



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 25, 2023 – 01:22 pm BST

PDB ID : 8PO9
Title : Polyethylene oxidation hexamerin PEase Cibeles (XP_026756460) from *Galleria mellonella*
Authors : Illanes-Vicioso, R.; Ruiz-Lopez, E.; Sola, M.; Bertocchini, F.; Palomo, E.A.
Deposited on : 2023-07-03
Resolution : 2.20 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 ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35.1
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) : 2.35.1

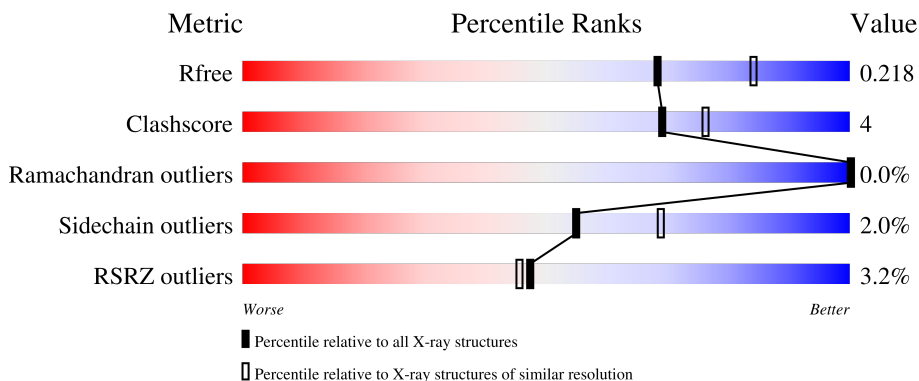
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.20 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}	130704	4898 (2.20-2.20)
Clashscore	141614	5594 (2.20-2.20)
Ramachandran outliers	138981	5503 (2.20-2.20)
Sidechain outliers	138945	5504 (2.20-2.20)
RSRZ outliers	127900	4800 (2.20-2.20)

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 $\leq 5\%$. 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	702	 86% 10% . .
1	B	702	 87% 8% .
1	C	702	 86% 9% . .
1	D	702	 86% 10% . .
1	E	702	 84% 11% . .

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Mol	Chain	Length	Quality of chain
1	F	702	 2% 88% 8%
2	G	6	 50% 50%
3	H	5	 100%
3	K	5	 20% 80%
3	M	5	 40% 60%
3	N	5	 40% 60%
3	O	5	 40% 60%
3	P	5	 40% 40% 20%
3	R	5	 20% 40% 40%
4	I	3	 67% 33%
4	L	3	 100%
5	J	9	 22% 78%
6	Q	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
12	GOL	E	908	-	X	-	-
13	GLY	D	912	-	X	-	-
13	GLY	E	909	-	X	-	-

2 Entry composition [i](#)

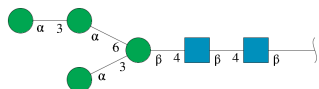
There are 15 unique types of molecules in this entry. The entry contains 37172 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Arylphorin.

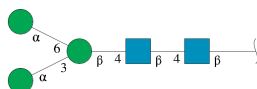
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	679	Total 5796	C 3812	N 912	O 1065	S 7	0	1	0
1	B	672	Total 5734	C 3771	N 903	O 1053	S 7	0	1	0
1	C	678	Total 5783	C 3802	N 910	O 1064	S 7	0	1	0
1	D	677	Total 5775	C 3797	N 909	O 1062	S 7	0	0	0
1	E	671	Total 5711	C 3752	N 901	O 1051	S 7	0	0	0
1	F	678	Total 5792	C 3810	N 911	O 1064	S 7	0	1	0

- Molecule 2 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



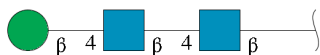
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	G	6	Total 72	C 40	N 2	O 30	0	0	0

- Molecule 3 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



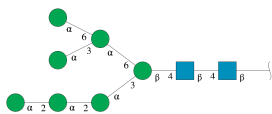
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	H	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	K	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	M	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	N	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	O	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	P	5	Total	C	N	O	0	0	0
			61	34	2	25			
3	R	5	Total	C	N	O	0	0	0
			61	34	2	25			

- Molecule 4 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	I	3	Total	C	N	O	0	0	0
			39	22	2	15			
4	L	3	Total	C	N	O	0	0	0
			39	22	2	15			

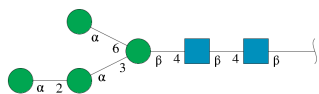
- Molecule 5 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	J	9	Total	C	N	O	0	0	0
			105	58	2	45			

- Molecule 6 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-

beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
6	Q	6	72	40	2	30	0	0	0

- Molecule 7 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	1	Total	Cu	0	0
			1	1		
7	B	1	Total	Cu	0	0
			1	1		
7	C	1	Total	Cu	0	0
			1	1		
7	D	1	Total	Cu	0	0
			1	1		
7	E	1	Total	Cu	0	0
			1	1		
7	F	1	Total	Cu	0	0
			1	1		

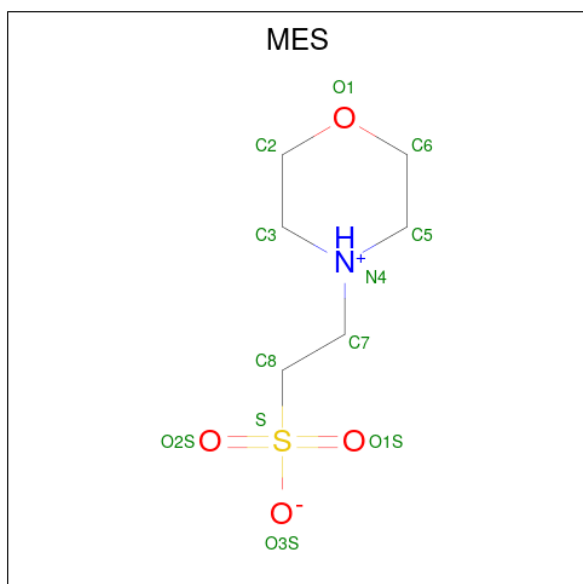
- Molecule 8 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	1	Total	Mg	0	0
			1	1		
8	B	1	Total	Mg	0	0
			1	1		
8	C	1	Total	Mg	0	0
			1	1		
8	E	1	Total	Mg	0	0
			1	1		
8	F	1	Total	Mg	0	0
			1	1		

- Molecule 9 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	A	1	Total Cl 1 1	0	0
9	B	4	Total Cl 4 4	0	0
9	C	5	Total Cl 5 5	0	0
9	D	7	Total Cl 7 7	0	0
9	E	3	Total Cl 3 3	0	0
9	F	2	Total Cl 2 2	0	0

- Molecule 10 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: C₆H₁₃NO₄S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	1	Total C N O S 12 6 1 4 1	0	0
10	B	1	Total C N O S 12 6 1 4 1	0	0
10	E	1	Total C N O S 12 6 1 4 1	0	0

- Molecule 11 is (4S)-2-METHYL-2,4-PENTANEDIOL (three-letter code: MPD) (formula: C₆H₁₄O₂).



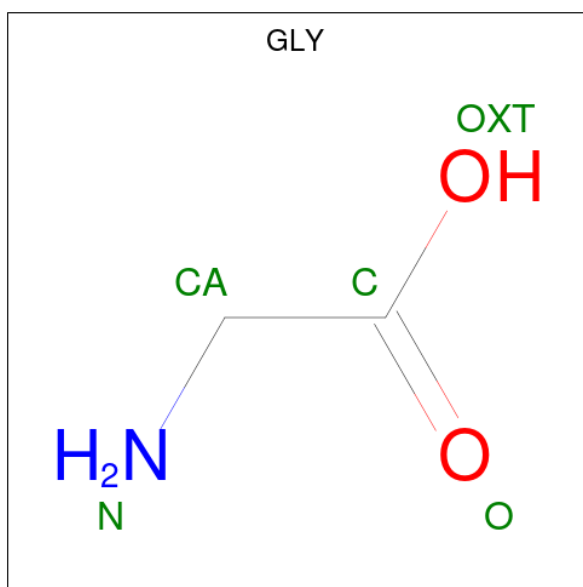
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	A	1	Total C O 8 6 2	0	0
11	A	1	Total C O 8 6 2	0	0
11	A	1	Total C O 8 6 2	0	0
11	A	1	Total C O 8 6 2	0	0
11	B	1	Total C O 8 6 2	0	0
11	B	1	Total C O 8 6 2	0	0
11	C	1	Total C O 8 6 2	0	0
11	D	1	Total C O 8 6 2	0	0
11	D	1	Total C O 8 6 2	0	0
11	E	1	Total C O 8 6 2	0	0
11	F	1	Total C O 8 6 2	0	0

- Molecule 12 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).



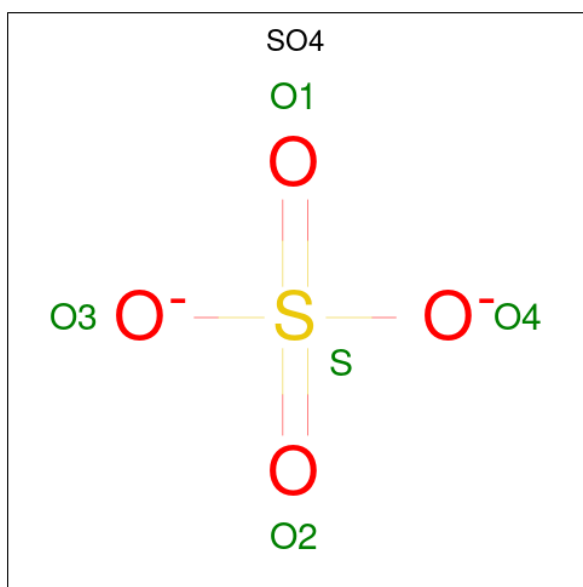
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
12	A	1	Total	C	O	0	0
			6	3	3		
12	A	1	Total	C	O	0	0
			6	3	3		
12	B	1	Total	C	O	0	0
			6	3	3		
12	B	1	Total	C	O	0	0
			6	3	3		
12	C	1	Total	C	O	0	0
			6	3	3		
12	E	1	Total	C	O	0	0
			6	3	3		

- Molecule 13 is GLYCINE (three-letter code: GLY) (formula: C₂H₅NO₂).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
13	C	1	Total	C	N	O	0	0
			5	2	1	2		
13	C	1	Total	C	N	O	0	0
			5	2	1	2		
13	D	1	Total	C	N	O	0	0
			5	2	1	2		
13	D	1	Total	C	N	O	0	0
			5	2	1	2		
13	E	1	Total	C	N	O	0	0
			5	2	1	2		
13	E	1	Total	C	N	O	0	0
			5	2	1	2		
13	F	1	Total	C	N	O	0	0
			5	2	1	2		

- Molecule 14 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
14	D	1	Total O S 5 4 1	0	0
14	F	1	Total O S 5 4 1	0	0

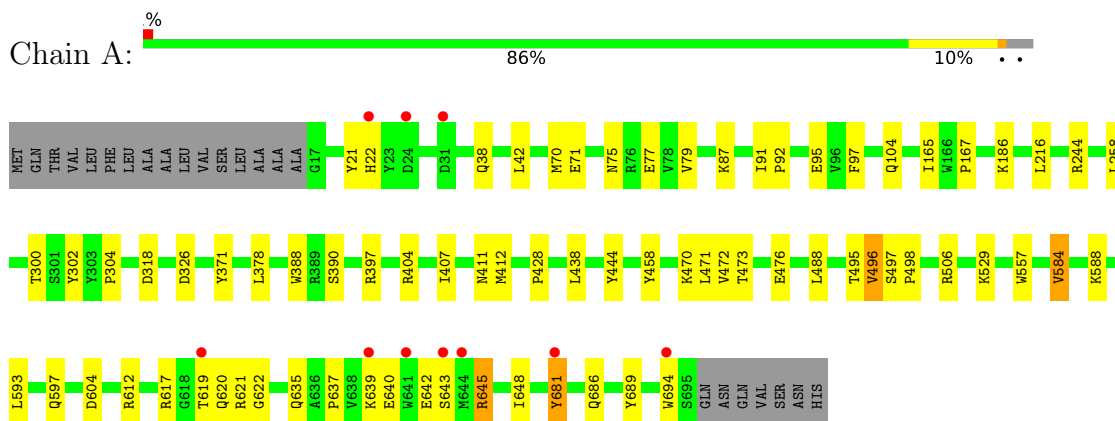
- Molecule 15 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	A	286	Total O 286 286	0	0
15	B	339	Total O 339 339	0	0
15	C	210	Total O 210 210	0	0
15	D	227	Total O 227 227	0	0
15	E	267	Total O 267 267	0	0
15	F	260	Total O 260 260	0	0

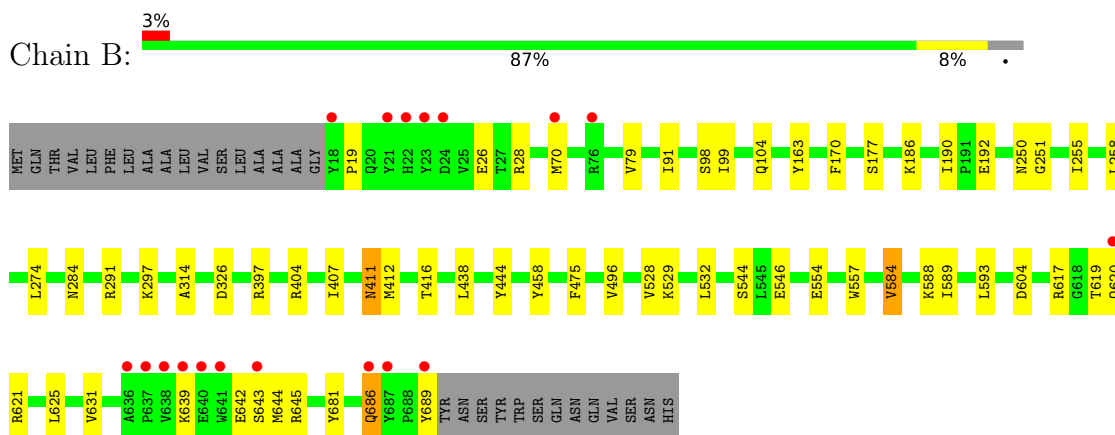
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

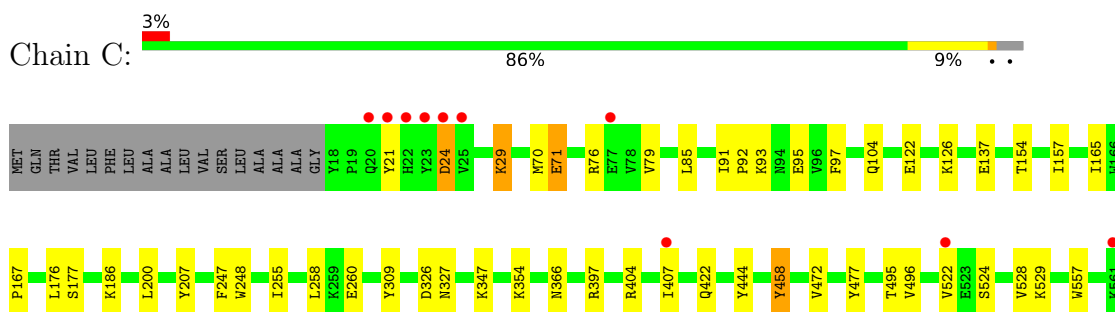
- Molecule 1: Arylphorin

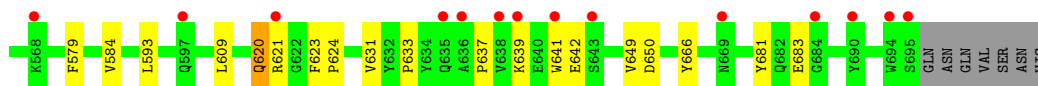


- Molecule 1: Arylphorin

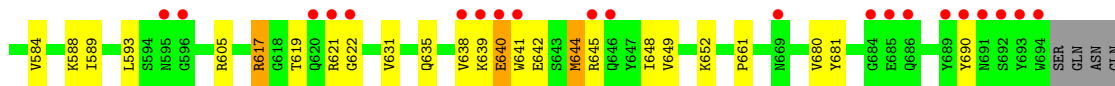
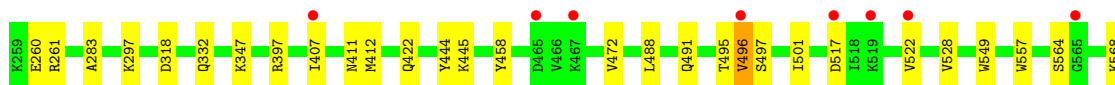
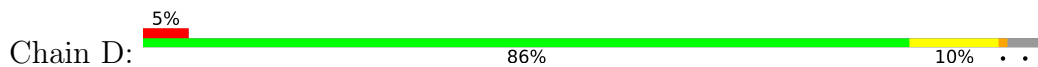


- Molecule 1: Arylphorin



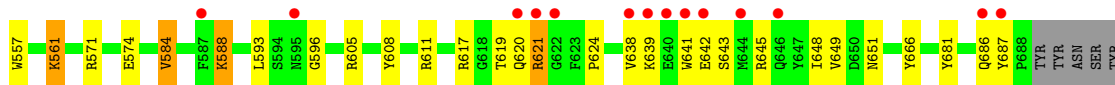
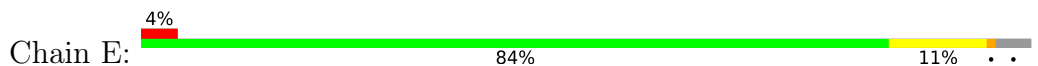


• Molecule 1: Arylphorin



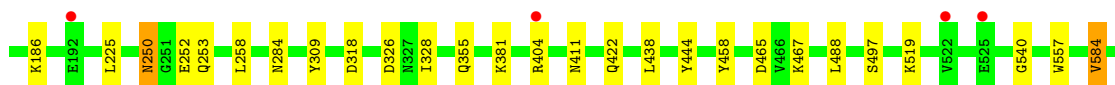
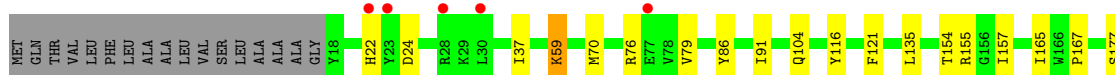
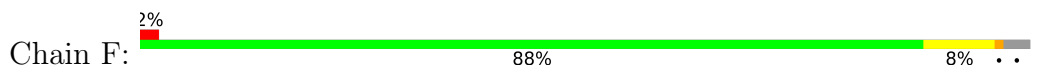
VAL
SER
ASN
HIS

• Molecule 1: Arylphorin



TRP
SER
GLN
ASN
VAL
SER
ASN
HIS

• Molecule 1: Arylphorin





- Molecule 2: alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G: 50% 50%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain H: 100%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K: 20% 80%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain M: 40% 60%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain N: 40% 60%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain O:  40% 60%




- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain P:  40% 40% 20%



- Molecule 3: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain R:  20% 40% 40%



- Molecule 4: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:  67% 33%



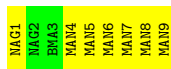
- Molecule 4: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:  100%

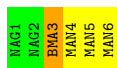
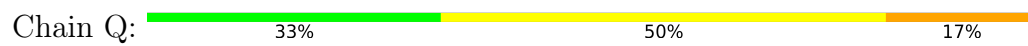


- Molecule 5: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:  22% 78%



- Molecule 6: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	93.75Å 196.58Å 224.12Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.26 – 2.20 49.26 – 2.20	Depositor EDS
% Data completeness (in resolution range)	99.9 (49.26-2.20) 99.9 (49.26-2.20)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.31 (at 2.20Å)	Xtrriage
Refinement program	PHENIX 1.20_4459, PHENIX 1.20_4459	Depositor
R, R_{free}	0.171 , 0.218 0.171 , 0.218	Depositor DCC
R_{free} test set	10623 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	38.4	Xtrriage
Anisotropy	0.139	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 48.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	37172	wwPDB-VP
Average B, all atoms (Å ²)	45.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.03% 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: MES, CL, BMA, CU, MPD, NAG, MAN, MG, SO4, GOL

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	0.49	1/5989 (0.0%)	0.63	3/8153 (0.0%)
1	B	0.51	0/5923	0.62	0/8062
1	C	0.43	0/5974	0.59	1/8132 (0.0%)
1	D	0.45	0/5963	0.60	1/8117 (0.0%)
1	E	0.47	0/5894	0.61	3/8021 (0.0%)
1	F	0.45	0/5985	0.60	2/8148 (0.0%)
All	All	0.47	1/35728 (0.0%)	0.61	10/48633 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	681	TYR	CD2-CE2	5.68	1.47	1.39

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	E	621	ARG	CG-CD-NE	-7.05	96.98	111.80
1	C	24	ASP	CB-CG-OD2	-6.25	112.67	118.30
1	D	318	ASP	CB-CG-OD1	6.02	123.72	118.30
1	A	617	ARG	CG-CD-NE	-5.97	99.25	111.80
1	A	622	GLY	N-CA-C	-5.91	98.33	113.10
1	A	318	ASP	CB-CG-OD1	5.57	123.31	118.30
1	E	621	ARG	NE-CZ-NH2	-5.49	117.56	120.30
1	E	318	ASP	CB-CG-OD1	5.46	123.21	118.30
1	F	622	GLY	N-CA-C	-5.30	99.84	113.10
1	F	318	ASP	CB-CG-OD1	5.09	122.88	118.30

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	5796	0	5536	48	0
1	B	5734	0	5489	42	0
1	C	5783	0	5525	54	1
1	D	5775	0	5518	49	0
1	E	5711	0	5470	54	0
1	F	5792	0	5533	40	1
2	G	72	0	61	3	0
3	H	61	0	52	0	0
3	K	61	0	52	0	0
3	M	61	0	52	2	0
3	N	61	0	52	1	0
3	O	61	0	52	0	0
3	P	61	0	52	1	0
3	R	61	0	52	1	0
4	I	39	0	34	0	0
4	L	39	0	34	0	0
5	J	105	0	88	0	0
6	Q	72	0	61	1	0
7	A	1	0	0	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
7	D	1	0	0	0	0
7	E	1	0	0	0	0
7	F	1	0	0	0	0
8	A	1	0	0	0	0
8	B	1	0	0	0	0
8	C	1	0	0	0	0
8	E	1	0	0	0	0
8	F	1	0	0	0	0
9	A	1	0	0	0	0
9	B	4	0	0	0	0
9	C	5	0	0	0	0
9	D	7	0	0	0	0
9	E	3	0	0	0	0
9	F	2	0	0	0	0
10	A	12	0	13	1	0
10	B	12	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	E	12	0	12	1	0
11	A	32	0	56	1	0
11	B	16	0	28	0	0
11	C	8	0	14	0	0
11	D	16	0	28	1	0
11	E	8	0	14	0	0
11	F	8	0	14	1	0
12	A	12	0	16	2	0
12	B	12	0	16	3	0
12	C	6	0	8	1	0
12	E	6	0	7	0	0
13	C	10	0	4	1	0
13	D	10	0	4	2	0
13	E	10	0	4	1	0
13	F	5	0	2	1	0
14	D	5	0	0	0	0
14	F	5	0	0	0	0
15	A	286	0	0	0	0
15	B	339	0	0	3	0
15	C	210	0	0	4	0
15	D	227	0	0	1	0
15	E	267	0	0	0	0
15	F	260	0	0	1	0
All	All	37172	0	33965	256	1

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 4.

All (256) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:620:GLN:HE22	1:E:624:PRO:HD3	1.42	0.85
1:F:634:TYR:OH	1:F:645:ARG:NH2	2.11	0.82
1:B:284:ASN:OD1	1:B:617:ARG:NH2	2.15	0.80
1:F:116:TYR:OH	1:F:253:GLN:NE2	2.15	0.80
1:B:28:ARG:NH1	1:B:604:ASP:OD2	2.10	0.79
1:C:620:GLN:HG3	1:D:621:ARG:HB3	1.64	0.78
1:B:70:MET:HG3	1:B:79:VAL:HG11	1.66	0.77
1:D:638:VAL:HG23	1:D:640:GLU:HG2	1.70	0.74
1:A:681:TYR:HA	1:E:621:ARG:NH2	2.02	0.73
1:B:297:LYS:NZ	15:B:1001:HOH:O	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:326:ASP:HB3	1:A:404:ARG:HG2	1.74	0.70
1:F:250:ASN:HD21	1:F:252:GLU:HB3	1.57	0.70
1:E:639:LYS:HA	1:E:642:GLU:HG2	1.72	0.69
1:D:639:LYS:HA	1:D:642:GLU:HG3	1.75	0.69
1:E:326:ASP:HB3	1:E:404:ARG:HG2	1.76	0.68
1:F:284:ASN:OD1	1:F:617:ARG:NH2	2.27	0.68
1:F:70:MET:HG3	1:F:79:VAL:HG11	1.76	0.67
1:A:186:LYS:NZ	1:D:186:LYS:HZ3	1.93	0.67
1:A:639:LYS:O	1:A:642:GLU:HG3	1.94	0.67
1:A:584:VAL:HG13	1:A:588:LYS:HB3	1.77	0.66
1:E:297:LYS:HD3	1:E:319:ASP:HB3	1.78	0.65
1:A:216:LEU:HD11	1:D:412:MET:HB2	1.79	0.65
1:E:641:TRP:HZ3	1:E:651:ASN:HA	1.61	0.65
1:A:70:MET:HG3	1:A:79:VAL:HG11	1.79	0.64
1:C:404:ARG:NH2	15:C:1001:HOH:O	2.15	0.64
1:A:472:VAL:HA	1:A:681:TYR:O	1.98	0.64
1:A:621:ARG:HA	1:E:620:GLN:OE1	1.98	0.63
1:B:584:VAL:HG12	1:B:589:ILE:HG13	1.80	0.63
1:D:87:LYS:HE3	1:E:666:TYR:CE1	2.33	0.63
1:A:470:LYS:HA	12:A:909:GOL:H11	1.81	0.62
1:C:422:GLN:HE22	13:C:910:GLY:N	1.97	0.62
1:B:584:VAL:HG13	1:B:588:LYS:HB3	1.80	0.62
1:C:397:ARG:HD3	1:C:407:ILE:HG12	1.82	0.62
1:E:258:LEU:HD11	1:E:648:ILE:HD11	1.81	0.62
1:A:397:ARG:HD3	1:A:407:ILE:HG12	1.80	0.62
1:B:326:ASP:HB3	1:B:404:ARG:HG2	1.81	0.62
1:B:619:THR:O	1:B:681:TYR:HA	2.00	0.61
1:C:495:THR:OG1	1:C:496:VAL:N	2.35	0.60
1:A:619:THR:O	1:E:621:ARG:CZ	2.50	0.60
1:D:584:VAL:HG13	1:D:588:LYS:HB3	1.83	0.59
1:E:397:ARG:HD3	1:E:407:ILE:HG21	1.84	0.58
1:E:495:THR:OG1	1:E:496:VAL:N	2.37	0.58
1:C:639:LYS:HG2	1:C:641:TRP:O	2.03	0.58
1:A:186:LYS:HZ3	1:D:186:LYS:HZ3	1.52	0.58
1:B:397:ARG:HD3	1:B:407:ILE:HG21	1.86	0.58
1:A:87:LYS:HE3	1:C:666:TYR:CE1	2.39	0.57
1:E:70:MET:HG3	1:E:79:VAL:HG11	1.86	0.57
1:C:639:LYS:HE2	1:C:642:GLU:CD	2.25	0.57
1:E:255:ILE:HB	1:E:258:LEU:HB2	1.86	0.57
1:C:404:ARG:NE	15:C:1002:HOH:O	2.23	0.57
1:B:620:GLN:OE1	1:F:621:ARG:HA	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:557:TRP:CE2	1:E:649:VAL:HB	2.40	0.57
1:F:355:GLN:HG2	1:F:381:LYS:HD3	1.87	0.56
1:B:250:ASN:OD1	1:B:251:GLY:N	2.38	0.56
1:E:91:ILE:HG21	1:E:104:GLN:HG2	1.87	0.56
1:E:619:THR:O	1:E:681:TYR:HA	2.05	0.56
1:A:186:LYS:HZ3	1:D:186:LYS:NZ	2.03	0.56
1:B:186:LYS:HG2	1:E:186:LYS:HZ3	1.71	0.55
1:D:261:ARG:HD2	1:D:641:TRP:CH2	2.41	0.55
1:D:584:VAL:HG12	1:D:589:ILE:HG13	1.88	0.55
1:C:639:LYS:HE2	1:C:642:GLU:HA	1.89	0.54
1:B:643:SER:HB3	15:B:1302:HOH:O	2.06	0.54
1:D:261:ARG:HD2	1:D:641:TRP:CZ3	2.42	0.54
1:A:186:LYS:NZ	1:D:186:LYS:NZ	2.55	0.54
1:D:528:VAL:HG22	1:D:631:VAL:HG22	1.90	0.54
1:D:635:GLN:OE1	1:D:652:LYS:NZ	2.41	0.54
1:A:488:LEU:HD13	1:A:497:SER:HB2	1.90	0.53
1:B:639:LYS:HA	1:B:642:GLU:HB3	1.90	0.53
1:C:186:LYS:HG2	1:F:186:LYS:HZ3	1.73	0.53
1:D:59:LYS:NZ	1:D:63:GLU:OE2	2.33	0.53
1:B:99:ILE:HG22	12:B:910:GOL:H31	1.91	0.52
1:B:544:SER:HB2	1:B:546:GLU:OE2	2.08	0.52
1:C:70:MET:CG	1:C:76:ARG:HH11	2.23	0.52
1:F:91:ILE:HG21	1:F:104:GLN:HG2	1.92	0.52
1:C:122:GLU:HG2	1:C:126:LYS:HE3	1.91	0.52
1:E:620:GLN:OE1	1:E:620:GLN:N	2.40	0.52
1:F:326:ASP:CB	1:F:404:ARG:HG2	2.40	0.52
1:B:255:ILE:HB	1:B:258:LEU:HB2	1.92	0.51
1:C:71:GLU:CD	1:C:71:GLU:H	2.11	0.51
1:B:314:ALA:HB3	1:B:416:THR:HG22	1.91	0.51
1:F:404:ARG:NE	15:F:1001:HOH:O	2.22	0.51
1:B:411:ASN:N	1:B:411:ASN:OD1	2.38	0.51
1:B:190:ILE:HG22	1:B:192:GLU:HG2	1.91	0.51
1:D:445:LYS:HB3	1:D:661:PRO:HD3	1.93	0.51
1:C:70:MET:HG3	1:C:79:VAL:HG11	1.93	0.51
1:C:260:GLU:OE1	1:C:366:ASN:ND2	2.44	0.51
1:D:690:TYR:CD1	3:M:2:NAG:H81	2.45	0.51
1:B:186:LYS:HZ1	1:E:186:LYS:HG2	1.77	0.50
1:B:274:LEU:HD12	1:B:438:LEU:HD12	1.93	0.50
1:A:637:PRO:HG2	1:A:645:ARG:HD2	1.93	0.50
1:C:472:VAL:HA	1:C:681:TYR:O	2.12	0.50
1:E:544:SER:HB2	2:G:5:MAN:H61	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:622:GLY:HA2	1:D:680:VAL:O	2.12	0.49
1:D:645:ARG:HD2	1:D:648:ILE:O	2.12	0.49
1:C:347:LYS:HE3	12:C:909:GOL:H12	1.94	0.49
1:F:584:VAL:HG13	1:F:588:LYS:HB3	1.94	0.49
1:A:619:THR:O	1:E:621:ARG:NH2	2.45	0.49
1:F:422:GLN:HE22	13:F:907:GLY:N	2.10	0.48
1:C:354:LYS:NZ	15:C:1008:HOH:O	2.45	0.48
1:D:517:ASP:OD1	1:D:568:LYS:HG2	2.14	0.48
1:B:19:PRO:HD2	1:B:475:PHE:O	2.12	0.48
1:A:38:GLN:HG2	1:A:593:LEU:HD21	1.94	0.48
1:D:397:ARG:HD3	1:D:407:ILE:HG13	1.95	0.48
1:C:70:MET:HG2	1:C:76:ARG:HH11	1.78	0.48
1:C:327:ASN:ND2	15:C:1002:HOH:O	2.47	0.48
1:B:532:LEU:HD11	1:B:625:LEU:HD13	1.96	0.48
1:C:620:GLN:NE2	1:D:622:GLY:O	2.47	0.48
1:C:557:TRP:CE2	1:C:649:VAL:HB	2.49	0.48
1:D:690:TYR:HD1	3:M:2:NAG:H81	1.79	0.48
1:B:686:GLN:HG2	1:F:621:ARG:HD3	1.95	0.47
1:C:92:PRO:HG2	1:C:95:GLU:HG3	1.95	0.47
1:D:260:GLU:OE1	15:D:1001:HOH:O	2.20	0.47
1:C:255:ILE:HB	1:C:258:LEU:HB2	1.97	0.47
1:F:644:MET:HG2	1:F:647:TYR:HD2	1.78	0.47
1:B:99:ILE:H	12:B:910:GOL:C3	2.27	0.47
1:B:412:MET:HB2	1:E:216:LEU:HD11	1.96	0.47
1:C:637:PRO:HD3	1:C:650:ASP:HA	1.95	0.47
1:A:620:GLN:HA	1:E:621:ARG:HD2	1.96	0.47
1:C:247:PHE:CZ	1:C:248[A]:TRP:HD1	2.32	0.47
1:C:404:ARG:HD2	1:C:404:ARG:N	2.30	0.47
1:A:258:LEU:HD11	1:A:648:ILE:HD11	1.97	0.47
1:F:258:LEU:HD11	1:F:648:ILE:HD11	1.97	0.46
1:F:465:ASP:OD2	1:F:467:LYS:HE2	2.15	0.46
1:B:177:SER:HB2	1:E:309:TYR:CE2	2.50	0.46
1:C:186:LYS:NZ	1:F:186:LYS:HZ3	2.13	0.46
1:D:257:PRO:HB2	1:D:641:TRP:CD1	2.49	0.46
1:A:495:THR:OG1	1:A:496:VAL:N	2.49	0.46
1:F:557:TRP:CE2	1:F:649:VAL:HB	2.51	0.46
1:A:92:PRO:HG2	1:A:95:GLU:HG3	1.97	0.46
1:B:186:LYS:NZ	1:E:186:LYS:HG2	2.31	0.46
1:C:529:LYS:HE2	1:C:557:TRP:CD1	2.51	0.46
10:A:904:MES:H51	10:A:904:MES:H81	1.49	0.46
1:B:91:ILE:HG21	1:B:104:GLN:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:332:GLN:OE1	1:E:339:LYS:NZ	2.38	0.46
1:C:326:ASP:CB	1:C:404:ARG:HG2	2.45	0.46
1:D:257:PRO:O	1:D:641:TRP:NE1	2.46	0.46
1:D:557:TRP:CE2	1:D:649:VAL:HB	2.51	0.46
1:A:497:SER:OG	1:A:498:PRO:O	2.25	0.45
1:B:70:MET:HG3	1:B:79:VAL:CG1	2.43	0.45
1:C:21:TYR:HB3	1:C:477:TYR:O	2.16	0.45
1:E:19:PRO:HD2	1:E:475:PHE:O	2.16	0.45
1:E:584:VAL:HG13	1:E:588:LYS:HB3	1.98	0.45
3:R:3:BMA:H62	3:R:5:MAN:H2	1.40	0.45
1:B:529:LYS:HE2	1:B:557:TRP:CD1	2.52	0.45
1:D:154:THR:O	1:D:157:ILE:HG12	2.16	0.45
1:D:621:ARG:O	1:D:621:ARG:HG2	2.17	0.45
1:E:78:VAL:HG21	1:E:117:TYR:CD2	2.51	0.45
1:B:689:TYR:OH	1:F:540:GLY:O	2.24	0.45
1:C:639:LYS:C	1:C:641:TRP:H	2.20	0.45
1:E:181:ARG:HD3	10:E:906:MES:H21	1.98	0.45
1:D:501:ILE:HD11	3:N:1:NAG:H82	1.99	0.45
1:F:644:MET:HG2	1:F:647:TYR:CD2	2.52	0.45
1:C:326:ASP:HB2	1:C:404:ARG:HG2	1.99	0.45
1:F:37:ILE:HG23	1:F:121:PHE:CE1	2.51	0.45
1:D:422:GLN:HE22	13:D:913:GLY:N	2.14	0.45
1:D:97:PHE:HA	1:D:104:GLN:OE1	2.16	0.45
1:F:326:ASP:HB2	1:F:404:ARG:HG2	1.98	0.45
1:C:621:ARG:NH2	1:D:283:ALA:O	2.50	0.44
1:F:593:LEU:HD23	1:F:593:LEU:HA	1.85	0.44
1:C:200:LEU:HB2	1:C:207:TYR:HB2	2.00	0.44
1:D:472:VAL:HA	1:D:681:TYR:O	2.17	0.44
1:F:154:THR:O	1:F:157:ILE:HG12	2.17	0.44
1:B:593:LEU:HD23	1:B:593:LEU:HA	1.87	0.44
1:E:472:VAL:HA	1:E:681:TYR:O	2.18	0.44
1:C:186:LYS:HZ3	1:F:186:LYS:NZ	2.15	0.44
1:B:528:VAL:HG22	1:B:631:VAL:HG22	1.98	0.44
1:F:694:TRP:CE2	6:Q:3:BMA:H5	2.53	0.44
1:A:97:PHE:HA	1:A:104:GLN:OE1	2.18	0.43
1:C:177:SER:HB2	1:F:309:TYR:CE2	2.53	0.43
1:B:163:TYR:HA	1:B:170:PHE:CD1	2.52	0.43
1:E:314:ALA:HB3	1:E:416:THR:HG22	1.99	0.43
1:E:355:GLN:HG2	1:E:381:LYS:HD3	2.01	0.43
1:E:605:ARG:HB3	1:E:608:TYR:HD2	1.82	0.43
1:D:619:THR:O	1:D:681:TYR:HA	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:471:LEU:HG	12:A:909:GOL:H12	2.00	0.43
1:C:528:VAL:HG22	1:C:631:VAL:HG22	2.00	0.43
11:D:911:MPD:HM1	11:D:911:MPD:H4	1.70	0.43
1:D:495:THR:OG1	1:D:496:VAL:N	2.52	0.43
11:A:908:MPD:H52	11:A:908:MPD:HM1	2.00	0.43
1:B:397:ARG:HD3	1:B:407:ILE:CG2	2.48	0.43
1:E:29:LYS:HG3	1:E:596:GLY:O	2.18	0.43
1:F:165:ILE:C	1:F:167:PRO:HD3	2.38	0.43
1:A:21:TYR:HB2	1:A:476:GLU:CD	2.39	0.43
1:A:371:TYR:HA	1:A:378:LEU:HD22	2.00	0.43
1:F:411:ASN:OD1	1:F:411:ASN:N	2.52	0.43
1:A:91:ILE:HG21	1:A:104:GLN:HG2	2.01	0.43
1:C:186:LYS:NZ	1:F:186:LYS:NZ	2.66	0.43
1:C:639:LYS:HE2	1:C:642:GLU:OE1	2.18	0.43
1:C:639:LYS:CE	1:C:642:GLU:HA	2.48	0.43
1:C:154:THR:O	1:C:157:ILE:HG12	2.19	0.42
1:D:549:TRP:CE2	1:D:661:PRO:HA	2.54	0.42
1:A:404:ARG:HD2	1:A:407:ILE:HD13	2.01	0.42
1:E:328:ILE:HD12	1:E:328:ILE:HA	1.89	0.42
1:E:471:LEU:H	13:E:910:GLY:N	2.17	0.42
1:E:97:PHE:HA	1:E:104:GLN:OE1	2.18	0.42
1:E:306:LEU:HD11	1:E:426:ARG:HD3	2.01	0.42
1:A:165:ILE:C	1:A:167:PRO:HD3	2.40	0.42
1:A:681:TYR:HA	1:E:621:ARG:HH22	1.81	0.42
1:E:501:ILE:HD11	3:P:1:NAG:H82	2.01	0.42
1:E:642:GLU:OE1	1:E:645:ARG:NH1	2.53	0.42
1:A:473:THR:N	1:A:681:TYR:O	2.48	0.42
1:A:529:LYS:HE2	1:A:557:TRP:CD1	2.54	0.42
1:C:309:TYR:CE2	1:F:177:SER:HB2	2.54	0.42
1:C:593:LEU:HD23	1:C:593:LEU:HA	1.71	0.42
1:E:523:GLU:OE2	1:E:561:LYS:HD3	2.19	0.42
1:A:412:MET:HB2	1:D:216:LEU:HD11	2.01	0.42
1:F:404:ARG:HD2	1:F:404:ARG:N	2.35	0.42
1:A:694:TRP:CG	2:G:3:BMA:H5	2.55	0.42
1:A:388:TRP:CZ2	1:A:390:SER:HB2	2.55	0.42
1:A:411:ASN:OD1	1:A:411:ASN:N	2.51	0.42
1:C:97:PHE:HA	1:C:104:GLN:OE1	2.20	0.42
1:C:623:PHE:HA	1:C:624:PRO:HD3	1.94	0.42
1:D:411:ASN:OD1	1:D:411:ASN:N	2.51	0.42
1:D:644:MET:H	1:D:644:MET:HG2	1.65	0.42
1:E:556:ASP:OD2	1:E:571:ARG:NE	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:529:LYS:NZ	1:B:554:GLU:OE2	2.41	0.41
1:C:458:TYR:CE1	1:C:633:PRO:HG3	2.55	0.41
1:F:86:TYR:HE1	1:F:135:LEU:HD21	1.85	0.41
1:A:689:TYR:O	2:G:1:NAG:H5	2.20	0.41
1:B:621:ARG:NH1	1:F:686:GLN:HG2	2.35	0.41
1:D:347:LYS:HE3	13:D:912:GLY:HA2	2.02	0.41
1:E:176:LEU:HD22	1:E:180:TYR:CZ	2.55	0.41
1:A:302:TYR:CZ	1:A:304:PRO:HB3	2.55	0.41
1:A:619:THR:O	1:E:621:ARG:NH1	2.54	0.41
1:C:91:ILE:HG21	1:C:104:GLN:HG2	2.01	0.41
1:D:488:LEU:HD13	1:D:497:SER:HB2	2.02	0.41
1:C:29:LYS:HB2	1:C:29:LYS:HE3	1.71	0.41
1:C:85:LEU:HD23	1:C:85:LEU:HA	1.90	0.41
1:D:53:PRO:HA	1:D:58:TYR:CG	2.55	0.41
1:D:617:ARG:NH1	1:D:617:ARG:HB3	2.35	0.41
1:F:326:ASP:HB3	1:F:404:ARG:HG2	2.02	0.41
1:D:255:ILE:HB	1:D:258:LEU:HB2	2.02	0.41
1:D:617:ARG:HB3	1:D:617:ARG:HH11	1.85	0.41
1:A:75:ASN:OD1	1:A:77:GLU:HB3	2.20	0.41
1:F:116:TYR:CZ	1:F:253:GLN:NE2	2.89	0.41
1:F:328:ILE:HD12	1:F:328:ILE:HA	1.93	0.41
1:B:98:SER:HA	12:B:910:GOL:O3	2.21	0.41
1:B:621:ARG:HD3	1:F:620:GLN:HG2	2.02	0.41
1:C:93:LYS:HB3	1:C:137:GLU:OE2	2.21	0.41
1:C:165:ILE:C	1:C:167:PRO:HD3	2.41	0.41
1:C:579:PHE:HA	1:C:609:LEU:O	2.21	0.41
1:E:532:LEU:HB2	1:E:555:LEU:HD11	2.03	0.41
1:E:561:LYS:HE3	1:E:561:LYS:HB3	1.76	0.41
1:E:574:GLU:HA	1:E:611:ARG:HD3	2.03	0.41
1:E:686:GLN:NE2	1:E:687:TYR:CE2	2.89	0.41
11:F:906:MPD:HM1	11:F:906:MPD:H4	1.82	0.41
1:D:71:GLU:HG3	1:D:76:ARG:HH12	1.86	0.40
1:A:42:LEU:HD23	1:A:42:LEU:HA	1.92	0.40
1:A:506:ARG:NH2	1:A:612:ARG:HD2	2.37	0.40
1:E:165:ILE:C	1:E:167:PRO:HD3	2.42	0.40
1:F:488:LEU:HD13	1:F:497:SER:HB2	2.03	0.40
1:A:244:ARG:HD2	1:A:244:ARG:HA	1.84	0.40
1:A:300:THR:HG21	1:A:428:PRO:HB2	2.04	0.40
1:B:291:ARG:HA	15:B:1116:HOH:O	2.20	0.40
1:E:397:ARG:HD3	1:E:407:ILE:CG2	2.50	0.40
1:E:529:LYS:NZ	1:E:554:GLU:OE2	2.30	0.40

All (1) 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:C:24:ASP:OD2	1:F:59:LYS:NZ[4_455]	2.15	0.05

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	678/702 (97%)	665 (98%)	12 (2%)	1 (0%)	51	60
1	B	671/702 (96%)	662 (99%)	9 (1%)	0	100	100
1	C	677/702 (96%)	665 (98%)	12 (2%)	0	100	100
1	D	675/702 (96%)	665 (98%)	10 (2%)	0	100	100
1	E	669/702 (95%)	661 (99%)	8 (1%)	0	100	100
1	F	677/702 (96%)	666 (98%)	11 (2%)	0	100	100
All	All	4047/4212 (96%)	3984 (98%)	62 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	640	GLU

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	620/637 (97%)	607 (98%)	13 (2%)	53	67
1	B	614/637 (96%)	605 (98%)	9 (2%)	65	78
1	C	619/637 (97%)	609 (98%)	10 (2%)	62	76
1	D	618/637 (97%)	603 (98%)	15 (2%)	49	62
1	E	612/637 (96%)	600 (98%)	12 (2%)	55	69
1	F	620/637 (97%)	606 (98%)	14 (2%)	50	63
All	All	3703/3822 (97%)	3630 (98%)	73 (2%)	55	69

All (73) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	HIS
1	A	71	GLU
1	A	438	LEU
1	A	444	TYR
1	A	458	TYR
1	A	496	VAL
1	A	584	VAL
1	A	597	GLN
1	A	604	ASP
1	A	635	GLN
1	A	643	SER
1	A	645	ARG
1	A	686	GLN
1	B	26	GLU
1	B	411	ASN
1	B	444	TYR
1	B	458	TYR
1	B	496	VAL
1	B	584	VAL
1	B	644	MET
1	B	645	ARG
1	B	686	GLN
1	C	29	LYS
1	C	71	GLU
1	C	176	LEU
1	C	444	TYR
1	C	458	TYR
1	C	522	VAL
1	C	524	SER
1	C	584	VAL

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Mol	Chain	Res	Type
1	C	620	GLN
1	C	683	GLU
1	D	22	HIS
1	D	29	LYS
1	D	155	ARG
1	D	297	LYS
1	D	444	TYR
1	D	458	TYR
1	D	491	GLN
1	D	496	VAL
1	D	522	VAL
1	D	564	SER
1	D	593	LEU
1	D	605	ARG
1	D	617	ARG
1	D	640	GLU
1	D	644	MET
1	E	76	ARG
1	E	444	TYR
1	E	458	TYR
1	E	496	VAL
1	E	522	VAL
1	E	561	LYS
1	E	584	VAL
1	E	588	LYS
1	E	593	LEU
1	E	617	ARG
1	E	638	VAL
1	E	643	SER
1	F	22	HIS
1	F	24	ASP
1	F	59	LYS
1	F	76	ARG
1	F	155	ARG
1	F	225	LEU
1	F	250	ASN
1	F	438	LEU
1	F	444	TYR
1	F	458	TYR
1	F	519	LYS
1	F	584	VAL
1	F	639	LYS

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Mol	Chain	Res	Type
1	F	686	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	253	GLN
1	F	566	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

62 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	NAG	G	1	2,1	14,14,15	0.73	1 (7%)	17,19,21	0.48	0
2	NAG	G	2	2	14,14,15	0.59	1 (7%)	17,19,21	0.59	0
2	BMA	G	3	2	11,11,12	0.98	0	15,15,17	0.95	1 (6%)
2	MAN	G	4	2	11,11,12	0.97	0	15,15,17	1.10	1 (6%)
2	MAN	G	5	2	11,11,12	0.94	1 (9%)	15,15,17	1.25	2 (13%)
2	MAN	G	6	2	11,11,12	1.46	4 (36%)	15,15,17	1.30	2 (13%)
3	NAG	H	1	3,1	14,14,15	0.53	0	17,19,21	0.86	1 (5%)
3	NAG	H	2	3	14,14,15	0.37	0	17,19,21	0.70	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	BMA	H	3	3	11,11,12	0.63	0	15,15,17	1.01	1 (6%)
3	MAN	H	4	3	11,11,12	1.23	1 (9%)	15,15,17	1.49	5 (33%)
3	MAN	H	5	3	11,11,12	1.12	1 (9%)	15,15,17	1.22	1 (6%)
4	NAG	I	1	4,1	14,14,15	0.29	0	17,19,21	0.70	1 (5%)
4	NAG	I	2	4	14,14,15	0.34	0	17,19,21	0.60	0
4	BMA	I	3	4	11,11,12	0.96	0	15,15,17	1.09	0
5	NAG	J	1	5,1	14,14,15	0.70	1 (7%)	17,19,21	0.92	0
5	NAG	J	2	5	14,14,15	0.23	0	17,19,21	0.43	0
5	BMA	J	3	5	11,11,12	0.91	0	15,15,17	0.75	0
5	MAN	J	4	5	11,11,12	0.88	1 (9%)	15,15,17	1.34	1 (6%)
5	MAN	J	5	5	11,11,12	0.99	1 (9%)	15,15,17	1.71	4 (26%)
5	MAN	J	6	5	11,11,12	0.81	1 (9%)	15,15,17	1.07	2 (13%)
5	MAN	J	7	5	11,11,12	0.92	0	15,15,17	1.05	2 (13%)
5	MAN	J	8	5	11,11,12	1.08	1 (9%)	15,15,17	1.04	1 (6%)
5	MAN	J	9	5	11,11,12	0.75	0	15,15,17	1.10	1 (6%)
3	NAG	K	1	3,1	14,14,15	0.33	0	17,19,21	0.43	0
3	NAG	K	2	3	14,14,15	0.61	1 (7%)	17,19,21	0.63	0
3	BMA	K	3	3	11,11,12	0.86	0	15,15,17	1.23	2 (13%)
3	MAN	K	4	3	11,11,12	1.02	1 (9%)	15,15,17	1.10	2 (13%)
3	MAN	K	5	3	11,11,12	1.15	1 (9%)	15,15,17	1.00	0
4	NAG	L	1	4,1	14,14,15	0.46	0	17,19,21	0.63	0
4	NAG	L	2	4	14,14,15	0.26	0	17,19,21	0.54	0
4	BMA	L	3	4	11,11,12	0.80	0	15,15,17	0.98	0
3	NAG	M	1	3,1	14,14,15	0.24	0	17,19,21	0.53	0
3	NAG	M	2	3	14,14,15	0.54	0	17,19,21	0.53	0
3	BMA	M	3	3	11,11,12	0.86	0	15,15,17	0.76	0
3	MAN	M	4	3	11,11,12	0.87	0	15,15,17	1.15	2 (13%)
3	MAN	M	5	3	11,11,12	1.06	1 (9%)	15,15,17	1.30	3 (20%)
3	NAG	N	1	3,1	14,14,15	0.63	0	17,19,21	0.61	0
3	NAG	N	2	3	14,14,15	0.39	0	17,19,21	0.54	0
3	BMA	N	3	3	11,11,12	0.84	0	15,15,17	0.81	0
3	MAN	N	4	3	11,11,12	1.12	1 (9%)	15,15,17	0.96	1 (6%)
3	MAN	N	5	3	11,11,12	0.78	0	15,15,17	1.33	2 (13%)
3	NAG	O	1	3,1	14,14,15	0.77	1 (7%)	17,19,21	0.73	0
3	NAG	O	2	3	14,14,15	0.53	0	17,19,21	0.53	0
3	BMA	O	3	3	11,11,12	0.91	0	15,15,17	0.83	0
3	MAN	O	4	3	11,11,12	1.12	0	15,15,17	1.01	1 (6%)
3	MAN	O	5	3	11,11,12	1.04	2 (18%)	15,15,17	1.29	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	NAG	P	1	3,1	14,14,15	0.80	1 (7%)	17,19,21	0.57	0
3	NAG	P	2	3	14,14,15	0.37	0	17,19,21	0.37	0
3	BMA	P	3	3	11,11,12	0.93	0	15,15,17	1.04	0
3	MAN	P	4	3	11,11,12	0.69	0	15,15,17	1.11	1 (6%)
3	MAN	P	5	3	11,11,12	1.24	2 (18%)	15,15,17	0.86	0
6	NAG	Q	1	6,1	14,14,15	0.30	0	17,19,21	0.63	0
6	NAG	Q	2	6	14,14,15	0.51	0	17,19,21	0.57	0
6	BMA	Q	3	6	11,11,12	0.74	0	15,15,17	1.23	2 (13%)
6	MAN	Q	4	6	11,11,12	0.88	0	15,15,17	1.18	2 (13%)
6	MAN	Q	5	6	11,11,12	0.97	1 (9%)	15,15,17	0.85	1 (6%)
6	MAN	Q	6	6	11,11,12	1.07	1 (9%)	15,15,17	0.95	1 (6%)
3	NAG	R	1	3,1	14,14,15	0.64	1 (7%)	17,19,21	0.67	0
3	NAG	R	2	3	14,14,15	0.53	0	17,19,21	0.42	0
3	BMA	R	3	3	11,11,12	0.46	0	15,15,17	1.52	1 (6%)
3	MAN	R	4	3	11,11,12	0.92	0	15,15,17	1.08	1 (6%)
3	MAN	R	5	3	11,11,12	1.11	1 (9%)	15,15,17	1.08	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	NAG	G	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	G	2	2	-	4/6/23/26	0/1/1/1
2	BMA	G	3	2	-	0/2/19/22	0/1/1/1
2	MAN	G	4	2	-	2/2/19/22	0/1/1/1
2	MAN	G	5	2	-	0/2/19/22	0/1/1/1
2	MAN	G	6	2	-	0/2/19/22	0/1/1/1
3	NAG	H	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	H	2	3	-	0/6/23/26	0/1/1/1
3	BMA	H	3	3	-	0/2/19/22	0/1/1/1
3	MAN	H	4	3	-	0/2/19/22	0/1/1/1
3	MAN	H	5	3	-	0/2/19/22	0/1/1/1
4	NAG	I	1	4,1	-	0/6/23/26	0/1/1/1
4	NAG	I	2	4	-	4/6/23/26	0/1/1/1
4	BMA	I	3	4	-	1/2/19/22	0/1/1/1
5	NAG	J	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	J	2	5	-	0/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	BMA	J	3	5	-	0/2/19/22	0/1/1/1
5	MAN	J	4	5	-	0/2/19/22	0/1/1/1
5	MAN	J	5	5	-	0/2/19/22	0/1/1/1
5	MAN	J	6	5	-	0/2/19/22	0/1/1/1
5	MAN	J	7	5	-	2/2/19/22	0/1/1/1
5	MAN	J	8	5	-	1/2/19/22	0/1/1/1
5	MAN	J	9	5	-	2/2/19/22	0/1/1/1
3	NAG	K	1	3,1	-	2/6/23/26	0/1/1/1
3	NAG	K	2	3	-	2/6/23/26	0/1/1/1
3	BMA	K	3	3	-	0/2/19/22	0/1/1/1
3	MAN	K	4	3	-	0/2/19/22	0/1/1/1
3	MAN	K	5	3	-	0/2/19/22	0/1/1/1
4	NAG	L	1	4,1	-	0/6/23/26	0/1/1/1
4	NAG	L	2	4	-	0/6/23/26	0/1/1/1
4	BMA	L	3	4	-	0/2/19/22	0/1/1/1
3	NAG	M	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	M	2	3	-	2/6/23/26	0/1/1/1
3	BMA	M	3	3	-	2/2/19/22	0/1/1/1
3	MAN	M	4	3	-	0/2/19/22	0/1/1/1
3	MAN	M	5	3	-	2/2/19/22	0/1/1/1
3	NAG	N	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	N	2	3	-	0/6/23/26	0/1/1/1
3	BMA	N	3	3	-	0/2/19/22	0/1/1/1
3	MAN	N	4	3	-	0/2/19/22	0/1/1/1
3	MAN	N	5	3	-	0/2/19/22	0/1/1/1
3	NAG	O	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	O	2	3	-	4/6/23/26	0/1/1/1
3	BMA	O	3	3	-	0/2/19/22	0/1/1/1
3	MAN	O	4	3	-	2/2/19/22	0/1/1/1
3	MAN	O	5	3	-	2/2/19/22	0/1/1/1
3	NAG	P	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	P	2	3	-	0/6/23/26	0/1/1/1
3	BMA	P	3	3	-	2/2/19/22	0/1/1/1
3	MAN	P	4	3	-	0/2/19/22	0/1/1/1
3	MAN	P	5	3	-	2/2/19/22	0/1/1/1
6	NAG	Q	1	6,1	-	0/6/23/26	0/1/1/1
6	NAG	Q	2	6	-	0/6/23/26	0/1/1/1
6	BMA	Q	3	6	-	0/2/19/22	0/1/1/1
6	MAN	Q	4	6	-	0/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	MAN	Q	5	6	-	0/2/19/22	0/1/1/1
6	MAN	Q	6	6	-	0/2/19/22	0/1/1/1
3	NAG	R	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	R	2	3	-	2/6/23/26	0/1/1/1
3	BMA	R	3	3	-	2/2/19/22	0/1/1/1
3	MAN	R	4	3	-	1/2/19/22	0/1/1/1
3	MAN	R	5	3	-	2/2/19/22	0/1/1/1

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	4	MAN	C1-C2	2.82	1.58	1.52
3	O	1	NAG	O5-C1	-2.81	1.39	1.43
2	G	6	MAN	O5-C1	-2.67	1.39	1.43
2	G	1	NAG	O5-C1	-2.61	1.39	1.43
3	R	5	MAN	C1-C2	2.45	1.57	1.52
3	K	4	MAN	C1-C2	2.42	1.57	1.52
5	J	8	MAN	O5-C1	-2.39	1.39	1.43
3	P	1	NAG	O5-C1	-2.39	1.39	1.43
3	H	5	MAN	C1-C2	2.36	1.57	1.52
6	Q	5	MAN	O5-C1	-2.36	1.40	1.43
3	P	5	MAN	O5-C1	-2.29	1.40	1.43
6	Q	6	MAN	O5-C5	2.25	1.48	1.43
3	R	1	NAG	C1-C2	2.22	1.55	1.52
3	K	5	MAN	C2-C3	2.19	1.55	1.52
3	K	2	NAG	O5-C1	-2.18	1.40	1.43
2	G	2	NAG	O5-C1	-2.17	1.40	1.43
5	J	6	MAN	O5-C5	2.16	1.47	1.43
2	G	6	MAN	O2-C2	2.15	1.47	1.43
5	J	1	NAG	O5-C1	-2.13	1.40	1.43
2	G	6	MAN	C2-C3	2.11	1.55	1.52
5	J	4	MAN	O5-C5	2.09	1.47	1.43
3	N	4	MAN	O5-C1	-2.07	1.40	1.43
5	J	5	MAN	O5-C5	2.07	1.47	1.43
3	O	5	MAN	C1-C2	2.06	1.56	1.52
3	M	5	MAN	O5-C5	2.06	1.47	1.43
3	O	5	MAN	O5-C5	2.06	1.47	1.43
2	G	5	MAN	O5-C5	2.05	1.47	1.43
3	P	5	MAN	O5-C5	2.03	1.47	1.43
2	G	6	MAN	C4-C3	2.02	1.57	1.52

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	R	3	BMA	C1-O5-C5	4.79	118.69	112.19
5	J	4	MAN	C1-O5-C5	4.15	117.82	112.19
5	J	5	MAN	O2-C2-C3	-3.76	102.60	110.14
5	J	5	MAN	C1-O5-C5	3.71	117.22	112.19
3	N	5	MAN	C1-O5-C5	3.68	117.18	112.19
3	O	5	MAN	C1-O5-C5	3.58	117.04	112.19
2	G	5	MAN	C1-O5-C5	3.47	116.89	112.19
3	P	4	MAN	C1-O5-C5	3.16	116.47	112.19
5	J	9	MAN	C1-O5-C5	2.93	116.17	112.19
3	H	5	MAN	C1-O5-C5	2.83	116.02	112.19
3	H	4	MAN	C1-C2-C3	2.81	113.12	109.67
3	R	4	MAN	C1-O5-C5	2.79	115.97	112.19
3	M	5	MAN	O2-C2-C3	-2.77	104.59	110.14
3	R	5	MAN	C1-O5-C5	2.74	115.91	112.19
5	J	6	MAN	C1-O5-C5	2.69	115.84	112.19
2	G	6	MAN	O2-C2-C1	2.69	114.66	109.15
5	J	5	MAN	C1-C2-C3	-2.67	106.39	109.67
3	H	3	BMA	C1-O5-C5	2.64	115.77	112.19
3	K	4	MAN	C1-O5-C5	2.56	115.67	112.19
3	O	4	MAN	C1-O5-C5	2.56	115.66	112.19
6	Q	3	BMA	C1-C2-C3	2.53	112.78	109.67
6	Q	4	MAN	O2-C2-C3	-2.53	105.07	110.14
5	J	7	MAN	O2-C2-C3	-2.52	105.09	110.14
3	M	5	MAN	C1-O5-C5	2.49	115.57	112.19
3	N	5	MAN	O2-C2-C3	-2.46	105.20	110.14
2	G	4	MAN	C1-O5-C5	2.43	115.48	112.19
3	K	3	BMA	C1-O5-C5	2.40	115.45	112.19
3	H	1	NAG	C1-O5-C5	2.33	115.34	112.19
5	J	5	MAN	C2-C3-C4	-2.32	106.88	110.89
3	H	4	MAN	O2-C2-C3	-2.30	105.54	110.14
3	H	4	MAN	C1-O5-C5	2.28	115.28	112.19
6	Q	4	MAN	C1-O5-C5	2.27	115.27	112.19
3	H	4	MAN	C2-C3-C4	2.26	114.81	110.89
5	J	6	MAN	O2-C2-C3	-2.26	105.61	110.14
2	G	5	MAN	O2-C2-C3	-2.25	105.63	110.14
3	M	4	MAN	O3-C3-C2	2.22	114.24	109.99
3	K	3	BMA	C1-C2-C3	2.22	112.39	109.67
6	Q	6	MAN	C1-O5-C5	2.21	115.18	112.19
3	M	4	MAN	C1-C2-C3	-2.20	106.96	109.67
2	G	3	BMA	O2-C2-C3	-2.20	105.73	110.14
5	J	8	MAN	O2-C2-C3	-2.20	105.74	110.14
5	J	7	MAN	C1-O5-C5	2.18	115.15	112.19
3	M	5	MAN	O2-C2-C1	2.18	113.61	109.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	I	1	NAG	C1-O5-C5	2.18	115.14	112.19
6	Q	5	MAN	O2-C2-C3	-2.13	105.88	110.14
3	H	4	MAN	C3-C4-C5	2.12	114.01	110.24
3	K	4	MAN	O2-C2-C3	-2.10	105.93	110.14
6	Q	3	BMA	O2-C2-C3	-2.08	105.97	110.14
2	G	6	MAN	C1-O5-C5	2.07	115.00	112.19
3	N	4	MAN	O2-C2-C3	-2.07	105.99	110.14
3	H	2	NAG	C1-O5-C5	2.05	114.97	112.19
3	O	5	MAN	O2-C2-C3	-2.03	106.08	110.14

There are no chirality outliers.

All (45) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	I	2	NAG	O5-C5-C6-O6
5	J	7	MAN	O5-C5-C6-O6
2	G	4	MAN	O5-C5-C6-O6
3	O	4	MAN	O5-C5-C6-O6
3	R	3	BMA	O5-C5-C6-O6
3	P	3	BMA	C4-C5-C6-O6
4	I	2	NAG	C4-C5-C6-O6
3	R	3	BMA	C4-C5-C6-O6
5	J	9	MAN	C4-C5-C6-O6
3	O	5	MAN	O5-C5-C6-O6
5	J	9	MAN	O5-C5-C6-O6
5	J	7	MAN	C4-C5-C6-O6
2	G	4	MAN	C4-C5-C6-O6
3	M	5	MAN	C4-C5-C6-O6
3	O	5	MAN	C4-C5-C6-O6
2	G	2	NAG	C8-C7-N2-C2
2	G	2	NAG	O7-C7-N2-C2
3	K	2	NAG	C8-C7-N2-C2
3	K	2	NAG	O7-C7-N2-C2
3	M	2	NAG	C8-C7-N2-C2
3	M	2	NAG	O7-C7-N2-C2
3	O	2	NAG	C8-C7-N2-C2
3	O	2	NAG	O7-C7-N2-C2
4	I	2	NAG	C8-C7-N2-C2
4	I	2	NAG	O7-C7-N2-C2
3	R	5	MAN	O5-C5-C6-O6
3	R	5	MAN	C4-C5-C6-O6
3	O	2	NAG	C4-C5-C6-O6

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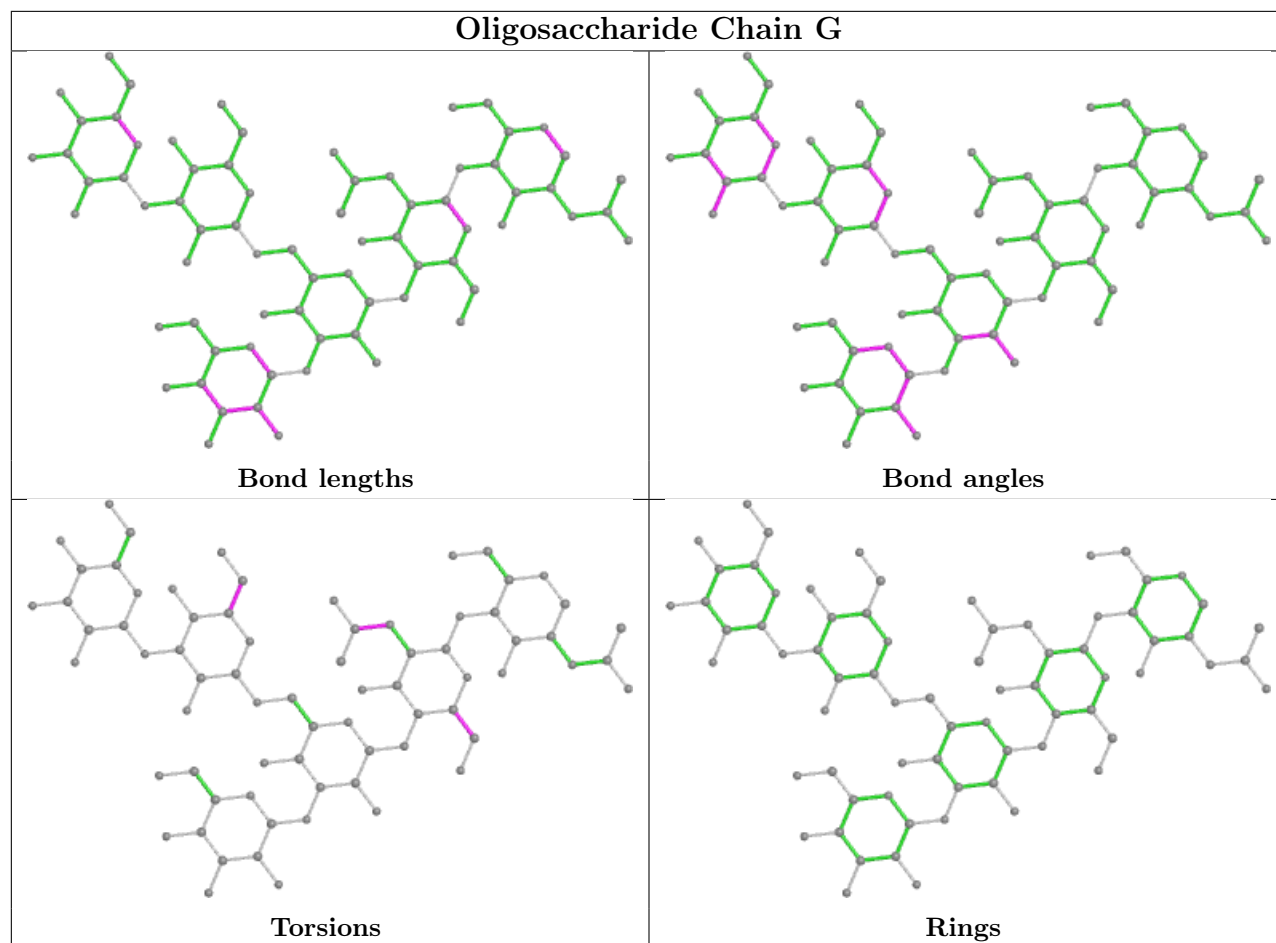
Mol	Chain	Res	Type	Atoms
3	O	4	MAN	C4-C5-C6-O6
3	P	3	BMA	O5-C5-C6-O6
3	M	5	MAN	O5-C5-C6-O6
3	R	2	NAG	O5-C5-C6-O6
3	R	2	NAG	C4-C5-C6-O6
3	K	1	NAG	C4-C5-C6-O6
2	G	2	NAG	C4-C5-C6-O6
3	O	2	NAG	O5-C5-C6-O6
3	K	1	NAG	O5-C5-C6-O6
5	J	8	MAN	O5-C5-C6-O6
3	P	5	MAN	C4-C5-C6-O6
3	M	3	BMA	C4-C5-C6-O6
4	I	3	BMA	C4-C5-C6-O6
2	G	2	NAG	O5-C5-C6-O6
3	P	5	MAN	O5-C5-C6-O6
3	M	3	BMA	O5-C5-C6-O6
3	R	4	MAN	C4-C5-C6-O6

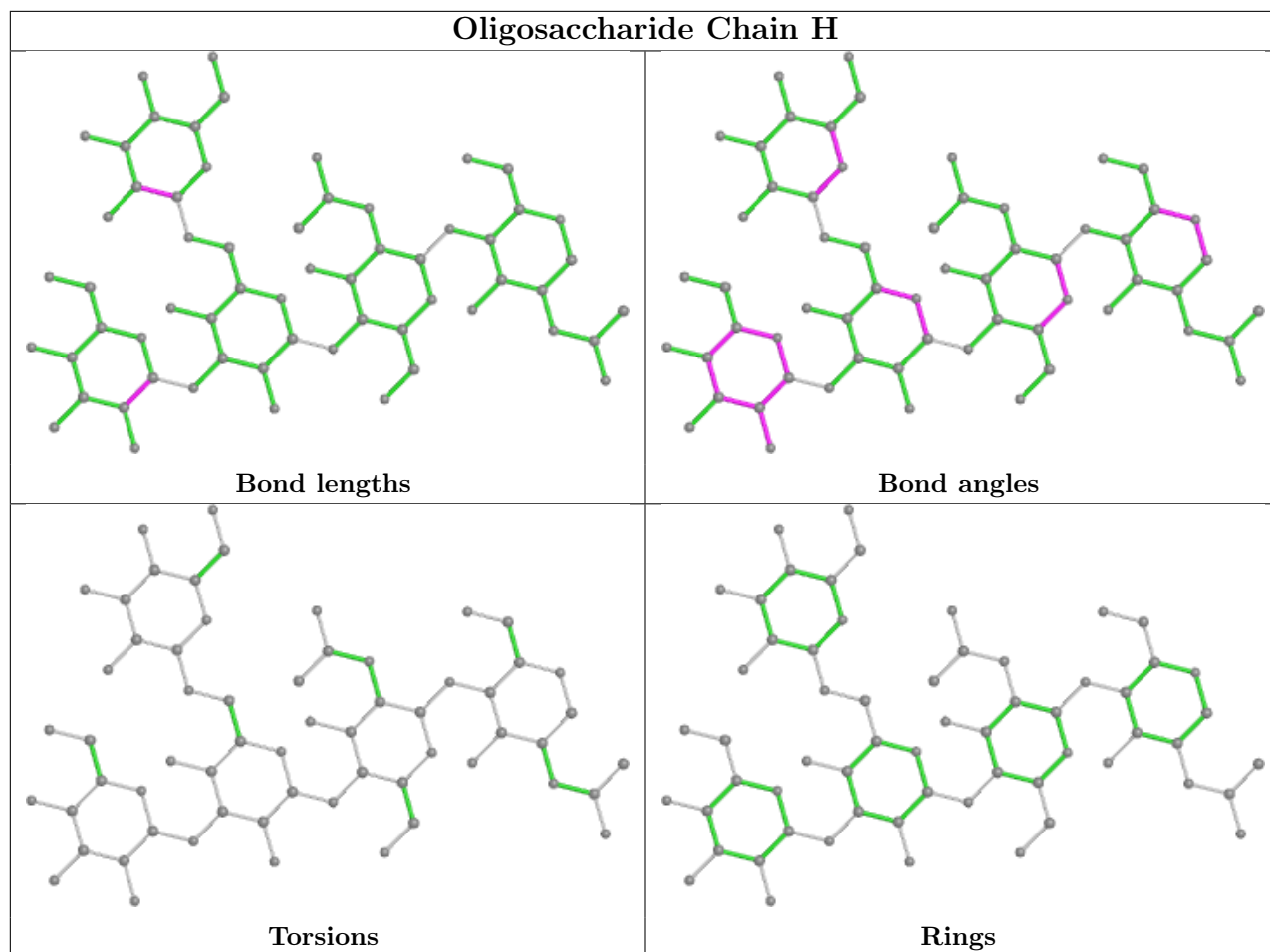
There are no ring outliers.

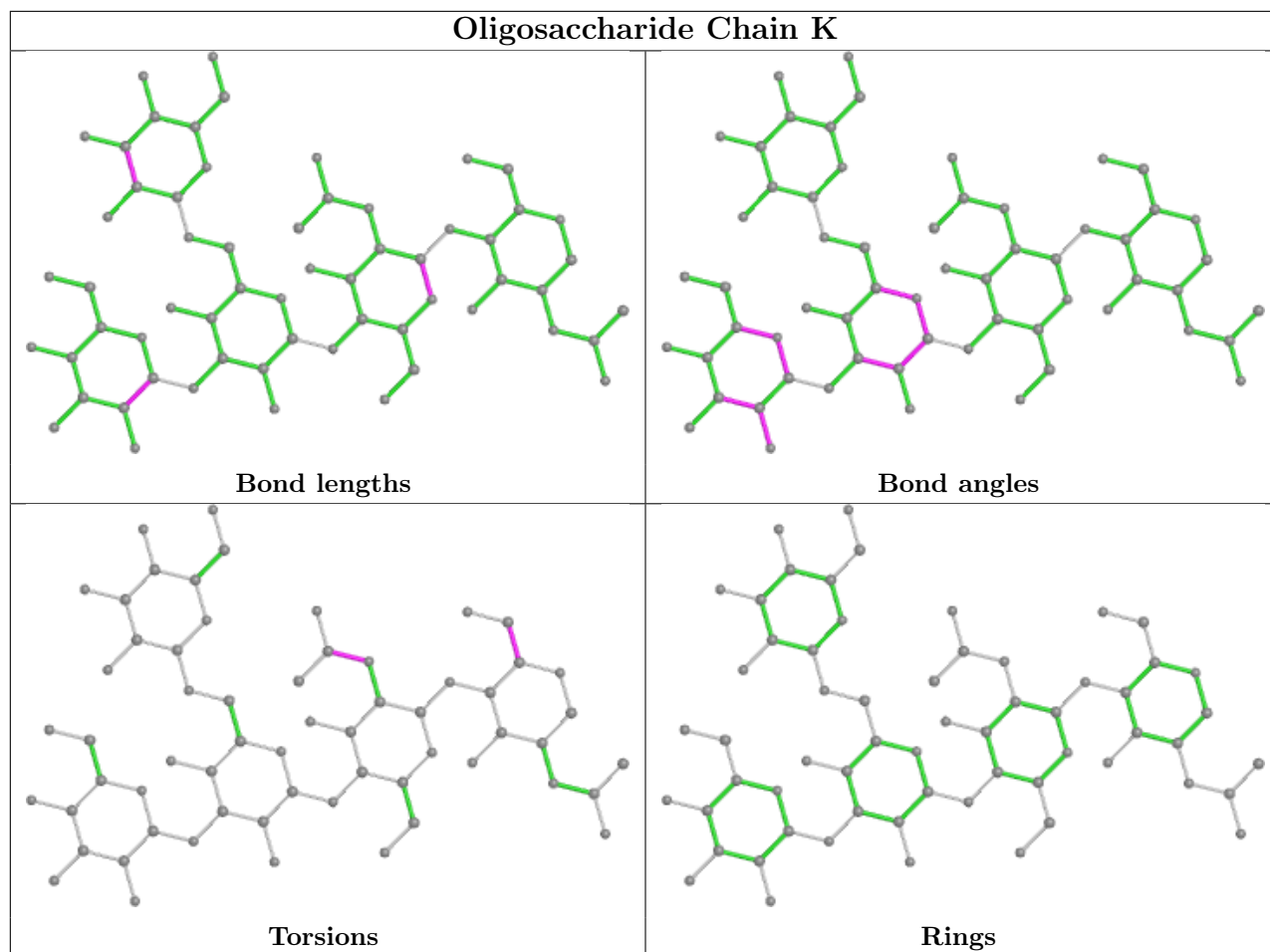
9 monomers are involved in 9 short contacts:

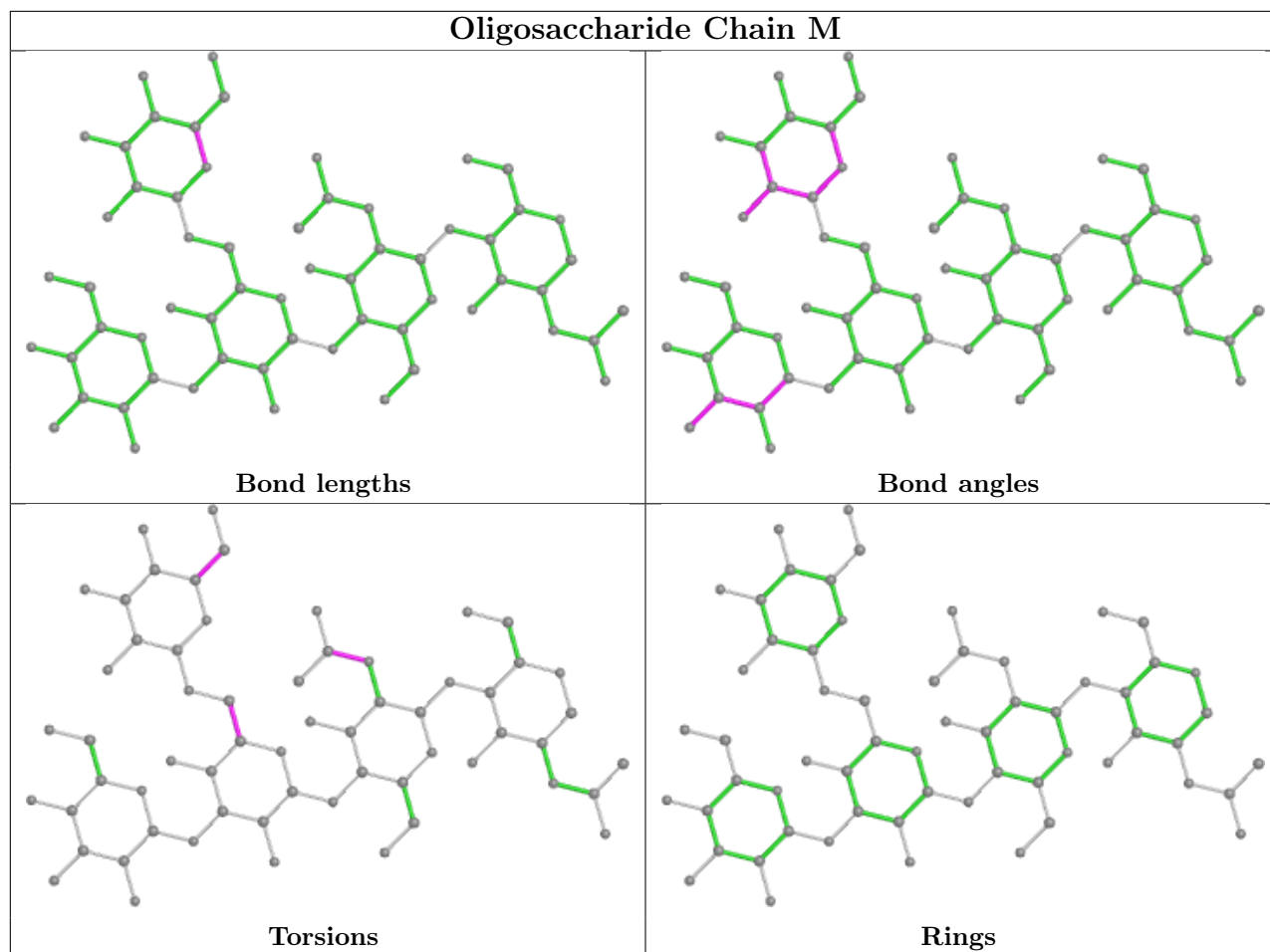
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	M	2	NAG	2	0
3	P	1	NAG	1	0
3	R	5	MAN	1	0
6	Q	3	BMA	1	0
2	G	1	NAG	1	0
2	G	3	BMA	1	0
3	R	3	BMA	1	0
2	G	5	MAN	1	0
3	N	1	NAG	1	0

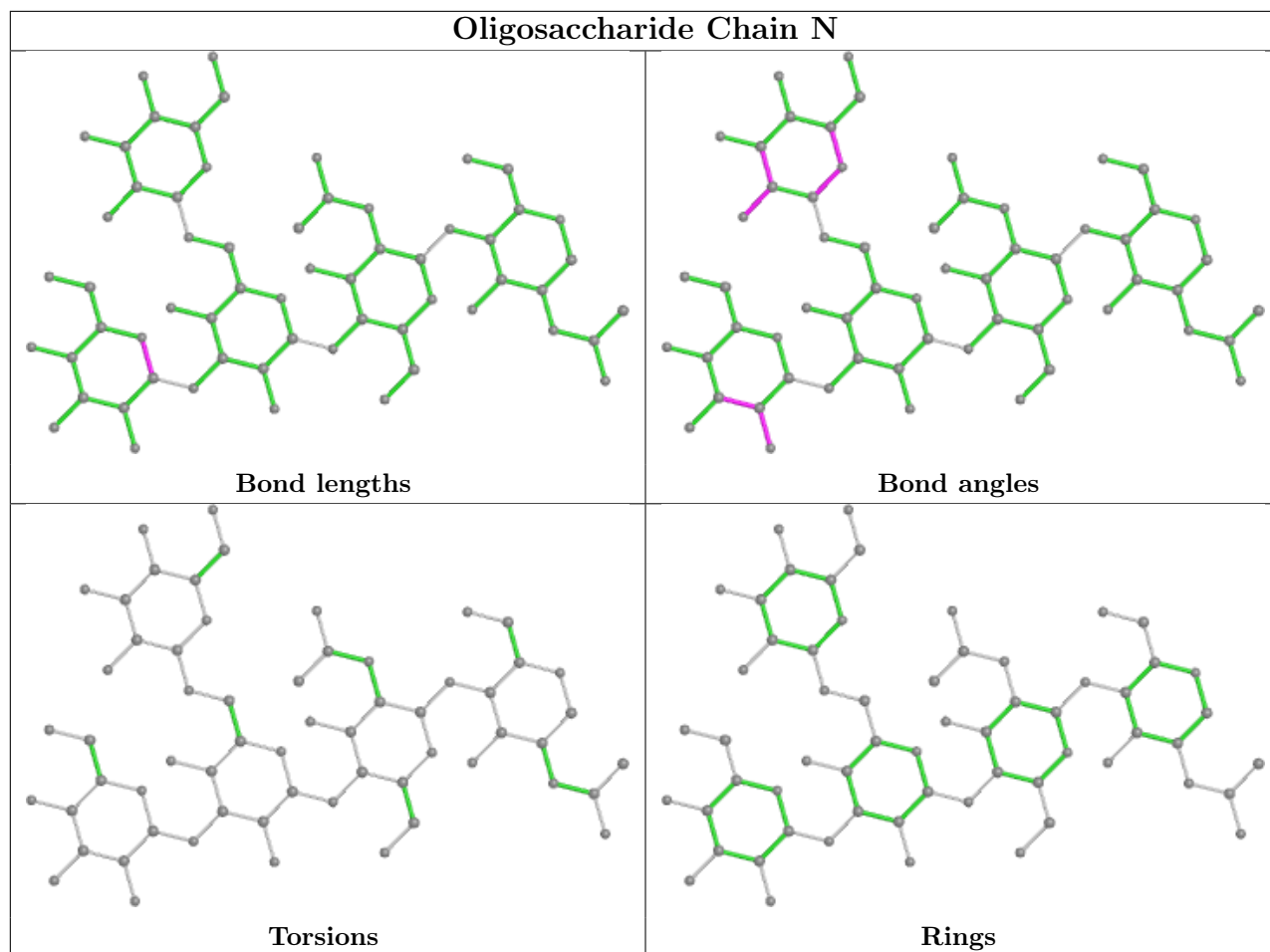
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

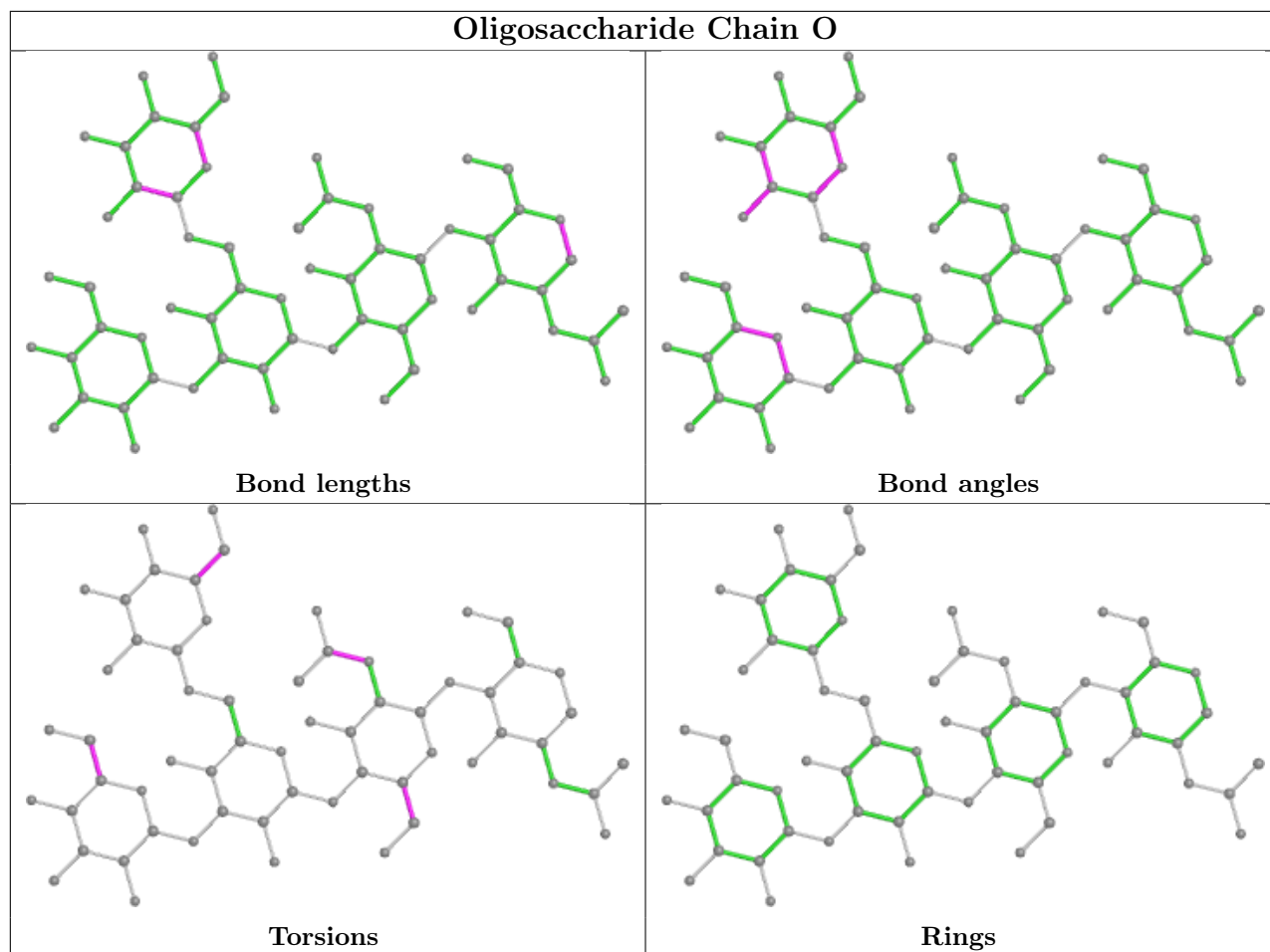


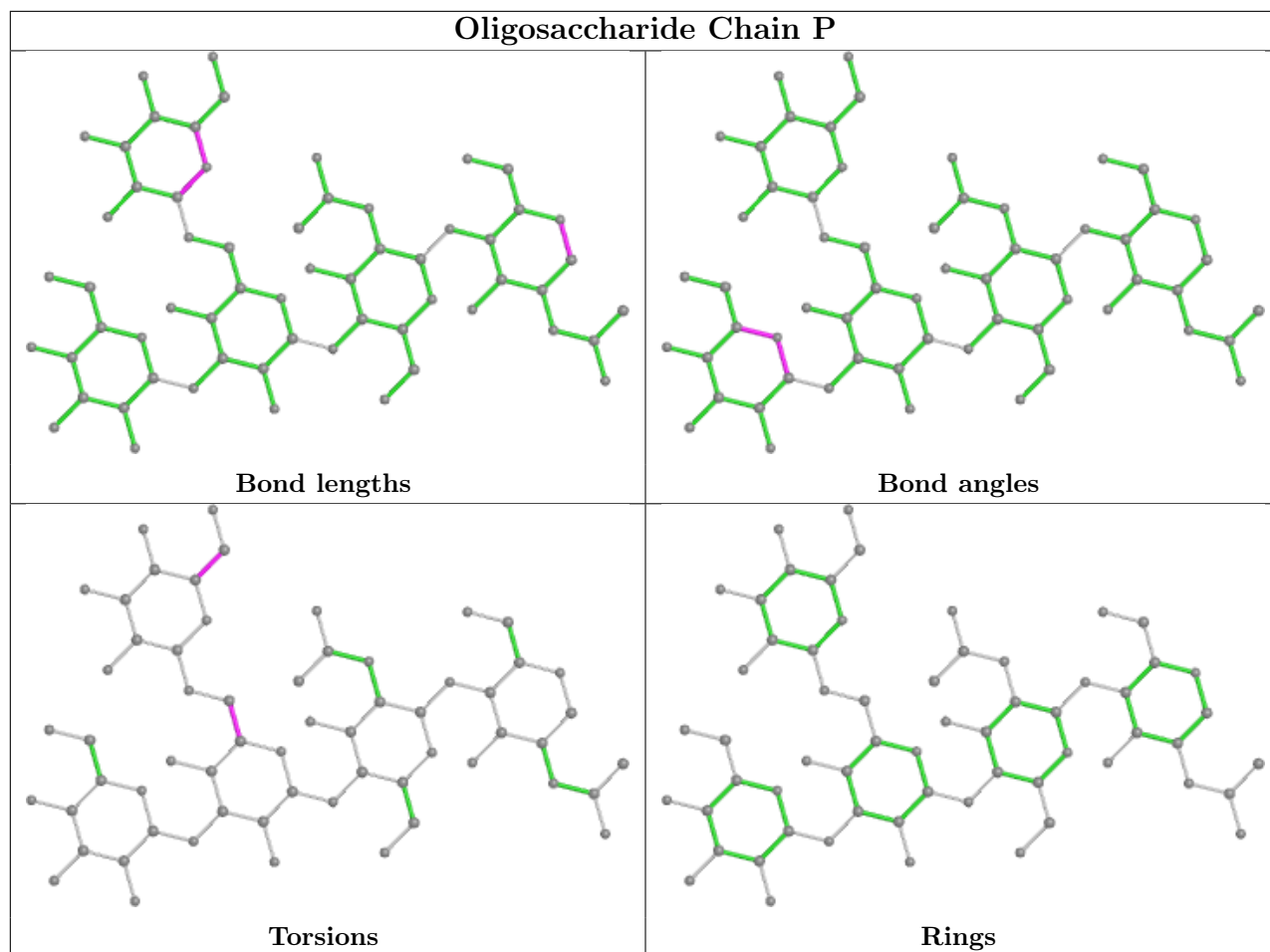


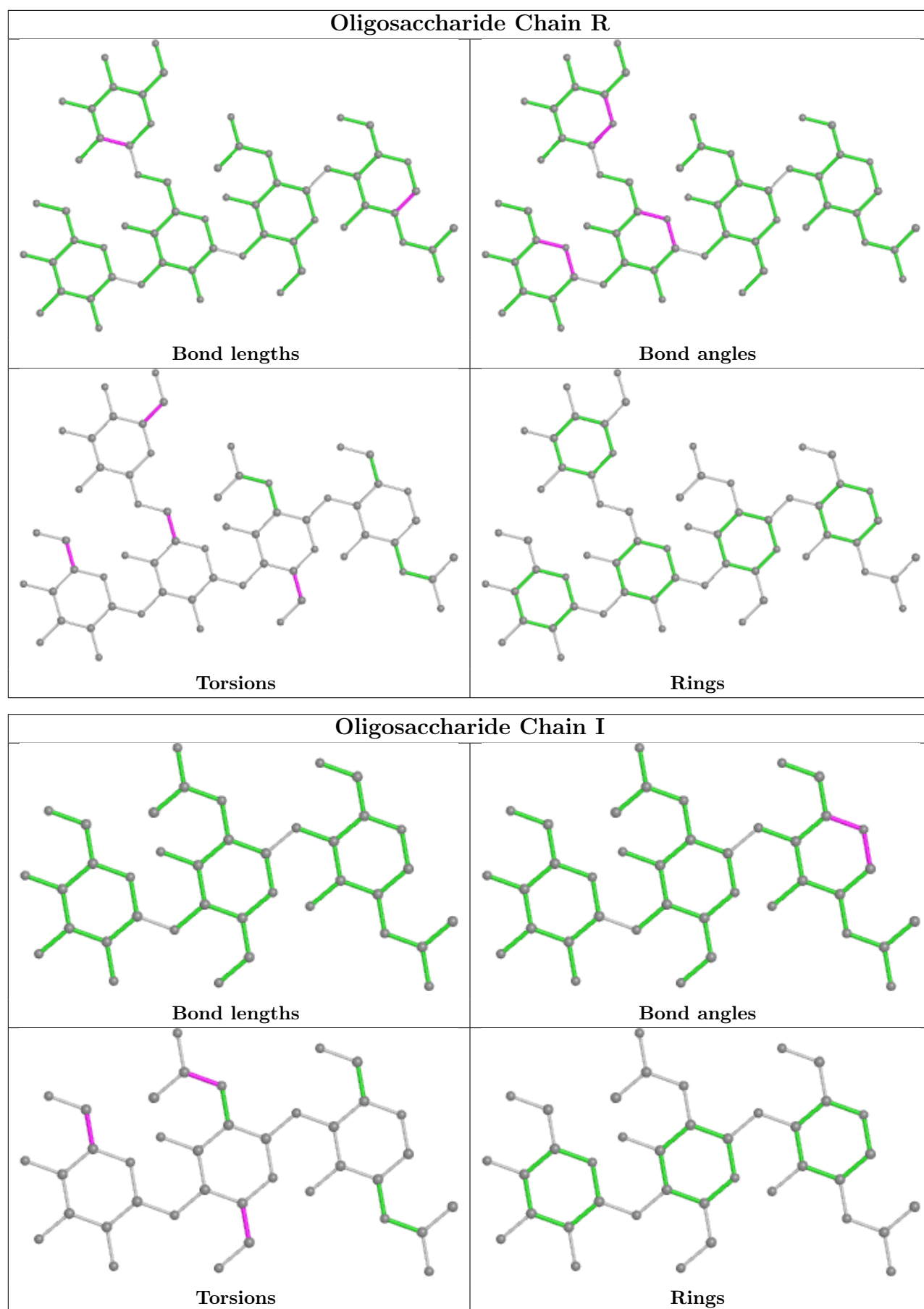


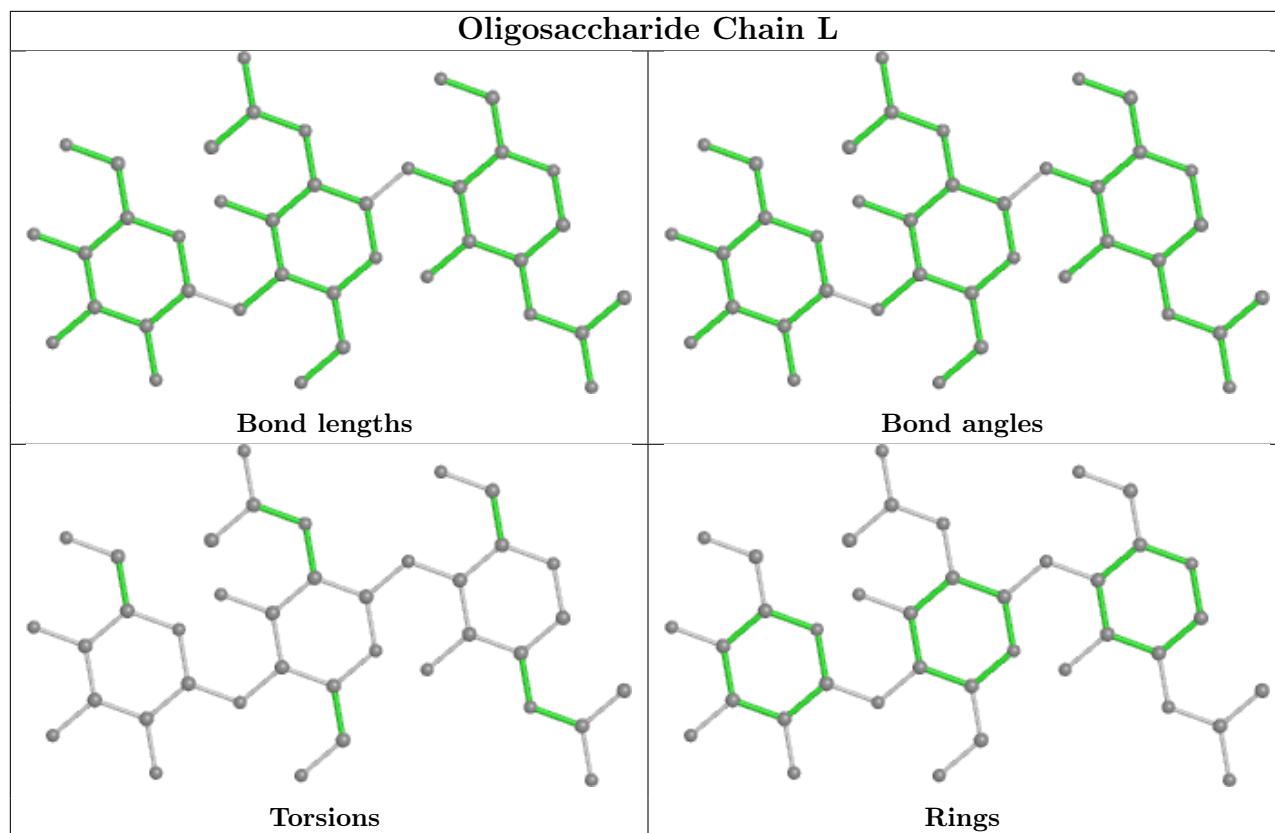


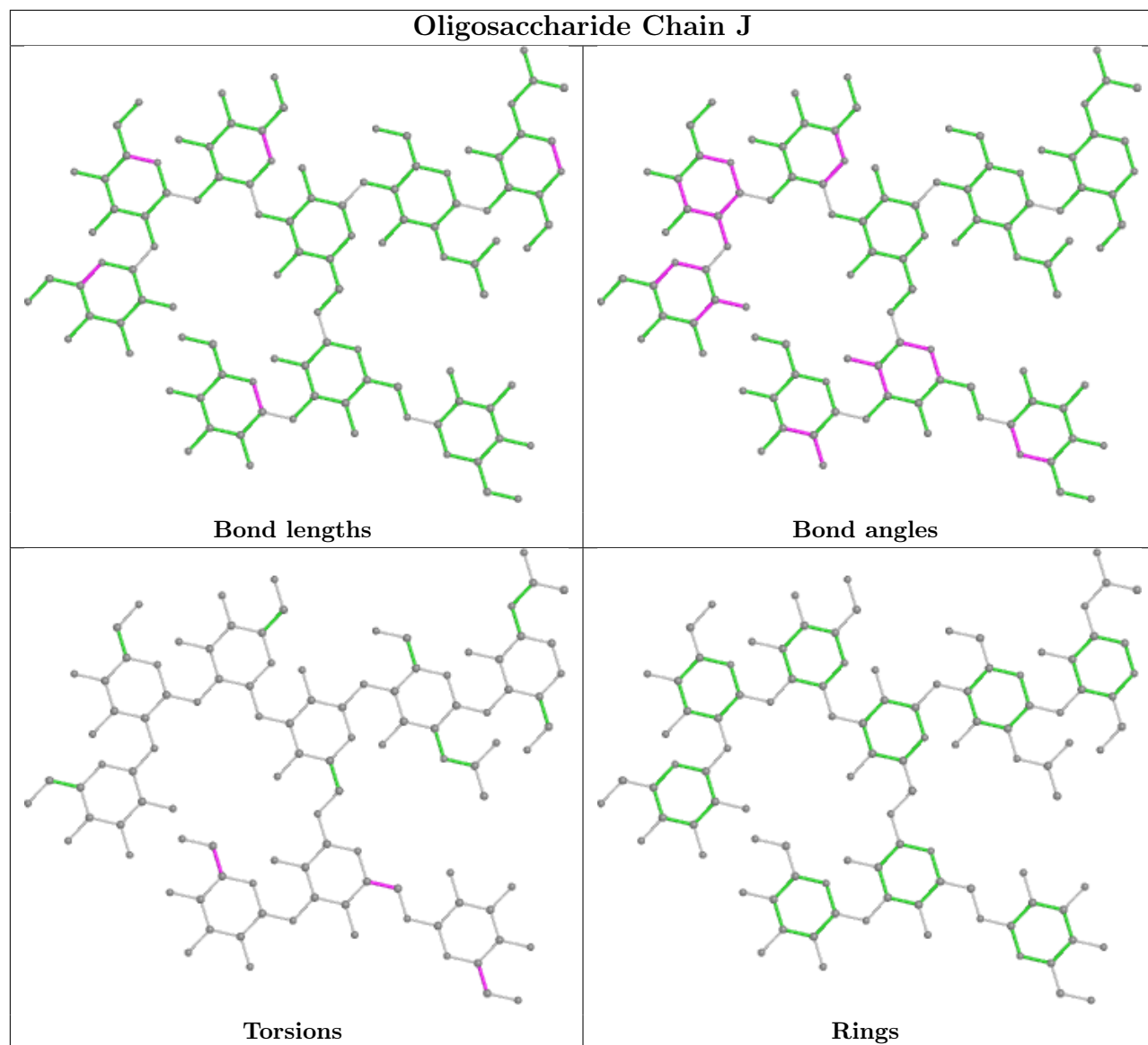


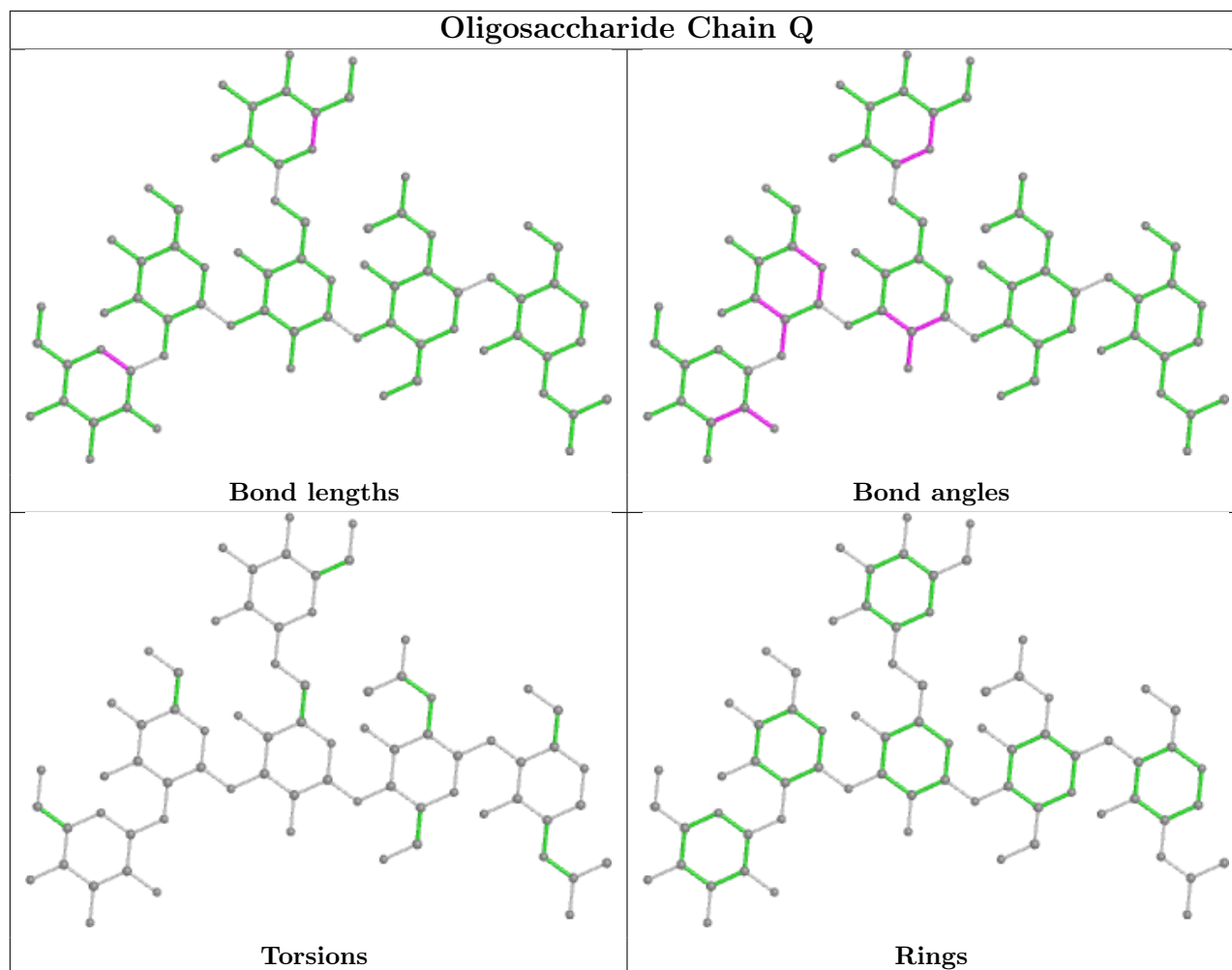












5.6 Ligand geometry [i](#)

Of 62 ligands modelled in this entry, 33 are monoatomic - leaving 29 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
12	GOL	A	909	-	5,5,5	0.98	0	5,5,5	0.91	0
14	SO4	F	905	-	4,4,4	0.38	0	6,6,6	0.37	0
10	MES	B	907	-	12,12,12	2.22	1 (8%)	14,16,16	1.83	4 (28%)
13	GLY	D	913	-	4,4,4	1.09	0	3,4,4	0.88	0
10	MES	A	904	-	12,12,12	2.15	1 (8%)	14,16,16	2.10	4 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
11	MPD	B	908	-	7,7,7	0.32	0	9,10,10	0.45	0
11	MPD	B	909	-	7,7,7	0.48	0	9,10,10	0.68	0
11	MPD	A	908	-	7,7,7	0.26	0	9,10,10	0.50	0
11	MPD	D	911	-	7,7,7	0.30	0	9,10,10	0.67	0
13	GLY	D	912	-	4,4,4	1.06	1 (25%)	3,4,4	1.94	2 (66%)
13	GLY	E	909	-	4,4,4	1.02	0	3,4,4	1.88	2 (66%)
11	MPD	A	907	-	7,7,7	0.21	0	9,10,10	0.29	0
11	MPD	E	907	-	7,7,7	0.32	0	9,10,10	0.51	0
11	MPD	F	906	-	7,7,7	0.28	0	9,10,10	0.32	0
11	MPD	D	910	-	7,7,7	0.30	0	9,10,10	0.42	0
11	MPD	A	906	-	7,7,7	0.32	0	9,10,10	0.41	0
11	MPD	A	905	-	7,7,7	0.43	0	9,10,10	0.40	0
13	GLY	F	907	-	4,4,4	0.76	0	3,4,4	1.85	1 (33%)
12	GOL	E	908	-	5,5,5	1.11	1 (20%)	5,5,5	1.74	1 (20%)
12	GOL	B	911	-	5,5,5	0.64	0	5,5,5	1.28	0
13	GLY	C	911	-	4,4,4	1.06	0	3,4,4	1.57	1 (33%)
13	GLY	E	910	-	4,4,4	0.92	0	3,4,4	1.61	0
10	MES	E	906	-	12,12,12	2.23	1 (8%)	14,16,16	2.62	7 (50%)
12	GOL	B	910	-	5,5,5	0.99	1 (20%)	5,5,5	1.68	1 (20%)
11	MPD	C	908	-	7,7,7	0.32	0	9,10,10	0.80	1 (11%)
12	GOL	A	910	-	5,5,5	0.85	0	5,5,5	0.69	0
13	GLY	C	910	-	4,4,4	1.01	0	3,4,4	1.00	0
14	SO4	D	909	-	4,4,4	0.23	0	6,6,6	0.24	0
12	GOL	C	909	-	5,5,5	1.02	0	5,5,5	1.19	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
12	GOL	A	909	-	-	0/4/4/4	-
10	MES	B	907	-	-	3/6/14/14	0/1/1/1
13	GLY	D	913	-	-	0/2/2/2	-
10	MES	A	904	-	-	5/6/14/14	0/1/1/1
11	MPD	B	908	-	-	3/5/5/5	-
11	MPD	B	909	-	-	0/5/5/5	-
11	MPD	A	908	-	-	2/5/5/5	-
11	MPD	D	911	-	-	3/5/5/5	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
13	GLY	D	912	-	-	2/2/2/2	-
13	GLY	E	909	-	-	2/2/2/2	-
11	MPD	A	907	-	-	3/5/5/5	-
11	MPD	E	907	-	-	0/5/5/5	-
11	MPD	F	906	-	-	0/5/5/5	-
11	MPD	D	910	-	-	0/5/5/5	-
11	MPD	A	906	-	-	0/5/5/5	-
11	MPD	A	905	-	-	0/5/5/5	-
13	GLY	F	907	-	-	0/2/2/2	-
12	GOL	E	908	-	-	4/4/4/4	-
12	GOL	B	911	-	-	1/4/4/4	-
13	GLY	C	911	-	-	2/2/2/2	-
13	GLY	E	910	-	-	0/2/2/2	-
10	MES	E	906	-	-	5/6/14/14	0/1/1/1
12	GOL	B	910	-	-	0/4/4/4	-
11	MPD	C	908	-	-	0/5/5/5	-
12	GOL	A	910	-	-	1/4/4/4	-
13	GLY	C	910	-	-	0/2/2/2	-
12	GOL	C	909	-	-	2/4/4/4	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	E	906	MES	C8-S	-7.39	1.67	1.77
10	B	907	MES	C8-S	-7.28	1.67	1.77
10	A	904	MES	C8-S	-7.08	1.67	1.77
12	B	910	GOL	C1-C2	2.08	1.60	1.51
12	E	908	GOL	O3-C3	-2.05	1.33	1.42
13	D	912	GLY	OXT-C	-2.03	1.23	1.30

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	E	906	MES	O2S-S-C8	5.58	113.63	106.92
10	B	907	MES	C5-N4-C3	4.99	120.07	108.83
10	A	904	MES	O2S-S-C8	4.95	112.87	106.92
10	E	906	MES	O1S-S-C8	4.01	111.74	106.92
10	E	906	MES	C5-N4-C3	3.89	117.59	108.83
12	E	908	GOL	C3-C2-C1	-3.42	98.43	111.70
12	B	910	GOL	C3-C2-C1	-3.41	98.45	111.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	E	906	MES	C6-C5-N4	-2.76	105.92	110.10
10	A	904	MES	C5-N4-C3	2.61	114.70	108.83
10	E	906	MES	C7-N4-C3	2.61	117.90	111.23
10	E	906	MES	C2-C3-N4	-2.59	106.17	110.10
13	D	912	GLY	OXT-C-O	-2.59	116.85	123.30
10	A	904	MES	C2-C3-N4	-2.56	106.23	110.10
13	F	907	GLY	OXT-C-CA	2.52	123.48	113.45
10	B	907	MES	O3S-S-C8	2.51	109.83	105.77
10	E	906	MES	C7-N4-C5	2.49	117.59	111.23
13	E	909	GLY	OXT-C-O	-2.39	117.34	123.30
10	A	904	MES	C6-C5-N4	-2.33	106.57	110.10
10	B	907	MES	O1S-S-C8	2.22	109.59	106.92
13	E	909	GLY	OXT-C-CA	2.17	122.10	113.45
13	D	912	GLY	OXT-C-CA	2.12	121.90	113.45
13	C	911	GLY	OXT-C-O	-2.00	118.31	123.30
11	C	908	MPD	CM-C2-C1	-2.00	106.40	110.57
10	B	907	MES	C2-C3-N4	-2.00	107.07	110.10

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
10	A	904	MES	C8-C7-N4-C5
10	A	904	MES	N4-C7-C8-S
10	A	904	MES	C7-C8-S-O1S
10	B	907	MES	N4-C7-C8-S
11	A	907	MPD	C1-C2-C3-C4
11	A	907	MPD	O2-C2-C3-C4
11	B	908	MPD	C2-C3-C4-O4
12	C	909	GOL	O1-C1-C2-C3
12	E	908	GOL	O1-C1-C2-C3
12	E	908	GOL	C1-C2-C3-O3
13	D	912	GLY	OXT-C-CA-N
13	D	912	GLY	O-C-CA-N
12	E	908	GOL	O2-C2-C3-O3
13	C	911	GLY	OXT-C-CA-N
13	E	909	GLY	OXT-C-CA-N
10	A	904	MES	C7-C8-S-O3S
13	C	911	GLY	O-C-CA-N
12	C	909	GOL	O1-C1-C2-O2
12	E	908	GOL	O1-C1-C2-O2
10	E	906	MES	C7-C8-S-O3S

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Mol	Chain	Res	Type	Atoms
10	E	906	MES	N4-C7-C8-S
10	E	906	MES	C8-C7-N4-C5
11	B	908	MPD	C2-C3-C4-C5
11	D	911	MPD	C2-C3-C4-C5
10	A	904	MES	C7-C8-S-O2S
10	E	906	MES	C7-C8-S-O1S
10	E	906	MES	C7-C8-S-O2S
11	A	907	MPD	CM-C2-C3-C4
11	D	911	MPD	C1-C2-C3-C4
11	D	911	MPD	CM-C2-C3-C4
12	A	910	GOL	O1-C1-C2-C3
13	E	909	GLY	O-C-CA-N
11	A	908	MPD	O2-C2-C3-C4
11	B	908	MPD	O2-C2-C3-C4
12	B	911	GOL	O1-C1-C2-C3
11	A	908	MPD	C2-C3-C4-C5
10	B	907	MES	C7-C8-S-O2S
10	B	907	MES	C8-C7-N4-C3

There are no ring outliers.

13 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	A	909	GOL	2	0
13	D	913	GLY	1	0
10	A	904	MES	1	0
11	A	908	MPD	1	0
11	D	911	MPD	1	0
13	D	912	GLY	1	0
11	F	906	MPD	1	0
13	F	907	GLY	1	0
13	E	910	GLY	1	0
10	E	906	MES	1	0
12	B	910	GOL	3	0
13	C	910	GLY	1	0
12	C	909	GOL	1	0

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

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	679/702 (96%)	-0.38	10 (1%) 73 72	27, 38, 67, 117	0
1	B	672/702 (95%)	-0.29	18 (2%) 54 52	25, 36, 63, 132	0
1	C	678/702 (96%)	-0.11	24 (3%) 44 42	30, 47, 80, 141	0
1	D	677/702 (96%)	-0.16	35 (5%) 27 26	29, 43, 82, 142	0
1	E	671/702 (95%)	-0.22	27 (4%) 38 36	26, 39, 80, 147	0
1	F	678/702 (96%)	-0.25	17 (2%) 57 55	28, 43, 80, 123	0
All	All	4055/4212 (96%)	-0.23	131 (3%) 47 45	25, 41, 77, 147	0

All (131) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	23	TYR	9.2
1	E	641	TRP	9.2
1	D	641	TRP	8.9
1	B	23	TYR	6.9
1	D	25	VAL	6.5
1	E	640	GLU	6.5
1	D	694	TRP	6.4
1	E	686	GLN	6.2
1	E	24	ASP	5.6
1	E	22	HIS	5.6
1	F	23	TYR	5.6
1	E	21	TYR	5.5
1	C	638	VAL	5.4
1	B	641	TRP	5.0
1	F	644	MET	4.9
1	B	689	TYR	4.9
1	D	22	HIS	4.8
1	D	621	ARG	4.6
1	B	21	TYR	4.6

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Mol	Chain	Res	Type	RSRZ
1	E	26	GLU	4.5
1	E	642	GLU	4.5
1	A	643	SER	4.4
1	B	637	PRO	4.4
1	D	693	TYR	4.2
1	B	639	LYS	4.2
1	C	22	HIS	4.2
1	B	22	HIS	4.1
1	F	22	HIS	4.1
1	D	638	VAL	4.0
1	C	636	ALA	3.8
1	C	24	ASP	3.7
1	E	687	TYR	3.7
1	E	587	PHE	3.6
1	B	638	VAL	3.6
1	C	25	VAL	3.6
1	E	25	VAL	3.6
1	D	640	GLU	3.5
1	C	694	TRP	3.5
1	E	20	GLN	3.5
1	D	686	GLN	3.5
1	F	694	TRP	3.4
1	D	690	TYR	3.4
1	B	636	ALA	3.3
1	D	692	SER	3.3
1	E	621	ARG	3.3
1	B	24	ASP	3.3
1	D	646	GLN	3.2
1	B	687	TYR	3.2
1	B	643	SER	3.2
1	E	646	GLN	3.2
1	B	640	GLU	3.2
1	D	23	TYR	3.2
1	D	620	GLN	3.1
1	B	76	ARG	3.1
1	D	595	ASN	3.1
1	A	681	TYR	3.0
1	D	522	VAL	3.0
1	B	18	TYR	2.9
1	F	192	GLU	2.9
1	C	21	TYR	2.9
1	F	640	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	D	519	LYS	2.9
1	E	639	LYS	2.9
1	A	619	THR	2.8
1	E	644	MET	2.8
1	F	404	ARG	2.8
1	D	685	GLU	2.8
1	D	565	GLY	2.7
1	F	522	VAL	2.7
1	F	595	ASN	2.7
1	E	19	PRO	2.7
1	D	467	LYS	2.7
1	C	643	SER	2.7
1	C	695	SER	2.6
1	A	641	TRP	2.6
1	D	645	ARG	2.6
1	D	517	ASP	2.6
1	F	594	SER	2.6
1	C	23	TYR	2.6
1	C	639	LYS	2.6
1	C	641	TRP	2.6
1	D	691	ASN	2.6
1	C	684	GLY	2.6
1	D	407	ILE	2.5
1	C	635	GLN	2.5
1	F	525	GLU	2.5
1	F	28	ARG	2.5
1	C	20	GLN	2.5
1	E	622	GLY	2.5
1	F	646	GLN	2.5
1	D	596	GLY	2.4
1	A	639	LYS	2.4
1	D	639	LYS	2.4
1	D	669	ASN	2.4
1	D	622	GLY	2.4
1	B	686	GLN	2.4
1	C	407	ILE	2.4
1	A	31	ASP	2.4
1	E	595	ASN	2.3
1	F	596	GLY	2.3
1	B	620	GLN	2.3
1	E	18	TYR	2.3
1	A	24	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	684	GLY	2.2
1	D	196	TYR	2.2
1	B	70	MET	2.2
1	C	669	ASN	2.2
1	C	77	GLU	2.2
1	C	561	LYS	2.2
1	E	638	VAL	2.2
1	D	689	TYR	2.2
1	E	71	GLU	2.2
1	E	620	GLN	2.2
1	F	30	LEU	2.2
1	D	77	GLU	2.2
1	C	690	TYR	2.1
1	E	523	GLU	2.1
1	D	465	ASP	2.1
1	A	694	TRP	2.1
1	A	22	HIS	2.1
1	D	21	TYR	2.1
1	D	496	VAL	2.1
1	A	644	MET	2.1
1	E	76	ARG	2.1
1	E	521	ASP	2.1
1	F	643	SER	2.1
1	C	522	VAL	2.0
1	F	77	GLU	2.0
1	C	597	GLN	2.0
1	C	568	LYS	2.0
1	C	621	ARG	2.0

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(\AA^2)	Q<0.9
3	MAN	H	4	11/12	0.52	0.21	77,81,84,85	0
3	BMA	R	3	11/12	0.56	0.30	96,101,106,110	0
3	MAN	P	5	11/12	0.59	0.24	83,95,96,96	0
3	MAN	O	5	11/12	0.60	0.27	100,106,107,111	0
6	MAN	Q	6	11/12	0.62	0.22	84,89,96,98	0
3	MAN	R	5	11/12	0.64	0.33	97,101,104,105	0
2	MAN	G	5	11/12	0.64	0.21	85,99,108,113	0
3	MAN	K	5	11/12	0.65	0.27	86,88,95,95	0
3	MAN	R	4	11/12	0.65	0.33	102,108,112,113	0
4	BMA	L	3	11/12	0.66	0.20	92,97,99,100	0
4	BMA	I	3	11/12	0.68	0.21	73,79,86,95	0
3	MAN	K	4	11/12	0.71	0.32	95,100,105,112	0
2	MAN	G	6	11/12	0.74	0.22	53,59,66,67	0
3	MAN	P	4	11/12	0.75	0.29	108,113,119,121	0
3	BMA	N	3	11/12	0.75	0.19	73,82,90,98	0
3	MAN	H	5	11/12	0.76	0.17	77,84,91,92	0
3	MAN	N	4	11/12	0.77	0.33	98,105,116,120	0
4	NAG	I	2	14/15	0.78	0.20	64,69,74,80	0
5	MAN	J	9	11/12	0.78	0.22	82,90,96,103	0
2	MAN	G	4	11/12	0.78	0.20	84,88,93,95	0
3	MAN	M	5	11/12	0.79	0.17	101,105,109,109	0
3	BMA	P	3	11/12	0.82	0.20	90,96,103,107	0
5	MAN	J	8	11/12	0.82	0.31	82,84,88,90	0
6	MAN	Q	5	11/12	0.83	0.26	108,112,117,119	0
3	MAN	O	4	11/12	0.84	0.23	64,73,75,75	0
6	BMA	Q	3	11/12	0.85	0.15	68,79,82,82	0
3	MAN	N	5	11/12	0.85	0.18	100,102,108,111	0
3	MAN	M	4	11/12	0.85	0.21	66,75,79,86	0
3	BMA	O	3	11/12	0.86	0.15	62,71,81,89	0
3	BMA	K	3	11/12	0.87	0.11	81,82,87,91	0
6	MAN	Q	4	11/12	0.87	0.18	76,81,91,95	0
4	NAG	L	2	14/15	0.88	0.16	73,78,92,94	0
4	NAG	I	1	14/15	0.88	0.13	43,57,64,68	0
3	BMA	M	3	11/12	0.89	0.09	73,79,89,91	0
3	NAG	K	2	14/15	0.89	0.14	59,65,72,72	0
3	BMA	H	3	11/12	0.89	0.14	71,74,78,79	0
3	NAG	O	2	14/15	0.89	0.14	50,57,62,64	0
3	NAG	M	2	14/15	0.90	0.11	58,62,64,69	0
3	NAG	R	2	14/15	0.90	0.16	67,73,82,88	0
5	MAN	J	6	11/12	0.90	0.20	58,68,75,77	0
5	MAN	J	5	11/12	0.91	0.11	68,71,74,79	0
5	BMA	J	3	11/12	0.91	0.16	58,61,66,67	0
5	MAN	J	7	11/12	0.91	0.16	64,70,81,81	0

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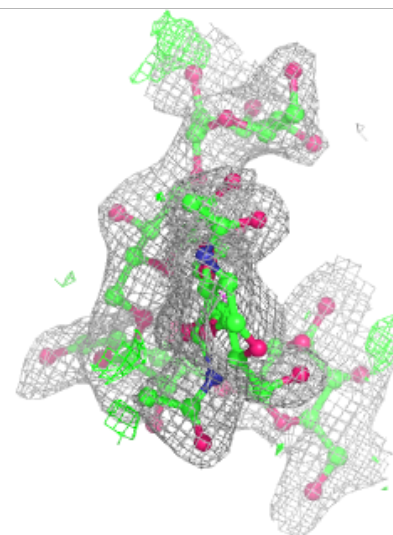
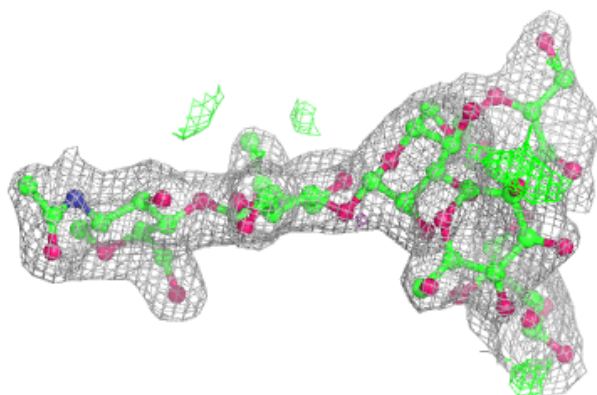
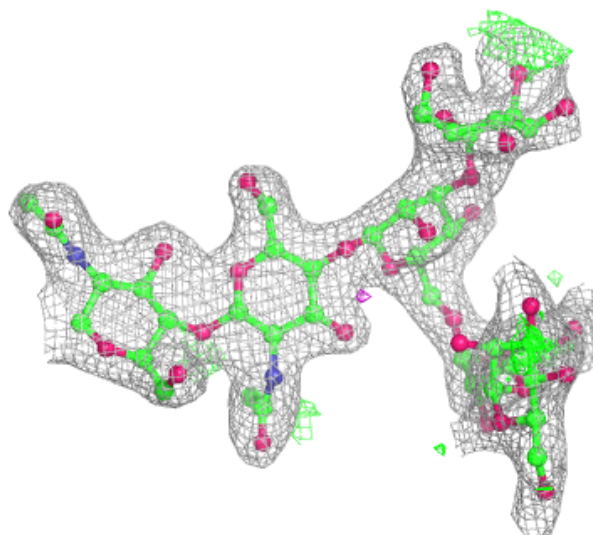
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	MAN	J	4	11/12	0.92	0.21	66,68,71,74	0
3	NAG	N	2	14/15	0.92	0.15	57,64,67,71	0
3	NAG	P	2	14/15	0.93	0.14	54,66,78,83	0
3	NAG	H	1	14/15	0.93	0.09	45,49,53,56	0
4	NAG	L	1	14/15	0.93	0.10	53,59,68,73	0
2	BMA	G	3	11/12	0.93	0.10	60,68,73,80	0
3	NAG	R	1	14/15	0.94	0.12	50,58,64,69	0
3	NAG	O	1	14/15	0.94	0.11	41,46,50,53	0
2	NAG	G	2	14/15	0.94	0.09	48,51,58,60	0
5	NAG	J	2	14/15	0.94	0.10	44,50,57,60	0
3	NAG	K	1	14/15	0.94	0.10	50,54,57,59	0
6	NAG	Q	1	14/15	0.95	0.09	42,47,51,54	0
6	NAG	Q	2	14/15	0.95	0.09	50,55,65,66	0
2	NAG	G	1	14/15	0.95	0.11	40,45,47,49	0
3	NAG	H	2	14/15	0.95	0.08	55,59,63,68	0
3	NAG	N	1	14/15	0.95	0.12	43,48,55,58	0
5	NAG	J	1	14/15	0.95	0.09	33,42,49,49	0
3	NAG	M	1	14/15	0.96	0.08	47,56,60,62	0
3	NAG	P	1	14/15	0.96	0.10	40,46,54,57	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.

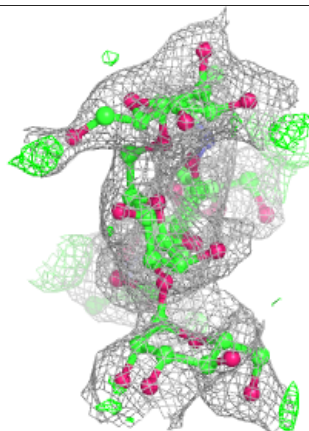
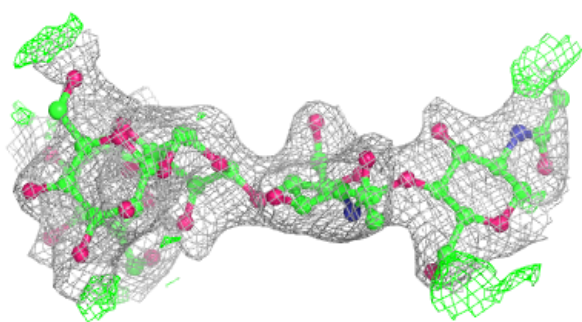
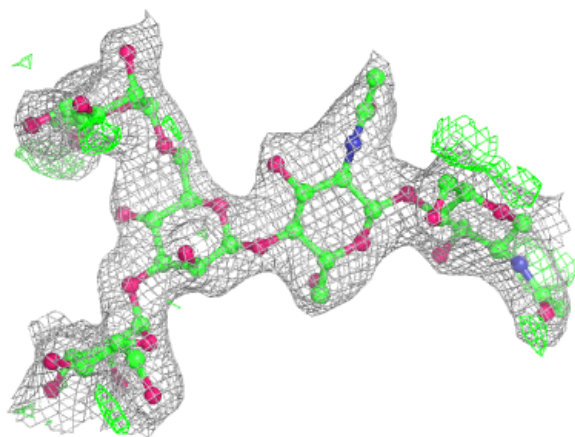
Electron density around Chain G:

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

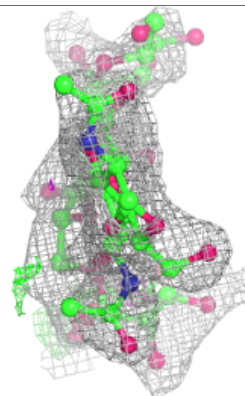
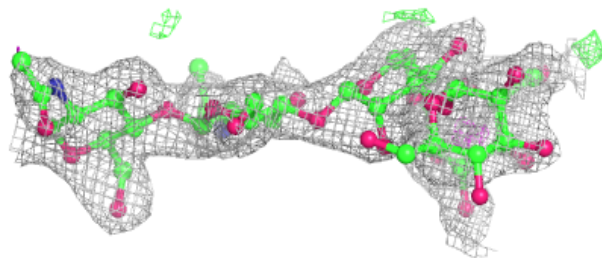
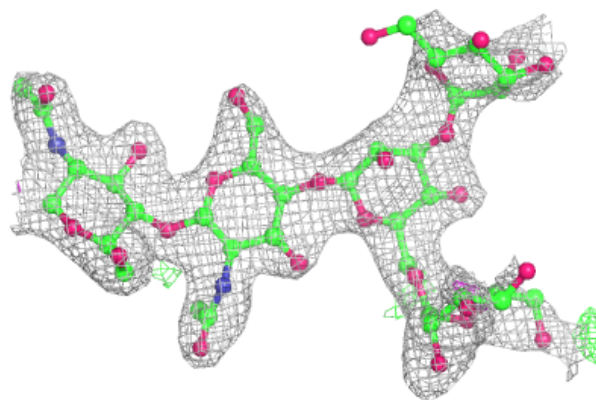


Electron density around Chain H:

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

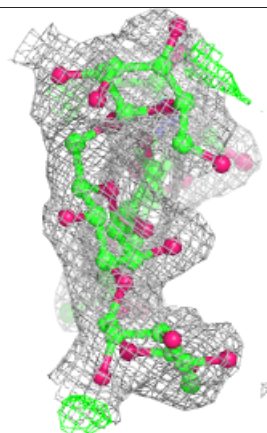
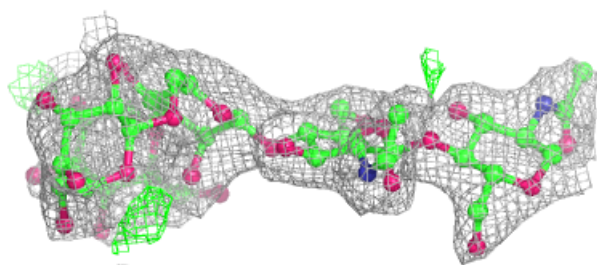
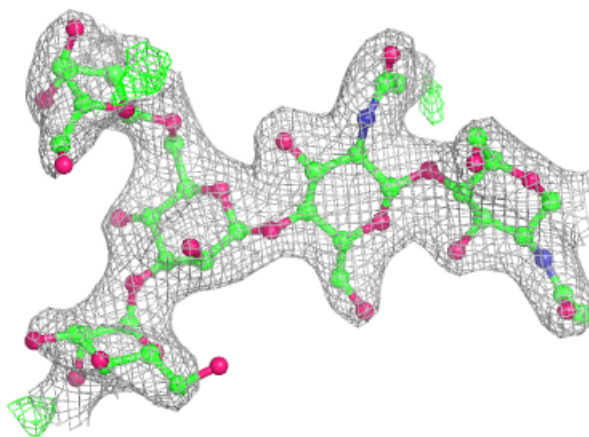
**Electron density around Chain K:**

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

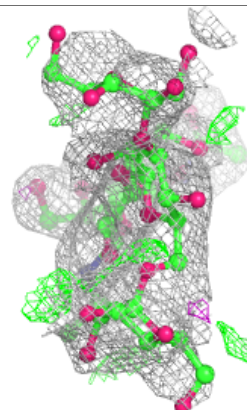
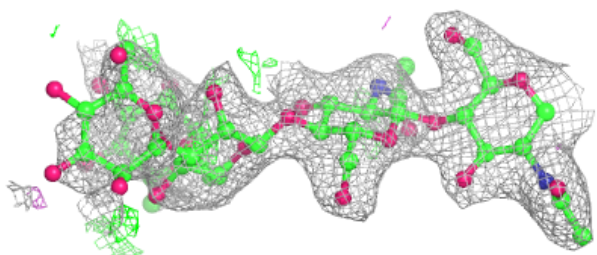
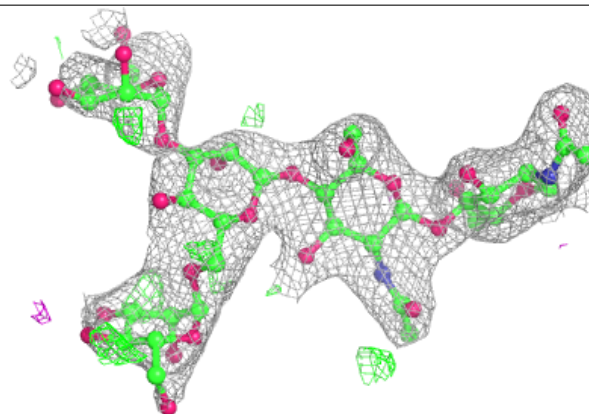


Electron density around Chain M:

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

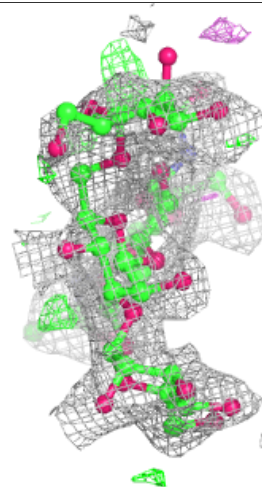
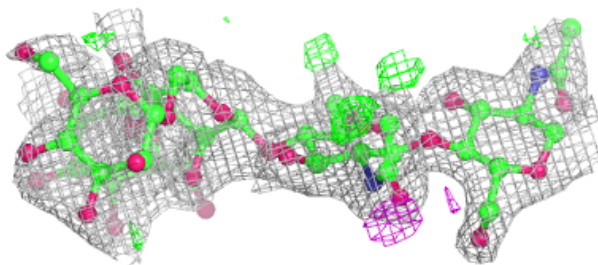
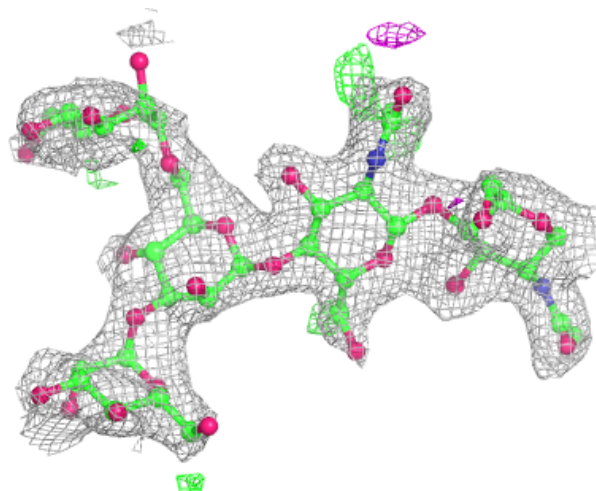
**Electron density around Chain N:**

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



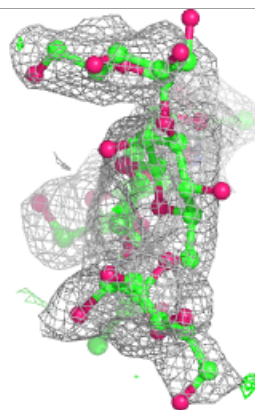
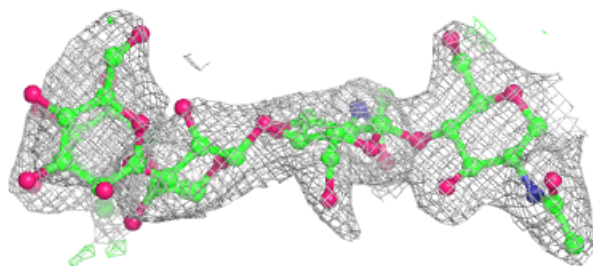
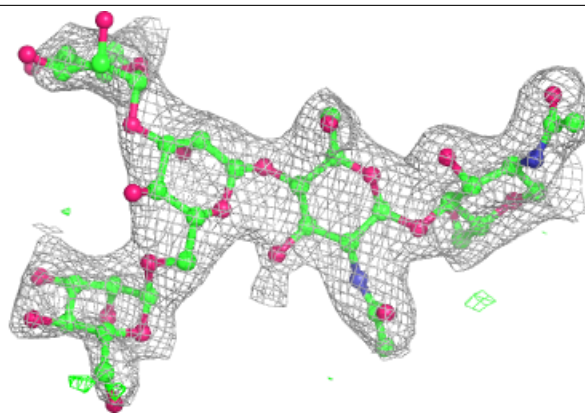
Electron density around Chain O:

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

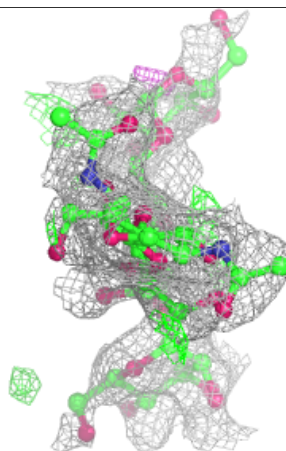
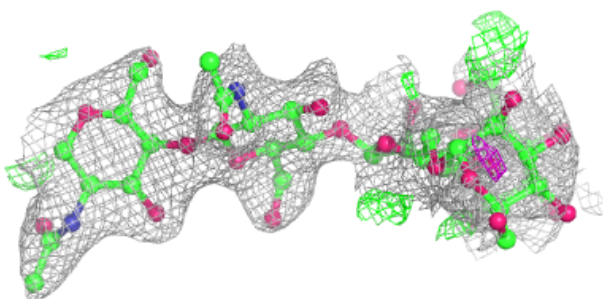
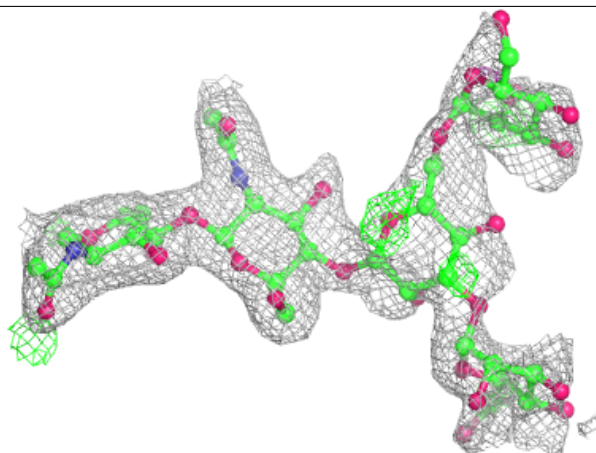


Electron density around Chain P:

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

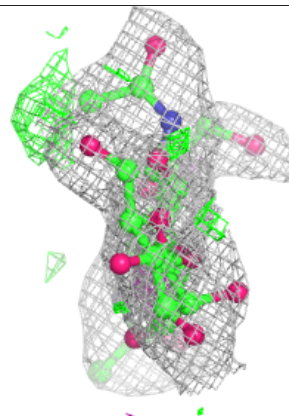
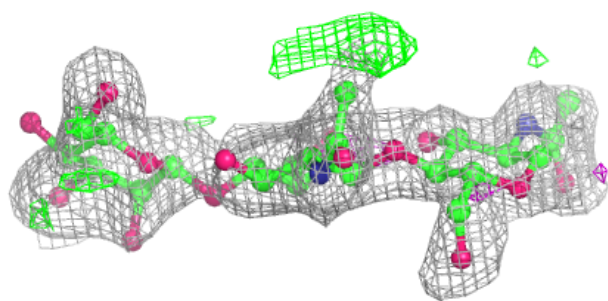
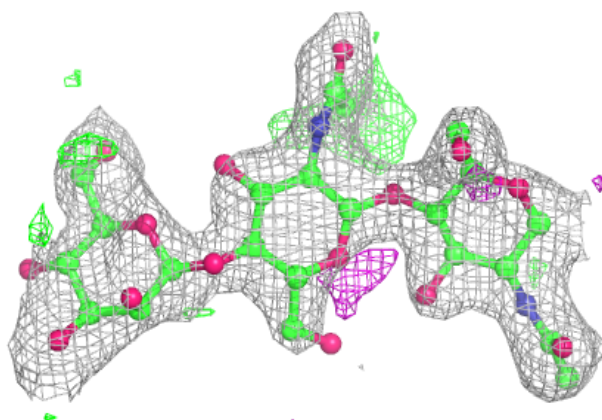
**Electron density around Chain R:**

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

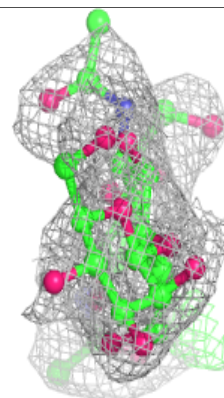
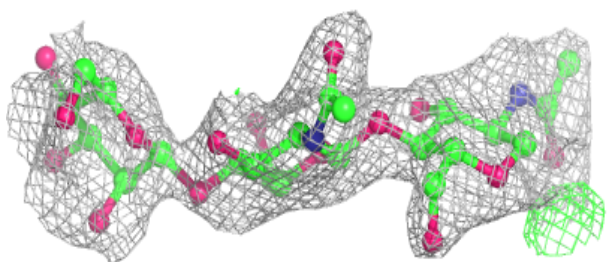
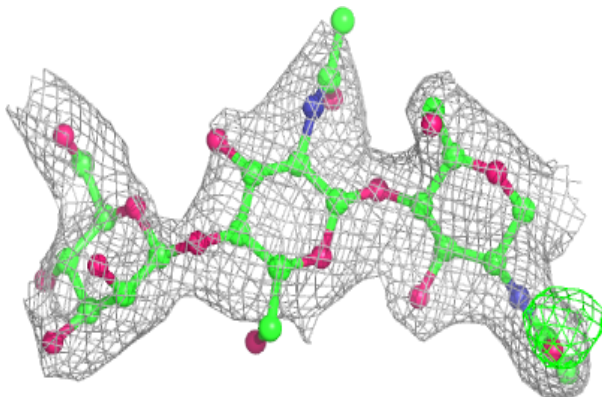


Electron density around Chain I:

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

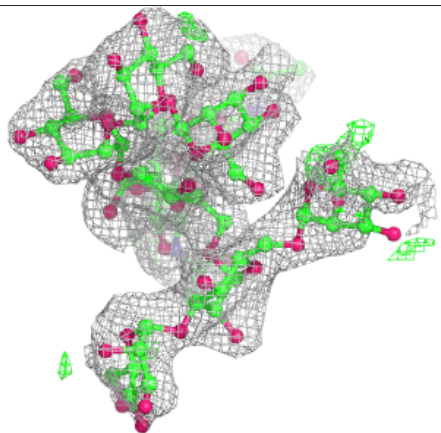
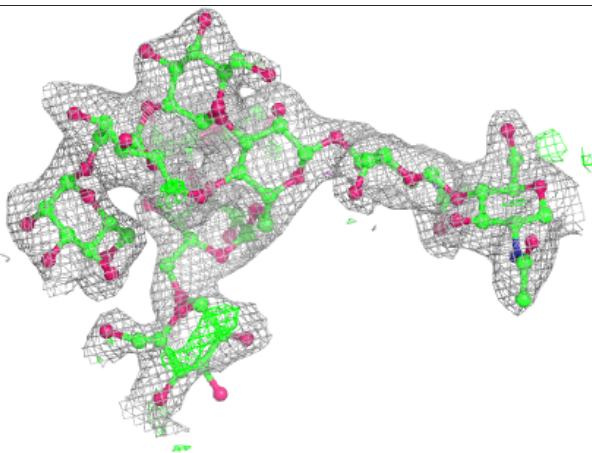
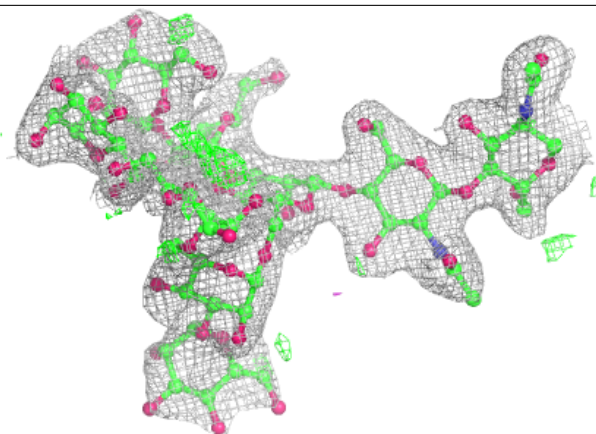
**Electron density around Chain L:**

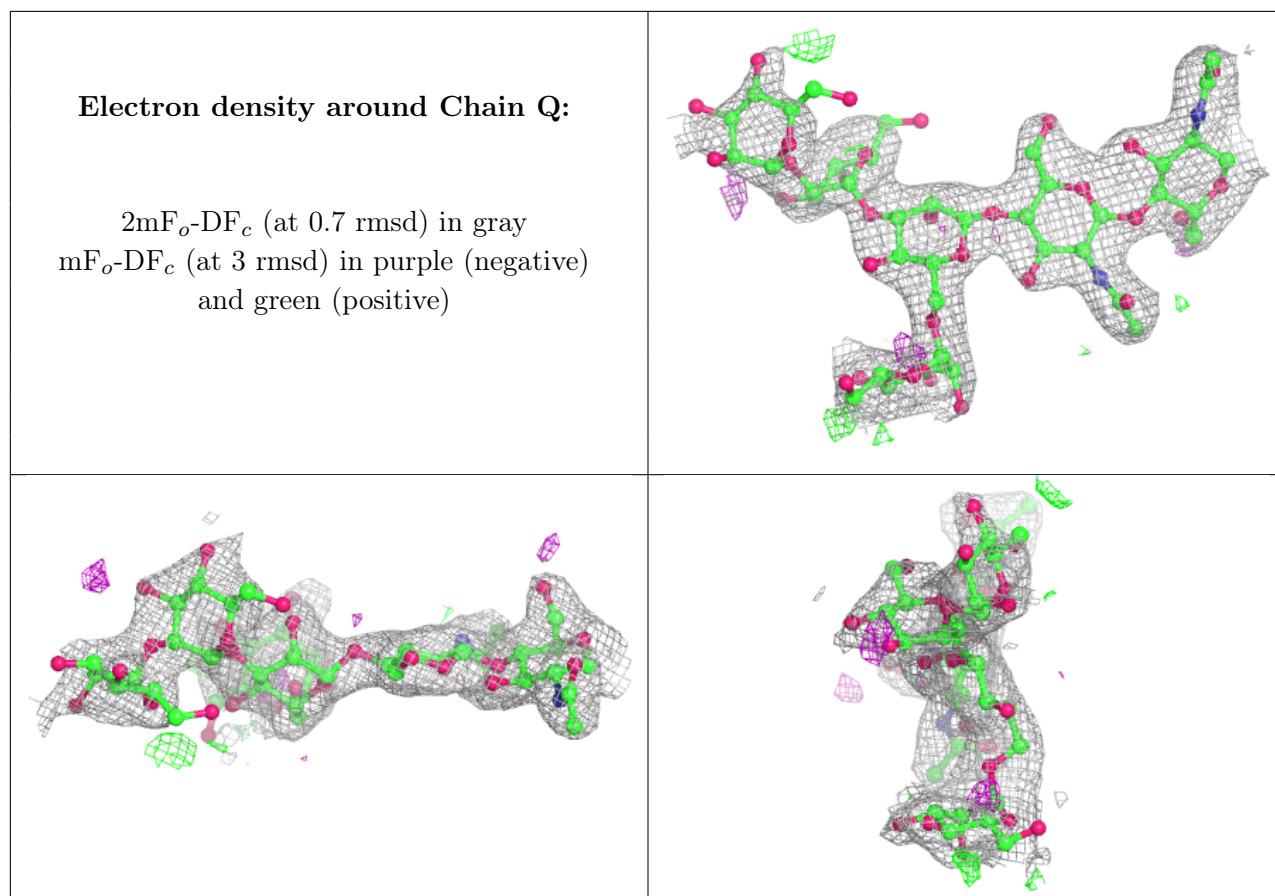
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around Chain J:

$2mF_o-DF_c$ (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(Å ²)	Q<0.9
9	CL	D	903	1/1	0.72	0.13	76,76,76,76	0
13	GLY	C	911	5/5	0.75	0.17	61,62,70,73	0
9	CL	D	905	1/1	0.76	0.08	71,71,71,71	0
9	CL	C	904	1/1	0.79	0.06	68,68,68,68	0
9	CL	D	907	1/1	0.81	0.29	72,72,72,72	0
11	MPD	D	911	8/8	0.82	0.22	44,53,56,62	0
14	SO4	F	905	5/5	0.83	0.21	49,50,55,77	0
9	CL	A	903	1/1	0.84	0.13	85,85,85,85	0
9	CL	C	907	1/1	0.85	0.19	70,70,70,70	0
12	GOL	C	909	6/6	0.86	0.17	49,52,53,58	0
9	CL	E	905	1/1	0.86	0.06	68,68,68,68	0
13	GLY	D	912	5/5	0.86	0.15	46,49,52,53	0
9	CL	E	904	1/1	0.86	0.10	72,72,72,72	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
9	CL	F	904	1/1	0.87	0.06	78,78,78,78	0
9	CL	E	903	1/1	0.88	0.07	73,73,73,73	0
9	CL	B	903	1/1	0.90	0.07	67,67,67,67	0
13	GLY	D	913	5/5	0.90	0.21	32,34,38,44	0
9	CL	D	906	1/1	0.90	0.07	65,65,65,65	0
11	MPD	C	908	8/8	0.91	0.13	38,45,47,47	0
9	CL	C	906	1/1	0.91	0.25	73,73,73,73	0
12	GOL	A	909	6/6	0.91	0.22	43,48,50,50	0
10	MES	A	904	12/12	0.91	0.17	46,50,60,60	0
13	GLY	F	907	5/5	0.92	0.17	34,38,42,45	0
9	CL	D	904	1/1	0.93	0.16	58,58,58,58	0
8	MG	A	902	1/1	0.93	0.08	54,54,54,54	0
11	MPD	E	907	8/8	0.93	0.15	33,36,41,41	0
13	GLY	E	909	5/5	0.93	0.11	46,47,49,51	0
9	CL	C	903	1/1	0.93	0.18	71,71,71,71	0
11	MPD	A	907	8/8	0.93	0.17	44,49,58,62	0
11	MPD	B	908	8/8	0.94	0.11	40,46,55,56	0
9	CL	B	906	1/1	0.94	0.07	79,79,79,79	0
8	MG	B	902	1/1	0.94	0.05	49,49,49,49	0
12	GOL	B	911	6/6	0.95	0.19	38,42,43,53	0
9	CL	C	905	1/1	0.95	0.14	72,72,72,72	0
12	GOL	E	908	6/6	0.95	0.15	29,30,32,33	0
9	CL	F	903	1/1	0.95	0.17	57,57,57,57	0
9	CL	D	902	1/1	0.95	0.34	66,66,66,66	0
9	CL	B	904	1/1	0.95	0.03	78,78,78,78	0
10	MES	B	907	12/12	0.95	0.16	38,47,55,57	0
11	MPD	F	906	8/8	0.95	0.10	33,37,42,42	0
14	SO4	D	909	5/5	0.95	0.10	69,75,78,89	0
11	MPD	A	906	8/8	0.95	0.12	44,52,54,57	0
8	MG	C	902	1/1	0.96	0.23	57,57,57,57	0
11	MPD	B	909	8/8	0.96	0.09	34,38,41,42	0
12	GOL	B	910	6/6	0.96	0.20	25,26,31,33	0
10	MES	E	906	12/12	0.96	0.24	42,50,53,60	0
8	MG	E	902	1/1	0.96	0.16	48,48,48,48	0
8	MG	F	902	1/1	0.96	0.08	55,55,55,55	0
13	GLY	C	910	5/5	0.96	0.19	32,37,39,42	0
13	GLY	E	910	5/5	0.97	0.19	44,44,50,52	0
11	MPD	A	905	8/8	0.97	0.10	31,37,39,42	0
11	MPD	A	908	8/8	0.97	0.09	38,44,48,48	0
9	CL	D	908	1/1	0.97	0.12	56,56,56,56	0
12	GOL	A	910	6/6	0.98	0.19	29,30,34,37	0
7	CU	E	901	1/1	0.98	0.07	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
11	MPD	D	910	8/8	0.98	0.08	40,41,42,45	0
7	CU	F	901	1/1	0.98	0.09	39,39,39,39	0
9	CL	B	905	1/1	0.98	0.22	72,72,72,72	0
7	CU	C	901	1/1	0.98	0.06	35,35,35,35	0
7	CU	D	901	1/1	0.98	0.10	38,38,38,38	0
7	CU	A	901	1/1	0.99	0.10	34,34,34,34	0
7	CU	B	901	1/1	0.99	0.07	39,39,39,39	0

6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.