Full wwPDB NMR Structure Validation Report (i)

Jun 12, 2024 – 02:37 PM EDT

PDB ID	:	1BIP
Title	:	BIFUNCTIONAL PROTEINASE INHIBITOR TRYPSIN/A-AMYLASE FROM SEEDS OF RAGI (ELEUSINE CORACANA GAERTNERI)
Authors	:	Strobl, S.; Muehlhahn, P.; Holak, T.
Deposited on	:	1995-03-31

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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

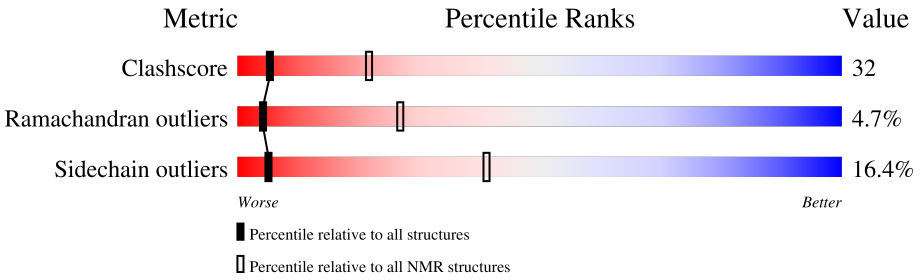
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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	122	38% 42% 7% • 13%

2 Ensemble composition and analysis (i)

This entry contains 20 models. Model 3 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:113 (106)	0.72	3

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 4 single-model clusters were found.

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

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 1818 atoms, of which 907 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called ALPHA-AMYLASE/TRYPSIN INHIBITOR.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	122	1818	562	907	169	167	13	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	70	SER	PRO	CONFLICT	UNP P01087

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: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 38% 42% 7% • 13%

S1 V2 G3 T4 S5 C6 I7 M10 A11 N15 P16 L17 D18 S19 C20 R21 V24 R27 T28 C29 G30 V31 G32 P33 R34 L35 A36 T37 M40 R43 R46 Q47 L48 E49 A53 Y54 C55 R56 C57 E58 A59 V60 R61 I62 L63 M64 V67 V68 H74

R77 L78 L79 L82 P83 R87 Q90 R91 A92 F93 A94 P95 K96 L97 V98 V101 E102 C103 N104 L105 A106 T107 I108 H109 F113 C114 L115 S116 L117 L118 G119 A120 G121 E122

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: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 48% 32% 5% • 13%

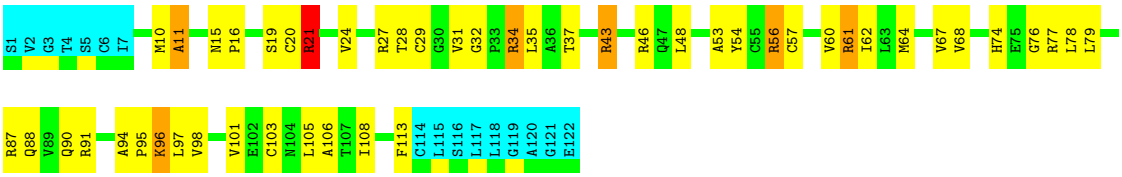
S1 V2 G3 T4 S5 C6 I7 P8 G9 M10 A11 H14 N15 P16 S19 C20 R21 W22 Y23 V24 R27 T28 C29 G30 V31 G32 P33 R34 L35 A36 T37 M40 R43 R46 Q47 L48 I51 P52 A53 R56 C57 R61 I62 L63 V67 V68 T69 H74

R77 L78 L79 R87 R91 A92 F93 A94 P95 K96 L97 V101 A106 T107 I108 C114 L115 S116 L117 L118 G119 A120 G121 E122

4.2.2 Score per residue for model 2

• Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

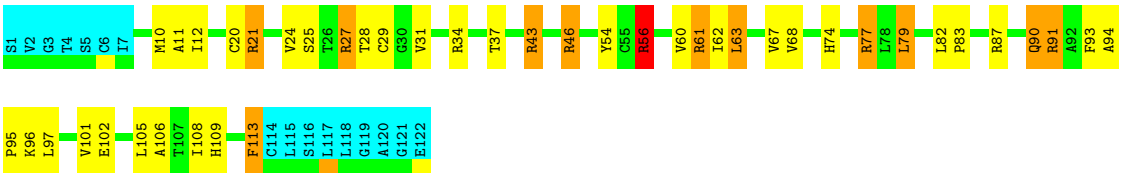
Chain A: 47% 34% 5% • 13%



4.2.3 Score per residue for model 3 (medoid)

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

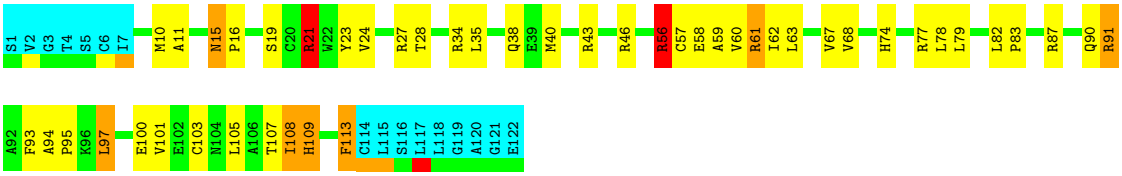
Chain A: 52% 25% 9% • 13%



4.2.4 Score per residue for model 4

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

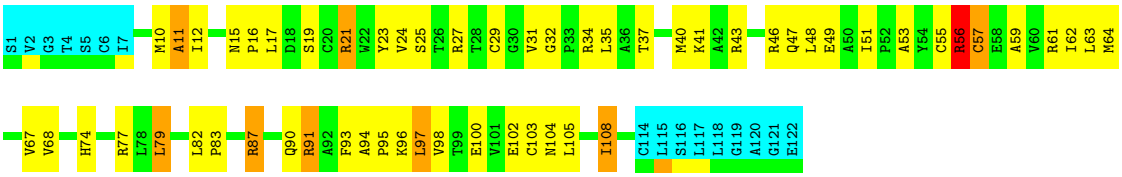
Chain A: 48% 31% 6% • 13%



4.2.5 Score per residue for model 5

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 40% 39% 7% • 13%



4.2.6 Score per residue for model 6

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 47% 34% 6% 13%

S1 V2 G3 T4 S5 C6 I7 M10 A11 N15 P16 L17 D18 S19 C20 R21 W22 Y23 V24 R27 T28 C29 G30 V31 G32 P33 R34 L35 A36 T37 Q38 E39 M40 R43 R46 Q47 L48 E49 R56 C57 R61 I62 L63 M64 V67 V68 H74 R77 L78

L82 P83 R87 Q90 R91 A92 F93 A94 P95 K96 L97 V98 T99 E100 V101 E102 C103 N104 L105 C114 L115 S116 L117 L118 G119 A120 G121 E122

4.2.7 Score per residue for model 7

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 16% 52% 14% 5% 13%

S1 V2 G3 T4 S5 C6 I7 P8 G9 M10 A11 I12 P13 H14 N15 P16 L17 D18 S19 C20 R21 W22 Y23 V24 S25 T26 R27 T28 C29 G30 V31 R34 L35 A36 T37 Q38 E39 M40 K41 A42 R43 C44 C45 R46 Q47 L48 E49 A50 I51 P52 A53 Y54 C55 R56 C57 E58 A59 V60 R61

I62 L63 M64 D65 G66 V67 V68 T69 H74 R77 L78 L79 Q80 D81 L82 P83 G84 C85 P86 R87 Q88 V89 Q90 R91 A92 F93 A94 P95 K96 L97 V98 E102 C103 N104 L105 A106 T107 I108 H109 G110 G111 P112 F113 C114 L115 S116 L117 L118 G119 A120 G121 E122

4.2.8 Score per residue for model 8

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 55% 25% 6% • 13%

S1 V2 G3 T4 S5 C6 I7 M10 A11 I12 N15 P16 S19 C20 R21 R27 T28 C29 G30 V31 G32 P33 R34 R43 R46 Q47 L48 E49 A53 Y54 C55 R56 R61 I62 L63 M64 V67 V68 H74 R77 L78 L79 Q80 D81 R87 Q88 V89 Q90

R91 A94 P95 K96 L97 V101 E102 C103 C114 L115 S116 L117 L118 G119 A120 G121 E122

4.2.9 Score per residue for model 9

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 28% 44% 11% • 13%

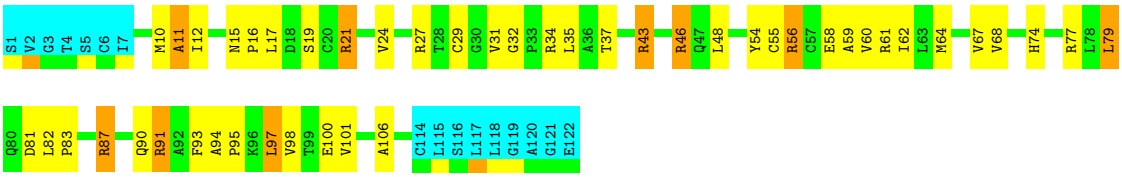
S1 V2 G3 T4 S5 C6 I7 M10 A11 N15 P16 L17 R21 W22 Y23 V24 S25 T26 R27 T28 C29 G30 V31 R34 L35 A36 T37 Q38 E39 M40 K41 A42 R43 R46 Q47 L48 E49 A50 I51 P52 A53 Y54 C55 R56 C57 E58 A59 V60 R61 I62 L63 G66 V67 V68

T69 H74 R77 L78 L79 Q80 D81 L82 P83 G84 C85 P86 R87 Q88 V89 Q90 R91 A92 F93 A94 P95 K96 L97 V98 V101 E102 C103 N104 L105 A106 T107 I108 H109 P112 F113 C114 L115 S116 L117 L118 G119 A120 G121 E122

4.2.10 Score per residue for model 10

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

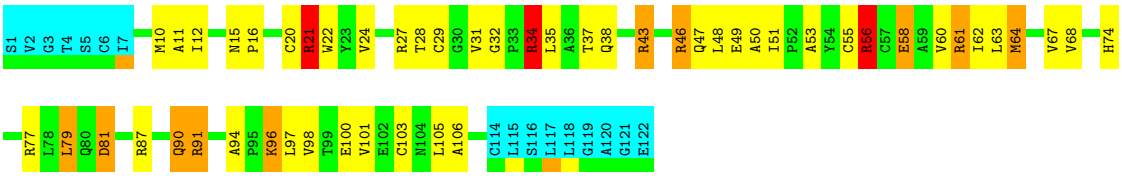
Chain A: 48% 31% 7% 13%



4.2.11 Score per residue for model 11

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

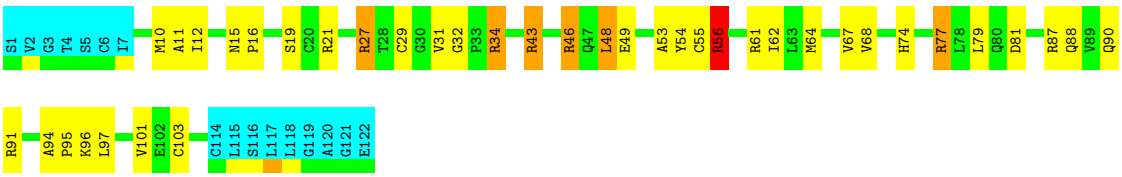
Chain A: 44% 32% 8% • 13%



4.2.12 Score per residue for model 12

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

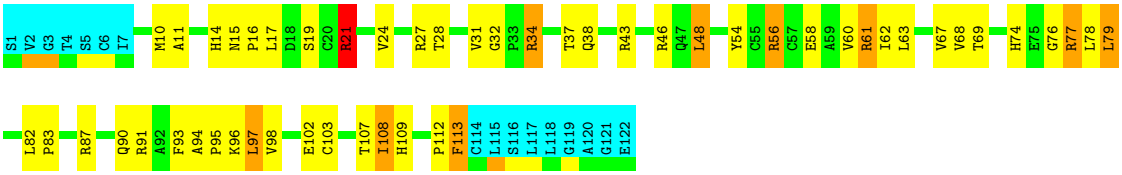
Chain A: 55% 26% 5% • 13%



4.2.13 Score per residue for model 13

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

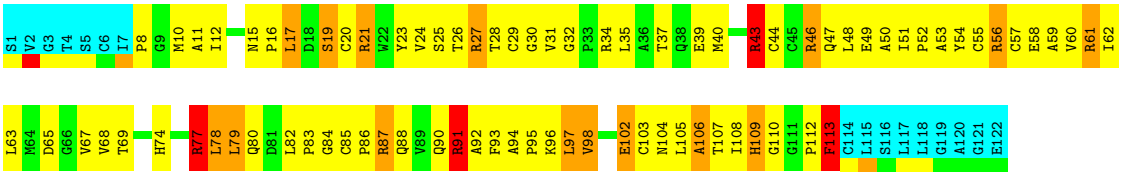
Chain A: 44% 34% 7% • 13%



4.2.14 Score per residue for model 14

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

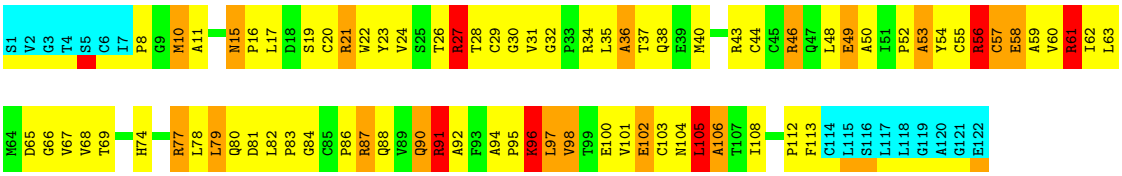
Chain A: 20% 51% 12% • 13%



4.2.15 Score per residue for model 15

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

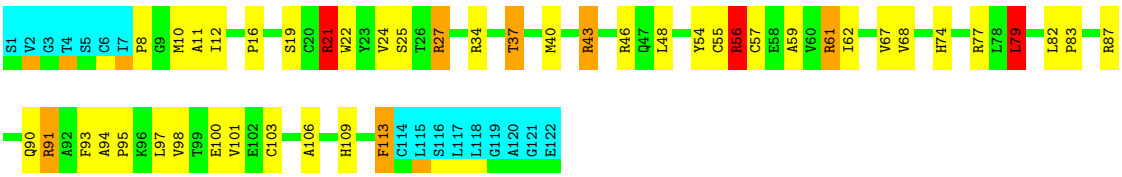
Chain A: 23% 45% 14% 5% 13%



4.2.16 Score per residue for model 16

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

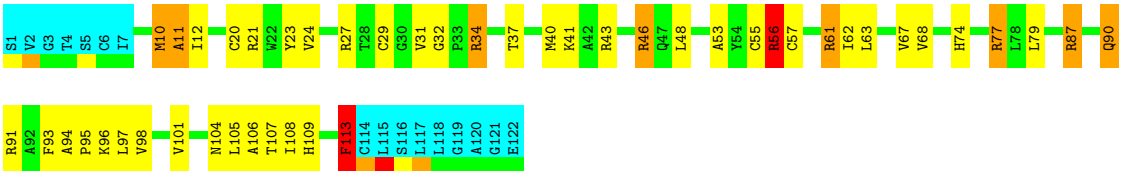
Chain A: 50% 30% 5% • 13%



4.2.17 Score per residue for model 17

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

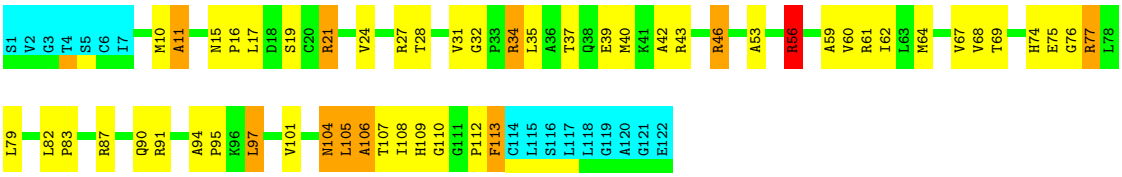
Chain A: 48% 30% 7% • 13%



4.2.18 Score per residue for model 18

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

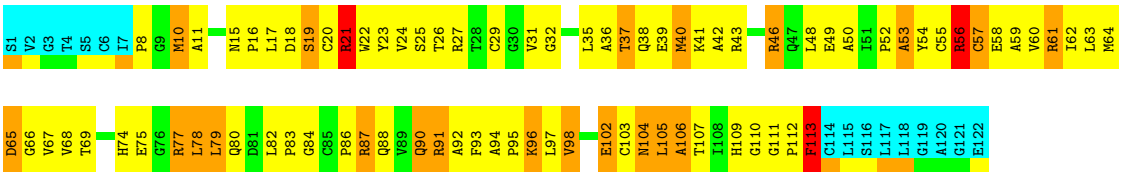
Chain A: 43% 34% 8% • 13%



4.2.19 Score per residue for model 19

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

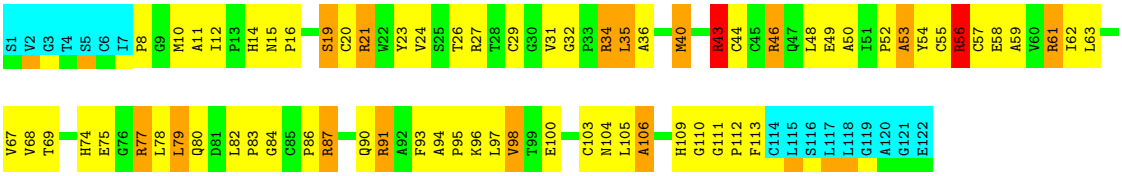
Chain A: 20% 48% 17% • 13%



4.2.20 Score per residue for model 20

- Molecule 1: ALPHA-AMYLASE/TRYPSIN INHIBITOR

Chain A: 30% 44% 11% • 13%



5 Refinement protocol and experimental data overview (i)

Of the ? calculated structures, 20 were deposited, based on the following criterion: *?*.

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

Software name	Classification	Version
X-PLOR	refinement	3.1

No chemical shift data was provided.

6 Model quality (i)

6.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the (average) root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#Z>5	RMSZ	#Z>5
1	A	1.07±0.02	0±0/826 (0.0± 0.0%)	0.88±0.03	0±0/1121 (0.0± 0.0%)
All	All	1.07	0/16520 (0.0%)	0.89	1/22420 (0.0%)

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

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	9.8±0.4
All	All	0	195

There are no bond-length outliers.

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	56	ARG	NE-CZ-NH2	-5.43	117.58	120.30	5	1

There are no chirality outliers.

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

Mol	Chain	Res	Type	Group	Models (Total)
1	A	27	ARG	Sidechain	20
1	A	43	ARG	Sidechain	20
1	A	46	ARG	Sidechain	20
1	A	61	ARG	Sidechain	20
1	A	77	ARG	Sidechain	20
1	A	87	ARG	Sidechain	20
1	A	91	ARG	Sidechain	20
1	A	34	ARG	Sidechain	19

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Mol	Chain	Res	Type	Group	Models (Total)
1	A	21	ARG	Sidechain	18
1	A	56	ARG	Sidechain	18

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	808	802	802	51±30
All	All	16160	16040	16040	1015

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 32.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:60:VAL:HG21	1:A:97:LEU:HD13	1.01	1.20	13	5
1:A:24:VAL:HG22	1:A:93:PHE:CD2	0.99	1.93	9	1
1:A:108:ILE:O	1:A:108:ILE:HD13	0.93	1.63	9	2
1:A:48:LEU:HD11	1:A:98:VAL:HG12	0.93	1.38	7	7
1:A:60:VAL:CG2	1:A:97:LEU:HD22	0.90	1.96	19	3
1:A:60:VAL:CG2	1:A:97:LEU:HD13	0.89	1.97	15	6
1:A:97:LEU:HD12	1:A:98:VAL:HG13	0.82	1.51	13	2
1:A:90:GLN:O	1:A:94:ALA:HB2	0.82	1.73	9	18
1:A:48:LEU:HD12	1:A:97:LEU:HD23	0.80	1.53	15	1
1:A:62:ILE:HD12	1:A:67:VAL:HB	0.80	1.53	20	8
1:A:60:VAL:HG21	1:A:97:LEU:HD22	0.79	1.53	10	2
1:A:79:LEU:HD22	1:A:79:LEU:O	0.79	1.78	20	1
1:A:17:LEU:HD13	1:A:59:ALA:HB1	0.78	1.54	5	1
1:A:60:VAL:HG11	1:A:97:LEU:HD22	0.77	1.55	13	2
1:A:62:ILE:HG23	1:A:67:VAL:HB	0.77	1.55	8	19
1:A:17:LEU:CD2	1:A:59:ALA:HB1	0.76	2.11	15	1
1:A:79:LEU:HD21	1:A:90:GLN:CB	0.76	2.11	10	3
1:A:79:LEU:O	1:A:79:LEU:HD13	0.75	1.81	20	1
1:A:79:LEU:HD22	1:A:79:LEU:C	0.73	2.03	20	1
1:A:53:ALA:HB2	1:A:56:ARG:NH1	0.73	1.98	14	3
1:A:24:VAL:HG22	1:A:93:PHE:CE2	0.73	2.18	9	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:107:THR:OG1	1:A:109:HIS:CE1	0.73	2.41	14	4
1:A:48:LEU:HD23	1:A:49:GLU:N	0.72	1.99	11	1
1:A:68:VAL:HG22	1:A:74:HIS:CE1	0.72	2.20	20	15
1:A:63:LEU:O	1:A:63:LEU:HD13	0.71	1.84	7	2
1:A:68:VAL:HG22	1:A:74:HIS:NE2	0.71	2.01	9	17
1:A:12:ILE:HD11	1:A:55:CYS:HB3	0.71	1.61	10	5
1:A:94:ALA:HB3	1:A:95:PRO:HD3	0.71	1.61	19	16
1:A:48:LEU:HD11	1:A:56:ARG:NH1	0.71	1.99	1	1
1:A:103:CYS:O	1:A:105:LEU:HD12	0.70	1.86	15	6
1:A:10:MET:O	1:A:11:ALA:HB3	0.69	1.88	20	20
1:A:12:ILE:HD11	1:A:55:CYS:CB	0.69	2.18	10	6
1:A:48:LEU:HD22	1:A:103:CYS:O	0.68	1.89	12	7
1:A:48:LEU:HD22	1:A:105:LEU:HD12	0.68	1.65	19	1
1:A:105:LEU:O	1:A:106:ALA:HB3	0.67	1.89	7	3
1:A:17:LEU:HD13	1:A:59:ALA:CB	0.67	2.19	5	1
1:A:34:ARG:C	1:A:35:LEU:HD12	0.67	2.09	11	1
1:A:105:LEU:O	1:A:106:ALA:HB2	0.67	1.90	19	2
1:A:62:ILE:HG21	1:A:67:VAL:HG23	0.66	1.67	19	1
1:A:79:LEU:HD21	1:A:90:GLN:HB3	0.65	1.68	10	5
1:A:17:LEU:HD23	1:A:20:CYS:SG	0.65	2.32	14	3
1:A:62:ILE:HG23	1:A:67:VAL:CB	0.65	2.22	15	19
1:A:101:VAL:HG12	1:A:101:VAL:O	0.65	1.92	9	14
1:A:62:ILE:CG2	1:A:67:VAL:CB	0.65	2.75	19	1
1:A:34:ARG:O	1:A:35:LEU:HD22	0.64	1.92	18	1
1:A:60:VAL:HG22	1:A:97:LEU:HD22	0.64	1.67	19	1
1:A:34:ARG:C	1:A:35:LEU:HD22	0.64	2.12	2	1
1:A:79:LEU:HD21	1:A:90:GLN:HG2	0.64	1.69	15	2
1:A:24:VAL:HG22	1:A:93:PHE:CE1	0.64	2.28	3	9
1:A:58:GLU:O	1:A:62:ILE:HD12	0.64	1.93	11	2
1:A:68:VAL:CG2	1:A:74:HIS:CE1	0.64	2.81	20	14
1:A:62:ILE:HG23	1:A:67:VAL:HA	0.64	1.70	19	1
1:A:17:LEU:HD13	1:A:20:CYS:SG	0.63	2.33	15	1
1:A:24:VAL:HG22	1:A:93:PHE:CD1	0.63	2.29	1	9
1:A:54:TYR:CZ	1:A:108:ILE:HD11	0.63	2.28	7	1
1:A:15:ASN:N	1:A:16:PRO:HD3	0.62	2.09	19	17
1:A:62:ILE:HG22	1:A:67:VAL:HB	0.62	1.72	19	1
1:A:48:LEU:O	1:A:48:LEU:HD13	0.61	1.94	20	5
1:A:24:VAL:HG13	1:A:93:PHE:HD2	0.61	1.55	20	1
1:A:16:PRO:HB2	1:A:59:ALA:HB1	0.61	1.70	7	2
1:A:48:LEU:HD21	1:A:56:ARG:NH1	0.61	2.09	16	1
1:A:113:PHE:CD1	1:A:113:PHE:O	0.61	2.54	14	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:68:VAL:HG22	1:A:74:HIS:CD2	0.61	2.31	9	20
1:A:62:ILE:HG23	1:A:67:VAL:CG1	0.60	2.26	9	14
1:A:57:CYS:SG	1:A:98:VAL:HG21	0.60	2.36	5	2
1:A:20:CYS:O	1:A:24:VAL:HG23	0.60	1.96	17	5
1:A:63:LEU:O	1:A:63:LEU:HD23	0.60	1.96	4	1
1:A:109:HIS:CE1	1:A:113:PHE:O	0.60	2.55	14	4
1:A:10:MET:O	1:A:11:ALA:CB	0.60	2.50	19	20
1:A:97:LEU:HG	1:A:98:VAL:HG13	0.60	1.74	2	1
1:A:60:VAL:HG22	1:A:97:LEU:HD13	0.60	1.73	14	3
1:A:79:LEU:O	1:A:79:LEU:HD23	0.60	1.97	16	1
1:A:21:ARG:NH2	1:A:78:LEU:HD23	0.59	2.11	13	1
1:A:23:TYR:CG	1:A:40:MET:CE	0.59	2.84	7	1
1:A:64:MET:SD	1:A:79:LEU:HD22	0.59	2.36	10	1
1:A:113:PHE:CD1	1:A:113:PHE:N	0.59	2.67	19	5
1:A:53:ALA:HB1	1:A:107:THR:C	0.59	2.19	14	1
1:A:51:ILE:HG22	1:A:56:ARG:HG2	0.58	1.73	7	1
1:A:57:CYS:SG	1:A:98:VAL:HG11	0.58	2.38	5	1
1:A:29:CYS:O	1:A:31:VAL:HG23	0.58	1.98	2	11
1:A:53:ALA:HB1	1:A:108:ILE:N	0.58	2.13	1	4
1:A:60:VAL:CG2	1:A:97:LEU:CD1	0.58	2.80	15	1
1:A:76:GLY:O	1:A:78:LEU:HD12	0.58	1.98	13	2
1:A:17:LEU:HD23	1:A:97:LEU:HD21	0.58	1.76	5	1
1:A:35:LEU:HD11	1:A:43:ARG:NE	0.58	2.13	9	1
1:A:53:ALA:HA	1:A:56:ARG:HD3	0.58	1.75	20	1
1:A:93:PHE:CD1	1:A:93:PHE:O	0.57	2.57	14	6
1:A:35:LEU:N	1:A:35:LEU:HD23	0.57	2.15	1	1
1:A:105:LEU:O	1:A:106:ALA:CB	0.57	2.53	19	2
1:A:15:ASN:N	1:A:16:PRO:CD	0.57	2.67	19	8
1:A:69:THR:HG23	1:A:75:GLU:OE2	0.57	2.00	18	1
1:A:64:MET:HA	1:A:79:LEU:HD21	0.56	1.77	11	1
1:A:62:ILE:CG2	1:A:67:VAL:HB	0.56	2.29	19	6
1:A:21:ARG:CG	1:A:22:TRP:N	0.56	2.69	9	6
1:A:62:ILE:CG2	1:A:67:VAL:HG23	0.56	2.31	19	1
1:A:63:LEU:HD13	1:A:63:LEU:C	0.56	2.21	7	2
1:A:79:LEU:HD13	1:A:90:GLN:CB	0.56	2.31	18	1
1:A:104:ASN:O	1:A:105:LEU:CB	0.56	2.54	19	2
1:A:60:VAL:HG21	1:A:97:LEU:CD2	0.55	2.29	10	1
1:A:79:LEU:HD21	1:A:90:GLN:CG	0.55	2.31	15	2
1:A:12:ILE:HD11	1:A:55:CYS:HB2	0.55	1.77	16	5
1:A:21:ARG:NH2	1:A:78:LEU:HD22	0.55	2.16	6	1
1:A:62:ILE:CG2	1:A:67:VAL:CG1	0.55	2.85	9	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:17:LEU:HD23	1:A:59:ALA:HB1	0.55	1.79	15	2
1:A:94:ALA:N	1:A:95:PRO:HD2	0.55	2.17	14	15
1:A:108:ILE:HD13	1:A:108:ILE:C	0.55	2.21	9	2
1:A:21:ARG:HB3	1:A:63:LEU:HD21	0.55	1.79	11	1
1:A:21:ARG:HD3	1:A:79:LEU:HD12	0.54	1.77	4	1
1:A:24:VAL:O	1:A:28:THR:HG23	0.54	2.02	15	9
1:A:82:LEU:HB3	1:A:83:PRO:HD2	0.54	1.80	14	14
1:A:40:MET:O	1:A:43:ARG:CG	0.54	2.55	7	1
1:A:109:HIS:NE2	1:A:113:PHE:O	0.54	2.40	14	2
1:A:54:TYR:O	1:A:55:CYS:CB	0.54	2.56	19	4
1:A:93:PHE:CD1	1:A:93:PHE:C	0.54	2.80	14	2
1:A:48:LEU:HD21	1:A:98:VAL:HG12	0.54	1.79	2	1
1:A:57:CYS:O	1:A:58:GLU:C	0.54	2.46	7	6
1:A:19:SER:OG	1:A:40:MET:CE	0.54	2.56	14	1
1:A:35:LEU:C	1:A:35:LEU:HD23	0.54	2.24	9	1
1:A:106:ALA:HB1	1:A:110:GLY:HA2	0.54	1.80	18	1
1:A:52:PRO:O	1:A:54:TYR:N	0.54	2.41	19	5
1:A:98:VAL:O	1:A:104:ASN:CB	0.53	2.55	9	4
1:A:90:GLN:O	1:A:94:ALA:CB	0.53	2.54	9	1
1:A:17:LEU:CD2	1:A:17:LEU:N	0.53	2.71	15	1
1:A:14:HIS:CE1	1:A:69:THR:HG22	0.53	2.38	13	2
1:A:56:ARG:O	1:A:57:CYS:C	0.53	2.47	19	6
1:A:94:ALA:O	1:A:97:LEU:HD23	0.53	2.03	10	1
1:A:48:LEU:HD22	1:A:105:LEU:CD1	0.53	2.33	19	1
1:A:48:LEU:CD2	1:A:105:LEU:HD12	0.53	2.32	19	1
1:A:94:ALA:N	1:A:95:PRO:CD	0.53	2.71	14	14
1:A:104:ASN:N	1:A:104:ASN:ND2	0.53	2.54	7	1
1:A:79:LEU:O	1:A:79:LEU:CD2	0.53	2.55	20	1
1:A:35:LEU:HD23	1:A:35:LEU:H	0.52	1.62	1	1
1:A:23:TYR:HE1	1:A:37:THR:HG23	0.52	1.64	17	2
1:A:78:LEU:O	1:A:80:GLN:N	0.52	2.42	19	4
1:A:31:VAL:HG12	1:A:32:GLY:N	0.52	2.20	19	14
1:A:39:GLU:O	1:A:42:ALA:HB3	0.52	2.05	19	3
1:A:48:LEU:HD11	1:A:98:VAL:CG1	0.52	2.25	7	2
1:A:98:VAL:HG21	1:A:107:THR:HG21	0.52	1.80	7	2
1:A:35:LEU:HD21	1:A:39:GLU:HB2	0.52	1.82	9	1
1:A:63:LEU:C	1:A:63:LEU:HD13	0.52	2.25	5	1
1:A:24:VAL:CG2	1:A:93:PHE:CD1	0.52	2.92	19	4
1:A:21:ARG:HG3	1:A:22:TRP:N	0.52	2.19	15	3
1:A:31:VAL:CG1	1:A:32:GLY:N	0.52	2.73	19	4
1:A:23:TYR:CD2	1:A:40:MET:CE	0.51	2.93	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:17:LEU:CD1	1:A:20:CYS:SG	0.51	2.97	15	2
1:A:93:PHE:C	1:A:93:PHE:CD1	0.51	2.84	7	1
1:A:54:TYR:HA	1:A:108:ILE:HD12	0.51	1.81	14	1
1:A:62:ILE:HG21	1:A:67:VAL:CG2	0.51	2.36	19	1
1:A:62:ILE:HD12	1:A:67:VAL:CB	0.51	2.31	20	2
1:A:103:CYS:O	1:A:105:LEU:CD1	0.51	2.59	19	1
1:A:79:LEU:C	1:A:79:LEU:CD2	0.51	2.77	20	1
1:A:79:LEU:HD12	1:A:79:LEU:O	0.51	2.04	11	1
1:A:17:LEU:HD22	1:A:17:LEU:N	0.51	2.21	13	2
1:A:95:PRO:O	1:A:96:LYS:CB	0.51	2.59	7	3
1:A:48:LEU:HD21	1:A:56:ARG:HH11	0.51	1.65	7	1
1:A:64:MET:CA	1:A:79:LEU:HD21	0.51	2.36	11	1
1:A:55:CYS:O	1:A:56:ARG:C	0.51	2.50	14	5
1:A:79:LEU:O	1:A:79:LEU:CD1	0.51	2.57	20	1
1:A:26:THR:CA	1:A:31:VAL:O	0.50	2.59	20	5
1:A:51:ILE:O	1:A:56:ARG:NH1	0.50	2.43	11	1
1:A:62:ILE:HG23	1:A:67:VAL:CA	0.50	2.36	19	1
1:A:23:TYR:CB	1:A:40:MET:HE2	0.50	2.36	7	1
1:A:58:GLU:O	1:A:59:ALA:C	0.50	2.49	19	6
1:A:35:LEU:HD21	1:A:39:GLU:CB	0.50	2.37	9	1
1:A:21:ARG:NH1	1:A:78:LEU:HD23	0.50	2.20	2	1
1:A:53:ALA:HA	1:A:56:ARG:CG	0.50	2.37	15	3
1:A:29:CYS:SG	1:A:84:GLY:C	0.50	2.90	7	2
1:A:53:ALA:HA	1:A:56:ARG:NH2	0.50	2.21	20	1
1:A:21:ARG:CZ	1:A:82:LEU:HD11	0.50	2.37	10	1
1:A:109:HIS:ND1	1:A:113:PHE:CE1	0.49	2.80	14	1
1:A:94:ALA:O	1:A:97:LEU:HD12	0.49	2.07	1	1
1:A:104:ASN:O	1:A:106:ALA:N	0.49	2.45	15	2
1:A:21:ARG:NH2	1:A:82:LEU:HD11	0.49	2.22	10	1
1:A:63:LEU:HD23	1:A:79:LEU:CD2	0.49	2.37	11	1
1:A:67:VAL:HG22	1:A:68:VAL:N	0.49	2.22	20	14
1:A:64:MET:SD	1:A:91:ARG:NE	0.49	2.86	7	1
1:A:26:THR:N	1:A:31:VAL:O	0.49	2.46	9	1
1:A:62:ILE:CG2	1:A:67:VAL:CG2	0.49	2.91	19	1
1:A:113:PHE:O	1:A:113:PHE:CG	0.49	2.66	13	3
1:A:23:TYR:CG	1:A:40:MET:HE3	0.48	2.43	7	1
1:A:61:ARG:O	1:A:63:LEU:N	0.48	2.46	7	1
1:A:63:LEU:HD21	1:A:79:LEU:HD23	0.48	1.85	15	1
1:A:79:LEU:HD13	1:A:90:GLN:HB2	0.48	1.84	18	1
1:A:104:ASN:O	1:A:105:LEU:HB2	0.48	2.08	19	2
1:A:40:MET:C	1:A:40:MET:SD	0.48	2.92	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:35:LEU:CD2	1:A:39:GLU:HB2	0.48	2.38	9	1
1:A:23:TYR:CG	1:A:40:MET:HG2	0.48	2.43	20	1
1:A:97:LEU:HG	1:A:98:VAL:N	0.48	2.24	2	1
1:A:101:VAL:O	1:A:101:VAL:CG1	0.48	2.60	9	2
1:A:52:PRO:O	1:A:53:ALA:C	0.48	2.52	15	5
1:A:98:VAL:O	1:A:98:VAL:HG23	0.48	2.07	7	4
1:A:62:ILE:CG2	1:A:67:VAL:CA	0.48	2.91	19	1
1:A:113:PHE:O	1:A:113:PHE:CD2	0.48	2.66	13	1
1:A:63:LEU:C	1:A:63:LEU:CD1	0.48	2.82	7	1
1:A:112:PRO:O	1:A:113:PHE:HB3	0.48	2.09	14	8
1:A:61:ARG:O	1:A:65:ASP:HB2	0.48	2.09	19	3
1:A:21:ARG:CD	1:A:21:ARG:C	0.48	2.81	7	1
1:A:98:VAL:HG21	1:A:107:THR:CG2	0.48	2.39	7	1
1:A:103:CYS:O	1:A:104:ASN:C	0.48	2.52	7	6
1:A:105:LEU:O	1:A:106:ALA:O	0.48	2.32	20	3
1:A:29:CYS:SG	1:A:84:GLY:O	0.48	2.72	20	4
1:A:107:THR:OG1	1:A:108:ILE:N	0.48	2.42	14	1
1:A:27:ARG:NH1	1:A:37:THR:HG21	0.48	2.23	16	1
1:A:21:ARG:NH2	1:A:78:LEU:O	0.47	2.47	7	1
1:A:53:ALA:HA	1:A:56:ARG:CD	0.47	2.38	20	2
1:A:17:LEU:N	1:A:17:LEU:HD22	0.47	2.25	15	1
1:A:17:LEU:N	1:A:17:LEU:CD2	0.47	2.77	19	1
1:A:94:ALA:HB3	1:A:95:PRO:CD	0.47	2.36	19	5
1:A:47:GLN:O	1:A:51:ILE:CG1	0.47	2.63	14	1
1:A:22:TRP:HB2	1:A:40:MET:CE	0.47	2.39	19	1
1:A:16:PRO:CB	1:A:59:ALA:HB1	0.47	2.39	16	1
1:A:40:MET:O	1:A:41:LYS:C	0.47	2.53	7	2
1:A:68:VAL:CG1	1:A:69:THR:N	0.47	2.78	9	6
1:A:24:VAL:O	1:A:28:THR:OG1	0.47	2.32	9	1
1:A:17:LEU:HB3	1:A:63:LEU:CD1	0.47	2.38	19	1
1:A:63:LEU:O	1:A:77:ARG:HA	0.47	2.10	20	3
1:A:109:HIS:CB	1:A:113:PHE:CE1	0.47	2.98	19	3
1:A:35:LEU:O	1:A:36:ALA:C	0.47	2.54	15	4
1:A:53:ALA:HA	1:A:56:ARG:CZ	0.46	2.40	20	1
1:A:67:VAL:CG2	1:A:68:VAL:N	0.46	2.77	9	4
1:A:14:HIS:O	1:A:15:ASN:CG	0.46	2.54	20	1
1:A:48:LEU:HD13	1:A:48:LEU:C	0.46	2.30	1	2
1:A:35:LEU:CD2	1:A:43:ARG:NH1	0.46	2.79	7	1
1:A:107:THR:HG1	1:A:109:HIS:CE1	0.46	2.27	14	1
1:A:53:ALA:CA	1:A:56:ARG:HD3	0.46	2.39	20	1
1:A:49:GLU:O	1:A:50:ALA:C	0.46	2.54	19	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:102:GLU:HG3	1:A:103:CYS:N	0.46	2.26	7	1
1:A:62:ILE:HG23	1:A:67:VAL:HG12	0.46	1.86	9	2
1:A:97:LEU:O	1:A:102:GLU:HB2	0.46	2.10	9	4
1:A:108:ILE:HG23	1:A:109:HIS:N	0.46	2.26	14	4
1:A:23:TYR:CE1	1:A:37:THR:HG23	0.46	2.45	17	2
1:A:19:SER:OG	1:A:40:MET:HE2	0.46	2.11	14	1
1:A:79:LEU:O	1:A:80:GLN:CG	0.46	2.64	20	1
1:A:8:PRO:O	1:A:10:MET:N	0.46	2.49	1	1
1:A:23:TYR:CD2	1:A:40:MET:HE2	0.46	2.46	7	1
1:A:26:THR:HA	1:A:31:VAL:O	0.46	2.11	7	4
1:A:28:THR:OG1	1:A:85:CYS:SG	0.46	2.73	7	1
1:A:35:LEU:HD23	1:A:36:ALA:O	0.46	2.11	9	1
1:A:54:TYR:O	1:A:55:CYS:HB2	0.46	2.11	9	5
1:A:43:ARG:N	1:A:43:ARG:HD2	0.46	2.26	14	1
1:A:35:LEU:HD11	1:A:40:MET:HE3	0.45	1.88	1	1
1:A:35:LEU:O	1:A:36:ALA:O	0.45	2.34	15	1
1:A:93:PHE:O	1:A:94:ALA:C	0.45	2.55	19	3
1:A:8:PRO:O	1:A:10:MET:SD	0.45	2.74	7	1
1:A:17:LEU:CB	1:A:63:LEU:HD12	0.45	2.41	19	1
1:A:104:ASN:O	1:A:105:LEU:C	0.45	2.54	14	4
1:A:60:VAL:HG22	1:A:97:LEU:CD1	0.45	2.40	15	1
1:A:17:LEU:CD2	1:A:97:LEU:HD21	0.45	2.40	5	1
1:A:91:ARG:O	1:A:95:PRO:HD3	0.45	2.12	7	3
1:A:53:ALA:O	1:A:54:TYR:C	0.45	2.54	14	1
1:A:79:LEU:C	1:A:79:LEU:HD13	0.45	2.32	15	1
1:A:53:ALA:HA	1:A:56:ARG:HG3	0.45	1.88	19	1
1:A:63:LEU:HD12	1:A:79:LEU:HB2	0.45	1.88	7	1
1:A:17:LEU:CD1	1:A:17:LEU:N	0.45	2.79	9	1
1:A:19:SER:OG	1:A:44:CYS:SG	0.45	2.74	7	1
1:A:109:HIS:CE1	1:A:113:PHE:C	0.45	2.90	14	1
1:A:23:TYR:CG	1:A:40:MET:HE2	0.45	2.45	7	1
1:A:69:THR:HG23	1:A:75:GLU:CD	0.45	2.31	18	1
1:A:51:ILE:CG2	1:A:56:ARG:HA	0.45	2.42	7	2
1:A:112:PRO:O	1:A:113:PHE:CB	0.45	2.63	19	1
1:A:23:TYR:O	1:A:23:TYR:CD1	0.44	2.71	20	3
1:A:40:MET:O	1:A:43:ARG:HG2	0.44	2.11	7	1
1:A:40:MET:SD	1:A:43:ARG:HD3	0.44	2.52	7	1
1:A:43:ARG:O	1:A:47:GLN:HG3	0.44	2.12	7	1
1:A:18:ASP:CG	1:A:19:SER:N	0.44	2.70	19	1
1:A:54:TYR:C	1:A:55:CYS:SG	0.44	2.95	20	2
1:A:35:LEU:N	1:A:35:LEU:CD2	0.44	2.81	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:23:TYR:HB2	1:A:40:MET:CG	0.44	2.42	15	2
1:A:105:LEU:N	1:A:105:LEU:CD2	0.44	2.80	20	1
1:A:59:ALA:O	1:A:60:VAL:C	0.44	2.55	7	1
1:A:23:TYR:HB2	1:A:40:MET:HG2	0.44	1.89	20	2
1:A:61:ARG:O	1:A:62:ILE:C	0.44	2.54	7	1
1:A:12:ILE:HD11	1:A:55:CYS:SG	0.44	2.53	20	1
1:A:97:LEU:O	1:A:102:GLU:CB	0.44	2.66	9	3
1:A:16:PRO:O	1:A:17:LEU:C	0.44	2.56	7	1
1:A:48:LEU:HD23	1:A:48:LEU:C	0.44	2.32	11	1
1:A:63:LEU:CD2	1:A:79:LEU:HD23	0.44	2.43	11	1
1:A:61:ARG:O	1:A:65:ASP:CB	0.44	2.66	19	1
1:A:47:GLN:O	1:A:51:ILE:HD12	0.44	2.12	5	2
1:A:60:VAL:HG11	1:A:97:LEU:CD1	0.44	2.42	3	1
1:A:50:ALA:O	1:A:52:PRO:HD3	0.44	2.12	9	6
1:A:53:ALA:HB2	1:A:56:ARG:NH2	0.44	2.28	9	1
1:A:68:VAL:CG2	1:A:74:HIS:NE2	0.44	2.79	9	1
1:A:104:ASN:CG	1:A:105:LEU:N	0.44	2.71	15	1
1:A:36:ALA:HB3	1:A:39:GLU:OE2	0.44	2.12	6	1
1:A:34:ARG:CG	1:A:34:ARG:O	0.44	2.66	7	1
1:A:34:ARG:O	1:A:34:ARG:HG2	0.44	2.13	7	1
1:A:41:LYS:HG3	1:A:102:GLU:OE1	0.44	2.13	7	1
1:A:23:TYR:CB	1:A:40:MET:HG2	0.44	2.42	20	2
1:A:19:SER:O	1:A:23:TYR:HB2	0.44	2.13	20	1
1:A:63:LEU:HD13	1:A:63:LEU:O	0.43	2.13	5	1
1:A:37:THR:O	1:A:38:GLN:C	0.43	2.56	7	2
1:A:109:HIS:HB3	1:A:113:PHE:CE1	0.43	2.48	20	5
1:A:55:CYS:O	1:A:56:ARG:O	0.43	2.37	20	4
1:A:109:HIS:ND1	1:A:113:PHE:CD1	0.43	2.86	14	1
1:A:86:PRO:O	1:A:87:ARG:C	0.43	2.56	9	6
1:A:47:GLN:O	1:A:50:ALA:HB3	0.43	2.12	11	1
1:A:56:ARG:NH1	1:A:106:ALA:O	0.43	2.51	14	1
1:A:51:ILE:O	1:A:56:ARG:NH2	0.43	2.51	5	1
1:A:95:PRO:O	1:A:96:LYS:CD	0.43	2.66	15	1
1:A:35:LEU:HD22	1:A:35:LEU:N	0.43	2.27	2	1
1:A:23:TYR:CB	1:A:40:MET:CE	0.43	2.97	7	1
1:A:40:MET:SD	1:A:43:ARG:CD	0.43	3.07	7	1
1:A:21:ARG:NH1	1:A:22:TRP:NE1	0.43	2.67	9	1
1:A:48:LEU:HD12	1:A:105:LEU:HD12	0.43	1.89	14	1
1:A:20:CYS:N	1:A:44:CYS:SG	0.43	2.92	20	4
1:A:62:ILE:O	1:A:66:GLY:CA	0.43	2.66	9	4
1:A:98:VAL:O	1:A:104:ASN:HA	0.43	2.13	19	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:60:VAL:HG21	1:A:97:LEU:CB	0.43	2.44	10	1
1:A:60:VAL:HG23	1:A:97:LEU:HD22	0.43	1.89	11	1
1:A:63:LEU:HD23	1:A:79:LEU:HD23	0.43	1.90	11	1
1:A:79:LEU:C	1:A:79:LEU:HD23	0.43	2.34	19	1
1:A:103:CYS:O	1:A:105:LEU:HD23	0.43	2.12	20	1
1:A:78:LEU:O	1:A:79:LEU:C	0.43	2.55	15	2
1:A:59:ALA:HA	1:A:62:ILE:HD12	0.43	1.90	4	2
1:A:58:GLU:O	1:A:61:ARG:N	0.43	2.52	14	2
1:A:104:ASN:ND2	1:A:112:PRO:HB3	0.43	2.28	14	1
1:A:43:ARG:O	1:A:47:GLN:CG	0.42	2.66	7	1
1:A:109:HIS:O	1:A:110:GLY:C	0.42	2.56	19	4
1:A:74:HIS:O	1:A:75:GLU:CD	0.42	2.57	19	2
1:A:62:ILE:O	1:A:66:GLY:HA2	0.42	2.14	7	1
1:A:92:ALA:O	1:A:95:PRO:HD2	0.42	2.15	7	4
1:A:23:TYR:HE1	1:A:37:THR:HG22	0.42	1.74	7	1
1:A:109:HIS:O	1:A:111:GLY:N	0.42	2.53	19	3
1:A:52:PRO:C	1:A:54:TYR:N	0.42	2.73	9	1
1:A:86:PRO:O	1:A:88:GLN:N	0.42	2.52	9	1
1:A:108:ILE:HG23	1:A:109:HIS:CD2	0.42	2.50	3	1
1:A:80:GLN:O	1:A:81:ASP:C	0.42	2.58	7	1
1:A:21:ARG:CB	1:A:63:LEU:HD21	0.42	2.43	11	1
1:A:62:ILE:HD12	1:A:62:ILE:N	0.42	2.30	2	1
1:A:63:LEU:HD23	1:A:63:LEU:C	0.42	2.33	4	2
1:A:40:MET:O	1:A:43:ARG:HG3	0.42	2.14	7	1
1:A:63:LEU:CD1	1:A:79:LEU:HB2	0.42	2.44	7	1
1:A:86:PRO:C	1:A:88:GLN:N	0.42	2.72	9	3
1:A:95:PRO:O	1:A:96:LYS:HB2	0.42	2.13	7	3
1:A:26:THR:O	1:A:30:GLY:HA2	0.42	2.15	15	2
1:A:108:ILE:CG2	1:A:109:HIS:CD2	0.42	3.03	17	1
1:A:17:LEU:HD21	1:A:59:ALA:HB1	0.42	1.92	19	1
1:A:39:GLU:O	1:A:43:ARG:HD3	0.42	2.15	14	1
1:A:53:ALA:C	1:A:55:CYS:N	0.42	2.72	14	1
1:A:26:THR:OG1	1:A:31:VAL:O	0.42	2.33	19	1
1:A:21:ARG:C	1:A:21:ARG:HD2	0.41	2.35	7	1
1:A:23:TYR:HB2	1:A:40:MET:SD	0.41	2.55	7	1
1:A:48:LEU:O	1:A:56:ARG:NH1	0.41	2.53	5	2
1:A:108:ILE:C	1:A:108:ILE:CD1	0.41	2.88	9	1
1:A:48:LEU:CD1	1:A:98:VAL:HG12	0.41	2.41	11	1
1:A:76:GLY:O	1:A:77:ARG:CG	0.41	2.69	18	1
1:A:11:ALA:O	1:A:13:PRO:HD3	0.41	2.16	7	1
1:A:60:VAL:HG21	1:A:97:LEU:HB3	0.41	1.91	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:23:TYR:CE1	1:A:27:ARG:HG2	0.41	2.50	15	1
1:A:104:ASN:C	1:A:106:ALA:N	0.41	2.74	15	1
1:A:113:PHE:O	1:A:113:PHE:CD1	0.41	2.74	2	1
1:A:40:MET:O	1:A:42:ALA:N	0.41	2.53	7	1
1:A:109:HIS:C	1:A:111:GLY:N	0.41	2.74	20	2
1:A:93:PHE:C	1:A:95:PRO:HD2	0.41	2.36	20	1
1:A:47:GLN:O	1:A:51:ILE:HG12	0.41	2.15	14	2
1:A:97:LEU:O	1:A:102:GLU:HB3	0.41	2.16	7	1
1:A:18:ASP:OD1	1:A:19:SER:N	0.41	2.54	19	1
1:A:22:TRP:HB2	1:A:40:MET:HE3	0.41	1.93	19	1
1:A:67:VAL:CG1	1:A:75:GLU:HB2	0.41	2.46	19	1
1:A:17:LEU:HD23	1:A:20:CYS:CB	0.41	2.46	7	1
1:A:62:ILE:CG2	1:A:67:VAL:HG12	0.41	2.45	9	1
1:A:34:ARG:O	1:A:35:LEU:HD12	0.41	2.16	11	1
1:A:84:GLY:C	1:A:85:CYS:SG	0.41	2.99	14	1
1:A:24:VAL:CG1	1:A:90:GLN:OE1	0.41	2.69	19	1
1:A:43:ARG:NH1	1:A:43:ARG:CG	0.41	2.84	20	1
1:A:107:THR:OG1	1:A:109:HIS:ND1	0.40	2.54	4	1
1:A:98:VAL:C	1:A:104:ASN:HA	0.40	2.36	7	1
1:A:22:TRP:O	1:A:25:SER:OG	0.40	2.33	19	1
1:A:62:ILE:HA	1:A:66:GLY:O	0.40	2.17	19	1
1:A:54:TYR:CE1	1:A:108:ILE:HD11	0.40	2.51	7	1
1:A:35:LEU:HD23	1:A:36:ALA:N	0.40	2.31	9	1
1:A:55:CYS:O	1:A:57:CYS:N	0.40	2.55	14	1
1:A:12:ILE:HD13	1:A:51:ILE:HG23	0.40	1.94	11	1
1:A:48:LEU:CD2	1:A:56:ARG:CZ	0.40	3.00	17	1
1:A:107:THR:HG21	1:A:113:PHE:O	0.40	2.15	17	1
1:A:54:TYR:CZ	1:A:108:ILE:CD1	0.40	3.04	7	1
1:A:63:LEU:CD2	1:A:79:LEU:HD13	0.40	2.46	13	1
1:A:56:ARG:O	1:A:58:GLU:N	0.40	2.54	15	1
1:A:102:GLU:OE1	1:A:102:GLU:CA	0.40	2.70	19	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	106/122 (87%)	84±4 (79±3%)	17±4 (16±4%)	5±2 (5±2%)	4 27
All	All	2120/2440 (87%)	1680 (79%)	341 (16%)	99 (5%)	4 27

All 17 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	56	ARG	20
1	A	79	LEU	14
1	A	106	ALA	11
1	A	53	ALA	9
1	A	57	CYS	8
1	A	98	VAL	7
1	A	11	ALA	6
1	A	113	PHE	6
1	A	96	LYS	4
1	A	104	ASN	4
1	A	105	LEU	3
1	A	81	ASP	2
1	A	8	PRO	1
1	A	9	GLY	1
1	A	62	ILE	1
1	A	36	ALA	1
1	A	58	GLU	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	88/100 (88%)	74±3 (84±3%)	14±3 (16±3%)	5 41
All	All	1760/2000 (88%)	1471 (84%)	289 (16%)	5 41

All 42 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	19	SER	16

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Mol	Chain	Res	Type	Models (Total)
1	A	21	ARG	15
1	A	97	LEU	15
1	A	46	ARG	14
1	A	91	ARG	14
1	A	37	THR	13
1	A	43	ARG	11
1	A	61	ARG	11
1	A	96	LYS	11
1	A	56	ARG	10
1	A	64	MET	9
1	A	77	ARG	9
1	A	34	ARG	9
1	A	54	TYR	8
1	A	90	GLN	8
1	A	40	MET	8
1	A	100	GLU	8
1	A	38	GLN	7
1	A	25	SER	6
1	A	102	GLU	6
1	A	113	PHE	6
1	A	35	LEU	6
1	A	79	LEU	6
1	A	108	ILE	5
1	A	88	GLN	5
1	A	27	ARG	5
1	A	49	GLU	5
1	A	63	LEU	4
1	A	58	GLU	4
1	A	78	LEU	4
1	A	10	MET	4
1	A	48	LEU	4
1	A	81	ASP	4
1	A	15	ASN	3
1	A	41	LYS	3
1	A	87	ARG	3
1	A	17	LEU	3
1	A	109	HIS	2
1	A	47	GLN	2
1	A	104	ASN	1
1	A	105	LEU	1
1	A	65	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 (i)

No chemical shift data were provided