WORLDWIDE wwPDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report ⓘ

Jun 12, 2024 – 11:03 PM EDT

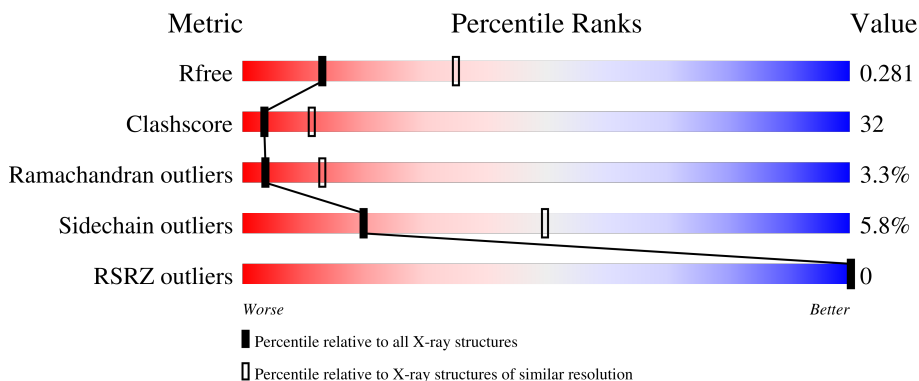|		
PDB ID	:	1KX1
Title	:	Rat mannose protein A complexed with Man6-GlcNAc2-Asn
Authors	:	Ng, K.K.; Kolatkar, A.R.; Park-Snyder, S.; Feinberg, H.; Clark, D.A.; Drickamer, K.; Weis, W.I.
Deposited on	:	2002-01-30
Resolution	:	2.80 Å(reported)

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
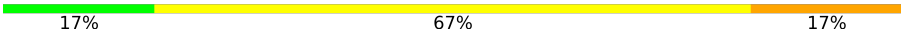
Metric	Percentile Ranks	Value
Rfree		0.281
Clashscore		32
Ramachandran outliers		3.3%
Sidechain outliers		5.8%
RSRZ outliers		0

Worse   *Better*

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

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	149	50% 44% 5% •
1	B	149	52% 43% 5%
1	C	149	48% 42% 10%
1	D	149	49% 48% •
1	E	149	50% 48% •

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	149	47% 48% 5%
2	G	6	17% 67% 17%
2	H	6	33% 50% 17%

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	MAN	G	1	X	-	-	-
2	MAN	G	4	-	-	X	-
2	MAN	H	1	X	-	-	-

2   Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 7139 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 MANNOSE-BINDING PROTEIN A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			
1	B	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			
1	C	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			
1	D	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			
1	E	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			
1	F	149	Total	C	N	O	S	0	0	0
			1153	721	198	226	8			

- Molecule 2 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose.
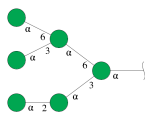
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	G	6	Total	C	O	0	0	0
			67	36	31			
2	H	6	Total	C	O	0	0	0
			67	36	31			

- Molecule 3 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	3	Total	Ca	0	0
			3	3		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	3	Total 3	Ca 3	0	0
3	C	3	Total 3	Ca 3	0	0
3	D	3	Total 3	Ca 3	0	0
3	E	3	Total 3	Ca 3	0	0
3	F	3	Total 3	Ca 3	0	0

- Molecule 4 is alpha-D-mannopyranose (three-letter code: MAN) (formula: $C_6H_{12}O_6$).
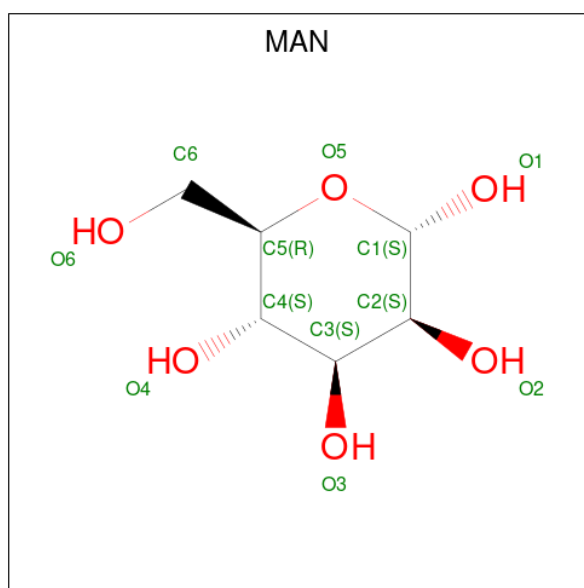
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	B	1	Total 12	C 6	O 6	0	0
4	E	1	Total 12	C 6	O 6	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	9	Total 9	O 9	0	0
5	B	11	Total 11	O 11	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	C	8	Total 8	O 8	0	0
5	D	5	Total 5	O 5	0	0
5	E	8	Total 8	O 8	0	0
5	F	4	Total 4	O 4	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.
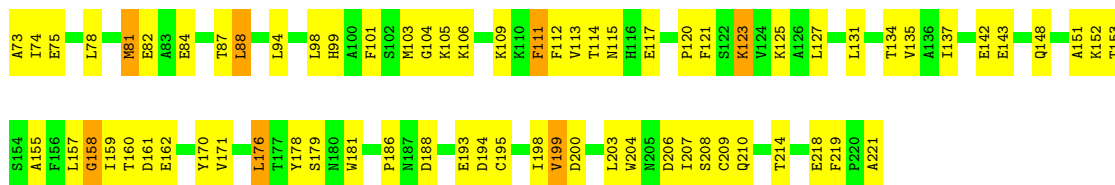
- Molecule 1: MANNOSE-BINDING PROTEIN A
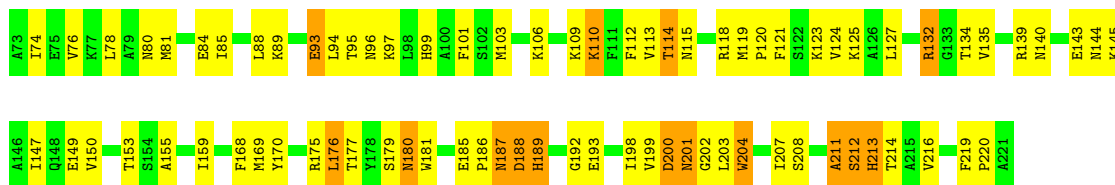
Chain A:
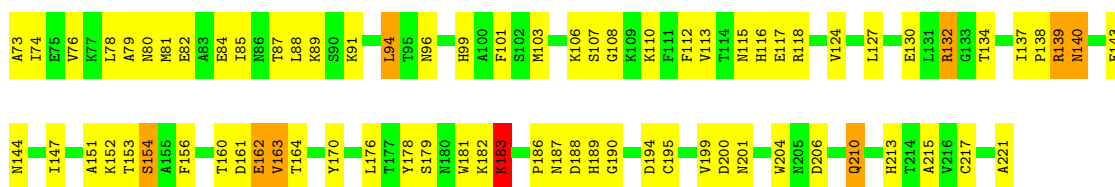
- Molecule 1: MANNOSE-BINDING PROTEIN A

Chain B:

- Molecule 1: MANNOSE-BINDING PROTEIN A

Chain C:

- Molecule 1: MANNOSE-BINDING PROTEIN A

Chain D:

E149 V150 A151 K152 T153 S154 A155 F156 L157 G158 I159 T160 D161 E162 V163 T164 Q167 Y170 R175 L176 S179 N180 W181 K182 K183 D184 E185 P186 N187 D188 H189 G190 D194 C195 V196 T197 I198 V199 D200 N201 G202 L203 W204 N205 D206 H213 T214 A215 V216 C217 E218 F219 P220 A221

• Molecule 1: MANNOSE-BINDING PROTEIN A

Chain E:

| 50% | 48% | • |

A73 I74 E75 V76 K77 L78 A79 N80 M81 E82 A83 E84 I85 L88 K89 S90 K91 L94 F101 K105 G108 K109 K110 F111 F112 V113 T114 N115 H116 E117 R118 M119 P120 K123 V124 L127 E130 L131 T134 V135 P138 E142 E143 N144 K145 A146 I147 Q148

A155 F156 L157 G158 I159 T160 D161 E165 Y170 L176 S179 N180 W181 K182 K183 D184 E185 P186 N187 D188 H189 G190 E193 D194 C195 I198 V199 D200 N201 G202 L203 W204 N205 D206 I207 S208 H213 T214 F219 P220 A221

• Molecule 1: MANNOSE-BINDING PROTEIN A

Chain F:

| 47% | 48% | 5% | • |

A73 I74 E75 A79 N80 M81 E82 L88 K89 L92 E93 L94 K97 L98 H99 A100 F101 S102 M103 G104 K105 K106 S107 G108 K109 K110 F111 N115 R118 M119 V124 V125 A126 V135 A136 I137 P138 R139 N140 E143 N144 K145 A146 I147 Q148 E149 V150 A151 K152 T153 S154

A155 F156 L157 G158 I159 T160 D161 E162 V163 T164 Q167 F168 M169 R175 L176 S179 N180 W181 K182 K183 D184 E185 P186 N187 D188 H189 G192 E193 I198 V199 D200 N201 W204 N205 D206 I207 S208 A211 S212 H213 F219 P220 A221

• Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyra
nose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranos
e

Chain G:

| 17% | 67% | 17% |

MAN1 MAN2 MAN3 MAN4 MAN5 MAN6

• Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyra
nose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranos
e

Chain H:

| 33% | 50% | 17% |

MAN1 MAN2 MAN3 MAN4 MAN5 MAN6

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	61.80Å 255.56Å 61.79Å 90.00° 119.60° 90.00°	Depositor
Resolution (Å)	37.04 – 2.80 37.03 – 2.81	Depositor EDS
% Data completeness (in resolution range)	91.1 (37.04-2.80) 91.1 (37.03-2.81)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.04	Depositor
$< I/\sigma(I) >$ [1]	3.32 (at 2.81Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.242 , 0.287 0.239 , 0.281	Depositor DCC
R_{free} test set	3533 reflections (9.34%)	wwPDB-VP
Wilson B-factor (Å^2)	33.9	Xtriage
Anisotropy	0.202	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 5.7	EDS
L-test for twinning[2]	$< |L| > = 0.47, < L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.031 for l,k,-h-l 0.031 for -h-l,k,h 0.034 for -h-l,-k,l 0.036 for h,-k,-h-l 0.478 for l,-k,h	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	7139	wwPDB-VP
Average B, all atoms (Å^2)	38.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.84% 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: MAN, CA

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	0.41	0/1173	0.62	0/1579
1	B	0.43	0/1173	0.66	0/1579
1	C	0.42	0/1173	0.64	0/1579
1	D	0.40	0/1173	0.60	0/1579
1	E	0.43	0/1173	0.64	0/1579
1	F	0.39	0/1173	0.61	0/1579
All	All	0.41	0/7038	0.63	0/9474

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	1153	0	1133	87	0
1	B	1153	0	1133	72	0
1	C	1153	0	1133	78	0
1	D	1153	0	1133	85	0
1	E	1153	0	1133	83	0
1	F	1153	0	1133	81	0
2	G	67	0	55	7	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	H	67	0	56	5	0
3	A	3	0	0	0	0
3	B	3	0	0	0	0
3	C	3	0	0	0	0
3	D	3	0	0	0	0
3	E	3	0	0	0	0
3	F	3	0	0	0	0
4	B	12	0	11	0	0
4	E	12	0	11	1	0
5	A	9	0	0	0	0
5	B	11	0	0	1	0
5	C	8	0	0	3	0
5	D	5	0	0	0	0
5	E	8	0	0	0	0
5	F	4	0	0	1	0
All	All	7139	0	6931	444	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 32.

The worst 5 of 444 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:106:LYS:HD2	1:E:117:GLU:HG3	1.38	1.05
1:F:138:PRO:HG3	1:F:147:ILE:HD12	1.37	1.04
1:B:207:ILE:HG13	1:B:208:SER:H	1.25	0.97
1:A:118:ARG:HH22	1:A:154:SER:HB3	1.32	0.94
1:B:199:VAL:HG23	1:B:200:ASP:H	1.31	0.93

There are no symmetry-related clashes.

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	147/149 (99%)	124 (84%)	17 (12%)	6 (4%)	3	9
1	B	147/149 (99%)	134 (91%)	9 (6%)	4 (3%)	5	17
1	C	147/149 (99%)	126 (86%)	12 (8%)	9 (6%)	1	4
1	D	147/149 (99%)	123 (84%)	22 (15%)	2 (1%)	11	34
1	E	147/149 (99%)	128 (87%)	18 (12%)	1 (1%)	22	53
1	F	147/149 (99%)	128 (87%)	12 (8%)	7 (5%)	2	7
All	All	882/894 (99%)	763 (86%)	90 (10%)	29 (3%)	4	13

5 of 29 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	74	ILE
1	C	189	HIS
1	C	200	ASP
1	C	201	ASN
1	C	211	ALA

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	126/126 (100%)	117 (93%)	9 (7%)	14	39
1	B	126/126 (100%)	118 (94%)	8 (6%)	18	46
1	C	126/126 (100%)	116 (92%)	10 (8%)	12	34
1	D	126/126 (100%)	121 (96%)	5 (4%)	31	65
1	E	126/126 (100%)	120 (95%)	6 (5%)	25	58
1	F	126/126 (100%)	120 (95%)	6 (5%)	25	58
All	All	756/756 (100%)	712 (94%)	44 (6%)	20	50

5 of 44 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	132	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	E	94	LEU
1	D	145	LYS
1	E	75	GLU
1	E	176	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 23 such sidechains are listed below:

Mol	Chain	Res	Type
1	E	96	ASN
1	F	86	ASN
1	E	201	ASN
1	F	96	ASN
1	B	148	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 ⓘ

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	MAN	G	1	2	12,12,12	0.40	0	17,17,17	0.41	0
2	MAN	G	2	2	11,11,12	0.45	0	15,15,17	0.69	1 (6%)
2	MAN	G	3	2,3	11,11,12	0.46	0	15,15,17	0.51	0
2	MAN	G	4	2	11,11,12	0.56	0	15,15,17	0.86	1 (6%)

Mol	Type	Chain	Res	Link	Bond lengths				Bond angles			
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
2	MAN	G	5	2	11,11,12	0.44	0	15,15,17	0.56	0
2	MAN	G	6	2,3	11,11,12	0.37	0	15,15,17	0.76	0
2	MAN	H	1	2	12,12,12	0.35	0	17,17,17	0.45	0
2	MAN	H	2	2	11,11,12	0.45	0	15,15,17	0.86	1 (6%)
2	MAN	H	3	2,3	11,11,12	0.56	0	15,15,17	0.47	0
2	MAN	H	4	2	11,11,12	0.55	0	15,15,17	0.63	0
2	MAN	H	5	2	11,11,12	0.45	0	15,15,17	0.51	0
2	MAN	H	6	2,3	11,11,12	0.46	0	15,15,17	0.53	0

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	MAN	G	1	2	1/1/5/5	2/2/22/22	0/1/1/1
2	MAN	G	2	2	-	2/2/19/22	0/1/1/1
2	MAN	G	3	2,3	-	0/2/19/22	0/1/1/1
2	MAN	G	4	2	-	0/2/19/22	0/1/1/1
2	MAN	G	5	2	-	1/2/19/22	0/1/1/1
2	MAN	G	6	2,3	-	0/2/19/22	0/1/1/1
2	MAN	H	1	2	1/1/5/5	2/2/22/22	0/1/1/1
2	MAN	H	2	2	-	2/2/19/22	0/1/1/1
2	MAN	H	3	2,3	-	2/2/19/22	0/1/1/1
2	MAN	H	4	2	-	1/2/19/22	0/1/1/1
2	MAN	H	5	2	-	0/2/19/22	0/1/1/1
2	MAN	H	6	2,3	-	2/2/19/22	0/1/1/1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	2	MAN	C1-O5-C5	2.47	115.54	112.19
2	G	4	MAN	C1-O5-C5	2.36	115.39	112.19
2	G	2	MAN	C1-O5-C5	2.05	114.96	112.19

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	G	1	MAN	C1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atom
2	H	1	MAN	C1

5 of 14 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	H	1	MAN	O5-C5-C6-O6
2	G	2	MAN	C4-C5-C6-O6
2	H	1	MAN	C4-C5-C6-O6
2	G	2	MAN	O5-C5-C6-O6
2	G	1	MAN	C4-C5-C6-O6

There are no ring outliers.

8 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	G	1	MAN	3	0
2	G	5	MAN	3	0
2	H	4	MAN	1	0
2	G	4	MAN	6	0
2	H	3	MAN	4	0
2	G	3	MAN	1	0
2	H	5	MAN	1	0
2	H	2	MAN	2	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 G

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain H

Bond lengths

Bond angles

Torsions

Rings
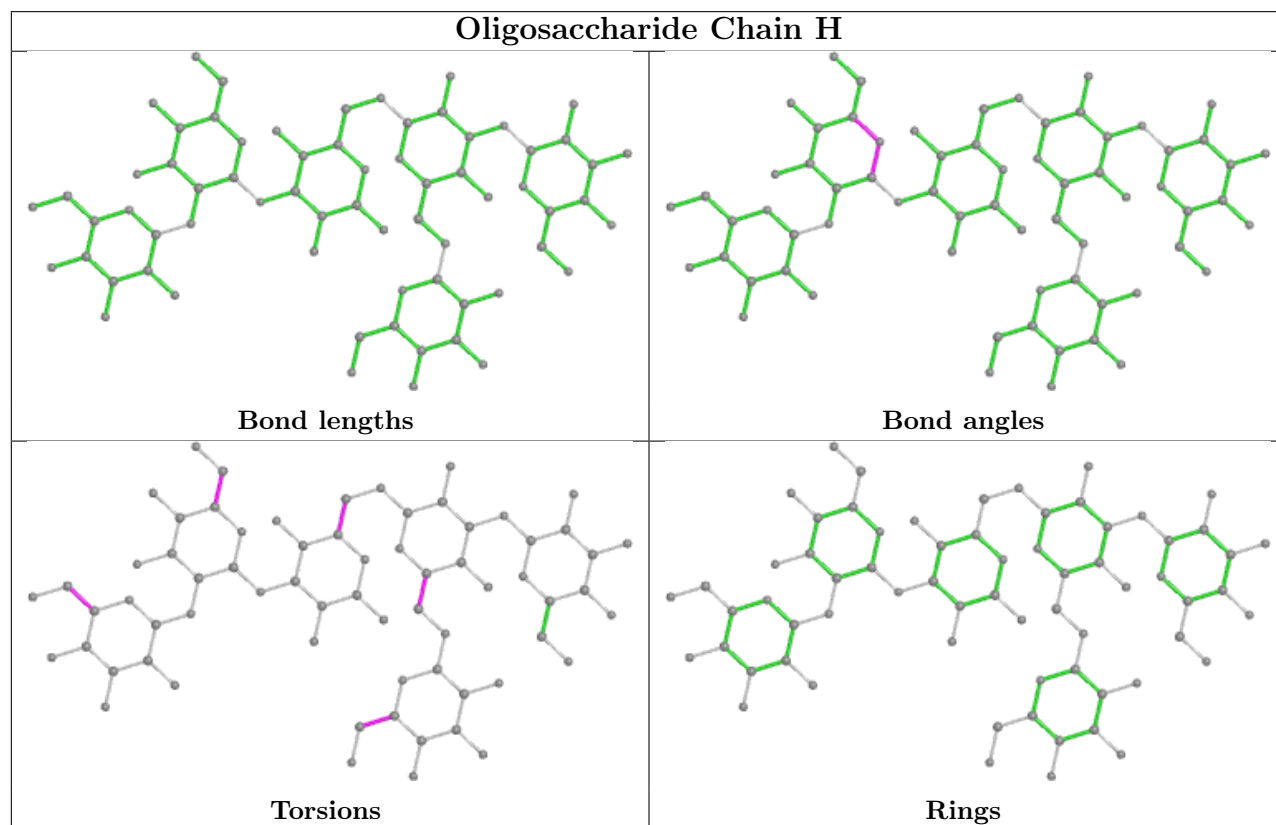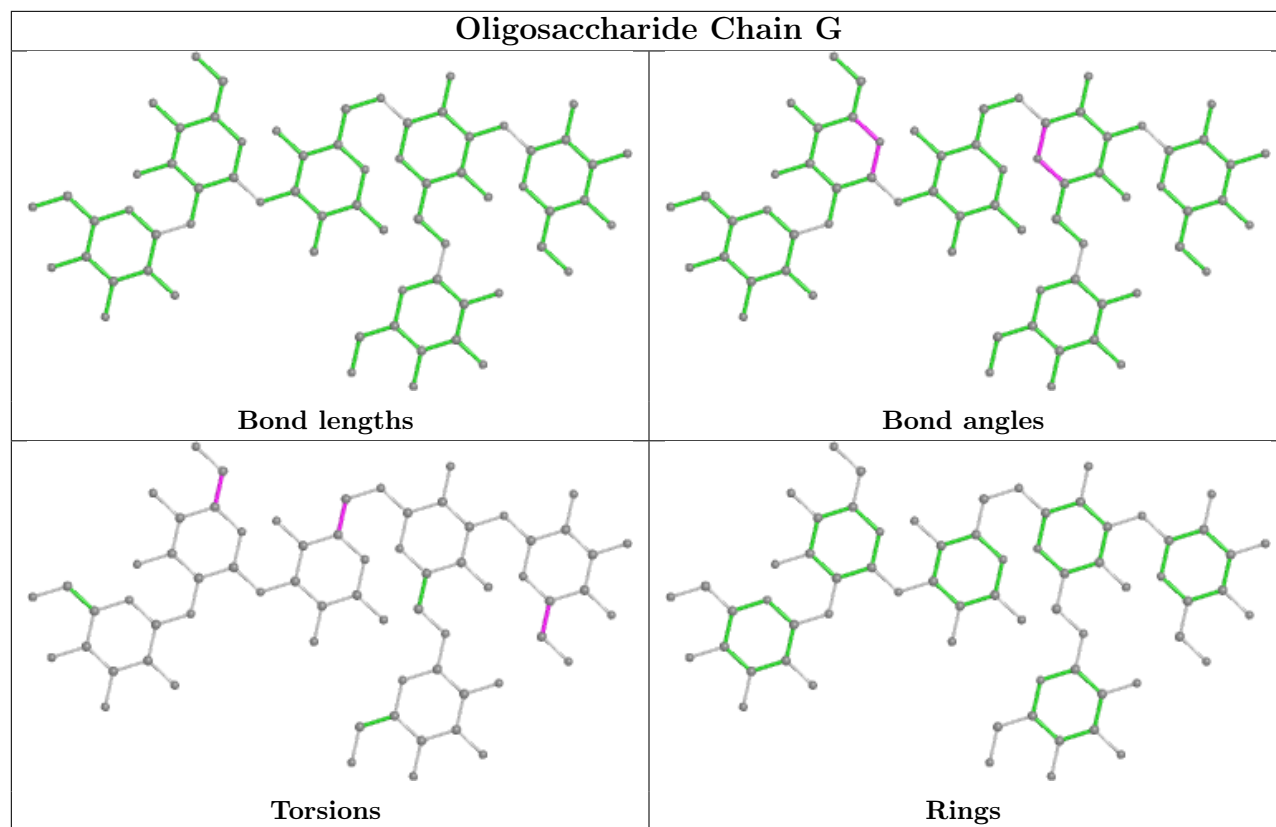
5.6 Ligand geometry ⓘ

Of 20 ligands modelled in this entry, 18 are monoatomic - leaving 2 for Mogul analysis.

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	$\#|Z| > 2$
4	MAN	B	20	3	12,12,12	0.35	0	17,17,17	0.54	0
4	MAN	E	50	3	12,12,12	0.38	0	17,17,17	0.37	0

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
4	MAN	B	20	3	-	0/2/22/22	0/1/1/1
4	MAN	E	50	3	-	0/2/22/22	0/1/1/1

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.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	E	50	MAN	1	0

5.7 Other polymers ⓘ

There are no such residues in this entry.

WORLDWIDE
wwPDB
PROTEIN DATA BANK

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	149/149 (100%)	-0.42	0	100	100	17, 37, 75, 81	0
1	B	149/149 (100%)	-0.49	0	100	100	15, 32, 71, 77	0
1	C	149/149 (100%)	-0.39	0	100	100	12, 39, 66, 77	0
1	D	149/149 (100%)	-0.39	0	100	100	17, 37, 79, 82	0
1	E	149/149 (100%)	-0.50	0	100	100	18, 31, 68, 72	0
1	F	149/149 (100%)	-0.41	0	100	100	15, 40, 69, 75	0
All	All	894/894 (100%)	-0.44	0	100	100	12, 35, 70, 82	0

There are no RSRZ outliers to report.

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.
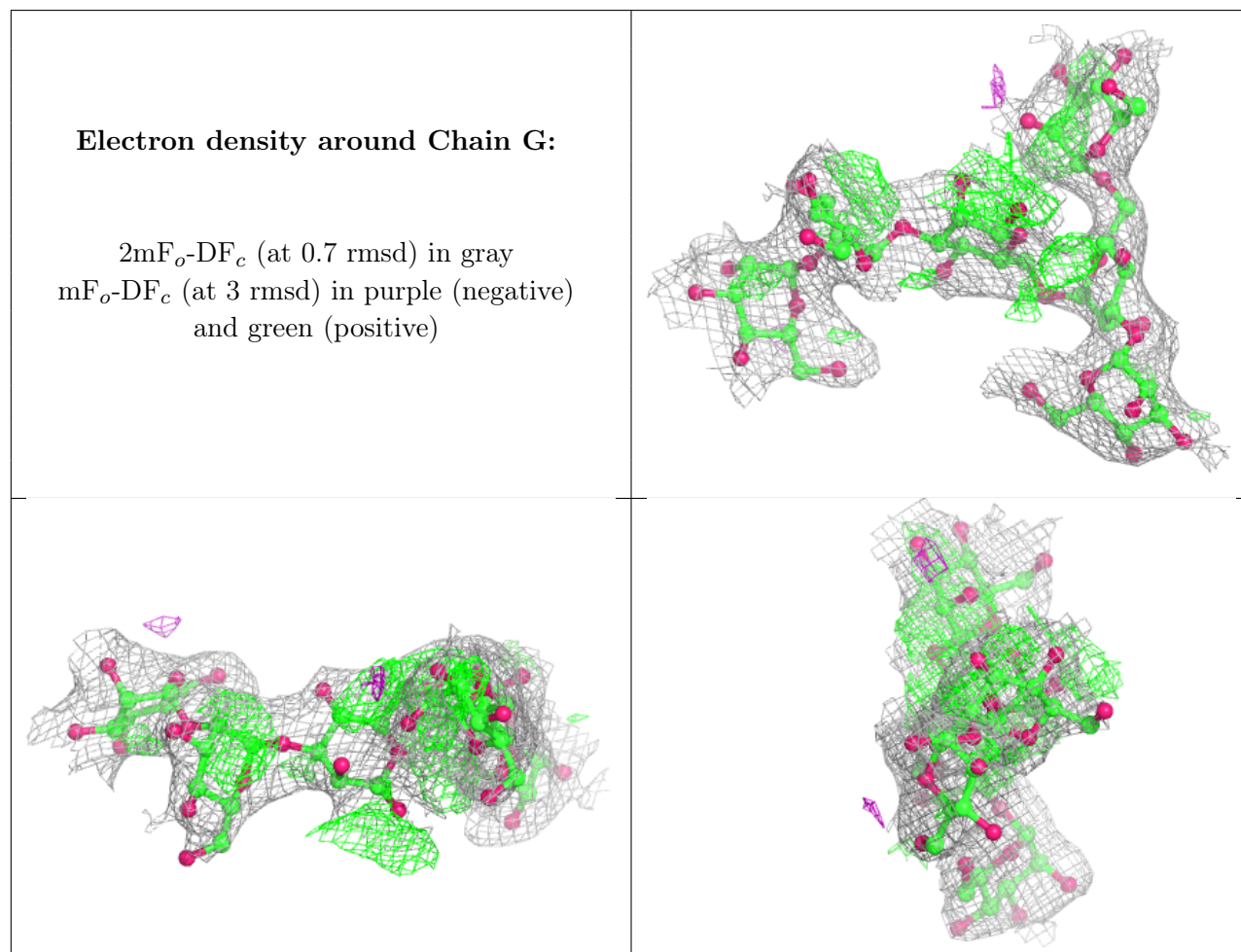
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MAN	H	1	12/12	0.72	0.20	59,63,65,65	12
2	MAN	G	1	12/12	0.81	0.16	59,63,64,65	12
2	MAN	G	4	11/12	0.82	0.17	59,65,66,66	11
2	MAN	H	2	11/12	0.82	0.21	52,57,58,58	11
2	MAN	H	4	11/12	0.83	0.20	61,66,67,68	11
2	MAN	G	2	11/12	0.84	0.23	53,58,60,60	11

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MAN	H	5	11/12	0.85	0.24	65,68,68,69	11
2	MAN	G	5	11/12	0.88	0.16	65,66,66,67	11
2	MAN	G	6	11/12	0.88	0.24	52,54,56,56	11
2	MAN	G	3	11/12	0.90	0.17	44,47,49,50	11
2	MAN	H	3	11/12	0.90	0.18	40,45,48,48	11
2	MAN	H	6	11/12	0.91	0.23	53,54,57,57	11

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.
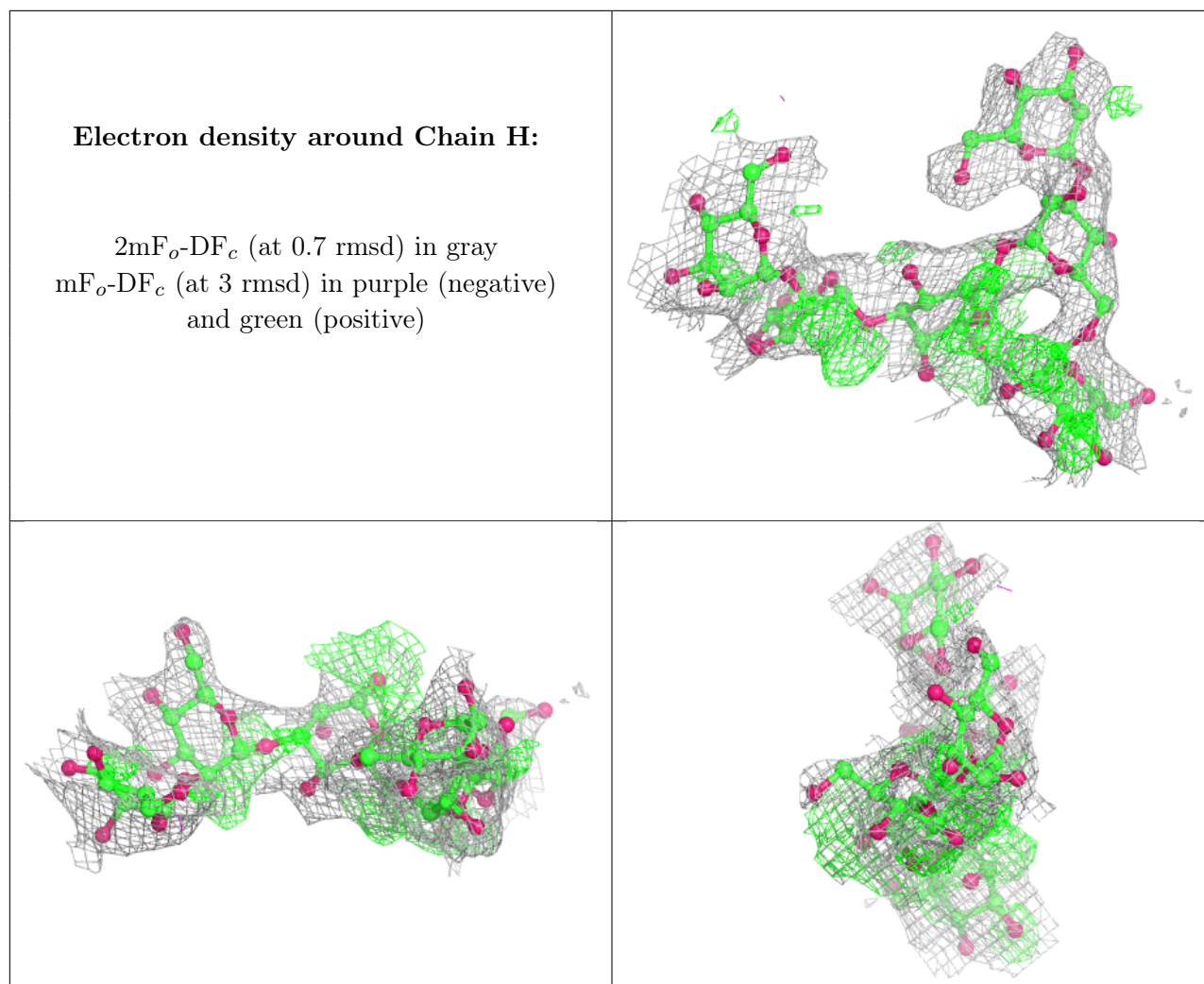
Electron density around Chain G:

$2mF_o$-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:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-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	CA	C	302	1/1	0.78	0.08	54,54,54,54	0
3	CA	A	222	1/1	0.83	0.15	46,46,46,46	0
4	MAN	E	50	12/12	0.89	0.17	26,30,32,33	12
4	MAN	B	20	12/12	0.92	0.16	17,24,26,26	12
3	CA	B	222	1/1	0.93	0.10	13,13,13,13	0
3	CA	F	603	1/1	0.94	0.15	59,59,59,59	0
3	CA	E	502	1/1	0.96	0.12	31,31,31,31	0
3	CA	C	303	1/1	0.96	0.13	52,52,52,52	0
3	CA	B	223	1/1	0.97	0.12	30,30,30,30	0

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
3	CA	D	401	1/1	0.97	0.14	34,34,34,34	0
3	CA	A	224	1/1	0.97	0.14	37,37,37,37	0
3	CA	E	501	1/1	0.98	0.06	22,22,22,22	0
3	CA	C	301	1/1	0.98	0.09	31,31,31,31	0
3	CA	F	601	1/1	0.98	0.10	31,31,31,31	0
3	CA	F	602	1/1	0.98	0.12	46,46,46,46	0
3	CA	B	224	1/1	0.98	0.17	29,29,29,29	0
3	CA	D	402	1/1	0.98	0.10	30,30,30,30	0
3	CA	D	403	1/1	0.98	0.15	38,38,38,38	0
3	CA	E	503	1/1	0.99	0.16	23,23,23,23	0
3	CA	A	223	1/1	0.99	0.10	23,23,23,23	0

6.5 Other polymers ⓘ

There are no such residues in this entry.