



Full wwPDB NMR Structure Validation Report ⓘ

Mar 8, 2026 – 04:16 PM UTC

PDB ID : 2KXW / pdb_00002kxw
Title : Structure of the C-domain Fragment of apo Calmodulin Bound to the IQ motif of Nav1.2
Authors : Feldkamp, M.D.; Yu, L.; Shea, M.A.
Deposited on : 2010-05-13

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 types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

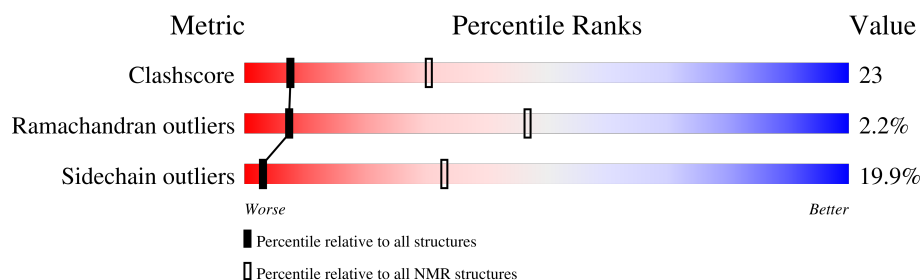
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

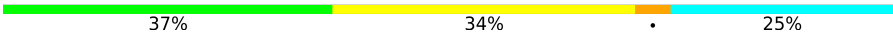
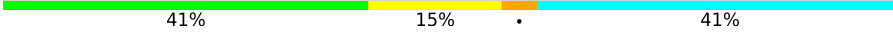
The overall completeness of chemical shifts assignment was not calculated.

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	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

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	73	
2	B	27	

2 Ensemble composition and analysis

This entry contains 21 models. Model 6 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *energy 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:81-A:92, A:98-A:129, A:136-A:146, B:1905- B:1920 (71)	0.25	6

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

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

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

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

3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 1651 atoms, of which 828 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Calmodulin.

Mol	Chain	Residues	Atoms						Trace
1	A	73	Total	C	H	N	O	S	0
			1142	358	556	97	126	5	

- Molecule 2 is a protein called Sodium channel protein type 2 subunit alpha.

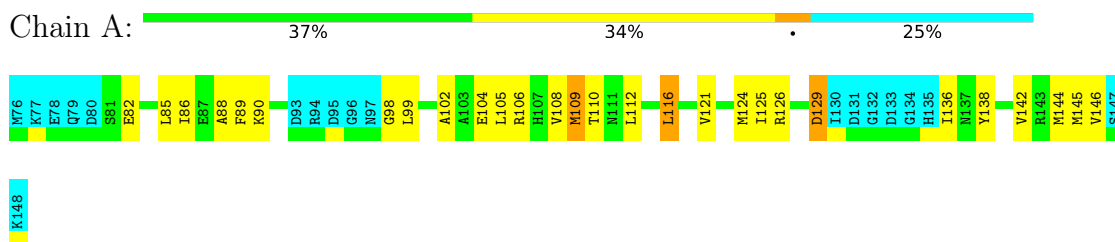
Mol	Chain	Residues	Atoms					Trace
2	B	27	Total	C	H	N	O	0
			509	151	272	48	38	

4 Residue-property plots

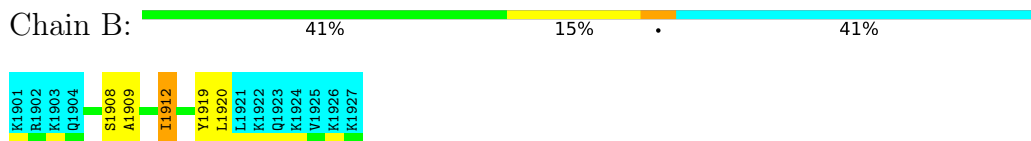
4.1 Average score per residue in the NMR ensemble

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: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha

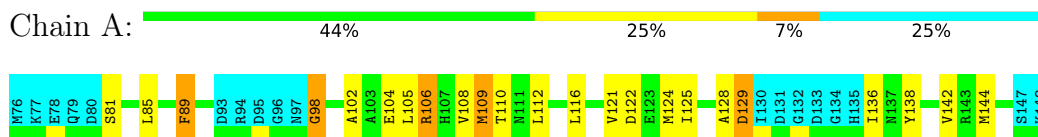


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

- Molecule 1: Calmodulin



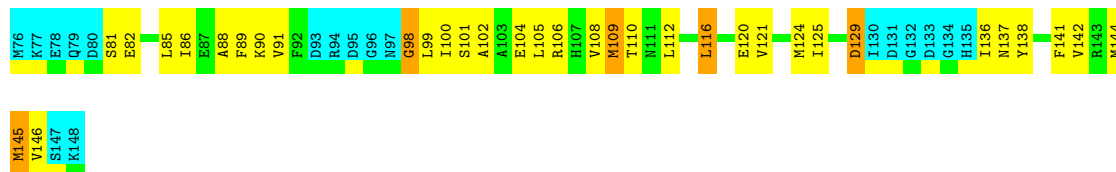
- Molecule 2: Sodium channel protein type 2 subunit alpha



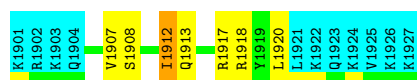
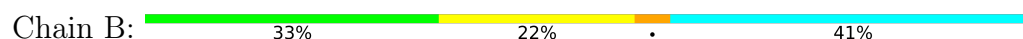


4.2.2 Score per residue for model 2

- Molecule 1: Calmodulin

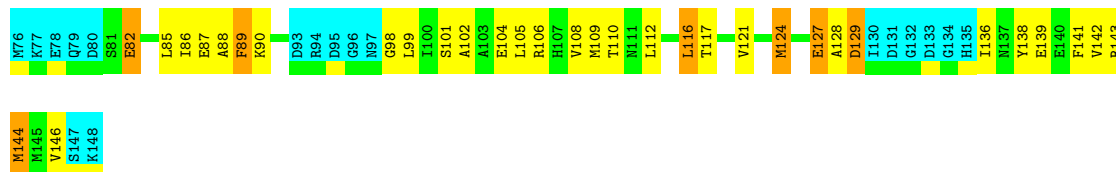


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.3 Score per residue for model 3

- Molecule 1: Calmodulin



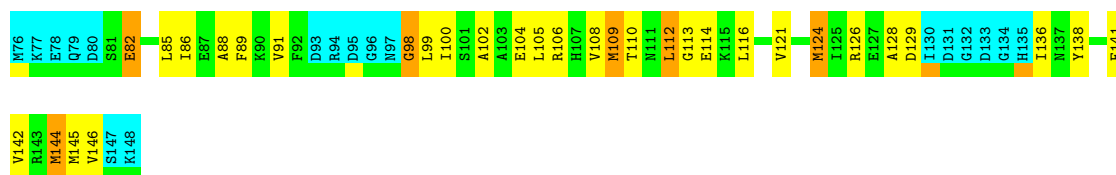
- Molecule 2: Sodium channel protein type 2 subunit alpha



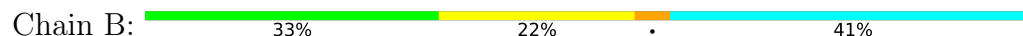
4.2.4 Score per residue for model 4

- Molecule 1: Calmodulin



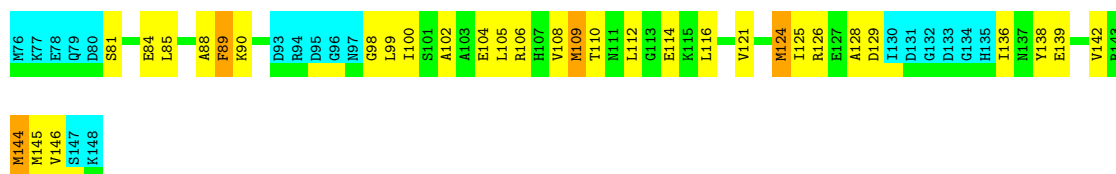


- Molecule 2: Sodium channel protein type 2 subunit alpha

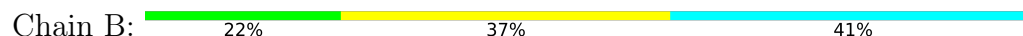


4.2.5 Score per residue for model 5

- Molecule 1: Calmodulin

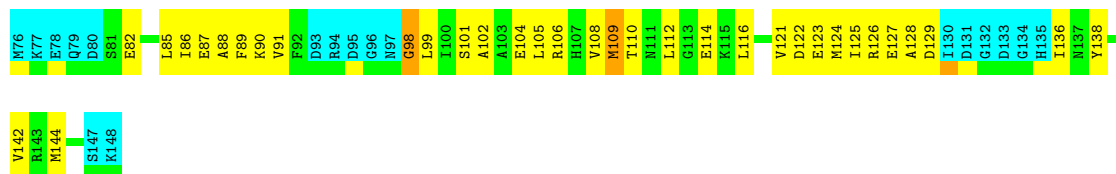
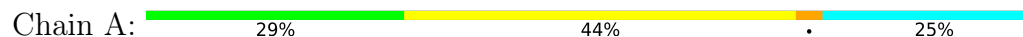


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.6 Score per residue for model 6 (medoid)

- Molecule 1: Calmodulin



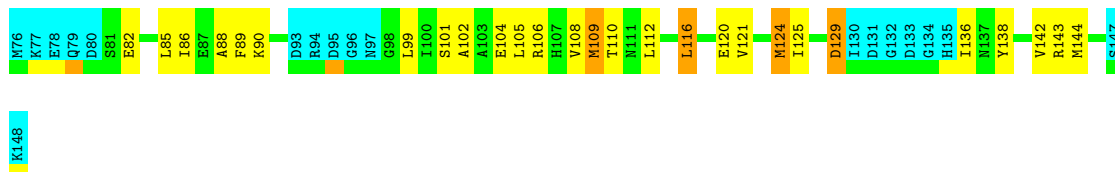
- Molecule 2: Sodium channel protein type 2 subunit alpha



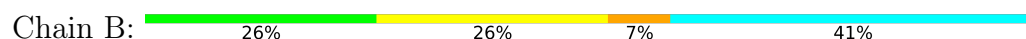


4.2.7 Score per residue for model 7

- Molecule 1: Calmodulin

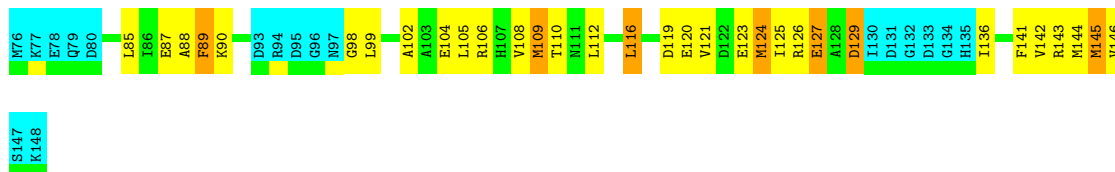


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.8 Score per residue for model 8

- Molecule 1: Calmodulin



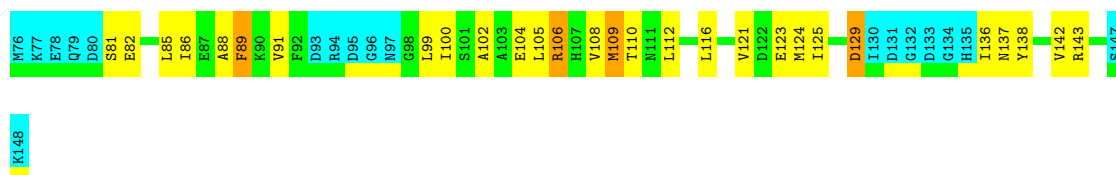
- Molecule 2: Sodium channel protein type 2 subunit alpha



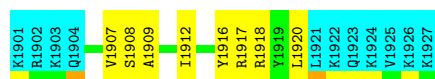
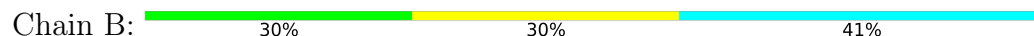
4.2.9 Score per residue for model 9

- Molecule 1: Calmodulin



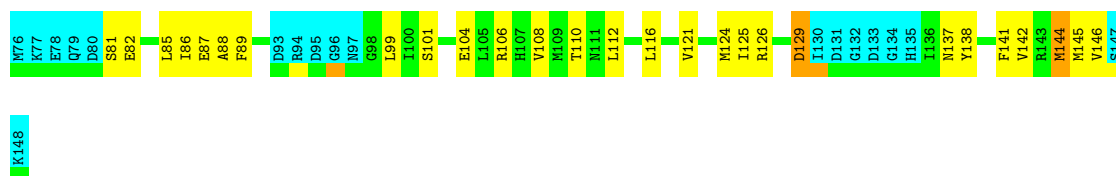


- Molecule 2: Sodium channel protein type 2 subunit alpha

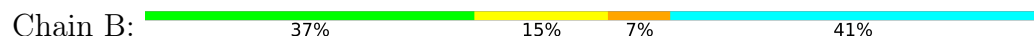


4.2.10 Score per residue for model 10

- Molecule 1: Calmodulin

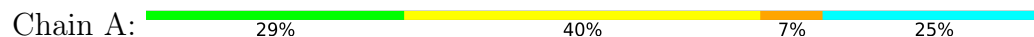


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.11 Score per residue for model 11

- Molecule 1: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha





4.2.12 Score per residue for model 12

- Molecule 1: Calmodulin

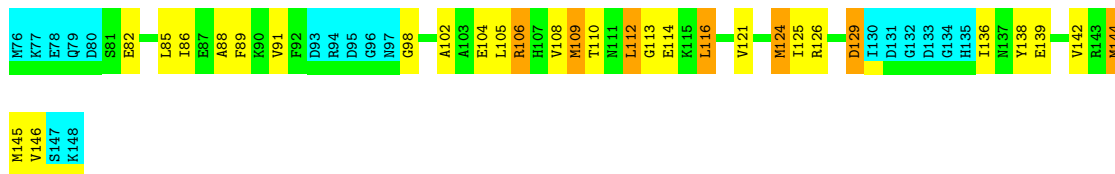


- Molecule 2: Sodium channel protein type 2 subunit alpha

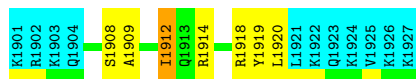
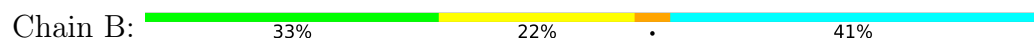


4.2.13 Score per residue for model 13

- Molecule 1: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.14 Score per residue for model 14

- Molecule 1: Calmodulin



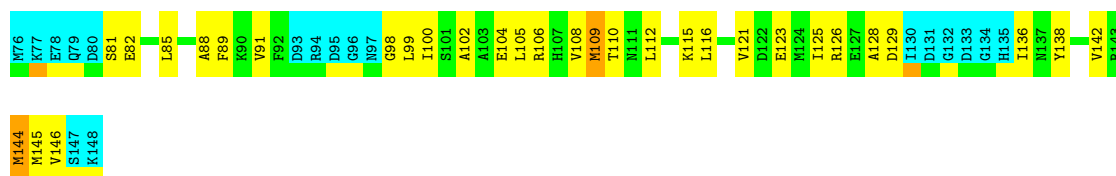


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.15 Score per residue for model 15

- Molecule 1: Calmodulin

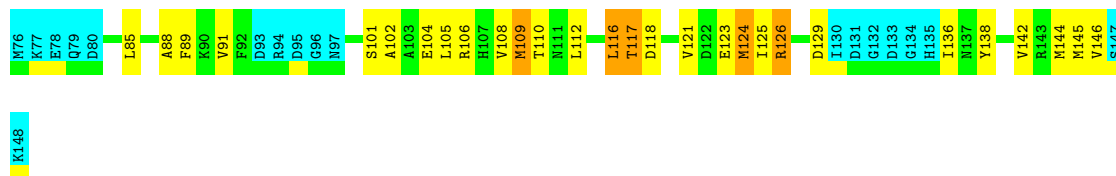
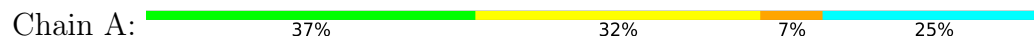


- Molecule 2: Sodium channel protein type 2 subunit alpha



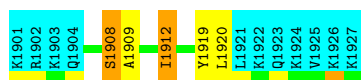
4.2.16 Score per residue for model 16

- Molecule 1: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha





4.2.17 Score per residue for model 17

- Molecule 1: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.18 Score per residue for model 18

- Molecule 1: Calmodulin



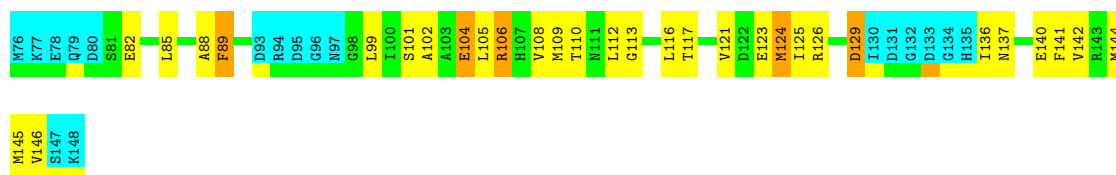
- Molecule 2: Sodium channel protein type 2 subunit alpha



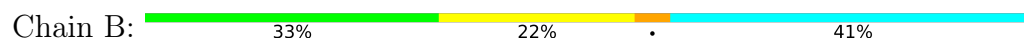
4.2.19 Score per residue for model 19

- Molecule 1: Calmodulin



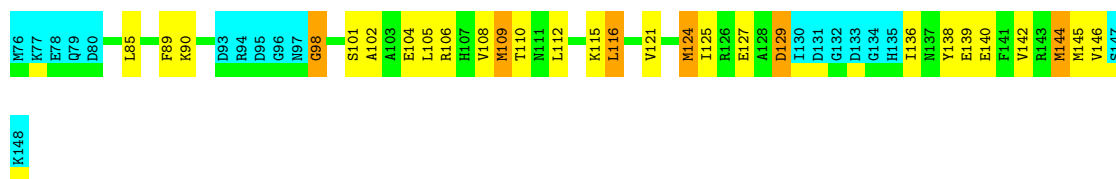


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.20 Score per residue for model 20

- Molecule 1: Calmodulin

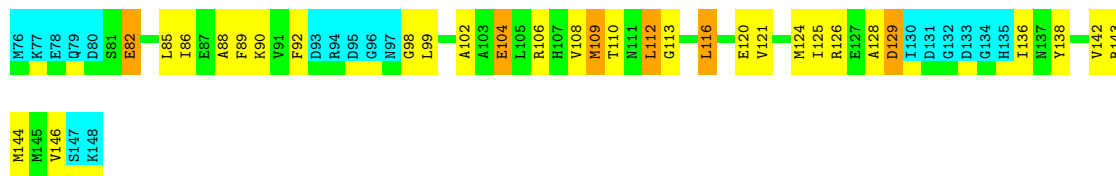
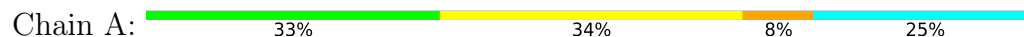


- Molecule 2: Sodium channel protein type 2 subunit alpha



4.2.21 Score per residue for model 21

- Molecule 1: Calmodulin



- Molecule 2: Sodium channel protein type 2 subunit alpha



K1901	S1908	L1921
R1902	A1909	K1922
K1903	I1912	Q1923
Q1904	R1917	K1924
		V1925
		K1926
		K1927

5 Refinement protocol and experimental data overview

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

Of the 300 calculated structures, 21 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	1.2
CNS	refinement	1.2

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	446	433	432	26±4
2	B	138	143	143	9±2
All	All	12264	12096	12075	558

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 23.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:85:LEU:HD23	1:A:142:VAL:HG23	1.02	1.30	11	12
1:A:124:MET:HE2	2:B:1916:TYR:CZ	0.87	2.04	4	2
1:A:102:ALA:HB2	1:A:136:ILE:HD11	0.86	1.44	16	20
1:A:104:GLU:O	1:A:108:VAL:HG23	0.78	1.78	4	21
1:A:142:VAL:O	1:A:146:VAL:HG22	0.77	1.78	2	12
1:A:121:VAL:HG23	1:A:124:MET:HE2	0.75	1.56	11	7
2:B:1910:ILE:HD13	2:B:1910:ILE:O	0.74	1.83	18	3
1:A:91:VAL:HG21	2:B:1908:SER:OG	0.71	1.85	2	8
1:A:112:LEU:HD21	2:B:1909:ALA:CB	0.71	2.16	4	4
1:A:89:PHE:CD2	2:B:1912:ILE:HD11	0.70	2.21	9	12
1:A:144:MET:HE1	2:B:1919:TYR:OH	0.70	1.86	1	9
1:A:105:LEU:HD21	1:A:124:MET:HE1	0.70	1.64	16	5
1:A:85:LEU:HD23	1:A:142:VAL:CG2	0.69	2.14	11	10

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:142:VAL:O	1:A:146:VAL:HG12	0.69	1.88	15	4
1:A:89:PHE:CG	2:B:1912:ILE:HD11	0.68	2.23	3	20
1:A:138:TYR:O	1:A:142:VAL:HG12	0.68	1.89	3	19
1:A:85:LEU:HD11	1:A:89:PHE:CE2	0.68	2.24	15	11
1:A:85:LEU:HD12	2:B:1912:ILE:CG1	0.66	2.20	5	9
1:A:105:LEU:CD1	1:A:109:MET:HE2	0.66	2.20	16	1
1:A:106:ARG:HA	1:A:121:VAL:HG21	0.66	1.67	3	19
1:A:99:LEU:HD11	1:A:137:ASN:ND2	0.66	2.05	17	1
1:A:121:VAL:O	1:A:125:ILE:HG23	0.66	1.91	5	15
1:A:98:GLY:C	1:A:99:LEU:HD12	0.65	2.17	6	2
1:A:116:LEU:HD13	1:A:121:VAL:HG22	0.64	1.69	14	1
1:A:144:MET:HE3	1:A:145:MET:CA	0.64	2.22	18	3
1:A:116:LEU:HD22	1:A:121:VAL:HG23	0.63	1.71	14	1
1:A:91:VAL:HG21	2:B:1908:SER:CB	0.63	2.23	16	1
1:A:102:ALA:HB2	1:A:136:ILE:CD1	0.63	2.22	1	8
1:A:124:MET:HE2	1:A:125:ILE:CG2	0.63	2.24	13	2
2:B:1907:VAL:O	2:B:1910:ILE:HG22	0.62	1.94	18	3
1:A:112:LEU:HD11	2:B:1909:ALA:HB3	0.62	1.71	4	4
1:A:102:ALA:HB1	1:A:125:ILE:HD12	0.61	1.73	2	1
1:A:108:VAL:O	1:A:112:LEU:HD23	0.61	1.96	12	6
1:A:100:ILE:HD11	1:A:105:LEU:HD13	0.61	1.71	5	4
1:A:88:ALA:CB	2:B:1912:ILE:HD12	0.59	2.26	17	7
1:A:105:LEU:CD1	1:A:109:MET:HE3	0.59	2.28	3	2
1:A:112:LEU:HD12	1:A:113:GLY:N	0.59	2.13	12	7
1:A:88:ALA:HB1	2:B:1908:SER:O	0.59	1.98	15	18
1:A:124:MET:HE2	2:B:1916:TYR:CE2	0.58	2.32	4	2
1:A:105:LEU:HD11	1:A:109:MET:SD	0.57	2.40	5	12
1:A:85:LEU:HD12	2:B:1912:ILE:HG13	0.57	1.76	5	8
1:A:116:LEU:HD22	1:A:121:VAL:CG2	0.56	2.30	14	1
1:A:85:LEU:C	1:A:85:LEU:HD13	0.56	2.25	16	9
1:A:99:LEU:HD23	1:A:137:ASN:OD1	0.55	2.01	19	1
1:A:127:GLU:HG2	1:A:144:MET:HE1	0.55	1.78	8	2
1:A:144:MET:HE3	1:A:145:MET:HA	0.55	1.79	10	3
1:A:84:GLU:OE2	2:B:1915:ALA:HB2	0.55	2.01	5	1
1:A:99:LEU:HD23	1:A:137:ASN:N	0.54	2.18	9	3
1:A:82:GLU:CG	1:A:86:ILE:HD11	0.53	2.32	11	2
1:A:85:LEU:HD21	1:A:89:PHE:CE2	0.53	2.39	13	9
1:A:89:PHE:CE2	2:B:1912:ILE:HD11	0.53	2.39	1	1
1:A:112:LEU:HD11	2:B:1909:ALA:CB	0.53	2.33	4	4
1:A:82:GLU:HG3	1:A:86:ILE:HD11	0.52	1.81	3	2
1:A:86:ILE:HG22	1:A:90:LYS:HE2	0.52	1.80	17	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:106:ARG:O	1:A:110:THR:HG23	0.52	2.05	21	21
1:A:88:ALA:HB3	2:B:1912:ILE:HD12	0.52	1.81	17	5
1:A:112:LEU:HD12	1:A:112:LEU:C	0.52	2.29	11	4
1:A:141:PHE:CZ	1:A:145:MET:HE1	0.52	2.40	18	2
1:A:105:LEU:HD11	1:A:109:MET:HE3	0.52	1.82	3	2
1:A:141:PHE:CE2	1:A:145:MET:HE2	0.52	2.40	8	1
1:A:112:LEU:CD1	2:B:1909:ALA:HB3	0.51	2.35	13	4
1:A:85:LEU:HD21	1:A:89:PHE:CD2	0.51	2.40	19	4
1:A:144:MET:HE3	1:A:145:MET:N	0.50	2.22	18	2
1:A:106:ARG:HG3	1:A:121:VAL:HG11	0.50	1.84	7	3
1:A:106:ARG:HA	1:A:121:VAL:HG11	0.49	1.83	14	1
1:A:99:LEU:HD11	1:A:137:ASN:CG	0.49	2.33	17	1
2:B:1909:ALA:O	2:B:1912:ILE:HG22	0.48	2.08	5	8
1:A:124:MET:HE2	1:A:125:ILE:HG23	0.48	1.84	13	2
1:A:110:THR:HG22	1:A:116:LEU:O	0.47	2.09	20	9
1:A:100:ILE:CD1	1:A:105:LEU:HD13	0.47	2.40	9	5
1:A:128:ALA:HB1	1:A:136:ILE:CG2	0.47	2.40	3	5
1:A:116:LEU:HD21	1:A:120:GLU:OE2	0.47	2.09	11	1
1:A:105:LEU:HD21	1:A:124:MET:SD	0.46	2.51	3	1
1:A:124:MET:CG	1:A:141:PHE:CZ	0.46	2.98	4	2
1:A:144:MET:HE1	2:B:1919:TYR:CZ	0.46	2.45	4	1
1:A:105:LEU:HD11	1:A:109:MET:HE2	0.46	1.88	16	1
1:A:141:PHE:CE2	1:A:145:MET:CE	0.46	2.99	11	4
1:A:98:GLY:CA	1:A:138:TYR:CZ	0.46	2.99	3	11
1:A:85:LEU:HD11	1:A:89:PHE:CD2	0.46	2.46	3	2
1:A:82:GLU:OE1	1:A:146:VAL:HG21	0.46	2.10	13	1
1:A:109:MET:HE1	2:B:1912:ILE:HG21	0.45	1.88	21	3
1:A:144:MET:CE	2:B:1919:TYR:CE1	0.45	3.00	19	5
1:A:82:GLU:HG3	1:A:146:VAL:HG11	0.45	1.88	14	1
1:A:112:LEU:C	1:A:112:LEU:HD12	0.45	2.36	10	2
1:A:99:LEU:HD12	1:A:99:LEU:N	0.45	2.27	6	1
1:A:141:PHE:CZ	1:A:145:MET:CE	0.45	3.00	2	3
1:A:85:LEU:HD23	1:A:142:VAL:CB	0.45	2.42	20	2
1:A:107:HIS:CD2	1:A:111:ASN:ND2	0.45	2.85	11	1
1:A:112:LEU:HD11	2:B:1909:ALA:HB1	0.45	1.88	1	1
1:A:124:MET:CE	2:B:1916:TYR:CZ	0.45	3.00	1	2
1:A:98:GLY:CA	1:A:138:TYR:CE2	0.45	3.00	15	4
1:A:116:LEU:HD23	1:A:117:THR:N	0.45	2.27	16	2
1:A:112:LEU:CD1	2:B:1909:ALA:HB1	0.45	2.42	16	1
1:A:82:GLU:O	1:A:86:ILE:HD12	0.44	2.12	7	11
1:A:129:ASP:HB2	1:A:136:ILE:HG23	0.44	1.89	8	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:109:MET:HE2	2:B:1909:ALA:HB1	0.44	1.88	20	1
1:A:99:LEU:HD23	1:A:137:ASN:CA	0.44	2.43	9	1
1:A:145:MET:CG	2:B:1919:TYR:CD1	0.44	3.01	11	2
2:B:1910:ILE:HD13	2:B:1910:ILE:C	0.44	2.37	18	1
1:A:124:MET:HG2	1:A:141:PHE:CZ	0.43	2.48	3	2
1:A:124:MET:HE2	1:A:125:ILE:HG22	0.43	1.90	8	2
1:A:112:LEU:HD21	2:B:1909:ALA:HB1	0.43	1.90	18	1
1:A:116:LEU:HD21	1:A:120:GLU:OE1	0.42	2.14	21	1
2:B:1907:VAL:HG13	2:B:1908:SER:N	0.42	2.29	2	1
1:A:85:LEU:CD2	2:B:1912:ILE:CG1	0.42	2.98	17	8
1:A:89:PHE:CG	2:B:1912:ILE:CD1	0.42	3.02	9	3
1:A:112:LEU:CD2	2:B:1909:ALA:CB	0.42	2.98	3	12
1:A:124:MET:O	1:A:128:ALA:HB2	0.42	2.14	4	1
1:A:109:MET:HB3	1:A:116:LEU:HD13	0.42	1.91	13	1
2:B:1911:VAL:HG13	2:B:1912:ILE:N	0.41	2.29	1	2
1:A:89:PHE:CE1	1:A:100:ILE:HD13	0.41	2.50	5	1
1:A:128:ALA:CB	1:A:136:ILE:HG21	0.41	2.45	3	3
1:A:128:ALA:HB2	1:A:141:PHE:CD1	0.41	2.50	11	1
1:A:109:MET:HE2	2:B:1909:ALA:CB	0.41	2.46	20	1
1:A:102:ALA:CB	1:A:136:ILE:HD11	0.41	2.35	21	1
1:A:85:LEU:CD1	2:B:1912:ILE:CG1	0.41	2.99	10	5
1:A:128:ALA:CB	1:A:136:ILE:CG2	0.41	2.98	15	3
2:B:1906:GLU:O	2:B:1909:ALA:HB3	0.41	2.15	5	1
1:A:85:LEU:HD12	1:A:142:VAL:HB	0.40	1.91	12	1
1:A:98:GLY:HA2	1:A:138:TYR:CE2	0.40	2.51	5	2
1:A:92:PHE:CZ	2:B:1908:SER:OG	0.40	2.75	21	1
1:A:105:LEU:CD2	1:A:124:MET:HE1	0.40	2.46	20	1

6.3 Torsion angles ⓘ

6.3.1 Protein backbone ⓘ

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	55/73 (75%)	50±1 (90±1%)	4±1 (7±2%)	2±0 (3±1%)	5	39
2	B	16/27 (59%)	16±1 (97±4%)	0±1 (3±4%)	0±0 (0±0%)	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	1491/2100 (71%)	1368 (92%)	90 (6%)	33 (2%)	7	47

All 2 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	129	ASP	21
1	A	98	GLY	12

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	49/64 (77%)	39±2 (81±4%)	10±2 (19±4%)	3	34
2	B	14/25 (56%)	11±2 (79±11%)	3±2 (21±11%)	3	31
All	All	1323/1869 (71%)	1060 (80%)	263 (20%)	3	33

All 40 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	116	LEU	21
1	A	144	MET	16
1	A	109	MET	14
2	B	1912	ILE	14
1	A	90	LYS	13
1	A	124	MET	12
1	A	126	ARG	12
1	A	129	ASP	11
2	B	1920	LEU	11
1	A	101	SER	10
1	A	145	MET	8
2	B	1914	ARG	8
1	A	81	SER	7
1	A	89	PHE	7
2	B	1918	ARG	7

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Mol	Chain	Res	Type	Models (Total)
2	B	1913	GLN	6
1	A	82	GLU	6
1	A	127	GLU	6
1	A	123	GLU	6
1	A	106	ARG	5
2	B	1917	ARG	5
1	A	87	GLU	5
1	A	139	GLU	5
1	A	143	ARG	5
1	A	112	LEU	4
1	A	114	GLU	4
2	B	1908	SER	4
1	A	115	LYS	4
1	A	120	GLU	3
2	B	1906	GLU	3
2	B	1910	ILE	3
1	A	104	GLU	3
1	A	140	GLU	3
1	A	122	ASP	2
2	B	1905	GLU	2
1	A	99	LEU	2
1	A	137	ASN	2
1	A	117	THR	2
1	A	119	ASP	1
1	A	118	ASP	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 oligosaccharides 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