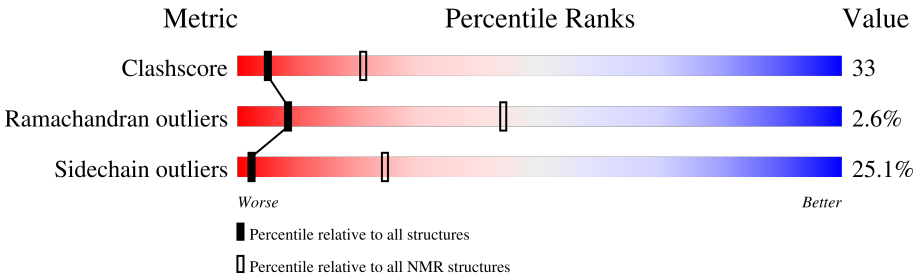
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	2.27
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.27

1 Overall quality at a glance (i)

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	23	26% 43% · 26%
2	B	156	34% 51% · 12%

2 Ensemble composition and analysis (i)

This entry contains 20 models. Model 4 is the overall representative, medoid model (most similar to other models). The authors have identified model 18 as representative, based on the following criterion: *minimized average structure*.

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:23-A:39, B:60-B:83, B:99-B:212 (155)	0.27	4

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 5 clusters and 5 single-model clusters were found.

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

3 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 2796 atoms, of which 1360 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Beclin-1.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	23	347	105	175	31	34	2	0

- Molecule 2 is a protein called Apoptosis regulator Bcl-X.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
2	B	156	2449	800	1185	211	249	4	0

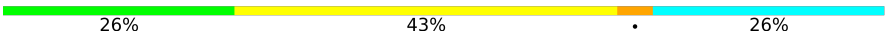
4 Residue-property plots

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.

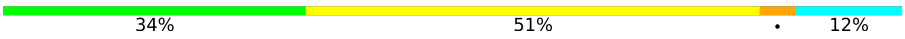
• Molecule 1: Beclin-1

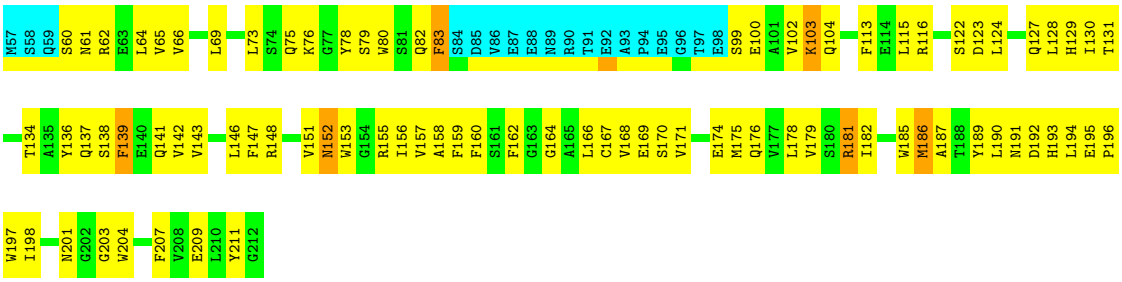
Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

Chain B:





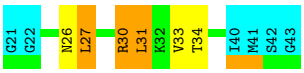
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

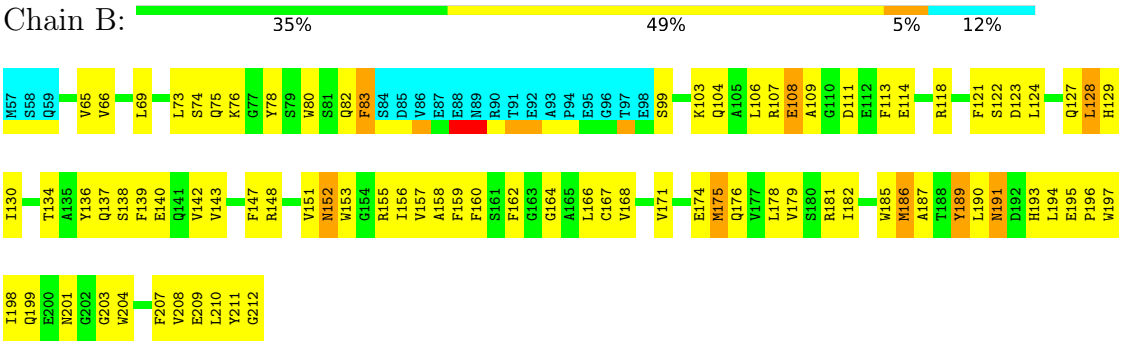
4.2.1 Score per residue for model 1

• Molecule 1: Beclin-1

Chain A:

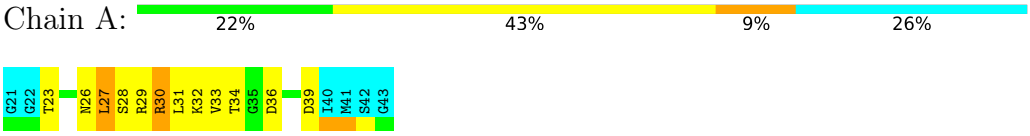


• Molecule 2: Apoptosis regulator Bcl-X

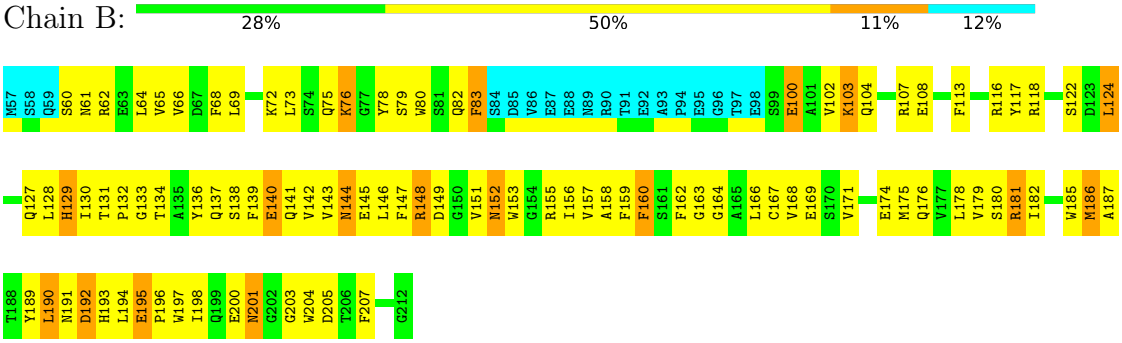


4.2.2 Score per residue for model 2

• Molecule 1: Beclin-1



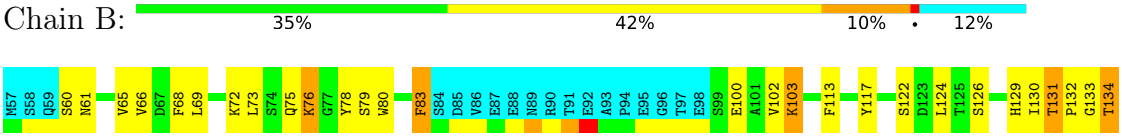
• Molecule 2: Apoptosis regulator Bcl-X

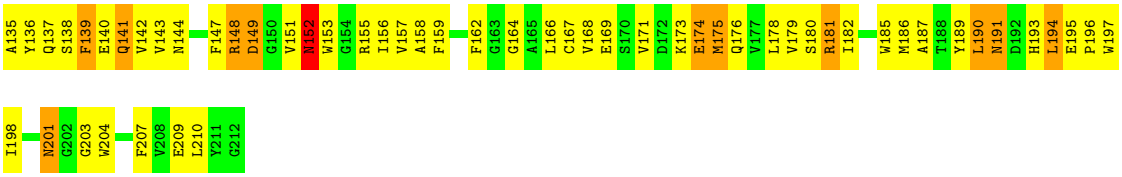


4.2.3 Score per residue for model 3

• Molecule 1: Beclin-1

• Molecule 2: Apoptosis regulator Bcl-X

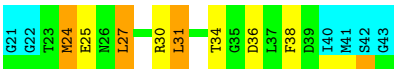




4.2.4 Score per residue for model 4 (medoid)

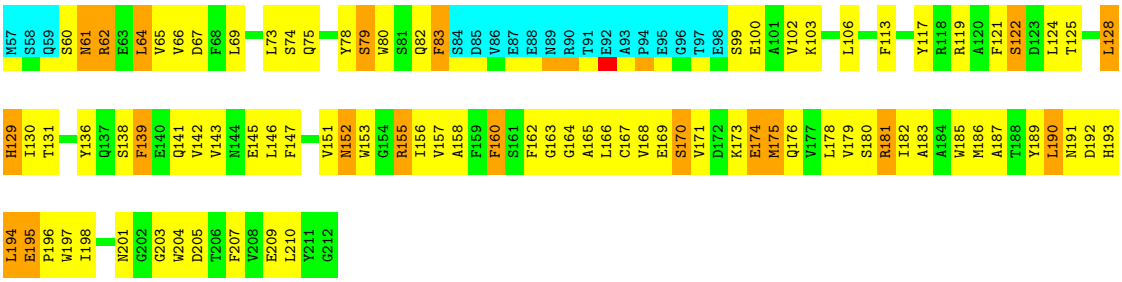
• Molecule 1: Beclin-1

Chain A: 39% 22% 13% 26%



• Molecule 2: Apoptosis regulator Bcl-X

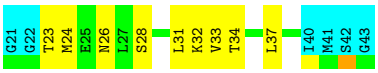
Chain B: 31% 45% 12% 12%



4.2.5 Score per residue for model 5

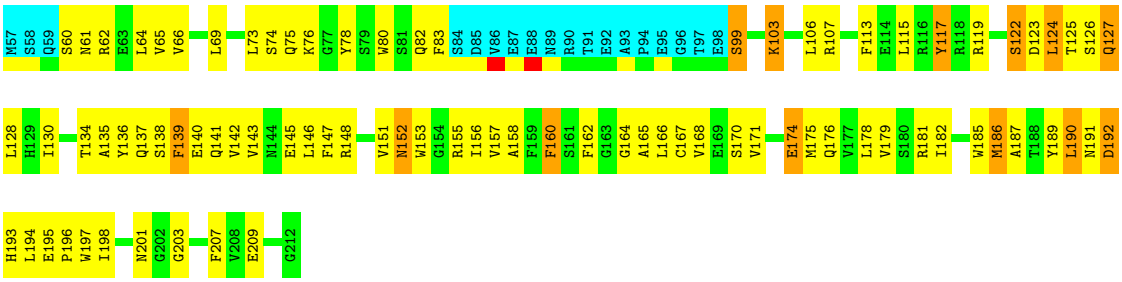
• Molecule 1: Beclin-1

Chain A: 35% 39% 26%



• Molecule 2: Apoptosis regulator Bcl-X

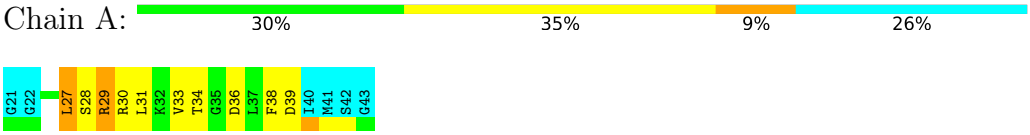
Chain B: 34% 46% 8% 12%



4.2.6 Score per residue for model 6

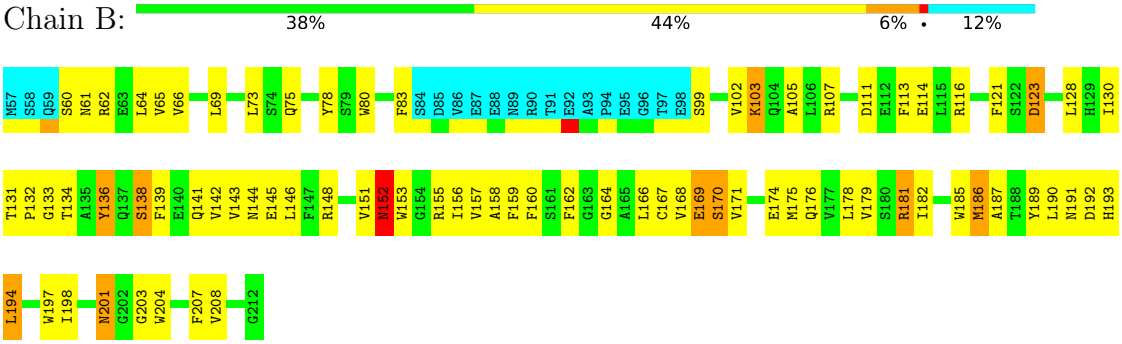
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

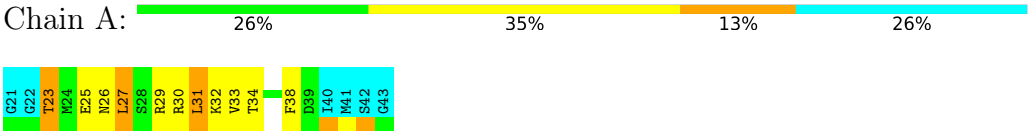
Chain B:



4.2.7 Score per residue for model 7

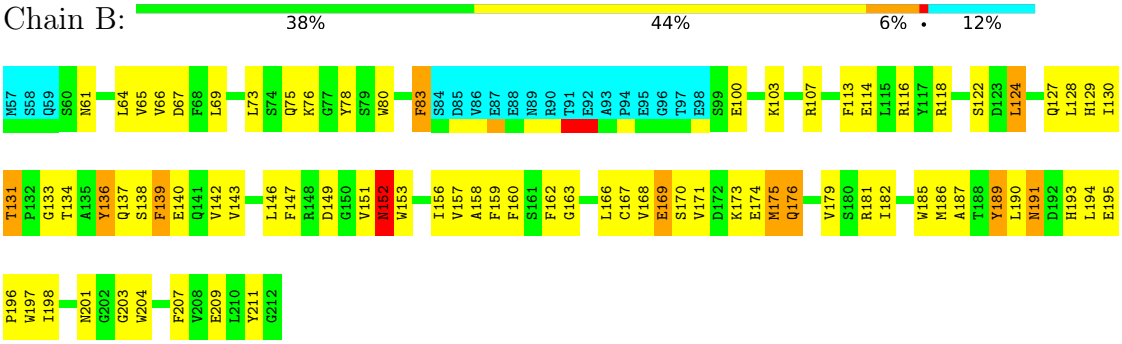
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

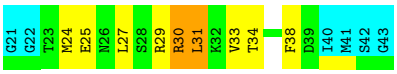
Chain B:



4.2.8 Score per residue for model 8

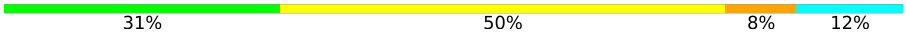
• Molecule 1: Beclin-1

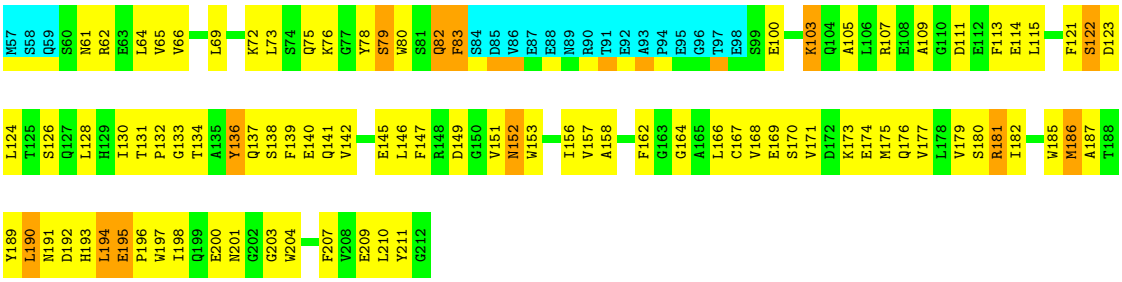
Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

Chain B:

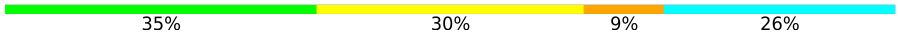


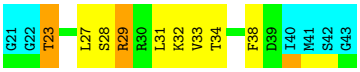


4.2.9 Score per residue for model 9

• Molecule 1: Beclin-1

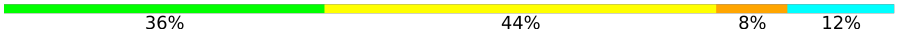
Chain A:

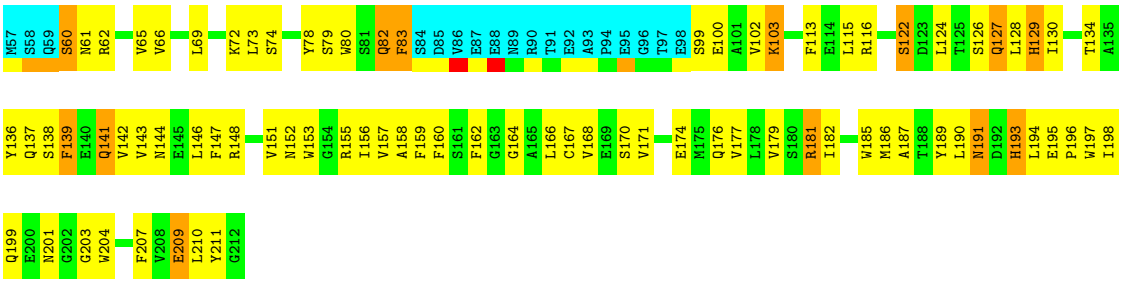




• Molecule 2: Apoptosis regulator Bcl-X

Chain B:

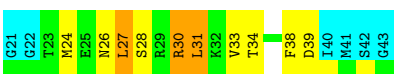




4.2.10 Score per residue for model 10

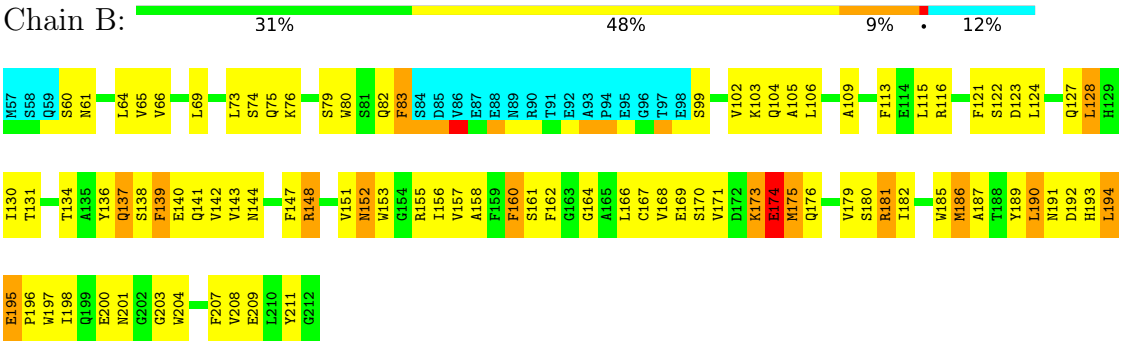
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

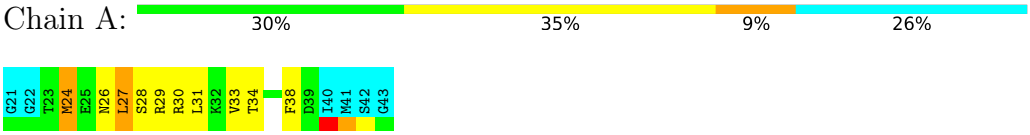
Chain B:



4.2.11 Score per residue for model 11

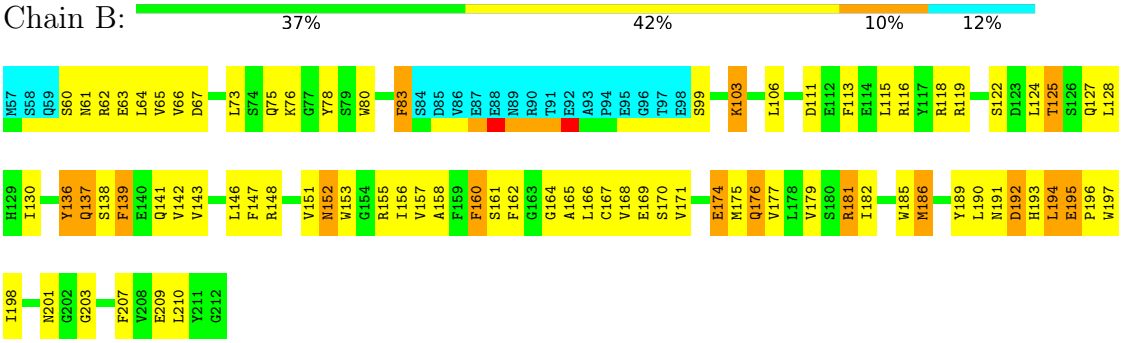
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

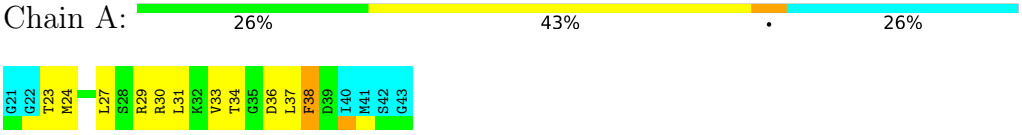
Chain B:



4.2.12 Score per residue for model 12

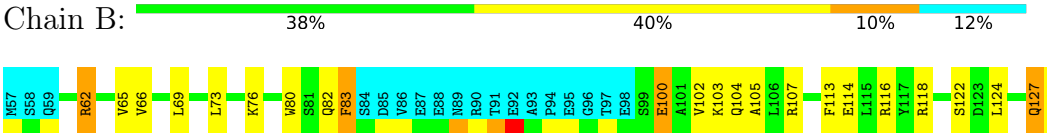
• Molecule 1: Beclin-1

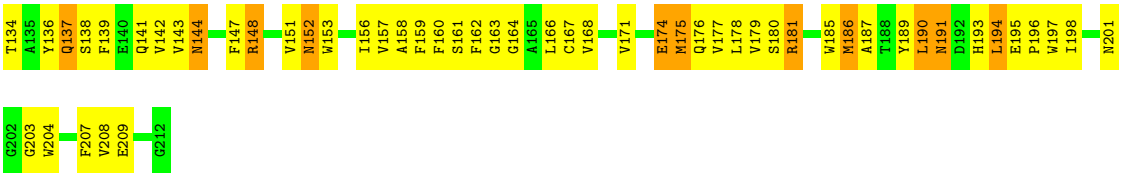
Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

Chain B:

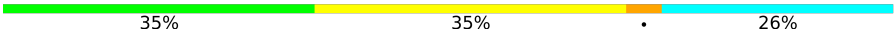


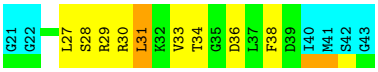


4.2.13 Score per residue for model 13

• Molecule 1: Beclin-1

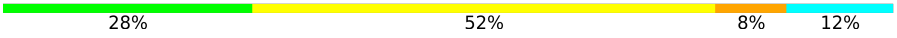
Chain A:

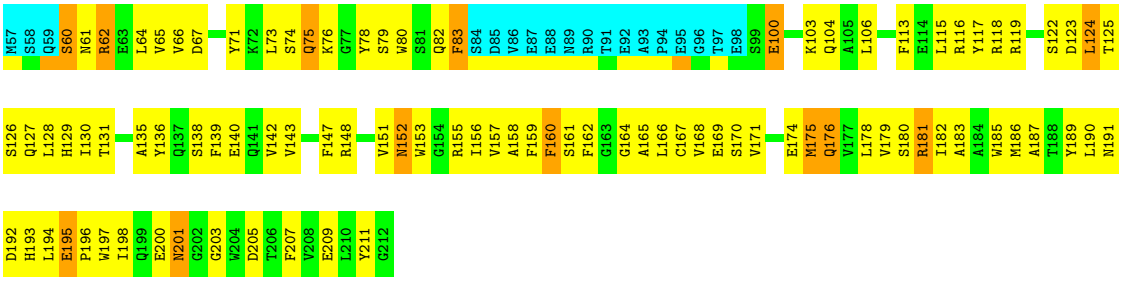




• Molecule 2: Apoptosis regulator Bcl-X

Chain B:

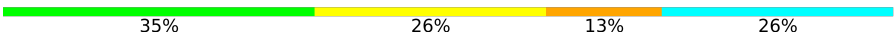




4.2.14 Score per residue for model 14

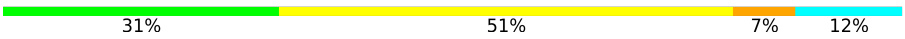
• Molecule 1: Beclin-1

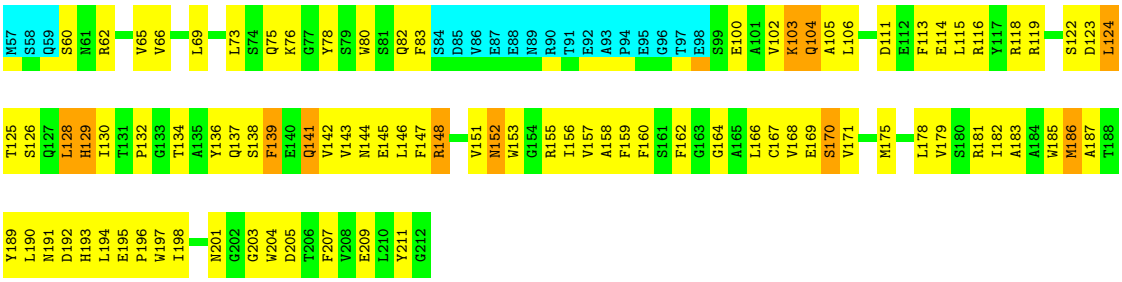
Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

Chain B:

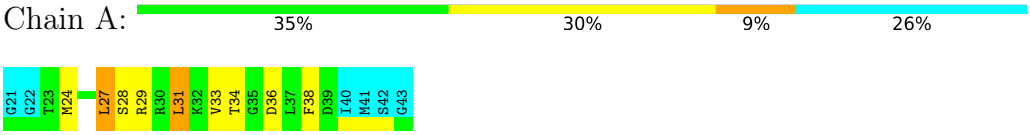




4.2.15 Score per residue for model 15

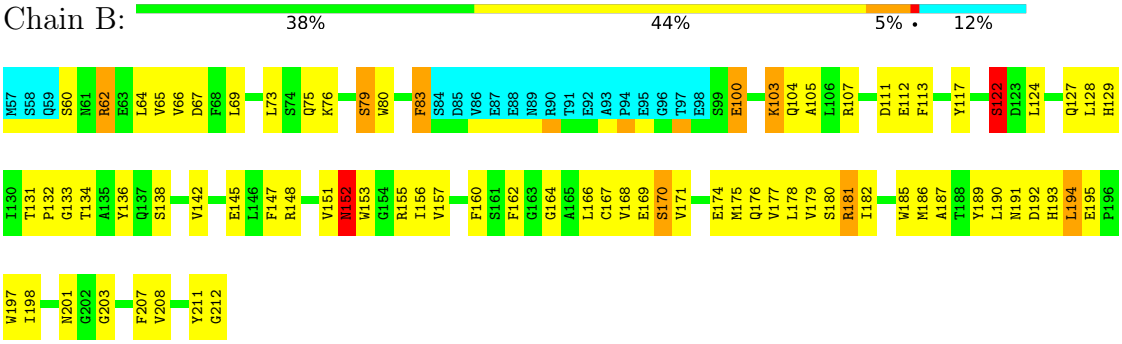
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

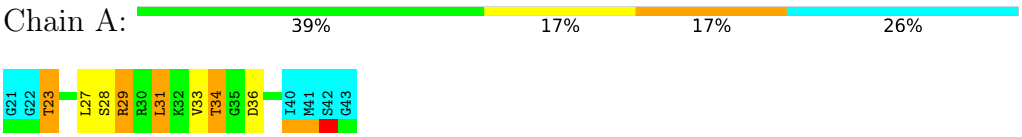
Chain B:



4.2.16 Score per residue for model 16

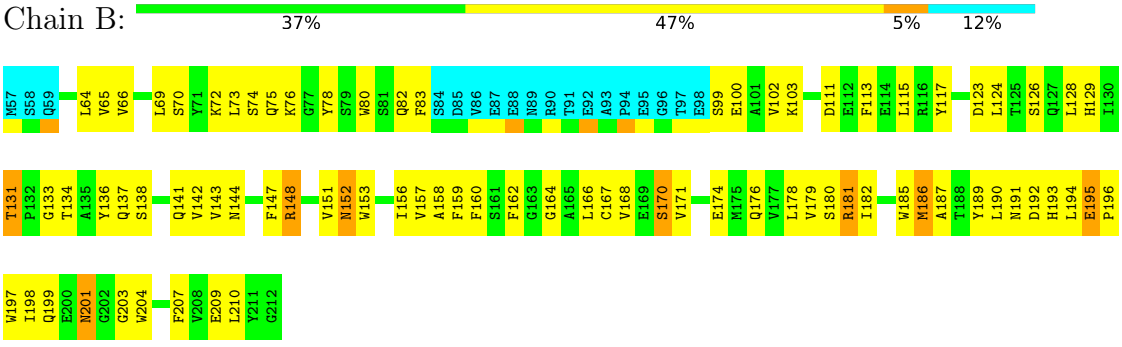
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

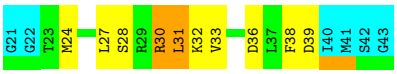
Chain B:



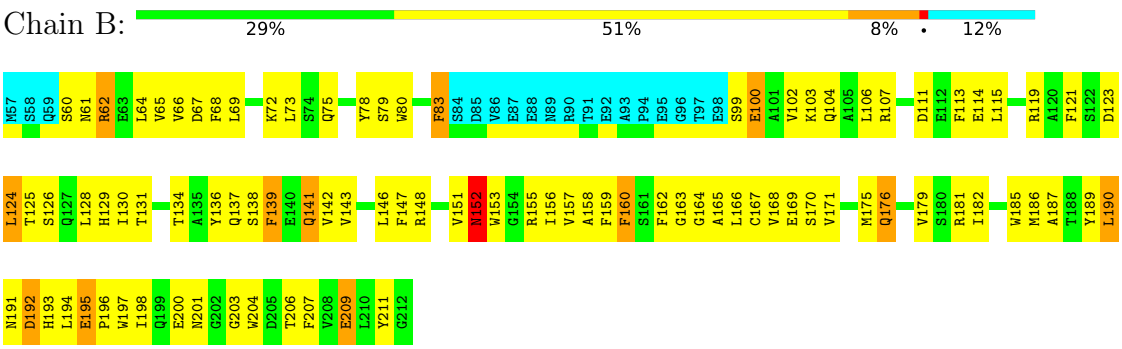
4.2.17 Score per residue for model 17

• Molecule 1: Beclin-1

Chain A:

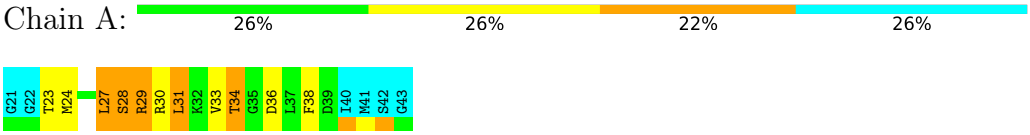


• Molecule 2: Apoptosis regulator Bcl-X

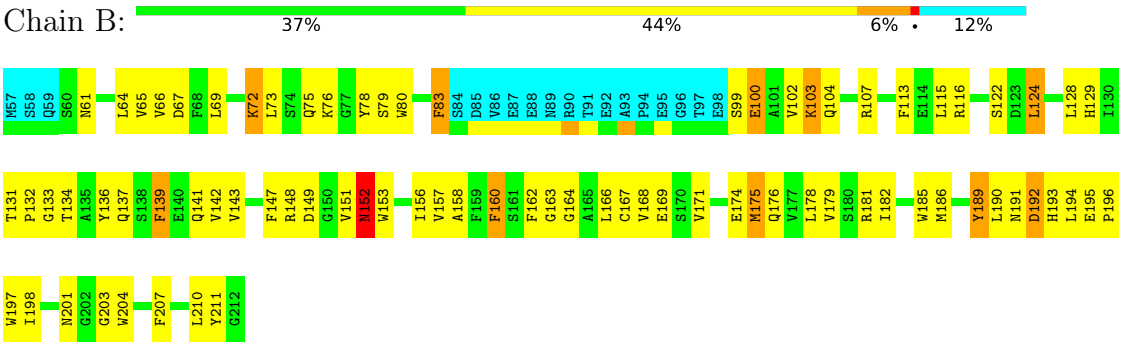


4.2.18 Score per residue for model 18

• Molecule 1: Beclin-1

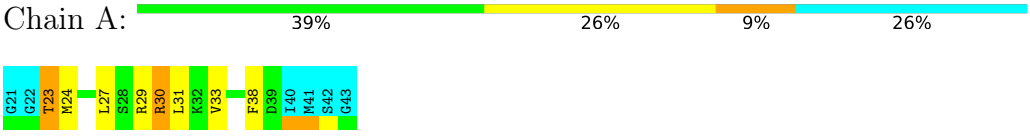


• Molecule 2: Apoptosis regulator Bcl-X



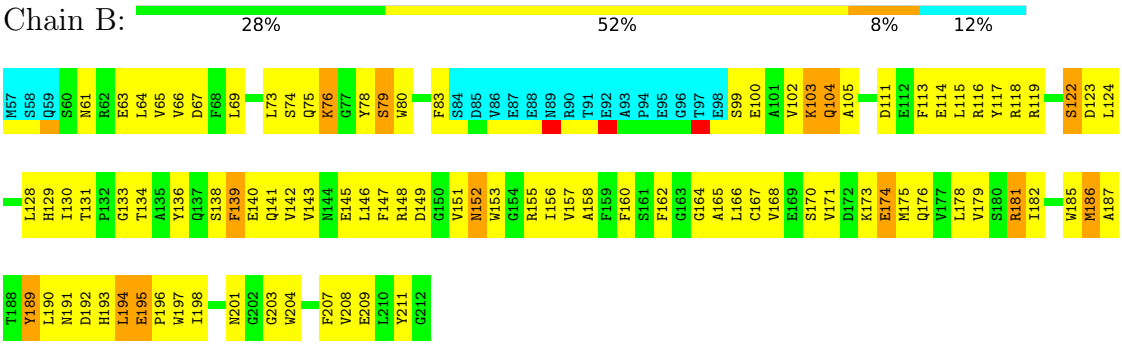
4.2.19 Score per residue for model 19

• Molecule 1: Beclin-1



• Molecule 2: Apoptosis regulator Bcl-X

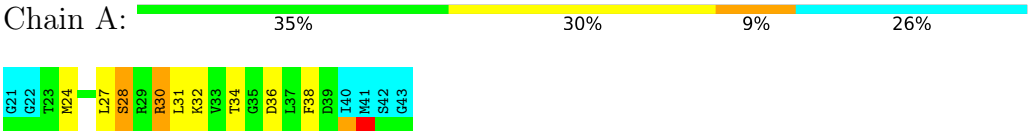
Chain B:



4.2.20 Score per residue for model 20

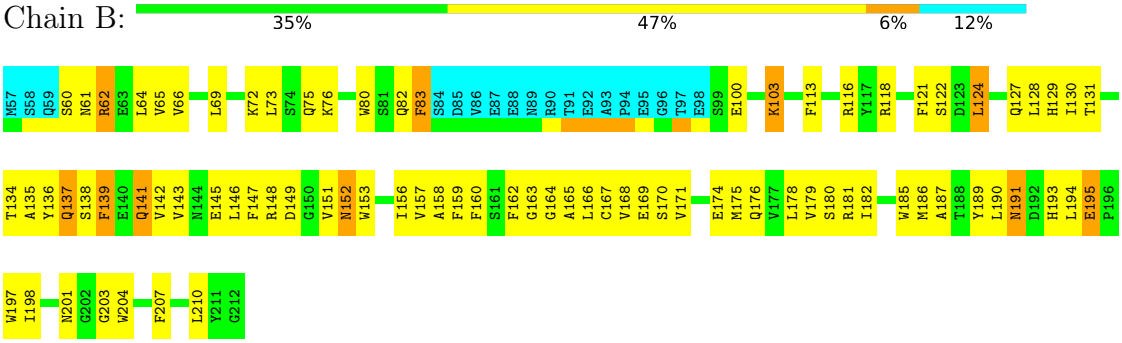
• Molecule 1: Beclin-1

Chain A:



• Molecule 2: Apoptosis regulator Bcl-X

Chain B:



5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy*.

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

Software name	Classification	Version
CNS	structure solution	1.1
CNS	refinement	1.1

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	138	141	141	7±2
2	B	1126	1067	1065	79±7
All	All	25280	24160	24120	1617

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 33.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:66:VAL:HG13	2:B:80:TRP:CE2	0.90	2.02	10	20
1:A:31:LEU:HD13	2:B:158:ALA:HB1	0.89	1.42	12	6
2:B:83:PHE:CE1	2:B:179:VAL:HG11	0.87	2.03	3	15
2:B:66:VAL:HG13	2:B:80:TRP:CZ2	0.87	2.04	18	14
2:B:73:LEU:HD23	2:B:168:VAL:HG22	0.87	1.45	10	20
2:B:162:PHE:CE2	2:B:166:LEU:HD11	0.85	2.06	12	11
2:B:153:TRP:O	2:B:157:VAL:HG23	0.84	1.73	4	20
2:B:113:PHE:CE2	2:B:158:ALA:HB2	0.82	2.10	16	2
2:B:162:PHE:CZ	2:B:166:LEU:HD11	0.81	2.09	9	9
2:B:167:CYS:O	2:B:171:VAL:HG23	0.80	1.76	13	20
2:B:198:ILE:HG22	2:B:203:GLY:HA2	0.80	1.53	3	20
2:B:125:THR:HG23	2:B:165:ALA:HB1	0.79	1.54	11	2
2:B:138:SER:O	2:B:142:VAL:HG23	0.79	1.78	19	19

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:128:LEU:HD13	2:B:166:LEU:HD23	0.79	1.53	11	3
2:B:139:PHE:O	2:B:143:VAL:HG23	0.79	1.78	3	6
1:A:23:THR:HG21	2:B:129:HIS:CD2	0.78	2.12	16	1
1:A:29:ARG:O	1:A:33:VAL:HG23	0.78	1.77	18	9
2:B:159:PHE:CD2	2:B:194:LEU:HD11	0.78	2.13	20	4
1:A:27:LEU:HD11	2:B:124:LEU:HD23	0.77	1.57	2	1
2:B:65:VAL:HG21	2:B:187:ALA:CB	0.76	2.09	2	11
2:B:164:GLY:O	2:B:168:VAL:HG23	0.76	1.81	6	19
1:A:27:LEU:HD22	2:B:162:PHE:CE1	0.75	2.16	4	2
2:B:78:TYR:CE2	2:B:168:VAL:HG13	0.75	2.16	7	14
1:A:27:LEU:HD21	2:B:124:LEU:HD11	0.75	1.57	4	3
2:B:142:VAL:HG21	2:B:162:PHE:CZ	0.75	2.16	4	8
2:B:156:ILE:HD13	2:B:198:ILE:HD11	0.74	1.58	8	20
2:B:190:LEU:HD13	2:B:194:LEU:HD12	0.74	1.59	11	5
2:B:83:PHE:CE1	2:B:179:VAL:HG21	0.73	2.18	16	5
2:B:171:VAL:HG13	2:B:176:GLN:HG3	0.72	1.61	8	5
2:B:66:VAL:HG13	2:B:80:TRP:NE1	0.72	1.99	1	17
2:B:151:VAL:HG13	2:B:197:TRP:CD1	0.72	2.20	18	16
2:B:65:VAL:HG21	2:B:187:ALA:HB2	0.72	1.60	2	3
2:B:113:PHE:CE1	2:B:158:ALA:HB2	0.71	2.20	6	1
2:B:193:HIS:CD2	2:B:194:LEU:HD23	0.71	2.20	9	1
2:B:190:LEU:HD12	2:B:190:LEU:O	0.71	1.86	2	12
2:B:190:LEU:CD1	2:B:194:LEU:HD12	0.71	2.16	11	5
1:A:27:LEU:HD23	1:A:31:LEU:HD21	0.70	1.63	1	2
2:B:175:MET:HG3	2:B:178:LEU:HD12	0.70	1.63	18	4
2:B:194:LEU:HD12	2:B:198:ILE:HD11	0.70	1.61	1	1
2:B:61:ASN:O	2:B:65:VAL:HG23	0.70	1.87	11	14
2:B:124:LEU:HD11	2:B:165:ALA:CB	0.70	2.15	11	2
2:B:65:VAL:HG21	2:B:187:ALA:HA	0.70	1.64	13	11
2:B:176:GLN:O	2:B:179:VAL:HG23	0.70	1.86	11	18
2:B:128:LEU:HD12	2:B:129:HIS:N	0.70	2.02	18	6
2:B:124:LEU:HD12	2:B:165:ALA:CB	0.70	2.17	20	1
2:B:162:PHE:CE1	2:B:166:LEU:HD21	0.69	2.23	5	7
2:B:61:ASN:HA	2:B:64:LEU:HD12	0.69	1.62	5	11
2:B:162:PHE:CZ	2:B:166:LEU:HD21	0.69	2.22	6	8
2:B:146:LEU:HD21	2:B:155:ARG:O	0.68	1.89	4	4
2:B:147:PHE:CE2	2:B:151:VAL:HG23	0.67	2.24	19	12
2:B:124:LEU:HD12	2:B:165:ALA:HB3	0.67	1.65	20	1
2:B:106:LEU:HD13	2:B:160:PHE:CE2	0.67	2.24	4	2
2:B:175:MET:CB	2:B:178:LEU:HD12	0.66	2.21	1	1
2:B:102:VAL:HG13	2:B:204:TRP:HB3	0.66	1.67	12	7

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:LEU:HD13	2:B:158:ALA:CB	0.66	2.18	12	2
2:B:175:MET:HB2	2:B:178:LEU:HD12	0.66	1.68	1	1
2:B:64:LEU:HD23	2:B:103:LYS:HG3	0.66	1.65	5	4
2:B:156:ILE:HG12	2:B:194:LEU:HD13	0.66	1.68	8	2
2:B:153:TRP:CH2	2:B:207:PHE:HB2	0.65	2.27	16	20
1:A:31:LEU:HB3	2:B:158:ALA:HB1	0.65	1.68	1	8
2:B:73:LEU:CD2	2:B:168:VAL:HG22	0.65	2.22	19	17
2:B:115:LEU:HD21	2:B:119:ARG:CZ	0.65	2.22	14	1
2:B:156:ILE:HD13	2:B:198:ILE:CD1	0.64	2.22	17	12
2:B:111:ASP:O	2:B:115:LEU:HD23	0.64	1.92	17	1
2:B:130:ILE:HG22	2:B:138:SER:OG	0.64	1.92	1	8
2:B:147:PHE:CE2	2:B:194:LEU:HD22	0.64	2.27	13	4
2:B:194:LEU:CD1	2:B:198:ILE:HD11	0.64	2.22	1	1
2:B:83:PHE:CD1	2:B:179:VAL:HG11	0.64	2.28	18	2
2:B:65:VAL:HG12	2:B:69:LEU:HD12	0.64	1.70	8	13
1:A:30:ARG:O	1:A:33:VAL:HG12	0.63	1.94	2	5
2:B:139:PHE:O	2:B:143:VAL:HG12	0.63	1.94	5	8
2:B:171:VAL:HG13	2:B:176:GLN:HB3	0.62	1.70	11	2
2:B:76:LYS:HG3	2:B:168:VAL:HG21	0.62	1.70	18	11
2:B:175:MET:HB3	2:B:178:LEU:HD12	0.62	1.72	14	1
2:B:147:PHE:CD1	2:B:151:VAL:HG13	0.62	2.30	9	1
1:A:31:LEU:CD1	2:B:146:LEU:HD22	0.61	2.24	5	3
2:B:78:TYR:CD1	2:B:171:VAL:HG11	0.61	2.30	7	5
1:A:23:THR:HG22	2:B:128:LEU:HA	0.61	1.72	2	5
2:B:177:VAL:HG22	2:B:181:ARG:CD	0.61	2.26	9	5
1:A:27:LEU:HD11	2:B:124:LEU:CD2	0.61	2.25	3	2
2:B:124:LEU:HD23	2:B:128:LEU:HG	0.60	1.72	14	1
1:A:28:SER:HB3	2:B:142:VAL:HG13	0.60	1.72	11	2
2:B:65:VAL:HG13	2:B:186:MET:SD	0.60	2.37	17	1
1:A:27:LEU:HD12	1:A:28:SER:N	0.60	2.11	14	1
2:B:175:MET:CG	2:B:178:LEU:HD12	0.60	2.27	18	3
2:B:64:LEU:HD23	2:B:103:LYS:HB3	0.59	1.74	19	7
2:B:65:VAL:HG12	2:B:69:LEU:CD1	0.59	2.28	6	13
2:B:146:LEU:HD21	2:B:158:ALA:HB3	0.59	1.74	8	6
1:A:27:LEU:HD21	2:B:124:LEU:CD1	0.59	2.27	8	2
1:A:31:LEU:HD12	2:B:146:LEU:HD13	0.59	1.74	11	4
2:B:66:VAL:HG22	2:B:80:TRP:CZ2	0.59	2.32	16	4
2:B:142:VAL:HB	2:B:162:PHE:CE2	0.59	2.33	4	11
2:B:144:ASN:OD1	2:B:145:GLU:N	0.59	2.36	14	3
2:B:197:TRP:CZ3	2:B:201:ASN:OD1	0.59	2.56	2	2
2:B:76:LYS:CD	2:B:168:VAL:HG21	0.59	2.27	3	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:124:LEU:HD11	2:B:165:ALA:HB3	0.58	1.75	13	1
2:B:65:VAL:HG21	2:B:187:ALA:CA	0.58	2.28	6	8
1:A:23:THR:HG23	2:B:127:GLN:O	0.58	1.99	5	1
2:B:147:PHE:CD2	2:B:151:VAL:HG23	0.58	2.33	19	12
2:B:76:LYS:HG2	2:B:168:VAL:HG11	0.58	1.75	2	2
2:B:153:TRP:CZ3	2:B:198:ILE:HD12	0.58	2.33	11	3
2:B:195:GLU:N	2:B:196:PRO:HD2	0.58	2.14	9	11
2:B:136:TYR:HA	2:B:185:TRP:CZ3	0.57	2.34	8	20
2:B:83:PHE:HE1	2:B:179:VAL:HG11	0.57	1.59	19	5
2:B:139:PHE:CE2	2:B:143:VAL:HG21	0.57	2.35	18	6
1:A:34:THR:HG21	2:B:117:TYR:HB2	0.57	1.77	16	1
1:A:27:LEU:HD21	2:B:124:LEU:HD21	0.57	1.76	17	2
2:B:65:VAL:HG11	2:B:187:ALA:HB2	0.57	1.76	15	5
2:B:197:TRP:HE3	2:B:198:ILE:HD13	0.57	1.60	3	6
2:B:197:TRP:CE3	2:B:198:ILE:HD13	0.57	2.35	3	6
2:B:143:VAL:HG12	2:B:189:TYR:CZ	0.57	2.34	3	1
2:B:147:PHE:CE1	2:B:151:VAL:HG13	0.56	2.35	9	1
2:B:152:ASN:HA	2:B:197:TRP:CE2	0.56	2.35	19	10
1:A:33:VAL:O	1:A:37:LEU:HD23	0.56	2.00	12	2
2:B:69:LEU:HD22	2:B:167:CYS:SG	0.56	2.40	7	4
2:B:76:LYS:HD3	2:B:168:VAL:HG21	0.56	1.76	3	1
2:B:62:ARG:O	2:B:66:VAL:HG23	0.56	2.01	9	8
2:B:162:PHE:O	2:B:166:LEU:HD12	0.56	2.01	7	1
2:B:125:THR:HG23	2:B:165:ALA:CB	0.56	2.28	11	1
2:B:160:PHE:CZ	2:B:190:LEU:HD22	0.56	2.34	19	4
2:B:100:GLU:O	2:B:103:LYS:HG2	0.56	2.01	14	3
2:B:115:LEU:HD21	2:B:119:ARG:NH1	0.56	2.16	14	1
2:B:105:ALA:HB2	2:B:208:VAL:HG22	0.56	1.77	12	5
1:A:31:LEU:HD23	2:B:117:TYR:CE1	0.56	2.35	13	2
2:B:173:LYS:O	2:B:174:GLU:CG	0.56	2.54	7	1
1:A:27:LEU:HD13	2:B:128:LEU:HD23	0.56	1.77	15	1
1:A:27:LEU:HD12	2:B:117:TYR:OH	0.55	2.00	19	1
2:B:152:ASN:HA	2:B:197:TRP:CZ2	0.55	2.36	8	13
2:B:193:HIS:NE2	2:B:194:LEU:HD23	0.55	2.15	9	1
2:B:198:ILE:HG21	2:B:204:TRP:CD1	0.55	2.36	14	2
2:B:130:ILE:O	2:B:175:MET:HE1	0.55	2.02	17	13
2:B:128:LEU:HD22	2:B:166:LEU:HD23	0.55	1.77	2	2
1:A:31:LEU:CD1	2:B:146:LEU:HD13	0.55	2.32	5	3
2:B:197:TRP:CH2	2:B:201:ASN:OD1	0.55	2.60	13	2
2:B:171:VAL:HG22	2:B:176:GLN:HA	0.55	1.80	20	6
1:A:32:LYS:HG3	2:B:146:LEU:HD12	0.55	1.79	17	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:167:CYS:HB3	2:B:179:VAL:HG13	0.54	1.79	12	7
1:A:31:LEU:HD13	2:B:146:LEU:HD22	0.54	1.79	5	2
1:A:31:LEU:HD23	1:A:31:LEU:N	0.54	2.18	1	10
2:B:186:MET:O	2:B:190:LEU:HB3	0.54	2.03	17	11
2:B:124:LEU:HD22	2:B:162:PHE:HA	0.54	1.78	18	1
2:B:197:TRP:CE2	2:B:201:ASN:ND2	0.54	2.76	7	18
2:B:113:PHE:CD1	2:B:157:VAL:HG11	0.53	2.38	7	8
2:B:130:ILE:HG21	2:B:166:LEU:HD22	0.53	1.80	1	2
2:B:189:TYR:CZ	2:B:193:HIS:CE1	0.53	2.97	7	8
2:B:124:LEU:HD23	2:B:128:LEU:HD23	0.53	1.80	1	2
2:B:69:LEU:HD11	2:B:186:MET:SD	0.53	2.44	9	1
2:B:113:PHE:CD1	2:B:157:VAL:CG1	0.53	2.92	12	16
2:B:166:LEU:CB	2:B:182:ILE:HD13	0.53	2.33	9	19
2:B:124:LEU:HD21	2:B:162:PHE:HA	0.53	1.78	8	1
1:A:27:LEU:HD21	2:B:124:LEU:HD13	0.53	1.79	11	1
1:A:27:LEU:HD12	1:A:27:LEU:C	0.53	2.24	14	2
2:B:189:TYR:CE1	2:B:193:HIS:CG	0.53	2.97	2	8
2:B:170:SER:HB3	2:B:178:LEU:HD12	0.53	1.79	4	4
2:B:73:LEU:HD11	2:B:167:CYS:HB3	0.53	1.80	14	1
2:B:128:LEU:HD22	2:B:166:LEU:CD2	0.53	2.34	2	3
2:B:125:THR:HG22	2:B:165:ALA:O	0.52	2.04	17	3
1:A:27:LEU:CD1	2:B:124:LEU:HD23	0.52	2.32	2	1
2:B:189:TYR:CE2	2:B:193:HIS:CG	0.52	2.98	19	7
1:A:32:LYS:HG2	2:B:146:LEU:HD12	0.52	1.81	14	2
2:B:162:PHE:CE1	2:B:166:LEU:HD11	0.52	2.39	18	2
2:B:125:THR:HA	2:B:128:LEU:HD12	0.52	1.81	13	2
2:B:102:VAL:HG22	2:B:204:TRP:CB	0.52	2.35	19	1
2:B:131:THR:HG23	2:B:134:THR:OG1	0.52	2.04	3	1
2:B:207:PHE:CD1	2:B:211:TYR:CD2	0.52	2.98	13	3
2:B:130:ILE:HD12	2:B:170:SER:OG	0.52	2.03	17	2
2:B:189:TYR:CE2	2:B:193:HIS:CE1	0.52	2.98	12	9
2:B:160:PHE:CE1	2:B:190:LEU:HD22	0.52	2.39	4	4
2:B:73:LEU:HD11	2:B:167:CYS:SG	0.52	2.44	17	1
2:B:124:LEU:CD2	2:B:128:LEU:HD23	0.52	2.35	1	1
2:B:207:PHE:CE1	2:B:211:TYR:CD2	0.51	2.98	9	4
2:B:69:LEU:HD23	2:B:164:GLY:HA2	0.51	1.82	16	5
1:A:27:LEU:HD21	2:B:128:LEU:HD22	0.51	1.82	10	1
2:B:170:SER:O	2:B:175:MET:N	0.51	2.43	14	2
2:B:207:PHE:CE1	2:B:211:TYR:CE2	0.51	2.99	1	1
2:B:159:PHE:CE2	2:B:194:LEU:HD11	0.51	2.39	20	1
2:B:144:ASN:O	2:B:148:ARG:HB3	0.51	2.05	14	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:LEU:CB	2:B:158:ALA:HB1	0.51	2.36	4	4
2:B:181:ARG:O	2:B:185:TRP:CD1	0.51	2.64	18	20
2:B:78:TYR:CD2	2:B:168:VAL:HG13	0.51	2.41	19	2
2:B:73:LEU:HD13	2:B:83:PHE:CE1	0.51	2.40	11	3
2:B:198:ILE:O	2:B:203:GLY:N	0.51	2.44	11	20
2:B:128:LEU:C	2:B:128:LEU:HD12	0.51	2.27	12	2
2:B:100:GLU:O	2:B:104:GLN:HG2	0.51	2.06	18	2
2:B:160:PHE:CD1	2:B:186:MET:HE1	0.51	2.40	2	3
2:B:73:LEU:HD13	2:B:83:PHE:CZ	0.51	2.41	3	2
2:B:189:TYR:CD2	2:B:193:HIS:CG	0.51	2.98	3	2
2:B:131:THR:O	2:B:133:GLY:N	0.50	2.43	6	9
2:B:124:LEU:HD11	2:B:162:PHE:HD1	0.50	1.66	20	1
2:B:166:LEU:HB3	2:B:182:ILE:HD13	0.50	1.82	16	12
2:B:189:TYR:CD2	2:B:193:HIS:CD2	0.50	2.99	15	3
2:B:105:ALA:CB	2:B:208:VAL:HG22	0.50	2.37	12	1
2:B:171:VAL:HG22	2:B:179:VAL:HG21	0.50	1.83	14	1
2:B:143:VAL:CG1	2:B:189:TYR:CZ	0.50	2.94	3	1
2:B:190:LEU:HD11	2:B:204:TRP:CH2	0.50	2.42	18	6
2:B:124:LEU:C	2:B:124:LEU:HD13	0.50	2.26	12	1
2:B:117:TYR:CE2	2:B:124:LEU:HD22	0.49	2.41	5	1
2:B:136:TYR:CD2	2:B:185:TRP:CE2	0.49	3.00	5	2
2:B:207:PHE:CD1	2:B:211:TYR:CD1	0.49	3.00	19	2
2:B:76:LYS:CG	2:B:168:VAL:HG11	0.49	2.36	2	1
2:B:189:TYR:CZ	2:B:193:HIS:CG	0.49	3.00	20	4
2:B:198:ILE:HG21	2:B:204:TRP:CE2	0.49	2.42	8	2
1:A:27:LEU:HD21	2:B:124:LEU:CG	0.49	2.37	1	2
2:B:162:PHE:CD1	2:B:163:GLY:N	0.49	2.81	2	3
2:B:124:LEU:O	2:B:128:LEU:HD23	0.49	2.08	10	1
2:B:190:LEU:HD13	2:B:194:LEU:HD11	0.49	1.84	3	4
2:B:113:PHE:CD2	2:B:157:VAL:CG1	0.49	2.96	6	1
2:B:143:VAL:HG22	2:B:162:PHE:CZ	0.49	2.43	3	1
2:B:136:TYR:CE2	2:B:137:GLN:NE2	0.49	2.81	11	1
2:B:175:MET:SD	2:B:178:LEU:HD12	0.49	2.48	14	2
2:B:181:ARG:HB3	2:B:185:TRP:CZ2	0.49	2.43	15	17
2:B:151:VAL:HG22	2:B:152:ASN:N	0.49	2.23	2	13
2:B:130:ILE:HD11	2:B:169:GLU:HG3	0.49	1.83	6	1
2:B:100:GLU:O	2:B:103:LYS:CG	0.49	2.60	15	6
2:B:167:CYS:HB3	2:B:179:VAL:HG22	0.49	1.84	11	1
2:B:189:TYR:CZ	2:B:193:HIS:ND1	0.49	2.81	17	14
1:A:27:LEU:CD2	2:B:124:LEU:HD11	0.49	2.37	8	1
2:B:167:CYS:HB2	2:B:179:VAL:HG22	0.48	1.84	17	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:100:GLU:HA	2:B:103:LYS:HD3	0.48	1.85	2	2
2:B:198:ILE:HG22	2:B:203:GLY:CA	0.48	2.33	3	8
2:B:113:PHE:CZ	2:B:158:ALA:HB2	0.48	2.43	12	1
2:B:159:PHE:CZ	2:B:186:MET:HG2	0.48	2.43	20	2
1:A:23:THR:HG21	2:B:129:HIS:CE1	0.48	2.43	12	1
2:B:160:PHE:CD1	2:B:186:MET:CE	0.48	2.96	4	4
2:B:137:GLN:O	2:B:141:GLN:HG2	0.48	2.08	2	1
2:B:109:ALA:HB2	2:B:211:TYR:CD2	0.48	2.44	10	2
2:B:153:TRP:CZ3	2:B:198:ILE:CD1	0.48	2.97	4	4
2:B:190:LEU:HA	2:B:194:LEU:HG	0.48	1.84	16	5
2:B:209:GLU:OE1	2:B:210:LEU:HD23	0.48	2.09	9	1
1:A:28:SER:CB	2:B:142:VAL:HG13	0.48	2.39	11	1
2:B:106:LEU:HD11	2:B:204:TRP:CZ3	0.48	2.44	17	1
2:B:191:ASN:OD1	2:B:192:ASP:N	0.47	2.47	2	14
2:B:162:PHE:CE1	2:B:166:LEU:CD2	0.47	2.97	16	3
2:B:76:LYS:HG3	2:B:168:VAL:HG11	0.47	1.86	8	1
1:A:27:LEU:HD11	2:B:124:LEU:HD21	0.47	1.85	3	1
2:B:151:VAL:CG1	2:B:197:TRP:CD1	0.47	2.98	6	4
2:B:207:PHE:CE1	2:B:211:TYR:CG	0.47	3.02	18	2
1:A:27:LEU:HD21	2:B:124:LEU:CD2	0.47	2.40	17	3
2:B:156:ILE:HG23	2:B:194:LEU:HD13	0.47	1.86	10	3
2:B:163:GLY:HA3	2:B:186:MET:SD	0.47	2.49	4	4
2:B:147:PHE:CE2	2:B:194:LEU:CD2	0.47	2.98	13	3
2:B:115:LEU:HD23	2:B:118:ARG:HE	0.47	1.70	19	1
2:B:113:PHE:CG	2:B:157:VAL:CG1	0.47	2.97	4	2
1:A:23:THR:HG21	2:B:129:HIS:HD2	0.47	1.65	16	1
2:B:189:TYR:CE1	2:B:193:HIS:CE1	0.47	3.03	1	2
2:B:113:PHE:CG	2:B:157:VAL:HG12	0.47	2.45	20	7
2:B:159:PHE:CE2	2:B:194:LEU:HD21	0.47	2.44	6	1
2:B:125:THR:CG2	2:B:165:ALA:HB1	0.47	2.32	11	1
2:B:128:LEU:HD21	2:B:162:PHE:CE1	0.47	2.45	13	1
2:B:78:TYR:CE1	2:B:168:VAL:HG13	0.47	2.45	14	1
2:B:147:PHE:HD2	2:B:151:VAL:HG22	0.47	1.70	1	3
2:B:147:PHE:CE1	2:B:155:ARG:HB3	0.47	2.45	4	1
2:B:198:ILE:HG21	2:B:204:TRP:NE1	0.47	2.25	20	2
2:B:124:LEU:C	2:B:124:LEU:HD23	0.47	2.30	15	1
2:B:128:LEU:HD12	2:B:128:LEU:C	0.47	2.30	1	2
2:B:151:VAL:HG12	2:B:152:ASN:N	0.47	2.25	8	3
2:B:135:ALA:HB2	2:B:178:LEU:HD13	0.47	1.87	5	2
2:B:146:LEU:HD11	2:B:155:ARG:HA	0.47	1.86	9	1
2:B:153:TRP:CE3	2:B:156:ILE:HD12	0.47	2.45	17	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:128:LEU:HD21	2:B:162:PHE:HE1	0.46	1.71	13	2
2:B:143:VAL:HG22	2:B:189:TYR:CZ	0.46	2.46	17	1
2:B:143:VAL:CG2	2:B:189:TYR:CE1	0.46	2.98	12	6
2:B:142:VAL:CG2	2:B:162:PHE:CE2	0.46	2.98	18	2
2:B:102:VAL:CG1	2:B:204:TRP:HB3	0.46	2.41	18	1
1:A:30:ARG:HG3	2:B:121:PHE:CG	0.46	2.45	10	3
2:B:141:GLN:HA	2:B:144:ASN:ND2	0.46	2.25	6	2
2:B:141:GLN:O	2:B:144:ASN:OD1	0.46	2.32	14	1
2:B:206:THR:O	2:B:209:GLU:HB2	0.46	2.09	17	1
1:A:31:LEU:CD2	2:B:117:TYR:CE1	0.46	2.99	13	2
2:B:136:TYR:CE2	2:B:185:TRP:NE1	0.46	2.83	6	1
1:A:27:LEU:HD22	2:B:124:LEU:HD21	0.46	1.88	14	1
2:B:187:ALA:O	2:B:191:ASN:ND2	0.46	2.48	20	6
2:B:195:GLU:N	2:B:196:PRO:CD	0.46	2.78	18	7
2:B:159:PHE:HA	2:B:162:PHE:CE2	0.46	2.44	7	3
2:B:186:MET:HG3	2:B:187:ALA:N	0.46	2.26	7	3
2:B:167:CYS:SG	2:B:179:VAL:HG13	0.46	2.51	14	1
1:A:27:LEU:CD2	2:B:162:PHE:CE1	0.46	2.99	11	3
2:B:142:VAL:CB	2:B:162:PHE:CE2	0.46	2.98	4	3
1:A:27:LEU:HD21	2:B:162:PHE:CD1	0.46	2.46	20	1
2:B:189:TYR:O	2:B:193:HIS:HB2	0.46	2.09	1	6
2:B:177:VAL:HG22	2:B:181:ARG:HD3	0.46	1.87	9	1
2:B:189:TYR:CE1	2:B:193:HIS:NE2	0.46	2.84	4	3
2:B:124:LEU:HD23	2:B:128:LEU:CD2	0.46	2.41	9	2
2:B:153:TRP:CZ3	2:B:207:PHE:HB2	0.46	2.46	14	3
2:B:68:PHE:CD1	2:B:160:PHE:CD1	0.45	3.04	17	2
2:B:189:TYR:CD1	2:B:193:HIS:CG	0.45	3.04	2	2
2:B:189:TYR:CE2	2:B:193:HIS:ND1	0.45	2.84	3	3
2:B:113:PHE:HE1	2:B:158:ALA:HB2	0.45	1.67	6	1
2:B:204:TRP:O	2:B:208:VAL:HG23	0.45	2.11	12	1
1:A:28:SER:CA	2:B:142:VAL:HG13	0.45	2.42	18	1
2:B:191:ASN:ND2	2:B:191:ASN:N	0.45	2.62	20	1
2:B:137:GLN:O	2:B:141:GLN:NE2	0.45	2.49	8	8
2:B:105:ALA:CB	2:B:207:PHE:CE2	0.45	2.99	14	2
2:B:162:PHE:CE1	2:B:166:LEU:CG	0.45	3.00	18	2
2:B:102:VAL:HG22	2:B:204:TRP:HB3	0.45	1.88	19	1
2:B:143:VAL:CG2	2:B:159:PHE:CE1	0.45	3.00	20	1
2:B:197:TRP:CE3	2:B:197:TRP:C	0.45	2.90	9	13
2:B:65:VAL:O	2:B:69:LEU:HD12	0.45	2.11	16	2
2:B:102:VAL:CG1	2:B:204:TRP:CE3	0.45	3.00	4	2
2:B:128:LEU:HD11	2:B:169:GLU:HG3	0.45	1.88	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:115:LEU:C	2:B:115:LEU:HD13	0.45	2.32	13	1
1:A:30:ARG:O	1:A:33:VAL:CG2	0.45	2.65	10	1
2:B:196:PRO:O	2:B:200:GLU:CG	0.45	2.65	2	1
2:B:139:PHE:CD1	2:B:140:GLU:N	0.45	2.85	19	4
2:B:190:LEU:HD12	2:B:190:LEU:C	0.45	2.32	17	4
2:B:162:PHE:C	2:B:162:PHE:CD1	0.45	2.90	17	1
2:B:140:GLU:HA	2:B:143:VAL:HG12	0.45	1.88	1	5
2:B:109:ALA:CB	2:B:211:TYR:CD2	0.45	3.00	10	1
2:B:135:ALA:HB2	2:B:178:LEU:CD1	0.45	2.42	20	1
2:B:170:SER:OG	2:B:178:LEU:HD12	0.45	2.12	20	1
2:B:136:TYR:CA	2:B:185:TRP:CZ3	0.44	3.00	11	5
2:B:190:LEU:CD1	2:B:194:LEU:HD11	0.44	2.42	9	2
2:B:190:LEU:HD11	2:B:204:TRP:CZ2	0.44	2.48	18	3
2:B:189:TYR:CD1	2:B:193:HIS:CD2	0.44	3.05	4	2
2:B:124:LEU:HD22	2:B:165:ALA:CB	0.44	2.43	19	1
1:A:31:LEU:HB2	2:B:158:ALA:HB1	0.44	1.89	5	1
2:B:135:ALA:HB2	2:B:178:LEU:HD11	0.44	1.89	13	1
2:B:139:PHE:CD1	2:B:139:PHE:C	0.44	2.91	14	1
2:B:65:VAL:HG13	2:B:186:MET:HE3	0.44	1.88	5	1
2:B:62:ARG:HD3	2:B:187:ALA:HB1	0.44	1.89	13	1
1:A:30:ARG:CG	2:B:121:PHE:CD2	0.44	3.01	17	1
2:B:106:LEU:HD22	2:B:160:PHE:CD2	0.44	2.47	1	2
2:B:130:ILE:HD11	2:B:166:LEU:O	0.44	2.12	3	4
2:B:140:GLU:HA	2:B:143:VAL:CG1	0.44	2.42	1	1
2:B:113:PHE:CD2	2:B:157:VAL:HG11	0.44	2.48	6	1
2:B:171:VAL:CG2	2:B:179:VAL:CG2	0.44	2.96	15	15
2:B:197:TRP:CE3	2:B:201:ASN:OD1	0.44	2.71	2	1
1:A:34:THR:HG22	2:B:116:ARG:CD	0.44	2.43	18	1
1:A:27:LEU:HD23	1:A:31:LEU:CD2	0.44	2.42	20	1
2:B:178:LEU:HD23	2:B:181:ARG:HD2	0.43	1.89	2	1
2:B:78:TYR:CD1	2:B:171:VAL:CG1	0.43	3.01	19	3
2:B:69:LEU:HD21	2:B:186:MET:SD	0.43	2.53	9	2
2:B:65:VAL:CG2	2:B:190:LEU:HD23	0.43	2.44	1	5
2:B:143:VAL:HG22	2:B:189:TYR:CE1	0.43	2.48	2	3
2:B:143:VAL:CG1	2:B:189:TYR:CE1	0.43	3.01	3	1
2:B:78:TYR:HE2	2:B:168:VAL:HG13	0.43	1.72	9	1
2:B:78:TYR:CD1	2:B:78:TYR:N	0.43	2.86	14	1
2:B:146:LEU:HD11	2:B:155:ARG:HD3	0.43	1.89	6	2
2:B:189:TYR:CE1	2:B:193:HIS:CB	0.43	3.02	5	3
2:B:69:LEU:CB	2:B:80:TRP:CZ3	0.43	3.02	1	1
2:B:148:ARG:CG	2:B:149:ASP:N	0.43	2.82	3	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:142:VAL:CG1	2:B:162:PHE:CD2	0.43	3.02	7	1
2:B:166:LEU:HB3	2:B:182:ILE:CD1	0.43	2.44	10	5
2:B:162:PHE:CD1	2:B:162:PHE:C	0.43	2.92	14	1
2:B:62:ARG:NH2	2:B:183:ALA:HB1	0.43	2.28	14	1
2:B:72:LYS:HD2	2:B:72:LYS:N	0.43	2.28	18	1
2:B:156:ILE:HG23	2:B:194:LEU:CD1	0.43	2.43	19	1
2:B:68:PHE:CE1	2:B:72:LYS:HG3	0.43	2.49	3	2
2:B:153:TRP:CZ2	2:B:207:PHE:HB2	0.43	2.49	8	4
2:B:70:SER:OG	2:B:80:TRP:CG	0.43	2.72	16	1
2:B:160:PHE:CD1	2:B:186:MET:HE3	0.43	2.49	17	1
1:A:31:LEU:HB3	2:B:158:ALA:CB	0.42	2.43	4	2
2:B:131:THR:HA	2:B:175:MET:HE3	0.42	1.91	6	1
1:A:27:LEU:HD21	2:B:124:LEU:HD23	0.42	1.91	7	1
2:B:69:LEU:HD23	2:B:164:GLY:CA	0.42	2.44	12	1
2:B:65:VAL:HG13	2:B:186:MET:CE	0.42	2.44	5	1
2:B:73:LEU:HD23	2:B:168:VAL:CG2	0.42	2.33	16	1
2:B:189:TYR:CE2	2:B:193:HIS:CD2	0.42	3.08	20	1
1:A:30:ARG:O	1:A:33:VAL:CG1	0.42	2.67	2	1
2:B:117:TYR:CE1	2:B:122:SER:O	0.42	2.73	2	1
2:B:144:ASN:O	2:B:148:ARG:CB	0.42	2.67	2	1
2:B:173:LYS:O	2:B:174:GLU:CB	0.42	2.66	3	4
2:B:160:PHE:HE1	2:B:190:LEU:HD22	0.42	1.72	4	1
2:B:83:PHE:CD1	2:B:179:VAL:HG21	0.42	2.50	16	1
1:A:31:LEU:HD12	1:A:32:LYS:N	0.42	2.30	9	2
2:B:179:VAL:O	2:B:183:ALA:HB2	0.42	2.14	13	2
1:A:27:LEU:HD11	2:B:128:LEU:CA	0.42	2.45	18	1
2:B:198:ILE:HG21	2:B:204:TRP:CD2	0.42	2.49	19	1
2:B:71:TYR:CE2	2:B:75:GLN:OE1	0.42	2.73	13	1
2:B:113:PHE:HE2	2:B:158:ALA:HB2	0.42	1.67	16	1
2:B:130:ILE:HD11	2:B:170:SER:HB3	0.42	1.91	8	1
1:A:24:MET:HE2	2:B:138:SER:HB2	0.42	1.91	11	1
2:B:208:VAL:O	2:B:212:GLY:CA	0.42	2.68	15	1
2:B:130:ILE:CG2	2:B:166:LEU:HD22	0.42	2.45	17	1
2:B:143:VAL:HG21	2:B:189:TYR:CD2	0.42	2.49	19	1
2:B:135:ALA:CB	2:B:178:LEU:HD13	0.42	2.44	3	2
2:B:198:ILE:CG2	2:B:203:GLY:HA2	0.42	2.45	5	1
2:B:136:TYR:CD2	2:B:137:GLN:OE1	0.42	2.73	7	1
2:B:79:SER:O	2:B:82:GLN:HG2	0.42	2.15	8	1
2:B:100:GLU:O	2:B:104:GLN:CD	0.42	2.58	14	1
1:A:28:SER:N	2:B:142:VAL:HG13	0.42	2.30	18	1
2:B:159:PHE:CZ	2:B:189:TYR:HB3	0.41	2.50	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:79:SER:O	2:B:83:PHE:CZ	0.41	2.73	15	4
2:B:138:SER:O	2:B:142:VAL:CG2	0.41	2.67	5	1
2:B:106:LEU:CD1	2:B:160:PHE:CE2	0.41	3.04	11	1
2:B:117:TYR:CD2	2:B:122:SER:O	0.41	2.73	3	1
2:B:136:TYR:CD1	2:B:136:TYR:O	0.41	2.73	3	1
2:B:78:TYR:CE1	2:B:171:VAL:HG12	0.41	2.50	6	1
2:B:128:LEU:O	2:B:129:HIS:CG	0.41	2.73	7	2
1:A:28:SER:HA	1:A:31:LEU:HD21	0.41	1.92	20	1
1:A:27:LEU:O	1:A:31:LEU:HG	0.41	2.16	1	1
2:B:130:ILE:C	2:B:175:MET:HE1	0.41	2.36	3	1
2:B:79:SER:O	2:B:83:PHE:CE1	0.41	2.74	10	1
2:B:159:PHE:CD2	2:B:194:LEU:HD21	0.41	2.50	9	1
2:B:106:LEU:CD2	2:B:160:PHE:CD2	0.41	3.03	11	1
2:B:79:SER:O	2:B:83:PHE:CE2	0.41	2.74	19	1
2:B:208:VAL:O	2:B:212:GLY:N	0.41	2.54	1	1
2:B:100:GLU:O	2:B:104:GLN:NE2	0.41	2.54	12	3
1:A:27:LEU:HD13	2:B:128:LEU:HB3	0.41	1.91	2	1
1:A:24:MET:HE2	2:B:138:SER:HB3	0.41	1.91	4	1
2:B:106:LEU:HD13	2:B:160:PHE:CZ	0.41	2.51	10	1
2:B:141:GLN:OE1	2:B:141:GLN:N	0.41	2.54	17	1
2:B:111:ASP:O	2:B:115:LEU:HD12	0.41	2.14	19	1
2:B:117:TYR:CE1	2:B:121:PHE:HB2	0.41	2.51	4	1
2:B:151:VAL:O	2:B:152:ASN:CB	0.41	2.69	5	1
2:B:142:VAL:HG21	2:B:162:PHE:CE2	0.41	2.51	15	1
2:B:108:GLU:HG3	2:B:109:ALA:N	0.41	2.31	1	1
2:B:189:TYR:CE1	2:B:193:HIS:ND1	0.41	2.89	2	1
2:B:159:PHE:O	2:B:162:PHE:CD2	0.41	2.74	3	1
2:B:99:SER:O	2:B:103:LYS:CD	0.41	2.69	5	2
1:A:27:LEU:HD12	1:A:31:LEU:HD21	0.41	1.92	12	1
2:B:140:GLU:CG	2:B:141:GLN:OE1	0.40	2.69	8	1
2:B:82:GLN:HG2	2:B:83:PHE:CD2	0.40	2.51	9	1
1:A:24:MET:CE	2:B:138:SER:OG	0.40	2.69	15	1
2:B:68:PHE:CG	2:B:160:PHE:CD1	0.40	3.09	17	1
2:B:142:VAL:O	2:B:146:LEU:CB	0.40	2.69	19	2
2:B:189:TYR:CE1	2:B:193:HIS:CD2	0.40	3.09	6	1
2:B:128:LEU:HD13	2:B:130:ILE:HG23	0.40	1.94	17	1
2:B:124:LEU:CD2	2:B:165:ALA:CB	0.40	2.99	19	1
2:B:194:LEU:O	2:B:195:GLU:C	0.40	2.60	20	1
2:B:69:LEU:HB3	2:B:80:TRP:CZ3	0.40	2.51	1	1
2:B:211:TYR:N	2:B:211:TYR:CD1	0.40	2.89	7	1
2:B:117:TYR:CD1	2:B:122:SER:O	0.40	2.74	15	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:190:LEU:O	2:B:190:LEU:HD12	0.40	2.16	15	1
2:B:207:PHE:CE1	2:B:211:TYR:CE1	0.40	3.09	10	1
1:A:27:LEU:CD1	1:A:28:SER:N	0.40	2.84	14	1
2:B:115:LEU:HD12	2:B:119:ARG:CZ	0.40	2.46	17	1
2:B:102:VAL:CG2	2:B:204:TRP:CB	0.40	2.99	18	1
1:A:30:ARG:HG2	2:B:121:PHE:CG	0.40	2.51	20	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	17/23 (74%)	15±1 (91±4%)	2±1 (9±4%)	0±0 (0±0%)	100	100
2	B	137/156 (88%)	123±2 (90±1%)	10±2 (7±1%)	4±1 (3±1%)	7	41
All	All	3080/3580 (86%)	2765 (90%)	236 (8%)	79 (3%)	8	44

All 9 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
2	B	174	GLU	17
2	B	152	ASN	17
2	B	122	SER	11
2	B	123	ASP	8
2	B	60	SER	8
2	B	132	PRO	7
2	B	127	GLN	5
2	B	128	LEU	4
2	B	129	HIS	2

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	16/19 (84%)	10±1 (59±8%)	6±1 (41±8%)	0 4
2	B	118/134 (88%)	91±4 (77±3%)	27±4 (23±3%)	3 28
All	All	2680/3060 (88%)	2006 (75%)	674 (25%)	2 24

All 90 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	34	THR	18
2	B	75	GLN	18
2	B	83	PHE	17
2	B	134	THR	17
2	B	103	LYS	16
2	B	148	ARG	16
2	B	209	GLU	15
1	A	30	ARG	14
2	B	139	PHE	14
2	B	169	GLU	14
2	B	186	MET	13
2	B	181	ARG	13
1	A	31	LEU	12
2	B	82	GLN	12
1	A	28	SER	12
1	A	36	ASP	12
2	B	160	PHE	12
2	B	194	LEU	12
1	A	38	PHE	12
2	B	170	SER	12
1	A	27	LEU	11
2	B	116	ARG	11
2	B	195	GLU	11
1	A	24	MET	11
2	B	141	GLN	11
2	B	99	SER	10
2	B	107	ARG	10
2	B	155	ARG	10
2	B	175	MET	10
2	B	180	SER	10
2	B	122	SER	10
2	B	137	GLN	9

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Mol	Chain	Res	Type	Models (Total)
2	B	62	ARG	9
2	B	100	GLU	9
2	B	74	SER	8
2	B	114	GLU	8
2	B	118	ARG	8
2	B	152	ASN	8
1	A	29	ARG	8
2	B	79	SER	8
2	B	124	LEU	8
2	B	127	GLN	8
2	B	190	LEU	8
2	B	126	SER	8
2	B	131	THR	8
2	B	67	ASP	8
2	B	104	GLN	7
2	B	111	ASP	7
2	B	129	HIS	7
2	B	149	ASP	7
2	B	60	SER	7
2	B	115	LEU	7
1	A	26	ASN	6
2	B	191	ASN	6
2	B	145	GLU	6
2	B	72	LYS	6
2	B	189	TYR	5
2	B	192	ASP	5
2	B	201	ASN	5
2	B	119	ARG	5
2	B	76	LYS	4
2	B	205	ASP	4
1	A	32	LYS	4
2	B	174	GLU	4
2	B	136	TYR	4
1	A	23	THR	4
2	B	176	GLN	4
2	B	200	GLU	4
2	B	161	SER	4
2	B	199	GLN	3
1	A	25	GLU	3
2	B	123	ASP	3
2	B	128	LEU	3
2	B	108	GLU	2

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Mol	Chain	Res	Type	Models (Total)
2	B	144	ASN	2
2	B	173	LYS	2
1	A	39	ASP	2
1	A	33	VAL	1
2	B	140	GLU	1
2	B	61	ASN	1
2	B	64	LEU	1
2	B	117	TYR	1
2	B	121	PHE	1
2	B	138	SER	1
2	B	193	HIS	1
2	B	63	GLU	1
2	B	125	THR	1
2	B	106	LEU	1
2	B	112	GLU	1
2	B	162	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