



Full wwPDB NMR Structure Validation Report ⓘ

Mar 5, 2026 – 11:32 PM UTC

PDB ID : 2JNK / pdb_00002jnk
BMRB ID : 7269
Title : Solution structure of a dockerin-containing modular pair from a family 84 glycoside hydrolase
Authors : Chitayat, S.; Adams, J.J.; Bayer, E.A.; Smith, S.P.
Deposited on : 2007-01-26

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

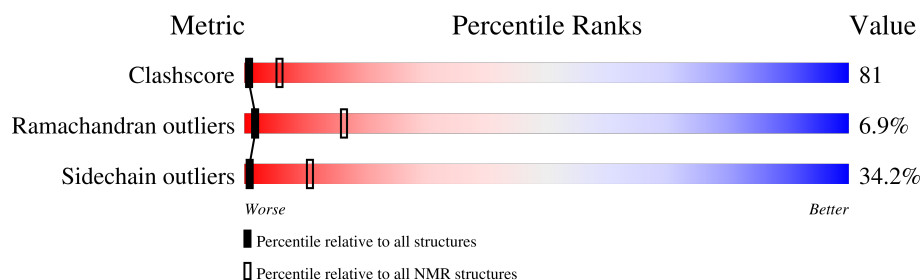
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment is 90%.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	NMR archive (#Entries)
Clashscore	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	140	 20% 52% 19% • 9%

2 Ensemble composition and analysis

This entry contains 20 models. Model 11 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *closest to the average*.

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:3-A:130 (128)	0.73	11

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. No single-model clusters were found.

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

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 2137 atoms, of which 1047 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Hyaluronoglucosaminidase.

Mol	Chain	Residues	Atoms						Trace
1	A	140	Total	C	H	N	O	S	0
			2137	670	1047	187	231	2	

There are 9 discrepancies between the modelled and reference sequences:

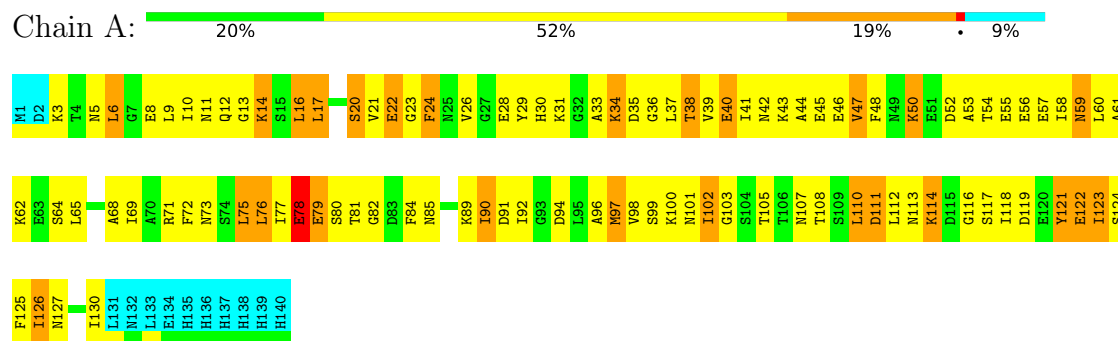
Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	expression tag	UNP P26831
A	133	LEU	-	expression tag	UNP P26831
A	134	GLU	-	expression tag	UNP P26831
A	135	HIS	-	expression tag	UNP P26831
A	136	HIS	-	expression tag	UNP P26831
A	137	HIS	-	expression tag	UNP P26831
A	138	HIS	-	expression tag	UNP P26831
A	139	HIS	-	expression tag	UNP P26831
A	140	HIS	-	expression tag	UNP P26831

4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

- Molecule 1: Hyaluronoglucosaminidase

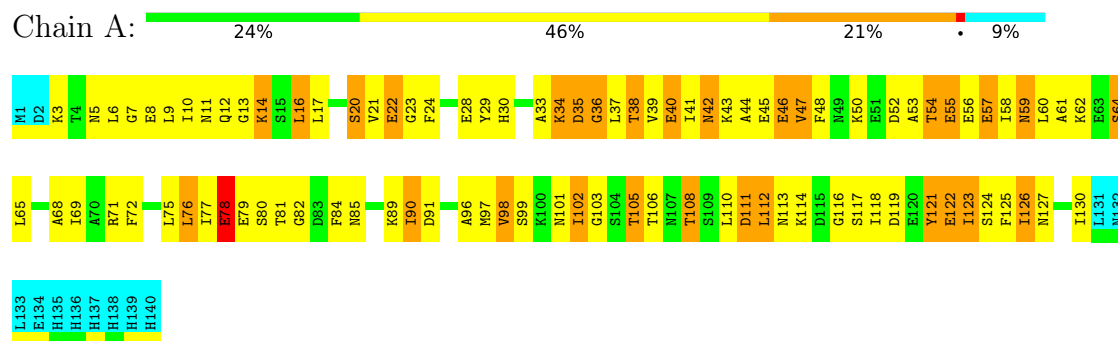


4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

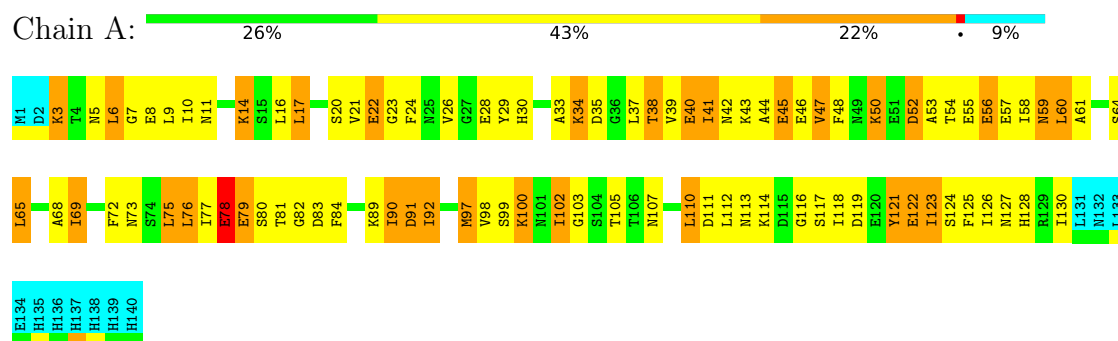
4.2.1 Score per residue for model 1

- Molecule 1: Hyaluronoglucosaminidase



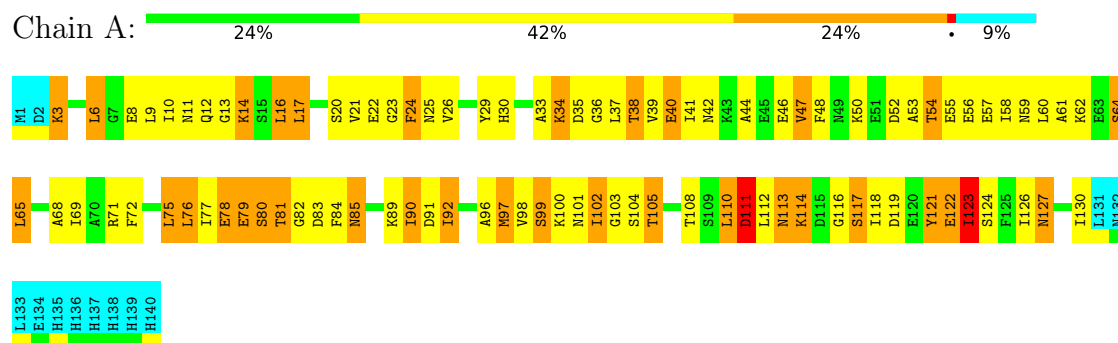
4.2.2 Score per residue for model 2

- Molecule 1: Hyaluronoglucosaminidase



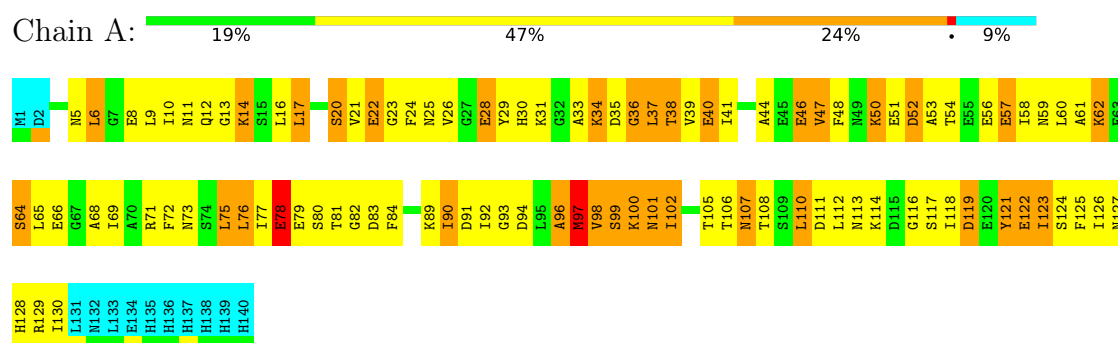
4.2.3 Score per residue for model 3

- Molecule 1: Hyaluronoglucosaminidase



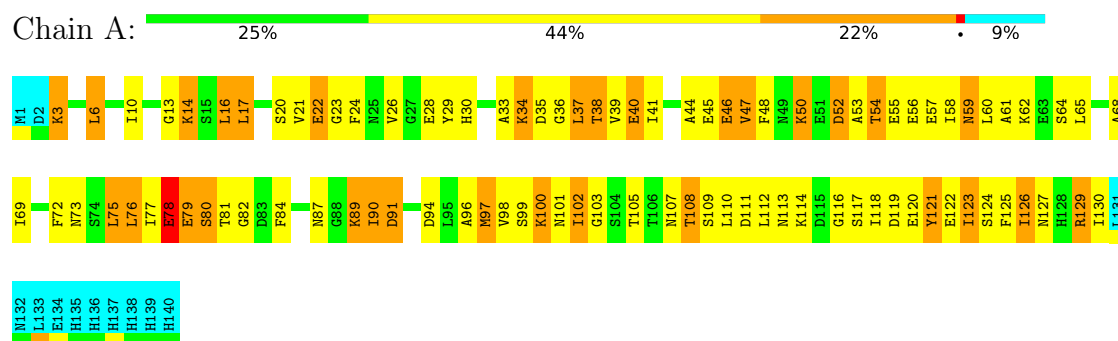
4.2.4 Score per residue for model 4

- Molecule 1: Hyaluronoglucosaminidase



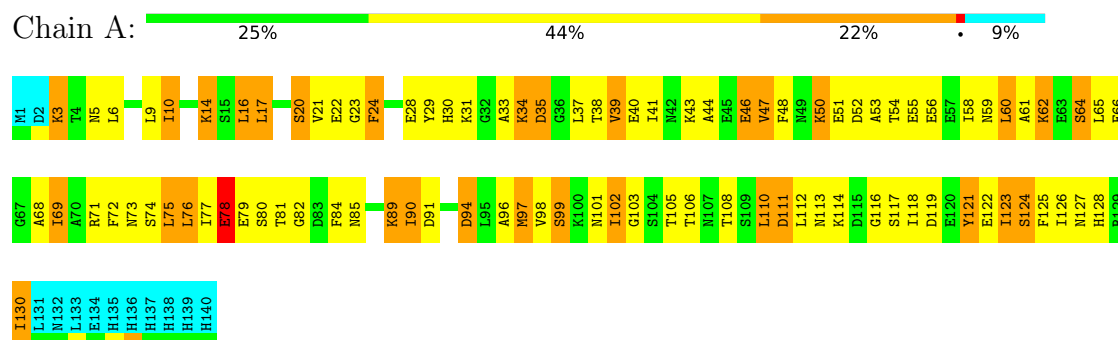
4.2.5 Score per residue for model 5

- Molecule 1: Hyaluronoglucosaminidase



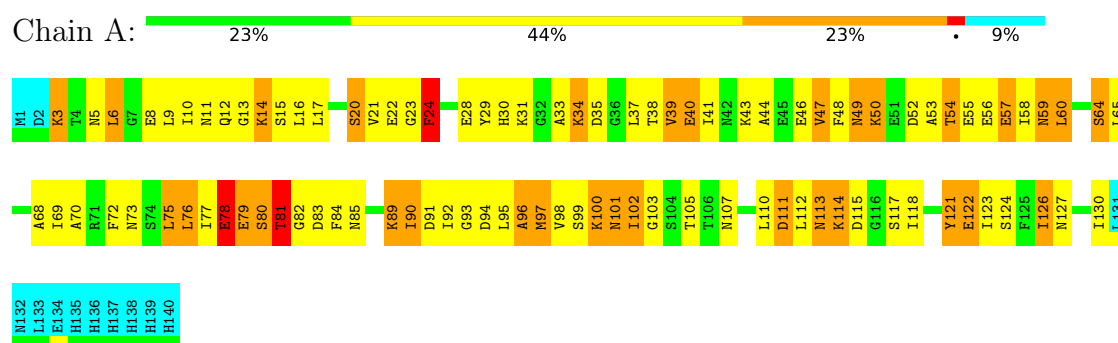
4.2.6 Score per residue for model 6

- Molecule 1: Hyaluronoglucosaminidase



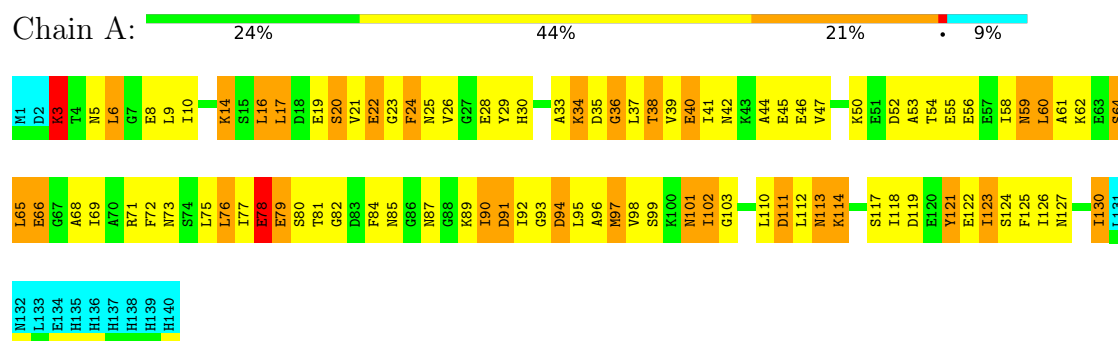
4.2.7 Score per residue for model 7

- Molecule 1: Hyaluronoglucosaminidase



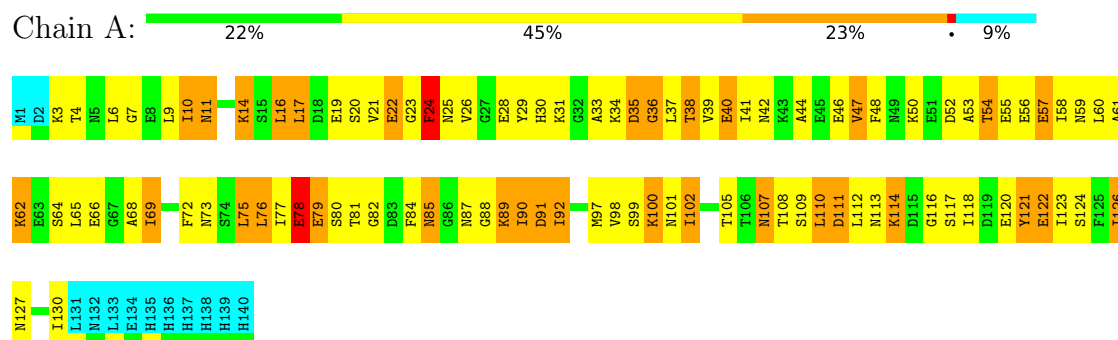
4.2.8 Score per residue for model 8

- Molecule 1: Hyaluronoglucosaminidase



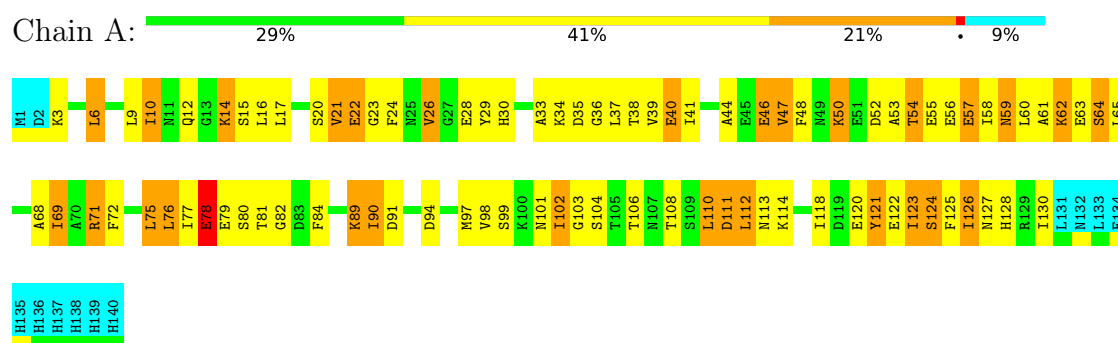
4.2.9 Score per residue for model 9

- Molecule 1: Hyaluronoglucosaminidase



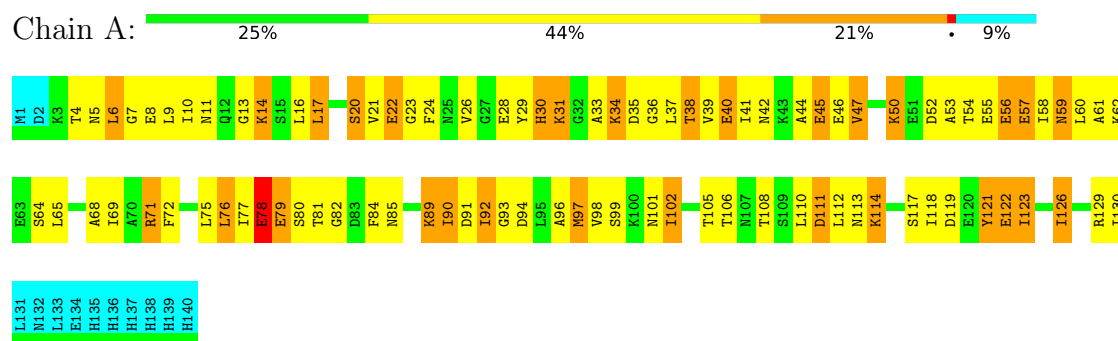
4.2.10 Score per residue for model 10

- Molecule 1: Hyaluronoglucosaminidase



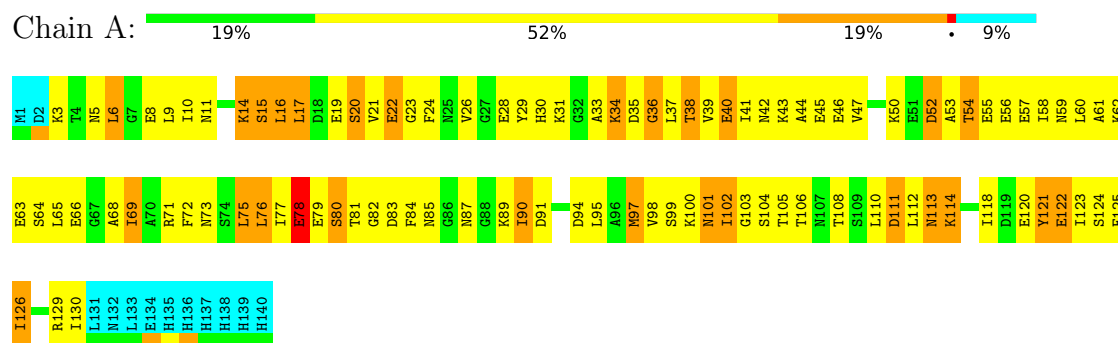
4.2.11 Score per residue for model 11 (medoid)

- Molecule 1: Hyaluronoglucosaminidase



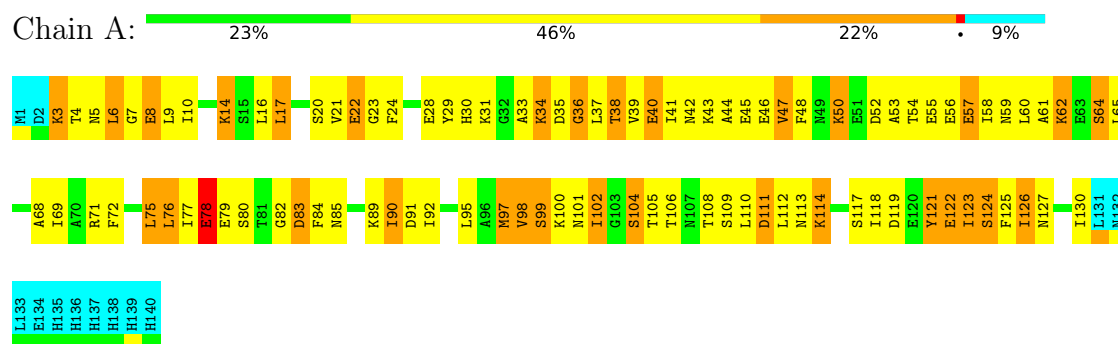
4.2.12 Score per residue for model 12

- Molecule 1: Hyaluronoglucosaminidase



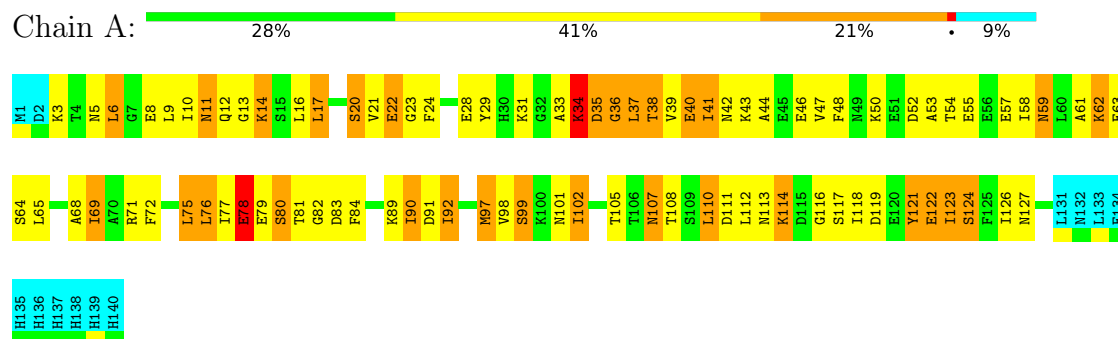
4.2.13 Score per residue for model 13

- Molecule 1: Hyaluronoglucosaminidase



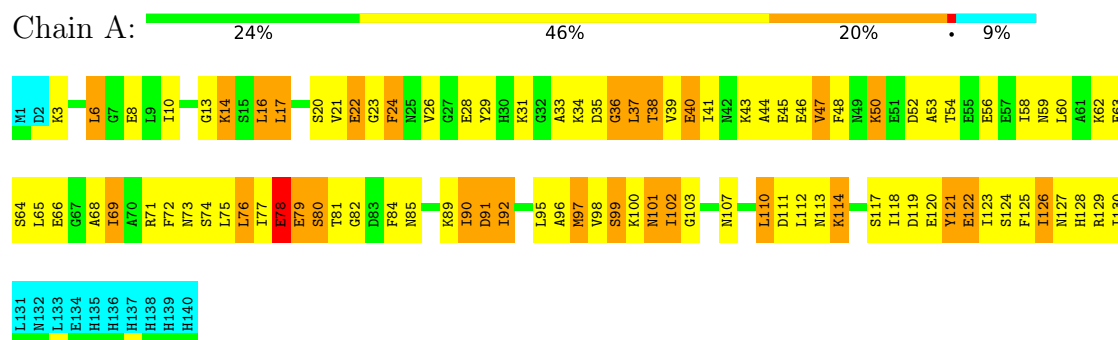
4.2.14 Score per residue for model 14

- Molecule 1: Hyaluronoglucosaminidase



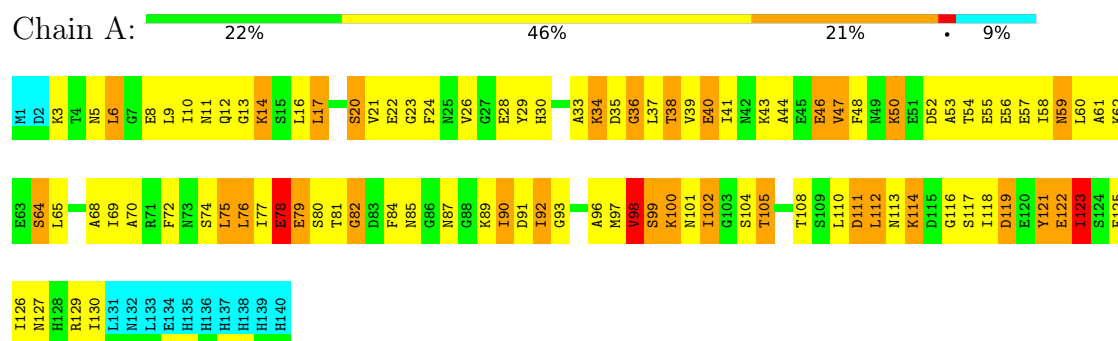
4.2.15 Score per residue for model 15

- Molecule 1: Hyaluronoglucosaminidase



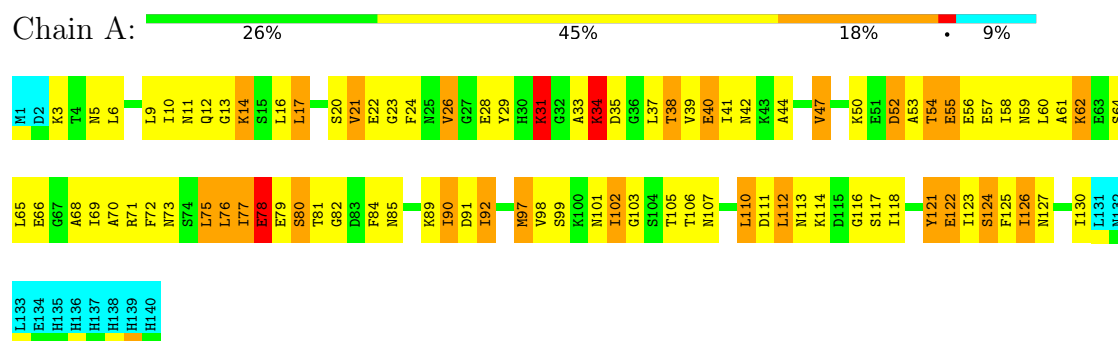
4.2.16 Score per residue for model 16

- Molecule 1: Hyaluronoglucosaminidase



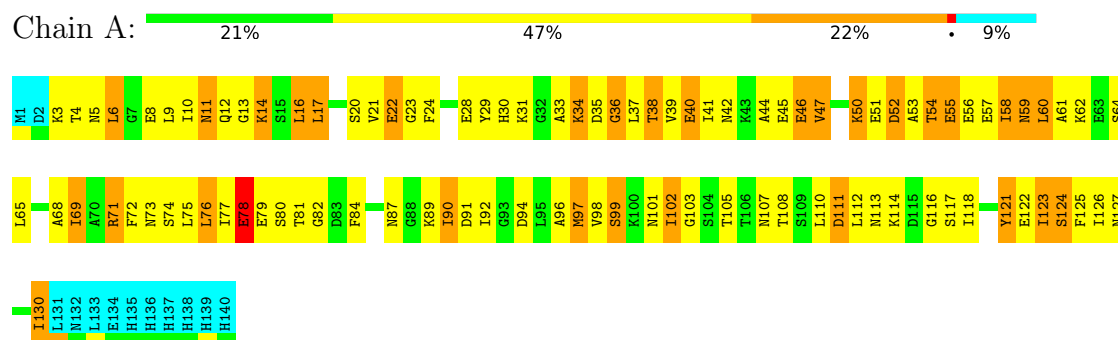
4.2.17 Score per residue for model 17

- Molecule 1: Hyaluronoglucosaminidase



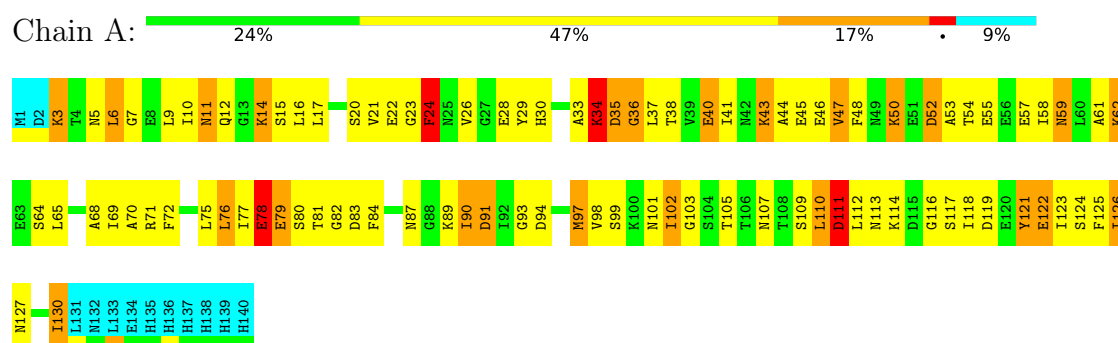
4.2.18 Score per residue for model 18

- Molecule 1: Hyaluronoglucosaminidase



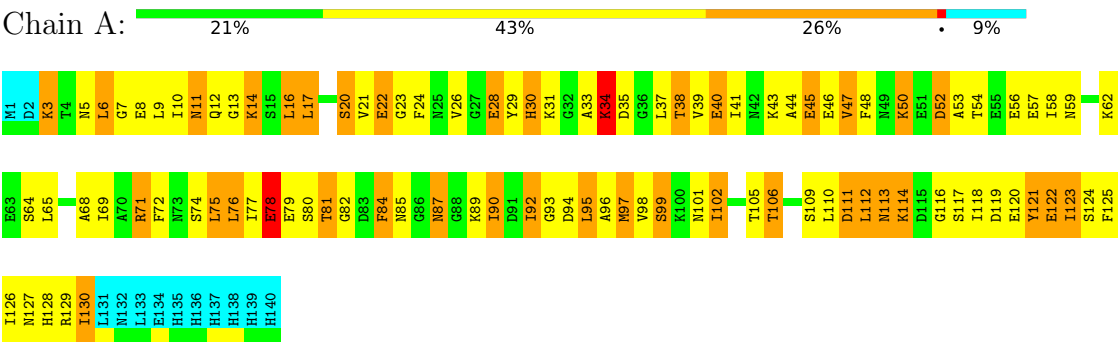
4.2.19 Score per residue for model 19

- Molecule 1: Hyaluronoglucosaminidase



4.2.20 Score per residue for model 20

● Molecule 1: Hyalurononglucosaminidase



5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing*.

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy*.

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

Software name	Classification	Version
CNS	structure solution	
CNS	refinement	

The following table shows chemical shift validation statistics as aggregates over all chemical shift files. Detailed validation can be found in section 7 of this report.

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	1548
Number of shifts mapped to atoms	1548
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	90%

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	0.38±0.01	0±0/989 (0.0± 0.0%)	0.68±0.01	0±0/1330 (0.0± 0.0%)
All	All	0.38	0/19780 (0.0%)	0.68	6/26600 (0.0%)

There are no bond-length outliers.

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
1	A	54	THR	CA-C-O	5.70	121.25	117.94	7	6

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	980	950	948	157±9
All	All	19600	19000	18960	3137

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:98:VAL:HG22	1:A:118:ILE:HG23	1.05	1.28	4	14

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:33:ALA:HB2	1:A:75:LEU:HD22	1.03	1.29	2	11
1:A:77:ILE:HG23	1:A:112:LEU:HD23	1.02	1.24	11	2
1:A:102:ILE:HD13	1:A:118:ILE:HG22	1.01	1.28	8	20
1:A:126:ILE:HG22	1:A:130:ILE:HD11	0.93	1.41	5	6
1:A:98:VAL:O	1:A:118:ILE:HG21	0.92	1.63	20	20
1:A:17:LEU:HD23	1:A:72:PHE:CZ	0.88	2.03	19	2
1:A:53:ALA:O	1:A:58:ILE:HD11	0.87	1.69	2	20
1:A:126:ILE:O	1:A:130:ILE:HD12	0.86	1.71	10	7
1:A:98:VAL:HG23	1:A:118:ILE:HD12	0.86	1.45	16	5
1:A:9:LEU:HD22	1:A:69:ILE:HD11	0.86	1.48	14	6
1:A:17:LEU:HD22	1:A:72:PHE:CE2	0.86	2.05	9	5
1:A:33:ALA:HB1	1:A:72:PHE:CD2	0.86	2.05	20	10
1:A:37:LEU:HD12	1:A:37:LEU:O	0.86	1.69	5	12
1:A:17:LEU:HD22	1:A:38:THR:OG1	0.85	1.72	16	8
1:A:82:GLY:O	1:A:90:ILE:HD12	0.85	1.71	3	19
1:A:37:LEU:HD23	1:A:72:PHE:CD2	0.85	2.07	15	11
1:A:112:LEU:HD13	1:A:122:GLU:CB	0.84	2.01	3	2
1:A:98:VAL:HG23	1:A:118:ILE:HG23	0.84	1.48	2	6
1:A:10:ILE:CG2	1:A:65:LEU:HD11	0.83	2.03	1	5
1:A:84:PHE:CE1	1:A:126:ILE:HD11	0.83	2.07	7	1
1:A:75:LEU:HD22	1:A:113:ASN:O	0.83	1.73	11	5
1:A:10:ILE:HB	1:A:14:LYS:CE	0.83	2.04	13	20
1:A:37:LEU:CD1	1:A:69:ILE:HG22	0.82	2.04	1	8
1:A:6:LEU:HD23	1:A:44:ALA:HB1	0.82	1.50	4	7
1:A:17:LEU:HD12	1:A:72:PHE:CE2	0.82	2.09	6	8
1:A:17:LEU:HG	1:A:37:LEU:HD23	0.82	1.50	19	1
1:A:22:GLU:HB3	1:A:29:TYR:CZ	0.82	2.08	6	19
1:A:102:ILE:HA	1:A:118:ILE:O	0.81	1.74	4	20
1:A:84:PHE:CE2	1:A:126:ILE:HD12	0.81	2.10	20	2
1:A:10:ILE:HG23	1:A:65:LEU:HD11	0.81	1.52	8	5
1:A:16:LEU:HD11	1:A:73:ASN:OD1	0.81	1.76	8	7
1:A:64:SER:O	1:A:68:ALA:HB2	0.81	1.74	10	10
1:A:78:GLU:O	1:A:81:THR:HG22	0.80	1.76	20	13
1:A:37:LEU:HD13	1:A:69:ILE:HG22	0.80	1.51	7	8
1:A:78:GLU:HB2	1:A:81:THR:HG23	0.80	1.53	3	2
1:A:77:ILE:CG2	1:A:112:LEU:HD23	0.80	2.06	11	2
1:A:77:ILE:HD12	1:A:112:LEU:HD23	0.80	1.54	12	2
1:A:33:ALA:HB1	1:A:72:PHE:CE2	0.79	2.12	16	9
1:A:126:ILE:HG22	1:A:130:ILE:CD1	0.79	2.06	5	7
1:A:40:GLU:HG2	1:A:68:ALA:HB1	0.79	1.51	10	1
1:A:37:LEU:HD11	1:A:69:ILE:HG22	0.79	1.51	19	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:84:PHE:CZ	1:A:126:ILE:HD11	0.79	2.13	7	8
1:A:84:PHE:CE2	1:A:126:ILE:HD11	0.79	2.13	5	5
1:A:9:LEU:HB2	1:A:65:LEU:HD13	0.79	1.55	1	6
1:A:98:VAL:HG22	1:A:118:ILE:HD12	0.78	1.54	1	2
1:A:9:LEU:HB2	1:A:65:LEU:HD23	0.78	1.55	16	2
1:A:75:LEU:HD23	1:A:113:ASN:CG	0.78	2.04	10	7
1:A:6:LEU:HD22	1:A:47:VAL:HG12	0.78	1.53	5	7
1:A:105:THR:HG22	1:A:116:GLY:O	0.78	1.79	20	9
1:A:97:MET:HE3	1:A:110:LEU:HD21	0.78	1.53	16	5
1:A:89:LYS:C	1:A:90:ILE:HD13	0.78	2.04	5	20
1:A:17:LEU:HD22	1:A:34:LYS:HA	0.78	1.54	19	4
1:A:6:LEU:HD22	1:A:7:GLY:N	0.78	1.93	13	1
1:A:77:ILE:HG23	1:A:112:LEU:HD13	0.77	1.55	17	2
1:A:10:ILE:HD11	1:A:48:PHE:CD2	0.77	2.14	4	11
1:A:3:LYS:N	1:A:58:ILE:HD13	0.77	1.94	12	1
1:A:17:LEU:HD13	1:A:34:LYS:CG	0.77	2.10	8	2
1:A:84:PHE:CZ	1:A:126:ILE:HD13	0.77	2.13	12	1
1:A:29:TYR:CZ	1:A:33:ALA:HB3	0.77	2.15	17	15
1:A:37:LEU:HD11	1:A:41:ILE:HD12	0.77	1.53	14	1
1:A:16:LEU:HD23	1:A:20:SER:OG	0.77	1.78	12	4
1:A:98:VAL:HG22	1:A:118:ILE:CG2	0.77	2.09	4	13
1:A:17:LEU:HD11	1:A:38:THR:N	0.77	1.95	19	2
1:A:17:LEU:HD23	1:A:37:LEU:HD23	0.76	1.57	9	3
1:A:29:TYR:CE2	1:A:33:ALA:HB3	0.75	2.15	20	19
1:A:6:LEU:HD13	1:A:65:LEU:HD22	0.75	1.58	6	1
1:A:112:LEU:HG	1:A:122:GLU:HA	0.75	1.58	10	15
1:A:57:GLU:HA	1:A:60:LEU:HD12	0.75	1.58	5	4
1:A:112:LEU:HD21	1:A:122:GLU:C	0.75	2.06	16	2
1:A:17:LEU:HD13	1:A:34:LYS:HG3	0.74	1.60	8	1
1:A:126:ILE:O	1:A:130:ILE:HD13	0.74	1.81	4	3
1:A:90:ILE:HG22	1:A:126:ILE:HG23	0.74	1.58	5	2
1:A:126:ILE:HG22	1:A:130:ILE:HD13	0.74	1.59	7	1
1:A:98:VAL:HG23	1:A:110:LEU:CB	0.73	2.12	17	2
1:A:56:GLU:O	1:A:60:LEU:HD12	0.73	1.83	6	9
1:A:6:LEU:HD12	1:A:44:ALA:HB1	0.73	1.60	3	4
1:A:17:LEU:CD1	1:A:38:THR:HB	0.73	2.13	1	2
1:A:35:ASP:O	1:A:39:VAL:N	0.73	2.22	7	16
1:A:40:GLU:O	1:A:44:ALA:N	0.73	2.22	10	18
1:A:93:GLY:O	1:A:98:VAL:HG12	0.73	1.84	20	2
1:A:6:LEU:HD11	1:A:47:VAL:HG12	0.72	1.60	14	1
1:A:17:LEU:HD23	1:A:72:PHE:CE2	0.72	2.18	7	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:6:LEU:HG	1:A:47:VAL:HG12	0.72	1.61	6	7
1:A:102:ILE:CD1	1:A:118:ILE:HG22	0.72	2.13	8	16
1:A:40:GLU:OE1	1:A:68:ALA:HB3	0.72	1.84	19	7
1:A:82:GLY:C	1:A:90:ILE:HD12	0.72	2.10	7	17
1:A:33:ALA:HB1	1:A:72:PHE:CD1	0.72	2.19	19	10
1:A:98:VAL:HA	1:A:110:LEU:HD13	0.72	1.61	16	5
1:A:77:ILE:HG23	1:A:112:LEU:CD1	0.72	2.13	17	1
1:A:10:ILE:CG2	1:A:65:LEU:HD21	0.72	2.15	16	3
1:A:14:LYS:HD3	1:A:41:ILE:HD12	0.71	1.60	7	6
1:A:112:LEU:HD22	1:A:122:GLU:O	0.71	1.83	11	3
1:A:82:GLY:O	1:A:90:ILE:HG23	0.71	1.85	7	10
1:A:98:VAL:CG2	1:A:118:ILE:HG23	0.71	2.16	14	8
1:A:9:LEU:HB3	1:A:65:LEU:HD22	0.71	1.61	2	6
1:A:10:ILE:HB	1:A:14:LYS:HE2	0.71	1.62	10	17
1:A:85:ASN:HA	1:A:97:MET:HE2	0.71	1.61	1	4
1:A:94:ASP:HB3	1:A:130:ILE:HD11	0.71	1.61	20	1
1:A:16:LEU:HB3	1:A:37:LEU:HD21	0.71	1.63	17	5
1:A:37:LEU:O	1:A:40:GLU:HG3	0.70	1.85	19	17
1:A:110:LEU:HB3	1:A:118:ILE:HD11	0.70	1.61	14	4
1:A:17:LEU:HD12	1:A:72:PHE:CD2	0.70	2.21	2	7
1:A:10:ILE:HG22	1:A:65:LEU:HD21	0.70	1.61	7	4
1:A:6:LEU:HB2	1:A:65:LEU:HD12	0.70	1.63	13	1
1:A:98:VAL:HA	1:A:110:LEU:HD23	0.70	1.64	2	4
1:A:75:LEU:HD23	1:A:113:ASN:OD1	0.70	1.85	20	3
1:A:111:ASP:OD1	1:A:118:ILE:HD13	0.70	1.85	16	3
1:A:20:SER:OG	1:A:72:PHE:CE2	0.70	2.44	8	7
1:A:13:GLY:HA3	1:A:41:ILE:HD11	0.70	1.62	5	9
1:A:16:LEU:HD22	1:A:72:PHE:CD2	0.70	2.22	9	1
1:A:37:LEU:CD1	1:A:41:ILE:HD12	0.70	2.17	14	1
1:A:37:LEU:HD22	1:A:72:PHE:CD2	0.70	2.22	19	1
1:A:84:PHE:CE1	1:A:112:LEU:HD23	0.70	2.21	20	2
1:A:35:ASP:O	1:A:38:THR:HG22	0.69	1.87	19	6
1:A:112:LEU:HB2	1:A:122:GLU:HA	0.69	1.62	11	4
1:A:29:TYR:CD2	1:A:33:ALA:HB3	0.69	2.23	9	12
1:A:47:VAL:O	1:A:53:ALA:HB2	0.69	1.87	18	11
1:A:112:LEU:HD13	1:A:122:GLU:CA	0.69	2.18	11	2
1:A:77:ILE:HG21	1:A:125:PHE:HB2	0.69	1.65	2	6
1:A:112:LEU:HD12	1:A:121:TYR:O	0.69	1.87	9	11
1:A:40:GLU:CD	1:A:65:LEU:HD12	0.69	2.13	19	2
1:A:118:ILE:HG23	1:A:122:GLU:HG2	0.69	1.65	5	1
1:A:40:GLU:OE1	1:A:65:LEU:HD12	0.69	1.88	19	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:9:LEU:HD22	1:A:69:ILE:CD1	0.68	2.17	6	6
1:A:6:LEU:H	1:A:6:LEU:HD13	0.68	1.48	13	1
1:A:94:ASP:CG	1:A:126:ILE:HG21	0.68	2.13	7	2
1:A:41:ILE:HG22	1:A:45:GLU:OE2	0.68	1.89	13	1
1:A:37:LEU:O	1:A:41:ILE:HG12	0.68	1.88	5	13
1:A:46:GLU:O	1:A:50:LYS:HB2	0.68	1.89	8	19
1:A:81:THR:HG21	1:A:112:LEU:HA	0.68	1.63	3	2
1:A:84:PHE:HB3	1:A:110:LEU:HD22	0.67	1.65	5	5
1:A:40:GLU:CG	1:A:68:ALA:HB1	0.67	2.19	10	1
1:A:23:GLY:N	1:A:29:TYR:O	0.67	2.26	3	20
1:A:33:ALA:HB1	1:A:72:PHE:CG	0.67	2.25	14	3
1:A:94:ASP:OD1	1:A:123:ILE:HG22	0.67	1.90	5	1
1:A:17:LEU:HD23	1:A:37:LEU:HG	0.67	1.66	12	3
1:A:9:LEU:CB	1:A:65:LEU:HD23	0.67	2.19	16	1
1:A:37:LEU:HB2	1:A:72:PHE:HB2	0.67	1.67	13	3
1:A:123:ILE:HG22	1:A:127:ASN:CG	0.67	2.15	4	7
1:A:111:ASP:CG	1:A:118:ILE:HD13	0.67	2.15	11	9
1:A:17:LEU:HD21	1:A:37:LEU:HB3	0.67	1.66	19	3
1:A:98:VAL:HG23	1:A:110:LEU:HB2	0.67	1.67	17	1
1:A:6:LEU:HG	1:A:65:LEU:HD12	0.66	1.68	8	1
1:A:53:ALA:O	1:A:58:ILE:CD1	0.66	2.43	10	15
1:A:81:THR:OG1	1:A:112:LEU:HD22	0.66	1.89	20	1
1:A:17:LEU:CD2	1:A:37:LEU:HD23	0.66	2.19	10	4
1:A:40:GLU:CD	1:A:65:LEU:HD23	0.66	2.16	3	1
1:A:14:LYS:HG3	1:A:41:ILE:HG21	0.66	1.67	13	1
1:A:50:LYS:HB3	1:A:53:ALA:HB2	0.66	1.67	8	6
1:A:98:VAL:C	1:A:118:ILE:HG21	0.66	2.16	1	5
1:A:3:LYS:HE2	1:A:53:ALA:HB3	0.66	1.68	6	6
1:A:9:LEU:CB	1:A:65:LEU:HD13	0.66	2.21	1	2
1:A:126:ILE:C	1:A:130:ILE:HD12	0.66	2.16	10	4
1:A:17:LEU:HD23	1:A:37:LEU:CD2	0.65	2.20	9	3
1:A:17:LEU:HD12	1:A:72:PHE:CZ	0.65	2.25	6	1
1:A:17:LEU:HD11	1:A:34:LYS:O	0.65	1.91	13	2
1:A:37:LEU:HD12	1:A:72:PHE:HB3	0.65	1.67	13	1
1:A:92:ILE:O	1:A:92:ILE:HD13	0.65	1.91	2	4
1:A:112:LEU:HD22	1:A:122:GLU:C	0.65	2.16	13	2
1:A:40:GLU:OE1	1:A:65:LEU:HD23	0.65	1.92	3	1
1:A:94:ASP:OD2	1:A:126:ILE:HG21	0.65	1.91	8	1
1:A:112:LEU:HD21	1:A:122:GLU:O	0.65	1.91	16	2
1:A:40:GLU:OE1	1:A:69:ILE:HG23	0.65	1.92	7	7
1:A:112:LEU:CG	1:A:122:GLU:HA	0.65	2.22	16	12

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:16:LEU:HD11	1:A:73:ASN:CG	0.64	2.18	9	3
1:A:37:LEU:HD12	1:A:72:PHE:CB	0.64	2.23	13	2
1:A:6:LEU:HD23	1:A:65:LEU:CD1	0.64	2.22	11	2
1:A:6:LEU:CD1	1:A:47:VAL:HG12	0.64	2.22	20	5
1:A:37:LEU:HD12	1:A:40:GLU:OE2	0.64	1.93	1	5
1:A:71:ARG:O	1:A:75:LEU:HD23	0.64	1.91	11	7
1:A:37:LEU:HD13	1:A:69:ILE:HG23	0.64	1.68	9	8
1:A:40:GLU:OE2	1:A:65:LEU:HD23	0.64	1.92	7	2
1:A:56:GLU:O	1:A:60:LEU:HD13	0.64	1.92	15	3
1:A:77:ILE:O	1:A:78:GLU:C	0.64	2.40	8	20
1:A:98:VAL:HG23	1:A:110:LEU:CD1	0.64	2.22	7	5
1:A:94:ASP:HB2	1:A:126:ILE:HG22	0.64	1.68	4	1
1:A:108:THR:HG22	1:A:116:GLY:HA2	0.64	1.69	9	2
1:A:65:LEU:O	1:A:68:ALA:HB3	0.64	1.93	10	1
1:A:9:LEU:CB	1:A:65:LEU:HD21	0.64	2.23	18	3
1:A:97:MET:HE3	1:A:110:LEU:CD2	0.64	2.23	9	5
1:A:83:ASP:OD1	1:A:90:ILE:HD11	0.64	1.92	13	5
1:A:16:LEU:HD23	1:A:37:LEU:HD11	0.64	1.69	13	1
1:A:40:GLU:HG3	1:A:68:ALA:HB2	0.64	1.68	16	3
1:A:33:ALA:CB	1:A:75:LEU:HD22	0.63	2.18	2	7
1:A:98:VAL:HG21	1:A:123:ILE:HD13	0.63	1.71	3	1
1:A:98:VAL:HA	1:A:110:LEU:HD21	0.63	1.67	6	2
1:A:6:LEU:HD23	1:A:65:LEU:HD11	0.63	1.70	11	1
1:A:37:LEU:HA	1:A:40:GLU:HG2	0.63	1.69	6	3
1:A:14:LYS:HB3	1:A:41:ILE:HG21	0.63	1.70	16	1
1:A:81:THR:HG21	1:A:112:LEU:CB	0.63	2.22	16	1
1:A:90:ILE:HD13	1:A:90:ILE:N	0.63	2.09	3	19
1:A:98:VAL:CG2	1:A:118:ILE:HD12	0.63	2.24	19	12
1:A:17:LEU:HD21	1:A:38:THR:OG1	0.63	1.94	6	1
1:A:40:GLU:OE2	1:A:65:LEU:HD12	0.63	1.94	6	1
1:A:37:LEU:C	1:A:37:LEU:HD23	0.63	2.19	16	2
1:A:10:ILE:HG22	1:A:41:ILE:CG1	0.63	2.23	14	1
1:A:53:ALA:HB1	1:A:58:ILE:HD11	0.62	1.69	13	2
1:A:16:LEU:HD23	1:A:37:LEU:HD22	0.62	1.71	7	2
1:A:13:GLY:CA	1:A:37:LEU:HD11	0.62	2.24	11	3
1:A:17:LEU:CD1	1:A:37:LEU:HB3	0.62	2.24	13	3
1:A:126:ILE:HG22	1:A:130:ILE:HG13	0.62	1.71	19	3
1:A:81:THR:OG1	1:A:112:LEU:HB3	0.62	1.94	16	1
1:A:98:VAL:HG23	1:A:110:LEU:HD13	0.62	1.71	18	6
1:A:81:THR:HG23	1:A:112:LEU:HD22	0.62	1.72	8	9
1:A:17:LEU:HD13	1:A:34:LYS:HG2	0.62	1.72	9	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:77:ILE:CG2	1:A:112:LEU:HD13	0.62	2.24	17	1
1:A:17:LEU:CD2	1:A:72:PHE:CE2	0.62	2.82	1	2
1:A:20:SER:HB2	1:A:72:PHE:CE1	0.62	2.29	2	7
1:A:33:ALA:HB1	1:A:72:PHE:CE1	0.62	2.30	19	1
1:A:112:LEU:HD11	1:A:122:GLU:O	0.62	1.95	6	10
1:A:81:THR:HG23	1:A:112:LEU:CD2	0.61	2.25	9	8
1:A:16:LEU:CB	1:A:37:LEU:HD21	0.61	2.25	1	2
1:A:34:LYS:O	1:A:38:THR:HB	0.61	1.95	11	6
1:A:126:ILE:CG2	1:A:130:ILE:HG21	0.61	2.24	3	1
1:A:17:LEU:HD23	1:A:37:LEU:CG	0.61	2.24	12	4
1:A:35:ASP:O	1:A:39:VAL:HG23	0.61	1.95	9	12
1:A:10:ILE:HG23	1:A:65:LEU:HD21	0.61	1.72	15	3
1:A:40:GLU:CG	1:A:68:ALA:HB2	0.61	2.26	16	3
1:A:17:LEU:HD23	1:A:72:PHE:CE1	0.61	2.31	19	1
1:A:6:LEU:O	1:A:10:ILE:HG12	0.61	1.96	14	9
1:A:105:THR:HG23	1:A:116:GLY:CA	0.61	2.25	16	2
1:A:94:ASP:CB	1:A:130:ILE:HD11	0.61	2.26	20	1
1:A:38:THR:O	1:A:41:ILE:N	0.61	2.34	10	10
1:A:37:LEU:HD13	1:A:69:ILE:HA	0.61	1.72	1	4
1:A:97:MET:HE3	1:A:110:LEU:HD11	0.61	1.72	2	4
1:A:34:LYS:C	1:A:38:THR:HG1	0.61	2.03	10	1
1:A:77:ILE:CG2	1:A:81:THR:HG21	0.61	2.26	20	1
1:A:10:ILE:HD11	1:A:48:PHE:CG	0.60	2.30	16	11
1:A:84:PHE:CZ	1:A:112:LEU:HD21	0.60	2.31	7	2
1:A:17:LEU:HD13	1:A:34:LYS:HE2	0.60	1.74	12	2
1:A:37:LEU:HD12	1:A:40:GLU:CD	0.60	2.22	9	7
1:A:85:ASN:OD1	1:A:97:MET:HE2	0.60	1.96	13	4
1:A:40:GLU:OE2	1:A:68:ALA:HB3	0.60	1.97	12	2
1:A:99:SER:HA	1:A:102:ILE:CG1	0.60	2.26	13	10
1:A:84:PHE:CE2	1:A:126:ILE:HD13	0.60	2.30	8	2
1:A:17:LEU:HD22	1:A:72:PHE:CZ	0.60	2.30	18	1
1:A:85:ASN:ND2	1:A:97:MET:HE1	0.60	2.12	20	1
1:A:97:MET:CE	1:A:110:LEU:HD11	0.60	2.27	4	4
1:A:107:ASN:ND2	1:A:110:LEU:HD13	0.60	2.12	4	4
1:A:17:LEU:CD1	1:A:37:LEU:HD23	0.60	2.26	3	1
1:A:95:LEU:O	1:A:95:LEU:HD12	0.60	1.97	12	1
1:A:17:LEU:HD13	1:A:37:LEU:HG	0.60	1.71	2	5
1:A:111:ASP:OD2	1:A:118:ILE:HD13	0.60	1.97	5	4
1:A:44:ALA:HB1	1:A:65:LEU:HD11	0.60	1.74	11	3
1:A:6:LEU:CD1	1:A:65:LEU:HD22	0.59	2.26	6	1
1:A:98:VAL:HG21	1:A:122:GLU:HB2	0.59	1.72	5	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:40:GLU:O	1:A:44:ALA:HB2	0.59	1.96	9	14
1:A:44:ALA:HA	1:A:61:ALA:HB1	0.59	1.74	17	3
1:A:47:VAL:HG21	1:A:61:ALA:HB2	0.59	1.73	13	12
1:A:16:LEU:HB2	1:A:37:LEU:HD21	0.59	1.75	19	3
1:A:122:GLU:CD	1:A:123:ILE:HD13	0.59	2.22	5	1
1:A:64:SER:O	1:A:68:ALA:HB3	0.59	1.97	7	9
1:A:3:LYS:H	1:A:58:ILE:HD13	0.59	1.57	12	1
1:A:33:ALA:HB2	1:A:75:LEU:HD23	0.58	1.75	3	1
1:A:94:ASP:OD1	1:A:126:ILE:HD13	0.58	1.97	6	1
1:A:13:GLY:HA2	1:A:37:LEU:HD11	0.58	1.74	20	3
1:A:75:LEU:HD23	1:A:113:ASN:ND2	0.58	2.13	10	4
1:A:90:ILE:HG21	1:A:125:PHE:CE1	0.58	2.34	5	1
1:A:6:LEU:CB	1:A:65:LEU:HD12	0.58	2.27	13	1
1:A:37:LEU:HD23	1:A:37:LEU:O	0.58	1.99	16	2
1:A:77:ILE:HG23	1:A:112:LEU:HB3	0.58	1.73	18	2
1:A:30:HIS:CB	1:A:121:TYR:HA	0.58	2.28	16	7
1:A:3:LYS:HD2	1:A:58:ILE:HD11	0.58	1.74	14	1
1:A:6:LEU:HD13	1:A:65:LEU:CD2	0.58	2.28	6	2
1:A:123:ILE:HG22	1:A:127:ASN:OD1	0.57	1.98	1	6
1:A:75:LEU:HA	1:A:113:ASN:HA	0.57	1.73	5	6
1:A:77:ILE:HD12	1:A:124:SER:OG	0.57	1.98	17	1
1:A:77:ILE:HD12	1:A:112:LEU:CD1	0.57	2.29	16	1
1:A:17:LEU:CD2	1:A:72:PHE:CE1	0.57	2.87	19	1
1:A:64:SER:O	1:A:68:ALA:CB	0.57	2.52	5	16
1:A:98:VAL:HG22	1:A:118:ILE:CD1	0.57	2.28	1	1
1:A:102:ILE:CA	1:A:118:ILE:O	0.57	2.52	4	15
1:A:17:LEU:HG	1:A:37:LEU:CD2	0.57	2.30	4	2
1:A:6:LEU:CD2	1:A:47:VAL:HG12	0.57	2.27	5	5
1:A:105:THR:HG23	1:A:116:GLY:HA3	0.57	1.74	1	2
1:A:14:LYS:CE	1:A:41:ILE:HG23	0.57	2.30	9	1
1:A:17:LEU:HD13	1:A:34:LYS:O	0.57	1.99	1	1
1:A:37:LEU:CD1	1:A:69:ILE:HG23	0.57	2.30	9	4
1:A:33:ALA:HB2	1:A:75:LEU:CD2	0.57	2.30	3	7
1:A:111:ASP:HB3	1:A:114:LYS:H	0.57	1.59	11	1
1:A:81:THR:HG21	1:A:112:LEU:HB3	0.57	1.75	17	3
1:A:3:LYS:HE3	1:A:53:ALA:HB3	0.57	1.76	10	2
1:A:81:THR:HG21	1:A:112:LEU:HG	0.57	1.74	12	1
1:A:9:LEU:HD11	1:A:66:GLU:CG	0.57	2.29	8	2
1:A:68:ALA:O	1:A:71:ARG:HG3	0.57	2.00	10	1
1:A:126:ILE:HG22	1:A:130:ILE:CG1	0.56	2.30	19	2
1:A:78:GLU:O	1:A:80:SER:N	0.56	2.37	8	19

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:6:LEU:HD12	1:A:58:ILE:HG23	0.56	1.77	2	2
1:A:17:LEU:HD21	1:A:34:LYS:O	0.56	2.00	17	6
1:A:108:THR:HG21	1:A:114:LYS:HE3	0.56	1.77	3	1
1:A:14:LYS:HG2	1:A:41:ILE:HD12	0.56	1.76	11	1
1:A:10:ILE:HG22	1:A:41:ILE:HG12	0.56	1.77	14	1
1:A:90:ILE:CG2	1:A:126:ILE:HD12	0.56	2.30	19	1
1:A:40:GLU:O	1:A:44:ALA:CB	0.56	2.53	7	17
1:A:20:SER:HG	1:A:72:PHE:HE2	0.56	1.33	7	1
1:A:97:MET:CE	1:A:110:LEU:HD21	0.56	2.30	11	3
1:A:22:GLU:HB3	1:A:29:TYR:CE2	0.56	2.36	9	11
1:A:3:LYS:CD	1:A:58:ILE:HD11	0.56	2.31	14	1
1:A:75:LEU:HD13	1:A:113:ASN:CG	0.56	2.25	8	3
1:A:35:ASP:O	1:A:36:GLY:C	0.56	2.48	19	12
1:A:6:LEU:HD13	1:A:47:VAL:CG1	0.56	2.31	18	3
1:A:16:LEU:HD21	1:A:73:ASN:OD1	0.56	1.99	6	3
1:A:17:LEU:CD1	1:A:38:THR:OG1	0.56	2.54	10	2
1:A:53:ALA:HB1	1:A:58:ILE:CD1	0.56	2.31	13	2
1:A:16:LEU:HD23	1:A:37:LEU:CD1	0.56	2.31	13	1
1:A:37:LEU:HD12	1:A:40:GLU:CG	0.56	2.31	6	1
1:A:111:ASP:HB3	1:A:114:LYS:HA	0.55	1.76	19	2
1:A:97:MET:HE3	1:A:110:LEU:HD23	0.55	1.77	8	5
1:A:17:LEU:HD13	1:A:37:LEU:HB3	0.55	1.76	13	1
1:A:41:ILE:HD13	1:A:65:LEU:HD11	0.55	1.77	16	1
1:A:20:SER:CB	1:A:72:PHE:CE1	0.55	2.89	3	9
1:A:77:ILE:O	1:A:77:ILE:HG22	0.55	2.01	3	1
1:A:97:MET:SD	1:A:110:LEU:HD11	0.55	2.41	4	1
1:A:17:LEU:HD21	1:A:38:THR:CA	0.55	2.32	6	1
1:A:6:LEU:HD23	1:A:65:LEU:HD22	0.55	1.78	17	1
1:A:10:ILE:HB	1:A:14:LYS:HE3	0.55	1.77	14	3
1:A:119:ASP:O	1:A:122:GLU:HG3	0.55	2.02	5	1
1:A:17:LEU:HD22	1:A:72:PHE:CD2	0.55	2.36	12	2
1:A:17:LEU:HD22	1:A:72:PHE:HE2	0.55	1.60	12	1
1:A:93:GLY:HA2	1:A:97:MET:HB2	0.55	1.77	11	5
1:A:77:ILE:HG21	1:A:125:PHE:CD1	0.55	2.36	16	2
1:A:98:VAL:HG23	1:A:118:ILE:CG2	0.55	2.27	2	3
1:A:77:ILE:HG21	1:A:125:PHE:CG	0.55	2.37	18	3
1:A:77:ILE:HG23	1:A:125:PHE:HB2	0.55	1.77	10	3
1:A:17:LEU:HD11	1:A:33:ALA:O	0.55	2.02	16	1
1:A:113:ASN:O	1:A:114:LYS:HG2	0.55	2.01	20	1
1:A:6:LEU:HD13	1:A:65:LEU:HD12	0.55	1.79	1	1
1:A:29:TYR:OH	1:A:34:LYS:HB2	0.55	2.02	17	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:102:ILE:HD13	1:A:118:ILE:CG2	0.55	2.19	8	3
1:A:75:LEU:HD13	1:A:113:ASN:O	0.55	2.02	19	1
1:A:30:HIS:HB2	1:A:121:TYR:HA	0.54	1.79	3	10
1:A:56:GLU:O	1:A:60:LEU:HD22	0.54	2.02	1	3
1:A:37:LEU:HD13	1:A:69:ILE:CG2	0.54	2.33	15	8
1:A:81:THR:HG21	1:A:112:LEU:HB2	0.54	1.77	16	1
1:A:77:ILE:HG21	1:A:125:PHE:CB	0.54	2.33	12	3
1:A:98:VAL:HG23	1:A:110:LEU:HB3	0.54	1.80	17	2
1:A:38:THR:HA	1:A:41:ILE:HD12	0.54	1.78	19	1
1:A:111:ASP:N	1:A:111:ASP:OD1	0.54	2.39	18	8
1:A:9:LEU:HD12	1:A:65:LEU:HB3	0.54	1.79	13	1
1:A:98:VAL:CG1	1:A:99:SER:N	0.54	2.70	1	13
1:A:26:VAL:HG23	1:A:79:GLU:HA	0.54	1.79	3	9
1:A:75:LEU:HG	1:A:113:ASN:O	0.54	2.02	7	2
1:A:44:ALA:HB1	1:A:65:LEU:HD22	0.54	1.78	9	1
1:A:6:LEU:CG	1:A:47:VAL:HG12	0.54	2.31	6	5
1:A:41:ILE:HD13	1:A:65:LEU:HD21	0.54	1.78	13	1
1:A:110:LEU:O	1:A:111:ASP:C	0.54	2.51	19	4
1:A:33:ALA:HB1	1:A:72:PHE:CZ	0.54	2.37	17	2
1:A:98:VAL:CG2	1:A:123:ILE:HD13	0.54	2.31	3	2
1:A:3:LYS:HA	1:A:58:ILE:HD12	0.54	1.79	13	4
1:A:98:VAL:HG11	1:A:123:ILE:HG23	0.54	1.78	20	1
1:A:98:VAL:HG21	1:A:122:GLU:HB3	0.54	1.80	18	6
1:A:112:LEU:HD11	1:A:122:GLU:C	0.54	2.28	10	1
1:A:17:LEU:HD13	1:A:38:THR:OG1	0.53	2.04	4	3
1:A:41:ILE:HG22	1:A:45:GLU:OE1	0.53	2.03	5	3
1:A:17:LEU:HA	1:A:72:PHE:CE2	0.53	2.38	7	7
1:A:17:LEU:HD12	1:A:37:LEU:HD23	0.53	1.78	3	1
1:A:71:ARG:O	1:A:75:LEU:HD12	0.53	2.04	14	1
1:A:21:VAL:O	1:A:28:GLU:HA	0.53	2.04	8	18
1:A:55:GLU:O	1:A:59:ASN:ND2	0.53	2.42	10	8
1:A:29:TYR:CD2	1:A:33:ALA:CB	0.53	2.91	9	9
1:A:110:LEU:HD23	1:A:110:LEU:O	0.53	2.02	6	1
1:A:105:THR:HG23	1:A:116:GLY:O	0.53	2.02	16	3
1:A:110:LEU:O	1:A:110:LEU:CG	0.53	2.57	10	3
1:A:40:GLU:HG2	1:A:68:ALA:HB3	0.53	1.80	15	1
1:A:77:ILE:HG22	1:A:81:THR:HG21	0.53	1.80	20	1
1:A:37:LEU:O	1:A:40:GLU:CG	0.53	2.57	6	11
1:A:52:ASP:C	1:A:54:THR:H	0.53	2.12	18	19
1:A:98:VAL:HG12	1:A:99:SER:N	0.53	2.19	1	2
1:A:77:ILE:HA	1:A:112:LEU:HB3	0.53	1.81	9	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:94:ASP:CB	1:A:126:ILE:HD13	0.53	2.34	7	1
1:A:9:LEU:CB	1:A:65:LEU:HD22	0.53	2.34	11	2
1:A:126:ILE:HG23	1:A:130:ILE:HG21	0.53	1.81	3	1
1:A:108:THR:HG22	1:A:114:LYS:HA	0.53	1.80	6	4
1:A:28:GLU:O	1:A:77:ILE:HG12	0.52	2.03	9	19
1:A:26:VAL:HG13	1:A:26:VAL:O	0.52	2.03	10	9
1:A:35:ASP:O	1:A:38:THR:N	0.52	2.42	19	3
1:A:9:LEU:HB3	1:A:65:LEU:HG	0.52	1.80	6	2
1:A:38:THR:HG23	1:A:42:ASN:HD21	0.52	1.63	9	3
1:A:38:THR:O	1:A:42:ASN:N	0.52	2.41	12	8
1:A:54:THR:O	1:A:58:ILE:HG12	0.52	2.05	8	4
1:A:6:LEU:HD23	1:A:65:LEU:HD12	0.52	1.82	2	1
1:A:10:ILE:CB	1:A:14:LYS:HE3	0.52	2.34	2	1
1:A:98:VAL:HG13	1:A:99:SER:N	0.52	2.19	5	14
1:A:123:ILE:N	1:A:123:ILE:HD13	0.52	2.20	10	5
1:A:6:LEU:HD13	1:A:44:ALA:HB1	0.52	1.82	15	3
1:A:17:LEU:HG	1:A:37:LEU:HG	0.52	1.79	7	3
1:A:29:TYR:OH	1:A:34:LYS:CG	0.52	2.57	13	3
1:A:44:ALA:O	1:A:47:VAL:N	0.52	2.43	12	14
1:A:71:ARG:C	1:A:75:LEU:HD23	0.52	2.30	18	6
1:A:77:ILE:O	1:A:78:GLU:O	0.52	2.27	3	10
1:A:94:ASP:CB	1:A:126:ILE:HG22	0.52	2.34	4	1
1:A:126:ILE:CG2	1:A:130:ILE:HD11	0.52	2.35	10	1
1:A:37:LEU:HA	1:A:68:ALA:HB1	0.52	1.82	14	2
1:A:94:ASP:HB2	1:A:126:ILE:HG21	0.52	1.81	18	2
1:A:6:LEU:O	1:A:10:ILE:HG23	0.52	2.04	13	1
1:A:17:LEU:CD2	1:A:37:LEU:HB3	0.52	2.34	19	1
1:A:17:LEU:CD1	1:A:72:PHE:CE2	0.52	2.93	3	1
1:A:94:ASP:OD1	1:A:126:ILE:HG21	0.52	2.05	7	2
1:A:20:SER:OG	1:A:72:PHE:CZ	0.52	2.58	20	11
1:A:110:LEU:HB2	1:A:118:ILE:HD11	0.52	1.81	16	4
1:A:123:ILE:O	1:A:127:ASN:HB2	0.52	2.05	14	7
1:A:16:LEU:O	1:A:20:SER:OG	0.51	2.28	20	12
1:A:72:PHE:HA	1:A:75:LEU:HD23	0.51	1.82	1	2
1:A:84:PHE:O	1:A:110:LEU:HD12	0.51	2.05	4	1
1:A:17:LEU:HD23	1:A:72:PHE:CD2	0.51	2.40	4	1
1:A:16:LEU:HD22	1:A:72:PHE:CG	0.51	2.39	12	1
1:A:3:LYS:H	1:A:58:ILE:HD12	0.51	1.65	14	1
1:A:84:PHE:O	1:A:110:LEU:HD23	0.51	2.05	20	1
1:A:76:LEU:H	1:A:76:LEU:HD13	0.51	1.66	5	20
1:A:118:ILE:HG23	1:A:122:GLU:CG	0.51	2.35	5	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:33:ALA:HB2	1:A:75:LEU:HG	0.51	1.83	17	1
1:A:118:ILE:HG23	1:A:122:GLU:HG3	0.51	1.82	8	7
1:A:119:ASP:O	1:A:123:ILE:HD11	0.51	2.05	20	6
1:A:107:ASN:O	1:A:111:ASP:OD1	0.51	2.29	14	1
1:A:98:VAL:HG13	1:A:99:SER:H	0.51	1.65	9	6
1:A:17:LEU:HD11	1:A:34:LYS:CA	0.51	2.36	5	1
1:A:65:LEU:HA	1:A:68:ALA:HB3	0.51	1.82	14	2
1:A:110:LEU:O	1:A:112:LEU:N	0.51	2.44	16	2
1:A:110:LEU:O	1:A:112:LEU:HD23	0.51	2.05	17	1
1:A:38:THR:HG23	1:A:42:ASN:ND2	0.51	2.21	9	3
1:A:10:ILE:O	1:A:14:LYS:HG2	0.51	2.05	16	2
1:A:9:LEU:HD13	1:A:65:LEU:HB3	0.51	1.83	1	2
1:A:97:MET:O	1:A:100:LYS:CD	0.51	2.59	7	1
1:A:119:ASP:O	1:A:123:ILE:CD1	0.51	2.59	20	3
1:A:47:VAL:HG11	1:A:61:ALA:HB3	0.50	1.83	17	6
1:A:37:LEU:HD12	1:A:37:LEU:C	0.50	2.28	5	2
1:A:84:PHE:CE2	1:A:126:ILE:CD1	0.50	2.93	16	10
1:A:59:ASN:OD1	1:A:59:ASN:N	0.50	2.44	19	3
1:A:113:ASN:HB2	1:A:121:TYR:CB	0.50	2.37	19	2
1:A:22:GLU:HA	1:A:29:TYR:O	0.50	2.06	20	15
1:A:92:ILE:HD13	1:A:92:ILE:C	0.50	2.31	9	3
1:A:20:SER:HB3	1:A:76:LEU:HD12	0.50	1.83	6	3
1:A:44:ALA:HB2	1:A:65:LEU:HD13	0.50	1.84	6	2
1:A:3:LYS:HD2	1:A:53:ALA:HB3	0.50	1.83	7	2
1:A:113:ASN:C	1:A:114:LYS:HG3	0.50	2.31	12	3
1:A:6:LEU:HA	1:A:65:LEU:HD21	0.50	1.82	17	1
1:A:17:LEU:HD13	1:A:34:LYS:CE	0.50	2.37	5	1
1:A:6:LEU:CD2	1:A:65:LEU:HD12	0.50	2.37	2	1
1:A:130:ILE:CD1	1:A:130:ILE:N	0.50	2.75	7	1
1:A:123:ILE:HG22	1:A:127:ASN:HB2	0.50	1.83	14	5
1:A:112:LEU:CD1	1:A:121:TYR:O	0.50	2.59	17	2
1:A:123:ILE:HA	1:A:126:ILE:HG22	0.50	1.83	12	1
1:A:6:LEU:HD23	1:A:44:ALA:CB	0.50	2.31	4	3
1:A:40:GLU:HG2	1:A:68:ALA:CB	0.50	2.36	18	6
1:A:37:LEU:HD12	1:A:40:GLU:OE1	0.50	2.06	15	1
1:A:6:LEU:HD21	1:A:47:VAL:CG1	0.50	2.37	1	3
1:A:7:GLY:O	1:A:11:ASN:ND2	0.49	2.46	20	5
1:A:54:THR:O	1:A:58:ILE:HD12	0.49	2.07	17	6
1:A:58:ILE:O	1:A:62:LYS:N	0.49	2.45	13	14
1:A:17:LEU:CD1	1:A:34:LYS:CG	0.49	2.89	8	1
1:A:3:LYS:N	1:A:58:ILE:HD12	0.49	2.22	14	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:9:LEU:HB3	1:A:65:LEU:HD21	0.49	1.83	18	1
1:A:76:LEU:HD22	1:A:76:LEU:N	0.49	2.21	15	20
1:A:21:VAL:HG13	1:A:28:GLU:HB3	0.49	1.84	4	1
1:A:107:ASN:HD21	1:A:110:LEU:HD13	0.49	1.66	4	2
1:A:110:LEU:O	1:A:110:LEU:HD23	0.49	2.07	10	1
1:A:41:ILE:CD1	1:A:65:LEU:HD21	0.49	2.37	13	1
1:A:72:PHE:CD1	1:A:72:PHE:C	0.49	2.90	10	7
1:A:9:LEU:HD11	1:A:66:GLU:HG3	0.49	1.83	8	1
1:A:34:LYS:C	1:A:38:THR:OG1	0.49	2.55	10	1
1:A:33:ALA:HB2	1:A:75:LEU:CG	0.49	2.37	11	1
1:A:10:ILE:HG22	1:A:65:LEU:HD11	0.49	1.83	17	1
1:A:12:GLN:NE2	1:A:69:ILE:HD12	0.49	2.23	3	4
1:A:6:LEU:HD23	1:A:58:ILE:HG23	0.49	1.84	15	1
1:A:77:ILE:HD13	1:A:77:ILE:N	0.49	2.23	17	1
1:A:111:ASP:C	1:A:113:ASN:N	0.49	2.69	4	17
1:A:98:VAL:CG2	1:A:118:ILE:CG2	0.49	2.91	15	5
1:A:24:PHE:CE1	1:A:30:HIS:CE1	0.49	3.00	9	1
1:A:29:TYR:OH	1:A:34:LYS:HG3	0.49	2.07	18	3
1:A:126:ILE:O	1:A:130:ILE:HG22	0.49	2.07	18	1
1:A:35:ASP:HA	1:A:38:THR:HG22	0.49	1.83	19	1
1:A:16:LEU:O	1:A:20:SER:N	0.49	2.46	14	5
1:A:78:GLU:CB	1:A:81:THR:HG23	0.49	2.32	3	1
1:A:130:ILE:N	1:A:130:ILE:HD12	0.49	2.22	7	1
1:A:65:LEU:O	1:A:69:ILE:HG12	0.49	2.08	2	3
1:A:17:LEU:HD12	1:A:38:THR:OG1	0.49	2.08	5	1
1:A:6:LEU:N	1:A:6:LEU:HD22	0.49	2.23	9	1
1:A:6:LEU:HB2	1:A:44:ALA:HB1	0.49	1.85	13	1
1:A:37:LEU:C	1:A:37:LEU:CD2	0.49	2.85	16	2
1:A:40:GLU:CB	1:A:64:SER:O	0.49	2.61	5	1
1:A:112:LEU:HD21	1:A:122:GLU:CA	0.49	2.37	16	1
1:A:20:SER:OG	1:A:72:PHE:CE1	0.49	2.61	14	4
1:A:34:LYS:N	1:A:72:PHE:CE1	0.49	2.81	9	4
1:A:17:LEU:HD13	1:A:38:THR:CB	0.49	2.38	4	1
1:A:40:GLU:CB	1:A:68:ALA:HB2	0.49	2.38	16	3
1:A:84:PHE:CE1	1:A:112:LEU:HD21	0.49	2.43	19	1
1:A:14:LYS:HE2	1:A:41:ILE:HG23	0.48	1.83	9	1
1:A:41:ILE:HD13	1:A:65:LEU:CD2	0.48	2.38	13	1
1:A:111:ASP:CG	1:A:118:ILE:CD1	0.48	2.86	8	10
1:A:37:LEU:HD23	1:A:72:PHE:HD2	0.48	1.68	2	2
1:A:12:GLN:O	1:A:16:LEU:N	0.48	2.46	4	6
1:A:57:GLU:O	1:A:61:ALA:N	0.48	2.45	10	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:110:LEU:CB	1:A:118:ILE:HD11	0.48	2.37	3	1
1:A:113:ASN:CG	1:A:121:TYR:CB	0.48	2.86	8	10
1:A:16:LEU:HD13	1:A:37:LEU:HD22	0.48	1.86	10	2
1:A:3:LYS:CE	1:A:53:ALA:HB3	0.48	2.37	19	1
1:A:29:TYR:CE1	1:A:72:PHE:CZ	0.48	3.02	16	5
1:A:20:SER:CB	1:A:76:LEU:HD12	0.48	2.38	7	2
1:A:84:PHE:CZ	1:A:112:LEU:HD11	0.48	2.43	11	2
1:A:6:LEU:CD1	1:A:44:ALA:HB1	0.48	2.38	1	1
1:A:33:ALA:CB	1:A:72:PHE:CE2	0.48	2.95	3	5
1:A:17:LEU:HD21	1:A:38:THR:HA	0.48	1.85	6	1
1:A:92:ILE:O	1:A:96:ALA:HB3	0.48	2.09	16	1
1:A:10:ILE:CD1	1:A:48:PHE:CG	0.48	2.96	1	2
1:A:14:LYS:NZ	1:A:41:ILE:CG2	0.48	2.76	9	1
1:A:119:ASP:O	1:A:122:GLU:HG2	0.48	2.09	19	8
1:A:64:SER:O	1:A:68:ALA:N	0.48	2.47	4	1
1:A:17:LEU:HD11	1:A:38:THR:HB	0.48	1.85	8	2
1:A:84:PHE:CE1	1:A:112:LEU:CD2	0.48	2.94	20	2
1:A:84:PHE:CD2	1:A:126:ILE:CD1	0.48	2.97	20	1
1:A:6:LEU:HD13	1:A:47:VAL:HG12	0.48	1.85	11	2
1:A:110:LEU:HB3	1:A:118:ILE:CD1	0.48	2.39	15	2
1:A:90:ILE:N	1:A:90:ILE:CD1	0.48	2.76	3	4
1:A:118:ILE:HA	1:A:122:GLU:HG3	0.48	1.84	9	4
1:A:54:THR:O	1:A:58:ILE:CG1	0.48	2.61	18	4
1:A:14:LYS:CD	1:A:41:ILE:HG23	0.48	2.39	5	1
1:A:71:ARG:NH1	1:A:75:LEU:HD11	0.48	2.23	10	1
1:A:103:GLY:H	1:A:118:ILE:N	0.47	2.07	18	13
1:A:113:ASN:O	1:A:114:LYS:HB2	0.47	2.09	13	2
1:A:110:LEU:O	1:A:110:LEU:HG	0.47	2.09	10	3
1:A:37:LEU:HD11	1:A:41:ILE:HD11	0.47	1.85	8	2
1:A:97:MET:HE3	1:A:110:LEU:CD1	0.47	2.40	13	1
1:A:16:LEU:C	1:A:16:LEU:HD12	0.47	2.34	14	1
1:A:29:TYR:CA	1:A:76:LEU:HA	0.47	2.39	3	11
1:A:53:ALA:C	1:A:58:ILE:HG13	0.47	2.34	3	12
1:A:17:LEU:CG	1:A:37:LEU:HG	0.47	2.40	7	3
1:A:112:LEU:HB2	1:A:121:TYR:O	0.47	2.08	5	5
1:A:84:PHE:CZ	1:A:126:ILE:CD1	0.47	2.97	8	3
1:A:84:PHE:CE2	1:A:98:VAL:CG1	0.47	2.97	12	1
1:A:33:ALA:CB	1:A:75:LEU:HD13	0.47	2.39	6	2
1:A:6:LEU:HD22	1:A:47:VAL:CG1	0.47	2.34	10	2
1:A:76:LEU:HD23	1:A:76:LEU:O	0.47	2.09	7	10
1:A:84:PHE:CZ	1:A:126:ILE:HD12	0.47	2.44	18	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:99:SER:HA	1:A:102:ILE:HD11	0.47	1.87	20	3
1:A:17:LEU:HD13	1:A:37:LEU:CG	0.47	2.39	6	2
1:A:44:ALA:CB	1:A:65:LEU:HD11	0.47	2.39	3	1
1:A:85:ASN:N	1:A:85:ASN:OD1	0.47	2.47	3	1
1:A:17:LEU:O	1:A:34:LYS:CE	0.47	2.63	5	4
1:A:37:LEU:C	1:A:40:GLU:HG3	0.47	2.34	10	1
1:A:37:LEU:O	1:A:40:GLU:CD	0.47	2.58	18	2
1:A:3:LYS:CA	1:A:58:ILE:HD12	0.47	2.40	14	1
1:A:34:LYS:O	1:A:38:THR:OG1	0.47	2.22	10	2
1:A:17:LEU:HD21	1:A:34:LYS:CA	0.47	2.40	15	1
1:A:6:LEU:HD22	1:A:6:LEU:C	0.47	2.35	13	1
1:A:46:GLU:O	1:A:50:LYS:N	0.47	2.48	14	3
1:A:76:LEU:CD2	1:A:76:LEU:C	0.46	2.88	7	9
1:A:29:TYR:CE1	1:A:33:ALA:HB3	0.46	2.45	17	3
1:A:97:MET:SD	1:A:110:LEU:HD21	0.46	2.51	2	3
1:A:57:GLU:HA	1:A:60:LEU:HD21	0.46	1.87	13	1
1:A:11:ASN:CG	1:A:12:GLN:N	0.46	2.73	18	2
1:A:72:PHE:O	1:A:73:ASN:C	0.46	2.59	17	2
1:A:98:VAL:HG21	1:A:122:GLU:CB	0.46	2.40	13	1
1:A:17:LEU:CD1	1:A:72:PHE:CD2	0.46	2.99	3	2
1:A:107:ASN:ND2	1:A:110:LEU:HB2	0.46	2.25	4	1
1:A:93:GLY:HA2	1:A:97:MET:CG	0.46	2.41	20	1
1:A:113:ASN:O	1:A:114:LYS:CG	0.46	2.63	15	4
1:A:98:VAL:HG23	1:A:118:ILE:CD1	0.46	2.41	12	3
1:A:120:GLU:HA	1:A:123:ILE:HD11	0.46	1.85	5	1
1:A:75:LEU:HD23	1:A:113:ASN:CB	0.46	2.39	6	1
1:A:125:PHE:CZ	1:A:129:ARG:CG	0.46	2.99	12	2
1:A:102:ILE:HA	1:A:118:ILE:HG22	0.46	1.87	8	7
1:A:6:LEU:CD2	1:A:44:ALA:HB1	0.46	2.40	16	2
1:A:9:LEU:HD13	1:A:66:GLU:HA	0.46	1.87	4	1
1:A:6:LEU:CD1	1:A:47:VAL:CG1	0.46	2.94	7	3
1:A:97:MET:O	1:A:100:LYS:HG3	0.46	2.11	7	1
1:A:77:ILE:CG2	1:A:125:PHE:CD1	0.46	2.99	10	2
1:A:98:VAL:HG23	1:A:110:LEU:CD2	0.46	2.41	10	1
1:A:54:THR:OG1	1:A:55:GLU:N	0.46	2.48	13	15
1:A:113:ASN:O	1:A:114:LYS:CB	0.46	2.64	11	2
1:A:77:ILE:CG2	1:A:125:PHE:CG	0.46	2.99	16	3
1:A:13:GLY:C	1:A:41:ILE:HD11	0.46	2.36	17	1
1:A:17:LEU:CG	1:A:37:LEU:HD23	0.46	2.33	19	1
1:A:78:GLU:C	1:A:80:SER:N	0.46	2.73	11	20
1:A:78:GLU:HB2	1:A:81:THR:CG2	0.46	2.34	3	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:111:ASP:CG	1:A:118:ILE:HD11	0.46	2.36	18	2
1:A:17:LEU:CD2	1:A:72:PHE:CD2	0.46	2.99	1	2
1:A:38:THR:CG2	1:A:39:VAL:N	0.46	2.79	12	3
1:A:126:ILE:O	1:A:127:ASN:C	0.46	2.57	10	2
1:A:81:THR:CG2	1:A:112:LEU:HB3	0.46	2.40	16	1
1:A:29:TYR:CD1	1:A:72:PHE:CE1	0.46	3.04	2	1
1:A:84:PHE:CE1	1:A:112:LEU:CD1	0.46	2.99	13	3
1:A:38:THR:HA	1:A:41:ILE:HB	0.46	1.87	14	2
1:A:112:LEU:HD13	1:A:122:GLU:HB3	0.46	1.83	3	2
1:A:102:ILE:HA	1:A:118:ILE:HB	0.46	1.87	19	4
1:A:6:LEU:HD11	1:A:47:VAL:CG1	0.46	2.41	7	2
1:A:119:ASP:CB	1:A:121:TYR:CE2	0.46	2.98	16	1
1:A:77:ILE:HG22	1:A:125:PHE:HD2	0.46	1.70	17	1
1:A:84:PHE:CD1	1:A:110:LEU:HG	0.45	2.46	3	1
1:A:112:LEU:HD22	1:A:122:GLU:CA	0.45	2.41	13	1
1:A:10:ILE:O	1:A:11:ASN:C	0.45	2.59	16	7
1:A:108:THR:HG23	1:A:114:LYS:HA	0.45	1.88	12	1
1:A:81:THR:OG1	1:A:112:LEU:CB	0.45	2.65	16	1
1:A:112:LEU:HD13	1:A:125:PHE:HB3	0.45	1.87	18	1
1:A:103:GLY:N	1:A:118:ILE:O	0.45	2.48	17	5
1:A:6:LEU:HA	1:A:65:LEU:HD13	0.45	1.89	11	1
1:A:29:TYR:CE1	1:A:72:PHE:CE1	0.45	3.05	14	1
1:A:35:ASP:O	1:A:39:VAL:CB	0.45	2.65	6	2
1:A:110:LEU:O	1:A:110:LEU:CD2	0.45	2.63	6	2
1:A:107:ASN:ND2	1:A:110:LEU:CD1	0.45	2.80	9	1
1:A:77:ILE:HG23	1:A:112:LEU:CD2	0.45	2.18	11	1
1:A:65:LEU:HA	1:A:68:ALA:CB	0.45	2.41	13	1
1:A:84:PHE:CD1	1:A:110:LEU:HB3	0.45	2.46	19	1
1:A:85:ASN:ND2	1:A:87:ASN:ND2	0.45	2.64	20	1
1:A:101:ASN:O	1:A:102:ILE:O	0.45	2.35	12	17
1:A:17:LEU:CD2	1:A:38:THR:OG1	0.45	2.65	14	2
1:A:101:ASN:OD1	1:A:118:ILE:CG1	0.45	2.64	3	3
1:A:108:THR:O	1:A:108:THR:HG22	0.45	2.12	3	2
1:A:44:ALA:CB	1:A:65:LEU:HD13	0.45	2.42	6	1
1:A:69:ILE:O	1:A:73:ASN:ND2	0.45	2.49	7	3
1:A:118:ILE:HD12	1:A:122:GLU:HG3	0.45	1.87	9	3
1:A:62:LYS:CG	1:A:63:GLU:N	0.45	2.79	12	2
1:A:9:LEU:HD23	1:A:12:GLN:NE2	0.45	2.26	10	1
1:A:47:VAL:CG2	1:A:57:GLU:CG	0.45	2.95	17	9
1:A:118:ILE:CD1	1:A:122:GLU:HG3	0.45	2.42	9	3
1:A:122:GLU:CA	1:A:122:GLU:OE1	0.45	2.65	4	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:17:LEU:HD21	1:A:38:THR:HB	0.45	1.88	2	1
1:A:21:VAL:O	1:A:28:GLU:CA	0.45	2.65	15	9
1:A:121:TYR:CD2	1:A:122:GLU:OE2	0.45	2.70	3	1
1:A:34:LYS:HA	1:A:72:PHE:CE1	0.45	2.47	9	2
1:A:40:GLU:CG	1:A:64:SER:O	0.45	2.65	8	1
1:A:108:THR:HA	1:A:111:ASP:OD1	0.45	2.12	9	1
1:A:81:THR:HG23	1:A:125:PHE:CD2	0.45	2.47	20	1
1:A:14:LYS:HZ2	1:A:45:GLU:HG2	0.45	1.72	2	1
1:A:92:ILE:HD13	1:A:96:ALA:HB3	0.45	1.89	3	1
1:A:44:ALA:CB	1:A:65:LEU:HD22	0.45	2.42	9	1
1:A:9:LEU:CB	1:A:65:LEU:CD2	0.45	2.95	12	4
1:A:33:ALA:HB2	1:A:75:LEU:HB3	0.45	1.88	11	2
1:A:112:LEU:HD13	1:A:122:GLU:HA	0.45	1.87	11	1
1:A:68:ALA:O	1:A:71:ARG:HB3	0.45	2.12	12	1
1:A:6:LEU:H	1:A:6:LEU:CD1	0.45	2.23	13	1
1:A:113:ASN:CB	1:A:121:TYR:HB2	0.45	2.42	19	2
1:A:52:ASP:O	1:A:57:GLU:HB2	0.44	2.12	17	5
1:A:78:GLU:O	1:A:81:THR:OG1	0.44	2.32	7	1
1:A:84:PHE:CZ	1:A:112:LEU:HD23	0.44	2.47	16	1
1:A:75:LEU:HD13	1:A:113:ASN:HA	0.44	1.87	17	1
1:A:126:ILE:O	1:A:126:ILE:HG22	0.44	2.12	18	1
1:A:100:LYS:HD2	1:A:100:LYS:C	0.44	2.36	2	2
1:A:84:PHE:CD1	1:A:110:LEU:HB2	0.44	2.48	5	2
1:A:110:LEU:CD1	1:A:110:LEU:O	0.44	2.65	8	3
1:A:53:ALA:O	1:A:58:ILE:CG1	0.44	2.66	9	7
1:A:111:ASP:OD1	1:A:118:ILE:HD11	0.44	2.11	1	2
1:A:34:LYS:O	1:A:35:ASP:C	0.44	2.59	10	6
1:A:24:PHE:CD1	1:A:124:SER:CB	0.44	3.00	7	1
1:A:98:VAL:CG2	1:A:118:ILE:CD1	0.44	2.95	18	4
1:A:111:ASP:OD1	1:A:111:ASP:N	0.44	2.51	9	1
1:A:33:ALA:HB2	1:A:75:LEU:CB	0.44	2.43	11	1
1:A:66:GLU:HA	1:A:69:ILE:HD11	0.44	1.90	15	1
1:A:33:ALA:O	1:A:34:LYS:C	0.44	2.60	11	9
1:A:110:LEU:HD12	1:A:110:LEU:C	0.44	2.37	12	2
1:A:17:LEU:HG	1:A:34:LYS:HG2	0.44	1.89	15	1
1:A:17:LEU:HD12	1:A:37:LEU:HB3	0.44	1.90	16	1
1:A:75:LEU:HD12	1:A:113:ASN:O	0.44	2.12	3	1
1:A:100:LYS:HD3	1:A:101:ASN:CG	0.44	2.38	7	1
1:A:33:ALA:HA	1:A:75:LEU:HD13	0.44	1.88	10	2
1:A:94:ASP:OD1	1:A:95:LEU:N	0.44	2.51	12	1
1:A:94:ASP:HB3	1:A:126:ILE:HG21	0.44	1.89	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:99:SER:HA	1:A:102:ILE:HG12	0.44	1.89	9	9
1:A:17:LEU:HD13	1:A:37:LEU:HD23	0.44	1.90	6	1
1:A:37:LEU:CD2	1:A:72:PHE:CD2	0.44	3.00	19	2
1:A:84:PHE:CD2	1:A:98:VAL:HB	0.44	2.47	9	2
1:A:30:HIS:CE1	1:A:120:GLU:CB	0.44	3.00	10	1
1:A:72:PHE:HA	1:A:75:LEU:HD12	0.44	1.89	10	1
1:A:37:LEU:HD11	1:A:41:ILE:CD1	0.44	2.37	14	1
1:A:75:LEU:HD13	1:A:113:ASN:CA	0.44	2.42	15	1
1:A:126:ILE:O	1:A:130:ILE:CD1	0.44	2.66	15	1
1:A:96:ALA:O	1:A:100:LYS:CB	0.44	2.66	16	1
1:A:111:ASP:HB2	1:A:114:LYS:HA	0.44	1.90	13	3
1:A:58:ILE:O	1:A:61:ALA:N	0.44	2.51	17	4
1:A:78:GLU:CD	1:A:81:THR:HG23	0.44	2.38	7	1
1:A:33:ALA:O	1:A:35:ASP:N	0.44	2.50	17	1
1:A:126:ILE:CG2	1:A:130:ILE:CD1	0.44	2.96	9	2
1:A:29:TYR:OH	1:A:34:LYS:CD	0.44	2.65	11	1
1:A:14:LYS:NZ	1:A:45:GLU:OE1	0.44	2.50	15	2
1:A:98:VAL:HG11	1:A:123:ILE:CG2	0.44	2.43	20	1
1:A:119:ASP:H	1:A:122:GLU:HG2	0.44	1.72	4	2
1:A:3:LYS:HG3	1:A:53:ALA:HB1	0.44	1.88	2	1
1:A:125:PHE:C	1:A:125:PHE:CD1	0.44	2.96	5	1
1:A:75:LEU:HD12	1:A:113:ASN:ND2	0.44	2.27	15	1
1:A:111:ASP:N	1:A:118:ILE:HD11	0.44	2.28	17	1
1:A:41:ILE:O	1:A:42:ASN:C	0.43	2.60	3	2
1:A:111:ASP:HB3	1:A:114:LYS:CA	0.43	2.43	3	1
1:A:76:LEU:C	1:A:76:LEU:CD2	0.43	2.91	8	8
1:A:101:ASN:O	1:A:102:ILE:C	0.43	2.60	13	2
1:A:84:PHE:CD2	1:A:126:ILE:HD12	0.43	2.46	20	1
1:A:20:SER:CB	1:A:72:PHE:CZ	0.43	3.01	3	4
1:A:126:ILE:O	1:A:130:ILE:CG1	0.43	2.66	3	1
1:A:14:LYS:NZ	1:A:14:LYS:HB3	0.43	2.28	14	1
1:A:41:ILE:CG2	1:A:42:ASN:N	0.43	2.80	14	1
1:A:81:THR:O	1:A:82:GLY:C	0.43	2.61	16	1
1:A:33:ALA:CB	1:A:72:PHE:CZ	0.43	3.02	17	1
1:A:6:LEU:HD21	1:A:47:VAL:HG11	0.43	1.90	1	1
1:A:52:ASP:C	1:A:54:THR:N	0.43	2.76	18	13
1:A:72:PHE:HA	1:A:75:LEU:HB2	0.43	1.91	2	1
1:A:16:LEU:HD13	1:A:37:LEU:CD2	0.43	2.43	5	1
1:A:111:ASP:O	1:A:114:LYS:N	0.43	2.52	12	5
1:A:112:LEU:HD12	1:A:122:GLU:C	0.43	2.38	7	2
1:A:30:HIS:HB3	1:A:121:TYR:HA	0.43	1.89	20	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:84:PHE:CE2	1:A:98:VAL:HB	0.43	2.48	2	2
1:A:84:PHE:CE2	1:A:126:ILE:HG13	0.43	2.48	4	1
1:A:3:LYS:HD3	1:A:53:ALA:HB3	0.43	1.89	5	1
1:A:102:ILE:HA	1:A:118:ILE:CB	0.43	2.43	19	4
1:A:6:LEU:HB3	1:A:48:PHE:HB2	0.43	1.90	6	2
1:A:9:LEU:HB2	1:A:65:LEU:HD21	0.43	1.89	10	3
1:A:6:LEU:HA	1:A:65:LEU:CD2	0.43	2.43	4	3
1:A:14:LYS:HD2	1:A:41:ILE:HG23	0.43	1.89	10	2
1:A:17:LEU:HD22	1:A:38:THR:CB	0.43	2.43	11	1
1:A:40:GLU:OE2	1:A:68:ALA:CB	0.43	2.67	12	1
1:A:85:ASN:CG	1:A:97:MET:HE1	0.43	2.39	20	1
1:A:29:TYR:HB3	1:A:76:LEU:HA	0.43	1.89	3	1
1:A:40:GLU:CD	1:A:65:LEU:HA	0.43	2.39	6	1
1:A:10:ILE:CB	1:A:14:LYS:CE	0.43	2.95	20	9
1:A:22:GLU:CA	1:A:29:TYR:O	0.43	2.67	20	3
1:A:83:ASP:CG	1:A:90:ILE:HD11	0.43	2.39	14	1
1:A:69:ILE:HG13	1:A:70:ALA:N	0.43	2.27	19	2
1:A:99:SER:HA	1:A:102:ILE:CD1	0.43	2.43	20	1
1:A:37:LEU:O	1:A:41:ILE:HD12	0.43	2.14	10	1
1:A:90:ILE:HG22	1:A:126:ILE:HD12	0.43	1.90	19	1
1:A:17:LEU:HD21	1:A:37:LEU:HG	0.43	1.91	4	1
1:A:111:ASP:C	1:A:113:ASN:H	0.43	2.22	15	3
1:A:84:PHE:CZ	1:A:112:LEU:CD1	0.43	3.02	11	1
1:A:40:GLU:HB2	1:A:68:ALA:CB	0.43	2.44	14	3
1:A:111:ASP:O	1:A:113:ASN:N	0.43	2.52	1	2
1:A:14:LYS:NZ	1:A:45:GLU:CG	0.43	2.82	2	1
1:A:126:ILE:CG2	1:A:130:ILE:CG2	0.43	2.96	3	1
1:A:17:LEU:O	1:A:34:LYS:NZ	0.43	2.51	16	1
1:A:6:LEU:HD12	1:A:44:ALA:O	0.43	2.14	19	1
1:A:22:GLU:O	1:A:22:GLU:CG	0.43	2.67	3	1
1:A:14:LYS:CD	1:A:41:ILE:CG2	0.43	2.97	4	1
1:A:37:LEU:O	1:A:37:LEU:CD1	0.43	2.59	11	3
1:A:81:THR:OG1	1:A:112:LEU:HD12	0.43	2.14	12	1
1:A:47:VAL:HG21	1:A:61:ALA:CB	0.43	2.44	13	1
1:A:16:LEU:HD23	1:A:16:LEU:C	0.43	2.38	16	1
1:A:14:LYS:HE2	1:A:41:ILE:HD12	0.42	1.90	2	1
1:A:93:GLY:O	1:A:97:MET:CB	0.42	2.66	8	1
1:A:17:LEU:HD21	1:A:34:LYS:CB	0.42	2.44	15	1
1:A:33:ALA:CA	1:A:75:LEU:HD22	0.42	2.43	16	1
1:A:20:SER:OG	1:A:72:PHE:HE2	0.42	1.88	7	1
1:A:14:LYS:NZ	1:A:45:GLU:CD	0.42	2.77	20	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:30:HIS:CD2	1:A:124:SER:OG	0.42	2.72	20	2
1:A:113:ASN:CB	1:A:121:TYR:CB	0.42	2.97	19	1
1:A:56:GLU:CG	1:A:57:GLU:N	0.42	2.81	10	5
1:A:30:HIS:CD2	1:A:120:GLU:CB	0.42	3.02	9	1
1:A:4:THR:O	1:A:8:GLU:CB	0.42	2.67	11	2
1:A:92:ILE:C	1:A:94:ASP:N	0.42	2.74	20	2
1:A:10:ILE:HG22	1:A:41:ILE:HG13	0.42	1.89	14	1
1:A:81:THR:C	1:A:83:ASP:N	0.42	2.77	3	1
1:A:10:ILE:CB	1:A:14:LYS:HE2	0.42	2.42	12	3
1:A:119:ASP:HB3	1:A:121:TYR:CE2	0.42	2.48	4	2
1:A:102:ILE:HA	1:A:118:ILE:CG2	0.42	2.45	8	1
1:A:123:ILE:HG22	1:A:127:ASN:CB	0.42	2.44	14	2
1:A:127:ASN:O	1:A:130:ILE:HG22	0.42	2.13	18	1
1:A:29:TYR:CB	1:A:75:LEU:O	0.42	2.68	1	16
1:A:12:GLN:NE2	1:A:69:ILE:CD1	0.42	2.82	3	2
1:A:17:LEU:HD11	1:A:34:LYS:HA	0.42	1.92	5	1
1:A:17:LEU:HD13	1:A:34:LYS:CD	0.42	2.45	5	1
1:A:17:LEU:HD13	1:A:37:LEU:CD2	0.42	2.43	6	1
1:A:72:PHE:O	1:A:75:LEU:HB2	0.42	2.13	17	2
1:A:3:LYS:HA	1:A:58:ILE:HD13	0.42	1.92	17	1
1:A:29:TYR:HB3	1:A:75:LEU:C	0.42	2.39	17	1
1:A:111:ASP:CB	1:A:114:LYS:HA	0.42	2.44	3	1
1:A:123:ILE:O	1:A:127:ASN:N	0.42	2.51	17	2
1:A:14:LYS:NZ	1:A:45:GLU:HG2	0.42	2.29	8	1
1:A:17:LEU:O	1:A:34:LYS:HE2	0.42	2.14	9	1
1:A:41:ILE:HG22	1:A:42:ASN:N	0.42	2.28	14	1
1:A:30:HIS:CB	1:A:121:TYR:HB3	0.42	2.44	1	2
1:A:23:GLY:O	1:A:24:PHE:CB	0.42	2.66	3	3
1:A:14:LYS:N	1:A:41:ILE:CD1	0.42	2.83	4	1
1:A:100:LYS:CE	1:A:101:ASN:ND2	0.42	2.83	4	1
1:A:119:ASP:OD2	1:A:121:TYR:CE2	0.42	2.73	5	1
1:A:125:PHE:CD1	1:A:125:PHE:C	0.42	2.97	8	1
1:A:111:ASP:O	1:A:112:LEU:C	0.42	2.62	1	2
1:A:126:ILE:HG23	1:A:130:ILE:CG2	0.42	2.45	3	1
1:A:85:ASN:ND2	1:A:97:MET:CG	0.42	2.83	6	2
1:A:17:LEU:CD2	1:A:37:LEU:CD2	0.42	2.96	10	1
1:A:110:LEU:C	1:A:118:ILE:HD11	0.42	2.40	15	2
1:A:96:ALA:O	1:A:97:MET:C	0.42	2.62	4	1
1:A:100:LYS:CD	1:A:101:ASN:ND2	0.42	2.82	7	1
1:A:24:PHE:CD1	1:A:30:HIS:ND1	0.42	2.88	9	1
1:A:40:GLU:OE1	1:A:40:GLU:CA	0.42	2.67	13	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:108:THR:HA	1:A:111:ASP:CG	0.42	2.40	1	1
1:A:3:LYS:CG	1:A:53:ALA:CB	0.42	2.98	2	1
1:A:6:LEU:HD21	1:A:61:ALA:HB1	0.42	1.91	4	1
1:A:101:ASN:ND2	1:A:107:ASN:OD1	0.42	2.53	4	1
1:A:122:GLU:OE2	1:A:123:ILE:CD1	0.42	2.67	5	1
1:A:47:VAL:O	1:A:53:ALA:CB	0.42	2.68	12	4
1:A:10:ILE:HG22	1:A:41:ILE:HG23	0.42	1.91	13	1
1:A:74:SER:CB	1:A:114:LYS:HZ3	0.42	2.28	16	1
1:A:113:ASN:OD1	1:A:113:ASN:C	0.42	2.62	19	1
1:A:17:LEU:HD23	1:A:34:LYS:HE2	0.41	1.92	2	1
1:A:30:HIS:CD2	1:A:120:GLU:O	0.41	2.72	5	1
1:A:94:ASP:HB2	1:A:126:ILE:HD13	0.41	1.92	7	1
1:A:37:LEU:CD1	1:A:41:ILE:HD11	0.41	2.44	8	1
1:A:34:LYS:O	1:A:38:THR:N	0.41	2.51	10	1
1:A:112:LEU:CB	1:A:121:TYR:O	0.41	2.68	12	1
1:A:113:ASN:ND2	1:A:121:TYR:O	0.41	2.53	20	1
1:A:17:LEU:HD12	1:A:72:PHE:HD2	0.41	1.67	2	1
1:A:6:LEU:CD2	1:A:47:VAL:CG1	0.41	2.98	3	4
1:A:47:VAL:HA	1:A:50:LYS:HB2	0.41	1.92	11	6
1:A:14:LYS:HZ3	1:A:45:GLU:CD	0.41	2.24	11	1
1:A:16:LEU:CD2	1:A:37:LEU:HD22	0.41	2.43	11	1
1:A:123:ILE:O	1:A:127:ASN:CB	0.41	2.68	16	1
1:A:17:LEU:HD13	1:A:38:THR:HB	0.41	1.89	19	1
1:A:40:GLU:HB3	1:A:64:SER:O	0.41	2.16	3	1
1:A:49:ASN:ND2	1:A:49:ASN:N	0.41	2.68	7	1
1:A:75:LEU:CD1	1:A:113:ASN:OD1	0.41	2.69	8	2
1:A:10:ILE:O	1:A:14:LYS:CG	0.41	2.69	11	1
1:A:14:LYS:CE	1:A:41:ILE:CG2	0.41	2.99	13	1
1:A:104:SER:O	1:A:105:THR:CB	0.41	2.68	13	1
1:A:84:PHE:CD2	1:A:93:GLY:O	0.41	2.74	20	2
1:A:31:LYS:O	1:A:113:ASN:ND2	0.41	2.53	17	1
1:A:30:HIS:CG	1:A:124:SER:OG	0.41	2.74	18	1
1:A:17:LEU:HG	1:A:37:LEU:CG	0.41	2.44	1	1
1:A:37:LEU:O	1:A:41:ILE:CD1	0.41	2.68	2	1
1:A:98:VAL:CG2	1:A:123:ILE:CD1	0.41	2.99	3	1
1:A:21:VAL:O	1:A:28:GLU:CB	0.41	2.68	7	2
1:A:112:LEU:CD1	1:A:122:GLU:O	0.41	2.67	6	3
1:A:9:LEU:HB2	1:A:65:LEU:CD2	0.41	2.46	19	2
1:A:123:ILE:O	1:A:124:SER:C	0.41	2.63	12	3
1:A:37:LEU:HD23	1:A:41:ILE:CG1	0.41	2.44	13	1
1:A:77:ILE:CD1	1:A:112:LEU:CD1	0.41	2.99	16	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:14:LYS:HE2	1:A:41:ILE:CG1	0.41	2.45	2	1
1:A:20:SER:HB2	1:A:72:PHE:CZ	0.41	2.50	3	2
1:A:35:ASP:O	1:A:39:VAL:CG2	0.41	2.69	6	1
1:A:71:ARG:C	1:A:75:LEU:HD12	0.41	2.40	6	1
1:A:41:ILE:CD1	1:A:65:LEU:CD2	0.41	2.98	13	1
1:A:120:GLU:O	1:A:124:SER:CB	0.41	2.68	20	1
1:A:112:LEU:CD1	1:A:122:GLU:C	0.41	2.93	1	3
1:A:122:GLU:O	1:A:123:ILE:C	0.41	2.64	3	2
1:A:6:LEU:O	1:A:10:ILE:N	0.41	2.47	11	2
1:A:84:PHE:HB3	1:A:110:LEU:CD2	0.41	2.45	11	1
1:A:37:LEU:HD23	1:A:72:PHE:CG	0.41	2.50	20	1
1:A:17:LEU:CD1	1:A:34:LYS:O	0.41	2.68	1	1
1:A:37:LEU:O	1:A:41:ILE:CG1	0.41	2.69	3	1
1:A:103:GLY:HA2	1:A:117:SER:CB	0.41	2.45	3	1
1:A:115:ASP:CG	1:A:121:TYR:CE2	0.41	2.99	7	1
1:A:81:THR:CG2	1:A:112:LEU:CD2	0.41	2.97	9	1
1:A:6:LEU:CD2	1:A:44:ALA:O	0.41	2.69	16	2
1:A:30:HIS:CE1	1:A:120:GLU:HB3	0.41	2.51	10	1
1:A:75:LEU:HD13	1:A:113:ASN:CB	0.41	2.45	11	1
1:A:71:ARG:O	1:A:114:LYS:CE	0.41	2.67	20	1
1:A:7:GLY:CA	1:A:48:PHE:CE1	0.41	3.04	1	1
1:A:6:LEU:CD1	1:A:58:ILE:HG23	0.41	2.46	2	1
1:A:33:ALA:C	1:A:35:ASP:N	0.41	2.79	3	2
1:A:40:GLU:OE1	1:A:64:SER:O	0.41	2.39	2	1
1:A:126:ILE:O	1:A:130:ILE:HG13	0.41	2.16	3	1
1:A:26:VAL:O	1:A:26:VAL:HG13	0.41	2.15	4	2
1:A:89:LYS:O	1:A:90:ILE:HD13	0.41	2.16	7	1
1:A:96:ALA:O	1:A:100:LYS:CG	0.41	2.68	7	1
1:A:6:LEU:HD11	1:A:61:ALA:CB	0.41	2.46	9	1
1:A:84:PHE:CD1	1:A:110:LEU:HA	0.41	2.50	14	2
1:A:30:HIS:CE1	1:A:124:SER:OG	0.41	2.74	18	1
1:A:43:LYS:CE	1:A:64:SER:CB	0.41	2.99	19	1
1:A:75:LEU:CD1	1:A:113:ASN:ND2	0.41	2.84	11	2
1:A:23:GLY:O	1:A:24:PHE:CD2	0.41	2.73	7	2
1:A:111:ASP:OD1	1:A:122:GLU:OE2	0.41	2.37	4	1
1:A:35:ASP:O	1:A:39:VAL:HB	0.41	2.15	6	1
1:A:69:ILE:CG1	1:A:70:ALA:N	0.41	2.84	17	2
1:A:10:ILE:HG13	1:A:14:LYS:HE3	0.41	1.93	11	2
1:A:101:ASN:ND2	1:A:110:LEU:CD1	0.41	2.84	11	1
1:A:77:ILE:CG2	1:A:125:PHE:CB	0.41	2.98	12	1
1:A:4:THR:O	1:A:8:GLU:N	0.41	2.54	13	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:33:ALA:CB	1:A:75:LEU:HG	0.41	2.46	15	1
1:A:78:GLU:O	1:A:79:GLU:C	0.41	2.64	16	1
1:A:105:THR:HG23	1:A:116:GLY:C	0.41	2.41	16	1
1:A:54:THR:O	1:A:58:ILE:CD1	0.41	2.68	17	1
1:A:75:LEU:CD1	1:A:113:ASN:CG	0.41	2.94	17	1
1:A:34:LYS:N	1:A:72:PHE:HE1	0.41	2.13	18	1
1:A:126:ILE:HD13	1:A:126:ILE:N	0.41	2.31	19	1
1:A:40:GLU:OE1	1:A:65:LEU:HA	0.41	2.16	1	1
1:A:98:VAL:C	1:A:100:LYS:N	0.41	2.79	3	1
1:A:94:ASP:CG	1:A:126:ILE:CG2	0.41	2.94	8	2
1:A:15:SER:O	1:A:19:GLU:N	0.41	2.53	12	1
1:A:14:LYS:HZ1	1:A:41:ILE:HG23	0.41	1.76	14	1
1:A:16:LEU:HD11	1:A:72:PHE:CG	0.41	2.50	14	1
1:A:113:ASN:HB2	1:A:121:TYR:HB2	0.41	1.93	15	1
1:A:72:PHE:O	1:A:75:LEU:N	0.41	2.53	17	1
1:A:94:ASP:OD2	1:A:130:ILE:HD11	0.41	2.16	19	1
1:A:122:GLU:O	1:A:124:SER:N	0.40	2.54	3	1
1:A:97:MET:O	1:A:100:LYS:CG	0.40	2.69	5	1
1:A:74:SER:CB	1:A:114:LYS:NZ	0.40	2.84	6	1
1:A:40:GLU:OE1	1:A:65:LEU:HD13	0.40	2.15	10	1
1:A:14:LYS:CE	1:A:41:ILE:HG12	0.40	2.46	14	1
1:A:17:LEU:CD1	1:A:38:THR:CB	0.40	2.94	1	1
1:A:93:GLY:HA2	1:A:97:MET:CB	0.40	2.47	4	1
1:A:98:VAL:O	1:A:118:ILE:CG2	0.40	2.52	4	1
1:A:113:ASN:CG	1:A:121:TYR:HB3	0.40	2.42	4	1
1:A:30:HIS:CE1	1:A:120:GLU:CG	0.40	3.04	5	1
1:A:10:ILE:HG23	1:A:65:LEU:CD1	0.40	2.46	13	1
1:A:53:ALA:C	1:A:58:ILE:CG1	0.40	2.94	17	1
1:A:125:PHE:HB3	1:A:126:ILE:HD13	0.40	1.94	17	1
1:A:95:LEU:HD23	1:A:95:LEU:O	0.40	2.17	20	1
1:A:85:ASN:OD1	1:A:97:MET:HG3	0.40	2.17	3	1
1:A:17:LEU:HA	1:A:72:PHE:CZ	0.40	2.51	7	1
1:A:75:LEU:O	1:A:113:ASN:ND2	0.40	2.54	8	1
1:A:97:MET:HB3	1:A:110:LEU:HD22	0.40	1.94	16	1
1:A:33:ALA:CB	1:A:72:PHE:CE1	0.40	3.04	19	1
1:A:54:THR:O	1:A:58:ILE:HG13	0.40	2.16	20	1
1:A:36:GLY:C	1:A:38:THR:N	0.40	2.79	3	1
1:A:107:ASN:O	1:A:111:ASP:OD2	0.40	2.39	4	1
1:A:30:HIS:HB3	1:A:121:TYR:HB3	0.40	1.94	7	1
1:A:72:PHE:HA	1:A:75:LEU:CD1	0.40	2.47	7	1
1:A:100:LYS:HD3	1:A:101:ASN:N	0.40	2.31	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:87:ASN:OD1	1:A:88:GLY:N	0.40	2.55	9	1
1:A:17:LEU:HG	1:A:72:PHE:CZ	0.40	2.52	15	1
1:A:7:GLY:HA3	1:A:48:PHE:CE1	0.40	2.51	19	1
1:A:23:GLY:C	1:A:24:PHE:CG	0.40	2.98	19	1
1:A:125:PHE:O	1:A:128:HIS:CD2	0.40	2.75	20	1
1:A:9:LEU:O	1:A:65:LEU:HD22	0.40	2.16	1	1
1:A:126:ILE:HG22	1:A:130:ILE:HG21	0.40	1.92	3	1
1:A:98:VAL:HG11	1:A:123:ILE:CD1	0.40	2.47	4	1
1:A:30:HIS:CE1	1:A:120:GLU:CD	0.40	3.00	5	1
1:A:123:ILE:O	1:A:125:PHE:N	0.40	2.55	6	1
1:A:112:LEU:N	1:A:122:GLU:OE1	0.40	2.55	7	1
1:A:24:PHE:CE1	1:A:30:HIS:CD2	0.40	3.09	8	1
1:A:44:ALA:O	1:A:47:VAL:HB	0.40	2.17	14	1
1:A:10:ILE:HG13	1:A:14:LYS:CE	0.40	2.46	20	1
1:A:85:ASN:ND2	1:A:97:MET:CE	0.40	2.85	20	1

6.3 Torsion angles

6.3.1 Protein backbone

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	128/140 (91%)	88±4 (69±3%)	31±4 (24±3%)	9±1 (7±1%)	2	16
All	All	2560/2800 (91%)	1763 (69%)	621 (24%)	176 (7%)	2	16

All 28 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	24	PHE	20
1	A	78	GLU	20
1	A	102	ILE	20
1	A	79	GLU	19
1	A	91	ASP	18
1	A	36	GLY	13
1	A	96	ALA	10

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Mol	Chain	Res	Type	Models (Total)
1	A	31	LYS	7
1	A	34	LYS	6
1	A	124	SER	6
1	A	111	ASP	5
1	A	20	SER	5
1	A	106	THR	4
1	A	130	ILE	4
1	A	54	THR	3
1	A	114	LYS	2
1	A	123	ILE	2
1	A	26	VAL	2
1	A	112	LEU	1
1	A	127	ASN	1
1	A	97	MET	1
1	A	35	ASP	1
1	A	81	THR	1
1	A	3	LYS	1
1	A	126	ILE	1
1	A	82	GLY	1
1	A	98	VAL	1
1	A	58	ILE	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	108/120 (90%)	71±4 (66±4%)	37±4 (34±4%)	1	11
All	All	2160/2400 (90%)	1422 (66%)	738 (34%)	1	11

All 94 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	14	LYS	20
1	A	59	ASN	20
1	A	76	LEU	20
1	A	90	ILE	20

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Mol	Chain	Res	Type	Models (Total)
1	A	121	TYR	20
1	A	40	GLU	19
1	A	78	GLU	19
1	A	117	SER	18
1	A	47	VAL	17
1	A	97	MET	17
1	A	38	THR	16
1	A	6	LEU	16
1	A	17	LEU	16
1	A	5	ASN	15
1	A	34	LYS	15
1	A	122	GLU	15
1	A	22	GLU	14
1	A	123	ILE	14
1	A	50	LYS	14
1	A	75	LEU	14
1	A	92	ILE	14
1	A	3	LYS	13
1	A	8	GLU	12
1	A	62	LYS	12
1	A	43	LYS	11
1	A	111	ASP	11
1	A	16	LEU	10
1	A	124	SER	10
1	A	126	ILE	10
1	A	110	LEU	10
1	A	114	LYS	10
1	A	64	SER	9
1	A	52	ASP	9
1	A	69	ILE	9
1	A	100	LYS	9
1	A	99	SER	9
1	A	57	GLU	8
1	A	107	ASN	8
1	A	46	GLU	7
1	A	105	THR	7
1	A	56	GLU	7
1	A	91	ASP	7
1	A	71	ARG	7
1	A	80	SER	7
1	A	31	LYS	7
1	A	87	ASN	7

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Mol	Chain	Res	Type	Models (Total)
1	A	106	THR	6
1	A	89	LYS	6
1	A	11	ASN	6
1	A	20	SER	5
1	A	45	GLU	5
1	A	108	THR	5
1	A	60	LEU	5
1	A	128	HIS	5
1	A	104	SER	5
1	A	113	ASN	5
1	A	101	ASN	5
1	A	129	ARG	5
1	A	109	SER	5
1	A	95	LEU	5
1	A	35	ASP	4
1	A	98	VAL	4
1	A	21	VAL	4
1	A	25	ASN	4
1	A	37	LEU	4
1	A	66	GLU	4
1	A	15	SER	4
1	A	112	LEU	4
1	A	55	GLU	3
1	A	65	LEU	3
1	A	81	THR	3
1	A	85	ASN	3
1	A	51	GLU	3
1	A	10	ILE	3
1	A	24	PHE	3
1	A	74	SER	3
1	A	41	ILE	2
1	A	28	GLU	2
1	A	119	ASP	2
1	A	127	ASN	2
1	A	39	VAL	2
1	A	94	ASP	2
1	A	79	GLU	2
1	A	83	ASP	2
1	A	19	GLU	2
1	A	63	GLU	2
1	A	30	HIS	2
1	A	120	GLU	2

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Mol	Chain	Res	Type	Models (Total)
1	A	42	ASN	1
1	A	49	ASN	1
1	A	4	THR	1
1	A	77	ILE	1
1	A	130	ILE	1
1	A	84	PHE	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 oligosaccharides 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

The completeness of assignment taking into account all chemical shift lists is 90% for the well-defined parts and 84% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

7.1.1 Bookkeeping

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

Total number of shifts	1548
Number of shifts mapped to atoms	1548
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	2

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction $\pm$ precision, ppm	Suggested action
$^{13}\text{C}_\alpha$	134	-0.46 ± 0.16	None needed (< 0.5 ppm)
$^{13}\text{C}_\beta$	121	0.13 ± 0.11	None needed (< 0.5 ppm)
$^{13}\text{C}'$	122	-0.47 ± 0.08	None needed (< 0.5 ppm)
^{15}N	128	0.11 ± 0.38	None needed (< 0.5 ppm)

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 90%, i.e. 1485 atoms were assigned a chemical shift out of a possible 1658. 0 out of 17 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^1H	^{13}C	^{15}N
Backbone	634/653 (97%)	264/269 (98%)	246/256 (96%)	124/128 (97%)
Sidechain	839/921 (91%)	572/591 (97%)	251/300 (84%)	16/30 (53%)

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	Total	¹H	¹³C	¹⁵N
Aromatic	12/84 (14%)	12/41 (29%)	0/39 (0%)	0/4 (0%)
Overall	1485/1658 (90%)	848/901 (94%)	497/595 (84%)	140/162 (86%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 84%, i.e. 1548 atoms were assigned a chemical shift out of a possible 1838. 0 out of 19 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	¹H	¹³C	¹⁵N
Backbone	658/713 (92%)	274/293 (94%)	256/280 (91%)	128/140 (91%)
Sidechain	878/993 (88%)	598/638 (94%)	263/324 (81%)	17/31 (55%)
Aromatic	12/132 (9%)	12/65 (18%)	0/51 (0%)	0/16 (0%)
Overall	1548/1838 (84%)	884/996 (89%)	519/655 (79%)	145/187 (78%)

7.1.4 Statistically unusual chemical shifts ⓘ

The following table lists the statistically unusual chemical shifts. These are statistical measures, and large deviations from the mean do not necessarily imply incorrect assignments. Molecules containing paramagnetic centres or hemes are expected to give rise to anomalous chemical shifts.

List Id	Chain	Res	Type	Atom	Shift, ppm	Expected range, ppm	Z-score
1	A	71	ARG	NE	114.58	76.53 – 92.65	18.6
1	A	129	ARG	NE	113.25	76.53 – 92.65	17.8

7.1.5 Random Coil Index (RCI) plots ⓘ

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition. If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:

