Full wwPDB NMR Structure Validation Report (i)

Feb 10, 2022 – 10:25 AM EST

PDB ID	:	1F5X
Title	:	NMR STRUCTURE OF THE Y174 AUTOINHIBITED DBL HOMOLOGY DOMAIN
Authors	:	Aghazadeh, B.; Rosen, M.K.; Lowry, W.E.; Huang, X.Y.
Deposited on	:	2000-06-18

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/NMRValidationReportHelp
with specific help available everywhere you see the (i) symbol.

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

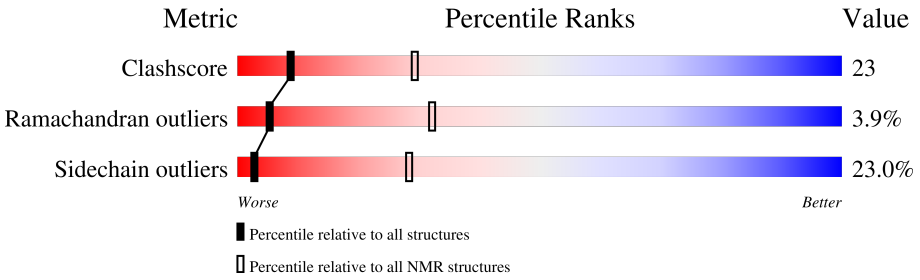
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	2.26
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.26

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	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

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

Mol	Chain	Length	Quality of chain
1	A	208	46% 39% · 11%

2 Ensemble composition and analysis

This entry contains 20 models. Model 12 is the overall representative, medoid model (most similar to other models). The authors have identified model 16 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:10, A:30-A:206 (185)	0.47	12

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 5 clusters and 5 single-model clusters were found.

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

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 3440 atoms, of which 1730 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called RHO-GEF VAV.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	208	3440	1076	1730	298	321	15	0

There are 2 discrepancies between the modelled and reference sequences:

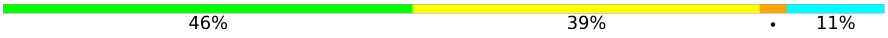
Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	ALA	conflict	UNP P27870
A	2	LYS	GLU	conflict	UNP P27870

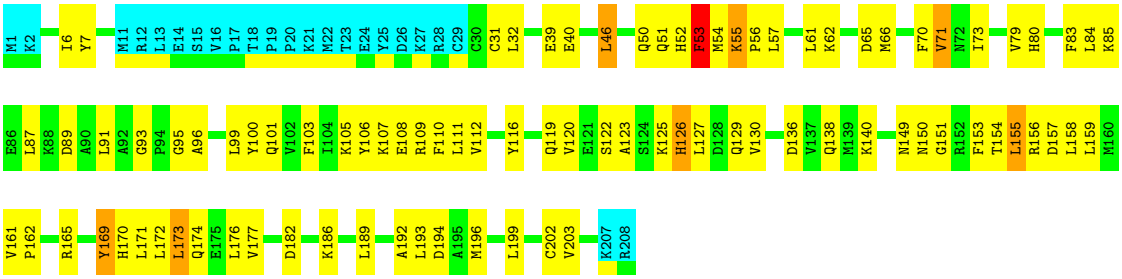
4 Residue-property plots (i)

4.1 Average score per residue in the NMR ensemble

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

• Molecule 1: RHO-GEF VAV

Chain A: 

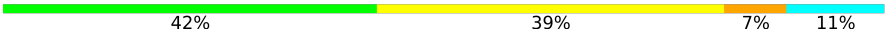


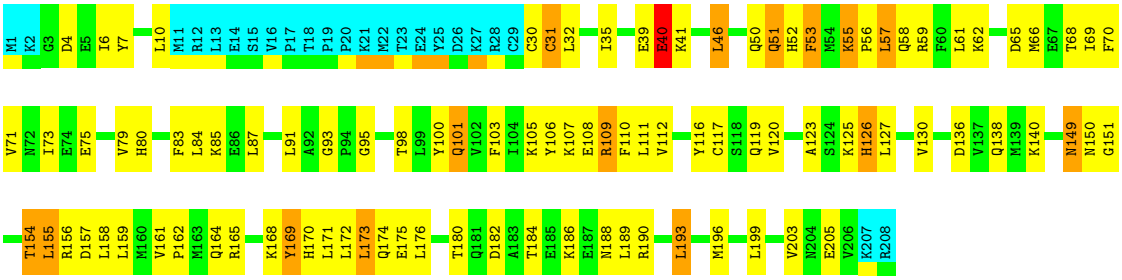
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

• Molecule 1: RHO-GEF VAV

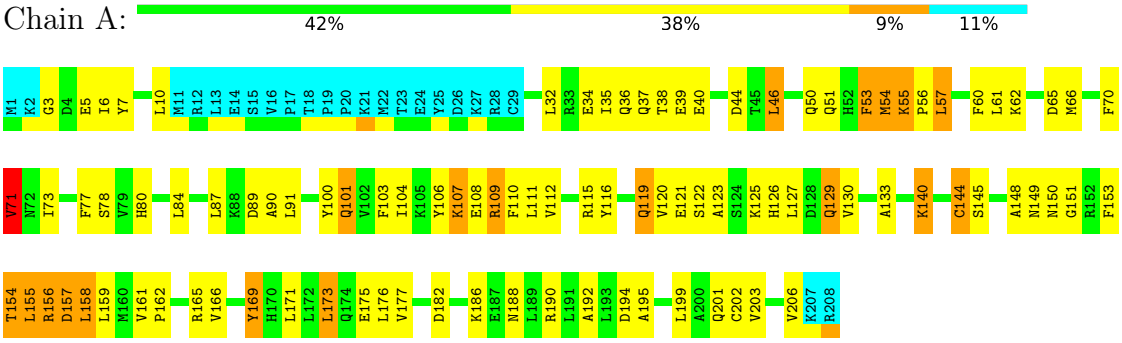
Chain A: 



4.2.2 Score per residue for model 2

• Molecule 1: RHO-GEF VAV

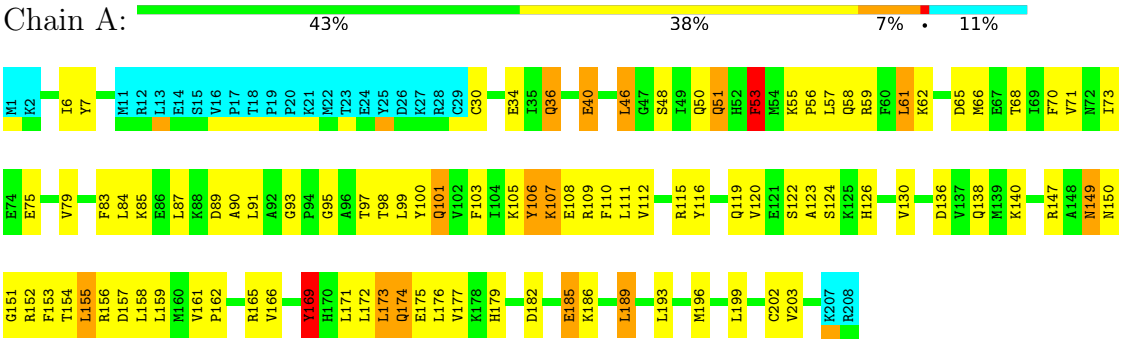
Chain A:



4.2.3 Score per residue for model 3

• Molecule 1: RHO-GEF VAV

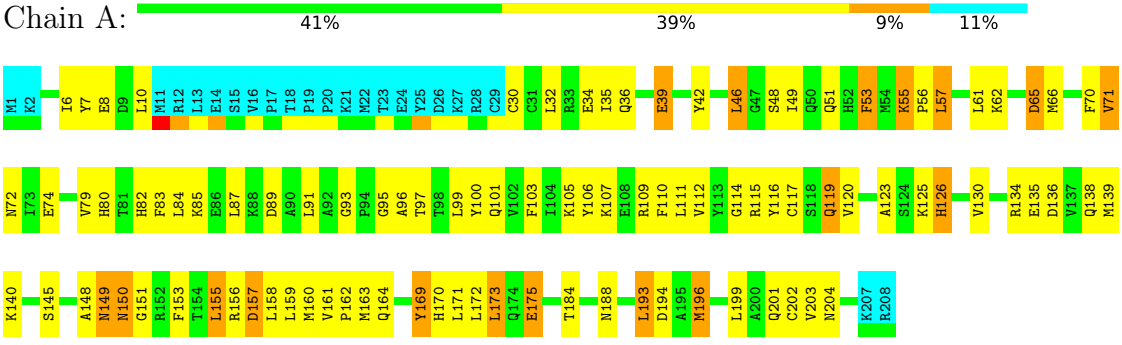
Chain A:



4.2.4 Score per residue for model 4

• Molecule 1: RHO-GEF VAV

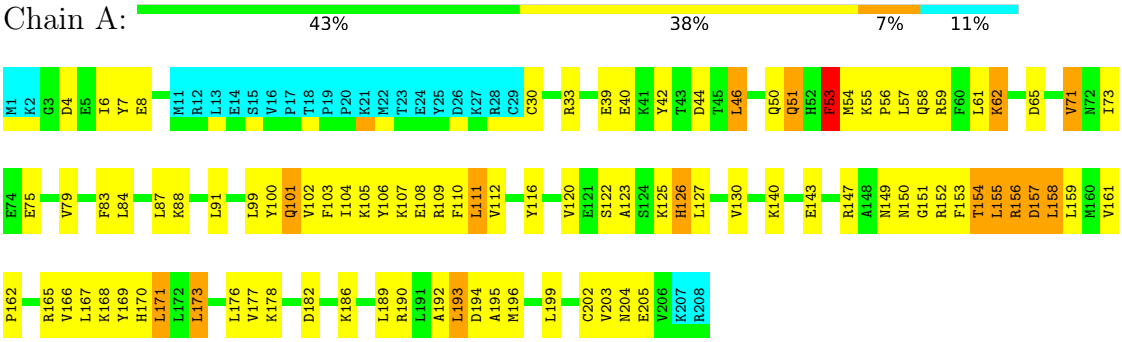
Chain A:



4.2.5 Score per residue for model 5

• Molecule 1: RHO-GEF VAV

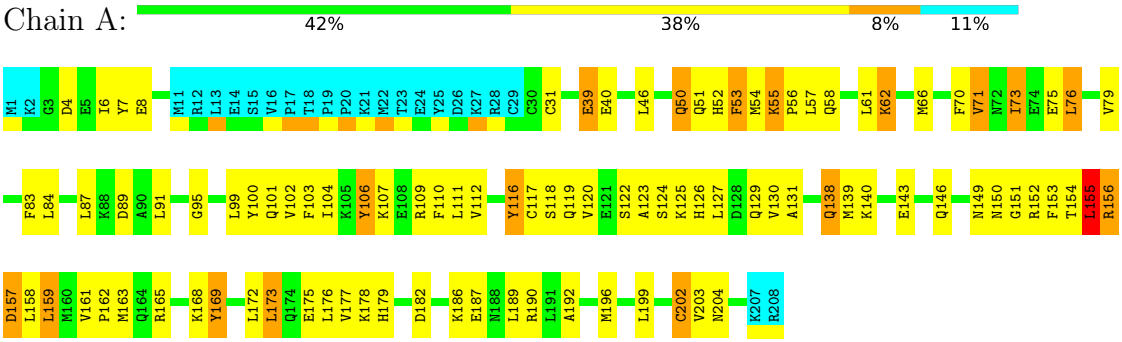
Chain A:



4.2.6 Score per residue for model 6

• Molecule 1: RHO-GEF VAV

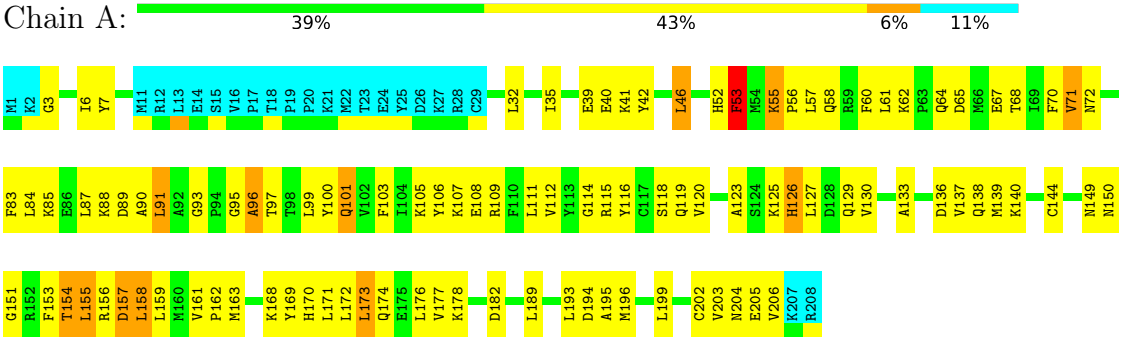
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: RHO-GEF VAV

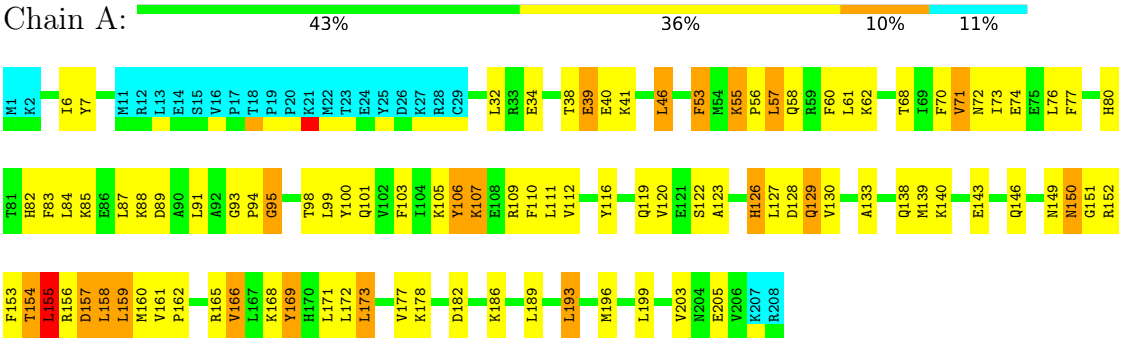
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: RHO-GEF VAV

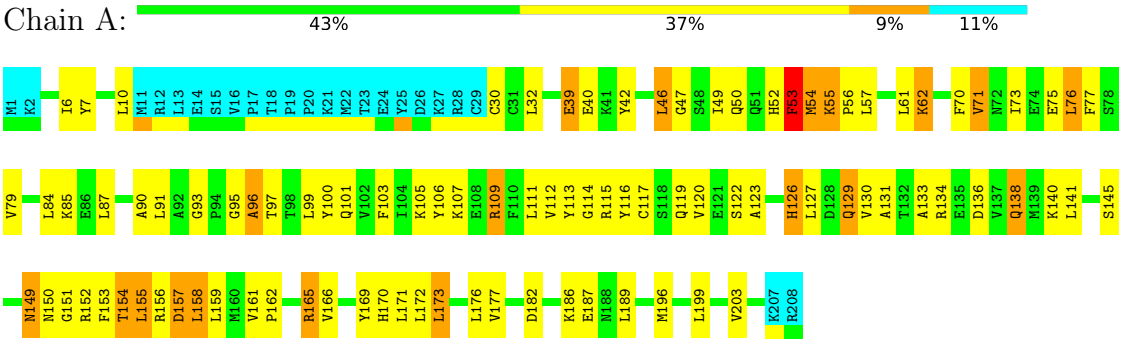
Chain A:



4.2.9 Score per residue for model 9

• Molecule 1: RHO-GEF VAV

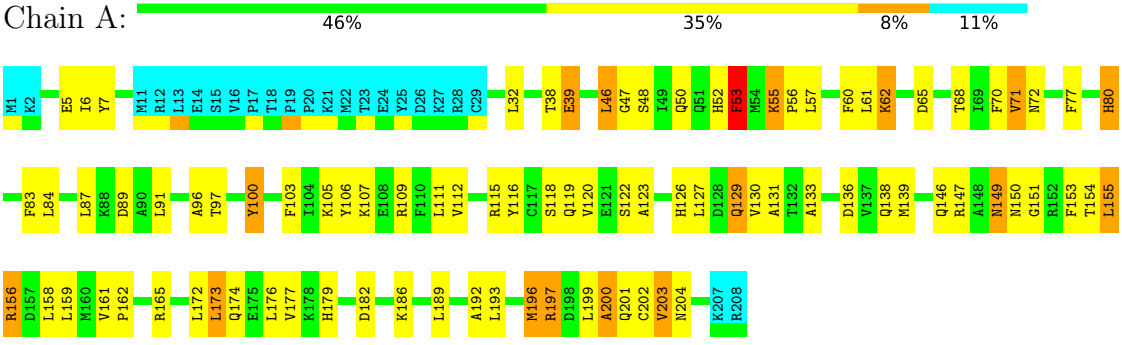
Chain A:



4.2.10 Score per residue for model 10

• Molecule 1: RHO-GEF VAV

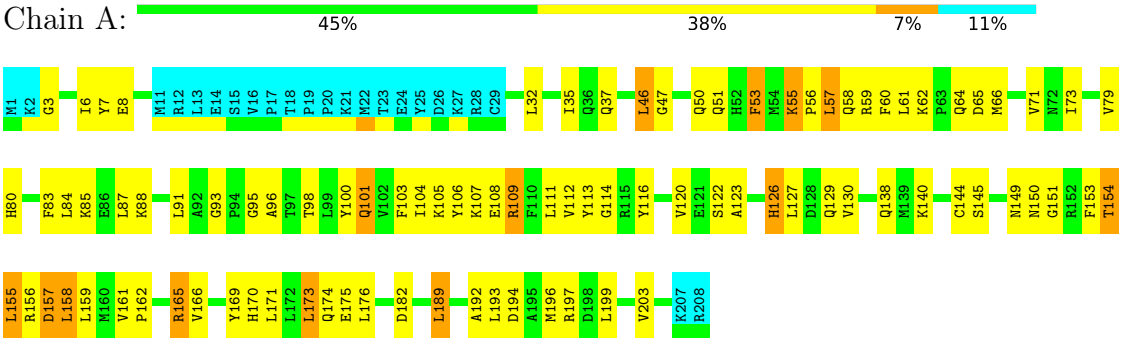
Chain A:



4.2.11 Score per residue for model 11

• Molecule 1: RHO-GEF VAV

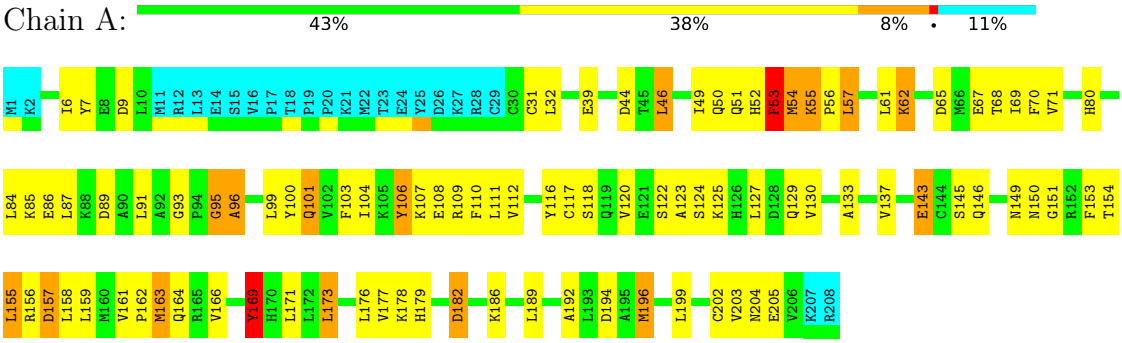
Chain A:



4.2.12 Score per residue for model 12 (medoid)

• Molecule 1: RHO-GEF VAV

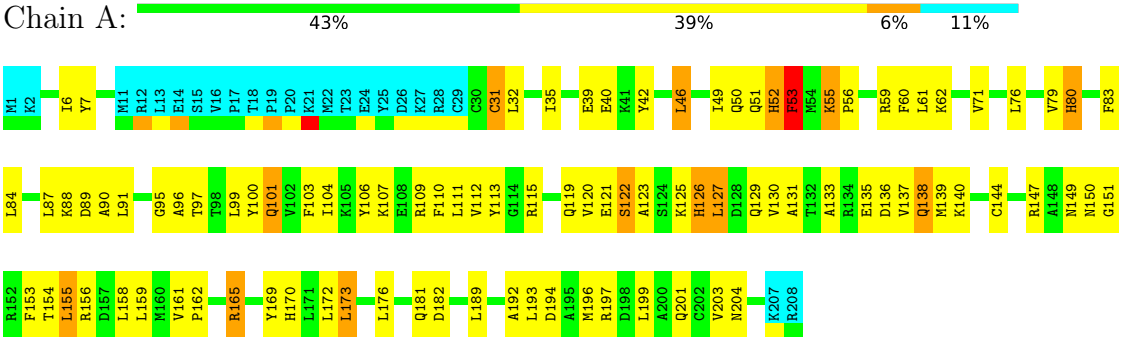
Chain A:



4.2.13 Score per residue for model 13

• Molecule 1: RHO-GEF VAV

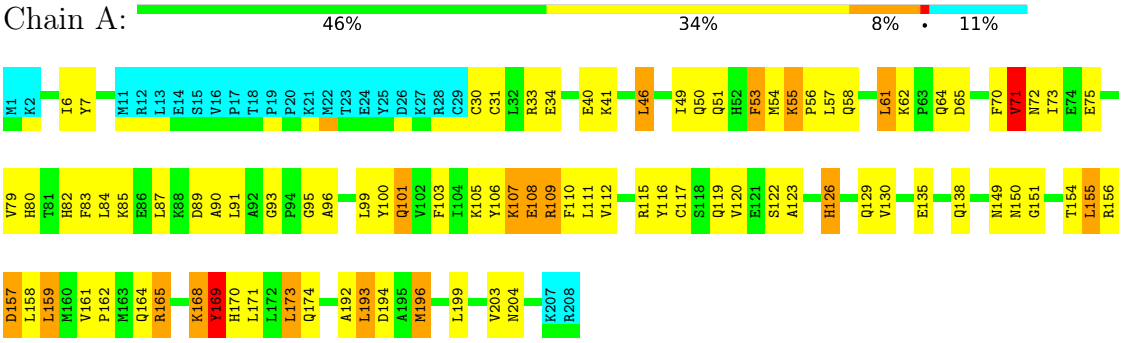
Chain A:



4.2.14 Score per residue for model 14

• Molecule 1: RHO-GEF VAV

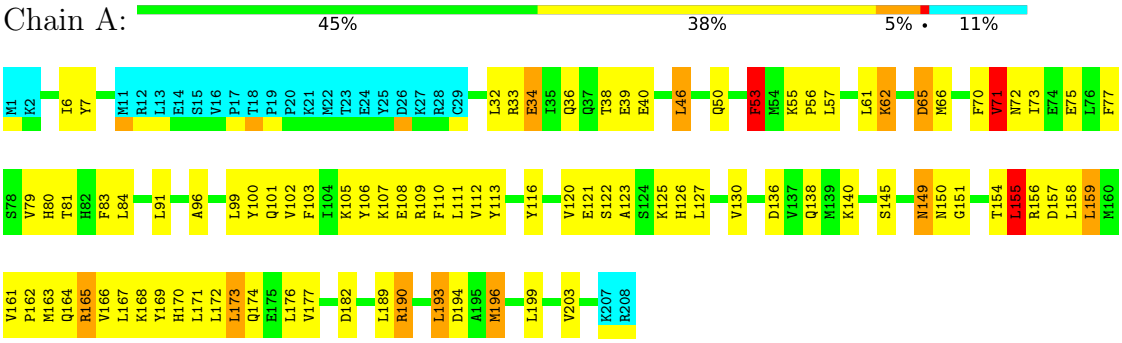
Chain A:



4.2.15 Score per residue for model 15

• Molecule 1: RHO-GEF VAV

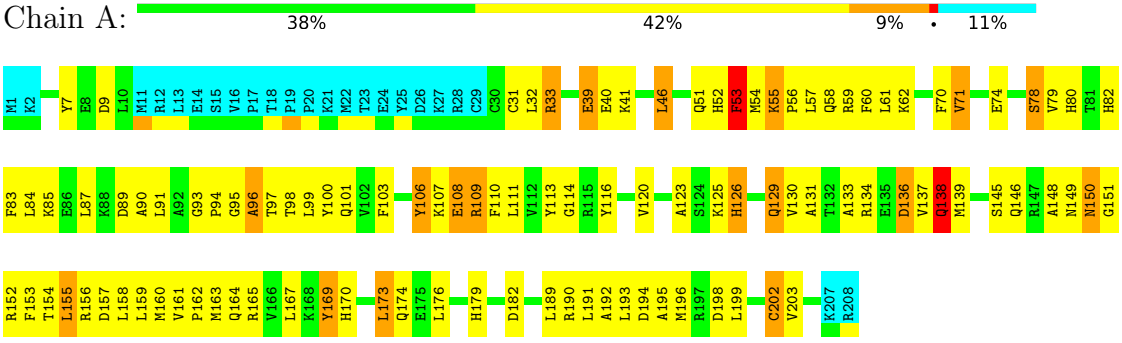
Chain A:



4.2.16 Score per residue for model 16

• Molecule 1: RHO-GEF VAV

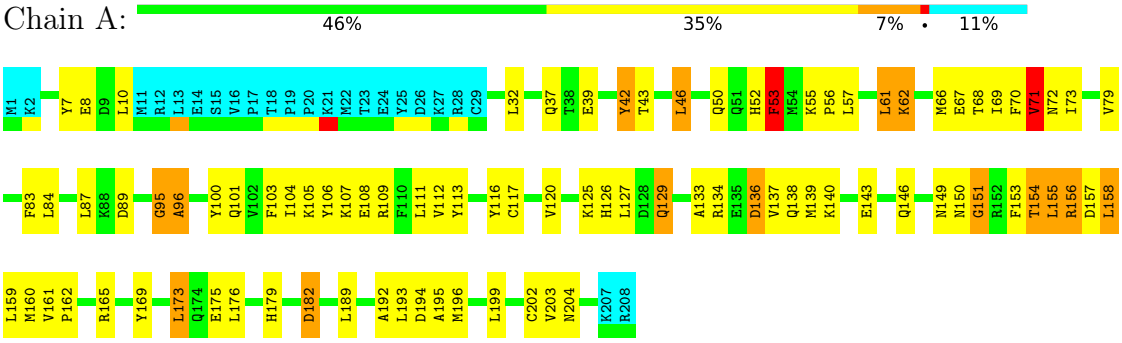
Chain A:



4.2.17 Score per residue for model 17

• Molecule 1: RHO-GEF VAV

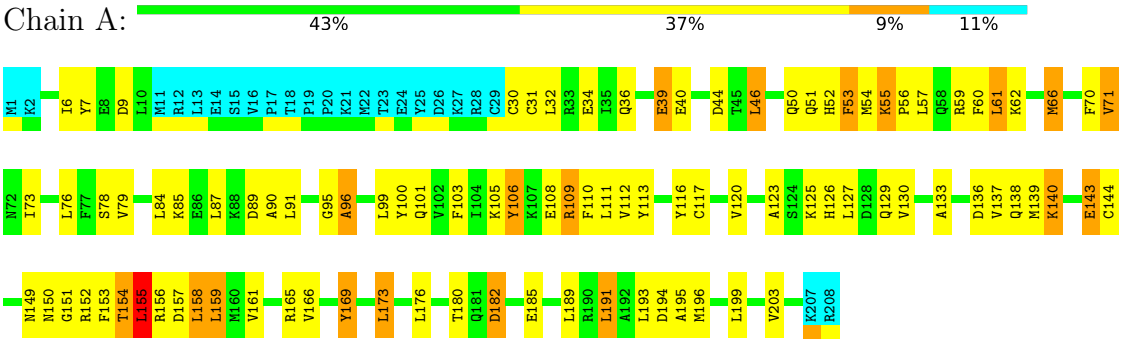
Chain A:



4.2.18 Score per residue for model 18

• Molecule 1: RHO-GEF VAV

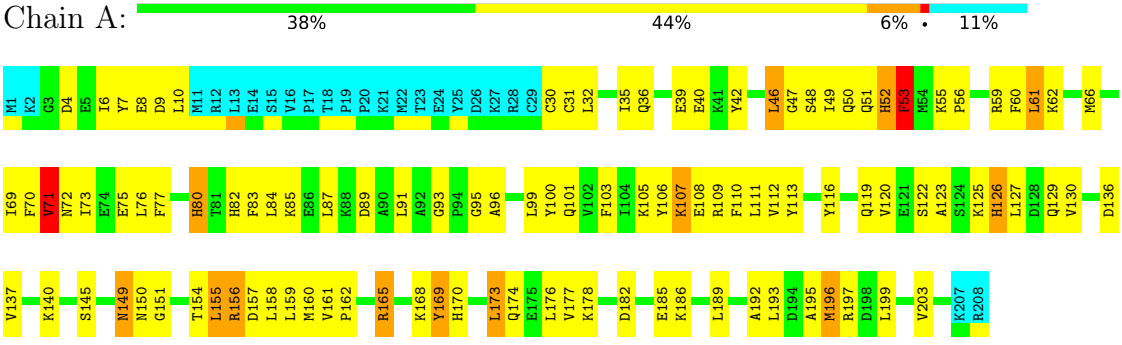
Chain A:



4.2.19 Score per residue for model 19

• Molecule 1: RHO-GEF VAV

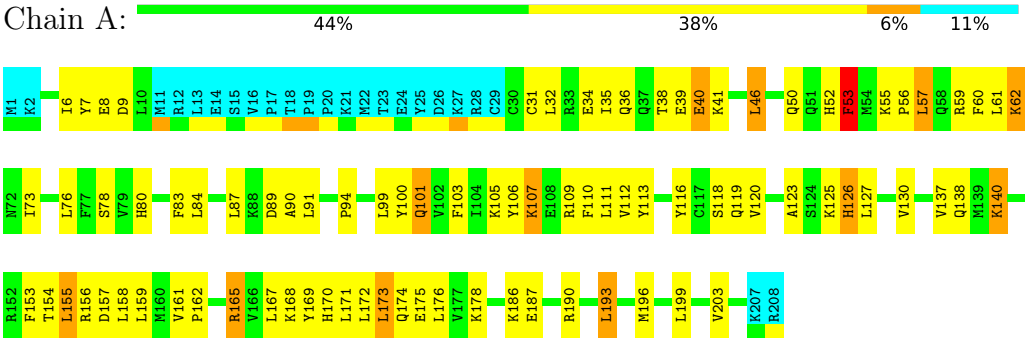
Chain A:



4.2.20 Score per residue for model 20

• Molecule 1: RHO-GEF VAV

Chain A:



5 Refinement protocol and experimental data overview

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

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

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

Software name	Classification	Version
CNS	structure solution	0.3
ARIA	refinement	1

No chemical shift data was provided.

6 Model quality

6.1 Standard geometry

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	1516	1520	1514	71±8
All	All	30320	30400	30280	1423

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 23.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:70:PHE:CE1	1:A:155:LEU:HD21	0.93	1.98	20	9
1:A:61:LEU:HD21	1:A:69:ILE:HD13	0.89	1.43	17	1
1:A:7:TYR:CD1	1:A:161:VAL:HG11	0.89	2.02	7	3
1:A:7:TYR:CE1	1:A:161:VAL:HG21	0.88	2.03	4	3
1:A:199:LEU:O	1:A:203:VAL:HG23	0.87	1.70	7	19
1:A:71:VAL:CG2	1:A:73:ILE:HD12	0.86	2.00	6	1
1:A:126:HIS:O	1:A:130:VAL:HG23	0.85	1.72	15	18
1:A:153:PHE:O	1:A:158:LEU:HD13	0.84	1.72	8	8
1:A:32:LEU:HD21	1:A:96:ALA:CB	0.84	2.03	19	4
1:A:7:TYR:CE2	1:A:161:VAL:HG11	0.84	2.08	17	1
1:A:61:LEU:HD13	1:A:62:LYS:N	0.83	1.87	8	14
1:A:155:LEU:O	1:A:159:LEU:HD12	0.83	1.74	2	20
1:A:157:ASP:O	1:A:161:VAL:HG23	0.82	1.74	9	16
1:A:7:TYR:CG	1:A:161:VAL:HG11	0.81	2.10	4	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:83:PHE:CZ	1:A:87:LEU:HD11	0.81	2.10	8	10
1:A:90:ALA:HB1	1:A:99:LEU:HD23	0.80	1.52	20	1
1:A:79:VAL:HG22	1:A:109:ARG:HB3	0.80	1.54	6	12
1:A:71:VAL:HG22	1:A:73:ILE:HD12	0.80	1.53	6	1
1:A:195:ALA:O	1:A:199:LEU:HD12	0.79	1.76	19	7
1:A:127:LEU:HD21	1:A:155:LEU:HD13	0.79	1.54	7	4
1:A:6:ILE:HG23	1:A:153:PHE:CG	0.78	2.13	6	7
1:A:173:LEU:HD23	1:A:196:MET:CE	0.77	2.10	14	3
1:A:32:LEU:HD11	1:A:91:LEU:HD21	0.77	1.56	10	6
1:A:131:ALA:HB1	1:A:138:GLN:HG2	0.76	1.56	13	4
1:A:83:PHE:CE2	1:A:87:LEU:HD11	0.76	2.16	16	11
1:A:39:GLU:HG2	1:A:84:LEU:HD21	0.75	1.57	20	1
1:A:91:LEU:HD11	1:A:99:LEU:HD21	0.75	1.57	6	3
1:A:177:VAL:HG22	1:A:189:LEU:HG	0.75	1.57	10	1
1:A:70:PHE:O	1:A:71:VAL:HG22	0.74	1.82	15	1
1:A:7:TYR:CZ	1:A:161:VAL:HG12	0.74	2.18	20	13
1:A:6:ILE:HD12	1:A:161:VAL:HG22	0.74	1.59	6	7
1:A:95:GLY:O	1:A:98:THR:HG22	0.73	1.84	1	3
1:A:185:GLU:O	1:A:189:LEU:HD23	0.73	1.84	19	1
1:A:10:LEU:HD13	1:A:10:LEU:O	0.73	1.84	2	3
1:A:73:ILE:HD11	1:A:159:LEU:HD23	0.73	1.59	9	8
1:A:131:ALA:HB1	1:A:138:GLN:CG	0.73	2.13	13	3
1:A:32:LEU:HD11	1:A:91:LEU:HD22	0.72	1.61	16	4
1:A:32:LEU:HD21	1:A:96:ALA:HB2	0.72	1.59	7	1
1:A:7:TYR:CZ	1:A:161:VAL:HG11	0.71	2.20	17	2
1:A:7:TYR:CD1	1:A:10:LEU:HD22	0.71	2.21	17	1
1:A:120:VAL:HG22	1:A:159:LEU:HB3	0.71	1.61	15	1
1:A:191:LEU:HD12	1:A:191:LEU:O	0.70	1.86	18	2
1:A:91:LEU:CD1	1:A:99:LEU:HD21	0.70	2.16	6	4
1:A:107:LYS:O	1:A:111:LEU:HD22	0.70	1.86	5	1
1:A:32:LEU:HD21	1:A:91:LEU:HD23	0.69	1.63	2	1
1:A:6:ILE:HG23	1:A:153:PHE:CD2	0.68	2.23	3	6
1:A:184:THR:HG22	1:A:188:ASN:OD1	0.68	1.88	4	1
1:A:7:TYR:CE1	1:A:161:VAL:HG11	0.68	2.23	7	6
1:A:166:VAL:HG13	1:A:167:LEU:HD12	0.68	1.66	5	1
1:A:80:HIS:O	1:A:84:LEU:HD12	0.68	1.87	8	10
1:A:32:LEU:HD11	1:A:91:LEU:CD2	0.67	2.19	20	6
1:A:108:GLU:HA	1:A:111:LEU:HD12	0.67	1.66	16	4
1:A:46:LEU:HD13	1:A:46:LEU:O	0.66	1.90	13	17
1:A:91:LEU:HD23	1:A:96:ALA:HB1	0.66	1.66	11	2
1:A:32:LEU:HD21	1:A:96:ALA:HB1	0.66	1.68	13	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:193:LEU:HD23	1:A:193:LEU:N	0.65	2.06	14	5
1:A:76:LEU:HD22	1:A:112:VAL:HG12	0.65	1.67	6	1
1:A:71:VAL:HG23	1:A:72:ASN:N	0.65	2.06	15	2
1:A:91:LEU:HD23	1:A:99:LEU:HD11	0.65	1.68	8	1
1:A:71:VAL:HG22	1:A:72:ASN:N	0.65	2.07	14	2
1:A:116:TYR:CD2	1:A:120:VAL:HG21	0.65	2.26	10	3
1:A:166:VAL:HG21	1:A:203:VAL:HG21	0.65	1.68	2	5
1:A:70:PHE:CE2	1:A:155:LEU:HD21	0.65	2.26	9	2
1:A:155:LEU:N	1:A:158:LEU:HD22	0.65	2.07	7	8
1:A:32:LEU:HD21	1:A:99:LEU:HD11	0.65	1.67	16	1
1:A:173:LEU:HD23	1:A:196:MET:HE2	0.65	1.69	14	1
1:A:100:TYR:HB3	1:A:192:ALA:HB2	0.64	1.70	10	1
1:A:177:VAL:HG22	1:A:189:LEU:HD23	0.64	1.70	5	1
1:A:96:ALA:O	1:A:99:LEU:HD13	0.64	1.93	18	2
1:A:90:ALA:CB	1:A:99:LEU:HD23	0.64	2.22	20	2
1:A:173:LEU:HD12	1:A:193:LEU:HD11	0.64	1.68	16	1
1:A:91:LEU:HD21	1:A:99:LEU:HD21	0.63	1.70	7	2
1:A:68:THR:O	1:A:123:ALA:HB2	0.63	1.94	8	4
1:A:49:ILE:HD11	1:A:158:LEU:HD13	0.62	1.70	13	5
1:A:103:PHE:CE2	1:A:173:LEU:HD23	0.62	2.29	16	1
1:A:127:LEU:HD21	1:A:155:LEU:HD23	0.62	1.71	15	2
1:A:91:LEU:CD2	1:A:99:LEU:HD11	0.61	2.26	8	2
1:A:57:LEU:HD22	1:A:70:PHE:CE2	0.61	2.30	2	1
1:A:69:ILE:HG23	1:A:127:LEU:HD11	0.61	1.71	1	3
1:A:189:LEU:O	1:A:193:LEU:HD12	0.61	1.96	13	5
1:A:131:ALA:HB1	1:A:138:GLN:HG3	0.61	1.73	10	2
1:A:7:TYR:CD2	1:A:161:VAL:HG11	0.61	2.30	17	2
1:A:73:ILE:HD11	1:A:159:LEU:CD2	0.61	2.26	9	2
1:A:71:VAL:HG11	1:A:119:GLN:HB3	0.60	1.74	2	1
1:A:177:VAL:HG22	1:A:189:LEU:HB3	0.60	1.73	9	7
1:A:32:LEU:CD2	1:A:35:ILE:HD12	0.60	2.27	20	1
1:A:158:LEU:O	1:A:161:VAL:HG23	0.60	1.97	13	5
1:A:103:PHE:CE2	1:A:173:LEU:HD21	0.60	2.32	4	13
1:A:39:GLU:HB3	1:A:84:LEU:HD11	0.59	1.72	6	10
1:A:126:HIS:C	1:A:130:VAL:HG23	0.59	2.15	13	3
1:A:83:PHE:CD1	1:A:106:TYR:CE2	0.59	2.90	16	1
1:A:35:ILE:HG12	1:A:172:LEU:HD23	0.59	1.72	13	1
1:A:106:TYR:CE2	1:A:110:PHE:CE1	0.59	2.90	16	1
1:A:123:ALA:O	1:A:127:LEU:HD12	0.59	1.97	10	9
1:A:49:ILE:CD1	1:A:158:LEU:HD13	0.59	2.26	14	3
1:A:32:LEU:HA	1:A:35:ILE:HD12	0.59	1.75	1	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:91:LEU:CD2	1:A:99:LEU:HD21	0.58	2.28	7	3
1:A:32:LEU:HB2	1:A:176:LEU:HD21	0.58	1.74	15	2
1:A:6:ILE:HG23	1:A:153:PHE:CD1	0.58	2.34	13	3
1:A:39:GLU:CG	1:A:84:LEU:HD21	0.57	2.29	20	1
1:A:166:VAL:HG23	1:A:199:LEU:HD12	0.57	1.75	3	1
1:A:106:TYR:CD1	1:A:110:PHE:CE1	0.57	2.92	12	1
1:A:110:PHE:CZ	1:A:169:TYR:CZ	0.57	2.93	2	4
1:A:42:TYR:CD2	1:A:80:HIS:CE1	0.57	2.92	19	1
1:A:84:LEU:N	1:A:84:LEU:HD23	0.57	2.13	18	2
1:A:7:TYR:CE2	1:A:42:TYR:CE2	0.57	2.92	7	3
1:A:79:VAL:HG22	1:A:109:ARG:CB	0.57	2.30	11	7
1:A:129:GLN:O	1:A:133:ALA:HB2	0.57	2.00	9	3
1:A:73:ILE:HD11	1:A:116:TYR:OH	0.57	2.00	5	3
1:A:109:ARG:HA	1:A:112:VAL:HG23	0.56	1.75	7	14
1:A:7:TYR:CE2	1:A:161:VAL:HG12	0.56	2.35	3	4
1:A:10:LEU:HD13	1:A:10:LEU:C	0.56	2.21	1	2
1:A:107:LYS:O	1:A:111:LEU:HD12	0.56	2.01	2	16
1:A:174:GLN:HG2	1:A:193:LEU:HD13	0.56	1.76	15	3
1:A:87:LEU:HA	1:A:90:ALA:HB3	0.56	1.76	2	6
1:A:103:PHE:CZ	1:A:173:LEU:HD23	0.56	2.36	16	1
1:A:35:ILE:HD11	1:A:176:LEU:HD11	0.55	1.78	7	2
1:A:177:VAL:HG22	1:A:189:LEU:CG	0.55	2.31	10	1
1:A:173:LEU:HA	1:A:176:LEU:HD13	0.55	1.78	3	15
1:A:83:PHE:CE1	1:A:106:TYR:CZ	0.55	2.94	16	1
1:A:155:LEU:C	1:A:159:LEU:HD12	0.55	2.21	17	20
1:A:70:PHE:HE1	1:A:155:LEU:HD21	0.55	1.61	7	2
1:A:199:LEU:C	1:A:203:VAL:HG23	0.55	2.21	13	18
1:A:70:PHE:C	1:A:71:VAL:HG13	0.55	2.21	15	1
1:A:96:ALA:HB1	1:A:99:LEU:HD12	0.55	1.77	4	1
1:A:103:PHE:CD2	1:A:192:ALA:HB1	0.55	2.37	16	1
1:A:61:LEU:HD11	1:A:65:ASP:HB2	0.55	1.78	2	1
1:A:173:LEU:HD13	1:A:173:LEU:O	0.55	2.02	16	1
1:A:40:GLU:HG2	1:A:84:LEU:HD13	0.54	1.79	18	4
1:A:96:ALA:HB1	1:A:99:LEU:CD1	0.54	2.32	4	2
1:A:103:PHE:CE2	1:A:173:LEU:CD2	0.54	2.90	5	19
1:A:70:PHE:C	1:A:71:VAL:HG23	0.54	2.23	20	3
1:A:7:TYR:CZ	1:A:161:VAL:CG1	0.54	2.91	8	15
1:A:91:LEU:HD21	1:A:99:LEU:HD11	0.54	1.80	9	1
1:A:32:LEU:HD21	1:A:96:ALA:HB3	0.54	1.79	11	1
1:A:114:GLY:N	1:A:203:VAL:HG13	0.54	2.18	9	2
1:A:40:GLU:HG2	1:A:84:LEU:HD22	0.54	1.79	9	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:66:MET:HE2	1:A:70:PHE:CD1	0.54	2.37	18	1
1:A:32:LEU:HD21	1:A:91:LEU:CD2	0.54	2.32	8	1
1:A:83:PHE:CE2	1:A:87:LEU:HD22	0.54	2.38	11	1
1:A:70:PHE:CD1	1:A:155:LEU:HD21	0.54	2.36	20	2
1:A:172:LEU:O	1:A:176:LEU:HD12	0.54	2.03	15	4
1:A:169:TYR:CE2	1:A:196:MET:HE2	0.54	2.38	20	3
1:A:116:TYR:O	1:A:120:VAL:HG23	0.53	2.03	2	14
1:A:61:LEU:HD11	1:A:65:ASP:HB3	0.53	1.79	12	3
1:A:136:ASP:OD1	1:A:137:VAL:HG23	0.53	2.03	18	2
1:A:7:TYR:CE1	1:A:161:VAL:CG1	0.53	2.92	11	10
1:A:71:VAL:HG11	1:A:120:VAL:HG23	0.53	1.80	6	1
1:A:60:PHE:CE1	1:A:137:VAL:CG2	0.53	2.91	7	2
1:A:173:LEU:O	1:A:173:LEU:HD12	0.53	2.03	1	17
1:A:107:LYS:C	1:A:111:LEU:HD12	0.53	2.24	17	5
1:A:32:LEU:HD11	1:A:99:LEU:CD1	0.53	2.33	13	1
1:A:100:TYR:CD1	1:A:101:GLN:N	0.53	2.77	9	3
1:A:87:LEU:HD22	1:A:99:LEU:CD2	0.53	2.34	6	3
1:A:49:ILE:CD1	1:A:158:LEU:HD23	0.53	2.33	9	1
1:A:104:ILE:HD11	1:A:192:ALA:HA	0.53	1.79	13	7
1:A:70:PHE:CZ	1:A:155:LEU:HD21	0.53	2.38	14	3
1:A:106:TYR:CG	1:A:110:PHE:CE1	0.52	2.97	12	1
1:A:66:MET:CE	1:A:70:PHE:CD1	0.52	2.92	18	1
1:A:116:TYR:OH	1:A:159:LEU:HD23	0.52	2.04	7	3
1:A:32:LEU:HD23	1:A:176:LEU:HD21	0.52	1.79	16	1
1:A:7:TYR:CE2	1:A:165:ARG:NH1	0.52	2.78	3	1
1:A:39:GLU:HB3	1:A:84:LEU:HD21	0.52	1.80	9	2
1:A:61:LEU:HD13	1:A:62:LYS:O	0.52	2.04	13	3
1:A:32:LEU:CD2	1:A:96:ALA:HB1	0.52	2.35	18	2
1:A:177:VAL:HG11	1:A:190:ARG:HD3	0.52	1.80	2	1
1:A:60:PHE:CD1	1:A:140:LYS:CD	0.52	2.93	8	2
1:A:169:TYR:CE2	1:A:196:MET:CE	0.52	2.92	13	3
1:A:91:LEU:HA	1:A:96:ALA:HB2	0.52	1.82	19	1
1:A:49:ILE:HD11	1:A:158:LEU:CG	0.52	2.35	9	1
1:A:70:PHE:CE1	1:A:155:LEU:CD2	0.52	2.92	4	1
1:A:42:TYR:CE1	1:A:80:HIS:CE1	0.52	2.98	4	1
1:A:76:LEU:HD23	1:A:116:TYR:CE1	0.52	2.40	18	2
1:A:80:HIS:CG	1:A:165:ARG:NH2	0.52	2.77	13	1
1:A:46:LEU:CD2	1:A:80:HIS:CE1	0.51	2.93	20	1
1:A:169:TYR:CD1	1:A:170:HIS:N	0.51	2.77	15	2
1:A:91:LEU:HG	1:A:99:LEU:HD21	0.51	1.82	16	2
1:A:36:GLN:HG3	1:A:84:LEU:HD23	0.51	1.82	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:42:TYR:CZ	1:A:161:VAL:HG11	0.51	2.40	19	1
1:A:65:ASP:O	1:A:68:THR:HG22	0.51	2.05	3	1
1:A:87:LEU:HD22	1:A:99:LEU:HD22	0.51	1.83	19	2
1:A:110:PHE:CE2	1:A:169:TYR:CE2	0.51	2.99	12	3
1:A:170:HIS:CD2	1:A:171:LEU:N	0.51	2.79	5	3
1:A:127:LEU:HD23	1:A:141:LEU:HD21	0.51	1.82	9	1
1:A:110:PHE:HB3	1:A:199:LEU:HD22	0.51	1.82	1	6
1:A:7:TYR:CD2	1:A:42:TYR:CE2	0.51	2.99	13	3
1:A:46:LEU:HD23	1:A:80:HIS:CD2	0.51	2.41	14	2
1:A:90:ALA:HB1	1:A:99:LEU:HG	0.51	1.80	14	1
1:A:32:LEU:HD22	1:A:35:ILE:HD12	0.51	1.83	20	1
1:A:39:GLU:CG	1:A:84:LEU:HD11	0.50	2.35	2	2
1:A:83:PHE:CE2	1:A:87:LEU:CD1	0.50	2.92	4	4
1:A:66:MET:HE1	1:A:70:PHE:CE2	0.50	2.42	6	1
1:A:60:PHE:CZ	1:A:137:VAL:CG2	0.50	2.95	7	1
1:A:83:PHE:CE2	1:A:87:LEU:HD21	0.50	2.41	13	1
1:A:69:ILE:CG1	1:A:127:LEU:HD11	0.50	2.36	17	1
1:A:171:LEU:HD12	1:A:174:GLN:OE1	0.50	2.06	15	1
1:A:170:HIS:CG	1:A:196:MET:CB	0.50	2.95	19	1
1:A:196:MET:HA	1:A:196:MET:HE3	0.50	1.83	15	1
1:A:100:TYR:CG	1:A:101:GLN:N	0.50	2.79	4	17
1:A:87:LEU:HD22	1:A:99:LEU:HD23	0.50	1.83	6	1
1:A:116:TYR:CE2	1:A:162:PRO:CG	0.50	2.95	6	1
1:A:180:THR:HG21	1:A:185:GLU:HB3	0.50	1.83	18	1
1:A:100:TYR:CB	1:A:192:ALA:HB2	0.50	2.37	10	1
1:A:42:TYR:CD2	1:A:80:HIS:NE2	0.49	2.79	19	1
1:A:70:PHE:O	1:A:71:VAL:CG2	0.49	2.60	15	1
1:A:71:VAL:CG2	1:A:72:ASN:N	0.49	2.76	15	1
1:A:100:TYR:CD1	1:A:100:TYR:N	0.49	2.79	10	1
1:A:170:HIS:CG	1:A:196:MET:HB3	0.49	2.41	19	1
1:A:49:ILE:HG22	1:A:70:PHE:CE2	0.49	2.43	14	2
1:A:71:VAL:HG12	1:A:119:GLN:HB3	0.49	1.83	6	1
1:A:60:PHE:HB3	1:A:137:VAL:HG22	0.49	1.83	19	3
1:A:70:PHE:O	1:A:71:VAL:HG13	0.49	2.07	15	1
1:A:161:VAL:N	1:A:162:PRO:CD	0.49	2.76	7	5
1:A:114:GLY:CA	1:A:203:VAL:HG13	0.48	2.37	11	3
1:A:66:MET:CE	1:A:70:PHE:CD2	0.48	2.96	6	1
1:A:10:LEU:C	1:A:10:LEU:HD13	0.48	2.28	9	1
1:A:55:LYS:N	1:A:56:PRO:CD	0.48	2.76	16	2
1:A:7:TYR:CE1	1:A:161:VAL:HG12	0.48	2.43	9	2
1:A:7:TYR:CD1	1:A:161:VAL:HG21	0.48	2.41	4	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:40:GLU:N	1:A:84:LEU:HD21	0.48	2.24	13	5
1:A:55:LYS:CB	1:A:56:PRO:CD	0.48	2.91	17	18
1:A:57:LEU:HD22	1:A:70:PHE:CZ	0.48	2.43	2	1
1:A:161:VAL:N	1:A:162:PRO:HD2	0.48	2.23	2	16
1:A:6:ILE:HG21	1:A:161:VAL:HG22	0.48	1.86	1	1
1:A:108:GLU:CA	1:A:111:LEU:HD12	0.48	2.37	14	4
1:A:174:GLN:HA	1:A:193:LEU:HD21	0.48	1.85	11	3
1:A:103:PHE:CD1	1:A:196:MET:CE	0.48	2.97	4	2
1:A:32:LEU:CD2	1:A:96:ALA:CB	0.48	2.92	17	2
1:A:116:TYR:CE2	1:A:120:VAL:HG21	0.48	2.43	3	4
1:A:52:HIS:O	1:A:53:PHE:CD2	0.48	2.67	13	9
1:A:6:ILE:HD11	1:A:157:ASP:OD1	0.48	2.08	11	1
1:A:32:LEU:CD1	1:A:91:LEU:CD2	0.48	2.92	2	1
1:A:193:LEU:N	1:A:193:LEU:CD2	0.48	2.77	5	2
1:A:61:LEU:HD13	1:A:62:LYS:H	0.48	1.64	8	1
1:A:191:LEU:HD12	1:A:191:LEU:C	0.48	2.27	18	1
1:A:40:GLU:CG	1:A:84:LEU:CD2	0.48	2.92	6	2
1:A:95:GLY:O	1:A:96:ALA:HB2	0.48	2.09	16	5
1:A:166:VAL:O	1:A:169:TYR:CE2	0.48	2.66	9	1
1:A:152:ARG:O	1:A:153:PHE:CD1	0.47	2.67	8	5
1:A:97:THR:O	1:A:100:TYR:CD2	0.47	2.67	10	1
1:A:110:PHE:O	1:A:113:TYR:CD2	0.47	2.67	16	2
1:A:106:TYR:OH	1:A:110:PHE:CZ	0.47	2.67	16	1
1:A:57:LEU:HD12	1:A:57:LEU:O	0.47	2.09	12	1
1:A:43:THR:OG1	1:A:84:LEU:HD13	0.47	2.10	17	1
1:A:32:LEU:C	1:A:32:LEU:HD13	0.47	2.30	12	3
1:A:110:PHE:CD2	1:A:196:MET:HE1	0.47	2.45	12	1
1:A:173:LEU:HD12	1:A:193:LEU:CD1	0.47	2.37	16	1
1:A:71:VAL:HG23	1:A:116:TYR:CE1	0.47	2.45	2	1
1:A:163:MET:CE	1:A:203:VAL:HG12	0.47	2.40	7	1
1:A:110:PHE:CZ	1:A:169:TYR:CE2	0.47	3.03	12	2
1:A:53:PHE:O	1:A:70:PHE:CZ	0.47	2.68	17	1
1:A:170:HIS:CE1	1:A:192:ALA:HB1	0.47	2.45	19	1
1:A:7:TYR:CE2	1:A:161:VAL:CG1	0.47	2.98	5	3
1:A:170:HIS:CE1	1:A:192:ALA:O	0.47	2.68	19	1
1:A:170:HIS:ND1	1:A:171:LEU:N	0.47	2.63	20	3
1:A:110:PHE:CE1	1:A:169:TYR:OH	0.47	2.68	14	2
1:A:130:VAL:HG12	1:A:137:VAL:HG11	0.46	1.87	20	2
1:A:77:PHE:CE1	1:A:81:THR:OG1	0.46	2.68	15	1
1:A:60:PHE:CE2	1:A:136:ASP:CB	0.46	2.98	16	1
1:A:39:GLU:OE2	1:A:83:PHE:CD2	0.46	2.68	4	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:90:ALA:O	1:A:98:THR:HG22	0.46	2.10	16	1
1:A:60:PHE:CE1	1:A:137:VAL:HG22	0.46	2.45	16	2
1:A:76:LEU:HD22	1:A:112:VAL:CG1	0.46	2.40	6	1
1:A:170:HIS:NE2	1:A:197:ARG:CG	0.46	2.78	13	1
1:A:170:HIS:CB	1:A:196:MET:CB	0.46	2.93	19	1
1:A:59:ARG:O	1:A:60:PHE:CD1	0.46	2.68	19	2
1:A:91:LEU:CD1	1:A:91:LEU:N	0.46	2.79	19	2
1:A:167:LEU:O	1:A:170:HIS:CD2	0.46	2.68	16	1
1:A:36:GLN:OE1	1:A:91:LEU:HD12	0.46	2.10	3	1
1:A:100:TYR:HA	1:A:192:ALA:HB2	0.46	1.86	16	1
1:A:135:GLU:CG	1:A:136:ASP:N	0.46	2.79	4	1
1:A:117:CYS:SG	1:A:163:MET:HE2	0.46	2.51	6	1
1:A:196:MET:HG3	1:A:197:ARG:N	0.46	2.26	19	1
1:A:76:LEU:CD2	1:A:116:TYR:CE2	0.46	2.98	20	1
1:A:149:ASN:O	1:A:151:GLY:N	0.45	2.49	16	20
1:A:87:LEU:CD2	1:A:102:VAL:HG11	0.45	2.42	5	2
1:A:168:LYS:HG2	1:A:172:LEU:HD13	0.45	1.88	6	1
1:A:116:TYR:CD2	1:A:120:VAL:CG2	0.45	2.98	10	1
1:A:80:HIS:CD2	1:A:165:ARG:CZ	0.45	2.99	13	1
1:A:107:LYS:O	1:A:111:LEU:CD1	0.45	2.65	19	16
1:A:60:PHE:CZ	1:A:140:LYS:HD2	0.45	2.47	2	2
1:A:106:TYR:CE1	1:A:109:ARG:CG	0.45	2.99	6	2
1:A:77:PHE:O	1:A:77:PHE:CD1	0.45	2.69	2	1
1:A:91:LEU:HD12	1:A:99:LEU:HD21	0.45	1.85	5	1
1:A:70:PHE:O	1:A:73:ILE:CG1	0.45	2.64	8	2
1:A:170:HIS:CD2	1:A:196:MET:HB2	0.45	2.47	19	1
1:A:109:ARG:O	1:A:112:VAL:N	0.45	2.50	6	19
1:A:127:LEU:HD23	1:A:127:LEU:N	0.45	2.27	13	1
1:A:32:LEU:HD21	1:A:99:LEU:CD1	0.45	2.41	16	1
1:A:83:PHE:CE2	1:A:87:LEU:CD2	0.45	3.00	13	2
1:A:177:VAL:HG11	1:A:190:ARG:HG2	0.45	1.89	15	1
1:A:71:VAL:HG13	1:A:116:TYR:CE1	0.45	2.47	19	1
1:A:7:TYR:CD1	1:A:161:VAL:CG1	0.45	2.92	4	3
1:A:196:MET:O	1:A:199:LEU:HD12	0.45	2.11	9	1
1:A:103:PHE:CD2	1:A:196:MET:SD	0.45	3.10	16	1
1:A:7:TYR:OH	1:A:42:TYR:CE1	0.45	2.67	17	1
1:A:170:HIS:HB2	1:A:196:MET:CB	0.45	2.42	19	1
1:A:47:GLY:CA	1:A:77:PHE:CE1	0.45	3.00	10	1
1:A:173:LEU:HD11	1:A:189:LEU:HD11	0.45	1.87	10	1
1:A:32:LEU:CD2	1:A:96:ALA:HB3	0.45	2.42	11	1
1:A:170:HIS:HE1	1:A:192:ALA:HB1	0.45	1.72	19	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:199:LEU:O	1:A:202:CYS:N	0.45	2.49	10	7
1:A:32:LEU:HD13	1:A:33:ARG:N	0.45	2.27	16	1
1:A:174:GLN:NE2	1:A:193:LEU:HD22	0.44	2.27	10	1
1:A:32:LEU:CG	1:A:91:LEU:CD2	0.44	2.95	2	1
1:A:6:ILE:HG21	1:A:161:VAL:CG2	0.44	2.43	18	2
1:A:87:LEU:HG	1:A:99:LEU:HD21	0.44	1.89	12	1
1:A:96:ALA:HB1	1:A:99:LEU:HD11	0.44	1.89	14	1
1:A:73:ILE:HD13	1:A:116:TYR:CE1	0.44	2.47	15	1
1:A:173:LEU:O	1:A:177:VAL:HG23	0.44	2.13	9	1
1:A:169:TYR:CD2	1:A:196:MET:HE1	0.44	2.47	8	1
1:A:32:LEU:HD13	1:A:32:LEU:C	0.44	2.32	16	1
1:A:55:LYS:N	1:A:56:PRO:HD2	0.44	2.27	16	1
1:A:193:LEU:H	1:A:193:LEU:HD12	0.44	1.73	19	1
1:A:173:LEU:O	1:A:173:LEU:CD1	0.44	2.65	16	17
1:A:199:LEU:O	1:A:201:GLN:N	0.44	2.51	10	1
1:A:73:ILE:HD13	1:A:116:TYR:HE1	0.44	1.72	15	1
1:A:60:PHE:CE2	1:A:136:ASP:HB3	0.44	2.47	16	1
1:A:46:LEU:HD12	1:A:77:PHE:HA	0.44	1.88	2	5
1:A:67:GLU:CG	1:A:68:THR:N	0.44	2.81	7	1
1:A:174:GLN:HB2	1:A:193:LEU:HD21	0.44	1.89	19	1
1:A:154:THR:O	1:A:156:ARG:N	0.44	2.51	1	19
1:A:57:LEU:HD22	1:A:140:LYS:HE2	0.44	1.90	8	1
1:A:39:GLU:CB	1:A:84:LEU:HD21	0.44	2.41	9	1
1:A:51:GLN:CG	1:A:52:HIS:N	0.44	2.81	1	1
1:A:116:TYR:O	1:A:120:VAL:CG2	0.44	2.66	18	13
1:A:32:LEU:HD12	1:A:35:ILE:HD12	0.44	1.90	7	2
1:A:71:VAL:HG21	1:A:116:TYR:CE1	0.43	2.47	15	2
1:A:155:LEU:O	1:A:158:LEU:N	0.43	2.51	3	16
1:A:6:ILE:HG23	1:A:153:PHE:CE2	0.43	2.48	8	1
1:A:176:LEU:O	1:A:180:THR:N	0.43	2.50	1	1
1:A:158:LEU:O	1:A:162:PRO:CD	0.43	2.67	12	4
1:A:83:PHE:CE1	1:A:87:LEU:HD21	0.43	2.48	16	2
1:A:46:LEU:CD1	1:A:46:LEU:O	0.43	2.66	17	1
1:A:60:PHE:CE1	1:A:140:LYS:HD3	0.43	2.48	2	1
1:A:193:LEU:O	1:A:196:MET:N	0.43	2.52	10	1
1:A:61:LEU:CD1	1:A:62:LYS:O	0.43	2.67	15	2
1:A:54:MET:HG3	1:A:70:PHE:CD2	0.43	2.49	2	1
1:A:119:GLN:O	1:A:123:ALA:N	0.43	2.51	7	5
1:A:106:TYR:CE1	1:A:109:ARG:HG3	0.43	2.49	6	1
1:A:113:TYR:OH	1:A:165:ARG:NE	0.43	2.52	13	4
1:A:193:LEU:O	1:A:197:ARG:CG	0.43	2.66	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:60:PHE:CE1	1:A:140:LYS:CD	0.43	3.01	2	1
1:A:110:PHE:HB3	1:A:199:LEU:CD1	0.43	2.43	3	2
1:A:30:CYS:O	1:A:34:GLU:CB	0.43	2.67	4	1
1:A:50:GLN:O	1:A:54:MET:CB	0.43	2.67	12	3
1:A:169:TYR:CD1	1:A:169:TYR:C	0.43	2.92	15	2
1:A:47:GLY:HA3	1:A:77:PHE:CE1	0.43	2.49	10	2
1:A:47:GLY:O	1:A:50:GLN:CG	0.43	2.67	11	1
1:A:60:PHE:CZ	1:A:140:LYS:CD	0.43	3.02	18	1
1:A:110:PHE:CB	1:A:199:LEU:HD22	0.43	2.44	5	1
1:A:200:ALA:O	1:A:204:ASN:CB	0.43	2.66	10	1
1:A:176:LEU:HD12	1:A:176:LEU:N	0.43	2.29	11	1
1:A:121:GLU:O	1:A:125:LYS:CD	0.43	2.67	13	1
1:A:6:ILE:HG21	1:A:161:VAL:HG21	0.43	1.89	15	1
1:A:170:HIS:HB2	1:A:196:MET:CG	0.43	2.43	19	1
1:A:57:LEU:CD1	1:A:57:LEU:O	0.43	2.67	1	4
1:A:73:ILE:CD1	1:A:116:TYR:OH	0.43	2.67	2	4
1:A:192:ALA:O	1:A:196:MET:CG	0.43	2.67	5	4
1:A:60:PHE:CD1	1:A:60:PHE:C	0.43	2.91	7	1
1:A:42:TYR:O	1:A:42:TYR:CD1	0.43	2.72	9	1
1:A:162:PRO:O	1:A:165:ARG:N	0.43	2.52	13	2
1:A:68:THR:O	1:A:123:ALA:CB	0.43	2.67	3	6
1:A:120:VAL:O	1:A:123:ALA:N	0.43	2.52	7	15
1:A:153:PHE:O	1:A:158:LEU:N	0.43	2.51	6	1
1:A:168:LYS:CG	1:A:172:LEU:HD13	0.43	2.44	6	1
1:A:199:LEU:HD23	1:A:203:VAL:HG21	0.43	1.91	10	1
1:A:3:GLY:HA2	1:A:6:ILE:HD12	0.43	1.91	11	1
1:A:78:SER:O	1:A:82:HIS:N	0.43	2.52	16	1
1:A:146:GLN:CG	1:A:150:ASN:OD1	0.43	2.67	16	1
1:A:152:ARG:O	1:A:153:PHE:CG	0.43	2.72	16	1
1:A:123:ALA:O	1:A:126:HIS:N	0.42	2.52	5	4
1:A:145:SER:O	1:A:149:ASN:N	0.42	2.52	20	7
1:A:107:LYS:C	1:A:111:LEU:HD22	0.42	2.32	5	1
1:A:49:ILE:HD11	1:A:158:LEU:HD23	0.42	1.90	9	1
1:A:70:PHE:CE2	1:A:155:LEU:CD2	0.42	3.00	9	1
1:A:129:GLN:O	1:A:133:ALA:CB	0.42	2.67	9	3
1:A:62:LYS:O	1:A:66:MET:N	0.42	2.52	17	1
1:A:6:ILE:O	1:A:10:LEU:CB	0.42	2.67	2	3
1:A:61:LEU:HD13	1:A:61:LEU:C	0.42	2.34	4	1
1:A:70:PHE:O	1:A:71:VAL:HB	0.42	2.15	4	1
1:A:40:GLU:HG2	1:A:84:LEU:CD2	0.42	2.44	6	3
1:A:7:TYR:CE2	1:A:42:TYR:CZ	0.42	3.07	7	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:87:LEU:HD23	1:A:102:VAL:HG11	0.42	1.89	6	1
1:A:71:VAL:HG13	1:A:72:ASN:H	0.42	1.75	10	2
1:A:57:LEU:O	1:A:57:LEU:CD1	0.42	2.67	12	1
1:A:143:GLU:O	1:A:146:GLN:CG	0.42	2.68	12	1
1:A:163:MET:O	1:A:166:VAL:HG12	0.42	2.13	12	1
1:A:121:GLU:O	1:A:125:LYS:CB	0.42	2.68	15	1
1:A:100:TYR:CZ	1:A:101:GLN:HG3	0.42	2.49	17	1
1:A:6:ILE:CD1	1:A:157:ASP:OD2	0.42	2.67	2	1
1:A:129:GLN:O	1:A:133:ALA:N	0.42	2.52	12	6
1:A:76:LEU:CD1	1:A:76:LEU:O	0.42	2.67	6	1
1:A:154:THR:O	1:A:155:LEU:C	0.42	2.58	5	12
1:A:70:PHE:O	1:A:71:VAL:CB	0.42	2.68	9	4
1:A:76:LEU:CD2	1:A:116:TYR:CE1	0.42	3.03	8	1
1:A:65:ASP:OD1	1:A:69:ILE:HD11	0.42	2.14	12	1
1:A:60:PHE:CD1	1:A:137:VAL:HG22	0.42	2.49	16	1
1:A:193:LEU:HD12	1:A:193:LEU:H	0.42	1.75	16	1
1:A:34:GLU:O	1:A:38:THR:CB	0.42	2.68	15	3
1:A:6:ILE:CD1	1:A:157:ASP:OD1	0.42	2.68	7	2
1:A:32:LEU:O	1:A:35:ILE:N	0.42	2.53	4	1
1:A:199:LEU:O	1:A:203:VAL:N	0.42	2.52	10	1
1:A:173:LEU:HD23	1:A:196:MET:HE1	0.42	1.91	20	1
1:A:110:PHE:CE2	1:A:196:MET:CE	0.42	3.02	1	1
1:A:51:GLN:O	1:A:53:PHE:N	0.42	2.52	5	4
1:A:76:LEU:CD2	1:A:116:TYR:CD1	0.42	3.03	8	1
1:A:143:GLU:O	1:A:146:GLN:CB	0.42	2.68	8	2
1:A:169:TYR:CG	1:A:170:HIS:N	0.42	2.87	11	1
1:A:113:TYR:CE1	1:A:162:PRO:HB2	0.42	2.49	17	1
1:A:40:GLU:HA	1:A:84:LEU:HD11	0.42	1.90	18	1
1:A:84:LEU:N	1:A:84:LEU:CD2	0.42	2.83	18	1
1:A:35:ILE:O	1:A:39:GLU:CG	0.42	2.68	19	1
1:A:157:ASP:O	1:A:161:VAL:CG2	0.42	2.67	6	3
1:A:103:PHE:O	1:A:196:MET:CE	0.42	2.68	7	1
1:A:165:ARG:O	1:A:168:LYS:N	0.42	2.52	14	1
1:A:102:VAL:HG12	1:A:102:VAL:O	0.42	2.15	15	1
1:A:83:PHE:CZ	1:A:87:LEU:HD21	0.42	2.49	16	1
1:A:90:ALA:O	1:A:98:THR:CG2	0.42	2.68	16	1
1:A:116:TYR:CE2	1:A:120:VAL:CG2	0.42	3.02	19	1
1:A:46:LEU:O	1:A:46:LEU:CD1	0.42	2.67	7	4
1:A:167:LEU:HA	1:A:170:HIS:CD2	0.42	2.50	15	2
1:A:168:LYS:O	1:A:171:LEU:N	0.42	2.53	15	1
1:A:153:PHE:O	1:A:158:LEU:CD2	0.42	2.68	16	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:110:PHE:CE1	1:A:169:TYR:CE2	0.42	3.08	18	1
1:A:39:GLU:HG3	1:A:84:LEU:HD11	0.42	1.91	2	1
1:A:57:LEU:HG	1:A:70:PHE:CZ	0.42	2.50	8	1
1:A:113:TYR:OH	1:A:165:ARG:CG	0.42	2.68	13	1
1:A:122:SER:O	1:A:126:HIS:N	0.42	2.52	13	1
1:A:53:PHE:CZ	1:A:145:SER:CB	0.42	3.03	15	1
1:A:83:PHE:CE2	1:A:169:TYR:OH	0.42	2.71	16	1
1:A:67:GLU:O	1:A:71:VAL:N	0.42	2.53	17	1
1:A:136:ASP:OD1	1:A:137:VAL:N	0.42	2.53	18	1
1:A:93:GLY:O	1:A:95:GLY:N	0.41	2.52	16	4
1:A:60:PHE:CE1	1:A:140:LYS:HG3	0.41	2.50	11	1
1:A:46:LEU:O	1:A:46:LEU:HD13	0.41	2.15	17	1
1:A:80:HIS:O	1:A:84:LEU:CD1	0.41	2.67	2	1
1:A:140:LYS:O	1:A:144:CYS:N	0.41	2.53	2	1
1:A:36:GLN:O	1:A:40:GLU:N	0.41	2.53	3	1
1:A:145:SER:O	1:A:148:ALA:N	0.41	2.53	4	2
1:A:7:TYR:OH	1:A:42:TYR:CE2	0.41	2.67	5	1
1:A:39:GLU:OE2	1:A:83:PHE:CE2	0.41	2.72	5	1
1:A:173:LEU:HG	1:A:193:LEU:CD2	0.41	2.45	5	1
1:A:189:LEU:O	1:A:193:LEU:CD1	0.41	2.68	13	3
1:A:87:LEU:HB3	1:A:91:LEU:HD12	0.41	1.92	13	1
1:A:69:ILE:CG1	1:A:127:LEU:CD1	0.41	2.98	17	1
1:A:76:LEU:HD11	1:A:165:ARG:NH2	0.41	2.28	19	1
1:A:110:PHE:CD2	1:A:196:MET:HE2	0.41	2.50	1	1
1:A:173:LEU:HD11	1:A:189:LEU:HG	0.41	1.93	1	1
1:A:150:ASN:OD1	1:A:150:ASN:N	0.41	2.53	8	1
1:A:177:VAL:CG2	1:A:193:LEU:HD11	0.41	2.45	10	1
1:A:107:LYS:O	1:A:111:LEU:CG	0.41	2.69	13	1
1:A:96:ALA:O	1:A:99:LEU:CD1	0.41	2.67	18	1
1:A:106:TYR:HB3	1:A:110:PHE:CZ	0.41	2.51	3	2
1:A:103:PHE:CD1	1:A:196:MET:HE1	0.41	2.51	4	1
1:A:116:TYR:CD1	1:A:120:VAL:CG2	0.41	3.03	6	1
1:A:47:GLY:CA	1:A:77:PHE:CD1	0.41	3.03	9	1
1:A:173:LEU:CD1	1:A:189:LEU:HD11	0.41	2.45	10	1
1:A:46:LEU:HD21	1:A:80:HIS:CE1	0.41	2.51	12	1
1:A:39:GLU:OE1	1:A:39:GLU:N	0.41	2.53	9	2
1:A:123:ALA:O	1:A:127:LEU:CD1	0.41	2.68	15	1
1:A:103:PHE:CD1	1:A:196:MET:SD	0.41	3.13	1	1
1:A:173:LEU:HD12	1:A:177:VAL:HG23	0.41	1.93	2	1
1:A:76:LEU:HD23	1:A:116:TYR:CZ	0.41	2.50	9	1
1:A:113:TYR:CD2	1:A:166:VAL:HB	0.41	2.51	18	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:177:VAL:HG22	1:A:189:LEU:CB	0.41	2.46	12	1
1:A:96:ALA:CA	1:A:99:LEU:CD1	0.41	2.98	14	1
1:A:71:VAL:HG12	1:A:72:ASN:N	0.41	2.31	7	1
1:A:114:GLY:CA	1:A:206:VAL:HG21	0.41	2.46	7	1
1:A:103:PHE:CG	1:A:196:MET:HE2	0.41	2.51	10	1
1:A:130:VAL:CG1	1:A:137:VAL:HG11	0.41	2.46	12	1
1:A:158:LEU:O	1:A:162:PRO:HD2	0.41	2.16	3	2
1:A:111:LEU:HG	1:A:199:LEU:HD21	0.41	1.91	13	2
1:A:79:VAL:CG2	1:A:109:ARG:HB3	0.41	2.46	16	1
1:A:172:LEU:O	1:A:175:GLU:N	0.41	2.53	4	2
1:A:106:TYR:HB3	1:A:110:PHE:CE1	0.41	2.51	6	1
1:A:184:THR:O	1:A:188:ASN:N	0.40	2.53	1	1
1:A:46:LEU:HG	1:A:80:HIS:CD2	0.40	2.51	4	1
1:A:57:LEU:HG	1:A:70:PHE:CE2	0.40	2.51	8	1
1:A:148:ALA:O	1:A:149:ASN:ND2	0.40	2.54	2	1
1:A:7:TYR:CE2	1:A:42:TYR:CD2	0.40	3.09	7	1
1:A:50:GLN:O	1:A:54:MET:CG	0.40	2.69	9	1
1:A:199:LEU:HD23	1:A:203:VAL:CG2	0.40	2.45	10	1
1:A:39:GLU:CD	1:A:83:PHE:CD2	0.40	2.95	20	1
1:A:39:GLU:OE1	1:A:83:PHE:CE2	0.40	2.74	20	1
1:A:161:VAL:HB	1:A:162:PRO:CD	0.40	2.46	1	2
1:A:170:HIS:CG	1:A:171:LEU:N	0.40	2.88	4	1
1:A:177:VAL:HG11	1:A:190:ARG:CD	0.40	2.46	6	1
1:A:155:LEU:H	1:A:155:LEU:HD13	0.40	1.75	8	2
1:A:71:VAL:HG22	1:A:72:ASN:CG	0.40	2.37	19	1
1:A:172:LEU:O	1:A:175:GLU:CG	0.40	2.69	4	1
1:A:113:TYR:OH	1:A:165:ARG:CZ	0.40	2.70	13	1
1:A:155:LEU:HB3	1:A:159:LEU:HD11	0.40	1.94	17	1
1:A:71:VAL:HG13	1:A:116:TYR:HE1	0.40	1.76	19	1
1:A:65:ASP:OD1	1:A:65:ASP:N	0.40	2.55	15	1
1:A:196:MET:N	1:A:196:MET:SD	0.40	2.95	15	1

6.3 Torsion angles (i)

6.3.1 Protein backbone (i)

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	185/208 (89%)	147±5 (80±3%)	30±4 (16±2%)	7±2 (4±1%)	5 32
All	All	3700/4160 (89%)	2946 (80%)	610 (16%)	144 (4%)	5 32

All 23 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	53	PHE	20
1	A	71	VAL	20
1	A	150	ASN	20
1	A	155	LEU	20
1	A	154	THR	9
1	A	169	TYR	9
1	A	95	GLY	9
1	A	93	GLY	7
1	A	96	ALA	7
1	A	182	ASP	4
1	A	94	PRO	3
1	A	40	GLU	2
1	A	165	ARG	2
1	A	3	GLY	2
1	A	52	HIS	2
1	A	31	CYS	1
1	A	185	GLU	1
1	A	74	GLU	1
1	A	166	VAL	1
1	A	200	ALA	1
1	A	138	GLN	1
1	A	151	GLY	1
1	A	143	GLU	1

6.3.2 Protein sidechains (i)

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	168/191 (88%)	129±4 (77±2%)	39±4 (23±2%)	3 28
All	All	3360/3820 (88%)	2587 (77%)	773 (23%)	3 28

All 122 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	46	LEU	20
1	A	53	PHE	20
1	A	106	TYR	20
1	A	173	LEU	20
1	A	57	LEU	18
1	A	182	ASP	16
1	A	105	LYS	15
1	A	138	GLN	15
1	A	89	ASP	15
1	A	55	LYS	14
1	A	140	LYS	14
1	A	165	ARG	14
1	A	126	HIS	13
1	A	122	SER	13
1	A	50	GLN	12
1	A	85	LYS	12
1	A	125	LYS	12
1	A	194	ASP	12
1	A	51	GLN	11
1	A	62	LYS	11
1	A	101	GLN	11
1	A	108	GLU	11
1	A	169	TYR	11
1	A	186	LYS	11
1	A	157	ASP	11
1	A	136	ASP	10
1	A	129	GLN	10
1	A	196	MET	10
1	A	58	GLN	9
1	A	66	MET	9
1	A	139	MET	9
1	A	61	LEU	8
1	A	75	GLU	8
1	A	119	GLN	8
1	A	115	ARG	8
1	A	158	LEU	8
1	A	39	GLU	8
1	A	204	ASN	8
1	A	31	CYS	8
1	A	59	ARG	7
1	A	65	ASP	7

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Mol	Chain	Res	Type	Models (Total)
1	A	109	ARG	7
1	A	117	CYS	7
1	A	149	ASN	7
1	A	168	LYS	7
1	A	175	GLU	7
1	A	193	LEU	7
1	A	107	LYS	7
1	A	156	ARG	7
1	A	178	LYS	7
1	A	41	LYS	6
1	A	164	GLN	6
1	A	36	GLN	6
1	A	54	MET	6
1	A	71	VAL	6
1	A	171	LEU	6
1	A	97	THR	6
1	A	179	HIS	6
1	A	8	GLU	6
1	A	30	CYS	5
1	A	190	ARG	5
1	A	205	GLU	5
1	A	144	CYS	5
1	A	202	CYS	5
1	A	34	GLU	5
1	A	160	MET	5
1	A	88	LYS	5
1	A	118	SER	5
1	A	159	LEU	5
1	A	9	ASP	5
1	A	4	ASP	4
1	A	40	GLU	4
1	A	44	ASP	4
1	A	78	SER	4
1	A	48	SER	4
1	A	147	ARG	4
1	A	82	HIS	4
1	A	134	ARG	4
1	A	163	MET	4
1	A	33	ARG	4
1	A	143	GLU	4
1	A	155	LEU	4
1	A	80	HIS	4

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Mol	Chain	Res	Type	Models (Total)
1	A	37	GLN	3
1	A	201	GLN	3
1	A	124	SER	3
1	A	174	GLN	3
1	A	76	LEU	3
1	A	187	GLU	3
1	A	64	GLN	3
1	A	172	LEU	3
1	A	5	GLU	2
1	A	189	LEU	2
1	A	74	GLU	2
1	A	52	HIS	2
1	A	146	GLN	2
1	A	197	ARG	2
1	A	135	GLU	2
1	A	121	GLU	1
1	A	188	ASN	1
1	A	185	GLU	1
1	A	72	ASN	1
1	A	150	ASN	1
1	A	111	LEU	1
1	A	152	ARG	1
1	A	73	ILE	1
1	A	116	TYR	1
1	A	91	LEU	1
1	A	128	ASP	1
1	A	60	PHE	1
1	A	100	TYR	1
1	A	203	VAL	1
1	A	98	THR	1
1	A	67	GLU	1
1	A	86	GLU	1
1	A	127	LEU	1
1	A	181	GLN	1
1	A	83	PHE	1
1	A	198	ASP	1
1	A	42	TYR	1
1	A	68	THR	1
1	A	191	LEU	1

6.3.3 RNA

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

6.5 Carbohydrates

There are no monosaccharides in this entry.

6.6 Ligand geometry

There are no ligands in this entry.

6.7 Other polymers

There are no such molecules in this entry.

6.8 Polymer linkage issues

There are no chain breaks in this entry.

7 Chemical shift validation (i)

No chemical shift data were provided