wwPDB X-ray Structure Validation Summary Report (i)

Jun 13, 2024 – 08:06 AM EDT

PDB ID	:	1MPM
Title	:	MALTOPORIN MALTOSE COMPLEX
Authors	:	Dutzler, R.; Schirmer, T.
Deposited on	:	1996-01-11
Resolution	:	2.60 Å(reported)

The following versions of software and data (see references (i)) 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	:	2.36.2
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)	:	2.36.2

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 2.60 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.
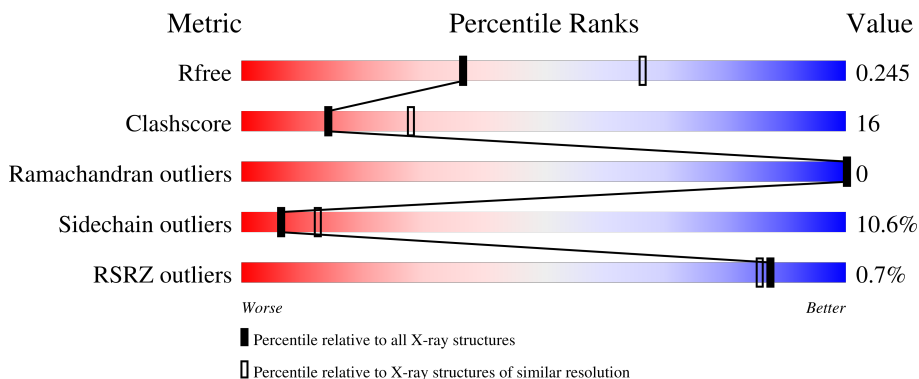
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)

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	421	.% 71% 25% 5%
1	B	421	.% 70% 26% •
1	C	421	71% 25% •
2	D	2	50% 50%
2	E	2	50% 50%

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Mol	Chain	Length	Quality of chain
2	F	2	50% 50%
2	G	2	50% 50%
2	H	2	50% 50%
2	I	2	50% 50%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	BGC	D	1	-	-	X	-
2	GLC	E	2	-	-	X	-
2	BGC	F	1	-	-	X	-
2	GLC	G	2	-	-	X	-
2	BGC	H	1	-	-	X	-
2	GLC	I	2	-	-	X	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 10662 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 MALTOPORIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	421	Total 3350	C 2110	N 571	O 655	S 14	124	0	0
1	B	421	Total 3350	C 2110	N 571	O 655	S 14	124	0	0
1	C	421	Total 3350	C 2110	N 571	O 655	S 14	124	0	0

- Molecule 2 is an oligosaccharide called alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	D	2	Total 23	C 12	O 11	0	0	0
2	E	2	Total 23	C 12	O 11	0	0	0
2	F	2	Total 23	C 12	O 11	0	0	0
2	G	2	Total 23	C 12	O 11	0	0	0
2	H	2	Total 23	C 12	O 11	0	0	0
2	I	2	Total 23	C 12	O 11	0	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	2	Total 2	Mg 2	0	0

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

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	161	Total 161	O 161	0	0
4	B	155	Total 155	O 155	0	0
4	C	155	Total 155	O 155	0	0

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.
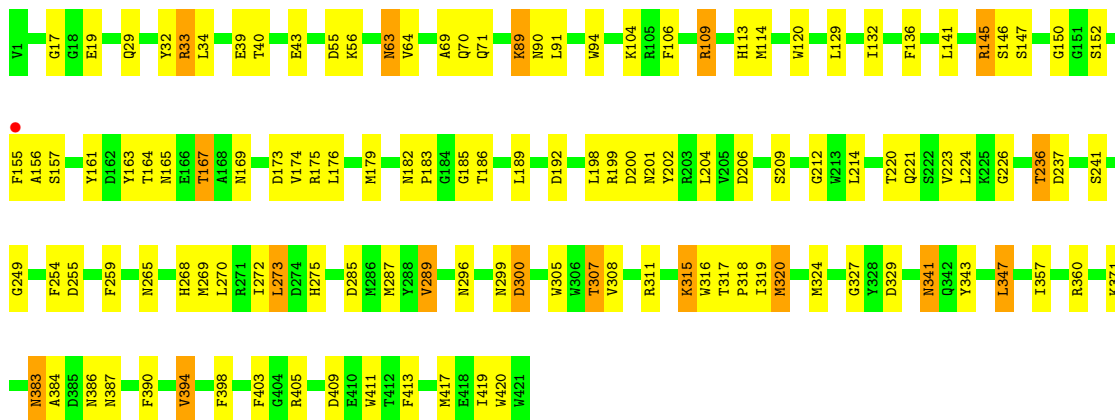
- Molecule 1: MALTOPORIN

Chain A:

- Molecule 1: MALTOPORIN

Chain B:

- Molecule 1: MALTOPORIN

Chain C:

V1 G17 G18 E19 Q29 Y32 R33 L34 E39 T40 E43 D55 K56 N63 V64 A69 Q70 Q71 K89 N90 L91 W94 K104 R105 F106 R109 H113 M114 W120 L129 I132 F136 L141 R145 S146 S147 G150 G151 S152

F155 A156 S157 Y161 D162 Y163 T164 N165 E166 T167 A168 N169 D173 V174 R175 L176 M179 N182 P183 G184 G185 T186 L189 D192 L198 R199 D200 N201 Y202 R203 L204 V205 D206 S209 G212 W213 L214 T220 Q221 S222 V223 L224 K225 G226 T236 D237 S241

G249 F254 D255 F259 N265 H268 M269 L270 R271 I272 L273 D274 H275 D285 M286 M287 Y288 V289 N296 N299 D300 W305 W306 T307 V308 R311 K315 W316 T317 P318 I319 M320 M324 G327 Y328 D329 N341 Q342 Y343 L347 I357 R360 K371

N383 A384 D385 N386 N387 F390 V394 F398 F403 G404 R405 D409 E410 W411 T412 F413 M417 E418 I419 W420 W421

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain D:

50% 50%

BGC1 GLC2

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain E:

50% 50%

BGC1 GLC2

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain F:

50% 50%

BGC1 GLC2

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain G:

50% 50%

BGC1 GLC2

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain H:

50% 50%

BGC1 GLC2

- Molecule 2: alpha-D-glucopyranose-(1-4)-beta-D-glucopyranose

Chain I:

50% 50%

BGC1 GLC2

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	129.80Å 211.70Å 218.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	8.00 – 2.60 19.94 – 2.60	Depositor EDS
% Data completeness (in resolution range)	89.5 (8.00-2.60) 88.7 (19.94-2.60)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.48 (at 2.59Å)	Xtriage
Refinement program	X-PLOR 3.1	Depositor
R, R_{free}	0.226 , 0.243 0.227 , 0.245	Depositor DCC
R_{free} test set	4108 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å^2)	40.9	Xtriage
Anisotropy	0.276	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 100.7	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.015 for 1/2*h-1/2*k,-3/2*h-1/2*k,-l 0.024 for 1/2*h+1/2*k,3/2*h-1/2*k,-l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	10662	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.14% 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 $< \lvert L \rvert >$, $< L^2 >$ 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: GLC, BGC, MG

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	0.86	2/3443 (0.1%)	0.99	6/4668 (0.1%)
1	B	0.86	2/3443 (0.1%)	0.99	5/4668 (0.1%)
1	C	0.86	2/3443 (0.1%)	0.99	5/4668 (0.1%)
All	All	0.86	6/10329 (0.1%)	0.99	16/14004 (0.1%)

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	1
1	B	0	1
1	C	0	1
All	All	0	3

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	409	ASP	CB-CG	-6.12	1.38	1.51
1	A	409	ASP	CB-CG	-6.12	1.39	1.51
1	C	409	ASP	CB-CG	-6.09	1.39	1.51
1	C	316	TRP	CB-CG	-5.88	1.39	1.50
1	B	316	TRP	CB-CG	-5.87	1.39	1.50

The worst 5 of 16 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	405	ARG	NE-CZ-NH2	-7.69	116.45	120.30
1	A	405	ARG	NE-CZ-NH2	-7.66	116.47	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	405	ARG	NE-CZ-NH2	-7.64	116.48	120.30
1	A	289	VAL	CB-CA-C	-7.38	97.37	111.40
1	C	289	VAL	CB-CA-C	-7.38	97.37	111.40

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	32	TYR	Sidechain
1	B	32	TYR	Sidechain
1	C	32	TYR	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	3350	0	3070	93	0
1	B	3350	0	3070	90	3
1	C	3350	0	3070	92	0
2	D	23	0	21	10	0
2	E	23	0	21	10	0
2	F	23	0	21	11	0
2	G	23	0	21	11	0
2	H	23	0	21	11	0
2	I	23	0	21	11	0
3	A	2	0	0	0	0
3	B	1	0	0	0	0
4	A	161	0	0	14	4
4	B	155	0	0	14	1
4	C	155	0	0	14	0
All	All	10662	0	9336	289	4

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 16.

The worst 5 of 289 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)
2:H:1:BGC:C1	2:I:2:GLC:H4	1.48	1.43
2:D:1:BGC:C1	2:E:2:GLC:H4	1.48	1.42
2:D:1:BGC:O1	2:E:2:GLC:C4	1.71	1.39
2:F:1:BGC:O1	2:G:2:GLC:C4	1.71	1.39
2:F:1:BGC:C1	2:G:2:GLC:H4	1.48	1.39

All (4) 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:B:399:ASN:ND2	4:A:484:HOH:O[8_456]	0.27	1.93
1:B:399:ASN:CG	4:A:484:HOH:O[8_456]	1.44	0.76
4:A:443:HOH:O	4:B:534:HOH:O[8_556]	1.52	0.68
1:B:336:THR:CB	4:A:527:HOH:O[8_456]	1.93	0.27

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	419/421 (100%)	398 (95%)	21 (5%)	0	100	100
1	B	419/421 (100%)	398 (95%)	21 (5%)	0	100	100
1	C	419/421 (100%)	398 (95%)	21 (5%)	0	100	100
All	All	1257/1263 (100%)	1194 (95%)	63 (5%)	0	100	100

There are no Ramachandran outliers to report.

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	340/340 (100%)	304 (89%)	36 (11%)	6	12
1	B	340/340 (100%)	304 (89%)	36 (11%)	6	12
1	C	340/340 (100%)	304 (89%)	36 (11%)	6	12
All	All	1020/1020 (100%)	912 (89%)	108 (11%)	6	12

5 of 108 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	287	MET
1	B	417	MET
1	C	311	ARG
1	B	296	ASN
1	B	320	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 48 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	296	ASN
1	C	71	GLN
1	B	330	ASN
1	C	29	GLN
1	C	169	ASN

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 ⓘ

12 monosaccharides 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
2	BGC	D	1	2	12,12,12	0.42	0	17,17,17	1.22	2 (11%)
2	GLC	D	2	2	11,11,12	0.57	0	15,15,17	0.90	1 (6%)
2	BGC	E	1	2	12,12,12	0.24	0	17,17,17	0.82	0
2	GLC	E	2	2	11,11,12	0.60	0	15,15,17	1.07	1 (6%)
2	BGC	F	1	2	12,12,12	0.42	0	17,17,17	1.22	2 (11%)
2	GLC	F	2	2	11,11,12	0.56	0	15,15,17	0.90	1 (6%)
2	BGC	G	1	2	12,12,12	0.24	0	17,17,17	0.81	0
2	GLC	G	2	2	11,11,12	0.59	0	15,15,17	1.07	1 (6%)
2	BGC	H	1	2	12,12,12	0.41	0	17,17,17	1.22	2 (11%)
2	GLC	H	2	2	11,11,12	0.57	0	15,15,17	0.90	1 (6%)
2	BGC	I	1	2	12,12,12	0.24	0	17,17,17	0.81	0
2	GLC	I	2	2	11,11,12	0.59	0	15,15,17	1.07	1 (6%)

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
2	BGC	D	1	2	-	0/2/22/22	0/1/1/1
2	GLC	D	2	2	-	0/2/19/22	0/1/1/1
2	BGC	E	1	2	-	0/2/22/22	0/1/1/1
2	GLC	E	2	2	-	0/2/19/22	0/1/1/1
2	BGC	F	1	2	-	0/2/22/22	0/1/1/1
2	GLC	F	2	2	-	0/2/19/22	0/1/1/1
2	BGC	G	1	2	-	0/2/22/22	0/1/1/1
2	GLC	G	2	2	-	0/2/19/22	0/1/1/1
2	BGC	H	1	2	-	0/2/22/22	0/1/1/1
2	GLC	H	2	2	-	0/2/19/22	0/1/1/1
2	BGC	I	1	2	-	0/2/22/22	0/1/1/1
2	GLC	I	2	2	-	0/2/19/22	0/1/1/1

There are no bond length outliers.

The worst 5 of 12 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	1	BGC	C1-C2-C3	-3.02	104.06	110.31
2	H	1	BGC	C1-C2-C3	-3.01	104.07	110.31
2	D	1	BGC	C1-C2-C3	-3.01	104.07	110.31
2	D	1	BGC	C3-C4-C5	2.58	114.85	110.24
2	F	1	BGC	C3-C4-C5	2.58	114.84	110.24

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

6 monomers are involved in 32 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	2	GLC	10	0
2	H	1	BGC	11	0
2	F	1	BGC	11	0
2	I	2	GLC	11	0
2	G	2	GLC	11	0
2	D	1	BGC	10	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

Oligosaccharide Chain D

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain E

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain F

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain G

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain H

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain I

Bond lengths

Bond angles

Torsions

Rings

5.6 Ligand geometry ⓘ

Of 3 ligands modelled in this entry, 3 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 ⓘ

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, 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	421/421 (100%)	-0.49	3 (0%)	87	86	16, 33, 51, 64	46 (10%)
1	B	421/421 (100%)	-0.44	5 (1%)	79	76	16, 33, 51, 64	46 (10%)
1	C	421/421 (100%)	-0.48	1 (0%)	95	95	16, 33, 51, 64	46 (10%)
All	All	1263/1263 (100%)	-0.47	9 (0%)	87	86	16, 33, 52, 64	138 (10%)

The worst 5 of 9 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	158	ASN	2.7
1	B	155	PHE	2.6
1	B	387	ASN	2.6
1	A	306	TRP	2.3
1	B	385	ASP	2.3

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 ⓘ

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, 95th 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	GLC	G	2	11/12	0.76	0.37	33,33,33,33	11
2	BGC	E	1	12/12	0.82	0.24	39,39,39,39	12
2	GLC	D	2	11/12	0.83	0.27	37,37,37,37	11

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	BGC	D	1	12/12	0.84	0.33	32,32,32,32	12
2	BGC	G	1	12/12	0.86	0.22	39,39,39,39	12
2	GLC	F	2	11/12	0.86	0.30	37,37,37,37	11
2	BGC	I	1	12/12	0.87	0.21	39,39,39,39	12
2	GLC	H	2	11/12	0.88	0.29	37,37,37,37	11
2	BGC	F	1	12/12	0.89	0.26	32,32,32,32	12
2	GLC	E	2	11/12	0.89	0.31	33,33,33,33	11
2	GLC	I	2	11/12	0.89	0.39	33,33,33,33	11
2	BGC	H	1	12/12	0.90	0.34	32,32,32,32	12

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.
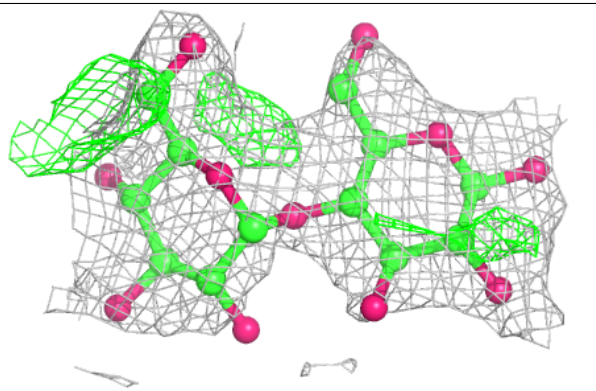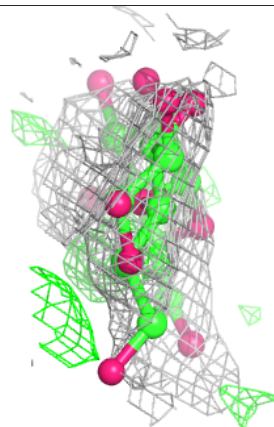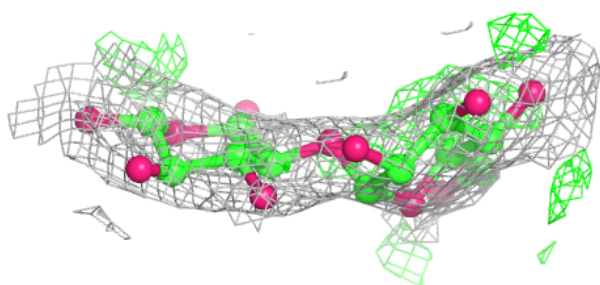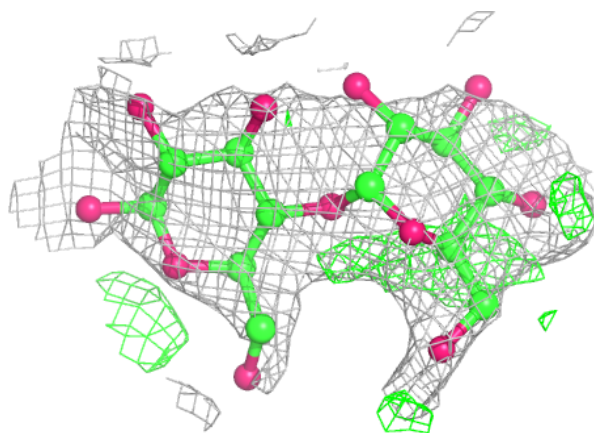

Electron density around Chain D:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
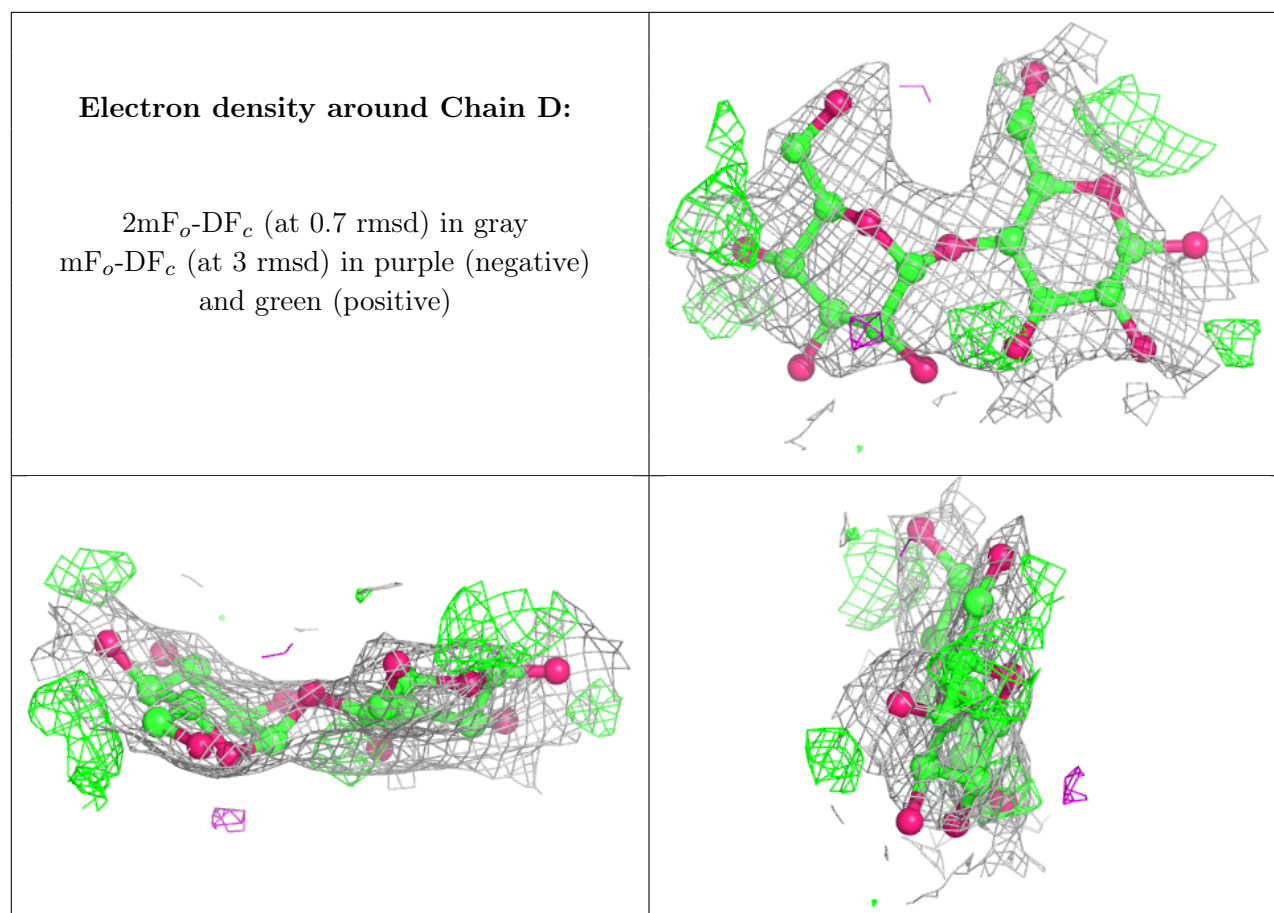
Electron density around Chain E:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
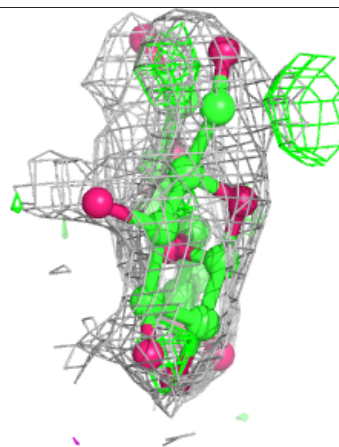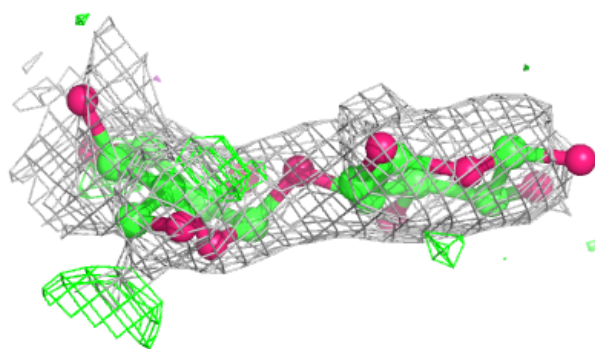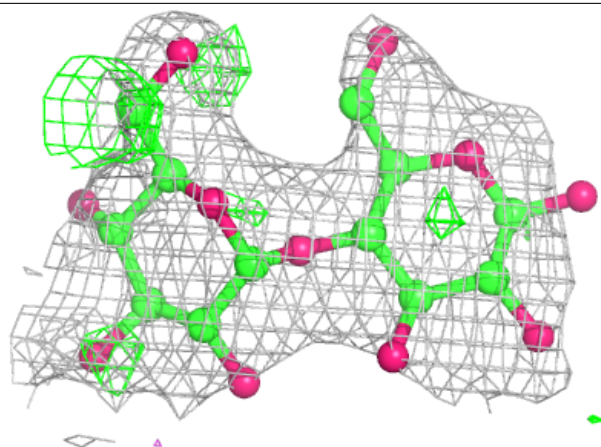
Electron density around Chain F:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
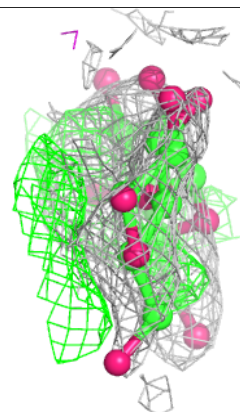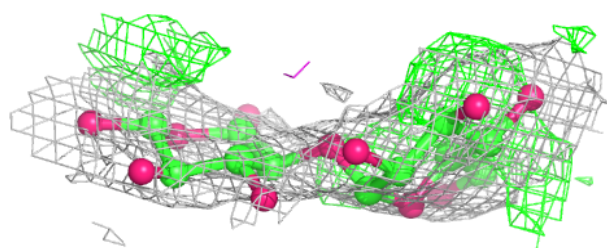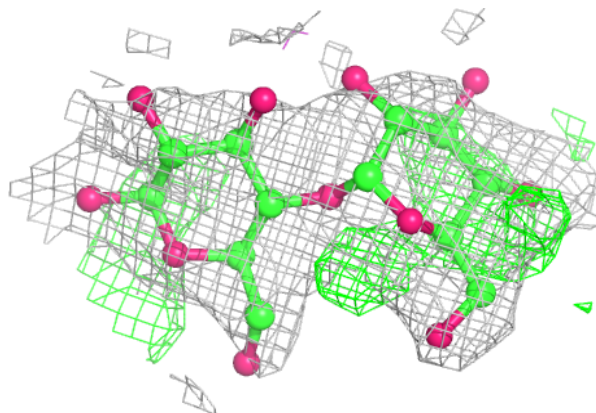
Electron density around Chain G:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
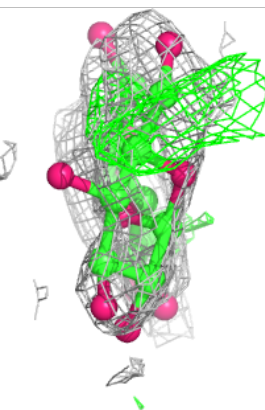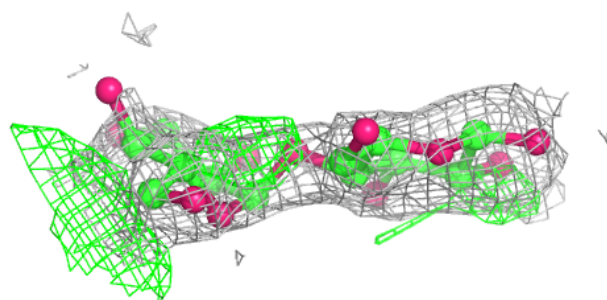
Electron density around Chain H:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around Chain I:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
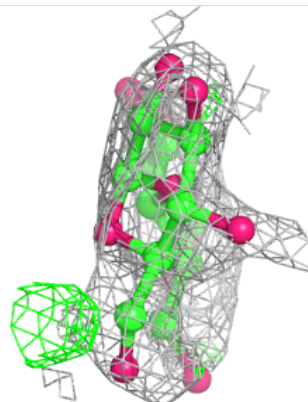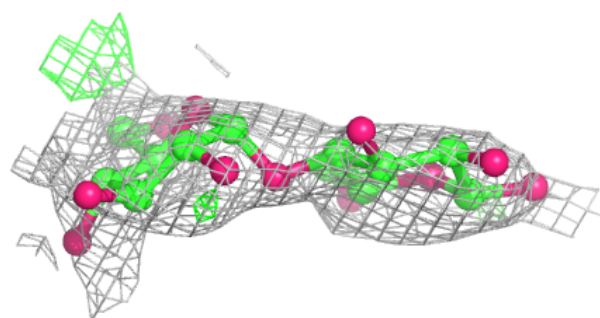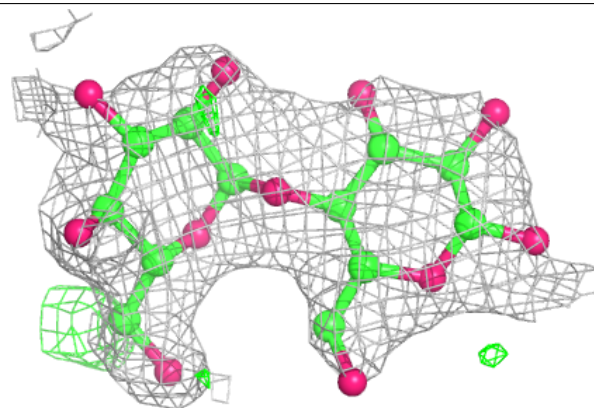
6.4 Ligands ⓘ

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, 95th 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
3	MG	A	422	1/1	0.93	0.15	16,16,16,16	1
3	MG	B	422	1/1	0.93	0.16	16,16,16,16	1
3	MG	A	423	1/1	0.96	0.14	16,16,16,16	1

6.5 Other polymers ⓘ

There are no such residues in this entry.