



Full wwPDB NMR Structure Validation Report ⓘ

Apr 26, 2016 – 04:29 PM BST

PDB ID : 1PFN
Title : PF4-M2 CHIMERIC MUTANT WITH THE FIRST 10 N-TERMINAL RESIDUES OF R-PF4 REPLACED BY THE N-TERMINAL RESIDUES OF THE IL8 SEQUENCE. MODELS 16-27 OF A 27-MODEL SET.
Authors : Mayo, K.H.; Roongta, V.; Ilyina, E.; Milius, R.; Barker, S.; Quinlan, C.; La Rosa, G.; Daly, T.J.
Deposited on : 1995-07-18

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
<http://wwpdb.org/validation/2016/NMRValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

Cyrange : Kirchner and Güntert (2011)
NmrClust : Kelley et al. (1996)
MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
RCI : v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV : Wang et al. (2010)
ShiftChecker : rb-20027457
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20027457

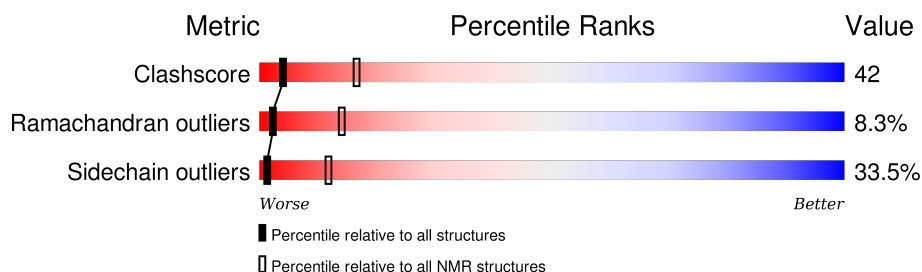
1 Overall quality at a glance

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	114402	11133
Ramachandran outliers	111179	9975
Sidechain outliers	111093	9958

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	68	
1	B	68	
1	C	68	
1	D	68	

2 Ensemble composition and analysis

This entry contains 12 models. Model 3 is the overall representative, medoid model (most similar to other models).

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

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:9-A:70, B:9-B:70, C:10-C:70, D:9-D:70 (247)	0.45	3

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 2 clusters. No single-model clusters were found.

Cluster number	Models
1	1, 2, 3, 4, 5, 6, 7, 11
2	8, 9, 10, 12

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 4460 atoms, of which 2340 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called PF4-M2 CHIMERA.

Mol	Chain	Residues	Atoms						Trace
1	A	68	Total	C	H	N	O	S	0
			1115	335	585	98	92	5	
1	B	68	Total	C	H	N	O	S	0
			1115	335	585	98	92	5	
1	C	68	Total	C	H	N	O	S	0
			1115	335	585	98	92	5	
1	D	68	Total	C	H	N	O	S	0
			1115	335	585	98	92	5	

There are 8 discrepancies between the modelled and reference sequences:

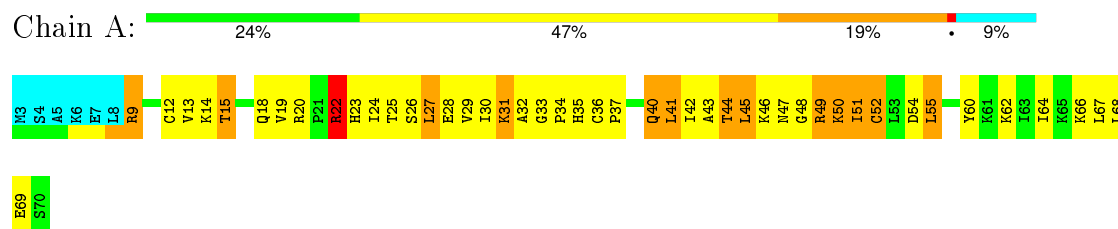
Chain	Residue	Modelled	Actual	Comment	Reference
A	9	ARG	GLN	ENGINEERED	UNP P02776
A	11	GLN	LEU	ENGINEERED	UNP P02776
B	9	ARG	GLN	ENGINEERED	UNP P02776
B	11	GLN	LEU	ENGINEERED	UNP P02776
C	9	ARG	GLN	ENGINEERED	UNP P02776
C	11	GLN	LEU	ENGINEERED	UNP P02776
D	9	ARG	GLN	ENGINEERED	UNP P02776
D	11	GLN	LEU	ENGINEERED	UNP P02776

4 Residue-property plots

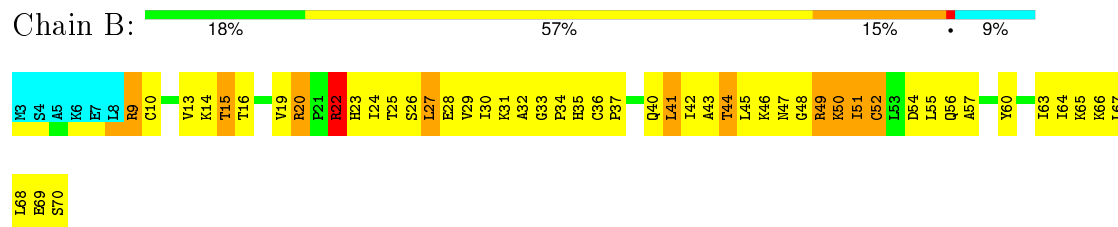
4.1 Average score per residue in the NMR ensemble

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

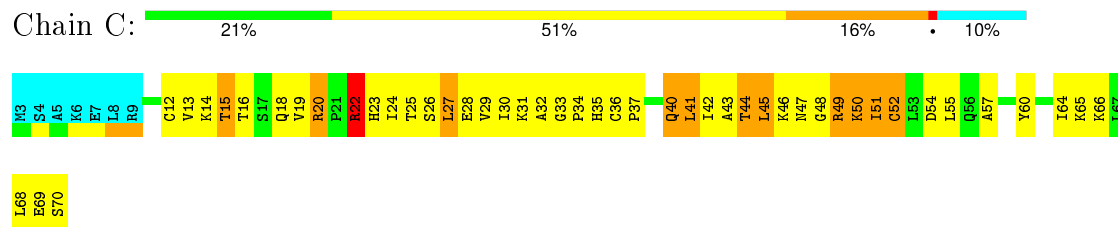
• Molecule 1: PF4-M2 CHIMERA



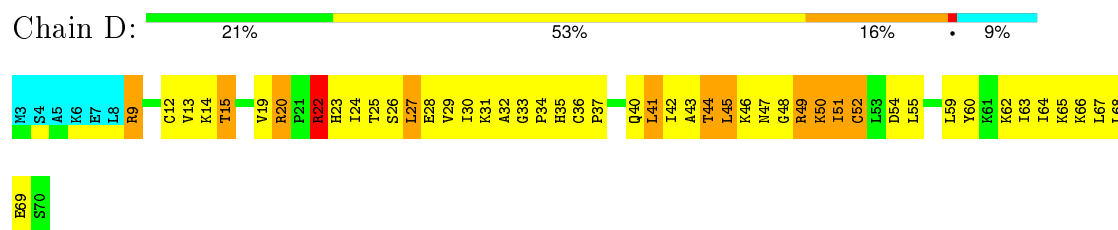
• Molecule 1: PF4-M2 CHIMERA



• Molecule 1: PF4-M2 CHIMERA



• Molecule 1: PF4-M2 CHIMERA

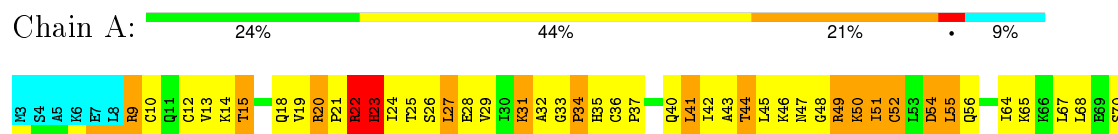


4.2 Scores per residue for each member of the ensemble

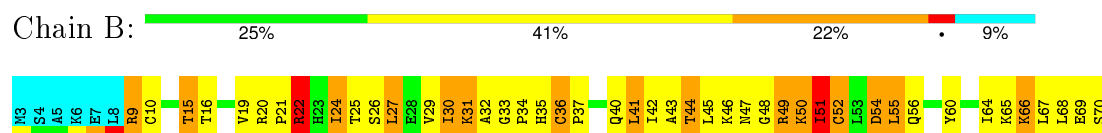
Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

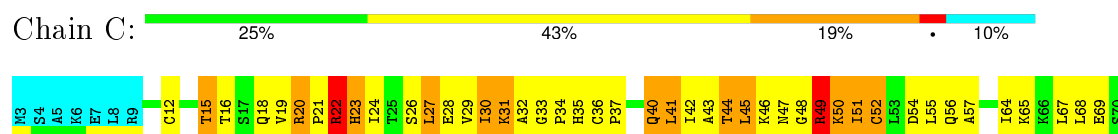
- Molecule 1: PF4-M2 CHIMERA



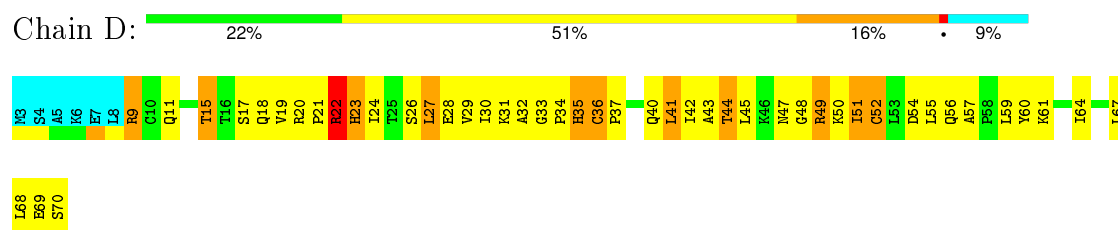
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

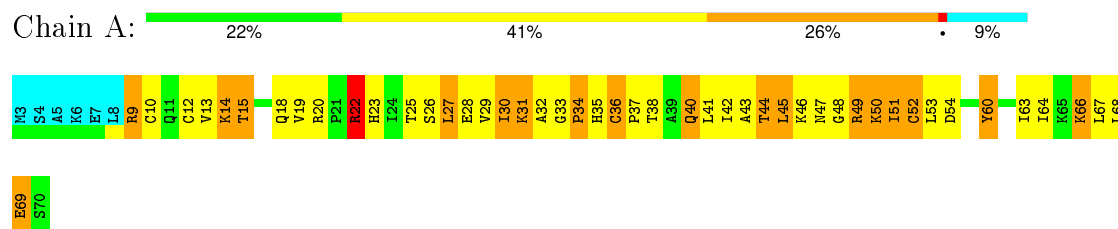


- Molecule 1: PF4-M2 CHIMERA

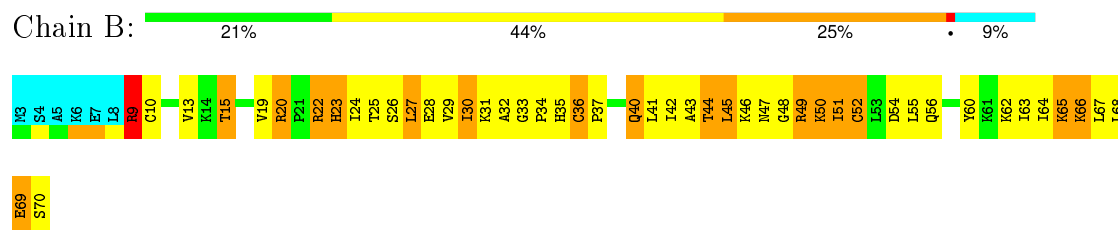


4.2.2 Score per residue for model 2

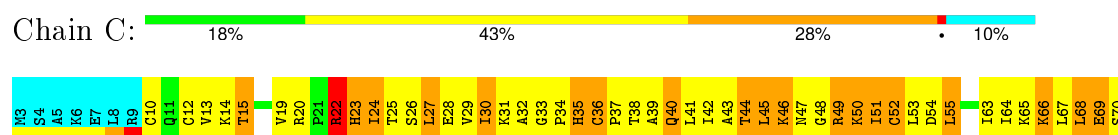
- Molecule 1: PF4-M2 CHIMERA



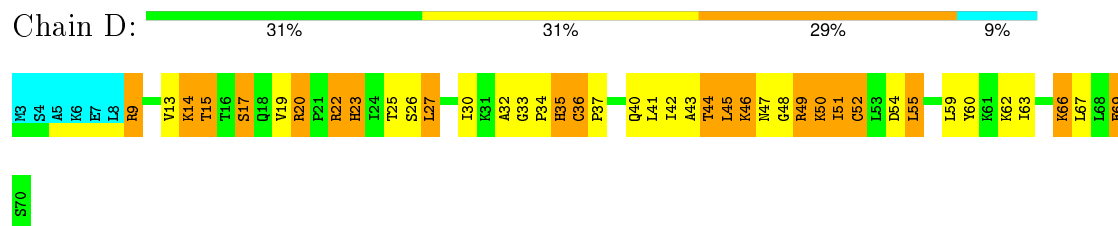
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

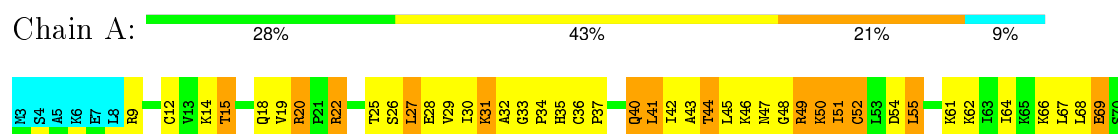


- Molecule 1: PF4-M2 CHIMERA

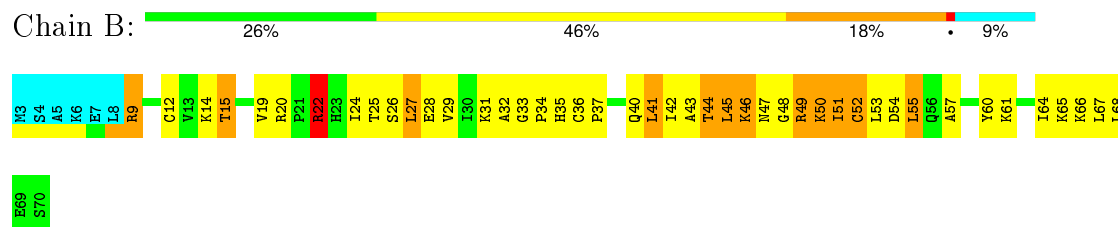


4.2.3 Score per residue for model 3 (medoid)

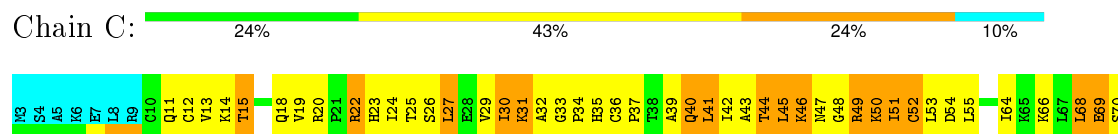
- Molecule 1: PF4-M2 CHIMERA



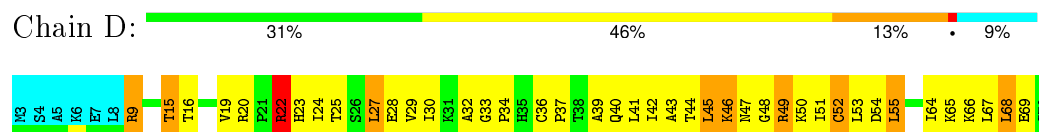
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

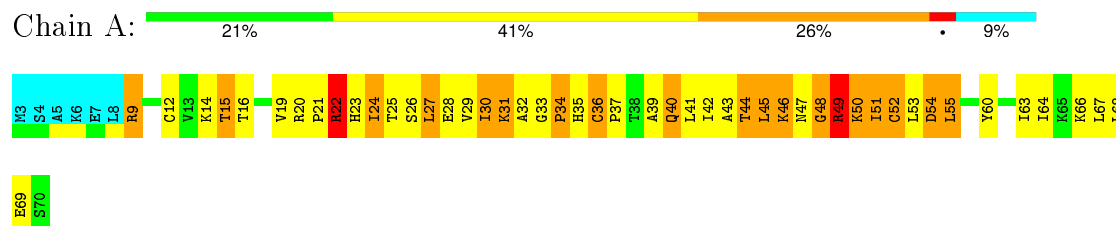


- Molecule 1: PF4-M2 CHIMERA

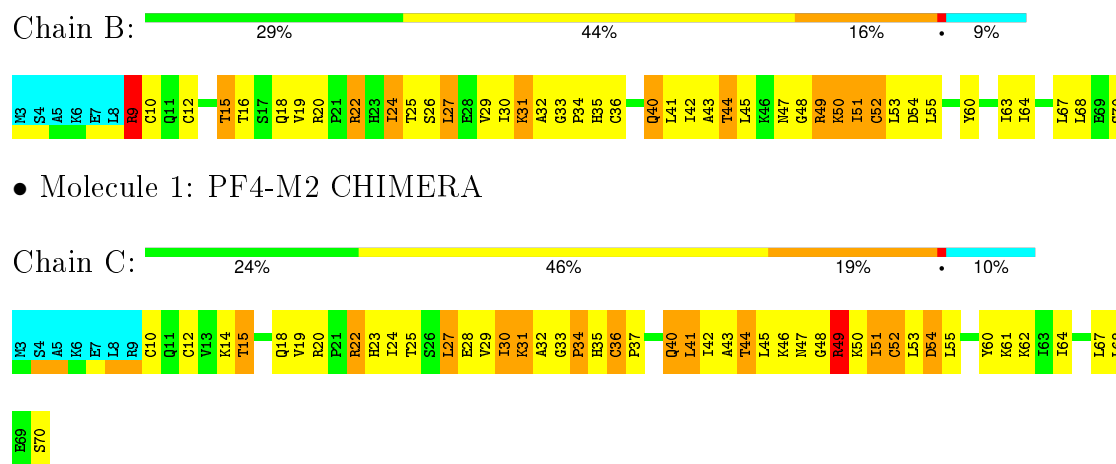


4.2.4 Score per residue for model 4

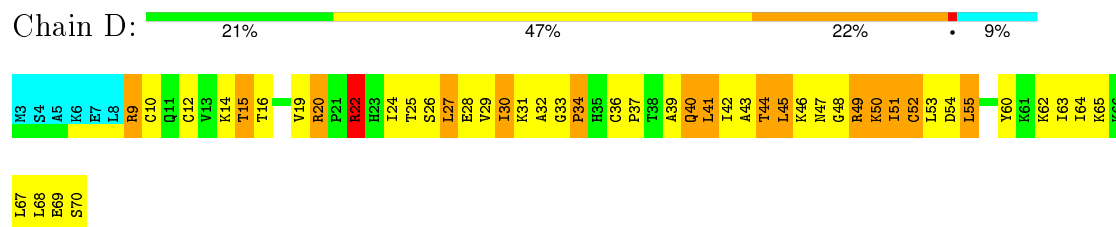
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

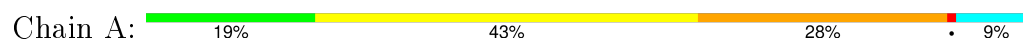


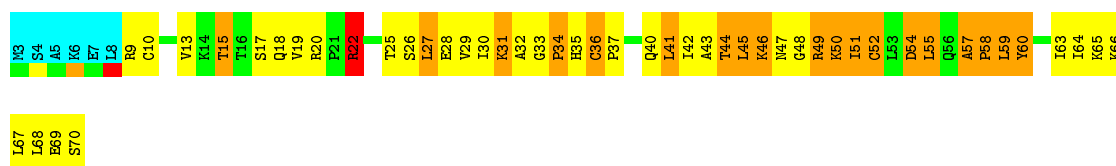
- Molecule 1: PF4-M2 CHIMERA



4.2.5 Score per residue for model 5

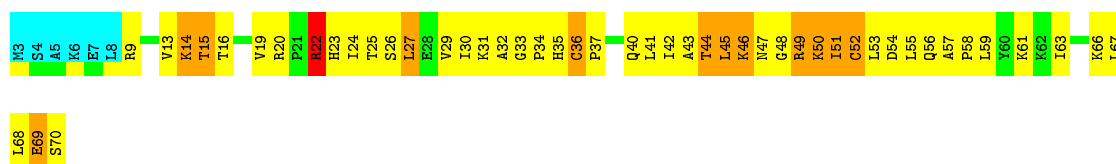
- Molecule 1: PF4-M2 CHIMERA





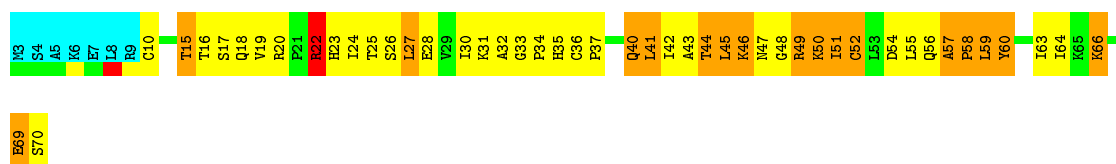
- Molecule 1: PF4-M2 CHIMERA

Chain B: 19% 53% 18% 9%



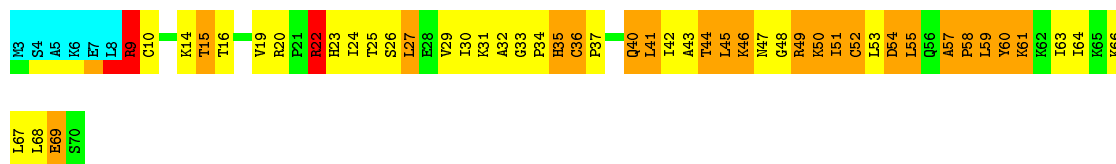
- Molecule 1: PF4-M2 CHIMERA

Chain C: 21% 43% 25% 10%



- Molecule 1: PF4-M2 CHIMERA

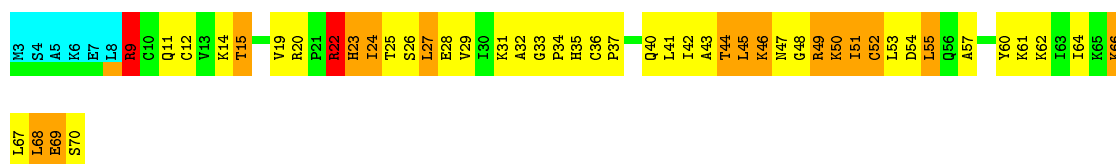
Chain D: 19% 38% 31% 9%



4.2.6 Score per residue for model 6

- Molecule 1: PF4-M2 CHIMERA

Chain A: 21% 46% 22% 9%



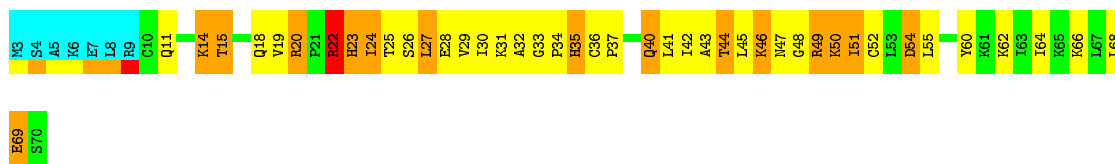
- Molecule 1: PF4-M2 CHIMERA

Chain B: 28% 35% 26% 9%



• Molecule 1: PF4-M2 CHIMERA

Chain C: 26% 40% 22% 10%



• Molecule 1: PF4-M2 CHIMERA

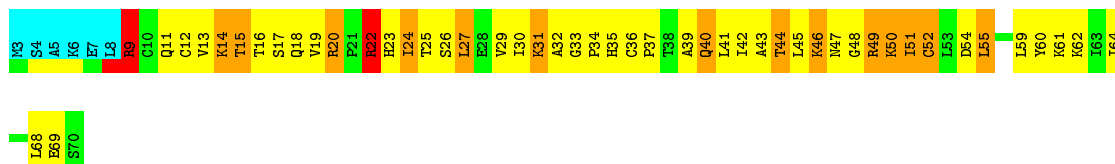
Chain D: 25% 43% 22% 9%



4.2.7 Score per residue for model 7

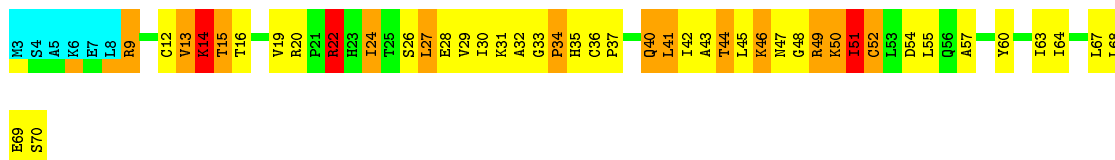
• Molecule 1: PF4-M2 CHIMERA

Chain A: 19% 49% 21% 9%



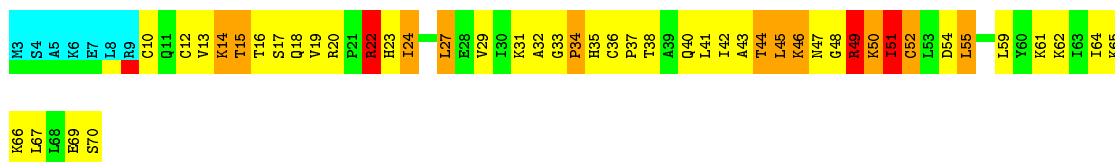
• Molecule 1: PF4-M2 CHIMERA

Chain B: 25% 43% 19% 9%

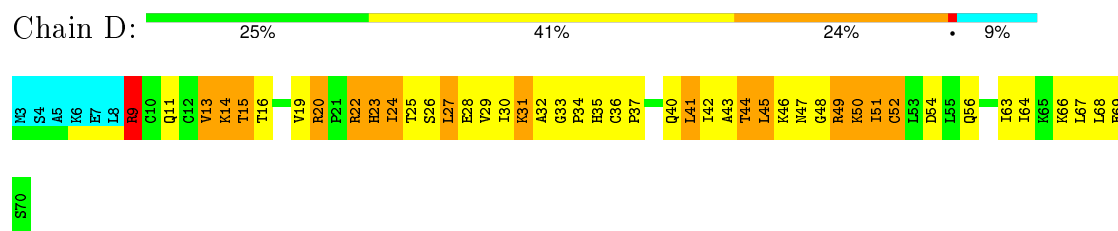


• Molecule 1: PF4-M2 CHIMERA

Chain C: 21% 49% 16% 10%

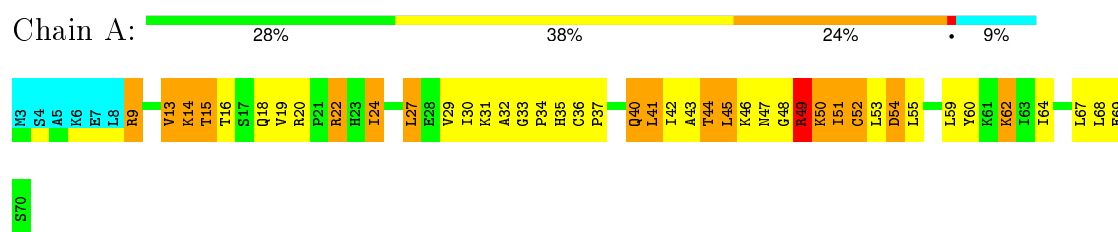


- Molecule 1: PF4-M2 CHIMERA

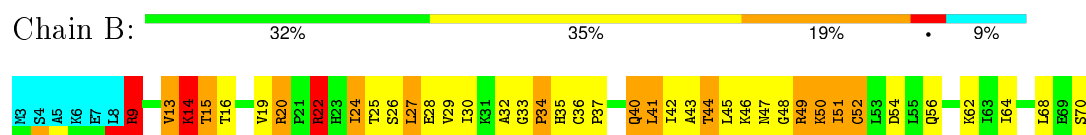


4.2.8 Score per residue for model 8

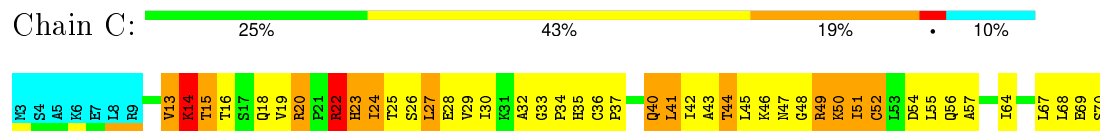
- Molecule 1: PF4-M2 CHIMERA



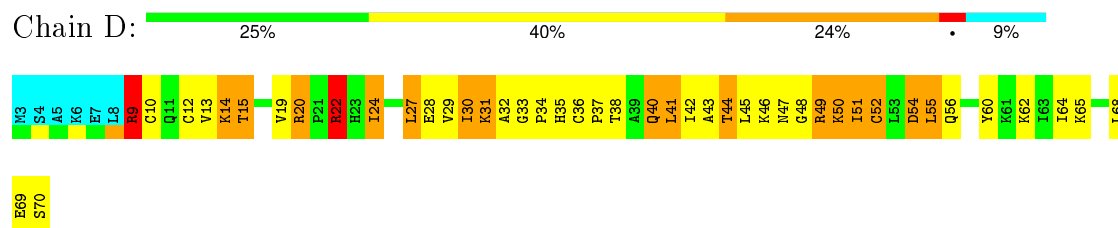
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

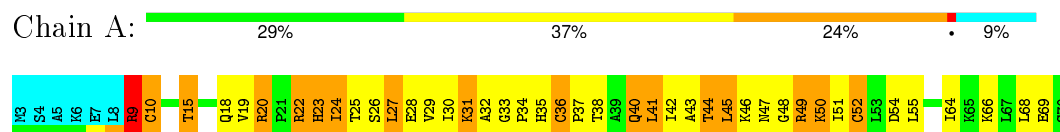


- Molecule 1: PF4-M2 CHIMERA

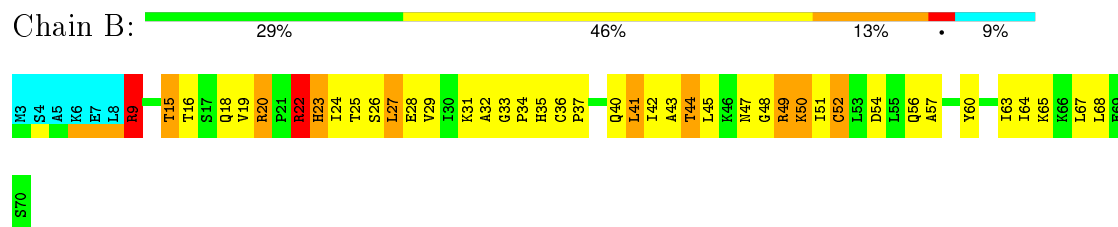


4.2.9 Score per residue for model 9

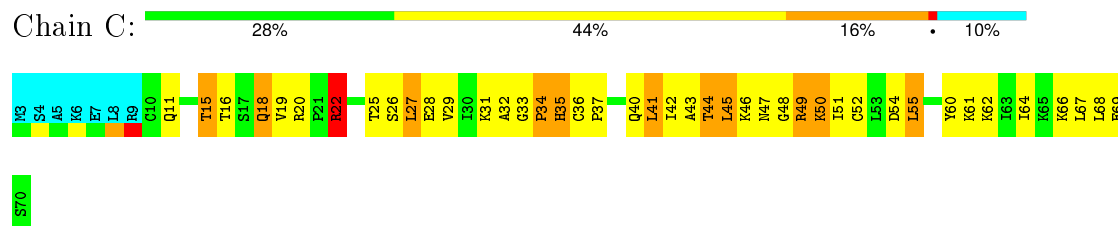
- Molecule 1: PF4-M2 CHIMERA



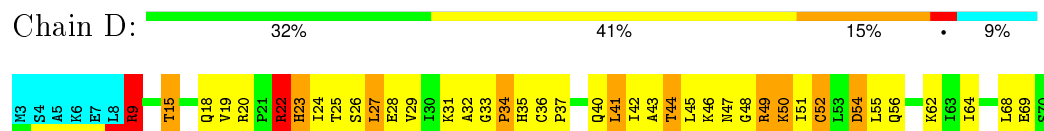
- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA

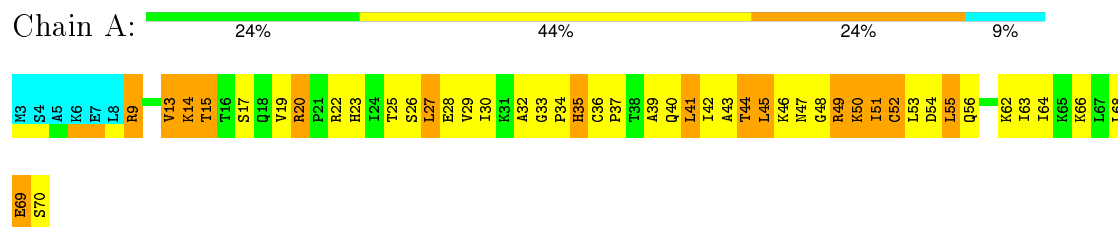


- Molecule 1: PF4-M2 CHIMERA

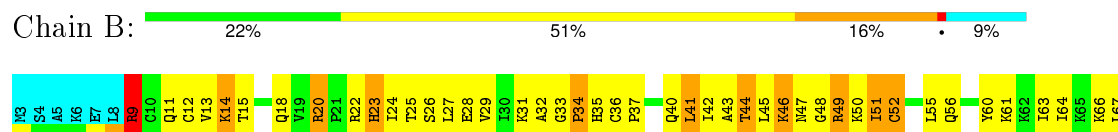


4.2.10 Score per residue for model 10

- Molecule 1: PF4-M2 CHIMERA



- Molecule 1: PF4-M2 CHIMERA



L68
E69
S70

- Molecule 1: PF4-M2 CHIMERA

Chain C: 18% 49% 18% 6% 10%

M3 S4 A5 K6 E7 L8 R9 C10 Q11 Q12 V13 V14 K14 T15 T16 V19 R20 R21 R22 R23 I24 T25 T26 S26 L27 L28 E28 V29 I30 K31 A32 G33 P34 R35 C36 T38 A39 Q40 L41 L42 T44 L45 K46 N47 G48 R49 K50 I51 C52 L53 D54 L55 Y60 I63 I64 K65 K66 L67

L68
E69
S70

- Molecule 1: PF4-M2 CHIMERA

Chain D: 24% 44% 22% 9%

M3 S4 A5 K6 E7 L8 R9 C10 Q11 Q12 V13 V14 K14 T15 T16 V19 R20 R21 R22 R23 I24 T25 T26 S26 L27 L28 E28 V29 I30 K31 A32 G33 P34 R35 C36 T38 A39 Q40 L41 L42 T44 L45 K46 N47 G48 R49 K50 I51 C52 L53 D54 L55 Y60 I63 I64 K65 K66 L67 L68

E69
S70

4.2.11 Score per residue for model 11

- Molecule 1: PF4-M2 CHIMERA

Chain A: 13% 56% 19% 9%

M3 S4 A5 K6 E7 L8 R9 C10 Q11 Q12 V13 V14 K14 T15 T16 V19 R20 R21 R22 R23 I24 T25 T26 S26 L27 L28 E28 V29 I30 K31 A32 G33 P34 R35 C36 T38 A39 Q40 L41 L42 T44 L45 K46 N47 G48 R49 K50 I51 C52 L53 D54 L55 Y60 I63 I64 K65 K66 L67

I64
K65
K66
L67
E69
S70

- Molecule 1: PF4-M2 CHIMERA

Chain B: 19% 50% 21% 9%

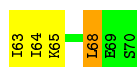
M3 S4 A5 K6 E7 L8 R9 C10 Q11 Q12 V13 V14 K14 T15 T16 V19 R20 R21 R22 R23 I24 T25 T26 S26 L27 L28 E28 V29 I30 K31 A32 G33 P34 R35 C36 T38 A39 Q40 L41 L42 T44 L45 K46 N47 G48 R49 K50 I51 C52 L53 D54 L55 Y60 I63 I64 K65 K66

L67
L68
E69
S70

- Molecule 1: PF4-M2 CHIMERA

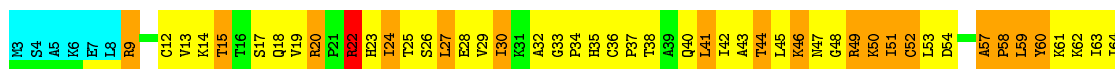
Chain C: 15% 47% 26% 10%

M3 S4 A5 K6 E7 L8 R9 C10 Q11 Q12 V13 V14 K14 T15 T16 V19 R20 R21 R22 R23 I24 T25 T26 S26 L27 L28 E28 V29 I30 K31 A32 G33 P34 R35 C36 T38 A39 Q40 L41 L42 T44 L45 K46 N47 G48 R49 K50 I51 C52 L53 D54 L55 Y60 I63 I64 K65 K66



- Molecule 1: PF4-M2 CHIMERA

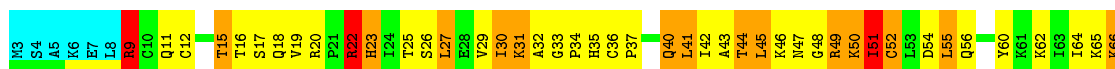
Chain D: 13% 50% 26% 9%



4.2.12 Score per residue for model 12

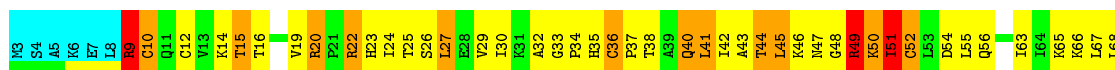
- Molecule 1: PF4-M2 CHIMERA

Chain A: 22% 43% 22% 9%



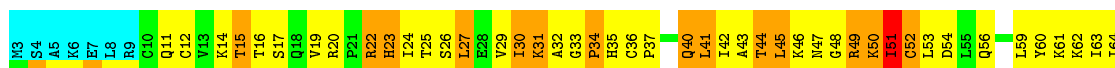
- Molecule 1: PF4-M2 CHIMERA

Chain B: 25% 43% 19% 9%



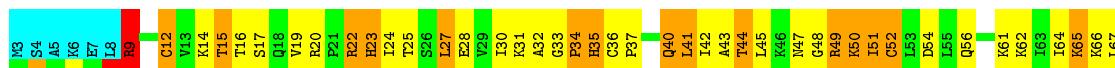
- Molecule 1: PF4-M2 CHIMERA

Chain C: 18% 47% 24% 10%



- Molecule 1: PF4-M2 CHIMERA

Chain D: 26% 40% 24% 9%





5 Refinement protocol and experimental data overview

Of the ? calculated structures, 12 were deposited, based on the following criterion: ?.

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

Software name	Classification	Version
X-PLOR	refinement	

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

6 Model quality

6.1 Standard geometry

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

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

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	4.0±0.0
1	B	0.0±0.0	4.0±0.0
1	C	0.0±0.0	3.0±0.0
1	D	0.0±0.0	4.0±0.0
All	All	0	180

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

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

Mol	Chain	Res	Type	Group	Models (Total)
1	D	49	ARG	Sidechain	12
1	B	9	ARG	Sidechain	12
1	B	49	ARG	Sidechain	12
1	D	22	ARG	Sidechain	12
1	A	22	ARG	Sidechain	12
1	B	22	ARG	Sidechain	12
1	A	9	ARG	Sidechain	12
1	D	20	ARG	Sidechain	12
1	B	20	ARG	Sidechain	12
1	A	49	ARG	Sidechain	12
1	D	9	ARG	Sidechain	12
1	C	22	ARG	Sidechain	12
1	A	20	ARG	Sidechain	12
1	C	20	ARG	Sidechain	12
1	C	49	ARG	Sidechain	12

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	485	534	534	46±7
1	B	485	534	534	46±5
1	C	474	521	521	44±6
1	D	485	534	534	43±6
All	All	23148	25476	25476	2066

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 42.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:19:VAL:HG21	1:B:51:ILE:HG21	1.03	1.30	1	11
1:D:19:VAL:HG21	1:D:51:ILE:HG21	1.02	1.31	1	12
1:A:19:VAL:HG21	1:A:51:ILE:HG21	1.01	1.28	6	12
1:C:19:VAL:HG21	1:C:51:ILE:HG21	1.01	1.30	6	12
1:A:27:LEU:HD11	1:A:41:LEU:HD21	0.96	1.38	7	1
1:D:43:ALA:HB3	1:D:51:ILE:CD1	0.94	1.92	9	12
1:B:43:ALA:HB3	1:B:51:ILE:CD1	0.94	1.92	10	12
1:D:27:LEU:HD11	1:D:41:LEU:HD21	0.94	1.39	10	4
1:C:43:ALA:HB3	1:C:51:ILE:CD1	0.94	1.93	6	12
1:A:43:ALA:HB3	1:A:51:ILE:CD1	0.94	1.93	10	12
1:C:39:ALA:HB1	1:C:55:LEU:HD21	0.92	1.42	3	2
1:C:42:ILE:HD13	1:C:52:CYS:HB2	0.87	1.46	7	12
1:B:27:LEU:HD11	1:B:41:LEU:HD21	0.87	1.44	4	5
1:D:29:VAL:HG22	1:D:41:LEU:CD1	0.86	2.00	3	4
1:B:29:VAL:HG22	1:B:41:LEU:CD1	0.86	2.01	1	7
1:C:30:ILE:HG23	1:D:26:SER:OG	0.85	1.71	4	2
1:B:42:ILE:HD13	1:B:52:CYS:CB	0.84	2.03	1	12
1:A:27:LEU:HD11	1:A:41:LEU:HD11	0.84	1.49	12	10
1:A:57:ALA:HB1	1:A:58:PRO:CD	0.83	2.03	11	1
1:B:42:ILE:HD13	1:B:52:CYS:HB2	0.83	1.49	7	12
1:A:39:ALA:HB1	1:A:55:LEU:HD21	0.83	1.48	10	1
1:A:42:ILE:HD13	1:A:52:CYS:HB2	0.83	1.50	6	12
1:B:57:ALA:HB1	1:B:58:PRO:CD	0.82	2.04	5	1
1:D:42:ILE:HD13	1:D:52:CYS:HB2	0.82	1.49	4	12

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:26:SER:OG	1:B:30:ILE:HG22	0.82	1.74	4	4
1:A:29:VAL:HG23	1:A:41:LEU:HD12	0.82	1.52	7	2
1:B:24:ILE:HD13	1:B:44:THR:O	0.82	1.75	7	2
1:D:42:ILE:HD13	1:D:52:CYS:CB	0.81	2.05	3	12
1:D:24:ILE:HD13	1:D:44:THR:O	0.81	1.76	7	2
1:A:60:TYR:CE2	1:A:64:ILE:HD11	0.80	2.12	2	2
1:B:57:ALA:HB1	1:B:58:PRO:HD2	0.80	1.53	5	1
1:B:29:VAL:HG23	1:B:41:LEU:HD12	0.80	1.54	7	2
1:B:43:ALA:HB3	1:B:51:ILE:HD11	0.79	1.53	1	12
1:A:57:ALA:HB1	1:A:58:PRO:HD2	0.79	1.53	11	1
1:C:24:ILE:HD13	1:C:44:THR:O	0.79	1.77	7	2
1:C:27:LEU:HD11	1:C:41:LEU:HD21	0.79	1.54	7	2
1:A:24:ILE:HD13	1:A:44:THR:O	0.78	1.78	9	2
1:C:43:ALA:HB3	1:C:51:ILE:HD11	0.78	1.56	6	12
1:A:55:LEU:HD13	1:A:60:TYR:CZ	0.78	2.13	6	1
1:A:30:ILE:HG22	1:B:26:SER:CB	0.78	2.08	7	3
1:C:41:LEU:HD11	1:C:54:ASP:O	0.78	1.79	9	4
1:D:43:ALA:HB3	1:D:51:ILE:HD11	0.77	1.53	5	12
1:A:27:LEU:CD1	1:A:41:LEU:HD11	0.77	2.08	12	9
1:A:43:ALA:HB3	1:A:51:ILE:HD11	0.77	1.57	5	12
1:C:42:ILE:HD13	1:C:52:CYS:CB	0.77	2.09	3	11
1:A:42:ILE:HD13	1:A:52:CYS:CB	0.76	2.09	7	12
1:A:29:VAL:HG23	1:A:41:LEU:CD1	0.76	2.11	7	1
1:C:24:ILE:HA	1:C:45:LEU:HD13	0.76	1.58	6	3
1:D:32:ALA:HB1	1:D:37:PRO:O	0.75	1.81	8	12
1:D:41:LEU:HD11	1:D:54:ASP:O	0.75	1.81	1	2
1:C:26:SER:OG	1:D:30:ILE:HG23	0.75	1.81	11	4
1:B:32:ALA:HB1	1:B:37:PRO:O	0.75	1.82	8	11
1:B:41:LEU:HB2	1:B:55:LEU:HD21	0.75	1.57	6	1
1:C:27:LEU:HD11	1:C:41:LEU:HD11	0.74	1.60	6	3
1:B:27:LEU:HD23	1:B:27:LEU:O	0.74	1.83	9	4
1:C:27:LEU:O	1:C:27:LEU:HD23	0.74	1.82	9	3
1:B:44:THR:HG23	1:B:50:LYS:HG3	0.74	1.59	1	12
1:A:39:ALA:CB	1:A:55:LEU:HD21	0.73	2.13	10	2
1:A:27:LEU:HD11	1:A:41:LEU:CD2	0.73	2.12	7	1
1:C:31:LYS:HG3	1:D:67:LEU:HD13	0.73	1.59	4	2
1:C:29:VAL:HG22	1:C:41:LEU:CD1	0.73	2.13	7	5
1:C:40:GLN:C	1:C:41:LEU:HD23	0.73	2.04	12	3
1:D:17:SER:OG	1:D:59:LEU:HD21	0.73	1.83	11	1
1:C:32:ALA:HB1	1:C:37:PRO:O	0.73	1.83	5	11
1:B:27:LEU:HD11	1:B:41:LEU:HD11	0.73	1.60	8	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:D:67:LEU:O	1:D:67:LEU:HD12	0.73	1.83	11	1
1:C:30:ILE:HG22	1:D:26:SER:OG	0.73	1.84	5	1
1:A:29:VAL:HA	1:A:41:LEU:HD12	0.72	1.62	11	5
1:D:40:GLN:C	1:D:41:LEU:HD23	0.72	2.04	12	2
1:A:67:LEU:HD13	1:B:31:LYS:HG3	0.72	1.59	2	2
1:D:64:ILE:HA	1:D:67:LEU:HD12	0.72	1.60	1	4
1:A:32:ALA:HB1	1:A:37:PRO:O	0.71	1.84	8	11
1:C:67:LEU:HD12	1:C:67:LEU:O	0.71	1.85	8	1
1:C:31:LYS:CG	1:D:67:LEU:HD13	0.71	2.15	4	1
1:D:29:VAL:HG13	1:D:55:LEU:HD21	0.71	1.62	10	1
1:D:27:LEU:HD11	1:D:41:LEU:HD11	0.71	1.61	6	5
1:C:44:THR:HG23	1:C:50:LYS:HG3	0.71	1.62	1	12
1:B:55:LEU:HD13	1:B:60:TYR:CZ	0.71	2.21	1	1
1:C:41:LEU:HD21	1:C:54:ASP:C	0.71	2.07	9	1
1:A:30:ILE:HG22	1:B:26:SER:OG	0.70	1.85	8	1
1:D:24:ILE:HA	1:D:45:LEU:HD13	0.70	1.62	12	1
1:D:41:LEU:HD22	1:D:55:LEU:HD23	0.70	1.61	8	1
1:C:39:ALA:CB	1:C:55:LEU:HD21	0.70	2.15	3	2
1:D:29:VAL:HG23	1:D:41:LEU:HD12	0.70	1.63	11	2
1:A:40:GLN:OE1	1:A:42:ILE:HD11	0.70	1.87	9	1
1:A:44:THR:HG23	1:A:50:LYS:HG3	0.69	1.64	1	11
1:D:15:THR:HG21	1:D:54:ASP:HB2	0.69	1.64	8	5
1:C:39:ALA:CB	1:C:55:LEU:HD11	0.69	2.17	2	1
1:B:54:ASP:C	1:B:55:LEU:HD22	0.69	2.08	6	1
1:B:24:ILE:HD12	1:B:45:LEU:HD22	0.69	1.64	4	2
1:C:19:VAL:HG21	1:C:51:ILE:HG12	0.69	1.63	10	2
1:B:29:VAL:HG22	1:B:41:LEU:HD12	0.69	1.63	1	3
1:B:29:VAL:HG23	1:B:41:LEU:CD1	0.69	2.17	4	2
1:C:27:LEU:HD23	1:C:27:LEU:O	0.69	1.87	11	1
1:D:29:VAL:HG22	1:D:41:LEU:HD11	0.68	1.64	6	2
1:B:29:VAL:HA	1:B:41:LEU:HD12	0.68	1.64	10	4
1:D:30:ILE:HD13	1:D:30:ILE:N	0.68	2.03	11	1
1:D:55:LEU:HD23	1:D:60:TYR:CZ	0.68	2.23	2	1
1:D:64:ILE:O	1:D:68:LEU:HD12	0.68	1.87	10	9
1:A:29:VAL:CG2	1:A:55:LEU:HD21	0.68	2.19	12	1
1:A:15:THR:HG21	1:A:54:ASP:HB2	0.68	1.66	8	5
1:A:30:ILE:HG22	1:B:26:SER:HB3	0.67	1.63	7	2
1:A:67:LEU:HD23	1:B:31:LYS:CD	0.67	2.19	3	1
1:C:19:VAL:CG2	1:C:51:ILE:HG21	0.67	2.17	6	5
1:D:41:LEU:N	1:D:41:LEU:HD23	0.67	2.04	1	2
1:D:23:HIS:CD2	1:D:45:LEU:HD21	0.67	2.25	2	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:41:LEU:N	1:C:41:LEU:HD23	0.67	2.05	10	5
1:D:27:LEU:CD1	1:D:41:LEU:HD11	0.67	2.19	9	4
1:D:23:HIS:CD2	1:D:45:LEU:HD12	0.67	2.24	1	2
1:A:30:ILE:HD11	1:A:40:GLN:HB3	0.67	1.65	7	1
1:B:40:GLN:C	1:B:41:LEU:HD23	0.66	2.11	12	1
1:B:30:ILE:HD11	1:B:40:GLN:NE2	0.66	2.05	6	5
1:D:44:THR:HG23	1:D:50:LYS:HG3	0.66	1.66	1	11
1:D:29:VAL:HG22	1:D:41:LEU:HD12	0.66	1.68	3	2
1:B:41:LEU:HD21	1:B:54:ASP:C	0.66	2.11	9	1
1:D:29:VAL:HA	1:D:41:LEU:HD12	0.66	1.66	6	3
1:D:19:VAL:CG2	1:D:51:ILE:HG21	0.66	2.18	6	3
1:A:31:LYS:NZ	1:A:55:LEU:HD22	0.66	2.06	11	1
1:B:13:VAL:HG22	1:B:14:LYS:N	0.65	2.07	8	1
1:C:15:THR:HG21	1:C:54:ASP:HB2	0.65	1.67	4	3
1:B:41:LEU:HD11	1:B:54:ASP:O	0.65	1.91	9	1
1:A:27:LEU:O	1:A:27:LEU:HD23	0.65	1.92	8	1
1:C:30:ILE:HD13	1:C:30:ILE:N	0.65	2.06	4	1
1:B:65:LYS:HA	1:B:68:LEU:HD12	0.65	1.68	2	2
1:B:41:LEU:N	1:B:41:LEU:HD23	0.65	2.07	9	2
1:A:32:ALA:HB1	1:A:37:PRO:C	0.65	2.12	11	10
1:B:24:ILE:CD1	1:B:45:LEU:HD22	0.65	2.21	8	2
1:C:41:LEU:HD13	1:C:55:LEU:HD11	0.65	1.68	1	1
1:C:43:ALA:HB3	1:C:51:ILE:HD12	0.65	1.69	8	12
1:A:31:LYS:HG3	1:B:67:LEU:HD23	0.64	1.68	1	4
1:B:64:ILE:O	1:B:68:LEU:HD12	0.64	1.92	4	8
1:A:17:SER:OG	1:A:59:LEU:HD22	0.64	1.92	11	1
1:B:27:LEU:HD11	1:B:41:LEU:CD2	0.64	2.20	4	4
1:D:41:LEU:HD23	1:D:41:LEU:N	0.64	2.07	12	1
1:C:53:LEU:HD13	1:C:59:LEU:CD1	0.64	2.22	12	1
1:D:27:LEU:O	1:D:27:LEU:HD23	0.64	1.92	1	3
1:A:17:SER:OG	1:A:59:LEU:HD21	0.64	1.91	5	1
1:C:30:ILE:HD11	1:C:40:GLN:NE2	0.64	2.06	6	2
1:B:55:LEU:HD22	1:B:55:LEU:N	0.64	2.08	6	1
1:C:13:VAL:HG13	1:C:14:LYS:N	0.64	2.06	10	2
1:D:29:VAL:C	1:D:30:ILE:HD13	0.64	2.12	11	1
1:C:19:VAL:HG11	1:C:45:LEU:HD11	0.64	1.68	2	2
1:A:19:VAL:HG21	1:A:51:ILE:HG12	0.64	1.69	10	2
1:C:55:LEU:HD23	1:D:68:LEU:CD2	0.64	2.23	7	1
1:A:41:LEU:HD11	1:A:54:ASP:O	0.64	1.92	5	1
1:A:30:ILE:HD12	1:A:31:LYS:O	0.64	1.92	7	2
1:A:23:HIS:CD2	1:A:45:LEU:HD21	0.64	2.28	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:63:ILE:O	1:B:67:LEU:HD23	0.63	1.93	10	3
1:C:41:LEU:HD23	1:C:41:LEU:N	0.63	2.08	12	1
1:B:43:ALA:HB3	1:B:51:ILE:HD12	0.63	1.71	8	12
1:A:29:VAL:HG22	1:A:41:LEU:CD1	0.63	2.23	9	8
1:B:15:THR:HG21	1:B:54:ASP:HB2	0.63	1.68	11	2
1:A:29:VAL:HG22	1:A:41:LEU:HD12	0.63	1.70	8	2
1:B:29:VAL:HG22	1:B:41:LEU:HD11	0.63	1.70	1	4
1:B:24:ILE:HA	1:B:45:LEU:HD13	0.63	1.71	6	3
1:B:41:LEU:HD13	1:B:55:LEU:HD13	0.63	1.68	10	1
1:C:27:LEU:CD1	1:C:41:LEU:HD11	0.62	2.24	6	4
1:C:27:LEU:HD11	1:C:41:LEU:CD2	0.62	2.25	7	2
1:A:43:ALA:HB3	1:A:51:ILE:HD12	0.62	1.70	10	12
1:D:43:ALA:HB3	1:D:51:ILE:HD12	0.62	1.70	12	12
1:D:32:ALA:HB1	1:D:37:PRO:C	0.62	2.14	7	10
1:A:41:LEU:HD21	1:A:54:ASP:C	0.62	2.13	5	1
1:C:32:ALA:HB1	1:C:37:PRO:C	0.62	2.15	11	11
1:C:59:LEU:HD13	1:C:59:LEU:C	0.62	2.15	12	1
1:C:41:LEU:HD11	1:C:54:ASP:C	0.62	2.15	10	2
1:A:64:ILE:O	1:A:68:LEU:HD12	0.62	1.95	9	9
1:D:24:ILE:CD1	1:D:45:LEU:HD22	0.62	2.24	8	1
1:C:54:ASP:OD1	1:C:57:ALA:HB3	0.61	1.95	8	2
1:B:29:VAL:HG13	1:B:29:VAL:O	0.61	1.95	7	1
1:B:27:LEU:CD1	1:B:41:LEU:HD11	0.61	2.26	8	4
1:B:24:ILE:HD12	1:B:45:LEU:HG	0.61	1.73	12	5
1:A:19:VAL:CG2	1:A:51:ILE:HG21	0.61	2.16	6	5
1:B:47:ASN:O	1:B:49:ARG:N	0.61	2.34	3	12
1:A:47:ASN:O	1:A:49:ARG:N	0.60	2.34	8	12
1:B:19:VAL:HG21	1:B:51:ILE:CG2	0.60	2.20	8	1
1:A:53:LEU:HD22	1:A:59:LEU:HD23	0.60	1.73	11	1
1:C:26:SER:OG	1:D:30:ILE:HG22	0.60	1.95	3	1
1:C:64:ILE:HA	1:C:67:LEU:HD12	0.60	1.72	2	2
1:D:27:LEU:CD1	1:D:41:LEU:HD21	0.60	2.21	10	3
1:A:27:LEU:CD2	1:A:63:ILE:HG21	0.60	2.26	5	1
1:D:29:VAL:HG13	1:D:41:LEU:HD12	0.60	1.71	4	1
1:A:19:VAL:HG11	1:A:45:LEU:HD11	0.60	1.71	2	3
1:D:47:ASN:O	1:D:49:ARG:N	0.60	2.34	5	12
1:B:29:VAL:O	1:B:29:VAL:HG13	0.60	1.97	4	1
1:C:65:LYS:HA	1:C:68:LEU:HD12	0.60	1.72	12	1
1:A:27:LEU:CD1	1:A:41:LEU:HD21	0.60	2.21	7	1
1:B:23:HIS:CD2	1:B:45:LEU:HD12	0.60	2.32	9	1
1:D:43:ALA:O	1:D:50:LYS:CG	0.60	2.50	3	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:47:ASN:O	1:C:49:ARG:N	0.60	2.35	5	12
1:D:29:VAL:O	1:D:29:VAL:HG13	0.60	1.97	5	1
1:B:29:VAL:CG2	1:B:41:LEU:HD12	0.59	2.26	7	3
1:A:29:VAL:HG22	1:A:41:LEU:HD11	0.59	1.73	6	7
1:C:24:ILE:HD12	1:C:45:LEU:HG	0.59	1.74	3	5
1:B:32:ALA:HB1	1:B:37:PRO:C	0.59	2.17	7	10
1:C:64:ILE:O	1:C:68:LEU:HD12	0.59	1.97	4	8
1:A:63:ILE:O	1:A:67:LEU:HD23	0.59	1.98	4	1
1:C:39:ALA:HB1	1:C:55:LEU:CD2	0.59	2.23	3	1
1:B:41:LEU:HD13	1:B:55:LEU:HD11	0.59	1.75	6	1
1:D:24:ILE:HD12	1:D:45:LEU:HG	0.59	1.75	3	4
1:B:64:ILE:HA	1:B:67:LEU:HD12	0.59	1.75	4	3
1:A:29:VAL:O	1:A:29:VAL:HG13	0.58	1.98	12	1
1:D:27:LEU:HD11	1:D:41:LEU:CD2	0.58	2.28	5	3
1:A:39:ALA:HB3	1:A:55:LEU:HD21	0.58	1.74	4	2
1:D:30:ILE:HD11	1:D:40:GLN:NE2	0.58	2.13	5	3
1:B:51:ILE:HG22	1:D:9:ARG:CZ	0.58	2.28	9	1
1:C:67:LEU:HD23	1:D:31:LYS:HE2	0.58	1.73	9	1
1:A:24:ILE:HD12	1:A:45:LEU:HG	0.58	1.76	11	3
1:A:30:ILE:HD12	1:A:30:ILE:C	0.58	2.19	7	1
1:A:30:ILE:HD11	1:A:40:GLN:NE2	0.58	2.13	8	1
1:D:19:VAL:HG21	1:D:51:ILE:CG2	0.57	2.23	8	2
1:D:27:LEU:HD21	1:D:29:VAL:HG23	0.57	1.76	1	1
1:A:29:VAL:CG2	1:A:41:LEU:HD12	0.57	2.28	7	2
1:C:60:TYR:CE2	1:C:64:ILE:HD11	0.57	2.34	5	1
1:B:10:CYS:O	1:B:13:VAL:HG23	0.57	1.99	2	1
1:C:24:ILE:CD1	1:C:45:LEU:HD22	0.57	2.30	4	1
1:D:23:HIS:NE2	1:D:45:LEU:HD21	0.57	2.14	2	1
1:D:29:VAL:HG13	1:D:29:VAL:O	0.57	2.00	11	1
1:C:27:LEU:HD21	1:C:29:VAL:HG23	0.57	1.76	11	2
1:D:27:LEU:HD12	1:D:28:GLU:O	0.57	2.00	9	7
1:C:15:THR:HG21	1:C:54:ASP:HB3	0.57	1.75	8	5
1:D:29:VAL:HG13	1:D:55:LEU:CD2	0.57	2.29	10	1
1:C:24:ILE:HD12	1:C:45:LEU:HD13	0.57	1.76	4	2
1:B:24:ILE:HD12	1:B:45:LEU:HD13	0.57	1.77	9	2
1:C:67:LEU:HD21	1:D:29:VAL:HG12	0.57	1.77	4	1
1:B:42:ILE:HG22	1:B:43:ALA:N	0.56	2.15	10	12
1:B:44:THR:HG23	1:B:50:LYS:CG	0.56	2.28	1	11
1:A:31:LYS:CD	1:B:67:LEU:HD12	0.56	2.29	9	1
1:B:57:ALA:CB	1:B:58:PRO:CD	0.56	2.78	5	1
1:D:55:LEU:HD23	1:D:55:LEU:N	0.56	2.16	6	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:60:TYR:HA	1:C:63:ILE:HD12	0.56	1.75	5	2
1:C:23:HIS:CD2	1:C:45:LEU:HD21	0.56	2.35	12	3
1:A:30:ILE:C	1:A:30:ILE:HD12	0.56	2.20	5	1
1:A:67:LEU:HD13	1:B:29:VAL:HG11	0.56	1.77	5	1
1:C:67:LEU:HD21	1:D:29:VAL:CG1	0.56	2.31	4	1
1:A:30:ILE:HD11	1:A:40:GLN:CB	0.56	2.29	7	1
1:D:42:ILE:HG22	1:D:43:ALA:N	0.56	2.15	1	12
1:B:27:LEU:CD1	1:B:41:LEU:HD21	0.56	2.26	4	3
1:A:42:ILE:HG22	1:A:43:ALA:N	0.56	2.16	3	12
1:D:19:VAL:HG21	1:D:51:ILE:HG12	0.56	1.78	7	2
1:A:12:CYS:HB2	1:A:42:ILE:HD11	0.55	1.79	7	1
1:A:31:LYS:HD2	1:B:67:LEU:HD23	0.55	1.76	12	1
1:C:42:ILE:HG22	1:C:43:ALA:N	0.55	2.16	6	12
1:B:42:ILE:HD13	1:B:52:CYS:HB3	0.55	1.79	1	2
1:C:39:ALA:HB1	1:C:55:LEU:HD11	0.55	1.78	2	1
1:C:27:LEU:HD12	1:C:28:GLU:O	0.55	2.02	5	5
1:D:41:LEU:HD11	1:D:54:ASP:C	0.55	2.22	1	1
1:C:23:HIS:CD2	1:C:45:LEU:CD2	0.55	2.90	1	3
1:C:55:LEU:H	1:C:55:LEU:HD23	0.55	1.60	11	1
1:A:44:THR:HG23	1:A:50:LYS:CG	0.55	2.30	12	10
1:D:24:ILE:HD12	1:D:45:LEU:HD13	0.55	1.79	1	3
1:D:39:ALA:HB3	1:D:55:LEU:HD21	0.55	1.78	4	1
1:B:54:ASP:OD1	1:B:57:ALA:HB3	0.54	2.00	9	4
1:A:67:LEU:HD23	1:B:31:LYS:HG3	0.54	1.78	1	2
1:A:43:ALA:O	1:A:50:LYS:CG	0.54	2.55	9	6
1:A:27:LEU:HD12	1:A:28:GLU:O	0.54	2.01	9	9
1:A:54:ASP:OD1	1:A:57:ALA:HB3	0.54	2.01	6	1
1:D:16:THR:O	1:D:16:THR:HG22	0.54	2.03	3	1
1:C:29:VAL:HG22	1:C:41:LEU:HD11	0.54	1.80	7	2
1:C:31:LYS:HG3	1:D:67:LEU:HD23	0.54	1.78	1	1
1:D:44:THR:HG23	1:D:50:LYS:CG	0.54	2.32	12	6
1:C:57:ALA:H	1:C:58:PRO:HD3	0.54	1.63	11	2
1:C:29:VAL:HA	1:C:41:LEU:HD12	0.54	1.79	1	1
1:D:27:LEU:C	1:D:27:LEU:HD12	0.54	2.23	11	6
1:B:57:ALA:H	1:B:58:PRO:HD3	0.54	1.63	11	1
1:A:23:HIS:CD2	1:A:45:LEU:CD2	0.54	2.91	12	2
1:C:27:LEU:HD12	1:C:27:LEU:C	0.54	2.23	6	3
1:B:24:ILE:HD12	1:B:45:LEU:CD2	0.54	2.32	4	2
1:D:41:LEU:HB2	1:D:55:LEU:HD11	0.54	1.80	10	1
1:B:27:LEU:HD23	1:B:28:GLU:O	0.53	2.03	10	1
1:A:57:ALA:H	1:A:58:PRO:HD3	0.53	1.63	5	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:58:PRO:HB2	1:A:59:LEU:HD23	0.53	1.80	5	1
1:A:10:CYS:O	1:A:13:VAL:HG13	0.53	2.03	5	1
1:A:39:ALA:HB1	1:A:55:LEU:CD2	0.53	2.30	10	1
1:A:27:LEU:C	1:A:27:LEU:HD12	0.53	2.24	2	3
1:C:10:CYS:SG	1:C:38:THR:HG22	0.53	2.44	10	4
1:C:60:TYR:CD2	1:C:64:ILE:CD1	0.53	2.92	9	2
1:A:21:PRO:O	1:A:22:ARG:CB	0.53	2.56	1	1
1:A:24:ILE:HA	1:A:45:LEU:HD13	0.53	1.80	1	1
1:D:57:ALA:H	1:D:58:PRO:HD3	0.53	1.63	11	2
1:D:27:LEU:HD12	1:D:27:LEU:C	0.53	2.23	9	1
1:B:23:HIS:CD2	1:B:45:LEU:CD1	0.53	2.91	9	1
1:A:55:LEU:HD23	1:B:68:LEU:HG	0.53	1.81	3	2
1:B:27:LEU:HD21	1:B:29:VAL:CG2	0.53	2.33	1	1
1:C:27:LEU:C	1:C:27:LEU:HD12	0.53	2.24	5	4
1:A:29:VAL:CB	1:A:41:LEU:HD12	0.53	2.34	12	1
1:B:60:TYR:CD2	1:B:64:ILE:CD1	0.53	2.92	7	1
1:A:27:LEU:HD12	1:A:27:LEU:C	0.53	2.24	9	7
1:C:67:LEU:O	1:C:67:LEU:HD12	0.53	2.04	4	1
1:C:58:PRO:HB2	1:C:59:LEU:HD23	0.53	1.81	11	1
1:D:23:HIS:CD2	1:D:45:LEU:CD1	0.53	2.92	9	2
1:C:60:TYR:CE2	1:C:64:ILE:CD1	0.53	2.92	9	6
1:B:23:HIS:CD2	1:B:45:LEU:CD2	0.52	2.91	2	1
1:A:29:VAL:HG13	1:A:29:VAL:O	0.52	2.02	7	1
1:A:23:HIS:CE1	1:A:45:LEU:CD2	0.52	2.91	10	1
1:C:17:SER:HB2	1:C:59:LEU:HD21	0.52	1.80	11	1
1:D:16:THR:HG23	1:D:52:CYS:SG	0.52	2.44	5	1
1:C:19:VAL:HG21	1:C:51:ILE:CG1	0.52	2.32	10	1
1:B:60:TYR:CE2	1:B:64:ILE:CD1	0.52	2.92	7	2
1:B:15:THR:HG21	1:B:54:ASP:HB3	0.52	1.82	8	6
1:B:19:VAL:HG11	1:B:45:LEU:HD11	0.52	1.81	2	3
1:A:41:LEU:HD21	1:A:54:ASP:O	0.52	2.04	5	1
1:C:13:VAL:O	1:C:14:LYS:O	0.52	2.28	10	2
1:B:27:LEU:HD12	1:B:28:GLU:O	0.52	2.04	3	4
1:B:16:THR:HG22	1:B:16:THR:O	0.52	2.05	9	1
1:B:27:LEU:C	1:B:27:LEU:HD12	0.52	2.25	3	3
1:B:53:LEU:HD22	1:B:59:LEU:HD23	0.52	1.82	5	1
1:C:44:THR:HG23	1:C:50:LYS:CG	0.52	2.34	12	10
1:D:29:VAL:HG23	1:D:41:LEU:CD1	0.52	2.33	11	2
1:C:29:VAL:HG22	1:C:41:LEU:HD12	0.51	1.81	7	1
1:C:26:SER:HB3	1:D:30:ILE:HG22	0.51	1.82	5	1
1:D:10:CYS:HB2	1:D:13:VAL:HG22	0.51	1.81	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:27:LEU:HD12	1:B:27:LEU:C	0.51	2.26	8	2
1:D:63:ILE:O	1:D:67:LEU:HD23	0.51	2.06	4	3
1:D:29:VAL:CG2	1:D:41:LEU:HD12	0.51	2.34	5	2
1:A:23:HIS:NE2	1:A:45:LEU:HD21	0.51	2.21	9	1
1:A:27:LEU:C	1:A:27:LEU:HD23	0.51	2.26	8	1
1:B:55:LEU:CD1	1:B:60:TYR:CE2	0.51	2.94	10	1
1:D:15:THR:HG21	1:D:54:ASP:HB3	0.51	1.82	12	4
1:B:19:VAL:CG2	1:B:51:ILE:HG21	0.51	2.26	6	4
1:D:27:LEU:HD11	1:D:29:VAL:CG2	0.51	2.36	8	1
1:D:67:LEU:HD12	1:D:67:LEU:O	0.51	2.06	10	1
1:D:55:LEU:HD23	1:D:55:LEU:H	0.51	1.65	6	1
1:D:25:THR:HG23	1:D:26:SER:N	0.51	2.21	7	8
1:C:12:CYS:HB3	1:C:42:ILE:HD11	0.51	1.83	7	1
1:C:16:THR:O	1:C:16:THR:HG22	0.51	2.04	1	1
1:A:67:LEU:HD13	1:B:29:VAL:CG1	0.51	2.35	5	1
1:D:24:ILE:HD12	1:D:45:LEU:HD22	0.51	1.81	8	1
1:B:41:LEU:HD13	1:B:55:LEU:CD1	0.51	2.36	10	1
1:A:23:HIS:CE1	1:A:45:LEU:HD22	0.51	2.41	10	1
1:A:57:ALA:CB	1:A:58:PRO:CD	0.51	2.77	11	1
1:A:67:LEU:HD13	1:B:31:LYS:CG	0.51	2.35	4	1
1:B:27:LEU:HD23	1:B:27:LEU:C	0.51	2.26	9	3
1:C:30:ILE:CD1	1:C:40:GLN:NE2	0.50	2.74	6	2
1:D:10:CYS:SG	1:D:38:THR:HG22	0.50	2.46	6	2
1:C:27:LEU:HD23	1:C:27:LEU:C	0.50	2.27	9	2
1:C:17:SER:HB3	1:C:59:LEU:HD21	0.50	1.82	5	1
1:C:10:CYS:HB2	1:C:13:VAL:HG12	0.50	1.81	11	1
1:A:22:ARG:O	1:A:23:HIS:CD2	0.50	2.64	1	1
1:A:10:CYS:HB2	1:A:13:VAL:HG12	0.50	1.83	2	1
1:D:30:ILE:CD1	1:D:40:GLN:NE2	0.50	2.75	3	3
1:A:26:SER:CB	1:B:30:ILE:HG22	0.50	2.36	7	5
1:A:60:TYR:CE2	1:A:64:ILE:CD1	0.50	2.92	2	7
1:B:12:CYS:HB2	1:B:42:ILE:HD11	0.50	1.83	7	1
1:C:39:ALA:CB	1:C:55:LEU:HD22	0.50	2.36	11	1
1:D:42:ILE:HG23	1:D:50:LYS:HE3	0.50	1.84	3	1
1:B:60:TYR:CD2	1:B:64:ILE:HD11	0.50	2.41	7	1
1:B:35:HIS:CD2	1:B:36:CYS:N	0.50	2.79	9	2
1:D:15:THR:CG2	1:D:54:ASP:N	0.50	2.75	7	9
1:A:15:THR:HG21	1:A:54:ASP:HB3	0.50	1.82	12	3
1:C:27:LEU:CD1	1:C:41:LEU:HD21	0.50	2.33	7	1
1:C:25:THR:HG23	1:C:26:SER:N	0.50	2.22	11	8
1:B:29:VAL:O	1:B:29:VAL:CG1	0.50	2.60	4	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:22:ARG:O	1:A:24:ILE:N	0.50	2.45	1	1
1:C:26:SER:CB	1:D:30:ILE:HG22	0.50	2.37	5	1
1:B:30:ILE:CD1	1:B:40:GLN:NE2	0.50	2.74	6	4
1:C:15:THR:CG2	1:C:54:ASP:N	0.50	2.75	5	10
1:C:23:HIS:CG	1:C:46:LYS:CE	0.50	2.95	4	1
1:D:23:HIS:HB3	1:D:45:LEU:HD21	0.50	1.82	7	1
1:C:31:LYS:CG	1:D:67:LEU:HD23	0.50	2.36	1	1
1:B:25:THR:HG23	1:B:26:SER:N	0.50	2.22	6	10
1:C:13:VAL:HG23	1:C:14:LYS:N	0.50	2.22	3	2
1:A:43:ALA:O	1:A:50:LYS:HG2	0.50	2.06	9	1
1:A:41:LEU:HD23	1:A:53:LEU:H	0.49	1.65	8	1
1:B:30:ILE:HD11	1:B:40:GLN:HE21	0.49	1.66	12	1
1:B:15:THR:CG2	1:B:54:ASP:N	0.49	2.75	7	11
1:B:24:ILE:CD1	1:B:45:LEU:CD2	0.49	2.90	8	2
1:B:23:HIS:CD2	1:B:45:LEU:HD21	0.49	2.42	2	1
1:C:15:THR:HG21	1:C:54:ASP:CB	0.49	2.37	8	4
1:A:30:ILE:HD12	1:A:40:GLN:HB3	0.49	1.83	4	1
1:A:10:CYS:SG	1:A:38:THR:HG22	0.49	2.47	2	2
1:C:27:LEU:HD21	1:C:29:VAL:CG2	0.49	2.38	3	2
1:B:10:CYS:SG	1:B:38:THR:HG22	0.49	2.46	12	1
1:A:25:THR:HG23	1:A:26:SER:N	0.49	2.23	5	10
1:A:29:VAL:HG23	1:A:55:LEU:HD21	0.49	1.83	12	1
1:C:27:LEU:CD2	1:C:63:ILE:HG21	0.49	2.37	12	1
1:D:27:LEU:C	1:D:27:LEU:HD23	0.49	2.28	1	2
1:C:28:GLU:O	1:C:29:VAL:HG23	0.49	2.07	9	1
1:A:13:VAL:HG23	1:A:14:LYS:N	0.49	2.22	2	1
1:B:55:LEU:N	1:B:55:LEU:CD2	0.49	2.76	6	1
1:A:13:VAL:O	1:A:14:LYS:O	0.49	2.30	10	2
1:C:55:LEU:HD12	1:C:55:LEU:C	0.49	2.27	10	2
1:D:57:ALA:N	1:D:58:PRO:CD	0.49	2.76	11	2
1:C:53:LEU:HD13	1:C:59:LEU:HD11	0.49	1.83	12	1
1:D:13:VAL:HG13	1:D:14:LYS:N	0.49	2.23	2	1
1:A:15:THR:CG2	1:A:54:ASP:N	0.49	2.76	6	11
1:A:13:VAL:HG12	1:A:14:LYS:N	0.49	2.23	8	1
1:B:29:VAL:HG13	1:B:41:LEU:HB3	0.49	1.85	12	1
1:A:30:ILE:CD1	1:A:40:GLN:NE2	0.48	2.76	8	1
1:A:30:ILE:CD1	1:A:40:GLN:HB3	0.48	2.37	7	4
1:A:27:LEU:HD21	1:A:41:LEU:HD11	0.48	1.84	7	1
1:C:67:LEU:HD23	1:D:31:LYS:HG3	0.48	1.85	7	2
1:B:15:THR:HG21	1:B:54:ASP:CB	0.48	2.39	12	5
1:C:13:VAL:HG12	1:C:14:LYS:N	0.48	2.23	8	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:D:15:THR:HG21	1:D:54:ASP:CB	0.48	2.38	12	3
1:C:57:ALA:N	1:C:58:PRO:CD	0.48	2.76	11	2
1:A:53:LEU:CD1	1:A:63:ILE:CD1	0.48	2.92	10	2
1:A:23:HIS:NE2	1:A:45:LEU:CD2	0.48	2.77	12	1
1:B:57:ALA:N	1:B:58:PRO:CD	0.48	2.76	11	1
1:D:32:ALA:CB	1:D:37:PRO:O	0.48	2.62	11	9
1:A:15:THR:HG21	1:A:54:ASP:CB	0.48	2.39	12	5
1:D:29:VAL:CG1	1:D:29:VAL:O	0.48	2.61	5	2
1:A:9:ARG:O	1:A:35:HIS:CD2	0.48	2.66	2	2
1:A:39:ALA:CB	1:A:55:LEU:CD1	0.48	2.92	7	1
1:D:27:LEU:HD21	1:D:41:LEU:HD11	0.48	1.85	5	1
1:B:60:TYR:HA	1:B:63:ILE:HD12	0.48	1.84	11	4
1:C:41:LEU:HD13	1:C:55:LEU:CD1	0.48	2.38	1	1
1:B:9:ARG:N	1:B:35:HIS:HB2	0.48	2.24	9	1
1:D:65:LYS:HA	1:D:68:LEU:HD12	0.48	1.84	6	1
1:C:19:VAL:HG21	1:C:51:ILE:CG2	0.48	2.25	11	2
1:B:29:VAL:HG13	1:B:41:LEU:HD12	0.48	1.86	1	2
1:A:30:ILE:CD1	1:A:31:LYS:O	0.48	2.62	7	3
1:A:32:ALA:CB	1:A:37:PRO:O	0.48	2.62	7	9
1:C:32:ALA:CB	1:C:37:PRO:O	0.48	2.61	11	10
1:D:25:THR:CG2	1:D:46:LYS:HA	0.48	2.38	3	1
1:C:36:CYS:CB	1:C:40:GLN:NE2	0.48	2.77	9	1
1:B:9:ARG:O	1:B:35:HIS:CD2	0.48	2.67	12	2
1:D:23:HIS:CG	1:D:23:HIS:O	0.48	2.67	12	1
1:A:27:LEU:HD12	1:A:43:ALA:HB2	0.48	1.85	7	1
1:C:53:LEU:CD1	1:C:63:ILE:CD1	0.47	2.92	10	1
1:A:60:TYR:HA	1:A:63:ILE:HD12	0.47	1.85	11	1
1:A:29:VAL:O	1:A:29:VAL:CG1	0.47	2.62	12	2
1:B:28:GLU:O	1:B:29:VAL:HG23	0.47	2.09	9	1
1:D:53:LEU:CD1	1:D:63:ILE:CD1	0.47	2.92	10	1
1:D:55:LEU:O	1:D:60:TYR:CE1	0.47	2.68	2	1
1:A:19:VAL:CG1	1:A:45:LEU:HD11	0.47	2.40	6	1
1:A:33:GLY:N	1:A:36:CYS:O	0.47	2.48	5	12
1:B:27:LEU:CD2	1:B:63:ILE:HG21	0.47	2.38	12	1
1:B:42:ILE:CG2	1:B:43:ALA:N	0.47	2.78	10	12
1:B:30:ILE:HD12	1:B:30:ILE:N	0.47	2.25	11	1
1:D:23:HIS:O	1:D:23:HIS:CG	0.47	2.68	9	2
1:A:30:ILE:O	1:A:30:ILE:HD12	0.47	2.09	5	1
1:A:57:ALA:N	1:A:58:PRO:CD	0.47	2.77	5	1
1:B:32:ALA:CB	1:B:37:PRO:O	0.47	2.63	10	10
1:C:33:GLY:N	1:C:36:CYS:O	0.47	2.48	8	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:D:24:ILE:CD1	1:D:45:LEU:CD2	0.47	2.93	8	1
1:A:19:VAL:HG21	1:A:51:ILE:CG1	0.47	2.38	10	1
1:B:11:GLN:CG	1:D:11:GLN:CG	0.47	2.92	10	1
1:B:41:LEU:HD13	1:B:55:LEU:HD21	0.47	1.86	4	1
1:C:57:ALA:N	1:C:58:PRO:HD3	0.47	2.24	11	2
1:D:57:ALA:N	1:D:58:PRO:HD3	0.47	2.25	5	2
1:A:9:ARG:NH2	1:C:18:GLN:NE2	0.47	2.63	9	1
1:A:42:ILE:CG2	1:A:43:ALA:N	0.47	2.78	7	12
1:B:13:VAL:O	1:B:14:LYS:O	0.47	2.33	7	2
1:C:29:VAL:C	1:C:30:ILE:HD13	0.47	2.30	4	1
1:A:23:HIS:HB2	1:A:45:LEU:HD12	0.47	1.87	7	1
1:D:55:LEU:HD12	1:D:60:TYR:CZ	0.47	2.45	1	1
1:C:45:LEU:HD13	1:C:49:ARG:NE	0.47	2.24	9	1
1:D:41:LEU:HB2	1:D:55:LEU:HD23	0.47	1.87	5	1
1:C:42:ILE:CG2	1:C:43:ALA:N	0.47	2.77	3	11
1:D:42:ILE:CG2	1:D:43:ALA:N	0.47	2.78	1	12
1:A:26:SER:HG	1:B:30:ILE:HA	0.47	1.70	6	1
1:D:35:HIS:N	1:D:35:HIS:CD2	0.47	2.83	2	2
1:C:39:ALA:HB1	1:C:55:LEU:CD1	0.47	2.39	2	1
1:C:31:LYS:CD	1:D:67:LEU:HD13	0.47	2.40	2	1
1:B:25:THR:CG2	1:B:26:SER:N	0.46	2.78	10	6
1:D:27:LEU:HD23	1:D:27:LEU:O	0.46	2.10	3	2
1:B:27:LEU:HD21	1:B:29:VAL:HG22	0.46	1.86	1	1
1:C:19:VAL:HG21	1:C:51:ILE:CB	0.46	2.41	10	1
1:A:41:LEU:HD13	1:A:55:LEU:CD1	0.46	2.40	11	2
1:B:13:VAL:HG23	1:B:14:LYS:N	0.46	2.25	11	1
1:A:55:LEU:CD1	1:A:60:TYR:CZ	0.46	2.94	6	1
1:B:29:VAL:HG13	1:B:41:LEU:CD1	0.46	2.40	8	1
1:C:41:LEU:N	1:C:41:LEU:CD2	0.46	2.76	9	3
1:B:31:LYS:CG	1:B:32:ALA:N	0.46	2.79	10	1
1:A:53:LEU:CD1	1:A:63:ILE:HD11	0.46	2.40	2	2
1:B:57:ALA:N	1:B:58:PRO:HD3	0.46	2.25	11	1
1:B:27:LEU:HD21	1:B:41:LEU:HD11	0.46	1.88	4	3
1:C:23:HIS:CG	1:C:46:LYS:HE2	0.46	2.45	4	1
1:D:30:ILE:N	1:D:30:ILE:CD1	0.46	2.72	11	1
1:C:25:THR:CG2	1:C:46:LYS:HA	0.46	2.40	2	2
1:D:39:ALA:HB1	1:D:55:LEU:HD11	0.46	1.87	3	1
1:A:57:ALA:N	1:A:58:PRO:HD3	0.46	2.25	5	1
1:A:29:VAL:HG11	1:B:67:LEU:HD13	0.46	1.87	2	1
1:B:33:GLY:N	1:B:36:CYS:O	0.46	2.49	5	12
1:D:13:VAL:O	1:D:14:LYS:O	0.46	2.33	7	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:65:LYS:O	1:C:69:GLU:CG	0.46	2.64	10	1
1:C:27:LEU:HG	1:C:42:ILE:O	0.46	2.11	2	2
1:C:35:HIS:CD2	1:C:35:HIS:N	0.46	2.82	6	2
1:A:30:ILE:HD11	1:A:40:GLN:CD	0.46	2.31	8	1
1:C:25:THR:CG2	1:C:26:SER:N	0.46	2.79	10	4
1:A:27:LEU:HD21	1:A:29:VAL:CG2	0.46	2.40	8	1
1:C:27:LEU:HD11	1:C:29:VAL:HG23	0.46	1.87	8	1
1:C:27:LEU:HD11	1:C:29:VAL:CG2	0.46	2.40	8	1
1:D:41:LEU:N	1:D:41:LEU:CD2	0.46	2.75	1	3
1:D:27:LEU:HD21	1:D:29:VAL:CG2	0.46	2.41	3	2
1:D:11:GLN:NE2	1:D:40:GLN:NE2	0.46	2.63	7	1
1:A:16:THR:O	1:A:16:THR:HG22	0.45	2.11	11	1
1:C:40:GLN:HG3	1:C:40:GLN:O	0.45	2.11	9	1
1:D:33:GLY:N	1:D:36:CYS:O	0.45	2.49	3	12
1:B:25:THR:CG2	1:B:45:LEU:O	0.45	2.65	10	5
1:C:66:LYS:HA	1:C:69:GLU:HG3	0.45	1.89	10	1
1:C:30:ILE:CD1	1:C:30:ILE:N	0.45	2.74	4	1
1:D:42:ILE:HD13	1:D:52:CYS:HB3	0.45	1.82	3	1
1:A:27:LEU:HA	1:A:43:ALA:HA	0.45	1.87	9	1
1:D:57:ALA:HA	1:D:61:LYS:CG	0.45	2.41	5	1
1:C:35:HIS:N	1:C:35:HIS:CD2	0.45	2.84	5	2
1:A:23:HIS:O	1:A:46:LYS:CG	0.45	2.65	11	3
1:B:41:LEU:CB	1:B:55:LEU:HD21	0.45	2.36	6	1
1:C:27:LEU:HD12	1:C:28:GLU:N	0.45	2.26	6	3
1:B:27:LEU:O	1:B:27:LEU:HD23	0.45	2.11	1	2
1:C:60:TYR:CD2	1:C:64:ILE:HD11	0.45	2.47	9	1
1:C:16:THR:HG22	1:C:16:THR:O	0.45	2.12	9	1
1:B:27:LEU:CD2	1:B:28:GLU:O	0.45	2.65	10	1
1:D:23:HIS:O	1:D:46:LYS:CG	0.45	2.64	5	3
1:B:27:LEU:HG	1:B:42:ILE:O	0.45	2.12	2	2
1:D:51:ILE:HD12	1:D:51:ILE:C	0.45	2.32	5	5
1:A:67:LEU:HD23	1:B:31:LYS:HD2	0.45	1.85	3	1
1:A:39:ALA:HB3	1:A:55:LEU:CD2	0.45	2.41	7	1
1:B:13:VAL:HG21	1:D:9:ARG:CZ	0.45	2.42	7	1
1:D:13:VAL:HG12	1:D:14:LYS:N	0.45	2.26	8	1
1:A:66:LYS:HA	1:A:69:GLU:HG3	0.45	1.89	5	1
1:D:54:ASP:OD1	1:D:57:ALA:HB3	0.45	2.11	1	1
1:B:66:LYS:HA	1:B:69:GLU:HG3	0.45	1.89	1	1
1:A:35:HIS:CD2	1:A:36:CYS:HB2	0.45	2.47	2	1
1:C:25:THR:CG2	1:C:45:LEU:O	0.45	2.65	10	4
1:A:25:THR:CG2	1:A:26:SER:N	0.45	2.80	9	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:23:HIS:N	1:B:23:HIS:CD2	0.45	2.85	10	1
1:B:65:LYS:O	1:B:69:GLU:CG	0.45	2.65	1	1
1:C:54:ASP:OD2	1:C:58:PRO:CD	0.45	2.65	11	1
1:A:46:LYS:HG3	1:A:47:ASN:N	0.45	2.27	7	2
1:D:65:LYS:O	1:D:69:GLU:HG2	0.44	2.12	3	1
1:C:23:HIS:CD2	1:C:23:HIS:N	0.44	2.85	10	1
1:D:25:THR:CG2	1:D:45:LEU:O	0.44	2.66	9	6
1:C:23:HIS:O	1:C:46:LYS:CG	0.44	2.65	3	5
1:D:27:LEU:HD11	1:D:29:VAL:HG23	0.44	1.88	8	1
1:B:27:LEU:CD2	1:B:41:LEU:HD11	0.44	2.43	10	1
1:D:23:HIS:N	1:D:23:HIS:CD2	0.44	2.84	10	2
1:C:30:ILE:CD1	1:C:31:LYS:O	0.44	2.65	11	3
1:B:60:TYR:CE2	1:B:64:ILE:HD11	0.44	2.48	7	1
1:D:51:ILE:C	1:D:51:ILE:HD12	0.44	2.33	9	7
1:A:9:ARG:CB	1:A:35:HIS:CB	0.44	2.95	6	1
1:B:13:VAL:CG2	1:D:9:ARG:CZ	0.44	2.95	7	1
1:A:41:LEU:HD22	1:A:55:LEU:HD12	0.44	1.89	5	1
1:B:51:ILE:C	1:B:51:ILE:HD12	0.44	2.33	9	9
1:D:12:CYS:HB2	1:D:42:ILE:HD11	0.44	1.89	8	1
1:A:25:THR:CG2	1:A:45:LEU:O	0.44	2.66	9	4
1:B:41:LEU:CD2	1:B:41:LEU:N	0.44	2.77	12	2
1:C:64:ILE:HG22	1:C:68:LEU:CD1	0.44	2.43	8	3
1:D:30:ILE:HD12	1:D:40:GLN:HB3	0.44	1.90	4	1
1:D:25:THR:CG2	1:D:26:SER:N	0.44	2.81	10	5
1:C:41:LEU:HD22	1:C:55:LEU:HD23	0.44	1.88	10	1
1:B:9:ARG:CB	1:B:35:HIS:HB2	0.44	2.42	11	2
1:A:32:ALA:HA	1:A:36:CYS:O	0.44	2.12	4	1
1:B:47:ASN:O	1:B:49:ARG:HG3	0.44	2.12	6	1
1:C:52:CYS:O	1:C:53:LEU:HD23	0.44	2.13	4	3
1:D:52:CYS:O	1:D:53:LEU:HD23	0.44	2.12	5	4
1:D:50:LYS:CE	1:D:51:ILE:O	0.44	2.66	3	1
1:B:65:LYS:O	1:B:69:GLU:HG3	0.44	2.13	1	1
1:D:64:ILE:HG22	1:D:68:LEU:CD1	0.43	2.42	8	1
1:B:64:ILE:HG22	1:B:68:LEU:CD1	0.43	2.43	8	2
1:C:30:ILE:HG23	1:D:26:SER:HG	0.43	1.70	10	1
1:C:24:ILE:HD12	1:C:45:LEU:HD22	0.43	1.87	4	1
1:C:54:ASP:OD1	1:C:58:PRO:CG	0.43	2.66	11	1
1:D:13:VAL:HG23	1:D:14:LYS:N	0.43	2.28	11	1
1:A:27:LEU:HG	1:A:42:ILE:O	0.43	2.13	7	1
1:B:21:PRO:O	1:B:22:ARG:CB	0.43	2.66	1	1
1:C:28:GLU:O	1:C:29:VAL:CG2	0.43	2.66	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:51:ILE:C	1:A:51:ILE:HD12	0.43	2.34	5	7
1:A:27:LEU:HD12	1:A:28:GLU:N	0.43	2.28	2	5
1:A:41:LEU:HD13	1:A:55:LEU:HD12	0.43	1.89	11	1
1:A:65:LYS:O	1:A:69:GLU:HG3	0.43	2.12	5	1
1:A:47:ASN:O	1:A:49:ARG:HG3	0.43	2.13	8	1
1:D:47:ASN:O	1:D:49:ARG:HG3	0.43	2.13	4	5
1:C:59:LEU:C	1:C:59:LEU:CD1	0.43	2.86	12	1
1:C:41:LEU:CD2	1:C:41:LEU:N	0.43	2.76	3	1
1:D:21:PRO:O	1:D:22:ARG:CB	0.43	2.66	1	1
1:D:16:THR:O	1:D:16:THR:OG1	0.43	2.35	5	1
1:A:51:ILE:HD12	1:A:51:ILE:C	0.43	2.33	3	5
1:A:9:ARG:CB	1:A:35:HIS:HB2	0.43	2.44	6	1
1:A:66:LYS:O	1:A:69:GLU:CG	0.43	2.67	12	5
1:B:29:VAL:HG22	1:B:41:LEU:CB	0.43	2.44	12	1
1:B:51:ILE:HD12	1:B:51:ILE:C	0.43	2.34	1	3
1:D:60:TYR:HA	1:D:63:ILE:HD12	0.43	1.90	5	2
1:D:42:ILE:HD12	1:D:50:LYS:HE3	0.43	1.88	3	1
1:A:13:VAL:HG22	1:A:14:LYS:N	0.43	2.29	1	1
1:C:21:PRO:O	1:C:22:ARG:CB	0.43	2.66	1	1
1:A:24:ILE:CD1	1:A:44:THR:O	0.43	2.61	9	1
1:C:51:ILE:C	1:C:51:ILE:HD12	0.43	2.34	6	5
1:C:66:LYS:O	1:C:69:GLU:CG	0.43	2.67	12	5
1:C:10:CYS:SG	1:C:38:THR:CG2	0.43	3.07	10	4
1:B:41:LEU:HD23	1:B:53:LEU:HB2	0.43	1.91	5	1
1:B:16:THR:O	1:B:16:THR:HG22	0.43	2.14	1	2
1:C:55:LEU:O	1:D:68:LEU:CD2	0.43	2.67	11	1
1:C:23:HIS:H	1:C:23:HIS:CD2	0.43	2.31	1	1
1:B:28:GLU:O	1:B:29:VAL:CG2	0.43	2.67	9	1
1:B:13:VAL:HG22	1:B:14:LYS:H	0.43	1.72	8	1
1:C:26:SER:HG	1:D:30:ILE:HG23	0.43	1.72	10	1
1:C:26:SER:OG	1:D:30:ILE:CG1	0.43	2.67	1	2
1:C:41:LEU:H	1:C:41:LEU:HD23	0.43	1.73	10	1
1:D:27:LEU:HD12	1:D:28:GLU:N	0.43	2.29	11	2
1:B:65:LYS:O	1:B:69:GLU:HG2	0.43	2.14	11	1
1:D:66:LYS:HA	1:D:69:GLU:HG2	0.43	1.91	3	1
1:A:26:SER:OG	1:B:30:ILE:CG1	0.43	2.67	5	1
1:C:24:ILE:CD1	1:C:44:THR:O	0.43	2.61	2	1
1:C:51:ILE:HD12	1:C:51:ILE:C	0.43	2.34	4	7
1:C:65:LYS:O	1:C:69:GLU:HG3	0.43	2.13	10	1
1:D:46:LYS:HG3	1:D:47:ASN:N	0.43	2.29	11	1
1:B:69:GLU:N	1:B:69:GLU:OE1	0.43	2.52	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:65:LYS:O	1:A:69:GLU:HG2	0.43	2.14	11	1
1:B:43:ALA:O	1:B:50:LYS:CG	0.43	2.66	2	2
1:D:12:CYS:N	1:D:40:GLN:OE1	0.43	2.52	12	1
1:C:30:ILE:CD1	1:C:40:GLN:HB3	0.43	2.44	1	2
1:C:50:LYS:N	1:C:50:LYS:HD3	0.43	2.29	9	1
1:C:45:LEU:HD13	1:C:49:ARG:HE	0.43	1.74	9	1
1:C:27:LEU:CD1	1:C:29:VAL:HG23	0.43	2.44	8	2
1:B:27:LEU:HD12	1:B:43:ALA:HB2	0.43	1.90	1	2
1:C:46:LYS:HG3	1:C:47:ASN:N	0.43	2.29	4	3
1:B:66:LYS:O	1:B:69:GLU:CG	0.42	2.66	12	5
1:D:66:LYS:O	1:D:69:GLU:CG	0.42	2.67	5	4
1:B:63:ILE:O	1:B:67:LEU:CD2	0.42	2.66	9	2
1:C:24:ILE:HD12	1:C:45:LEU:CD1	0.42	2.43	4	1
1:C:36:CYS:N	1:C:37:PRO:HD3	0.42	2.29	4	1
1:B:10:CYS:SG	1:B:38:THR:CG2	0.42	3.07	12	1
1:B:41:LEU:HD13	1:B:55:LEU:CD2	0.42	2.44	1	1
1:C:21:PRO:O	1:C:22:ARG:CG	0.42	2.67	1	1
1:A:65:LYS:O	1:A:69:GLU:CG	0.42	2.67	5	1
1:A:26:SER:HB3	1:B:30:ILE:HG22	0.42	1.90	12	1
1:A:30:ILE:HD11	1:A:40:GLN:HG2	0.42	1.89	5	1
1:D:27:LEU:CD1	1:D:29:VAL:HG23	0.42	2.44	8	1
1:D:27:LEU:HG	1:D:42:ILE:O	0.42	2.13	2	3
1:B:47:ASN:OD1	1:B:47:ASN:N	0.42	2.52	10	1
1:B:40:GLN:OE1	1:B:41:LEU:N	0.42	2.52	12	1
1:A:30:ILE:CG1	1:A:40:GLN:HG2	0.42	2.44	5	1
1:B:30:ILE:CD1	1:B:40:GLN:HB3	0.42	2.44	2	1
1:A:25:THR:HG23	1:A:45:LEU:C	0.42	2.34	6	1
1:D:35:HIS:CD2	1:D:35:HIS:N	0.42	2.86	6	1
1:A:11:GLN:NE2	1:C:11:GLN:O	0.42	2.52	6	1
1:D:30:ILE:CD1	1:D:31:LYS:O	0.42	2.67	8	1
1:B:13:VAL:HG13	1:B:14:LYS:H	0.42	1.75	8	1
1:B:29:VAL:CG2	1:B:41:LEU:CD1	0.42	2.95	4	1
1:D:40:GLN:OE1	1:D:41:LEU:N	0.42	2.52	3	1
1:A:30:ILE:HD12	1:A:30:ILE:O	0.42	2.15	7	1
1:C:40:GLN:CG	1:C:40:GLN:O	0.42	2.67	9	1
1:C:23:HIS:N	1:C:23:HIS:CD2	0.42	2.87	8	1
1:A:19:VAL:HG12	1:A:20:ARG:N	0.42	2.30	10	1
1:C:43:ALA:O	1:C:50:LYS:CG	0.42	2.68	4	3
1:A:35:HIS:N	1:A:35:HIS:CD2	0.42	2.86	10	1
1:A:11:GLN:CB	1:C:11:GLN:OE1	0.42	2.68	11	1
1:D:66:LYS:HA	1:D:69:GLU:HG3	0.42	1.91	12	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:13:VAL:HG13	1:B:14:LYS:N	0.42	2.29	5	1
1:A:52:CYS:O	1:A:53:LEU:HD23	0.42	2.14	4	2
1:D:10:CYS:SG	1:D:38:THR:CG2	0.42	3.07	8	2
1:B:23:HIS:O	1:B:46:LYS:CG	0.42	2.67	10	3
1:D:25:THR:HG23	1:D:45:LEU:C	0.42	2.35	12	1
1:D:45:LEU:HD23	1:D:46:LYS:H	0.42	1.75	7	2
1:C:17:SER:OG	1:C:59:LEU:CD2	0.42	2.68	7	1
1:D:27:LEU:HD12	1:D:43:ALA:HB2	0.42	1.90	5	1
1:C:30:ILE:O	1:C:40:GLN:O	0.42	2.38	8	2
1:A:64:ILE:HA	1:A:67:LEU:HD12	0.42	1.92	8	1
1:C:30:ILE:CG1	1:D:26:SER:OG	0.42	2.67	10	1
1:C:12:CYS:O	1:C:13:VAL:O	0.42	2.38	10	1
1:C:24:ILE:CD1	1:C:45:LEU:CD2	0.42	2.97	4	1
1:D:65:LYS:O	1:D:69:GLU:HG3	0.42	2.13	12	1
1:B:55:LEU:O	1:B:60:TYR:CE1	0.42	2.73	3	2
1:A:17:SER:OG	1:A:59:LEU:CD2	0.42	2.68	7	1
1:B:51:ILE:C	1:B:51:ILE:CD1	0.42	2.87	1	1
1:D:17:SER:OG	1:D:59:LEU:CD2	0.42	2.68	2	1
1:A:30:ILE:CG1	1:A:40:GLN:HB3	0.42	2.44	8	1
1:C:36:CYS:N	1:C:37:PRO:CD	0.42	2.82	4	1
1:A:39:ALA:CB	1:A:55:LEU:HD11	0.42	2.45	7	1
1:A:29:VAL:HG22	1:A:41:LEU:CB	0.42	2.44	5	1
1:C:19:VAL:HG12	1:C:20:ARG:N	0.42	2.30	10	1
1:A:30:ILE:CG1	1:B:26:SER:OG	0.42	2.68	10	1
1:C:31:LYS:HG3	1:D:67:LEU:HD12	0.42	1.92	10	1
1:A:21:PRO:O	1:A:22:ARG:CG	0.42	2.68	4	1
1:C:40:GLN:OE1	1:C:41:LEU:N	0.42	2.52	5	1
1:A:19:VAL:HG21	1:A:51:ILE:CG2	0.42	2.28	8	1
1:B:30:ILE:O	1:B:40:GLN:O	0.42	2.38	8	1
1:C:13:VAL:HG13	1:C:14:LYS:H	0.42	1.71	10	1
1:C:55:LEU:HA	1:C:60:TYR:CE1	0.42	2.50	4	1
1:D:30:ILE:CD1	1:D:40:GLN:HB3	0.42	2.45	4	1
1:D:58:PRO:HB2	1:D:59:LEU:HD23	0.42	1.91	11	1
1:A:66:LYS:HA	1:A:69:GLU:HG2	0.42	1.91	11	1
1:A:69:GLU:OE1	1:A:69:GLU:N	0.42	2.52	11	1
1:A:51:ILE:CD1	1:A:51:ILE:C	0.42	2.88	9	2
1:B:27:LEU:HD23	1:B:63:ILE:HG21	0.42	1.91	7	1
1:A:22:ARG:O	1:A:23:HIS:C	0.42	2.58	1	1
1:A:41:LEU:CD1	1:A:54:ASP:O	0.42	2.65	5	1
1:D:30:ILE:O	1:D:40:GLN:O	0.41	2.38	7	3
1:B:11:GLN:CG	1:D:11:GLN:HG2	0.41	2.45	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:32:ALA:HA	1:C:36:CYS:O	0.41	2.15	4	1
1:B:29:VAL:CB	1:B:41:LEU:HD12	0.41	2.44	7	1
1:A:27:LEU:CD1	1:A:28:GLU:O	0.41	2.68	2	1
1:A:31:LYS:HD3	1:B:67:LEU:CD2	0.41	2.46	11	1
1:C:29:VAL:HG22	1:C:41:LEU:CB	0.41	2.45	12	1
1:B:46:LYS:HG3	1:B:47:ASN:N	0.41	2.28	7	2
1:C:41:LEU:HD22	1:C:55:LEU:HD12	0.41	1.90	9	1
1:B:23:HIS:O	1:B:23:HIS:CG	0.41	2.73	9	1
1:B:25:THR:HG23	1:B:45:LEU:C	0.41	2.36	8	1
1:A:59:LEU:HD12	1:A:62:LYS:CE	0.41	2.45	8	1
1:A:65:LYS:HA	1:A:68:LEU:HD12	0.41	1.90	12	1
1:D:19:VAL:HG11	1:D:45:LEU:HD11	0.41	1.90	5	1
1:A:55:LEU:O	1:A:55:LEU:HD23	0.41	2.16	5	1
1:C:32:ALA:CA	1:C:36:CYS:O	0.41	2.68	6	1
1:D:60:TYR:CE2	1:D:64:ILE:HD11	0.41	2.50	8	1
1:D:21:PRO:O	1:D:22:ARG:CG	0.41	2.68	1	1
1:D:59:LEU:HD23	1:D:59:LEU:H	0.41	1.75	5	1
1:D:24:ILE:HD12	1:D:45:LEU:CD1	0.41	2.46	1	2
1:A:53:LEU:HD12	1:A:63:ILE:CD1	0.41	2.45	4	1
1:D:28:GLU:HG3	1:D:42:ILE:HB	0.41	1.93	3	1
1:C:51:ILE:CD1	1:C:51:ILE:C	0.41	2.89	1	4
1:D:39:ALA:CB	1:D:55:LEU:HD11	0.41	2.46	3	1
1:D:24:ILE:HD11	1:D:43:ALA:HB1	0.41	1.92	7	1
1:B:27:LEU:HG	1:B:28:GLU:N	0.41	2.31	2	1
1:A:23:HIS:N	1:A:23:HIS:CD2	0.41	2.88	6	1
1:A:19:VAL:HG21	1:A:51:ILE:CB	0.41	2.46	10	1
1:B:30:ILE:CG1	1:B:40:GLN:HB3	0.41	2.46	4	1
1:A:31:LYS:CG	1:B:67:LEU:HD23	0.41	2.46	7	1
1:D:23:HIS:NE2	1:D:45:LEU:HD12	0.41	2.31	1	1
1:D:17:SER:OG	1:D:59:LEU:HD22	0.41	2.16	1	1
1:D:28:GLU:O	1:D:29:VAL:HG23	0.41	2.15	1	1
1:A:10:CYS:SG	1:A:38:THR:CG2	0.41	3.09	9	2
1:B:53:LEU:HD12	1:B:63:ILE:CD1	0.41	2.46	4	1
1:B:52:CYS:O	1:B:53:LEU:HD23	0.41	2.14	3	2
1:C:40:GLN:OE1	1:C:42:ILE:HD11	0.41	2.16	4	1
1:C:41:LEU:CD1	1:C:54:ASP:O	0.41	2.65	11	1
1:B:56:GLN:N	1:B:56:GLN:OE1	0.41	2.53	11	1
1:C:27:LEU:HD11	1:C:41:LEU:CG	0.41	2.46	7	1
1:A:25:THR:CG2	1:A:46:LYS:HA	0.41	2.46	6	1
1:A:24:ILE:HG12	1:A:44:THR:O	0.41	2.16	6	1
1:B:61:LYS:O	1:B:65:LYS:CD	0.41	2.68	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:39:ALA:HB1	1:A:55:LEU:HD11	0.41	1.92	10	1
1:D:55:LEU:HA	1:D:60:TYR:CE1	0.41	2.51	4	1
1:C:27:LEU:C	1:C:27:LEU:HD23	0.41	2.36	3	2
1:D:51:ILE:C	1:D:51:ILE:CD1	0.41	2.89	5	2
1:B:27:LEU:C	1:B:27:LEU:CD2	0.41	2.89	9	1
1:D:29:VAL:CB	1:D:41:LEU:HD12	0.41	2.46	5	1
1:B:51:ILE:CD1	1:B:51:ILE:C	0.41	2.89	9	6
1:A:55:LEU:HA	1:A:60:TYR:CE1	0.41	2.50	4	1
1:B:32:ALA:HA	1:B:36:CYS:O	0.41	2.16	4	1
1:D:36:CYS:SG	1:D:38:THR:CG2	0.41	3.09	11	1
1:D:50:LYS:HG2	1:D:51:ILE:N	0.41	2.30	3	1
1:D:9:ARG:NE	1:D:9:ARG:O	0.41	2.54	1	1
1:D:24:ILE:HD12	1:D:45:LEU:CD2	0.40	2.47	8	1
1:C:13:VAL:HG22	1:C:14:LYS:H	0.40	1.76	10	1
1:A:47:ASN:N	1:A:47:ASN:OD1	0.40	2.53	10	1
1:B:31:LYS:HG3	1:B:32:ALA:N	0.40	2.31	10	1
1:B:55:LEU:HA	1:B:60:TYR:CE1	0.40	2.51	4	1
1:C:10:CYS:SG	1:C:40:GLN:CB	0.40	3.09	4	1
1:A:51:ILE:C	1:A:51:ILE:CD1	0.40	2.89	1	2
1:D:51:ILE:CD1	1:D:51:ILE:C	0.40	2.90	3	3
1:B:66:LYS:HA	1:B:69:GLU:CG	0.40	2.47	11	1
1:A:21:PRO:O	1:A:22:ARG:HB2	0.40	2.16	1	1
1:A:64:ILE:HG22	1:A:68:LEU:HD11	0.40	1.93	1	1
1:C:36:CYS:SG	1:C:40:GLN:NE2	0.40	2.94	9	1
1:D:55:LEU:HD13	1:D:60:TYR:CZ	0.40	2.51	8	1
1:A:55:LEU:N	1:A:55:LEU:HD12	0.40	2.31	8	1
1:B:9:ARG:HB2	1:B:35:HIS:CB	0.40	2.47	11	1
1:A:30:ILE:O	1:A:40:GLN:O	0.40	2.39	9	2
1:D:64:ILE:HG22	1:D:68:LEU:HD11	0.40	1.92	7	1
1:B:13:VAL:CG2	1:B:14:LYS:N	0.40	2.78	8	1
1:C:51:ILE:C	1:C:51:ILE:CD1	0.40	2.90	4	3
1:B:27:LEU:HD12	1:B:28:GLU:N	0.40	2.32	3	1
1:A:35:HIS:CG	1:A:36:CYS:N	0.40	2.90	7	1
1:D:23:HIS:CD2	1:D:46:LYS:HB2	0.40	2.51	7	1
1:B:40:GLN:HG3	1:B:40:GLN:O	0.40	2.15	9	1
1:A:28:GLU:O	1:A:29:VAL:CG2	0.40	2.70	5	1
1:A:23:HIS:CD2	1:A:23:HIS:H	0.40	2.35	12	1
1:C:27:LEU:HD12	1:C:43:ALA:HB2	0.40	1.93	7	1
1:D:27:LEU:CD1	1:D:28:GLU:O	0.40	2.68	7	1
1:A:22:ARG:C	1:A:23:HIS:CD2	0.40	2.95	1	1
1:D:40:GLN:O	1:D:40:GLN:HG3	0.40	2.16	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:23:HIS:O	1:B:46:LYS:HG2	0.40	2.17	5	1
1:D:55:LEU:CD2	1:D:60:TYR:CZ	0.40	3.03	2	1
1:B:32:ALA:CA	1:B:36:CYS:O	0.40	2.69	2	1
1:B:30:ILE:HD12	1:B:40:GLN:HB3	0.40	1.92	2	1
1:A:29:VAL:HG13	1:A:41:LEU:CD1	0.40	2.47	6	1
1:D:11:GLN:CB	1:D:40:GLN:OE1	0.40	2.70	10	1
1:D:23:HIS:HB3	1:D:46:LYS:CD	0.40	2.47	11	1
1:C:39:ALA:HB3	1:C:55:LEU:HD22	0.40	1.93	11	1
1:B:66:LYS:HA	1:B:69:GLU:HG2	0.40	1.92	11	1
1:D:27:LEU:HD23	1:D:63:ILE:HG21	0.40	1.92	7	1
1:C:27:LEU:HG	1:C:28:GLU:N	0.40	2.31	2	1
1:C:53:LEU:CD1	1:C:63:ILE:HD11	0.40	2.46	2	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	61/68 (90%)	49±2 (81±4%)	7±2 (11±4%)	5±1 (8±2%)	2	14
1	B	61/68 (90%)	49±1 (80±2%)	7±2 (11±4%)	5±1 (8±2%)	2	13
1	C	60/68 (88%)	47±2 (79±3%)	8±2 (13±3%)	5±1 (8±2%)	2	14
1	D	61/68 (90%)	49±2 (80±3%)	7±2 (11±3%)	5±1 (8±2%)	2	14
All	All	2916/3264 (89%)	2334 (80%)	340 (12%)	242 (8%)	2	14

All 41 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	D	34	PRO	12
1	C	22	ARG	12
1	C	48	GLY	12
1	A	34	PRO	12
1	B	48	GLY	12
1	B	34	PRO	12

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Mol	Chain	Res	Type	Models (Total)
1	D	48	GLY	12
1	C	34	PRO	12
1	A	48	GLY	12
1	B	22	ARG	11
1	D	22	ARG	11
1	B	51	ILE	11
1	C	51	ILE	11
1	A	22	ARG	11
1	A	51	ILE	11
1	D	51	ILE	10
1	D	9	ARG	5
1	B	9	ARG	5
1	B	14	LYS	4
1	C	14	LYS	4
1	D	14	LYS	4
1	A	14	LYS	4
1	B	24	ILE	3
1	A	24	ILE	3
1	C	13	VAL	2
1	C	57	ALA	2
1	C	58	PRO	2
1	B	13	VAL	2
1	D	58	PRO	2
1	A	9	ARG	2
1	C	24	ILE	2
1	A	13	VAL	2
1	D	57	ALA	2
1	C	36	CYS	1
1	D	13	VAL	1
1	A	57	ALA	1
1	D	24	ILE	1
1	B	57	ALA	1
1	A	58	PRO	1
1	B	58	PRO	1
1	A	23	HIS	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	56/61 (92%)	36±2 (65±4%)	20±2 (35±4%)	1	9
1	B	56/61 (92%)	39±3 (69±5%)	17±3 (31±5%)	2	16
1	C	55/61 (90%)	36±2 (65±4%)	19±2 (35±4%)	1	10
1	D	56/61 (92%)	37±4 (67±7%)	19±4 (33±7%)	1	12
All	All	2676/2928 (91%)	1780 (67%)	896 (33%)	1	12

All 153 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	D	52	CYS	12
1	B	44	THR	12
1	A	44	THR	12
1	A	50	LYS	12
1	C	15	THR	12
1	D	15	THR	12
1	D	27	LEU	12
1	C	44	THR	12
1	A	15	THR	12
1	A	52	CYS	12
1	A	27	LEU	12
1	B	15	THR	12
1	D	44	THR	12
1	C	27	LEU	12
1	A	40	GLN	11
1	B	27	LEU	11
1	C	50	LYS	11
1	C	40	GLN	11
1	A	31	LYS	11
1	A	46	LYS	11
1	B	52	CYS	11
1	B	46	LYS	10
1	D	50	LYS	10
1	A	45	LEU	10
1	D	69	GLU	10
1	A	55	LEU	10
1	B	50	LYS	10
1	B	40	GLN	10
1	C	52	CYS	10
1	D	9	ARG	9
1	B	9	ARG	9
1	C	69	GLU	9

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Mol	Chain	Res	Type	Models (Total)
1	C	31	LYS	9
1	C	41	LEU	9
1	D	41	LEU	9
1	A	69	GLU	9
1	D	46	LYS	9
1	C	46	LYS	9
1	A	18	GLN	8
1	A	22	ARG	8
1	C	45	LEU	8
1	B	22	ARG	8
1	A	9	ARG	8
1	A	41	LEU	8
1	C	18	GLN	8
1	D	45	LEU	8
1	C	22	ARG	8
1	B	56	GLN	8
1	D	40	GLN	8
1	B	31	LYS	7
1	D	35	HIS	7
1	A	12	CYS	7
1	D	62	LYS	7
1	A	62	LYS	7
1	B	41	LEU	7
1	D	22	ARG	7
1	B	45	LEU	7
1	B	70	SER	7
1	C	70	SER	7
1	B	14	LYS	6
1	C	55	LEU	6
1	D	23	HIS	6
1	D	31	LYS	6
1	C	14	LYS	6
1	A	70	SER	6
1	B	20	ARG	6
1	D	20	ARG	6
1	D	14	LYS	6
1	C	62	LYS	6
1	D	70	SER	6
1	B	69	GLU	6
1	D	55	LEU	6
1	C	30	ILE	6
1	C	12	CYS	6

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Mol	Chain	Res	Type	Models (Total)
1	C	23	HIS	6
1	D	65	LYS	5
1	B	23	HIS	5
1	A	36	CYS	5
1	C	66	LYS	5
1	C	16	THR	5
1	C	65	LYS	5
1	D	56	GLN	5
1	D	18	GLN	5
1	B	55	LEU	5
1	A	66	LYS	5
1	C	20	ARG	5
1	B	10	CYS	5
1	C	49	ARG	5
1	B	65	LYS	5
1	A	23	HIS	5
1	C	68	LEU	5
1	D	61	LYS	4
1	B	36	CYS	4
1	A	20	ARG	4
1	A	16	THR	4
1	B	12	CYS	4
1	A	61	LYS	4
1	C	35	HIS	4
1	A	54	ASP	4
1	C	56	GLN	4
1	B	61	LYS	4
1	C	61	LYS	4
1	A	14	LYS	4
1	D	68	LEU	4
1	D	54	ASP	4
1	D	12	CYS	4
1	B	16	THR	4
1	A	68	LEU	4
1	B	18	GLN	3
1	D	16	THR	3
1	A	60	TYR	3
1	A	49	ARG	3
1	D	17	SER	3
1	B	66	LYS	3
1	A	30	ILE	3
1	B	62	LYS	3

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Mol	Chain	Res	Type	Models (Total)
1	A	56	GLN	3
1	D	30	ILE	3
1	D	36	CYS	3
1	C	11	GLN	3
1	B	51	ILE	3
1	A	10	CYS	2
1	C	60	TYR	2
1	D	59	LEU	2
1	B	68	LEU	2
1	A	17	SER	2
1	D	66	LYS	2
1	C	59	LEU	2
1	A	24	ILE	2
1	C	51	ILE	2
1	B	30	ILE	2
1	B	24	ILE	2
1	D	60	TYR	2
1	A	11	GLN	2
1	D	10	CYS	2
1	C	24	ILE	2
1	D	24	ILE	2
1	C	54	ASP	2
1	C	36	CYS	1
1	C	10	CYS	1
1	B	60	TYR	1
1	C	17	SER	1
1	A	59	LEU	1
1	B	49	ARG	1
1	B	35	HIS	1
1	D	11	GLN	1
1	A	65	LYS	1
1	D	26	SER	1
1	D	67	LEU	1
1	B	54	ASP	1
1	A	51	ILE	1
1	B	59	LEU	1
1	A	35	HIS	1

6.3.3 RNA ⓘ

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.6 Ligand geometry [i](#)

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

No chemical shift data were provided