Full wwPDB X-ray Structure Validation Report (i)

Sep 8, 2025 – 09:37 PM JST

PDB ID	:	5DG1 / pdb_00005dg1
Title	:	Sugar binding protein - human galectin-2
Authors	:	Su, J.Y.; Si, Y.L.
Deposited on	:	2015-08-27
Resolution	:	3.20 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 (i) 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 (i)) were used in the production of this report:

|		
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

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 3.20 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.
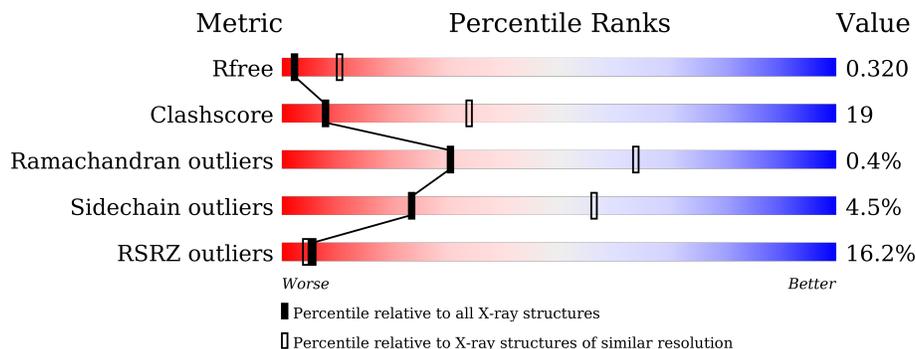
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1370 (3.20-3.20)
Clashscore	180529	1497 (3.20-3.20)
Ramachandran outliers	177936	1479 (3.20-3.20)
Sidechain outliers	177891	1478 (3.20-3.20)
RSRZ outliers	164620	1371 (3.20-3.20)

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	135	7% 60% 33% • •
1	B	135	39% 47% 41% 7% • •
1	C	135	3% 71% 24% • •
1	D	135	4% 69% 26% • •
1	H	135	16% 69% 24% • •
1	I	135	24% 58% 34% • •

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Mol	Chain	Length	Quality of chain
2	E	2	50% 50%
2	F	2	100%
2	G	2	100%

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	F	1	-	-	X	-
2	GAL	G	2	-	-	X	-

2 Entry composition ⓘ

There are 2 unique types of molecules in this entry. The entry contains 5945 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 Galectin-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	129	Total	C	N	O	S	0	0	0
			992	622	171	194	5			
1	B	130	Total	C	N	O	S	0	0	0
			918	581	161	173	3			
1	C	130	Total	C	N	O	S	0	0	0
			1004	630	171	198	5			
1	D	129	Total	C	N	O	S	0	0	0
			1000	628	169	198	5			
1	H	129	Total	C	N	O	S	0	0	0
			978	614	170	190	4			
1	I	129	Total	C	N	O	S	0	0	0
			984	622	167	190	5			

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	GLY	-	expression tag	UNP P05162
A	2	SER	-	expression tag	UNP P05162
A	3	HIS	-	expression tag	UNP P05162
B	1	GLY	-	expression tag	UNP P05162
B	2	SER	-	expression tag	UNP P05162
B	3	HIS	-	expression tag	UNP P05162
C	1	GLY	-	expression tag	UNP P05162
C	2	SER	-	expression tag	UNP P05162
C	3	HIS	-	expression tag	UNP P05162
D	1	GLY	-	expression tag	UNP P05162
D	2	SER	-	expression tag	UNP P05162
D	3	HIS	-	expression tag	UNP P05162
H	1	GLY	-	expression tag	UNP P05162
H	2	SER	-	expression tag	UNP P05162
H	3	HIS	-	expression tag	UNP P05162
I	1	GLY	-	expression tag	UNP P05162
I	2	SER	-	expression tag	UNP P05162

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Chain	Residue	Modelled	Actual	Comment	Reference
I	3	HIS	-	expression tag	UNP P05162

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

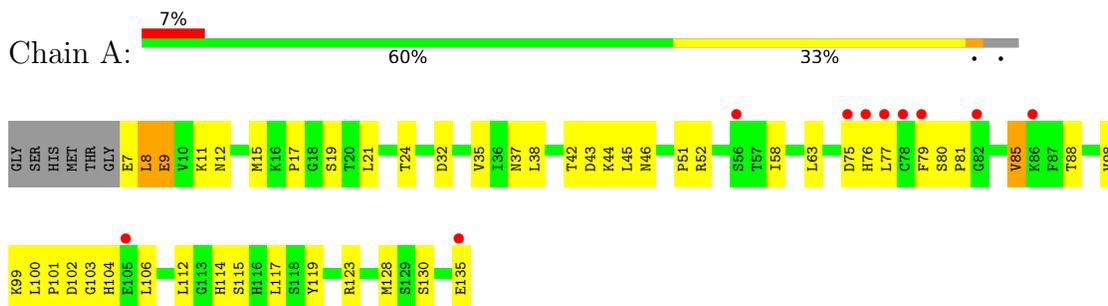| Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	E	2	Total 23	C 12	O 11	0	0	0
2	F	2	Total 23	C 12	O 11	0	0	0
2	G	2	Total 23	C 12	O 11	0	0	0

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.
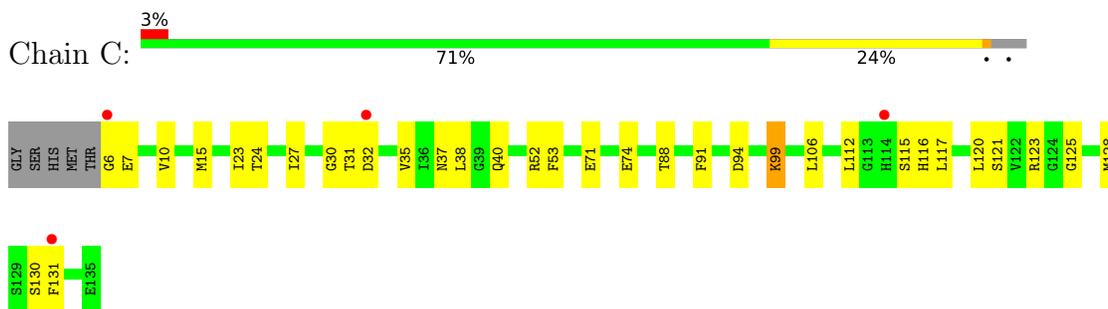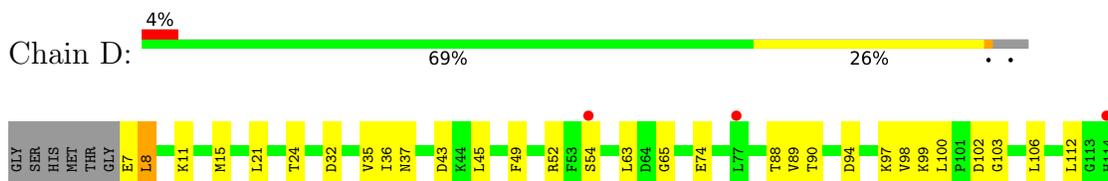
- Molecule 1: Galectin-2

Chain A:

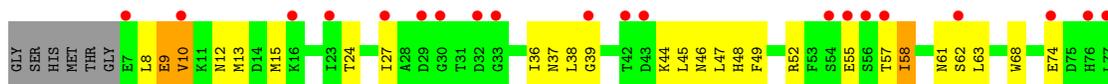- Molecule 1: Galectin-2

Chain B:

- Molecule 1: Galectin-2

Chain C:

- Molecule 1: Galectin-2

Chain D:

S115 H116 L117 R123 S130 F131 K132 L133 K134 E135

• Molecule 1: Galectin-2

Chain H:

16%

69% 24%

GLY SER HIS MET THR GLY E7 L8 N12 M15 T20 L21 K22 A28 D32 G33 F34 N37 Q40 G41 T42 D43 K44 L45 F53 S54 E55 I58 V59 S62 Q70 R73 E74 D75 H76 L77 C78 F79 S80 S83 E84 V85 K86 F87 T88 V89 T90

F91 E92 S93 V98 K99 L100 P101 D102 T107 R111 L112 G113 H114 L117 S121 G124 E135

• Molecule 1: Galectin-2

Chain I:

24%

58% 34%

GLY SER HIS MET THR GLY E7 L8 E9 V10 K11 N12 M13 D14 M15 K16 I23 T24 I27 A28 D29 G30 T31 D32 G33 I36 N37 L38 G39 T42 D43 K44 L45 N46 L47 H48 F49 R52 F53 S54 E55 S56 T57 I58 N61 S62 L63 W68 E74 D75 H76 L77

C78 F79 S80 S83 E84 V85 K86 F87 T88 V89 T90 F91 D94 K97 V98 K99 L100 P101 D102 G103 H104 E105 L112 G113 H114 S115 H116 L117 S118 Y119 L120 S121 V122 M128 S129 S130 F131 K132 E135

• Molecule 2: beta-D-galactopyranose-(1-4)-beta-D-glucopyranose

Chain E:

50% 50%

BGC1 GAL2

• Molecule 2: beta-D-galactopyranose-(1-4)-beta-D-glucopyranose

Chain F:

100%

BGC1 GAL2

• Molecule 2: beta-D-galactopyranose-(1-4)-beta-D-glucopyranose

Chain G:

100%

BGC1 GAL2

4   Data and refinement statistics (i)

Property	Value	Source
Space group	P 2 21 21	Depositor
Cell constants a, b, c, α, β, γ	38.50Å 106.78Å 182.11Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.06 – 3.20 46.06 – 3.20	Depositor EDS
% Data completeness (in resolution range)	99.1 (46.06-3.20) 96.5 (46.06-3.20)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.86 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.9_1692	Depositor
R, R_{free}	0.297 , 0.321 0.301 , 0.320	Depositor DCC
R_{free} test set	1309 reflections (10.00%)	wwPDB-VP
Wilson B-factor (Å^2)	46.1	Xtriage
Anisotropy	0.771	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 79.9	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	5945	wwPDB-VP
Average B, all atoms (Å^2)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.54 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.7379e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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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: BGC, GAL

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	0.60	3/1014 (0.3%)	0.86	3/1365 (0.2%)
1	B	0.55	3/937 (0.3%)	1.18	11/1257 (0.9%)
1	C	0.29	0/1025	0.75	0/1377
1	D	0.32	0/1020	0.75	0/1370
1	H	0.29	0/998	0.79	1/1341 (0.1%)
1	I	0.41	0/1006	0.87	3/1354 (0.2%)
All	All	0.43	6/6000 (0.1%)	0.87	18/8064 (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	B	0	3
1	C	0	1
1	H	0	3
1	I	0	1
All	All	0	8

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	80	SER	C-N	6.05	1.40	1.33
1	A	9	GLU	C-O	-5.46	1.17	1.23
1	B	101	PRO	N-CD	5.27	1.55	1.47
1	A	81	PRO	N-CD	5.15	1.54	1.47
1	B	100	LEU	C-N	5.05	1.40	1.34
1	B	26	SER	C-N	5.02	1.46	1.33

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	H	80	SER	N-CA-C	7.94	115.36	108.22
1	I	114	HIS	N-CA-C	7.77	115.15	108.78
1	A	75	ASP	N-CA-C	7.64	119.68	111.36
1	B	79	PHE	N-CA-C	7.32	121.76	109.76
1	B	108	PHE	CA-C-N	6.51	126.73	119.90
1	B	108	PHE	C-N-CA	6.51	126.73	119.90
1	B	75	ASP	N-CA-C	-6.49	98.80	108.99
1	B	26	SER	O-C-N	6.46	130.74	123.19
1	B	59	VAL	N-CA-C	6.28	117.82	108.46
1	A	80	SER	CA-C-N	-6.23	113.86	120.03
1	A	80	SER	C-N-CA	-6.23	113.86	120.03
1	B	100	LEU	CA-C-N	-5.75	112.66	119.05
1	B	100	LEU	C-N-CA	-5.75	112.66	119.05
1	I	114	HIS	CA-C-O	5.68	121.24	117.94
1	B	84	GLU	CA-C-N	5.58	132.01	121.97
1	B	84	GLU	C-N-CA	5.58	132.01	121.97
1	I	114	HIS	CB-CA-C	-5.57	109.05	117.07
1	B	73	ARG	N-CA-C	5.36	117.71	107.75

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	118	SER	Peptide
1	B	69	GLY	Peptide
1	B	85	VAL	Peptide
1	C	112	LEU	Peptide
1	H	75	ASP	Peptide
1	H	76	HIS	Peptide
1	H	78	CYS	Peptide
1	I	102	ASP	Peptide

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	992	0	938	45	0
1	B	918	0	821	53	4

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	1004	0	962	25	0
1	D	1000	0	965	25	0
1	H	978	0	931	45	0
1	I	984	0	936	39	1
2	E	23	0	20	4	0
2	F	23	0	20	23	0
2	G	23	0	20	5	3
All	All	5945	0	5613	225	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 19.

All (225) 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:H:55:GLU:CG	2:F:1:BGC:H5	1.73	1.17
1:H:55:GLU:HG2	2:F:1:BGC:C5	1.74	1.15
1:B:119:TYR:HB3	1:B:120:LEU:HA	1.16	1.14
1:H:55:GLU:HG2	2:F:1:BGC:H5	1.16	1.14
1:H:113:GLY:HA2	1:H:114:HIS:HB2	1.11	1.08
1:H:55:GLU:HA	2:F:1:BGC:H6C2	1.43	1.00
1:H:55:GLU:CB	2:F:1:BGC:H5	1.90	0.99
1:H:113:GLY:HA2	1:H:114:HIS:CB	1.90	0.97
1:B:119:TYR:HB3	1:B:120:LEU:CA	1.96	0.95
1:B:51:PRO:HA	1:B:58:ILE:HA	1.51	0.93
1:B:113:GLY:O	1:B:114:HIS:HB2	1.70	0.92
1:A:12:ASN:O	1:D:8:LEU:HD23	1.71	0.91
1:B:123:ARG:HG3	1:B:123:ARG:HH11	1.38	0.88
1:C:35:VAL:HB	1:C:123:ARG:HB3	1.56	0.87
1:B:76:HIS:O	1:B:76:HIS:ND1	2.09	0.85
1:H:55:GLU:HA	2:F:1:BGC:C6	2.07	0.84
1:A:8:LEU:HD22	1:A:128:MET:HE3	1.62	0.79
1:A:8:LEU:HD22	1:A:128:MET:CE	2.11	0.79
1:A:8:LEU:CD2	1:A:128:MET:HE3	2.13	0.79
1:H:55:GLU:CA	2:F:1:BGC:H6C2	2.13	0.77
1:B:96:PHE:HE1	1:B:117:LEU:HD21	1.49	0.77
1:H:55:GLU:HG2	2:F:1:BGC:C6	2.14	0.77
1:I:8:LEU:HD12	1:I:9:GLU:H	1.49	0.77
1:I:8:LEU:HD12	1:I:9:GLU:N	1.99	0.76
1:B:119:TYR:CB	1:B:120:LEU:HA	2.03	0.76
1:B:34:PHE:O	1:B:51:PRO:HD2	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:55:GLU:HA	2:F:1:BGC:C5	2.18	0.74
1:A:7:GLU:HG3	1:A:8:LEU:H	1.52	0.73
1:C:37:ASN:HB2	1:C:121:SER:HB3	1.72	0.72
1:D:35:VAL:HB	1:D:123:ARG:HB2	1.72	0.72
1:C:24:THR:HB	1:C:130:SER:HB3	1.72	0.72
1:D:123:ARG:HG3	1:D:123:ARG:HH11	1.55	0.71
1:B:96:PHE:CE1	1:B:117:LEU:HD21	2.26	0.71
1:A:15:MET:HB3	1:A:117:LEU:HB2	1.74	0.70
1:B:99:LYS:C	1:B:100:LEU:HD12	2.17	0.69
1:A:76:HIS:H	1:A:76:HIS:CD2	2.09	0.69
1:B:98:VAL:C	1:B:105:GLU:CB	2.66	0.69
1:A:9:GLU:OE2	1:A:119:TYR:OH	2.08	0.69
1:I:85:VAL:HG23	1:I:101:PRO:HG3	1.74	0.69
1:B:123:ARG:HG3	1:B:123:ARG:NH1	2.09	0.68
1:B:52:ARG:N	1:B:57:THR:O	2.27	0.67
1:H:22:LYS:HG2	1:H:88:THR:HG23	1.76	0.67
1:I:88:THR:HB	1:I:99:LYS:HB3	1.76	0.67
1:I:80:SER:O	1:I:83:SER:OG	2.12	0.67
1:I:10:VAL:CG2	1:I:120:LEU:HD22	2.24	0.67
1:B:36:ILE:HB	1:B:49:PHE:HB3	1.77	0.66
1:I:37:ASN:HB2	1:I:121:SER:HB3	1.77	0.66
1:A:85:VAL:HG23	1:A:101:PRO:HG3	1.76	0.66
1:H:55:GLU:HB3	2:F:1:BGC:H5	1.76	0.66
1:B:59:VAL:HA	1:B:73:ARG:H	1.59	0.65
1:B:38:LEU:HB2	1:B:47:LEU:HB3	1.78	0.65
1:I:10:VAL:HG23	1:I:120:LEU:HD22	1.79	0.64
1:A:76:HIS:CE1	1:A:104:HIS:CE1	2.86	0.64
1:D:15:MET:HB3	1:D:117:LEU:HB2	1.78	0.64
1:C:115:SER:OG	1:C:116:HIS:N	2.29	0.64
1:H:113:GLY:CA	1:H:114:HIS:HB2	2.06	0.63
1:C:120:LEU:HD21	1:C:128:MET:HE1	1.78	0.63
1:C:6:GLY:HA3	1:C:123:ARG:HA	1.79	0.63
1:C:71:GLU:OE1	2:E:2:GAL:C6	2.47	0.63
1:I:39:GLY:HA3	1:I:45:LEU:HA	1.81	0.62
1:D:36:ILE:HB	1:D:49:PHE:HB3	1.82	0.62
1:C:71:GLU:OE1	2:E:2:GAL:H61	2.00	0.62
1:I:90:THR:HB	1:I:97:LYS:HB3	1.81	0.61
1:A:35:VAL:HB	1:A:123:ARG:HB2	1.82	0.61
1:B:122:VAL:HG21	1:B:128:MET:HE2	1.81	0.61
1:D:15:MET:HE1	1:D:21:LEU:HD22	1.82	0.61
1:A:7:GLU:HG3	1:A:8:LEU:N	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:123:ARG:HH11	1:D:123:ARG:CG	2.14	0.60
1:I:15:MET:HB3	1:I:117:LEU:HB3	1.83	0.60
1:A:76:HIS:HE1	1:A:104:HIS:CE1	2.18	0.59
1:H:54:SER:C	2:F:1:BGC:H6C2	2.27	0.59
1:H:55:GLU:HG2	2:F:1:BGC:C4	2.32	0.59
1:C:71:GLU:OE1	2:E:2:GAL:O6	2.14	0.59
1:H:55:GLU:CA	2:F:1:BGC:C6	2.78	0.59
1:B:19:SER:HA	1:B:135:GLU:HA	1.85	0.59
1:B:8:LEU:HD22	1:B:128:MET:HE3	1.83	0.59
1:I:24:THR:HB	1:I:130:SER:HB3	1.85	0.59
1:A:7:GLU:CG	1:A:8:LEU:H	2.15	0.58
1:C:31:THR:HG21	1:C:125:GLY:HA3	1.84	0.58
1:D:7:GLU:OE1	1:D:7:GLU:HA	2.03	0.58
1:B:53:PHE:C	1:B:56:SER:H	2.12	0.58
1:A:88:THR:HB	1:A:99:LYS:HB2	1.85	0.58
1:H:55:GLU:CB	2:F:1:BGC:C5	2.74	0.58
1:I:36:ILE:HB	1:I:49:PHE:HB3	1.86	0.58
1:A:11:LYS:O	1:D:8:LEU:HD22	2.04	0.57
1:A:58:ILE:HD11	1:A:79:PHE:CE2	2.39	0.57
1:A:76:HIS:CD2	1:A:76:HIS:N	2.73	0.57
1:H:54:SER:O	2:F:1:BGC:H6C2	2.05	0.57
1:A:8:LEU:CD2	1:A:128:MET:CE	2.77	0.57
1:H:55:GLU:CA	2:F:1:BGC:C5	2.84	0.56
1:B:42:THR:CG2	1:B:119:TYR:OH	2.54	0.56
1:H:55:GLU:HG2	2:F:1:BGC:H6C1	1.88	0.56
1:B:42:THR:HG22	1:B:119:TYR:OH	2.06	0.55
1:I:8:LEU:HB3	1:I:122:VAL:HB	1.87	0.55
1:D:24:THR:HB	1:D:130:SER:HB3	1.88	0.55
1:H:55:GLU:HG2	2:F:1:BGC:O4	2.06	0.55
1:A:8:LEU:HD22	1:A:128:MET:HE2	1.88	0.55
1:A:58:ILE:HD11	1:A:79:PHE:HE2	1.72	0.54
1:C:88:THR:HB	1:C:99:LYS:HB3	1.88	0.54
1:I:48:HIS:HD1	1:I:68:TRP:HZ3	1.55	0.54
1:B:85:VAL:HG12	1:B:86:LYS:H	1.72	0.54
1:B:123:ARG:HH11	1:B:123:ARG:CG	2.15	0.53
1:D:43:ASP:HB2	1:D:65:GLY:HA2	1.90	0.53
1:I:68:TRP:CE3	2:G:2:GAL:H62	2.42	0.53
1:B:83:SER:O	1:B:84:GLU:HB2	2.08	0.53
1:B:50:ASN:HB3	1:B:59:VAL:HB	1.90	0.53
1:I:10:VAL:HG23	1:I:120:LEU:CD2	2.39	0.53
1:B:38:LEU:HD12	1:B:47:LEU:HD23	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:74:GLU:HG3	1:C:106:LEU:HD22	1.90	0.52
1:H:15:MET:HB3	1:H:117:LEU:HB2	1.92	0.52
1:B:100:LEU:HD13	1:B:104:HIS:O	2.10	0.52
1:H:55:GLU:CG	2:F:1:BGC:C6	2.87	0.52
1:C:10:VAL:HB	1:C:120:LEU:HB3	1.92	0.51
1:H:62:SER:OG	1:H:111:ARG:NH1	2.41	0.51
1:B:120:LEU:H	1:B:120:LEU:HD23	1.76	0.51
1:C:38:LEU:HG	1:C:117:LEU:HD13	1.91	0.51
1:H:55:GLU:CG	2:F:1:BGC:C5	2.53	0.51
1:D:123:ARG:CG	1:D:123:ARG:NH1	2.73	0.50
1:C:52:ARG:NH2	2:E:2:GAL:O4	2.44	0.50
1:A:76:HIS:H	1:A:76:HIS:HD2	1.57	0.50
1:H:32:ASP:OD1	1:H:54:SER:HB2	2.11	0.50
1:D:89:VAL:HG22	1:D:98:VAL:HG22	1.93	0.50
1:H:88:THR:O	1:H:98:VAL:HA	2.11	0.50
1:A:51:PRO:HB3	1:A:79:PHE:HZ	1.77	0.50
1:B:32:ASP:O	1:B:53:PHE:HD2	1.94	0.50
1:C:27:ILE:HD13	1:C:53:PHE:HZ	1.76	0.50
1:I:10:VAL:CG2	1:I:120:LEU:HB3	2.42	0.49
1:B:84:GLU:O	1:B:85:VAL:O	2.31	0.49
1:D:52:ARG:NH2	2:F:2:GAL:H2	2.28	0.49
1:C:23:ILE:HG23	1:C:128:MET:HE2	1.93	0.49
1:I:48:HIS:CE1	2:G:2:GAL:H4	2.47	0.49
1:H:79:PHE:O	1:H:80:SER:OG	2.28	0.49
1:A:51:PRO:HB3	1:A:79:PHE:CZ	2.48	0.48
1:A:98:VAL:HB	1:A:106:LEU:HB3	1.96	0.48
1:I:24:THR:O	1:I:129:SER:N	2.36	0.48
1:C:15:MET:HE2	1:C:91:PHE:HB3	1.95	0.48
1:H:22:LYS:CG	1:H:88:THR:HG23	2.43	0.48
1:I:15:MET:HE3	1:I:91:PHE:HB2	1.96	0.48
1:I:52:ARG:HH22	2:G:2:GAL:H2	1.78	0.48
1:A:79:PHE:HB3	1:A:101:PRO:HG2	1.95	0.48
1:I:89:VAL:HG22	1:I:98:VAL:HG13	1.95	0.47
1:B:112:LEU:HD12	1:B:112:LEU:H	1.78	0.47
1:H:37:ASN:HB3	1:H:45:LEU:HD22	1.95	0.47
1:H:58:ILE:HD12	1:H:76:HIS:O	2.13	0.47
1:H:70:GLN:O	1:H:111:ARG:NH2	2.46	0.47
1:A:37:ASN:HB3	1:A:45:LEU:HD22	1.95	0.47
1:B:46:ASN:HD21	1:B:114:HIS:HD2	1.63	0.47
1:B:100:LEU:O	1:B:103:GLY:N	2.47	0.47
1:C:15:MET:HB3	1:C:117:LEU:HB2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:50:ASN:O	1:B:59:VAL:N	2.48	0.46
1:A:100:LEU:HB3	1:A:101:PRO:HD2	1.96	0.46
1:I:45:LEU:HB2	1:I:63:LEU:HB3	1.98	0.46
1:I:48:HIS:HE1	2:G:2:GAL:H4	1.80	0.46
1:I:62:SER:HB2	1:I:112:LEU:HD13	1.97	0.46
1:B:123:ARG:NH1	1:B:123:ARG:CG	2.73	0.46
1:B:28:ALA:HB3	1:B:31:THR:CG2	2.45	0.46
1:D:90:THR:OG1	1:D:97:LYS:HB3	2.15	0.46
1:C:120:LEU:HD22	1:C:131:PHE:CE1	2.51	0.46
1:B:34:PHE:CD1	1:B:34:PHE:C	2.94	0.46
1:I:10:VAL:HG21	1:I:120:LEU:HD22	1.98	0.46
1:A:46:ASN:HD21	1:A:114:HIS:HB2	1.79	0.46
1:I:10:VAL:HG23	1:I:120:LEU:HB3	1.98	0.46
1:I:13:MET:O	1:I:118:SER:HA	2.16	0.46
1:C:94:ASP:OD1	1:C:94:ASP:N	2.39	0.45
1:B:120:LEU:HD23	1:B:120:LEU:N	2.31	0.45
1:H:55:GLU:N	2:F:1:BGC:H6C2	2.31	0.45
1:B:80:SER:CB	1:B:81:PRO:HA	2.46	0.45
1:D:94:ASP:OD1	1:D:94:ASP:N	2.50	0.45
1:I:46:ASN:ND2	1:I:112:LEU:O	2.48	0.45
1:A:24:THR:HB	1:A:130:SER:OG	2.17	0.45
1:B:100:LEU:HD12	1:B:100:LEU:N	2.31	0.45
1:D:74:GLU:HG3	1:D:106:LEU:HD13	1.99	0.45
1:B:37:ASN:O	1:B:120:LEU:HB2	2.17	0.44
1:H:15:MET:HE2	1:H:91:PHE:HB3	1.97	0.44
1:A:102:ASP:OD1	1:A:103:GLY:N	2.50	0.44
1:C:40:GLN:NE2	1:C:116:HIS:O	2.42	0.44
1:D:102:ASP:OD1	1:D:103:GLY:N	2.50	0.44
1:H:89:VAL:HG22	1:H:98:VAL:HG22	1.98	0.44
1:H:7:GLU:OE1	1:I:12:ASN:HB3	2.17	0.44
1:B:34:PHE:CG	1:B:126:PHE:HB2	2.53	0.44
1:D:45:LEU:HB2	1:D:63:LEU:HB3	2.00	0.44
1:I:117:LEU:HD22	1:I:117:LEU:HA	1.79	0.44
1:B:28:ALA:HB3	1:B:125:GLY:HA3	1.99	0.44
1:H:20:THR:HG23	1:H:88:THR:CG2	2.48	0.44
1:D:134:LYS:O	1:D:135:GLU:HB2	2.18	0.44
1:A:21:LEU:O	1:A:88:THR:HA	2.18	0.43
1:B:96:PHE:HE1	1:B:117:LEU:CD2	2.25	0.43
1:H:37:ASN:HB2	1:H:121:SER:HB3	1.99	0.43
1:I:85:VAL:HG23	1:I:101:PRO:CG	2.47	0.43
1:A:43:ASP:C	1:A:44:LYS:HD2	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:41:GLY:HA2	1:B:119:TYR:CE1	2.54	0.43
1:I:68:TRP:CZ3	2:G:2:GAL:H62	2.54	0.43
1:D:32:ASP:OD1	1:D:54:SER:OG	2.35	0.43
1:A:19:SER:HA	1:A:135:GLU:HG2	2.02	0.42
1:H:55:GLU:CA	2:F:1:BGC:H5	2.43	0.42
1:I:38:LEU:HB3	1:I:47:LEU:HB3	2.01	0.42
1:I:44:LYS:HA	1:I:44:LYS:HD2	1.97	0.42
1:I:48:HIS:HB3	1:I:61:ASN:O	2.19	0.42
1:A:76:HIS:CE1	1:A:104:HIS:ND1	2.87	0.42
1:D:88:THR:HB	1:D:99:LYS:HB3	2.00	0.42
1:B:28:ALA:HB3	1:B:31:THR:HG21	2.00	0.42
1:A:52:ARG:NH2	1:C:32:ASP:OD2	2.51	0.42
1:B:13:MET:SD	1:B:120:LEU:CD2	3.07	0.42
1:B:91:PHE:HE1	1:B:110:ASN:ND2	2.17	0.42
1:H:77:LEU:CA	1:H:100:LEU:CD1	2.97	0.42
1:H:34:PHE:HA	1:H:124:GLY:HA3	2.01	0.41
1:A:112:LEU:HD23	1:A:114:HIS:CE1	2.55	0.41
1:H:8:LEU:HD12	1:H:8:LEU:HA	1.80	0.41
1:A:76:HIS:O	1:A:77:LEU:C	2.61	0.41
1:A:100:LEU:HB3	1:A:101:PRO:CD	2.51	0.41
1:H:77:LEU:CA	1:H:100:LEU:HD13	2.50	0.41
1:H:112:LEU:O	1:H:113:GLY:C	2.62	0.41
1:B:53:PHE:CE1	1:B:80:SER:CB	3.03	0.41
1:A:32:ASP:OD2	1:C:123:ARG:NH1	2.43	0.41
1:A:63:LEU:HD22	1:C:30:GLY:HA2	2.03	0.41
1:A:7:GLU:CG	1:A:8:LEU:N	2.73	0.41
1:A:130:SER:HB3	1:D:132:LYS:HG3	2.03	0.41
1:B:34:PHE:HA	1:B:124:GLY:HA3	2.03	0.41
1:D:37:ASN:HB3	1:D:45:LEU:HD22	2.02	0.41
1:A:21:LEU:HD23	1:A:38:LEU:HD11	2.03	0.41
1:I:55:GLU:O	1:I:57:THR:HG23	2.21	0.40
1:B:63:LEU:HD12	1:B:64:ASP:N	2.36	0.40
1:I:58:ILE:HB	1:I:74:GLU:HG3	2.04	0.40
1:A:17:PRO:HD3	1:A:115:SER:O	2.21	0.40
1:D:100:LEU:HD11	1:D:106:LEU:HD11	2.04	0.40

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:54:SER:O	2:G:1:BGC:C6[4_674]	1.41	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:54:SER:O	2:G:1:BGC:O6[4_674]	1.83	0.37
1:B:55:GLU:CG	2:G:2:GAL:O2[4_674]	1.87	0.33
1:B:29:ASP:OD1	1:I:86:LYS:CE[4_574]	2.15	0.05

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	127/135 (94%)	125 (98%)	2 (2%)	0	100	100
1	B	128/135 (95%)	111 (87%)	14 (11%)	3 (2%)	5	29
1	C	128/135 (95%)	120 (94%)	8 (6%)	0	100	100
1	D	127/135 (94%)	124 (98%)	3 (2%)	0	100	100
1	H	127/135 (94%)	118 (93%)	9 (7%)	0	100	100
1	I	127/135 (94%)	124 (98%)	3 (2%)	0	100	100
All	All	764/810 (94%)	722 (94%)	39 (5%)	3 (0%)	30	64

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	83	SER
1	B	85	VAL
1	B	84	GLU

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	110/119 (92%)	107 (97%)	3 (3%)	40	69
1	B	92/119 (77%)	84 (91%)	8 (9%)	8	32
1	C	113/119 (95%)	111 (98%)	2 (2%)	54	77
1	D	113/119 (95%)	110 (97%)	3 (3%)	40	69
1	H	107/119 (90%)	102 (95%)	5 (5%)	22	55
1	I	109/119 (92%)	101 (93%)	8 (7%)	11	41
All	All	644/714 (90%)	615 (96%)	29 (4%)	23	56

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	8	LEU
1	A	42	THR
1	A	85	VAL
1	B	53	PHE
1	B	63	LEU
1	B	76	HIS
1	B	85	VAL
1	B	102	ASP
1	B	115	SER
1	B	117	LEU
1	B	120	LEU
1	C	7	GLU
1	C	99	LYS
1	D	8	LEU
1	D	11	LYS
1	D	112	LEU
1	H	7	GLU
1	H	44	LYS
1	H	59	VAL
1	H	84	GLU
1	H	86	LYS
1	I	9	GLU
1	I	10	VAL
1	I	27	ILE
1	I	58	ILE
1	I	98	VAL
1	I	100	LEU
1	I	104	HIS
1	I	117	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	67	ASN
1	A	76	HIS
1	A	104	HIS
1	B	50	ASN
1	B	114	HIS
1	C	104	HIS
1	D	46	ASN
1	D	104	HIS
1	H	12	ASN
1	I	40	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 ⓘ

6 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	E	1	2	12,12,12	2.17	6 (50%)	17,17,17	1.03	1 (5%)
2	GAL	E	2	2	11,11,12	1.37	1 (9%)	15,15,17	0.79	1 (6%)
2	BGC	F	1	2	12,12,12	2.17	6 (50%)	17,17,17	1.03	1 (5%)
2	GAL	F	2	2	11,11,12	1.37	1 (9%)	15,15,17	0.79	1 (6%)
2	BGC	G	1	2	12,12,12	2.17	6 (50%)	17,17,17	1.03	1 (5%)
2	GAL	G	2	2	11,11,12	1.38	1 (9%)	15,15,17	0.80	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	E	1	2	-	0/2/22/22	0/1/1/1
2	GAL	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	GAL	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	GAL	G	2	2	-	0/2/19/22	0/1/1/1

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	2	GAL	O5-C5	3.52	1.50	1.43
2	G	2	GAL	O5-C5	3.51	1.50	1.43
2	F	2	GAL	O5-C5	3.50	1.50	1.43
2	E	1	BGC	O4-C4	3.33	1.50	1.43
2	G	1	BGC	O4-C4	3.32	1.50	1.43
2	F	1	BGC	O4-C4	3.31	1.50	1.43
2	F	1	BGC	C4-C3	-3.11	1.44	1.52
2	E	1	BGC	C4-C3	-3.09	1.44	1.52
2	G	1	BGC	C4-C3	-3.08	1.44	1.52
2	F	1	BGC	O5-C1	2.91	1.50	1.42
2	E	1	BGC	O5-C1	2.90	1.50	1.42
2	E	1	BGC	O3-C3	2.90	1.49	1.43
2	G	1	BGC	O5-C1	2.89	1.50	1.42
2	F	1	BGC	O3-C3	2.89	1.49	1.43
2	G	1	BGC	O3-C3	2.88	1.49	1.43
2	E	1	BGC	O1-C1	-2.65	1.31	1.39
2	G	1	BGC	O1-C1	-2.64	1.31	1.39
2	F	1	BGC	O1-C1	-2.64	1.31	1.39
2	G	1	BGC	C3-C2	-2.08	1.47	1.52
2	F	1	BGC	C3-C2	-2.03	1.47	1.52
2	E	1	BGC	C3-C2	-2.01	1.47	1.52

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	G	2	GAL	C1-C2-C3	2.78	113.09	109.67
2	E	2	GAL	C1-C2-C3	2.74	113.04	109.67
2	F	2	GAL	C1-C2-C3	2.73	113.02	109.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	1	BGC	O5-C1-C2	-2.62	105.60	110.28
2	G	1	BGC	O5-C1-C2	-2.62	105.60	110.28
2	F	1	BGC	O5-C1-C2	-2.62	105.61	110.28

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5 monomers are involved in 35 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	G	1	BGC	0	2
2	G	2	GAL	5	1
2	E	2	GAL	4	0
2	F	1	BGC	22	0
2	F	2	GAL	1	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 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
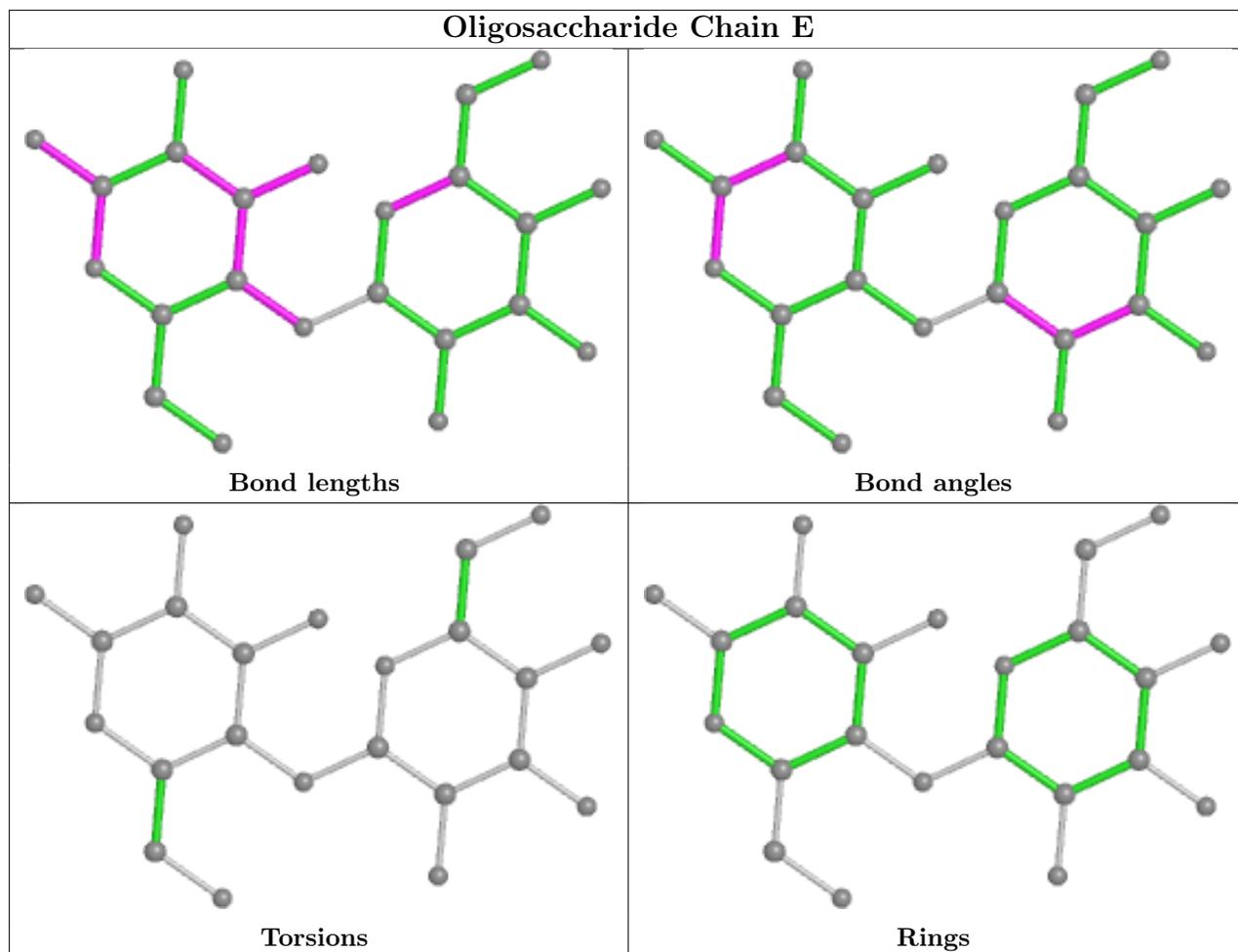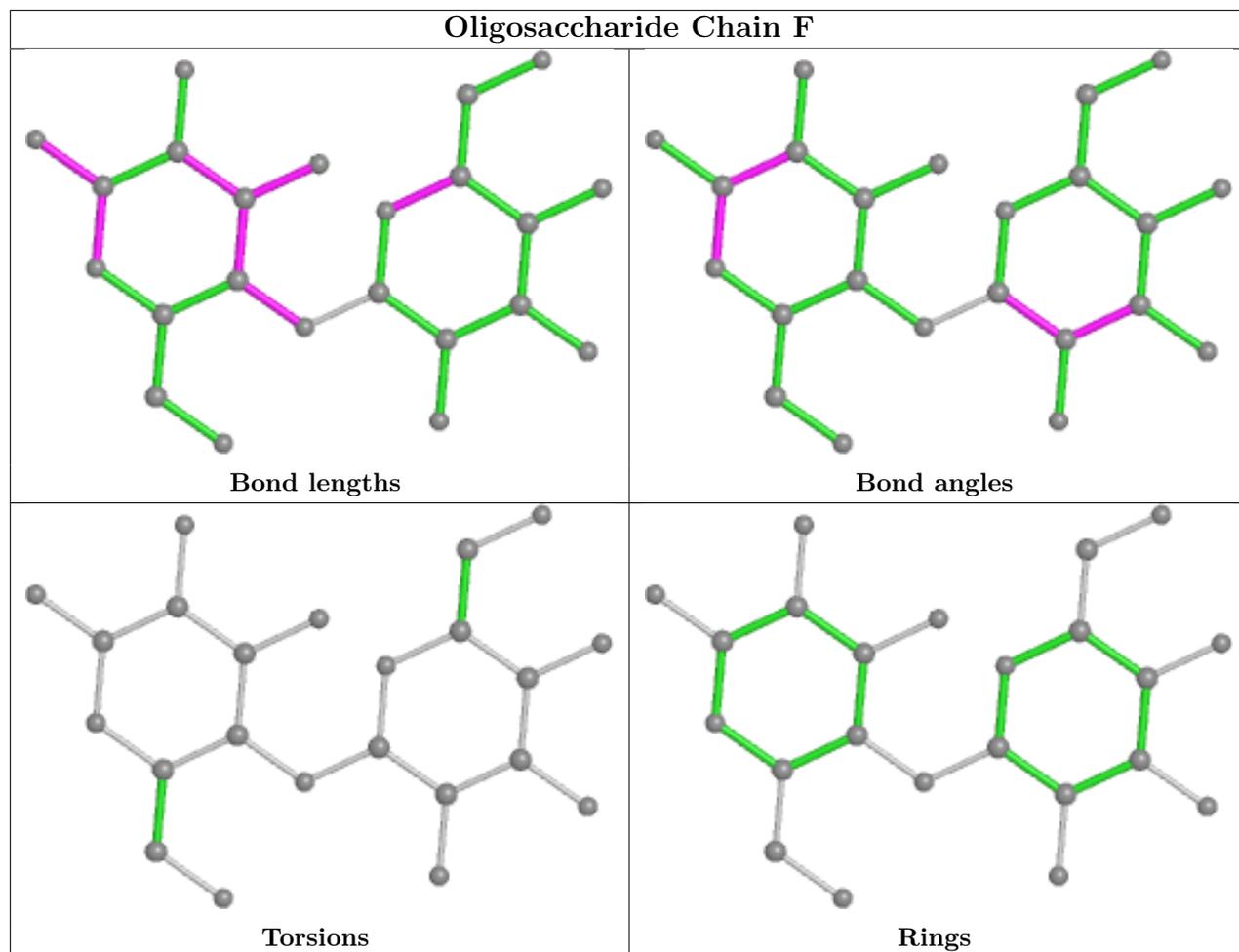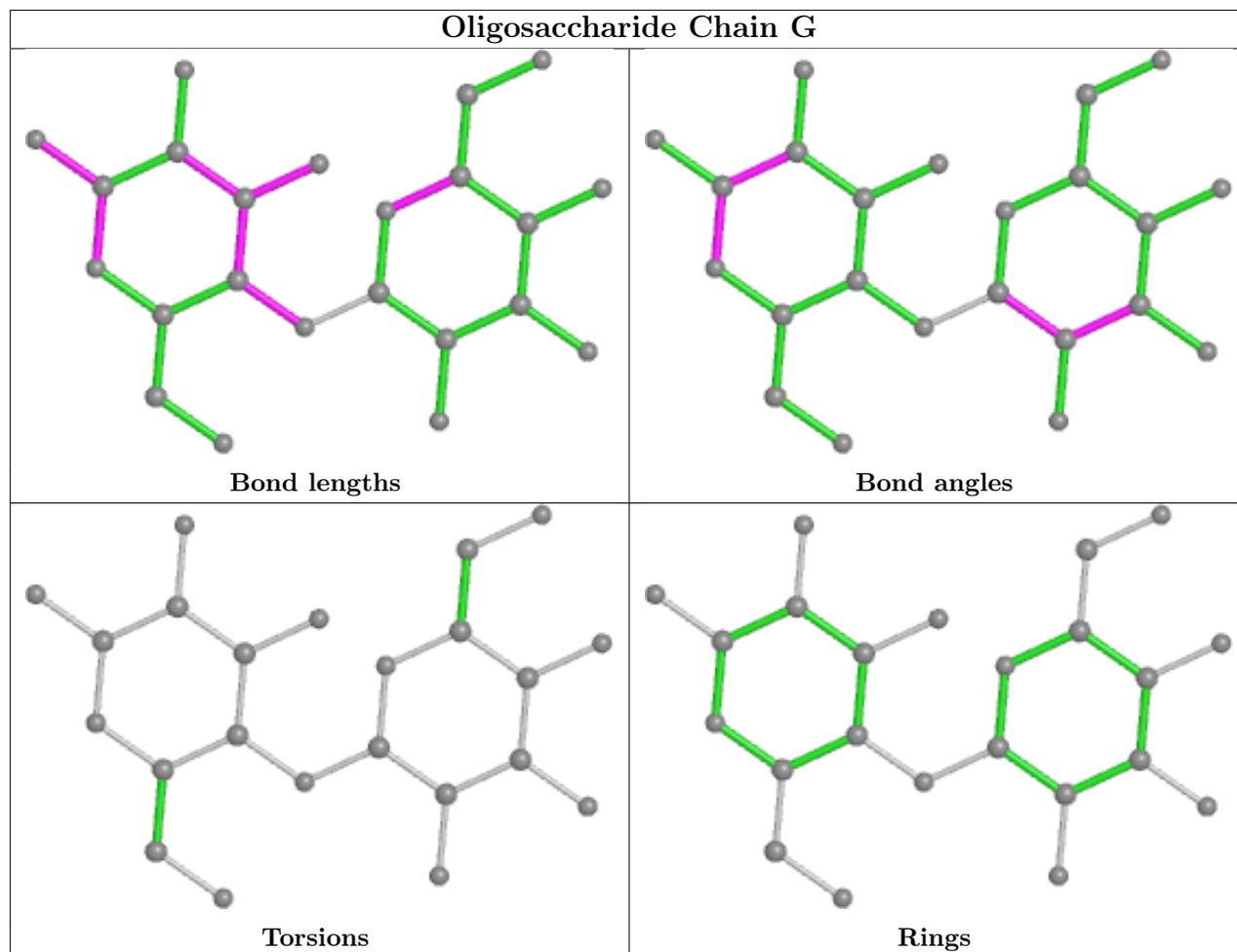
5.6   Ligand geometry ⓘ

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(Å²)	Q<0.9
1	A	129/135 (95%)	0.54	10 (7%)	20	14	13, 31, 69, 108	0
1	B	130/135 (96%)	1.91	53 (40%)	1	1	28, 70, 126, 165	0
1	C	130/135 (96%)	0.39	4 (3%)	51	36	14, 26, 61, 94	0
1	D	129/135 (95%)	0.66	5 (3%)	44	30	17, 42, 75, 98	0
1	H	129/135 (95%)	1.13	21 (16%)	5	4	21, 47, 85, 102	0
1	I	129/135 (95%)	1.46	33 (25%)	2	2	28, 61, 109, 142	0
All	All	776/810 (95%)	1.02	126 (16%)	5	4	13, 47, 98, 165	0

All (126) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	78	CYS	7.8
1	B	59	VAL	6.5
1	B	73	ARG	6.5
1	H	76	HIS	6.1
1	B	58	ILE	5.8
1	B	72	GLN	5.7
1	B	71	GLU	5.1
1	I	39	GLY	4.9
1	B	107	THR	4.6
1	B	61	ASN	4.6
1	I	87	PHE	4.4
1	B	118	SER	4.3
1	I	74	GLU	4.3
1	H	78	CYS	4.2
1	B	56	SER	4.2
1	I	105	GLU	4.2
1	I	112	LEU	4.0
1	A	77	LEU	3.9
1	I	57	THR	3.9

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Mol	Chain	Res	Type	RSRZ
1	D	114	HIS	3.7
1	B	106	LEU	3.7
1	B	89	VAL	3.7
1	B	76	HIS	3.6
1	H	41	GLY	3.6
1	B	119	TYR	3.5
1	B	60	CYS	3.5
1	B	57	THR	3.4
1	H	80	SER	3.4
1	B	110	ASN	3.3
1	H	75	ASP	3.3
1	H	28	ALA	3.2
1	B	94	ASP	3.2
1	I	114	HIS	3.2
1	A	78	CYS	3.2
1	B	21	LEU	3.2
1	I	54	SER	3.1
1	H	58	ILE	3.1
1	A	76	HIS	3.1
1	I	128	MET	3.1
1	B	85	VAL	3.1
1	I	83	SER	3.0
1	B	109	PRO	3.0
1	B	70	GLN	2.9
1	B	80	SER	2.9
1	A	86	LYS	2.9
1	B	132	LYS	2.9
1	B	74	GLU	2.9
1	I	23	ILE	2.8
1	B	50	ASN	2.7
1	I	33	GLY	2.7
1	H	102	ASP	2.7
1	H	73	ARG	2.6
1	B	51	PRO	2.6
1	A	75	ASP	2.6
1	B	93	SER	2.6
1	D	115	SER	2.6
1	C	114	HIS	2.6
1	H	12	ASN	2.6
1	I	76	HIS	2.6
1	B	28	ALA	2.6
1	I	116	HIS	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	113	GLY	2.5
1	I	27	ILE	2.5
1	D	131	PHE	2.5
1	I	30	GLY	2.5
1	I	98	VAL	2.5
1	I	42	THR	2.5
1	B	26	SER	2.5
1	B	62	SER	2.5
1	H	93	SER	2.4
1	B	102	ASP	2.4
1	C	6	GLY	2.4
1	B	54	SER	2.4
1	H	40	GLN	2.4
1	D	77	LEU	2.4
1	I	56	SER	2.4
1	I	77	LEU	2.4
1	B	95	LYS	2.3
1	A	105	GLU	2.3
1	I	55	GLU	2.3
1	I	10	VAL	2.3
1	B	96	PHE	2.3
1	I	62	SER	2.3
1	A	135	GLU	2.3
1	B	52	ARG	2.3
1	I	104	HIS	2.3
1	H	77	LEU	2.3
1	B	53	PHE	2.3
1	B	35	VAL	2.3
1	H	54	SER	2.3
1	C	32	ASP	2.3
1	B	111	ARG	2.3
1	A	82	GLY	2.3
1	B	115	SER	2.3
1	B	15	MET	2.2
1	I	132	LYS	2.2
1	B	47	LEU	2.2
1	A	56	SER	2.2
1	B	75	ASP	2.2
1	I	43	ASP	2.2
1	C	131	PHE	2.2
1	H	70	GLN	2.2
1	B	77	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	107	THR	2.2
1	I	100	LEU	2.2
1	H	53	PHE	2.1
1	B	120	LEU	2.1
1	D	54	SER	2.1
1	B	32	ASP	2.1
1	B	91	PHE	2.1
1	B	81	PRO	2.1
1	B	29	ASP	2.1
1	I	29	ASP	2.1
1	A	79	PHE	2.1
1	H	74	GLU	2.1
1	I	7	GLU	2.1
1	H	42	THR	2.1
1	I	94	ASP	2.1
1	I	32	ASP	2.1
1	I	78	CYS	2.1
1	B	31	THR	2.0
1	H	83	SER	2.0
1	H	7	GLU	2.0
1	B	48	HIS	2.0
1	B	116	HIS	2.0
1	I	16	LYS	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 ⓘ

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	BGC	E	1	12/12	-	-	96,107,113,120	0
2	GAL	E	2	11/12	-	-	90,94,98,102	0
2	BGC	F	1	12/12	-	-	111,119,125,133	0
2	GAL	F	2	11/12	-	-	105,108,111,113	0
2	BGC	G	1	12/12	0.65	0.30	127,137,145,155	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\mathring{A}^2$)	Q<0.9
2	GAL	G	2	11/12	0.70	0.29	113,116,123,126	0

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.
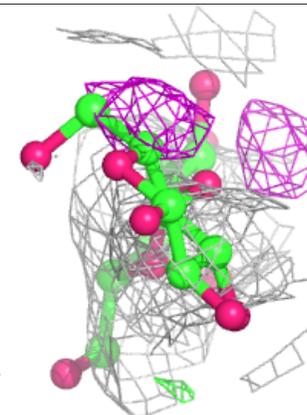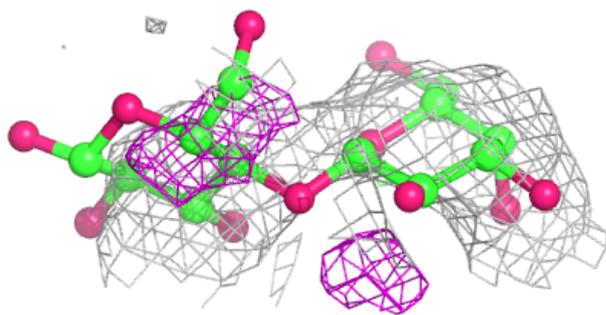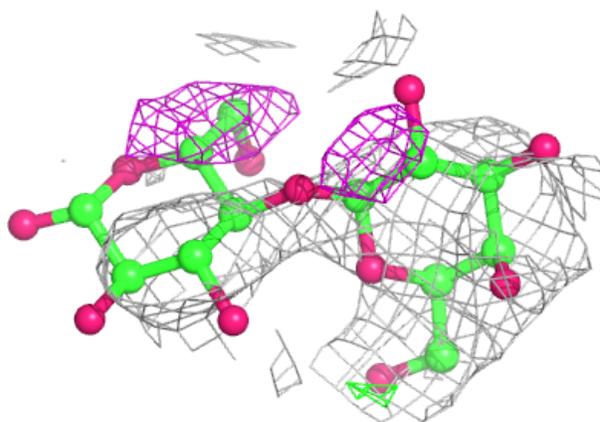

Electron density around Chain E:

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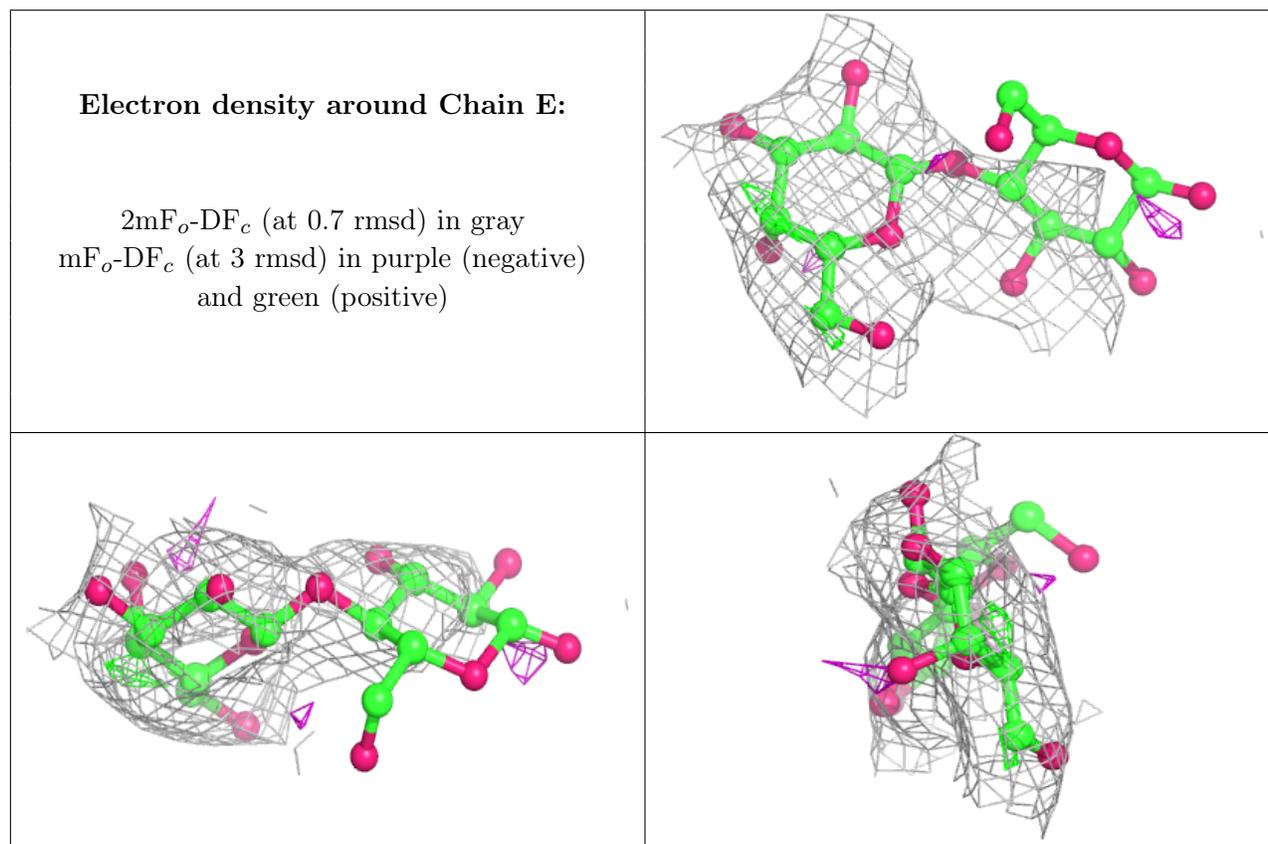
Electron density around Chain F:

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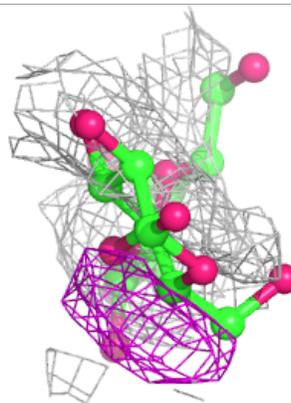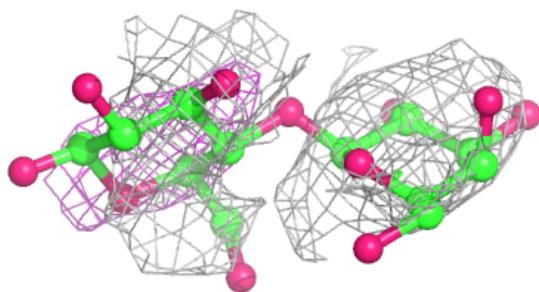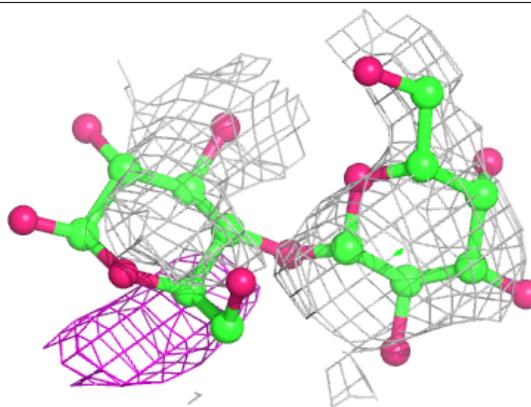
Electron density around Chain G:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.