Full wwPDB X-ray Structure Validation Report ⓘ

Nov 21, 2022 – 10:42 AM EST

PDB ID	:	5WDU
Title	:	HIV-1 Env BG505 SOSIP.664 H72C-H564C trimer in complex with bNAbs PGT122 Fab, 35O22 Fab and NIH45-46 scFv
Authors	:	Julien, J.-P.; Torrents de la Pena, A.; Sanders, R.W.; Wilson, I.A.
Deposited on	:	2017-07-06
Resolution	:	7.00 Å(reported)

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

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

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

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

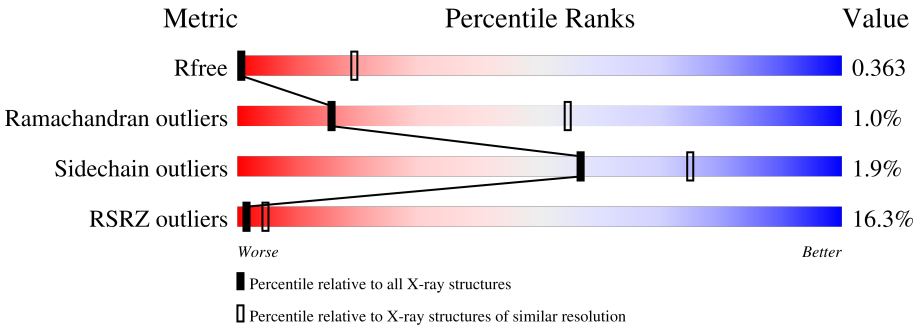
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.31.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 7.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1004 (10.00-3.90)
Ramachandran outliers	138981	1002 (10.00-3.90)
Sidechain outliers	138945	1002 (10.00-3.86)
RSRZ outliers	127900	1004 (9.50-3.80)

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

Mol	Chain	Length	Quality of chain
1	F	471	6% 92% · 5%
1	G	471	3% 92% · 5%
1	Q	471	5% 92% · 5%
2	D	250	16% 86% · 11%
2	O	250	14% 86% · 11%
2	W	250	16% 86% · 11%
3	A	147	2% 82% · 14%

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Mol	Chain	Length	Quality of chain
3	J	147	3% 82% 14%
3	R	147	3% 82% 14%
4	B	210	29% 97%
4	K	210	32% 97%
4	S	210	28% 99%
5	C	232	30% 95%
5	L	232	31% 96%
5	T	232	41% 97%
6	H	242	6% 100%
6	M	242	28% 100%
6	U	242	18% 99%
7	I	213	2% 96%
7	N	213	24% 99%
7	V	213	11% 99%
8	E	5	100%
8	X	5	20% 80%
8	c	5	60% 40%
8	e	5	100%
8	g	5	20% 80%
8	l	5	60% 40%
8	n	5	100%
8	p	5	20% 80%
8	u	5	60% 40%
9	P	3	33% 67%
9	f	3	33% 67%

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Mol	Chain	Length	Quality of chain
9	o	3	33% 67%
10	Y	4	75% 25%
10	h	4	50% 50%
10	q	4	75% 25%
11	Z	7	100%
11	i	7	14% 86%
11	r	7	100%
12	a	6	100%
12	j	6	17% 83%
12	s	6	17% 83%
13	b	2	100%
13	k	2	100%
13	t	2	100%
14	d	8	12% 88%
14	m	8	12% 88%
14	v	8	12% 88%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
10	NAG	Y	1	-	-	-	X
10	MAN	Y	4	-	-	-	X
10	NAG	h	2	-	-	-	X
10	BMA	h	3	-	-	-	X
10	MAN	h	4	-	-	-	X
11	NAG	Z	2	-	-	-	X
11	BMA	Z	3	-	-	-	X
11	MAN	Z	5	-	-	-	X
11	MAN	Z	6	-	-	-	X
11	MAN	Z	7	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
11	NAG	i	2	-	-	-	X
11	BMA	i	3	-	-	-	X
11	MAN	i	5	-	-	-	X
11	MAN	i	7	-	-	-	X
11	NAG	r	2	-	-	-	X
11	BMA	r	3	-	-	-	X
11	MAN	r	5	-	-	-	X
11	MAN	r	7	-	-	-	X
12	MAN	a	5	-	-	-	X
12	MAN	j	5	-	-	-	X
12	MAN	j	6	-	-	-	X
12	MAN	s	4	-	-	-	X
12	MAN	s	5	-	-	-	X
14	NAG	d	1	-	-	-	X
14	MAN	d	7	-	-	-	X
14	MAN	d	8	-	-	-	X
14	NAG	m	2	-	-	-	X
14	MAN	m	6	-	-	-	X
14	MAN	m	8	-	-	-	X
14	MAN	v	8	-	-	-	X
15	NAG	A	702	-	-	-	X
15	NAG	A	703	-	-	-	X
15	NAG	F	606	-	-	-	X
15	NAG	F	615	-	-	-	X
15	NAG	F	633	-	-	-	X
15	NAG	F	649	-	-	-	X
15	NAG	F	651	-	-	-	X
15	NAG	F	652	-	-	-	X
15	NAG	G	615	-	-	-	X
15	NAG	G	649	-	-	-	X
15	NAG	G	651	-	-	-	X
15	NAG	G	652	-	-	-	X
15	NAG	G	653	-	-	-	X
15	NAG	J	701	-	-	-	X
15	NAG	J	702	-	-	-	X
15	NAG	J	703	-	-	-	X
15	NAG	Q	615	-	-	-	X
15	NAG	Q	633	-	-	-	X
15	NAG	Q	649	-	-	-	X
15	NAG	Q	651	-	-	-	X
15	NAG	Q	652	-	-	-	X
15	NAG	Q	653	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
15	NAG	R	701	-	-	-	X
15	NAG	R	702	-	-	-	X
15	NAG	R	703	-	-	-	X
2	PCA	D	1	-	-	-	X
2	PCA	W	1	-	-	-	X
8	MAN	E	4	-	-	-	X
8	MAN	X	4	-	-	-	X
8	MAN	c	4	-	-	-	X
8	MAN	c	5	-	-	-	X
8	NAG	e	2	-	-	-	X
8	BMA	e	3	-	-	-	X
8	MAN	e	4	-	-	-	X
8	MAN	e	5	-	-	-	X
8	MAN	g	4	-	-	-	X
8	MAN	g	5	-	-	-	X
8	NAG	l	1	-	-	-	X
8	MAN	l	5	-	-	-	X
8	NAG	n	2	-	-	-	X
8	BMA	n	3	-	-	-	X
8	MAN	n	4	-	-	-	X
8	MAN	n	5	-	-	-	X
8	BMA	p	3	-	-	-	X
8	MAN	p	4	-	-	-	X
8	MAN	p	5	-	-	-	X
9	NAG	P	2	-	-	-	X
9	BMA	P	3	-	-	-	X
9	NAG	f	1	-	-	-	X
9	NAG	f	2	-	-	-	X
9	NAG	o	1	-	-	-	X
9	NAG	o	2	-	-	-	X
9	BMA	o	3	-	-	-	X

2 Entry composition (i)

There are 15 unique types of molecules in this entry. The entry contains 41285 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Envelope glycoprotein gp160.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	G	449	Total	C	N	O	S	0	0	0
			3535	2218	624	664	29			
1	F	449	Total	C	N	O	S	0	0	0
			3535	2218	624	664	29			
1	Q	449	Total	C	N	O	S	0	0	0
			3535	2218	624	664	29			

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	72	CYS	HIS	conflict	UNP Q2N0S6
G	332	ASN	THR	conflict	UNP Q2N0S6
G	460	ALA	SER	conflict	UNP Q2N0S6
G	461	ASN	THR	conflict	UNP Q2N0S6
G	463	THR	SER	conflict	UNP Q2N0S6
G	464	SER	THR	conflict	UNP Q2N0S6
G	501	CYS	ALA	conflict	UNP Q2N0S6
F	72	CYS	HIS	conflict	UNP Q2N0S6
F	332	ASN	THR	conflict	UNP Q2N0S6
F	460	ALA	SER	conflict	UNP Q2N0S6
F	461	ASN	THR	conflict	UNP Q2N0S6
F	463	THR	SER	conflict	UNP Q2N0S6
F	464	SER	THR	conflict	UNP Q2N0S6
F	501	CYS	ALA	conflict	UNP Q2N0S6
Q	72	CYS	HIS	conflict	UNP Q2N0S6
Q	332	ASN	THR	conflict	UNP Q2N0S6
Q	460	ALA	SER	conflict	UNP Q2N0S6
Q	461	ASN	THR	conflict	UNP Q2N0S6
Q	463	THR	SER	conflict	UNP Q2N0S6
Q	464	SER	THR	conflict	UNP Q2N0S6
Q	501	CYS	ALA	conflict	UNP Q2N0S6

- Molecule 2 is a protein called bnAb NIH45-46 scFv.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	D	223	Total	C	N	O	S	0	0	0
			1761	1107	316	328	10			
2	O	222	Total	C	N	O	S	0	0	0
			1753	1102	315	326	10			
2	W	223	Total	C	N	O	S	0	0	0
			1761	1107	316	328	10			

- Molecule 3 is a protein called Envelope glycoprotein gp160.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	126	Total	C	N	O	S	0	0	0
			1001	633	172	190	6			
3	J	126	Total	C	N	O	S	0	0	0
			1001	633	172	190	6			
3	R	126	Total	C	N	O	S	0	0	0
			1001	633	172	190	6			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	605	CYS	THR	conflict	UNP Q2N0S8
J	605	CYS	THR	conflict	UNP Q2N0S8
R	605	CYS	THR	conflict	UNP Q2N0S8

- Molecule 4 is a protein called bnAb PGT122 Fab light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	210	Total	C	N	O	S	0	0	0
			1589	998	267	320	4			
4	K	210	Total	C	N	O	S	0	0	0
			1589	998	267	320	4			
4	S	210	Total	C	N	O	S	0	0	0
			1589	998	267	320	4			

- Molecule 5 is a protein called bnAb PGT122 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	228	Total	C	N	O	S	0	0	0
			1742	1109	295	333	5			
5	L	228	Total	C	N	O	S	0	0	0
			1742	1109	295	333	5			
5	T	228	Total	C	N	O	S	0	0	0
			1742	1109	295	333	5			

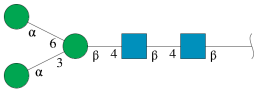
- Molecule 6 is a protein called bnAb 35O22 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	H	242	Total	C	N	O	S	0	0	0
			1832	1165	306	353	8			
6	M	242	Total	C	N	O	S	0	0	0
			1832	1165	306	353	8			
6	U	242	Total	C	N	O	S	0	0	0
			1832	1165	306	353	8			

- Molecule 7 is a protein called bnAb 35O22 Fab light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	I	207	Total	C	N	O	S	0	0	0
			1574	989	258	319	8			
7	N	213	Total	C	N	O	S	0	0	0
			1615	1012	267	328	8			
7	V	213	Total	C	N	O	S	0	0	0
			1615	1012	267	328	8			

- Molecule 8 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
8	E	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	X	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	c	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	e	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	g	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	l	5	Total	C	N	O	0	0	0
			61	34	2	25			
8	n	5	Total	C	N	O	0	0	0
			61	34	2	25			

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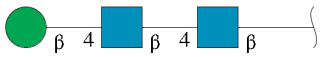
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
8	p	5	Total C N O 61 34 2 25	0	0	0
8	u	5	Total C N O 61 34 2 25	0	0	0

- Molecule 9 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.

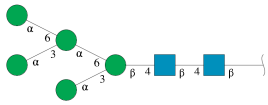


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
9	P	3	Total C N O 39 22 2 15	0	0	0
9	f	3	Total C N O 39 22 2 15	0	0	0
9	o	3	Total C N O 39 22 2 15	0	0	0

- Molecule 10 is an oligosaccharide called 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.

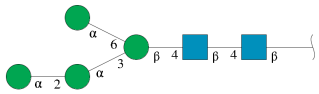
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
10	Y	4	Total C N O 50 28 2 20	0	0	0
10	h	4	Total C N O 50 28 2 20	0	0	0
10	q	4	Total C N O 50 28 2 20	0	0	0

- Molecule 11 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
11	Z	7	Total C N O 83 46 2 35	0	0	0
11	i	7	Total C N O 83 46 2 35	0	0	0
11	r	7	Total C N O 83 46 2 35	0	0	0

- Molecule 12 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

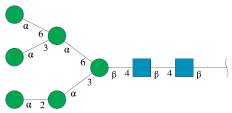


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
12	a	6	Total C N O 72 40 2 30	0	0	0
12	j	6	Total C N O 72 40 2 30	0	0	0
12	s	6	Total C N O 72 40 2 30	0	0	0

- Molecule 13 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

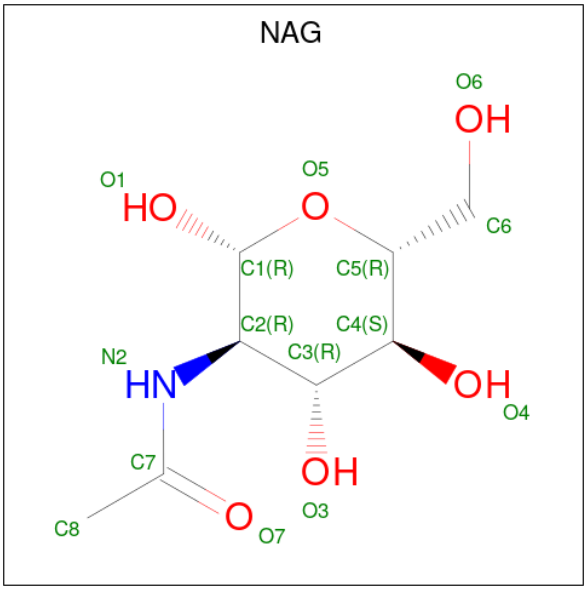
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
13	b	2	Total C N O 28 16 2 10	0	0	0
13	k	2	Total C N O 28 16 2 10	0	0	0
13	t	2	Total C N O 28 16 2 10	0	0	0

- Molecule 14 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]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
14	d	8	Total C N O 94 52 2 40	0	0	0
14	m	8	Total C N O 94 52 2 40	0	0	0
14	v	8	Total C N O 94 52 2 40	0	0	0

- Molecule 15 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0
15	G	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	F	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	Q	1	Total C N O 14 8 1 5	0	0
15	A	1	Total C N O 14 8 1 5	0	0

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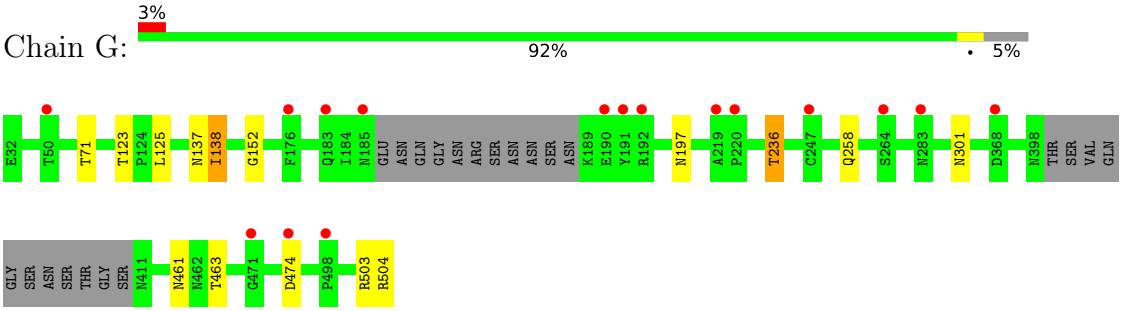
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
15	A	1	Total	C	N	O	0	0
			14	8	1	5		
15	A	1	Total	C	N	O	0	0
			14	8	1	5		
15	J	1	Total	C	N	O	0	0
			14	8	1	5		
15	J	1	Total	C	N	O	0	0
			14	8	1	5		
15	J	1	Total	C	N	O	0	0
			14	8	1	5		
15	R	1	Total	C	N	O	0	0
			14	8	1	5		
15	R	1	Total	C	N	O	0	0
			14	8	1	5		
15	R	1	Total	C	N	O	0	0
			14	8	1	5		

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.

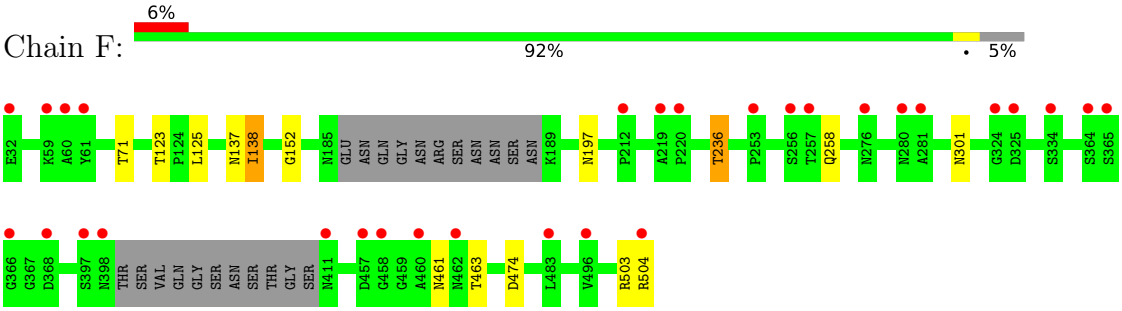
• Molecule 1: Envelope glycoprotein gp160

Chain G:



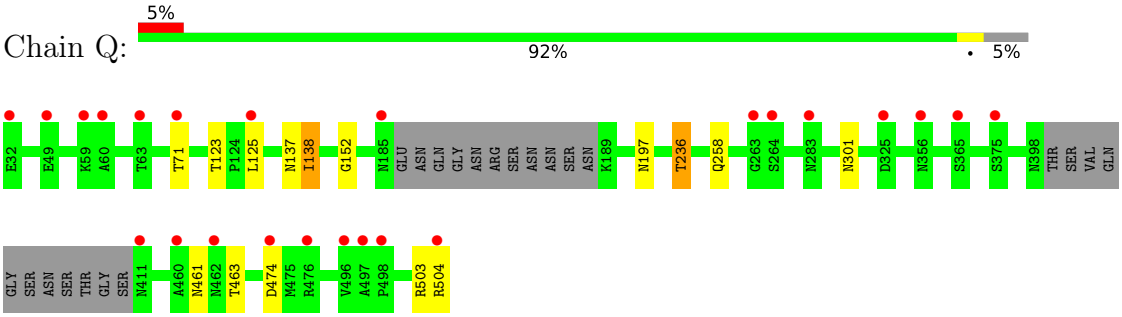
• Molecule 1: Envelope glycoprotein gp160

Chain F:



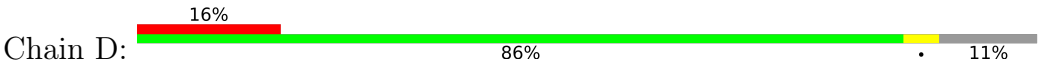
• Molecule 1: Envelope glycoprotein gp160

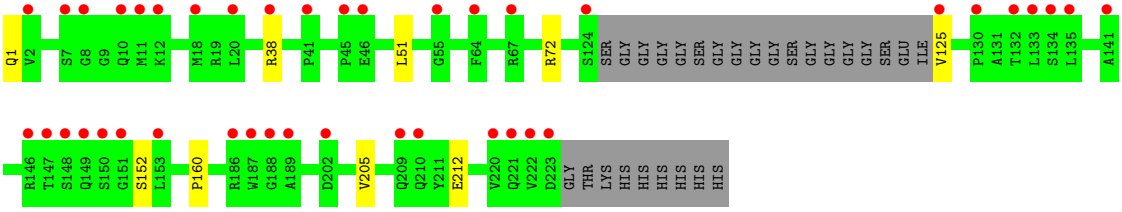
Chain Q:



• Molecule 2: bnAb NIH45-46 scFv

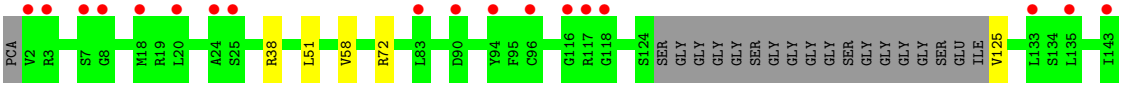
Chain D:

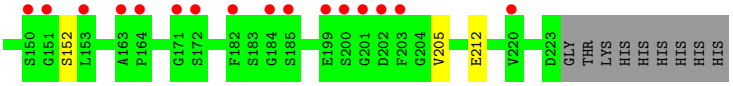




• Molecule 2: bnAb NIH45-46 scFv

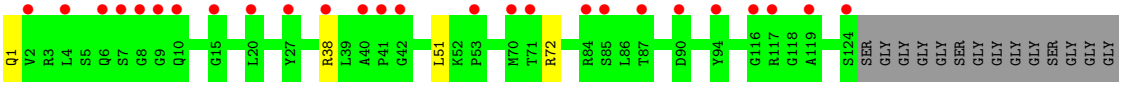
Chain O:

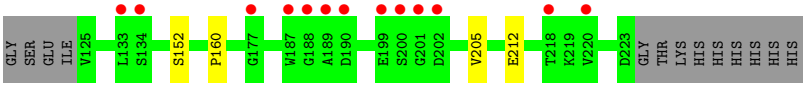




• Molecule 2: bnAb NIH45-46 scFv

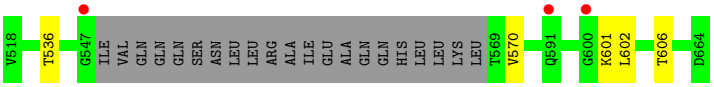
Chain W:





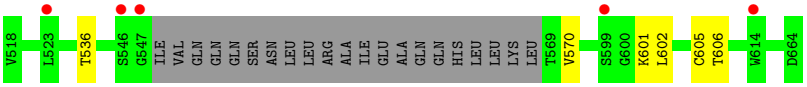
• Molecule 3: Envelope glycoprotein gp160

Chain A:



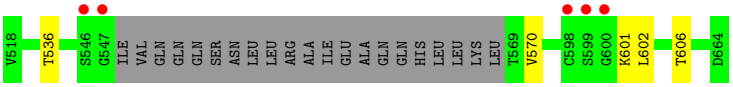
• Molecule 3: Envelope glycoprotein gp160

Chain J:



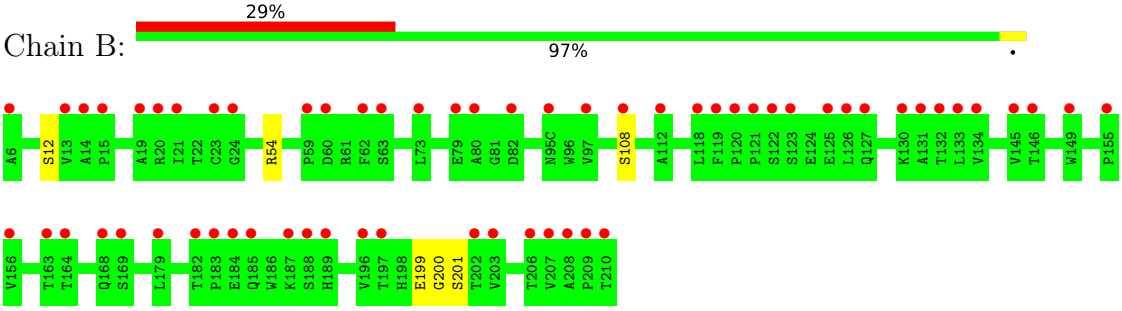
• Molecule 3: Envelope glycoprotein gp160

Chain R:



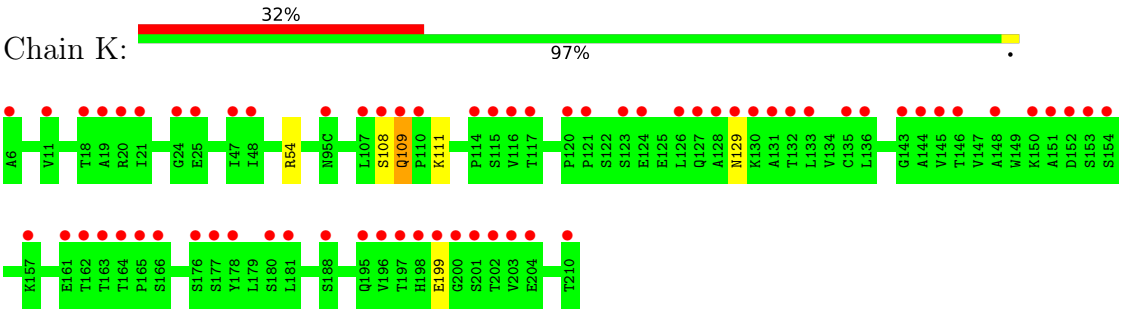
• Molecule 4: bnAb PGT122 Fab light chain

Chain B:



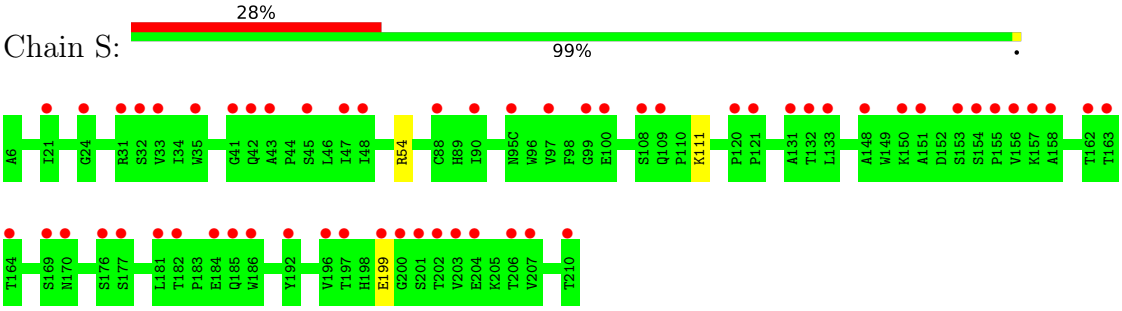
• Molecule 4: bnAb PGT122 Fab light chain

Chain K:



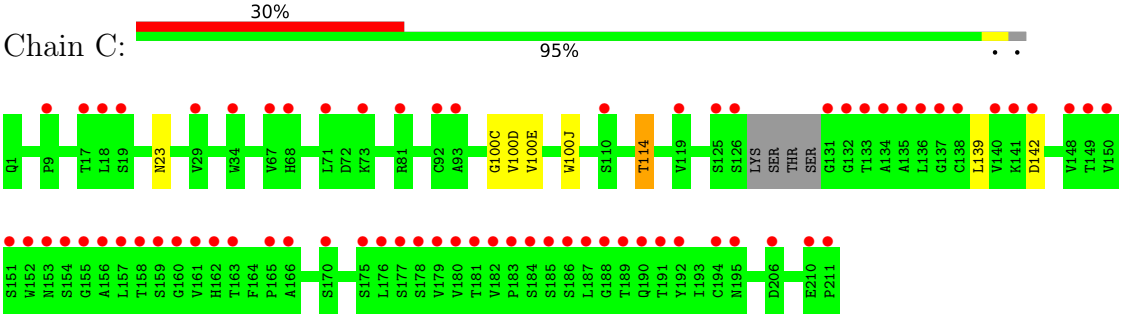
• Molecule 4: bnAb PGT122 Fab light chain

Chain S:



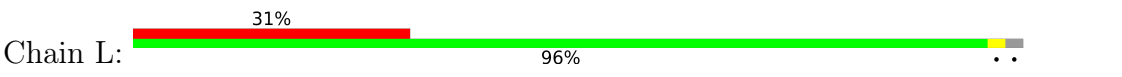
• Molecule 5: bnAb PGT122 Fab heavy chain

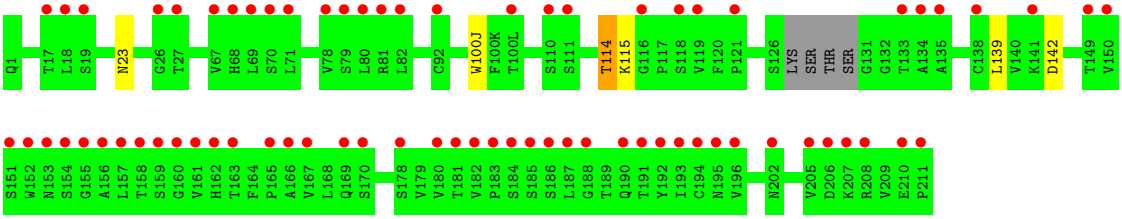
Chain C:



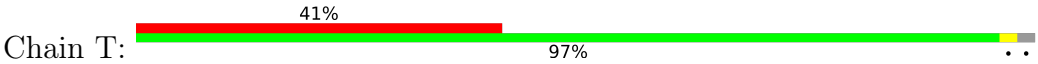
• Molecule 5: bnAb PGT122 Fab heavy chain

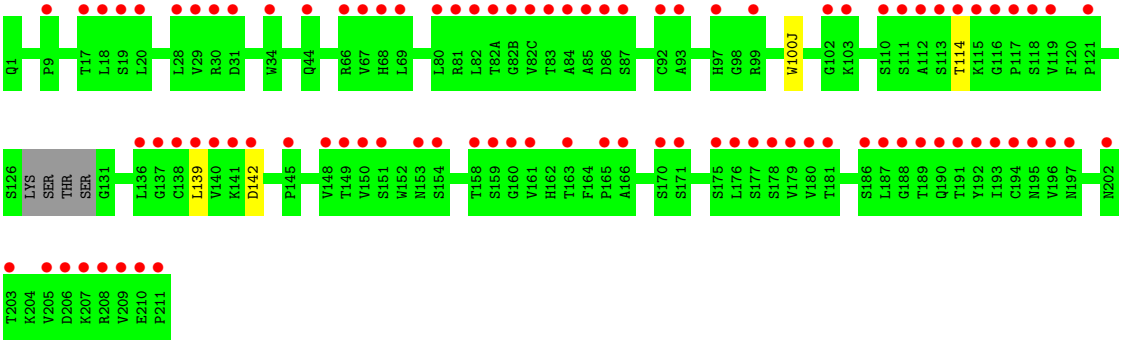
Chain L:



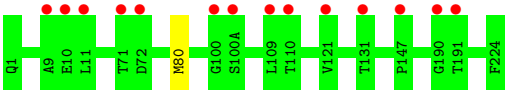


• Molecule 5: bnAb PGT122 Fab heavy chain

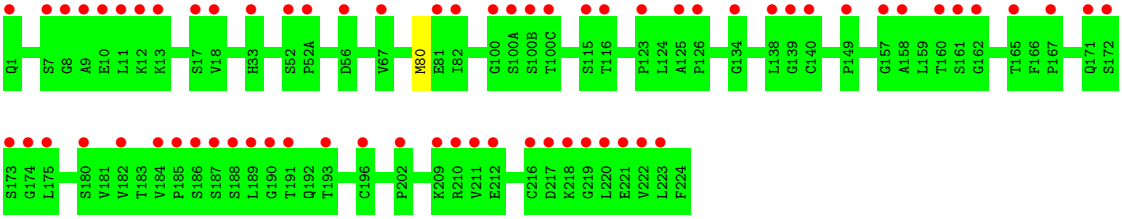




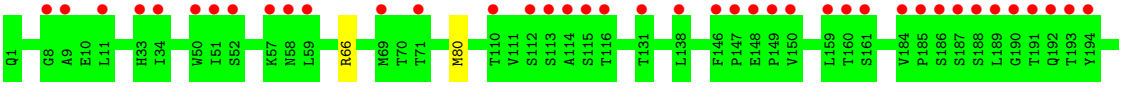
• Molecule 6: bnAb 35O22 Fab heavy chain



• Molecule 6: bnAb 35O22 Fab heavy chain

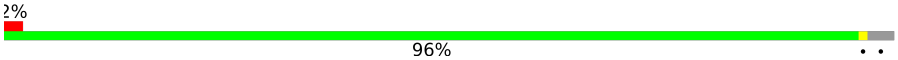


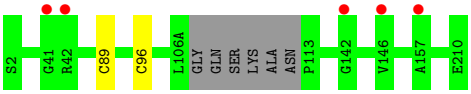
• Molecule 6: bnAb 35O22 Fab heavy chain



• Molecule 7: bnAb 35O22 Fab light chain

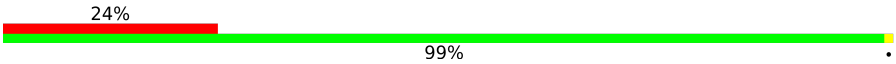
Chain I:

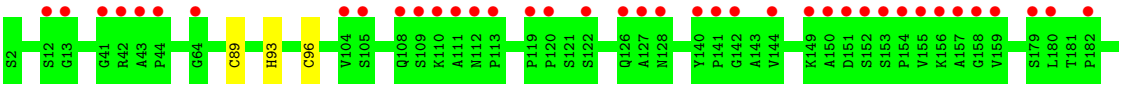


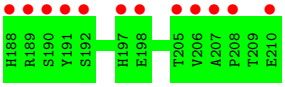


• Molecule 7: bnAb 35O22 Fab light chain

Chain N:

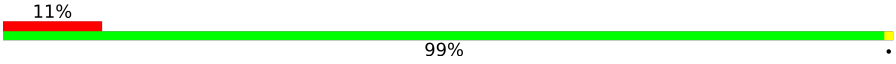


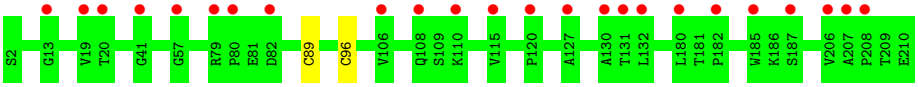




• Molecule 7: bnAb 35O22 Fab light chain

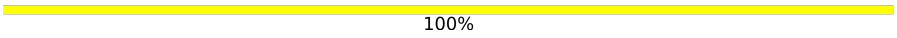
Chain V:





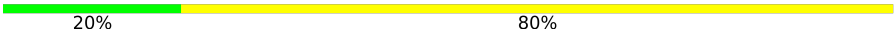
• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:



• Molecule 8: 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 X:

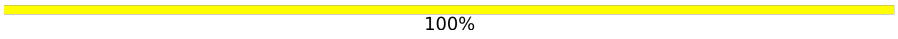


• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain c:

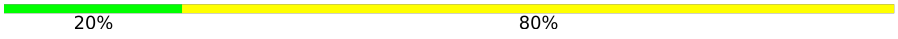
• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain e:



• Molecule 8: 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 g:

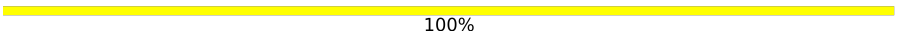


• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain l:

• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain n:



• Molecule 8: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain p:

• Molecule 8: 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-glucopyra

nose

Chain u:

• Molecule 9: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

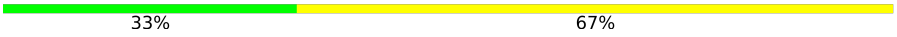
Chain P:

• Molecule 9: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain f:

• Molecule 9: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain o:



• Molecule 10: 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 Y:

• Molecule 10: 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

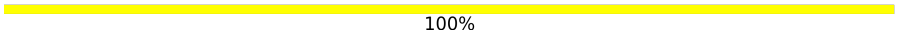
Chain h:

• Molecule 10: 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 q:

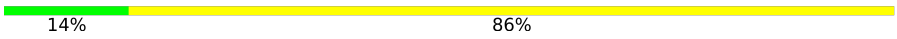
• Molecule 11: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Z:



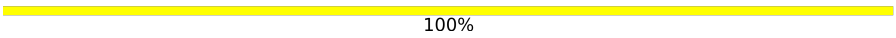
• Molecule 11: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain i:



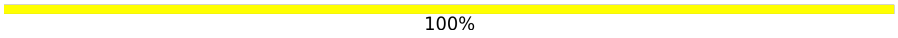
• Molecule 11: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain r:



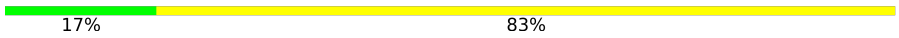
• Molecule 12: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain a:



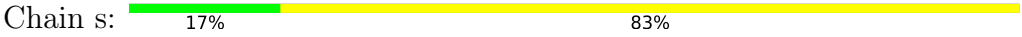
• Molecule 12: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain j:



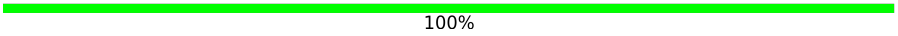
• Molecule 12: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain s:



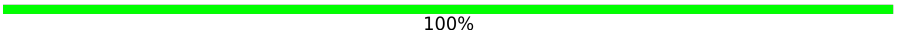
• Molecule 13: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain b:



• Molecule 13: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain k:

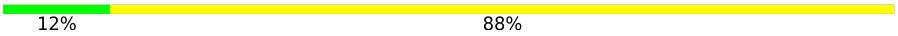


• Molecule 13: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain t:

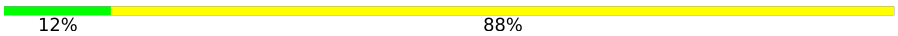
• Molecule 14: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain d:



• Molecule 14: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain m:



• Molecule 14: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(

1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranos
e

Chain v:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	361.81Å 215.85Å 176.61Å 90.00° 114.03° 90.00°	Depositor
Resolution (Å)	39.71 – 7.00 39.71 – 7.00	Depositor EDS
% Data completeness (in resolution range)	99.9 (39.71-7.00) 99.9 (39.71-7.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.20	Depositor
$< I/\sigma(I) >$ [1]	1.94 (at 7.33Å)	Xtriage
Refinement program	PHENIX (1.13_2998: ???)	Depositor
R, R_{free}	0.301 , 0.363 0.301 , 0.363	Depositor DCC
R_{free} test set	978 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	277.9	Xtriage
Anisotropy	0.587	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.24 , 387.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.32$, $< L^2 > = 0.16$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.77	EDS
Total number of atoms	41285	wwPDB-VP
Average B, all atoms (Å^2)	458.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.35% 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: NAG, PCA, MAN, BMA

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	F	0.27	0/3608	0.51	0/4898
1	G	0.28	0/3608	0.52	0/4898
1	Q	0.27	0/3608	0.51	0/4898
2	D	0.25	0/1800	0.46	0/2439
2	O	0.25	0/1799	0.45	0/2436
2	W	0.25	0/1800	0.46	0/2439
3	A	0.25	0/1019	0.45	0/1382
3	J	0.25	0/1019	0.47	1/1382 (0.1%)
3	R	0.26	0/1019	0.45	0/1382
4	B	0.29	0/1632	0.55	1/2236 (0.0%)
4	K	0.26	0/1632	0.52	1/2236 (0.0%)
4	S	0.26	0/1632	0.48	0/2236
5	C	0.33	0/1789	0.59	1/2443 (0.0%)
5	L	0.26	0/1789	0.49	0/2443
5	T	0.26	0/1789	0.47	0/2443
6	H	0.26	0/1880	0.48	0/2560
6	M	0.25	0/1880	0.48	0/2560
6	U	0.25	0/1880	0.48	0/2560
7	I	0.26	0/1617	0.49	1/2211 (0.0%)
7	N	0.25	0/1659	0.48	1/2269 (0.0%)
7	V	0.25	0/1659	0.47	1/2269 (0.0%)
All	All	0.27	0/40118	0.49	7/54620 (0.0%)

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	V	89	CYS	CA-CB-SG	-6.07	103.08	114.00
7	I	89	CYS	CA-CB-SG	-6.02	103.16	114.00
7	N	89	CYS	CA-CB-SG	-5.79	103.57	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	J	605	CYS	CA-CB-SG	-5.37	104.33	114.00
4	K	109	GLN	CB-CA-C	-5.29	99.82	110.40
4	B	12	SER	N-CA-CB	5.24	118.36	110.50
5	C	114	THR	CA-CB-CG2	-5.16	105.18	112.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	F	443/471 (94%)	392 (88%)	43 (10%)	8 (2%)	8	40
1	G	443/471 (94%)	392 (88%)	43 (10%)	8 (2%)	8	40
1	Q	443/471 (94%)	391 (88%)	44 (10%)	8 (2%)	8	40
2	D	219/250 (88%)	209 (95%)	8 (4%)	2 (1%)	17	57
2	O	218/250 (87%)	208 (95%)	9 (4%)	1 (0%)	29	69
2	W	219/250 (88%)	209 (95%)	8 (4%)	2 (1%)	17	57
3	A	122/147 (83%)	107 (88%)	13 (11%)	2 (2%)	9	44
3	J	122/147 (83%)	107 (88%)	13 (11%)	2 (2%)	9	44
3	R	122/147 (83%)	107 (88%)	13 (11%)	2 (2%)	9	44
4	B	208/210 (99%)	193 (93%)	13 (6%)	2 (1%)	15	54
4	K	208/210 (99%)	193 (93%)	13 (6%)	2 (1%)	15	54
4	S	208/210 (99%)	192 (92%)	15 (7%)	1 (0%)	29	69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
5	C	224/232 (97%)	210 (94%)	10 (4%)	4 (2%)	8 40
5	L	224/232 (97%)	210 (94%)	11 (5%)	3 (1%)	12 48
5	T	224/232 (97%)	210 (94%)	13 (6%)	1 (0%)	34 72
6	H	240/242 (99%)	227 (95%)	13 (5%)	0	100 100
6	M	240/242 (99%)	228 (95%)	12 (5%)	0	100 100
6	U	240/242 (99%)	228 (95%)	11 (5%)	1 (0%)	34 72
7	I	203/213 (95%)	188 (93%)	15 (7%)	0	100 100
7	N	211/213 (99%)	195 (92%)	16 (8%)	0	100 100
7	V	211/213 (99%)	196 (93%)	15 (7%)	0	100 100
All	All	4992/5295 (94%)	4592 (92%)	351 (7%)	49 (1%)	15 54

All (49) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	138	ILE
1	G	197	ASN
1	F	138	ILE
1	F	197	ASN
1	Q	138	ILE
1	Q	197	ASN
5	C	100(D)	VAL
5	L	114	THR
1	G	71	THR
1	G	236	THR
1	F	71	THR
1	F	236	THR
1	Q	71	THR
1	Q	236	THR
5	C	100(C)	GLY
5	C	100(E)	VAL
5	L	115	LYS
1	G	152	GLY
1	G	301	ASN
1	G	461	ASN
2	D	152	SER
1	F	152	GLY
1	F	301	ASN
1	F	461	ASN
2	O	152	SER

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Mol	Chain	Res	Type
1	Q	152	GLY
1	Q	301	ASN
1	Q	461	ASN
2	W	152	SER
3	A	602	LEU
4	B	199	GLU
3	J	602	LEU
3	R	602	LEU
4	S	199	GLU
1	G	258	GLN
1	F	258	GLN
1	Q	258	GLN
3	A	601	LYS
3	J	601	LYS
4	K	108	SER
4	K	199	GLU
5	L	142	ASP
3	R	601	LYS
5	T	142	ASP
5	C	142	ASP
6	U	66	ARG
4	B	200	GLY
2	D	160	PRO
2	W	160	PRO

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	F	400/419 (96%)	391 (98%)	9 (2%)	50	70
1	G	400/419 (96%)	391 (98%)	9 (2%)	50	70
1	Q	400/419 (96%)	391 (98%)	9 (2%)	50	70
2	D	184/198 (93%)	178 (97%)	6 (3%)	38	61
2	O	184/198 (93%)	177 (96%)	7 (4%)	33	57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	W	184/198 (93%)	179 (97%)	5 (3%)	44	65
3	A	108/127 (85%)	105 (97%)	3 (3%)	43	65
3	J	108/127 (85%)	105 (97%)	3 (3%)	43	65
3	R	108/127 (85%)	105 (97%)	3 (3%)	43	65
4	B	178/178 (100%)	175 (98%)	3 (2%)	60	78
4	K	178/178 (100%)	174 (98%)	4 (2%)	52	71
4	S	178/178 (100%)	176 (99%)	2 (1%)	73	84
5	C	198/202 (98%)	194 (98%)	4 (2%)	55	74
5	L	198/202 (98%)	194 (98%)	4 (2%)	55	74
5	T	198/202 (98%)	195 (98%)	3 (2%)	65	80
6	H	205/205 (100%)	204 (100%)	1 (0%)	88	93
6	M	205/205 (100%)	204 (100%)	1 (0%)	88	93
6	U	205/205 (100%)	204 (100%)	1 (0%)	88	93
7	I	182/186 (98%)	181 (100%)	1 (0%)	88	93
7	N	186/186 (100%)	184 (99%)	2 (1%)	73	84
7	V	186/186 (100%)	185 (100%)	1 (0%)	88	93
All	All	4373/4545 (96%)	4292 (98%)	81 (2%)	57	75

All (81) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	123	THR
1	G	125	LEU
1	G	137	ASN
1	G	138	ILE
1	G	236	THR
1	G	463	THR
1	G	474	ASP
1	G	503	ARG
1	G	504	ARG
2	D	38	ARG
2	D	51	LEU
2	D	72	ARG
2	D	125	VAL
2	D	205	VAL
2	D	212	GLU

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Mol	Chain	Res	Type
1	F	123	THR
1	F	125	LEU
1	F	137	ASN
1	F	138	ILE
1	F	236	THR
1	F	463	THR
1	F	474	ASP
1	F	503	ARG
1	F	504	ARG
2	O	38	ARG
2	O	51	LEU
2	O	58	VAL
2	O	72	ARG
2	O	125	VAL
2	O	205	VAL
2	O	212	GLU
1	Q	123	THR
1	Q	125	LEU
1	Q	137	ASN
1	Q	138	ILE
1	Q	236	THR
1	Q	463	THR
1	Q	474	ASP
1	Q	503	ARG
1	Q	504	ARG
2	W	38	ARG
2	W	51	LEU
2	W	72	ARG
2	W	205	VAL
2	W	212	GLU
3	A	536	THR
3	A	570	VAL
3	A	606	THR
4	B	54	ARG
4	B	108	SER
4	B	201	SER
5	C	23	ASN
5	C	100(J)	TRP
5	C	114	THR
5	C	139	LEU
6	H	80	MET
7	I	96	CYS

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Mol	Chain	Res	Type
3	J	536	THR
3	J	570	VAL
3	J	606	THR
4	K	54	ARG
4	K	109	GLN
4	K	111	LYS
4	K	129	ASN
5	L	23	ASN
5	L	100(J)	TRP
5	L	114	THR
5	L	139	LEU
6	M	80	MET
7	N	93	HIS
7	N	96	CYS
3	R	536	THR
3	R	570	VAL
3	R	606	THR
4	S	54	ARG
4	S	111	LYS
5	T	100(J)	TRP
5	T	114	THR
5	T	139	LEU
6	U	80	MET
7	V	96	CYS

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

Mol	Chain	Res	Type
5	C	197	ASN
5	C	198	HIS
6	M	33	HIS
3	R	616	ASN
4	S	37	GLN
4	S	129	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)

2 non-standard protein/DNA/RNA residues 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	PCA	W	1	2	7,8,9	1.81	1 (14%)	9,10,12	2.15	5 (55%)
2	PCA	D	1	2	7,8,9	1.81	1 (14%)	9,10,12	2.13	5 (55%)

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	PCA	W	1	2	-	0/0/11/13	0/1/1/1
2	PCA	D	1	2	-	0/0/11/13	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	1	PCA	CD-N	4.68	1.46	1.34
2	W	1	PCA	CD-N	4.66	1.46	1.34

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	W	1	PCA	OE-CD-CG	-3.09	121.37	126.76
2	D	1	PCA	OE-CD-CG	-3.09	121.37	126.76
2	W	1	PCA	CA-N-CD	-2.87	103.74	113.58
2	D	1	PCA	CA-N-CD	-2.84	103.86	113.58
2	W	1	PCA	CB-CA-C	-2.63	109.08	112.70
2	W	1	PCA	CB-CA-N	2.57	110.68	103.30
2	D	1	PCA	CB-CA-C	-2.56	109.17	112.70
2	D	1	PCA	CB-CA-N	2.55	110.63	103.30
2	W	1	PCA	CG-CD-N	2.45	114.72	108.39
2	D	1	PCA	CG-CD-N	2.40	114.61	108.39

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

135 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	$\#\|Z\| > 2$
8	NAG	E	1	1,8	14,14,15	1.95	1 (7%)	17,19,21	1.48	3 (17%)
8	NAG	E	2	8	14,14,15	2.27	2 (14%)	17,19,21	1.84	3 (17%)
8	BMA	E	3	8	11,11,12	2.80	6 (54%)	15,15,17	2.18	6 (40%)
8	MAN	E	4	8	11,11,12	0.76	0	15,15,17	1.18	2 (13%)
8	MAN	E	5	8	11,11,12	1.71	3 (27%)	15,15,17	3.22	9 (60%)
9	NAG	P	1	1,9	14,14,15	0.88	1 (7%)	17,19,21	0.77	1 (5%)
9	NAG	P	2	9	14,14,15	1.03	1 (7%)	17,19,21	0.66	0
9	BMA	P	3	9	11,11,12	0.74	0	15,15,17	0.77	0
8	NAG	X	1	1,8	14,14,15	2.15	2 (14%)	17,19,21	1.78	3 (17%)
8	NAG	X	2	8	14,14,15	0.69	1 (7%)	17,19,21	0.53	0
8	BMA	X	3	8	11,11,12	0.61	0	15,15,17	0.77	0
8	MAN	X	4	8	11,11,12	0.60	0	15,15,17	1.03	2 (13%)
8	MAN	X	5	8	11,11,12	0.71	0	15,15,17	0.98	1 (6%)
10	NAG	Y	1	1,10	14,14,15	0.38	0	17,19,21	0.59	0
10	NAG	Y	2	10	14,14,15	0.38	0	17,19,21	0.42	0
10	BMA	Y	3	10	11,11,12	0.63	0	15,15,17	0.78	0
10	MAN	Y	4	10	11,11,12	0.67	0	15,15,17	1.07	2 (13%)
11	NAG	Z	1	1,11	14,14,15	1.92	2 (14%)	17,19,21	1.58	3 (17%)
11	NAG	Z	2	11	14,14,15	2.26	2 (14%)	17,19,21	1.90	4 (23%)
11	BMA	Z	3	11	11,11,12	2.45	5 (45%)	15,15,17	2.25	4 (26%)
11	MAN	Z	4	11	11,11,12	1.48	1 (9%)	15,15,17	3.23	7 (46%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
11	MAN	Z	5	11	11,11,12	1.49	2 (18%)	15,15,17	2.93	6 (40%)
11	MAN	Z	6	11	11,11,12	1.38	2 (18%)	15,15,17	3.39	8 (53%)
11	MAN	Z	7	11	11,11,12	2.41	2 (18%)	15,15,17	3.76	6 (40%)
12	NAG	a	1	1,12	14,14,15	0.69	1 (7%)	17,19,21	0.43	0
12	NAG	a	2	12	14,14,15	1.87	1 (7%)	17,19,21	1.76	3 (17%)
12	BMA	a	3	12	11,11,12	1.48	3 (27%)	15,15,17	1.29	3 (20%)
12	MAN	a	4	12	11,11,12	1.57	3 (27%)	15,15,17	1.85	3 (20%)
12	MAN	a	5	12	11,11,12	1.39	2 (18%)	15,15,17	1.41	3 (20%)
12	MAN	a	6	12	11,11,12	1.22	1 (9%)	15,15,17	1.82	3 (20%)
13	NAG	b	1	13,1	14,14,15	0.23	0	17,19,21	0.47	0
13	NAG	b	2	13	14,14,15	0.22	0	17,19,21	0.43	0
8	NAG	c	1	1,8	14,14,15	0.25	0	17,19,21	0.39	0
8	NAG	c	2	8	14,14,15	0.19	0	17,19,21	0.46	0
8	BMA	c	3	8	11,11,12	0.51	0	15,15,17	0.73	0
8	MAN	c	4	8	11,11,12	0.65	0	15,15,17	1.07	2 (13%)
8	MAN	c	5	8	11,11,12	0.67	0	15,15,17	1.05	2 (13%)
14	NAG	d	1	1,14	14,14,15	0.43	0	17,19,21	1.46	2 (11%)
14	NAG	d	2	14	14,14,15	0.22	0	17,19,21	0.45	0
14	BMA	d	3	14	11,11,12	0.99	1 (9%)	15,15,17	0.99	1 (6%)
14	MAN	d	4	14	11,11,12	1.09	0	15,15,17	2.46	5 (33%)
14	MAN	d	5	14	11,11,12	0.79	0	15,15,17	1.18	2 (13%)
14	MAN	d	6	14	11,11,12	0.67	0	15,15,17	1.05	2 (13%)
14	MAN	d	7	14	11,11,12	0.77	1 (9%)	15,15,17	1.27	2 (13%)
14	MAN	d	8	14	11,11,12	0.76	1 (9%)	15,15,17	1.14	2 (13%)
8	NAG	e	1	1,8	14,14,15	2.74	2 (14%)	17,19,21	1.45	3 (17%)
8	NAG	e	2	8	14,14,15	1.71	2 (14%)	17,19,21	2.11	2 (11%)
8	BMA	e	3	8	11,11,12	2.19	5 (45%)	15,15,17	2.04	7 (46%)
8	MAN	e	4	8	11,11,12	1.21	1 (9%)	15,15,17	1.69	3 (20%)
8	MAN	e	5	8	11,11,12	1.61	4 (36%)	15,15,17	2.36	6 (40%)
9	NAG	f	1	1,9	14,14,15	0.91	1 (7%)	17,19,21	0.76	1 (5%)
9	NAG	f	2	9	14,14,15	1.05	1 (7%)	17,19,21	0.68	0
9	BMA	f	3	9	11,11,12	0.75	0	15,15,17	0.78	0
8	NAG	g	1	1,8	14,14,15	2.13	2 (14%)	17,19,21	1.63	3 (17%)
8	NAG	g	2	8	14,14,15	0.67	1 (7%)	17,19,21	0.55	0
8	BMA	g	3	8	11,11,12	0.61	0	15,15,17	0.76	0
8	MAN	g	4	8	11,11,12	0.61	0	15,15,17	1.03	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
8	MAN	g	5	8	11,11,12	0.68	0	15,15,17	0.98	2 (13%)
10	NAG	h	1	1,10	14,14,15	0.69	1 (7%)	17,19,21	0.79	0
10	NAG	h	2	10	14,14,15	0.21	0	17,19,21	0.43	0
10	BMA	h	3	10	11,11,12	0.63	0	15,15,17	0.80	0
10	MAN	h	4	10	11,11,12	0.66	0	15,15,17	1.04	2 (13%)
11	NAG	i	1	1,11	14,14,15	1.92	2 (14%)	17,19,21	1.69	3 (17%)
11	NAG	i	2	11	14,14,15	2.35	2 (14%)	17,19,21	1.90	4 (23%)
11	BMA	i	3	11	11,11,12	0.23	0	15,15,17	0.72	0
11	MAN	i	4	11	11,11,12	0.86	1 (9%)	15,15,17	1.70	2 (13%)
11	MAN	i	5	11	11,11,12	1.50	2 (18%)	15,15,17	2.90	5 (33%)
11	MAN	i	6	11	11,11,12	1.44	2 (18%)	15,15,17	3.13	7 (46%)
11	MAN	i	7	11	11,11,12	1.07	1 (9%)	15,15,17	2.91	6 (40%)
12	NAG	j	1	1,12	14,14,15	0.16	0	17,19,21	0.57	0
12	NAG	j	2	12	14,14,15	1.22	1 (7%)	17,19,21	1.96	5 (29%)
12	BMA	j	3	12	11,11,12	1.68	3 (27%)	15,15,17	1.41	3 (20%)
12	MAN	j	4	12	11,11,12	1.56	3 (27%)	15,15,17	1.93	3 (20%)
12	MAN	j	5	12	11,11,12	1.31	1 (9%)	15,15,17	1.45	3 (20%)
12	MAN	j	6	12	11,11,12	1.25	2 (18%)	15,15,17	1.89	4 (26%)
13	NAG	k	1	13,1	14,14,15	0.20	0	17,19,21	0.47	0
13	NAG	k	2	13	14,14,15	0.24	0	17,19,21	0.42	0
8	NAG	l	1	1,8	14,14,15	0.27	0	17,19,21	0.39	0
8	NAG	l	2	8	14,14,15	0.20	0	17,19,21	0.45	0
8	BMA	l	3	8	11,11,12	0.52	0	15,15,17	0.72	0
8	MAN	l	4	8	11,11,12	0.63	0	15,15,17	1.05	2 (13%)
8	MAN	l	5	8	11,11,12	0.67	0	15,15,17	1.04	2 (13%)
14	NAG	m	1	1,14	14,14,15	0.44	0	17,19,21	1.48	2 (11%)
14	NAG	m	2	14	14,14,15	0.25	0	17,19,21	0.45	0
14	BMA	m	3	14	11,11,12	0.94	1 (9%)	15,15,17	0.99	1 (6%)
14	MAN	m	4	14	11,11,12	1.11	1 (9%)	15,15,17	2.53	5 (33%)
14	MAN	m	5	14	11,11,12	0.69	0	15,15,17	1.13	2 (13%)
14	MAN	m	6	14	11,11,12	0.69	0	15,15,17	1.06	2 (13%)
14	MAN	m	7	14	11,11,12	0.78	1 (9%)	15,15,17	1.28	2 (13%)
14	MAN	m	8	14	11,11,12	0.77	1 (9%)	15,15,17	1.13	2 (13%)
8	NAG	n	1	1,8	14,14,15	1.94	2 (14%)	17,19,21	1.49	3 (17%)
8	NAG	n	2	8	14,14,15	2.66	2 (14%)	17,19,21	1.87	4 (23%)
8	BMA	n	3	8	11,11,12	3.30	6 (54%)	15,15,17	1.90	6 (40%)
8	MAN	n	4	8	11,11,12	0.62	0	15,15,17	1.19	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
8	MAN	n	5	8	11,11,12	1.80	4 (36%)	15,15,17	3.26	10 (66%)
9	NAG	o	1	1,9	14,14,15	0.82	1 (7%)	17,19,21	0.79	1 (5%)
9	NAG	o	2	9	14,14,15	1.02	1 (7%)	17,19,21	0.67	0
9	BMA	o	3	9	11,11,12	0.75	0	15,15,17	0.77	0
8	NAG	p	1	1,8	14,14,15	2.16	2 (14%)	17,19,21	1.64	3 (17%)
8	NAG	p	2	8	14,14,15	0.65	1 (7%)	17,19,21	0.55	0
8	BMA	p	3	8	11,11,12	0.60	0	15,15,17	0.77	0
8	MAN	p	4	8	11,11,12	0.60	0	15,15,17	1.03	2 (13%)
8	MAN	p	5	8	11,11,12	0.70	0	15,15,17	0.97	2 (13%)
10	NAG	q	1	1,10	14,14,15	0.50	0	17,19,21	0.66	0
10	NAG	q	2	10	14,14,15	0.28	0	17,19,21	0.50	0
10	BMA	q	3	10	11,11,12	0.64	0	15,15,17	0.80	0
10	MAN	q	4	10	11,11,12	0.70	0	15,15,17	1.06	2 (13%)
11	NAG	r	1	1,11	14,14,15	1.94	2 (14%)	17,19,21	1.72	3 (17%)
11	NAG	r	2	11	14,14,15	2.29	2 (14%)	17,19,21	1.89	4 (23%)
11	BMA	r	3	11	11,11,12	2.22	4 (36%)	15,15,17	2.17	3 (20%)
11	MAN	r	4	11	11,11,12	1.91	3 (27%)	15,15,17	3.30	8 (53%)
11	MAN	r	5	11	11,11,12	1.40	2 (18%)	15,15,17	2.85	6 (40%)
11	MAN	r	6	11	11,11,12	2.20	6 (54%)	15,15,17	3.94	8 (53%)
11	MAN	r	7	11	11,11,12	1.87	4 (36%)	15,15,17	1.64	4 (26%)
12	NAG	s	1	1,12	14,14,15	0.38	0	17,19,21	0.49	0
12	NAG	s	2	12	14,14,15	1.79	1 (7%)	17,19,21	1.82	3 (17%)
12	BMA	s	3	12	11,11,12	1.46	3 (27%)	15,15,17	1.23	3 (20%)
12	MAN	s	4	12	11,11,12	2.82	4 (36%)	15,15,17	2.01	5 (33%)
12	MAN	s	5	12	11,11,12	1.46	2 (18%)	15,15,17	2.52	6 (40%)
12	MAN	s	6	12	11,11,12	1.23	1 (9%)	15,15,17	1.80	3 (20%)
13	NAG	t	1	13,1	14,14,15	0.21	0	17,19,21	0.48	0
13	NAG	t	2	13	14,14,15	0.23	0	17,19,21	0.42	0
8	NAG	u	1	1,8	14,14,15	0.28	0	17,19,21	0.41	0
8	NAG	u	2	8	14,14,15	0.21	0	17,19,21	0.45	0
8	BMA	u	3	8	11,11,12	0.53	0	15,15,17	0.74	0
8	MAN	u	4	8	11,11,12	0.64	0	15,15,17	1.06	2 (13%)
8	MAN	u	5	8	11,11,12	0.64	0	15,15,17	1.04	2 (13%)
14	NAG	v	1	1,14	14,14,15	0.60	1 (7%)	17,19,21	1.47	2 (11%)
14	NAG	v	2	14	14,14,15	0.27	0	17,19,21	0.47	0
14	BMA	v	3	14	11,11,12	0.80	0	15,15,17	1.04	1 (6%)
14	MAN	v	4	14	11,11,12	0.75	1 (9%)	15,15,17	1.25	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
14	MAN	v	5	14	11,11,12	0.64	0	15,15,17	0.97	2 (13%)
14	MAN	v	6	14	11,11,12	0.92	1 (9%)	15,15,17	1.06	1 (6%)
14	MAN	v	7	14	11,11,12	2.39	5 (45%)	15,15,17	3.83	7 (46%)
14	MAN	v	8	14	11,11,12	0.78	1 (9%)	15,15,17	1.14	2 (13%)

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
8	NAG	E	1	1,8	-	3/6/23/26	0/1/1/1
8	NAG	E	2	8	-	1/6/23/26	0/1/1/1
8	BMA	E	3	8	-	1/2/19/22	0/1/1/1
8	MAN	E	4	8	-	0/2/19/22	0/1/1/1
8	MAN	E	5	8	-	0/2/19/22	0/1/1/1
9	NAG	P	1	1,9	-	1/6/23/26	0/1/1/1
9	NAG	P	2	9	-	0/6/23/26	0/1/1/1
9	BMA	P	3	9	-	1/2/19/22	0/1/1/1
8	NAG	X	1	1,8	-	0/6/23/26	0/1/1/1
8	NAG	X	2	8	-	2/6/23/26	0/1/1/1
8	BMA	X	3	8	-	2/2/19/22	0/1/1/1
8	MAN	X	4	8	-	1/2/19/22	0/1/1/1
8	MAN	X	5	8	-	0/2/19/22	0/1/1/1
10	NAG	Y	1	1,10	-	2/6/23/26	0/1/1/1
10	NAG	Y	2	10	-	0/6/23/26	0/1/1/1
10	BMA	Y	3	10	-	1/2/19/22	0/1/1/1
10	MAN	Y	4	10	-	0/2/19/22	0/1/1/1
11	NAG	Z	1	1,11	-	2/6/23/26	0/1/1/1
11	NAG	Z	2	11	-	2/6/23/26	0/1/1/1
11	BMA	Z	3	11	-	0/2/19/22	0/1/1/1
11	MAN	Z	4	11	-	0/2/19/22	0/1/1/1
11	MAN	Z	5	11	-	0/2/19/22	0/1/1/1
11	MAN	Z	6	11	-	0/2/19/22	0/1/1/1
11	MAN	Z	7	11	-	0/2/19/22	0/1/1/1
12	NAG	a	1	1,12	-	2/6/23/26	0/1/1/1
12	NAG	a	2	12	-	1/6/23/26	0/1/1/1
12	BMA	a	3	12	-	0/2/19/22	0/1/1/1
12	MAN	a	4	12	-	2/2/19/22	0/1/1/1
12	MAN	a	5	12	-	2/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
12	MAN	a	6	12	-	1/2/19/22	0/1/1/1
13	NAG	b	1	13,1	-	0/6/23/26	0/1/1/1
13	NAG	b	2	13	-	0/6/23/26	0/1/1/1
8	NAG	c	1	1,8	-	1/6/23/26	0/1/1/1
8	NAG	c	2	8	-	0/6/23/26	0/1/1/1
8	BMA	c	3	8	-	0/2/19/22	0/1/1/1
8	MAN	c	4	8	-	0/2/19/22	0/1/1/1
8	MAN	c	5	8	-	0/2/19/22	0/1/1/1
14	NAG	d	1	1,14	-	5/6/23/26	0/1/1/1
14	NAG	d	2	14	-	2/6/23/26	0/1/1/1
14	BMA	d	3	14	-	0/2/19/22	0/1/1/1
14	MAN	d	4	14	-	2/2/19/22	0/1/1/1
14	MAN	d	5	14	-	2/2/19/22	0/1/1/1
14	MAN	d	6	14	-	0/2/19/22	0/1/1/1
14	MAN	d	7	14	-	0/2/19/22	0/1/1/1
14	MAN	d	8	14	-	0/2/19/22	0/1/1/1
8	NAG	e	1	1,8	-	2/6/23/26	0/1/1/1
8	NAG	e	2	8	-	2/6/23/26	0/1/1/1
8	BMA	e	3	8	-	1/2/19/22	0/1/1/1
8	MAN	e	4	8	-	1/2/19/22	0/1/1/1
8	MAN	e	5	8	-	0/2/19/22	0/1/1/1
9	NAG	f	1	1,9	-	1/6/23/26	0/1/1/1
9	NAG	f	2	9	-	0/6/23/26	0/1/1/1
9	BMA	f	3	9	-	1/2/19/22	0/1/1/1
8	NAG	g	1	1,8	-	0/6/23/26	0/1/1/1
8	NAG	g	2	8	-	2/6/23/26	0/1/1/1
8	BMA	g	3	8	-	2/2/19/22	0/1/1/1
8	MAN	g	4	8	-	1/2/19/22	0/1/1/1
8	MAN	g	5	8	-	0/2/19/22	0/1/1/1
10	NAG	h	1	1,10	-	2/6/23/26	0/1/1/1
10	NAG	h	2	10	-	1/6/23/26	0/1/1/1
10	BMA	h	3	10	-	1/2/19/22	0/1/1/1
10	MAN	h	4	10	-	0/2/19/22	0/1/1/1
11	NAG	i	1	1,11	-	2/6/23/26	0/1/1/1
11	NAG	i	2	11	-	2/6/23/26	0/1/1/1
11	BMA	i	3	11	-	0/2/19/22	0/1/1/1
11	MAN	i	4	11	-	0/2/19/22	0/1/1/1
11	MAN	i	5	11	-	0/2/19/22	0/1/1/1
11	MAN	i	6	11	-	0/2/19/22	0/1/1/1
11	MAN	i	7	11	-	1/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
12	NAG	j	1	1,12	-	2/6/23/26	0/1/1/1
12	NAG	j	2	12	-	1/6/23/26	0/1/1/1
12	BMA	j	3	12	-	0/2/19/22	0/1/1/1
12	MAN	j	4	12	-	2/2/19/22	0/1/1/1
12	MAN	j	5	12	-	2/2/19/22	0/1/1/1
12	MAN	j	6	12	-	1/2/19/22	0/1/1/1
13	NAG	k	1	13,1	-	0/6/23/26	0/1/1/1
13	NAG	k	2	13	-	0/6/23/26	0/1/1/1
8	NAG	l	1	1,8	-	1/6/23/26	0/1/1/1
8	NAG	l	2	8	-	0/6/23/26	0/1/1/1
8	BMA	l	3	8	-	0/2/19/22	0/1/1/1
8	MAN	l	4	8	-	0/2/19/22	0/1/1/1
8	MAN	l	5	8	-	0/2/19/22	0/1/1/1
14	NAG	m	1	1,14	-	4/6/23/26	0/1/1/1
14	NAG	m	2	14	-	1/6/23/26	0/1/1/1
14	BMA	m	3	14	-	0/2/19/22	0/1/1/1
14	MAN	m	4	14	-	2/2/19/22	0/1/1/1
14	MAN	m	5	14	-	2/2/19/22	0/1/1/1
14	MAN	m	6	14	-	0/2/19/22	0/1/1/1
14	MAN	m	7	14	-	0/2/19/22	0/1/1/1
14	MAN	m	8	14	-	0/2/19/22	0/1/1/1
8	NAG	n	1	1,8	-	0/6/23/26	0/1/1/1
8	NAG	n	2	8	-	3/6/23/26	0/1/1/1
8	BMA	n	3	8	-	1/2/19/22	0/1/1/1
8	MAN	n	4	8	-	0/2/19/22	0/1/1/1
8	MAN	n	5	8	-	0/2/19/22	0/1/1/1
9	NAG	o	1	1,9	-	1/6/23/26	0/1/1/1
9	NAG	o	2	9	-	0/6/23/26	0/1/1/1
9	BMA	o	3	9	-	1/2/19/22	0/1/1/1
8	NAG	p	1	1,8	-	0/6/23/26	0/1/1/1
8	NAG	p	2	8	-	2/6/23/26	0/1/1/1
8	BMA	p	3	8	-	2/2/19/22	0/1/1/1
8	MAN	p	4	8	-	1/2/19/22	0/1/1/1
8	MAN	p	5	8	-	0/2/19/22	0/1/1/1
10	NAG	q	1	1,10	-	2/6/23/26	0/1/1/1
10	NAG	q	2	10	-	1/6/23/26	0/1/1/1
10	BMA	q	3	10	-	1/2/19/22	0/1/1/1
10	MAN	q	4	10	-	0/2/19/22	0/1/1/1
11	NAG	r	1	1,11	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	NAG	r	2	11	-	2/6/23/26	0/1/1/1
11	BMA	r	3	11	-	0/2/19/22	0/1/1/1
11	MAN	r	4	11	-	0/2/19/22	0/1/1/1
11	MAN	r	5	11	-	0/2/19/22	0/1/1/1
11	MAN	r	6	11	-	1/2/19/22	0/1/1/1
11	MAN	r	7	11	-	0/2/19/22	0/1/1/1
12	NAG	s	1	1,12	-	2/6/23/26	0/1/1/1
12	NAG	s	2	12	-	2/6/23/26	0/1/1/1
12	BMA	s	3	12	-	0/2/19/22	0/1/1/1
12	MAN	s	4	12	-	0/2/19/22	0/1/1/1
12	MAN	s	5	12	-	1/2/19/22	0/1/1/1
12	MAN	s	6	12	-	1/2/19/22	0/1/1/1
13	NAG	t	1	13,1	-	0/6/23/26	0/1/1/1
13	NAG	t	2	13	-	0/6/23/26	0/1/1/1
8	NAG	u	1	1,8	-	1/6/23/26	0/1/1/1
8	NAG	u	2	8	-	0/6/23/26	0/1/1/1
8	BMA	u	3	8	-	0/2/19/22	0/1/1/1
8	MAN	u	4	8	-	0/2/19/22	0/1/1/1
8	MAN	u	5	8	-	0/2/19/22	0/1/1/1
14	NAG	v	1	1,14	-	3/6/23/26	0/1/1/1
14	NAG	v	2	14	-	2/6/23/26	0/1/1/1
14	BMA	v	3	14	-	0/2/19/22	0/1/1/1
14	MAN	v	4	14	-	2/2/19/22	0/1/1/1
14	MAN	v	5	14	-	2/2/19/22	0/1/1/1
14	MAN	v	6	14	-	0/2/19/22	0/1/1/1
14	MAN	v	7	14	-	0/2/19/22	0/1/1/1
14	MAN	v	8	14	-	0/2/19/22	0/1/1/1

All (153) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	e	1	NAG	O5-C1	-9.72	1.28	1.43
8	n	2	NAG	O5-C1	-9.29	1.28	1.43
11	i	2	NAG	O5-C1	-8.19	1.30	1.43
11	r	2	NAG	O5-C1	-8.02	1.30	1.43
11	Z	2	NAG	O5-C1	-7.87	1.31	1.43
8	E	2	NAG	O5-C1	-7.53	1.31	1.43
8	X	1	NAG	O5-C1	-7.48	1.31	1.43
8	p	1	NAG	O5-C1	-7.48	1.31	1.43
8	g	1	NAG	O5-C1	-7.39	1.31	1.43
12	s	4	MAN	C2-C3	6.80	1.62	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	E	1	NAG	O5-C1	-6.74	1.33	1.43
11	r	1	NAG	O5-C1	-6.67	1.33	1.43
11	Z	1	NAG	O5-C1	-6.65	1.33	1.43
8	n	1	NAG	O5-C1	-6.63	1.33	1.43
11	i	1	NAG	O5-C1	-6.58	1.33	1.43
12	a	2	NAG	O5-C1	-6.47	1.33	1.43
11	Z	7	MAN	C4-C5	-6.34	1.39	1.53
12	s	2	NAG	O5-C1	-6.28	1.33	1.43
8	n	3	BMA	C4-C5	5.24	1.64	1.53
12	s	4	MAN	O2-C2	4.93	1.53	1.43
8	n	3	BMA	C4-C3	4.88	1.64	1.52
8	e	2	NAG	O5-C1	4.88	1.51	1.43
11	r	3	BMA	C4-C3	4.80	1.64	1.52
11	Z	3	BMA	C2-C3	4.64	1.59	1.52
8	E	3	BMA	C4-C3	4.64	1.64	1.52
8	n	3	BMA	O5-C5	4.59	1.52	1.43
11	Z	3	BMA	C4-C3	4.36	1.63	1.52
11	r	4	MAN	C4-C3	4.35	1.63	1.52
12	j	2	NAG	O5-C1	-4.17	1.37	1.43
8	n	3	BMA	C1-C2	-4.02	1.43	1.52
8	E	3	BMA	O5-C5	3.98	1.51	1.43
14	v	7	MAN	C2-C3	-3.98	1.46	1.52
11	r	6	MAN	C4-C5	-3.96	1.44	1.53
8	n	3	BMA	C2-C3	3.83	1.58	1.52
11	Z	5	MAN	C4-C5	-3.77	1.45	1.53
8	e	2	NAG	C1-C2	3.72	1.57	1.52
14	v	7	MAN	O5-C5	3.70	1.50	1.43
11	Z	7	MAN	O4-C4	3.67	1.51	1.43
8	E	3	BMA	C4-C5	3.66	1.60	1.53
9	f	2	NAG	O5-C1	-3.61	1.37	1.43
11	r	5	MAN	C4-C5	-3.57	1.45	1.53
14	v	7	MAN	O2-C2	-3.56	1.35	1.43
8	e	3	BMA	C4-C3	3.56	1.61	1.52
9	P	2	NAG	O5-C1	-3.52	1.38	1.43
9	o	2	NAG	O5-C1	-3.51	1.38	1.43
8	E	3	BMA	C2-C3	3.43	1.57	1.52
11	r	6	MAN	C4-C3	-3.41	1.43	1.52
8	e	3	BMA	C4-C5	3.40	1.60	1.53
12	a	5	MAN	C1-C2	3.40	1.60	1.52
11	r	7	MAN	C4-C3	3.38	1.60	1.52
11	r	7	MAN	O5-C5	3.34	1.50	1.43
12	j	5	MAN	C1-C2	3.34	1.59	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	r	3	BMA	O4-C4	3.34	1.50	1.43
11	i	5	MAN	C4-C5	-3.32	1.46	1.53
8	E	2	NAG	C1-C2	-3.31	1.47	1.52
8	e	3	BMA	O5-C1	-3.30	1.38	1.43
12	j	3	BMA	O5-C1	3.26	1.48	1.43
8	e	5	MAN	O5-C1	-3.25	1.38	1.43
14	v	7	MAN	O4-C4	-3.23	1.35	1.43
9	f	1	NAG	C1-C2	3.18	1.57	1.52
12	j	4	MAN	O5-C1	3.11	1.48	1.43
12	j	4	MAN	C1-C2	3.10	1.59	1.52
9	P	1	NAG	C1-C2	3.10	1.57	1.52
11	r	3	BMA	C2-C3	3.10	1.57	1.52
8	E	5	MAN	C1-C2	3.10	1.59	1.52
12	j	3	BMA	O5-C5	3.08	1.49	1.43
11	r	4	MAN	O2-C2	3.08	1.49	1.43
8	n	3	BMA	O5-C1	-3.07	1.38	1.43
8	n	5	MAN	C1-C2	3.03	1.59	1.52
8	n	2	NAG	C1-C2	-3.03	1.47	1.52
12	a	4	MAN	O5-C1	3.03	1.48	1.43
12	a	4	MAN	C1-C2	3.00	1.59	1.52
8	n	5	MAN	O5-C1	-2.99	1.38	1.43
11	Z	6	MAN	C1-C2	2.98	1.59	1.52
12	s	3	BMA	O5-C5	2.97	1.49	1.43
12	s	6	MAN	C1-C2	2.95	1.58	1.52
11	Z	3	BMA	O2-C2	-2.94	1.37	1.43
8	E	5	MAN	C4-C5	-2.93	1.46	1.53
9	o	1	NAG	C1-C2	2.88	1.56	1.52
8	E	3	BMA	C1-C2	-2.86	1.45	1.52
12	s	3	BMA	O5-C1	2.84	1.48	1.43
11	Z	4	MAN	C4-C5	-2.81	1.47	1.53
12	a	3	BMA	O5-C5	2.78	1.49	1.43
12	a	3	BMA	O5-C1	2.76	1.48	1.43
11	i	2	NAG	C1-C2	-2.75	1.48	1.52
8	e	5	MAN	C1-C2	2.75	1.58	1.52
8	E	3	BMA	O5-C1	-2.72	1.39	1.43
11	i	6	MAN	C1-C2	2.71	1.58	1.52
12	a	6	MAN	C1-C2	2.71	1.58	1.52
8	e	1	NAG	C1-C2	-2.65	1.48	1.52
11	r	6	MAN	O5-C1	-2.61	1.39	1.43
11	Z	2	NAG	C1-C2	-2.60	1.48	1.52
12	s	4	MAN	O5-C5	2.59	1.48	1.43
12	j	6	MAN	O5-C1	2.57	1.47	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	Z	3	BMA	C6-C5	2.55	1.60	1.51
8	e	3	BMA	C1-C2	-2.55	1.46	1.52
8	p	1	NAG	C1-C2	-2.53	1.48	1.52
11	i	5	MAN	O5-C1	-2.49	1.39	1.43
8	g	1	NAG	C1-C2	-2.49	1.48	1.52
11	Z	3	BMA	O4-C4	2.49	1.48	1.43
12	j	3	BMA	C2-C3	2.48	1.56	1.52
11	r	2	NAG	C1-C2	-2.46	1.48	1.52
11	i	6	MAN	C4-C3	-2.45	1.46	1.52
12	a	1	NAG	O5-C1	-2.44	1.39	1.43
12	s	5	MAN	C1-C2	2.40	1.57	1.52
11	i	7	MAN	O5-C1	-2.40	1.39	1.43
12	s	4	MAN	O5-C1	-2.39	1.39	1.43
8	X	1	NAG	C1-C2	-2.36	1.48	1.52
11	i	1	NAG	C1-C2	-2.35	1.48	1.52
11	r	6	MAN	O4-C4	2.34	1.48	1.43
11	r	1	NAG	C1-C2	-2.33	1.48	1.52
8	n	5	MAN	O2-C2	2.32	1.48	1.43
10	h	1	NAG	O5-C1	-2.32	1.40	1.43
11	r	6	MAN	O5-C5	2.31	1.48	1.43
14	d	3	BMA	C2-C3	2.31	1.55	1.52
8	n	5	MAN	C4-C5	-2.30	1.48	1.53
12	s	5	MAN	C2-C3	-2.30	1.49	1.52
11	r	7	MAN	C2-C3	2.30	1.55	1.52
14	v	7	MAN	C4-C5	-2.29	1.48	1.53
11	r	4	MAN	O5-C1	-2.27	1.40	1.43
12	j	6	MAN	C1-C2	2.27	1.57	1.52
8	X	2	NAG	O5-C1	2.26	1.47	1.43
12	a	4	MAN	C2-C3	-2.25	1.49	1.52
12	a	3	BMA	C2-C3	2.23	1.55	1.52
14	m	3	BMA	C2-C3	2.23	1.55	1.52
14	v	4	MAN	C1-C2	2.22	1.57	1.52
11	r	3	BMA	O2-C2	-2.19	1.38	1.43
12	s	3	BMA	C2-C3	2.19	1.55	1.52
11	Z	1	NAG	C1-C2	-2.18	1.49	1.52
11	Z	5	MAN	C2-C3	-2.18	1.49	1.52
8	g	2	NAG	O5-C1	2.17	1.47	1.43
8	E	5	MAN	O5-C1	-2.16	1.40	1.43
8	e	3	BMA	O3-C3	-2.16	1.37	1.43
12	j	4	MAN	C2-C3	-2.14	1.49	1.52
14	m	7	MAN	C1-C2	2.13	1.57	1.52
14	v	8	MAN	C1-C2	2.13	1.57	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	Z	6	MAN	C4-C5	-2.12	1.48	1.53
8	n	1	NAG	C1-C2	-2.11	1.49	1.52
8	p	2	NAG	O5-C1	2.11	1.47	1.43
11	r	5	MAN	C2-C3	-2.10	1.49	1.52
14	d	8	MAN	C1-C2	2.09	1.57	1.52
8	e	5	MAN	C4-C3	2.08	1.57	1.52
14	m	8	MAN	C1-C2	2.08	1.56	1.52
12	a	5	MAN	O2-C2	2.07	1.47	1.43
11	r	7	MAN	O5-C1	2.07	1.47	1.43
8	e	5	MAN	O2-C2	2.06	1.47	1.43
14	m	4	MAN	C4-C5	-2.06	1.48	1.53
14	d	7	MAN	C1-C2	2.04	1.56	1.52
11	r	6	MAN	O3-C3	-2.04	1.38	1.43
11	i	4	MAN	O5-C5	2.03	1.47	1.43
14	v	1	NAG	O5-C1	-2.03	1.40	1.43
14	v	6	MAN	C2-C3	2.02	1.55	1.52
8	e	4	MAN	O5-C5	2.02	1.47	1.43

All (313) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	v	7	MAN	O5-C5-C6	-8.66	93.63	107.20
11	r	6	MAN	O5-C1-C2	8.54	123.95	110.77
11	Z	6	MAN	O3-C3-C4	-7.86	92.17	110.35
8	e	2	NAG	C1-O5-C5	7.86	122.84	112.19
11	r	4	MAN	O5-C1-C2	7.40	122.19	110.77
11	Z	7	MAN	C1-C2-C3	-7.39	100.58	109.67
11	Z	4	MAN	O5-C1-C2	7.29	122.03	110.77
14	v	7	MAN	C1-O5-C5	7.22	121.97	112.19
11	Z	7	MAN	O5-C1-C2	7.22	121.91	110.77
11	i	7	MAN	O5-C1-C2	7.21	121.90	110.77
8	n	5	MAN	O3-C3-C4	-6.83	94.55	110.35
11	r	6	MAN	C3-C4-C5	6.77	122.32	110.24
11	r	6	MAN	O2-C2-C3	-6.53	97.05	110.14
11	Z	7	MAN	C3-C4-C5	6.50	121.84	110.24
11	i	6	MAN	O3-C3-C4	-6.31	95.76	110.35
11	r	4	MAN	O3-C3-C4	-6.28	95.82	110.35
11	Z	4	MAN	O5-C5-C4	-6.04	96.13	110.83
11	Z	5	MAN	O5-C1-C2	5.73	119.62	110.77
11	Z	6	MAN	O5-C1-C2	5.66	119.50	110.77
11	Z	3	BMA	C3-C4-C5	5.60	120.22	110.24
11	i	6	MAN	O5-C1-C2	5.59	119.41	110.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	s	5	MAN	O5-C5-C4	-5.59	97.23	110.83
12	j	6	MAN	C1-O5-C5	5.58	119.75	112.19
11	i	5	MAN	O5-C1-C2	5.43	119.16	110.77
11	Z	7	MAN	O5-C5-C4	-5.39	97.71	110.83
8	n	5	MAN	O5-C1-C2	5.38	119.07	110.77
8	E	5	MAN	O3-C3-C4	-5.27	98.17	110.35
11	i	5	MAN	O5-C5-C6	-5.26	98.96	107.20
12	j	4	MAN	C1-O5-C5	5.25	119.31	112.19
12	a	6	MAN	C1-O5-C5	5.22	119.26	112.19
11	r	5	MAN	O5-C1-C2	5.20	118.80	110.77
12	s	6	MAN	C1-O5-C5	5.19	119.22	112.19
14	v	7	MAN	O5-C5-C4	-5.16	98.27	110.83
14	m	4	MAN	C1-O5-C5	5.15	119.17	112.19
8	E	5	MAN	O5-C1-C2	5.14	118.70	110.77
12	j	2	NAG	C3-C4-C5	5.13	119.39	110.24
8	E	2	NAG	O4-C4-C5	5.12	122.00	109.30
8	E	5	MAN	O2-C2-C3	-5.11	99.90	110.14
11	r	3	BMA	C3-C4-C5	5.06	119.26	110.24
11	Z	5	MAN	C1-O5-C5	5.05	119.03	112.19
11	Z	5	MAN	O5-C5-C4	-4.99	98.69	110.83
12	a	4	MAN	C1-O5-C5	4.98	118.94	112.19
8	e	5	MAN	O3-C3-C4	-4.96	98.88	110.35
11	i	5	MAN	O5-C5-C4	-4.95	98.78	110.83
11	r	5	MAN	O5-C5-C4	-4.95	98.79	110.83
11	i	7	MAN	O5-C5-C4	-4.94	98.81	110.83
14	d	4	MAN	C1-O5-C5	4.91	118.85	112.19
11	r	5	MAN	O5-C5-C6	-4.88	99.56	107.20
11	r	6	MAN	O5-C5-C4	-4.85	99.04	110.83
11	i	5	MAN	C1-O5-C5	4.82	118.72	112.19
8	n	5	MAN	O2-C2-C3	-4.78	100.56	110.14
8	e	4	MAN	C1-C2-C3	-4.69	103.90	109.67
11	Z	6	MAN	C1-C2-C3	4.63	115.36	109.67
14	m	1	NAG	C2-N2-C7	4.62	129.48	122.90
11	r	5	MAN	C1-O5-C5	4.60	118.43	112.19
14	v	1	NAG	C2-N2-C7	4.57	129.41	122.90
14	d	1	NAG	C2-N2-C7	4.56	129.40	122.90
12	s	2	NAG	C3-C4-C5	4.55	118.36	110.24
12	a	2	NAG	C3-C4-C5	4.54	118.34	110.24
12	s	5	MAN	O5-C1-C2	4.54	117.78	110.77
8	n	2	NAG	O4-C4-C5	4.52	120.53	109.30
14	v	7	MAN	O5-C1-C2	4.49	117.71	110.77
11	i	6	MAN	C3-C4-C5	4.49	118.24	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	Z	4	MAN	C1-O5-C5	4.42	118.18	112.19
11	i	7	MAN	C1-O5-C5	4.39	118.14	112.19
11	Z	5	MAN	O5-C5-C6	-4.36	100.37	107.20
14	v	7	MAN	O2-C2-C3	-4.36	101.41	110.14
14	m	4	MAN	O5-C1-C2	4.34	117.48	110.77
12	s	4	MAN	O3-C3-C2	4.34	118.31	109.99
11	i	2	NAG	C3-C4-C5	4.32	117.95	110.24
14	m	4	MAN	O5-C5-C4	-4.32	100.33	110.83
14	d	4	MAN	O5-C1-C2	4.31	117.43	110.77
11	i	4	MAN	C1-O5-C5	4.31	118.03	112.19
14	m	4	MAN	O2-C2-C3	-4.26	101.61	110.14
8	p	1	NAG	C3-C4-C5	4.25	117.83	110.24
8	g	1	NAG	C3-C4-C5	4.25	117.82	110.24
14	d	4	MAN	O2-C2-C3	-4.24	101.64	110.14
8	X	1	NAG	C3-C4-C5	4.23	117.79	110.24
11	Z	2	NAG	C3-C4-C5	4.21	117.74	110.24
8	e	5	MAN	O5-C1-C2	4.20	117.25	110.77
11	i	6	MAN	C1-C2-C3	4.18	114.81	109.67
11	r	3	BMA	O4-C4-C5	4.18	119.69	109.30
14	d	4	MAN	O5-C5-C4	-4.16	100.69	110.83
11	i	6	MAN	O2-C2-C3	-4.15	101.83	110.14
8	X	1	NAG	O4-C4-C5	4.12	119.52	109.30
11	Z	4	MAN	O2-C2-C3	-4.11	101.91	110.14
11	r	6	MAN	O2-C2-C1	-4.09	100.79	109.15
8	E	5	MAN	C3-C4-C5	4.05	117.47	110.24
11	Z	7	MAN	O4-C4-C3	-4.03	101.03	110.35
11	Z	6	MAN	O2-C2-C3	-4.01	102.10	110.14
11	Z	2	NAG	O4-C4-C5	4.01	119.25	109.30
11	r	2	NAG	C3-C4-C5	3.89	117.17	110.24
11	Z	5	MAN	O2-C2-C3	-3.86	102.40	110.14
11	r	5	MAN	O2-C2-C3	-3.85	102.43	110.14
8	E	3	BMA	O3-C3-C2	3.83	117.33	109.99
12	j	4	MAN	O2-C2-C3	-3.83	102.47	110.14
11	Z	6	MAN	C3-C4-C5	3.80	117.01	110.24
11	r	4	MAN	C1-O5-C5	3.76	117.28	112.19
8	n	3	BMA	O3-C3-C2	3.75	117.18	109.99
8	E	5	MAN	O5-C5-C4	-3.74	101.72	110.83
11	Z	3	BMA	O4-C4-C5	3.74	118.59	109.30
12	a	4	MAN	O2-C2-C3	-3.73	102.66	110.14
12	j	2	NAG	O4-C4-C5	3.71	118.50	109.30
14	m	7	MAN	C1-O5-C5	3.71	117.21	112.19
8	E	2	NAG	C3-C4-C5	3.68	116.81	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	E	5	MAN	O5-C5-C6	-3.67	101.45	107.20
14	d	7	MAN	C1-O5-C5	3.67	117.16	112.19
11	r	2	NAG	C1-O5-C5	-3.66	107.23	112.19
11	r	1	NAG	O4-C4-C5	3.66	118.38	109.30
11	r	2	NAG	O4-C4-C5	3.65	118.36	109.30
11	r	7	MAN	C2-C3-C4	3.64	117.19	110.89
11	i	1	NAG	O4-C4-C5	3.59	118.22	109.30
8	n	5	MAN	C2-C3-C4	-3.59	104.68	110.89
11	Z	6	MAN	C2-C3-C4	-3.56	104.74	110.89
8	e	1	NAG	C3-C4-C5	3.55	116.57	110.24
8	p	1	NAG	O4-C4-C5	3.55	118.11	109.30
8	g	1	NAG	O4-C4-C5	3.54	118.10	109.30
11	i	2	NAG	O4-C4-C5	3.52	118.03	109.30
8	e	5	MAN	O2-C2-C3	-3.52	103.09	110.14
12	s	5	MAN	O2-C2-C3	-3.51	103.11	110.14
11	i	5	MAN	O2-C2-C3	-3.46	103.20	110.14
11	r	1	NAG	C3-C4-C5	3.46	116.41	110.24
14	v	7	MAN	C2-C3-C4	3.41	116.80	110.89
8	n	2	NAG	C3-C4-C5	3.41	116.32	110.24
12	s	2	NAG	O4-C4-C5	3.38	117.70	109.30
11	i	2	NAG	C1-O5-C5	-3.38	107.61	112.19
11	Z	2	NAG	C1-O5-C5	-3.38	107.62	112.19
11	i	7	MAN	O5-C5-C6	-3.37	101.93	107.20
11	i	1	NAG	C3-C4-C5	3.35	116.21	110.24
14	v	4	MAN	C1-O5-C5	3.34	116.72	112.19
8	n	4	MAN	C1-O5-C5	3.33	116.70	112.19
11	Z	1	NAG	O4-C4-C5	3.32	117.55	109.30
8	n	1	NAG	C3-C4-C5	3.31	116.15	110.24
11	r	1	NAG	O4-C4-C3	3.31	118.01	110.35
11	i	1	NAG	O4-C4-C3	3.30	117.97	110.35
12	j	3	BMA	C1-C2-C3	3.29	113.71	109.67
11	r	4	MAN	O3-C3-C2	3.29	116.29	109.99
11	Z	1	NAG	C3-C4-C5	3.28	116.09	110.24
8	E	5	MAN	C1-O5-C5	3.28	116.63	112.19
8	e	3	BMA	O3-C3-C2	3.27	116.26	109.99
11	r	4	MAN	C2-C3-C4	-3.26	105.25	110.89
8	n	2	NAG	O4-C4-C3	3.25	117.86	110.35
11	i	7	MAN	O2-C2-C3	-3.23	103.67	110.14
8	E	3	BMA	O4-C4-C5	3.22	117.29	109.30
14	m	5	MAN	C1-O5-C5	3.20	116.52	112.19
12	s	4	MAN	C1-C2-C3	-3.18	105.75	109.67
8	E	3	BMA	O4-C4-C3	3.17	117.67	110.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	E	4	MAN	C1-O5-C5	3.15	116.46	112.19
14	d	5	MAN	C1-O5-C5	3.13	116.44	112.19
12	a	2	NAG	O4-C4-C5	3.13	117.08	109.30
14	m	4	MAN	O5-C5-C6	-3.13	102.30	107.20
11	i	6	MAN	C2-C3-C4	-3.12	105.49	110.89
11	Z	1	NAG	O4-C4-C3	3.09	117.50	110.35
8	e	5	MAN	C1-O5-C5	3.09	116.38	112.19
8	n	5	MAN	O2-C2-C1	-3.08	102.84	109.15
8	n	5	MAN	O5-C5-C4	-3.08	103.34	110.83
12	s	4	MAN	O2-C2-C1	3.07	115.43	109.15
11	r	4	MAN	O2-C2-C3	-3.06	104.01	110.14
8	E	1	NAG	C3-C4-C5	3.06	115.69	110.24
8	e	4	MAN	C1-O5-C5	3.05	116.32	112.19
8	E	3	BMA	O5-C1-C2	-3.04	106.08	110.77
12	a	5	MAN	O2-C2-C1	3.03	115.36	109.15
11	i	2	NAG	O4-C4-C3	3.03	117.36	110.35
11	r	3	BMA	O4-C4-C3	3.02	117.33	110.35
12	j	5	MAN	O2-C2-C1	3.02	115.33	109.15
11	r	2	NAG	O4-C4-C3	3.01	117.31	110.35
11	r	6	MAN	C1-C2-C3	2.96	113.30	109.67
8	e	3	BMA	O4-C4-C3	2.95	117.18	110.35
11	i	4	MAN	O5-C1-C2	2.94	115.31	110.77
11	Z	3	BMA	O4-C4-C3	2.93	117.12	110.35
11	Z	7	MAN	C1-O5-C5	2.92	116.14	112.19
8	e	1	NAG	O4-C4-C5	2.91	116.52	109.30
8	n	3	BMA	O4-C4-C3	2.90	117.06	110.35
14	d	4	MAN	O5-C5-C6	-2.88	102.69	107.20
8	E	5	MAN	O2-C2-C1	-2.83	103.37	109.15
11	r	4	MAN	O2-C2-C1	-2.82	103.39	109.15
11	Z	3	BMA	O3-C3-C2	2.81	115.38	109.99
8	n	5	MAN	C3-C4-C5	2.81	115.25	110.24
8	c	4	MAN	C1-O5-C5	2.81	116.00	112.19
11	r	4	MAN	O5-C5-C4	-2.81	104.00	110.83
8	E	2	NAG	O4-C4-C3	2.80	116.81	110.35
12	j	2	NAG	O3-C3-C2	2.79	115.24	109.47
8	e	5	MAN	C2-C3-C4	-2.79	106.07	110.89
8	n	1	NAG	O4-C4-C3	2.79	116.80	110.35
8	u	4	MAN	C1-O5-C5	2.78	115.95	112.19
14	v	6	MAN	C1-O5-C5	2.77	115.95	112.19
14	m	6	MAN	C1-O5-C5	2.77	115.94	112.19
8	E	1	NAG	O4-C4-C5	2.76	116.14	109.30
12	s	4	MAN	O3-C3-C4	-2.75	103.99	110.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	d	6	MAN	C1-O5-C5	2.73	115.89	112.19
11	Z	4	MAN	O2-C2-C1	-2.73	103.56	109.15
8	E	1	NAG	O4-C4-C3	2.72	116.63	110.35
8	E	3	BMA	C3-C4-C5	2.71	115.08	110.24
11	r	7	MAN	C1-O5-C5	2.71	115.87	112.19
12	a	3	BMA	C1-C2-C3	2.70	112.99	109.67
11	Z	2	NAG	O4-C4-C3	2.70	116.59	110.35
8	l	4	MAN	C1-O5-C5	2.70	115.85	112.19
8	X	1	NAG	O4-C4-C3	2.70	116.58	110.35
12	a	5	MAN	O2-C2-C3	-2.70	104.74	110.14
10	Y	4	MAN	C1-O5-C5	2.69	115.83	112.19
11	Z	4	MAN	O5-C5-C6	-2.69	102.99	107.20
14	d	1	NAG	C1-C2-N2	2.67	115.05	110.49
14	m	1	NAG	C1-C2-N2	2.66	115.03	110.49
12	j	3	BMA	O5-C5-C6	2.65	111.36	107.20
12	j	5	MAN	O2-C2-C3	-2.65	104.82	110.14
8	E	5	MAN	C2-C3-C4	-2.65	106.31	110.89
14	d	8	MAN	C1-O5-C5	2.63	115.76	112.19
14	v	8	MAN	C1-O5-C5	2.63	115.76	112.19
11	r	6	MAN	C2-C3-C4	-2.62	106.35	110.89
8	n	3	BMA	O5-C1-C2	-2.62	106.72	110.77
12	s	5	MAN	C3-C4-C5	2.61	114.89	110.24
14	m	8	MAN	C1-O5-C5	2.60	115.71	112.19
10	q	4	MAN	C1-O5-C5	2.59	115.71	112.19
14	v	1	NAG	C1-C2-N2	2.59	114.91	110.49
8	n	1	NAG	O4-C4-C5	2.58	115.71	109.30
12	a	2	NAG	O3-C3-C2	2.58	114.81	109.47
10	h	4	MAN	C1-O5-C5	2.57	115.68	112.19
8	n	5	MAN	C1-O5-C5	2.57	115.67	112.19
8	c	5	MAN	C1-O5-C5	2.55	115.65	112.19
8	X	4	MAN	C1-O5-C5	2.55	115.64	112.19
8	g	4	MAN	C1-O5-C5	2.55	115.64	112.19
12	s	2	NAG	O3-C3-C2	2.54	114.72	109.47
8	u	5	MAN	C1-O5-C5	2.53	115.62	112.19
8	p	4	MAN	C1-O5-C5	2.52	115.61	112.19
11	r	6	MAN	O4-C4-C3	-2.52	104.51	110.35
8	n	5	MAN	C1-C2-C3	2.52	112.77	109.67
8	l	5	MAN	C1-O5-C5	2.52	115.60	112.19
12	s	5	MAN	C1-O5-C5	2.49	115.56	112.19
11	r	7	MAN	C3-C4-C5	2.48	114.67	110.24
12	a	3	BMA	O5-C5-C6	2.48	111.09	107.20
12	s	5	MAN	O3-C3-C2	2.47	114.73	109.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	s	3	BMA	C1-C2-C3	2.47	112.70	109.67
12	s	6	MAN	O2-C2-C3	-2.45	105.22	110.14
8	e	3	BMA	O6-C6-C5	-2.45	102.88	111.29
14	d	5	MAN	O2-C2-C3	-2.45	105.23	110.14
8	e	3	BMA	O4-C4-C5	2.45	115.38	109.30
11	r	7	MAN	O2-C2-C1	2.44	114.14	109.15
12	j	5	MAN	C1-O5-C5	2.42	115.48	112.19
8	E	4	MAN	O2-C2-C3	-2.42	105.30	110.14
11	Z	5	MAN	C3-C4-C5	2.40	114.53	110.24
11	i	6	MAN	O5-C5-C4	-2.40	104.98	110.83
8	e	1	NAG	O5-C5-C6	-2.40	103.44	107.20
12	j	6	MAN	O5-C1-C2	2.40	114.47	110.77
8	e	3	BMA	C3-C4-C5	2.38	114.48	110.24
12	a	6	MAN	O2-C2-C3	-2.38	105.38	110.14
12	s	3	BMA	O5-C5-C6	2.35	110.89	107.20
9	o	1	NAG	C1-O5-C5	2.34	115.36	112.19
11	Z	6	MAN	O5-C5-C4	-2.34	105.15	110.83
8	p	1	NAG	O4-C4-C3	2.33	115.75	110.35
9	P	1	NAG	C1-O5-C5	2.32	115.33	112.19
14	m	3	BMA	C1-O5-C5	2.31	115.32	112.19
12	s	4	MAN	C1-O5-C5	2.29	115.30	112.19
8	e	3	BMA	O5-C1-C2	-2.29	107.24	110.77
8	e	4	MAN	O2-C2-C3	-2.28	105.56	110.14
14	m	7	MAN	O2-C2-C3	-2.28	105.56	110.14
14	m	5	MAN	O2-C2-C3	-2.28	105.56	110.14
8	g	1	NAG	O4-C4-C3	2.27	115.60	110.35
12	a	5	MAN	C1-O5-C5	2.27	115.26	112.19
14	d	7	MAN	O2-C2-C3	-2.26	105.62	110.14
11	r	5	MAN	C3-C4-C5	2.25	114.26	110.24
12	j	3	BMA	O2-C2-C3	-2.25	105.63	110.14
8	n	4	MAN	O2-C2-C3	-2.25	105.63	110.14
14	m	6	MAN	O2-C2-C3	-2.25	105.63	110.14
8	u	5	MAN	O2-C2-C3	-2.24	105.65	110.14
14	v	3	BMA	C1-O5-C5	2.24	115.23	112.19
12	a	3	BMA	O2-C2-C3	-2.24	105.66	110.14
14	v	5	MAN	O2-C2-C3	-2.24	105.66	110.14
10	q	4	MAN	O2-C2-C3	-2.23	105.66	110.14
14	d	3	BMA	C1-O5-C5	2.23	115.22	112.19
8	n	5	MAN	O5-C5-C6	-2.23	103.70	107.20
8	c	5	MAN	O2-C2-C3	-2.23	105.68	110.14
11	Z	6	MAN	O2-C2-C1	-2.23	104.59	109.15
8	E	3	BMA	O5-C5-C4	-2.23	105.41	110.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	n	3	BMA	O2-C2-C3	-2.22	105.68	110.14
10	Y	4	MAN	O2-C2-C3	-2.22	105.69	110.14
12	j	6	MAN	O2-C2-C3	-2.22	105.69	110.14
14	d	6	MAN	O2-C2-C3	-2.22	105.69	110.14
11	Z	4	MAN	O3-C3-C2	2.22	114.24	109.99
14	v	4	MAN	O2-C2-C3	-2.22	105.70	110.14
8	l	4	MAN	O2-C2-C3	-2.22	105.70	110.14
10	h	4	MAN	O2-C2-C3	-2.22	105.70	110.14
14	v	5	MAN	C1-O5-C5	2.22	115.19	112.19
8	n	2	NAG	C1-O5-C5	-2.22	109.19	112.19
12	j	2	NAG	C4-C3-C2	2.21	114.26	111.02
8	u	4	MAN	O2-C2-C3	-2.21	105.71	110.14
8	X	5	MAN	O2-C2-C3	-2.20	105.72	110.14
8	g	5	MAN	O2-C2-C3	-2.20	105.73	110.14
8	X	4	MAN	O2-C2-C3	-2.20	105.73	110.14
12	a	6	MAN	O5-C1-C2	2.19	114.15	110.77
8	c	4	MAN	O2-C2-C3	-2.19	105.75	110.14
8	p	5	MAN	O2-C2-C3	-2.19	105.75	110.14
9	f	1	NAG	C1-O5-C5	2.19	115.16	112.19
8	l	5	MAN	O2-C2-C3	-2.19	105.76	110.14
8	g	4	MAN	O2-C2-C3	-2.18	105.77	110.14
8	e	3	BMA	C1-C2-C3	-2.17	107.00	109.67
8	p	4	MAN	O2-C2-C3	-2.17	105.80	110.14
12	j	2	NAG	O4-C4-C3	2.16	115.34	110.35
14	d	8	MAN	O2-C2-C3	-2.15	105.83	110.14
12	s	6	MAN	O5-C1-C2	2.15	114.09	110.77
11	i	7	MAN	O3-C3-C2	2.14	114.09	109.99
8	g	5	MAN	C1-O5-C5	2.13	115.08	112.19
14	v	7	MAN	C3-C4-C5	2.13	114.03	110.24
14	m	8	MAN	O2-C2-C3	-2.12	105.89	110.14
12	s	3	BMA	O2-C2-C3	-2.11	105.91	110.14
14	v	8	MAN	O2-C2-C3	-2.11	105.92	110.14
8	p	5	MAN	C1-O5-C5	2.08	115.01	112.19
8	n	3	BMA	C2-C3-C4	2.07	114.47	110.89
8	e	5	MAN	O5-C5-C4	-2.05	105.83	110.83
12	j	6	MAN	O2-C2-C1	2.03	113.31	109.15
8	n	3	BMA	O5-C5-C4	-2.03	105.89	110.83
12	a	4	MAN	C1-C2-C3	2.01	112.14	109.67
12	j	4	MAN	C1-C2-C3	2.01	112.13	109.67
8	e	2	NAG	C4-C3-C2	2.01	113.96	111.02

There are no chirality outliers.

All (115) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	X	3	BMA	C4-C5-C6-O6
8	g	3	BMA	C4-C5-C6-O6
8	p	3	BMA	C4-C5-C6-O6
12	j	1	NAG	C4-C5-C6-O6
11	i	7	MAN	O5-C5-C6-O6
12	a	5	MAN	O5-C5-C6-O6
12	j	5	MAN	O5-C5-C6-O6
12	s	5	MAN	O5-C5-C6-O6
8	g	3	BMA	O5-C5-C6-O6
10	Y	1	NAG	C4-C5-C6-O6
8	X	3	BMA	O5-C5-C6-O6
8	p	3	BMA	O5-C5-C6-O6
8	n	2	NAG	C4-C5-C6-O6
10	q	1	NAG	C4-C5-C6-O6
11	r	1	NAG	C4-C5-C6-O6
8	e	1	NAG	C1-C2-N2-C7
11	i	1	NAG	C4-C5-C6-O6
11	r	2	NAG	C4-C5-C6-O6
10	h	1	NAG	C4-C5-C6-O6
11	i	2	NAG	C4-C5-C6-O6
8	X	2	NAG	C4-C5-C6-O6
11	Z	2	NAG	C4-C5-C6-O6
8	g	2	NAG	C4-C5-C6-O6
14	d	1	NAG	C8-C7-N2-C2
14	d	1	NAG	O7-C7-N2-C2
14	m	1	NAG	C8-C7-N2-C2
14	m	1	NAG	O7-C7-N2-C2
14	v	1	NAG	C8-C7-N2-C2
14	v	1	NAG	O7-C7-N2-C2
12	j	1	NAG	O5-C5-C6-O6
14	d	4	MAN	O5-C5-C6-O6
8	p	2	NAG	C4-C5-C6-O6
10	Y	1	NAG	O5-C5-C6-O6
12	a	4	MAN	O5-C5-C6-O6
14	m	4	MAN	O5-C5-C6-O6
12	j	4	MAN	O5-C5-C6-O6
10	q	1	NAG	O5-C5-C6-O6
11	Z	1	NAG	C4-C5-C6-O6
14	d	2	NAG	O5-C5-C6-O6
8	X	2	NAG	O5-C5-C6-O6
8	E	1	NAG	C1-C2-N2-C7
8	g	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
12	a	4	MAN	C4-C5-C6-O6
12	j	4	MAN	C4-C5-C6-O6
10	h	1	NAG	O5-C5-C6-O6
8	e	3	BMA	O5-C5-C6-O6
12	a	6	MAN	O5-C5-C6-O6
12	s	6	MAN	O5-C5-C6-O6
8	u	1	NAG	O5-C5-C6-O6
8	p	2	NAG	O5-C5-C6-O6
11	i	1	NAG	O5-C5-C6-O6
11	i	2	NAG	O5-C5-C6-O6
11	r	1	NAG	O5-C5-C6-O6
11	r	2	NAG	O5-C5-C6-O6
8	n	2	NAG	O5-C5-C6-O6
11	Z	2	NAG	O5-C5-C6-O6
8	l	1	NAG	O5-C5-C6-O6
14	v	2	NAG	O5-C5-C6-O6
12	j	6	MAN	O5-C5-C6-O6
12	s	2	NAG	C4-C5-C6-O6
8	c	1	NAG	O5-C5-C6-O6
14	v	4	MAN	O5-C5-C6-O6
12	a	2	NAG	C4-C5-C6-O6
12	j	2	NAG	C4-C5-C6-O6
8	n	3	BMA	O5-C5-C6-O6
10	h	3	BMA	O5-C5-C6-O6
12	s	1	NAG	C4-C5-C6-O6
8	p	4	MAN	O5-C5-C6-O6
8	e	2	NAG	C4-C5-C6-O6
14	v	4	MAN	C4-C5-C6-O6
8	X	4	MAN	O5-C5-C6-O6
8	g	4	MAN	O5-C5-C6-O6
8	e	4	MAN	C4-C5-C6-O6
8	E	3	BMA	O5-C5-C6-O6
9	P	3	BMA	O5-C5-C6-O6
9	o	3	BMA	O5-C5-C6-O6
10	Y	3	BMA	O5-C5-C6-O6
10	q	3	BMA	O5-C5-C6-O6
8	E	1	NAG	C4-C5-C6-O6
12	j	5	MAN	C4-C5-C6-O6
9	f	3	BMA	O5-C5-C6-O6
14	d	5	MAN	O5-C5-C6-O6
12	a	5	MAN	C4-C5-C6-O6
12	s	1	NAG	O5-C5-C6-O6

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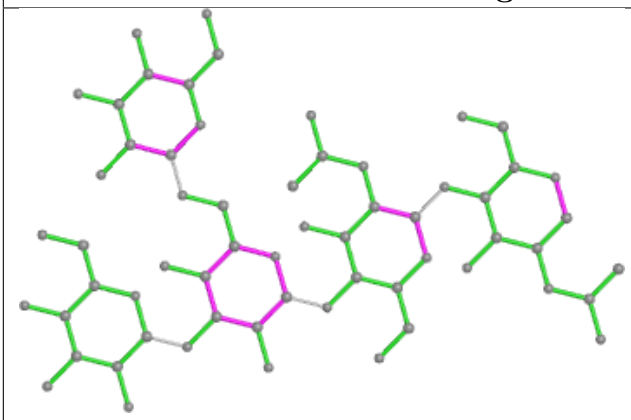
Mol	Chain	Res	Type	Atoms
12	a	1	NAG	C4-C5-C6-O6
14	m	2	NAG	O5-C5-C6-O6
14	d	5	MAN	C4-C5-C6-O6
8	e	2	NAG	O5-C5-C6-O6
14	d	2	NAG	C4-C5-C6-O6
8	n	2	NAG	C1-C2-N2-C7
8	E	2	NAG	C1-C2-N2-C7
14	v	5	MAN	C4-C5-C6-O6
14	d	1	NAG	C4-C5-C6-O6
14	v	5	MAN	O5-C5-C6-O6
14	m	4	MAN	C4-C5-C6-O6
14	d	4	MAN	C4-C5-C6-O6
12	a	1	NAG	O5-C5-C6-O6
8	E	1	NAG	C3-C2-N2-C7
9	P	1	NAG	C3-C2-N2-C7
9	f	1	NAG	C3-C2-N2-C7
9	o	1	NAG	C3-C2-N2-C7
14	d	1	NAG	C3-C2-N2-C7
11	r	6	MAN	O5-C5-C6-O6
14	m	5	MAN	O5-C5-C6-O6
11	Z	1	NAG	O5-C5-C6-O6
14	m	5	MAN	C4-C5-C6-O6
14	m	1	NAG	C4-C5-C6-O6
10	h	2	NAG	O5-C5-C6-O6
12	s	2	NAG	C1-C2-N2-C7
14	v	2	NAG	C4-C5-C6-O6
8	e	1	NAG	C3-C2-N2-C7
10	q	2	NAG	C3-C2-N2-C7
14	m	1	NAG	C3-C2-N2-C7
14	v	1	NAG	C3-C2-N2-C7
14	d	1	NAG	O5-C5-C6-O6

There are no ring outliers.

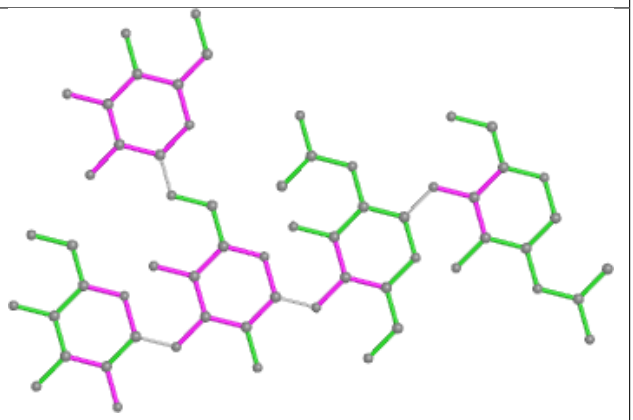
No monomer is involved in short contacts.

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

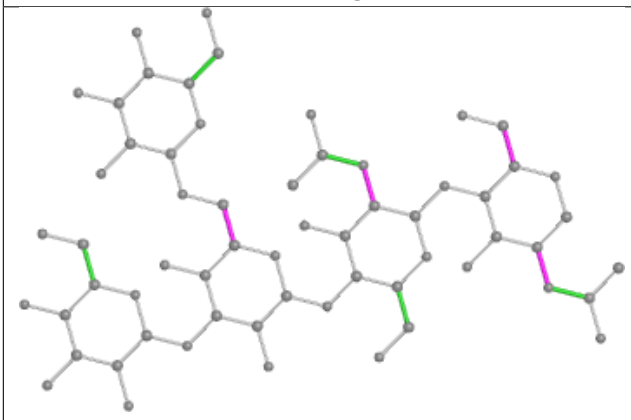
Oligosaccharide Chain E



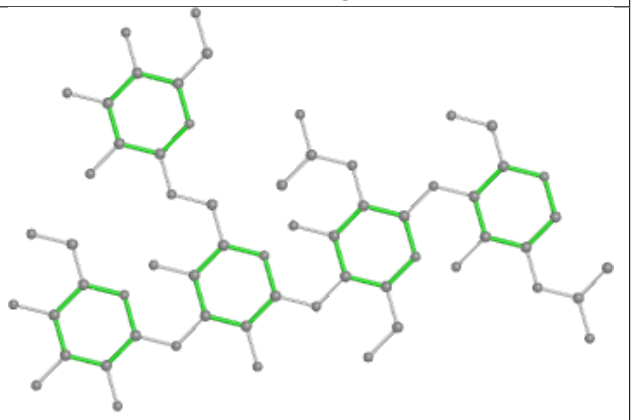
Bond lengths



Bond angles

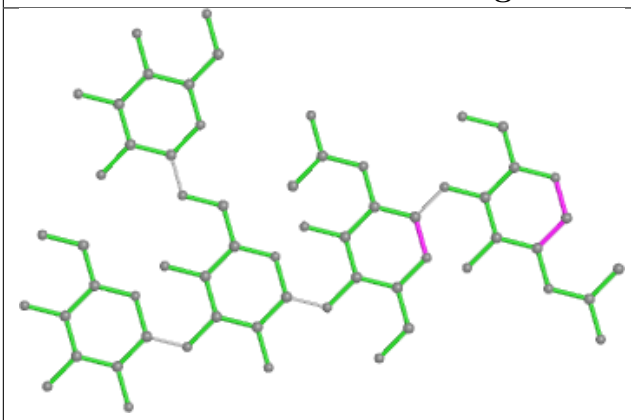


Torsions

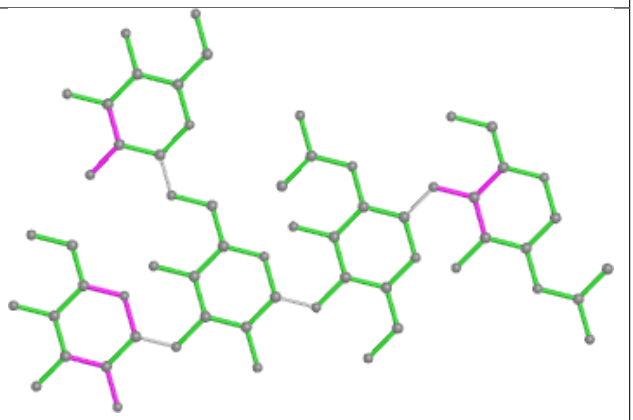


Rings

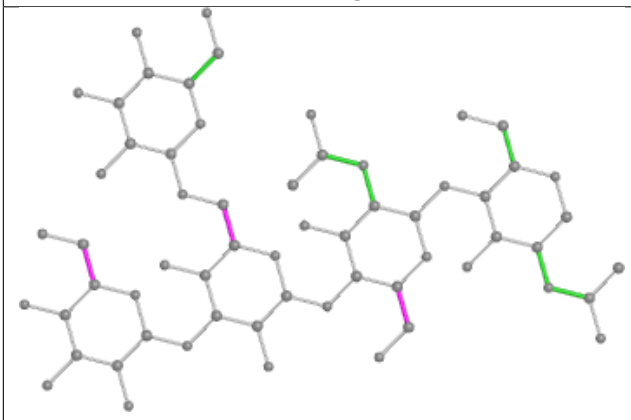
Oligosaccharide Chain X



Bond lengths



Bond angles



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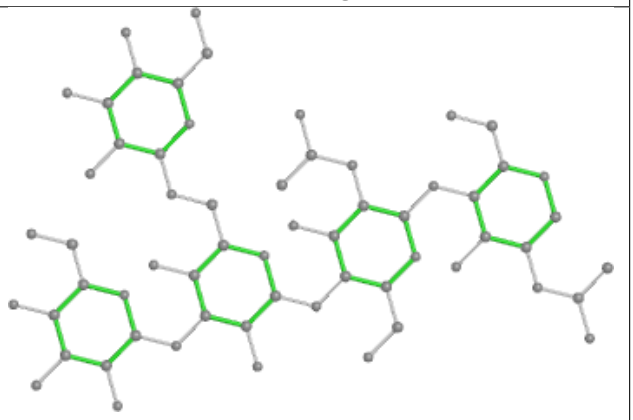
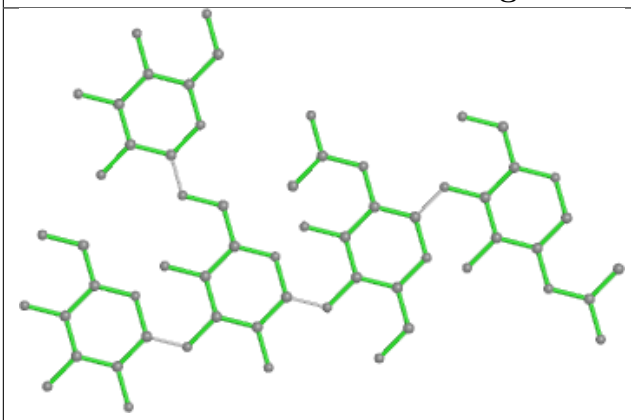
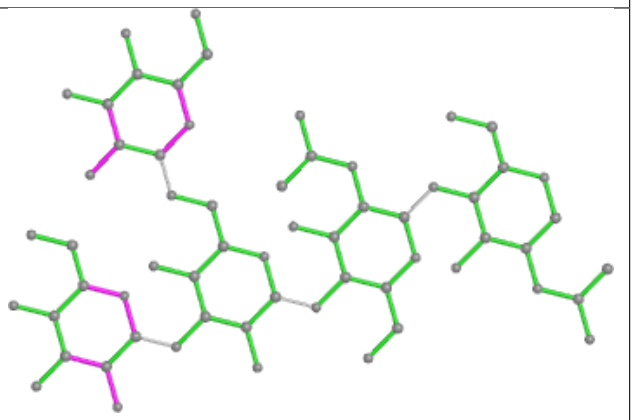


Rings

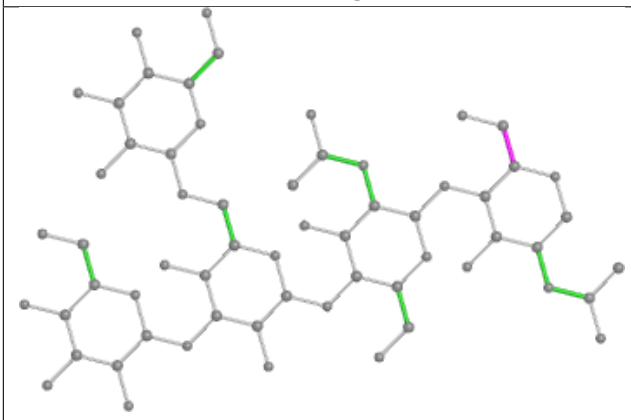
Oligosaccharide Chain c



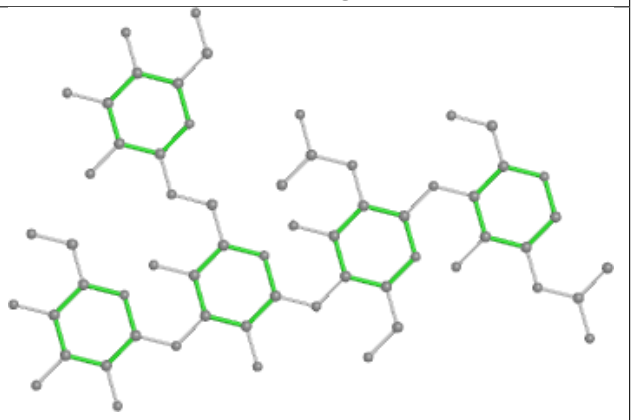
Bond lengths



Bond angles

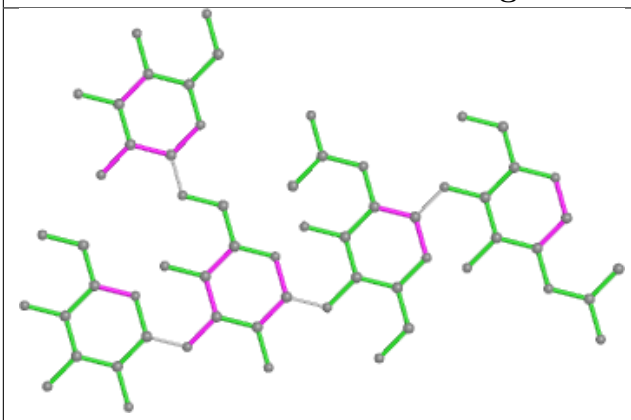


Torsions

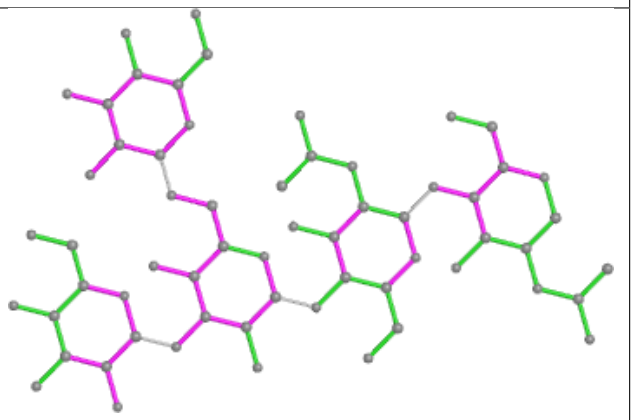


Rings

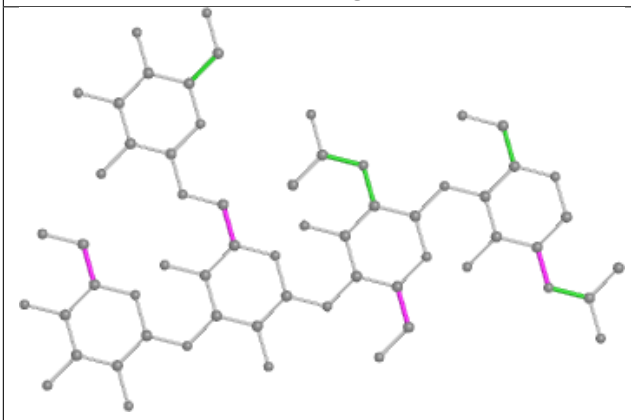
Oligosaccharide Chain e



Bond lengths



Bond angles



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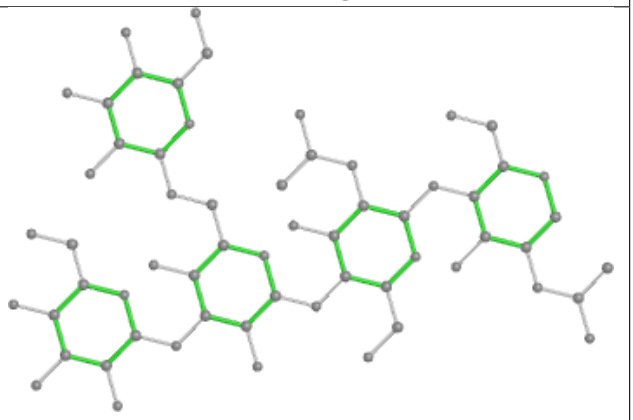
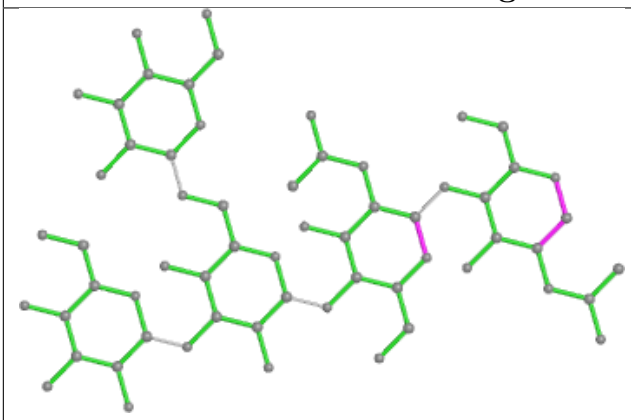
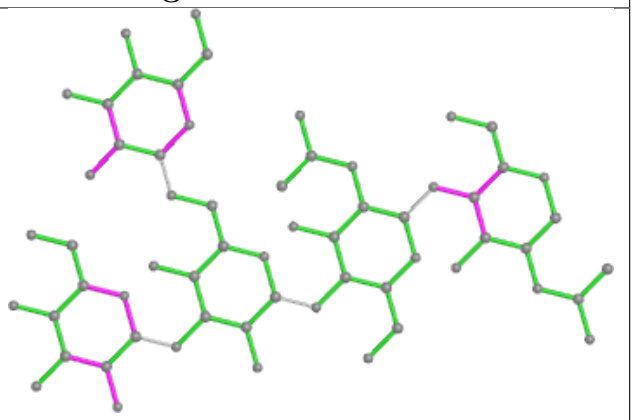


Rings

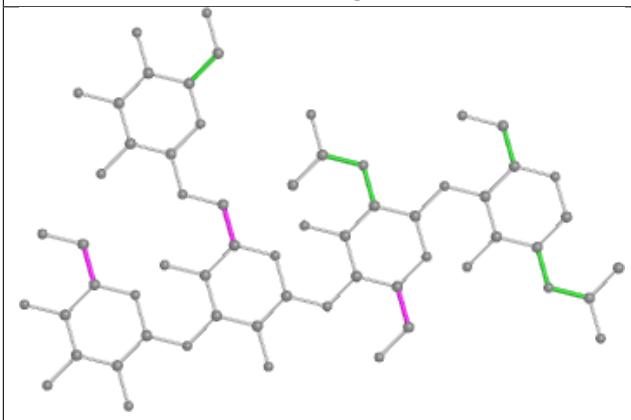
Oligosaccharide Chain g



Bond lengths



Bond angles



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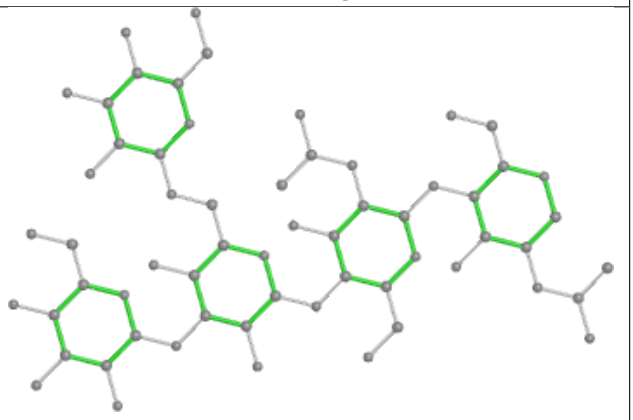
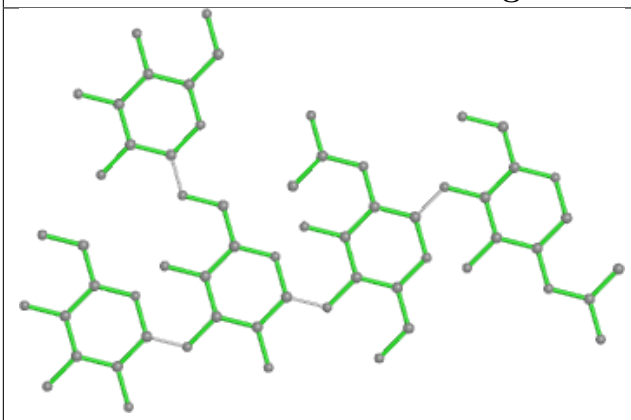


Rings

Oligosaccharide Chain l



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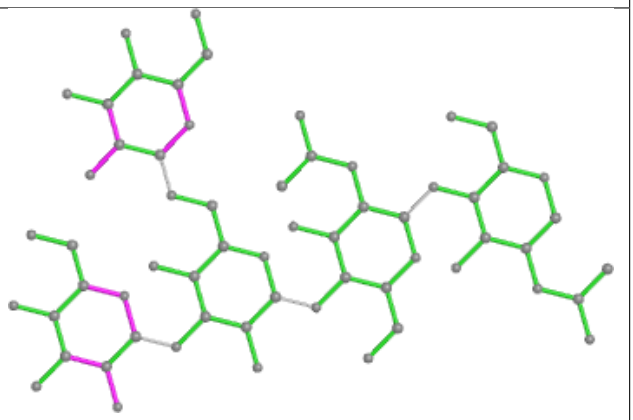
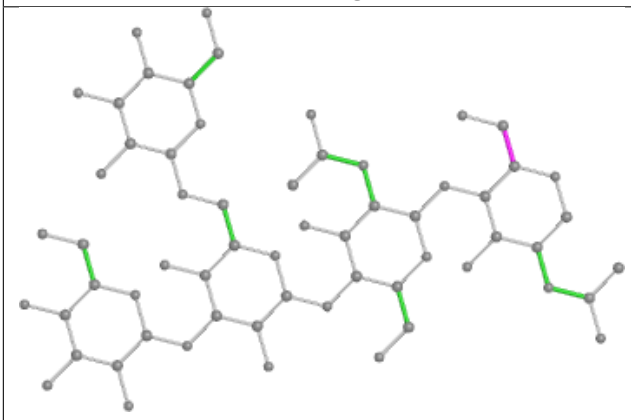


Bond angles



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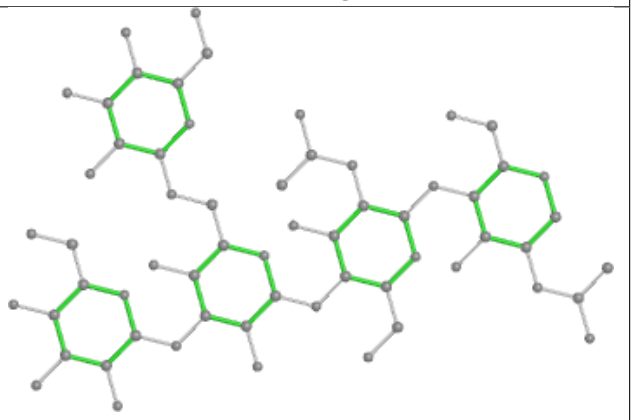
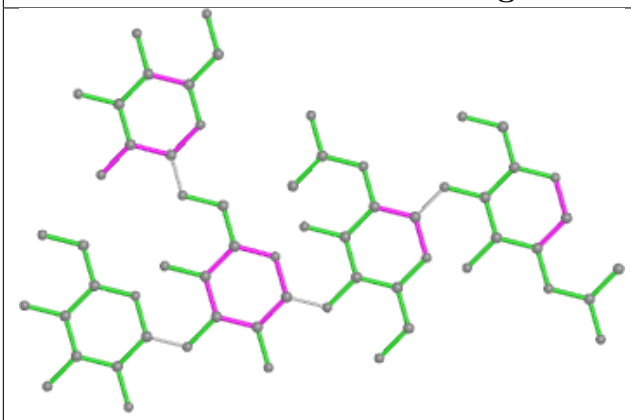
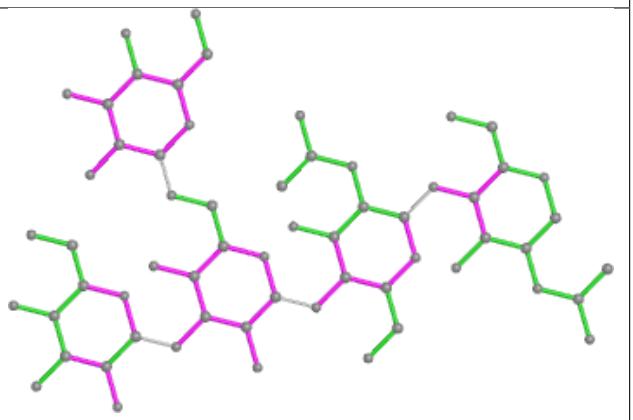


Rings

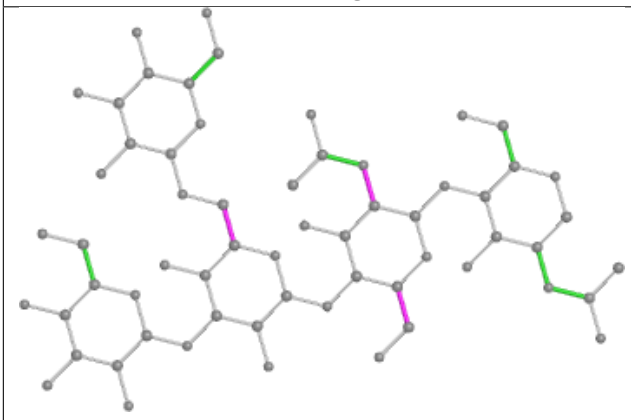
Oligosaccharide Chain n



Bond lengths



Bond angles



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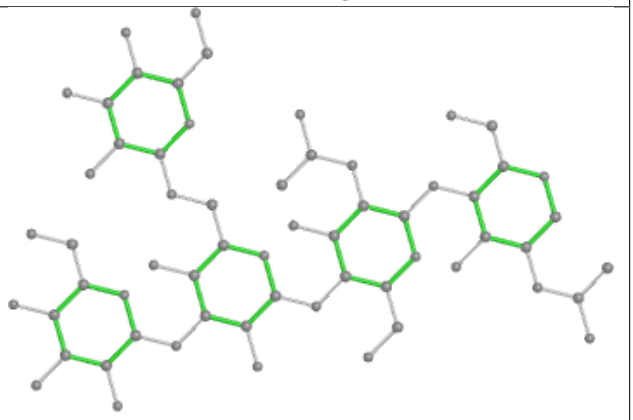
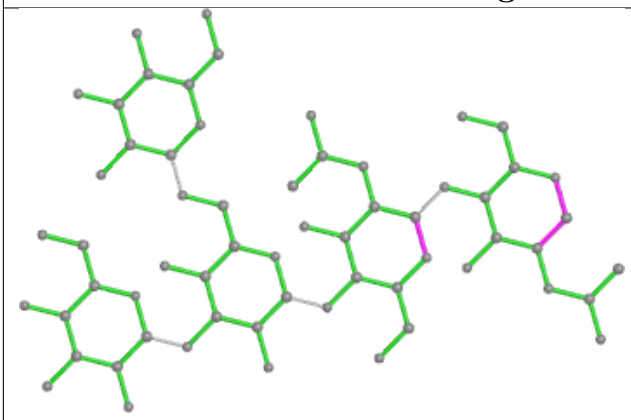


Rings

Oligosaccharide Chain p



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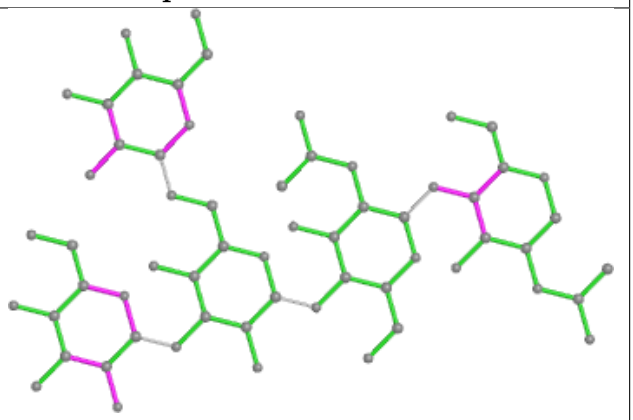
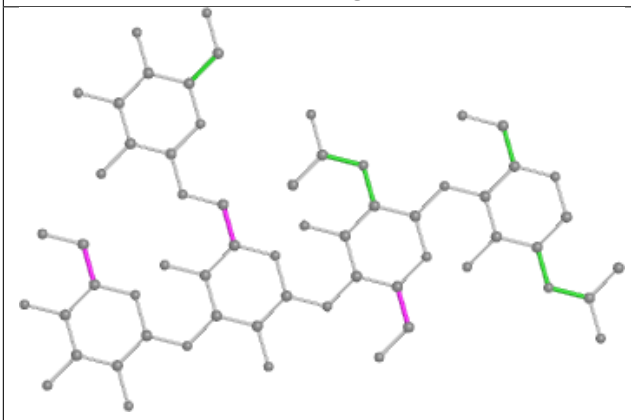


Bond angles



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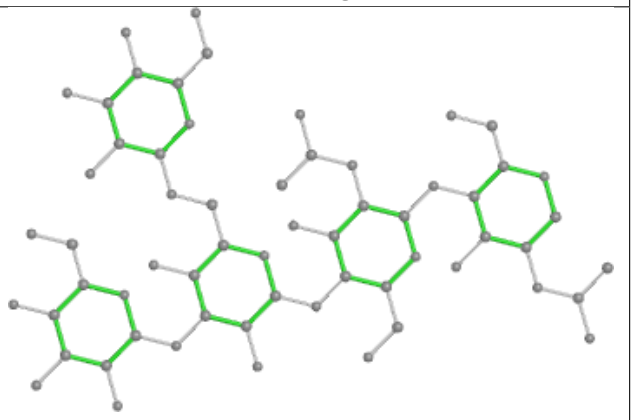
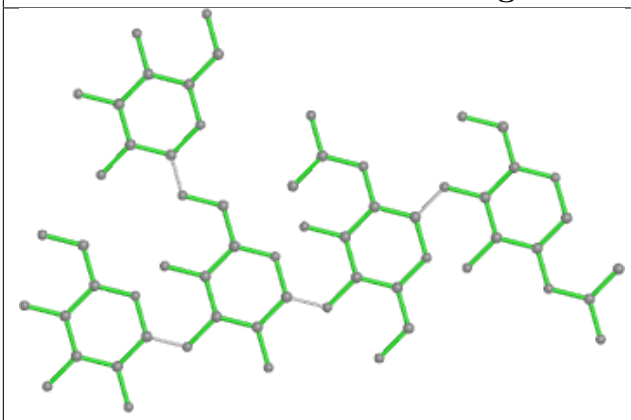
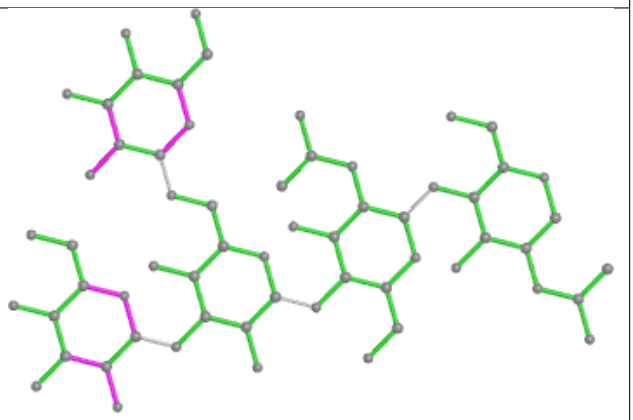


Rings

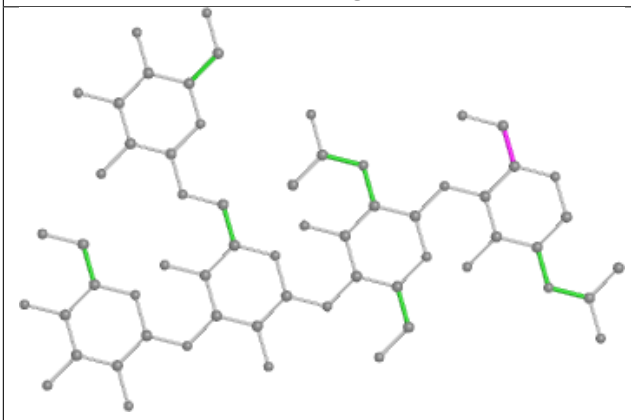
Oligosaccharide Chain u



Bond lengths



Bond angles



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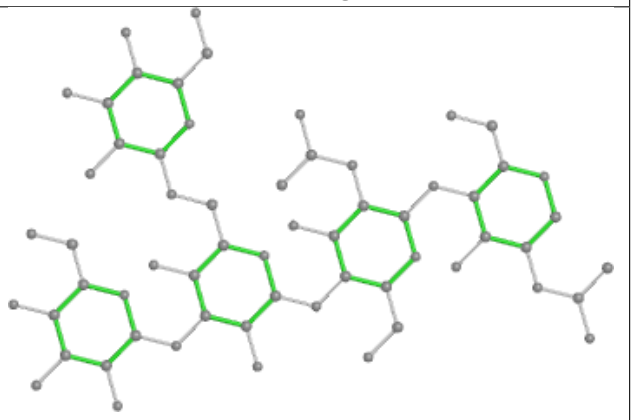
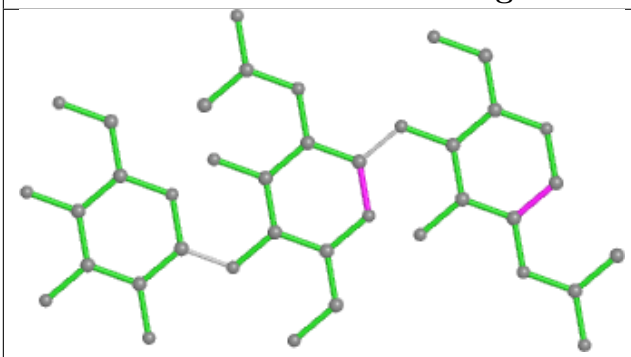
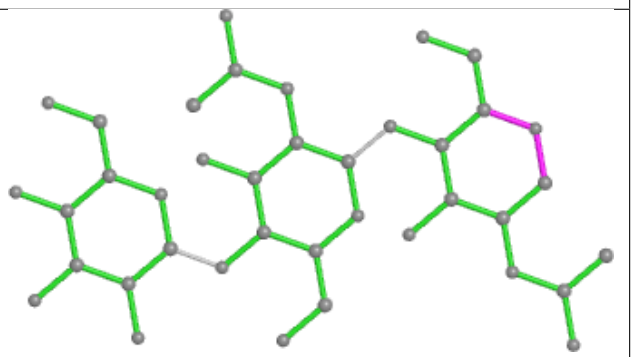


Rings

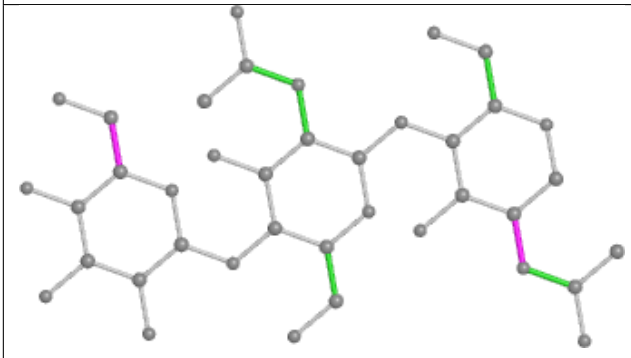
Oligosaccharide Chain P



Bond lengths



Bond angles



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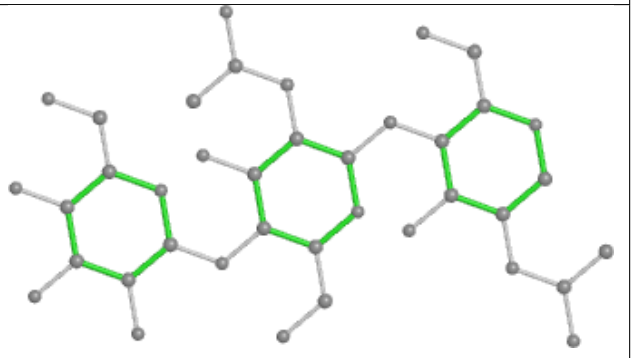
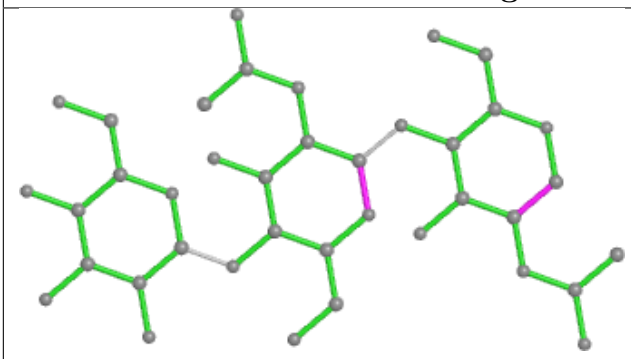


Rings

Oligosaccharide Chain f



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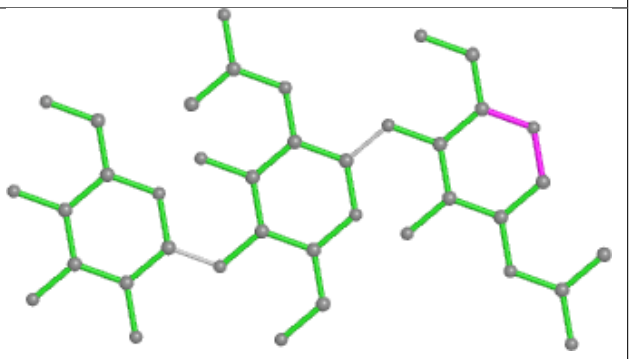
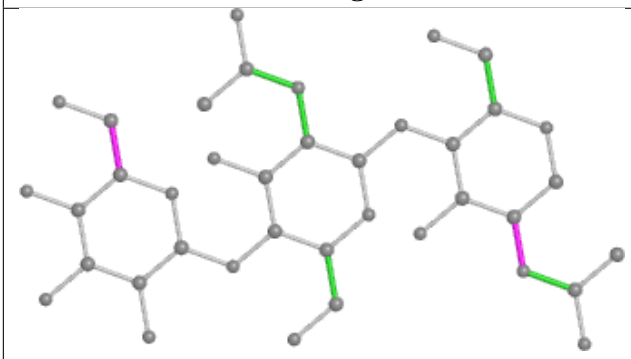


Bond angles



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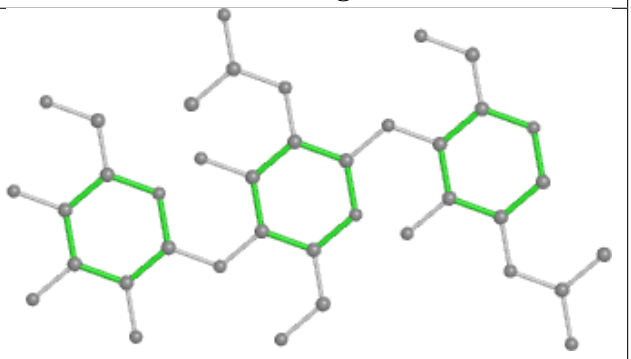
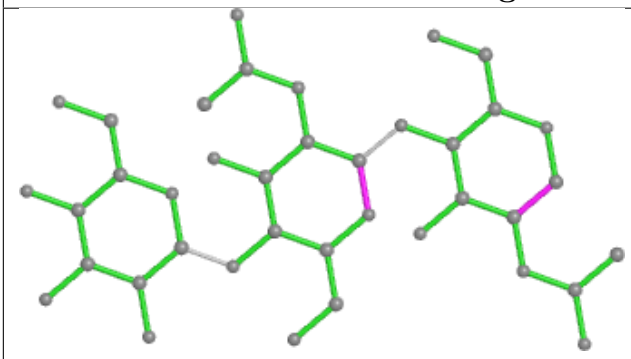
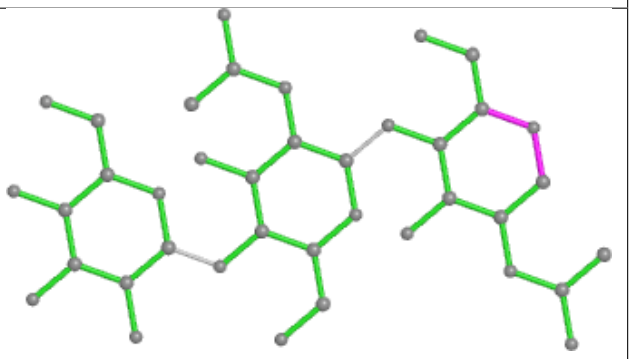


Rings

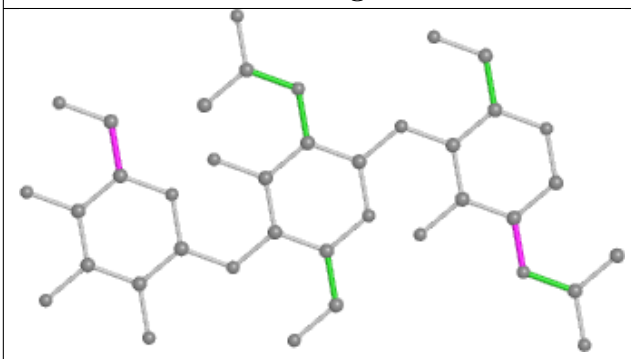
Oligosaccharide Chain o



Bond lengths



Bond angles



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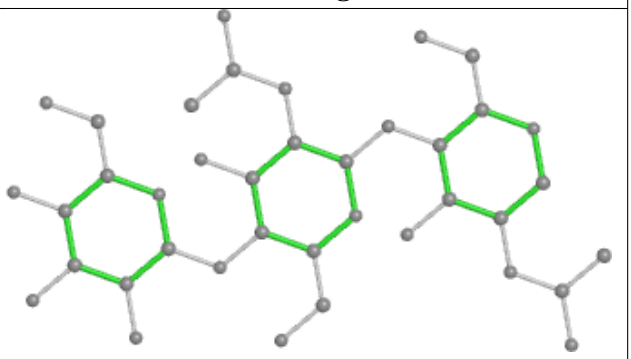
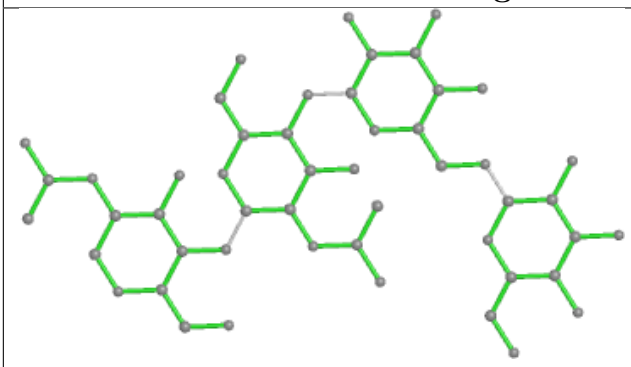
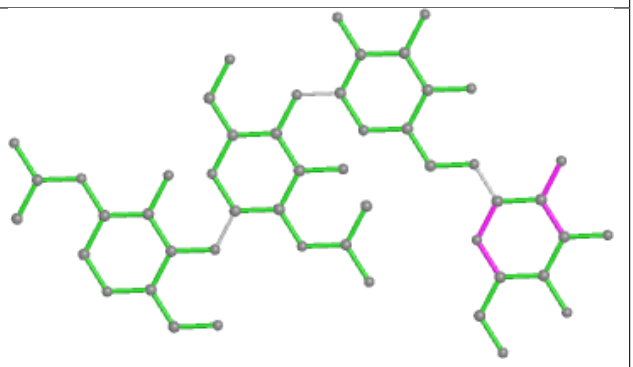


Rings

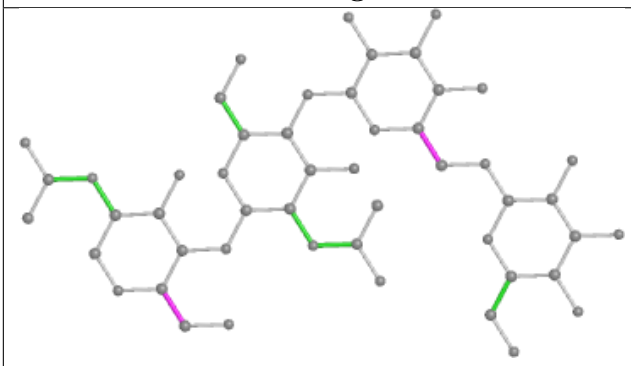
Oligosaccharide Chain Y



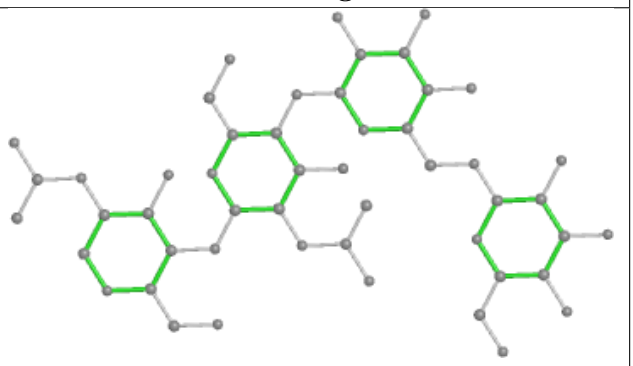
Bond lengths



Bond angles

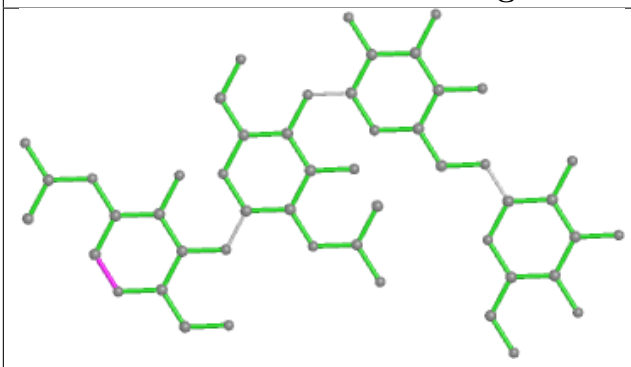


Torsions

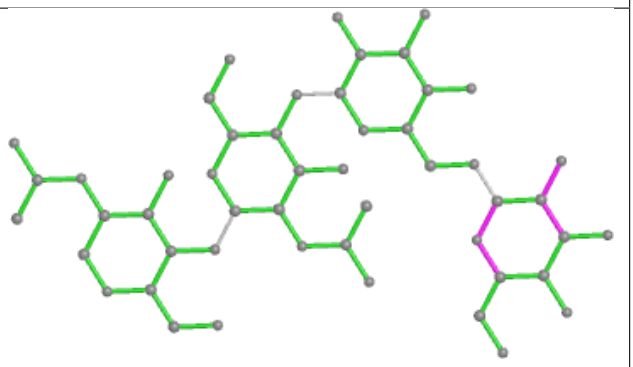


Rings

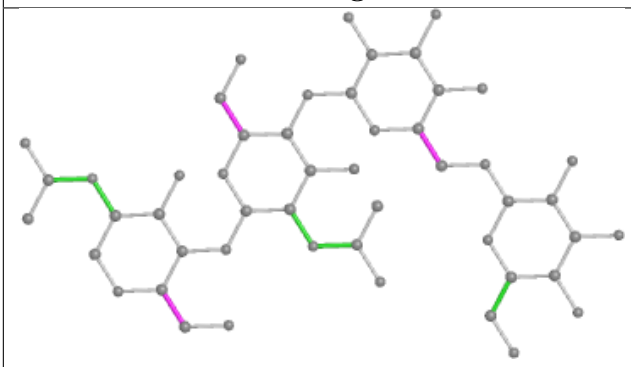
Oligosaccharide Chain h



Bond lengths



Bond angles



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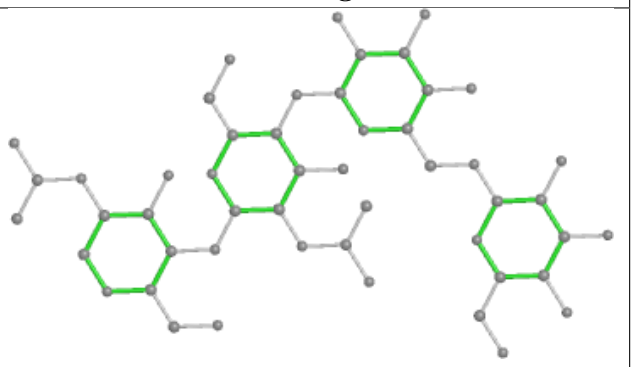
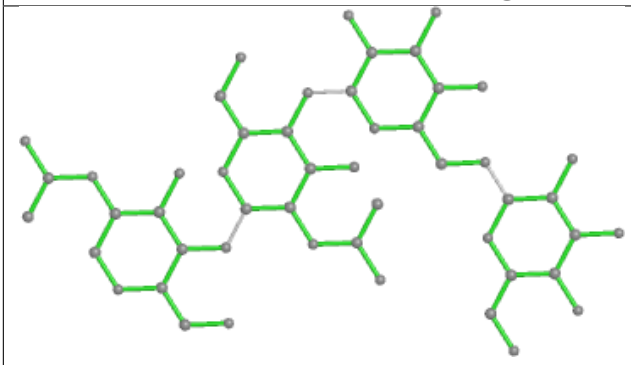


Rings

Oligosaccharide Chain q



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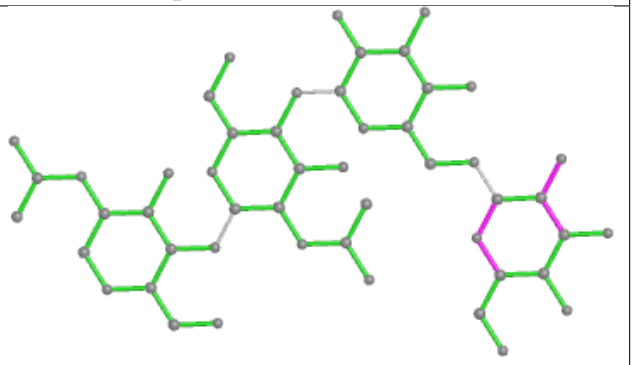
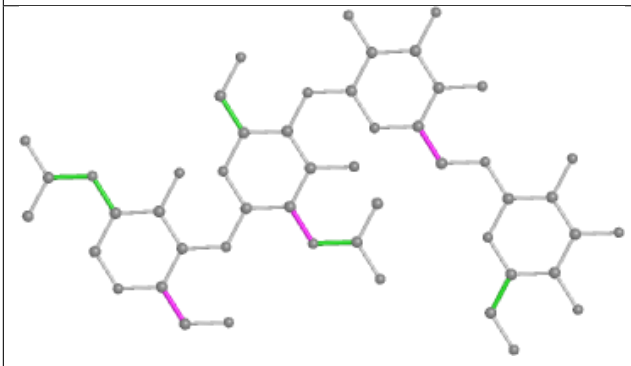
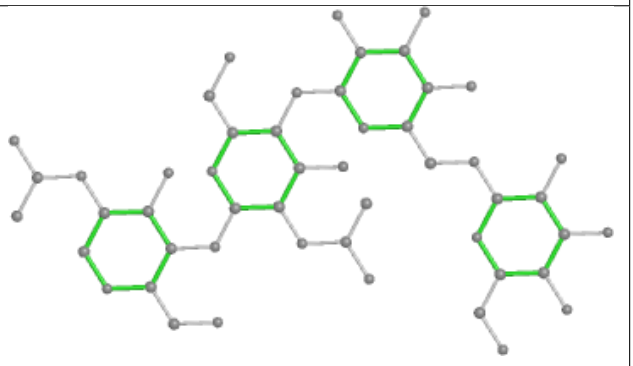


Bond angles

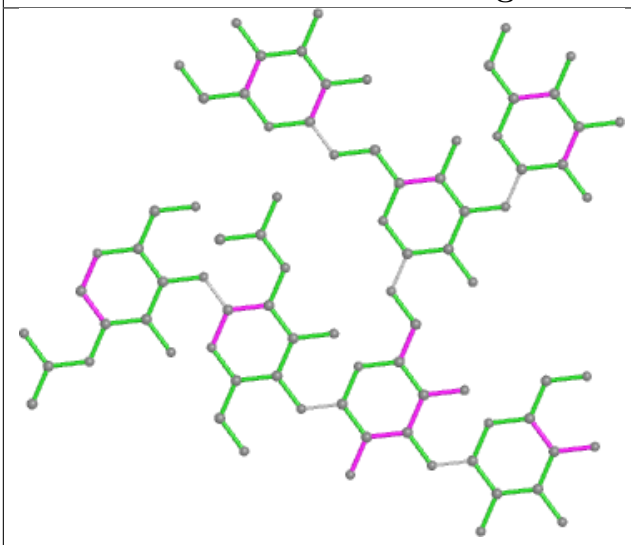


Torsions



Rings

Oligosaccharide Chain Z



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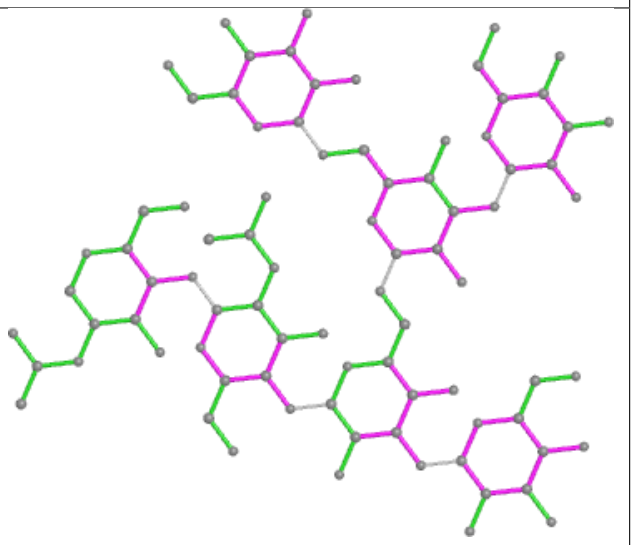
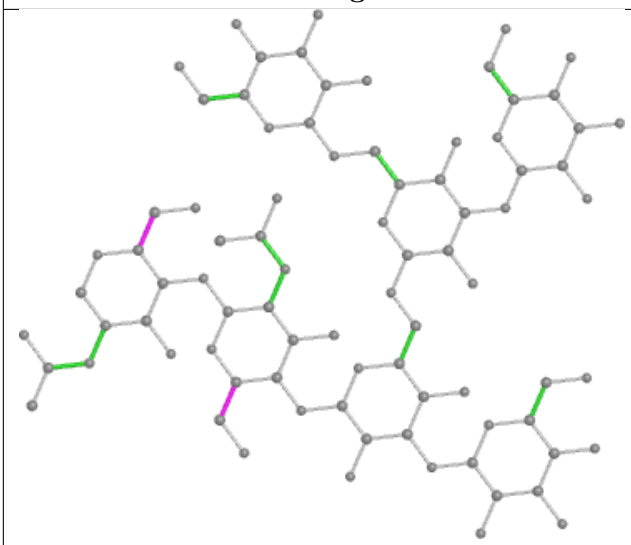
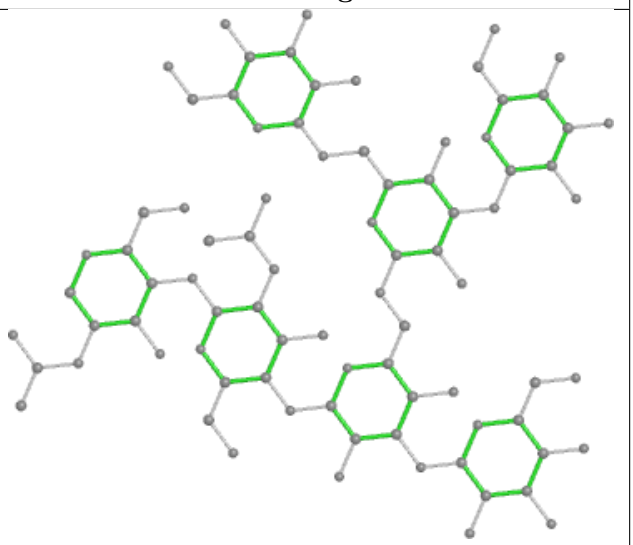


Bond angles

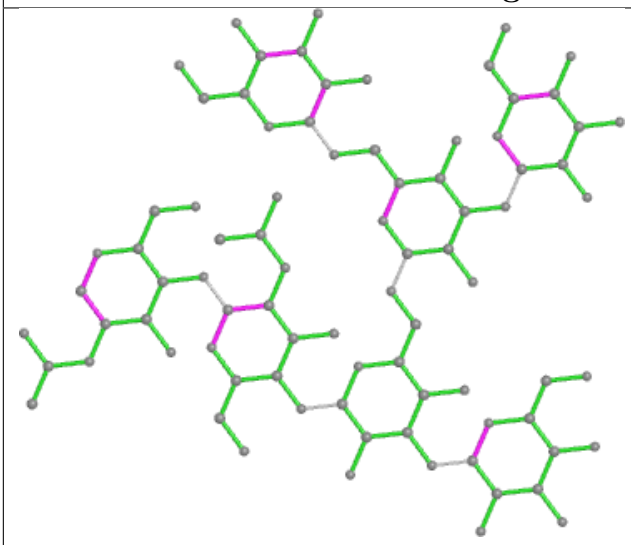


Torsions

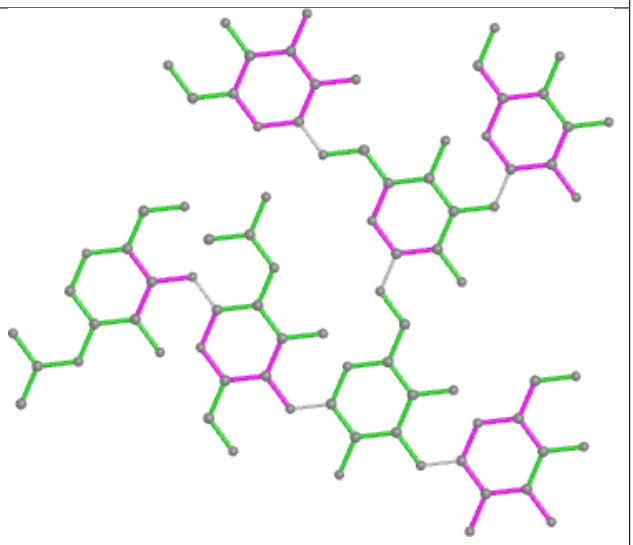


Rings

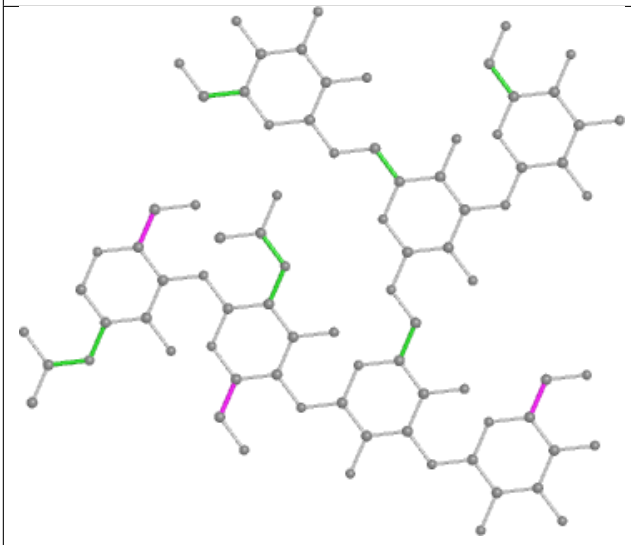
Oligosaccharide Chain i



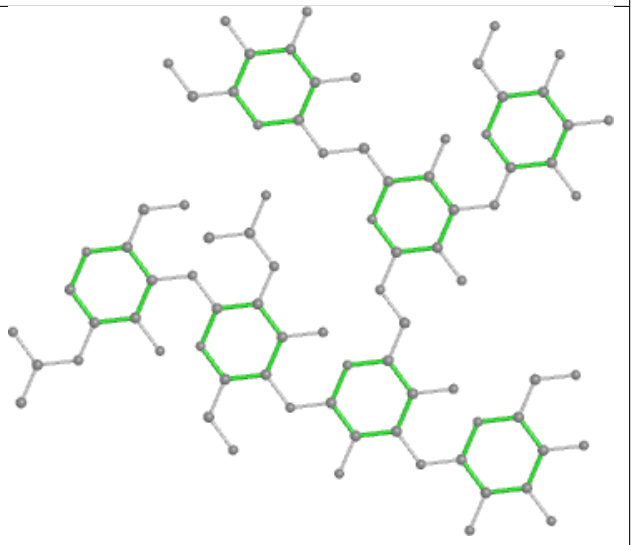
Bond lengths



Bond angles

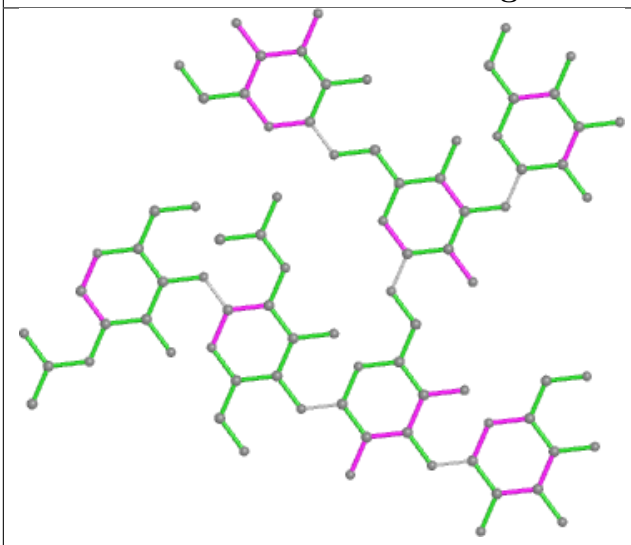


Torsions



Rings

Oligosaccharide Chain r



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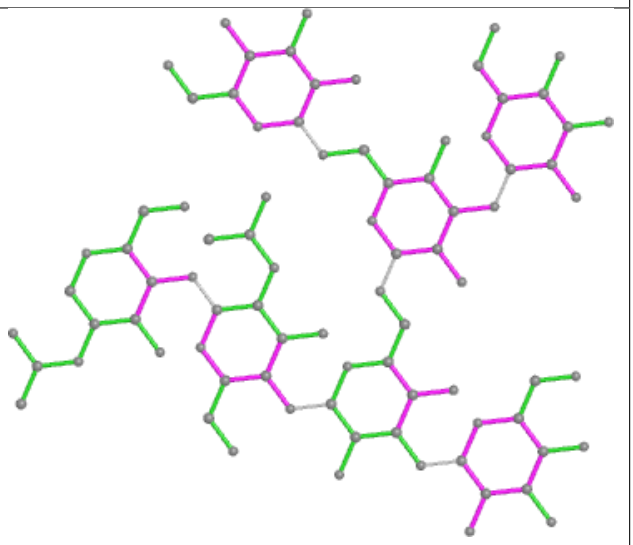
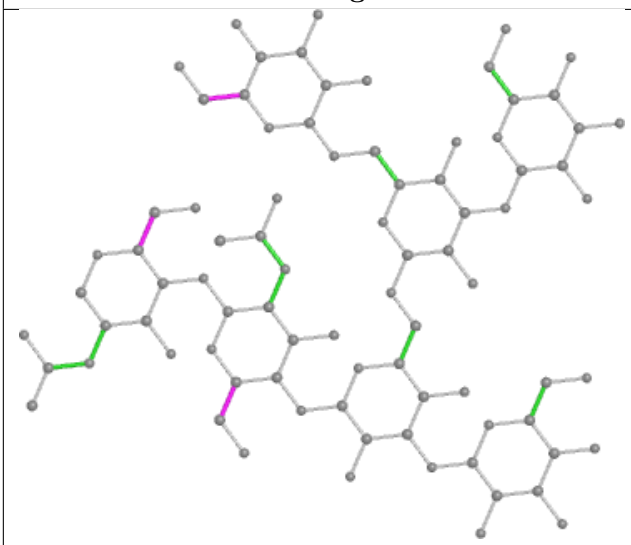
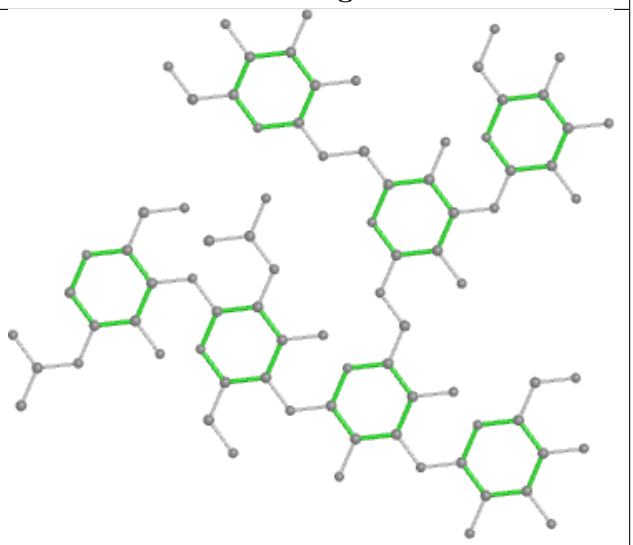


Bond angles

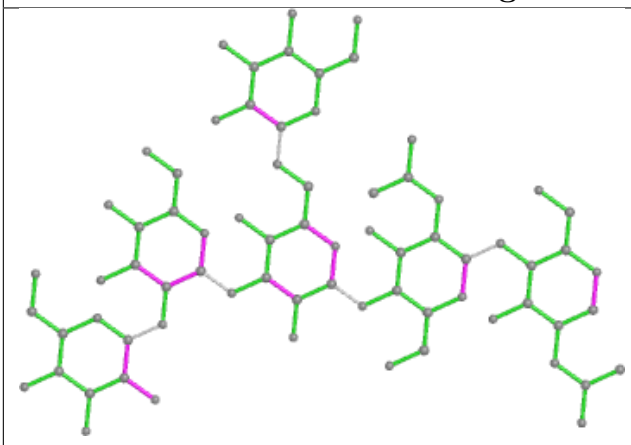


Torsions

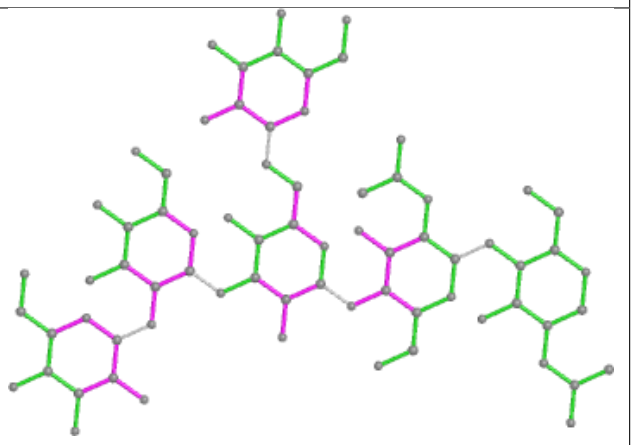


Rings

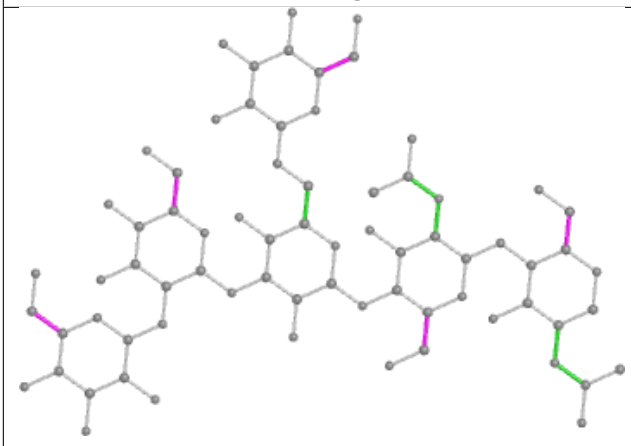
Oligosaccharide Chain a



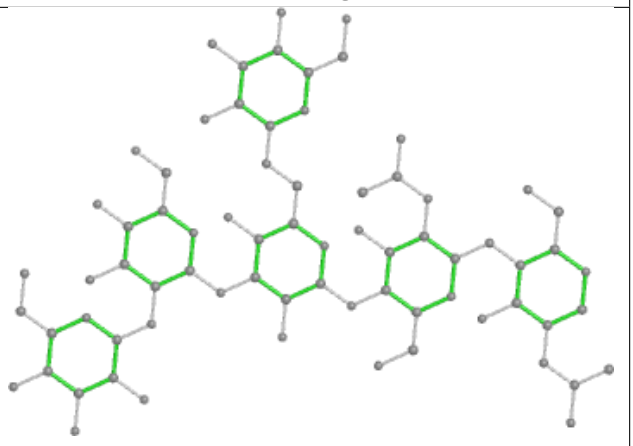
Bond lengths



Bond angles

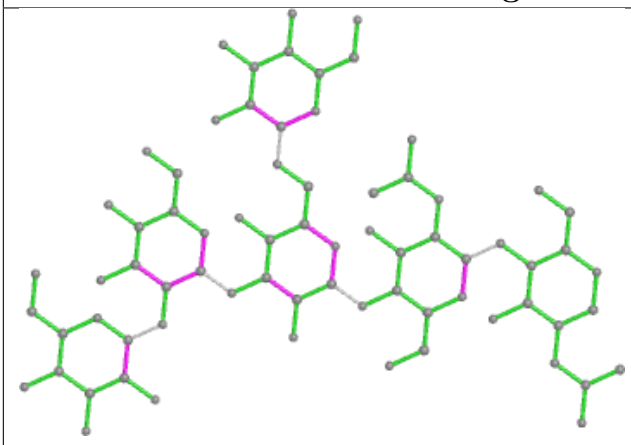


Torsions

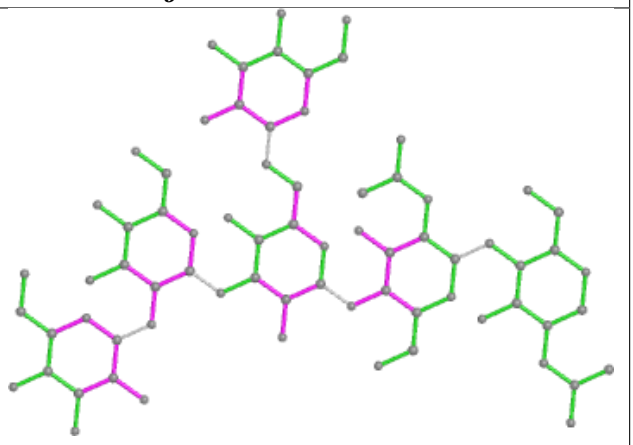


Rings

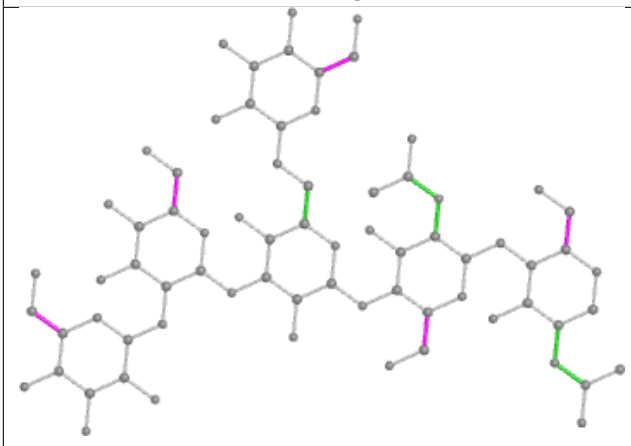
Oligosaccharide Chain j



Bond lengths



Bond angles



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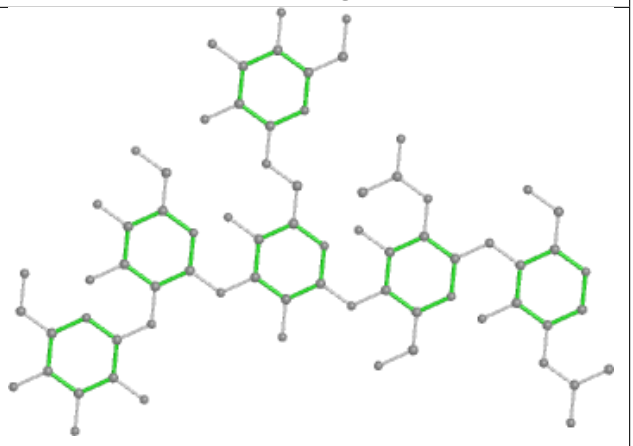
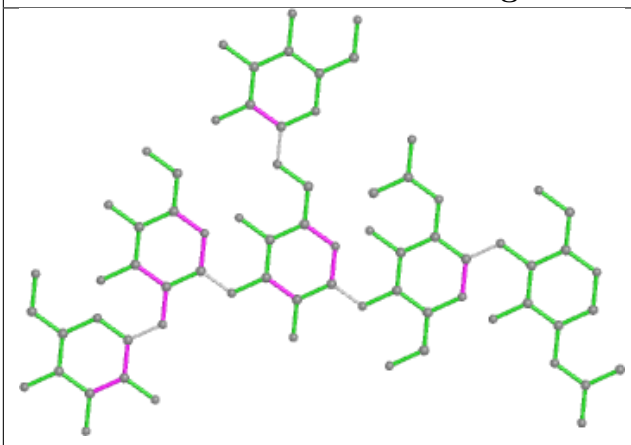
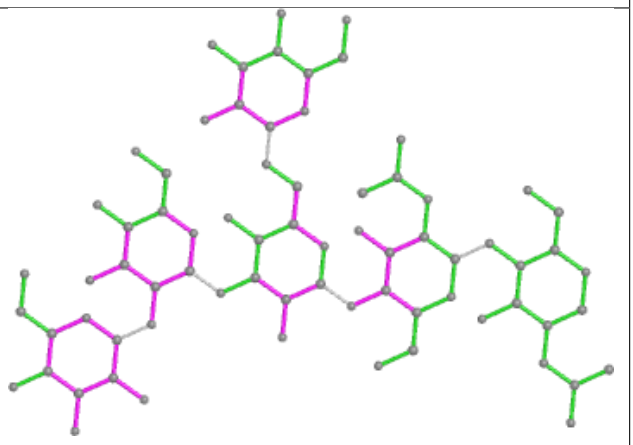


Rings

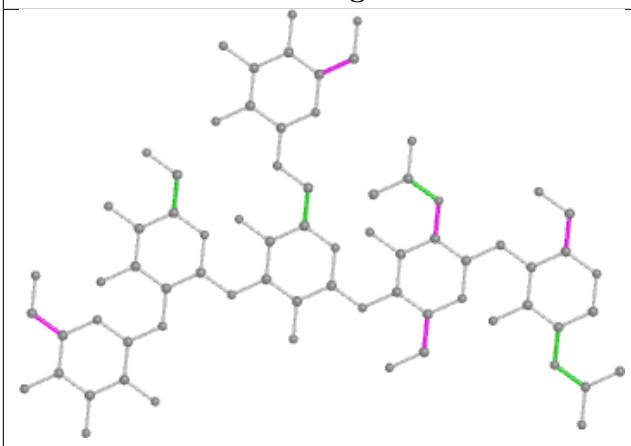
Oligosaccharide Chain s



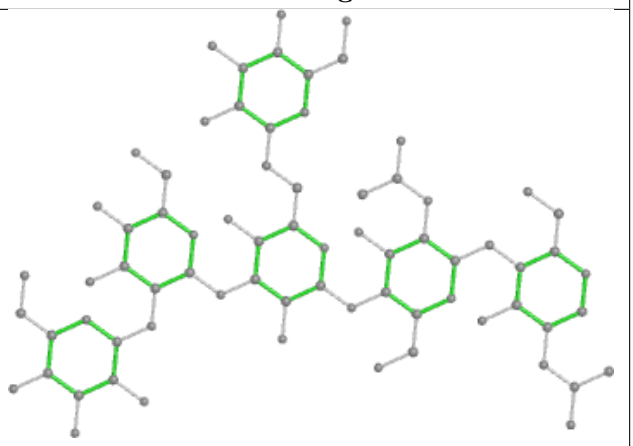
Bond lengths



Bond angles

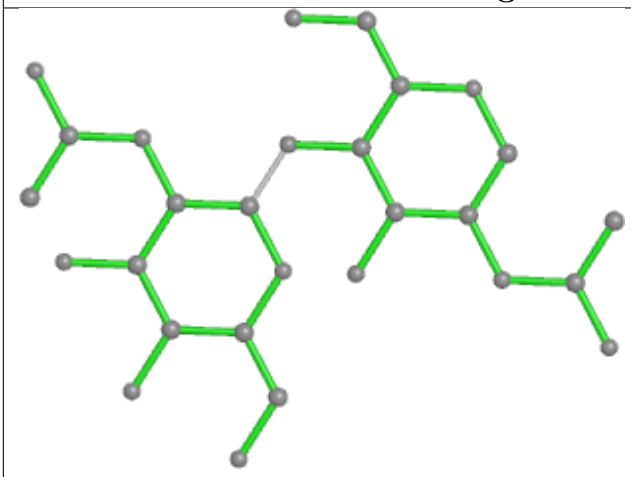


Torsions

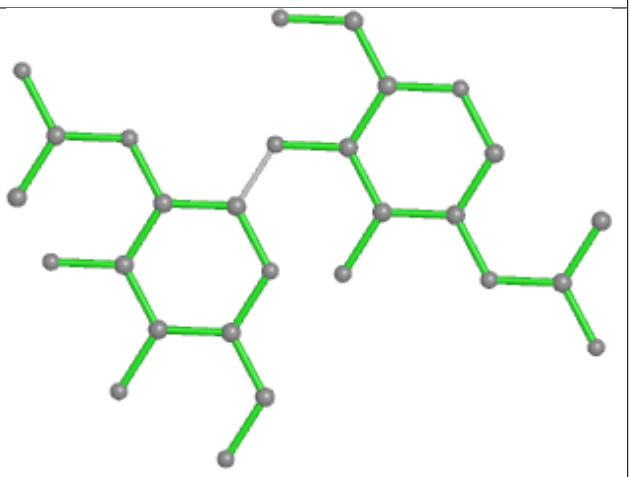


Rings

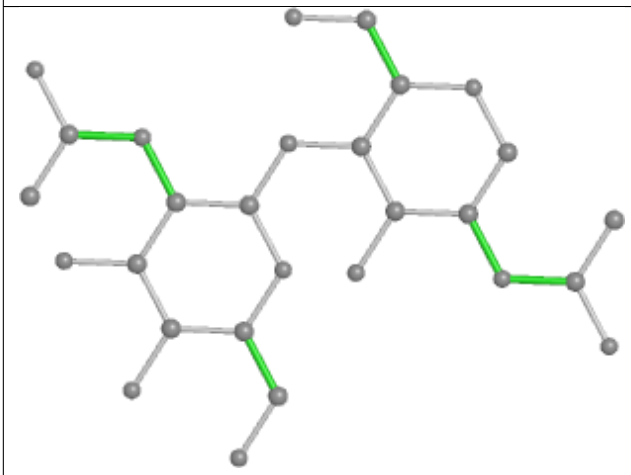
Oligosaccharide Chain b



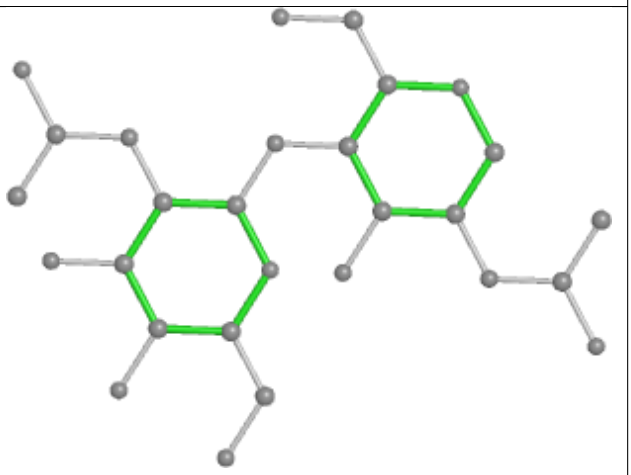
Bond lengths



Bond angles

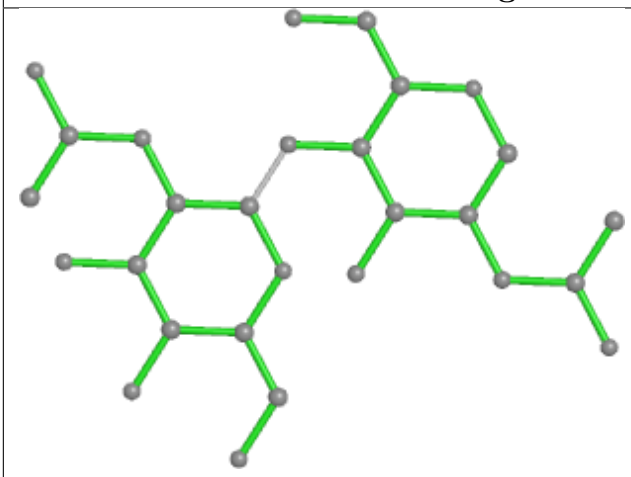


Torsions

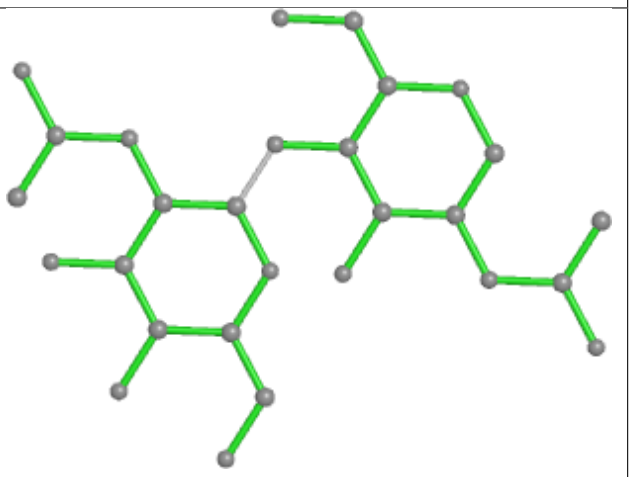


Rings

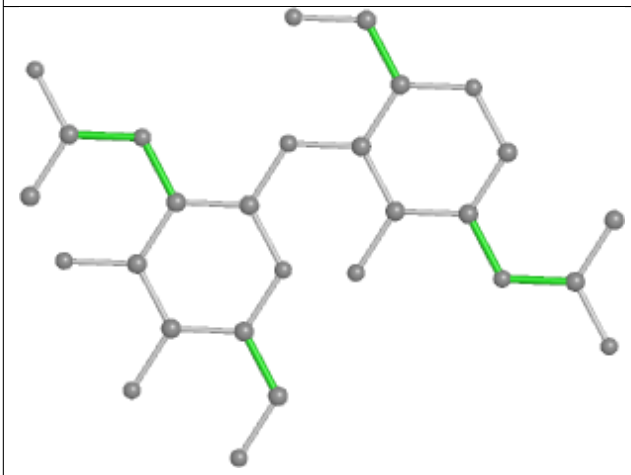
Oligosaccharide Chain k



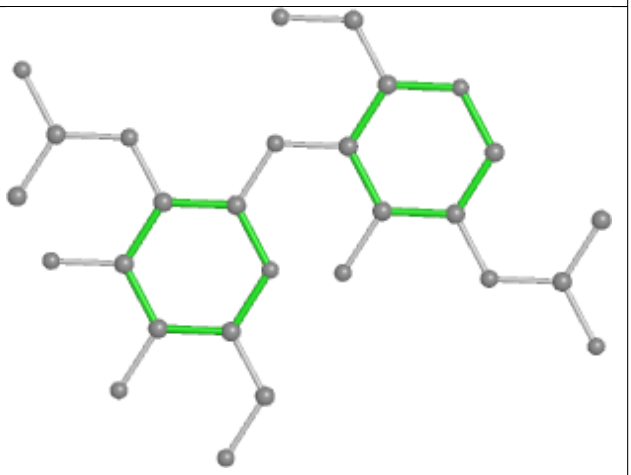
Bond lengths



Bond angles

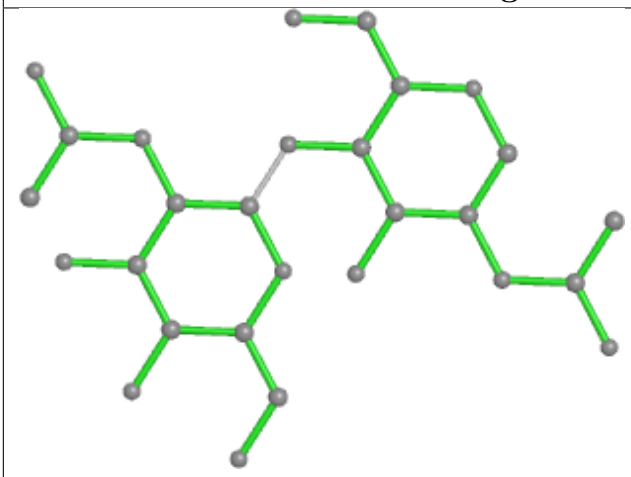


Torsions

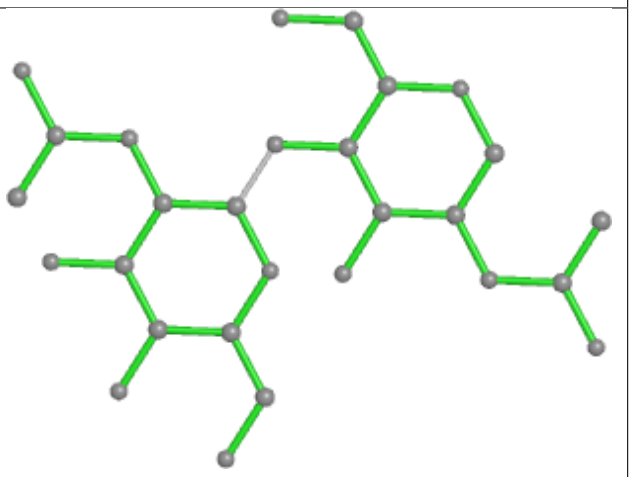


Rings

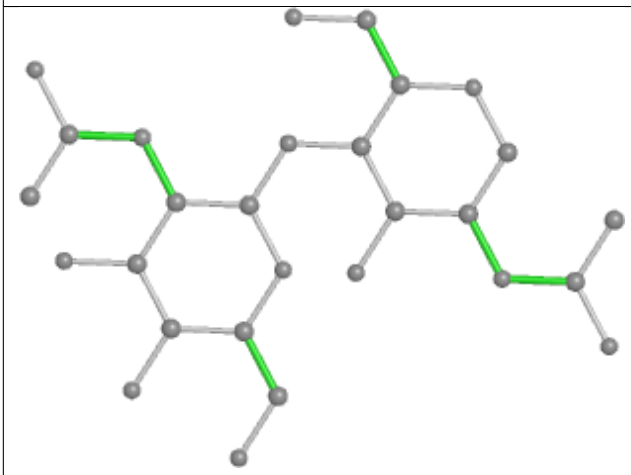
Oligosaccharide Chain t



Bond lengths



Bond angles



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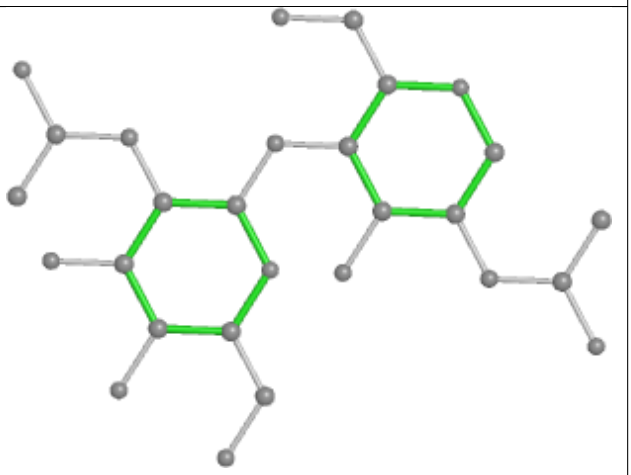
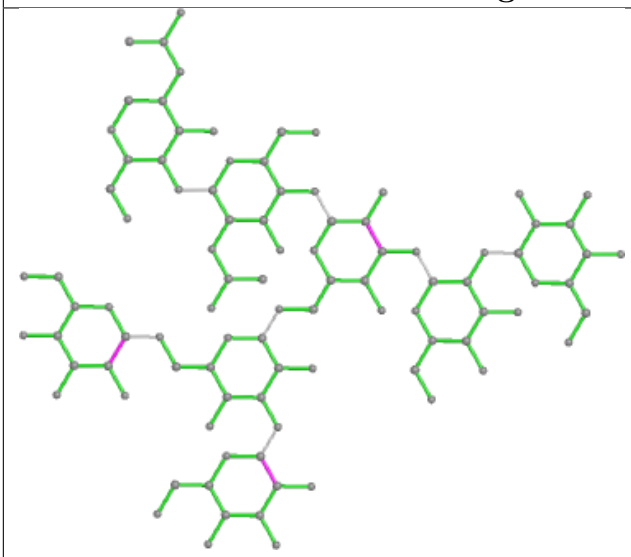
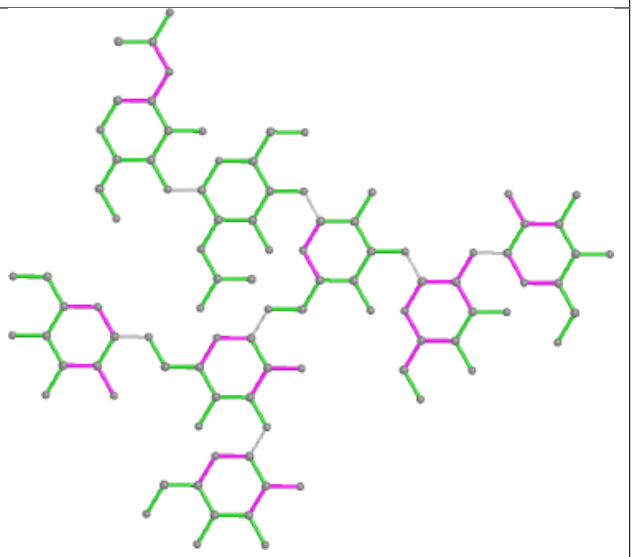


Rings

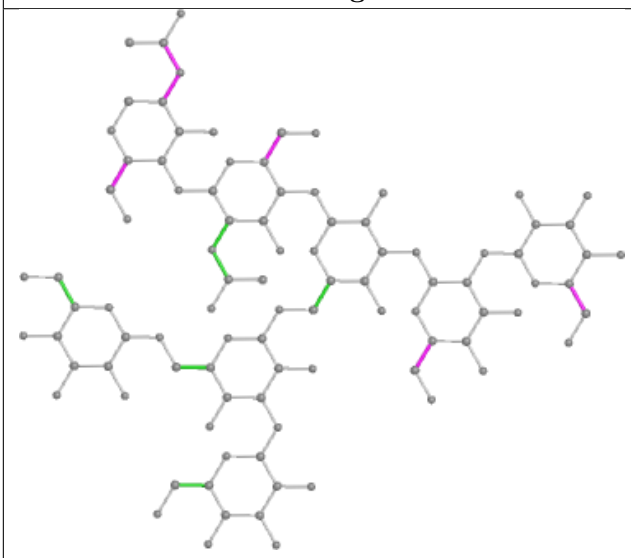
Oligosaccharide Chain d



Bond lengths



Bond angles



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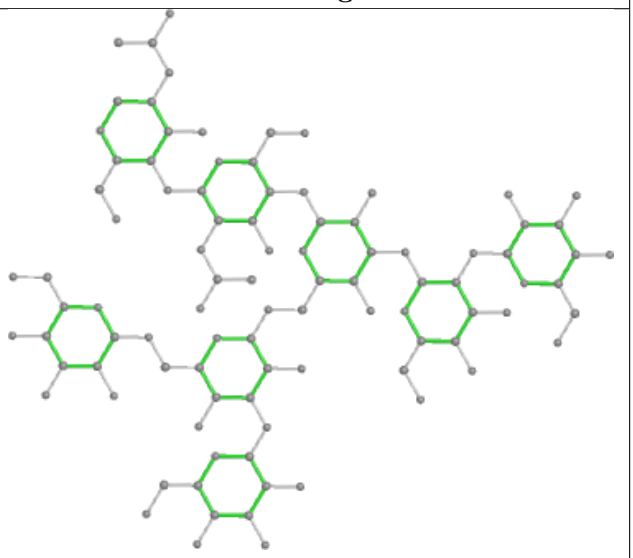
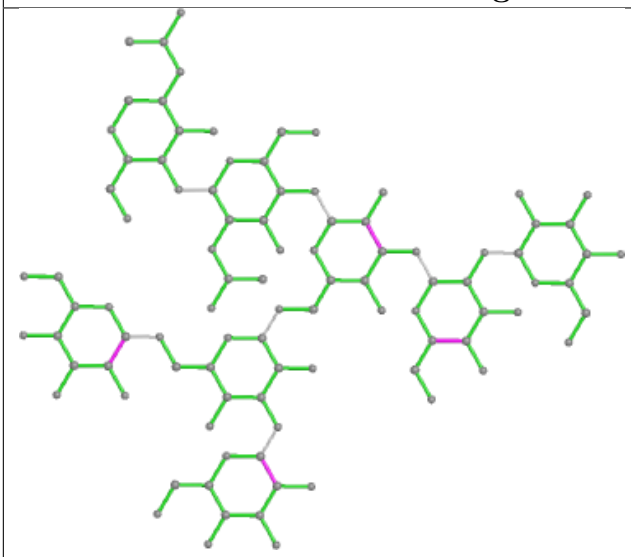
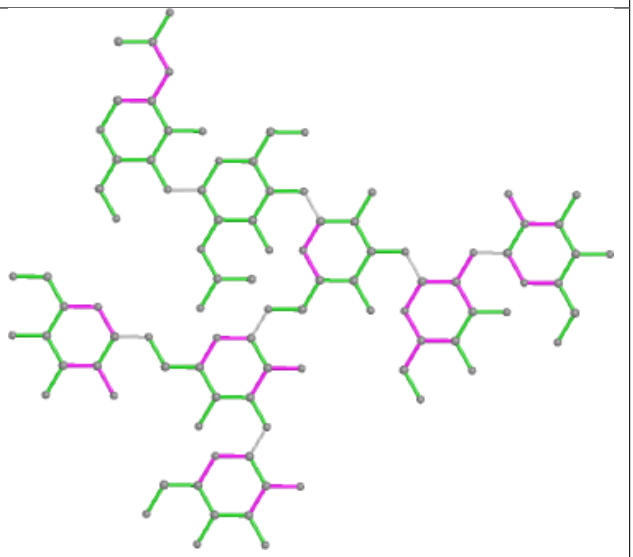


Rings

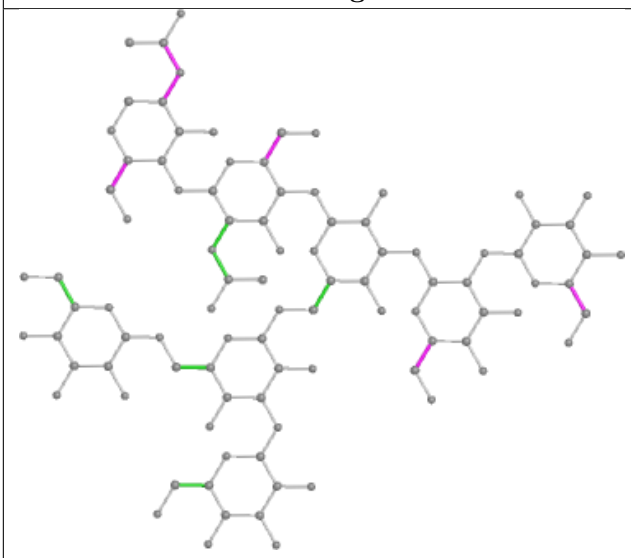
Oligosaccharide Chain m



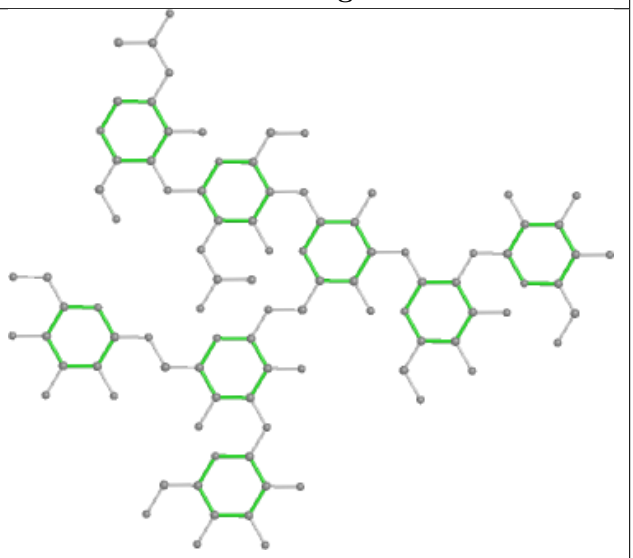
Bond lengths



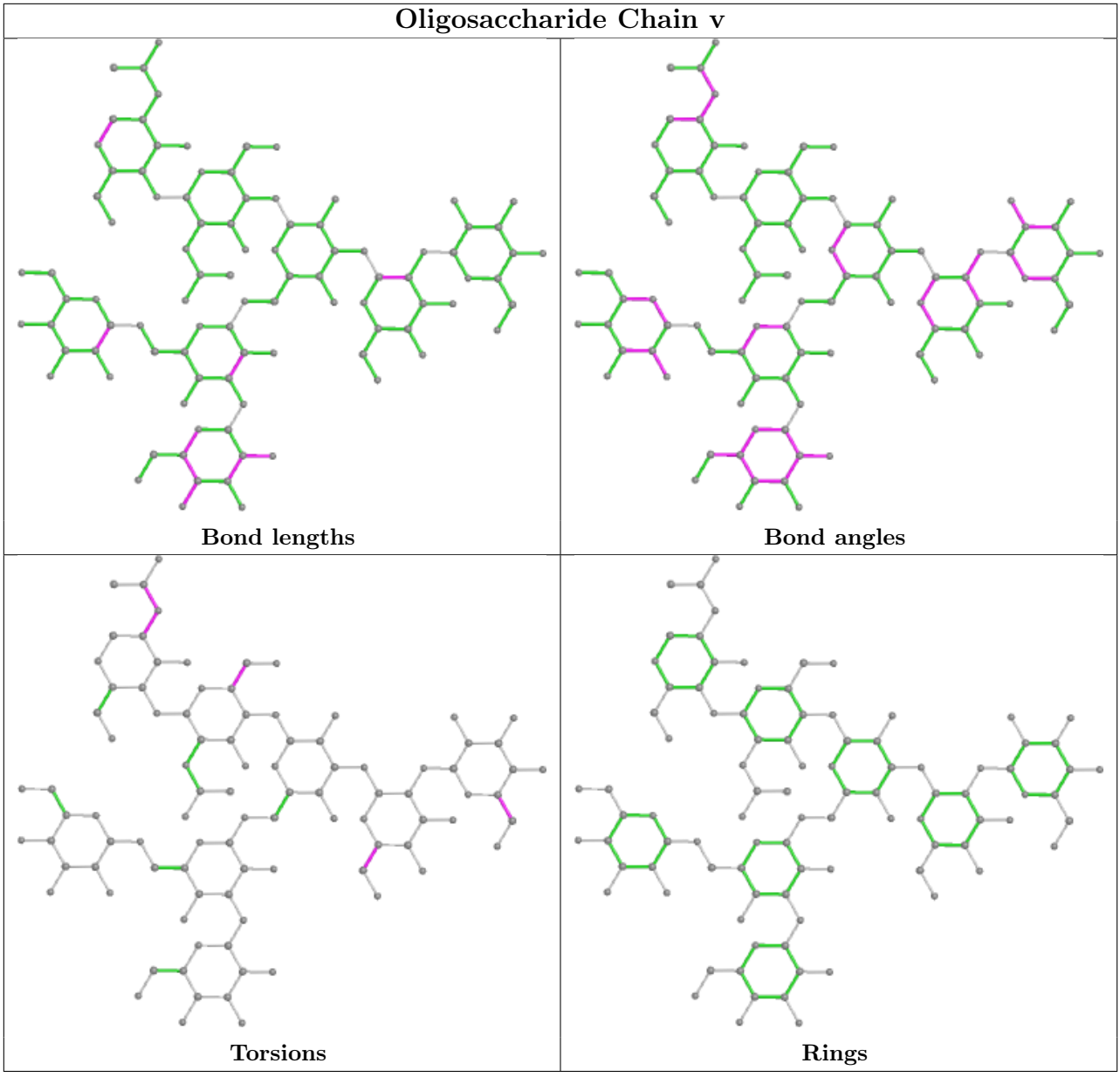
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

33 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	$\#\|Z\|>2$
15	NAG	A	702	3	14,14,15	0.66	1 (7%)	17,19,21	0.54	0
15	NAG	Q	606	1	14,14,15	0.41	0	17,19,21	0.55	0
15	NAG	G	652	1	14,14,15	0.18	0	17,19,21	0.33	0
15	NAG	Q	615	1	14,14,15	0.19	0	17,19,21	0.47	0
15	NAG	F	652	1	14,14,15	0.19	0	17,19,21	0.35	0
15	NAG	G	653	1	14,14,15	0.47	0	17,19,21	0.49	0
15	NAG	G	606	1	14,14,15	0.44	0	17,19,21	0.54	0
15	NAG	R	701	3	14,14,15	0.79	1 (7%)	17,19,21	0.54	0
15	NAG	F	651	1	14,14,15	0.22	0	17,19,21	0.36	0
15	NAG	Q	649	1	14,14,15	0.34	0	17,19,21	0.73	1 (5%)
15	NAG	Q	653	1	14,14,15	1.10	1 (7%)	17,19,21	0.74	1 (5%)
15	NAG	Q	633	1	14,14,15	0.21	0	17,19,21	0.40	0
15	NAG	F	649	1	14,14,15	1.67	3 (21%)	17,19,21	2.38	8 (47%)
15	NAG	Q	650	1	14,14,15	0.25	0	17,19,21	0.54	0
15	NAG	F	606	1	14,14,15	0.42	0	17,19,21	0.54	0
15	NAG	F	633	1	14,14,15	0.22	0	17,19,21	0.38	0
15	NAG	F	615	1	14,14,15	0.17	0	17,19,21	0.47	0
15	NAG	G	615	1	14,14,15	0.94	2 (14%)	17,19,21	0.88	1 (5%)
15	NAG	F	650	1	14,14,15	0.32	0	17,19,21	0.70	1 (5%)
15	NAG	G	649	1	14,14,15	1.79	2 (14%)	17,19,21	2.32	8 (47%)
15	NAG	G	651	1	14,14,15	0.34	0	17,19,21	0.50	0
15	NAG	G	650	1	14,14,15	0.29	0	17,19,21	0.66	1 (5%)
15	NAG	A	701	3	14,14,15	0.66	1 (7%)	17,19,21	0.57	0
15	NAG	F	653	1	14,14,15	0.82	1 (7%)	17,19,21	0.58	0
15	NAG	Q	651	1	14,14,15	2.08	1 (7%)	17,19,21	2.09	6 (35%)
15	NAG	G	633	1	14,14,15	0.24	0	17,19,21	0.38	0
15	NAG	R	702	3	14,14,15	0.77	1 (7%)	17,19,21	0.60	0
15	NAG	J	702	3	14,14,15	0.91	1 (7%)	17,19,21	0.57	0
15	NAG	A	703	3	14,14,15	0.62	0	17,19,21	0.83	0
15	NAG	R	703	3	14,14,15	0.65	0	17,19,21	0.81	0
15	NAG	J	703	3	14,14,15	0.69	1 (7%)	17,19,21	0.83	0
15	NAG	J	701	3	14,14,15	0.65	1 (7%)	17,19,21	0.60	0
15	NAG	Q	652	1	14,14,15	0.18	0	17,19,21	0.35	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
15	NAG	A	702	3	-	0/6/23/26	0/1/1/1
15	NAG	Q	606	1	-	1/6/23/26	0/1/1/1
15	NAG	G	652	1	-	4/6/23/26	0/1/1/1
15	NAG	Q	615	1	-	4/6/23/26	0/1/1/1
15	NAG	F	652	1	-	4/6/23/26	0/1/1/1
15	NAG	G	653	1	-	2/6/23/26	0/1/1/1
15	NAG	G	606	1	-	1/6/23/26	0/1/1/1
15	NAG	R	701	3	-	2/6/23/26	0/1/1/1
15	NAG	F	651	1	-	0/6/23/26	0/1/1/1
15	NAG	Q	649	1	-	0/6/23/26	0/1/1/1
15	NAG	Q	653	1	-	0/6/23/26	0/1/1/1
15	NAG	Q	633	1	-	0/6/23/26	0/1/1/1
15	NAG	F	649	1	-	1/6/23/26	0/1/1/1
15	NAG	Q	650	1	-	0/6/23/26	0/1/1/1
15	NAG	F	606	1	-	1/6/23/26	0/1/1/1
15	NAG	F	633	1	-	0/6/23/26	0/1/1/1
15	NAG	F	615	1	-	4/6/23/26	0/1/1/1
15	NAG	G	615	1	-	3/6/23/26	0/1/1/1
15	NAG	F	650	1	-	0/6/23/26	0/1/1/1
15	NAG	G	649	1	-	1/6/23/26	0/1/1/1
15	NAG	G	651	1	-	0/6/23/26	0/1/1/1
15	NAG	G	650	1	-	0/6/23/26	0/1/1/1
15	NAG	A	701	3	-	0/6/23/26	0/1/1/1
15	NAG	F	653	1	-	0/6/23/26	0/1/1/1
15	NAG	Q	651	1	-	0/6/23/26	0/1/1/1
15	NAG	G	633	1	-	0/6/23/26	0/1/1/1
15	NAG	R	702	3	-	0/6/23/26	0/1/1/1
15	NAG	J	702	3	-	0/6/23/26	0/1/1/1
15	NAG	A	703	3	-	0/6/23/26	0/1/1/1
15	NAG	R	703	3	-	0/6/23/26	0/1/1/1
15	NAG	J	703	3	-	0/6/23/26	0/1/1/1
15	NAG	J	701	3	-	2/6/23/26	0/1/1/1
15	NAG	Q	652	1	-	4/6/23/26	0/1/1/1

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	Q	651	NAG	O5-C1	-7.20	1.32	1.43
15	G	649	NAG	O5-C1	-5.53	1.34	1.43
15	F	649	NAG	O5-C1	-4.83	1.36	1.43
15	Q	653	NAG	O5-C1	-3.59	1.38	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	J	702	NAG	O5-C1	-3.07	1.38	1.43
15	G	615	NAG	C1-C2	2.80	1.56	1.52
15	G	649	NAG	C3-C2	2.61	1.58	1.52
15	R	701	NAG	O5-C1	-2.58	1.39	1.43
15	F	649	NAG	C4-C5	2.52	1.58	1.53
15	R	702	NAG	O5-C1	-2.46	1.39	1.43
15	F	649	NAG	C3-C2	2.26	1.57	1.52
15	F	653	NAG	C8-C7	-2.26	1.45	1.50
15	J	703	NAG	O5-C1	-2.21	1.40	1.43
15	A	701	NAG	O5-C1	-2.15	1.40	1.43
15	J	701	NAG	O5-C1	-2.15	1.40	1.43
15	A	702	NAG	O5-C1	-2.12	1.40	1.43
15	G	615	NAG	O5-C1	-2.04	1.40	1.43

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	F	649	NAG	C3-C4-C5	4.73	118.67	110.24
15	G	649	NAG	C3-C4-C5	4.44	118.16	110.24
15	G	649	NAG	O4-C4-C5	4.07	119.41	109.30
15	Q	651	NAG	O4-C4-C5	4.03	119.31	109.30
15	F	649	NAG	O4-C4-C5	4.01	119.25	109.30
15	Q	651	NAG	C3-C4-C5	3.84	117.09	110.24
15	F	649	NAG	O4-C4-C3	3.82	119.19	110.35
15	F	649	NAG	O3-C3-C4	3.67	118.83	110.35
15	G	649	NAG	O4-C4-C3	3.62	118.72	110.35
15	G	649	NAG	O3-C3-C4	3.51	118.46	110.35
15	Q	651	NAG	C1-O5-C5	-3.39	107.59	112.19
15	G	649	NAG	C1-O5-C5	-2.97	108.17	112.19
15	Q	651	NAG	O4-C4-C3	2.93	117.13	110.35
15	F	649	NAG	O5-C1-C2	-2.79	106.89	111.29
15	Q	651	NAG	O3-C3-C4	2.72	116.64	110.35
15	Q	649	NAG	C1-O5-C5	2.70	115.86	112.19
15	Q	651	NAG	O3-C3-C2	2.56	114.76	109.47
15	G	615	NAG	C1-C2-N2	2.55	114.84	110.49
15	F	649	NAG	O3-C3-C2	2.54	114.72	109.47
15	F	650	NAG	C1-O5-C5	2.54	115.63	112.19
15	F	649	NAG	C6-C5-C4	2.48	118.82	113.00
15	G	650	NAG	C1-O5-C5	2.39	115.44	112.19
15	G	649	NAG	O3-C3-C2	2.38	114.40	109.47
15	G	649	NAG	O5-C1-C2	-2.36	107.56	111.29
15	G	649	NAG	C6-C5-C4	2.27	118.32	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	Q	653	NAG	C1-O5-C5	-2.13	109.31	112.19
15	F	649	NAG	C1-O5-C5	-2.09	109.36	112.19

There are no chirality outliers.

All (34) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
15	F	615	NAG	O5-C5-C6-O6
15	Q	615	NAG	O5-C5-C6-O6
15	G	653	NAG	C4-C5-C6-O6
15	G	615	NAG	O5-C5-C6-O6
15	G	652	NAG	C8-C7-N2-C2
15	G	652	NAG	O7-C7-N2-C2
15	F	652	NAG	C8-C7-N2-C2
15	F	652	NAG	O7-C7-N2-C2
15	Q	652	NAG	C8-C7-N2-C2
15	Q	652	NAG	O7-C7-N2-C2
15	G	615	NAG	C4-C5-C6-O6
15	G	653	NAG	O5-C5-C6-O6
15	F	652	NAG	C4-C5-C6-O6
15	J	701	NAG	C4-C5-C6-O6
15	F	615	NAG	C4-C5-C6-O6
15	Q	652	NAG	C4-C5-C6-O6
15	R	701	NAG	C4-C5-C6-O6
15	J	701	NAG	O5-C5-C6-O6
15	Q	615	NAG	C4-C5-C6-O6
15	R	701	NAG	O5-C5-C6-O6
15	F	652	NAG	O5-C5-C6-O6
15	G	652	NAG	C4-C5-C6-O6
15	Q	652	NAG	O5-C5-C6-O6
15	G	615	NAG	C3-C2-N2-C7
15	G	652	NAG	O5-C5-C6-O6
15	G	606	NAG	C3-C2-N2-C7
15	F	606	NAG	C3-C2-N2-C7
15	Q	606	NAG	C3-C2-N2-C7
15	F	649	NAG	C4-C5-C6-O6
15	F	615	NAG	C3-C2-N2-C7
15	Q	615	NAG	C3-C2-N2-C7
15	F	615	NAG	C1-C2-N2-C7
15	Q	615	NAG	C1-C2-N2-C7
15	G	649	NAG	C4-C5-C6-O6

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

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	F	449/471 (95%)	0.43	30 (6%) 17 18	261, 419, 512, 568	0
1	G	449/471 (95%)	0.35	16 (3%) 42 38	251, 420, 504, 599	0
1	Q	449/471 (95%)	0.43	24 (5%) 26 26	240, 430, 527, 617	0
2	D	222/250 (88%)	1.03	41 (18%) 1 4	303, 478, 541, 600	0
2	O	222/250 (88%)	0.92	34 (15%) 2 5	285, 453, 530, 563	0
2	W	222/250 (88%)	1.01	39 (17%) 1 4	292, 497, 603, 637	0
3	A	126/147 (85%)	0.07	3 (2%) 59 52	241, 374, 496, 610	0
3	J	126/147 (85%)	0.18	5 (3%) 38 34	245, 378, 467, 584	0
3	R	126/147 (85%)	0.28	5 (3%) 38 34	209, 367, 476, 681	0
4	B	210/210 (100%)	1.34	61 (29%) 0 2	274, 470, 717, 766	0
4	K	210/210 (100%)	1.66	67 (31%) 0 2	308, 556, 766, 872	0
4	S	210/210 (100%)	1.51	58 (27%) 0 2	316, 507, 686, 716	0
5	C	228/232 (98%)	1.73	70 (30%) 0 2	328, 474, 737, 788	0
5	L	228/232 (98%)	1.51	72 (31%) 0 2	311, 467, 818, 919	0
5	T	228/232 (98%)	2.14	94 (41%) 0 1	367, 548, 770, 828	0
6	H	242/242 (100%)	0.37	14 (5%) 23 23	214, 360, 510, 653	0
6	M	242/242 (100%)	1.37	68 (28%) 0 2	272, 501, 677, 748	0
6	U	242/242 (100%)	0.94	43 (17%) 1 4	214, 438, 635, 673	0
7	I	207/213 (97%)	0.32	5 (2%) 59 52	139, 326, 450, 512	0
7	N	213/213 (100%)	1.17	51 (23%) 0 2	209, 470, 714, 764	0
7	V	213/213 (100%)	0.69	24 (11%) 5 9	175, 400, 572, 618	0
All	All	5064/5295 (95%)	0.90	824 (16%) 1 4	139, 441, 705, 919	0

All (824) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
5	C	178	SER	14.5
4	K	201	SER	13.9
4	K	200	GLY	11.9
5	C	185	SER	10.1
4	K	165	PRO	9.8
5	C	188	GLY	9.5
5	T	140	VAL	9.4
5	T	19	SER	9.1
7	N	150	ALA	9.1
5	C	179	VAL	9.0
4	K	202	THR	8.9
5	T	206	ASP	8.8
4	S	200	GLY	8.4
5	C	186	SER	8.4
5	C	187	LEU	8.3
5	T	138	CYS	8.1
5	C	156	ALA	7.9
4	S	202	THR	7.9
6	M	185	PRO	7.8
5	C	184	SER	7.6
5	T	196	VAL	7.5
5	L	153	ASN	7.5
2	D	134	SER	7.4
7	N	128	ASN	7.4
5	C	180	VAL	7.3
7	N	157	ALA	7.3
4	K	144	ALA	7.3
5	T	18	LEU	7.2
4	K	145	VAL	7.2
5	T	195	ASN	7.2
5	T	112	ALA	7.1
5	T	187	LEU	7.1
5	T	194	CYS	7.0
5	T	188	GLY	7.0
6	M	10	GLU	6.9
5	L	162	HIS	6.8
5	L	195	ASN	6.8
5	L	182	VAL	6.7
7	N	155	VAL	6.7
5	C	150	VAL	6.7
6	M	187	SER	6.6
7	N	154	PRO	6.6
5	C	158	THR	6.5

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Mol	Chain	Res	Type	RSRZ
4	B	122	SER	6.5
7	N	151	ASP	6.4
4	K	108	SER	6.4
4	S	201	SER	6.4
6	U	188	SER	6.3
7	N	153	SER	6.3
6	M	186	SER	6.3
5	T	113	SER	6.2
1	Q	498	PRO	6.1
5	T	205	VAL	6.1
5	T	111	SER	6.1
5	C	190	GLN	6.1
5	T	137	GLY	6.0
7	N	191	TYR	6.0
4	K	203	VAL	5.9
4	B	134	VAL	5.9
5	C	153	ASN	5.9
7	N	156	LYS	5.9
5	T	159	SER	5.9
6	M	184	VAL	5.9
5	T	160	GLY	5.8
2	W	8	GLY	5.8
5	C	177	SER	5.8
2	D	223	ASP	5.8
5	C	157	LEU	5.7
5	T	142	ASP	5.7
7	V	80	PRO	5.6
5	C	152	TRP	5.6
4	B	197	THR	5.6
5	L	151	SER	5.6
4	B	182	THR	5.6
5	L	206	ASP	5.6
5	C	176	LEU	5.6
5	T	189	THR	5.5
5	C	135	ALA	5.5
5	C	175	SER	5.5
7	N	127	ALA	5.5
5	L	18	LEU	5.5
5	T	190	GLN	5.4
5	T	81	ARG	5.4
5	T	67	VAL	5.4
4	K	153	SER	5.4

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Mol	Chain	Res	Type	RSRZ
6	U	114	ALA	5.4
5	C	189	THR	5.4
6	U	113	SER	5.4
1	Q	185	ASN	5.3
5	L	194	CYS	5.3
7	N	190	SER	5.3
4	S	207	VAL	5.3
4	K	135	CYS	5.3
5	C	155	GLY	5.3
7	N	109	SER	5.2
5	T	118	SER	5.2
4	K	116	VAL	5.2
2	O	8	GLY	5.2
4	S	181	LEU	5.2
2	D	210	GLN	5.2
5	T	210	GLU	5.2
6	M	211	VAL	5.2
5	C	134	ALA	5.2
4	K	109	GLN	5.1
5	C	191	THR	5.1
5	T	116	GLY	5.1
5	T	86	ASP	5.1
5	T	117	PRO	5.0
4	B	210	THR	5.0
6	M	210	ARG	5.0
7	N	110	LYS	5.0
5	L	134	ALA	5.0
6	M	165	THR	4.9
5	L	185	SER	4.9
1	F	398	ASN	4.9
6	M	17	SER	4.9
2	D	222	VAL	4.9
2	D	148	SER	4.9
4	K	136	LEU	4.9
5	T	82	LEU	4.9
5	T	191	THR	4.9
5	C	161	VAL	4.9
5	T	119	VAL	4.9
5	T	110	SER	4.9
5	T	165	PRO	4.9
5	T	171	SER	4.9
5	T	154	SER	4.9

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Mol	Chain	Res	Type	RSRZ
2	W	202	ASP	4.8
5	L	156	ALA	4.8
5	L	154	SER	4.8
4	S	206	THR	4.8
4	S	157	LYS	4.8
4	K	197	THR	4.8
7	N	152	SER	4.7
6	U	213	PRO	4.7
4	B	126	LEU	4.7
6	M	172	SER	4.7
7	N	126	GLN	4.7
2	D	133	LEU	4.7
5	T	82(A)	THR	4.7
4	K	177	SER	4.6
4	K	198	HIS	4.6
6	U	9	ALA	4.6
4	B	125	GLU	4.6
5	C	138	CYS	4.6
5	C	133	THR	4.6
5	T	68	HIS	4.6
4	B	127	GLN	4.5
5	C	166	ALA	4.5
5	L	17	THR	4.5
5	T	193	ILE	4.5
5	L	183	PRO	4.5
6	M	173	SER	4.5
6	M	188	SER	4.5
2	W	41	PRO	4.4
6	M	139	GLY	4.4
6	M	18	VAL	4.4
6	M	219	GLY	4.4
5	L	150	VAL	4.4
4	K	164	THR	4.4
2	D	147	THR	4.4
6	M	100	GLY	4.4
6	U	112	SER	4.3
5	T	209	VAL	4.3
5	T	175	SER	4.3
6	U	187	SER	4.3
5	C	92	CYS	4.3
2	W	200	SER	4.3
4	S	121	PRO	4.3

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Mol	Chain	Res	Type	RSRZ
2	O	202	ASP	4.3
2	D	150	SER	4.3
5	C	162	HIS	4.2
5	T	208	ARG	4.2
5	T	186	SER	4.2
6	U	192	GLN	4.2
5	T	177	SER	4.2
4	K	110	PRO	4.2
5	L	27	THR	4.2
1	G	283	ASN	4.2
4	B	13	VAL	4.2
4	K	127	GLN	4.2
5	L	180	VAL	4.2
5	L	196	VAL	4.1
4	S	170	ASN	4.1
5	L	19	SER	4.1
5	L	211	PRO	4.1
5	L	152	TRP	4.1
6	M	138	LEU	4.1
2	W	7	SER	4.1
6	M	100(A)	SER	4.1
4	S	185	GLN	4.1
1	Q	504	ARG	4.1
6	M	100(B)	SER	4.0
2	D	189	ALA	4.0
1	F	411	ASN	4.0
1	G	220	PRO	4.0
6	H	9	ALA	4.0
5	C	126	SER	4.0
4	K	121	PRO	4.0
4	B	146	THR	4.0
5	T	141	LYS	4.0
4	K	176	SER	4.0
4	S	192	TYR	4.0
5	L	181	THR	4.0
2	O	184	GLY	4.0
6	U	51	ILE	4.0
2	W	199	GLU	3.9
5	L	161	VAL	3.9
4	S	48	ILE	3.9
1	Q	411	ASN	3.9
4	K	162	THR	3.9

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Mol	Chain	Res	Type	RSRZ
4	B	6	ALA	3.9
3	R	547	GLY	3.9
5	C	160	GLY	3.9
5	T	207	LYS	3.9
4	S	163	THR	3.9
4	S	184	GLU	3.9
2	D	7	SER	3.9
5	L	155	GLY	3.9
4	S	43	ALA	3.9
1	F	60	ALA	3.9
6	M	9	ALA	3.9
2	O	18	MET	3.8
4	K	161	GLU	3.8
2	D	151	GLY	3.8
5	C	151	SER	3.8
4	B	184	GLU	3.8
6	U	159	LEU	3.8
4	S	33	VAL	3.8
3	J	546	SER	3.8
5	L	70	SER	3.8
4	K	132	THR	3.8
5	C	132	GLY	3.8
6	M	8	GLY	3.8
7	V	208	PRO	3.8
1	G	219	ALA	3.8
6	M	171	GLN	3.8
6	M	125	ALA	3.7
5	L	160	GLY	3.7
4	K	20	ARG	3.7
6	M	174	GLY	3.7
5	T	66	ARG	3.7
7	N	42	ARG	3.7
5	T	176	LEU	3.7
3	R	600	GLY	3.7
7	V	120	PRO	3.7
5	L	190	GLN	3.7
2	O	185	SER	3.7
6	U	58	ASN	3.7
1	Q	462	ASN	3.7
5	T	197	ASN	3.7
6	U	150	VAL	3.7
6	M	126	PRO	3.7

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Mol	Chain	Res	Type	RSRZ
7	N	207	ALA	3.7
5	C	18	LEU	3.6
5	T	178	SER	3.6
5	L	192	TYR	3.6
2	D	188	GLY	3.6
2	D	221	GLN	3.6
4	S	186	TRP	3.6
5	L	207	LYS	3.6
7	N	43	ALA	3.6
2	D	64	PHE	3.6
7	N	108	GLN	3.6
5	C	154	SER	3.6
1	Q	474	ASP	3.6
6	M	191	THR	3.6
6	M	212	GLU	3.6
4	S	169	SER	3.6
5	T	192	TYR	3.6
7	N	206	VAL	3.6
6	M	52(A)	PRO	3.6
5	T	114	THR	3.6
5	C	140	VAL	3.5
5	T	211	PRO	3.5
4	S	133	LEU	3.5
4	S	47	ILE	3.5
5	T	153	ASN	3.5
2	D	153	LEU	3.5
6	M	202	PRO	3.5
5	L	82	LEU	3.5
4	S	35	TRP	3.5
4	S	109	GLN	3.5
5	L	69	LEU	3.5
5	C	181	THR	3.5
7	N	205	THR	3.5
6	U	147	PRO	3.5
6	U	191	THR	3.5
5	T	139	LEU	3.4
5	T	179	VAL	3.4
4	B	118	LEU	3.4
6	U	115	SER	3.4
2	W	9	GLY	3.4
6	M	190	GLY	3.4
5	T	136	LEU	3.4

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Mol	Chain	Res	Type	RSRZ
5	L	169	GLN	3.4
4	K	154	SER	3.4
5	C	183	PRO	3.4
4	K	188	SER	3.4
5	C	68	HIS	3.4
4	B	62	PHE	3.4
7	N	149	LYS	3.4
4	B	119	PHE	3.4
4	S	42	GLN	3.4
6	U	190	GLY	3.3
2	D	187	TRP	3.3
5	C	182	VAL	3.3
6	M	158	ALA	3.3
4	S	120	PRO	3.3
4	K	199	GLU	3.3
5	T	145	PRO	3.3
6	U	194	TYR	3.3
4	B	209	PRO	3.3
5	L	121	PRO	3.3
5	C	159	SER	3.3
2	D	220	VAL	3.3
4	S	156	VAL	3.3
7	N	144	VAL	3.3
4	K	166	SER	3.3
2	D	132	THR	3.3
5	L	118	SER	3.3
5	L	186	SER	3.3
6	M	100(C)	THR	3.3
5	L	81	ARG	3.3
4	K	123	SER	3.3
4	K	21	ILE	3.3
5	C	149	THR	3.3
5	L	68	HIS	3.3
1	F	458	GLY	3.2
5	T	30	ARG	3.2
2	O	7	SER	3.2
4	B	202	THR	3.2
4	B	130	LYS	3.2
4	K	19	ALA	3.2
7	V	79	ARG	3.2
5	C	131	GLY	3.2
5	L	149	THR	3.2

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Mol	Chain	Res	Type	RSRZ
4	B	15	PRO	3.2
2	W	70	MET	3.2
7	N	210	GLU	3.2
4	S	203	VAL	3.2
6	M	218	LYS	3.2
5	T	93	ALA	3.2
5	L	138	CYS	3.2
4	K	131	ALA	3.2
2	W	90	ASP	3.2
2	W	189	ALA	3.2
5	L	133	THR	3.2
5	L	187	LEU	3.2
4	K	120	PRO	3.2
6	M	140	CYS	3.2
5	L	158	THR	3.2
5	T	29	VAL	3.2
5	L	110	SER	3.2
5	L	165	PRO	3.2
6	H	110	THR	3.2
1	F	460	ALA	3.2
7	V	207	ALA	3.2
1	F	366	GLY	3.1
4	S	155	PRO	3.1
2	W	2	VAL	3.1
4	S	154	SER	3.1
2	D	8	GLY	3.1
4	B	108	SER	3.1
5	C	67	VAL	3.1
5	C	206	ASP	3.1
2	O	25	SER	3.1
4	B	112	ALA	3.1
2	O	201	GLY	3.1
7	N	12	SER	3.1
7	N	41	GLY	3.1
6	M	161	SER	3.1
4	B	133	LEU	3.1
6	M	81	GLU	3.1
4	B	23	CYS	3.1
6	H	100(A)	SER	3.1
4	S	32	SER	3.1
4	S	21	ILE	3.1
4	B	95(C)	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
6	H	100	GLY	3.1
5	T	148	VAL	3.1
5	C	110	SER	3.1
2	W	190	ASP	3.1
7	N	112	ASN	3.1
4	B	149	TRP	3.1
5	L	191	THR	3.1
6	M	209	LYS	3.1
2	W	188	GLY	3.1
5	L	184	SER	3.1
1	G	183	GLN	3.0
5	L	92	CYS	3.0
4	B	206	THR	3.0
5	C	73	LYS	3.0
5	L	205	VAL	3.0
3	R	599	SER	3.0
4	K	152	ASP	3.0
2	D	10	GLN	3.0
1	Q	263	GLY	3.0
7	N	105	SER	3.0
5	L	163	THR	3.0
4	B	164	THR	3.0
4	K	124	GLU	3.0
2	D	20	LEU	3.0
5	T	34	TRP	3.0
6	M	182	VAL	3.0
7	V	82	ASP	3.0
6	U	185	PRO	3.0
7	V	130	ALA	3.0
5	T	163	THR	3.0
6	U	33	HIS	3.0
2	D	135	LEU	3.0
5	L	80	LEU	3.0
2	O	143	ILE	3.0
4	B	145	VAL	3.0
1	F	457	ASP	3.0
4	K	210	THR	3.0
7	N	111	ALA	3.0
2	O	153	LEU	3.0
5	C	211	PRO	2.9
1	F	364	SER	2.9
4	S	176	SER	2.9

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Mol	Chain	Res	Type	RSRZ
4	B	188	SER	2.9
7	N	192	SER	2.9
2	W	117	ARG	2.9
4	B	120	PRO	2.9
5	T	149	THR	2.9
7	I	142	GLY	2.9
2	D	209	GLN	2.9
6	M	52	SER	2.9
6	U	189	LEU	2.9
6	H	147	PRO	2.9
6	M	82	ILE	2.9
6	U	193	THR	2.9
2	O	117	ARG	2.9
6	U	57	LYS	2.9
5	C	19	SER	2.9
5	T	92	CYS	2.9
4	K	24	GLY	2.9
4	S	197	THR	2.9
5	T	99	ARG	2.9
4	B	155	PRO	2.9
5	T	102	GLY	2.9
6	M	123	PRO	2.9
2	W	116	GLY	2.9
6	M	33	HIS	2.9
4	B	14	ALA	2.8
6	M	217	ASP	2.8
4	B	187	LYS	2.8
6	U	11	LEU	2.8
1	G	474	ASP	2.8
2	D	45	PRO	2.8
6	M	67	VAL	2.8
1	F	365	SER	2.8
4	B	79	GLU	2.8
2	W	38	ARG	2.8
4	B	163	THR	2.8
5	T	151	SER	2.8
1	G	176	PHE	2.8
4	B	185	GLN	2.8
5	C	195	ASN	2.8
3	A	547	GLY	2.8
4	K	146	THR	2.8
5	C	81	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
7	N	180	LEU	2.8
3	J	547	GLY	2.8
7	V	20	THR	2.8
7	N	113	PRO	2.8
5	T	82(B)	GLY	2.8
6	U	50	TRP	2.8
5	T	97	HIS	2.8
4	B	156	VAL	2.8
5	C	192	TYR	2.8
2	O	171	GLY	2.8
4	B	179	LEU	2.8
4	B	123	SER	2.8
4	K	95(C)	ASN	2.8
6	U	184	VAL	2.8
4	B	24	GLY	2.8
6	M	157	GLY	2.8
4	S	199	GLU	2.8
5	T	20	LEU	2.8
7	I	157	ALA	2.8
2	O	182	PHE	2.8
7	V	131	THR	2.8
6	M	220	LEU	2.8
6	M	11	LEU	2.8
7	N	198	GLU	2.8
5	L	78	VAL	2.8
1	G	368	ASP	2.7
2	O	90	ASP	2.7
4	B	59	PRO	2.7
1	F	61	TYR	2.7
6	H	191	THR	2.7
7	N	158	GLY	2.7
4	B	196	VAL	2.7
7	V	180	LEU	2.7
2	W	40	ALA	2.7
2	D	46	GLU	2.7
4	K	195	GLN	2.7
6	M	1	GLN	2.7
5	C	93	ALA	2.7
5	T	103	LYS	2.7
4	S	108	SER	2.7
5	T	83	THR	2.7
4	S	151	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
3	R	546	SER	2.7
4	S	131	ALA	2.7
2	O	116	GLY	2.7
7	V	13	GLY	2.7
4	S	90	ILE	2.7
5	T	82(C)	VAL	2.7
5	T	158	THR	2.7
6	H	10	GLU	2.7
4	S	97	VAL	2.7
7	V	41	GLY	2.7
1	Q	32	GLU	2.7
5	L	157	LEU	2.7
2	O	203	PHE	2.7
4	K	180	SER	2.7
4	S	31	ARG	2.7
5	C	141	LYS	2.7
7	N	188	HIS	2.7
4	B	131	ALA	2.7
7	N	13	GLY	2.7
1	G	190	GLU	2.7
5	C	163	THR	2.7
6	U	222	VAL	2.7
4	S	153	SER	2.7
5	L	111	SER	2.7
5	L	178	SER	2.7
6	M	216	CYS	2.7
5	T	31	ASP	2.6
2	D	2	VAL	2.6
5	T	69	LEU	2.6
6	U	149	PRO	2.6
4	K	196	VAL	2.6
2	D	125	VAL	2.6
2	W	94	TYR	2.6
2	W	134	SER	2.6
2	O	172	SER	2.6
5	C	148	VAL	2.6
1	F	483	LEU	2.6
2	O	20	LEU	2.6
7	I	42	ARG	2.6
1	Q	365	SER	2.6
7	N	182	PRO	2.6
2	D	149	GLN	2.6

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Mol	Chain	Res	Type	RSRZ
5	L	208	ARG	2.6
4	K	178	TYR	2.6
5	L	119	VAL	2.6
6	H	190	GLY	2.6
7	N	140	TYR	2.6
1	F	324	GLY	2.6
6	M	175	LEU	2.6
7	N	179	SER	2.6
5	T	9	PRO	2.6
7	V	206	VAL	2.6
4	S	88	CYS	2.6
4	S	182	THR	2.6
5	L	170	SER	2.6
4	K	115	SER	2.6
5	T	121	PRO	2.6
4	S	148	ALA	2.6
5	T	85	ALA	2.6
5	T	166	ALA	2.6
5	L	159	SER	2.6
1	F	334	SER	2.6
2	O	135	LEU	2.6
4	B	82	ASP	2.6
1	F	462	ASN	2.5
6	M	189	LEU	2.5
2	W	187	TRP	2.5
4	S	132	THR	2.5
5	C	34	TRP	2.5
6	H	121	VAL	2.5
6	U	116	THR	2.5
7	V	115	VAL	2.5
4	B	189	HIS	2.5
4	K	163	THR	2.5
1	Q	356	ASN	2.5
6	M	222	VAL	2.5
1	Q	60	ALA	2.5
2	W	119	ALA	2.5
3	A	591	GLN	2.5
4	K	143	GLY	2.5
5	C	119	VAL	2.5
6	U	69	MET	2.5
7	N	141	PRO	2.5
2	D	186	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
6	M	12	LYS	2.5
7	I	41	GLY	2.5
2	W	6	GLN	2.5
2	D	202	ASP	2.5
7	V	132	LEU	2.5
2	D	18	MET	2.5
4	B	203	VAL	2.5
4	K	114	PRO	2.5
5	C	136	LEU	2.5
7	N	44	PRO	2.5
3	A	600	GLY	2.5
1	G	471	GLY	2.5
5	T	150	VAL	2.5
7	V	185	TRP	2.5
2	D	124	SER	2.5
1	F	219	ALA	2.5
4	K	117	THR	2.5
5	T	181	THR	2.5
6	M	56	ASP	2.5
2	D	41	PRO	2.5
7	V	187	SER	2.5
3	J	614	TRP	2.5
6	H	71	THR	2.5
6	U	110	THR	2.5
5	C	9	PRO	2.4
2	O	2	VAL	2.4
4	B	208	ALA	2.4
6	M	7	SER	2.4
1	F	59	LYS	2.4
7	V	182	PRO	2.4
4	B	80	ALA	2.4
4	K	128	ALA	2.4
4	K	181	LEU	2.4
4	S	204	GLU	2.4
6	M	180	SER	2.4
1	F	276	ASN	2.4
7	V	57	GLY	2.4
4	S	41	GLY	2.4
7	V	108	GLN	2.4
1	F	212	PRO	2.4
5	C	170	SER	2.4
1	Q	283	ASN	2.4

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Mol	Chain	Res	Type	RSRZ
6	M	221	GLU	2.4
7	N	159	VAL	2.4
4	S	95(C)	ASN	2.4
5	T	28	LEU	2.4
5	T	87	SER	2.4
1	F	256	SER	2.4
1	F	397	SER	2.4
4	K	11	VAL	2.4
2	W	84	ARG	2.4
4	B	63	SER	2.3
5	T	80	LEU	2.3
5	C	125	SER	2.3
2	O	83	LEU	2.3
7	N	142	GLY	2.3
2	O	3	ARG	2.3
2	W	87	THR	2.3
2	W	27	TYR	2.3
6	M	115	SER	2.3
1	F	504	ARG	2.3
2	D	11	MET	2.3
2	D	141	ALA	2.3
4	S	99	GLY	2.3
4	S	164	THR	2.3
5	C	210	GLU	2.3
2	O	150	SER	2.3
2	W	42	GLY	2.3
3	J	599	SER	2.3
6	U	131	THR	2.3
7	V	110	LYS	2.3
1	Q	71	THR	2.3
5	T	17	THR	2.3
6	M	160	THR	2.3
4	B	121	PRO	2.3
4	S	196	VAL	2.3
5	L	202	ASN	2.3
5	C	71	LEU	2.3
6	M	116	THR	2.3
6	U	59	LEU	2.3
2	O	151	GLY	2.3
5	C	137	GLY	2.3
2	O	133	LEU	2.3
2	O	163	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	Q	63	THR	2.3
4	B	21	ILE	2.3
4	B	183	PRO	2.3
6	U	146	PHE	2.3
7	V	106	VAL	2.3
2	W	201	GLY	2.3
5	L	141	LYS	2.3
6	U	161	SER	2.3
4	K	129	ASN	2.3
4	K	130	LYS	2.3
7	N	189	ARG	2.3
1	G	185	ASN	2.2
1	G	247	CYS	2.2
4	K	6	ALA	2.2
2	D	38	ARG	2.2
4	K	157	LYS	2.2
5	T	202	ASN	2.2
5	T	170	SER	2.2
1	F	220	PRO	2.2
4	K	47	ILE	2.2
2	W	220	VAL	2.2
4	B	207	VAL	2.2
5	L	67	VAL	2.2
6	M	162	GLY	2.2
7	N	64	GLY	2.2
4	B	60	ASP	2.2
5	L	71	LEU	2.2
4	K	18	THR	2.2
1	Q	375	SER	2.2
2	W	85	SER	2.2
6	H	11	LEU	2.2
5	T	44	GLN	2.2
2	W	15	GLY	2.2
2	W	133	LEU	2.2
4	K	133	LEU	2.2
2	W	124	SER	2.2
4	B	169	SER	2.2
5	L	166	ALA	2.2
5	L	188	GLY	2.2
5	L	26	GLY	2.2
1	Q	496	VAL	2.2
5	T	115	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
5	C	142	ASP	2.2
2	D	12	LYS	2.2
5	C	17	THR	2.2
5	L	100(L)	THR	2.2
6	M	149	PRO	2.2
7	N	208	PRO	2.2
6	U	186	SER	2.2
2	O	199	GLU	2.2
4	K	48	ILE	2.2
5	L	167	VAL	2.2
7	N	122	SER	2.2
1	F	325	ASP	2.2
2	O	94	TYR	2.2
2	W	218	THR	2.2
4	B	19	ALA	2.2
6	U	224	PHE	2.2
4	B	20	ARG	2.2
4	B	73	LEU	2.2
5	L	79	SER	2.2
6	M	196	CYS	2.2
6	U	138	LEU	2.2
2	O	96	CYS	2.2
4	S	24	GLY	2.1
1	Q	497	ALA	2.1
4	K	148	ALA	2.1
2	O	118	GLY	2.1
4	B	97	VAL	2.1
6	U	8	GLY	2.1
4	K	204	GLU	2.1
6	M	134	GLY	2.1
1	F	496	VAL	2.1
4	B	168	GLN	2.1
6	U	160	THR	2.1
5	L	135	ALA	2.1
1	Q	460	ALA	2.1
2	W	53	PRO	2.1
2	W	4	LEU	2.1
1	Q	476	ARG	2.1
4	S	177	SER	2.1
7	V	19	VAL	2.1
2	W	10	GLN	2.1
6	H	131	THR	2.1

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Mol	Chain	Res	Type	RSRZ
6	H	72	ASP	2.1
5	C	29	VAL	2.1
4	K	126	LEU	2.1
4	K	151	ALA	2.1
1	G	498	PRO	2.1
1	F	257	THR	2.1
4	S	45	SER	2.1
2	W	177	GLY	2.1
4	K	25	GLU	2.1
4	S	162	THR	2.1
2	O	164	PRO	2.1
6	U	52	SER	2.1
6	M	13	LYS	2.1
5	T	161	VAL	2.1
6	U	71	THR	2.1
1	F	32	GLU	2.1
6	U	148	GLU	2.1
7	N	104	VAL	2.1
2	D	130	PRO	2.1
2	W	20	LEU	2.1
4	S	100	GLU	2.1
2	D	67	ARG	2.1
1	F	368	ASP	2.1
5	L	210	GLU	2.1
3	R	598	CYS	2.1
4	K	150	LYS	2.1
7	N	120	PRO	2.1
5	L	116	GLY	2.1
7	I	146	VAL	2.1
1	G	50	THR	2.1
1	G	264	SER	2.1
4	S	150	LYS	2.1
6	M	167	PRO	2.1
7	N	119	PRO	2.1
1	Q	49	GLU	2.1
2	D	146	ARG	2.1
4	B	132	THR	2.1
1	F	253	PRO	2.1
1	Q	59	LYS	2.1
3	J	523	LEU	2.1
5	C	165	PRO	2.1
1	F	280	ASN	2.1

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Mol	Chain	Res	Type	RSRZ
5	C	194	CYS	2.0
1	Q	125	LEU	2.0
2	D	55	GLY	2.0
6	M	223	LEU	2.0
1	F	281	ALA	2.0
2	O	24	ALA	2.0
2	W	71	THR	2.0
5	L	193	ILE	2.0
6	M	193	THR	2.0
7	N	197	HIS	2.0
4	S	210	THR	2.0
5	T	203	THR	2.0
7	V	127	ALA	2.0
1	Q	264	SER	2.0
5	T	180	VAL	2.0
4	K	107	LEU	2.0
4	S	158	ALA	2.0
5	T	84	ALA	2.0
2	O	200	SER	2.0
6	U	34	ILE	2.0
1	Q	325	ASP	2.0
2	O	220	VAL	2.0
1	G	192	ARG	2.0
6	H	109	LEU	2.0
1	G	191	TYR	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (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	PCA	W	1	8/9	0.51	0.94	355,368,480,481	0
2	PCA	D	1	8/9	0.56	0.90	434,443,508,513	0

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
9	BMA	o	3	11/12	0.00	1.08	641,642,644,644	0
14	MAN	m	8	11/12	0.02	0.92	506,514,524,533	0
11	MAN	Z	6	11/12	0.06	0.58	708,709,711,711	0
11	MAN	r	7	11/12	0.22	0.89	620,620,620,620	0
11	MAN	Z	7	11/12	0.28	0.84	488,488,488,488	0
8	MAN	p	4	11/12	0.34	0.59	563,590,602,606	0
11	BMA	r	3	11/12	0.34	0.46	549,550,550,551	0
9	BMA	P	3	11/12	0.35	0.78	536,538,539,539	0
8	MAN	g	5	11/12	0.36	0.54	526,544,561,562	0
12	MAN	s	5	11/12	0.38	0.72	589,589,589,589	0
8	MAN	X	5	11/12	0.43	0.33	510,528,545,546	0
8	MAN	e	5	11/12	0.45	0.57	555,558,560,561	0
11	BMA	Z	3	11/12	0.45	0.43	541,543,545,545	0
8	MAN	n	4	11/12	0.49	0.56	422,422,423,424	0
14	MAN	v	8	11/12	0.49	0.62	480,486,493,502	0
11	BMA	i	3	11/12	0.50	0.62	485,487,490,492	0
8	BMA	e	3	11/12	0.50	0.66	558,559,560,562	0
8	MAN	p	5	11/12	0.51	0.59	546,563,582,583	0
10	MAN	h	4	11/12	0.52	0.57	519,522,525,526	0
10	BMA	h	3	11/12	0.54	0.50	437,440,442,443	0
8	MAN	l	5	11/12	0.55	0.61	622,623,625,625	0
8	MAN	e	4	11/12	0.56	0.53	508,509,512,512	0
9	NAG	P	2	14/15	0.57	0.43	511,513,515,517	0
8	BMA	p	3	11/12	0.57	0.54	527,544,557,575	0
8	BMA	n	3	11/12	0.58	0.52	470,471,471,471	0
8	MAN	g	4	11/12	0.58	0.52	637,667,676,683	0
10	MAN	q	4	11/12	0.58	0.36	526,527,528,529	0
8	BMA	g	3	11/12	0.59	0.36	626,642,653,670	0
8	MAN	c	5	11/12	0.59	0.50	540,543,547,549	0
8	NAG	e	2	14/15	0.60	0.66	499,504,507,509	0
10	MAN	Y	4	11/12	0.60	0.61	580,581,582,583	0
11	NAG	i	2	14/15	0.60	0.51	501,506,509,511	0
12	MAN	j	6	11/12	0.61	0.89	507,511,517,517	0
12	MAN	j	5	11/12	0.61	0.61	453,467,469,470	0
8	MAN	n	5	11/12	0.62	0.43	457,458,458,459	0
14	MAN	m	6	11/12	0.63	0.53	469,477,482,485	0
8	BMA	c	3	11/12	0.65	0.35	512,514,518,519	0
11	MAN	r	5	11/12	0.65	0.66	605,605,606,607	0
9	NAG	f	2	14/15	0.65	0.47	485,488,490,491	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
14	MAN	d	8	11/12	0.66	0.49	390,393,399,407	0
8	MAN	X	4	11/12	0.66	0.51	521,546,562,562	0
8	MAN	E	4	11/12	0.66	0.54	400,402,404,404	0
10	NAG	Y	1	14/15	0.66	0.45	401,402,404,405	0
9	NAG	f	1	14/15	0.67	0.57	473,478,482,482	0
9	NAG	o	2	14/15	0.68	0.50	620,622,625,626	0
8	NAG	l	1	14/15	0.68	0.50	477,479,481,483	0
8	MAN	c	4	11/12	0.69	0.52	502,506,510,511	0
11	MAN	i	7	11/12	0.69	0.67	448,448,448,448	0
14	NAG	d	1	14/15	0.70	0.47	456,462,468,471	0
11	MAN	i	4	11/12	0.71	0.31	489,492,496,496	0
12	MAN	a	5	11/12	0.71	0.41	502,517,520,521	0
11	MAN	r	4	11/12	0.71	0.30	576,577,579,579	0
10	NAG	h	2	14/15	0.71	0.44	419,421,424,425	0
11	MAN	r	6	11/12	0.71	0.28	454,455,456,457	0
8	NAG	n	1	14/15	0.72	0.36	426,428,429,430	0
11	MAN	Z	4	11/12	0.72	0.36	613,615,616,616	0
11	NAG	r	2	14/15	0.73	0.44	509,510,511,511	0
10	BMA	q	3	11/12	0.73	0.35	489,490,491,492	0
11	NAG	Z	2	14/15	0.73	0.40	470,472,474,476	0
11	MAN	i	5	11/12	0.74	0.50	507,509,513,514	0
8	MAN	l	4	11/12	0.74	0.38	512,515,515,517	0
14	MAN	v	6	11/12	0.74	0.25	481,485,491,492	0
14	NAG	m	2	14/15	0.74	0.46	427,437,446,456	0
9	NAG	o	1	14/15	0.75	0.41	542,543,544,545	0
11	NAG	i	1	14/15	0.75	0.40	417,419,420,421	0
11	MAN	Z	5	11/12	0.76	0.55	582,584,585,586	0
12	MAN	s	6	11/12	0.77	0.40	440,445,450,450	0
14	MAN	d	7	11/12	0.77	0.75	499,503,504,506	0
8	BMA	l	3	11/12	0.78	0.23	537,539,542,542	0
14	MAN	v	4	11/12	0.78	0.38	452,458,471,472	0
12	MAN	s	4	11/12	0.78	0.46	567,567,567,567	0
8	NAG	n	2	14/15	0.78	0.56	492,493,494,495	0
14	BMA	m	3	11/12	0.79	0.36	470,474,482,483	0
8	BMA	X	3	11/12	0.79	0.23	526,543,558,577	0
14	NAG	m	1	14/15	0.80	0.38	426,430,436,438	0
9	NAG	P	1	14/15	0.80	0.32	529,532,535,535	0
14	MAN	v	5	11/12	0.80	0.37	454,458,461,462	0
11	MAN	i	6	11/12	0.80	0.23	438,440,445,447	0
10	BMA	Y	3	11/12	0.80	0.46	467,469,470,471	0
11	NAG	r	1	14/15	0.81	0.34	388,390,392,393	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
8	NAG	l	2	14/15	0.81	0.29	461,463,465,465	0
8	NAG	g	2	14/15	0.81	0.33	531,555,576,580	0
12	NAG	j	1	14/15	0.81	0.58	433,439,447,461	0
14	NAG	d	2	14/15	0.81	0.54	452,460,471,473	0
12	BMA	j	3	11/12	0.81	0.29	407,417,420,424	0
8	BMA	u	3	11/12	0.81	0.19	480,480,481,481	0
10	NAG	Y	2	14/15	0.81	0.47	426,430,433,434	0
14	BMA	v	3	11/12	0.82	0.40	445,449,459,463	0
14	MAN	d	6	11/12	0.82	0.58	465,467,473,475	0
13	NAG	t	2	14/15	0.82	0.33	521,522,522,523	0
8	NAG	p	2	14/15	0.82	0.53	465,488,513,516	0
13	NAG	t	1	14/15	0.82	0.24	446,447,448,449	0
12	MAN	a	4	11/12	0.83	0.32	479,498,500,501	0
14	BMA	d	3	11/12	0.83	0.48	471,476,486,491	0
10	NAG	q	1	14/15	0.83	0.34	404,407,410,412	0
8	BMA	E	3	11/12	0.84	0.37	434,435,439,440	0
12	BMA	a	3	11/12	0.84	0.27	418,427,431,437	0
8	MAN	u	4	11/12	0.84	0.37	558,559,560,561	0
10	NAG	h	1	14/15	0.84	0.40	345,348,350,351	0
12	MAN	a	6	11/12	0.84	0.42	408,413,418,418	0
8	NAG	X	2	14/15	0.84	0.26	418,443,465,472	0
8	NAG	c	2	14/15	0.85	0.25	410,416,420,420	0
14	MAN	v	7	11/12	0.85	0.28	455,460,462,463	0
14	MAN	m	7	11/12	0.85	0.62	425,428,432,433	0
8	MAN	E	5	11/12	0.86	0.51	482,484,485,485	0
11	NAG	Z	1	14/15	0.86	0.31	401,403,404,404	0
8	NAG	g	1	14/15	0.86	0.27	414,418,440,441	0
13	NAG	b	1	14/15	0.86	0.19	374,378,381,382	0
13	NAG	k	1	14/15	0.86	0.23	367,370,375,376	0
12	MAN	j	4	11/12	0.87	0.65	469,484,487,488	0
9	BMA	f	3	11/12	0.87	0.27	435,438,442,444	0
8	NAG	X	1	14/15	0.87	0.27	395,399,426,427	0
12	NAG	s	1	14/15	0.87	0.36	420,425,434,447	0
12	BMA	s	3	11/12	0.87	0.25	508,516,520,524	0
12	NAG	j	2	14/15	0.88	0.43	366,376,381,387	0
12	NAG	a	2	14/15	0.88	0.28	366,377,383,390	0
8	NAG	E	1	14/15	0.88	0.26	366,367,368,369	0
12	NAG	a	1	14/15	0.88	0.36	324,331,339,351	0
14	MAN	m	5	11/12	0.89	0.18	384,389,393,393	0
10	NAG	q	2	14/15	0.89	0.27	485,487,489,489	0
8	MAN	u	5	11/12	0.89	0.24	435,435,438,438	0
14	MAN	d	4	11/12	0.89	0.24	410,421,430,432	0

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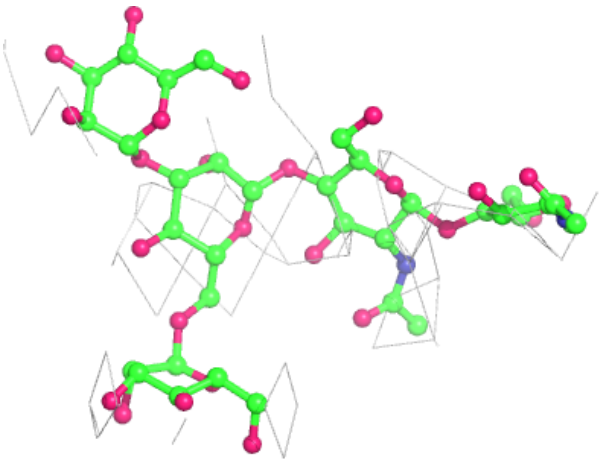
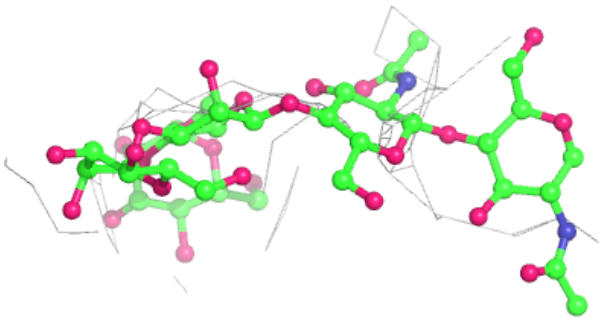
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
14	NAG	v	1	14/15	0.89	0.23	374,381,388,390	0
14	NAG	v	2	14/15	0.89	0.31	432,437,446,450	0
8	NAG	p	1	14/15	0.90	0.28	364,371,393,395	0
8	NAG	e	1	14/15	0.90	0.28	444,448,454,455	0
8	NAG	E	2	14/15	0.90	0.23	430,433,437,437	0
13	NAG	k	2	14/15	0.91	0.23	416,421,426,426	0
14	MAN	d	5	11/12	0.91	0.24	392,395,397,399	0
13	NAG	b	2	14/15	0.91	0.33	398,401,404,406	0
8	NAG	u	2	14/15	0.91	0.18	352,353,354,354	0
8	NAG	c	1	14/15	0.92	0.23	348,350,351,353	0
8	NAG	u	1	14/15	0.93	0.21	345,347,349,350	0
14	MAN	m	4	11/12	0.93	0.17	400,403,419,420	0
12	NAG	s	2	14/15	0.94	0.25	434,446,451,458	0

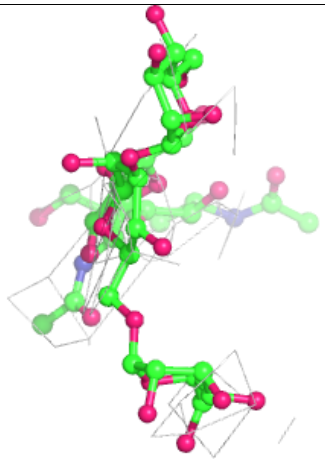
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain E:

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

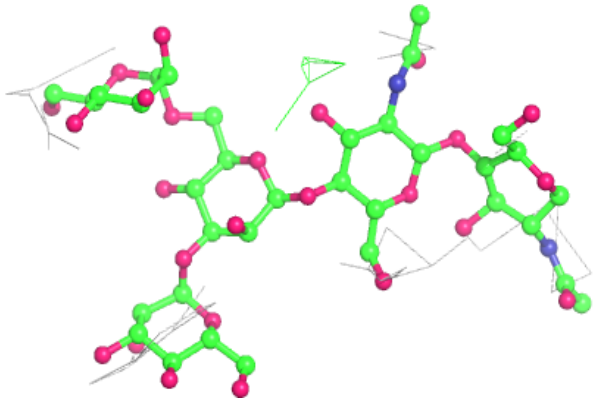


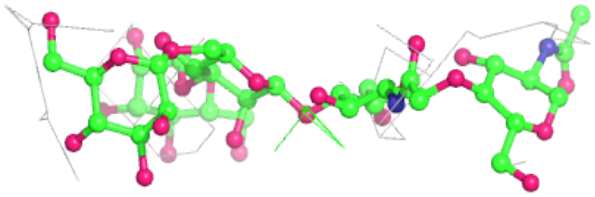


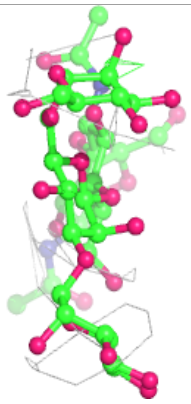


Electron density around Chain X:

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

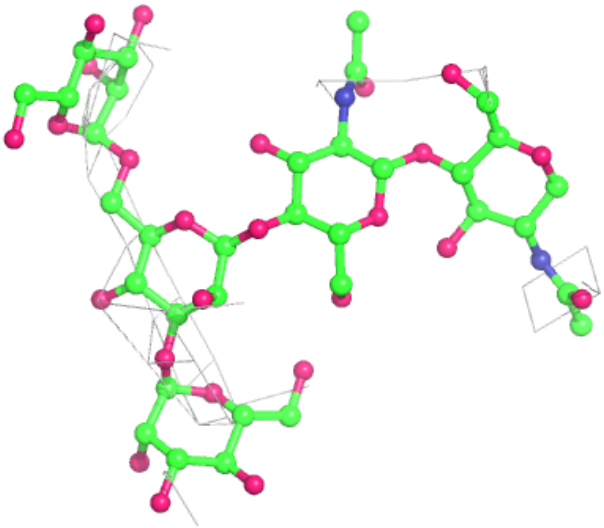


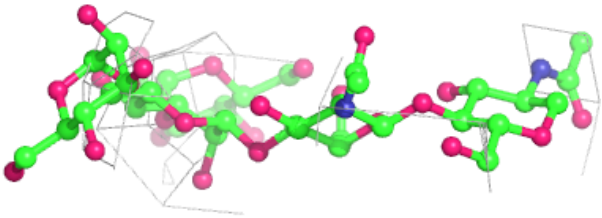


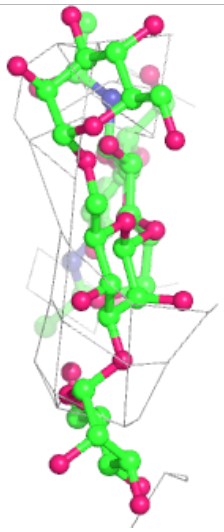


Electron density around Chain c:

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

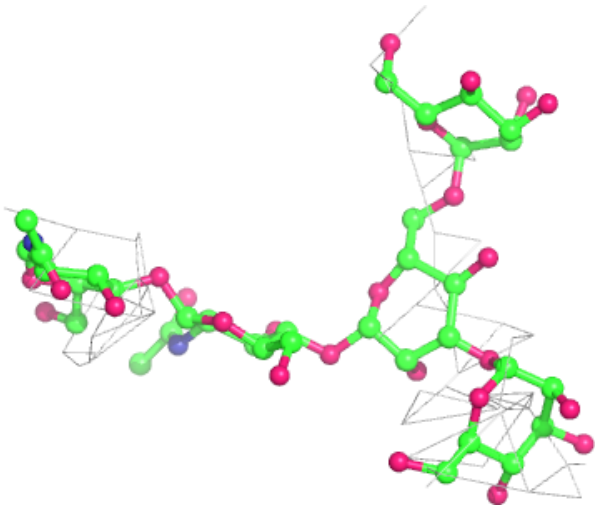


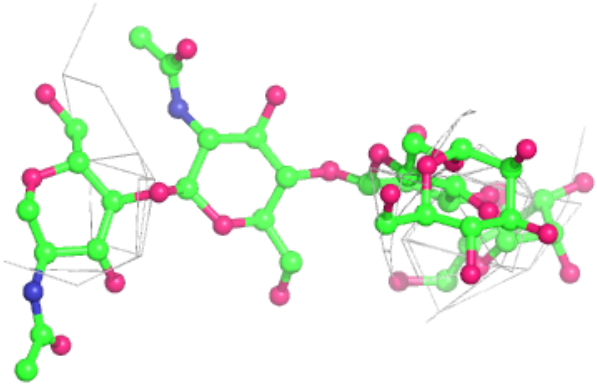


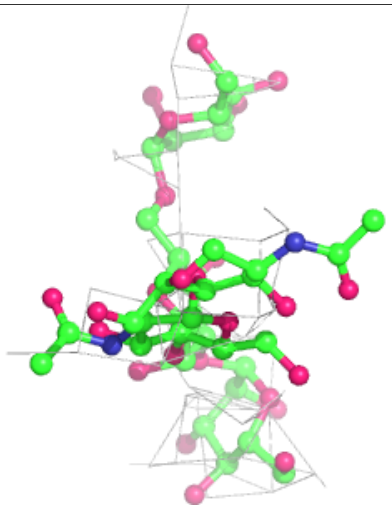


Electron density around Chain e:

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

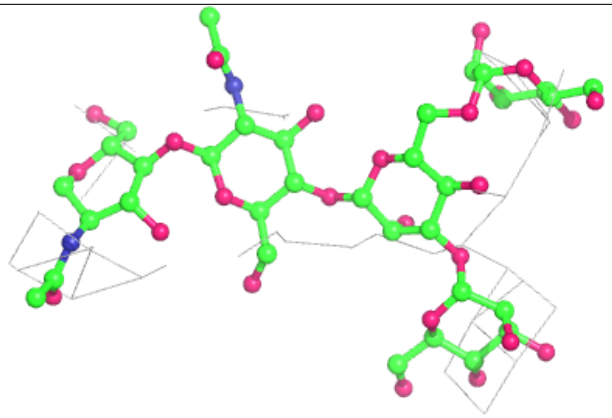


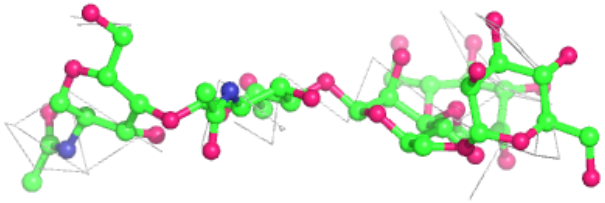


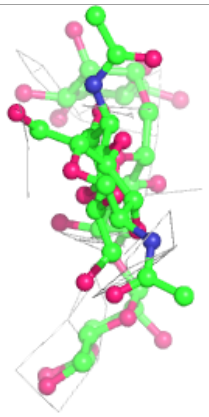


Electron density around Chain g:

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

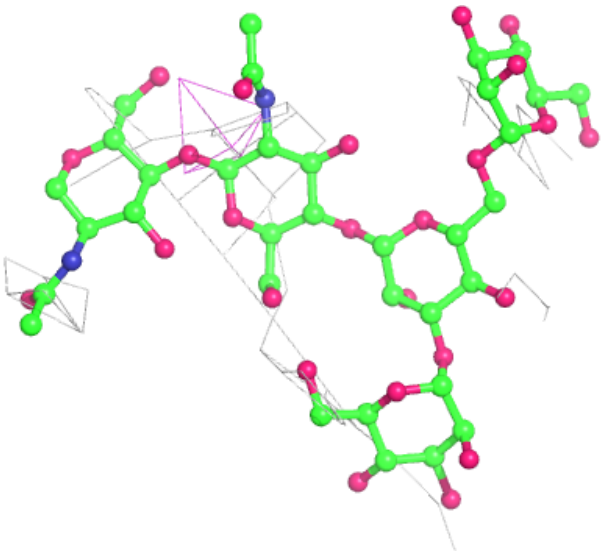


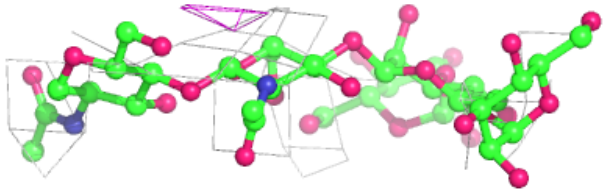


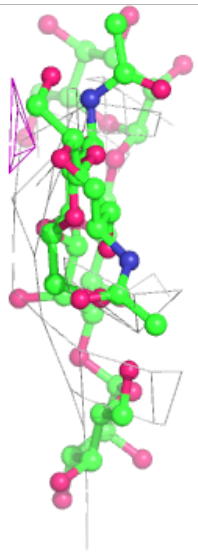


Electron density around Chain l:

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

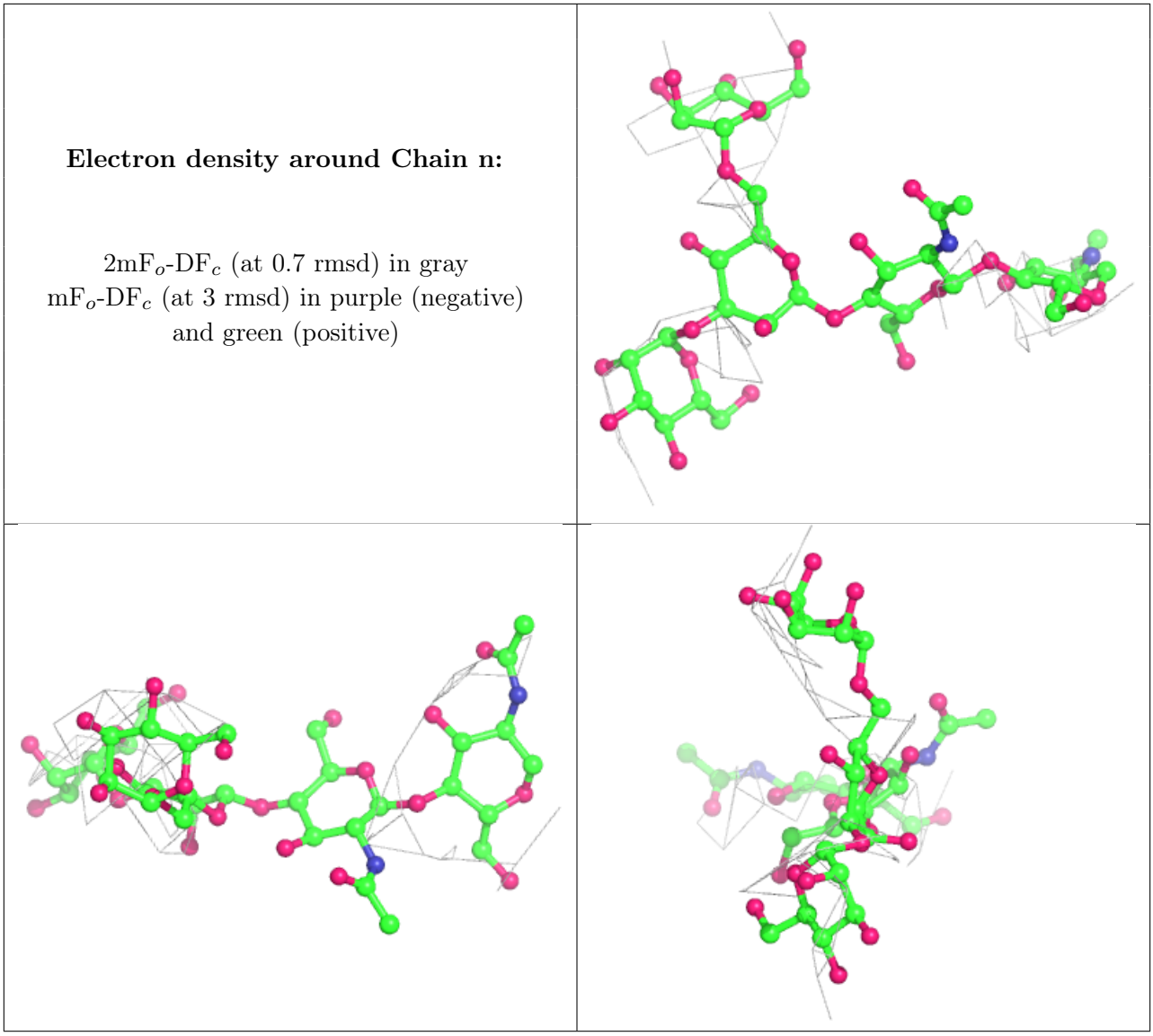






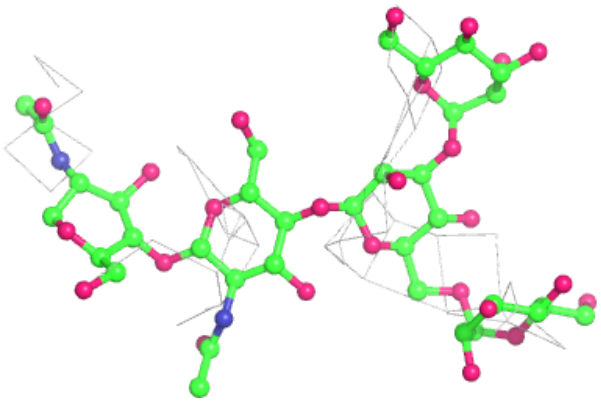
Electron density around Chain n:

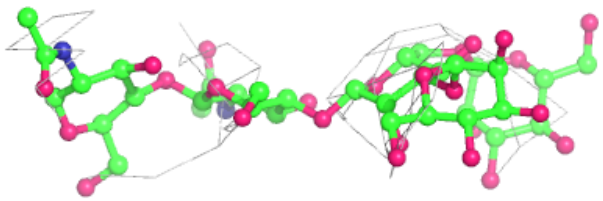
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

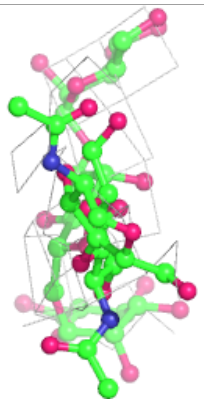


Electron density around Chain p:

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

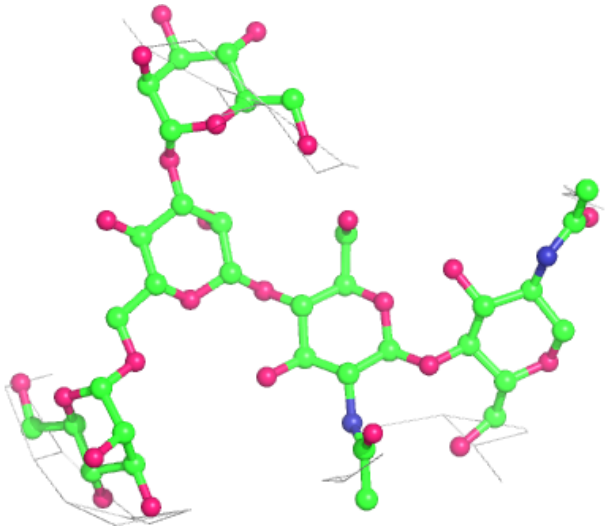


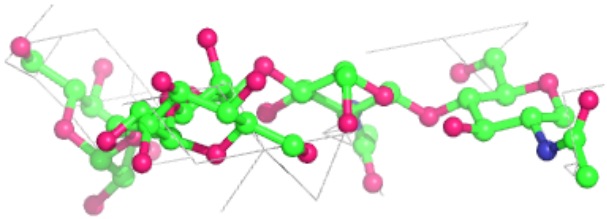


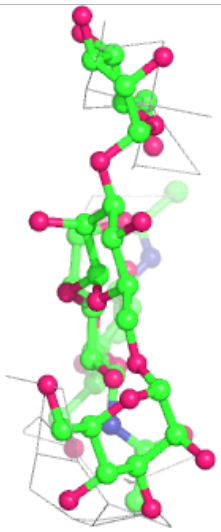


Electron density around Chain u:

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

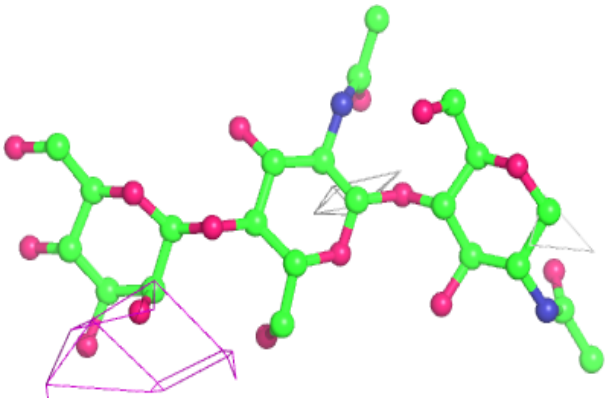


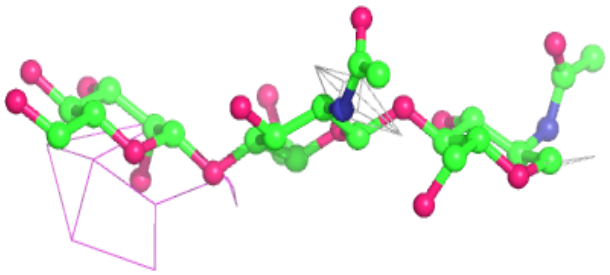


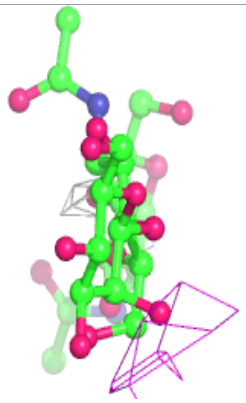


Electron density around Chain P:

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

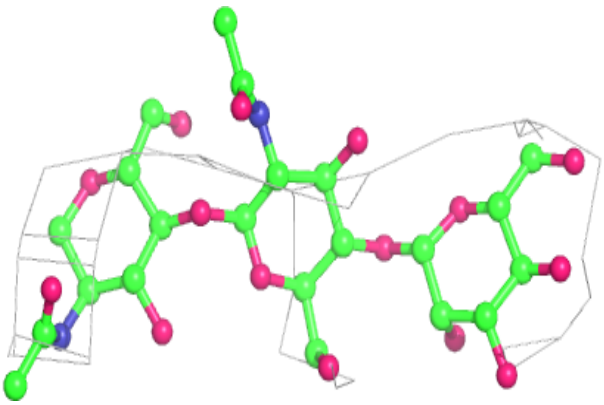


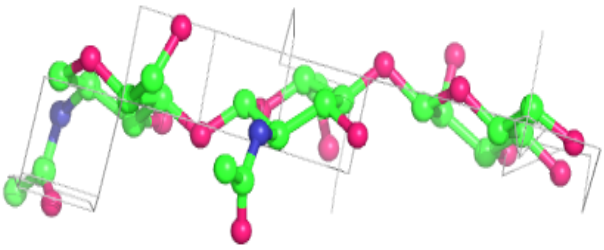


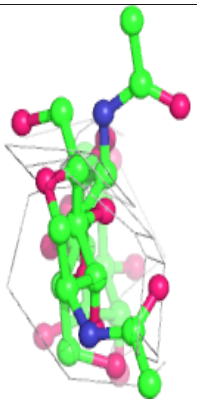


Electron density around Chain f:

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

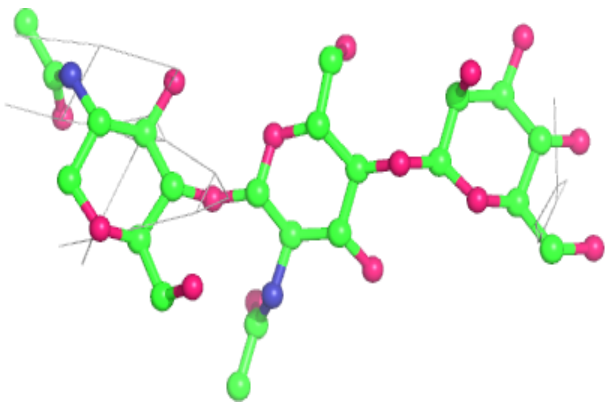


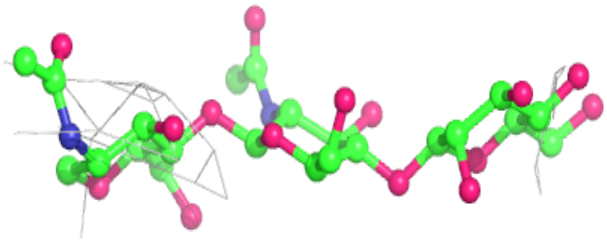


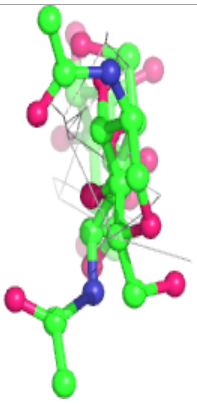


Electron density around Chain o:

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

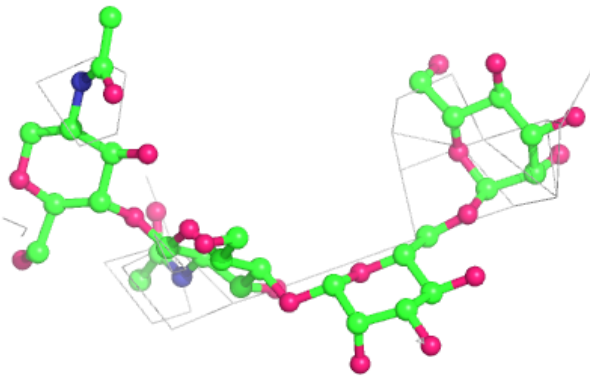


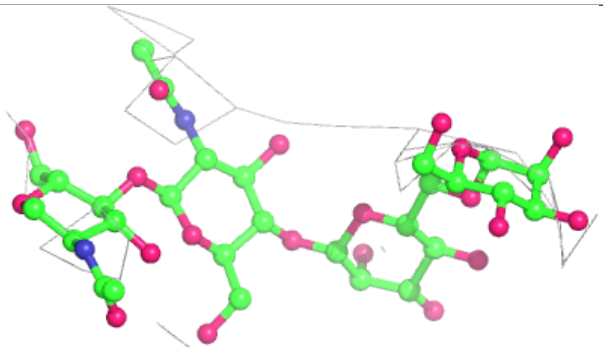


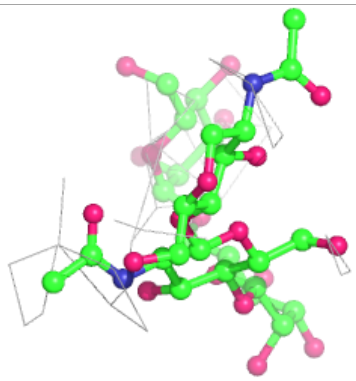


Electron density around Chain Y:

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

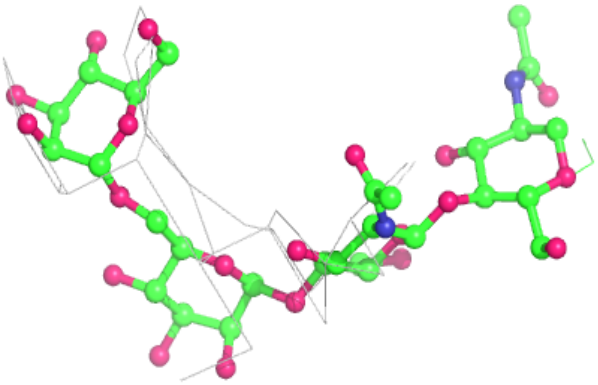


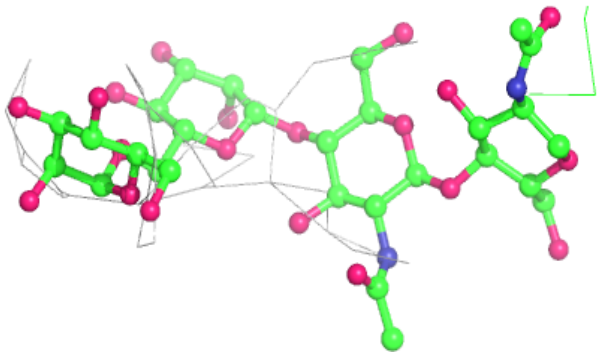


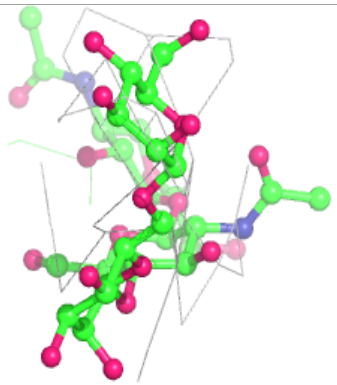


Electron density around Chain h:

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

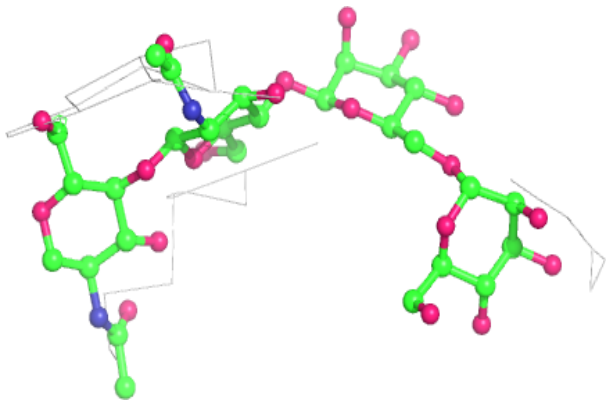


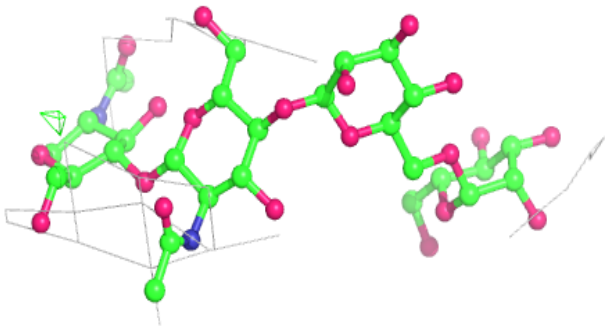


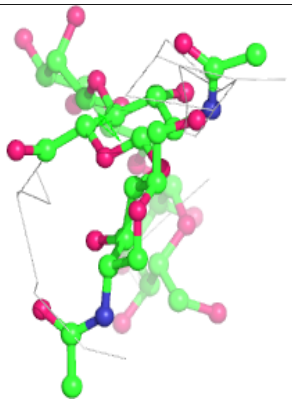


Electron density around Chain q:

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

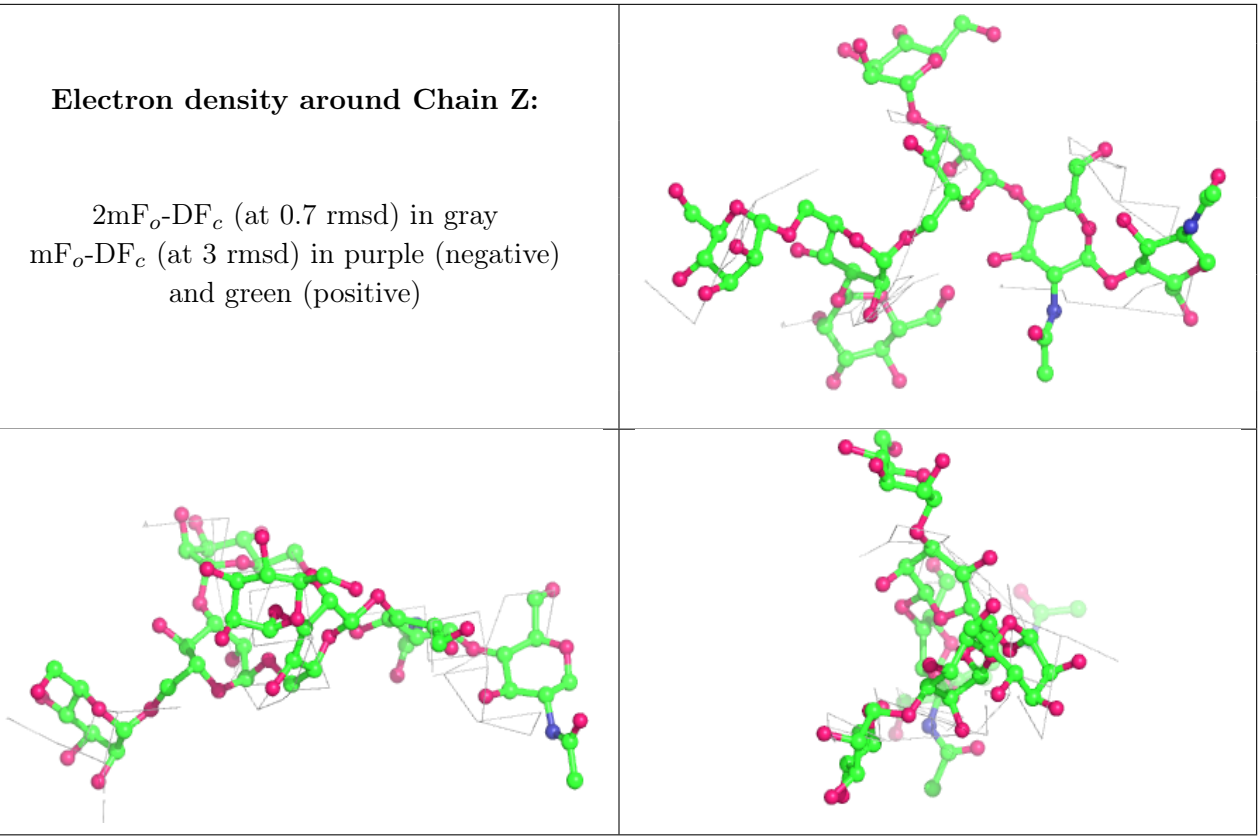






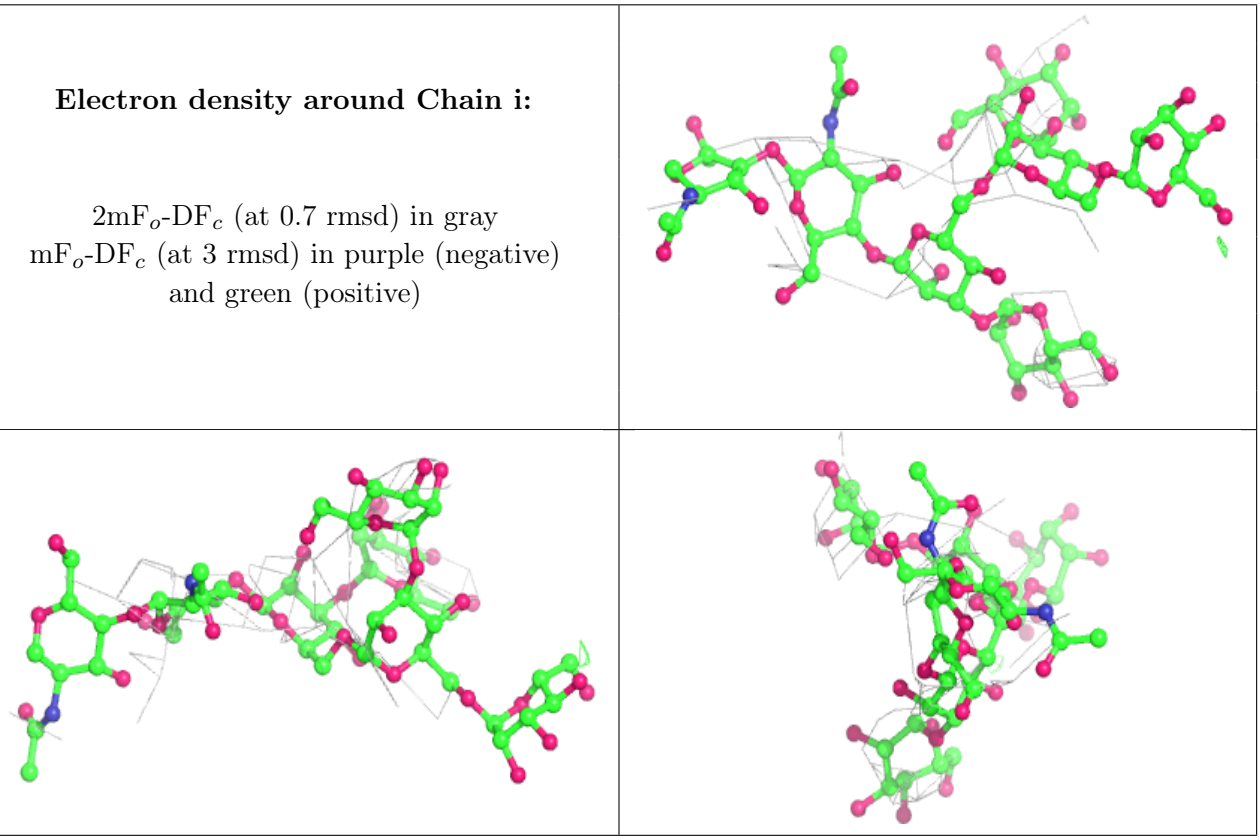
Electron density around Chain Z:

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



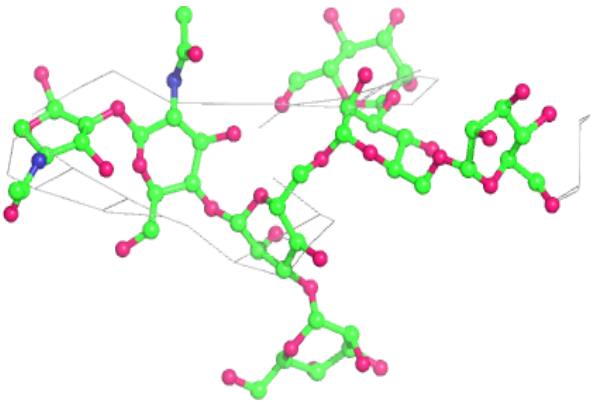
Electron density around Chain i:

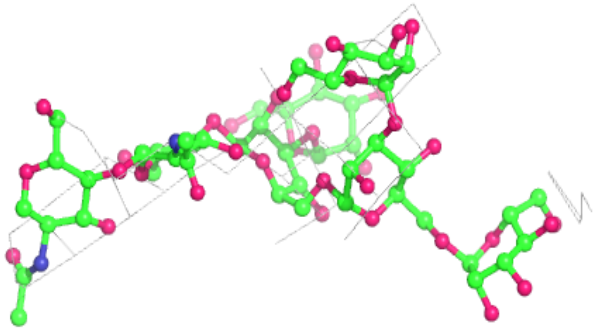
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

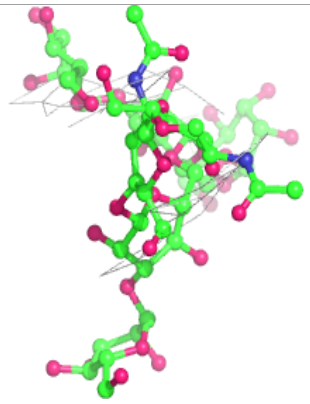


Electron density around Chain r:

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

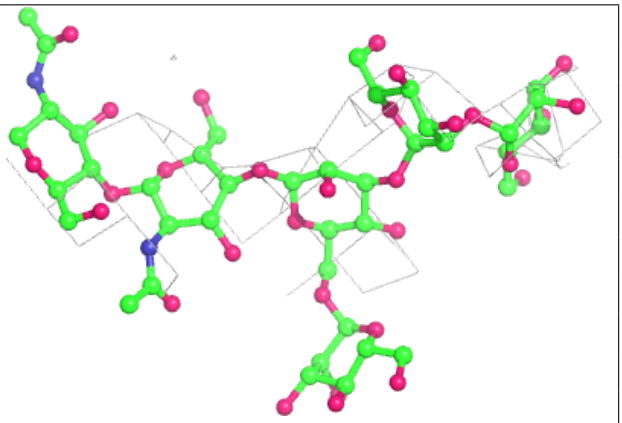


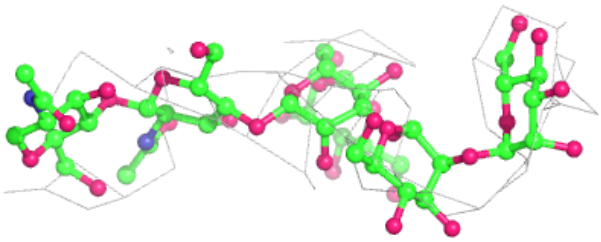


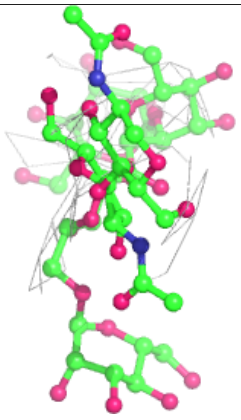


Electron density around Chain a:

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

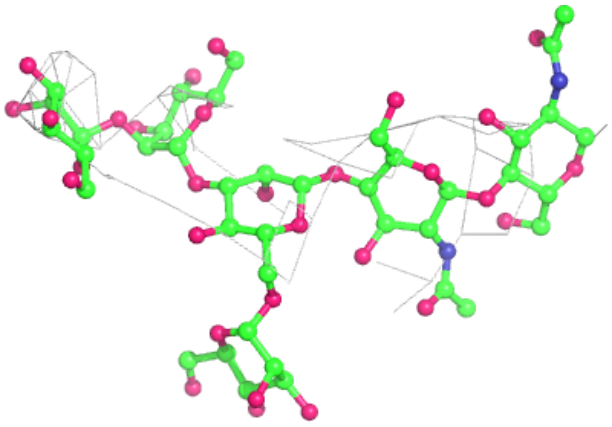


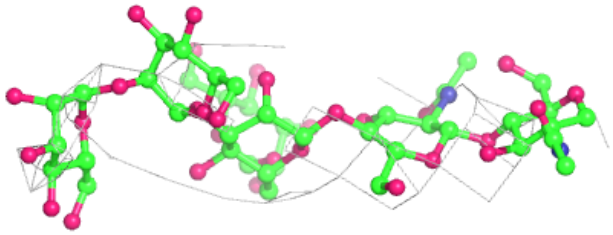


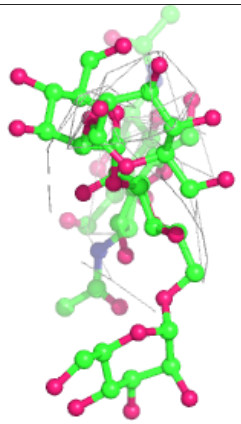


Electron density around Chain j:

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

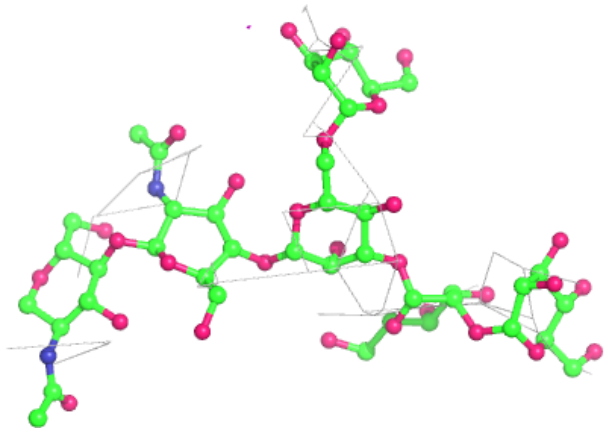


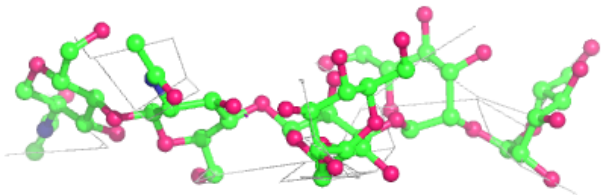


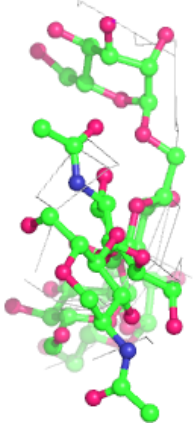


Electron density around Chain s:

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

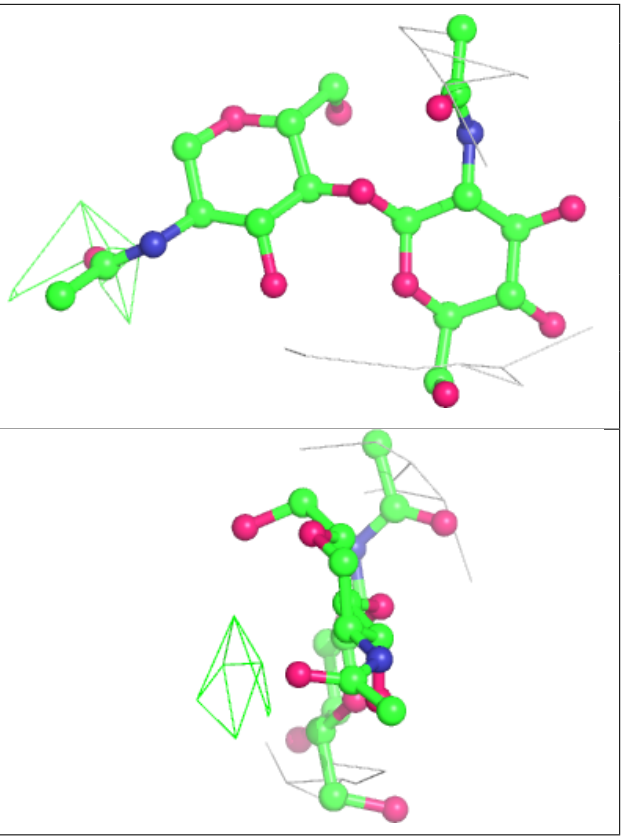


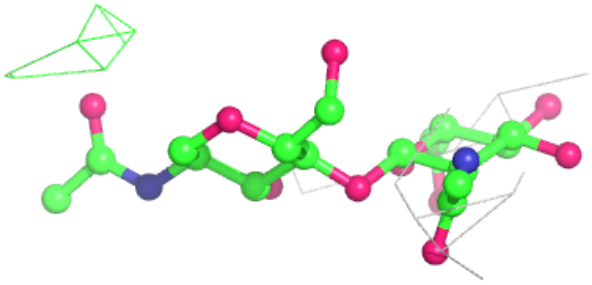




Electron density around Chain b:

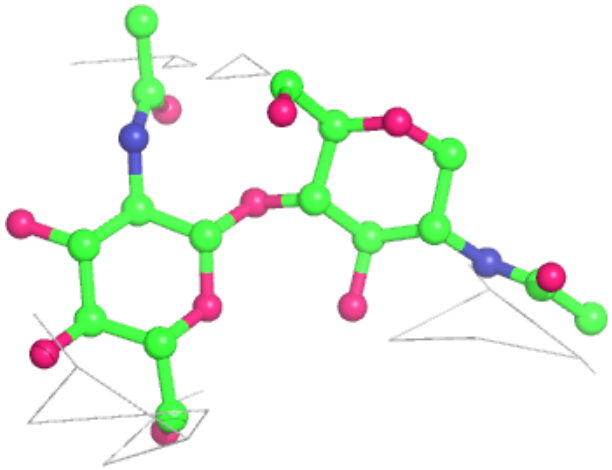
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

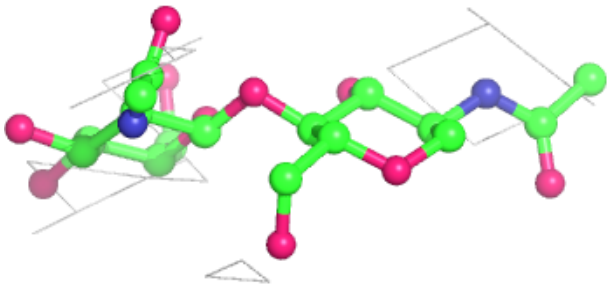


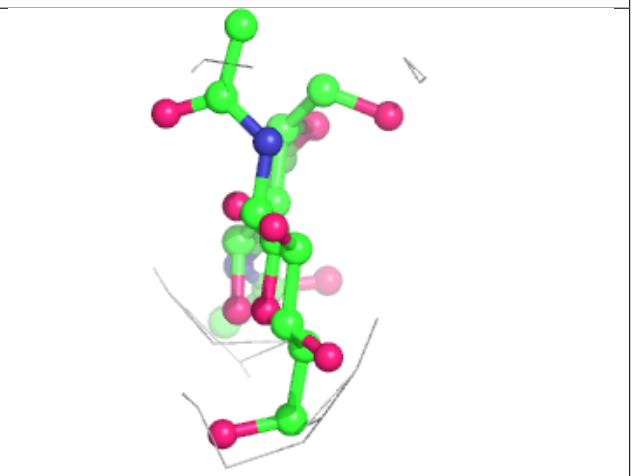


Electron density around Chain k:

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

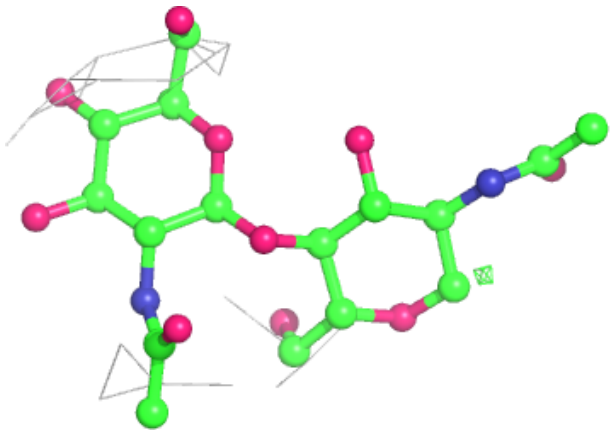


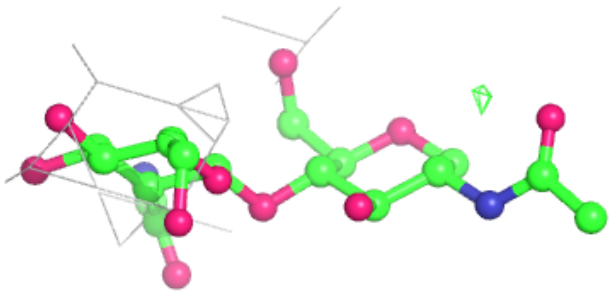


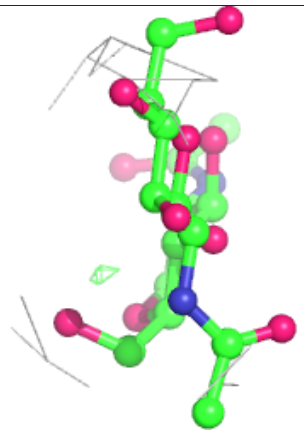


Electron density around Chain t:

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

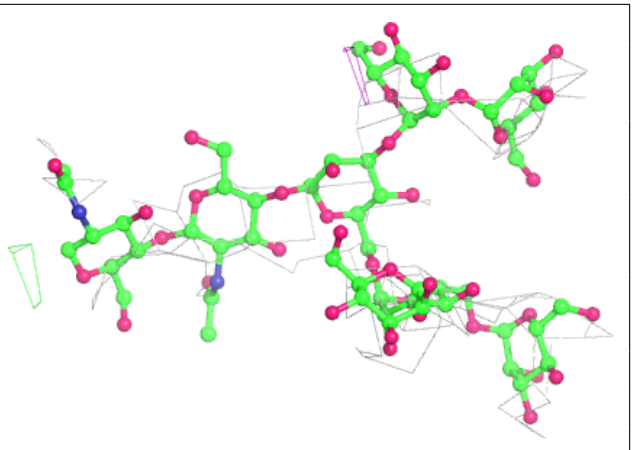


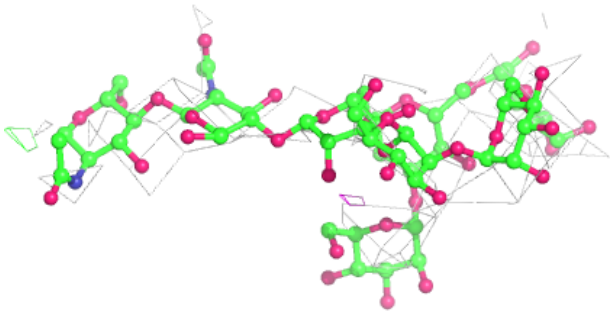


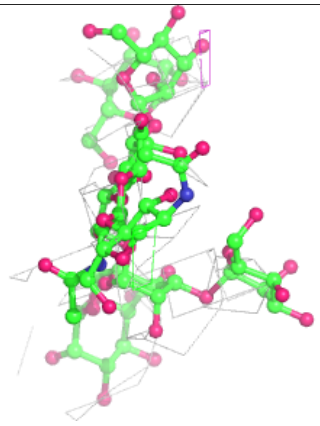


Electron density around Chain d:

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

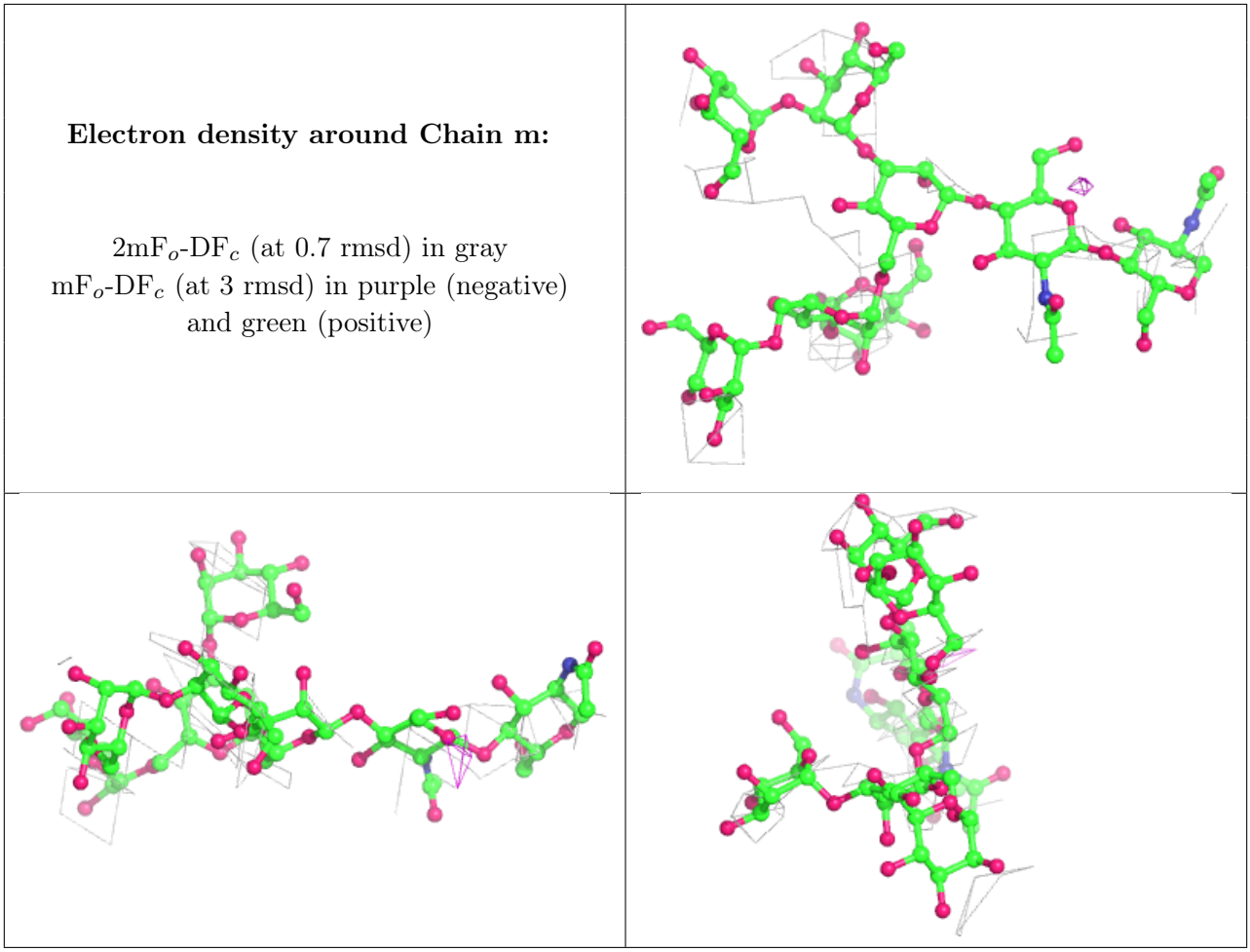


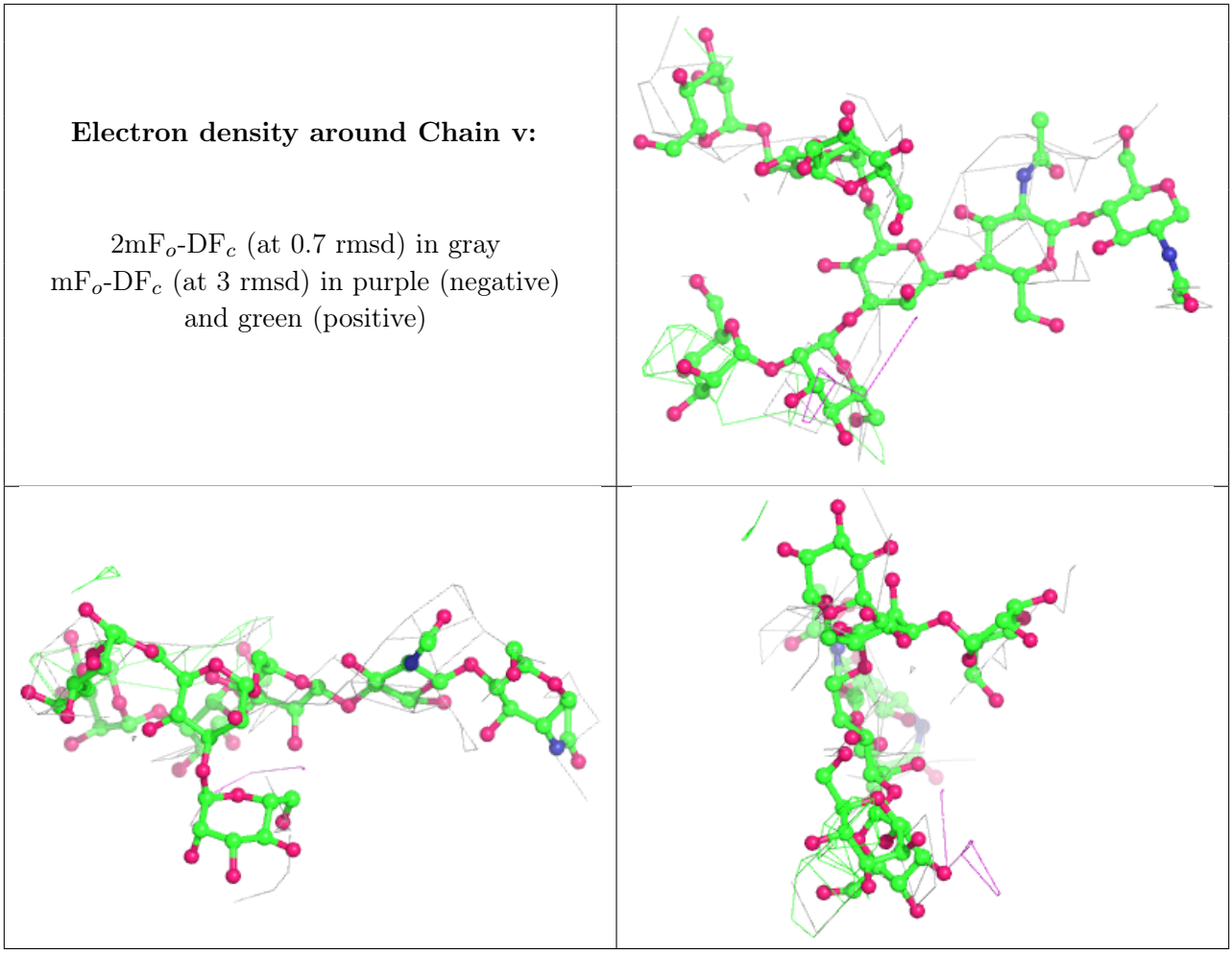




Electron density around Chain m:

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





6.4 Ligands

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
15	NAG	G	649	14/15	0.36	0.71	491,493,495,496	0
15	NAG	Q	615	14/15	0.46	0.77	499,500,501,502	0
15	NAG	Q	649	14/15	0.48	0.76	505,508,510,511	0
15	NAG	F	615	14/15	0.49	0.65	506,511,514,515	0
15	NAG	R	701	14/15	0.57	0.62	448,450,452,452	0
15	NAG	F	651	14/15	0.58	0.60	425,429,432,434	0
15	NAG	Q	651	14/15	0.59	0.82	446,448,449,449	0
15	NAG	Q	652	14/15	0.60	0.58	410,411,411,411	0
15	NAG	G	653	14/15	0.61	0.46	431,431,431,431	0
15	NAG	R	703	14/15	0.63	0.54	390,390,390,390	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
15	NAG	G	651	14/15	0.66	0.54	448,451,453,454	0
15	NAG	J	703	14/15	0.66	0.48	511,511,511,511	0
15	NAG	F	652	14/15	0.67	0.49	405,407,410,411	0
15	NAG	Q	633	14/15	0.67	0.46	517,518,519,519	0
15	NAG	G	606	14/15	0.68	0.27	449,452,455,456	0
15	NAG	F	649	14/15	0.68	0.53	468,470,474,474	0
15	NAG	F	606	14/15	0.68	0.42	460,464,467,468	0
15	NAG	G	615	14/15	0.69	0.43	429,431,432,434	0
15	NAG	J	701	14/15	0.71	0.64	503,510,514,514	0
15	NAG	G	633	14/15	0.73	0.37	475,477,480,480	0
15	NAG	J	702	14/15	0.74	0.64	480,482,485,487	0
15	NAG	A	702	14/15	0.74	0.41	410,413,414,415	0
15	NAG	F	633	14/15	0.75	0.48	511,516,521,523	0
15	NAG	Q	653	14/15	0.76	0.46	441,441,441,441	0
15	NAG	G	652	14/15	0.78	0.43	302,308,311,311	0
15	NAG	A	703	14/15	0.79	0.56	461,461,461,461	0
15	NAG	R	702	14/15	0.80	0.52	479,481,484,484	0
15	NAG	F	653	14/15	0.81	0.50	399,399,399,399	0
15	NAG	Q	606	14/15	0.82	0.29	474,477,479,480	0
15	NAG	A	701	14/15	0.89	0.56	406,407,409,409	0
15	NAG	F	650	14/15	0.90	0.32	345,348,352,354	0
15	NAG	Q	650	14/15	0.91	0.43	351,352,354,354	0
15	NAG	G	650	14/15	0.92	0.22	347,349,352,353	0

6.5 Other polymers (i)

There are no such residues in this entry.