WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 28, 2024 – 12:35 PM JST

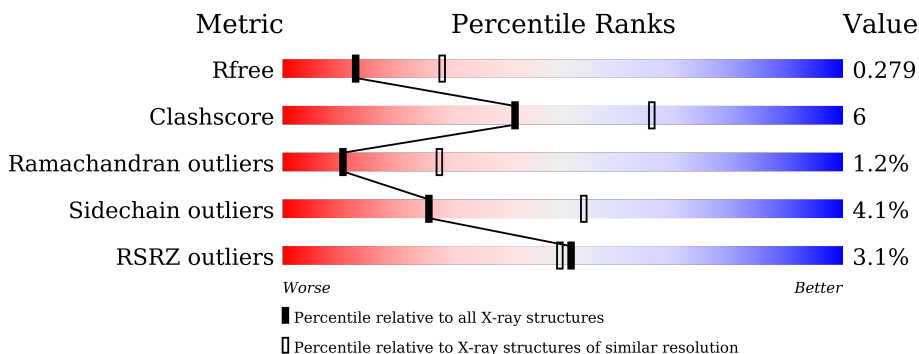|		
PDB ID	:	8X0A
Title	:	Crystal Structure of MftR from mycobacterium tuberculosis
Authors	:	Peng, F.; Ke, Z.H.; Li, Y.
Deposited on	:	2023-11-04
Resolution	:	2.70 Å(reported)

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 Å.

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	Percentile Ranks	Value
Rfree		0.279
Clashscore		6
Ramachandran outliers		1.2%
Sidechain outliers		4.1%
RSRZ outliers		3.1%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	3333 (2.70-2.70)
Clashscore	180529	3684 (2.70-2.70)
Ramachandran outliers	177936	3633 (2.70-2.70)
Sidechain outliers	177891	3633 (2.70-2.70)
RSRZ outliers	164620	3333 (2.70-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. 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% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	186	2% 82% 14% •••
1	B	186	3% 82% 16% ••
1	C	186	3% 75% 20% • •
1	D	186	3% 72% 23% • ••
1	E	186	4% 84% 12% ••

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 7285 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Putative mycofactocin biosynthesis transcriptional regulator MftR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	184	Total	C	N	O	S	0	0	0
			1451	920	261	265	5			
1	E	184	Total	C	N	O	S	0	0	0
			1451	920	261	265	5			
1	B	184	Total	C	N	O	S	0	0	0
			1451	920	261	265	5			
1	C	182	Total	C	N	O	S	0	0	0
			1432	908	256	263	5			
1	D	184	Total	C	N	O	S	0	0	0
			1451	920	261	265	5			

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	10	Total	O	0	0
			10	10		
2	E	8	Total	O	0	0
			8	8		
2	B	12	Total	O	0	0
			12	12		
2	C	14	Total	O	0	0
			14	14		
2	D	5	Total	O	0	0
			5	5		

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-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. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Putative mycofactocin biosynthesis transcriptional regulator MftR

Chain A:
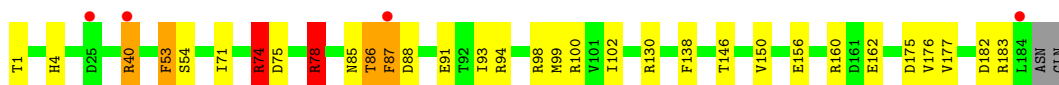
• Molecule 1: Putative mycofactocin biosynthesis transcriptional regulator MftR

Chain E:

• Molecule 1: Putative mycofactocin biosynthesis transcriptional regulator MftR

Chain B:
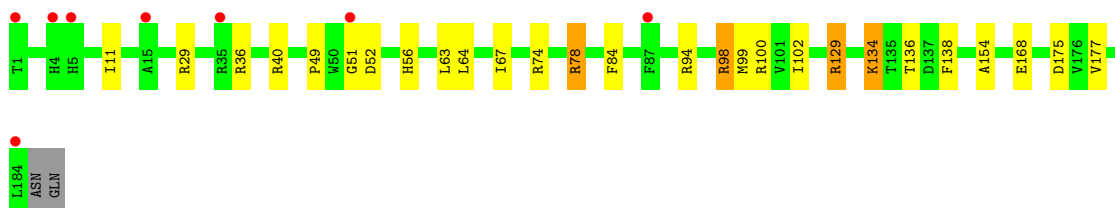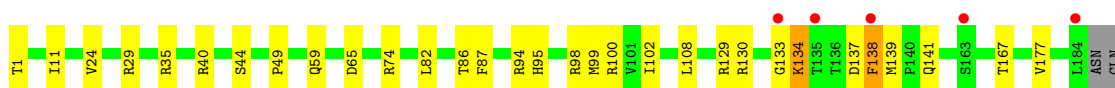

• Molecule 1: Putative mycofactocin biosynthesis transcriptional regulator MftR

Chain C:
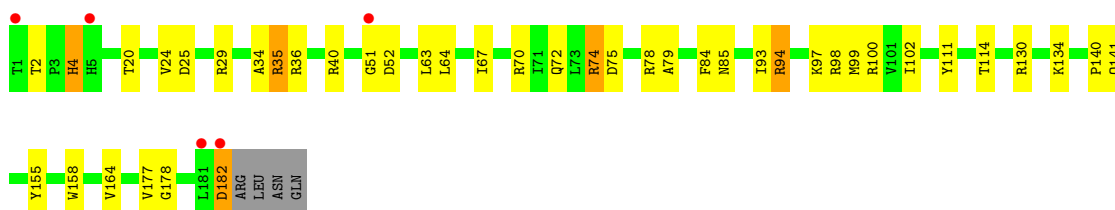
• Molecule 1: Putative mycofactocin biosynthesis transcriptional regulator MftR

Chain D:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	I 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	109.75Å 81.43Å 120.46Å 90.00° 107.36° 90.00°	Depositor
Resolution (Å)	47.38 – 2.70 47.38 – 2.70	Depositor EDS
% Data completeness (in resolution range)	99.4 (47.38-2.70) 99.4 (47.38-2.70)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$<I/\sigma(I)>$ [1]	2.19 (at 2.69Å)	Xtriage
Refinement program	REFMAC 5.8.0350	Depositor
R, R_{free}	0.229 , 0.278 0.230 , 0.279	Depositor DCC
R_{free} test set	1380 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	51.9	Xtriage
Anisotropy	0.223	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 35.3	EDS
L-test for twinning[2]	$<|L|>=0.50$, $<L^2>=0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	7285	wwPDB-VP
Average B, all atoms (Å^2)	48.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.95% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $<|L|>$, $<L^2>$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5   Model quality (i)

5.1   Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.56	1/1482 (0.1%)	1.09	9/2010 (0.4%)
1	B	0.53	0/1482	0.85	1/2010 (0.0%)
1	C	0.51	0/1463	1.01	9/1985 (0.5%)
1	D	0.53	0/1482	0.88	1/2010 (0.0%)
1	E	0.48	0/1482	0.92	3/2010 (0.1%)
All	All	0.52	1/7391 (0.0%)	0.95	23/10025 (0.2%)

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 outliers	#Planarity outliers
1	A	0	10
1	B	0	5
1	C	0	6
1	D	0	6
1	E	0	8
All	All	0	35

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	156	GLU	CD-OE1	6.12	1.32	1.25

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	88	ASP	N-CA-CB	-18.75	76.85	110.60
1	C	140	PRO	CB-CA-C	9.50	135.76	112.00
1	C	141	GLN	N-CA-CB	-8.58	95.16	110.60
1	C	51	GLY	N-CA-C	8.27	133.77	113.10
1	C	36	ARG	NE-CZ-NH2	8.06	124.33	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	52	ASP	N-CA-CB	7.81	124.66	110.60
1	E	74	ARG	NE-CZ-NH2	-7.53	116.53	120.30
1	C	36	ARG	CB-CG-CD	7.39	130.82	111.60
1	A	87	PHE	CA-C-N	7.18	133.01	117.20
1	E	52	ASP	N-CA-CB	6.98	123.17	110.60
1	A	87	PHE	CA-C-O	-6.90	105.62	120.10
1	C	29	ARG	NE-CZ-NH2	-6.61	117.00	120.30
1	E	51	GLY	N-CA-C	5.99	128.08	113.10
1	B	59	GLN	CB-CA-C	5.65	121.70	110.40
1	A	74	ARG	NE-CZ-NH2	-5.43	117.59	120.30
1	A	87	PHE	N-CA-CB	-5.41	100.87	110.60
1	D	96	ARG	CB-CA-C	-5.20	100.01	110.40
1	A	53	PHE	N-CA-CB	5.17	119.91	110.60
1	C	94	ARG	CG-CD-NE	-5.11	101.06	111.80
1	A	40	ARG	NE-CZ-NH1	5.08	122.84	120.30
1	A	78	ARG	NE-CZ-NH2	5.06	122.83	120.30
1	C	130	ARG	NE-CZ-NH1	5.05	122.83	120.30
1	A	78	ARG	NE-CZ-NH1	-5.02	117.79	120.30

There are no chirality outliers.

All (35) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	100	ARG	Sidechain
1	A	130	ARG	Sidechain
1	A	160	ARG	Sidechain
1	A	40	ARG	Sidechain
1	A	74	ARG	Sidechain
1	A	78	ARG	Sidechain
1	A	85	ASN	Mainchain
1	A	86	THR	Mainchain
1	A	94	ARG	Sidechain
1	A	98	ARG	Sidechain
1	B	100	ARG	Sidechain
1	B	130	ARG	Sidechain
1	B	35	ARG	Sidechain
1	B	40	ARG	Sidechain
1	B	94	ARG	Sidechain
1	C	100	ARG	Sidechain
1	C	35	ARG	Sidechain
1	C	40	ARG	Sidechain
1	C	70	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	C	94	ARG	Sidechain
1	C	98	ARG	Sidechain
1	D	100	ARG	Sidechain
1	D	130	ARG	Sidechain
1	D	160	ARG	Sidechain
1	D	35	ARG	Sidechain
1	D	40	ARG	Sidechain
1	D	78	ARG	Sidechain
1	E	100	ARG	Sidechain
1	E	129	ARG	Sidechain
1	E	29	ARG	Sidechain
1	E	36	ARG	Sidechain
1	E	40	ARG	Sidechain
1	E	78	ARG	Sidechain
1	E	94	ARG	Sidechain
1	E	98	ARG	Sidechain

5.2 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 the 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 within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1451	0	1438	19	0
1	B	1451	0	1438	18	0
1	C	1432	0	1414	14	1
1	D	1451	0	1438	38	0
1	E	1451	0	1438	10	0
2	A	10	0	0	0	0
2	B	12	0	0	0	0
2	C	14	0	0	2	0
2	D	5	0	0	0	0
2	E	8	0	0	0	0
All	All	7285	0	7166	91	1

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 6.

All (91) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:8:ASP:OD2	1:D:94:ARG:NH1	1.96	0.97
1:A:87:PHE:HB3	1:A:91:GLU:CG	2.02	0.89
1:A:87:PHE:HB3	1:A:91:GLU:HG2	1.63	0.80
1:A:183:ARG:NH1	1:D:183:ARG:NH2	2.33	0.76
1:A:87:PHE:HB3	1:A:91:GLU:HG3	1.71	0.73
1:B:133:GLY:O	1:B:134:LYS:HB2	1.91	0.70
1:A:99:MET:HE1	1:A:102:ILE:HD12	1.74	0.69
1:C:24:VAL:HG13	1:C:35:ARG:HH12	1.57	0.69
1:D:96:ARG:HG2	1:D:97:LYS:H	1.57	0.68
1:C:85:ASN:OD1	1:C:155:TYR:OH	2.13	0.65
1:D:77:LEU:HD13	1:D:147:MET:HE1	1.78	0.64
1:B:1:THR:O	1:B:1:THR:HG22	1.98	0.63
1:A:86:THR:C	1:A:87:PHE:CG	2.73	0.62
1:D:8:ASP:OD1	1:D:94:ARG:HD3	2.00	0.62
1:D:95:HIS:HB3	1:D:158:TRP:HH2	1.64	0.61
1:D:96:ARG:HG3	1:D:158:TRP:CE2	2.35	0.61
1:C:111:TYR:O	1:C:114:THR:OG1	2.17	0.60
1:C:2:THR:HG22	1:C:4:HIS:H	1.66	0.60
1:C:34:ALA:HB1	2:C:210:HOH:O	2.03	0.59
1:D:96:ARG:HD2	1:D:162:GLU:HA	1.84	0.59
1:D:8:ASP:CG	1:D:94:ARG:NH1	2.56	0.59
1:D:96:ARG:CG	1:D:97:LYS:H	2.17	0.57
1:D:93:ILE:C	1:D:95:HIS:H	2.07	0.57
1:D:87:PHE:HB3	1:D:91:GLU:HB2	1.87	0.56
1:D:90:SER:HA	1:D:93:ILE:HD12	1.85	0.56
1:B:134:LYS:HB2	1:B:137:ASP:OD2	2.05	0.56
1:A:183:ARG:NH1	1:D:183:ARG:CZ	2.68	0.56
1:A:146:THR:HG23	1:A:177:VAL:HG21	1.89	0.55
1:D:88:ASP:OD1	1:D:89:GLU:N	2.41	0.54
1:D:85:ASN:HA	1:D:87:PHE:CZ	2.44	0.53
1:C:158:TRP:HA	1:C:164:VAL:CG2	2.39	0.52
1:D:95:HIS:HB3	1:D:158:TRP:CH2	2.44	0.52
1:B:65:ASP:HA	1:B:129:ARG:HH22	1.75	0.51
1:D:77:LEU:HD13	1:D:147:MET:CE	2.40	0.51
1:B:99:MET:HE1	1:B:102:ILE:HD12	1.92	0.51
1:C:63:LEU:HD13	1:C:84:PHE:CE2	2.46	0.50
1:E:63:LEU:HD13	1:E:84:PHE:CE2	2.46	0.50
1:B:11:ILE:HD12	1:B:98:ARG:HA	1.92	0.50
1:B:82:LEU:O	1:B:86:THR:HG23	2.11	0.50
1:A:1:THR:HA	1:A:4:HIS:HB3	1.94	0.50
1:E:11:ILE:HD11	1:E:49:PRO:HB3	1.93	0.50
1:A:78:ARG:NH1	1:A:175:ASP:OD1	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:9:VAL:O	1:D:13:LEU:HG	2.11	0.49
1:A:146:THR:CG2	1:A:177:VAL:HG21	2.42	0.49
1:A:71:ILE:HD12	1:C:79:ALA:HB1	1.93	0.48
1:A:183:ARG:HH11	1:D:183:ARG:NH2	2.09	0.48
1:C:72:GLN:HB2	2:C:214:HOH:O	2.12	0.48
1:D:49:PRO:HG2	1:D:108:LEU:HD21	1.96	0.48
1:B:102:ILE:HA	1:B:108:LEU:HD23	1.96	0.48
1:D:65:ASP:HA	1:D:129:ARG:NH2	2.28	0.48
1:D:93:ILE:C	1:D:95:HIS:N	2.66	0.47
1:B:49:PRO:HG2	1:B:108:LEU:HD21	1.97	0.47
1:D:97:LYS:C	1:D:98:ARG:O	2.52	0.47
1:D:33:ILE:HD12	1:D:34:ALA:O	2.14	0.47
1:B:29:ARG:HH11	1:B:29:ARG:HG2	1.78	0.47
1:B:11:ILE:HD11	1:B:49:PRO:HB3	1.97	0.47
1:B:86:THR:HG22	1:B:167:THR:HG21	1.97	0.46
1:E:99:MET:HE1	1:E:102:ILE:HD12	1.97	0.46
1:C:64:LEU:O	1:C:67:ILE:HG22	2.16	0.46
1:A:183:ARG:HH12	1:D:183:ARG:CZ	2.29	0.46
1:B:134:LYS:HD2	1:B:134:LYS:HA	1.66	0.46
1:E:11:ILE:HD12	1:E:98:ARG:HA	1.97	0.46
1:A:74:ARG:HH22	1:C:78:ARG:NH1	2.14	0.45
1:E:78:ARG:NH1	1:E:175:ASP:OD1	2.49	0.45
1:D:14:PHE:CD1	1:D:19:PHE:HA	2.51	0.45
1:E:154:ALA:HA	1:B:138:PHE:CZ	2.52	0.45
1:D:97:LYS:O	1:D:99:MET:HE1	2.17	0.44
1:D:96:ARG:HH11	1:D:162:GLU:HB2	1.82	0.44
1:E:64:LEU:O	1:E:129:ARG:NH2	2.51	0.44
1:D:33:ILE:CD1	1:D:38:LEU:HB2	2.47	0.44
1:C:99:MET:HE1	1:C:102:ILE:HD12	2.00	0.44
1:A:150:VAL:HG21	1:A:177:VAL:HG11	2.00	0.44
1:C:74:ARG:HG3	1:C:75:ASP:N	2.31	0.43
1:D:160:ARG:HH11	1:D:160:ARG:HG3	1.83	0.43
1:E:56:HIS:NE2	1:E:84:PHE:HB3	2.34	0.43
1:B:1:THR:O	1:B:1:THR:CG2	2.64	0.43
1:C:93:ILE:HG22	1:C:97:LYS:HE3	2.01	0.43
1:D:95:HIS:CB	1:D:158:TRP:HH2	2.31	0.43
1:D:9:VAL:HA	1:D:12:GLU:OE1	2.19	0.43
1:A:74:ARG:NH2	1:A:75:ASP:OD1	2.52	0.42
1:D:64:LEU:O	1:D:67:ILE:HG22	2.20	0.42
1:D:88:ASP:HB3	1:D:91:GLU:HG3	2.01	0.42
1:E:134:LYS:HG2	1:E:136:THR:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:93:ILE:HD11	1:B:29:ARG:O	2.20	0.41
1:D:74:ARG:HG3	1:D:75:ASP:N	2.35	0.41
1:A:162:GLU:O	1:A:162:GLU:HG2	2.21	0.41
1:E:64:LEU:O	1:E:67:ILE:HG22	2.21	0.41
1:B:138:PHE:HD1	1:B:138:PHE:HA	1.77	0.41
1:D:92:THR:O	1:D:96:ARG:N	2.41	0.41
1:B:87:PHE:CE2	1:B:95:HIS:CE1	3.09	0.40
1:D:89:GLU:O	1:D:93:ILE:HG13	2.20	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:178:GLY:O	1:C:182:ASP:OD1[2_656]	1.84	0.36

5.3 Torsion angles ⓘ

5.3.1 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 X-ray entries followed by that with respect to entries of similar resolution.

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	182/186 (98%)	176 (97%)	4 (2%)	2 (1%)	12	30
1	B	182/186 (98%)	172 (94%)	6 (3%)	4 (2%)	5	15
1	C	180/186 (97%)	174 (97%)	6 (3%)	0	100	100
1	D	182/186 (98%)	170 (93%)	8 (4%)	4 (2%)	5	15
1	E	182/186 (98%)	176 (97%)	5 (3%)	1 (0%)	25	49
All	All	908/930 (98%)	868 (96%)	29 (3%)	11 (1%)	11	28

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	53	PHE

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Mol	Chain	Res	Type
1	E	134	LYS
1	B	134	LYS
1	B	139	MET
1	D	98	ARG
1	B	141	GLN
1	A	182	ASP
1	D	2	THR
1	D	95	HIS
1	D	97	LYS
1	B	44	SER

5.3.2   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 X-ray entries followed by that with respect to entries of similar resolution.

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	148/150 (99%)	145 (98%)	3 (2%)	50	78
1	B	148/150 (99%)	144 (97%)	4 (3%)	40	69
1	C	146/150 (97%)	139 (95%)	7 (5%)	21	48
1	D	148/150 (99%)	135 (91%)	13 (9%)	8	20
1	E	148/150 (99%)	145 (98%)	3 (2%)	50	78
All	All	738/750 (98%)	708 (96%)	30 (4%)	26	54

All (30) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	54	SER
1	A	138	PHE
1	A	176	VAL
1	E	138	PHE
1	E	168	GLU
1	E	177	VAL
1	B	24	VAL
1	B	74	ARG
1	B	138	PHE

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Mol	Chain	Res	Type
1	B	177	VAL
1	C	4	HIS
1	C	20	THR
1	C	25	ASP
1	C	74	ARG
1	C	134	LYS
1	C	177	VAL
1	C	182	ASP
1	D	11	ILE
1	D	17	HIS
1	D	20	THR
1	D	25	ASP
1	D	54	SER
1	D	74	ARG
1	D	91	GLU
1	D	95	HIS
1	D	100	ARG
1	D	138	PHE
1	D	162	GLU
1	D	177	VAL
1	D	182	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	109	GLN
1	E	46	ASN
1	D	61	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	184/186 (98%)	-0.10	4 (2%)	62	61	25, 37, 63, 93	0
1	B	184/186 (98%)	-0.05	5 (2%)	56	54	27, 41, 71, 94	0
1	C	182/186 (97%)	0.15	5 (2%)	56	54	29, 46, 69, 106	0
1	D	184/186 (98%)	0.29	6 (3%)	49	47	23, 46, 88, 120	0
1	E	184/186 (98%)	0.16	8 (4%)	40	39	23, 48, 81, 117	0
All	All	918/930 (98%)	0.09	28 (3%)	51	49	23, 43, 80, 120	0

All (28) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	51	GLY	4.1
1	B	184	LEU	4.1
1	A	87	PHE	4.0
1	D	95	HIS	3.5
1	C	1	THR	3.4
1	A	184	LEU	3.3
1	D	96	ARG	3.2
1	C	181	LEU	3.1
1	E	1	THR	3.1
1	E	87	PHE	2.9
1	A	25	ASP	2.8
1	E	4	HIS	2.8
1	C	5	HIS	2.8
1	A	40	ARG	2.7
1	E	184	LEU	2.5
1	D	11	ILE	2.5
1	C	182	ASP	2.5
1	D	29	ARG	2.4
1	B	163	SER	2.4
1	E	15	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	E	51	GLY	2.4
1	B	138	PHE	2.3
1	B	133	GLY	2.2
1	D	17	HIS	2.2
1	D	21	ASP	2.1
1	E	5	HIS	2.1
1	B	135	THR	2.0
1	E	35	ARG	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.