Full wwPDB NMR Structure Validation Report (i)

Mar 3, 2022 – 01:06 PM EST

PDB ID	:	2HKY
Title	:	NMR solution structure of human RNase 7
Authors	:	Huang, Y.-C.; Chen, C.; Lou, Y.-C.
Deposited on	:	2006-07-06

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:

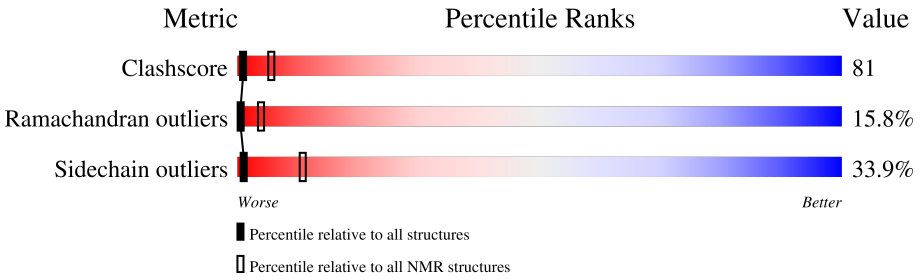
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	2.27
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
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	129	14% 43% 37%

2 Ensemble composition and analysis

This entry contains 15 models. Model 15 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

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

Well-defined (core) protein residues			
Well-defined core	**Residue range (total)**	**Backbone RMSD (Å)**	**Medoid model**
1	A:5-A:128 (124)	0.16	15

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 5 single-model clusters were found.

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

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 2062 atoms, of which 1039 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Ribonuclease 7.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	129	2062	637	1039	192	181	13	0

There is a discrepancy between the modelled and reference sequences:

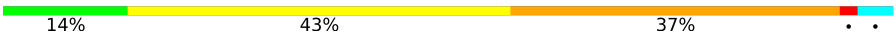
Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	cloning artifact	UNP Q9H1E1

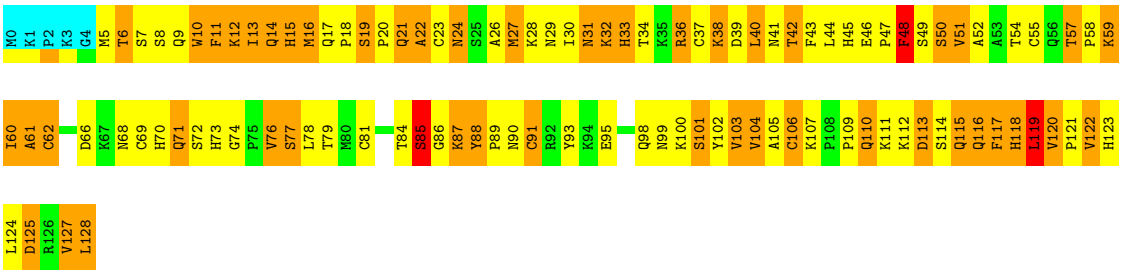
4 Residue-property plots (i)

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: Ribonuclease 7

Chain A: 



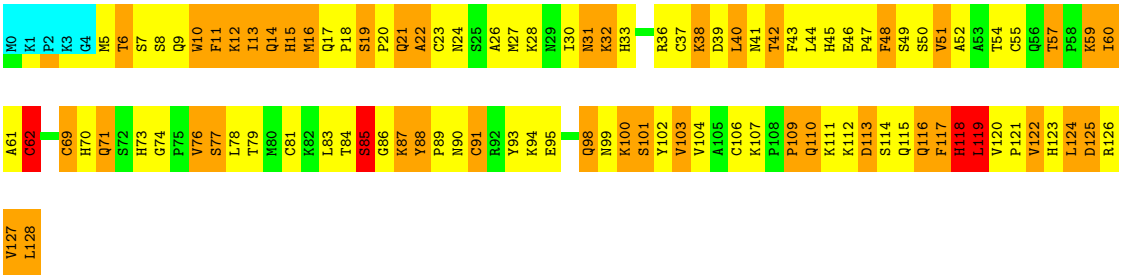
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

• Molecule 1: Ribonuclease 7

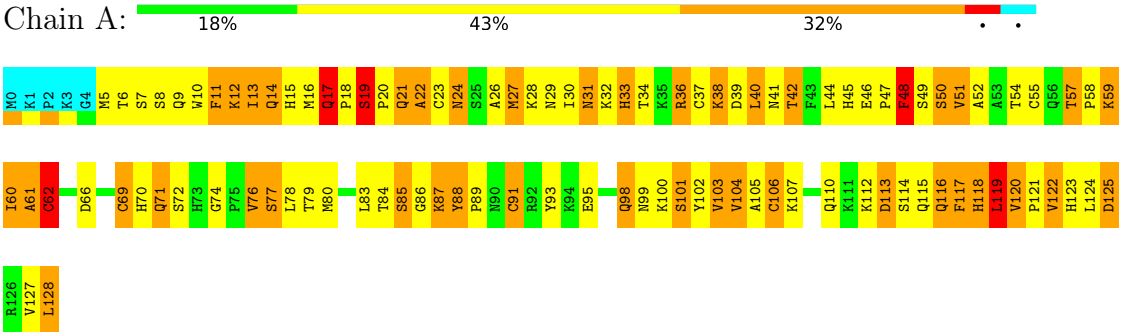
Chain A: 



4.2.2 Score per residue for model 2

• Molecule 1: Ribonuclease 7

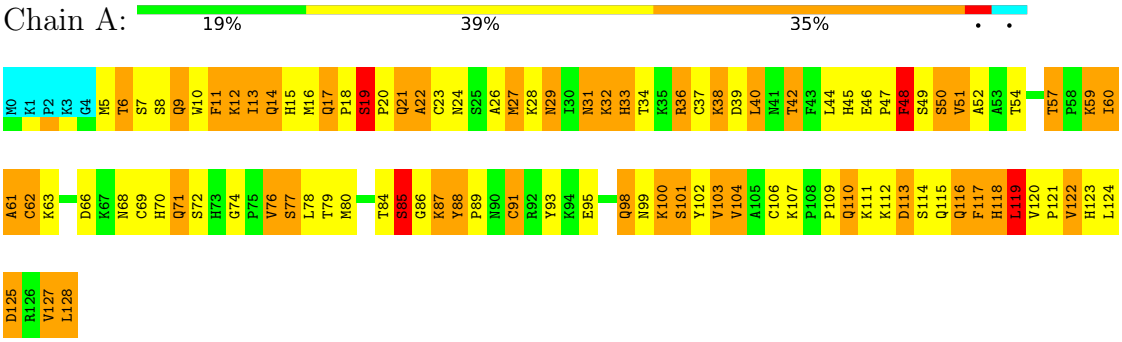
Chain A:



4.2.3 Score per residue for model 3

• Molecule 1: Ribonuclease 7

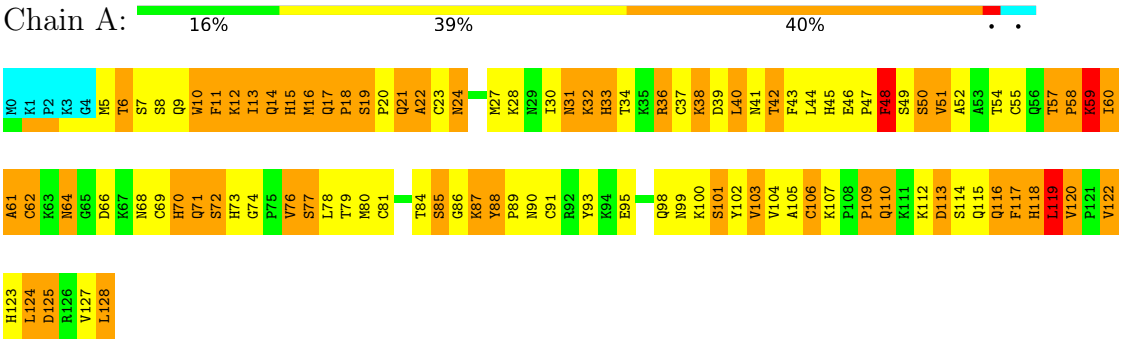
Chain A:



4.2.4 Score per residue for model 4

• Molecule 1: Ribonuclease 7

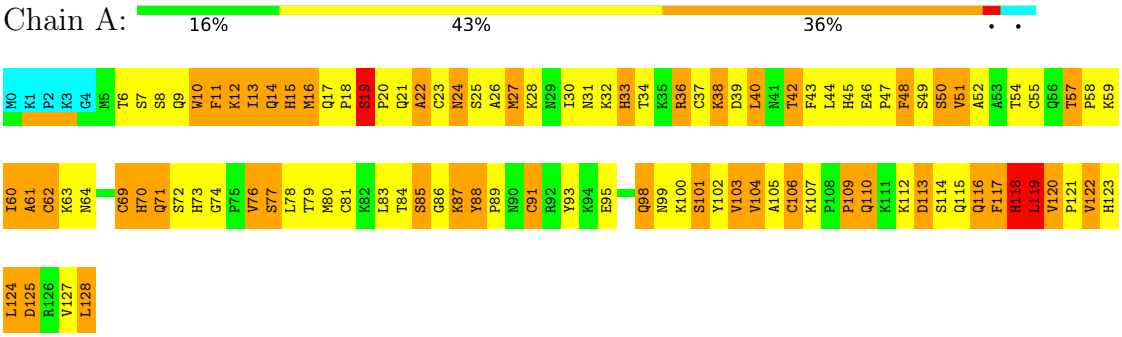
Chain A:



4.2.5 Score per residue for model 5

• Molecule 1: Ribonuclease 7

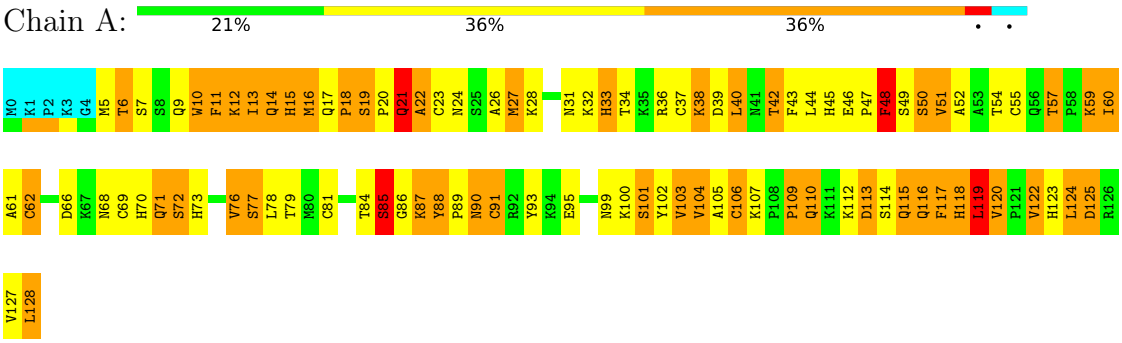
Chain A:



4.2.6 Score per residue for model 6

• Molecule 1: Ribonuclease 7

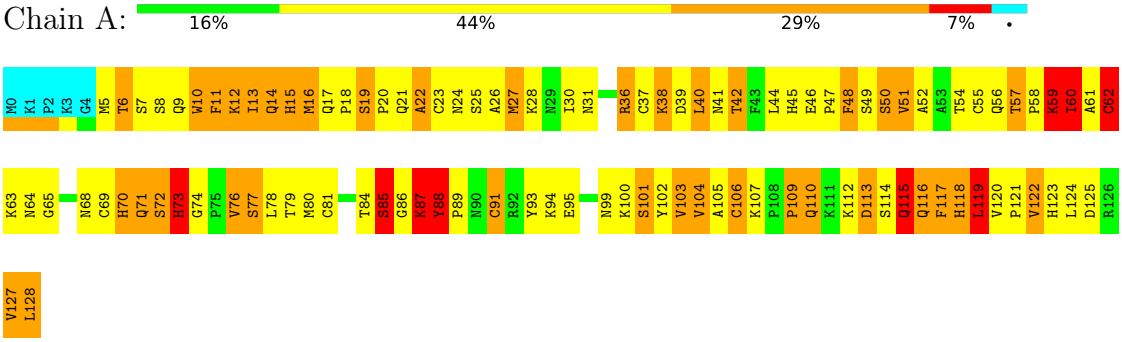
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: Ribonuclease 7

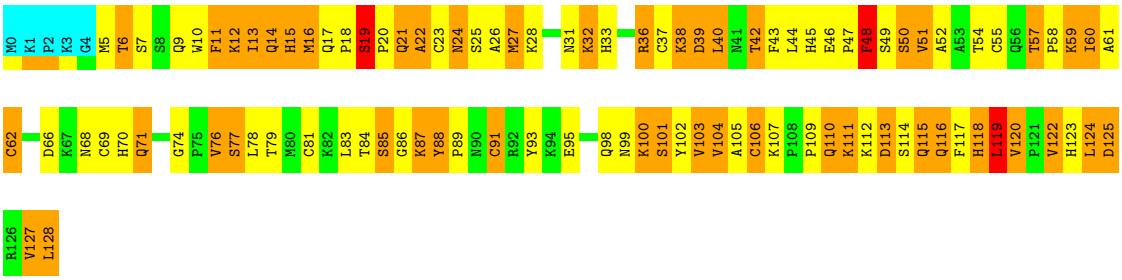
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: Ribonuclease 7

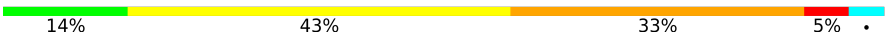
Chain A:

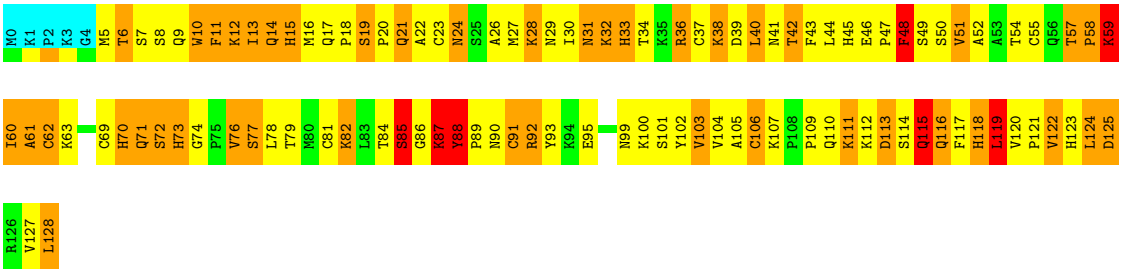


4.2.9 Score per residue for model 9

• Molecule 1: Ribonuclease 7

Chain A:

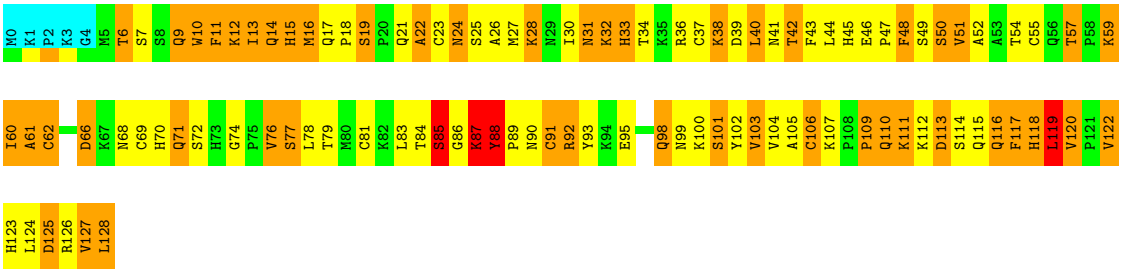




4.2.10 Score per residue for model 10

• Molecule 1: Ribonuclease 7

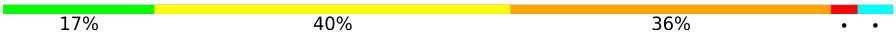
Chain A:

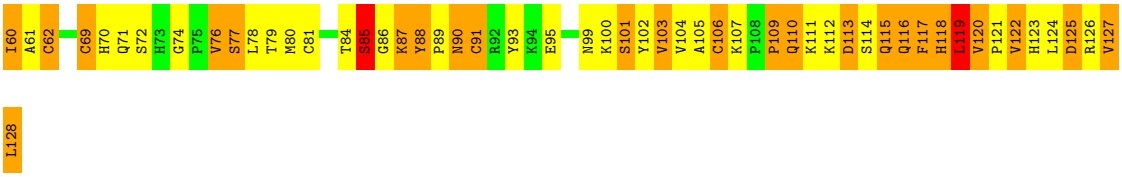


4.2.11 Score per residue for model 11

• Molecule 1: Ribonuclease 7

Chain A:

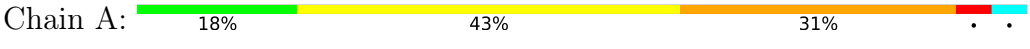


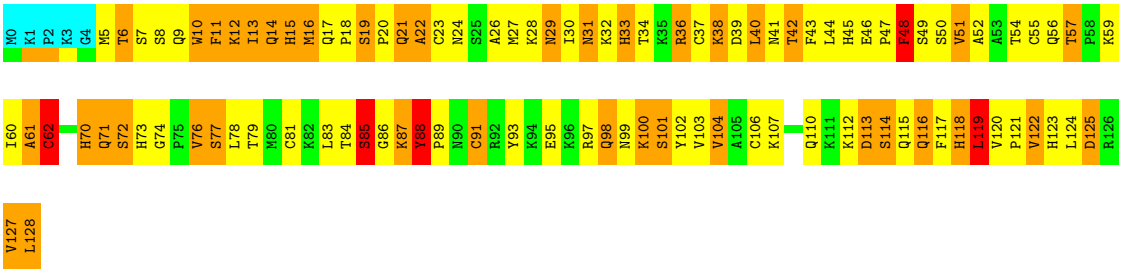


4.2.12 Score per residue for model 12

• Molecule 1: Ribonuclease 7

Chain A:

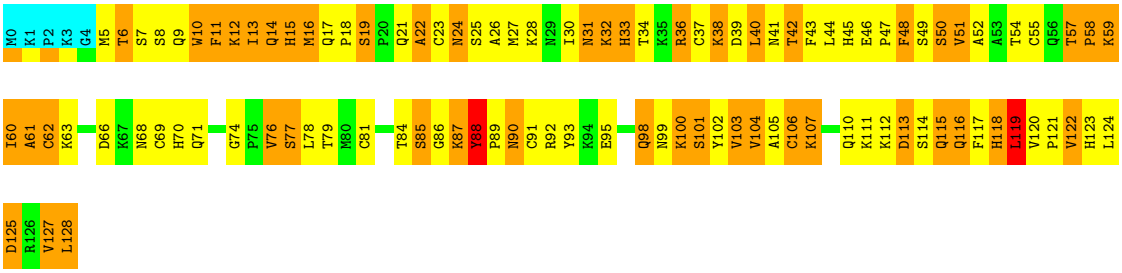




4.2.13 Score per residue for model 13

• Molecule 1: Ribonuclease 7

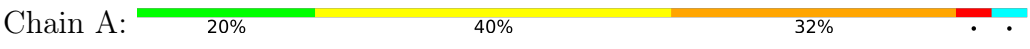
Chain A:



4.2.14 Score per residue for model 14

• Molecule 1: Ribonuclease 7

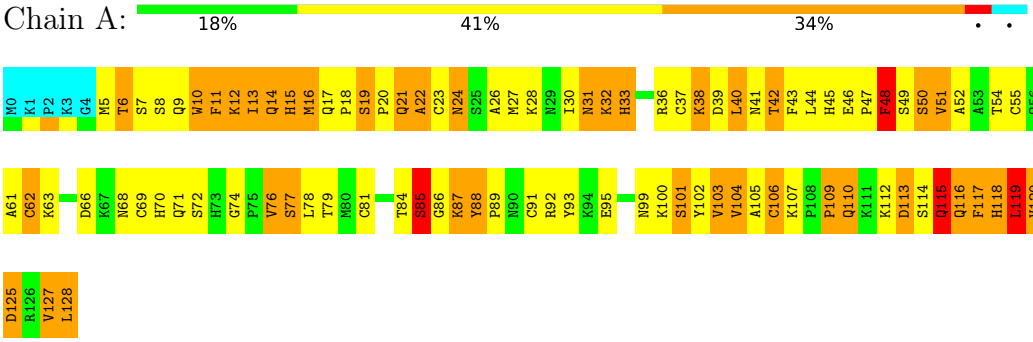
Chain A:



4.2.15 Score per residue for model 15 (medoid)

- Molecule 1: Ribonuclease 7

Chain A:



5 Refinement protocol and experimental data overview

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

Of the 100 calculated structures, 15 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
X-PLOR	structure solution	2.9.4a
X-PLOR	refinement	2.9.4a

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	986	992	985	159±11
All	All	14790	14880	14775	2387

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 81.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:76:VAL:HG11	1:A:102:TYR:CE2	0.99	1.92	12	15
1:A:119:LEU:C	1:A:119:LEU:HD13	0.88	1.87	1	15
1:A:62:CYS:SG	1:A:69:CYS:N	0.87	2.47	8	8
1:A:122:VAL:HG22	1:A:123:HIS:N	0.87	1.85	9	15
1:A:37:CYS:SG	1:A:88:TYR:O	0.85	2.35	15	3
1:A:57:THR:HG23	1:A:70:HIS:ND1	0.83	1.88	12	1
1:A:107:LYS:O	1:A:120:VAL:HG22	0.83	1.74	14	15
1:A:44:LEU:HD22	1:A:102:TYR:CD2	0.81	2.10	3	15
1:A:48:PHE:O	1:A:52:ALA:HB2	0.80	1.76	2	15
1:A:44:LEU:HD13	1:A:102:TYR:CE2	0.80	2.11	11	15
1:A:11:PHE:CG	1:A:122:VAL:O	0.79	2.36	14	15
1:A:17:GLN:N	1:A:18:PRO:CD	0.79	2.45	6	15
1:A:37:CYS:O	1:A:39:ASP:N	0.78	2.16	13	15
1:A:33:HIS:CD2	1:A:34:THR:HG23	0.78	2.14	2	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:17:GLN:O	1:A:19:SER:N	0.77	2.18	4	2
1:A:44:LEU:HD13	1:A:102:TYR:CZ	0.77	2.14	7	15
1:A:106:CYS:SG	1:A:119:LEU:HD22	0.77	2.20	1	1
1:A:119:LEU:HD22	1:A:119:LEU:O	0.76	1.80	12	15
1:A:24:ASN:ND2	1:A:24:ASN:H	0.76	1.79	10	4
1:A:48:PHE:N	1:A:48:PHE:CD1	0.75	2.54	3	11
1:A:60:ILE:O	1:A:62:CYS:N	0.74	2.20	5	14
1:A:27:MET:SD	1:A:93:TYR:CE2	0.72	2.82	7	1
1:A:70:HIS:NE2	1:A:106:CYS:SG	0.72	2.62	4	4
1:A:54:THR:O	1:A:70:HIS:CE1	0.72	2.42	12	1
1:A:119:LEU:HD13	1:A:119:LEU:O	0.72	1.83	1	15
1:A:24:ASN:O	1:A:28:LYS:HG2	0.71	1.85	4	14
1:A:122:VAL:CG2	1:A:123:HIS:N	0.70	2.54	2	15
1:A:71:GLN:HA	1:A:102:TYR:O	0.70	1.87	12	15
1:A:86:GLY:O	1:A:87:LYS:CG	0.69	2.40	9	10
1:A:76:VAL:CG1	1:A:102:TYR:CE2	0.69	2.74	12	15
1:A:10:TRP:CE2	1:A:14:GLN:NE2	0.69	2.61	2	6
1:A:12:LYS:O	1:A:16:MET:CG	0.69	2.40	6	13
1:A:70:HIS:CD2	1:A:70:HIS:N	0.69	2.61	9	4
1:A:12:LYS:O	1:A:16:MET:HB3	0.69	1.88	9	13
1:A:46:GLU:O	1:A:51:VAL:CG2	0.69	2.41	1	15
1:A:61:ALA:O	1:A:62:CYS:C	0.69	2.31	7	7
1:A:78:LEU:C	1:A:78:LEU:HD12	0.68	2.09	9	15
1:A:117:PHE:O	1:A:118:HIS:CB	0.68	2.42	3	15
1:A:119:LEU:C	1:A:119:LEU:CD1	0.68	2.61	1	15
1:A:10:TRP:O	1:A:10:TRP:CE3	0.68	2.47	13	15
1:A:31:ASN:ND2	1:A:91:CYS:SG	0.68	2.66	4	1
1:A:37:CYS:SG	1:A:93:TYR:OH	0.67	2.51	7	12
1:A:27:MET:HG2	1:A:93:TYR:CZ	0.67	2.24	4	8
1:A:28:LYS:O	1:A:31:ASN:ND2	0.67	2.28	12	4
1:A:88:TYR:O	1:A:91:CYS:SG	0.67	2.53	6	12
1:A:12:LYS:O	1:A:16:MET:CB	0.66	2.44	1	13
1:A:57:THR:O	1:A:70:HIS:ND1	0.66	2.29	11	10
1:A:28:LYS:NZ	1:A:91:CYS:SG	0.66	2.67	13	3
1:A:11:PHE:CD1	1:A:14:GLN:NE2	0.66	2.64	2	6
1:A:47:PRO:O	1:A:51:VAL:HG23	0.66	1.91	1	14
1:A:24:ASN:H	1:A:24:ASN:HD22	0.66	1.33	11	3
1:A:69:CYS:C	1:A:70:HIS:CD2	0.66	2.70	5	4
1:A:103:VAL:O	1:A:125:ASP:N	0.65	2.29	12	15
1:A:31:ASN:ND2	1:A:32:LYS:N	0.65	2.44	2	4
1:A:17:GLN:NE2	1:A:79:THR:OG1	0.65	2.29	2	7

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:15:HIS:CE1	1:A:42:THR:O	0.65	2.49	11	13
1:A:122:VAL:HG22	1:A:123:HIS:H	0.64	1.49	10	15
1:A:27:MET:SD	1:A:30:ILE:HD12	0.64	2.32	15	1
1:A:18:PRO:O	1:A:19:SER:CB	0.64	2.44	4	15
1:A:86:GLY:O	1:A:87:LYS:CB	0.64	2.45	1	15
1:A:116:GLN:O	1:A:117:PHE:C	0.64	2.36	15	11
1:A:20:PRO:O	1:A:21:GLN:CB	0.64	2.46	4	11
1:A:88:TYR:CD1	1:A:88:TYR:C	0.64	2.70	5	15
1:A:15:HIS:ND1	1:A:42:THR:O	0.64	2.29	3	7
1:A:106:CYS:SG	1:A:119:LEU:O	0.63	2.56	1	1
1:A:123:HIS:ND1	1:A:124:LEU:N	0.63	2.45	10	6
1:A:47:PRO:O	1:A:49:SER:N	0.63	2.31	9	15
1:A:117:PHE:O	1:A:118:HIS:CG	0.63	2.51	8	3
1:A:17:GLN:O	1:A:17:GLN:CD	0.63	2.37	4	1
1:A:55:CYS:SG	1:A:70:HIS:CD2	0.63	2.91	9	4
1:A:116:GLN:O	1:A:118:HIS:N	0.63	2.32	7	10
1:A:112:LYS:O	1:A:113:ASP:O	0.62	2.17	13	15
1:A:17:GLN:N	1:A:18:PRO:HD2	0.62	2.09	6	13
1:A:112:LYS:O	1:A:113:ASP:C	0.62	2.36	6	15
1:A:11:PHE:CE1	1:A:14:GLN:NE2	0.62	2.66	2	5
1:A:21:GLN:O	1:A:22:ALA:HB3	0.62	1.94	6	15
1:A:48:PHE:O	1:A:52:ALA:CB	0.62	2.47	12	15
1:A:31:ASN:N	1:A:31:ASN:OD1	0.62	2.33	4	1
1:A:45:HIS:CB	1:A:77:SER:O	0.62	2.47	6	15
1:A:38:LYS:O	1:A:39:ASP:CB	0.62	2.48	15	15
1:A:15:HIS:CG	1:A:42:THR:O	0.61	2.53	7	12
1:A:15:HIS:CD2	1:A:42:THR:O	0.61	2.54	10	12
1:A:86:GLY:HA3	1:A:90:ASN:O	0.61	1.94	11	5
1:A:24:ASN:ND2	1:A:24:ASN:N	0.61	2.46	14	4
1:A:28:LYS:NZ	1:A:31:ASN:ND2	0.61	2.48	6	1
1:A:31:ASN:ND2	1:A:37:CYS:SG	0.61	2.73	7	1
1:A:17:GLN:N	1:A:44:LEU:O	0.61	2.34	2	2
1:A:54:THR:O	1:A:57:THR:HG22	0.61	1.94	7	6
1:A:27:MET:SD	1:A:93:TYR:CZ	0.61	2.94	8	7
1:A:12:LYS:O	1:A:16:MET:HB2	0.61	1.95	3	2
1:A:117:PHE:O	1:A:118:HIS:CD2	0.60	2.54	1	2
1:A:88:TYR:H	1:A:89:PRO:CD	0.60	2.08	7	7
1:A:47:PRO:O	1:A:50:SER:N	0.60	2.32	9	15
1:A:87:LYS:O	1:A:91:CYS:SG	0.60	2.59	5	12
1:A:62:CYS:SG	1:A:68:ASN:C	0.60	2.80	7	1
1:A:55:CYS:SG	1:A:55:CYS:O	0.60	2.60	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:124:LEU:C	1:A:124:LEU:HD13	0.60	2.16	7	2
1:A:86:GLY:O	1:A:87:LYS:HB2	0.59	1.97	6	4
1:A:71:GLN:O	1:A:73:HIS:N	0.59	2.36	9	3
1:A:45:HIS:HB3	1:A:77:SER:O	0.59	1.97	2	11
1:A:55:CYS:HA	1:A:70:HIS:CD2	0.59	2.33	12	1
1:A:84:THR:O	1:A:85:SER:CB	0.59	2.51	15	15
1:A:15:HIS:CE1	1:A:124:LEU:HD13	0.59	2.33	12	6
1:A:88:TYR:N	1:A:89:PRO:CD	0.58	2.66	7	15
1:A:55:CYS:O	1:A:70:HIS:CE1	0.58	2.56	5	1
1:A:88:TYR:CD1	1:A:88:TYR:O	0.58	2.56	10	7
1:A:93:TYR:CD1	1:A:93:TYR:N	0.58	2.71	7	15
1:A:88:TYR:O	1:A:88:TYR:CD1	0.58	2.57	13	8
1:A:69:CYS:O	1:A:70:HIS:CD2	0.58	2.57	1	10
1:A:17:GLN:C	1:A:19:SER:H	0.58	2.00	4	2
1:A:8:SER:OG	1:A:120:VAL:HG23	0.57	1.99	4	5
1:A:17:GLN:CD	1:A:79:THR:OG1	0.57	2.42	13	13
1:A:71:GLN:CG	1:A:73:HIS:H	0.57	2.12	9	3
1:A:24:ASN:ND2	1:A:93:TYR:O	0.57	2.37	14	2
1:A:10:TRP:HA	1:A:13:ILE:HD11	0.57	1.76	10	14
1:A:17:GLN:N	1:A:18:PRO:HD3	0.57	2.14	3	2
1:A:23:CYS:SG	1:A:95:GLU:CB	0.57	2.92	7	15
1:A:57:THR:CG2	1:A:70:HIS:ND1	0.57	2.67	12	1
1:A:98:GLN:NE2	1:A:99:ASN:H	0.57	1.98	5	1
1:A:71:GLN:C	1:A:73:HIS:H	0.56	2.04	4	3
1:A:28:LYS:NZ	1:A:31:ASN:HD22	0.56	1.98	7	1
1:A:44:LEU:HD22	1:A:102:TYR:CE2	0.56	2.34	9	15
1:A:54:THR:O	1:A:57:THR:HG23	0.56	2.01	5	1
1:A:71:GLN:NE2	1:A:71:GLN:H	0.56	1.99	5	1
1:A:44:LEU:CD2	1:A:102:TYR:CD2	0.56	2.88	3	15
1:A:24:ASN:OD1	1:A:24:ASN:N	0.56	2.38	4	5
1:A:17:GLN:NE2	1:A:78:LEU:C	0.56	2.59	6	4
1:A:90:ASN:ND2	1:A:92:ARG:NH1	0.56	2.54	10	2
1:A:113:ASP:OD1	1:A:116:GLN:N	0.56	2.38	2	8
1:A:27:MET:CG	1:A:93:TYR:CZ	0.56	2.89	13	7
1:A:17:GLN:NE2	1:A:79:THR:N	0.56	2.53	6	1
1:A:28:LYS:HZ3	1:A:31:ASN:ND2	0.56	1.99	6	1
1:A:10:TRP:CE2	1:A:14:GLN:OE1	0.55	2.59	3	9
1:A:37:CYS:HB3	1:A:93:TYR:OH	0.55	2.01	13	12
1:A:11:PHE:CD1	1:A:14:GLN:OE1	0.55	2.59	3	8
1:A:18:PRO:O	1:A:19:SER:OG	0.55	2.24	4	5
1:A:17:GLN:O	1:A:17:GLN:NE2	0.55	2.39	4	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:117:PHE:O	1:A:118:HIS:ND1	0.55	2.40	6	1
1:A:78:LEU:HD12	1:A:79:THR:N	0.55	2.16	4	15
1:A:55:CYS:SG	1:A:105:ALA:C	0.55	2.85	4	12
1:A:28:LYS:NZ	1:A:91:CYS:O	0.55	2.38	10	2
1:A:27:MET:HG2	1:A:93:TYR:CE2	0.55	2.36	9	7
1:A:12:LYS:O	1:A:16:MET:HG2	0.55	2.01	9	1
1:A:22:ALA:HB1	1:A:24:ASN:HD22	0.55	1.60	9	3
1:A:117:PHE:N	1:A:117:PHE:CD1	0.55	2.75	1	8
1:A:46:GLU:HB3	1:A:51:VAL:HG22	0.54	1.78	12	14
1:A:22:ALA:HB1	1:A:24:ASN:ND2	0.54	2.18	9	6
1:A:57:THR:O	1:A:70:HIS:CE1	0.54	2.60	8	9
1:A:30:ILE:HD13	1:A:41:ASN:ND2	0.54	2.18	7	1
1:A:20:PRO:O	1:A:21:GLN:HB2	0.54	2.02	12	11
1:A:98:GLN:HE21	1:A:99:ASN:H	0.54	1.44	5	2
1:A:57:THR:OG1	1:A:73:HIS:CE1	0.54	2.61	4	1
1:A:116:GLN:O	1:A:118:HIS:CD2	0.54	2.61	6	2
1:A:36:ARG:HA	1:A:88:TYR:CD1	0.54	2.38	15	12
1:A:117:PHE:CD1	1:A:117:PHE:N	0.54	2.76	12	7
1:A:16:MET:SD	1:A:16:MET:O	0.54	2.66	4	12
1:A:59:LYS:CB	1:A:69:CYS:O	0.54	2.56	1	11
1:A:101:SER:N	1:A:128:LEU:OXT	0.54	2.41	7	7
1:A:27:MET:HG3	1:A:93:TYR:CE2	0.54	2.38	14	7
1:A:85:SER:O	1:A:92:ARG:NE	0.54	2.41	10	1
1:A:10:TRP:CZ2	1:A:14:GLN:NE2	0.54	2.76	4	3
1:A:70:HIS:O	1:A:103:VAL:HA	0.54	2.03	12	7
1:A:72:SER:O	1:A:74:GLY:N	0.54	2.41	7	4
1:A:20:PRO:O	1:A:21:GLN:CG	0.53	2.56	4	11
1:A:17:GLN:NE2	1:A:79:THR:CB	0.53	2.71	9	7
1:A:71:GLN:NE2	1:A:72:SER:O	0.53	2.41	10	4
1:A:16:MET:CG	1:A:16:MET:O	0.53	2.57	6	12
1:A:52:ALA:O	1:A:119:LEU:HD21	0.53	2.03	5	9
1:A:11:PHE:CB	1:A:122:VAL:O	0.53	2.56	2	15
1:A:15:HIS:CE1	1:A:124:LEU:HD22	0.53	2.38	14	2
1:A:27:MET:CE	1:A:41:ASN:OD1	0.53	2.56	7	1
1:A:116:GLN:O	1:A:118:HIS:CE1	0.53	2.61	8	1
1:A:69:CYS:SG	1:A:125:ASP:CG	0.53	2.87	4	8
1:A:70:HIS:C	1:A:103:VAL:HG13	0.53	2.23	12	4
1:A:45:HIS:HB2	1:A:77:SER:O	0.53	2.04	6	1
1:A:87:LYS:O	1:A:91:CYS:CB	0.53	2.57	11	3
1:A:28:LYS:O	1:A:31:ASN:OD1	0.53	2.27	10	9
1:A:117:PHE:O	1:A:118:HIS:HB2	0.53	2.04	6	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:101:SER:O	1:A:128:LEU:CB	0.53	2.56	12	15
1:A:123:HIS:CD2	1:A:124:LEU:H	0.53	2.22	15	6
1:A:60:ILE:HD11	1:A:103:VAL:HG11	0.53	1.79	7	4
1:A:84:THR:O	1:A:85:SER:OG	0.53	2.26	5	10
1:A:17:GLN:OE1	1:A:45:HIS:ND1	0.53	2.41	3	1
1:A:19:SER:O	1:A:19:SER:OG	0.53	2.24	7	5
1:A:5:MET:H	1:A:112:LYS:NZ	0.52	2.01	4	1
1:A:30:ILE:O	1:A:34:THR:OG1	0.52	2.20	2	5
1:A:61:ALA:O	1:A:63:LYS:N	0.52	2.42	7	1
1:A:27:MET:SD	1:A:41:ASN:OD1	0.52	2.66	7	7
1:A:59:LYS:N	1:A:59:LYS:HD2	0.52	2.19	4	3
1:A:11:PHE:CZ	1:A:14:GLN:NE2	0.52	2.77	8	6
1:A:9:GLN:O	1:A:12:LYS:HG3	0.52	2.05	2	13
1:A:98:GLN:OE1	1:A:99:ASN:N	0.52	2.41	3	2
1:A:118:HIS:O	1:A:119:LEU:HB3	0.52	2.05	14	3
1:A:31:ASN:ND2	1:A:31:ASN:C	0.52	2.61	12	4
1:A:31:ASN:HD22	1:A:32:LYS:N	0.52	2.03	12	4
1:A:46:GLU:CG	1:A:50:SER:OG	0.52	2.58	1	4
1:A:32:LYS:HG3	1:A:33:HIS:N	0.52	2.19	15	12
1:A:123:HIS:CG	1:A:124:LEU:N	0.52	2.78	14	11
1:A:78:LEU:HD22	1:A:127:VAL:CG1	0.52	2.35	12	9
1:A:31:ASN:OD1	1:A:32:LYS:N	0.52	2.42	6	6
1:A:85:SER:O	1:A:92:ARG:NH1	0.52	2.42	14	1
1:A:27:MET:SD	1:A:41:ASN:CG	0.51	2.89	1	6
1:A:119:LEU:O	1:A:119:LEU:CD1	0.51	2.57	1	1
1:A:27:MET:SD	1:A:30:ILE:HB	0.51	2.46	13	5
1:A:17:GLN:H	1:A:18:PRO:CD	0.51	2.19	9	13
1:A:116:GLN:O	1:A:118:HIS:NE2	0.51	2.43	8	1
1:A:57:THR:HG21	1:A:71:GLN:O	0.51	2.05	5	1
1:A:73:HIS:O	1:A:73:HIS:ND1	0.51	2.43	14	3
1:A:27:MET:CE	1:A:31:ASN:OD1	0.51	2.58	4	1
1:A:54:THR:HG22	1:A:70:HIS:CE1	0.51	2.40	12	1
1:A:6:THR:CG2	1:A:7:SER:N	0.51	2.73	10	15
1:A:17:GLN:C	1:A:19:SER:N	0.51	2.64	6	2
1:A:27:MET:O	1:A:31:ASN:OD1	0.51	2.29	4	1
1:A:111:LYS:NZ	1:A:111:LYS:CB	0.51	2.74	8	1
1:A:57:THR:CG2	1:A:70:HIS:CE1	0.51	2.93	12	1
1:A:62:CYS:SG	1:A:125:ASP:OD1	0.51	2.69	5	1
1:A:59:LYS:O	1:A:60:ILE:HG23	0.51	2.06	7	1
1:A:37:CYS:C	1:A:39:ASP:N	0.51	2.64	12	15
1:A:37:CYS:CB	1:A:93:TYR:OH	0.51	2.59	10	12

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:37:CYS:SG	1:A:88:TYR:HA	0.51	2.46	4	3
1:A:55:CYS:O	1:A:106:CYS:SG	0.51	2.69	6	8
1:A:115:GLN:O	1:A:116:GLN:CB	0.50	2.59	14	15
1:A:117:PHE:O	1:A:118:HIS:HB3	0.50	2.06	1	2
1:A:119:LEU:O	1:A:119:LEU:CD2	0.50	2.58	12	12
1:A:72:SER:C	1:A:74:GLY:N	0.50	2.65	7	3
1:A:95:GLU:O	1:A:95:GLU:CG	0.50	2.60	12	15
1:A:102:TYR:CD1	1:A:102:TYR:C	0.50	2.85	9	15
1:A:16:MET:SD	1:A:16:MET:C	0.50	2.90	15	12
1:A:113:ASP:CG	1:A:113:ASP:O	0.50	2.50	3	2
1:A:27:MET:SD	1:A:93:TYR:OH	0.50	2.70	11	6
1:A:38:LYS:O	1:A:39:ASP:OD2	0.50	2.29	8	1
1:A:71:GLN:O	1:A:72:SER:C	0.50	2.50	12	1
1:A:62:CYS:SG	1:A:125:ASP:OD2	0.50	2.69	5	4
1:A:87:LYS:O	1:A:91:CYS:HB3	0.50	2.07	4	4
1:A:106:CYS:HB3	1:A:119:LEU:O	0.50	2.06	5	7
1:A:39:ASP:O	1:A:40:LEU:HD22	0.49	2.06	7	15
1:A:71:GLN:C	1:A:73:HIS:N	0.49	2.65	9	3
1:A:40:LEU:HD13	1:A:81:CYS:O	0.49	2.06	7	13
1:A:118:HIS:CD2	1:A:118:HIS:C	0.49	2.86	1	1
1:A:70:HIS:CD2	1:A:70:HIS:O	0.49	2.65	12	1
1:A:78:LEU:C	1:A:78:LEU:CD1	0.49	2.80	9	14
1:A:24:ASN:OD1	1:A:93:TYR:O	0.49	2.29	10	7
1:A:113:ASP:O	1:A:113:ASP:CG	0.49	2.50	4	4
1:A:60:ILE:O	1:A:61:ALA:C	0.49	2.51	7	1
1:A:123:HIS:CD2	1:A:124:LEU:N	0.49	2.81	8	6
1:A:28:LYS:N	1:A:28:LYS:HD3	0.49	2.23	9	1
1:A:98:GLN:CG	1:A:100:LYS:NZ	0.49	2.75	12	1
1:A:21:GLN:O	1:A:22:ALA:CB	0.49	2.60	4	11
1:A:57:THR:HG23	1:A:70:HIS:CE1	0.49	2.42	12	1
1:A:88:TYR:N	1:A:89:PRO:HD2	0.48	2.23	11	4
1:A:6:THR:OG1	1:A:112:LYS:CB	0.48	2.62	11	14
1:A:98:GLN:OE1	1:A:100:LYS:NZ	0.48	2.42	3	1
1:A:88:TYR:H	1:A:89:PRO:HD2	0.48	1.69	12	7
1:A:17:GLN:H	1:A:18:PRO:HD3	0.48	1.68	4	2
1:A:12:LYS:CD	1:A:16:MET:SD	0.48	3.01	9	1
1:A:47:PRO:C	1:A:49:SER:N	0.48	2.65	9	15
1:A:109:PRO:O	1:A:110:GLN:O	0.48	2.32	7	10
1:A:71:GLN:H	1:A:71:GLN:HE21	0.48	1.49	5	1
1:A:115:GLN:O	1:A:116:GLN:HB3	0.48	2.08	14	15
1:A:42:THR:C	1:A:43:PHE:CD1	0.48	2.87	12	12

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:47:PRO:C	1:A:51:VAL:HG23	0.48	2.29	1	1
1:A:72:SER:C	1:A:74:GLY:H	0.48	2.12	5	3
1:A:86:GLY:C	1:A:87:LYS:HG2	0.48	2.29	2	4
1:A:74:GLY:O	1:A:101:SER:OG	0.48	2.32	4	1
1:A:24:ASN:O	1:A:28:LYS:CD	0.48	2.62	9	1
1:A:76:VAL:O	1:A:78:LEU:N	0.48	2.47	12	15
1:A:23:CYS:SG	1:A:95:GLU:HB2	0.48	2.49	10	13
1:A:54:THR:HG23	1:A:72:SER:HA	0.48	1.86	9	3
1:A:40:LEU:C	1:A:41:ASN:ND2	0.47	2.67	1	1
1:A:54:THR:O	1:A:57:THR:CG2	0.47	2.62	4	12
1:A:76:VAL:HG11	1:A:102:TYR:CZ	0.47	2.42	6	15
1:A:29:ASN:O	1:A:29:ASN:ND2	0.47	2.48	11	2
1:A:72:SER:OG	1:A:102:TYR:CE1	0.47	2.68	12	1
1:A:40:LEU:O	1:A:41:ASN:ND2	0.47	2.48	1	1
1:A:8:SER:OG	1:A:120:VAL:CG2	0.47	2.62	4	2
1:A:88:TYR:C	1:A:91:CYS:SG	0.47	2.93	7	6
1:A:101:SER:N	1:A:128:LEU:O	0.47	2.48	3	2
1:A:82:LYS:NZ	1:A:82:LYS:CB	0.47	2.77	9	1
1:A:8:SER:OG	1:A:121:PRO:C	0.47	2.53	13	9
1:A:11:PHE:CE1	1:A:14:GLN:OE1	0.47	2.68	3	1
1:A:57:THR:OG1	1:A:73:HIS:NE2	0.47	2.40	12	1
1:A:10:TRP:O	1:A:10:TRP:CD2	0.47	2.67	13	14
1:A:117:PHE:C	1:A:118:HIS:CG	0.47	2.88	8	2
1:A:23:CYS:HA	1:A:26:ALA:HB3	0.47	1.87	5	13
1:A:36:ARG:CA	1:A:88:TYR:CD1	0.47	2.98	15	4
1:A:17:GLN:OE1	1:A:79:THR:OG1	0.47	2.32	1	5
1:A:71:GLN:O	1:A:71:GLN:CD	0.47	2.53	12	4
1:A:6:THR:N	1:A:9:GLN:HB2	0.46	2.25	11	11
1:A:37:CYS:C	1:A:39:ASP:H	0.46	2.13	7	11
1:A:124:LEU:C	1:A:124:LEU:CD1	0.46	2.84	11	2
1:A:56:GLN:NE2	1:A:56:GLN:O	0.46	2.47	12	1
1:A:99:ASN:N	1:A:99:ASN:OD1	0.46	2.49	14	1
1:A:99:ASN:C	1:A:100:LYS:CG	0.46	2.84	6	14
1:A:123:HIS:CG	1:A:124:LEU:H	0.46	2.28	6	7
1:A:32:LYS:NZ	1:A:33:HIS:CB	0.46	2.78	5	3
1:A:98:GLN:CD	1:A:100:LYS:NZ	0.46	2.69	3	1
1:A:98:GLN:C	1:A:99:ASN:ND2	0.46	2.69	3	2
1:A:99:ASN:O	1:A:99:ASN:ND2	0.46	2.49	5	1
1:A:11:PHE:CD2	1:A:122:VAL:O	0.46	2.68	12	7
1:A:42:THR:HG22	1:A:80:MET:HA	0.46	1.87	5	6
1:A:62:CYS:SG	1:A:68:ASN:N	0.46	2.89	15	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:15:HIS:CE1	1:A:42:THR:HG1	0.46	2.29	6	3
1:A:115:GLN:CG	1:A:117:PHE:CE1	0.46	2.98	7	4
1:A:30:ILE:CD1	1:A:41:ASN:ND2	0.46	2.78	7	1
1:A:7:SER:OG	1:A:8:SER:N	0.46	2.49	5	1
1:A:32:LYS:HZ3	1:A:33:HIS:CB	0.46	2.24	5	1
1:A:62:CYS:SG	1:A:125:ASP:CG	0.46	2.94	5	1
1:A:24:ASN:C	1:A:24:ASN:ND2	0.46	2.69	15	1
1:A:74:GLY:O	1:A:101:SER:CB	0.46	2.64	3	11
1:A:17:GLN:HE22	1:A:78:LEU:C	0.46	2.12	6	1
1:A:9:GLN:O	1:A:13:ILE:CG1	0.45	2.65	13	1
1:A:6:THR:N	1:A:9:GLN:HB3	0.45	2.27	2	2
1:A:11:PHE:CZ	1:A:123:HIS:ND1	0.45	2.84	2	6
1:A:17:GLN:CD	1:A:79:THR:HG1	0.45	2.15	13	1
1:A:79:THR:O	1:A:79:THR:HG22	0.45	2.12	1	14
1:A:12:LYS:HA	1:A:16:MET:CG	0.45	2.41	2	2
1:A:55:CYS:SG	1:A:104:VAL:O	0.45	2.74	5	2
1:A:71:GLN:HG3	1:A:73:HIS:H	0.45	1.69	9	2
1:A:37:CYS:O	1:A:38:LYS:C	0.45	2.55	10	15
1:A:55:CYS:SG	1:A:106:CYS:N	0.45	2.90	4	2
1:A:22:ALA:O	1:A:23:CYS:C	0.45	2.53	7	4
1:A:88:TYR:CA	1:A:91:CYS:SG	0.45	3.05	7	3
1:A:74:GLY:N	1:A:101:SER:OG	0.45	2.49	4	1
1:A:31:ASN:CG	1:A:37:CYS:SG	0.45	2.95	7	1
1:A:59:LYS:HA	1:A:69:CYS:O	0.44	2.13	4	3
1:A:98:GLN:HE21	1:A:98:GLN:CA	0.44	2.24	10	1
1:A:27:MET:SD	1:A:31:ASN:OD1	0.44	2.75	4	1
1:A:97:ARG:O	1:A:98:GLN:OE1	0.44	2.35	12	1
1:A:85:SER:O	1:A:92:ARG:CG	0.44	2.66	15	1
1:A:78:LEU:HD11	1:A:98:GLN:HB3	0.44	1.89	2	4
1:A:46:GLU:O	1:A:51:VAL:HG21	0.44	2.13	4	14
1:A:38:LYS:O	1:A:39:ASP:CG	0.44	2.56	8	1
1:A:98:GLN:HE21	1:A:99:ASN:N	0.44	2.09	5	2
1:A:28:LYS:CE	1:A:91:CYS:SG	0.44	3.06	13	1
1:A:5:MET:O	1:A:6:THR:C	0.44	2.55	6	13
1:A:64:ASN:O	1:A:64:ASN:ND2	0.44	2.51	4	2
1:A:9:GLN:OE1	1:A:12:LYS:NZ	0.43	2.51	2	1
1:A:16:MET:O	1:A:16:MET:HG3	0.43	2.13	6	2
1:A:59:LYS:CD	1:A:59:LYS:C	0.43	2.86	10	3
1:A:69:CYS:C	1:A:70:HIS:CG	0.43	2.92	5	1
1:A:29:ASN:HD22	1:A:29:ASN:C	0.43	2.15	11	2
1:A:69:CYS:SG	1:A:125:ASP:OD2	0.43	2.77	3	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:31:ASN:OD1	1:A:31:ASN:C	0.43	2.57	6	6
1:A:48:PHE:CD1	1:A:48:PHE:N	0.43	2.82	10	4
1:A:99:ASN:HD22	1:A:99:ASN:N	0.43	2.11	8	1
1:A:8:SER:CB	1:A:121:PRO:O	0.43	2.66	2	3
1:A:51:VAL:HG13	1:A:102:TYR:OH	0.43	2.14	2	2
1:A:5:MET:O	1:A:6:THR:O	0.43	2.37	6	4
1:A:68:ASN:OD1	1:A:68:ASN:O	0.43	2.37	3	2
1:A:16:MET:C	1:A:18:PRO:HD2	0.43	2.34	6	1
1:A:20:PRO:HB2	1:A:26:ALA:HB2	0.43	1.90	9	5
1:A:115:GLN:CG	1:A:117:PHE:CZ	0.43	3.02	8	3
1:A:33:HIS:NE2	1:A:34:THR:HG23	0.43	2.28	2	1
1:A:57:THR:O	1:A:58:PRO:C	0.43	2.57	7	6
1:A:9:GLN:HE21	1:A:9:GLN:C	0.43	2.16	10	1
1:A:119:LEU:O	1:A:120:VAL:C	0.43	2.57	6	8
1:A:27:MET:O	1:A:27:MET:SD	0.43	2.77	4	1
1:A:71:GLN:O	1:A:71:GLN:OE1	0.42	2.36	10	3
1:A:27:MET:SD	1:A:41:ASN:ND2	0.42	2.92	10	1
1:A:99:ASN:O	1:A:100:LYS:CG	0.42	2.67	2	2
1:A:39:ASP:OD1	1:A:39:ASP:C	0.42	2.58	8	1
1:A:30:ILE:N	1:A:30:ILE:HD13	0.42	2.28	14	2
1:A:119:LEU:O	1:A:120:VAL:O	0.42	2.38	6	2
1:A:86:GLY:O	1:A:90:ASN:CB	0.42	2.67	11	1
1:A:109:PRO:CB	1:A:113:ASP:OD2	0.42	2.66	8	1
1:A:36:ARG:HA	1:A:88:TYR:CG	0.42	2.50	9	3
1:A:22:ALA:HB1	1:A:24:ASN:OD1	0.42	2.14	14	1
1:A:27:MET:SD	1:A:27:MET:O	0.42	2.77	14	1
1:A:29:ASN:O	1:A:32:LYS:HG3	0.42	2.15	9	2
1:A:27:MET:CG	1:A:93:TYR:CE1	0.42	3.03	4	1
1:A:47:PRO:O	1:A:48:PHE:C	0.42	2.55	9	4
1:A:59:LYS:CA	1:A:69:CYS:O	0.42	2.68	4	1
1:A:57:THR:CB	1:A:58:PRO:CD	0.42	2.98	5	1
1:A:54:THR:C	1:A:56:GLN:H	0.42	2.18	12	2
1:A:71:GLN:NE2	1:A:71:GLN:N	0.42	2.68	5	1
1:A:83:LEU:HA	1:A:93:TYR:CD2	0.42	2.50	10	6
1:A:72:SER:O	1:A:72:SER:OG	0.42	2.38	7	1
1:A:114:SER:C	1:A:115:GLN:CG	0.42	2.88	12	1
1:A:102:TYR:CD1	1:A:104:VAL:HG12	0.41	2.50	3	7
1:A:27:MET:CE	1:A:41:ASN:HD21	0.41	2.28	2	1
1:A:68:ASN:O	1:A:68:ASN:ND2	0.41	2.53	4	1
1:A:55:CYS:O	1:A:70:HIS:ND1	0.41	2.53	1	1
1:A:99:ASN:O	1:A:99:ASN:OD1	0.41	2.39	12	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:124:LEU:HD13	1:A:125:ASP:N	0.41	2.30	11	1
1:A:10:TRP:NE1	1:A:14:GLN:NE2	0.41	2.68	2	1
1:A:29:ASN:O	1:A:32:LYS:HG2	0.41	2.16	2	1
1:A:98:GLN:CD	1:A:100:LYS:HZ2	0.41	2.14	3	1
1:A:27:MET:O	1:A:30:ILE:N	0.41	2.53	7	1
1:A:15:HIS:NE2	1:A:42:THR:O	0.41	2.53	14	3
1:A:64:ASN:O	1:A:64:ASN:OD1	0.41	2.39	5	1
1:A:99:ASN:N	1:A:99:ASN:ND2	0.41	2.67	8	1
1:A:76:VAL:HG11	1:A:102:TYR:CD2	0.41	2.46	12	1
1:A:17:GLN:NE2	1:A:45:HIS:ND1	0.41	2.69	14	1
1:A:15:HIS:ND1	1:A:124:LEU:HD13	0.41	2.31	3	1
1:A:43:PHE:CD1	1:A:43:PHE:N	0.41	2.89	9	5
1:A:44:LEU:HD11	1:A:124:LEU:HD12	0.41	1.92	15	1
1:A:17:GLN:OE1	1:A:79:THR:CB	0.41	2.69	1	3
1:A:99:ASN:C	1:A:100:LYS:HG3	0.41	2.35	2	1
1:A:59:LYS:HG3	1:A:70:HIS:CE1	0.41	2.50	5	1
1:A:37:CYS:O	1:A:39:ASP:OD1	0.41	2.38	12	1
1:A:61:ALA:O	1:A:62:CYS:O	0.41	2.39	3	2
1:A:17:GLN:O	1:A:18:PRO:C	0.41	2.59	7	1
1:A:17:GLN:CD	1:A:45:HIS:HD1	0.41	2.19	9	1
1:A:66:ASP:OD2	1:A:68:ASN:ND2	0.41	2.54	10	1
1:A:126:ARG:NH1	1:A:128:LEU:CD1	0.41	2.84	10	1
1:A:10:TRP:CH2	1:A:14:GLN:HB2	0.41	2.51	2	1
1:A:84:THR:OG1	1:A:92:ARG:CG	0.41	2.69	14	1
1:A:72:SER:O	1:A:73:HIS:C	0.40	2.60	4	1
1:A:98:GLN:HG3	1:A:100:LYS:HZ3	0.40	1.75	4	1
1:A:109:PRO:O	1:A:110:GLN:C	0.40	2.59	4	1
1:A:84:THR:OG1	1:A:92:ARG:O	0.40	2.34	13	1
1:A:125:ASP:C	1:A:126:ARG:HE	0.40	2.19	14	1
1:A:6:THR:O	1:A:7:SER:C	0.40	2.60	3	1
1:A:71:GLN:HG2	1:A:73:HIS:H	0.40	1.74	7	1
1:A:102:TYR:CE1	1:A:104:VAL:CG1	0.40	3.04	12	1
1:A:8:SER:OG	1:A:121:PRO:N	0.40	2.54	1	1
1:A:43:PHE:CD1	1:A:81:CYS:SG	0.40	3.14	4	2
1:A:74:GLY:C	1:A:101:SER:OG	0.40	2.60	7	1
1:A:126:ARG:HH12	1:A:128:LEU:CD1	0.40	2.29	10	1
1:A:38:LYS:C	1:A:39:ASP:CG	0.40	2.80	11	1
1:A:20:PRO:O	1:A:21:GLN:NE2	0.40	2.54	12	1
1:A:10:TRP:HH2	1:A:30:ILE:HG23	0.40	1.77	4	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	123/129 (95%)	83±1 (68±1%)	20±2 (16±2%)	19±2 (16±2%)	0 4
All	All	1845/1935 (95%)	1251 (68%)	302 (16%)	292 (16%)	0 4

All 31 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	19	SER	15
1	A	38	LYS	15
1	A	77	SER	15
1	A	85	SER	15
1	A	87	LYS	15
1	A	113	ASP	15
1	A	116	GLN	15
1	A	118	HIS	15
1	A	119	LEU	15
1	A	22	ALA	14
1	A	61	ALA	14
1	A	110	GLN	14
1	A	48	PHE	14
1	A	6	THR	13
1	A	62	CYS	12
1	A	21	GLN	11
1	A	117	PHE	10
1	A	109	PRO	9
1	A	120	VAL	8
1	A	115	GLN	8
1	A	88	TYR	5
1	A	58	PRO	4
1	A	72	SER	4
1	A	63	LYS	3
1	A	59	LYS	3
1	A	73	HIS	3
1	A	17	GLN	2

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Mol	Chain	Res	Type	Models (Total)
1	A	18	PRO	2
1	A	20	PRO	2
1	A	60	ILE	1
1	A	65	GLY	1

6.3.2 Protein sidechains (i)

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	115/119 (97%)	76±2 (66±2%)	39±2 (34±2%)	1 11
All	All	1725/1785 (97%)	1141 (66%)	584 (34%)	1 11

All 66 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	11	PHE	15
1	A	12	LYS	15
1	A	13	ILE	15
1	A	14	GLN	15
1	A	40	LEU	15
1	A	42	THR	15
1	A	51	VAL	15
1	A	57	THR	15
1	A	76	VAL	15
1	A	88	TYR	15
1	A	104	VAL	15
1	A	114	SER	15
1	A	119	LEU	15
1	A	122	VAL	15
1	A	127	VAL	15
1	A	128	LEU	15
1	A	59	LYS	14
1	A	60	ILE	14
1	A	101	SER	14
1	A	103	VAL	14
1	A	125	ASP	14

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Mol	Chain	Res	Type	Models (Total)
1	A	106	CYS	14
1	A	15	HIS	13
1	A	16	MET	12
1	A	71	GLN	12
1	A	91	CYS	12
1	A	33	HIS	12
1	A	36	ARG	12
1	A	50	SER	12
1	A	10	TRP	11
1	A	48	PHE	11
1	A	31	ASN	10
1	A	32	LYS	10
1	A	85	SER	10
1	A	24	ASN	10
1	A	62	CYS	8
1	A	111	LYS	8
1	A	27	MET	8
1	A	66	ASP	8
1	A	98	GLN	7
1	A	124	LEU	7
1	A	69	CYS	5
1	A	100	LYS	5
1	A	19	SER	5
1	A	70	HIS	5
1	A	25	SER	5
1	A	72	SER	4
1	A	9	GLN	3
1	A	29	ASN	3
1	A	90	ASN	3
1	A	87	LYS	3
1	A	115	GLN	3
1	A	73	HIS	2
1	A	94	LYS	2
1	A	118	HIS	2
1	A	126	ARG	2
1	A	17	GLN	2
1	A	63	LYS	2
1	A	28	LYS	2
1	A	92	ARG	2
1	A	107	LYS	2
1	A	64	ASN	1
1	A	21	GLN	1

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Mol	Chain	Res	Type	Models (Total)
1	A	39	ASP	1
1	A	82	LYS	1
1	A	6	THR	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