Full wwPDB X-ray Structure Validation Report ⓘ

Sep 2, 2025 – 01:15 pm BST

PDB ID	:	9S8V / pdb_00009s8v
Title	:	Crystal structure of the BRI1 ectodomain from Arabidopsis thaliana in complex with 24-epibrassinolide.
Authors	:	Caregnato, A.; Hothorn, M.
Deposited on	:	2025-08-05
Resolution	:	2.40 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:

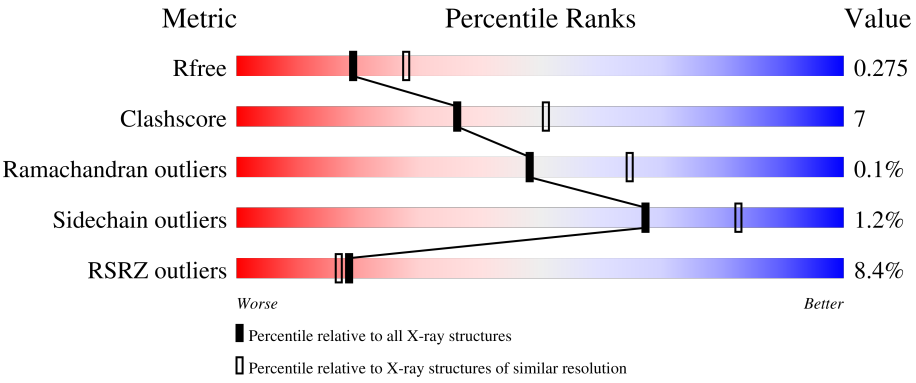
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.40 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	4642 (2.40-2.40)
Clashscore	180529	5218 (2.40-2.40)
Ramachandran outliers	177936	5158 (2.40-2.40)
Sidechain outliers	177891	5159 (2.40-2.40)
RSRZ outliers	164620	4642 (2.40-2.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	797	8%, 79%, 14%, 7%
2	B	2	50%, 50%
2	C	2	100%
2	D	2	50%, 50%
2	G	2	100%

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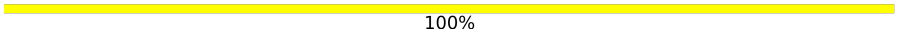
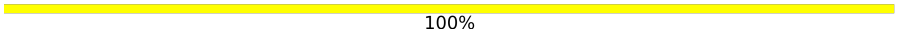
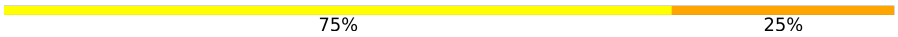
Mol	Chain	Length	Quality of chain
3	E	3	
3	I	3	
3	J	3	
4	F	3	
5	H	4	

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 12029 atoms, of which 5967 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 Protein BRASSINOSTEROID INSENSITIVE 1.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	742	Total	C	H	N	O	S	0	3	0
			11247	3563	5608	939	1105	32			

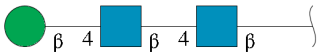
There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	789	ALA	-	expression tag	UNP O22476
A	790	ALA	-	expression tag	UNP O22476
A	791	ALA	-	expression tag	UNP O22476
A	792	GLU	-	expression tag	UNP O22476
A	793	ASN	-	expression tag	UNP O22476
A	794	LEU	-	expression tag	UNP O22476
A	795	TYR	-	expression tag	UNP O22476
A	796	PHE	-	expression tag	UNP O22476
A	797	GLN	-	expression tag	UNP O22476

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

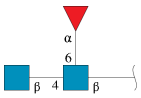
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			
2	C	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			
2	D	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			
2	G	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			

- Molecule 3 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
3	E	3	Total	C	H	N	O	0	0	0
			73	22	34	2	15			
3	I	3	Total	C	H	N	O	0	0	0
			73	22	34	2	15			
3	J	3	Total	C	H	N	O	0	0	0
			73	22	34	2	15			

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

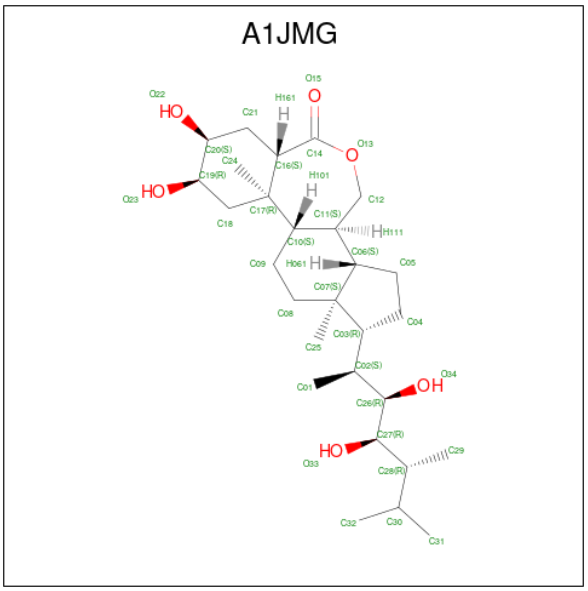


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	F	3	Total	C	H	N	O	0	0	0
			72	22	34	2	14			

- Molecule 5 is an oligosaccharide called 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.

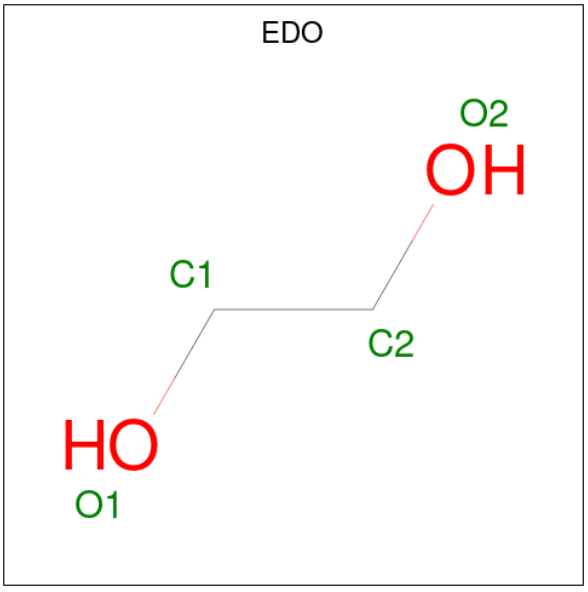
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	H	4	Total	C	H	N	O	0	0	0
			93	28	43	2	20			

- Molecule 6 is 24-Epibrassinolide (CCD ID: A1JMG) (formula: $C_{28}H_{48}O_6$).



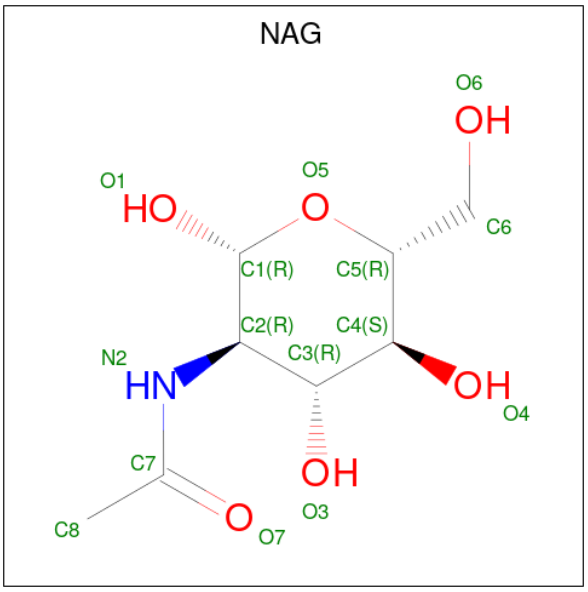
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
6	A	1	82	28	48	6	0	0

- Molecule 7 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
7	A	1	10	2	6	2	0	0

- Molecule 8 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
8	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		
8	A	1	Total	C	H	N	O	0	0
			27	8	13	1	5		

- Molecule 9 is water.

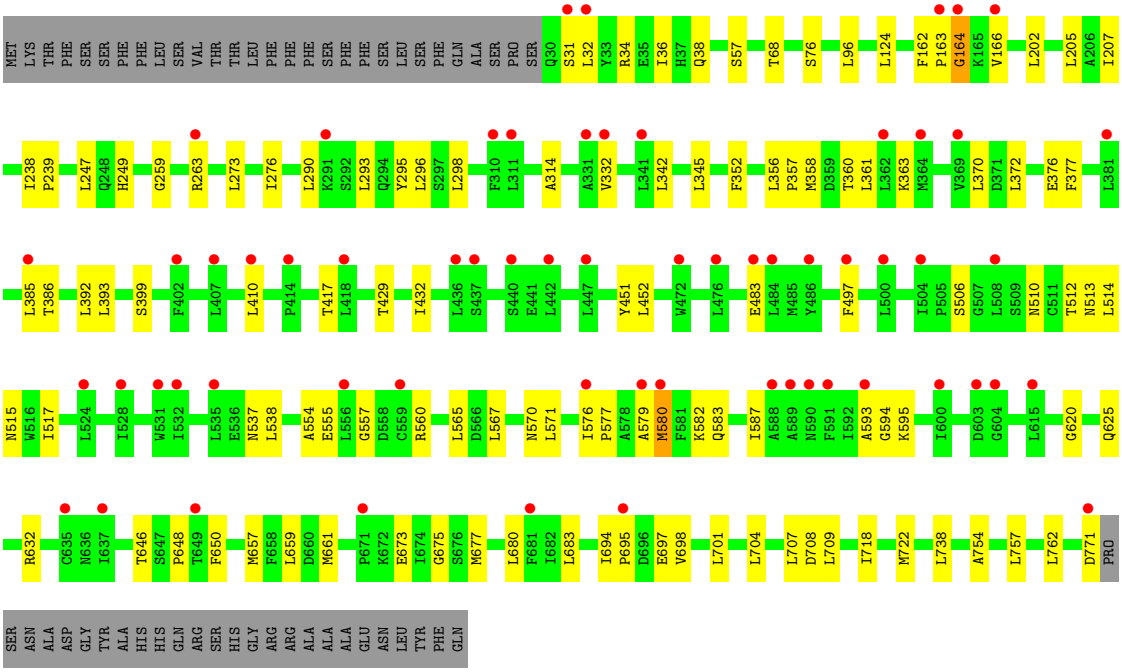
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	A	40	Total	O	0	0
			40	40		

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: Protein BRASSINOSTEROID INSENSITIVE 1

Chain A:

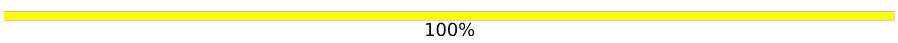


• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain B:

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

Chain C:

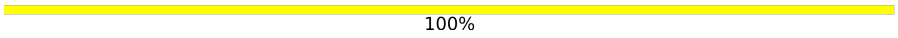


• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain D:

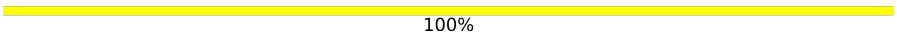
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:



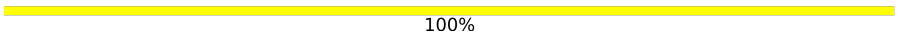
• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:



• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:



• Molecule 3: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:

• Molecule 4: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F:

• Molecule 5: 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 H:


NAG1
NAG2
BMA3
MAN4

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	173.45Å 66.61Å 119.75Å 90.00° 121.43° 90.00°	Depositor
Resolution (Å)	47.90 – 2.40 47.90 – 2.40	Depositor EDS
% Data completeness (in resolution range)	98.2 (47.90-2.40) 85.0 (47.90-2.40)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.31 (at 2.39Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.248 , 0.273 0.249 , 0.275	Depositor DCC
R_{free} test set	2234 reflections (2.53%)	wwPDB-VP
Wilson B-factor (Å^2)	66.4	Xtriage
Anisotropy	0.114	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.40 , 89.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	12029	wwPDB-VP
Average B, all atoms (Å^2)	136.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.82% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: EDO, A1JMG, BMA, NAG, MAN, FUC

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	0.13	0/5757	0.33	0/7809

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5639	5608	5608	80	2
2	B	28	25	25	0	0
2	C	28	25	25	2	0
2	D	28	25	25	1	0
2	G	28	25	25	0	0
3	E	39	34	34	0	0
3	I	39	34	34	0	0
3	J	39	34	34	1	0
4	F	38	34	34	1	0
5	H	50	43	43	1	0
6	A	34	48	0	0	0
7	A	4	6	6	1	0
8	A	28	26	26	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	A	40	0	0	0	0
All	All	6062	5967	5919	84	2

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 7.

All (84) 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:659:LEU:HD11	1:A:661:MET:HE3	1.59	0.85
1:A:704:LEU:HD21	1:A:707:LEU:HD13	1.59	0.83
1:A:680:LEU:HD21	1:A:683:LEU:HD13	1.62	0.79
2:C:2:NAG:O7	2:C:2:NAG:O3	2.03	0.75
1:A:276:ILE:HD11	1:A:298:LEU:HD22	1.73	0.70
1:A:207:ILE:HG22	1:A:207:ILE:O	1.96	0.66
1:A:697:GLU:N	1:A:697:GLU:OE1	2.30	0.64
1:A:356:LEU:CD2	1:A:385:LEU:HD21	2.28	0.63
2:C:2:NAG:HO3	2:C:2:NAG:C7	2.05	0.63
1:A:202:LEU:HD21	1:A:205:LEU:HB2	1.81	0.62
1:A:483:GLU:N	1:A:483:GLU:OE1	2.32	0.62
1:A:392:LEU:O	1:A:417:THR:HG23	2.00	0.61
1:A:708:ASP:O	1:A:709:LEU:HD23	2.03	0.59
1:A:386:THR:HG22	1:A:410:LEU:HA	1.84	0.59
4:F:1:NAG:O3	4:F:2:NAG:N2	2.35	0.59
1:A:555:GLU:N	1:A:555:GLU:OE1	2.35	0.59
1:A:594:GLY:N	1:A:646:THR:OG1	2.34	0.59
1:A:497:PHE:O	1:A:632:ARG:NH2	2.36	0.58
1:A:342:LEU:HD21	1:A:345:LEU:HD13	1.85	0.58
1:A:718:ILE:HG23	1:A:722:MET:HE3	1.85	0.57
1:A:517:ILE:HD12	1:A:538:LEU:HD13	1.87	0.57
1:A:358:MET:HE1	1:A:385:LEU:HG	1.86	0.57
1:A:677:MET:HE2	1:A:680:LEU:HD13	1.88	0.56
1:A:517:ILE:HD12	1:A:538:LEU:CD1	2.36	0.56
1:A:259:GLY:O	7:A:802:EDO:O2	2.21	0.55
1:A:358:MET:SD	1:A:385:LEU:HD23	2.47	0.55
1:A:370:LEU:HD11	1:A:372:LEU:HD11	1.91	0.53
1:A:399:SER:OG	1:A:620:GLY:O	2.25	0.53
1:A:515:ASN:HA	1:A:538:LEU:HA	1.91	0.52
1:A:577:PRO:HG2	1:A:580:MET:HE2	1.92	0.52
1:A:162:PHE:HE2	1:A:166:VAL:HG22	1.74	0.51
1:A:650:PHE:CE2	1:A:657:MET:HE3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:675:GLY:HA2	1:A:701:LEU:HD21	1.93	0.50
1:A:718:ILE:H	1:A:718:ILE:HD12	1.75	0.50
1:A:510:ASN:O	1:A:512:THR:N	2.44	0.50
1:A:695:PRO:O	1:A:698:VAL:HG22	2.11	0.50
1:A:565:LEU:HD11	1:A:567:LEU:HD21	1.93	0.50
1:A:659:LEU:HD23	1:A:683:LEU:HD11	1.94	0.50
1:A:249:HIS:CE1	1:A:273:LEU:HD22	2.47	0.49
5:H:2:NAG:H83	5:H:2:NAG:H3	1.92	0.49
1:A:31:SER:OG	1:A:32:LEU:N	2.45	0.49
1:A:673:GLU:OE1	1:A:673:GLU:N	2.37	0.49
1:A:290:LEU:HB3	1:A:314:ALA:HB2	1.94	0.48
1:A:694:ILE:HD12	1:A:738:LEU:HD21	1.94	0.48
1:A:295:TYR:CE2	3:J:1:NAG:H82	2.49	0.48
1:A:557:GLY:O	1:A:583:GLN:NE2	2.42	0.47
1:A:576:ILE:N	1:A:576:ILE:HD12	2.29	0.47
1:A:704:LEU:HD21	1:A:707:LEU:CD1	2.37	0.47
1:A:718:ILE:HG23	1:A:722:MET:CE	2.46	0.46
1:A:429:THR:HG22	1:A:451:TYR:HB2	1.98	0.46
1:A:513:ASN:O	1:A:537:ASN:ND2	2.50	0.45
1:A:510:ASN:O	1:A:512:THR:HG23	2.17	0.44
1:A:247:LEU:HD11	1:A:249:HIS:O	2.18	0.44
1:A:595:LYS:O	1:A:646:THR:HG23	2.17	0.44
1:A:570:ASN:O	1:A:571:LEU:HD23	2.17	0.44
1:A:392:LEU:C	1:A:393:LEU:HD22	2.43	0.44
1:A:342:LEU:CD2	1:A:345:LEU:HD13	2.46	0.44
1:A:32:LEU:O	1:A:36:ILE:HG22	2.17	0.43
1:A:514:LEU:HD13	1:A:517:ILE:HD11	1.99	0.43
1:A:432:ILE:CD1	1:A:452:LEU:HD13	2.48	0.43
1:A:680:LEU:HD23	1:A:704:LEU:HD13	2.00	0.43
1:A:293:LEU:HD21	1:A:296:LEU:HB2	2.00	0.43
1:A:510:ASN:OD1	2:D:1:NAG:O5	2.36	0.43
1:A:332:VAL:HB	1:A:357:PRO:HG2	2.01	0.42
1:A:68:THR:HB	1:A:76:SER:HB3	2.01	0.42
1:A:560:ARG:O	1:A:560:ARG:HG2	2.20	0.42
1:A:565:LEU:CD1	1:A:567:LEU:HD21	2.48	0.42
1:A:554:ALA:HB1	1:A:579:ALA:HB3	2.02	0.42
1:A:96:LEU:HD22	1:A:124:LEU:HD22	2.02	0.42
1:A:358:MET:C	1:A:360:THR:N	2.77	0.42
1:A:579:ALA:O	1:A:582:LYS:HG2	2.20	0.42
1:A:694:ILE:CD1	1:A:738:LEU:HD21	2.48	0.42
1:A:163:PRO:O	1:A:164:GLY:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:704:LEU:CD2	1:A:707:LEU:HD13	2.40	0.41
1:A:593:ALA:HB2	1:A:648:PRO:HD2	2.03	0.41
1:A:276:ILE:HD11	1:A:298:LEU:CD2	2.47	0.41
1:A:352:PHE:HB3	1:A:377:PHE:CZ	2.56	0.41
1:A:34:ARG:O	1:A:38:GLN:HG3	2.21	0.41
1:A:207:ILE:O	1:A:207:ILE:CG2	2.67	0.41
1:A:361:LEU:HD21	1:A:370:LEU:CD2	2.51	0.41
1:A:754:ALA:HA	1:A:757:LEU:CD1	2.51	0.41
1:A:576:ILE:HG23	1:A:580:MET:CE	2.51	0.40
1:A:238:ILE:HG23	1:A:239:PRO:HD2	2.03	0.40
1:A:517:ILE:CD1	1:A:538:LEU:HD13	2.50	0.40

All (2) 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:A:363:LYS:HZ2	1:A:771:ASP:O[3_545]	1.57	0.03
1:A:363:LYS:NZ	1:A:771:ASP:O[3_545]	2.19	0.01

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	743/797 (93%)	667 (90%)	75 (10%)	1 (0%)	48 65

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	164	GLY

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	657/702 (94%)	649 (99%)	8 (1%)	67 82

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	57	SER
1	A	263	ARG
1	A	376	GLU
1	A	506	SER
1	A	580	MET
1	A	587	ILE
1	A	625	GLN
1	A	762	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	248	GLN
1	A	249	HIS
1	A	327	HIS
1	A	513	ASN
1	A	521	ASN
1	A	568	ASN
1	A	735	ASN
1	A	758	ASN

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)

24 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	B	1	1,2	14,14,15	0.66	0	17,19,21	1.43	1 (5%)
2	NAG	B	2	2	14,14,15	0.70	0	17,19,21	0.99	0
2	NAG	C	1	1,2	14,14,15	0.68	0	17,19,21	1.16	2 (11%)
2	NAG	C	2	2	14,14,15	0.73	0	17,19,21	0.91	0
2	NAG	D	1	1,2	14,14,15	0.70	0	17,19,21	1.59	3 (17%)
2	NAG	D	2	2	14,14,15	0.75	0	17,19,21	1.04	1 (5%)
3	NAG	E	1	1,3	14,14,15	0.65	0	17,19,21	1.27	2 (11%)
3	NAG	E	2	3	14,14,15	0.76	0	17,19,21	3.19	7 (41%)
3	BMA	E	3	3	11,11,12	0.88	0	15,15,17	1.79	1 (6%)
4	NAG	F	1	1,4	14,14,15	0.63	0	17,19,21	1.27	3 (17%)
4	NAG	F	2	4	14,14,15	0.77	0	17,19,21	1.25	2 (11%)
4	FUC	F	3	4	10,10,11	0.88	1 (10%)	14,14,16	1.01	1 (7%)
2	NAG	G	1	1,2	14,14,15	0.67	0	17,19,21	1.76	4 (23%)
2	NAG	G	2	2	14,14,15	0.70	0	17,19,21	1.29	2 (11%)
5	NAG	H	1	1,5	14,14,15	0.71	0	17,19,21	1.02	1 (5%)
5	NAG	H	2	5	14,14,15	0.74	0	17,19,21	1.66	2 (11%)
5	BMA	H	3	5	11,11,12	0.88	0	15,15,17	2.78	5 (33%)
5	MAN	H	4	5	11,11,12	0.67	0	15,15,17	1.35	2 (13%)
3	NAG	I	1	1,3	14,14,15	0.74	0	17,19,21	1.22	2 (11%)
3	NAG	I	2	3	14,14,15	0.72	0	17,19,21	1.19	1 (5%)
3	BMA	I	3	3	11,11,12	0.88	0	15,15,17	2.94	7 (46%)
3	NAG	J	1	1,3	14,14,15	0.75	0	17,19,21	0.96	1 (5%)
3	NAG	J	2	3	14,14,15	0.72	0	17,19,21	1.10	1 (5%)
3	BMA	J	3	3	11,11,12	0.86	0	15,15,17	3.23	8 (53%)

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	B	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	B	2	2	-	1/6/23/26	0/1/1/1
2	NAG	C	1	1,2	-	2/6/23/26	0/1/1/1
2	NAG	C	2	2	-	3/6/23/26	0/1/1/1
2	NAG	D	1	1,2	-	1/6/23/26	0/1/1/1
2	NAG	D	2	2	-	1/6/23/26	0/1/1/1
3	NAG	E	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	E	2	3	-	3/6/23/26	0/1/1/1
3	BMA	E	3	3	-	2/2/19/22	0/1/1/1
4	NAG	F	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	F	2	4	-	1/6/23/26	0/1/1/1
4	FUC	F	3	4	-	-	0/1/1/1
2	NAG	G	1	1,2	-	1/6/23/26	0/1/1/1
2	NAG	G	2	2	-	3/6/23/26	0/1/1/1
5	NAG	H	1	1,5	-	0/6/23/26	0/1/1/1
5	NAG	H	2	5	-	4/6/23/26	0/1/1/1
5	BMA	H	3	5	-	1/2/19/22	0/1/1/1
5	MAN	H	4	5	-	2/2/19/22	0/1/1/1
3	NAG	I	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	I	2	3	-	2/6/23/26	0/1/1/1
3	BMA	I	3	3	-	1/2/19/22	0/1/1/1
3	NAG	J	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	J	2	3	-	0/6/23/26	0/1/1/1
3	BMA	J	3	3	-	1/2/19/22	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	F	3	FUC	O5-C1	-2.01	1.40	1.43

All (59) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	J	3	BMA	C1-O5-C5	8.82	124.14	112.19
3	I	3	BMA	C1-O5-C5	8.53	123.75	112.19
5	H	3	BMA	C1-O5-C5	8.07	123.13	112.19
3	E	2	NAG	C2-N2-C7	7.86	134.09	122.90
3	E	2	NAG	C1-C2-N2	7.35	123.04	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	3	BMA	C1-O5-C5	5.67	119.87	112.19
5	H	2	NAG	C2-N2-C7	5.26	130.40	122.90
3	J	3	BMA	C1-C2-C3	5.14	115.99	109.67
5	H	3	BMA	C3-C4-C5	4.15	117.64	110.24
2	G	1	NAG	C1-O5-C5	4.02	117.64	112.19
2	G	1	NAG	O5-C1-C2	-3.90	105.14	111.29
3	J	3	BMA	C2-C3-C4	3.85	117.56	110.89
3	E	2	NAG	C1-O5-C5	3.84	117.40	112.19
5	H	4	MAN	C1-O5-C5	3.79	117.33	112.19
3	E	2	NAG	O5-C1-C2	-3.67	105.50	111.29
3	I	3	BMA	C3-C4-C5	3.60	116.66	110.24
2	C	1	NAG	C2-N2-C7	3.50	127.89	122.90
3	I	3	BMA	C2-C3-C4	3.48	116.91	110.89
2	D	1	NAG	C4-C3-C2	-3.40	106.04	111.02
2	D	1	NAG	C1-O5-C5	3.37	116.76	112.19
2	B	1	NAG	C4-C3-C2	3.36	115.95	111.02
3	E	1	NAG	C1-O5-C5	3.27	116.62	112.19
3	J	2	NAG	O5-C1-C2	-3.26	106.14	111.29
3	I	2	NAG	C2-N2-C7	3.25	127.53	122.90
3	J	3	BMA	C3-C4-C5	3.22	115.98	110.24
4	F	2	NAG	C2-N2-C7	3.19	127.45	122.90
5	H	3	BMA	C2-C3-C4	3.12	116.29	110.89
3	E	2	NAG	C8-C7-N2	-3.10	110.84	116.10
3	I	3	BMA	C1-C2-C3	3.06	113.42	109.67
3	E	2	NAG	C4-C3-C2	-2.97	106.67	111.02
2	G	2	NAG	C2-N2-C7	2.81	126.90	122.90
2	G	1	NAG	C2-N2-C7	2.76	126.84	122.90
4	F	1	NAG	O4-C4-C3	-2.65	104.23	110.35
2	D	2	NAG	C2-N2-C7	2.64	126.67	122.90
4	F	2	NAG	O5-C1-C2	-2.60	107.18	111.29
5	H	2	NAG	O5-C1-C2	-2.57	107.23	111.29
5	H	3	BMA	O5-C5-C4	2.57	117.07	110.83
3	I	3	BMA	O4-C4-C3	-2.55	104.45	110.35
3	E	2	NAG	O7-C7-N2	2.55	126.63	121.95
3	J	3	BMA	O3-C3-C2	-2.51	105.18	109.99
5	H	3	BMA	O4-C4-C3	-2.50	104.56	110.35
3	J	3	BMA	O5-C1-C2	2.50	114.63	110.77
3	I	3	BMA	O3-C3-C2	-2.47	105.27	109.99
3	J	3	BMA	O4-C4-C3	-2.46	104.67	110.35
4	F	1	NAG	O5-C1-C2	-2.40	107.51	111.29
2	D	1	NAG	C2-N2-C7	2.28	126.15	122.90
2	G	1	NAG	C1-C2-N2	2.26	114.35	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	1	NAG	O5-C1-C2	-2.25	107.73	111.29
3	I	1	NAG	C1-C2-N2	2.24	114.32	110.49
2	G	2	NAG	O5-C1-C2	-2.23	107.77	111.29
4	F	3	FUC	O5-C1-C2	-2.19	107.39	110.77
5	H	1	NAG	C1-O5-C5	2.17	115.13	112.19
3	J	1	NAG	C1-O5-C5	2.12	115.06	112.19
2	C	1	NAG	O5-C1-C2	-2.11	107.96	111.29
3	I	3	BMA	O5-C5-C4	2.09	115.92	110.83
5	H	4	MAN	C1-C2-C3	2.07	112.21	109.67
3	I	1	NAG	C2-N2-C7	2.06	125.84	122.90
3	J	3	BMA	O5-C5-C4	2.03	115.77	110.83
4	F	1	NAG	C2-N2-C7	2.01	125.77	122.90

There are no chirality outliers.

All (33) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	2	NAG	C3-C2-N2-C7
4	F	2	NAG	C3-C2-N2-C7
3	I	1	NAG	O5-C5-C6-O6
3	E	3	BMA	O5-C5-C6-O6
3	E	2	NAG	C1-C2-N2-C7
3	I	1	NAG	C4-C5-C6-O6
5	H	4	MAN	O5-C5-C6-O6
3	E	3	BMA	C4-C5-C6-O6
2	G	1	NAG	C1-C2-N2-C7
2	C	1	NAG	C8-C7-N2-C2
2	C	1	NAG	O7-C7-N2-C2
2	G	2	NAG	C8-C7-N2-C2
2	G	2	NAG	O7-C7-N2-C2
3	I	2	NAG	C8-C7-N2-C2
3	I	2	NAG	O7-C7-N2-C2
5	H	2	NAG	C8-C7-N2-C2
5	H	2	NAG	O7-C7-N2-C2
5	H	4	MAN	C4-C5-C6-O6
2	D	1	NAG	C1-C2-N2-C7
2	G	2	NAG	O5-C5-C6-O6
3	E	2	NAG	C4-C5-C6-O6
3	E	2	NAG	O5-C5-C6-O6
2	C	2	NAG	O5-C5-C6-O6
2	B	2	NAG	O5-C5-C6-O6
2	C	2	NAG	C1-C2-N2-C7

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Mol	Chain	Res	Type	Atoms
4	F	1	NAG	C3-C2-N2-C7
5	H	2	NAG	C3-C2-N2-C7
3	J	3	BMA	C4-C5-C6-O6
5	H	2	NAG	O5-C5-C6-O6
2	D	2	NAG	C3-C2-N2-C7
3	I	1	NAG	C3-C2-N2-C7
5	H	3	BMA	O5-C5-C6-O6
3	I	3	BMA	O5-C5-C6-O6

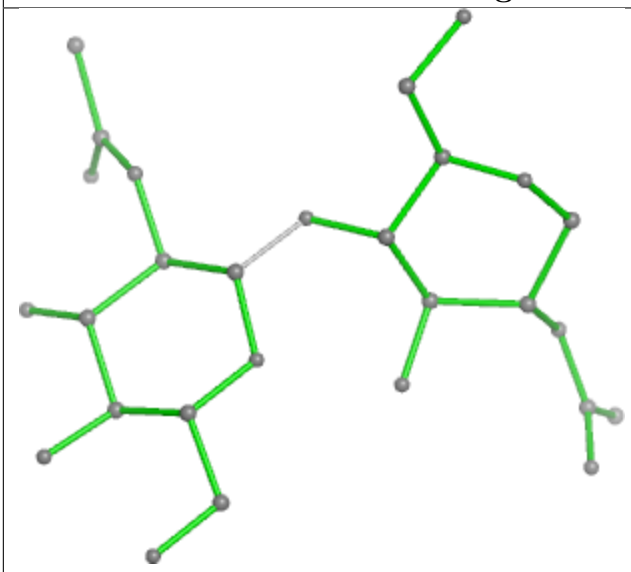
There are no ring outliers.

6 monomers are involved in 6 short contacts:

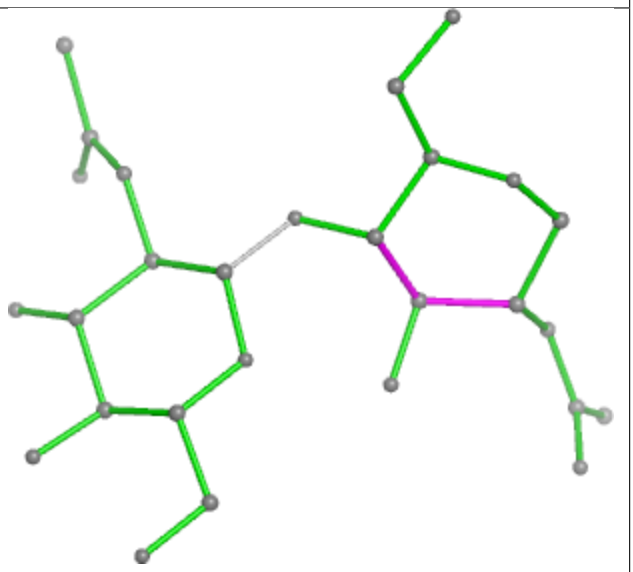
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	J	1	NAG	1	0
4	F	1	NAG	1	0
2	C	2	NAG	2	0
2	D	1	NAG	1	0
4	F	2	NAG	1	0
5	H	2	NAG	1	0

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

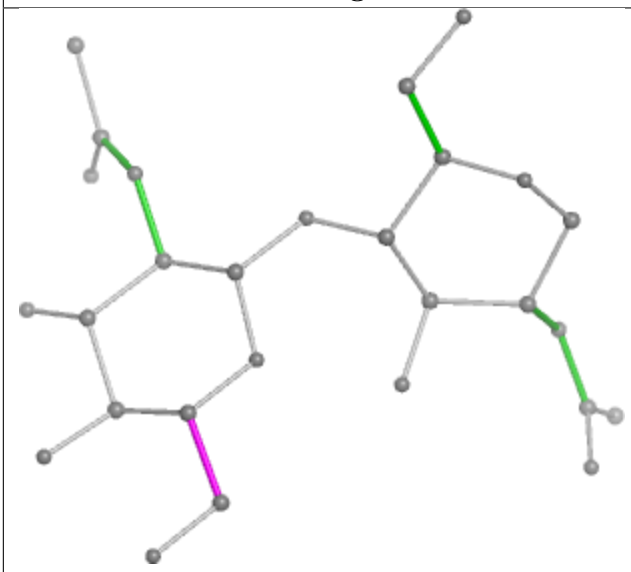
Oligosaccharide Chain B



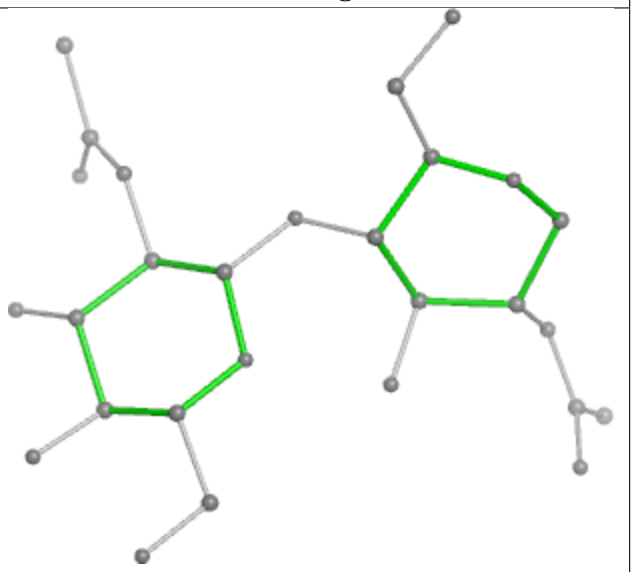
Bond lengths



Bond angles

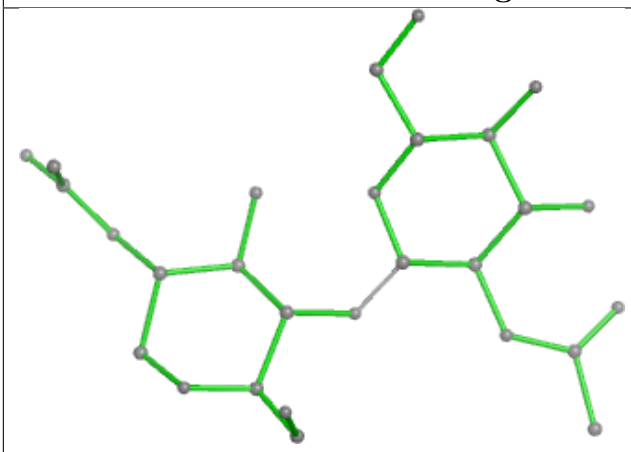


Torsions

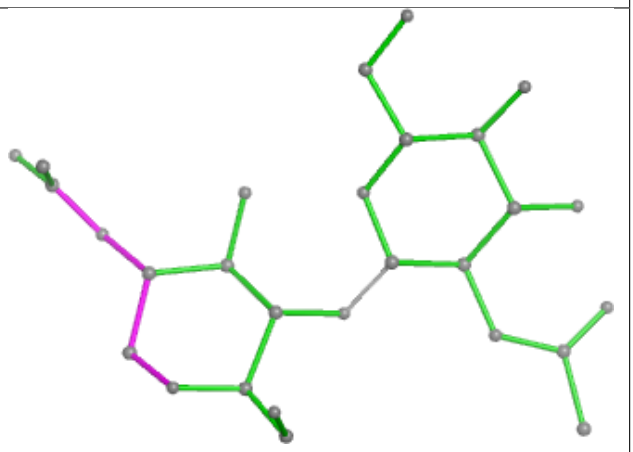


Rings

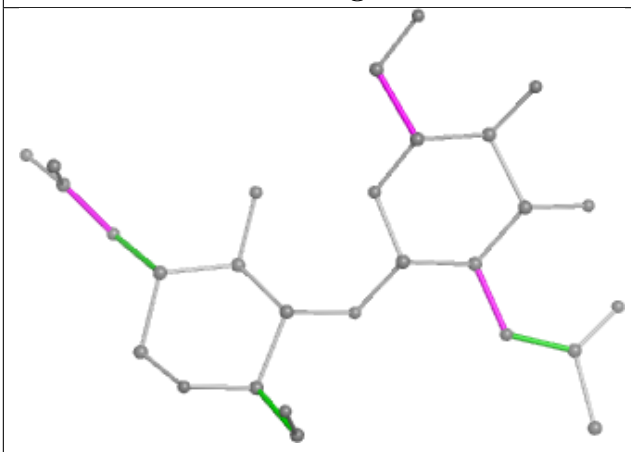
Oligosaccharide Chain C



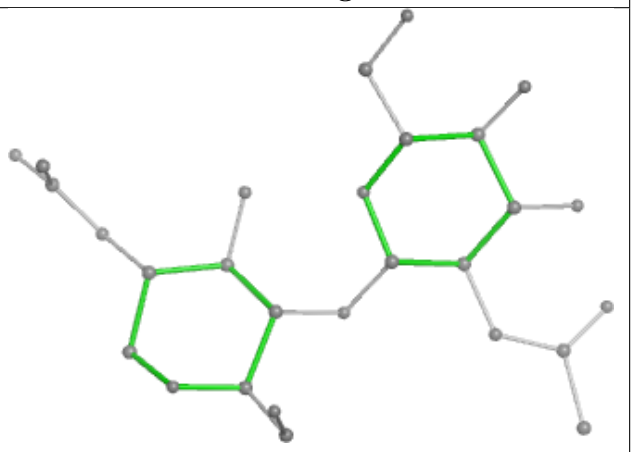
Bond lengths



Bond angles

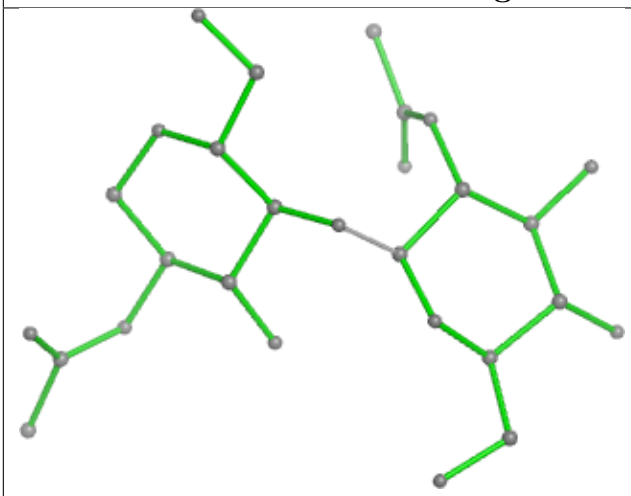


Torsions

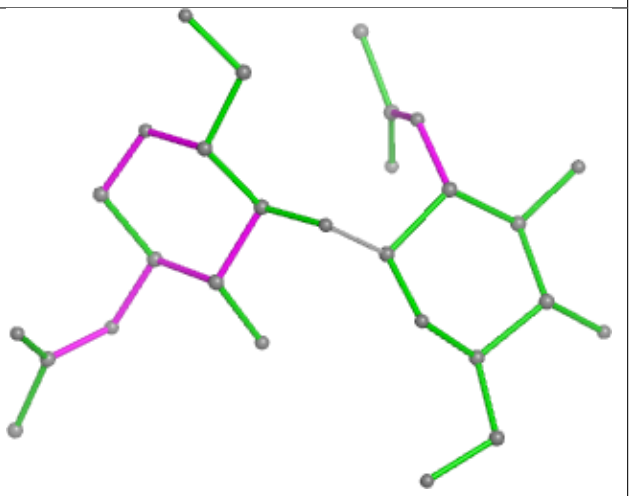


Rings

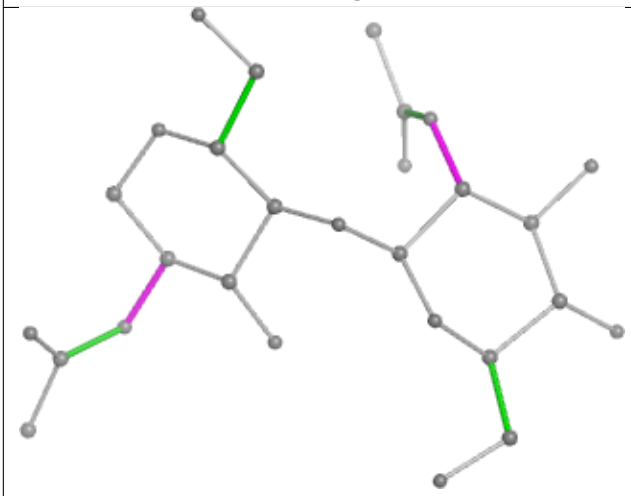
Oligosaccharide Chain D



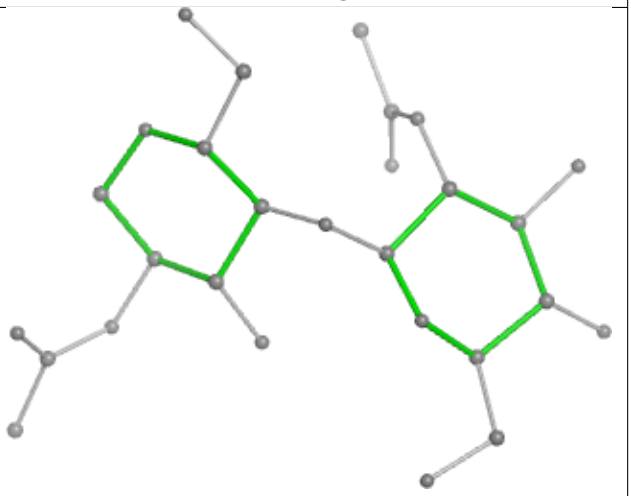
Bond lengths



Bond angles

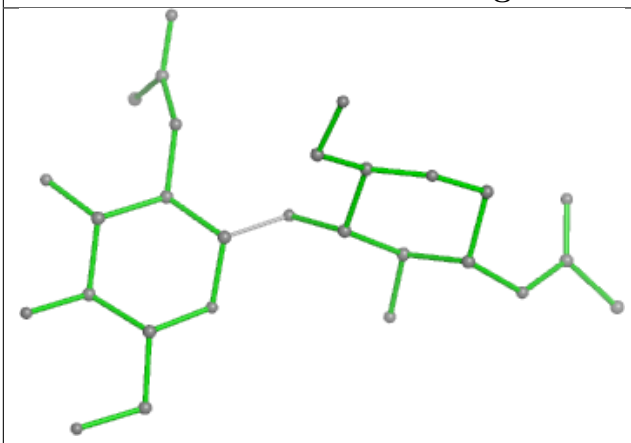


Torsions

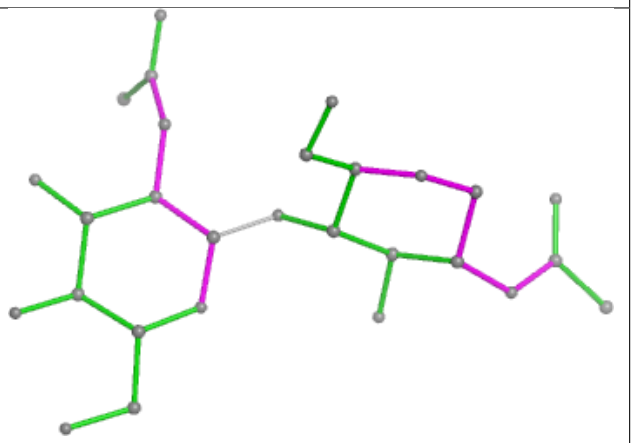


Rings

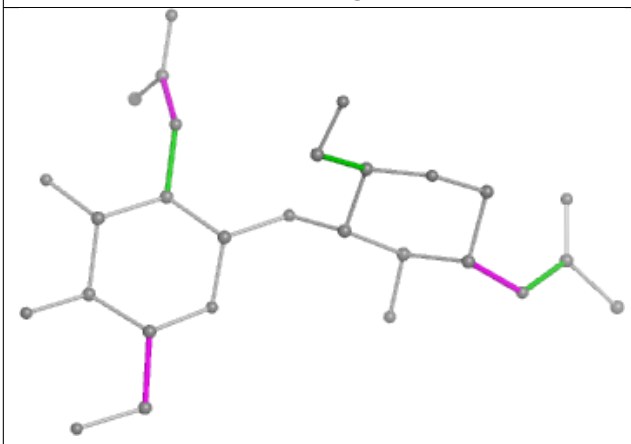
Oligosaccharide Chain G



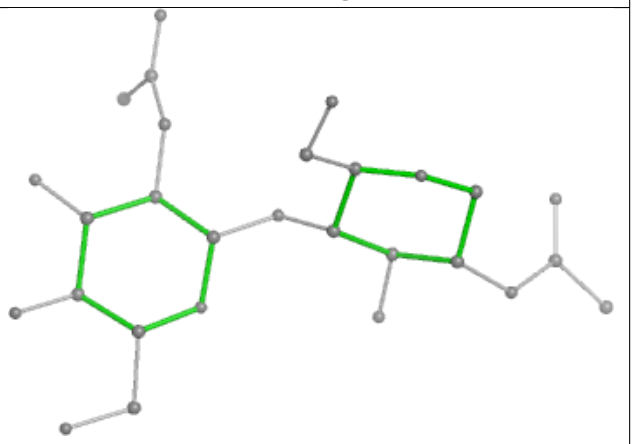
Bond lengths



Bond angles

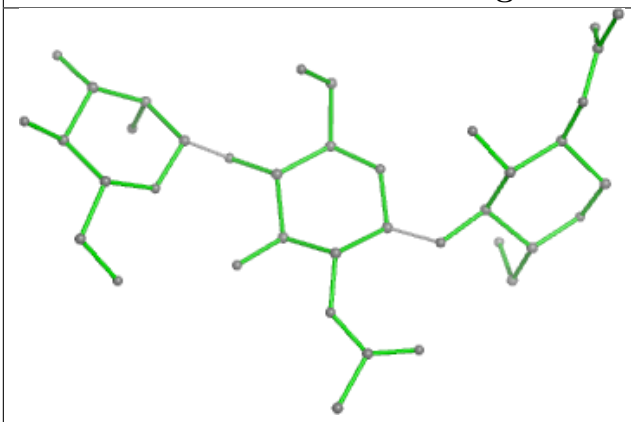


Torsions

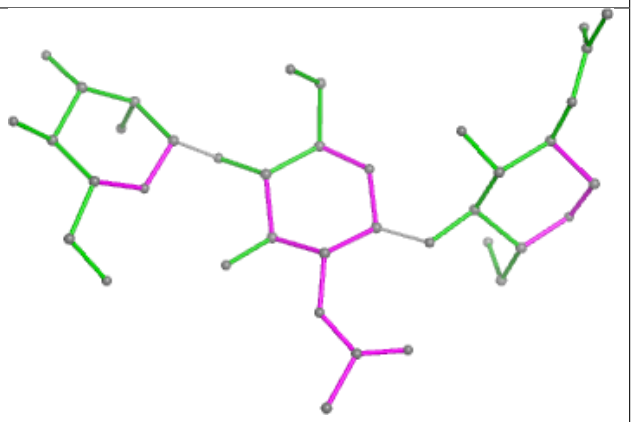


Rings

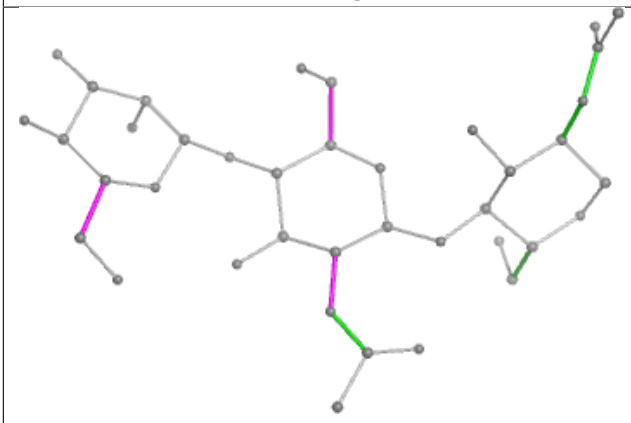
Oligosaccharide Chain E



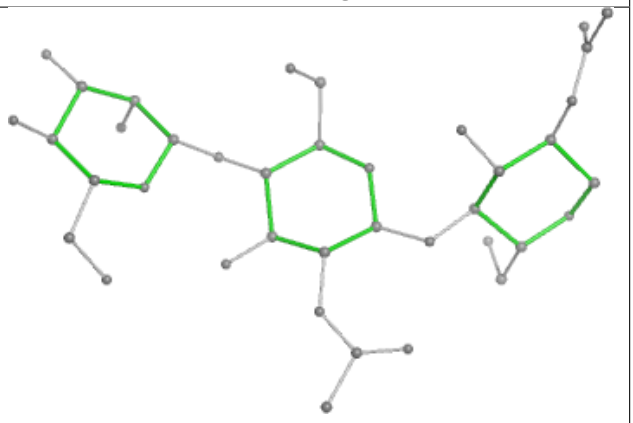
Bond lengths



Bond angles

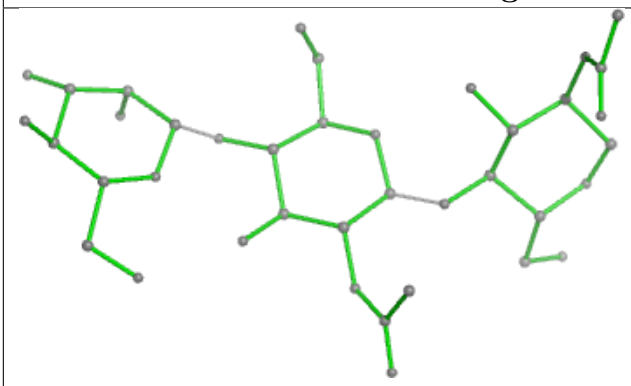


Torsions

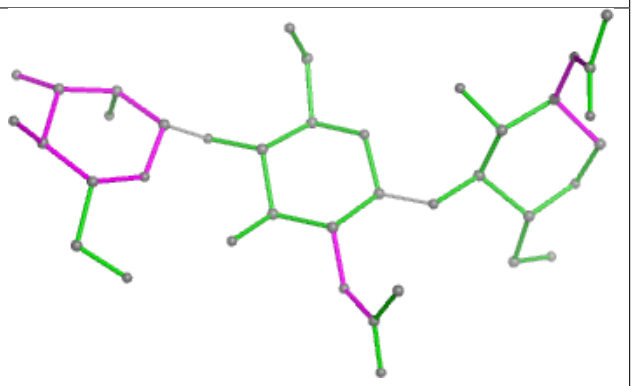


Rings

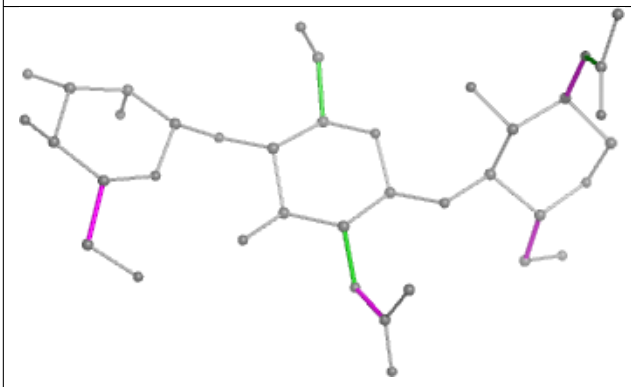
Oligosaccharide Chain I



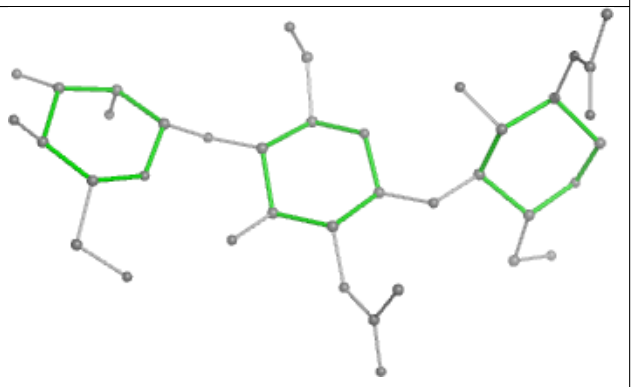
Bond lengths



Bond angles

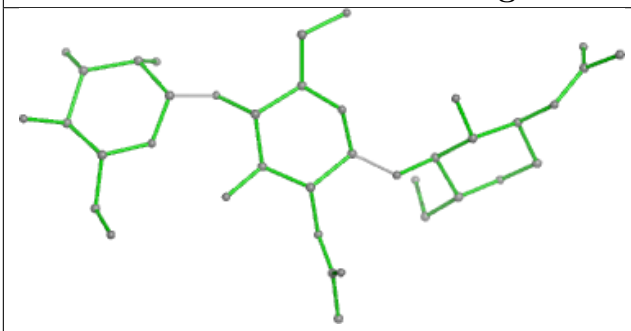


Torsions

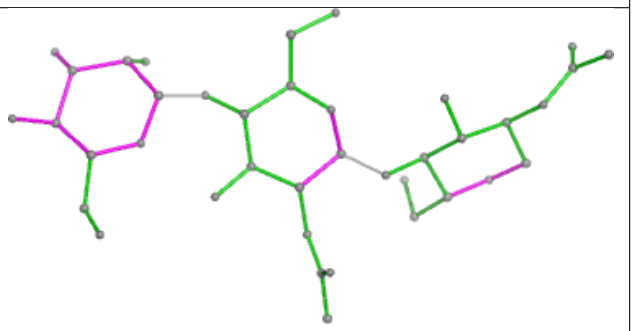


Rings

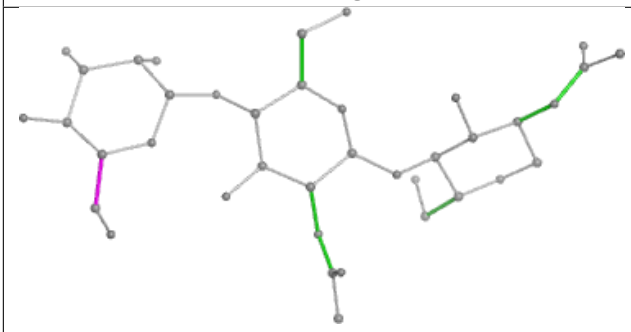
Oligosaccharide Chain J



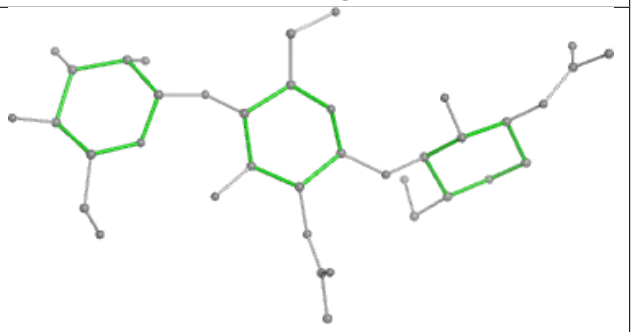
Bond lengths



Bond angles

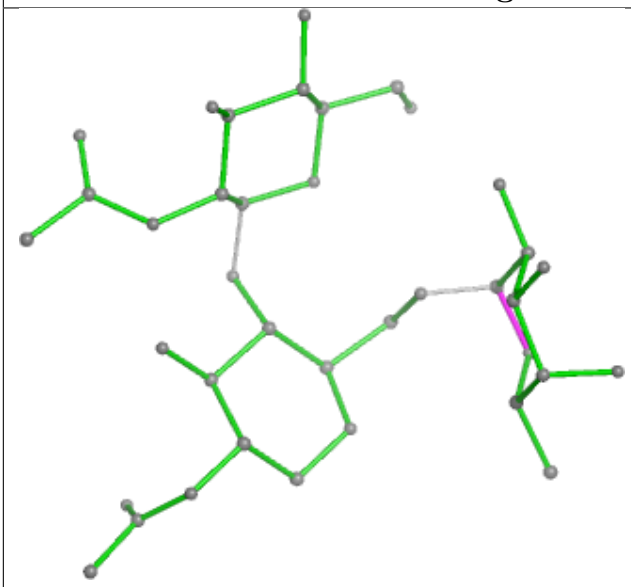


Torsions

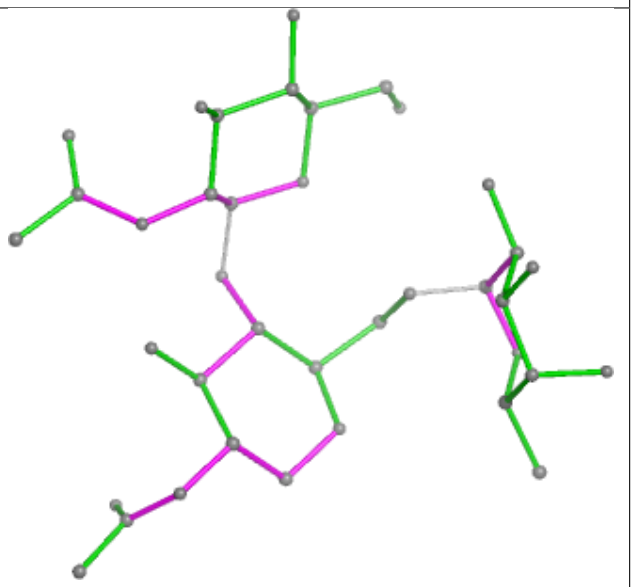


Rings

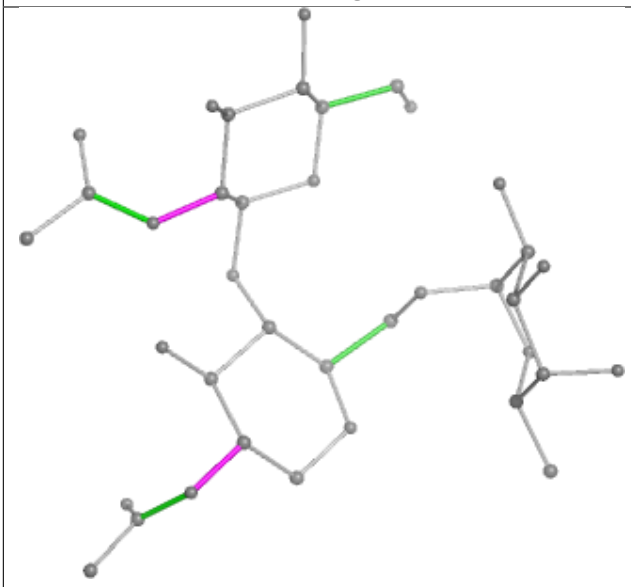
Oligosaccharide Chain F



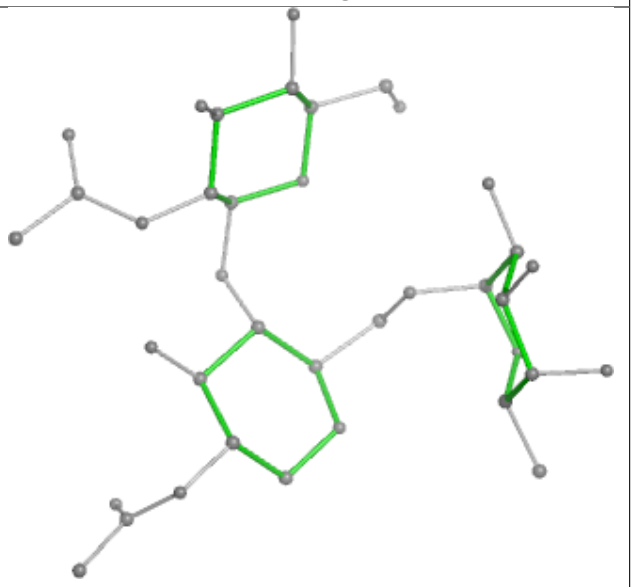
Bond lengths



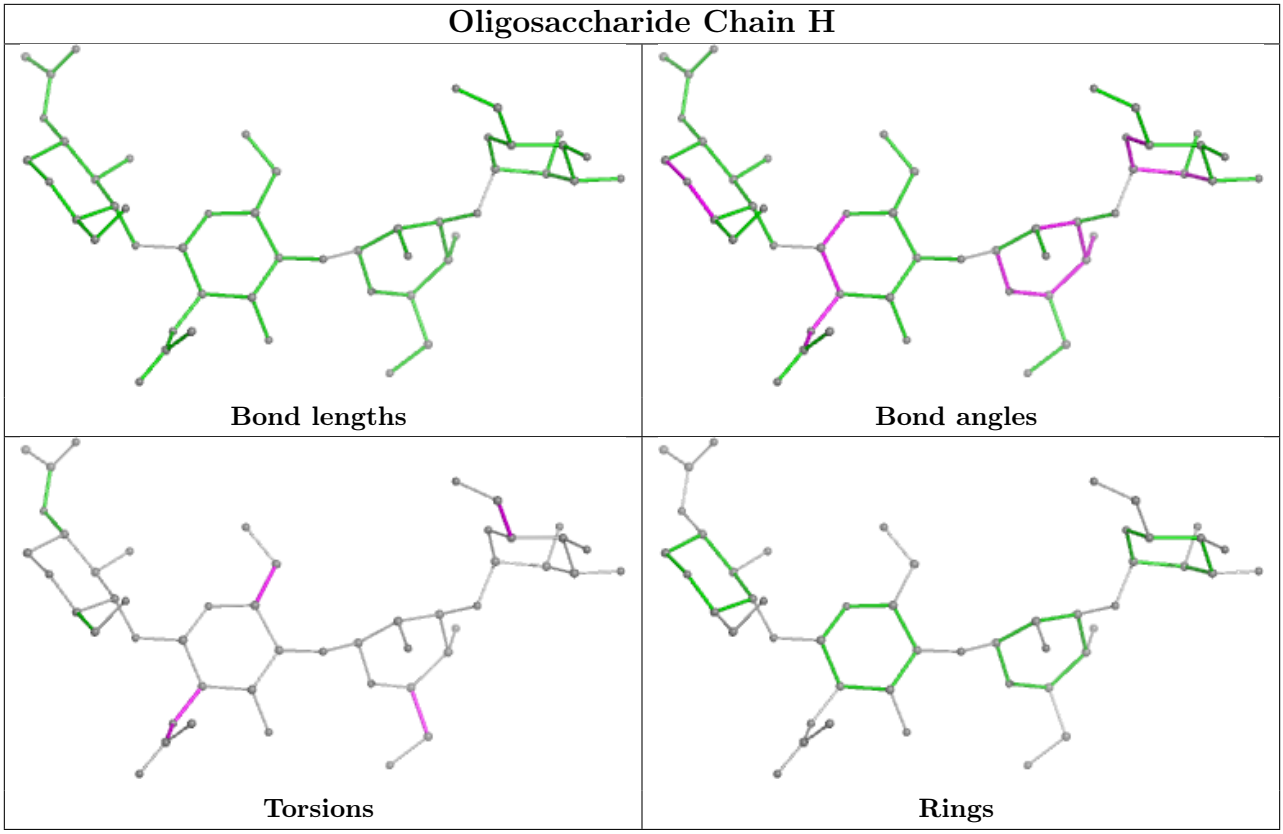
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

4 ligands 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	$\#\|Z\| > 2$
6	A1JMG	A	801	-	36,37,37	2.96	16 (44%)	46,59,59	5.26	24 (52%)
7	EDO	A	802	-	3,3,3	0.27	0	2,2,2	0.26	0
8	NAG	A	803	1	14,14,15	0.68	0	17,19,21	1.15	1 (5%)
8	NAG	A	804	1	14,14,15	0.64	0	17,19,21	1.06	1 (5%)

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
6	A1JMG	A	801	-	-	8/20/85/85	0/4/4/4
7	EDO	A	802	-	-	1/1/1/1	-
8	NAG	A	803	1	-	1/6/23/26	0/1/1/1
8	NAG	A	804	1	-	1/6/23/26	0/1/1/1

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	801	A1JMG	C01-C02	6.94	1.67	1.53
6	A	801	A1JMG	C02-C03	6.93	1.65	1.54
6	A	801	A1JMG	C12-C11	6.37	1.57	1.52
6	A	801	A1JMG	C08-C07	-5.71	1.43	1.54
6	A	801	A1JMG	C11-C06	4.22	1.61	1.53
6	A	801	A1JMG	C20-C19	4.04	1.58	1.52
6	A	801	A1JMG	C17-C10	3.94	1.64	1.55
6	A	801	A1JMG	O13-C14	3.78	1.39	1.34
6	A	801	A1JMG	C05-C06	-3.78	1.46	1.54
6	A	801	A1JMG	C07-C03	-3.18	1.48	1.55
6	A	801	A1JMG	C08-C09	3.02	1.59	1.53
6	A	801	A1JMG	C24-C17	2.57	1.58	1.54
6	A	801	A1JMG	C18-C19	2.49	1.56	1.53
6	A	801	A1JMG	C11-C10	-2.31	1.49	1.53
6	A	801	A1JMG	C02-C26	-2.24	1.48	1.54
6	A	801	A1JMG	C21-C20	2.20	1.56	1.52

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	801	A1JMG	C06-C07-C03	14.21	116.91	100.07
6	A	801	A1JMG	C08-C09-C10	13.71	136.87	113.11
6	A	801	A1JMG	C04-C03-C02	10.68	127.86	112.61
6	A	801	A1JMG	C05-C06-C11	-10.54	101.72	119.08
6	A	801	A1JMG	C04-C03-C07	-10.47	91.23	103.84
6	A	801	A1JMG	C01-C02-C03	10.36	131.10	112.74
6	A	801	A1JMG	C25-C07-C03	-8.72	95.45	111.71
6	A	801	A1JMG	C03-C02-C26	-6.23	100.48	111.51
6	A	801	A1JMG	C09-C08-C07	-6.11	102.30	112.78
6	A	801	A1JMG	C25-C07-C08	-6.04	101.06	110.59
6	A	801	A1JMG	C05-C04-C03	5.45	115.93	105.13
6	A	801	A1JMG	C18-C19-C20	4.76	116.83	111.36
6	A	801	A1JMG	C17-C18-C19	4.52	121.50	114.09
6	A	801	A1JMG	C09-C10-C11	-4.39	105.43	111.75
6	A	801	A1JMG	C05-C06-C07	-4.25	98.72	103.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	801	A1JMG	O34-C26-C02	-4.04	100.49	109.49
6	A	801	A1JMG	O34-C26-C27	3.99	118.76	109.47
6	A	801	A1JMG	C07-C06-C11	3.97	120.26	114.38
6	A	801	A1JMG	C02-C26-C27	-3.80	106.27	114.85
6	A	801	A1JMG	C28-C27-C26	-3.80	106.28	114.85
6	A	801	A1JMG	C06-C11-C10	-3.56	104.33	109.09
6	A	801	A1JMG	C24-C17-C18	-3.43	103.76	108.97
6	A	801	A1JMG	C24-C17-C16	-2.79	105.06	109.88
8	A	803	NAG	C2-N2-C7	2.73	126.78	122.90
6	A	801	A1JMG	C18-C17-C16	2.58	111.17	107.06
8	A	804	NAG	O5-C5-C6	2.32	110.84	107.20

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	801	A1JMG	C02-C26-C27-C28
6	A	801	A1JMG	C02-C26-C27-O33
6	A	801	A1JMG	O34-C26-C27-C28
6	A	801	A1JMG	O34-C26-C27-O33
6	A	801	A1JMG	C01-C02-C03-C07
8	A	803	NAG	C1-C2-N2-C7
8	A	804	NAG	O5-C5-C6-O6
6	A	801	A1JMG	C01-C02-C03-C04
6	A	801	A1JMG	C27-C28-C30-C32
7	A	802	EDO	O1-C1-C2-O2
6	A	801	A1JMG	C03-C02-C26-O34

There are no ring outliers.

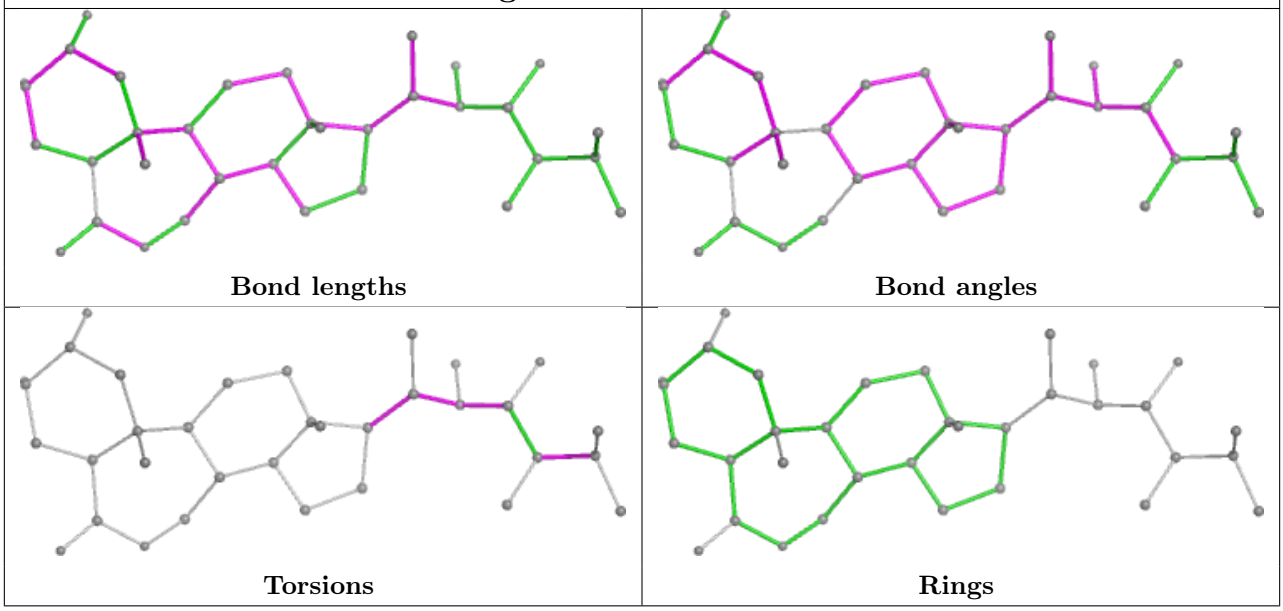
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	A	802	EDO	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 all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the

average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand A1JMG A 801



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	742/797 (93%)	0.73	62 (8%)	18	17	62, 129, 194, 241	3 (0%)

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	771	ASP	3.7
1	A	671	PRO	3.3
1	A	166	VAL	3.3
1	A	381	LEU	3.2
1	A	637	ILE	3.2
1	A	385	LEU	3.1
1	A	528	ILE	3.1
1	A	263	ARG	3.0
1	A	332	VAL	3.0
1	A	410	LEU	2.8
1	A	681	PHE	2.8
1	A	635	CYS	2.8
1	A	341	LEU	2.7
1	A	163	PRO	2.7
1	A	504	ILE	2.7
1	A	576	ILE	2.7
1	A	291	LYS	2.6
1	A	535	LEU	2.6
1	A	331	ALA	2.6
1	A	362	LEU	2.6
1	A	532	ILE	2.6
1	A	580	MET	2.6
1	A	472	TRP	2.5
1	A	484	LEU	2.5
1	A	524	LEU	2.5
1	A	588	ALA	2.5
1	A	483	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	649	THR	2.4
1	A	310	PHE	2.4
1	A	311	LEU	2.4
1	A	447	LEU	2.4
1	A	476	LEU	2.4
1	A	589	ALA	2.4
1	A	615	LEU	2.3
1	A	591	PHE	2.3
1	A	32	LEU	2.3
1	A	604	GLY	2.3
1	A	603	ASP	2.3
1	A	164	GLY	2.3
1	A	695	PRO	2.3
1	A	436	LEU	2.2
1	A	402	PHE	2.2
1	A	579	ALA	2.2
1	A	559	CYS	2.2
1	A	407	LEU	2.2
1	A	556	LEU	2.2
1	A	440	SER	2.2
1	A	590	ASN	2.2
1	A	497	PHE	2.1
1	A	500	LEU	2.1
1	A	593	ALA	2.1
1	A	486	TYR	2.1
1	A	437	SER	2.1
1	A	418	LEU	2.1
1	A	414	PRO	2.1
1	A	364	MET	2.1
1	A	508	LEU	2.0
1	A	600	ILE	2.0
1	A	442	LEU	2.0
1	A	369	VAL	2.0
1	A	531	TRP	2.0
1	A	31	SER	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)

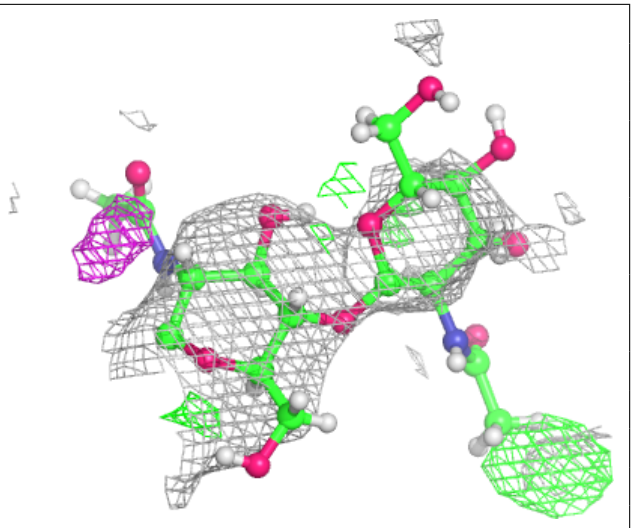
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

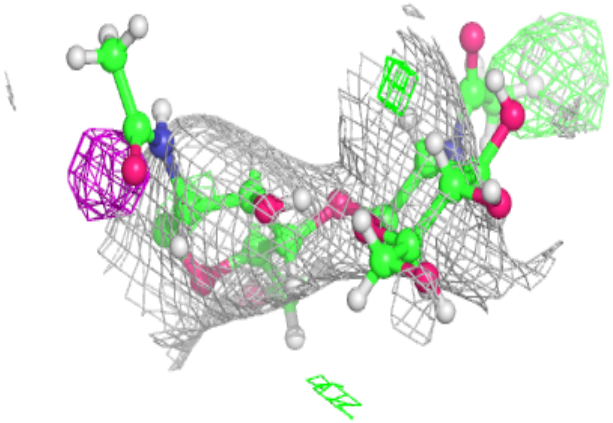
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	NAG	F	2	14/15	-0.17	0.18	184,196,232,240	0
2	NAG	B	2	14/15	0.16	0.14	216,230,276,287	0
3	BMA	J	3	11/12	0.26	0.13	174,192,228,231	0
3	BMA	I	3	11/12	0.31	0.12	213,228,274,281	0
5	MAN	H	4	11/12	0.32	0.12	171,182,219,234	0
2	NAG	D	2	14/15	0.35	0.14	195,205,250,250	0
3	NAG	I	2	14/15	0.37	0.15	196,221,266,266	0
5	BMA	H	3	11/12	0.41	0.13	140,161,192,194	0
2	NAG	G	2	14/15	0.55	0.16	171,190,229,244	0
2	NAG	C	2	14/15	0.57	0.13	187,194,234,234	0
3	NAG	E	2	14/15	0.58	0.15	145,162,196,199	0
3	BMA	E	3	11/12	0.58	0.12	158,173,203,216	0
2	NAG	C	1	14/15	0.61	0.12	163,185,222,223	0
2	NAG	D	1	14/15	0.61	0.13	168,193,228,233	0
3	NAG	I	1	14/15	0.63	0.17	154,181,209,218	0
2	NAG	G	1	14/15	0.68	0.13	127,154,185,186	0
4	NAG	F	1	14/15	0.69	0.12	154,179,214,216	0
4	FUC	F	3	10/11	0.69	0.15	172,190,222,228	0
2	NAG	B	1	14/15	0.71	0.14	154,191,231,238	0
5	NAG	H	2	14/15	0.74	0.13	99,126,144,152	0
3	NAG	J	2	14/15	0.81	0.14	129,161,186,199	0
3	NAG	E	1	14/15	0.81	0.14	128,155,182,190	0
3	NAG	J	1	14/15	0.91	0.12	76,103,124,133	0
5	NAG	H	1	14/15	0.94	0.12	56,82,101,117	0

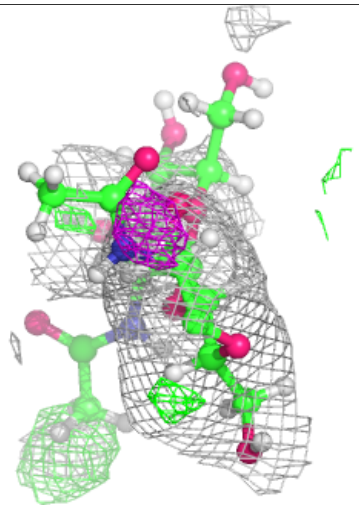
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain B:

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

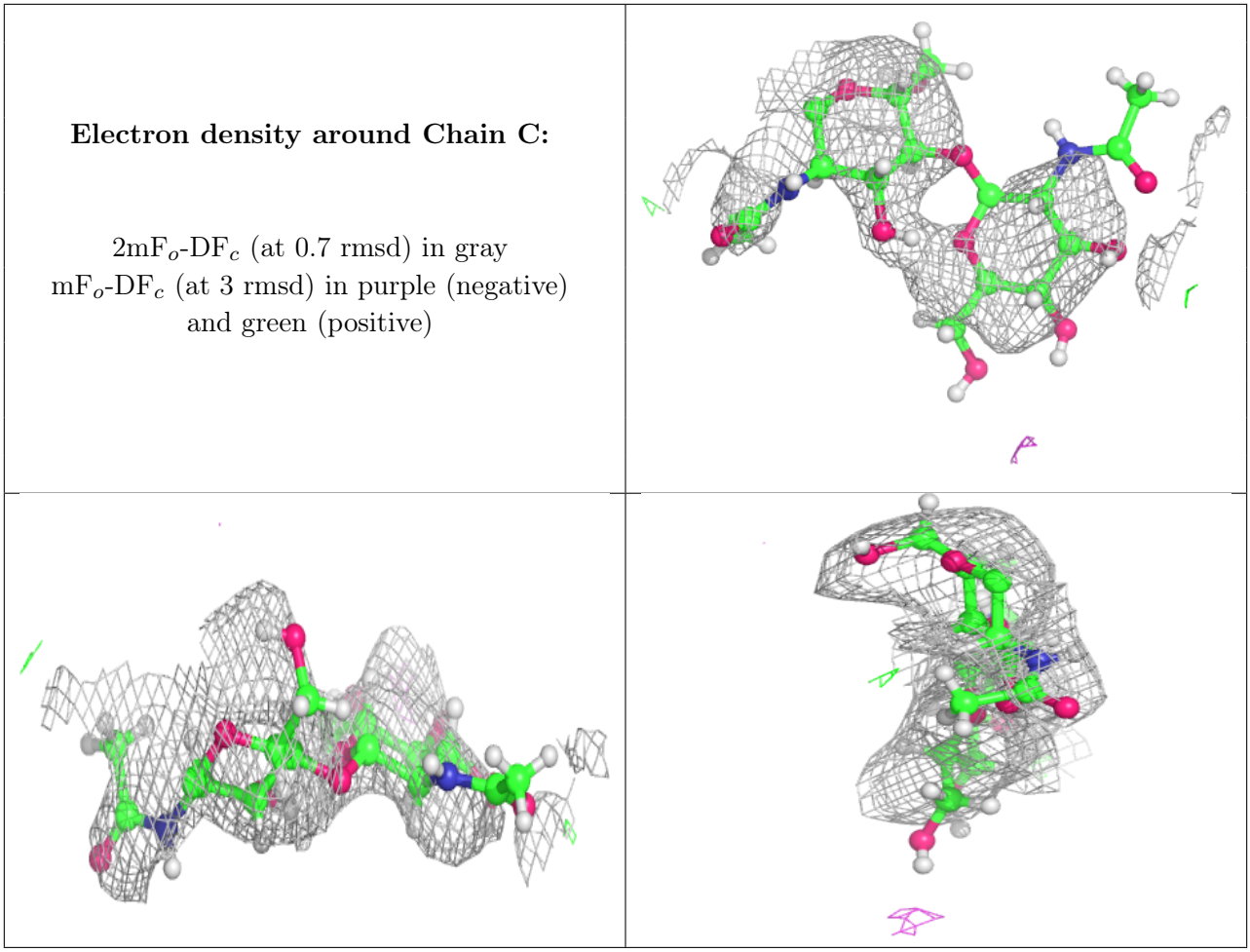






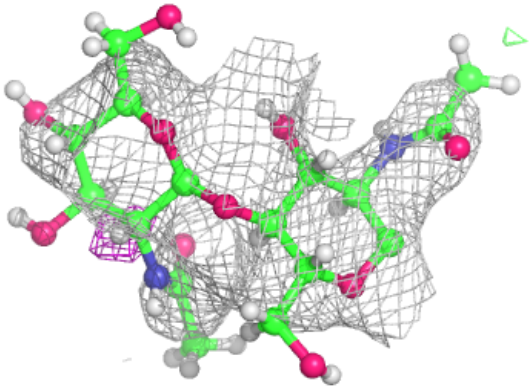
Electron density around Chain C:

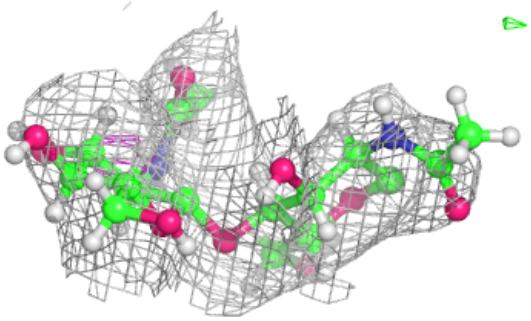
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

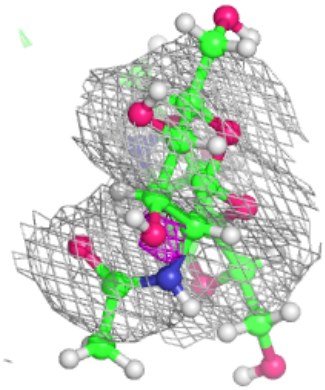


Electron density around Chain D:

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

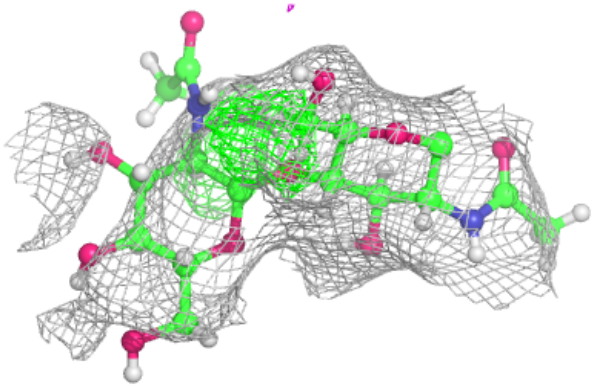


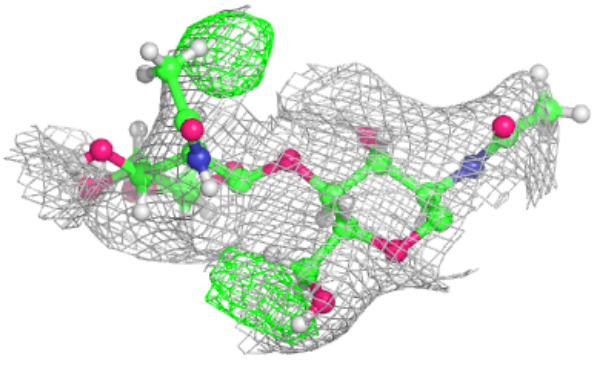


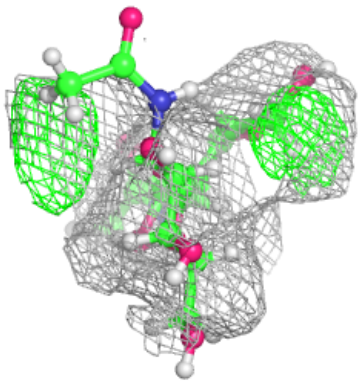


Electron density around Chain G:

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

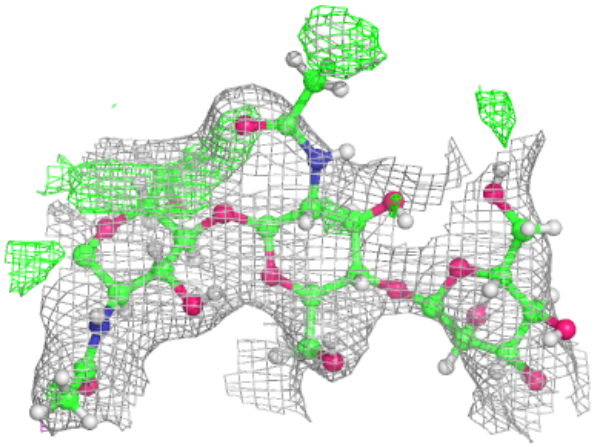


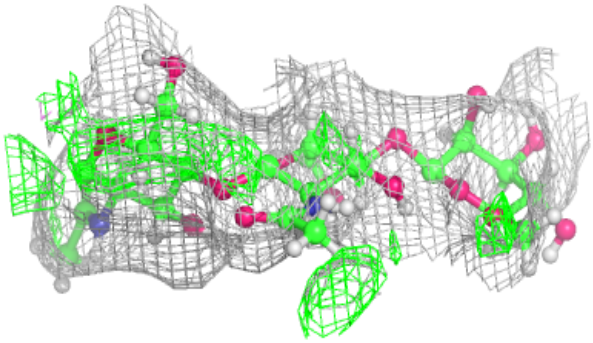


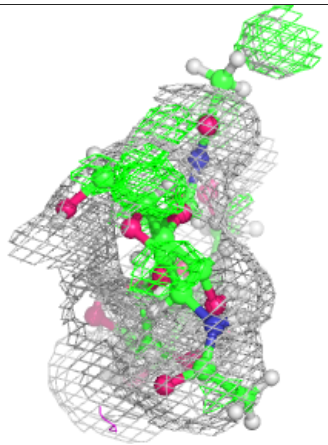


Electron density around Chain E:

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

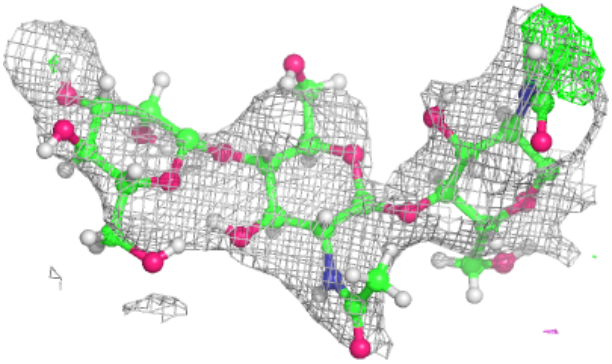


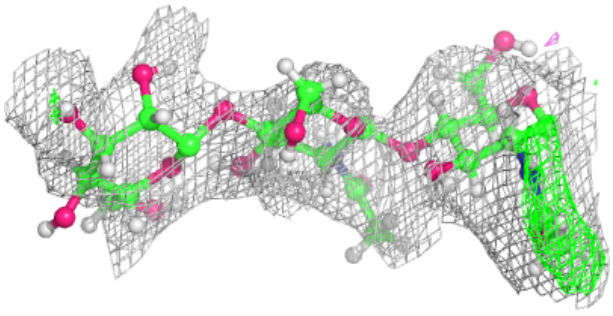


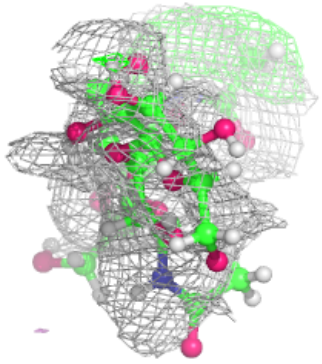


Electron density around Chain I:

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

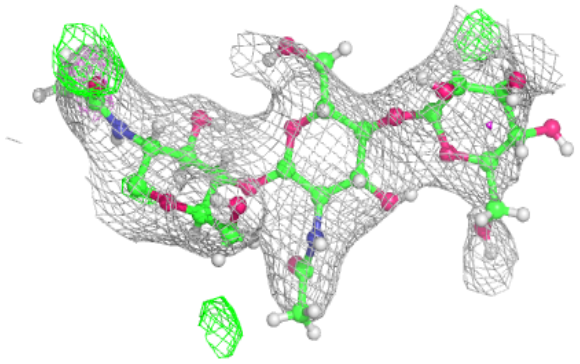


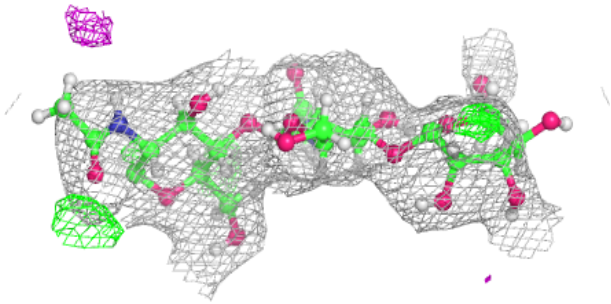


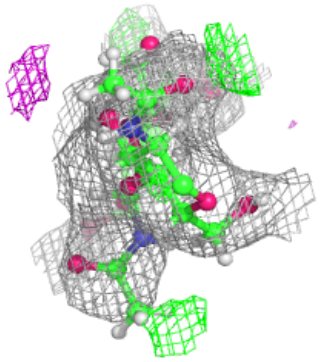


Electron density around Chain J:

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

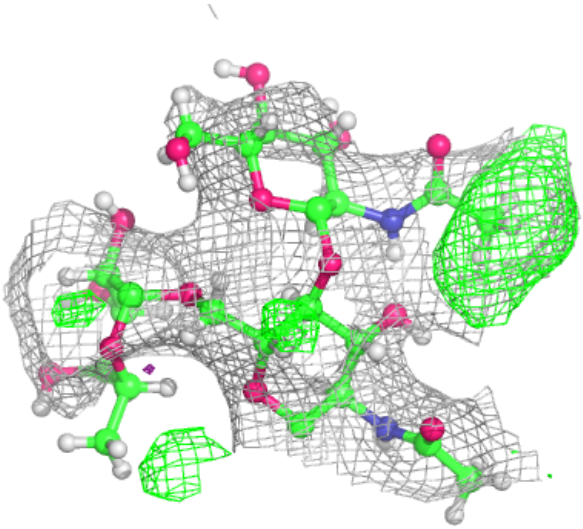


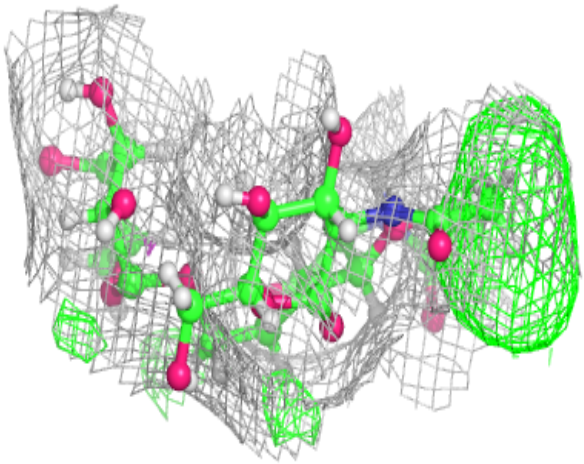


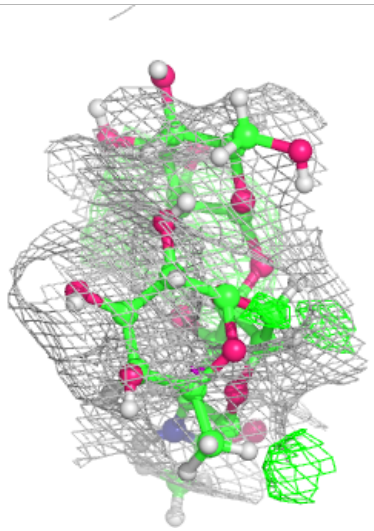


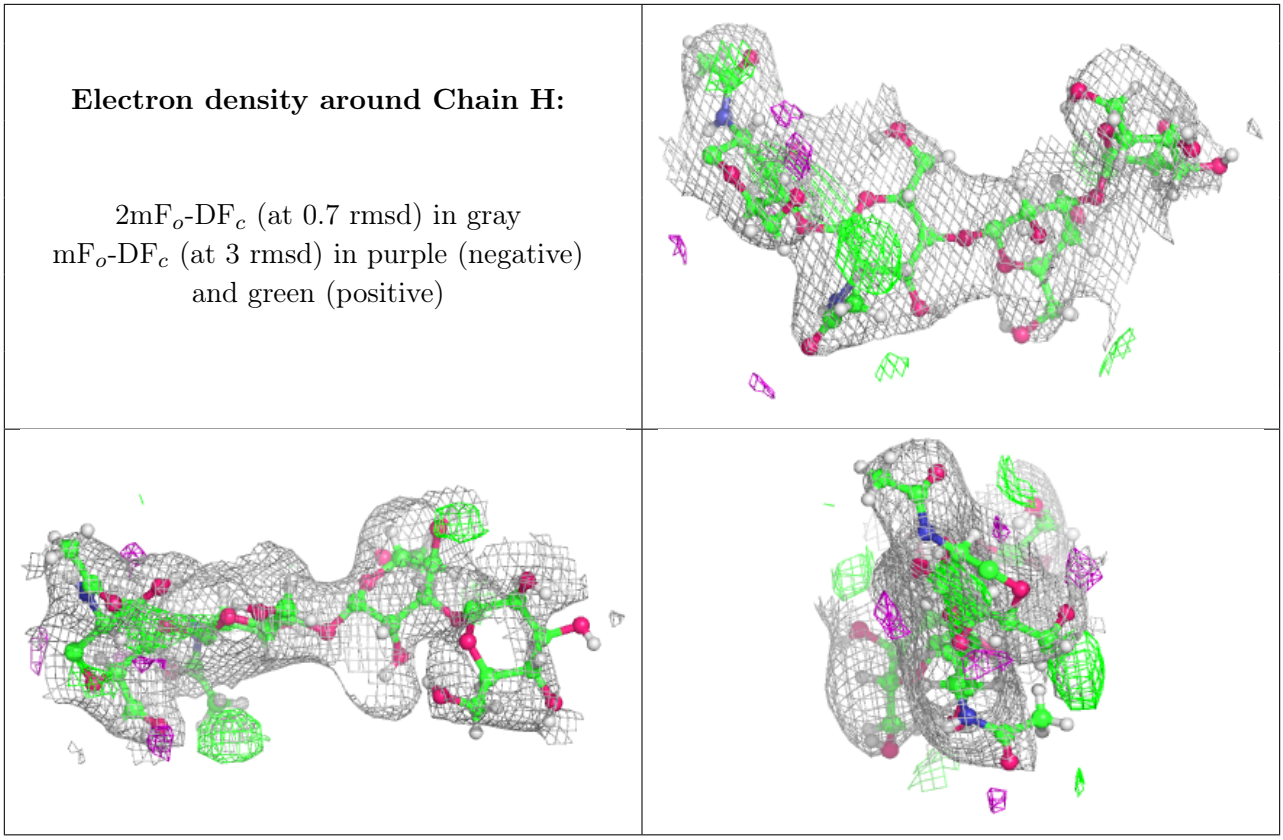
Electron density around Chain F:

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









6.4 Ligands

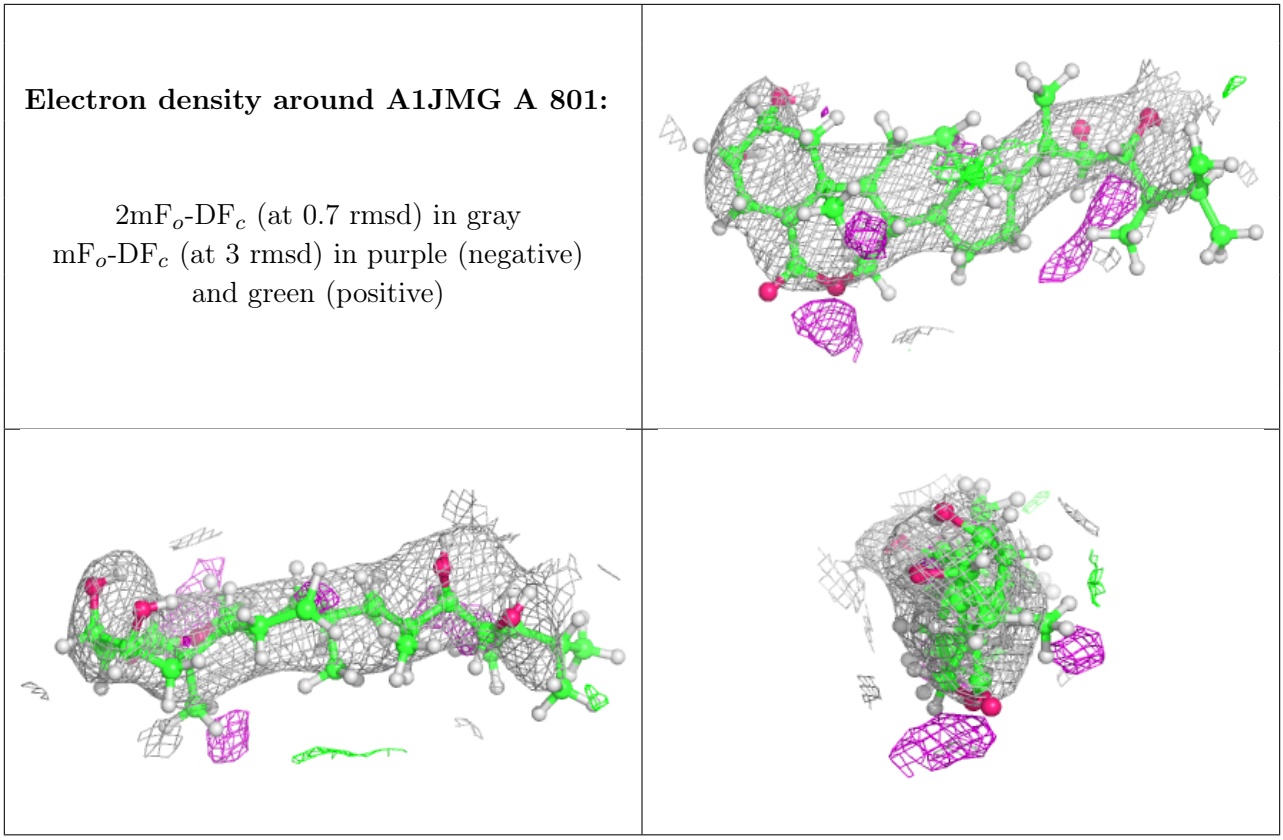
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
8	NAG	A	803	14/15	0.24	0.15	178,189,228,232	0
8	NAG	A	804	14/15	0.36	0.14	203,215,256,261	0
7	EDO	A	802	4/4	0.81	0.20	94,114,119,120	0
6	A1JMG	A	801	34/34	0.90	0.18	122,152,170,175	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around A1JMG A 801:

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



6.5 Other polymers (i)

There are no such residues in this entry.