Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 01:01 PM UTC

PDB ID	:	6V9U / pdb_00006v9u
Title	:	Crystal structure of human TLR8 ectodomain bound to small molecule antagonist 14c
Authors	:	Critton, D.A.
Deposited on	:	2019-12-16
Resolution	:	2.65 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

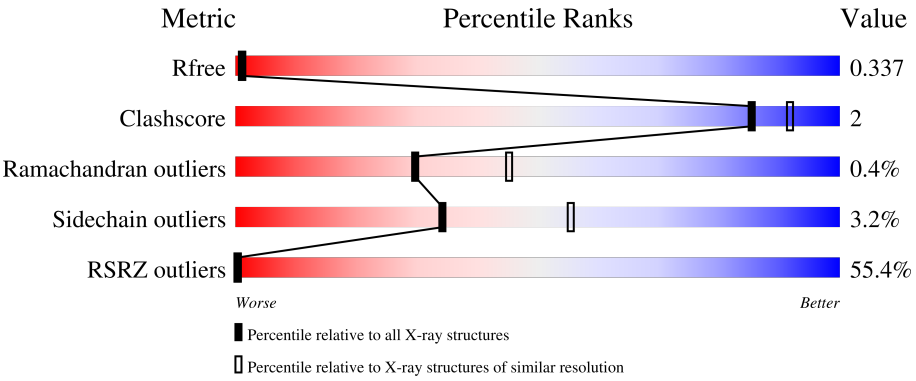
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.65 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1110 (2.66-2.66)
Clashscore	190562	1141 (2.66-2.66)
Ramachandran outliers	187476	1126 (2.66-2.66)
Sidechain outliers	187428	1126 (2.66-2.66)
RSRZ outliers	180081	1110 (2.66-2.66)

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	811	51% 82% 9% 9%
1	B	811	50% 82% 8% · 9%
2	C	5	20% 80%
2	E	5	60% 40%
2	F	5	40% 60%

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Mol	Chain	Length	Quality of chain
3	D	2	50% 50%
4	G	3	67% 33%
5	H	5	60% 40%

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 12082 atoms, of which 60 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.

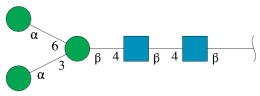
- Molecule 1 is a protein called Toll-like receptor 8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	738	Total	C	N	O	S	0	2	0
			5731	3689	952	1071	19			
1	B	735	Total	C	N	O	S	0	1	0
			5646	3637	927	1063	19			

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	23	ARG	-	expression tag	UNP Q9NR97
A	24	SER	-	expression tag	UNP Q9NR97
A	25	PRO	-	expression tag	UNP Q9NR97
A	26	TRP	-	expression tag	UNP Q9NR97
A	828	GLU	-	expression tag	UNP Q9NR97
A	829	PHE	-	expression tag	UNP Q9NR97
A	830	LEU	-	expression tag	UNP Q9NR97
A	831	VAL	-	expression tag	UNP Q9NR97
A	832	PRO	-	expression tag	UNP Q9NR97
A	833	ARG	-	expression tag	UNP Q9NR97
B	23	ARG	-	expression tag	UNP Q9NR97
B	24	SER	-	expression tag	UNP Q9NR97
B	25	PRO	-	expression tag	UNP Q9NR97
B	26	TRP	-	expression tag	UNP Q9NR97
B	828	GLU	-	expression tag	UNP Q9NR97
B	829	PHE	-	expression tag	UNP Q9NR97
B	830	LEU	-	expression tag	UNP Q9NR97
B	831	VAL	-	expression tag	UNP Q9NR97
B	832	PRO	-	expression tag	UNP Q9NR97
B	833	ARG	-	expression tag	UNP Q9NR97

- Molecule 2 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.

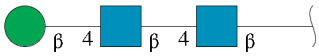


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	C	5	Total C N O 61 34 2 25	0	0	0
2	E	5	Total C N O 61 34 2 25	0	0	0
2	F	5	Total C N O 61 34 2 25	0	0	0

- Molecule 3 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

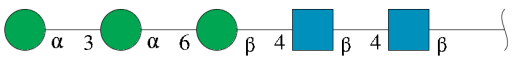
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	D	2	Total C N O 28 16 2 10	0	0	0

- 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.



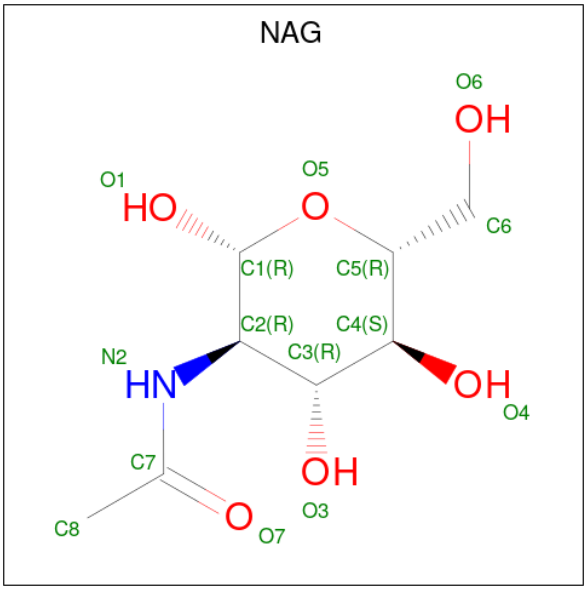
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	G	3	Total C N O 39 22 2 15	0	0	0

- Molecule 5 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
5	H	5	Total C N O 61 34 2 25	0	0	0

- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	A	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0

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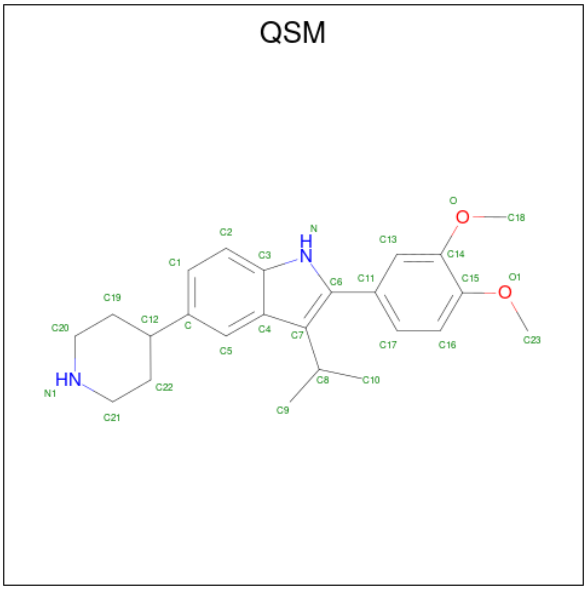
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0
6	B	1	Total C N O 14 8 1 5	0	0

- Molecule 7 is 2-(3,4-dimethoxyphenyl)-5-(piperidin-4-yl)-3-(propan-2-yl)-1H-indole (CCD ID: QSM) (formula: $C_{24}H_{30}N_2O_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C H N O 58 24 30 2 2	30	0
7	B	1	Total C H N O 58 24 30 2 2	30	0

- Molecule 8 is water.

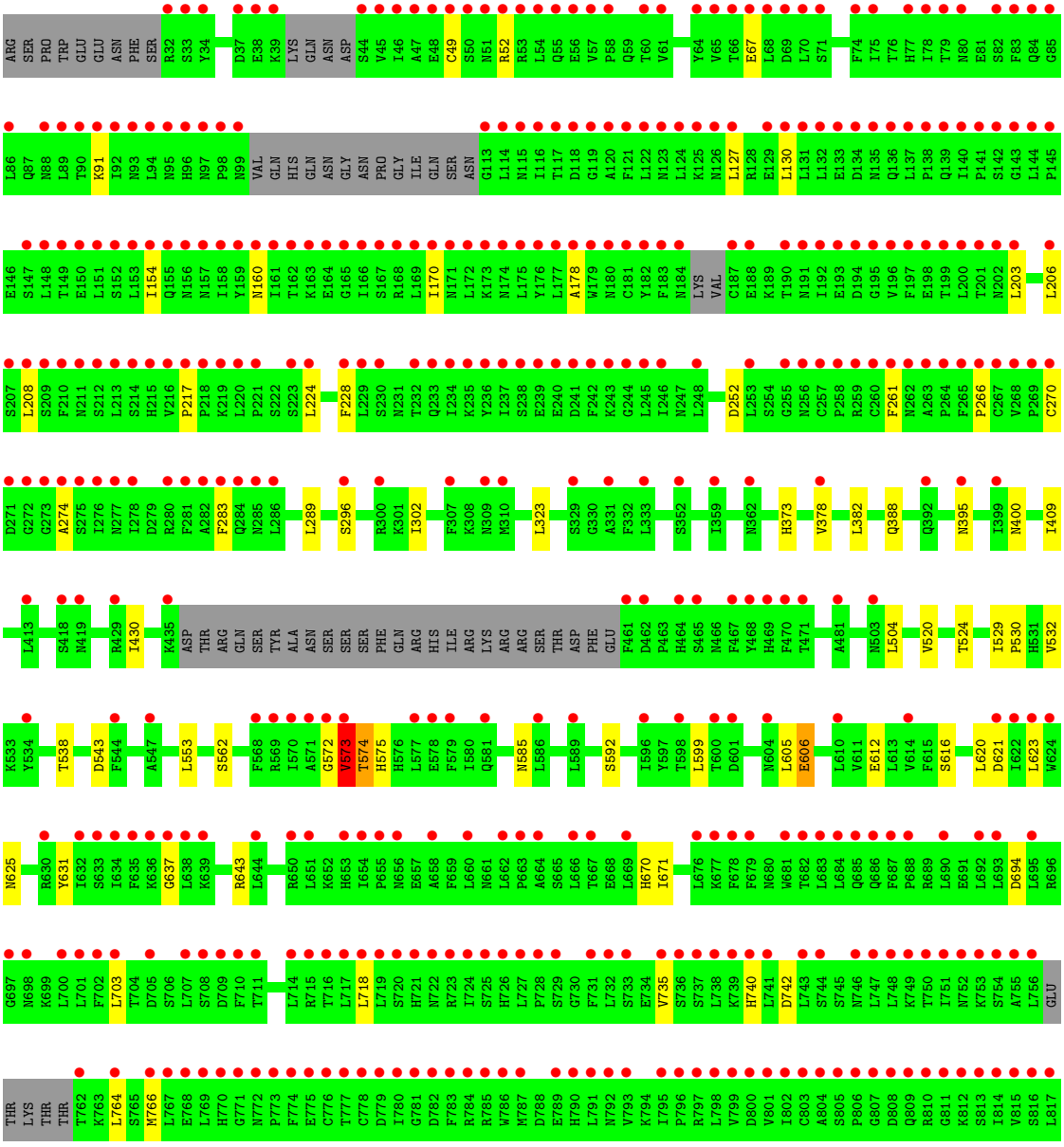
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	23	Total O 23 23	0	0
8	B	17	Total O 17 17	0	0

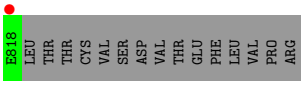
3 Residue-property plots (i)

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: Toll-like receptor 8

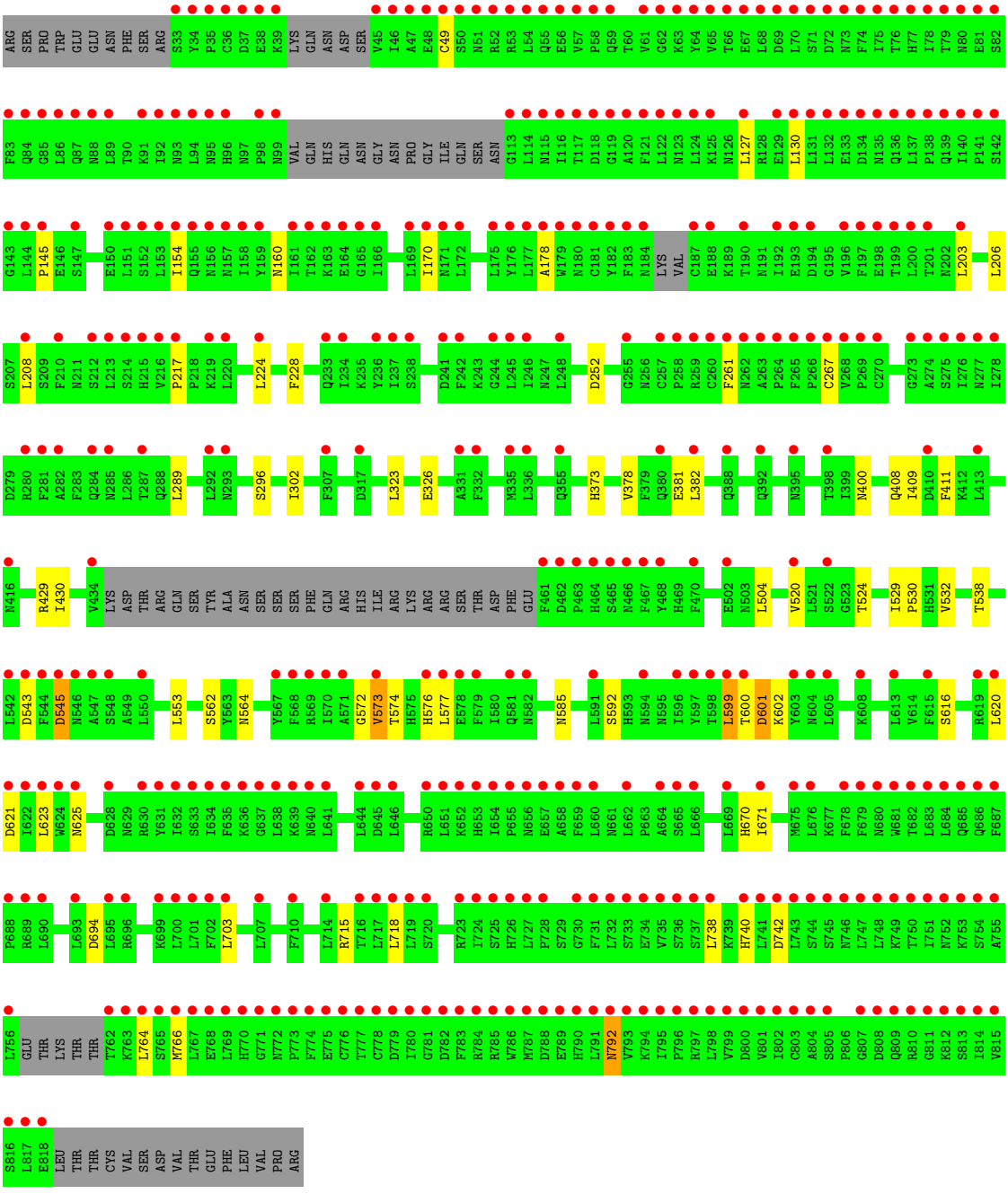
Chain A:





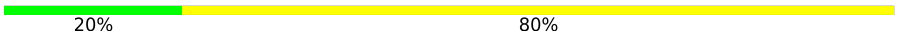
• Molecule 1: Toll-like receptor 8

Chain B:



• Molecule 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

Chain C:



• Molecule 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

Chain E:

• Molecule 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

Chain F:

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

Chain D:

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

Chain G:

• Molecule 5: 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:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	163.59Å 86.75Å 151.40Å 90.00° 119.80° 90.00°	Depositor
Resolution (Å)	131.37 – 2.65 131.37 – 2.65	Depositor EDS
% Data completeness (in resolution range)	99.3 (131.37-2.65) 99.3 (131.37-2.65)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.19 (at 2.65Å)	Xtriage
Refinement program	BUSTER 2.11.7	Depositor
R, R_{free}	0.296 , 0.306 0.325 , 0.337	Depositor DCC
R_{free} test set	2652 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	57.8	Xtriage
Anisotropy	0.517	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 85.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.011 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.86	EDS
Total number of atoms	12082	wwPDB-VP
Average B, all atoms (Å^2)	101.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.97% 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: BMA, MAN, NAG, QSM

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	0.76	0/5861	1.16	4/7992 (0.1%)
1	B	0.76	0/5768	1.18	14/7877 (0.2%)
All	All	0.76	0/11629	1.17	18/15869 (0.1%)

There are no bond length outliers.

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	601	ASP	CA-C-N	9.30	138.45	121.70
1	B	601	ASP	C-N-CA	9.30	138.45	121.70
1	B	601	ASP	CA-CB-CG	6.87	119.47	112.60
1	B	411	PHE	CA-C-N	6.07	129.02	120.28
1	B	411	PHE	C-N-CA	6.07	129.02	120.28
1	A	524	THR	CA-C-N	5.74	128.25	120.38
1	A	524	THR	C-N-CA	5.74	128.25	120.38
1	B	524	THR	CA-C-N	5.67	128.14	120.38
1	B	524	THR	C-N-CA	5.67	128.14	120.38
1	B	792	ASN	CA-CB-CG	5.47	118.07	112.60
1	B	564[A]	ASN	CA-C-N	5.47	127.55	120.44
1	B	564[A]	ASN	C-N-CA	5.47	127.55	120.44
1	B	564[B]	ASN	CA-C-N	5.47	127.55	120.44
1	B	564[B]	ASN	C-N-CA	5.47	127.55	120.44
1	B	600	THR	CA-C-N	5.39	131.40	121.70
1	B	600	THR	C-N-CA	5.39	131.40	121.70
1	A	283	PHE	CA-CB-CG	5.03	118.83	113.80
1	A	395	ASN	CA-CB-CG	5.02	117.62	112.60

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	5731	0	5492	27	0
1	B	5646	0	5370	27	0
2	C	61	0	52	0	0
2	E	61	0	52	0	0
2	F	61	0	52	0	0
3	D	28	0	25	0	0
4	G	39	0	34	0	0
5	H	61	0	52	0	0
6	A	126	0	117	0	0
6	B	112	0	104	0	0
7	A	28	30	0	0	0
7	B	28	30	0	0	0
8	A	23	0	0	0	0
8	B	17	0	0	0	0
All	All	12022	60	11350	52	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (52) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:670:HIS:HA	1:B:694:ASP:HB3	1.89	0.55
1:A:670:HIS:HA	1:A:694:ASP:HB3	1.89	0.54
1:A:373:HIS:HA	1:A:400:ASN:HB3	1.90	0.54
1:B:373:HIS:HA	1:B:400:ASN:HB3	1.89	0.54
1:A:538:THR:HG22	1:A:562:SER:HB2	1.89	0.53
1:B:409:ILE:HD12	1:B:430:ILE:HD11	1.90	0.53
1:A:409:ILE:HD12	1:A:430:ILE:HD11	1.91	0.52
1:A:606:GLU:HB3	1:A:637:GLY:HA3	1.91	0.52
1:A:572:GLY:HA2	1:B:267:CYS:H	1.76	0.51
1:A:620:LEU:HA	1:A:623:LEU:HD12	1.93	0.51
1:B:381:GLU:HG3	1:B:408:GLN:HB3	1.92	0.50
1:B:592:SER:HA	1:B:616:SER:O	2.12	0.50
1:A:382:LEU:HB3	1:A:409:ILE:HG12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:382:LEU:HB3	1:B:409:ILE:HG12	1.92	0.50
1:B:532:VAL:HB	1:B:553:LEU:HD22	1.95	0.49
1:B:127:LEU:HD21	1:B:130:LEU:HD13	1.95	0.48
1:A:532:VAL:HB	1:A:553:LEU:HD22	1.94	0.48
1:A:266:PRO:HA	1:B:572:GLY:HA3	1.95	0.48
1:A:127:LEU:HD21	1:A:130:LEU:HD13	1.95	0.47
1:A:599:LEU:HB2	1:A:631:TYR:HE1	1.80	0.46
1:B:302:ILE:HD11	1:B:323:LEU:HD13	1.98	0.46
1:B:154:ILE:HG12	1:B:178:ALA:HB3	1.98	0.46
1:A:302:ILE:HD11	1:A:323:LEU:HD13	1.98	0.45
1:B:577:LEU:HD12	1:B:599:LEU:HD21	1.98	0.45
1:B:620:LEU:HA	1:B:623:LEU:HD12	1.98	0.45
1:B:718:LEU:HA	1:B:742:ASP:HB3	1.99	0.45
1:A:718:LEU:HA	1:A:742:ASP:HB3	1.99	0.44
1:A:67:GLU:HG2	1:A:91:LYS:HB3	2.00	0.44
1:A:154:ILE:HG12	1:A:178:ALA:HB3	1.99	0.44
1:A:592:SER:HA	1:A:616:SER:O	2.17	0.44
1:B:228:PHE:HA	1:B:252:ASP:HB3	2.01	0.42
1:A:740:HIS:HD2	1:A:766:MET:HB3	1.84	0.42
1:B:323:LEU:HB3	1:B:326:GLU:HB2	2.02	0.42
1:B:740:HIS:HD2	1:B:766:MET:HB3	1.84	0.42
1:A:228:PHE:HA	1:A:252:ASP:HB3	2.00	0.42
1:A:573:VAL:HB	1:A:574:THR:H	1.74	0.41
1:B:530:PRO:HA	1:B:553:LEU:HD23	2.01	0.41
1:B:545:ASP:HA	1:B:576:HIS:HB2	2.01	0.41
1:B:127:LEU:HD23	1:B:145:PRO:HG2	2.03	0.41
1:A:530:PRO:HA	1:A:553:LEU:HD23	2.01	0.41
1:B:520:VAL:HA	1:B:543:ASP:HB3	2.02	0.41
1:B:208:LEU:HD13	1:B:217:PRO:HG2	2.02	0.41
1:A:612:GLU:HG3	1:A:643:ARG:HB3	2.03	0.41
1:A:208:LEU:HD13	1:A:217:PRO:HG2	2.02	0.41
1:B:203:LEU:HD21	1:B:206:LEU:HB2	2.03	0.41
1:B:715:ARG:HA	1:B:738:LEU:HA	2.01	0.41
1:A:520:VAL:HA	1:A:543:ASP:HB3	2.02	0.40
1:A:270:CYS:HB3	1:A:274:ALA:HB3	2.02	0.40
1:A:621:ASP:O	1:A:625:ASN:HB2	2.22	0.40
1:B:538:THR:HG22	1:B:562:SER:HB2	2.04	0.40
1:A:203:LEU:HD21	1:A:206:LEU:HB2	2.03	0.40
1:B:621:ASP:O	1:B:625:ASN:HB2	2.22	0.40

There are no symmetry-related clashes.

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	728/811 (90%)	667 (92%)	58 (8%)	3 (0%)	30	45
1	B	724/811 (89%)	661 (91%)	60 (8%)	3 (0%)	30	45
All	All	1452/1622 (90%)	1328 (92%)	118 (8%)	6 (0%)	30	45

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	602	LYS
1	B	573	VAL
1	A	575	HIS
1	A	378	VAL
1	B	378	VAL
1	A	573	VAL

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	625/755 (83%)	605 (97%)	20 (3%)	34	55
1	B	612/755 (81%)	592 (97%)	20 (3%)	33	55
All	All	1237/1510 (82%)	1197 (97%)	40 (3%)	34	55

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	49	CYS
1	A	52	ARG
1	A	160	ASN
1	A	170	ILE
1	A	224	LEU
1	A	261	PHE
1	A	289	LEU
1	A	296	SER
1	A	388	GLN
1	A	504	LEU
1	A	529	ILE
1	A	573	VAL
1	A	574	THR
1	A	585	ASN
1	A	605	LEU
1	A	606	GLU
1	A	671	ILE
1	A	703	LEU
1	A	735	VAL
1	A	764	LEU
1	B	49	CYS
1	B	160	ASN
1	B	170	ILE
1	B	224	LEU
1	B	261	PHE
1	B	289	LEU
1	B	296	SER
1	B	429	ARG
1	B	504	LEU
1	B	529	ILE
1	B	545	ASP
1	B	573	VAL
1	B	574	THR
1	B	585	ASN
1	B	599	LEU
1	B	601	ASP
1	B	671	ILE
1	B	703	LEU
1	B	764	LEU
1	B	792	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (23) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	93	ASN
1	A	99	ASN
1	A	135	ASN
1	A	174	ASN
1	A	191	ASN
1	A	231	ASN
1	A	277	ASN
1	A	284	GLN
1	A	288	GLN
1	A	358	ASN
1	A	400	ASN
1	A	721	HIS
1	B	97	ASN
1	B	135	ASN
1	B	174	ASN
1	B	191	ASN
1	B	247	ASN
1	B	262	ASN
1	B	277	ASN
1	B	358	ASN
1	B	400	ASN
1	B	604	ASN
1	B	721	HIS

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)

25 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	C	1	2,1	14,14,15	0.33	0	17,19,21	0.86	1 (5%)
2	NAG	C	2	2	14,14,15	0.32	0	17,19,21	0.87	1 (5%)
2	BMA	C	3	2	11,11,12	0.35	0	15,15,17	0.64	0
2	MAN	C	4	2	11,11,12	0.38	0	15,15,17	0.79	1 (6%)
2	MAN	C	5	2	11,11,12	0.39	0	15,15,17	0.84	1 (6%)
3	NAG	D	1	3,1	14,14,15	0.32	0	17,19,21	0.62	0
3	NAG	D	2	3	14,14,15	0.32	0	17,19,21	0.64	1 (5%)
2	NAG	E	1	2,1	14,14,15	0.28	0	17,19,21	0.61	0
2	NAG	E	2	2	14,14,15	0.29	0	17,19,21	0.54	0
2	BMA	E	3	2	11,11,12	0.32	0	15,15,17	0.44	0
2	MAN	E	4	2	11,11,12	0.37	0	15,15,17	0.79	1 (6%)
2	MAN	E	5	2	11,11,12	0.40	0	15,15,17	0.94	1 (6%)
2	NAG	F	1	2,1	14,14,15	0.30	0	17,19,21	0.85	1 (5%)
2	NAG	F	2	2	14,14,15	0.29	0	17,19,21	0.66	0
2	BMA	F	3	2	11,11,12	0.31	0	15,15,17	0.64	0
2	MAN	F	4	2	11,11,12	0.37	0	15,15,17	0.95	1 (6%)
2	MAN	F	5	2	11,11,12	0.42	0	15,15,17	1.09	1 (6%)
4	NAG	G	1	4,1	14,14,15	0.31	0	17,19,21	0.61	0
4	NAG	G	2	4	14,14,15	0.34	0	17,19,21	0.68	1 (5%)
4	BMA	G	3	4	11,11,12	0.35	0	15,15,17	0.51	0
5	NAG	H	1	1,5	14,14,15	0.27	0	17,19,21	0.61	0
5	NAG	H	2	5	14,14,15	0.29	0	17,19,21	0.56	0
5	BMA	H	3	5	11,11,12	0.29	0	15,15,17	0.44	0
5	MAN	H	4	5	11,11,12	0.40	0	15,15,17	0.89	2 (13%)
5	MAN	H	5	5	11,11,12	0.35	0	15,15,17	0.75	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	C	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	C	2	2	-	0/6/23/26	0/1/1/1
2	BMA	C	3	2	-	0/2/19/22	0/1/1/1
2	MAN	C	4	2	-	0/2/19/22	0/1/1/1
2	MAN	C	5	2	-	1/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	D	1	3,1	-	0/6/23/26	0/1/1/1
3	NAG	D	2	3	-	0/6/23/26	0/1/1/1
2	NAG	E	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	E	2	2	-	0/6/23/26	0/1/1/1
2	BMA	E	3	2	-	0/2/19/22	0/1/1/1
2	MAN	E	4	2	-	0/2/19/22	0/1/1/1
2	MAN	E	5	2	-	1/2/19/22	0/1/1/1
2	NAG	F	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	F	2	2	-	0/6/23/26	0/1/1/1
2	BMA	F	3	2	-	0/2/19/22	0/1/1/1
2	MAN	F	4	2	-	0/2/19/22	0/1/1/1
2	MAN	F	5	2	-	1/2/19/22	0/1/1/1
4	NAG	G	1	4,1	-	0/6/23/26	0/1/1/1
4	NAG	G	2	4	-	0/6/23/26	0/1/1/1
4	BMA	G	3	4	-	0/2/19/22	0/1/1/1
5	NAG	H	1	1,5	-	0/6/23/26	0/1/1/1
5	NAG	H	2	5	-	0/6/23/26	0/1/1/1
5	BMA	H	3	5	-	0/2/19/22	0/1/1/1
5	MAN	H	4	5	-	1/2/19/22	0/1/1/1
5	MAN	H	5	5	-	1/2/19/22	1/1/1/1

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	5	MAN	C1-O5-C5	3.71	117.16	112.19
2	F	4	MAN	C1-O5-C5	3.41	116.75	112.19
2	E	5	MAN	C1-O5-C5	2.95	116.14	112.19
2	C	2	NAG	O5-C1-C2	-2.63	107.23	111.29
2	C	5	MAN	C1-O5-C5	2.62	115.69	112.19
2	E	4	MAN	C1-O5-C5	2.61	115.68	112.19
5	H	5	MAN	C1-O5-C5	2.56	115.62	112.19
2	F	1	NAG	O5-C1-C2	-2.51	107.41	111.29
2	C	1	NAG	O5-C1-C2	-2.50	107.43	111.29
5	H	4	MAN	C1-O5-C5	2.49	115.52	112.19
4	G	2	NAG	C1-O5-C5	2.40	115.41	112.19
2	C	4	MAN	C1-O5-C5	2.37	115.37	112.19
3	D	2	NAG	C1-O5-C5	2.22	115.17	112.19
5	H	4	MAN	C1-C2-C3	2.01	112.57	109.64

There are no chirality outliers.

All (5) torsion outliers are listed below:

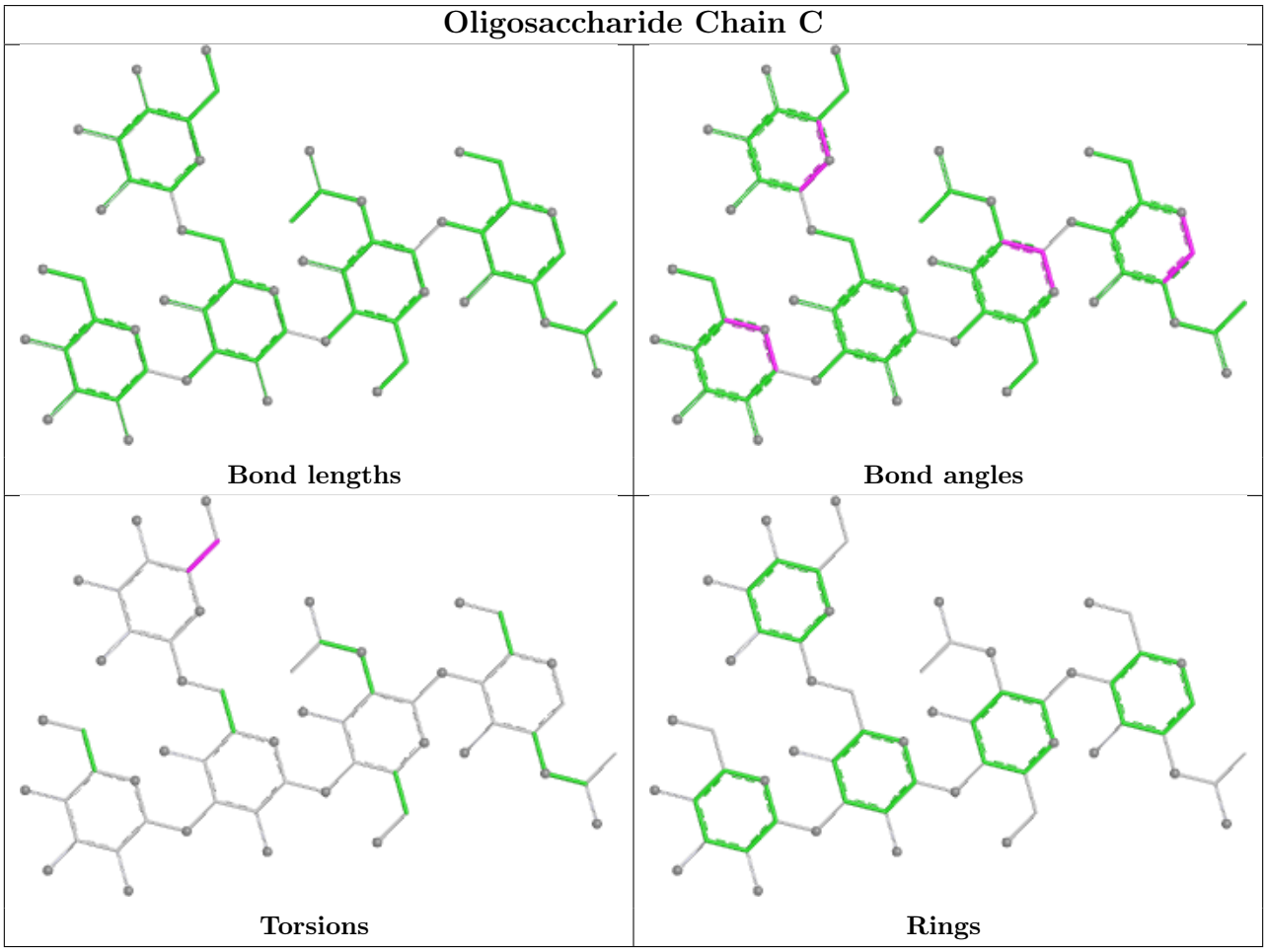
Mol	Chain	Res	Type	Atoms
5	H	4	MAN	O5-C5-C6-O6
2	C	5	MAN	O5-C5-C6-O6
2	F	5	MAN	O5-C5-C6-O6
2	E	5	MAN	O5-C5-C6-O6
5	H	5	MAN	O5-C5-C6-O6

All (1) ring outliers are listed below:

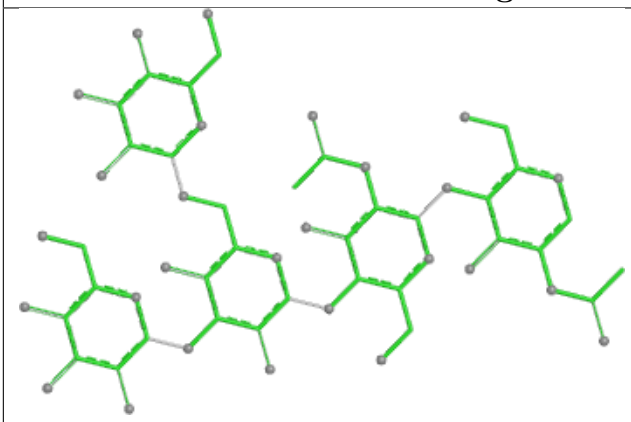
Mol	Chain	Res	Type	Atoms
5	H	5	MAN	C1-C2-C3-C4-C5-O5

No monomer is involved in short contacts.

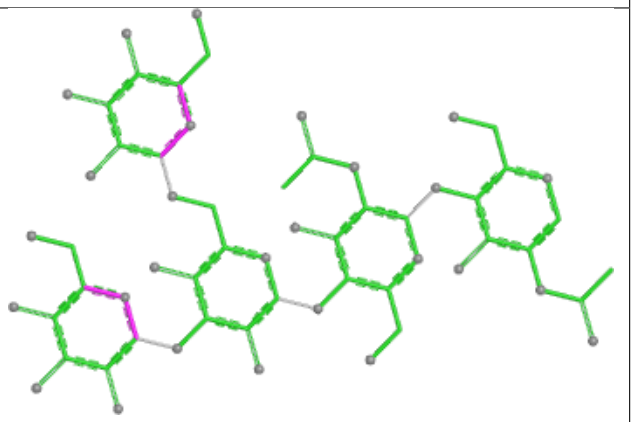
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.



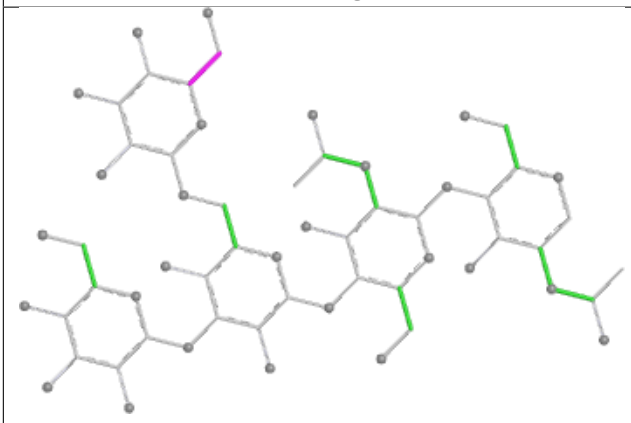
Oligosaccharide Chain E



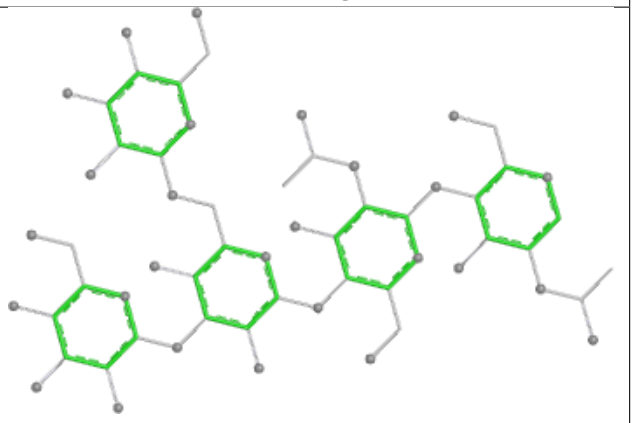
Bond lengths



Bond angles

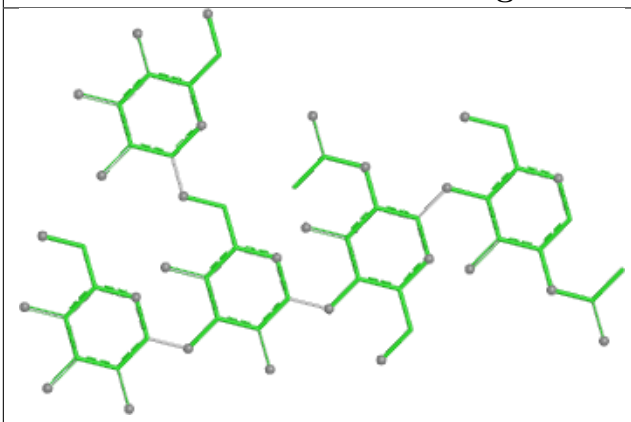


Torsions

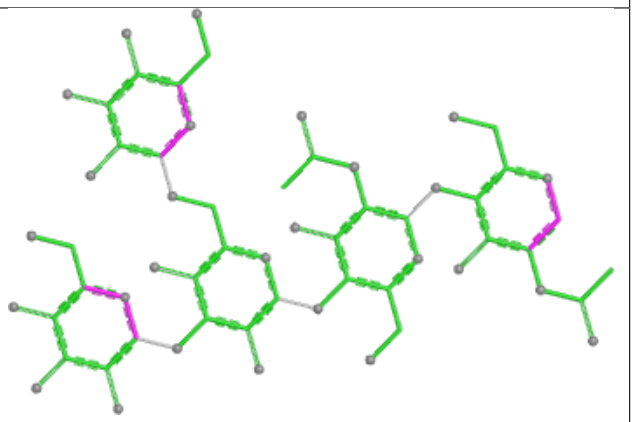


Rings

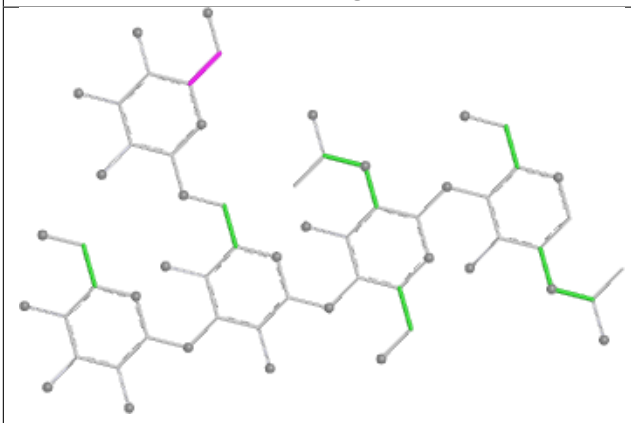
Oligosaccharide Chain F



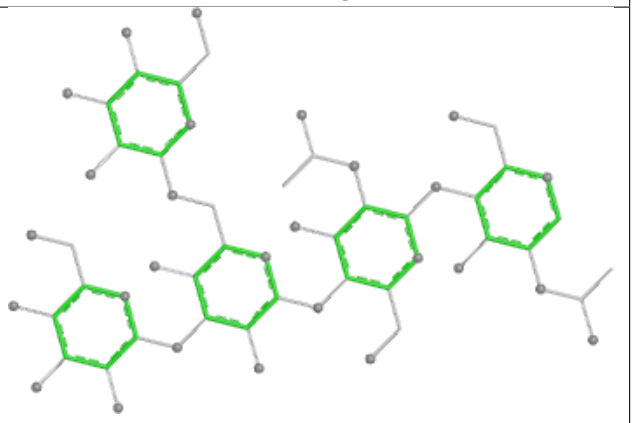
Bond lengths



Bond angles

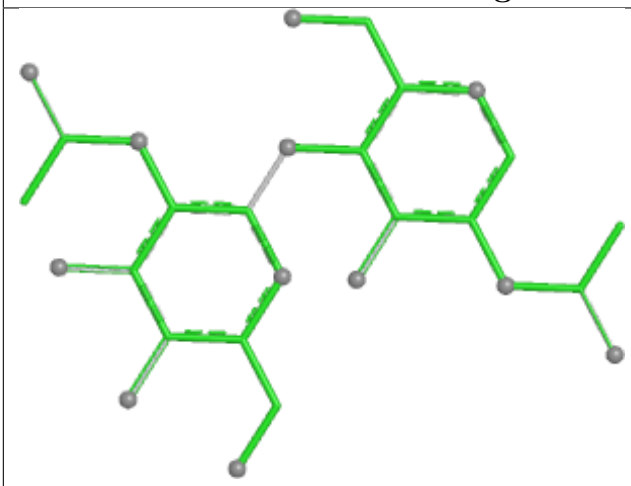


Torsions

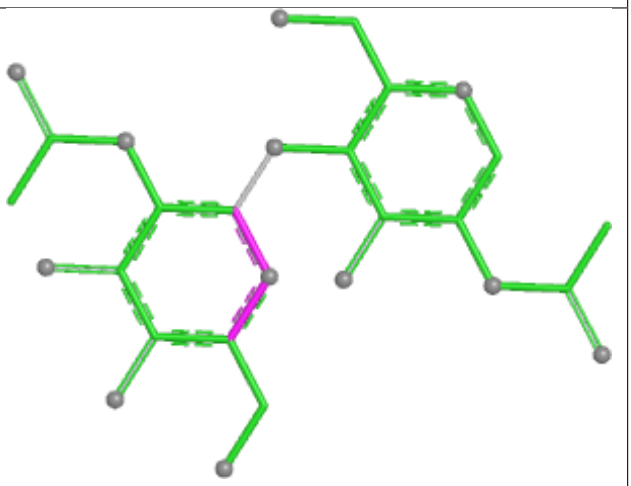


Rings

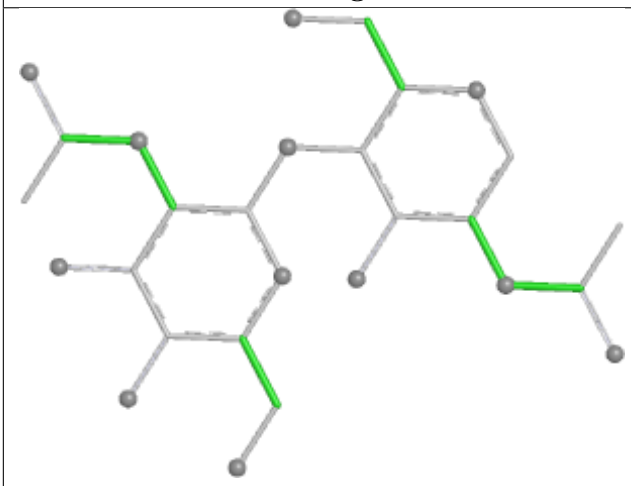
Oligosaccharide Chain D



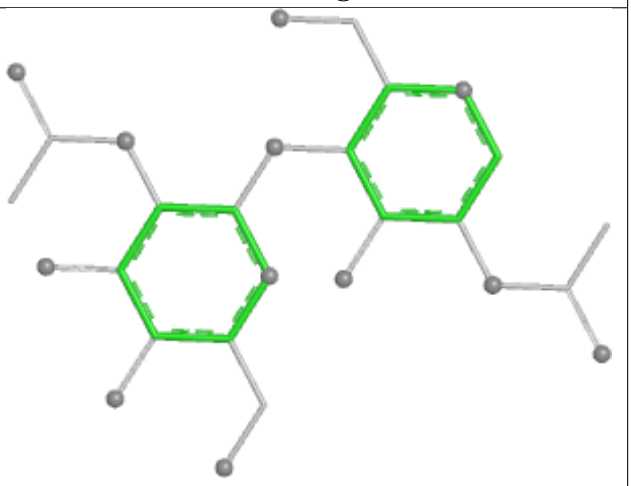
Bond lengths



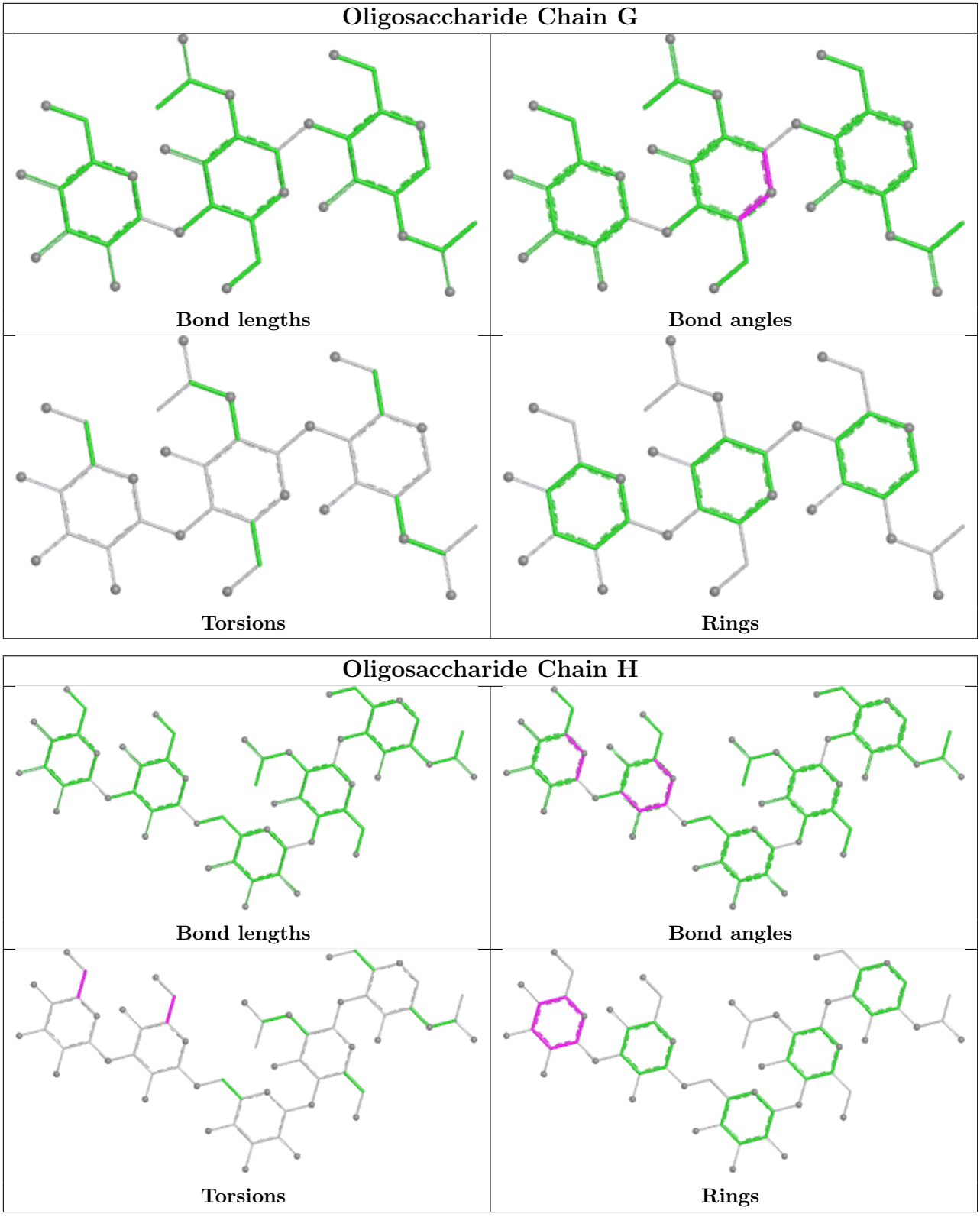
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

19 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	NAG	A	912	1	14,14,15	0.35	0	17,19,21	0.51	0
6	NAG	B	920	1	14,14,15	0.31	0	17,19,21	0.69	1 (5%)
6	NAG	B	909	1	14,14,15	0.30	0	17,19,21	0.55	0
7	QSM	B	922	-	31,31,31	0.35	0	41,44,44	0.47	0
6	NAG	A	908	1	14,14,15	0.32	0	17,19,21	0.42	0
6	NAG	B	913	1	14,14,15	0.29	0	17,19,21	0.53	0
6	NAG	A	920	1	14,14,15	0.34	0	17,19,21	0.68	1 (5%)
6	NAG	A	901	1	14,14,15	0.47	0	17,19,21	1.73	2 (11%)
6	NAG	B	902	1	14,14,15	0.32	0	17,19,21	0.46	0
6	NAG	A	918	1	14,14,15	0.30	0	17,19,21	0.47	0
7	QSM	A	922	-	31,31,31	0.36	0	41,44,44	0.46	0
6	NAG	A	902	1	14,14,15	0.31	0	17,19,21	0.60	0
6	NAG	A	909	1	14,14,15	0.36	0	17,19,21	1.18	3 (17%)
6	NAG	B	919	1	14,14,15	0.32	0	17,19,21	0.51	0
6	NAG	A	919	1	14,14,15	0.31	0	17,19,21	0.68	1 (5%)
6	NAG	B	908	1	14,14,15	0.31	0	17,19,21	0.44	0
6	NAG	B	921	1	14,14,15	0.32	0	17,19,21	0.75	1 (5%)
6	NAG	A	921	1	14,14,15	0.31	0	17,19,21	0.57	0
6	NAG	B	901	1	14,14,15	0.30	0	17,19,21	0.57	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
6	NAG	A	912	1	-	2/6/23/26	0/1/1/1
6	NAG	B	920	1	-	0/6/23/26	0/1/1/1
6	NAG	B	909	1	-	0/6/23/26	0/1/1/1
7	QSM	B	922	-	-	1/16/24/24	0/4/4/4
6	NAG	A	908	1	-	2/6/23/26	0/1/1/1
6	NAG	B	913	1	-	0/6/23/26	0/1/1/1
6	NAG	A	920	1	-	0/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	NAG	A	901	1	-	3/6/23/26	0/1/1/1
6	NAG	B	902	1	-	0/6/23/26	0/1/1/1
6	NAG	A	918	1	-	1/6/23/26	0/1/1/1
7	QSM	A	922	-	-	0/16/24/24	0/4/4/4
6	NAG	A	902	1	-	0/6/23/26	0/1/1/1
6	NAG	A	909	1	-	1/6/23/26	0/1/1/1
6	NAG	B	919	1	-	1/6/23/26	0/1/1/1
6	NAG	A	919	1	-	0/6/23/26	0/1/1/1
6	NAG	B	908	1	-	2/6/23/26	0/1/1/1
6	NAG	B	921	1	-	0/6/23/26	0/1/1/1
6	NAG	A	921	1	-	1/6/23/26	0/1/1/1
6	NAG	B	901	1	-	1/6/23/26	0/1/1/1

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	901	NAG	C1-C2-N2	5.36	118.87	110.43
6	A	901	NAG	C2-N2-C7	4.50	128.93	122.90
6	A	909	NAG	C1-O5-C5	3.17	116.43	112.19
6	A	909	NAG	C2-N2-C7	2.48	126.22	122.90
6	A	920	NAG	C1-O5-C5	2.36	115.35	112.19
6	A	909	NAG	C1-C2-N2	2.31	114.08	110.43
6	B	920	NAG	C1-O5-C5	2.22	115.16	112.19
6	B	921	NAG	C1-O5-C5	2.21	115.15	112.19
6	A	919	NAG	C1-O5-C5	2.19	115.12	112.19

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	908	NAG	O5-C5-C6-O6
6	B	908	NAG	O5-C5-C6-O6
6	B	908	NAG	C4-C5-C6-O6
6	A	912	NAG	O5-C5-C6-O6
6	A	908	NAG	C4-C5-C6-O6
6	A	901	NAG	O5-C5-C6-O6
6	B	901	NAG	O5-C5-C6-O6
6	A	912	NAG	C4-C5-C6-O6
6	A	918	NAG	O5-C5-C6-O6
6	B	919	NAG	O5-C5-C6-O6

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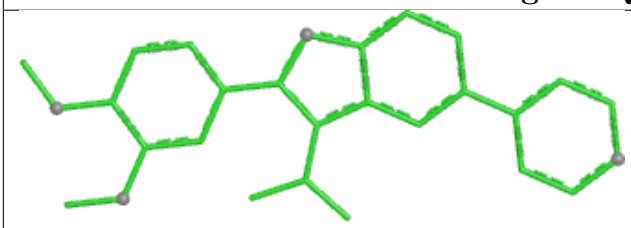
Mol	Chain	Res	Type	Atoms
6	A	921	NAG	O5-C5-C6-O6
6	A	901	NAG	C1-C2-N2-C7
6	A	909	NAG	C3-C2-N2-C7
7	B	922	QSM	C13-C11-C6-C7
6	A	901	NAG	C3-C2-N2-C7

There are no ring outliers.

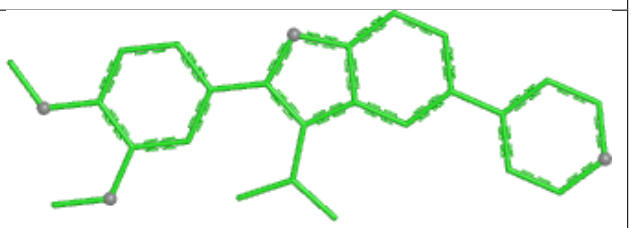
No monomer is involved in short contacts.

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.

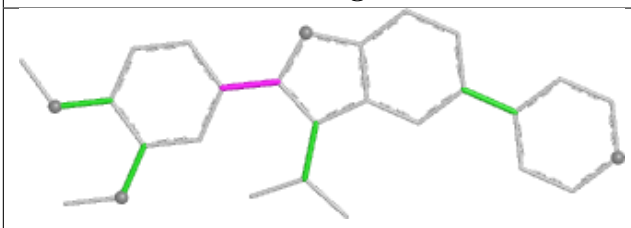
Ligand QSM B 922



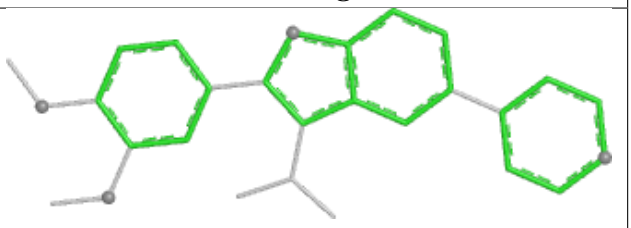
Bond lengths



Bond angles

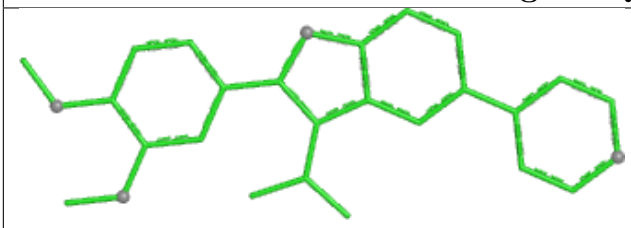


Torsions

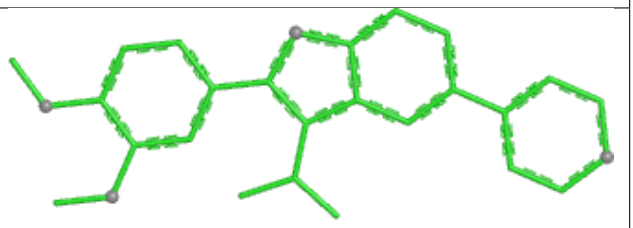


Rings

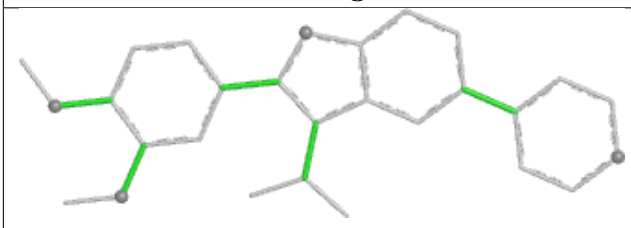
Ligand QSM A 922



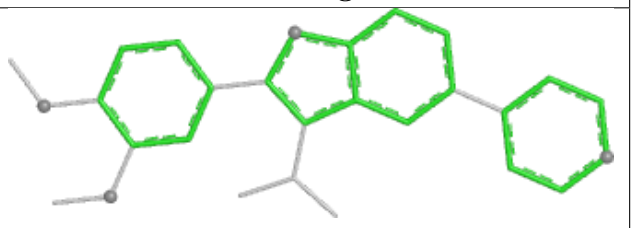
Bond lengths



Bond angles



Torsions



Rings

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	738/811 (90%)	2.45	410 (55%)	0	0	34, 104, 188, 224	2 (0%)
1	B	735/811 (90%)	2.31	406 (55%)	0	0	30, 92, 170, 203	1 (0%)
All	All	1473/1622 (90%)	2.38	816 (55%)	0	0	30, 96, 181, 224	3 (0%)

All (816) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	817	LEU	9.7
1	A	121	PHE	9.2
1	B	769	LEU	9.2
1	A	769	LEU	7.9
1	A	130	LEU	7.8
1	B	750	THR	7.7
1	B	743	LEU	7.5
1	A	719	LEU	7.5
1	A	161	ILE	7.4
1	A	750	THR	7.3
1	A	92	ILE	7.0
1	B	544	PHE	7.0
1	B	817	LEU	6.8
1	A	814	ILE	6.7
1	A	741	LEU	6.6
1	B	748	LEU	6.5
1	B	814	ILE	6.4
1	A	176	TYR	6.3
1	A	177	LEU	6.3
1	A	83	PHE	6.2
1	B	751	ILE	6.2
1	A	131	LEU	6.2
1	B	727	LEU	6.2
1	B	679	PHE	6.1

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Mol	Chain	Res	Type	RSRZ
1	A	141	PRO	6.1
1	B	179	TRP	6.1
1	B	547	ALA	6.1
1	A	693	LEU	6.0
1	A	157	ASN	6.0
1	A	169	LEU	6.0
1	A	461	PHE	6.0
1	A	94	LEU	6.0
1	A	132	LEU	6.0
1	A	56	GLU	6.0
1	B	741	LEU	6.0
1	A	178	ALA	5.9
1	B	92	ILE	5.8
1	A	255	GLY	5.8
1	B	261	PHE	5.8
1	B	795	ILE	5.8
1	A	743	LEU	5.8
1	B	268	VAL	5.7
1	B	774	PHE	5.7
1	B	58	PRO	5.7
1	B	767	LEU	5.7
1	A	264	PRO	5.7
1	B	719	LEU	5.6
1	A	68	LEU	5.6
1	B	783	PHE	5.6
1	B	801	VAL	5.6
1	B	166	ILE	5.6
1	A	717	LEU	5.6
1	B	215	HIS	5.5
1	B	631	TYR	5.5
1	A	795	ILE	5.5
1	A	192	ILE	5.5
1	A	767	LEU	5.5
1	A	197	PHE	5.5
1	B	71	SER	5.5
1	A	54	LEU	5.5
1	B	34	TYR	5.5
1	B	78	ILE	5.5
1	A	245	LEU	5.4
1	A	470	PHE	5.4
1	A	78	ILE	5.4
1	B	815	VAL	5.4

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Mol	Chain	Res	Type	RSRZ
1	A	153	LEU	5.3
1	A	200	LEU	5.3
1	A	262	ASN	5.3
1	B	93	ASN	5.3
1	B	46	ILE	5.3
1	A	93	ASN	5.3
1	A	392	GLN	5.3
1	A	159	TYR	5.2
1	B	70	LEU	5.2
1	B	818	GLU	5.2
1	B	236	TYR	5.2
1	B	121	PHE	5.2
1	A	751	ILE	5.2
1	A	95	ASN	5.2
1	B	571	ALA	5.2
1	A	82	SER	5.2
1	A	695	LEU	5.2
1	B	83	PHE	5.2
1	A	271	ASP	5.2
1	A	156	ASN	5.1
1	A	172	LEU	5.1
1	A	679	PHE	5.1
1	B	95	ASN	5.1
1	A	818	GLU	5.1
1	B	702	PHE	5.1
1	A	263	ALA	5.0
1	B	700	LEU	5.0
1	B	790	HIS	5.0
1	A	724	ILE	5.0
1	B	237	ILE	5.0
1	B	65	VAL	5.0
1	A	266	PRO	5.0
1	A	151	LEU	5.0
1	A	731	PHE	5.0
1	B	161	ILE	4.9
1	A	544	PHE	4.9
1	A	732	LEU	4.9
1	A	47	ALA	4.9
1	B	74	PHE	4.9
1	B	678	PHE	4.9
1	A	137	LEU	4.9
1	B	811	GLY	4.9

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Mol	Chain	Res	Type	RSRZ
1	B	144	LEU	4.9
1	B	717	LEU	4.9
1	A	236[A]	TYR	4.9
1	A	809	GLN	4.8
1	A	183	PHE	4.8
1	A	155	GLN	4.8
1	A	700	LEU	4.8
1	A	34	TYR	4.8
1	B	787	MET	4.8
1	A	801	VAL	4.8
1	B	155	GLN	4.8
1	A	154	ILE	4.8
1	A	113	GLY	4.8
1	A	180	ASN	4.8
1	A	215	HIS	4.8
1	B	461	PHE	4.7
1	A	175	LEU	4.7
1	A	217	PRO	4.7
1	A	158	ILE	4.7
1	B	731	PHE	4.7
1	A	98	PRO	4.7
1	A	75	ILE	4.7
1	B	49	CYS	4.7
1	A	79	THR	4.7
1	B	165	GLY	4.7
1	A	70	LEU	4.7
1	A	74	PHE	4.7
1	A	702	PHE	4.7
1	B	718	LEU	4.7
1	B	796	PRO	4.7
1	A	808	ASP	4.6
1	A	218	PRO	4.6
1	A	283	PHE	4.6
1	B	568	PHE	4.6
1	A	65	VAL	4.6
1	A	707	LEU	4.6
1	A	467	PHE	4.6
1	A	133	GLU	4.6
1	A	190	THR	4.6
1	B	94	LEU	4.6
1	A	813	SER	4.6
1	B	233	GLN	4.6

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Mol	Chain	Res	Type	RSRZ
1	A	181	CYS	4.5
1	A	127	LEU	4.5
1	A	718	LEU	4.5
1	A	234	ILE	4.5
1	B	773	PRO	4.5
1	A	804	ALA	4.5
1	B	245	LEU	4.5
1	A	138	PRO	4.5
1	A	261	PHE	4.5
1	B	726	HIS	4.5
1	A	220	LEU	4.5
1	B	637	GLY	4.5
1	A	57	VAL	4.4
1	B	639	LYS	4.4
1	B	543	ASP	4.4
1	B	724	ILE	4.4
1	A	816	SER	4.4
1	A	748	LEU	4.4
1	A	239	GLU	4.4
1	B	728	PRO	4.4
1	A	139	GLN	4.4
1	A	150	GLU	4.4
1	A	114	LEU	4.4
1	A	740	HIS	4.4
1	A	58	PRO	4.4
1	A	165	GLY	4.4
1	A	195	GLY	4.4
1	A	244	GLY	4.4
1	A	208	LEU	4.3
1	A	653	HIS	4.3
1	B	764	LEU	4.3
1	B	789	GLU	4.3
1	B	132	LEU	4.3
1	B	766	MET	4.3
1	B	688	PRO	4.3
1	B	154	ILE	4.3
1	A	257	CYS	4.3
1	A	756	LEU	4.3
1	B	54	LEU	4.3
1	A	144	LEU	4.3
1	B	264	PRO	4.3
1	A	116	ILE	4.3

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Mol	Chain	Res	Type	RSRZ
1	A	187	CYS	4.2
1	B	779	ASP	4.2
1	A	783	PHE	4.2
1	A	547	ALA	4.2
1	B	768	GLU	4.2
1	A	268	VAL	4.2
1	B	131	LEU	4.2
1	B	693	LEU	4.2
1	B	266	PRO	4.2
1	B	47	ALA	4.2
1	B	80	ASN	4.2
1	B	116	ILE	4.2
1	A	651	LEU	4.2
1	B	213	LEU	4.2
1	B	463	PRO	4.1
1	B	180	ASN	4.1
1	A	267	CYS	4.1
1	B	130	LEU	4.1
1	A	179	TRP	4.1
1	A	163	LYS	4.1
1	B	39	LYS	4.1
1	B	781	GLY	4.1
1	A	166	ILE	4.1
1	B	634	ILE	4.1
1	A	569	ARG	4.1
1	B	183	PHE	4.1
1	A	162	THR	4.1
1	B	120	ALA	4.1
1	A	805	SER	4.1
1	B	786	TRP	4.1
1	A	210	PHE	4.1
1	B	813	SER	4.1
1	B	38	GLU	4.0
1	A	124	LEU	4.0
1	A	798	LEU	4.0
1	B	660	LEU	4.0
1	B	676	LEU	4.0
1	B	762	THR	4.0
1	A	260	CYS	4.0
1	B	703	LEU	4.0
1	B	45	VAL	4.0
1	A	214	SER	4.0

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Mol	Chain	Res	Type	RSRZ
1	B	749	LYS	4.0
1	B	53	ARG	4.0
1	B	89	LEU	4.0
1	A	134	ASP	4.0
1	A	99	ASN	4.0
1	A	243	LYS	4.0
1	B	434	VAL	4.0
1	A	729	SER	4.0
1	B	258	PRO	4.0
1	B	198	GLU	4.0
1	B	178	ALA	4.0
1	B	68	LEU	4.0
1	B	644	LEU	4.0
1	B	681	TRP	4.0
1	B	125	LYS	4.0
1	A	720	SER	3.9
1	B	141	PRO	3.9
1	A	815	VAL	3.9
1	B	262	ASN	3.9
1	A	199	THR	3.9
1	B	162	THR	3.9
1	B	48	GLU	3.9
1	B	756	LEU	3.9
1	A	174	ASN	3.9
1	A	309	ASN	3.9
1	B	772	ASN	3.9
1	A	52	ARG	3.9
1	A	85	GLY	3.9
1	A	572	GLY	3.9
1	A	269	PRO	3.9
1	A	46	ILE	3.9
1	A	701	LEU	3.9
1	A	727	LEU	3.9
1	A	735	VAL	3.9
1	A	135	ASN	3.8
1	A	638	LEU	3.8
1	A	780	ILE	3.8
1	B	632	ILE	3.8
1	B	798	LEU	3.8
1	B	113	GLY	3.8
1	A	774	PHE	3.8
1	A	145	PRO	3.8

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Mol	Chain	Res	Type	RSRZ
1	A	152	SER	3.8
1	A	692	LEU	3.8
1	B	599	LEU	3.8
1	B	695	LEU	3.8
1	B	119	GLY	3.8
1	B	57	VAL	3.8
1	B	462	ASP	3.8
1	A	749	LYS	3.8
1	A	60	THR	3.8
1	A	198	GLU	3.8
1	A	122	LEU	3.8
1	B	82	SER	3.8
1	B	192	ILE	3.8
1	A	678	PHE	3.8
1	A	216	VAL	3.8
1	A	38	GLU	3.8
1	B	689	ARG	3.8
1	B	200	LEU	3.7
1	A	140	ILE	3.7
1	B	701	LEU	3.7
1	B	260	CYS	3.7
1	B	776	CYS	3.7
1	B	64	TYR	3.7
1	A	265	PHE	3.7
1	A	240	GLU	3.7
1	B	84	GLN	3.7
1	B	37	ASP	3.7
1	B	777	THR	3.7
1	B	75	ILE	3.7
1	A	703	LEU	3.7
1	B	122	LEU	3.7
1	B	567	TYR	3.7
1	A	598	THR	3.6
1	B	780	ILE	3.6
1	B	812	LYS	3.6
1	A	273	GLY	3.6
1	A	728	PRO	3.6
1	A	686	GLN	3.6
1	B	578	GLU	3.6
1	B	646	LEU	3.6
1	B	732	LEU	3.6
1	B	79	THR	3.6

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Mol	Chain	Res	Type	RSRZ
1	A	664	ALA	3.6
1	A	766	MET	3.6
1	B	33	SER	3.6
1	B	797	ARG	3.6
1	B	658	ALA	3.6
1	A	710	PHE	3.6
1	A	778	CYS	3.6
1	A	803	CYS	3.6
1	B	124	LEU	3.6
1	B	671	ILE	3.6
1	A	259	ARG	3.6
1	A	211	ASN	3.6
1	A	781	GLY	3.6
1	B	269	PRO	3.6
1	A	213	LEU	3.6
1	B	177	LEU	3.6
1	B	140	ILE	3.5
1	A	118	ASP	3.5
1	B	133	GLU	3.5
1	A	55	GLN	3.5
1	B	638	LEU	3.5
1	A	716	THR	3.5
1	A	277	ASN	3.5
1	A	687	PHE	3.5
1	B	467	PHE	3.5
1	B	687	PHE	3.5
1	B	114	LEU	3.5
1	B	127	LEU	3.5
1	B	220	LEU	3.5
1	A	329	SER	3.5
1	B	545	ASP	3.5
1	B	794	LYS	3.5
1	A	221	PRO	3.5
1	A	690	LEU	3.5
1	B	579	PHE	3.5
1	B	52	ARG	3.5
1	B	263	ALA	3.5
1	B	151	LEU	3.5
1	B	244	GLY	3.4
1	A	48	GLU	3.4
1	B	158	ILE	3.4
1	A	182	TYR	3.4

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Mol	Chain	Res	Type	RSRZ
1	B	778	CYS	3.4
1	A	160	ASN	3.4
1	B	72	ASP	3.4
1	B	619	ARG	3.4
1	B	793	VAL	3.4
1	A	237	ILE	3.4
1	B	50	SER	3.4
1	A	148	LEU	3.4
1	B	153	LEU	3.4
1	B	169	LEU	3.4
1	B	664	ALA	3.4
1	B	77	HIS	3.4
1	B	280	ARG	3.4
1	B	635	PHE	3.4
1	A	91	LYS	3.4
1	A	747	LEU	3.4
1	B	791	LEU	3.4
1	A	69	ASP	3.4
1	B	782	ASP	3.4
1	A	242	PHE	3.4
1	A	579	PHE	3.4
1	A	142	SER	3.3
1	B	720	SER	3.3
1	B	816	SER	3.3
1	A	129	GLU	3.3
1	A	258	PRO	3.3
1	A	807	GLY	3.3
1	B	669	LEU	3.3
1	B	740	HIS	3.3
1	B	770	HIS	3.3
1	A	241	ASP	3.3
1	A	256	ASN	3.3
1	A	787	MET	3.3
1	B	799	VAL	3.3
1	B	596	ILE	3.3
1	B	654	ILE	3.3
1	A	600	THR	3.3
1	A	578	GLU	3.3
1	B	600	THR	3.3
1	A	86	LEU	3.3
1	A	738	LEU	3.3
1	A	171	ASN	3.3

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Mol	Chain	Res	Type	RSRZ
1	B	742	ASP	3.3
1	A	786	TRP	3.3
1	A	167	SER	3.3
1	A	212	SER	3.3
1	A	714	LEU	3.3
1	B	682	THR	3.3
1	B	675	MET	3.3
1	A	136	GLN	3.3
1	A	246	ILE	3.3
1	A	622	ILE	3.3
1	B	573	VAL	3.3
1	A	270	CYS	3.2
1	A	762	THR	3.2
1	A	777	THR	3.2
1	B	217	PRO	3.2
1	A	697	GLY	3.2
1	A	274	ALA	3.2
1	B	804	ALA	3.2
1	A	191	ASN	3.2
1	B	123	ASN	3.2
1	B	277	ASN	3.2
1	A	37	ASP	3.2
1	A	203	LEU	3.2
1	B	464	HIS	3.2
1	B	655	PRO	3.2
1	B	686	GLN	3.2
1	A	658	ALA	3.2
1	B	176	TYR	3.2
1	B	735	VAL	3.2
1	A	772	ASN	3.2
1	B	800	ASP	3.2
1	A	32	ARG	3.2
1	A	143	GLY	3.2
1	B	765	SER	3.2
1	A	281	PHE	3.2
1	B	752	ASN	3.2
1	A	219	LYS	3.2
1	B	738	LEU	3.2
1	A	726	HIS	3.2
1	A	272	GLY	3.2
1	A	282	ALA	3.2
1	A	635	PHE	3.2

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Mol	Chain	Res	Type	RSRZ
1	A	115	ASN	3.1
1	A	753	LYS	3.1
1	B	605	LEU	3.1
1	A	188	GLU	3.1
1	A	568	PHE	3.1
1	B	332	PHE	3.1
1	A	64	TYR	3.1
1	B	91	LYS	3.1
1	A	666	LEU	3.1
1	B	56	GLU	3.1
1	B	81	GLU	3.1
1	A	688	PRO	3.1
1	A	806	PRO	3.1
1	A	755	ALA	3.1
1	B	733	SER	3.1
1	A	435	LYS	3.1
1	A	639	LYS	3.1
1	B	630	ARG	3.1
1	B	784	ARG	3.1
1	A	676	LEU	3.1
1	A	779	ASP	3.1
1	B	69	ASP	3.1
1	B	577	LEU	3.1
1	B	66	THR	3.1
1	A	276	ILE	3.1
1	A	278	ILE	3.1
1	A	776	CYS	3.1
1	B	61	VAL	3.1
1	B	659	PHE	3.1
1	A	89	LEU	3.1
1	B	86	LEU	3.1
1	B	137	LEU	3.1
1	B	76	THR	3.1
1	B	267	CYS	3.1
1	B	470	PHE	3.1
1	B	805	SER	3.1
1	A	722	ASN	3.0
1	B	35	PRO	3.0
1	B	138	PRO	3.0
1	B	331	ALA	3.0
1	B	242	PHE	3.0
1	A	49	CYS	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	152	SER	3.0
1	B	248	LEU	3.0
1	A	773	PRO	3.0
1	A	796	PRO	3.0
1	A	682	THR	3.0
1	B	196	VAL	3.0
1	A	586	LEU	3.0
1	A	662	LEU	3.0
1	A	684	LEU	3.0
1	A	736	SER	3.0
1	B	51	ASN	3.0
1	A	284	GLN	3.0
1	B	163	LYS	3.0
1	A	637	GLY	3.0
1	A	573	VAL	3.0
1	A	623	LEU	3.0
1	A	660	LEU	3.0
1	B	690	LEU	3.0
1	B	633	SER	3.0
1	B	737	SER	3.0
1	A	534	TYR	3.0
1	A	399	ILE	3.0
1	B	234	ILE	3.0
1	A	119	GLY	3.0
1	A	248	LEU	2.9
1	A	669	LEU	2.9
1	B	684	LEU	2.9
1	B	139	GLN	2.9
1	A	300	ARG	2.9
1	B	730	GLY	2.9
1	A	206	LEU	2.9
1	B	725	SER	2.9
1	B	754	SER	2.9
1	A	792	ASN	2.9
1	B	395	ASN	2.9
1	A	711	THR	2.9
1	B	651	LEU	2.9
1	B	653	HIS	2.9
1	A	207	SER	2.9
1	A	230	SER	2.9
1	A	418	SER	2.9
1	B	214	SER	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	259	ARG	2.9
1	B	785	ARG	2.9
1	B	594	ASN	2.9
1	B	170	ILE	2.9
1	A	120	ALA	2.9
1	A	61	VAL	2.9
1	A	229	LEU	2.9
1	A	644	LEU	2.9
1	A	793	VAL	2.9
1	B	172	LEU	2.9
1	B	281	PHE	2.9
1	B	699	LYS	2.9
1	B	747	LEU	2.9
1	A	164	GLU	2.9
1	B	164	GLU	2.9
1	A	53	ARG	2.9
1	A	656	ASN	2.9
1	A	698	ASN	2.9
1	B	156	ASN	2.9
1	A	359	ILE	2.9
1	B	187	CYS	2.9
1	A	764	LEU	2.9
1	B	265	PHE	2.9
1	A	768	GLU	2.8
1	A	395	ASN	2.8
1	B	546	ASN	2.8
1	B	622	ILE	2.8
1	A	462	ASP	2.8
1	B	143	GLY	2.8
1	B	182	TYR	2.8
1	B	683	LEU	2.8
1	A	797	ARG	2.8
1	A	170	ILE	2.8
1	A	352	SER	2.8
1	B	55	GLN	2.8
1	A	223	SER	2.8
1	A	624	TRP	2.8
1	A	725	SER	2.8
1	A	733	SER	2.8
1	A	746	ASN	2.8
1	B	190	THR	2.8
1	A	238	SER	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	97	ASN	2.8
1	A	201	THR	2.8
1	B	67	GLU	2.8
1	B	307	PHE	2.8
1	A	715	ARG	2.8
1	B	270	CYS	2.7
1	A	44	SER	2.7
1	A	202	ASN	2.7
1	B	656	ASN	2.7
1	A	709	ASP	2.7
1	B	129	GLU	2.7
1	A	810	ARG	2.7
1	A	39	LYS	2.7
1	B	63	LYS	2.7
1	B	608	LYS	2.7
1	B	652	LYS	2.7
1	B	246	ILE	2.7
1	A	117	THR	2.7
1	A	571	ALA	2.7
1	B	118	ASP	2.7
1	B	755	ALA	2.7
1	B	159	TYR	2.7
1	A	51	ASN	2.7
1	A	633	SER	2.7
1	A	754	SER	2.7
1	A	811	GLY	2.7
1	B	193	GLU	2.7
1	B	792	ASN	2.7
1	B	380	GLN	2.7
1	B	597	TYR	2.7
1	A	632	ILE	2.7
1	B	570	ILE	2.7
1	A	96	HIS	2.7
1	A	630	ARG	2.7
1	B	736	SER	2.7
1	A	802	ILE	2.6
1	A	610	LEU	2.6
1	B	181	CYS	2.6
1	B	662	LEU	2.6
1	B	807	GLY	2.6
1	B	157	ASN	2.6
1	A	468	TYR	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	570	ILE	2.6
1	A	752	ASN	2.6
1	B	598	THR	2.6
1	B	710	PHE	2.6
1	B	336	LEU	2.6
1	B	468	TYR	2.6
1	A	812	LYS	2.6
1	B	763	LYS	2.6
1	B	257	CYS	2.6
1	A	45	VAL	2.6
1	B	746	ASN	2.6
1	B	117	THR	2.6
1	A	413	LEU	2.6
1	A	683	LEU	2.6
1	A	771	GLY	2.6
1	A	419	ASN	2.6
1	B	604	ASN	2.6
1	B	465	SER	2.5
1	B	716	THR	2.5
1	B	382	LEU	2.5
1	A	785	ARG	2.5
1	B	810	ARG	2.5
1	B	59	GLN	2.5
1	B	184	ASN	2.5
1	B	388	GLN	2.5
1	A	50	SER	2.5
1	A	147	SER	2.5
1	B	576	HIS	2.5
1	A	196	VAL	2.5
1	A	685	GLN	2.5
1	B	136	GLN	2.5
1	A	90	THR	2.5
1	A	123	ASN	2.5
1	B	582	ASN	2.5
1	A	708	SER	2.5
1	B	636	LYS	2.5
1	A	280	ARG	2.5
1	A	791	LEU	2.5
1	B	808	ASP	2.5
1	A	677	LYS	2.5
1	B	142	SER	2.5
1	B	413	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
1	B	621	ASP	2.5
1	B	645	ASP	2.5
1	A	636	LYS	2.4
1	B	753	LYS	2.4
1	A	770	HIS	2.4
1	B	287	THR	2.4
1	B	650	ARG	2.4
1	B	707	LEU	2.4
1	A	33	SER	2.4
1	A	469	HIS	2.4
1	A	782	ASP	2.4
1	B	803	CYS	2.4
1	B	145	PRO	2.4
1	A	235	LYS	2.4
1	B	284	GLN	2.4
1	B	809	GLN	2.4
1	B	197	PHE	2.4
1	A	429	ARG	2.4
1	A	784	ARG	2.4
1	B	88	ASN	2.4
1	B	171	ASN	2.4
1	A	275	SER	2.4
1	B	238	SER	2.4
1	B	548	SER	2.4
1	A	194	ASP	2.4
1	B	624	TRP	2.4
1	A	655	PRO	2.4
1	B	216	VAL	2.4
1	A	471	THR	2.4
1	A	654	ILE	2.4
1	B	199	THR	2.4
1	A	464	HIS	2.4
1	B	96	HIS	2.4
1	B	135	ASN	2.4
1	A	601	ASP	2.4
1	B	134	ASP	2.4
1	A	681	TRP	2.4
1	A	663	PRO	2.4
1	B	685	GLN	2.4
1	B	274	ALA	2.4
1	B	542	LEU	2.3
1	B	591	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	A	88	ASN	2.3
1	A	71	SER	2.3
1	A	296	SER	2.3
1	A	800	ASP	2.3
1	B	275	SER	2.3
1	A	577	LEU	2.3
1	B	201	THR	2.3
1	A	80	ASN	2.3
1	A	362	ASN	2.3
1	A	503	ASN	2.3
1	B	625	ASN	2.3
1	A	193	GLU	2.3
1	B	98	PRO	2.3
1	A	232	THR	2.3
1	B	219	LYS	2.3
1	B	99	ASN	2.3
1	B	522	SER	2.3
1	B	255	GLY	2.3
1	A	614	VAL	2.3
1	B	613	LEU	2.3
1	B	666	LEU	2.3
1	A	596	ILE	2.3
1	B	603	TYR	2.3
1	B	73	ASN	2.3
1	A	168	ARG	2.3
1	A	224	LEU	2.3
1	B	714	LEU	2.3
1	A	77	HIS	2.2
1	A	739	LYS	2.2
1	A	67	GLU	2.2
1	B	775	GLU	2.2
1	B	416	ASN	2.2
1	B	788	ASP	2.2
1	B	771	GLY	2.2
1	A	331	ALA	2.2
1	B	282	ALA	2.2
1	A	667	THR	2.2
1	A	775	GLU	2.2
1	B	188	GLU	2.2
1	B	502	GLU	2.2
1	B	115	ASN	2.2
1	A	581	GLN	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	410	ASP	2.2
1	B	665	SER	2.2
1	B	335	MET	2.2
1	A	66	THR	2.2
1	A	604	ASN	2.2
1	B	87	GLN	2.2
1	A	125	LYS	2.2
1	B	224	LEU	2.2
1	B	744	SER	2.2
1	A	228	PHE	2.2
1	A	634	ILE	2.2
1	B	734	GLU	2.2
1	A	650	ARG	2.2
1	B	285	ASN	2.2
1	B	175	LEU	2.2
1	B	641	LEU	2.2
1	A	621	ASP	2.2
1	B	194	ASP	2.2
1	A	209	SER	2.2
1	B	147	SER	2.2
1	B	212	SER	2.2
1	B	278	ILE	2.2
1	B	36	CYS	2.1
1	A	126	ASN	2.1
1	A	310	MET	2.1
1	A	333	LEU	2.1
1	B	62	GLY	2.1
1	B	317	ASP	2.1
1	B	745	SER	2.1
1	A	789	GLU	2.1
1	B	569	ARG	2.1
1	A	84	GLN	2.1
1	B	392	GLN	2.1
1	B	208	LEU	2.1
1	B	85	GLY	2.1
1	B	628	ASP	2.1
1	B	802	ILE	2.1
1	A	149	THR	2.1
1	A	233	GLN	2.1
1	B	581	GLN	2.1
1	A	589	LEU	2.1
1	B	292	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	184	ASN	2.1
1	A	285	ASN	2.1
1	A	378	VAL	2.1
1	B	276	ILE	2.1
1	B	210	PHE	2.1
1	B	241	ASP	2.1
1	A	465	SER	2.1
1	A	737	SER	2.1
1	B	150	GLU	2.1
1	B	203	LEU	2.1
1	B	620	LEU	2.1
1	B	293	ASN	2.1
1	B	680	ASN	2.1
1	A	721	HIS	2.1
1	A	790	HIS	2.1
1	A	799	VAL	2.1
1	A	307	PHE	2.1
1	B	615	PHE	2.1
1	B	657	GLU	2.0
1	B	696	ARG	2.0
1	A	744	SER	2.0
1	A	286	LEU	2.0
1	B	355	GLN	2.0
1	B	550	LEU	2.0
1	B	623	LEU	2.0
1	B	640	ASN	2.0
1	A	173	LYS	2.0
1	A	481	ALA	2.0
1	A	705	ASP	2.0
1	B	398	THR	2.0
1	A	253	LEU	2.0
1	B	273	GLY	2.0
1	B	466	ASN	2.0
1	A	723	ARG	2.0
1	B	520	VAL	2.0
1	B	723	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)

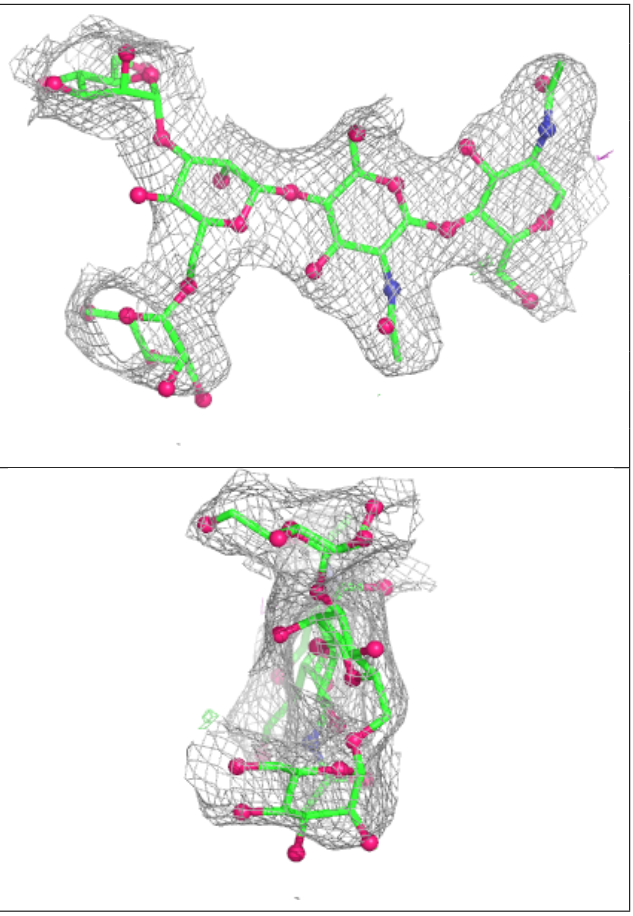
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

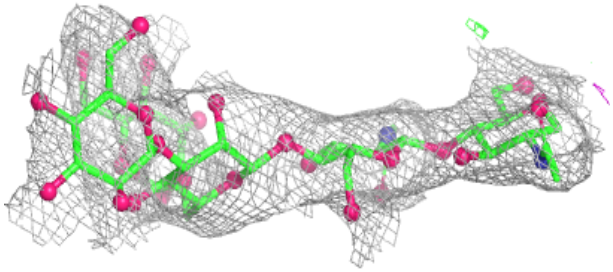
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MAN	C	4	11/12	0.43	0.13	97,102,107,109	0
4	BMA	G	3	11/12	0.47	0.14	81,85,86,87	0
5	MAN	H	5	11/12	0.47	0.13	95,98,100,101	0
2	MAN	C	5	11/12	0.49	0.15	99,102,105,107	0
2	MAN	F	4	11/12	0.53	0.15	89,89,90,91	0
5	MAN	H	4	11/12	0.57	0.14	82,86,88,92	0
2	MAN	E	4	11/12	0.59	0.17	83,88,90,92	0
2	MAN	E	5	11/12	0.61	0.14	81,84,89,91	0
2	MAN	F	5	11/12	0.65	0.12	92,94,95,96	0
2	BMA	C	3	11/12	0.74	0.12	90,97,102,102	0
2	BMA	F	3	11/12	0.75	0.12	79,84,89,90	0
4	NAG	G	2	14/15	0.82	0.12	65,69,73,77	0
5	BMA	H	3	11/12	0.83	0.10	63,67,73,78	0
3	NAG	D	2	14/15	0.84	0.12	51,55,57,57	0
2	NAG	F	2	14/15	0.87	0.13	63,65,68,72	0
5	NAG	H	2	14/15	0.89	0.10	44,49,53,59	0
4	NAG	G	1	14/15	0.89	0.11	50,51,55,60	0
2	NAG	E	1	14/15	0.89	0.10	44,51,58,59	0
2	NAG	C	2	14/15	0.89	0.12	72,76,81,84	0
2	NAG	C	1	14/15	0.90	0.14	60,63,65,69	0
2	NAG	F	1	14/15	0.90	0.13	47,55,60,61	0
2	BMA	E	3	11/12	0.91	0.08	71,75,79,80	0
2	NAG	E	2	14/15	0.91	0.08	54,58,62,68	0
3	NAG	D	1	14/15	0.93	0.08	39,43,45,49	0
5	NAG	H	1	14/15	0.94	0.08	30,37,42,43	0

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

Electron density around Chain C:

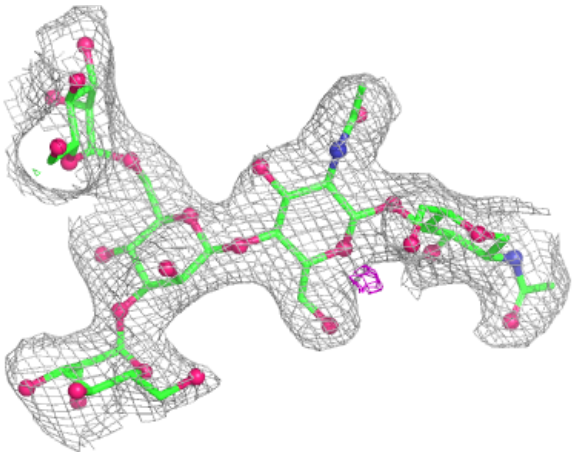
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

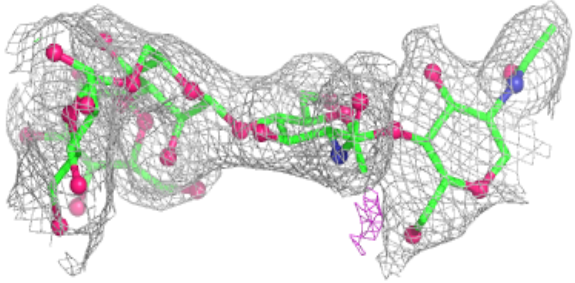




Electron density around Chain E:

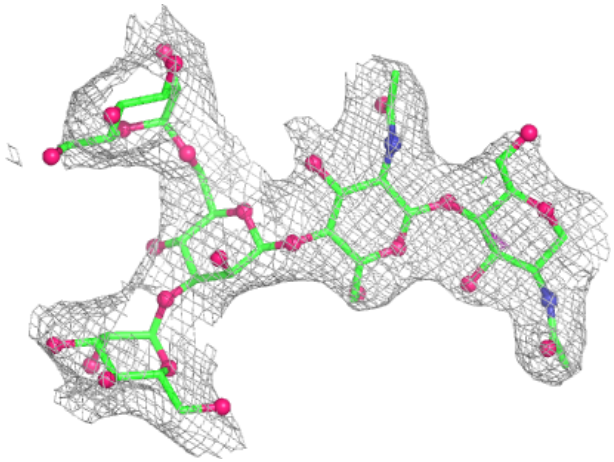
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

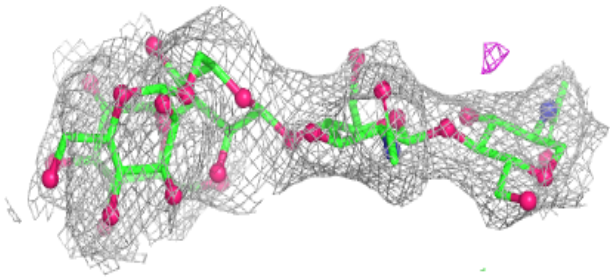


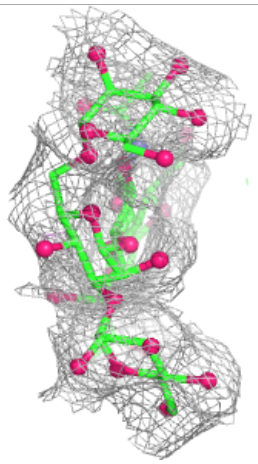


Electron density around Chain F:

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

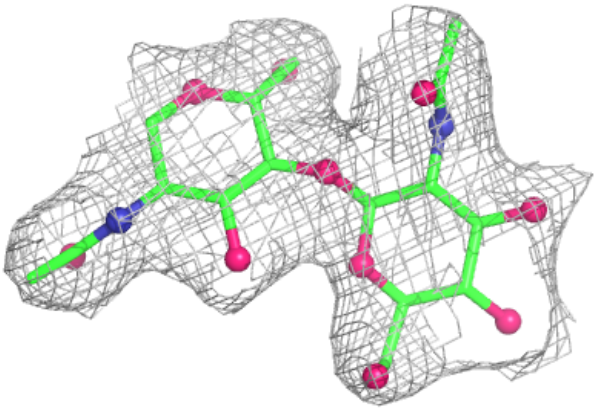


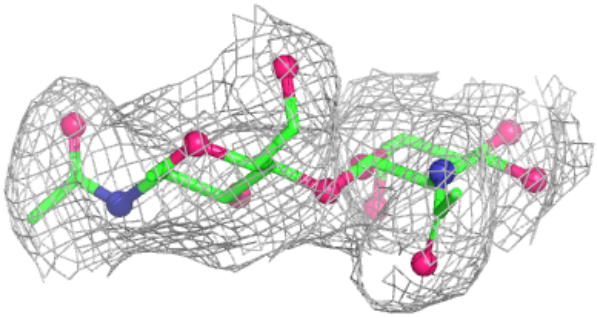


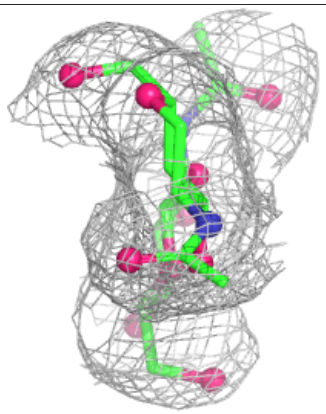


Electron density around Chain D:

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

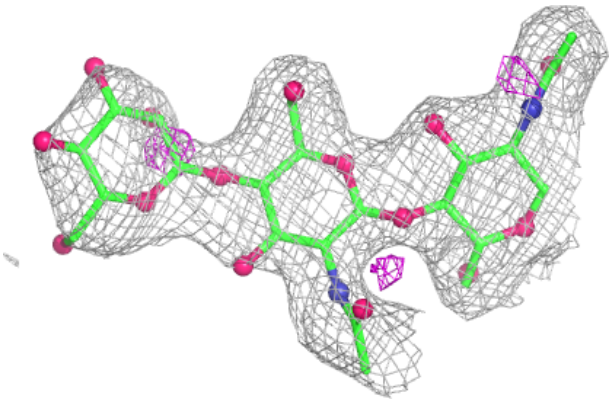


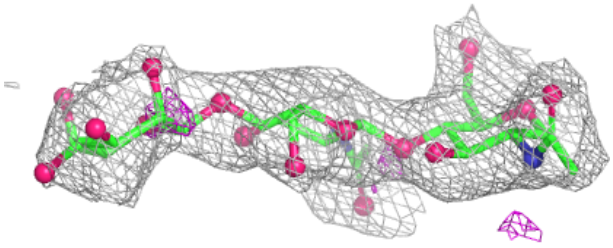


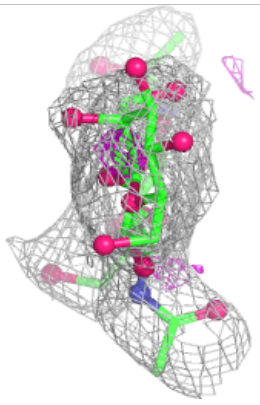


Electron density around Chain G:

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

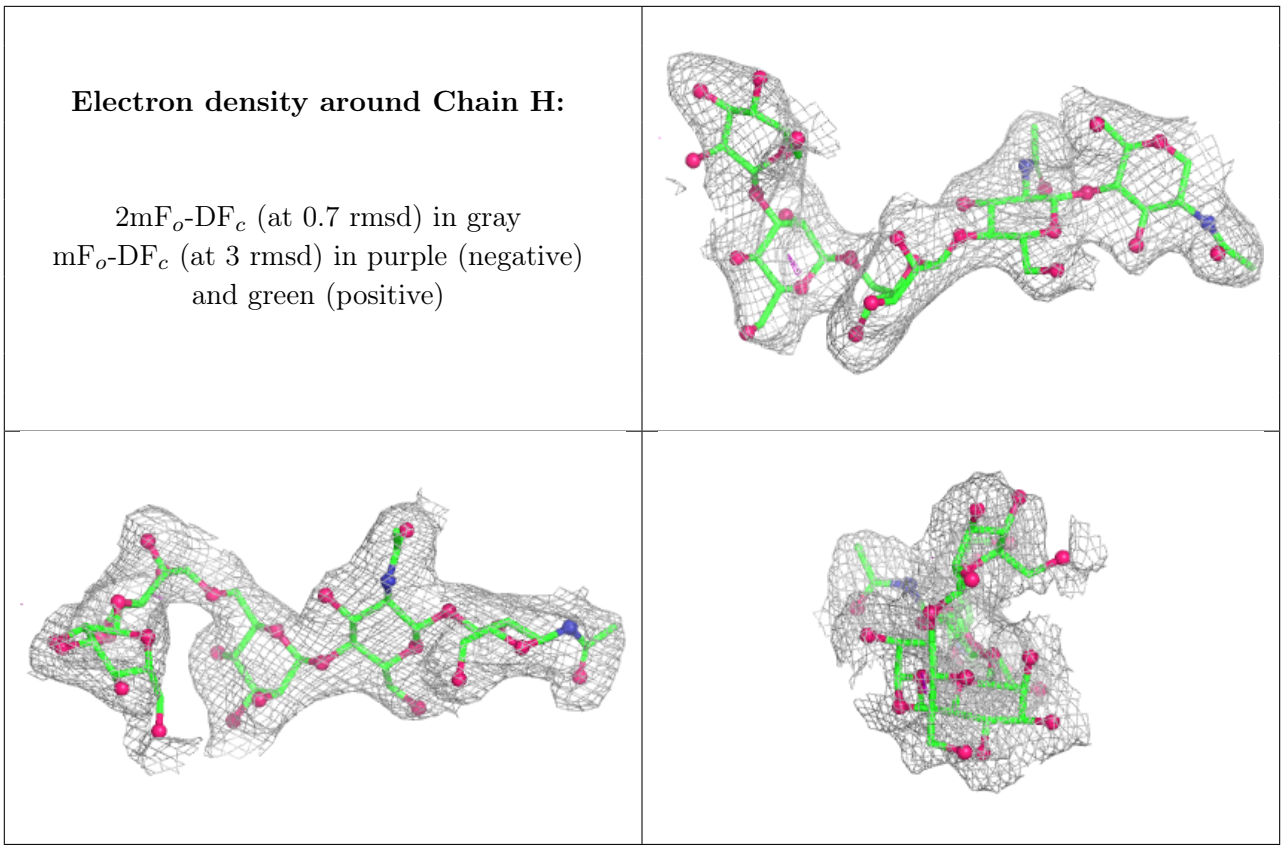






Electron density around Chain H:

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



6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
6	NAG	B	901	14/15	0.20	0.20	174,174,175,176	0
6	NAG	A	901	14/15	0.30	0.24	195,200,203,204	0
6	NAG	A	902	14/15	0.42	0.27	128,138,149,149	0
6	NAG	B	919	14/15	0.42	0.21	115,126,136,140	0
6	NAG	A	918	14/15	0.43	0.21	120,134,147,151	0
6	NAG	B	909	14/15	0.44	0.19	124,127,134,134	0
6	NAG	A	921	14/15	0.44	0.20	110,112,122,122	0
6	NAG	A	920	14/15	0.51	0.17	113,123,129,133	0
6	NAG	B	908	14/15	0.56	0.20	99,108,115,117	0
6	NAG	B	921	14/15	0.61	0.23	137,143,151,151	0
6	NAG	B	920	14/15	0.62	0.19	154,156,158,159	0
6	NAG	A	909	14/15	0.62	0.20	118,124,126,128	0
6	NAG	A	912	14/15	0.63	0.17	124,128,131,134	0
6	NAG	A	908	14/15	0.63	0.19	87,89,94,97	0

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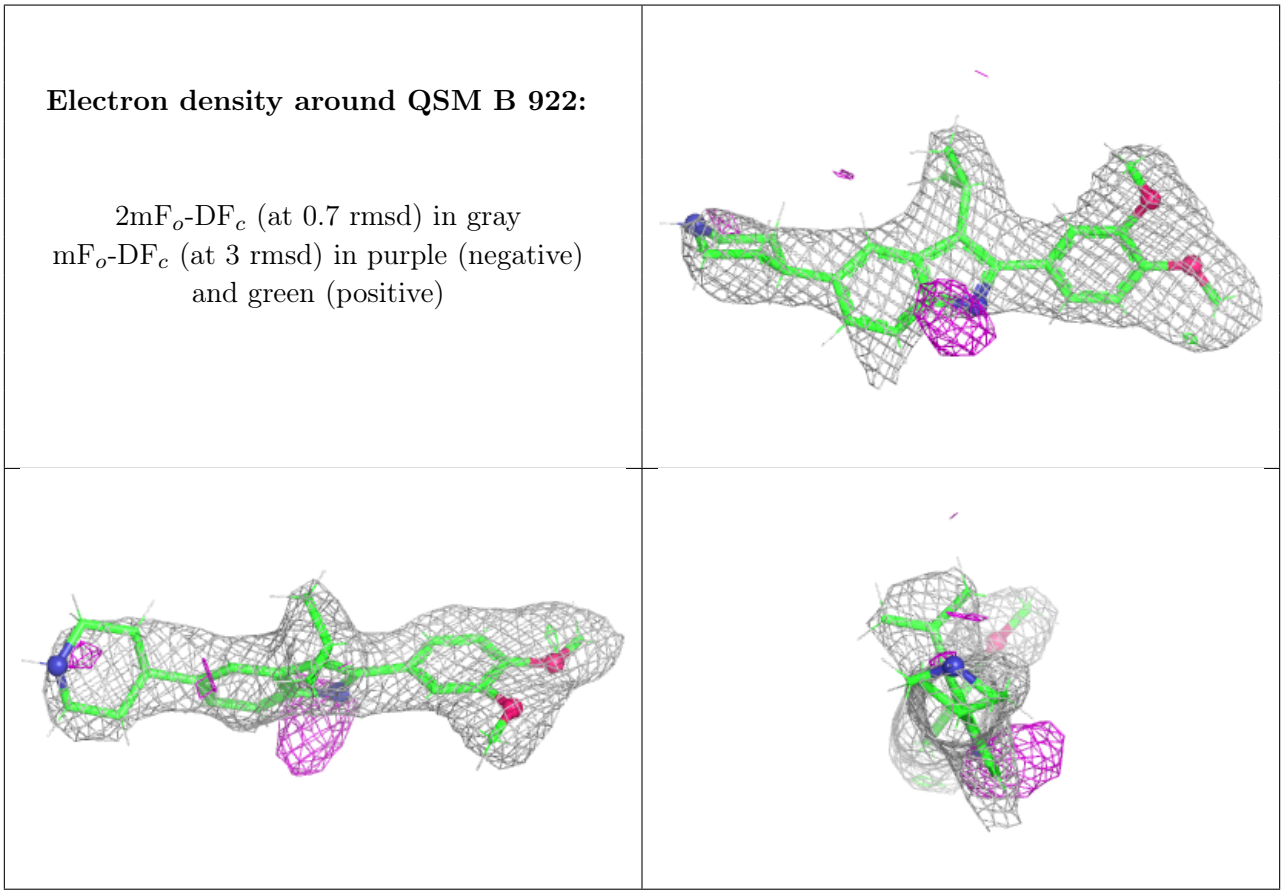
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
6	NAG	B	902	14/15	0.64	0.16	135,139,147,152	0
6	NAG	A	919	14/15	0.68	0.18	150,153,154,154	0
6	NAG	B	913	14/15	0.74	0.19	118,122,124,126	0
7	QSM	B	922	28/28	0.87	0.13	43,50,58,58	30
7	QSM	A	922	28/28	0.93	0.10	38,44,45,45	30

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.

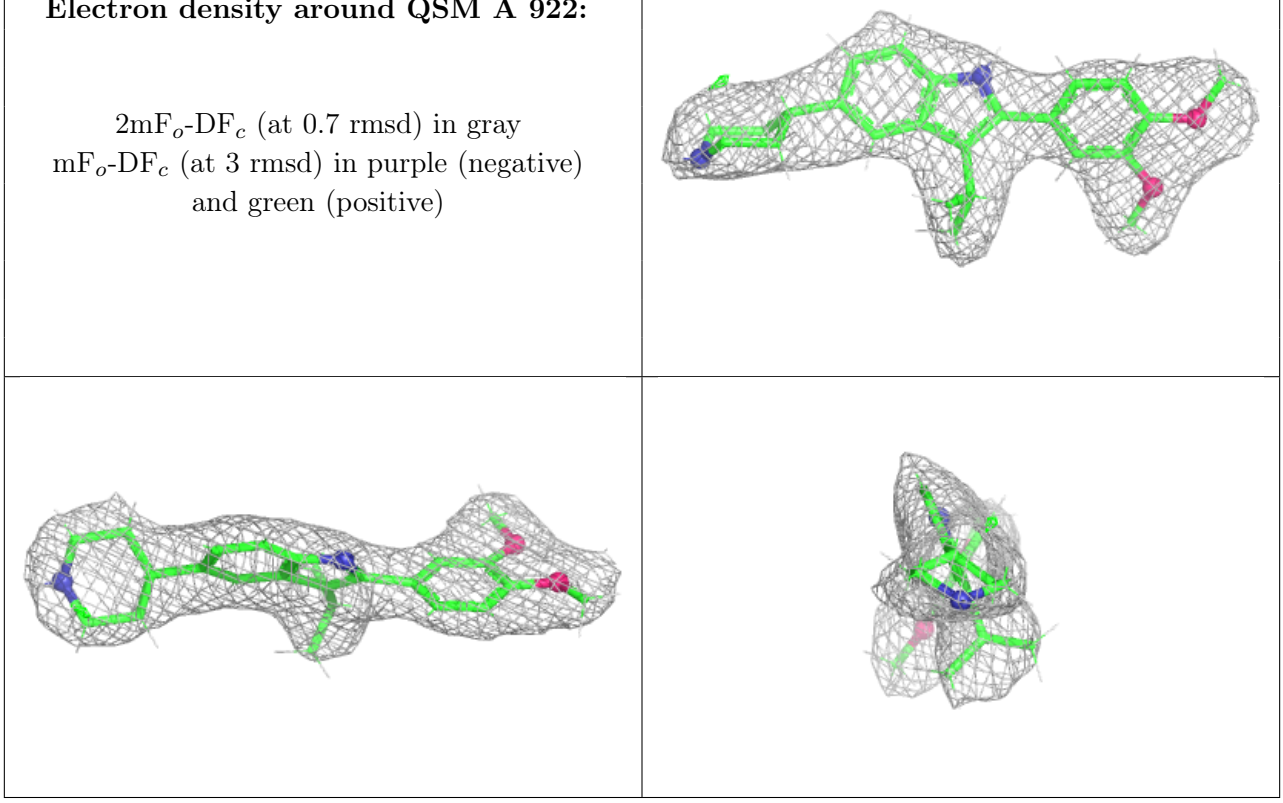
Electron density around QSM B 922:

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



Electron density around QSM A 922:

$2mF_o$-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

There are no such residues in this entry.