Full wwPDB X-ray Structure Validation Report ⓘ

Jan 17, 2023 – 09:02 PM EST

PDB ID	:	2F4I
Title	:	Crystal structure of an ob-fold protein (tm0957) from thermotoga maritima msb8 at 1.90 A resolution
Authors	:	Joint Center for Structural Genomics (JCSG)
Deposited on	:	2005-11-23
Resolution	:	2.25 Å(reported)

This is a Full wwPDB X-ray 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/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

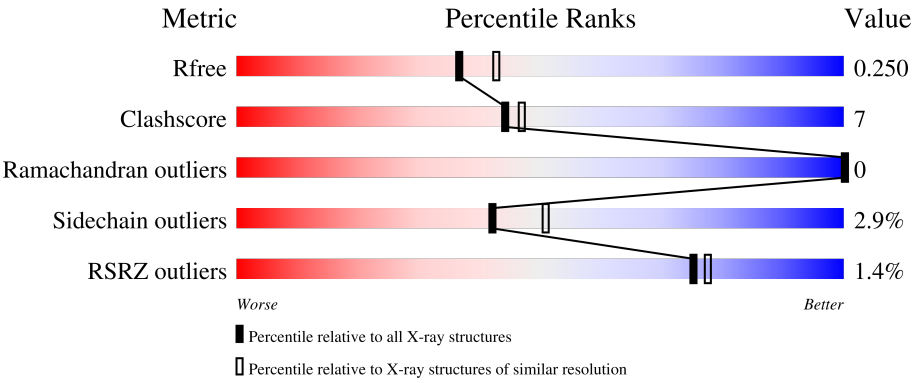
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.31.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.25 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	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1377 (2.26-2.26)
Clashscore	141614	1487 (2.26-2.26)
Ramachandran outliers	138981	1449 (2.26-2.26)
Sidechain outliers	138945	1450 (2.26-2.26)
RSRZ outliers	127900	1356 (2.26-2.26)

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	197	78% 11% • 11%
1	B	197	79% 10% • 10%
1	C	197	76% 13% • 10%
1	D	197	5% 71% 17% • 11%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 6251 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 hypothetical protein TM0957.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	176	Total	C	N	O	Se	0	6	0
			1428	933	227	265	3			
1	B	178	Total	C	N	O	Se	0	7	0
			1453	946	234	270	3			
1	C	177	Total	C	N	O	Se	0	9	0
			1466	954	242	266	4			
1	D	176	Total	C	N	O	Se	0	4	0
			1416	922	229	262	3			

There are 124 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-11	MSE	-	expression tag	UNP Q9X052
A	-10	GLY	-	expression tag	UNP Q9X052
A	-9	SER	-	expression tag	UNP Q9X052
A	-8	ASP	-	expression tag	UNP Q9X052
A	-7	MLY	-	expression tag	UNP Q9X052
A	-6	ILE	-	expression tag	UNP Q9X052
A	-5	HIS	-	expression tag	UNP Q9X052
A	-4	HIS	-	expression tag	UNP Q9X052
A	-3	HIS	-	expression tag	UNP Q9X052
A	-2	HIS	-	expression tag	UNP Q9X052
A	-1	HIS	-	expression tag	UNP Q9X052
A	0	HIS	-	expression tag	UNP Q9X052
A	35	MSE	MET	modified residue	UNP Q9X052
A	37	MLY	LYS	modified residue	UNP Q9X052
A	42	MLY	LYS	modified residue	UNP Q9X052
A	51	MLY	LYS	modified residue	UNP Q9X052
A	55	MSE	MET	modified residue	UNP Q9X052
A	56	MSE	MET	modified residue	UNP Q9X052
A	81	MLY	LYS	modified residue	UNP Q9X052
A	84	MLY	LYS	modified residue	UNP Q9X052
A	106	MLY	LYS	modified residue	UNP Q9X052

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Chain	Residue	Modelled	Actual	Comment	Reference
A	113	MLY	LYS	modified residue	UNP Q9X052
A	119	MLY	LYS	modified residue	UNP Q9X052
A	142	MLY	LYS	modified residue	UNP Q9X052
A	143	MSE	MET	modified residue	UNP Q9X052
A	161	MLY	LYS	modified residue	UNP Q9X052
A	164	MLY	LYS	modified residue	UNP Q9X052
A	173	MLY	LYS	modified residue	UNP Q9X052
A	177	MLY	LYS	modified residue	UNP Q9X052
A	196	MLY	LYS	modified residue	UNP Q9X052
A	201	MLY	LYS	modified residue	UNP Q9X052
B	-11	MSE	-	expression tag	UNP Q9X052
B	-10	GLY	-	expression tag	UNP Q9X052
B	-9	SER	-	expression tag	UNP Q9X052
B	-8	ASP	-	expression tag	UNP Q9X052
B	-7	MLY	-	expression tag	UNP Q9X052
B	-6	ILE	-	expression tag	UNP Q9X052
B	-5	HIS	-	expression tag	UNP Q9X052
B	-4	HIS	-	expression tag	UNP Q9X052
B	-3	HIS	-	expression tag	UNP Q9X052
B	-2	HIS	-	expression tag	UNP Q9X052
B	-1	HIS	-	expression tag	UNP Q9X052
B	0	HIS	-	expression tag	UNP Q9X052
B	35	MSE	MET	modified residue	UNP Q9X052
B	37	MLY	LYS	modified residue	UNP Q9X052
B	42	MLY	LYS	modified residue	UNP Q9X052
B	51	MLY	LYS	modified residue	UNP Q9X052
B	55	MSE	MET	modified residue	UNP Q9X052
B	56	MSE	MET	modified residue	UNP Q9X052
B	81	MLY	LYS	modified residue	UNP Q9X052
B	84	MLY	LYS	modified residue	UNP Q9X052
B	106	MLY	LYS	modified residue	UNP Q9X052
B	113	MLY	LYS	modified residue	UNP Q9X052
B	119	MLY	LYS	modified residue	UNP Q9X052
B	142	MLY	LYS	modified residue	UNP Q9X052
B	143	MSE	MET	modified residue	UNP Q9X052
B	161	MLY	LYS	modified residue	UNP Q9X052
B	164	MLY	LYS	modified residue	UNP Q9X052
B	173	MLY	LYS	modified residue	UNP Q9X052
B	177	MLY	LYS	modified residue	UNP Q9X052
B	196	MLY	LYS	modified residue	UNP Q9X052
B	201	MLY	LYS	modified residue	UNP Q9X052
C	-11	MSE	-	expression tag	UNP Q9X052

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-10	GLY	-	expression tag	UNP Q9X052
C	-9	SER	-	expression tag	UNP Q9X052
C	-8	ASP	-	expression tag	UNP Q9X052
C	-7	MLY	-	expression tag	UNP Q9X052
C	-6	ILE	-	expression tag	UNP Q9X052
C	-5	HIS	-	expression tag	UNP Q9X052
C	-4	HIS	-	expression tag	UNP Q9X052
C	-3	HIS	-	expression tag	UNP Q9X052
C	-2	HIS	-	expression tag	UNP Q9X052
C	-1	HIS	-	expression tag	UNP Q9X052
C	0	HIS	-	expression tag	UNP Q9X052
C	35	MSE	MET	modified residue	UNP Q9X052
C	37	MLY	LYS	modified residue	UNP Q9X052
C	42	MLY	LYS	modified residue	UNP Q9X052
C	51	MLY	LYS	modified residue	UNP Q9X052
C	55	MSE	MET	modified residue	UNP Q9X052
C	56	MSE	MET	modified residue	UNP Q9X052
C	81	MLY	LYS	modified residue	UNP Q9X052
C	84	MLY	LYS	modified residue	UNP Q9X052
C	106	MLY	LYS	modified residue	UNP Q9X052
C	113	MLY	LYS	modified residue	UNP Q9X052
C	119	MLY	LYS	modified residue	UNP Q9X052
C	142	MLY	LYS	modified residue	UNP Q9X052
C	143	MSE	MET	modified residue	UNP Q9X052
C	161	MLY	LYS	modified residue	UNP Q9X052
C	164	MLY	LYS	modified residue	UNP Q9X052
C	173	MLY	LYS	modified residue	UNP Q9X052
C	177	MLY	LYS	modified residue	UNP Q9X052
C	196	MLY	LYS	modified residue	UNP Q9X052
C	201	MLY	LYS	modified residue	UNP Q9X052
D	-11	MSE	-	expression tag	UNP Q9X052
D	-10	GLY	-	expression tag	UNP Q9X052
D	-9	SER	-	expression tag	UNP Q9X052
D	-8	ASP	-	expression tag	UNP Q9X052
D	-7	MLY	-	expression tag	UNP Q9X052
D	-6	ILE	-	expression tag	UNP Q9X052
D	-5	HIS	-	expression tag	UNP Q9X052
D	-4	HIS	-	expression tag	UNP Q9X052
D	-3	HIS	-	expression tag	UNP Q9X052
D	-2	HIS	-	expression tag	UNP Q9X052
D	-1	HIS	-	expression tag	UNP Q9X052
D	0	HIS	-	expression tag	UNP Q9X052

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Chain	Residue	Modelled	Actual	Comment	Reference
D	35	MSE	MET	modified residue	UNP Q9X052
D	37	MLY	LYS	modified residue	UNP Q9X052
D	42	MLY	LYS	modified residue	UNP Q9X052
D	51	MLY	LYS	modified residue	UNP Q9X052
D	55	MSE	MET	modified residue	UNP Q9X052
D	56	MSE	MET	modified residue	UNP Q9X052
D	81	MLY	LYS	modified residue	UNP Q9X052
D	84	MLY	LYS	modified residue	UNP Q9X052
D	106	MLY	LYS	modified residue	UNP Q9X052
D	113	MLY	LYS	modified residue	UNP Q9X052
D	119	MLY	LYS	modified residue	UNP Q9X052
D	142	MLY	LYS	modified residue	UNP Q9X052
D	143	MSE	MET	modified residue	UNP Q9X052
D	161	MLY	LYS	modified residue	UNP Q9X052
D	164	MLY	LYS	modified residue	UNP Q9X052
D	173	MLY	LYS	modified residue	UNP Q9X052
D	177	MLY	LYS	modified residue	UNP Q9X052
D	196	MLY	LYS	modified residue	UNP Q9X052
D	201	MLY	LYS	modified residue	UNP Q9X052

- Molecule 2 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Cl 2 2	0	0
2	B	1	Total Cl 1 1	0	0

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total Mg 1 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	118	Total O 118 118	0	0
4	B	134	Total O 134 134	0	0

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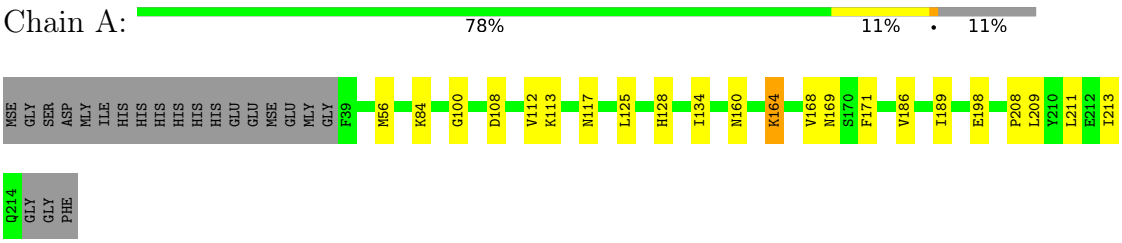
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	C	143	Total O 143 143	0	0
4	D	89	Total O 89 89	0	0

3 Residue-property plots (i)

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.

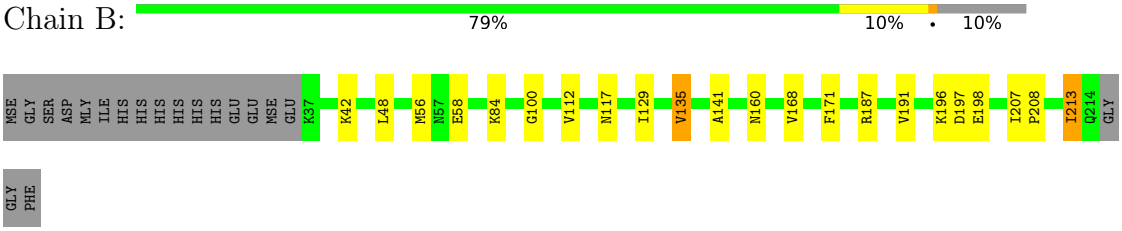
• Molecule 1: hypothetical protein TM0957

Chain A:



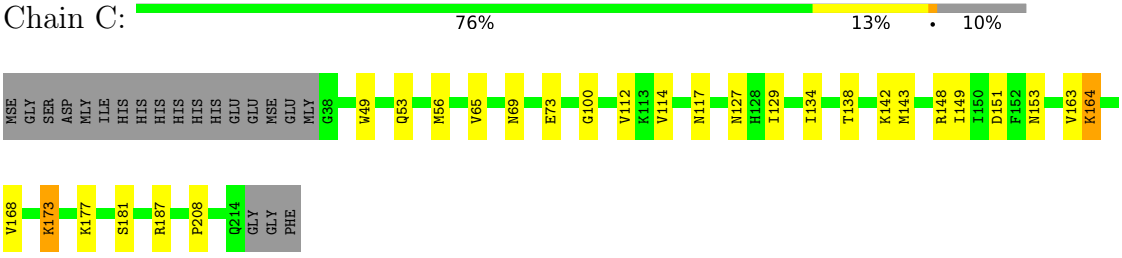
• Molecule 1: hypothetical protein TM0957

Chain B:



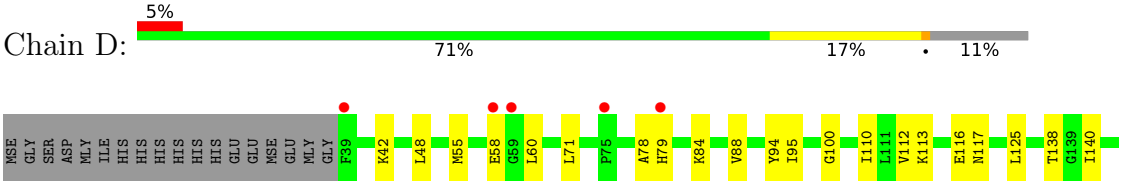
• Molecule 1: hypothetical protein TM0957

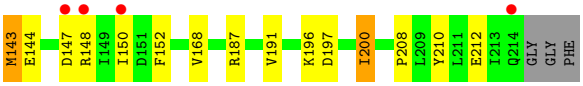
Chain C:



• Molecule 1: hypothetical protein TM0957

Chain D:




M143
E144
D147
R148
I149
I150
D151
F152
V168
R187
V191
K196
D197
I200
P208
L209
Y210
L211
E212
I213
Q214
GLY
GLY
PHE

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	65.68Å 78.08Å 82.49Å 90.00° 93.40° 90.00°	Depositor
Resolution (Å)	29.83 – 2.25 29.85 – 2.25	Depositor EDS
% Data completeness (in resolution range)	99.8 (29.83-2.25) 99.8 (29.85-2.25)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	3.20 (at 2.24Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.190 , 0.248 0.195 , 0.250	Depositor DCC
R_{free} test set	1989 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	25.3	Xtriage
Anisotropy	0.425	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 38.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	6251	wwPDB-VP
Average B, all atoms (Å^2)	20.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.64% of the height of the origin peak. No significant pseudotranslation is detected.*

[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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, CL, MLY

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	0.87	0/1342	0.76	0/1825
1	B	0.78	0/1372	0.76	0/1863
1	C	0.78	0/1384	0.76	0/1876
1	D	0.70	0/1329	0.77	0/1805
All	All	0.79	0/5427	0.76	0/7369

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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	1428	0	1397	23	0
1	B	1453	0	1423	9	0
1	C	1466	0	1455	16	0
1	D	1416	0	1380	28	0
2	A	2	0	0	0	0
2	B	1	0	0	0	0
3	C	1	0	0	0	0
4	A	118	0	0	1	0
4	B	134	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C	143	0	0	1	0
4	D	89	0	0	0	0
All	All	6251	0	5655	76	0

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 7.

All (76) 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:A:164:MLY:HH23	1:A:169:ASN:HD21	1.08	1.16
1:A:56:MSE:HE1	1:A:209:LEU:CB	1.80	1.09
1:A:56:MSE:HE1	1:A:209:LEU:HB2	1.40	1.01
1:A:164:MLY:HH23	1:A:169:ASN:ND2	1.86	0.90
1:D:110:ILE:HD13	1:D:112:VAL:CG2	2.06	0.85
1:A:164:MLY:CH2	1:A:169:ASN:HD21	1.91	0.80
1:D:88:VAL:HG12	1:D:88:VAL:O	1.83	0.78
1:A:56:MSE:HE1	1:A:209:LEU:HB3	1.67	0.77
1:B:168:VAL:HG22	1:B:208:PRO:HG2	1.69	0.73
1:D:168:VAL:HG22	1:D:208:PRO:HG2	1.76	0.67
1:D:110:ILE:HD13	1:D:112:VAL:HG23	1.74	0.67
1:D:110:ILE:CD1	1:D:112:VAL:HG23	2.29	0.62
1:D:143:MSE:HE2	1:D:152:PHE:CE2	2.35	0.62
1:D:110:ILE:CD1	1:D:112:VAL:CG2	2.76	0.61
1:A:56:MSE:HE1	1:A:209:LEU:CD1	2.31	0.61
1:A:171:PHE:CD2	1:A:211:LEU:HD13	2.38	0.58
1:C:173:MLY:HH22	1:C:177:MLY:HD3	1.86	0.57
1:D:110:ILE:HD13	1:D:112:VAL:HG21	1.86	0.57
1:D:79:HIS:ND1	1:D:94:TYR:OH	2.30	0.56
1:D:55:MSE:HE2	1:D:60:LEU:HD13	1.88	0.56
1:A:186[B]:VAL:HG11	1:A:211:LEU:HD22	1.88	0.55
1:D:95:ILE:HG12	1:D:191:VAL:HG22	1.88	0.55
1:B:135:VAL:HG13	1:B:141:ALA:O	2.08	0.54
1:A:100:GLY:HA3	1:A:112:VAL:CG1	2.38	0.54
1:A:171:PHE:CE1	1:A:213:ILE:HD12	2.43	0.54
1:A:56:MSE:HE2	1:A:189:ILE:HG21	1.90	0.53
1:A:168:VAL:HG22	1:A:208:PRO:HG2	1.90	0.53
1:A:56:MSE:CE	1:A:209:LEU:CD1	2.88	0.52
1:B:117:ASN:CG	1:B:117:ASN:O	2.49	0.51
1:A:56:MSE:CE	1:A:209:LEU:HB2	2.28	0.50
1:D:210:TYR:CZ	1:D:212:GLU:HG3	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:191[A]:VAL:HG22	1:B:207:ILE:HB	1.94	0.50
1:D:110:ILE:HD11	1:D:125:LEU:HD12	1.94	0.49
1:C:168:VAL:HG22	1:C:208:PRO:HG2	1.93	0.48
1:A:108:ASP:OD2	1:A:128:HIS:NE2	2.46	0.48
1:C:65:VAL:HG22	1:C:114:VAL:HG12	1.93	0.48
1:A:56:MSE:CE	1:A:209:LEU:HD12	2.44	0.48
1:C:49:TRP:O	1:C:53:GLN:HG3	2.13	0.48
1:D:48:LEU:HB3	1:D:140:ILE:HD12	1.94	0.48
1:D:71:LEU:HD23	1:D:78:ALA:HB3	1.95	0.47
1:D:71:LEU:HB3	1:D:200:ILE:CD1	2.44	0.47
1:A:56:MSE:HE1	1:A:209:LEU:CG	2.43	0.47
1:A:100:GLY:HA3	1:A:112:VAL:HG13	1.97	0.46
1:C:129:ILE:HD13	1:C:163:VAL:HG12	1.97	0.46
1:D:210:TYR:OH	1:D:212:GLU:HG3	2.15	0.46
1:D:110:ILE:CD1	1:D:112:VAL:HG21	2.43	0.46
1:A:134:ILE:HD12	1:A:160:ASN:OD1	2.16	0.45
1:B:100:GLY:HA3	1:B:112:VAL:HG13	1.98	0.45
1:C:69:ASN:O	1:C:73:GLU:HG3	2.16	0.45
1:D:113:MLY:HH23	1:D:116:GLU:OE1	2.17	0.45
1:B:171:PHE:CZ	1:B:213:ILE:HD12	2.53	0.43
1:C:148[A]:ARG:HG3	1:C:151:ASP:CG	2.39	0.43
4:A:233:HOH:O	1:C:142:MLY:HH11	2.18	0.43
1:C:127:ASN:HB2	1:C:164[A]:MLY:HG2	2.01	0.42
1:D:148:ARG:NH2	1:D:150:ILE:HG21	2.34	0.42
1:B:129:ILE:HG22	1:B:160:ASN:CG	2.39	0.42
1:B:196:MLY:O	1:B:197:ASP:HB2	2.19	0.42
1:D:138:THR:OG1	1:D:140:ILE:HG12	2.19	0.42
1:C:148[A]:ARG:NH1	4:C:318:HOH:O	2.52	0.41
1:D:88:VAL:O	1:D:88:VAL:CG1	2.57	0.41
1:A:56:MSE:CE	1:A:209:LEU:HB3	2.45	0.41
1:C:134:ILE:O	1:C:138:THR:HG23	2.21	0.41
1:D:100:GLY:HA3	1:D:112:VAL:CG1	2.50	0.41
1:C:100:GLY:HA3	1:C:112:VAL:HG13	2.02	0.41
1:C:53:GLN:HA	1:C:56[A]:MSE:HE3	2.03	0.41
1:D:71:LEU:HD13	1:D:200:ILE:CD1	2.51	0.41
1:D:110:ILE:HD12	1:D:110:ILE:O	2.21	0.41
1:D:196:MLY:O	1:D:197:ASP:HB2	2.20	0.41
1:A:125:LEU:HB3	1:A:208:PRO:HG3	2.03	0.41
1:D:55:MSE:O	1:D:58[B]:GLU:HB2	2.21	0.40
1:D:84:MLY:HH13	1:D:84:MLY:HD2	1.81	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 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 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	165/197 (84%)	163 (99%)	2 (1%)	0	100	100
1	B	169/197 (86%)	167 (99%)	2 (1%)	0	100	100
1	C	168/197 (85%)	167 (99%)	1 (1%)	0	100	100
1	D	164/197 (83%)	161 (98%)	3 (2%)	0	100	100
All	All	666/788 (84%)	658 (99%)	8 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 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 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	141/150 (94%)	139 (99%)	2 (1%)	67	76
1	B	145/150 (97%)	138 (95%)	7 (5%)	25	28
1	C	147/150 (98%)	144 (98%)	3 (2%)	55	64
1	D	139/150 (93%)	132 (95%)	7 (5%)	24	26
All	All	572/600 (95%)	553 (97%)	19 (3%)	42	46

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	198[A]	GLU
1	A	198[B]	GLU

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Mol	Chain	Res	Type
1	B	48	LEU
1	B	58	GLU
1	B	135	VAL
1	B	187	ARG
1	B	198[A]	GLU
1	B	198[B]	GLU
1	B	213	ILE
1	C	143	MSE
1	C	149	ILE
1	C	181	SER
1	D	117[A]	ASN
1	D	117[B]	ASN
1	D	143	MSE
1	D	144	GLU
1	D	147	ASP
1	D	187	ARG
1	D	200	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	153	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

59 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
1	MLY	A	142	1	4,5,11	0.60	0	1,5,13	0.49	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	MLY	A	81[B]	-	9,10,11	1.02	0	6,11,13	0.97	0
1	MLY	A	51	1	7,8,11	0.85	0	3,8,13	0.69	0
1	MLY	A	113	1	7,8,11	1.48	1 (14%)	3,8,13	0.52	0
1	MLY	B	177	1	9,10,11	0.54	0	6,11,13	0.60	0
1	MLY	D	164	1	7,8,11	0.61	0	3,8,13	0.54	0
1	MLY	A	161	1	7,8,11	0.71	0	3,8,13	0.52	0
1	MLY	C	51	1	7,8,11	0.72	0	3,8,13	0.46	0
1	MLY	A	196	1	7,8,11	0.97	0	3,8,13	0.37	0
1	MLY	C	196	1	7,8,11	0.71	0	3,8,13	0.63	0
1	MLY	B	201	1	5,6,11	0.49	0	2,6,13	0.16	0
1	MLY	B	37	1	3,4,11	0.93	0	2,4,13	1.01	0
1	MLY	C	201	1	5,6,11	0.71	0	2,6,13	0.29	0
1	MLY	D	177	1	4,5,11	0.67	0	1,5,13	0.25	0
1	MLY	A	81[A]	-	9,10,11	1.00	0	6,11,13	1.00	0
1	MLY	B	119	1	5,6,11	0.71	0	2,6,13	0.34	0
1	MLY	C	173	1	9,10,11	1.23	1 (11%)	6,11,13	0.60	0
1	MLY	D	81	1	6,7,11	0.67	0	2,7,13	0.41	0
1	MLY	D	51	1	6,7,11	0.82	0	2,7,13	0.22	0
1	MLY	D	142	1	4,5,11	0.84	0	1,5,13	0.74	0
1	MLY	B	164	1	6,7,11	0.62	0	2,7,13	0.17	0
1	MLY	C	177	1	7,8,11	0.86	0	3,8,13	0.14	0
1	MLY	B	42	1	9,10,11	1.11	1 (11%)	6,11,13	0.66	0
1	MLY	C	119	1	5,6,11	0.85	0	2,6,13	0.09	0
1	MLY	A	164	1	9,10,11	1.36	2 (22%)	6,11,13	1.33	1 (16%)
1	MLY	B	173	1	7,8,11	1.04	0	3,8,13	0.27	0
1	MLY	B	81	1	7,8,11	0.63	0	3,8,13	0.32	0
1	MLY	A	119	1	5,6,11	0.88	0	2,6,13	0.44	0
1	MLY	C	81	1	7,8,11	0.63	0	3,8,13	0.65	0
1	MLY	C	142	1	9,10,11	0.81	0	6,11,13	1.02	0
1	MLY	C	161	1	7,8,11	0.61	0	3,8,13	0.23	0
1	MLY	C	164[B]	-	9,10,11	1.23	1 (11%)	6,11,13	1.24	1 (16%)
1	MLY	D	106	1	7,8,11	0.52	0	3,8,13	1.12	0
1	MLY	D	119	1	5,6,11	0.62	0	2,6,13	0.10	0
1	MLY	D	201	1	6,7,11	0.55	0	2,7,13	0.21	0
1	MLY	B	113	1	9,10,11	0.60	0	6,11,13	0.72	0
1	MLY	A	201	1	6,7,11	0.61	0	2,7,13	0.19	0
1	MLY	B	142	1	7,8,11	0.77	0	3,8,13	0.50	0
1	MLY	B	161	1	7,8,11	0.66	0	3,8,13	0.73	0
1	MLY	A	173	1	7,8,11	0.72	0	3,8,13	0.38	0
1	MLY	B	84	1	9,10,11	1.34	1 (11%)	6,11,13	0.39	0
1	MLY	C	106	1	9,10,11	0.83	0	6,11,13	0.76	0
1	MLY	D	113	1	9,10,11	0.78	0	6,11,13	0.63	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	MLY	D	173	1	7,8,11	0.44	0	3,8,13	0.26	0
1	MLY	B	51	1	5,6,11	0.84	0	2,6,13	0.82	0
1	MLY	D	84	1	9,10,11	0.93	0	6,11,13	1.19	0
1	MLY	D	42	1	9,10,11	1.11	1 (11%)	6,11,13	1.06	1 (16%)
1	MLY	A	42	1	7,8,11	0.87	0	3,8,13	0.31	0
1	MLY	B	106	1	7,8,11	0.57	0	3,8,13	1.19	0
1	MLY	B	196	1	7,8,11	0.75	0	3,8,13	0.49	0
1	MLY	C	164[A]	-	9,10,11	0.64	0	6,11,13	0.57	0
1	MLY	A	177	1	6,7,11	0.78	0	2,7,13	0.24	0
1	MLY	C	113	1	7,8,11	0.69	0	3,8,13	0.52	0
1	MLY	A	106	1	7,8,11	0.59	0	3,8,13	1.09	0
1	MLY	D	161	1	7,8,11	0.65	0	3,8,13	0.35	0
1	MLY	C	84	1	7,8,11	0.60	0	3,8,13	0.42	0
1	MLY	C	42	1	9,10,11	0.78	0	6,11,13	0.81	0
1	MLY	D	196	1	7,8,11	0.87	0	3,8,13	0.26	0
1	MLY	A	84	1	9,10,11	0.89	0	6,11,13	1.23	1 (16%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	MLY	A	142	1	-	1/3/4/11	-
1	MLY	A	81[B]	-	-	4/8/9/11	-
1	MLY	A	51	1	-	0/6/7/11	-
1	MLY	A	113	1	-	4/6/7/11	-
1	MLY	B	177	1	-	1/8/9/11	-
1	MLY	D	164	1	-	2/6/7/11	-
1	MLY	A	161	1	-	1/6/7/11	-
1	MLY	C	51	1	-	2/6/7/11	-
1	MLY	A	196	1	-	1/6/7/11	-
1	MLY	C	196	1	-	0/6/7/11	-
1	MLY	B	201	1	-	3/4/5/11	-
1	MLY	B	37	1	-	0/0/2/11	-
1	MLY	C	201	1	-	3/4/5/11	-
1	MLY	D	177	1	-	0/3/4/11	-
1	MLY	A	81[A]	-	-	4/8/9/11	-
1	MLY	B	119	1	-	0/4/5/11	-
1	MLY	C	173	1	-	1/8/9/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	MLY	D	81	1	-	3/5/6/11	-
1	MLY	D	51	1	-	0/5/6/11	-
1	MLY	D	142	1	-	2/3/4/11	-
1	MLY	B	164	1	-	1/5/6/11	-
1	MLY	C	177	1	-	1/6/7/11	-
1	MLY	B	42	1	-	1/8/9/11	-
1	MLY	C	119	1	-	1/4/5/11	-
1	MLY	A	164	1	-	3/8/9/11	-
1	MLY	B	173	1	-	0/6/7/11	-
1	MLY	B	81	1	-	2/6/7/11	-
1	MLY	A	119	1	-	0/4/5/11	-
1	MLY	C	81	1	-	3/6/7/11	-
1	MLY	C	142	1	-	0/8/9/11	-
1	MLY	C	161	1	-	1/6/7/11	-
1	MLY	C	164[B]	-	-	3/8/9/11	-
1	MLY	D	106	1	-	0/6/7/11	-
1	MLY	D	119	1	-	1/4/5/11	-
1	MLY	D	201	1	-	3/5/6/11	-
1	MLY	B	113	1	-	1/8/9/11	-
1	MLY	A	201	1	-	1/5/6/11	-
1	MLY	B	142	1	-	0/6/7/11	-
1	MLY	B	161	1	-	0/6/7/11	-
1	MLY	A	173	1	-	0/6/7/11	-
1	MLY	B	84	1	-	4/8/9/11	-
1	MLY	C	106	1	-	1/8/9/11	-
1	MLY	D	113	1	-	3/8/9/11	-
1	MLY	D	173	1	-	0/6/7/11	-
1	MLY	B	51	1	-	3/4/5/11	-
1	MLY	D	84	1	-	0/8/9/11	-
1	MLY	D	42	1	-	3/8/9/11	-
1	MLY	A	42	1	-	0/6/7/11	-
1	MLY	B	106	1	-	0/6/7/11	-
1	MLY	B	196	1	-	1/6/7/11	-
1	MLY	C	164[A]	-	-	1/8/9/11	-
1	MLY	A	177	1	-	2/5/6/11	-
1	MLY	C	113	1	-	2/6/7/11	-
1	MLY	A	106	1	-	0/6/7/11	-
1	MLY	D	161	1	-	2/6/7/11	-
1	MLY	C	84	1	-	0/6/7/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	MLY	C	42	1	-	2/8/9/11	-
1	MLY	D	196	1	-	2/6/7/11	-
1	MLY	A	84	1	-	3/8/9/11	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	113	MLY	CB-CA	3.00	1.57	1.53
1	A	164	MLY	CE-NZ	2.81	1.56	1.46
1	C	164[B]	MLY	CE-NZ	2.79	1.56	1.46
1	C	173	MLY	CE-NZ	2.66	1.56	1.46
1	D	42	MLY	CE-NZ	2.42	1.55	1.46
1	B	42	MLY	CE-NZ	2.35	1.54	1.46
1	B	84	MLY	CE-NZ	2.21	1.54	1.46
1	A	164	MLY	CD-CE	2.09	1.60	1.51

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	164	MLY	CD-CE-NZ	2.85	121.51	113.79
1	C	164[B]	MLY	CD-CE-NZ	2.70	121.11	113.79
1	A	84	MLY	CD-CE-NZ	2.51	120.59	113.79
1	D	42	MLY	CD-CE-NZ	2.13	119.54	113.79

There are no chirality outliers.

All (83) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	81[A]	MLY	C-CA-CB-CG
1	A	81[B]	MLY	C-CA-CB-CG
1	A	113	MLY	C-CA-CB-CG
1	A	177	MLY	C-CA-CB-CG
1	A	201	MLY	O-C-CA-CB
1	B	51	MLY	C-CA-CB-CG
1	B	113	MLY	C-CA-CB-CG
1	B	177	MLY	C-CA-CB-CG
1	B	201	MLY	N-CA-CB-CG
1	B	201	MLY	C-CA-CB-CG
1	C	81	MLY	N-CA-CB-CG
1	C	81	MLY	C-CA-CB-CG

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Mol	Chain	Res	Type	Atoms
1	C	113	MLY	C-CA-CB-CG
1	C	201	MLY	N-CA-CB-CG
1	C	201	MLY	C-CA-CB-CG
1	D	81	MLY	N-CA-CB-CG
1	D	81	MLY	C-CA-CB-CG
1	D	142	MLY	N-CA-CB-CG
1	D	142	MLY	C-CA-CB-CG
1	D	164	MLY	N-CA-CB-CG
1	D	164	MLY	C-CA-CB-CG
1	D	201	MLY	C-CA-CB-CG
1	A	81[A]	MLY	CD-CE-NZ-CH2
1	A	164	MLY	CD-CE-NZ-CH2
1	B	84	MLY	CD-CE-NZ-CH1
1	B	84	MLY	CD-CE-NZ-CH2
1	C	164[B]	MLY	CD-CE-NZ-CH2
1	B	201	MLY	CA-CB-CG-CD
1	A	81[A]	MLY	CD-CE-NZ-CH1
1	C	42	MLY	CD-CE-NZ-CH2
1	C	164[B]	MLY	CD-CE-NZ-CH1
1	D	42	MLY	CD-CE-NZ-CH2
1	A	84	MLY	CD-CE-NZ-CH1
1	A	164	MLY	CD-CE-NZ-CH1
1	A	84	MLY	CG-CD-CE-NZ
1	D	119	MLY	CA-CB-CG-CD
1	C	173	MLY	CG-CD-CE-NZ
1	B	51	MLY	CA-CB-CG-CD
1	C	119	MLY	CA-CB-CG-CD
1	A	81[B]	MLY	CG-CD-CE-NZ
1	C	81	MLY	CE-CD-CG-CB
1	A	81[A]	MLY	CE-CD-CG-CB
1	C	51	MLY	CE-CD-CG-CB
1	D	113	MLY	C-CA-CB-CG
1	A	196	MLY	CE-CD-CG-CB
1	D	196	MLY	CE-CD-CG-CB
1	A	113	MLY	CA-CB-CG-CD
1	A	81[B]	MLY	CE-CD-CG-CB
1	C	201	MLY	CA-CB-CG-CD
1	C	42	MLY	CG-CD-CE-NZ
1	C	164[A]	MLY	CG-CD-CE-NZ
1	D	42	MLY	CE-CD-CG-CB
1	A	142	MLY	N-CA-CB-CG
1	D	113	MLY	CD-CE-NZ-CH2

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Mol	Chain	Res	Type	Atoms
1	C	164[B]	MLY	CG-CD-CE-NZ
1	A	113	MLY	N-CA-CB-CG
1	B	51	MLY	N-CA-CB-CG
1	B	81	MLY	N-CA-CB-CG
1	C	113	MLY	N-CA-CB-CG
1	D	113	MLY	N-CA-CB-CG
1	B	81	MLY	C-CA-CB-CG
1	B	84	MLY	C-CA-CB-CG
1	D	196	MLY	C-CA-CB-CG
1	C	177	MLY	CE-CD-CG-CB
1	B	196	MLY	CG-CD-CE-NZ
1	C	51	MLY	CG-CD-CE-NZ
1	C	161	MLY	CG-CD-CE-NZ
1	A	81[B]	MLY	CD-CE-NZ-CH2
1	A	161	MLY	CG-CD-CE-NZ
1	B	84	MLY	CG-CD-CE-NZ
1	C	106	MLY	CD-CE-NZ-CH1
1	D	42	MLY	CD-CE-NZ-CH1
1	A	84	MLY	C-CA-CB-CG
1	D	201	MLY	CA-CB-CG-CD
1	D	161	MLY	CE-CD-CG-CB
1	A	164	MLY	CG-CD-CE-NZ
1	D	161	MLY	CG-CD-CE-NZ
1	B	164	MLY	CE-CD-CG-CB
1	B	42	MLY	CD-CE-NZ-CH2
1	A	113	MLY	CE-CD-CG-CB
1	D	81	MLY	CE-CD-CG-CB
1	A	177	MLY	N-CA-CB-CG
1	D	201	MLY	N-CA-CB-CG

There are no ring outliers.

9 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	C	173	MLY	1	0
1	C	177	MLY	1	0
1	A	164	MLY	3	0
1	C	142	MLY	1	0
1	D	113	MLY	1	0
1	D	84	MLY	1	0
1	B	196	MLY	1	0
1	C	164[A]	MLY	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	D	196	MLY	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

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, 95^{th} 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	159/197 (80%)	-0.21	0	100	100	15, 18, 26, 32	0
1	B	160/197 (81%)	-0.13	0	100	100	13, 18, 26, 35	0
1	C	160/197 (81%)	-0.13	0	100	100	12, 18, 28, 43	0
1	D	159/197 (80%)	0.23	9 (5%)	23	25	13, 18, 25, 31	0
All	All	638/788 (80%)	-0.06	9 (1%)	75	77	12, 18, 27, 43	0

All (9) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	39	PHE	3.6
1	D	150	ILE	3.1
1	D	79	HIS	2.9
1	D	148	ARG	2.8
1	D	59	GLY	2.6
1	D	58[A]	GLU	2.6
1	D	75	PRO	2.5
1	D	147	ASP	2.2
1	D	214	GLN	2.1

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	MLY	B	37	5/12	0.77	0.23	32,36,38,38	0
1	MLY	D	196	9/12	0.77	0.26	18,21,21,21	0
1	MLY	D	84	11/12	0.83	0.18	17,23,28,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	MLY	B	196	9/12	0.85	0.16	18,21,22,22	0
1	MLY	A	164	11/12	0.86	0.20	18,26,31,31	0
1	MLY	C	173	11/12	0.86	0.20	19,25,32,32	0
1	MLY	C	142	11/12	0.88	0.18	16,20,26,26	0
1	MLY	A	173	9/12	0.88	0.24	19,21,27,27	0
1	MLY	C	196	9/12	0.89	0.14	18,20,21,21	0
1	MLY	A	177	8/12	0.90	0.26	19,21,24,24	0
1	MLY	B	84	11/12	0.90	0.17	18,24,29,31	0
1	MLY	D	113	11/12	0.91	0.19	17,21,24,24	0
1	MLY	D	173	9/12	0.91	0.20	19,21,26,27	0
1	MLY	D	51	8/12	0.91	0.18	16,21,26,26	0
1	MLY	B	164	8/12	0.92	0.15	18,20,26,27	0
1	MLY	A	106	9/12	0.92	0.12	19,20,26,26	0
1	MLY	D	142	6/12	0.92	0.18	16,18,20,21	0
1	MLY	B	201	7/12	0.92	0.14	19,22,26,27	0
1	MLY	C	51	9/12	0.92	0.17	16,21,29,29	0
1	MLY	D	201	8/12	0.92	0.13	19,23,27,27	0
1	MLY	C	164[B]	11/12	0.93	0.21	18,21,23,23	7
1	MLY	A	161	9/12	0.93	0.12	17,19,21,22	0
1	MLY	B	177	11/12	0.93	0.14	19,21,24,24	0
1	MLY	A	201	8/12	0.93	0.14	19,23,26,27	0
1	MLY	A	42	9/12	0.93	0.13	17,20,24,25	0
1	MLY	D	106	9/12	0.93	0.11	19,21,25,25	0
1	MLY	C	42	11/12	0.93	0.13	18,22,25,25	0
1	MLY	B	42	11/12	0.93	0.14	16,22,26,26	0
1	MLY	C	81	9/12	0.93	0.11	19,20,25,25	0
1	MLY	A	113	9/12	0.93	0.12	17,19,23,24	0
1	MLY	C	164[A]	11/12	0.93	0.21	18,20,20,21	7
1	MLY	D	81	8/12	0.94	0.13	19,20,23,24	0
1	MLY	A	196	9/12	0.94	0.12	17,20,23,23	0
1	MLY	A	51	9/12	0.94	0.15	17,21,29,29	0
1	MLY	B	51	7/12	0.94	0.11	16,19,27,28	0
1	MLY	B	81	9/12	0.94	0.14	18,20,24,24	0
1	MLY	D	161	9/12	0.94	0.11	17,18,21,22	0
1	MLY	C	84	9/12	0.94	0.13	17,20,26,27	0
1	MLY	D	177	6/12	0.94	0.18	19,19,21,21	0
1	MLY	D	42	11/12	0.94	0.13	17,22,25,26	0
1	MLY	C	106	11/12	0.94	0.14	19,22,28,28	0
1	MLY	A	81[B]	11/12	0.95	0.13	15,19,20,20	4
1	MLY	A	84	11/12	0.95	0.13	17,22,25,26	0
1	MLY	C	113	9/12	0.95	0.13	17,19,24,25	0
1	MLY	C	119	7/12	0.95	0.15	16,17,19,19	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	MLY	A	81[A]	11/12	0.95	0.13	17,19,20,20	4
1	MLY	C	161	9/12	0.95	0.11	17,19,21,23	0
1	MLY	B	113	11/12	0.95	0.15	17,21,25,25	0
1	MLY	B	119	7/12	0.95	0.12	15,17,19,20	0
1	MLY	D	164	9/12	0.95	0.12	18,20,26,26	0
1	MLY	B	142	9/12	0.95	0.13	15,19,23,24	0
1	MLY	C	177	9/12	0.95	0.14	19,21,26,26	0
1	MLY	B	161	9/12	0.95	0.12	17,19,22,25	0
1	MLY	C	201	7/12	0.95	0.15	19,22,26,27	0
1	MLY	D	119	7/12	0.96	0.12	15,16,19,20	0
1	MLY	B	106	9/12	0.96	0.09	19,21,25,26	0
1	MLY	A	119	7/12	0.96	0.11	15,16,19,21	0
1	MLY	B	173	9/12	0.96	0.11	19,21,26,26	0
1	MLY	A	142	6/12	0.97	0.08	15,18,20,22	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	CL	A	1	1/1	0.92	0.07	44,44,44,44	0
3	MG	C	4	1/1	0.92	0.15	32,32,32,32	0
2	CL	A	3	1/1	0.94	0.20	43,43,43,43	0
2	CL	B	2	1/1	0.98	0.06	36,36,36,36	0

6.5 Other polymers (i)

There are no such residues in this entry.