



Full wwPDB NMR Structure Validation Report ⓘ

Feb 15, 2022 – 06:57 AM EST

PDB ID : 1KD6
Title : Solution structure of the eukaryotic pore-forming cytolyisin equinatoxin II
Authors : Hinds, M.G.; Zhang, W.; Anderluh, G.; Hansen, P.E.; Norton, R.S.
Deposited on : 2001-11-12

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 : 2.26
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.26

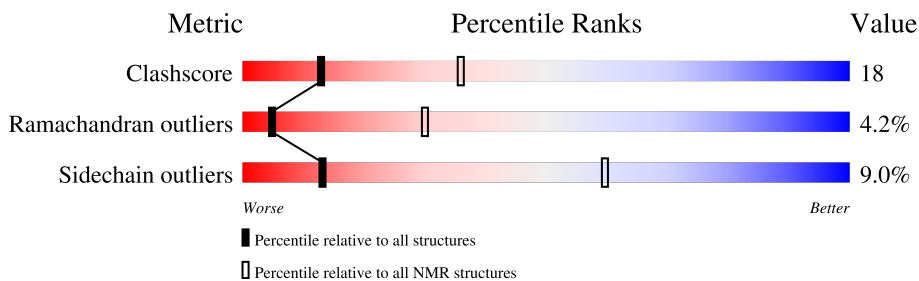
1 Overall quality at a glance

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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	179	

2 Ensemble composition and analysis

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

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

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:8-A:77, A:84-A:108, A:114-A:133, A:140-A:179 (155)	0.56	1

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

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

The models can be grouped into 3 clusters and 6 single-model clusters were found.

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

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 2792 atoms, of which 1388 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called EQUINATOXIN II.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	179	2792	895	1388	249	257	3	0

There is a discrepancy between the modelled and reference sequences:

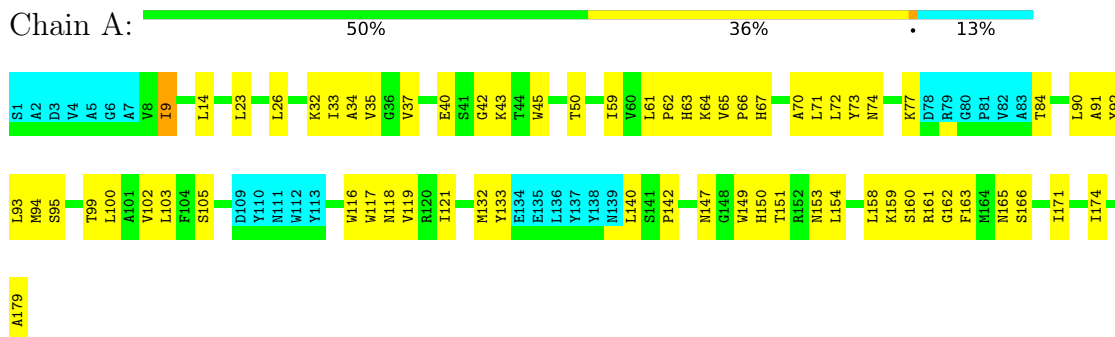
Chain	Residue	Modelled	Actual	Comment	Reference
A	177	THR	SER	SEE REMARK 999	UNP P61914

4 Residue-property plots [i](#)

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: EQUINATOXIN II

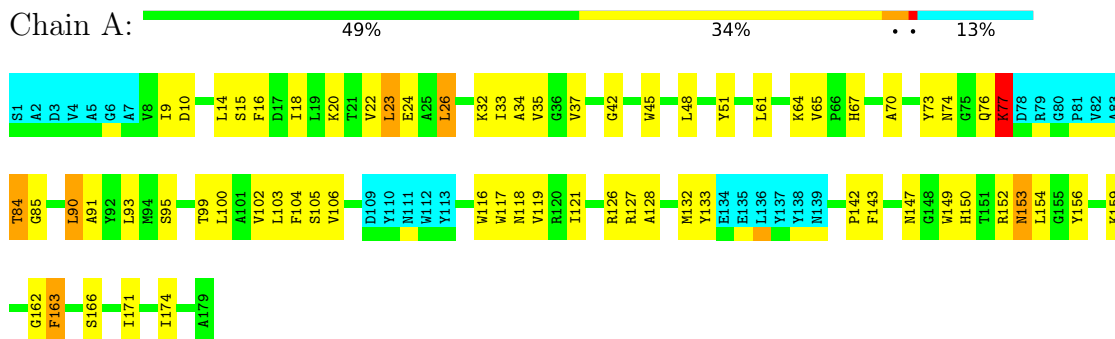


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

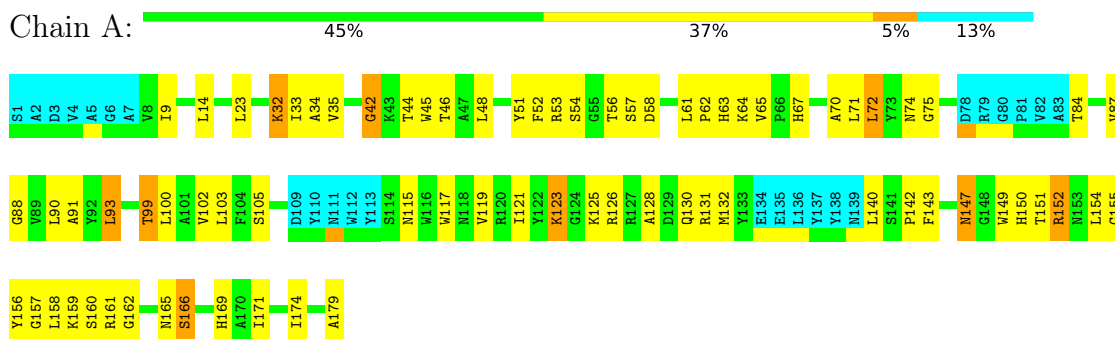
4.2.1 Score per residue for model 1 (medoid)

- Molecule 1: EQUINATOXIN II



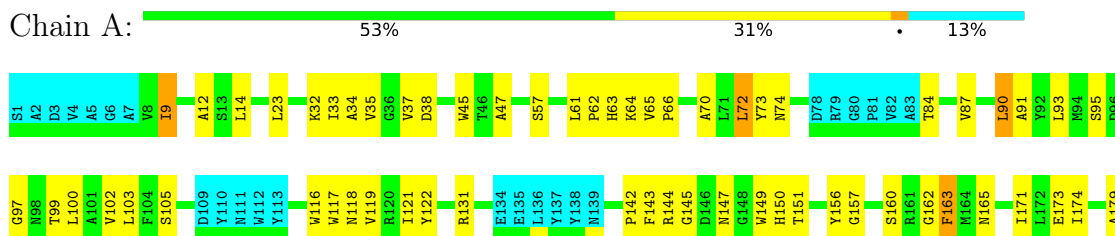
4.2.2 Score per residue for model 2

- Molecule 1: EQUINATOXIN II



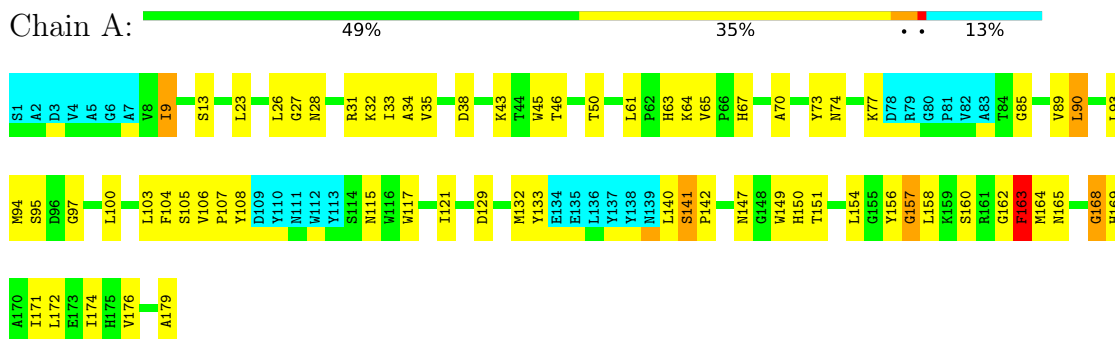
4.2.3 Score per residue for model 3

- Molecule 1: EQUINATOXIN II



4.2.4 Score per residue for model 4

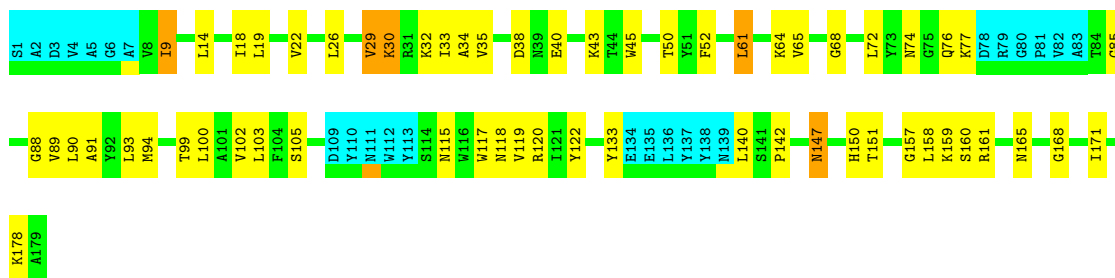
- Molecule 1: EQUINATOXIN II



4.2.5 Score per residue for model 5

- Molecule 1: EQUINATOXIN II

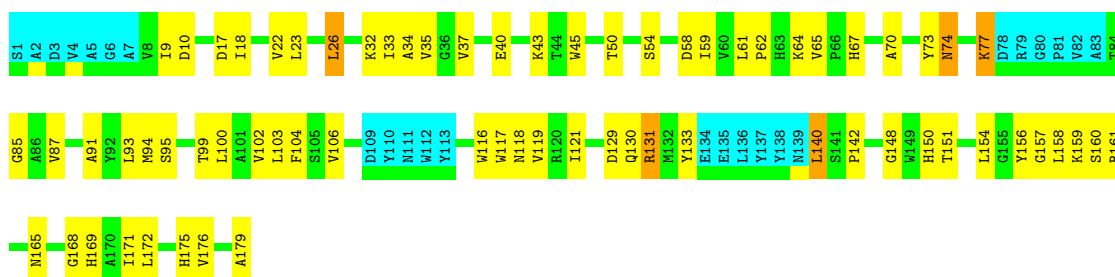




4.2.6 Score per residue for model 6

- Molecule 1: EQUINATOXIN II

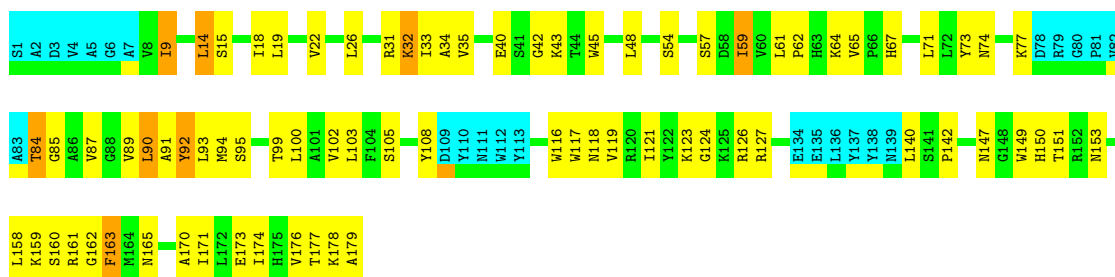
Chain A: 48% 36% 13%



4.2.7 Score per residue for model 7

- Molecule 1: EQUINATOXIN II

Chain A: 44% 38% 13%

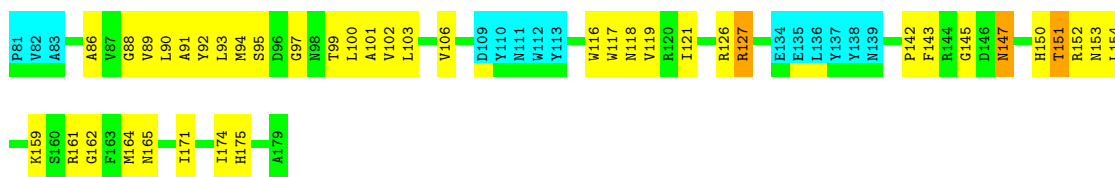


4.2.8 Score per residue for model 8

- Molecule 1: EQUINATOXIN II

Chain A: 47% 36% 13%

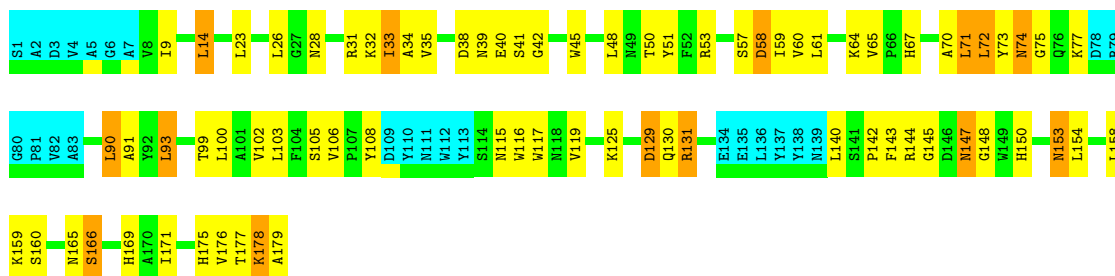




4.2.9 Score per residue for model 9

- Molecule 1: EQUINATOXIN II

Chain A: 45% 34% 8% 13%



4.2.10 Score per residue for model 10

- Molecule 1: EQUINATOXIN II

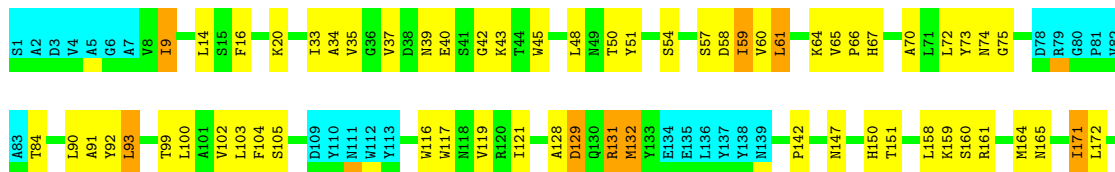
Chain A: 46% 37% 13%



4.2.11 Score per residue for model 11

- Molecule 1: EQUINATOXIN II

Chain A: 50% 32% 13%



V176
I177
K178
A179

4.2.12 Score per residue for model 12

- Molecule 1: EQUINATOXIN II

Chain A:  50% 33% 13%

S1 A2 D3 V4 A5 G6 A7 V8 I9 A12 S13 L14 L19 R31 K32 I33 A34 V35 E40 S41 G42 K43 T44 W45 E134 A34 T46 A47 L48 M49 D58 I59 V60 L61 P62 H63 K64 V65 A70 L71 L72 Y73 N74 G75 G76 K77 D78 R79 G80 P81 V82 A83 L90 A91 Y92

L93 M94 G97 N98 T99 L100 A101 V102 L103 D109 Y110 M111 W112 Y113 W116 V117 M118 V119 R120 I121 E127 Y133 E134 A34 E135 L136 Y137 Y138 M139 L140 S141 P142 G145 D146 G148 W149 H150 M153 L158 K159 G162 F163 M164 M165 I171 I174 T177 K178

A179

4.2.13 Score per residue for model 13

- Molecule 1: EQUINATOXIN II

Chain A:  42% 39% 6% 13%

S1 A2 D3 V4 A5 G6 A7 V8 I9 A12 S13 L14 S15 I18 L19 V22 L23 L26 K30 R31 K32 I33 A34 V35 G36 V37 E40 S41 G42 T44 W45 T50 R53 S54 G55 T56 S57 L61 P62 H63 K64 V65 P66 H67 G68 A70 L71 L72 Y73

M74 K77 R79 G80 P81 V82 A83 T84 G85 A86 L90 A91 L93 M94 G97 N98 L100 A101 V102 L103 F104 D109 Y110 M111 W112 Y113 W116 M118 V119 R120 I121 A128 D129 S54 Q130 R131 M132 Y133 E134 E135 L136 Y137 Y138 M139 L140 S141 P142 F143 R144 D146

N147 G148 W149 H150 T151 R152 M153 L154 L158 K159 S160 S162 F163 M164 M165 I171 L172 I174 T177 K178 A179

4.2.14 Score per residue for model 14

- Molecule 1: EQUINATOXIN II

Chain A:  46% 38% 13%

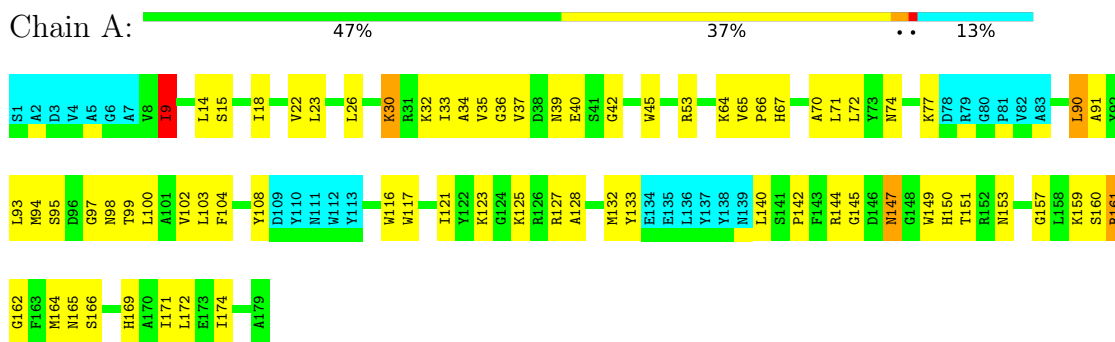
S1 A2 D3 V4 A5 G6 A7 V8 I9 S15 I18 V22 R31 K32 I33 A34 V35 W110 N111 W112 D38 N39 E40 K43 T44 W45 T46 A47 L48 M49 T50 F52 R53 S54 L61 P62 H63 K64 V65 P66 H67 A70 L71 L72 Y73 N74 K77 D78 R79 G80 P81 V82

A83 T84 G88 V89 L90 L93 M94 S95 G97 V102 L103 F104 S105 V106 P107 Y108 D109 Y110 N111 W112 Y113 S114 M115 W117 N118 V119 E120 I121 Y133 E134 E135 L136 Y137 Y138 M139 P142 F143 R144 M147 G148 W149 H150 T151 R152 M153 L154 G157 L158 K159 S160 R161

G162 F163 S166 S167 G168 H169 A170 L172 H175 V176 T177 K178 A179

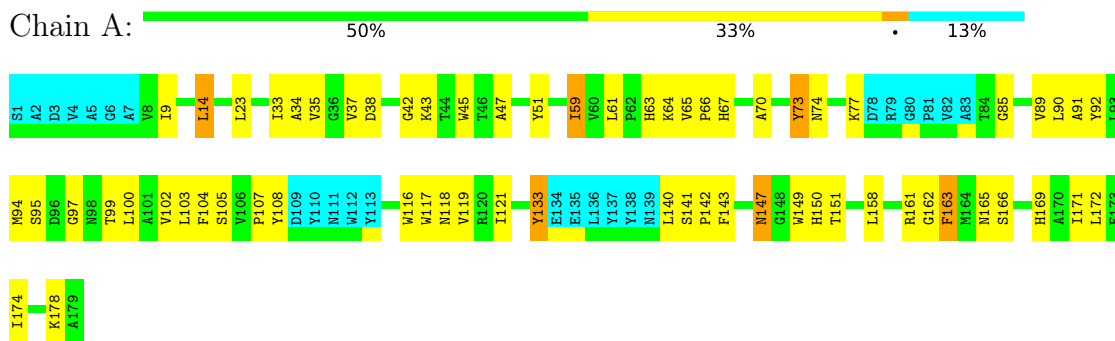
4.2.15 Score per residue for model 15

- Molecule 1: EQUINATOXIN II



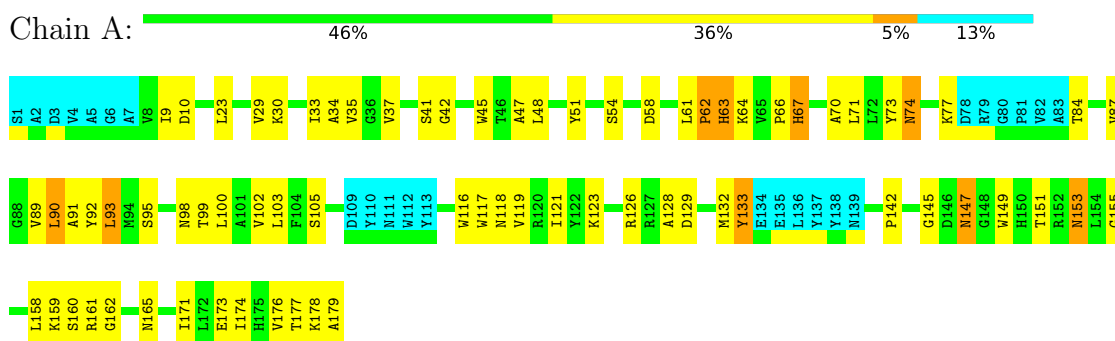
4.2.16 Score per residue for model 16

- Molecule 1: EQUINATOXIN II



4.2.17 Score per residue for model 17

- Molecule 1: EQUINATOXIN II



5 Refinement protocol and experimental data overview

The models were refined using the following method: *torsion angle dynamics distance geometry simulated annealing*.

Of the 250 calculated structures, 20 were deposited, based on the following criterion: *structures with acceptable covalent geometry, structures with the least restraint violations*.

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

Software name	Classification	Version
DYANA	structure solution	1.5
CNS	refinement	1.0

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.

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 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	1210	1224	1219	45±6
All	All	24200	24480	24380	898

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:77:LYS:HE3	1:A:85:GLY:HA2	0.94	1.38	4	1
1:A:158:LEU:HD12	1:A:178:LYS:HA	0.85	1.47	17	4
1:A:149:TRP:HA	1:A:163:PHE:HB2	0.84	1.47	4	9
1:A:159:LYS:HG3	1:A:179:ALA:HA	0.84	1.46	2	3
1:A:14:LEU:HD21	1:A:70:ALA:HB3	0.84	1.47	2	1
1:A:128:ALA:HA	1:A:132:MET:HG3	0.83	1.48	2	7
1:A:89:VAL:HG22	1:A:103:LEU:HG	0.81	1.51	20	7
1:A:125:LYS:HD2	1:A:128:ALA:HB2	0.80	1.52	19	1
1:A:104:PHE:HE2	1:A:172:LEU:HG	0.79	1.37	4	1
1:A:121:ILE:HG13	1:A:156:TYR:HB2	0.78	1.55	3	6
1:A:45:TRP:O	1:A:64:LYS:HA	0.77	1.80	12	19
1:A:162:GLY:HA3	1:A:174:ILE:HA	0.76	1.55	19	11
1:A:151:THR:HG22	1:A:161:ARG:HG3	0.75	1.56	14	2
1:A:35:VAL:HB	1:A:73:TYR:HB2	0.74	1.59	14	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:42:GLY:HA2	1:A:67:HIS:HB3	0.73	1.61	20	8
1:A:47:ALA:HB2	1:A:61:LEU:HB3	0.73	1.59	10	2
1:A:26:LEU:HD13	1:A:32:LYS:HD3	0.73	1.60	15	1
1:A:35:VAL:HB	1:A:73:TYR:HB3	0.73	1.60	6	8
1:A:40:GLU:HB3	1:A:177:THR:HG22	0.73	1.61	14	4
1:A:34:ALA:HB3	1:A:171:ILE:HG22	0.73	1.59	2	13
1:A:72:LEU:H	1:A:72:LEU:HD13	0.73	1.44	14	4
1:A:116:TRP:HB3	1:A:142:PRO:HB2	0.73	1.61	3	12
1:A:19:LEU:HD23	1:A:171:ILE:HB	0.72	1.59	12	4
1:A:31:ARG:HA	1:A:169:HIS:HB3	0.72	1.60	20	2
1:A:149:TRP:HA	1:A:163:PHE:HB3	0.71	1.60	18	2
1:A:53:ARG:HB3	1:A:87:VAL:HG13	0.71	1.62	20	2
1:A:165:ASN:HB3	1:A:171:ILE:HG13	0.71	1.60	16	7
1:A:23:LEU:HD21	1:A:169:HIS:HB3	0.70	1.61	4	4
1:A:14:LEU:H	1:A:14:LEU:HD13	0.70	1.46	19	3
1:A:40:GLU:HG2	1:A:68:GLY:HA2	0.70	1.62	13	1
1:A:23:LEU:HD11	1:A:169:HIS:HB3	0.70	1.62	2	1
1:A:162:GLY:HA2	1:A:174:ILE:HA	0.70	1.62	20	1
1:A:23:LEU:HD12	1:A:32:LYS:HE2	0.70	1.64	9	1
1:A:91:ALA:HB1	1:A:99:THR:HG22	0.69	1.64	2	6
1:A:159:LYS:HE2	1:A:179:ALA:HB1	0.69	1.64	11	1
1:A:127:ARG:HD3	1:A:127:ARG:H	0.69	1.47	12	1
1:A:130:GLN:HG3	1:A:131:ARG:HD3	0.69	1.64	9	1
1:A:153:ASN:HA	1:A:159:LYS:HA	0.69	1.63	10	6
1:A:54:SER:HB3	1:A:84:THR:HB	0.69	1.63	18	3
1:A:151:THR:HG22	1:A:161:ARG:HG2	0.68	1.64	16	2
1:A:151:THR:HB	1:A:161:ARG:HG2	0.68	1.64	20	1
1:A:42:GLY:HA2	1:A:67:HIS:HB2	0.68	1.65	15	3
1:A:50:THR:HG21	1:A:61:LEU:HD21	0.68	1.65	8	2
1:A:29:VAL:HG22	1:A:30:LYS:H	0.68	1.48	5	3
1:A:151:THR:HB	1:A:161:ARG:HB3	0.67	1.67	2	2
1:A:160:SER:HA	1:A:176:VAL:HA	0.67	1.66	17	2
1:A:34:ALA:O	1:A:171:ILE:HA	0.67	1.89	6	10
1:A:149:TRP:HA	1:A:163:PHE:CB	0.67	2.20	14	2
1:A:38:ASP:HB2	1:A:175:HIS:CD2	0.67	2.25	9	2
1:A:33:ILE:O	1:A:74:ASN:HA	0.66	1.90	5	20
1:A:102:VAL:HG22	1:A:119:VAL:HG12	0.66	1.66	10	17
1:A:53:ARG:HD3	1:A:130:GLN:HB3	0.66	1.67	9	1
1:A:153:ASN:HB3	1:A:159:LYS:HG2	0.66	1.66	17	2
1:A:9:ILE:H	1:A:9:ILE:HD13	0.65	1.51	5	7
1:A:140:LEU:HG	1:A:142:PRO:HD3	0.65	1.68	2	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:61:LEU:H	1:A:61:LEU:HD13	0.65	1.52	13	1
1:A:118:ASN:HB2	1:A:142:PRO:HA	0.65	1.69	12	12
1:A:45:TRP:HB2	1:A:65:VAL:HB	0.65	1.67	8	17
1:A:66:PRO:HD2	1:A:69:LYS:HD3	0.65	1.67	20	1
1:A:35:VAL:HG13	1:A:172:LEU:HB3	0.64	1.69	16	2
1:A:61:LEU:HB2	1:A:62:PRO:HD2	0.64	1.70	7	3
1:A:50:THR:HG21	1:A:61:LEU:HD13	0.64	1.70	19	4
1:A:115:ASN:HD22	1:A:166:SER:HA	0.64	1.52	10	2
1:A:151:THR:HG23	1:A:161:ARG:HB2	0.63	1.70	8	1
1:A:53:ARG:HD2	1:A:130:GLN:HB2	0.62	1.68	2	1
1:A:59:ILE:H	1:A:59:ILE:HD13	0.62	1.53	16	2
1:A:41:SER:HB2	1:A:158:LEU:HD13	0.62	1.69	13	1
1:A:26:LEU:HG	1:A:32:LYS:HE2	0.62	1.72	8	1
1:A:159:LYS:HG2	1:A:179:ALA:HA	0.62	1.70	18	1
1:A:43:LYS:HD3	1:A:94:MET:SD	0.62	2.34	13	1
1:A:43:LYS:HG3	1:A:94:MET:SD	0.62	2.34	19	1
1:A:158:LEU:HD23	1:A:178:LYS:HA	0.60	1.72	5	1
1:A:61:LEU:HB3	1:A:62:PRO:HD2	0.60	1.73	14	3
1:A:160:SER:HB2	1:A:176:VAL:HG12	0.60	1.71	9	4
1:A:153:ASN:HA	1:A:159:LYS:HG2	0.60	1.72	13	3
1:A:43:LYS:HD2	1:A:94:MET:SD	0.59	2.37	16	8
1:A:151:THR:HG23	1:A:161:ARG:HB3	0.59	1.73	6	3
1:A:14:LEU:HD21	1:A:70:ALA:CB	0.59	2.23	2	2
1:A:48:LEU:HD12	1:A:93:LEU:HD23	0.59	1.74	9	1
1:A:166:SER:HA	1:A:170:ALA:HB3	0.59	1.74	14	1
1:A:158:LEU:H	1:A:158:LEU:HD23	0.59	1.58	13	1
1:A:57:SER:HA	1:A:75:GLY:HA2	0.59	1.75	2	3
1:A:100:LEU:HG	1:A:121:ILE:HD13	0.59	1.75	3	11
1:A:147:ASN:ND2	1:A:165:ASN:HA	0.58	2.13	8	3
1:A:46:THR:HA	1:A:63:HIS:O	0.58	1.98	4	4
1:A:14:LEU:HD13	1:A:70:ALA:HB3	0.58	1.75	11	2
1:A:55:GLY:HA3	1:A:86:ALA:HA	0.58	1.73	8	2
1:A:151:THR:HG23	1:A:161:ARG:HG3	0.58	1.75	18	1
1:A:61:LEU:HB2	1:A:92:TYR:CE1	0.58	2.33	10	1
1:A:166:SER:HB3	1:A:170:ALA:HA	0.58	1.75	18	1
1:A:128:ALA:HB1	1:A:132:MET:SD	0.58	2.39	18	1
1:A:35:VAL:O	1:A:72:LEU:HA	0.58	1.99	2	9
1:A:90:LEU:HD12	1:A:92:TYR:HE1	0.58	1.59	11	4
1:A:165:ASN:HB3	1:A:171:ILE:CG1	0.57	2.29	7	10
1:A:48:LEU:HD22	1:A:93:LEU:HD23	0.57	1.75	17	2
1:A:27:GLY:HA3	1:A:32:LYS:HE2	0.57	1.74	4	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:26:LEU:HB3	1:A:32:LYS:HE2	0.57	1.76	6	2
1:A:103:LEU:O	1:A:117:TRP:HA	0.57	1.99	6	20
1:A:59:ILE:HG23	1:A:60:VAL:HG23	0.57	1.75	11	1
1:A:151:THR:HG22	1:A:159:LYS:HG2	0.57	1.76	5	2
1:A:34:ALA:HB3	1:A:171:ILE:HG23	0.57	1.76	11	1
1:A:76:GLN:O	1:A:77:LYS:HG3	0.57	1.99	1	1
1:A:48:LEU:HG	1:A:93:LEU:HD23	0.57	1.77	2	1
1:A:47:ALA:HA	1:A:61:LEU:HD21	0.56	1.77	17	1
1:A:91:ALA:HB1	1:A:99:THR:CG2	0.56	2.29	6	13
1:A:162:GLY:HA3	1:A:174:ILE:HG22	0.56	1.75	15	1
1:A:65:VAL:HG13	1:A:71:LEU:HD21	0.56	1.78	8	1
1:A:102:VAL:HG23	1:A:119:VAL:HG12	0.56	1.78	18	1
1:A:91:ALA:HB1	1:A:99:THR:HG21	0.56	1.78	19	4
1:A:90:LEU:HD21	1:A:102:VAL:HB	0.56	1.76	7	14
1:A:153:ASN:CB	1:A:159:LYS:HG2	0.56	2.31	9	2
1:A:38:ASP:HB3	1:A:175:HIS:HA	0.56	1.78	10	3
1:A:77:LYS:HG3	1:A:85:GLY:HA2	0.55	1.78	5	1
1:A:43:LYS:HD2	1:A:94:MET:CG	0.55	2.31	10	2
1:A:133:TYR:HB3	1:A:140:LEU:HB3	0.55	1.78	19	3
1:A:160:SER:OG	1:A:174:ILE:HG12	0.55	2.01	20	1
1:A:158:LEU:HD22	1:A:158:LEU:H	0.55	1.61	4	3
1:A:133:TYR:O	1:A:140:LEU:HG	0.55	2.01	5	1
1:A:163:PHE:HD1	1:A:164:MET:H	0.55	1.44	13	1
1:A:35:VAL:HB	1:A:73:TYR:CB	0.55	2.32	16	2
1:A:47:ALA:HB2	1:A:61:LEU:HD11	0.55	1.78	17	1
1:A:43:LYS:HD2	1:A:94:MET:HB3	0.54	1.79	4	1
1:A:61:LEU:HD12	1:A:62:PRO:HD2	0.54	1.78	10	2
1:A:48:LEU:HD23	1:A:93:LEU:HD12	0.54	1.80	12	1
1:A:89:VAL:HA	1:A:102:VAL:O	0.54	2.02	18	1
1:A:50:THR:HG22	1:A:90:LEU:HA	0.54	1.78	9	4
1:A:77:LYS:HE3	1:A:85:GLY:CA	0.54	2.26	4	1
1:A:121:ILE:HD12	1:A:156:TYR:HB2	0.54	1.78	6	1
1:A:77:LYS:HA	1:A:85:GLY:O	0.54	2.03	7	3
1:A:105:SER:HB3	1:A:116:TRP:HB2	0.54	1.78	16	4
1:A:153:ASN:CA	1:A:159:LYS:HG2	0.54	2.32	9	2
1:A:151:THR:HA	1:A:160:SER:O	0.54	2.02	2	10
1:A:53:ARG:HB3	1:A:87:VAL:CG1	0.54	2.32	19	2
1:A:157:GLY:O	1:A:179:ALA:HB2	0.54	2.03	2	5
1:A:23:LEU:HB2	1:A:32:LYS:HB3	0.54	1.80	1	1
1:A:32:LYS:NZ	1:A:32:LYS:HB2	0.54	2.18	12	2
1:A:33:ILE:HG12	1:A:106:VAL:HG21	0.53	1.80	8	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:106:VAL:HB	1:A:167:SER:HB3	0.53	1.79	20	1
1:A:23:LEU:O	1:A:32:LYS:HD3	0.53	2.02	1	2
1:A:62:PRO:HD2	1:A:73:TYR:HE1	0.53	1.63	12	1
1:A:61:LEU:H	1:A:61:LEU:CD1	0.53	2.15	13	1
1:A:149:TRP:CD1	1:A:162:GLY:HA2	0.53	2.39	16	2
1:A:98:ASN:HA	1:A:123:LYS:HA	0.53	1.80	15	3
1:A:61:LEU:HB2	1:A:62:PRO:CD	0.53	2.32	18	2
1:A:159:LYS:HE2	1:A:179:ALA:HA	0.53	1.81	20	1
1:A:104:PHE:CE1	1:A:172:LEU:HD21	0.53	2.38	14	1
1:A:59:ILE:HD12	1:A:60:VAL:HG13	0.53	1.79	19	1
1:A:44:THR:HB	1:A:64:LYS:HD2	0.53	1.80	2	1
1:A:159:LYS:HE3	1:A:179:ALA:HB1	0.53	1.81	7	1
1:A:48:LEU:HB2	1:A:93:LEU:HD22	0.53	1.81	14	1
1:A:65:VAL:HG22	1:A:71:LEU:HD21	0.52	1.80	2	2
1:A:33:ILE:HB	1:A:106:VAL:HG21	0.52	1.80	9	1
1:A:165:ASN:ND2	1:A:171:ILE:HG13	0.52	2.20	18	1
1:A:154:LEU:HD12	1:A:156:TYR:H	0.52	1.65	1	2
1:A:45:TRP:CZ2	1:A:100:LEU:HD13	0.52	2.38	16	8
1:A:37:VAL:O	1:A:70:ALA:HA	0.52	2.05	6	11
1:A:48:LEU:HD12	1:A:49:ASN:HD22	0.52	1.65	12	1
1:A:35:VAL:HG21	1:A:73:TYR:CE1	0.52	2.39	11	1
1:A:43:LYS:HE2	1:A:45:TRP:HE1	0.52	1.65	5	1
1:A:165:ASN:HB3	1:A:171:ILE:HG12	0.52	1.80	7	6
1:A:77:LYS:CG	1:A:85:GLY:HA2	0.52	2.35	5	1
1:A:48:LEU:HD13	1:A:93:LEU:HD21	0.52	1.81	7	2
1:A:14:LEU:HD21	1:A:72:LEU:HB3	0.52	1.81	11	1
1:A:166:SER:CA	1:A:170:ALA:HB3	0.51	2.35	14	1
1:A:147:ASN:HD22	1:A:147:ASN:N	0.51	2.03	9	5
1:A:151:THR:HB	1:A:161:ARG:CB	0.51	2.35	2	1
1:A:47:ALA:H	1:A:63:HIS:HA	0.51	1.66	16	1
1:A:154:LEU:HG	1:A:158:LEU:O	0.51	2.05	2	2
1:A:77:LYS:HG3	1:A:85:GLY:CA	0.51	2.36	5	1
1:A:90:LEU:HD12	1:A:92:TYR:CE1	0.51	2.41	11	3
1:A:116:TRP:HB3	1:A:142:PRO:CB	0.51	2.35	17	2
1:A:164:MET:SD	1:A:172:LEU:HG	0.51	2.45	10	2
1:A:147:ASN:N	1:A:147:ASN:ND2	0.51	2.59	9	1
1:A:72:LEU:H	1:A:72:LEU:HD23	0.51	1.66	11	1
1:A:164:MET:HB2	1:A:172:LEU:HD12	0.51	1.82	15	1
1:A:123:LYS:H	1:A:123:LYS:HD2	0.51	1.64	20	1
1:A:158:LEU:HB3	1:A:177:THR:O	0.51	2.06	17	3
1:A:46:THR:O	1:A:93:LEU:HD13	0.51	2.04	12	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:61:LEU:HD23	1:A:90:LEU:HB2	0.50	1.82	2	1
1:A:140:LEU:HD23	1:A:142:PRO:HD3	0.50	1.83	7	1
1:A:129:ASP:H	1:A:132:MET:HB2	0.50	1.65	17	2
1:A:45:TRP:O	1:A:64:LYS:HD3	0.50	2.07	2	1
1:A:40:GLU:HA	1:A:40:GLU:OE1	0.50	2.06	15	2
1:A:32:LYS:HG3	1:A:75:GLY:O	0.50	2.07	12	1
1:A:116:TRP:CD1	1:A:144:ARG:HA	0.50	2.41	15	1
1:A:45:TRP:CH2	1:A:100:LEU:HD13	0.50	2.42	2	3
1:A:77:LYS:HG3	1:A:85:GLY:C	0.50	2.28	5	1
1:A:54:SER:OG	1:A:84:THR:HB	0.50	2.07	7	4
1:A:140:LEU:H	1:A:140:LEU:HD13	0.50	1.66	18	1
1:A:41:SER:HB3	1:A:43:LYS:HZ2	0.49	1.67	12	1
1:A:94:MET:HB3	1:A:98:ASN:HB3	0.49	1.84	15	1
1:A:163:PHE:HB3	1:A:173:GLU:HB3	0.49	1.82	20	1
1:A:38:ASP:OD1	1:A:70:ALA:HB2	0.49	2.06	4	3
1:A:117:TRP:HD1	1:A:164:MET:SD	0.49	2.29	15	1
1:A:18:ILE:O	1:A:22:VAL:HG23	0.49	2.08	15	9
1:A:94:MET:SD	1:A:100:LEU:HB2	0.49	2.47	4	2
1:A:33:ILE:HG12	1:A:104:PHE:CE2	0.49	2.42	11	1
1:A:62:PRO:HG3	1:A:71:LEU:HD11	0.49	1.84	14	1
1:A:106:VAL:HG22	1:A:115:ASN:OD1	0.49	2.08	4	1
1:A:117:TRP:HZ2	1:A:150:HIS:HD2	0.49	1.51	6	1
1:A:119:VAL:HG21	1:A:154:LEU:HD22	0.49	1.85	9	1
1:A:31:ARG:NH1	1:A:168:GLY:HA2	0.49	2.22	19	1
1:A:159:LYS:HD2	1:A:179:ALA:HA	0.49	1.84	12	1
1:A:127:ARG:NH1	1:A:127:ARG:HB2	0.49	2.22	8	1
1:A:158:LEU:CD1	1:A:178:LYS:HA	0.49	2.38	12	2
1:A:52:PHE:HA	1:A:88:GLY:HA3	0.49	1.85	10	2
1:A:154:LEU:HD21	1:A:158:LEU:HB2	0.49	1.83	6	3
1:A:117:TRP:HZ2	1:A:150:HIS:CD2	0.49	2.26	6	1
1:A:71:LEU:HB3	1:A:73:TYR:HE1	0.49	1.68	8	1
1:A:166:SER:CB	1:A:170:ALA:HB3	0.49	2.38	14	1
1:A:77:LYS:N	1:A:77:LYS:HD2	0.49	2.23	5	1
1:A:15:SER:O	1:A:18:ILE:HG22	0.49	2.07	15	4
1:A:41:SER:HA	1:A:158:LEU:HD22	0.49	1.84	9	1
1:A:35:VAL:HG11	1:A:73:TYR:CE2	0.49	2.42	11	1
1:A:106:VAL:HG21	1:A:168:GLY:CA	0.49	2.38	20	1
1:A:72:LEU:HD22	1:A:72:LEU:O	0.49	2.07	2	1
1:A:23:LEU:HD23	1:A:34:ALA:HB2	0.48	1.85	19	3
1:A:131:ARG:HD2	1:A:131:ARG:H	0.48	1.68	11	1
1:A:53:ARG:CD	1:A:130:GLN:HB3	0.48	2.38	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:160:SER:OG	1:A:174:ILE:HG13	0.48	2.08	17	1
1:A:23:LEU:HD22	1:A:24:GLU:N	0.48	2.24	1	1
1:A:84:THR:HA	1:A:108:TYR:CD1	0.48	2.43	20	1
1:A:26:LEU:HB3	1:A:32:LYS:CE	0.48	2.38	6	1
1:A:76:GLN:C	1:A:77:LYS:HD2	0.48	2.29	5	1
1:A:130:GLN:OE1	1:A:131:ARG:HD3	0.48	2.09	6	1
1:A:55:GLY:HA2	1:A:77:LYS:O	0.48	2.09	10	1
1:A:33:ILE:HG12	1:A:104:PHE:CZ	0.48	2.44	11	1
1:A:50:THR:HG21	1:A:61:LEU:HB3	0.48	1.86	13	1
1:A:87:VAL:HA	1:A:104:PHE:O	0.48	2.09	20	2
1:A:141:SER:H	1:A:142:PRO:HD3	0.48	1.68	4	1
1:A:145:GLY:HA3	1:A:164:MET:HB3	0.48	1.86	13	1
1:A:54:SER:HB3	1:A:87:VAL:N	0.47	2.24	7	1
1:A:14:LEU:H	1:A:14:LEU:HD23	0.47	1.68	8	2
1:A:140:LEU:HD13	1:A:142:PRO:HD3	0.47	1.86	9	1
1:A:140:LEU:HD12	1:A:140:LEU:O	0.47	2.10	13	1
1:A:158:LEU:HB2	1:A:177:THR:O	0.47	2.08	13	1
1:A:162:GLY:HA3	1:A:173:GLU:O	0.47	2.08	17	3
1:A:129:ASP:O	1:A:132:MET:HG2	0.47	2.09	18	1
1:A:160:SER:HB3	1:A:176:VAL:HG12	0.47	1.85	4	2
1:A:90:LEU:HD12	1:A:92:TYR:CE2	0.47	2.44	10	1
1:A:104:PHE:CE2	1:A:172:LEU:HD22	0.47	2.44	13	3
1:A:23:LEU:HD21	1:A:32:LYS:HB3	0.47	1.86	18	1
1:A:26:LEU:HB3	1:A:32:LYS:NZ	0.47	2.25	19	2
1:A:72:LEU:HD13	1:A:72:LEU:N	0.47	2.24	9	4
1:A:87:VAL:HG22	1:A:105:SER:HA	0.47	1.86	2	4
1:A:26:LEU:HD12	1:A:32:LYS:HZ1	0.47	1.70	5	1
1:A:39:ASN:HA	1:A:176:VAL:CG2	0.47	2.40	11	2
1:A:61:LEU:HG	1:A:92:TYR:OH	0.47	2.10	18	1
1:A:47:ALA:HA	1:A:92:TYR:CD2	0.47	2.44	18	1
1:A:33:ILE:HD12	1:A:33:ILE:N	0.47	2.25	20	1
1:A:169:HIS:CD2	1:A:169:HIS:H	0.47	2.28	20	1
1:A:61:LEU:HD13	1:A:71:LEU:HD11	0.46	1.87	18	1
1:A:132:MET:HG3	1:A:133:TYR:H	0.46	1.70	18	1
1:A:121:ILE:HD11	1:A:154:LEU:HD22	0.46	1.85	13	1
1:A:23:LEU:HG	1:A:169:HIS:HB3	0.46	1.85	15	1
1:A:104:PHE:CE1	1:A:172:LEU:HD22	0.46	2.45	15	1
1:A:140:LEU:H	1:A:140:LEU:CD1	0.46	2.24	18	1
1:A:103:LEU:HD23	1:A:142:PRO:HB3	0.46	1.86	12	2
1:A:64:LYS:HD3	1:A:64:LYS:H	0.46	1.70	13	1
1:A:85:GLY:HA3	1:A:106:VAL:O	0.46	2.09	6	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:23:LEU:HD21	1:A:169:HIS:CB	0.46	2.38	9	1
1:A:30:LYS:O	1:A:31:ARG:HD3	0.46	2.11	13	1
1:A:160:SER:HB3	1:A:174:ILE:HD11	0.46	1.88	19	1
1:A:14:LEU:HD21	1:A:38:ASP:OD1	0.46	2.10	5	1
1:A:16:PHE:CE1	1:A:171:ILE:HD12	0.46	2.46	11	1
1:A:14:LEU:H	1:A:14:LEU:CD1	0.46	2.21	16	1
1:A:23:LEU:H	1:A:23:LEU:HD13	0.46	1.70	1	1
1:A:104:PHE:CE2	1:A:172:LEU:HG	0.46	2.30	4	1
1:A:47:ALA:CB	1:A:61:LEU:HB3	0.46	2.37	10	1
1:A:116:TRP:HA	1:A:143:PHE:O	0.46	2.11	20	1
1:A:141:SER:N	1:A:142:PRO:HD3	0.46	2.26	4	1
1:A:33:ILE:HD11	1:A:106:VAL:HG11	0.46	1.88	14	2
1:A:132:MET:HA	1:A:132:MET:CE	0.45	2.41	2	1
1:A:152:ARG:O	1:A:152:ARG:HD3	0.45	2.11	19	1
1:A:16:PHE:O	1:A:20:LYS:HG3	0.45	2.12	1	2
1:A:26:LEU:HG	1:A:74:ASN:ND2	0.45	2.26	1	1
1:A:107:PRO:HG2	1:A:114:SER:H	0.45	1.72	19	1
1:A:90:LEU:HD23	1:A:90:LEU:H	0.45	1.72	3	1
1:A:90:LEU:CD2	1:A:102:VAL:HB	0.45	2.40	10	5
1:A:11:GLY:H	1:A:69:LYS:HA	0.45	1.71	19	1
1:A:9:ILE:HD12	1:A:14:LEU:HB3	0.45	1.88	13	1
1:A:31:ARG:HH21	1:A:77:LYS:HB3	0.45	1.72	14	1
1:A:23:LEU:HG	1:A:32:LYS:CD	0.45	2.41	4	1
1:A:9:ILE:HB	1:A:13:SER:HB2	0.45	1.88	10	1
1:A:71:LEU:HD12	1:A:71:LEU:O	0.45	2.12	10	1
1:A:116:TRP:HB3	1:A:142:PRO:HB3	0.45	1.89	15	1
1:A:58:ASP:O	1:A:60:VAL:N	0.45	2.49	9	2
1:A:140:LEU:CD1	1:A:140:LEU:H	0.45	2.25	12	1
1:A:23:LEU:HG	1:A:32:LYS:HD3	0.45	1.89	4	1
1:A:9:ILE:HB	1:A:13:SER:HB3	0.45	1.88	12	1
1:A:77:LYS:HD3	1:A:108:TYR:CD2	0.45	2.47	15	1
1:A:116:TRP:HB3	1:A:142:PRO:HG2	0.45	1.89	17	1
1:A:77:LYS:HZ1	1:A:108:TYR:HD1	0.44	1.55	4	2
1:A:43:LYS:HG3	1:A:45:TRP:HE1	0.44	1.71	11	2
1:A:65:VAL:HG11	1:A:71:LEU:HD22	0.44	1.89	9	1
1:A:54:SER:HB3	1:A:87:VAL:H	0.44	1.72	6	1
1:A:52:PHE:CD2	1:A:88:GLY:HA3	0.44	2.47	14	2
1:A:121:ILE:HD11	1:A:154:LEU:HD13	0.44	1.88	8	1
1:A:42:GLY:HA2	1:A:67:HIS:CB	0.44	2.41	17	1
1:A:132:MET:HG3	1:A:133:TYR:N	0.44	2.27	18	1
1:A:31:ARG:CZ	1:A:108:TYR:HA	0.44	2.41	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:39:ASN:HD21	1:A:71:LEU:HD23	0.44	1.72	15	1
1:A:106:VAL:HG21	1:A:168:GLY:N	0.44	2.28	20	1
1:A:159:LYS:HG3	1:A:179:ALA:CB	0.44	2.43	9	1
1:A:62:PRO:HG2	1:A:71:LEU:HD22	0.44	1.89	2	1
1:A:154:LEU:HD12	1:A:155:GLY:N	0.44	2.27	2	1
1:A:115:ASN:HB3	1:A:164:MET:HE1	0.44	1.88	4	1
1:A:152:ARG:HH11	1:A:152:ARG:HB2	0.44	1.72	2	1
1:A:9:ILE:N	1:A:9:ILE:HD13	0.44	2.28	11	3
1:A:9:ILE:HD13	1:A:9:ILE:N	0.44	2.26	15	2
1:A:62:PRO:HG2	1:A:71:LEU:HD11	0.44	1.89	17	1
1:A:59:ILE:HD12	1:A:59:ILE:H	0.44	1.72	8	1
1:A:11:GLY:HA2	1:A:14:LEU:HD21	0.44	1.90	13	1
1:A:147:ASN:CG	1:A:165:ASN:HB2	0.44	2.32	19	1
1:A:15:SER:HB2	1:A:18:ILE:HD13	0.44	1.89	1	1
1:A:33:ILE:HG23	1:A:104:PHE:CZ	0.43	2.48	1	1
1:A:58:ASP:O	1:A:59:ILE:HG22	0.43	2.13	11	1
1:A:30:LYS:N	1:A:30:LYS:HD2	0.43	2.28	15	1
1:A:149:TRP:HA	1:A:162:GLY:O	0.43	2.12	15	1
1:A:77:LYS:HE2	1:A:84:THR:O	0.43	2.12	1	1
1:A:52:PHE:HA	1:A:88:GLY:HA2	0.43	1.89	5	3
1:A:33:ILE:HG13	1:A:75:GLY:H	0.43	1.73	18	1
1:A:91:ALA:HA	1:A:100:LEU:O	0.43	2.13	8	3
1:A:31:ARG:HD2	1:A:168:GLY:O	0.43	2.13	4	1
1:A:43:LYS:HB2	1:A:94:MET:SD	0.43	2.53	13	1
1:A:40:GLU:O	1:A:177:THR:HA	0.43	2.13	12	1
1:A:90:LEU:O	1:A:101:ALA:HA	0.43	2.14	8	2
1:A:149:TRP:N	1:A:163:PHE:HD2	0.43	2.12	10	1
1:A:36:GLY:HA2	1:A:71:LEU:O	0.43	2.12	15	2
1:A:160:SER:OG	1:A:174:ILE:HB	0.43	2.14	10	2
1:A:105:SER:O	1:A:115:ASN:HA	0.43	2.13	4	3
1:A:40:GLU:HG3	1:A:68:GLY:HA2	0.43	1.88	5	1
1:A:151:THR:CG2	1:A:159:LYS:HG2	0.43	2.43	5	1
1:A:115:ASN:O	1:A:144:ARG:HA	0.43	2.13	14	2
1:A:55:GLY:HA2	1:A:77:LYS:HA	0.43	1.91	8	1
1:A:77:LYS:C	1:A:77:LYS:HD2	0.43	2.33	13	1
1:A:140:LEU:HG	1:A:141:SER:H	0.43	1.73	16	1
1:A:9:ILE:HB	1:A:70:ALA:HB3	0.43	1.91	9	1
1:A:129:ASP:CG	1:A:130:GLN:H	0.43	2.17	9	1
1:A:31:ARG:HB2	1:A:77:LYS:HD2	0.43	1.89	4	1
1:A:151:THR:HG23	1:A:161:ARG:CB	0.43	2.44	8	1
1:A:163:PHE:CD1	1:A:164:MET:N	0.43	2.87	10	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:41:SER:OG	1:A:155:GLY:HA3	0.43	2.14	17	1
1:A:123:LYS:HG3	1:A:125:LYS:HG2	0.42	1.90	2	1
1:A:100:LEU:HD11	1:A:154:LEU:HD22	0.42	1.91	19	1
1:A:121:ILE:HD12	1:A:121:ILE:H	0.42	1.74	14	1
1:A:19:LEU:HB3	1:A:171:ILE:HG21	0.42	1.91	20	1
1:A:106:VAL:HB	1:A:167:SER:CB	0.42	2.44	20	1
1:A:26:LEU:HB3	1:A:32:LYS:HZ3	0.42	1.74	5	2
1:A:123:LYS:HB2	1:A:123:LYS:NZ	0.42	2.29	2	1
1:A:41:SER:HB3	1:A:43:LYS:NZ	0.42	2.29	12	1
1:A:53:ARG:CD	1:A:130:GLN:HB2	0.42	2.44	2	1
1:A:29:VAL:HG22	1:A:30:LYS:N	0.42	2.27	17	2
1:A:50:THR:HG21	1:A:61:LEU:HD11	0.42	1.91	11	1
1:A:62:PRO:HD2	1:A:73:TYR:CE1	0.42	2.48	12	1
1:A:32:LYS:H	1:A:169:HIS:HA	0.42	1.75	20	1
1:A:140:LEU:HD13	1:A:141:SER:N	0.42	2.29	20	1
1:A:165:ASN:O	1:A:170:ALA:HA	0.42	2.14	7	1
1:A:158:LEU:HG	1:A:178:LYS:HA	0.42	1.90	9	1
1:A:31:ARG:NE	1:A:108:TYR:HA	0.42	2.30	9	1
1:A:115:ASN:ND2	1:A:166:SER:HA	0.42	2.27	10	1
1:A:61:LEU:HD13	1:A:92:TYR:CE2	0.42	2.49	17	1
1:A:129:ASP:OD2	1:A:130:GLN:HG2	0.42	2.15	9	1
1:A:41:SER:OG	1:A:43:LYS:HE2	0.42	2.15	10	1
1:A:151:THR:CG2	1:A:161:ARG:HG2	0.42	2.44	10	1
1:A:120:ARG:HB3	1:A:122:TYR:HE1	0.41	1.75	5	1
1:A:145:GLY:HA3	1:A:164:MET:SD	0.41	2.55	8	2
1:A:9:ILE:HG21	1:A:14:LEU:HB3	0.41	1.92	9	1
1:A:93:LEU:HD22	1:A:93:LEU:O	0.41	2.15	12	1
1:A:103:LEU:HD22	1:A:104:PHE:H	0.41	1.74	6	1
1:A:61:LEU:CD1	1:A:62:PRO:HD2	0.41	2.45	10	1
1:A:163:PHE:HD1	1:A:164:MET:N	0.41	2.13	13	1
1:A:77:LYS:HE2	1:A:108:TYR:HE1	0.41	1.75	7	1
1:A:15:SER:H	1:A:18:ILE:HG22	0.41	1.75	14	1
1:A:14:LEU:HD13	1:A:14:LEU:N	0.41	2.27	16	1
1:A:63:HIS:O	1:A:64:LYS:HG3	0.41	2.16	19	2
1:A:9:ILE:HG13	1:A:13:SER:HB2	0.41	1.92	4	1
1:A:26:LEU:CB	1:A:32:LYS:HE2	0.41	2.46	7	1
1:A:172:LEU:HG	1:A:174:ILE:HG22	0.41	1.91	13	1
1:A:39:ASN:HA	1:A:176:VAL:CG1	0.41	2.46	19	1
1:A:23:LEU:HD11	1:A:32:LYS:HB3	0.41	1.91	13	1
1:A:143:PHE:O	1:A:144:ARG:HB2	0.41	2.16	9	1
1:A:54:SER:CB	1:A:84:THR:HB	0.41	2.44	2	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:158:LEU:H	1:A:158:LEU:HD22	0.41	1.76	7	3
1:A:71:LEU:HB2	1:A:73:TYR:CE2	0.41	2.51	12	1
1:A:93:LEU:HA	1:A:98:ASN:O	0.41	2.16	12	1
1:A:160:SER:HA	1:A:175:HIS:O	0.41	2.16	6	1
1:A:89:VAL:HG21	1:A:132:MET:CE	0.41	2.45	4	1
1:A:23:LEU:CD2	1:A:169:HIS:HB3	0.41	2.43	9	1
1:A:26:LEU:HB3	1:A:32:LYS:HD2	0.41	1.92	10	1
1:A:93:LEU:HD13	1:A:93:LEU:H	0.41	1.76	12	1
1:A:160:SER:CB	1:A:174:ILE:HD11	0.41	2.45	19	1
1:A:115:ASN:OD1	1:A:166:SER:HA	0.41	2.16	2	1
1:A:9:ILE:H	1:A:9:ILE:CD1	0.41	2.25	7	1
1:A:151:THR:OG1	1:A:161:ARG:HG3	0.41	2.15	17	1
1:A:64:LYS:O	1:A:66:PRO:HD3	0.40	2.15	10	1
1:A:63:HIS:HD2	1:A:64:LYS:HG2	0.40	1.75	17	1
1:A:31:ARG:NH2	1:A:108:TYR:HD1	0.40	2.14	9	1
1:A:55:GLY:H	1:A:86:ALA:HA	0.40	1.77	10	1
1:A:105:SER:HB3	1:A:116:TRP:HE3	0.40	1.75	11	1
1:A:14:LEU:HD21	1:A:70:ALA:HB1	0.40	1.92	12	1
1:A:153:ASN:N	1:A:153:ASN:HD22	0.40	2.14	12	1
1:A:117:TRP:CD1	1:A:164:MET:SD	0.40	3.14	15	1
1:A:162:GLY:HA3	1:A:174:ILE:CA	0.40	2.38	19	1
1:A:23:LEU:HD13	1:A:32:LYS:HD2	0.40	1.93	3	1
1:A:33:ILE:CG1	1:A:106:VAL:HG21	0.40	2.46	8	1
1:A:77:LYS:HD3	1:A:77:LYS:H	0.40	1.77	6	1
1:A:72:LEU:H	1:A:72:LEU:CD1	0.40	2.25	14	1
1:A:48:LEU:HB3	1:A:91:ALA:O	0.40	2.16	18	1
1:A:40:GLU:OE1	1:A:67:HIS:HB2	0.40	2.16	20	1
1:A:42:GLY:H	1:A:67:HIS:HB3	0.40	1.76	8	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	154/179 (86%)	125±4 (81±2%)	22±4 (14±2%)	6±2 (4±1%)	5	30

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	3080/3580 (86%)	2508 (81%)	443 (14%)	129 (4%)	5	30

All 36 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	147	ASN	18
1	A	95	SER	14
1	A	97	GLY	9
1	A	166	SER	7
1	A	66	PRO	7
1	A	168	GLY	6
1	A	126	ARG	5
1	A	63	HIS	5
1	A	59	ILE	5
1	A	58	ASP	4
1	A	12	ALA	4
1	A	57	SER	4
1	A	145	GLY	4
1	A	157	GLY	4
1	A	129	ASP	3
1	A	127	ARG	3
1	A	62	PRO	3
1	A	42	GLY	2
1	A	163	PHE	2
1	A	148	GLY	2
1	A	84	THR	2
1	A	125	LYS	2
1	A	77	LYS	1
1	A	143	PHE	1
1	A	144	ARG	1
1	A	107	PRO	1
1	A	141	SER	1
1	A	29	VAL	1
1	A	30	LYS	1
1	A	124	GLY	1
1	A	28	ASN	1
1	A	41	SER	1
1	A	170	ALA	1
1	A	9	ILE	1
1	A	133	TYR	1
1	A	167	SER	1

6.3.2 Protein sidechains

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	127/145 (88%)	116±4 (91±3%)	11±4 (9±3%)	13	60
All	All	2540/2900 (88%)	2311 (91%)	229 (9%)	13	60

All 63 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	150	HIS	18
1	A	9	ILE	17
1	A	93	LEU	15
1	A	90	LEU	10
1	A	26	LEU	8
1	A	14	LEU	7
1	A	61	LEU	7
1	A	143	PHE	7
1	A	163	PHE	7
1	A	140	LEU	7
1	A	51	TYR	6
1	A	10	ASP	5
1	A	23	LEU	5
1	A	77	LYS	5
1	A	153	ASN	5
1	A	67	HIS	5
1	A	84	THR	4
1	A	127	ARG	4
1	A	152	ARG	4
1	A	72	LEU	4
1	A	131	ARG	4
1	A	31	ARG	4
1	A	32	LYS	3
1	A	123	LYS	3
1	A	149	TRP	3
1	A	151	THR	3
1	A	43	LYS	3
1	A	74	ASN	3
1	A	92	TYR	3

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Mol	Chain	Res	Type	Models (Total)
1	A	178	LYS	3
1	A	73	TYR	3
1	A	48	LEU	2
1	A	99	THR	2
1	A	59	ILE	2
1	A	132	MET	2
1	A	50	THR	2
1	A	53	ARG	2
1	A	64	LYS	2
1	A	66	PRO	2
1	A	169	HIS	2
1	A	30	LYS	2
1	A	161	ARG	2
1	A	133	TYR	2
1	A	56	THR	1
1	A	122	TYR	1
1	A	28	ASN	1
1	A	17	ASP	1
1	A	33	ILE	1
1	A	71	LEU	1
1	A	100	LEU	1
1	A	147	ASN	1
1	A	129	ASP	1
1	A	171	ILE	1
1	A	40	GLU	1
1	A	63	HIS	1
1	A	130	GLN	1
1	A	102	VAL	1
1	A	125	LYS	1
1	A	165	ASN	1
1	A	39	ASN	1
1	A	154	LEU	1
1	A	46	THR	1
1	A	58	ASP	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