



# Full wwPDB NMR Structure Validation Report ⓘ

Feb 20, 2018 – 04:33 pm GMT

PDB ID : 1J5C  
Title : SOLUTION STRUCTURE OF OXIDIZED PARAMAGNETIC CU(II) PLAS-  
TOCYANIN FROM SYNECHOCYSTIS PCC6803  
Authors : Bertini, I.; Ciurli, S.; Dikiy, A.; Fernandez, C.O.; Luchinat, C.; Safarov, N.;  
Shumilin, S.; Vila, A.J.  
Deposited on : 2002-04-02

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

---

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

Cyrange : Kirchner and Güntert (2011)  
NmrClust : Kelley et al. (1996)  
MolProbity : 4.02b-467  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
ShiftChecker : trunk30686  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk30686

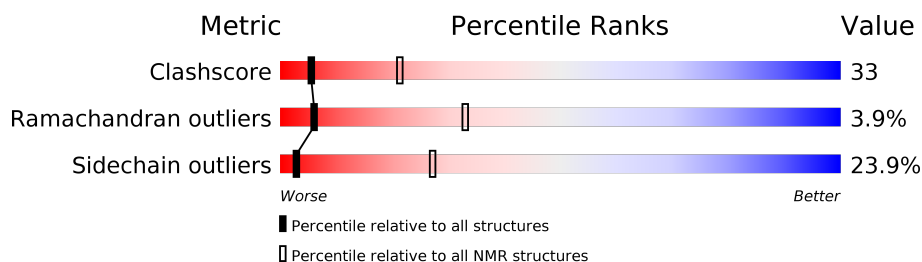
# 1 Overall quality at a glance

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	136279	12091
Ramachandran outliers	132675	10835
Sidechain outliers	132484	10811

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  $\geq 3$ , 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	98	<div> <div></div> <div>36%</div> <div>51%</div> <div>5%</div> <div>8%</div> </div>

## 2 Ensemble composition and analysis

This entry contains 35 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: *fewest violations*.

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:2-A:83, A:91-A:98 (90)	0.40	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 1 single-model cluster was found.

Cluster number	Models
1	1, 3, 5, 6, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 31, 34, 35
2	2, 4, 7, 12, 13, 14, 30, 32, 33
Single-model clusters	22

### 3 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 1416 atoms, of which 695 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called PLASTOCYANIN.

Mol	Chain	Residues	Atoms						Trace
1	A	98	Total	C	H	N	O	S	0
			1415	455	695	119	143	3	

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	98	ASP	GLU	ENGINEERED	UNP P21697

- Molecule 2 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

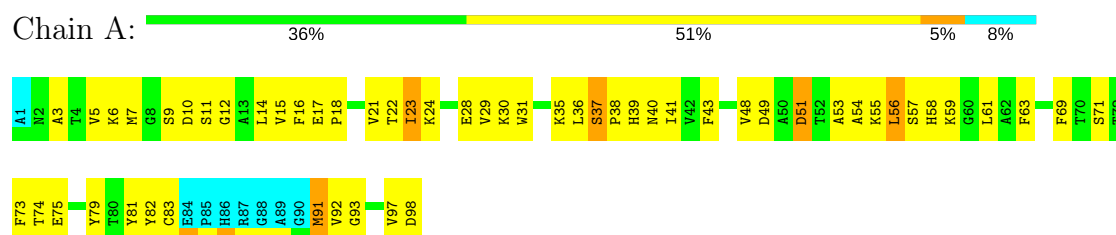
Mol	Chain	Residues	Atoms	
2	A	1	Total	Cu
			1	1

## 4 Residue-property plots

### 4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA and DNA 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: PLASTOCYANIN

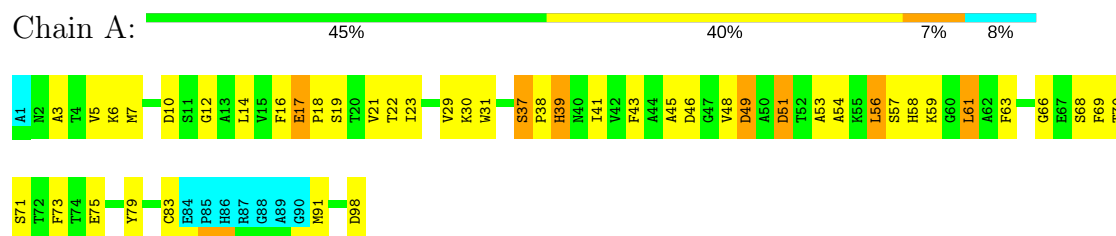


### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

#### 4.2.1 Score per residue for model 1

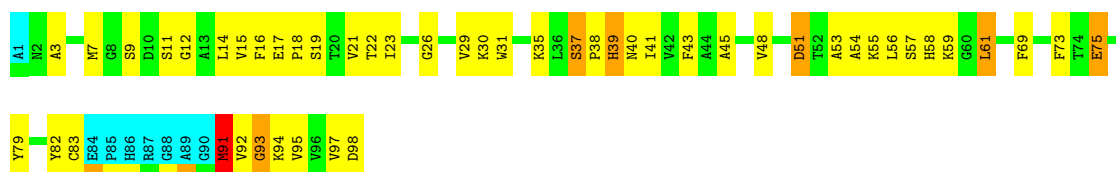
#### • Molecule 1: PLASTOCYANIN



#### 4.2.2 Score per residue for model 2

#### • Molecule 1: PLASTOCYANIN

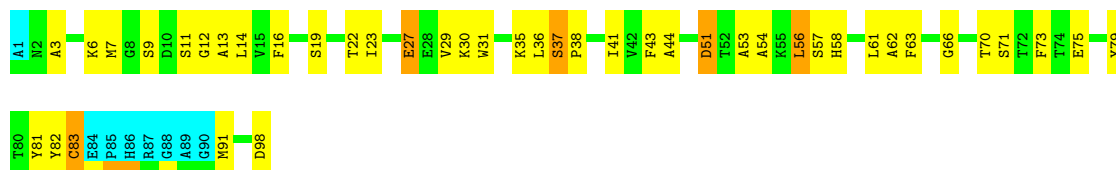




#### 4.2.3 Score per residue for model 3

- Molecule 1: PLASTOCYANIN

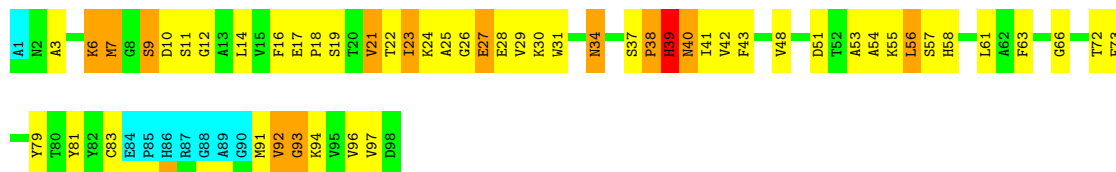
Chain A: 48% 39% 5% 8%



#### 4.2.4 Score per residue for model 4

- Molecule 1: PLASTOCYANIN

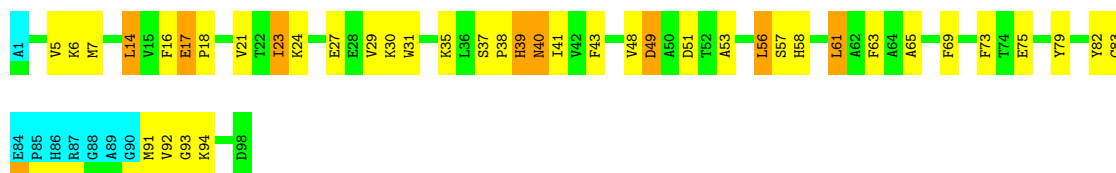
Chain A: 38% 41% 12% 8%



#### 4.2.5 Score per residue for model 5

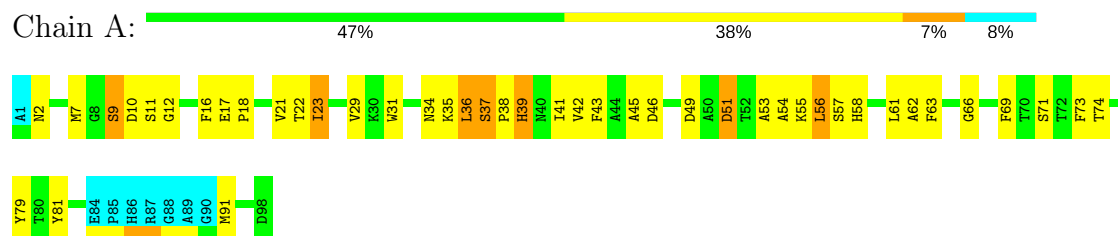
- Molecule 1: PLASTOCYANIN

Chain A: 50% 34% 8% 8%



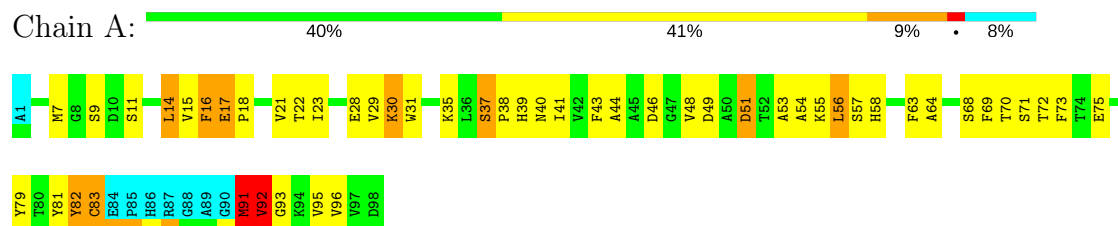
#### 4.2.6 Score per residue for model 6

- Molecule 1: PLASTOCYANIN



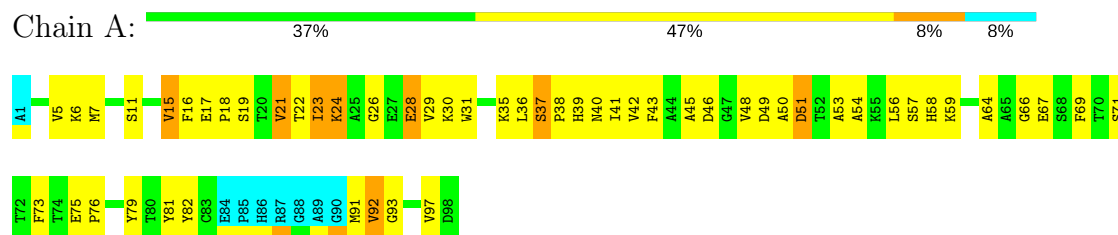
#### 4.2.7 Score per residue for model 7

- Molecule 1: PLASTOCYANIN



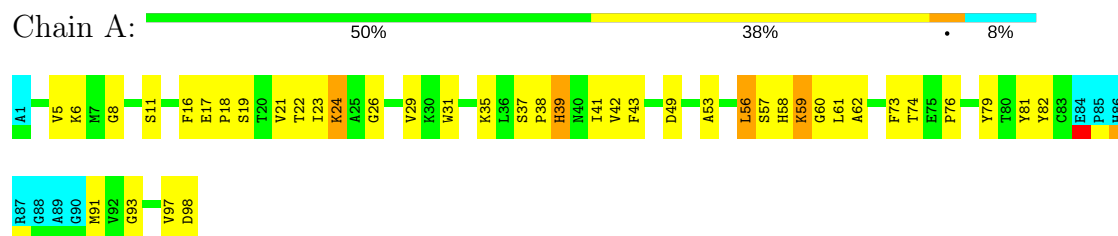
#### 4.2.8 Score per residue for model 8

- Molecule 1: PLASTOCYANIN



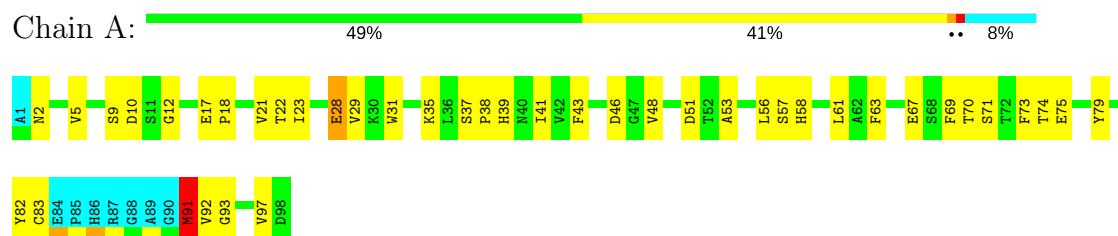
#### 4.2.9 Score per residue for model 9

- Molecule 1: PLASTOCYANIN



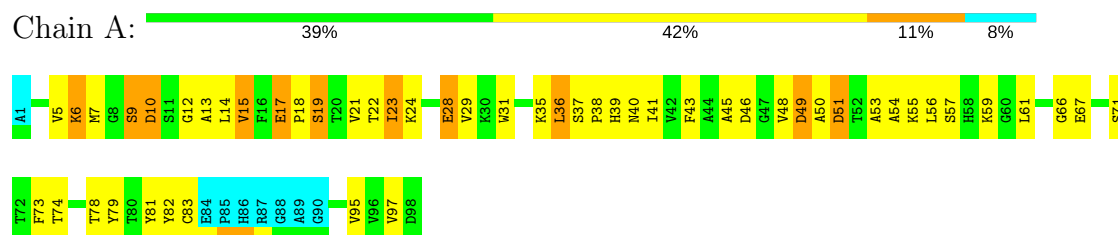
## 4.2.10 Score per residue for model 10

- Molecule 1: PLASTOCYANIN



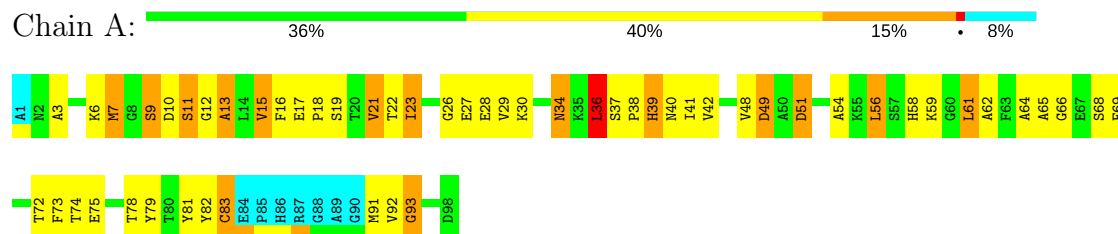
## 4.2.11 Score per residue for model 11

- Molecule 1: PLASTOCYANIN



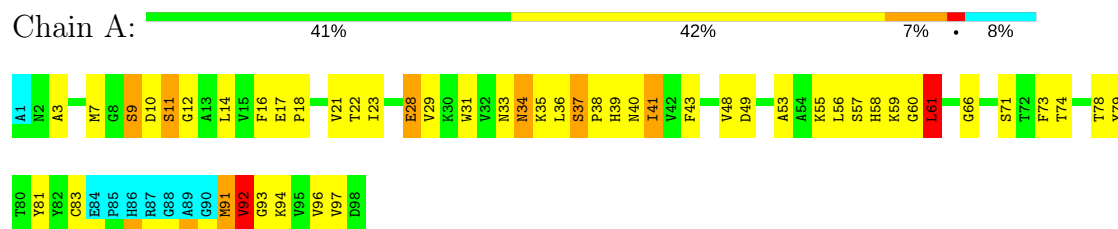
## 4.2.12 Score per residue for model 12

- Molecule 1: PLASTOCYANIN



## 4.2.13 Score per residue for model 13

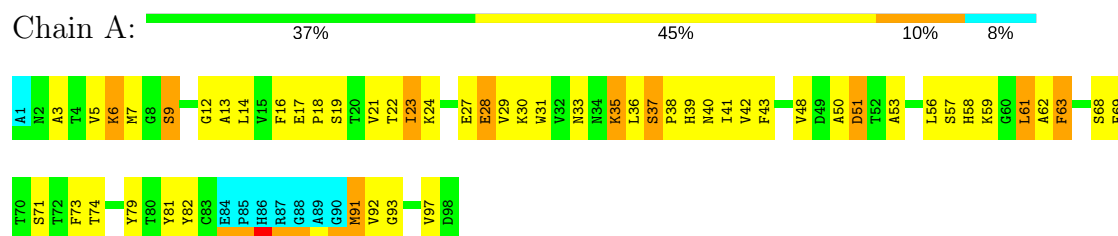
- Molecule 1: PLASTOCYANIN





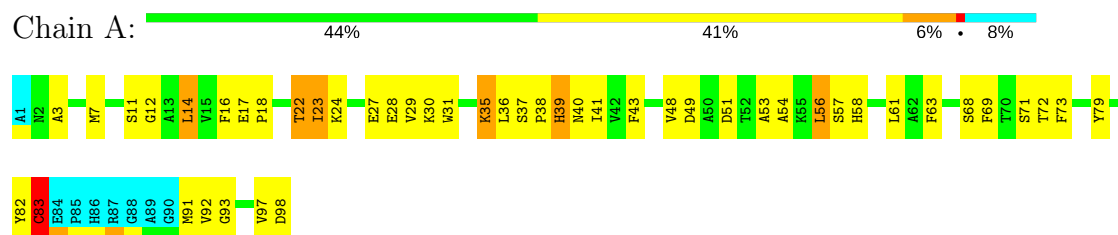
## 4.2.14 Score per residue for model 14

- Molecule 1: PLASTOCYANIN



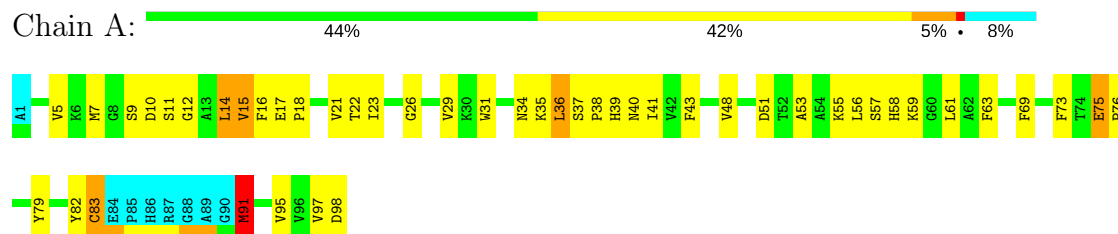
## 4.2.15 Score per residue for model 15 (medoid)

- Molecule 1: PLASTOCYANIN



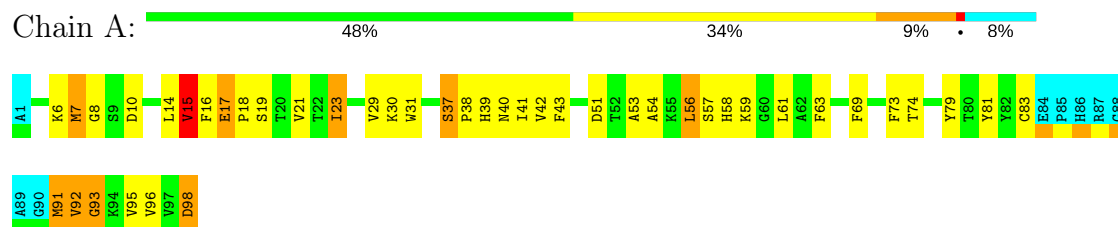
## 4.2.16 Score per residue for model 16

- Molecule 1: PLASTOCYANIN



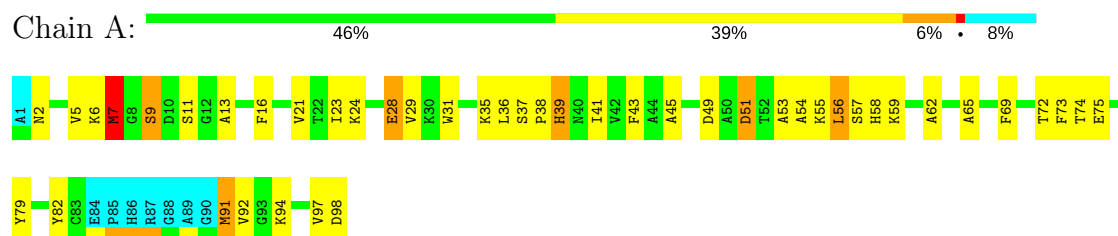
## 4.2.17 Score per residue for model 17

- Molecule 1: PLASTOCYANIN



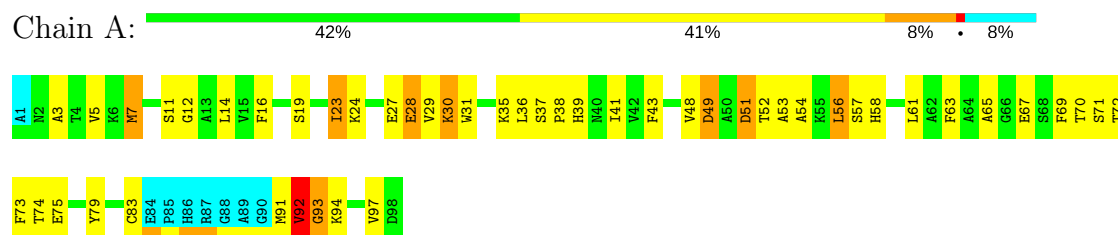
## 4.2.18 Score per residue for model 18

- Molecule 1: PLASTOCYANIN



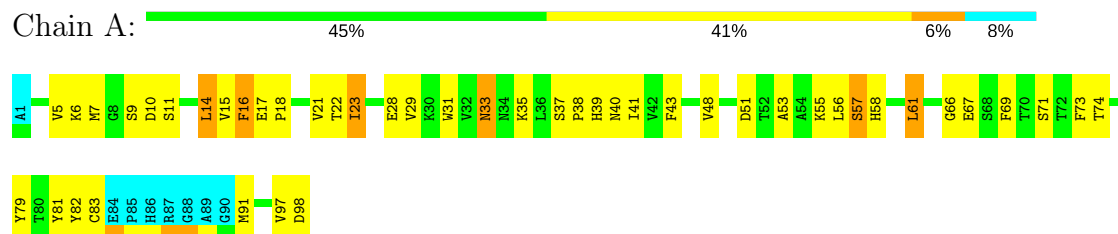
## 4.2.19 Score per residue for model 19

- Molecule 1: PLASTOCYANIN



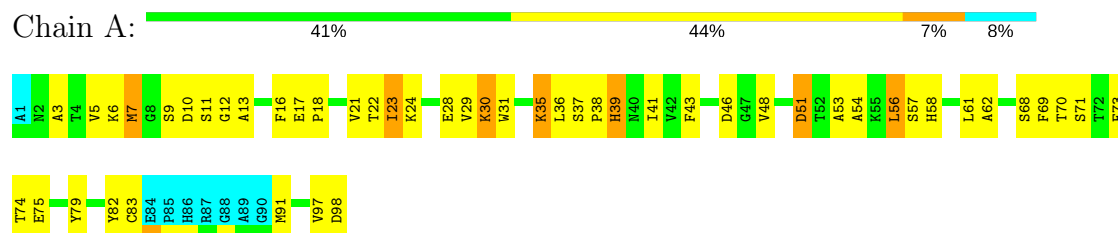
## 4.2.20 Score per residue for model 20

- Molecule 1: PLASTOCYANIN



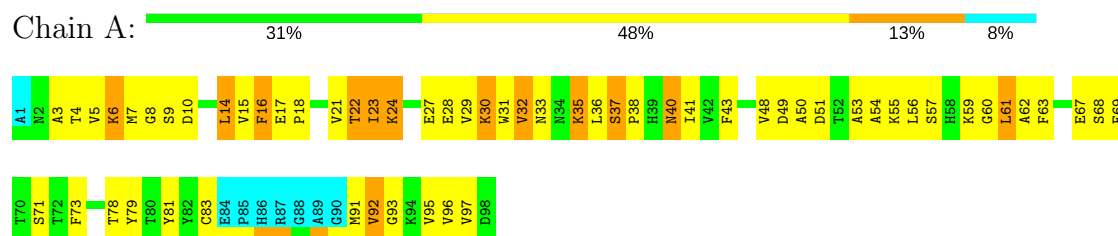
## 4.2.21 Score per residue for model 21

- Molecule 1: PLASTOCYANIN



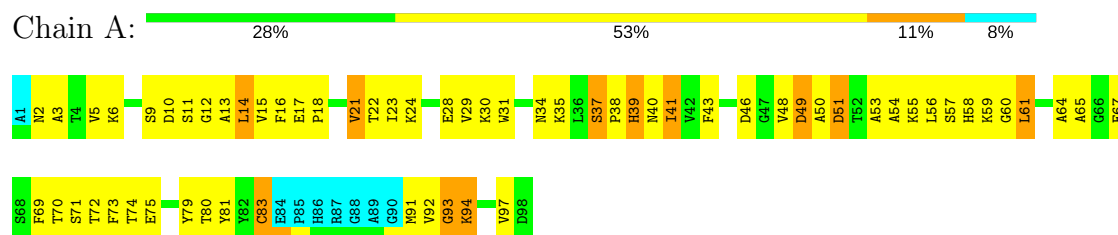
### 4.2.22 Score per residue for model 22

#### • Molecule 1: PLASTOCYANIN



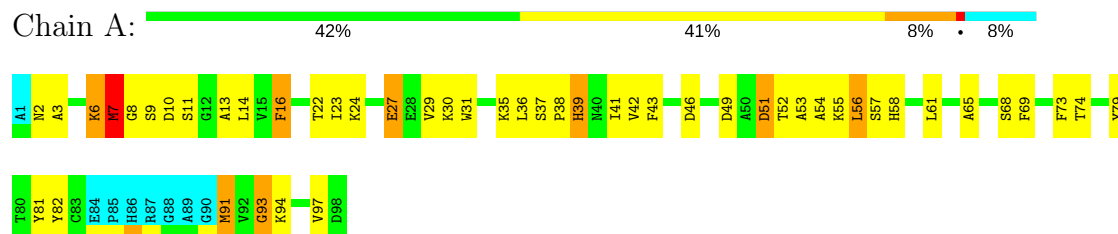
### 4.2.23 Score per residue for model 23

#### • Molecule 1: PLASTOCYANIN



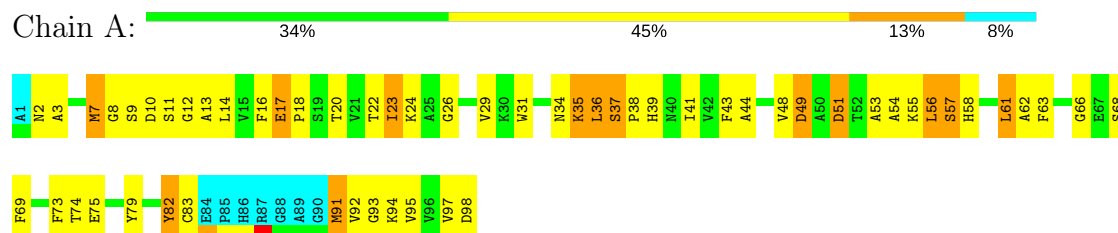
### 4.2.24 Score per residue for model 24

#### • Molecule 1: PLASTOCYANIN



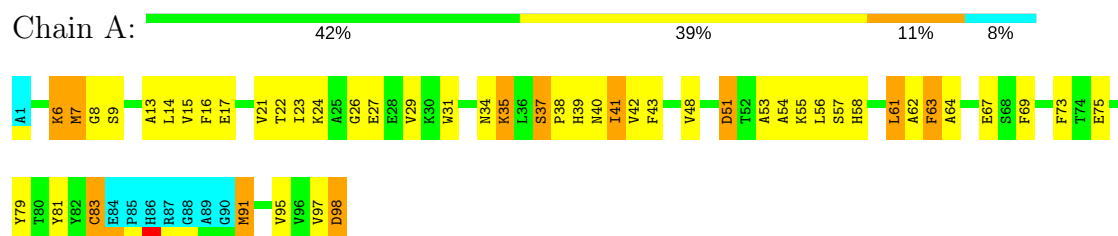
### 4.2.25 Score per residue for model 25

#### • Molecule 1: PLASTOCYANIN



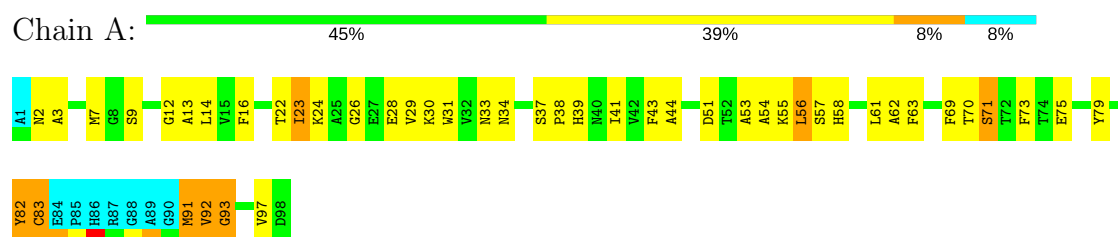
#### 4.2.26 Score per residue for model 26

- Molecule 1: PLASTOCYANIN



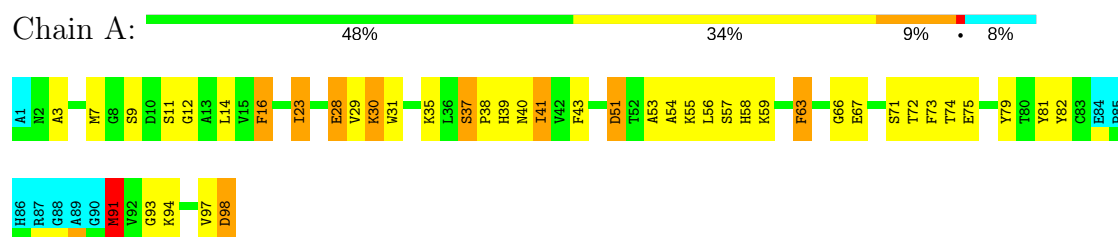
#### 4.2.27 Score per residue for model 27

- Molecule 1: PLASTOCYANIN



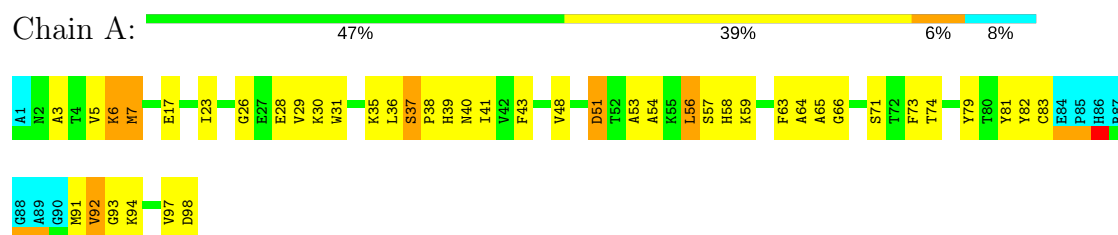
#### 4.2.28 Score per residue for model 28

- Molecule 1: PLASTOCYANIN



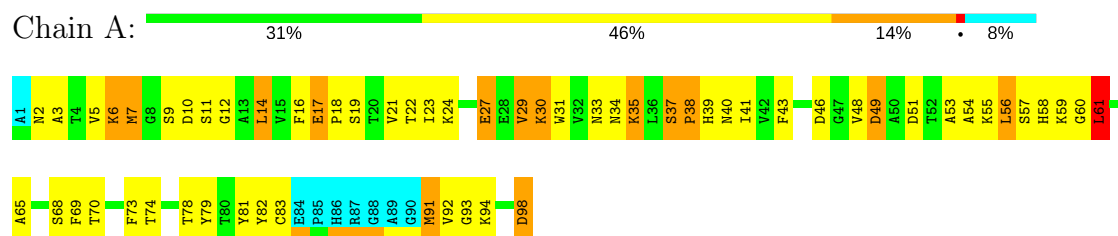
#### 4.2.29 Score per residue for model 29

- Molecule 1: PLASTOCYANIN



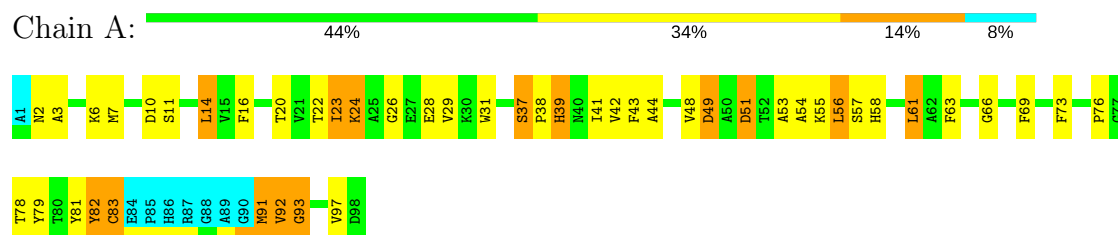
## 4.2.30 Score per residue for model 30

- Molecule 1: PLASTOCYANIN



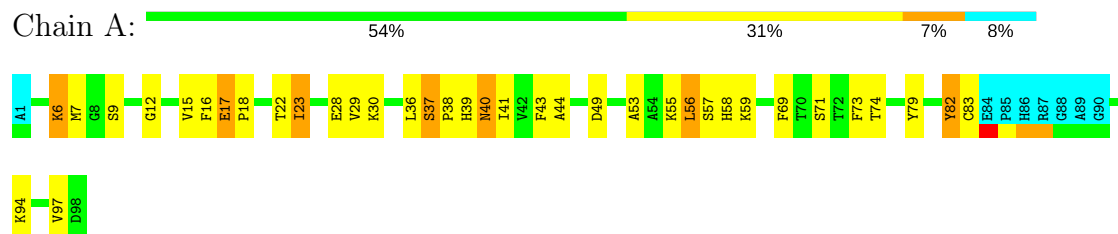
## 4.2.31 Score per residue for model 31

- Molecule 1: PLASTOCYANIN



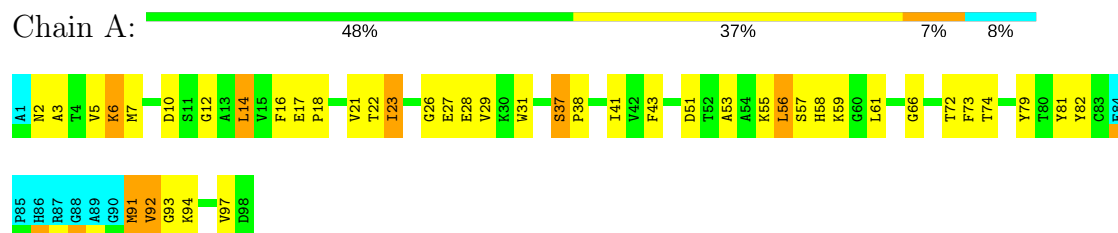
## 4.2.32 Score per residue for model 32

- Molecule 1: PLASTOCYANIN



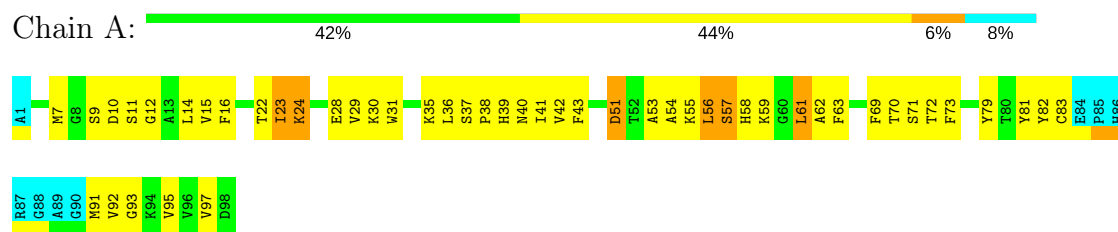
## 4.2.33 Score per residue for model 33

- Molecule 1: PLASTOCYANIN



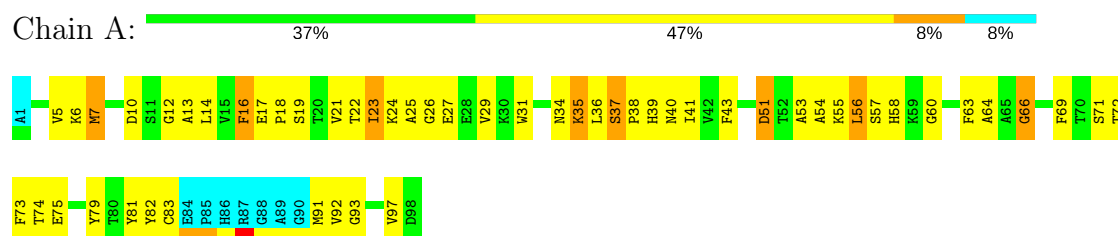
### 4.2.34 Score per residue for model 34

#### • Molecule 1: PLASTOCYANIN



### 4.2.35 Score per residue for model 35

#### • Molecule 1: PLASTOCYANIN



## 5 Refinement protocol and experimental data overview ⓘ

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

Of the 400 calculated structures, 35 were deposited, based on the following criterion: *target function*.

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

Software name	Classification	Version
DYANA	refinement	1.5

No chemical shift data was provided. No validations of the models with respect to experimental NMR restraints is performed at this time.

## 6 Model quality [i](#)

### 6.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:  
CU

There are no covalent bond-length or bond-angle outliers.

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	665	646	646	43±8
2	A	1	0	0	0±0
All	All	23310	22610	22611	1522

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 33.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:83:CYS:SG	1:A:91:MET:SD	1.08	2.52	26	1
1:A:56:LEU:HD22	1:A:73:PHE:CZ	1.06	1.83	10	7
1:A:91:MET:HE1	2:A:99:CU:CU	0.98	0.88	1	1
1:A:7:MET:SD	1:A:41:ILE:HD11	0.91	2.05	16	11
1:A:3:ALA:O	1:A:29:VAL:HG22	0.90	1.67	30	11
1:A:40:ASN:OD1	1:A:42:VAL:HG23	0.90	1.66	26	2
1:A:56:LEU:HD13	1:A:79:TYR:CE2	0.89	2.02	35	13
1:A:23:ILE:CG2	1:A:97:VAL:HG22	0.88	1.98	32	13
1:A:5:VAL:HG11	1:A:16:PHE:CD1	0.88	2.02	33	2
1:A:61:LEU:HD12	1:A:63:PHE:CE1	0.86	2.05	1	1
1:A:73:PHE:CD2	1:A:97:VAL:HG22	0.85	2.05	29	7

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:56:LEU:HD23	1:A:71:SER:HB2	0.85	1.48	28	8
1:A:56:LEU:HD22	1:A:73:PHE:CE2	0.83	2.07	13	7
1:A:29:VAL:O	1:A:70:THR:HG23	0.83	1.74	30	9
1:A:91:MET:CE	2:A:99:CU:CU	0.83	1.57	1	1
1:A:44:ALA:HB2	1:A:82:TYR:OH	0.82	1.74	25	6
1:A:56:LEU:HD13	1:A:73:PHE:CE1	0.82	2.10	23	13
1:A:23:ILE:HD12	1:A:29:VAL:HG23	0.81	1.51	2	12
1:A:56:LEU:HD12	1:A:79:TYR:CE2	0.81	2.10	30	5
1:A:14:LEU:HD22	1:A:14:LEU:O	0.81	1.76	23	1
1:A:73:PHE:CE2	1:A:79:TYR:CD1	0.80	2.69	24	21
1:A:41:ILE:HG23	1:A:81:TYR:CD1	0.80	2.11	13	2
1:A:12:GLY:O	1:A:36:LEU:HD23	0.80	1.75	25	2
1:A:51:ASP:O	1:A:54:ALA:HB3	0.80	1.77	15	25
1:A:5:VAL:HG21	1:A:16:PHE:CZ	0.79	2.13	33	1
1:A:23:ILE:HG23	1:A:97:VAL:HG13	0.79	1.53	14	9
1:A:28:GLU:HG3	1:A:72:THR:HG23	0.77	1.54	7	4
1:A:5:VAL:HG22	1:A:18:PRO:HD2	0.76	1.58	8	4
1:A:64:ALA:HB3	1:A:67:GLU:OE1	0.76	1.80	26	2
1:A:29:VAL:HG11	1:A:31:TRP:CZ2	0.75	2.15	26	27
1:A:41:ILE:HG22	1:A:43:PHE:CE1	0.75	2.16	35	29
1:A:56:LEU:HD22	1:A:79:TYR:CE2	0.75	2.15	2	4
1:A:5:VAL:CG2	1:A:21:VAL:HG11	0.74	2.12	1	6
1:A:23:ILE:HG21	1:A:73:PHE:CD2	0.74	2.17	2	6
1:A:61:LEU:HD12	1:A:63:PHE:CZ	0.74	2.17	1	1
1:A:18:PRO:HG2	1:A:21:VAL:HG12	0.74	1.59	14	13
1:A:56:LEU:HD23	1:A:71:SER:CB	0.74	2.13	28	8
1:A:9:SER:OG	1:A:13:ALA:HB3	0.73	1.83	23	1
1:A:92:VAL:HG22	1:A:93:GLY:N	0.73	1.98	13	3
1:A:56:LEU:HD21	1:A:73:PHE:CE1	0.73	2.19	18	5
1:A:56:LEU:HD12	1:A:79:TYR:CD2	0.73	2.19	33	9
1:A:5:VAL:HG11	1:A:16:PHE:CE1	0.73	2.18	33	1
1:A:7:MET:CE	1:A:41:ILE:HD11	0.73	2.14	21	13
1:A:56:LEU:CD2	1:A:73:PHE:CE1	0.73	2.71	7	14
1:A:3:ALA:O	1:A:29:VAL:HG13	0.73	1.83	13	4
1:A:73:PHE:CD1	1:A:79:TYR:CE1	0.72	2.77	22	7
1:A:48:VAL:HG11	1:A:79:TYR:CE2	0.72	2.20	23	15
1:A:73:PHE:CE1	1:A:79:TYR:CD1	0.71	2.78	10	7
1:A:73:PHE:CE1	1:A:79:TYR:CE1	0.71	2.78	14	7
1:A:73:PHE:HD2	1:A:97:VAL:HG22	0.71	1.46	9	7
1:A:15:VAL:HG13	1:A:16:PHE:N	0.71	2.01	17	2
1:A:23:ILE:HD13	1:A:24:LYS:H	0.71	1.46	35	4

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:5:VAL:CG1	1:A:16:PHE:CD1	0.70	2.74	33	2
1:A:16:PHE:CZ	1:A:91:MET:CE	0.70	2.74	1	2
1:A:92:VAL:HG13	1:A:93:GLY:N	0.70	2.00	8	1
1:A:23:ILE:HD13	1:A:24:LYS:O	0.69	1.87	22	5
1:A:23:ILE:CG2	1:A:97:VAL:HG13	0.69	2.18	14	1
1:A:14:LEU:O	1:A:15:VAL:HG22	0.69	1.88	16	2
1:A:28:GLU:CG	1:A:72:THR:HG23	0.68	2.17	23	2
1:A:3:ALA:HB1	1:A:21:VAL:HB	0.68	1.65	22	3
1:A:5:VAL:HG11	1:A:16:PHE:CG	0.68	2.24	33	1
1:A:5:VAL:HG12	1:A:7:MET:H	0.67	1.49	22	1
1:A:39:HIS:O	1:A:62:ALA:HB3	0.67	1.90	9	2
1:A:23:ILE:HD13	1:A:24:LYS:N	0.66	2.05	19	8
1:A:3:ALA:HB2	1:A:22:THR:O	0.66	1.91	21	5
1:A:5:VAL:CG1	1:A:16:PHE:CE1	0.66	2.78	33	1
1:A:73:PHE:CD2	1:A:79:TYR:CD1	0.66	2.84	18	21
1:A:91:MET:C	1:A:92:VAL:HG23	0.66	2.11	29	1
1:A:16:PHE:CE1	1:A:91:MET:CE	0.66	2.79	27	1
1:A:56:LEU:HD22	1:A:79:TYR:CD2	0.66	2.26	18	7
1:A:3:ALA:HB3	1:A:29:VAL:HG22	0.65	1.67	2	11
1:A:45:ALA:HB2	1:A:53:ALA:HB3	0.65	1.69	1	4
1:A:29:VAL:CG1	1:A:31:TRP:CZ2	0.65	2.80	8	9
1:A:7:MET:HE2	1:A:41:ILE:HD11	0.65	1.69	21	3
1:A:3:ALA:HB3	1:A:29:VAL:CG2	0.64	2.21	30	3
1:A:48:VAL:HG13	1:A:75:GLU:OE1	0.64	1.92	25	1
1:A:45:ALA:HB2	1:A:53:ALA:CB	0.64	2.23	1	5
1:A:73:PHE:HB3	1:A:97:VAL:HG11	0.64	1.70	14	2
1:A:43:PHE:CD1	1:A:56:LEU:O	0.63	2.51	20	23
1:A:33:ASN:OD1	1:A:62:ALA:HB1	0.63	1.93	27	1
1:A:16:PHE:CE2	1:A:91:MET:SD	0.63	2.92	26	9
1:A:41:ILE:CG2	1:A:81:TYR:CD1	0.62	2.81	13	1
1:A:56:LEU:CD1	1:A:79:TYR:CE2	0.62	2.83	30	6
1:A:16:PHE:CE2	1:A:92:VAL:O	0.62	2.52	30	2
1:A:62:ALA:HB2	1:A:69:PHE:CZ	0.62	2.30	21	2
1:A:56:LEU:HD21	1:A:73:PHE:CD1	0.61	2.30	34	12
1:A:23:ILE:HG21	1:A:97:VAL:HG22	0.61	1.68	11	5
1:A:32:VAL:HG23	1:A:68:SER:OG	0.61	1.95	22	1
1:A:56:LEU:CD1	1:A:73:PHE:CE1	0.61	2.84	14	10
1:A:23:ILE:HG22	1:A:97:VAL:HA	0.61	1.72	31	4
1:A:9:SER:HB2	1:A:13:ALA:HB3	0.61	1.71	27	8
1:A:16:PHE:CZ	1:A:91:MET:SD	0.61	2.94	5	7
1:A:16:PHE:CE2	1:A:81:TYR:OH	0.61	2.53	33	1

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:16:PHE:CZ	1:A:92:VAL:O	0.61	2.54	14	1
1:A:73:PHE:CD2	1:A:79:TYR:CE1	0.60	2.89	18	20
1:A:16:PHE:CE1	1:A:91:MET:SD	0.60	2.94	6	2
1:A:16:PHE:CZ	1:A:81:TYR:OH	0.60	2.54	33	2
1:A:61:LEU:O	1:A:63:PHE:CE2	0.60	2.55	4	1
1:A:29:VAL:HG11	1:A:31:TRP:CH2	0.60	2.32	23	7
1:A:81:TYR:CE1	1:A:92:VAL:O	0.60	2.54	12	2
1:A:16:PHE:N	1:A:16:PHE:CD1	0.60	2.69	22	5
1:A:36:LEU:O	1:A:39:HIS:CD2	0.60	2.55	18	4
1:A:92:VAL:HG12	1:A:93:GLY:N	0.60	2.12	27	5
1:A:56:LEU:HD23	1:A:73:PHE:CE1	0.60	2.32	20	6
1:A:5:VAL:CG2	1:A:21:VAL:HG21	0.60	2.27	9	3
1:A:81:TYR:CE1	1:A:93:GLY:O	0.59	2.54	29	5
1:A:7:MET:HG2	1:A:41:ILE:HD11	0.59	1.75	11	2
1:A:40:ASN:OD1	1:A:61:LEU:HD12	0.59	1.97	16	1
1:A:78:THR:HG23	1:A:78:THR:O	0.59	1.98	12	1
1:A:56:LEU:HD23	1:A:71:SER:OG	0.59	1.98	7	2
1:A:92:VAL:HG22	1:A:93:GLY:H	0.59	1.58	33	3
1:A:62:ALA:HB2	1:A:69:PHE:CE2	0.58	2.33	34	3
1:A:23:ILE:HG23	1:A:97:VAL:HG22	0.58	1.75	23	2
1:A:7:MET:HE1	1:A:41:ILE:HD11	0.58	1.74	2	4
1:A:41:ILE:HG22	1:A:43:PHE:HE1	0.58	1.59	2	9
1:A:56:LEU:HD22	1:A:73:PHE:CE1	0.57	2.32	10	10
1:A:40:ASN:ND2	1:A:42:VAL:HG23	0.57	2.14	4	1
1:A:14:LEU:O	1:A:15:VAL:HG13	0.57	2.00	20	2
1:A:60:GLY:O	1:A:61:LEU:HD12	0.57	2.00	30	2
1:A:81:TYR:C	1:A:81:TYR:CD1	0.57	2.78	20	2
1:A:62:ALA:C	1:A:63:PHE:CD1	0.56	2.79	26	1
1:A:56:LEU:CD2	1:A:73:PHE:CE2	0.56	2.87	10	6
1:A:16:PHE:CE1	1:A:91:MET:HE2	0.56	2.36	27	2
1:A:12:GLY:HA2	1:A:36:LEU:HD22	0.56	1.76	16	1
1:A:35:LYS:C	1:A:36:LEU:HD23	0.56	2.20	16	1
1:A:16:PHE:CD2	1:A:91:MET:CG	0.56	2.89	23	1
1:A:29:VAL:CG1	1:A:31:TRP:CH2	0.55	2.89	8	15
1:A:14:LEU:HD23	1:A:14:LEU:N	0.55	2.16	33	1
1:A:56:LEU:HD13	1:A:79:TYR:HE2	0.55	1.61	18	3
1:A:16:PHE:CZ	1:A:92:VAL:HG22	0.55	2.37	22	1
1:A:41:ILE:HG23	1:A:81:TYR:CD2	0.55	2.35	14	4
1:A:12:GLY:CA	1:A:36:LEU:HD22	0.55	2.31	16	1
1:A:58:HIS:CE1	1:A:69:PHE:CB	0.55	2.90	21	19
1:A:81:TYR:CZ	1:A:93:GLY:C	0.55	2.80	24	3

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:14:LEU:HD22	1:A:14:LEU:C	0.55	2.23	23	1
1:A:37:SER:CB	1:A:38:PRO:HA	0.55	2.32	26	19
1:A:82:TYR:CD1	1:A:82:TYR:N	0.55	2.74	5	9
1:A:16:PHE:CD2	1:A:16:PHE:O	0.55	2.59	4	1
1:A:16:PHE:CD1	1:A:16:PHE:O	0.54	2.60	9	1
1:A:43:PHE:CE1	1:A:58:HIS:CD2	0.54	2.95	32	11
1:A:7:MET:HA	1:A:16:PHE:CE1	0.54	2.37	6	3
1:A:7:MET:SD	1:A:39:HIS:CG	0.54	3.00	29	1
1:A:14:LEU:O	1:A:14:LEU:HD12	0.54	2.02	4	1
1:A:26:GLY:N	1:A:73:PHE:O	0.54	2.40	25	13
1:A:35:LYS:O	1:A:39:HIS:CD2	0.54	2.61	21	3
1:A:5:VAL:HB	1:A:16:PHE:CE1	0.54	2.38	33	1
1:A:81:TYR:CZ	1:A:92:VAL:O	0.54	2.60	12	1
1:A:7:MET:HA	1:A:16:PHE:CZ	0.54	2.37	6	1
1:A:13:ALA:O	1:A:36:LEU:HD22	0.54	2.02	35	1
1:A:56:LEU:CD2	1:A:73:PHE:CD1	0.54	2.90	4	4
1:A:15:VAL:HG22	1:A:16:PHE:H	0.54	1.63	8	1
1:A:81:TYR:CE2	1:A:92:VAL:O	0.54	2.60	4	2
1:A:23:ILE:HG23	1:A:97:VAL:HA	0.54	1.79	10	4
1:A:29:VAL:HG12	1:A:31:TRP:CE3	0.53	2.39	27	6
1:A:43:PHE:CG	1:A:56:LEU:O	0.53	2.61	13	8
1:A:82:TYR:CG	1:A:82:TYR:O	0.53	2.60	35	5
1:A:23:ILE:HG22	1:A:97:VAL:HG22	0.53	1.78	32	2
1:A:5:VAL:CB	1:A:16:PHE:CE1	0.53	2.91	33	1
1:A:61:LEU:HD23	1:A:63:PHE:CZ	0.53	2.37	17	1
1:A:56:LEU:HD23	1:A:71:SER:HB3	0.53	1.79	34	1
1:A:27:GLU:O	1:A:72:THR:HG23	0.53	2.04	35	1
1:A:23:ILE:CD1	1:A:29:VAL:HG23	0.53	2.34	31	1
1:A:12:GLY:O	1:A:36:LEU:HD11	0.53	2.04	13	1
1:A:18:PRO:HG2	1:A:21:VAL:HG13	0.53	1.81	23	2
1:A:92:VAL:CG2	1:A:93:GLY:N	0.52	2.69	13	3
1:A:92:VAL:CG1	1:A:93:GLY:N	0.52	2.70	8	2
1:A:58:HIS:CE1	1:A:69:PHE:HB2	0.52	2.39	12	10
1:A:60:GLY:O	1:A:61:LEU:CB	0.52	2.57	30	3
1:A:13:ALA:HB3	1:A:36:LEU:HB2	0.52	1.80	25	1
1:A:14:LEU:O	1:A:15:VAL:CG2	0.52	2.56	16	2
1:A:16:PHE:CE2	1:A:93:GLY:HA2	0.52	2.39	4	3
1:A:29:VAL:HG12	1:A:31:TRP:CZ3	0.52	2.40	34	6
1:A:7:MET:HE2	1:A:31:TRP:HB3	0.52	1.81	22	1
1:A:9:SER:CB	1:A:13:ALA:HB3	0.52	2.35	18	4
1:A:28:GLU:CB	1:A:71:SER:O	0.52	2.58	19	7

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:5:VAL:HG13	1:A:17:GLU:O	0.52	2.05	8	1
1:A:28:GLU:HG2	1:A:72:THR:HG23	0.51	1.82	23	1
1:A:56:LEU:HD21	1:A:72:THR:O	0.51	2.04	23	6
1:A:56:LEU:HD11	1:A:72:THR:O	0.51	2.04	4	4
1:A:16:PHE:CE1	1:A:19:SER:HA	0.51	2.40	9	1
1:A:53:ALA:O	1:A:57:SER:N	0.51	2.43	4	32
1:A:14:LEU:HB2	1:A:36:LEU:HD13	0.51	1.82	13	1
1:A:38:PRO:CA	1:A:62:ALA:O	0.51	2.58	6	1
1:A:31:TRP:CH2	1:A:71:SER:HB3	0.51	2.40	1	5
1:A:14:LEU:O	1:A:91:MET:CE	0.51	2.58	23	4
1:A:56:LEU:CD2	1:A:73:PHE:CZ	0.51	2.78	23	3
1:A:92:VAL:HG12	1:A:93:GLY:H	0.51	1.65	29	2
1:A:14:LEU:O	1:A:91:MET:CG	0.51	2.59	25	1
1:A:16:PHE:CE2	1:A:91:MET:HG2	0.51	2.41	17	5
1:A:16:PHE:CE2	1:A:91:MET:CG	0.51	2.94	26	2
1:A:53:ALA:O	1:A:57:SER:CB	0.51	2.59	26	17
1:A:41:ILE:O	1:A:43:PHE:CE1	0.50	2.64	25	2
1:A:16:PHE:CZ	1:A:93:GLY:HA3	0.50	2.42	9	2
1:A:56:LEU:HG	1:A:79:TYR:CE2	0.50	2.41	19	6
1:A:43:PHE:CE2	1:A:81:TYR:CD2	0.50	2.99	9	1
1:A:23:ILE:HG22	1:A:96:VAL:O	0.50	2.06	22	2
1:A:29:VAL:CG1	1:A:30:LYS:N	0.50	2.75	3	13
1:A:5:VAL:HG12	1:A:16:PHE:CE1	0.50	2.41	35	1
1:A:23:ILE:HG13	1:A:29:VAL:HG23	0.50	1.83	5	4
1:A:7:MET:SD	1:A:41:ILE:CG1	0.50	3.00	2	1
1:A:31:TRP:CZ3	1:A:71:SER:HB3	0.50	2.41	1	5
1:A:23:ILE:HD13	1:A:73:PHE:CG	0.50	2.41	16	5
1:A:29:VAL:HB	1:A:31:TRP:CH2	0.50	2.40	14	3
1:A:42:VAL:O	1:A:81:TYR:CB	0.50	2.60	8	6
1:A:14:LEU:HD22	1:A:14:LEU:N	0.50	2.21	3	1
1:A:23:ILE:HG21	1:A:73:PHE:HD2	0.50	1.67	31	1
1:A:56:LEU:HD12	1:A:79:TYR:CZ	0.50	2.42	30	1
1:A:38:PRO:CB	1:A:62:ALA:O	0.49	2.60	21	3
1:A:36:LEU:O	1:A:39:HIS:CE1	0.49	2.65	35	1
1:A:60:GLY:O	1:A:61:LEU:CG	0.49	2.60	30	1
1:A:9:SER:OG	1:A:15:VAL:CG2	0.49	2.60	7	2
1:A:15:VAL:HG23	1:A:16:PHE:N	0.49	2.22	12	1
1:A:5:VAL:CG2	1:A:16:PHE:CZ	0.49	2.91	33	1
1:A:97:VAL:HG12	1:A:98:ASP:H	0.49	1.66	18	1
1:A:82:TYR:O	1:A:82:TYR:CG	0.49	2.65	15	1
1:A:7:MET:SD	1:A:33:ASN:CB	0.49	3.01	30	1

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:16:PHE:CE1	1:A:91:MET:HE1	0.49	2.42	27	2
1:A:7:MET:CE	1:A:31:TRP:O	0.49	2.61	1	1
1:A:16:PHE:CE2	1:A:91:MET:CE	0.49	2.95	3	2
1:A:16:PHE:CD1	1:A:16:PHE:C	0.49	2.85	9	1
1:A:27:GLU:CA	1:A:27:GLU:OE1	0.49	2.61	4	3
1:A:78:THR:CG2	1:A:78:THR:O	0.49	2.60	12	1
1:A:38:PRO:HB3	1:A:63:PHE:CE1	0.49	2.43	16	1
1:A:80:THR:HG23	1:A:94:LYS:HG2	0.49	1.85	23	1
1:A:62:ALA:C	1:A:63:PHE:CG	0.49	2.86	26	2
1:A:14:LEU:O	1:A:15:VAL:CG1	0.48	2.61	20	2
1:A:78:THR:HG23	1:A:95:VAL:O	0.48	2.06	11	2
1:A:5:VAL:HG12	1:A:16:PHE:CD1	0.48	2.43	35	1
1:A:38:PRO:HB3	1:A:63:PHE:CE2	0.48	2.43	28	2
1:A:16:PHE:CD1	1:A:91:MET:HA	0.48	2.43	12	4
1:A:61:LEU:HB3	1:A:63:PHE:CZ	0.48	2.44	6	2
1:A:31:TRP:CZ3	1:A:58:HIS:NE2	0.48	2.82	1	3
1:A:62:ALA:O	1:A:63:PHE:CG	0.48	2.66	26	3
1:A:7:MET:CB	1:A:16:PHE:CZ	0.48	2.96	6	1
1:A:14:LEU:HD11	1:A:36:LEU:HD12	0.48	1.83	3	1
1:A:23:ILE:HD12	1:A:29:VAL:CG2	0.48	2.39	31	2
1:A:6:LYS:O	1:A:8:GLY:N	0.48	2.47	17	4
1:A:16:PHE:CD1	1:A:16:PHE:N	0.48	2.81	2	2
1:A:15:VAL:CG1	1:A:16:PHE:N	0.48	2.71	17	1
1:A:5:VAL:HG11	1:A:16:PHE:HD1	0.48	1.68	9	1
1:A:25:ALA:N	1:A:97:VAL:CG1	0.48	2.76	4	1
1:A:7:MET:HB3	1:A:39:HIS:CE1	0.48	2.44	1	3
1:A:23:ILE:O	1:A:98:ASP:N	0.47	2.47	16	12
1:A:5:VAL:CG1	1:A:6:LYS:N	0.47	2.77	29	4
1:A:3:ALA:O	1:A:29:VAL:CG2	0.47	2.54	30	1
1:A:62:ALA:O	1:A:63:PHE:CD2	0.47	2.67	14	1
1:A:24:LYS:C	1:A:97:VAL:CG1	0.47	2.82	4	2
1:A:37:SER:CB	1:A:63:PHE:O	0.47	2.63	25	1
1:A:16:PHE:CE2	1:A:93:GLY:HA3	0.47	2.43	9	1
1:A:51:ASP:O	1:A:54:ALA:CB	0.47	2.60	15	7
1:A:81:TYR:CE1	1:A:93:GLY:C	0.47	2.88	4	2
1:A:3:ALA:CB	1:A:22:THR:O	0.47	2.61	21	1
1:A:23:ILE:CG1	1:A:24:LYS:N	0.47	2.78	25	2
1:A:16:PHE:CD2	1:A:19:SER:HA	0.47	2.44	4	2
1:A:29:VAL:O	1:A:70:THR:CG2	0.47	2.60	3	3
1:A:16:PHE:CE1	1:A:91:MET:HA	0.47	2.44	30	3
1:A:5:VAL:HG22	1:A:21:VAL:HG11	0.47	1.85	10	2

Continued on next page...

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:58:HIS:CE1	1:A:69:PHE:HB3	0.47	2.45	6	18
1:A:41:ILE:O	1:A:43:PHE:CD1	0.47	2.67	25	5
1:A:7:MET:SD	1:A:41:ILE:CD1	0.47	3.00	25	2
1:A:35:LYS:HB3	1:A:36:LEU:HD12	0.47	1.85	14	1
1:A:9:SER:O	1:A:10:ASP:C	0.47	2.51	13	3
1:A:16:PHE:CD2	1:A:91:MET:CE	0.47	2.97	23	1
1:A:31:TRP:CH2	1:A:43:PHE:CZ	0.47	3.02	5	4
1:A:82:TYR:N	1:A:82:TYR:CD1	0.47	2.81	31	1
1:A:44:ALA:HB2	1:A:82:TYR:CZ	0.47	2.44	31	2
1:A:12:GLY:O	1:A:13:ALA:HB3	0.47	2.09	25	1
1:A:14:LEU:O	1:A:14:LEU:CD2	0.47	2.59	23	1
1:A:5:VAL:HG13	1:A:17:GLU:C	0.47	2.29	8	1
1:A:73:PHE:CE2	1:A:79:TYR:CG	0.47	3.02	24	4
1:A:56:LEU:HD13	1:A:71:SER:OG	0.47	2.10	21	2
1:A:31:TRP:CZ3	1:A:71:SER:OG	0.47	2.67	34	1
1:A:5:VAL:CG2	1:A:21:VAL:CG2	0.47	2.93	20	1
1:A:91:MET:C	1:A:92:VAL:CG2	0.47	2.80	29	1
1:A:40:ASN:OD1	1:A:61:LEU:CD1	0.47	2.63	16	1
1:A:48:VAL:HG12	1:A:49:ASP:N	0.47	2.25	1	10
1:A:28:GLU:N	1:A:28:GLU:OE1	0.47	2.48	29	4
1:A:23:ILE:CG2	1:A:73:PHE:CD2	0.46	2.96	2	1
1:A:61:LEU:CD2	1:A:61:LEU:C	0.46	2.84	31	1
1:A:16:PHE:CE1	1:A:19:SER:O	0.46	2.69	9	1
1:A:38:PRO:HB3	1:A:63:PHE:CZ	0.46	2.45	31	2
1:A:9:SER:O	1:A:34:ASN:ND2	0.46	2.49	13	3
1:A:48:VAL:CG1	1:A:52:THR:HG21	0.46	2.40	19	1
1:A:7:MET:HG2	1:A:16:PHE:CE2	0.46	2.45	6	2
1:A:33:ASN:OD1	1:A:62:ALA:CB	0.46	2.64	27	1
1:A:16:PHE:CD2	1:A:91:MET:HB3	0.46	2.46	27	1
1:A:29:VAL:CG1	1:A:31:TRP:CZ3	0.46	2.98	23	1
1:A:9:SER:C	1:A:34:ASN:ND2	0.46	2.69	4	1
1:A:33:ASN:ND2	1:A:67:GLU:O	0.46	2.49	22	2
1:A:16:PHE:CD2	1:A:91:MET:HG2	0.46	2.46	31	2
1:A:18:PRO:O	1:A:19:SER:C	0.46	2.54	11	7
1:A:17:GLU:CG	1:A:18:PRO:HA	0.46	2.41	15	3
1:A:36:LEU:HD22	1:A:36:LEU:N	0.46	2.26	32	3
1:A:5:VAL:HG21	1:A:16:PHE:CE2	0.46	2.44	33	1
1:A:5:VAL:HB	1:A:31:TRP:CD1	0.45	2.45	19	1
1:A:58:HIS:ND1	1:A:69:PHE:CB	0.45	2.79	12	5
1:A:7:MET:O	1:A:15:VAL:O	0.45	2.35	22	2
1:A:50:ALA:O	1:A:54:ALA:N	0.45	2.49	11	3

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:40:ASN:ND2	1:A:42:VAL:CG2	0.45	2.79	12	2
1:A:95:VAL:HG12	1:A:96:VAL:N	0.45	2.27	17	2
1:A:92:VAL:HG23	1:A:93:GLY:N	0.45	2.27	2	2
1:A:24:LYS:CB	1:A:27:GLU:OE2	0.45	2.64	24	1
1:A:14:LEU:CD2	1:A:14:LEU:N	0.45	2.80	3	1
1:A:63:PHE:N	1:A:63:PHE:CD1	0.45	2.85	34	2
1:A:16:PHE:CE1	1:A:93:GLY:HA3	0.45	2.46	28	1
1:A:28:GLU:OE1	1:A:70:THR:HG21	0.45	2.11	10	1
1:A:16:PHE:CG	1:A:16:PHE:O	0.45	2.68	4	1
1:A:82:TYR:O	1:A:82:TYR:CD2	0.45	2.69	8	1
1:A:17:GLU:HA	1:A:18:PRO:C	0.45	2.32	2	22
1:A:91:MET:O	1:A:92:VAL:CG1	0.45	2.65	18	1
1:A:40:ASN:O	1:A:83:CYS:SG	0.45	2.74	30	10
1:A:24:LYS:C	1:A:97:VAL:HG13	0.45	2.32	24	1
1:A:21:VAL:HG23	1:A:95:VAL:HG13	0.45	1.88	22	1
1:A:16:PHE:CD2	1:A:92:VAL:O	0.45	2.70	22	1
1:A:14:LEU:HD12	1:A:36:LEU:HD13	0.45	1.87	13	1
1:A:92:VAL:HG23	1:A:93:GLY:H	0.45	1.72	2	2
1:A:23:ILE:O	1:A:98:ASP:CB	0.45	2.65	16	1
1:A:39:HIS:N	1:A:62:ALA:O	0.45	2.50	12	1
1:A:3:ALA:HB1	1:A:21:VAL:CB	0.44	2.38	22	1
1:A:51:ASP:O	1:A:54:ALA:N	0.44	2.50	11	3
1:A:39:HIS:O	1:A:40:ASN:ND2	0.44	2.50	23	1
1:A:40:ASN:N	1:A:40:ASN:OD1	0.44	2.50	32	1
1:A:27:GLU:N	1:A:27:GLU:OE1	0.44	2.49	30	3
1:A:56:LEU:HD21	1:A:73:PHE:CZ	0.44	2.47	1	1
1:A:48:VAL:HG11	1:A:79:TYR:CZ	0.44	2.47	20	4
1:A:40:ASN:OD1	1:A:40:ASN:N	0.44	2.50	5	1
1:A:33:ASN:OD1	1:A:33:ASN:N	0.44	2.50	20	1
1:A:36:LEU:O	1:A:39:HIS:NE2	0.44	2.50	29	1
1:A:7:MET:HG2	1:A:39:HIS:CE1	0.44	2.48	4	1
1:A:42:VAL:HB	1:A:82:TYR:CE1	0.44	2.46	9	1
1:A:54:ALA:O	1:A:57:SER:N	0.44	2.50	1	1
1:A:7:MET:HA	1:A:16:PHE:CD1	0.44	2.47	1	1
1:A:91:MET:O	1:A:92:VAL:HG12	0.44	2.11	33	1
1:A:37:SER:HA	1:A:38:PRO:C	0.44	2.33	21	20
1:A:28:GLU:HA	1:A:71:SER:O	0.44	2.13	21	3
1:A:40:ASN:ND2	1:A:58:HIS:O	0.44	2.51	8	1
1:A:7:MET:HE3	1:A:41:ILE:HD11	0.44	1.90	18	2
1:A:43:PHE:CD1	1:A:43:PHE:N	0.44	2.85	26	2
1:A:17:GLU:C	1:A:17:GLU:CD	0.44	2.77	10	1

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:5:VAL:HG12	1:A:7:MET:N	0.44	2.25	22	1
1:A:6:LYS:O	1:A:7:MET:C	0.44	2.56	30	6
1:A:8:GLY:O	1:A:34:ASN:ND2	0.44	2.50	25	1
1:A:75:GLU:O	1:A:97:VAL:HG21	0.44	2.13	2	2
1:A:48:VAL:HG11	1:A:79:TYR:OH	0.44	2.13	22	2
1:A:58:HIS:C	1:A:60:GLY:N	0.44	2.70	9	1
1:A:73:PHE:CE2	1:A:95:VAL:CG1	0.44	3.01	16	4
1:A:9:SER:O	1:A:12:GLY:N	0.44	2.51	11	2
1:A:16:PHE:CE2	1:A:93:GLY:CA	0.44	3.01	4	1
1:A:27:GLU:OE1	1:A:27:GLU:N	0.43	2.51	24	1
1:A:48:VAL:HG12	1:A:49:ASP:H	0.43	1.72	25	1
1:A:64:ALA:O	1:A:66:GLY:N	0.43	2.51	12	3
1:A:81:TYR:CD1	1:A:81:TYR:C	0.43	2.91	34	2
1:A:91:MET:O	1:A:92:VAL:HG23	0.43	2.13	29	1
1:A:9:SER:O	1:A:13:ALA:HB2	0.43	2.13	12	1
1:A:23:ILE:CD1	1:A:24:LYS:O	0.43	2.65	21	1
1:A:76:PRO:HA	1:A:97:VAL:CG1	0.43	2.42	31	4
1:A:31:TRP:HZ3	1:A:71:SER:HG	0.43	1.56	29	1
1:A:58:HIS:CD2	1:A:58:HIS:N	0.43	2.86	9	2
1:A:73:PHE:CE1	1:A:79:TYR:CG	0.43	3.06	22	6
1:A:83:CYS:CB	1:A:91:MET:SD	0.43	3.07	16	2
1:A:81:TYR:CZ	1:A:93:GLY:HA3	0.43	2.49	30	2
1:A:29:VAL:HG11	1:A:31:TRP:CE2	0.43	2.48	21	1
1:A:43:PHE:N	1:A:43:PHE:CD1	0.43	2.87	25	3
1:A:63:PHE:CG	1:A:64:ALA:N	0.43	2.87	7	2
1:A:34:ASN:OD1	1:A:35:LYS:N	0.43	2.50	25	1
1:A:81:TYR:CZ	1:A:93:GLY:O	0.43	2.71	17	1
1:A:14:LEU:O	1:A:15:VAL:O	0.43	2.37	16	2
1:A:39:HIS:C	1:A:40:ASN:ND2	0.43	2.71	23	1
1:A:91:MET:C	1:A:93:GLY:N	0.43	2.72	10	1
1:A:28:GLU:CA	1:A:71:SER:O	0.43	2.67	14	7
1:A:14:LEU:HB3	1:A:36:LEU:HD23	0.43	1.91	34	1
1:A:61:LEU:H	1:A:61:LEU:HD13	0.43	1.74	31	1
1:A:48:VAL:HG13	1:A:75:GLU:CD	0.43	2.34	25	1
1:A:92:VAL:HG13	1:A:93:GLY:H	0.43	1.70	8	3
1:A:2:ASN:ND2	1:A:3:ALA:O	0.43	2.51	31	1
1:A:7:MET:HB3	1:A:39:HIS:CD2	0.43	2.49	5	1
1:A:9:SER:OG	1:A:15:VAL:HG23	0.42	2.14	32	1
1:A:40:ASN:ND2	1:A:60:GLY:O	0.42	2.52	35	1
1:A:91:MET:O	1:A:92:VAL:HG13	0.42	2.15	18	1
1:A:28:GLU:OE1	1:A:72:THR:HG23	0.42	2.15	33	1

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:81:TYR:CD1	1:A:81:TYR:N	0.42	2.88	3	2
1:A:81:TYR:CD2	1:A:92:VAL:O	0.42	2.72	4	1
1:A:7:MET:SD	1:A:39:HIS:CE1	0.42	3.12	24	1
1:A:56:LEU:HD13	1:A:73:PHE:CD1	0.42	2.48	22	1
1:A:16:PHE:CD2	1:A:93:GLY:CA	0.42	3.03	2	1
1:A:39:HIS:O	1:A:61:LEU:HD23	0.42	2.14	2	1
1:A:7:MET:HG2	1:A:16:PHE:CZ	0.42	2.50	6	1
1:A:56:LEU:CG	1:A:79:TYR:CE2	0.42	3.02	32	2
1:A:3:ALA:O	1:A:29:VAL:HA	0.42	2.15	22	1
1:A:7:MET:O	1:A:34:ASN:CB	0.42	2.67	27	2
1:A:16:PHE:CZ	1:A:91:MET:HE1	0.42	2.50	23	1
1:A:16:PHE:CZ	1:A:39:HIS:CE1	0.42	3.08	23	1
1:A:36:LEU:N	1:A:36:LEU:CD2	0.42	2.83	15	1
1:A:73:PHE:CE1	1:A:79:TYR:CZ	0.42	3.08	14	4
1:A:16:PHE:CE2	1:A:91:MET:HE3	0.42	2.50	1	1
1:A:60:GLY:O	1:A:61:LEU:CD1	0.42	2.66	30	1
1:A:41:ILE:HD12	1:A:69:PHE:CD2	0.42	2.50	30	1
1:A:40:ASN:C	1:A:41:ILE:CG1	0.42	2.88	28	1
1:A:58:HIS:O	1:A:60:GLY:N	0.42	2.52	9	1
1:A:40:ASN:N	1:A:40:ASN:ND2	0.42	2.68	7	1
1:A:36:LEU:O	1:A:37:SER:O	0.42	2.38	6	1
1:A:38:PRO:HG3	1:A:63:PHE:CZ	0.41	2.50	28	1
1:A:53:ALA:O	1:A:54:ALA:C	0.41	2.57	4	1
1:A:78:THR:OG1	1:A:96:VAL:HG22	0.41	2.14	13	1
1:A:35:LYS:O	1:A:39:HIS:NE2	0.41	2.53	21	1
1:A:5:VAL:HG23	1:A:21:VAL:HG11	0.41	1.89	1	1
1:A:28:GLU:OE1	1:A:70:THR:CG2	0.41	2.68	10	1
1:A:56:LEU:CD1	1:A:73:PHE:CD1	0.41	3.03	11	1
1:A:7:MET:O	1:A:34:ASN:OD1	0.41	2.39	25	1
1:A:79:TYR:HE1	1:A:97:VAL:HG21	0.41	1.74	9	1
1:A:56:LEU:HD23	1:A:56:LEU:N	0.41	2.31	27	1
1:A:82:TYR:CD2	1:A:82:TYR:O	0.41	2.73	12	1
1:A:18:PRO:HG2	1:A:21:VAL:HG22	0.41	1.91	8	1
1:A:50:ALA:O	1:A:51:ASP:C	0.41	2.59	22	2
1:A:3:ALA:HB1	1:A:21:VAL:CG2	0.41	2.46	30	1
1:A:9:SER:O	1:A:34:ASN:OD1	0.41	2.39	16	3
1:A:23:ILE:HG23	1:A:24:LYS:N	0.41	2.31	31	1
1:A:8:GLY:CA	1:A:13:ALA:HA	0.41	2.46	25	1
1:A:13:ALA:O	1:A:36:LEU:CG	0.41	2.68	12	1
1:A:81:TYR:CD1	1:A:81:TYR:O	0.41	2.74	22	1
1:A:41:ILE:HD12	1:A:69:PHE:HD2	0.41	1.75	30	1

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:13:ALA:HB1	1:A:15:VAL:HG22	0.41	1.93	23	1
1:A:14:LEU:O	1:A:91:MET:SD	0.41	2.78	23	1
1:A:36:LEU:CD2	1:A:36:LEU:N	0.41	2.83	32	1
1:A:63:PHE:CD1	1:A:63:PHE:N	0.41	2.88	15	1
1:A:14:LEU:O	1:A:15:VAL:C	0.41	2.59	26	1
1:A:42:VAL:O	1:A:81:TYR:HA	0.41	2.16	26	1
1:A:7:MET:SD	1:A:33:ASN:CG	0.41	3.00	30	1
1:A:61:LEU:HB3	1:A:63:PHE:CE2	0.41	2.51	1	1
1:A:82:TYR:O	1:A:83:CYS:C	0.41	2.59	31	1
1:A:38:PRO:O	1:A:39:HIS:O	0.41	2.38	4	1
1:A:23:ILE:HG13	1:A:29:VAL:CG2	0.41	2.46	15	1
1:A:33:ASN:OD1	1:A:33:ASN:C	0.41	2.59	13	1
1:A:16:PHE:CZ	1:A:19:SER:O	0.41	2.74	9	1
1:A:64:ALA:O	1:A:65:ALA:C	0.41	2.60	23	1
1:A:7:MET:CA	1:A:16:PHE:CZ	0.41	3.04	6	1
1:A:38:PRO:HB2	1:A:61:LEU:HD11	0.40	1.92	1	1
1:A:27:GLU:C	1:A:28:GLU:OE1	0.40	2.59	33	1
1:A:43:PHE:CE1	1:A:56:LEU:O	0.40	2.74	25	1
1:A:92:VAL:O	1:A:93:GLY:C	0.40	2.58	10	1
1:A:16:PHE:CD1	1:A:91:MET:HE2	0.40	2.50	27	1
1:A:11:SER:O	1:A:12:GLY:C	0.40	2.59	4	1
1:A:31:TRP:HB3	1:A:41:ILE:CD1	0.40	2.46	11	1
1:A:40:ASN:HB3	1:A:60:GLY:CA	0.40	2.47	22	1
1:A:7:MET:SD	1:A:32:VAL:O	0.40	2.80	22	1
1:A:23:ILE:HG12	1:A:24:LYS:N	0.40	2.31	9	1
1:A:6:LYS:O	1:A:8:GLY:O	0.40	2.40	9	1
1:A:91:MET:C	1:A:92:VAL:HG13	0.40	2.37	18	1
1:A:56:LEU:HD11	1:A:73:PHE:CD1	0.40	2.51	15	1
1:A:58:HIS:O	1:A:59:LYS:C	0.40	2.59	9	1
1:A:7:MET:CA	1:A:16:PHE:CE1	0.40	3.04	6	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	89/98 (91%)	72±2 (80±2%)	14±2 (16±2%)	3±1 (4±2%)	6	33
All	All	3115/3430 (91%)	2505 (80%)	490 (16%)	120 (4%)	6	33

All 19 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	12	GLY	16
1	A	92	VAL	15
1	A	66	GLY	13
1	A	93	GLY	11
1	A	61	LEU	11
1	A	91	MET	9
1	A	7	MET	8
1	A	65	ALA	7
1	A	15	VAL	5
1	A	63	PHE	5
1	A	35	LYS	4
1	A	11	SER	3
1	A	83	CYS	3
1	A	41	ILE	2
1	A	38	PRO	2
1	A	39	HIS	2
1	A	36	LEU	2
1	A	25	ALA	1
1	A	13	ALA	1

### 6.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	71/75 (95%)	54±4 (76±5%)	17±4 (24±5%)	3	27
All	All	2485/2625 (95%)	1891 (76%)	594 (24%)	3	27

All 53 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	51	ASP	27
1	A	39	HIS	27
1	A	22	THR	26
1	A	35	LYS	25
1	A	23	ILE	24
1	A	56	LEU	23
1	A	55	LYS	22
1	A	61	LEU	22
1	A	74	THR	21
1	A	11	SER	20
1	A	37	SER	20
1	A	6	LYS	20
1	A	59	LYS	19
1	A	49	ASP	18
1	A	10	ASP	18
1	A	75	GLU	17
1	A	30	LYS	15
1	A	83	CYS	15
1	A	94	LYS	14
1	A	28	GLU	13
1	A	17	GLU	13
1	A	14	LEU	13
1	A	9	SER	13
1	A	91	MET	12
1	A	82	TYR	11
1	A	46	ASP	10
1	A	2	ASN	9
1	A	68	SER	9
1	A	24	LYS	9
1	A	7	MET	8
1	A	36	LEU	8
1	A	27	GLU	8
1	A	98	ASP	7
1	A	40	ASN	6
1	A	21	VAL	6
1	A	16	PHE	6
1	A	19	SER	5
1	A	67	GLU	5
1	A	34	ASN	4
1	A	71	SER	3
1	A	57	SER	3
1	A	41	ILE	3
1	A	92	VAL	3

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Models (Total)
1	A	33	ASN	2
1	A	78	THR	2
1	A	20	THR	2
1	A	63	PHE	2
1	A	95	VAL	1
1	A	32	VAL	1
1	A	52	THR	1
1	A	15	VAL	1
1	A	29	VAL	1
1	A	4	THR	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 carbohydrates in this entry.

## 6.6 Ligand geometry [i](#)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

## 6.7 Other polymers [i](#)

There are no such molecules in this entry.

## 6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 7 Chemical shift validation

No chemical shift data were provided