



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 05:27 PM UTC

PDB ID : 4LHK / pdb_00004lhk
Title : Structure of the N-terminal domain of the Lg-Flo1 adhesin (N-Lg-Flo1p) from the yeast *Saccharomyces pastorianus*, in complex with calcium and alpha-1,2-mannobiose
Authors : Ielasi, F.S.; Willaert, R.G.
Deposited on : 2013-07-01
Resolution : 1.73 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

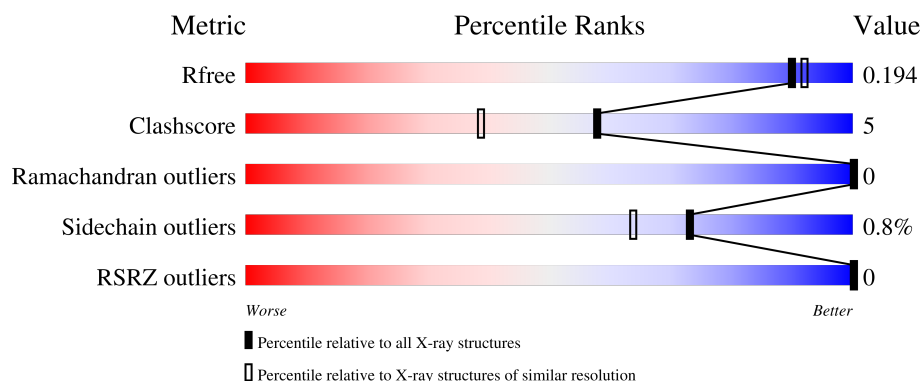
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.73 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}	180053	1187 (1.74-1.74)
Clashscore	190562	1207 (1.74-1.74)
Ramachandran outliers	187476	1200 (1.74-1.74)
Sidechain outliers	187428	1200 (1.74-1.74)
RSRZ outliers	180081	1188 (1.74-1.74)

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 $\leq 5\%$. 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	239	
1	B	239	
2	C	2	
2	D	2	

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 3672 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 Flocculin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	217	Total	C	N	O	S	0	0	0
			1686	1081	256	341	8			
1	B	217	Total	C	N	O	S	0	0	0
			1686	1081	256	341	8			

There are 98 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	58	GLN	PRO	SEE REMARK 999	UNP B3IUB3
A	214	THR	-	SEE REMARK 999	UNP B3IUB3
A	215	GLU	-	SEE REMARK 999	UNP B3IUB3
A	216	VAL	-	SEE REMARK 999	UNP B3IUB3
A	217	ASN	-	SEE REMARK 999	UNP B3IUB3
A	218	ASP	-	SEE REMARK 999	UNP B3IUB3
A	219	ASP	-	SEE REMARK 999	UNP B3IUB3
A	220	PHE	-	SEE REMARK 999	UNP B3IUB3
A	221	GLU	-	SEE REMARK 999	UNP B3IUB3
A	222	GLY	-	SEE REMARK 999	UNP B3IUB3
A	223	TYR	-	SEE REMARK 999	UNP B3IUB3
A	224	VAL	-	SEE REMARK 999	UNP B3IUB3
A	225	TYR	-	SEE REMARK 999	UNP B3IUB3
A	226	SER	-	SEE REMARK 999	UNP B3IUB3
A	227	PHE	-	SEE REMARK 999	UNP B3IUB3
A	228	ASP	-	SEE REMARK 999	UNP B3IUB3
A	229	ASP	-	SEE REMARK 999	UNP B3IUB3
A	230	ASP	-	SEE REMARK 999	UNP B3IUB3
A	231	LEU	-	SEE REMARK 999	UNP B3IUB3
A	232	SER	-	SEE REMARK 999	UNP B3IUB3
A	233	GLN	-	SEE REMARK 999	UNP B3IUB3
A	234	SER	-	SEE REMARK 999	UNP B3IUB3
A	235	ASN	-	SEE REMARK 999	UNP B3IUB3
A	236	CYS	-	SEE REMARK 999	UNP B3IUB3
A	237	THR	-	SEE REMARK 999	UNP B3IUB3

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Chain	Residue	Modelled	Actual	Comment	Reference
A	238	ILE	-	SEE REMARK 999	UNP B3IUB3
A	239	PRO	-	SEE REMARK 999	UNP B3IUB3
A	240	ASP	-	SEE REMARK 999	UNP B3IUB3
A	241	PRO	-	SEE REMARK 999	UNP B3IUB3
A	242	SER	-	SEE REMARK 999	UNP B3IUB3
A	243	LYS	-	SEE REMARK 999	UNP B3IUB3
A	244	HIS	-	SEE REMARK 999	UNP B3IUB3
A	245	THR	-	SEE REMARK 999	UNP B3IUB3
A	246	THR	-	SEE REMARK 999	UNP B3IUB3
A	247	SER	-	SEE REMARK 999	UNP B3IUB3
A	248	LEU	-	expression tag	UNP B3IUB3
A	249	GLU	-	expression tag	UNP B3IUB3
A	250	VAL	-	expression tag	UNP B3IUB3
A	251	LEU	-	expression tag	UNP B3IUB3
A	252	PHE	-	expression tag	UNP B3IUB3
A	253	GLN	-	expression tag	UNP B3IUB3
A	254	GLY	-	expression tag	UNP B3IUB3
A	255	PRO	-	expression tag	UNP B3IUB3
A	256	HIS	-	expression tag	UNP B3IUB3
A	257	HIS	-	expression tag	UNP B3IUB3
A	258	HIS	-	expression tag	UNP B3IUB3
A	259	HIS	-	expression tag	UNP B3IUB3
A	260	HIS	-	expression tag	UNP B3IUB3
A	261	HIS	-	expression tag	UNP B3IUB3
B	58	GLN	PRO	SEE REMARK 999	UNP B3IUB3
B	214	THR	-	SEE REMARK 999	UNP B3IUB3
B	215	GLU	-	SEE REMARK 999	UNP B3IUB3
B	216	VAL	-	SEE REMARK 999	UNP B3IUB3
B	217	ASN	-	SEE REMARK 999	UNP B3IUB3
B	218	ASP	-	SEE REMARK 999	UNP B3IUB3
B	219	ASP	-	SEE REMARK 999	UNP B3IUB3
B	220	PHE	-	SEE REMARK 999	UNP B3IUB3
B	221	GLU	-	SEE REMARK 999	UNP B3IUB3
B	222	GLY	-	SEE REMARK 999	UNP B3IUB3
B	223	TYR	-	SEE REMARK 999	UNP B3IUB3
B	224	VAL	-	SEE REMARK 999	UNP B3IUB3
B	225	TYR	-	SEE REMARK 999	UNP B3IUB3
B	226	SER	-	SEE REMARK 999	UNP B3IUB3
B	227	PHE	-	SEE REMARK 999	UNP B3IUB3
B	228	ASP	-	SEE REMARK 999	UNP B3IUB3
B	229	ASP	-	SEE REMARK 999	UNP B3IUB3
B	230	ASP	-	SEE REMARK 999	UNP B3IUB3

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Chain	Residue	Modelled	Actual	Comment	Reference
B	231	LEU	-	SEE REMARK 999	UNP B3IUB3
B	232	SER	-	SEE REMARK 999	UNP B3IUB3
B	233	GLN	-	SEE REMARK 999	UNP B3IUB3
B	234	SER	-	SEE REMARK 999	UNP B3IUB3
B	235	ASN	-	SEE REMARK 999	UNP B3IUB3
B	236	CYS	-	SEE REMARK 999	UNP B3IUB3
B	237	THR	-	SEE REMARK 999	UNP B3IUB3
B	238	ILE	-	SEE REMARK 999	UNP B3IUB3
B	239	PRO	-	SEE REMARK 999	UNP B3IUB3
B	240	ASP	-	SEE REMARK 999	UNP B3IUB3
B	241	PRO	-	SEE REMARK 999	UNP B3IUB3
B	242	SER	-	SEE REMARK 999	UNP B3IUB3
B	243	LYS	-	SEE REMARK 999	UNP B3IUB3
B	244	HIS	-	SEE REMARK 999	UNP B3IUB3
B	245	THR	-	SEE REMARK 999	UNP B3IUB3
B	246	THR	-	SEE REMARK 999	UNP B3IUB3
B	247	SER	-	SEE REMARK 999	UNP B3IUB3
B	248	LEU	-	expression tag	UNP B3IUB3
B	249	GLU	-	expression tag	UNP B3IUB3
B	250	VAL	-	expression tag	UNP B3IUB3
B	251	LEU	-	expression tag	UNP B3IUB3
B	252	PHE	-	expression tag	UNP B3IUB3
B	253	GLN	-	expression tag	UNP B3IUB3
B	254	GLY	-	expression tag	UNP B3IUB3
B	255	PRO	-	expression tag	UNP B3IUB3
B	256	HIS	-	expression tag	UNP B3IUB3
B	257	HIS	-	expression tag	UNP B3IUB3
B	258	HIS	-	expression tag	UNP B3IUB3
B	259	HIS	-	expression tag	UNP B3IUB3
B	260	HIS	-	expression tag	UNP B3IUB3
B	261	HIS	-	expression tag	UNP B3IUB3

- Molecule 2 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose.



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	C	2	Total	C	O	0	0	0
			23	12	11			

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	D	2	Total	C	O	0	0	0
			23	12	11			

- Molecule 3 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Ca	0	0
			1	1		
3	B	1	Total	Ca	0	0
			1	1		

- Molecule 4 is water.

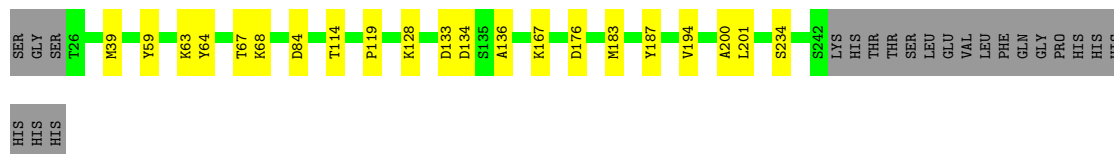
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	96	Total	O	0	0
			96	96		
4	B	156	Total	O	0	0
			156	156		

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: Flocculin

Chain A: 



- Molecule 1: Flocculin

Chain B: 



- Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose

Chain C: 



- Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose

Chain D: 



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	38.62Å 85.48Å 68.24Å 90.00° 93.72° 90.00°	Depositor
Resolution (Å)	35.13 – 1.73 35.13 – 1.73	Depositor EDS
% Data completeness (in resolution range)	97.1 (35.13-1.73) 97.1 (35.13-1.73)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.13 (at 1.73Å)	Xtriage
Refinement program	REFMAC 5.7.0029	Depositor
R, R_{free}	0.137 , 0.193 0.140 , 0.194	Depositor DCC
R_{free} test set	2339 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	20.1	Xtriage
Anisotropy	0.424	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 38.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	3672	wwPDB-VP
Average B, all atoms (Å ²)	22.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.92% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	1.16	1/1736 (0.1%)	1.00	0/2375
1	B	1.15	0/1736	1.05	0/2375
All	All	1.16	1/3472 (0.0%)	1.02	0/4750

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	200	ALA	CA-C	7.64	1.59	1.53

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	1686	0	1578	12	0
1	B	1686	0	1578	15	0
2	C	23	0	19	3	0
2	D	23	0	20	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
4	A	96	0	0	2	0
4	B	156	0	0	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	3672	0	3195	30	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 5.

All (30) 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:B:181:THR:HG22	4:B:492:HOH:O	1.63	0.96
1:A:67:THR:HG22	4:A:493:HOH:O	1.93	0.67
1:A:128:LYS:HD2	1:A:176:ASP:OD1	1.93	0.66
1:B:36:LYS:HE3	1:B:228:ASP:OD1	2.00	0.62
1:B:181:THR:CG2	4:B:492:HOH:O	2.32	0.60
1:B:59:TYR:HA	1:B:63:LYS:HB2	1.84	0.59
1:B:81:ILE:HD13	1:B:195:TYR:CD2	2.42	0.55
1:A:59:TYR:HA	1:A:63:LYS:HB2	1.92	0.50
2:C:1:MAN:H1	2:C:2:MAN:C5	2.43	0.49
1:A:68:LYS:O	4:A:492:HOH:O	2.20	0.47
1:B:119:PRO:HD2	1:B:187:TYR:O	2.15	0.47
1:B:37:ASN:O	1:B:75:GLY:HA2	2.15	0.47
1:A:136:ALA:HA	1:A:194:VAL:O	2.15	0.46
1:A:167:LYS:HE3	2:C:2:MAN:H3	1.97	0.46
1:A:119:PRO:HD2	1:A:187:TYR:O	2.16	0.46
2:C:1:MAN:H1	2:C:2:MAN:O5	2.15	0.46
1:B:42:ASN:CG	1:B:69:LYS:HD3	2.41	0.45
1:B:36:LYS:HE3	4:B:515:HOH:O	2.18	0.43
1:B:42:ASN:OD1	1:B:69:LYS:HD3	2.19	0.43
1:B:133:ASP:HA	1:B:134:ASP:HA	1.86	0.42
1:B:36:LYS:HD2	4:B:515:HOH:O	2.18	0.42
1:B:67:THR:OG1	1:B:68:LYS:N	2.52	0.42
1:A:133:ASP:HA	1:A:134:ASP:HA	1.90	0.41
1:A:59:TYR:CE1	1:A:64:TYR:HA	2.56	0.41
1:A:84:ASP:OD1	1:A:201:LEU:CD2	2.69	0.41
1:B:59:TYR:CE1	1:B:64:TYR:HA	2.56	0.41
4:B:540:HOH:O	2:D:2:MAN:H2	2.22	0.41
1:B:83:TYR:HB3	1:B:202:ALA:HB3	2.04	0.40
1:A:119:PRO:HG3	1:A:183:MET:HB3	2.04	0.40
1:A:39:MET:HB3	1:A:114:THR:O	2.22	0.40

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	215/239 (90%)	208 (97%)	7 (3%)	0	100	100
1	B	215/239 (90%)	205 (95%)	10 (5%)	0	100	100
All	All	430/478 (90%)	413 (96%)	17 (4%)	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	187/207 (90%)	186 (100%)	1 (0%)	81	75
1	B	187/207 (90%)	185 (99%)	2 (1%)	65	50
All	All	374/414 (90%)	371 (99%)	3 (1%)	73	64

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	234	SER
1	B	69	LYS
1	B	157	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	40	ASN
1	A	58	GLN
1	A	76	GLN
1	B	37	ASN
1	B	40	ASN
1	B	49	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 ⓘ

4 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	C	1	3,2	12,12,12	1.10	1 (8%)	17,17,17	1.11	0
2	MAN	C	2	2	11,11,12	0.90	0	15,15,17	1.35	1 (6%)
2	MAN	D	1	3,2	12,12,12	0.46	0	17,17,17	0.52	0
2	MAN	D	2	2	11,11,12	0.26	0	15,15,17	0.52	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	C	1	3,2	-	0/2/22/22	0/1/1/1
2	MAN	C	2	2	-	0/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	MAN	D	1	3,2	-	0/2/22/22	0/1/1/1
2	MAN	D	2	2	-	0/2/19/22	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1	MAN	O2-C2	-2.23	1.37	1.43

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	2	MAN	O2-C2-C1	-2.63	103.21	109.22

There are no chirality outliers.

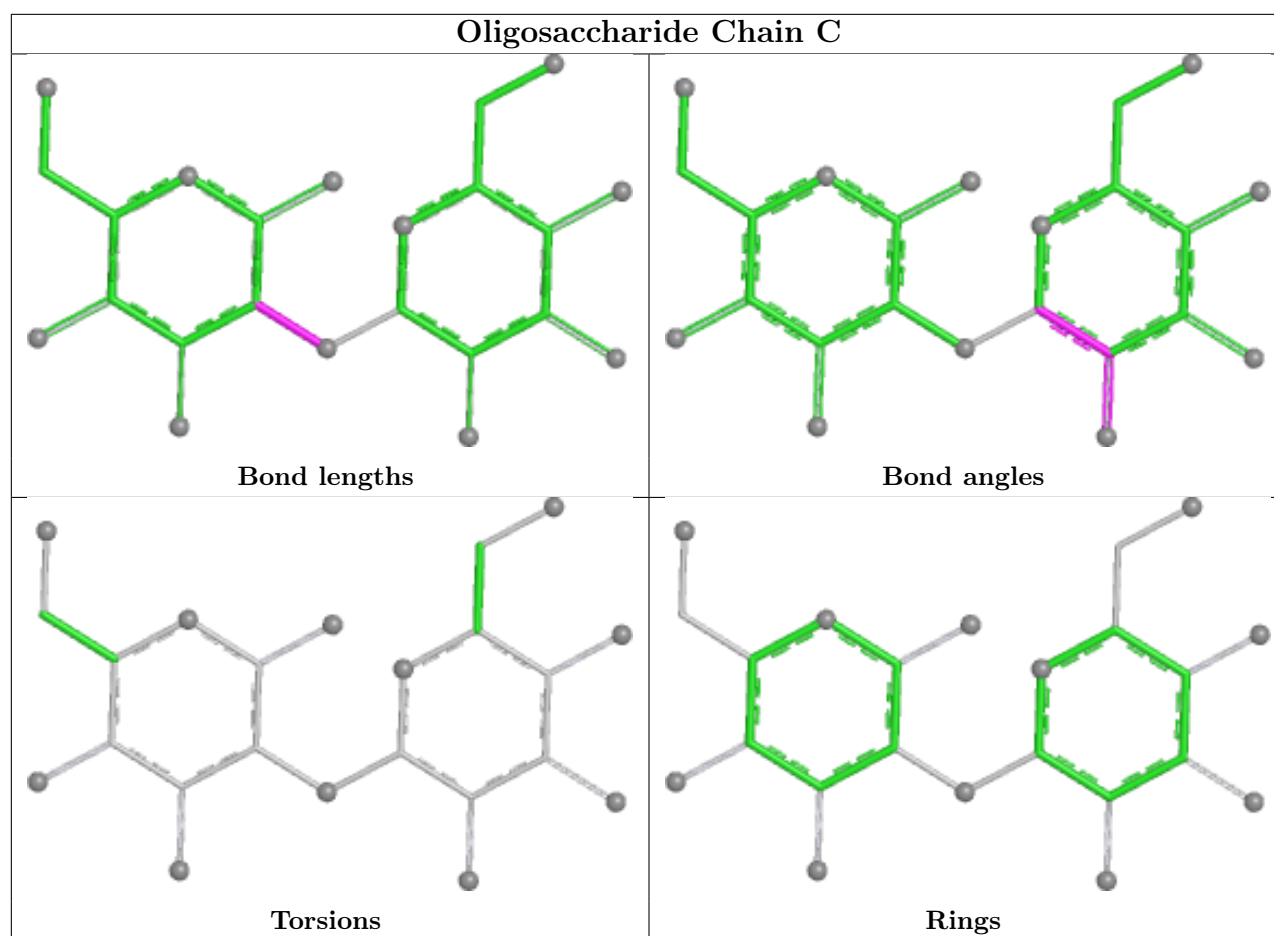
There are no torsion outliers.

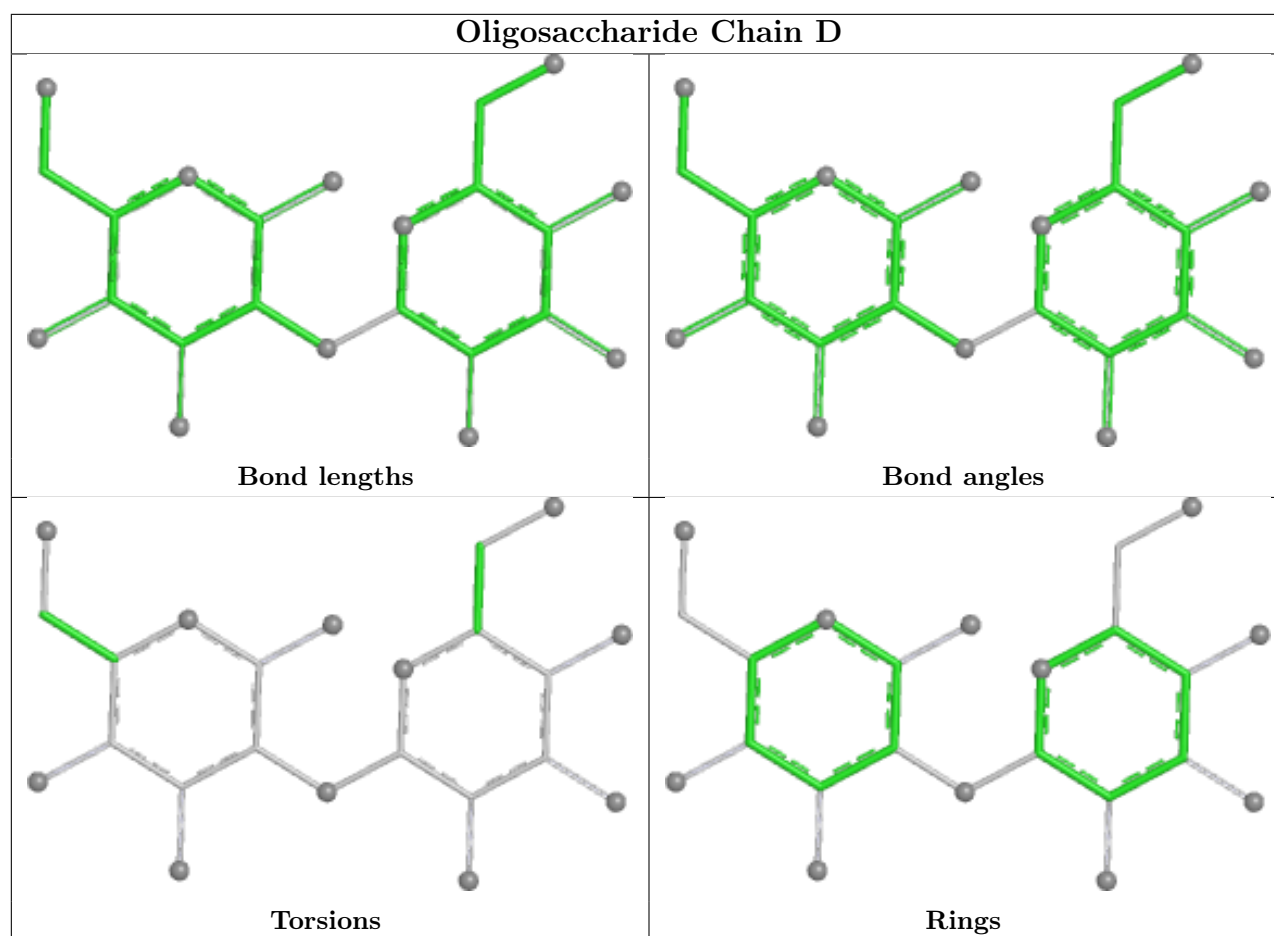
There are no ring outliers.

3 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	2	MAN	3	0
2	D	2	MAN	1	0
2	C	1	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.





5.6 Ligand geometry [i](#)

Of 2 ligands modelled in this entry, 2 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 ⓘ

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	217/239 (90%)	-0.29	0 100 100	13, 21, 36, 44	0
1	B	217/239 (90%)	-0.35	0 100 100	13, 20, 34, 55	0
All	All	434/478 (90%)	-0.32	0 100 100	13, 21, 35, 55	0

There are no RSRZ outliers to report.

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.3 Carbohydrates [i](#)

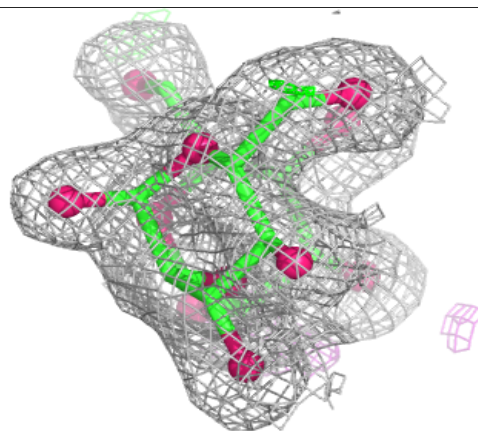
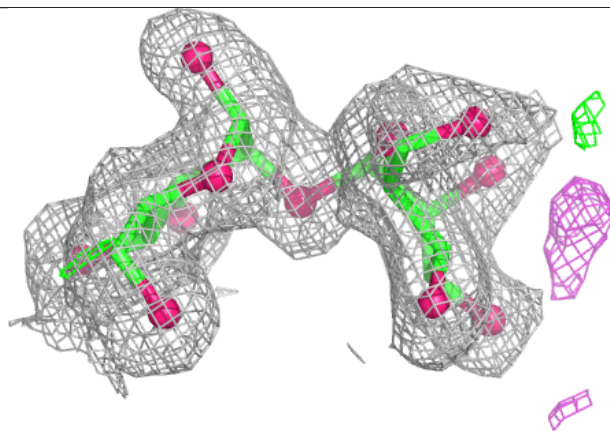
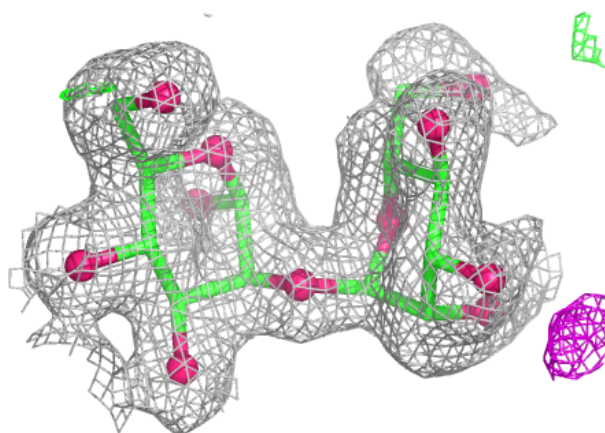
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled ‘Q < 0.9’ lists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

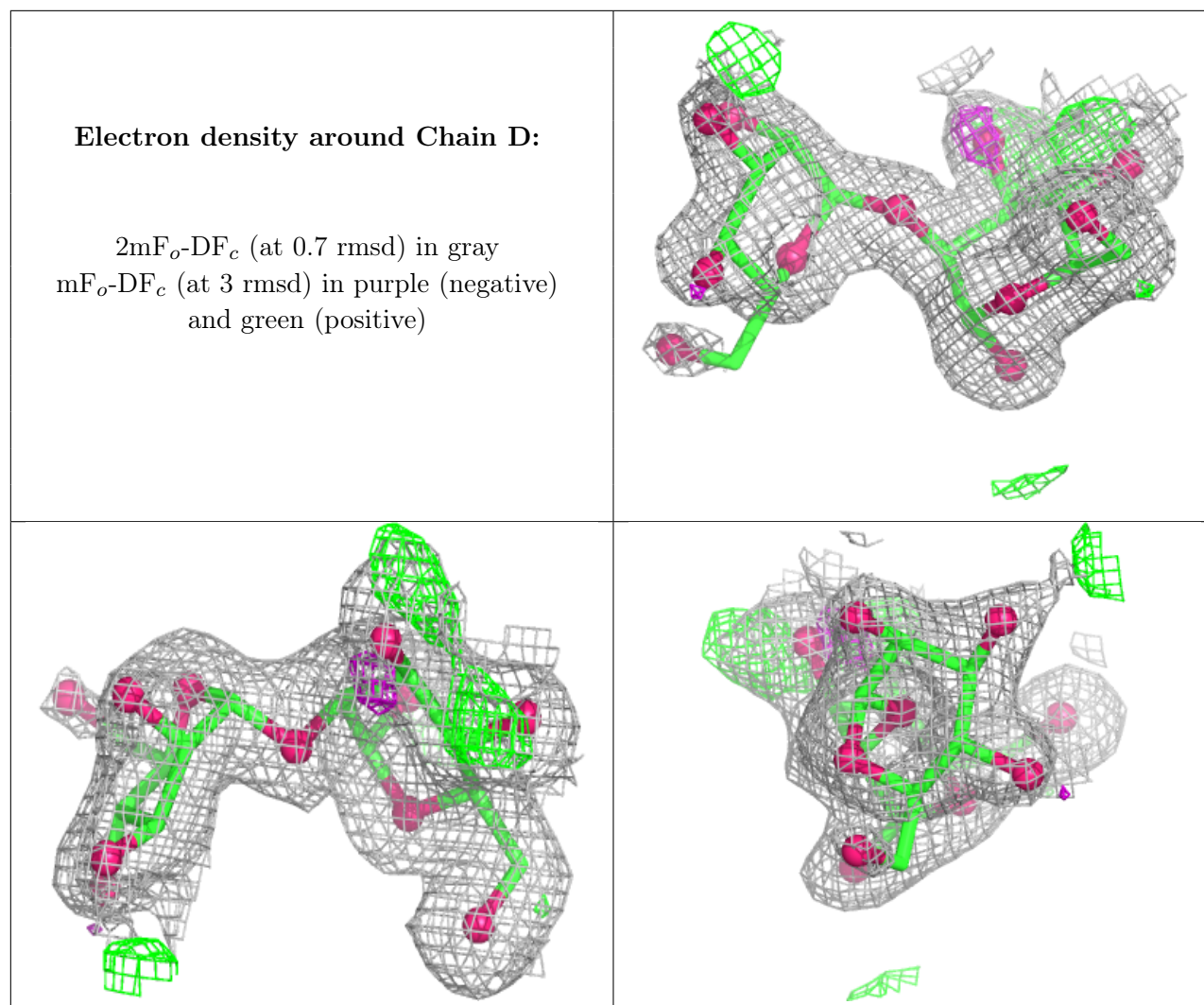
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	MAN	D	2	11/12	0.90	0.11	27,33,41,50	0
2	MAN	D	1	12/12	0.93	0.08	13,18,22,23	0
2	MAN	C	2	11/12	0.94	0.08	25,29,38,41	0
2	MAN	C	1	12/12	0.97	0.06	13,15,22,23	0

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 C:

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





6.4 Ligands [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, 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($\text{\AA}^2$)	Q<0.9
3	CA	A	303	1/1	1.00	0.01	15,15,15,15	0
3	CA	B	303	1/1	1.00	0.01	16,16,16,16	0

6.5 Other polymers [i](#)

There are no such residues in this entry.