Full wwPDB NMR Structure Validation Report (i)

Feb 16, 2022 – 06:29 AM EST

PDB ID	:	1M7L
Title	:	Solution Structure of the Coiled-Coil Trimerization Domain from Lung Surfactant Protein D
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Deposited on	:	2002-07-22

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:

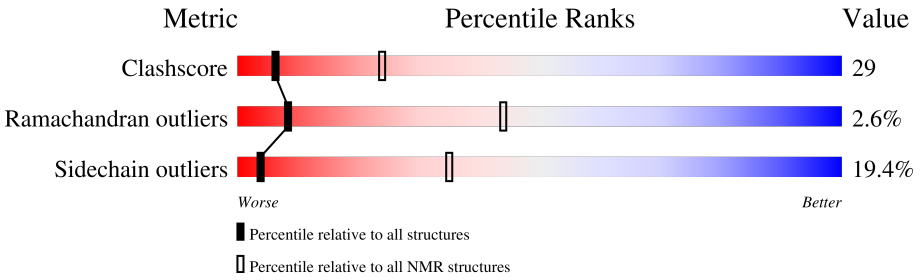
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	2.26
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)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

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
SOLUTION NMR

The overall completeness of chemical shifts assignment was not calculated.

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



Metric	Whole archive (#Entries)	NMR archive (#Entries)
Clashscore	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

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

Mol	Chain	Length	Quality of chain
1	A	40	25% 45% • • 25%
1	B	40	28% 42% • • 25%
1	C	40	18% 50% 5% • 25%

2 Ensemble composition and analysis (i)

This entry contains 21 models. Model 8 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:5-A:34, B:45-B:74, C:85-C:114 (90)	0.43	8

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 4 clusters and 2 single-model clusters were found.

Cluster number	Models
1	3, 4, 5, 7, 8, 10, 11, 19
2	2, 9, 13, 14, 15, 20
3	6, 16, 18
4	17, 21
Single-model clusters	1; 12

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 1860 atoms, of which 933 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Pulmonary surfactant-associated protein D.

Mol	Chain	Residues	Atoms					Trace
			Total	C	H	N	O	
1	A	40	620	196	311	55	58	0
1	B	40	620	196	311	55	58	0
1	C	40	620	196	311	55	58	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	39	GLY	-	cloning artifact	UNP P35247
A	40	ILE	-	cloning artifact	UNP P35247
B	79	GLY	-	cloning artifact	UNP P35247
B	80	ILE	-	cloning artifact	UNP P35247
C	119	GLY	-	cloning artifact	UNP P35247
C	120	ILE	-	cloning artifact	UNP P35247

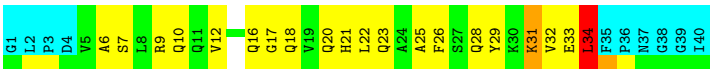
4 Residue-property plots (i)

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.

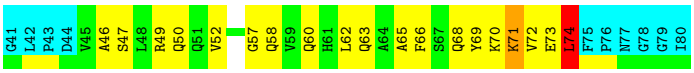
• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 45% • • 25%



• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 28% 42% • • 25%



• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 18% 50% 5% • 25%

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: Pulmonary surfactant-associated protein D

Chain A: 20% 50% • • 25%

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 20% 50% • • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 E53 A54 L55 Q56 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 F66 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 22% 48% • • 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 E93 Q96 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.2 Score per residue for model 2

• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 32% 35% 5% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 Q16 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 30% 38% 5% • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 L55 Q56 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 F66 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 35% 32% 5% • 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q96 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.3 Score per residue for model 3

• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 30% 38% 5% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 32% 35% 5% • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 Q58 L62 Q63 A64 A65 F66 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 30% 35% 8% • 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 Q98 H101 L102 Q103 A104 A105 F106 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.4 Score per residue for model 4

• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 28% 38% 10% 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 E13 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 30% 35% 10% 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 E53 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 28% 32% 15% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 E93 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.5 Score per residue for model 5

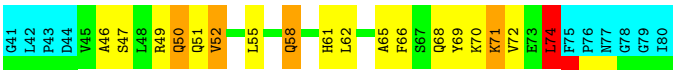
• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 40% 8% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 L15 Q18 H21 L22 Q23 A24 A25 F26 S27 Q28 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

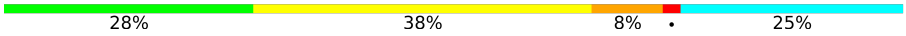
• Molecule 1: Pulmonary surfactant-associated protein D

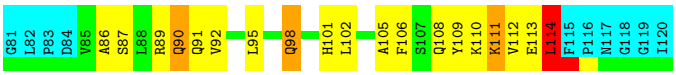
Chain B: 30% 32% 10% • 25%



• Molecule 1: Pulmonary surfactant-associated protein D

Chain C:

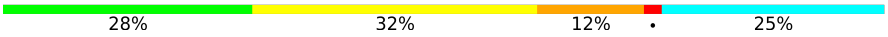


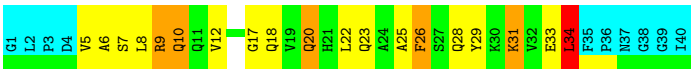


4.2.6 Score per residue for model 6

• Molecule 1: Pulmonary surfactant-associated protein D

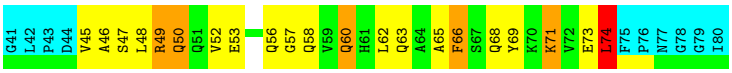
Chain A:





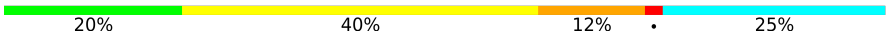
• Molecule 1: Pulmonary surfactant-associated protein D

Chain B:



• Molecule 1: Pulmonary surfactant-associated protein D

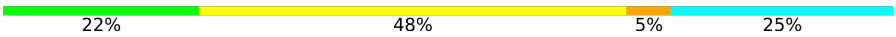
Chain C:

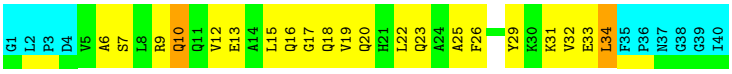


4.2.7 Score per residue for model 7

• Molecule 1: Pulmonary surfactant-associated protein D

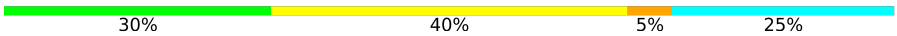
Chain A:

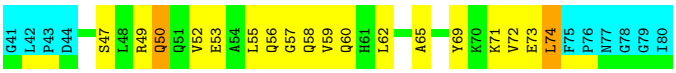




• Molecule 1: Pulmonary surfactant-associated protein D

Chain B:





• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 30% 38% 8% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 E93 A94 L95 Q96 G97 Q98 V99 Q100 H101 L102 A105 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.8 Score per residue for model 8 (medoid)

• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 22% 42% 8% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 L15 Q16 G17 Q18 H21 L22 Q23 A24 A25 F26 S27 Q28 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 25% 40% 8% • 25%

G41 L42 P43 D44 S47 L48 R49 Q50 Q51 V52 L55 Q56 G57 Q58 H61 L62 Q63 F66 S67 Q68 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 30% 35% 8% • 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 L95 Q96 G97 Q98 H101 L102 Q103 F106 S107 Q108 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.9 Score per residue for model 9

• Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 32% 30% 12% 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 L15 Q16 G17 Q18 V19 Q20 H21 L22 Q23 F26 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

• Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 32% 30% 12% 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 L55 Q56 G57 Q58 V59 Q60 H61 L62 Q63 F66 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

• Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 32% 30% 12% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 L95 Q96 G97 Q98 V99 Q100 H101 L102 Q103 F106 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.10 Score per residue for model 10

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 28% 38% 8% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 E13 Q16 G17 Q18 V19 L22 Q23 A24 A25 Q28 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 28% 38% 8% • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 E53 Q56 G57 Q58 V59 L62 Q63 A64 A65 Q68 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 30% 38% 8% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 E93 Q96 G97 Q98 L102 Q103 A104 A105 Q108 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.11 Score per residue for model 11

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 45% • • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 E13 Q16 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 25% 45% • • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 E53 Q56 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 F66 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 22% 45% 5% • 25%

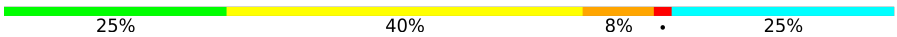
4.2.12 Score per residue for model 12

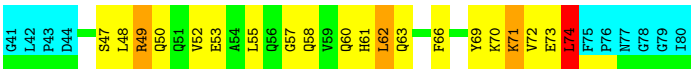
• Molecule 1: Pulmonary surfactant-associated protein D

Chain A:

• Molecule 1: Pulmonary surfactant-associated protein D

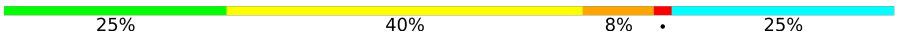
Chain B:





• Molecule 1: Pulmonary surfactant-associated protein D

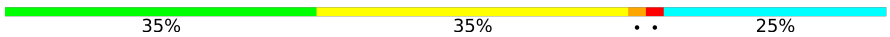
Chain C:

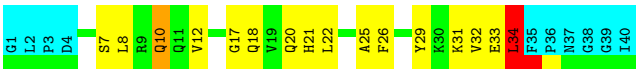


4.2.13 Score per residue for model 13

• Molecule 1: Pulmonary surfactant-associated protein D

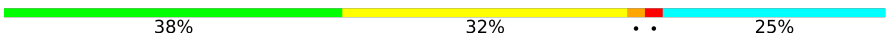
Chain A:

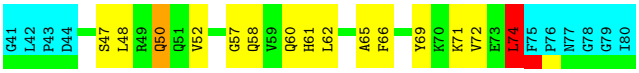




• Molecule 1: Pulmonary surfactant-associated protein D

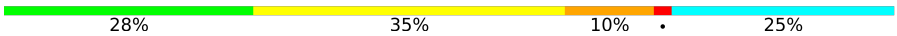
Chain B:





• Molecule 1: Pulmonary surfactant-associated protein D

Chain C:



4.2.14 Score per residue for model 14

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 28% 35% 10% • 25%

G1 L2 P3 D4 S7 L8 R9 Q10 Q11 V12 E13 Q16 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 S27 Q28 Y29 K30 K31 V32 E33 L34 P35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 28% 35% 10% • 25%

G41 L42 P43 D44 S47 L48 R49 Q50 Q51 V52 E53 A54 L55 Q56 G57 Q58 V59 Q60 H61 L62 Q63 F66 S67 Q68 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 25% 35% 12% • 25%

G81 L82 P83 D84 S87 L88 R89 Q90 Q91 V92 Q96 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 S107 Q108 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.15 Score per residue for model 15

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 42% 5% • 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 G17 Q18 V19 Q20 H21 L22 Q23 A24 A25 F26 S27 Q28 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 25% 42% 5% • 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 F66 S67 Q68 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

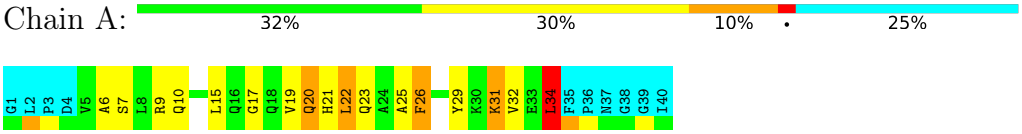
Chain C: 18% 48% 8% • 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 E93 A94 L95 Q96 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 S107 Q108 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.16 Score per residue for model 16

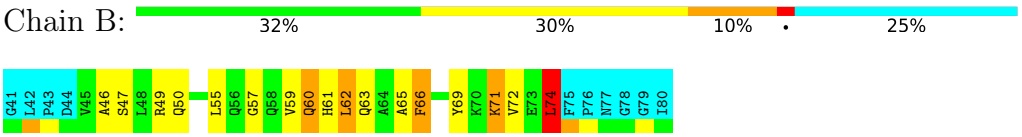
- Molecule 1: Pulmonary surfactant-associated protein D

Chain A:



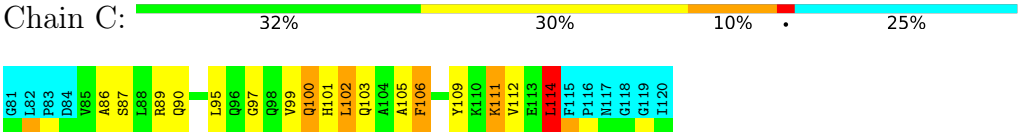
- Molecule 1: Pulmonary surfactant-associated protein D

Chain B:



- Molecule 1: Pulmonary surfactant-associated protein D

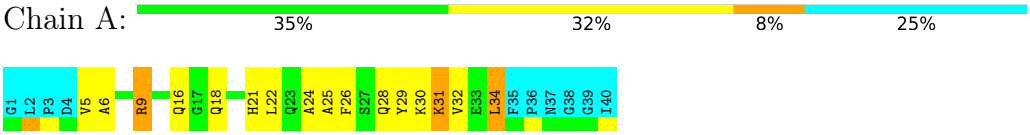
Chain C:



4.2.17 Score per residue for model 17

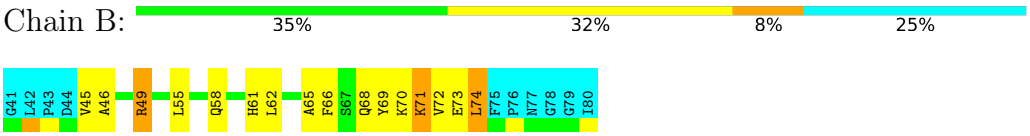
- Molecule 1: Pulmonary surfactant-associated protein D

Chain A:



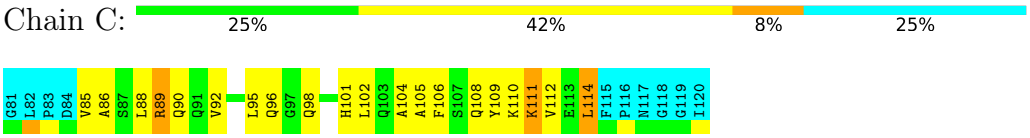
- Molecule 1: Pulmonary surfactant-associated protein D

Chain B:



- Molecule 1: Pulmonary surfactant-associated protein D

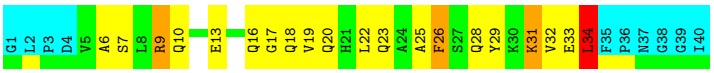
Chain C:



4.2.18 Score per residue for model 18

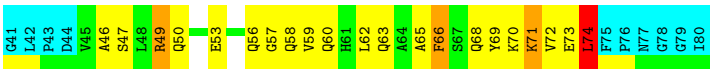
- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 40% 8% • 25%



- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 22% 42% 8% • 25%



- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 25% 35% 12% • 25%

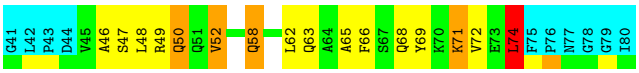
4.2.19 Score per residue for model 19

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 35% 28% 10% • 25%

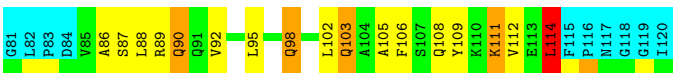
- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 35% 28% 10% • 25%



- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 32% 30% 10% • 25%



4.2.20 Score per residue for model 20

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 25% 42% 8% 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 E13 Q16 G17 Q18 V19 Q20 H21 L22 Q23 F26 S27 Q28 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 20% 48% 8% 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 Q51 V52 E53 Q56 G57 Q58 V59 Q60 H61 L62 Q63 A64 A65 F66 S67 Q68 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 20% 45% 10% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 E93 Q96 G97 Q98 V99 Q100 H101 L102 Q103 F106 S107 Q108 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

4.2.21 Score per residue for model 21

- Molecule 1: Pulmonary surfactant-associated protein D

Chain A: 32% 38% 5% 25%

G1 L2 P3 D4 V5 A6 S7 L8 R9 Q10 Q11 V12 L15 Q18 V19 Q20 H21 L22 F26 Y29 K30 K31 V32 E33 L34 F35 P36 N37 G38 G39 I40

- Molecule 1: Pulmonary surfactant-associated protein D

Chain B: 35% 32% 8% 25%

G41 L42 P43 D44 V45 A46 S47 L48 R49 Q50 L55 Q58 V59 L62 Q63 A64 A65 F66 Y69 K70 K71 V72 E73 L74 F75 P76 N77 G78 G79 I80

- Molecule 1: Pulmonary surfactant-associated protein D

Chain C: 20% 42% 12% 25%

G81 L82 P83 D84 V85 A86 S87 L88 R89 Q90 Q91 V92 L95 Q96 G97 Q98 V99 Q100 H101 L102 Q103 A104 A105 F106 Y109 K110 K111 V112 E113 L114 F115 P116 N117 G118 G119 I120

5 Refinement protocol and experimental data overview (i)

The models were refined using the following method: *XPLOR using the automated structure calculation ARIA routine.*

Of the 100 calculated structures, 21 were deposited, based on the following criterion: *structures with the lowest energy.*

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

Software name	Classification	Version
XPLOR	refinement	3.851
ARIA	structure solution	

No chemical shift data was provided.

6 Model quality (i)

6.1 Standard geometry (i)

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

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	239	245	245	17±5
1	B	239	245	245	16±5
1	C	239	245	245	17±5
All	All	15057	15435	15435	874

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 29.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:86:ALA:HA	1:C:89:ARG:HG2	0.81	1.53	18	12
1:B:48:LEU:HD11	1:C:92:VAL:HG21	0.79	1.53	12	2
1:A:6:ALA:HA	1:A:9:ARG:HG2	0.78	1.55	18	12
1:A:8:LEU:HD11	1:B:52:VAL:HG21	0.77	1.55	12	2
1:B:46:ALA:HA	1:B:49:ARG:HG2	0.77	1.54	18	10
1:A:12:VAL:HG21	1:C:88:LEU:HD11	0.74	1.56	12	2
1:A:23:GLN:HG2	1:C:102:LEU:HD11	0.73	1.61	12	3
1:A:8:LEU:HD22	1:B:49:ARG:HB3	0.72	1.61	12	1
1:A:34:LEU:H	1:A:34:LEU:HD13	0.71	1.45	9	2
1:B:48:LEU:HD22	1:C:89:ARG:HB3	0.71	1.63	12	1
1:C:108:GLN:HA	1:C:111:LYS:HE3	0.70	1.64	14	3
1:B:74:LEU:HD13	1:B:74:LEU:H	0.70	1.46	9	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:114:LEU:H	1:C:114:LEU:HD13	0.70	1.46	9	1
1:A:28:GLN:HA	1:A:31:LYS:HE3	0.70	1.63	14	3
1:A:17:GLY:HA2	1:A:20:GLN:HE21	0.69	1.47	1	2
1:A:9:ARG:HB3	1:C:88:LEU:HD22	0.69	1.62	12	1
1:C:97:GLY:HA2	1:C:100:GLN:HE21	0.69	1.47	1	4
1:C:98:GLN:O	1:C:102:LEU:HG	0.68	1.88	18	15
1:A:34:LEU:HD22	1:A:34:LEU:H	0.68	1.48	17	1
1:C:109:TYR:O	1:C:112:VAL:HG22	0.68	1.89	21	2
1:B:48:LEU:O	1:B:52:VAL:HG23	0.68	1.88	6	4
1:B:58:GLN:O	1:B:62:LEU:HG	0.68	1.89	10	16
1:C:88:LEU:O	1:C:92:VAL:HG22	0.68	1.89	3	4
1:A:8:LEU:O	1:A:12:VAL:HG23	0.67	1.88	6	5
1:C:114:LEU:HD22	1:C:114:LEU:H	0.67	1.49	17	1
1:B:69:TYR:O	1:B:72:VAL:HG22	0.67	1.89	21	1
1:B:68:GLN:HA	1:B:71:LYS:HE3	0.66	1.67	14	3
1:B:74:LEU:H	1:B:74:LEU:HD22	0.66	1.50	17	1
1:A:18:GLN:O	1:A:22:LEU:HG	0.65	1.91	18	16
1:C:109:TYR:HA	1:C:112:VAL:HG13	0.65	1.68	18	3
1:A:29:TYR:O	1:A:32:VAL:HG22	0.65	1.91	21	1
1:B:73:GLU:HG3	1:B:74:LEU:H	0.65	1.51	7	1
1:C:87:SER:O	1:C:90:GLN:HG3	0.65	1.91	13	19
1:B:57:GLY:HA2	1:B:60:GLN:HE21	0.64	1.49	1	3
1:A:33:GLU:HG3	1:A:34:LEU:H	0.64	1.51	7	1
1:B:55:LEU:HD21	1:C:95:LEU:HB3	0.64	1.70	12	1
1:A:7:SER:O	1:A:10:GLN:HG3	0.64	1.93	13	19
1:B:69:TYR:OH	1:C:110:LYS:HD2	0.64	1.92	15	1
1:B:47:SER:O	1:B:50:GLN:HG3	0.63	1.93	8	19
1:A:29:TYR:OH	1:B:70:LYS:HD2	0.63	1.93	15	1
1:A:26:PHE:CD2	1:C:102:LEU:HD13	0.62	2.29	16	1
1:B:62:LEU:O	1:B:66:PHE:HB2	0.62	1.94	1	5
1:C:113:GLU:HG3	1:C:114:LEU:H	0.62	1.54	7	1
1:A:13:GLU:HA	1:A:16:GLN:HE21	0.62	1.55	20	4
1:B:49:ARG:HA	1:B:52:VAL:HG22	0.62	1.72	7	4
1:A:9:ARG:O	1:A:12:VAL:HG12	0.61	1.95	15	5
1:C:89:ARG:HA	1:C:92:VAL:HG13	0.61	1.71	21	2
1:A:26:PHE:HD2	1:C:102:LEU:HD13	0.61	1.55	16	1
1:A:22:LEU:O	1:A:26:PHE:HB2	0.60	1.95	1	5
1:A:9:ARG:HA	1:A:12:VAL:HG22	0.60	1.74	7	3
1:C:89:ARG:HA	1:C:92:VAL:HG22	0.60	1.73	11	2
1:C:88:LEU:O	1:C:92:VAL:HG12	0.60	1.96	6	2
1:B:73:GLU:HG3	1:B:74:LEU:HD13	0.60	1.72	10	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:49:ARG:O	1:B:52:VAL:HG12	0.60	1.96	15	5
1:C:89:ARG:O	1:C:92:VAL:HG22	0.60	1.97	1	2
1:C:89:ARG:HA	1:C:92:VAL:CG2	0.59	2.28	12	3
1:C:109:TYR:HA	1:C:112:VAL:CG1	0.59	2.27	18	2
1:A:9:ARG:HA	1:A:12:VAL:CG2	0.58	2.27	12	1
1:C:86:ALA:O	1:C:89:ARG:HB2	0.58	1.98	10	2
1:B:57:GLY:O	1:B:60:GLN:HG2	0.58	1.98	18	4
1:B:49:ARG:HA	1:B:52:VAL:CG2	0.58	2.28	12	1
1:C:89:ARG:HA	1:C:92:VAL:HG23	0.58	1.76	12	1
1:C:93:GLU:HA	1:C:96:GLN:HE21	0.58	1.58	20	4
1:B:62:LEU:HD21	1:C:103:GLN:HG2	0.58	1.76	10	10
1:A:30:LYS:HD2	1:C:109:TYR:OH	0.58	1.98	15	1
1:A:22:LEU:HD11	1:B:63:GLN:HG3	0.58	1.74	16	1
1:A:29:TYR:HA	1:A:32:VAL:CG2	0.58	2.28	12	12
1:C:88:LEU:O	1:C:92:VAL:HG13	0.58	1.99	1	3
1:B:69:TYR:HA	1:B:72:VAL:CG2	0.57	2.29	14	12
1:C:86:ALA:O	1:C:89:ARG:HG2	0.57	1.99	17	2
1:A:17:GLY:O	1:A:20:GLN:HG2	0.57	1.99	18	5
1:A:6:ALA:O	1:A:9:ARG:HB2	0.57	1.99	10	3
1:A:33:GLU:HG3	1:A:34:LEU:HD13	0.57	1.73	10	1
1:A:9:ARG:HA	1:A:12:VAL:HG23	0.57	1.75	12	1
1:B:53:GLU:HA	1:B:56:GLN:HE21	0.57	1.59	18	4
1:C:97:GLY:O	1:C:100:GLN:HG2	0.57	2.00	7	4
1:B:63:GLN:HA	1:B:66:PHE:HB2	0.57	1.76	14	1
1:A:22:LEU:HD21	1:B:63:GLN:HG2	0.57	1.76	6	9
1:B:46:ALA:O	1:B:49:ARG:HB2	0.57	2.00	10	3
1:A:18:GLN:HA	1:A:21:HIS:CE1	0.56	2.35	1	6
1:B:66:PHE:HB3	1:B:70:LYS:HG3	0.56	1.76	5	1
1:C:109:TYR:HA	1:C:112:VAL:CG2	0.56	2.29	12	11
1:C:111:LYS:HD3	1:C:111:LYS:H	0.56	1.60	20	2
1:A:17:GLY:HA2	1:A:20:GLN:NE2	0.56	2.15	11	2
1:C:98:GLN:HA	1:C:101:HIS:CE1	0.56	2.35	1	9
1:A:23:GLN:HA	1:A:26:PHE:HB2	0.56	1.78	14	1
1:B:58:GLN:HB3	1:C:99:VAL:HG21	0.56	1.76	21	1
1:B:49:ARG:HA	1:B:52:VAL:HG23	0.56	1.77	12	1
1:A:6:ALA:O	1:A:9:ARG:HG2	0.55	2.00	17	2
1:A:32:VAL:HG11	1:B:72:VAL:HG12	0.55	1.78	7	3
1:C:108:GLN:HA	1:C:111:LYS:HE2	0.55	1.77	17	4
1:A:23:GLN:HG2	1:C:102:LEU:HD21	0.55	1.78	11	7
1:A:26:PHE:HB3	1:A:30:LYS:HG3	0.55	1.76	5	1
1:B:46:ALA:O	1:B:49:ARG:HG2	0.55	2.01	17	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:106:PHE:HB3	1:C:110:LYS:HG3	0.55	1.78	5	1
1:B:57:GLY:HA2	1:B:60:GLN:NE2	0.54	2.18	11	2
1:C:109:TYR:HA	1:C:112:VAL:HG23	0.54	1.79	5	6
1:A:33:GLU:HB2	1:C:112:VAL:HG11	0.54	1.79	2	1
1:A:18:GLN:HB3	1:B:59:VAL:HG11	0.54	1.79	21	1
1:A:31:LYS:H	1:A:31:LYS:HD3	0.54	1.62	20	2
1:B:71:LYS:HD3	1:B:71:LYS:H	0.54	1.61	20	2
1:A:26:PHE:CE2	1:C:102:LEU:HG	0.54	2.37	7	2
1:B:58:GLN:HA	1:B:61:HIS:CE1	0.54	2.37	1	5
1:A:23:GLN:HG3	1:C:102:LEU:HD11	0.54	1.80	5	1
1:A:32:VAL:HG12	1:C:112:VAL:HG11	0.54	1.79	7	3
1:C:89:ARG:O	1:C:92:VAL:HG12	0.53	2.03	5	1
1:A:5:VAL:HG22	1:B:45:VAL:HG11	0.53	1.81	6	3
1:C:103:GLN:HA	1:C:106:PHE:HB2	0.53	1.81	14	1
1:C:102:LEU:O	1:C:106:PHE:HB2	0.53	2.03	1	4
1:B:72:VAL:HG11	1:C:112:VAL:HG12	0.53	1.80	10	3
1:A:29:TYR:HA	1:A:32:VAL:HG23	0.53	1.80	5	8
1:B:71:LYS:HE3	1:C:113:GLU:OE2	0.53	2.04	12	3
1:B:68:GLN:HA	1:B:71:LYS:HE2	0.53	1.79	8	3
1:A:25:ALA:HB1	1:A:29:TYR:HE2	0.53	1.64	7	14
1:B:59:VAL:HB	1:C:99:VAL:HG11	0.53	1.79	18	1
1:A:31:LYS:HE3	1:B:73:GLU:OE2	0.53	2.03	15	4
1:A:33:GLU:OE2	1:C:111:LYS:HE3	0.52	2.03	12	4
1:A:19:VAL:HB	1:B:59:VAL:HG21	0.52	1.80	18	1
1:A:28:GLN:HG3	1:B:73:GLU:OE1	0.52	2.04	10	1
1:A:33:GLU:OE1	1:C:108:GLN:HG3	0.52	2.04	10	1
1:A:7:SER:HA	1:A:10:GLN:OE1	0.52	2.04	6	2
1:B:55:LEU:HD11	1:C:96:GLN:HA	0.52	1.82	8	3
1:B:65:ALA:HB1	1:B:69:TYR:HE2	0.52	1.64	7	12
1:B:65:ALA:O	1:B:68:GLN:HG2	0.52	2.05	15	2
1:C:97:GLY:HA2	1:C:100:GLN:NE2	0.52	2.17	11	2
1:B:45:VAL:HG22	1:C:85:VAL:HG11	0.52	1.82	21	3
1:B:71:LYS:O	1:B:74:LEU:HD11	0.52	2.04	16	3
1:C:87:SER:HA	1:C:90:GLN:OE1	0.52	2.05	6	2
1:B:68:GLN:HG3	1:C:113:GLU:OE1	0.52	2.04	10	1
1:C:111:LYS:HA	1:C:114:LEU:HD21	0.52	1.82	14	2
1:A:17:GLY:HA2	1:A:20:GLN:HG2	0.51	1.80	15	3
1:B:73:GLU:HG3	1:B:74:LEU:HG	0.51	1.82	7	1
1:B:50:GLN:O	1:B:53:GLU:HG2	0.51	2.04	12	1
1:B:57:GLY:HA2	1:B:60:GLN:HG2	0.51	1.82	13	3
1:B:69:TYR:HA	1:B:72:VAL:HG23	0.51	1.83	5	8

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:10:GLN:O	1:A:13:GLU:HG2	0.51	2.05	12	1
1:A:33:GLU:HA	1:C:112:VAL:HG21	0.51	1.82	7	1
1:A:25:ALA:O	1:A:28:GLN:HG2	0.51	2.06	15	2
1:C:96:GLN:HA	1:C:99:VAL:HG12	0.51	1.82	11	1
1:A:23:GLN:HG3	1:C:102:LEU:HD21	0.51	1.81	16	1
1:A:31:LYS:O	1:A:34:LEU:HD11	0.51	2.05	16	3
1:A:28:GLN:HA	1:A:31:LYS:HE2	0.51	1.81	8	4
1:C:90:GLN:O	1:C:93:GLU:HG2	0.51	2.04	12	1
1:C:105:ALA:HB1	1:C:109:TYR:HE2	0.51	1.66	11	13
1:A:22:LEU:HD11	1:B:63:GLN:HG2	0.51	1.83	8	2
1:A:28:GLN:HB3	1:B:73:GLU:OE1	0.51	2.06	6	2
1:B:62:LEU:HD11	1:C:103:GLN:HG3	0.50	1.81	16	1
1:C:95:LEU:O	1:C:99:VAL:HG23	0.50	2.06	16	1
1:B:62:LEU:HD11	1:C:103:GLN:HG2	0.50	1.84	8	2
1:C:96:GLN:HA	1:C:99:VAL:HG23	0.50	1.84	20	4
1:A:16:GLN:HA	1:A:19:VAL:HG12	0.50	1.83	11	3
1:B:56:GLN:HA	1:B:59:VAL:HG12	0.50	1.83	11	3
1:A:15:LEU:HD11	1:B:56:GLN:HA	0.50	1.84	8	1
1:C:88:LEU:O	1:C:92:VAL:HG23	0.50	2.07	12	2
1:C:105:ALA:O	1:C:108:GLN:HG2	0.50	2.06	15	2
1:A:19:VAL:HG11	1:C:98:GLN:HB3	0.50	1.84	21	1
1:C:85:VAL:O	1:C:88:LEU:HB3	0.50	2.07	3	2
1:A:33:GLU:HG3	1:A:34:LEU:HG	0.50	1.83	7	1
1:A:22:LEU:HD22	1:B:66:PHE:HD2	0.49	1.67	6	3
1:B:68:GLN:HB3	1:C:113:GLU:OE1	0.49	2.06	6	3
1:B:47:SER:HA	1:B:50:GLN:OE1	0.49	2.07	6	2
1:C:97:GLY:O	1:C:100:GLN:HG3	0.49	2.06	16	3
1:A:16:GLN:HA	1:C:95:LEU:HD11	0.49	1.83	8	2
1:A:5:VAL:HG11	1:C:85:VAL:HG22	0.49	1.83	21	3
1:A:22:LEU:HG	1:B:66:PHE:HD2	0.49	1.66	16	1
1:C:101:HIS:CE1	1:C:102:LEU:HD23	0.49	2.42	16	1
1:C:85:VAL:O	1:C:89:ARG:HD3	0.49	2.08	10	2
1:A:26:PHE:HD2	1:C:102:LEU:HD22	0.49	1.68	6	3
1:A:30:LYS:HA	1:C:109:TYR:CZ	0.49	2.43	5	2
1:C:89:ARG:O	1:C:93:GLU:HG3	0.48	2.08	20	4
1:C:111:LYS:O	1:C:114:LEU:HD11	0.48	2.07	18	4
1:C:113:GLU:C	1:C:114:LEU:HG	0.48	2.28	13	6
1:C:106:PHE:O	1:C:110:LYS:HB2	0.48	2.08	17	2
1:B:57:GLY:O	1:B:60:GLN:HG3	0.48	2.08	6	3
1:C:96:GLN:O	1:C:100:GLN:HG2	0.48	2.08	2	1
1:A:17:GLY:O	1:A:20:GLN:HG3	0.48	2.08	16	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:55:LEU:HD11	1:C:99:VAL:HG11	0.48	1.85	14	1
1:C:97:GLY:HA2	1:C:100:GLN:HG2	0.48	1.85	14	3
1:C:89:ARG:HH11	1:C:89:ARG:HB3	0.48	1.68	6	1
1:A:15:LEU:HD11	1:B:59:VAL:HG11	0.48	1.86	9	1
1:C:96:GLN:HA	1:C:99:VAL:CG1	0.47	2.38	21	3
1:A:15:LEU:O	1:A:19:VAL:HG23	0.47	2.09	16	3
1:A:22:LEU:HD13	1:B:66:PHE:CE2	0.47	2.43	12	1
1:A:5:VAL:O	1:A:8:LEU:HB3	0.47	2.10	3	2
1:B:45:VAL:O	1:B:49:ARG:HD3	0.47	2.09	10	2
1:A:33:GLU:HB3	1:C:109:TYR:CD1	0.47	2.43	7	1
1:A:8:LEU:O	1:A:12:VAL:HB	0.47	2.09	19	1
1:C:109:TYR:O	1:C:112:VAL:HB	0.47	2.10	17	3
1:B:62:LEU:HD22	1:C:106:PHE:HD2	0.47	1.68	6	3
1:A:29:TYR:CE1	1:B:73:GLU:HB3	0.47	2.45	20	2
1:A:33:GLU:HB3	1:C:109:TYR:CE1	0.47	2.45	20	2
1:C:110:LYS:HD2	1:C:110:LYS:O	0.47	2.09	4	1
1:C:113:GLU:HG3	1:C:114:LEU:N	0.47	2.24	7	3
1:A:33:GLU:C	1:A:34:LEU:HG	0.47	2.29	8	3
1:A:9:ARG:O	1:A:12:VAL:HG22	0.47	2.10	9	1
1:B:69:TYR:CD1	1:C:113:GLU:HB3	0.47	2.45	7	1
1:B:72:VAL:HG21	1:C:113:GLU:HA	0.47	1.87	7	1
1:A:8:LEU:O	1:A:12:VAL:HG13	0.47	2.09	9	1
1:A:29:TYR:O	1:A:32:VAL:HB	0.47	2.11	17	5
1:A:5:VAL:O	1:A:9:ARG:HD3	0.46	2.10	10	2
1:C:89:ARG:O	1:C:92:VAL:HG23	0.46	2.10	15	2
1:A:29:TYR:CE2	1:B:70:LYS:HA	0.46	2.45	21	2
1:A:22:LEU:HG	1:B:66:PHE:CE2	0.46	2.44	21	1
1:B:62:LEU:HG	1:C:106:PHE:CE2	0.46	2.45	21	1
1:A:32:VAL:HG21	1:B:73:GLU:HA	0.46	1.86	7	1
1:B:55:LEU:O	1:B:59:VAL:HG23	0.46	2.10	16	3
1:A:13:GLU:HA	1:A:16:GLN:HG2	0.46	1.87	18	6
1:C:89:ARG:HA	1:C:92:VAL:CG1	0.46	2.41	21	1
1:B:69:TYR:O	1:B:72:VAL:HB	0.46	2.11	4	5
1:A:29:TYR:CD1	1:B:73:GLU:HB3	0.46	2.45	7	1
1:B:48:LEU:O	1:B:52:VAL:HB	0.46	2.10	19	1
1:A:9:ARG:O	1:A:13:GLU:HG3	0.46	2.10	20	3
1:A:19:VAL:HG11	1:C:95:LEU:HD11	0.46	1.87	9	1
1:A:33:GLU:OE1	1:C:108:GLN:HB3	0.46	2.11	6	2
1:A:30:LYS:HA	1:C:109:TYR:CE2	0.46	2.46	10	2
1:B:49:ARG:CA	1:B:52:VAL:HG22	0.46	2.40	11	3
1:B:69:TYR:CZ	1:C:110:LYS:HA	0.46	2.45	5	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:69:TYR:CE2	1:C:110:LYS:HA	0.46	2.46	10	2
1:B:62:LEU:HG	1:C:106:PHE:HE2	0.46	1.71	21	1
1:A:33:GLU:HG3	1:A:34:LEU:N	0.45	2.25	7	3
1:B:53:GLU:HA	1:B:56:GLN:HG2	0.45	1.88	11	6
1:B:45:VAL:O	1:B:48:LEU:HB3	0.45	2.11	3	2
1:C:108:GLN:O	1:C:111:LYS:HD3	0.45	2.11	5	1
1:B:48:LEU:O	1:B:52:VAL:HG13	0.45	2.11	9	1
1:B:61:HIS:O	1:B:64:ALA:HB3	0.45	2.10	1	3
1:C:93:GLU:HA	1:C:96:GLN:HG2	0.45	1.87	18	4
1:B:69:TYR:CE1	1:C:113:GLU:HB3	0.45	2.47	7	2
1:C:101:HIS:O	1:C:104:ALA:HB3	0.45	2.12	2	3
1:B:61:HIS:CE1	1:B:62:LEU:HD12	0.45	2.47	16	1
1:B:66:PHE:O	1:B:70:LYS:HB2	0.45	2.12	17	1
1:B:58:GLN:CB	1:C:99:VAL:HG21	0.45	2.42	21	1
1:A:26:PHE:O	1:A:30:LYS:HB2	0.45	2.12	17	3
1:B:74:LEU:N	1:B:74:LEU:CD2	0.44	2.80	5	7
1:C:95:LEU:O	1:C:99:VAL:HG12	0.44	2.11	7	2
1:A:6:ALA:CA	1:A:9:ARG:HG2	0.44	2.40	11	1
1:A:29:TYR:CZ	1:B:70:LYS:HA	0.44	2.47	12	3
1:A:21:HIS:O	1:A:24:ALA:HB3	0.44	2.12	2	3
1:B:62:LEU:HG	1:C:106:PHE:HD2	0.44	1.71	16	1
1:A:6:ALA:HA	1:A:9:ARG:CG	0.44	2.42	20	1
1:A:34:LEU:CD2	1:A:34:LEU:N	0.44	2.81	5	6
1:A:21:HIS:CE1	1:A:22:LEU:HD13	0.44	2.48	8	1
1:B:73:GLU:C	1:B:74:LEU:HG	0.44	2.32	8	2
1:B:56:GLN:O	1:B:60:GLN:HG2	0.44	2.12	2	1
1:C:113:GLU:HG3	1:C:114:LEU:HG	0.44	1.89	7	1
1:B:60:GLN:HG3	1:B:61:HIS:N	0.44	2.28	13	1
1:A:19:VAL:O	1:A:23:GLN:HG2	0.43	2.13	14	1
1:A:22:LEU:HG	1:B:66:PHE:HE2	0.43	1.72	21	1
1:C:89:ARG:CA	1:C:92:VAL:HG22	0.43	2.40	11	1
1:A:21:HIS:CE1	1:A:22:LEU:HD12	0.43	2.48	16	1
1:A:18:GLN:CB	1:B:59:VAL:HG11	0.43	2.43	21	1
1:A:9:ARG:HB3	1:C:88:LEU:CD2	0.43	2.41	12	1
1:B:51:GLN:O	1:B:55:LEU:HG	0.43	2.14	5	1
1:C:93:GLU:O	1:C:96:GLN:HG2	0.43	2.12	6	1
1:C:98:GLN:HA	1:C:101:HIS:ND1	0.43	2.28	12	6
1:B:55:LEU:HD11	1:C:99:VAL:HG21	0.43	1.91	9	1
1:A:16:GLN:O	1:A:20:GLN:HG2	0.43	2.13	2	1
1:A:9:ARG:CA	1:A:12:VAL:HG22	0.43	2.41	11	2
1:B:48:LEU:CD2	1:C:89:ARG:HB3	0.43	2.41	12	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:C:91:GLN:O	1:C:95:LEU:HG	0.43	2.13	5	1
1:A:32:VAL:CG1	1:B:72:VAL:HG12	0.43	2.43	7	1
1:B:49:ARG:O	1:B:52:VAL:HG22	0.43	2.13	9	1
1:C:114:LEU:N	1:C:114:LEU:CD2	0.43	2.82	1	5
1:A:8:LEU:CD2	1:B:49:ARG:HB3	0.43	2.40	12	1
1:A:32:VAL:HG12	1:C:112:VAL:CG1	0.43	2.43	7	1
1:B:49:ARG:O	1:B:53:GLU:HG3	0.43	2.13	4	2
1:B:61:HIS:CE1	1:B:62:LEU:HD13	0.43	2.49	8	1
1:C:101:HIS:CE1	1:C:102:LEU:HD13	0.43	2.49	8	1
1:A:7:SER:O	1:A:10:GLN:HG2	0.43	2.14	12	1
1:A:29:TYR:HE2	1:B:70:LYS:HA	0.43	1.74	21	1
1:B:74:LEU:H	1:B:74:LEU:CD1	0.42	2.24	9	1
1:C:86:ALA:CA	1:C:89:ARG:HG2	0.42	2.41	11	1
1:A:9:ARG:CA	1:A:12:VAL:HG23	0.42	2.44	12	1
1:B:58:GLN:HA	1:B:61:HIS:ND1	0.42	2.29	17	3
1:A:22:LEU:HB3	1:C:102:LEU:CD2	0.42	2.44	12	1
1:A:30:LYS:HA	1:C:109:TYR:HE2	0.42	1.75	21	1
1:A:18:GLN:HA	1:A:21:HIS:ND1	0.42	2.29	12	3
1:B:53:GLU:O	1:B:56:GLN:HG2	0.42	2.14	6	1
1:A:22:LEU:HD13	1:B:66:PHE:HE2	0.42	1.74	12	1
1:B:47:SER:O	1:B:50:GLN:HG2	0.42	2.13	12	1
1:A:11:GLN:O	1:A:14:ALA:HB3	0.42	2.14	1	1
1:A:30:LYS:O	1:A:30:LYS:HD2	0.42	2.14	4	1
1:B:62:LEU:HD13	1:C:106:PHE:CE2	0.42	2.50	12	1
1:C:89:ARG:CA	1:C:92:VAL:HG23	0.42	2.44	12	1
1:C:86:ALA:HA	1:C:89:ARG:CG	0.42	2.42	9	2
1:C:100:GLN:HG3	1:C:101:HIS:N	0.42	2.30	13	2
1:B:46:ALA:HA	1:B:49:ARG:CG	0.42	2.42	20	1
1:C:89:ARG:CA	1:C:92:VAL:HG13	0.42	2.43	21	1
1:B:49:ARG:N	1:B:49:ARG:CD	0.42	2.83	1	1
1:B:73:GLU:HG3	1:B:74:LEU:N	0.42	2.26	7	1
1:B:49:ARG:HH11	1:B:49:ARG:HB3	0.42	1.75	6	1
1:B:59:VAL:O	1:B:63:GLN:HG2	0.42	2.14	14	1
1:A:33:GLU:HB2	1:C:112:VAL:CG2	0.42	2.45	13	2
1:B:51:GLN:O	1:B:54:ALA:HB3	0.41	2.15	1	1
1:C:106:PHE:O	1:C:110:LYS:N	0.41	2.52	1	1
1:C:105:ALA:HB1	1:C:109:TYR:CE2	0.41	2.50	13	1
1:B:55:LEU:HD12	1:C:99:VAL:HG11	0.41	1.92	7	1
1:C:114:LEU:H	1:C:114:LEU:CD1	0.41	2.24	9	1
1:A:16:GLN:HA	1:C:95:LEU:HD21	0.41	1.92	12	1
1:A:19:VAL:O	1:A:23:GLN:HG3	0.41	2.16	12	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:49:ARG:CA	1:B:52:VAL:HG23	0.41	2.44	12	1
1:A:20:GLN:HG3	1:A:21:HIS:N	0.41	2.30	13	2
1:B:69:TYR:HE2	1:C:110:LYS:HA	0.41	1.75	21	1
1:A:11:GLN:O	1:A:15:LEU:HG	0.41	2.15	5	1
1:A:28:GLN:O	1:A:31:LYS:HD3	0.41	2.15	5	1
1:A:8:LEU:HD13	1:B:49:ARG:HE	0.41	1.76	8	1
1:B:48:LEU:HD13	1:C:89:ARG:HE	0.41	1.76	8	1
1:B:46:ALA:CA	1:B:49:ARG:HG2	0.41	2.42	11	1
1:B:72:VAL:CG2	1:C:113:GLU:HB2	0.41	2.46	12	2
1:C:99:VAL:O	1:C:103:GLN:HG2	0.41	2.16	14	1
1:C:114:LEU:H	1:C:114:LEU:HG	0.41	1.26	20	1
1:C:114:LEU:H	1:C:114:LEU:CD2	0.41	2.26	17	1
1:A:32:VAL:HG21	1:B:73:GLU:HB2	0.41	1.93	2	1
1:A:34:LEU:N	1:A:34:LEU:CD2	0.41	2.83	15	4
1:B:65:ALA:O	1:B:69:TYR:CD1	0.41	2.73	21	1
1:B:72:VAL:CG1	1:C:112:VAL:HG12	0.41	2.45	7	1
1:B:48:LEU:HD11	1:C:92:VAL:CG2	0.41	2.38	12	1
1:C:105:ALA:O	1:C:109:TYR:CD1	0.41	2.74	21	1
1:B:66:PHE:O	1:B:70:LYS:N	0.41	2.53	8	2
1:A:33:GLU:OE1	1:C:108:GLN:HB2	0.41	2.16	15	1
1:A:7:SER:O	1:A:11:GLN:HG3	0.40	2.15	8	1
1:A:34:LEU:H	1:A:34:LEU:CD2	0.40	2.26	17	1
1:A:9:ARG:N	1:A:9:ARG:CD	0.40	2.85	1	1
1:B:68:GLN:O	1:B:71:LYS:HD3	0.40	2.16	5	1
1:B:47:SER:O	1:B:51:GLN:HG3	0.40	2.16	8	1
1:A:29:TYR:OH	1:B:70:LYS:HA	0.40	2.17	10	1
1:A:34:LEU:N	1:A:34:LEU:HD22	0.40	2.31	11	1
1:A:33:GLU:HB2	1:C:112:VAL:HG22	0.40	1.92	13	1
1:B:71:LYS:HA	1:B:74:LEU:HD11	0.40	1.93	21	1
1:A:22:LEU:HG	1:B:66:PHE:CD2	0.40	2.49	16	1
1:A:31:LYS:HA	1:A:34:LEU:HD11	0.40	1.94	21	1
1:B:66:PHE:O	1:B:70:LYS:HG3	0.40	2.16	18	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	30/40 (75%)	29±1 (96±2%)	1±1 (2±2%)	1±0 (3±2%)	8	43
1	B	30/40 (75%)	29±1 (96±2%)	1±1 (2±2%)	1±0 (3±2%)	8	43
1	C	30/40 (75%)	29±1 (96±2%)	1±1 (2±2%)	1±1 (3±2%)	9	45
All	All	1890/2520 (75%)	1806 (96%)	34 (2%)	50 (3%)	8	44

All 6 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	34	LEU	16
1	B	74	LEU	16
1	C	114	LEU	15
1	A	33	GLU	1
1	B	73	GLU	1
1	C	113	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	25/32 (78%)	20±1 (82±5%)	5±1 (18±5%)	4	37
1	B	25/32 (78%)	20±1 (82±5%)	5±1 (18±5%)	4	37
1	C	25/32 (78%)	20±1 (78±5%)	5±1 (22±5%)	3	31
All	All	1575/2016 (78%)	1269 (81%)	306 (19%)	4	35

All 43 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	31	LYS	21
1	B	71	LYS	21
1	C	111	LYS	21
1	C	114	LEU	21
1	A	34	LEU	20
1	B	74	LEU	20
1	A	26	PHE	15

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Mol	Chain	Res	Type	Models (Total)
1	B	66	PHE	15
1	C	106	PHE	15
1	C	90	GLN	12
1	A	10	GLN	11
1	B	50	GLN	11
1	A	9	ARG	8
1	B	49	ARG	8
1	C	89	ARG	8
1	C	99	VAL	8
1	C	92	VAL	7
1	A	23	GLN	6
1	B	63	GLN	6
1	C	103	GLN	6
1	C	110	LYS	4
1	B	52	VAL	4
1	A	20	GLN	3
1	B	60	GLN	3
1	C	100	GLN	3
1	A	12	VAL	3
1	A	30	LYS	2
1	B	70	LYS	2
1	A	18	GLN	2
1	B	58	GLN	2
1	C	98	GLN	2
1	A	22	LEU	2
1	B	62	LEU	2
1	C	102	LEU	2
1	C	95	LEU	2
1	A	32	VAL	1
1	B	72	VAL	1
1	A	19	VAL	1
1	A	28	GLN	1
1	B	59	VAL	1
1	B	68	GLN	1
1	C	108	GLN	1
1	C	112	VAL	1

6.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates (i)

There are no monosaccharides in this entry.

6.6 Ligand geometry (i)

There are no ligands in this entry.

6.7 Other polymers (i)

There are no such molecules in this entry.

6.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

7 Chemical shift validation (i)

No chemical shift data were provided