



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 7, 2020 – 12:27 AM BST

PDB ID : 5W1X
Title : Crystal Structure of Humanpapillomavirus18 (HPV18) Capsid L1 Pentamers
Bound to Heparin Oligosaccharides
Authors : Chen, X.S.; Dasgupta, J.
Deposited on : 2017-06-05
Resolution : 3.37 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 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 : 2.13.1
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.13.1

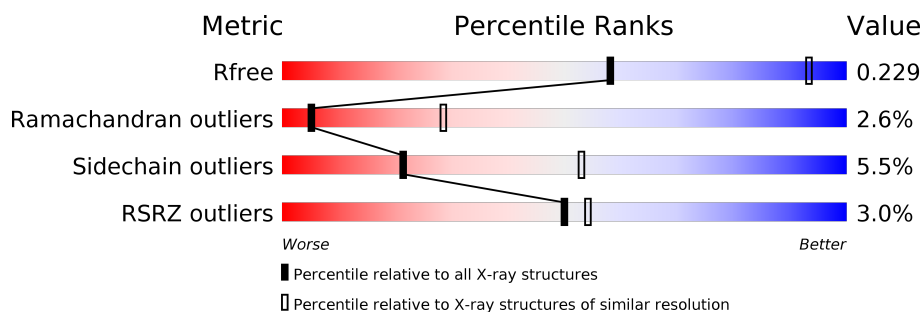
1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.37 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	1691 (3.46-3.30)
Ramachandran outliers	138981	1732 (3.46-3.30)
Sidechain outliers	138945	1731 (3.46-3.30)
RSRZ outliers	127900	1635 (3.46-3.30)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	427	<div> <div>4%</div> <div>93%</div> <div>5%</div> </div>
1	B	427	<div> <div>4%</div> <div>93%</div> <div>6%</div> </div>
1	C	427	<div> <div>3%</div> <div>92%</div> <div>6%</div> </div>
1	D	427	<div> <div>2%</div> <div>91%</div> <div>8%</div> </div>
1	E	427	<div> <div>2%</div> <div>93%</div> <div>6%</div> </div>
1	F	427	<div> <div>2%</div> <div>93%</div> <div>5%</div> </div>
1	G	427	<div> <div>4%</div> <div>92%</div> <div>6%</div> </div>

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Mol	Chain	Length	Quality of chain
1	H	427	
1	I	427	
1	J	427	
1	K	427	
1	L	427	
1	M	427	
1	N	427	
1	O	427	
2	P	2	
2	S	2	
2	T	2	
2	U	2	
2	W	2	
2	Y	2	
2	Z	2	
2	a	2	
2	d	2	
2	i	2	
2	j	2	
2	k	2	
2	l	2	
2	m	2	
2	n	2	
2	o	2	
2	q	2	

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Mol	Chain	Length	Quality of chain
2	r	2	 100%
2	s	2	 100%
3	Q	4	 100%
3	R	4	 100%
3	V	4	 100%
3	X	4	 100%
3	b	4	 100%
3	c	4	 100%
3	g	4	 100%
3	h	4	 100%
3	p	4	 100%
4	e	6	 100%
5	f	10	 90% 10%

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
2	JHM	P	1	-	-	-	X
2	IDS	P	2	-	-	-	X
2	JHM	S	1	-	-	-	X
2	IDS	S	2	-	-	-	X
2	JHM	T	1	-	-	-	X
2	IDS	T	2	-	-	-	X
2	JHM	U	1	-	-	-	X
2	IDS	U	2	-	-	-	X
2	JHM	W	1	-	-	-	X
2	IDS	W	2	-	-	-	X
2	JHM	Y	1	-	-	-	X
2	IDS	Y	2	-	-	-	X
2	JHM	Z	1	-	-	-	X
2	IDS	Z	2	-	-	-	X
2	JHM	a	1	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	IDS	a	2	-	-	-	X
2	JHM	d	1	-	-	-	X
2	IDS	d	2	-	-	-	X
2	JHM	i	1	-	-	-	X
2	IDS	i	2	-	-	-	X
2	JHM	j	1	-	-	-	X
2	IDS	j	2	-	-	-	X
2	JHM	k	1	-	-	-	X
2	IDS	k	2	-	-	-	X
2	JHM	l	1	-	-	-	X
2	IDS	l	2	-	-	-	X
2	JHM	m	1	-	-	-	X
2	IDS	m	2	-	-	-	X
2	JHM	n	1	-	-	-	X
2	IDS	n	2	-	-	-	X
2	JHM	o	1	-	-	-	X
2	JHM	q	1	-	-	-	X
2	IDS	q	2	-	-	-	X
2	JHM	r	1	-	-	-	X
2	IDS	r	2	-	-	-	X
2	JHM	s	1	-	-	-	X
2	IDS	s	2	-	-	-	X
3	JHM	Q	1	-	-	-	X
3	IDS	Q	2	-	-	-	X
3	JHM	Q	3	-	-	-	X
3	IDS	Q	4	-	-	-	X
3	JHM	R	1	-	-	-	X
3	IDS	R	2	-	-	-	X
3	JHM	R	3	-	-	-	X
3	IDS	R	4	-	-	-	X
3	JHM	V	1	-	-	-	X
3	IDS	V	2	-	-	-	X
3	JHM	V	3	-	-	-	X
3	JHM	X	1	-	-	-	X
3	IDS	X	2	-	-	-	X
3	JHM	X	3	-	-	-	X
3	IDS	X	4	-	-	-	X
3	JHM	b	1	-	-	-	X
3	IDS	b	2	-	-	-	X
3	IDS	b	4	-	-	-	X
3	JHM	c	1	-	-	-	X
3	IDS	c	2	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	JHM	c	3	-	-	-	X
3	IDS	c	4	-	-	-	X
3	JHM	g	1	-	-	-	X
3	IDS	g	2	-	-	-	X
3	JHM	g	3	-	-	-	X
3	IDS	g	4	-	-	-	X
3	JHM	h	1	-	-	-	X
3	IDS	h	2	-	-	-	X
3	JHM	h	3	-	-	-	X
3	IDS	h	4	-	-	-	X
3	JHM	p	1	-	-	-	X
3	IDS	p	2	-	-	-	X
3	JHM	p	3	-	-	-	X
3	IDS	p	4	-	-	-	X
4	JHM	e	1	-	-	-	X
4	IDS	e	2	-	-	-	X
4	IDS	e	4	-	-	-	X
4	JHM	e	5	-	-	-	X
4	IDS	e	6	-	-	-	X
5	JHM	f	1	-	-	-	X
5	IDS	f	10	-	-	-	X
5	IDS	f	2	-	-	-	X
5	JHM	f	3	-	-	-	X
5	IDS	f	4	-	-	-	X
5	JHM	f	5	-	-	-	X
5	IDS	f	6	-	-	-	X
5	JHM	f	7	-	-	-	X
5	IDS	f	8	-	-	-	X
5	JHM	f	9	-	-	-	X

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 51075 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 Major capsid protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	B	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	C	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	D	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	E	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	F	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	G	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	H	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	I	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	J	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	K	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	L	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	M	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	N	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			
1	O	422	Total	C	N	O	S	0	0	0
			3315	2092	561	642	20			

There are 135 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	20	ALA	-	expression tag	UNP Q5G244
A	47	ASP	ASN	engineered mutation	UNP Q5G244
A	175	SER	CYS	engineered mutation	UNP Q5G244
A	393	GLN	HIS	engineered mutation	UNP Q5G244
A	433	GLY	-	linker	UNP Q5G244
A	434	GLY	-	linker	UNP Q5G244
A	435	SER	-	linker	UNP Q5G244
A	436	GLY	-	linker	UNP Q5G244
A	437	GLY	-	linker	UNP Q5G244
B	20	ALA	-	expression tag	UNP Q5G244
B	47	ASP	ASN	engineered mutation	UNP Q5G244
B	175	SER	CYS	engineered mutation	UNP Q5G244
B	393	GLN	HIS	engineered mutation	UNP Q5G244
B	433	GLY	-	linker	UNP Q5G244
B	434	GLY	-	linker	UNP Q5G244
B	435	SER	-	linker	UNP Q5G244
B	436	GLY	-	linker	UNP Q5G244
B	437	GLY	-	linker	UNP Q5G244
C	20	ALA	-	expression tag	UNP Q5G244
C	47	ASP	ASN	engineered mutation	UNP Q5G244
C	175	SER	CYS	engineered mutation	UNP Q5G244
C	393	GLN	HIS	engineered mutation	UNP Q5G244
C	433	GLY	-	linker	UNP Q5G244
C	434	GLY	-	linker	UNP Q5G244
C	435	SER	-	linker	UNP Q5G244
C	436	GLY	-	linker	UNP Q5G244
C	437	GLY	-	linker	UNP Q5G244
D	20	ALA	-	expression tag	UNP Q5G244
D	47	ASP	ASN	engineered mutation	UNP Q5G244
D	175	SER	CYS	engineered mutation	UNP Q5G244
D	393	GLN	HIS	engineered mutation	UNP Q5G244
D	433	GLY	-	linker	UNP Q5G244
D	434	GLY	-	linker	UNP Q5G244
D	435	SER	-	linker	UNP Q5G244
D	436	GLY	-	linker	UNP Q5G244
D	437	GLY	-	linker	UNP Q5G244
E	20	ALA	-	expression tag	UNP Q5G244
E	47	ASP	ASN	engineered mutation	UNP Q5G244
E	175	SER	CYS	engineered mutation	UNP Q5G244
E	393	GLN	HIS	engineered mutation	UNP Q5G244
E	433	GLY	-	linker	UNP Q5G244
E	434	GLY	-	linker	UNP Q5G244
E	435	SER	-	linker	UNP Q5G244

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Chain	Residue	Modelled	Actual	Comment	Reference
E	436	GLY	-	linker	UNP Q5G244
E	437	GLY	-	linker	UNP Q5G244
F	20	ALA	-	expression tag	UNP Q5G244
F	47	ASP	ASN	engineered mutation	UNP Q5G244
F	175	SER	CYS	engineered mutation	UNP Q5G244
F	393	GLN	HIS	engineered mutation	UNP Q5G244
F	433	GLY	-	linker	UNP Q5G244
F	434	GLY	-	linker	UNP Q5G244
F	435	SER	-	linker	UNP Q5G244
F	436	GLY	-	linker	UNP Q5G244
F	437	GLY	-	linker	UNP Q5G244
G	20	ALA	-	expression tag	UNP Q5G244
G	47	ASP	ASN	engineered mutation	UNP Q5G244
G	175	SER	CYS	engineered mutation	UNP Q5G244
G	393	GLN	HIS	engineered mutation	UNP Q5G244
G	433	GLY	-	linker	UNP Q5G244
G	434	GLY	-	linker	UNP Q5G244
G	435	SER	-	linker	UNP Q5G244
G	436	GLY	-	linker	UNP Q5G244
G	437	GLY	-	linker	UNP Q5G244
H	20	ALA	-	expression tag	UNP Q5G244
H	47	ASP	ASN	engineered mutation	UNP Q5G244
H	175	SER	CYS	engineered mutation	UNP Q5G244
H	393	GLN	HIS	engineered mutation	UNP Q5G244
H	433	GLY	-	linker	UNP Q5G244
H	434	GLY	-	linker	UNP Q5G244
H	435	SER	-	linker	UNP Q5G244
H	436	GLY	-	linker	UNP Q5G244
H	437	GLY	-	linker	UNP Q5G244
I	20	ALA	-	expression tag	UNP Q5G244
I	47	ASP	ASN	engineered mutation	UNP Q5G244
I	175	SER	CYS	engineered mutation	UNP Q5G244
I	393	GLN	HIS	engineered mutation	UNP Q5G244
I	433	GLY	-	linker	UNP Q5G244
I	434	GLY	-	linker	UNP Q5G244
I	435	SER	-	linker	UNP Q5G244
I	436	GLY	-	linker	UNP Q5G244
I	437	GLY	-	linker	UNP Q5G244
J	20	ALA	-	expression tag	UNP Q5G244
J	47	ASP	ASN	engineered mutation	UNP Q5G244
J	175	SER	CYS	engineered mutation	UNP Q5G244
J	393	GLN	HIS	engineered mutation	UNP Q5G244

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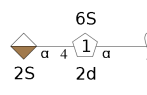
Chain	Residue	Modelled	Actual	Comment	Reference
J	433	GLY	-	linker	UNP Q5G244
J	434	GLY	-	linker	UNP Q5G244
J	435	SER	-	linker	UNP Q5G244
J	436	GLY	-	linker	UNP Q5G244
J	437	GLY	-	linker	UNP Q5G244
K	20	ALA	-	expression tag	UNP Q5G244
K	47	ASP	ASN	engineered mutation	UNP Q5G244
K	175	SER	CYS	engineered mutation	UNP Q5G244
K	393	GLN	HIS	engineered mutation	UNP Q5G244
K	433	GLY	-	linker	UNP Q5G244
K	434	GLY	-	linker	UNP Q5G244
K	435	SER	-	linker	UNP Q5G244
K	436	GLY	-	linker	UNP Q5G244
K	437	GLY	-	linker	UNP Q5G244
L	20	ALA	-	expression tag	UNP Q5G244
L	47	ASP	ASN	engineered mutation	UNP Q5G244
L	175	SER	CYS	engineered mutation	UNP Q5G244
L	393	GLN	HIS	engineered mutation	UNP Q5G244
L	433	GLY	-	linker	UNP Q5G244
L	434	GLY	-	linker	UNP Q5G244
L	435	SER	-	linker	UNP Q5G244
L	436	GLY	-	linker	UNP Q5G244
L	437	GLY	-	linker	UNP Q5G244
M	20	ALA	-	expression tag	UNP Q5G244
M	47	ASP	ASN	engineered mutation	UNP Q5G244
M	175	SER	CYS	engineered mutation	UNP Q5G244
M	393	GLN	HIS	engineered mutation	UNP Q5G244
M	433	GLY	-	linker	UNP Q5G244
M	434	GLY	-	linker	UNP Q5G244
M	435	SER	-	linker	UNP Q5G244
M	436	GLY	-	linker	UNP Q5G244
M	437	GLY	-	linker	UNP Q5G244
N	20	ALA	-	expression tag	UNP Q5G244
N	47	ASP	ASN	engineered mutation	UNP Q5G244
N	175	SER	CYS	engineered mutation	UNP Q5G244
N	393	GLN	HIS	engineered mutation	UNP Q5G244
N	433	GLY	-	linker	UNP Q5G244
N	434	GLY	-	linker	UNP Q5G244
N	435	SER	-	linker	UNP Q5G244
N	436	GLY	-	linker	UNP Q5G244
N	437	GLY	-	linker	UNP Q5G244
O	20	ALA	-	expression tag	UNP Q5G244

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Chain	Residue	Modelled	Actual	Comment	Reference
O	47	ASP	ASN	engineered mutation	UNP Q5G244
O	175	SER	CYS	engineered mutation	UNP Q5G244
O	393	GLN	HIS	engineered mutation	UNP Q5G244
O	433	GLY	-	linker	UNP Q5G244
O	434	GLY	-	linker	UNP Q5G244
O	435	SER	-	linker	UNP Q5G244
O	436	GLY	-	linker	UNP Q5G244
O	437	GLY	-	linker	UNP Q5G244

- Molecule 2 is an oligosaccharide called 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose.



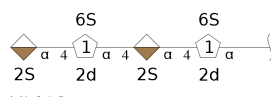
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	P	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	S	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	T	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	U	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	W	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	Y	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	Z	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	a	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	d	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	i	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	j	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	k	2	Total	C	O	S	0	0	0
			30	12	16	2			

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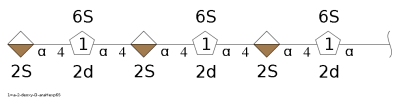
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	l	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	m	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	n	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	o	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	q	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	r	2	Total	C	O	S	0	0	0
			30	12	16	2			
2	s	2	Total	C	O	S	0	0	0
			30	12	16	2			

- Molecule 3 is an oligosaccharide called 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose.



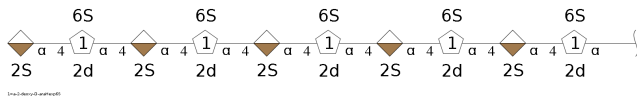
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	Q	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	R	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	V	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	X	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	b	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	c	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	g	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	h	4	Total	C	O	S	0	0	0
			60	24	32	4			
3	p	4	Total	C	O	S	0	0	0
			60	24	32	4			

- Molecule 4 is an oligosaccharide called 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	e	6	Total	C	O	S	0	0	0
			90	36	48	6			

- Molecule 5 is an oligosaccharide called 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose.

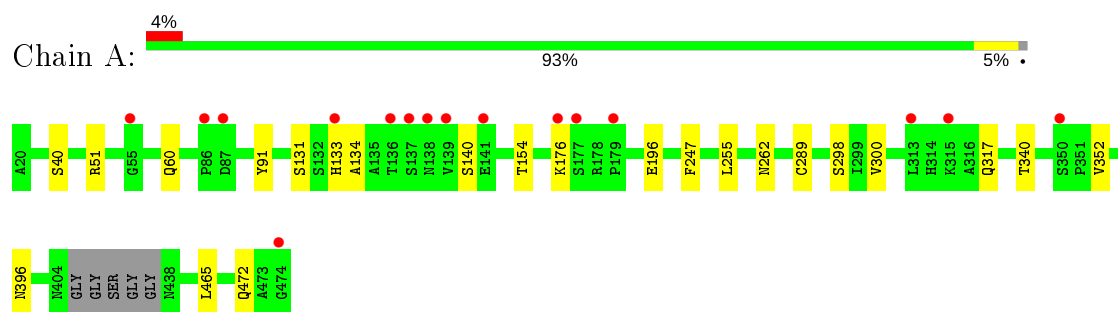


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	f	10	Total	C	O	S	0	0	0
			150	60	80	10			

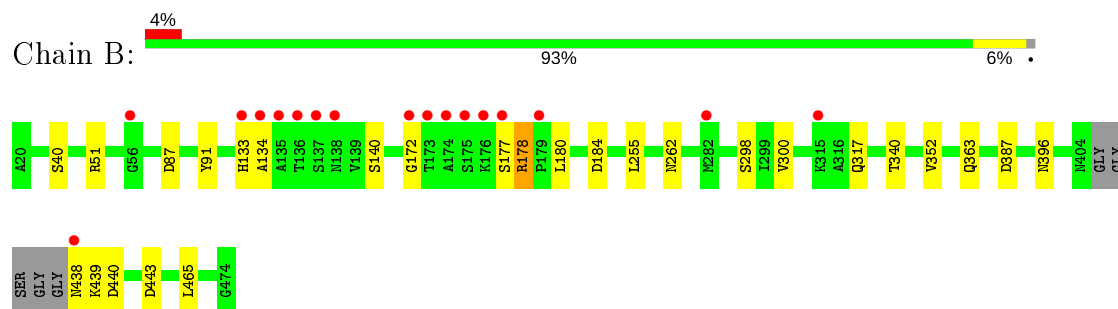
3 Residue-property plots

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

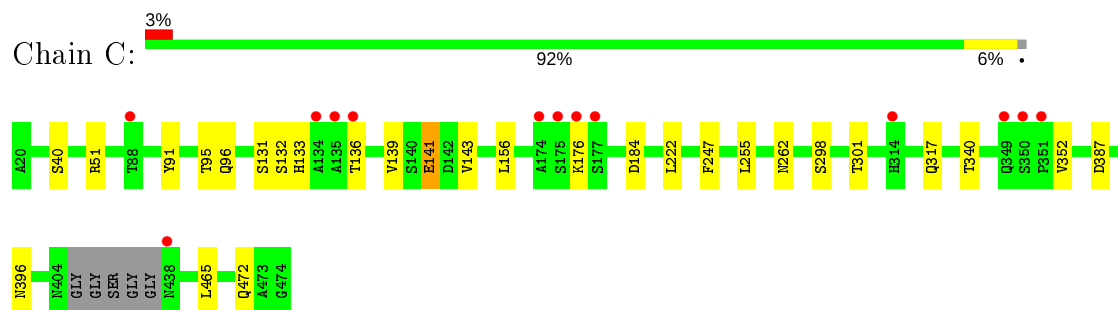
- Molecule 1: Major capsid protein L1



- Molecule 1: Major capsid protein L1

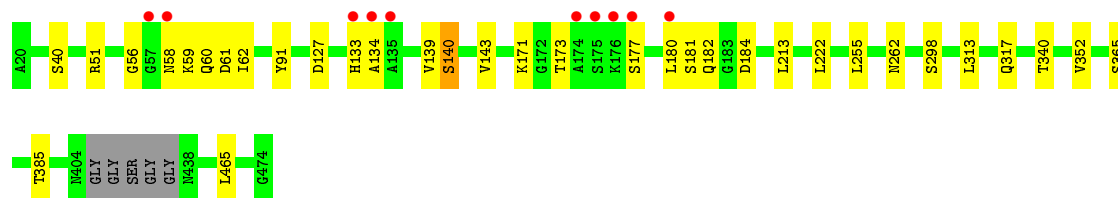


- Molecule 1: Major capsid protein L1

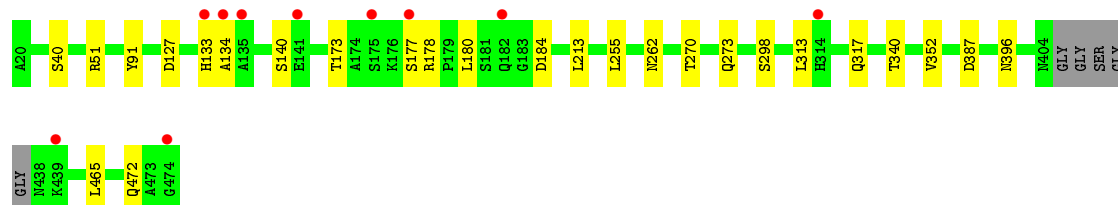
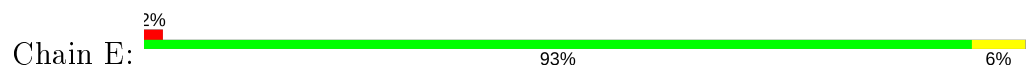


- Molecule 1: Major capsid protein L1

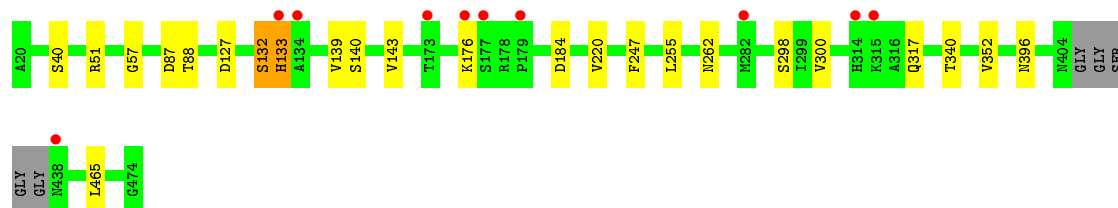




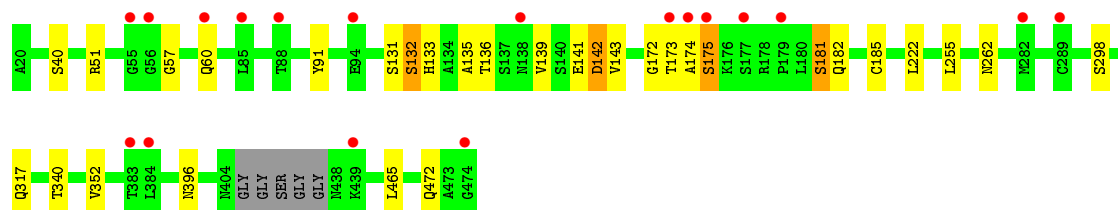
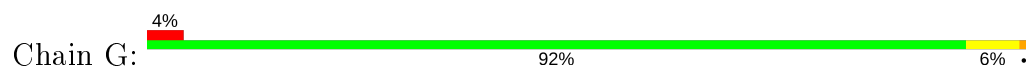
- Molecule 1: Major capsid protein L1



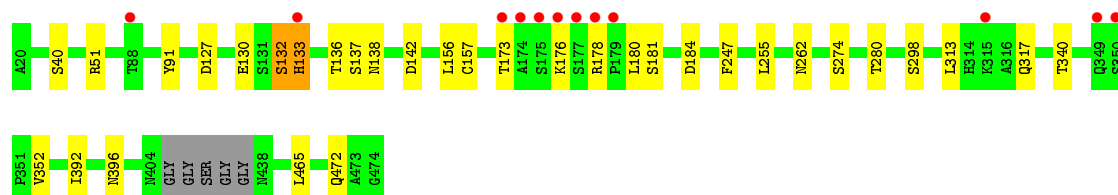
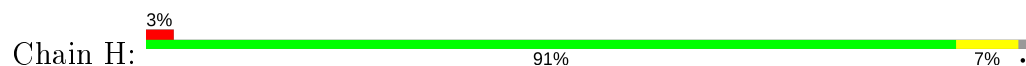
- Molecule 1: Major capsid protein L1



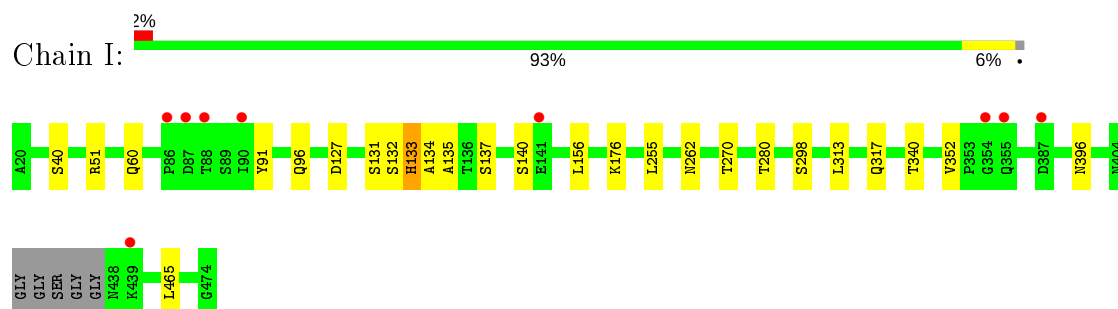
- Molecule 1: Major capsid protein L1



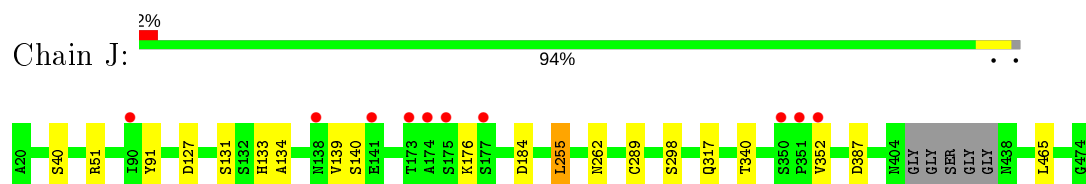
- Molecule 1: Major capsid protein L1



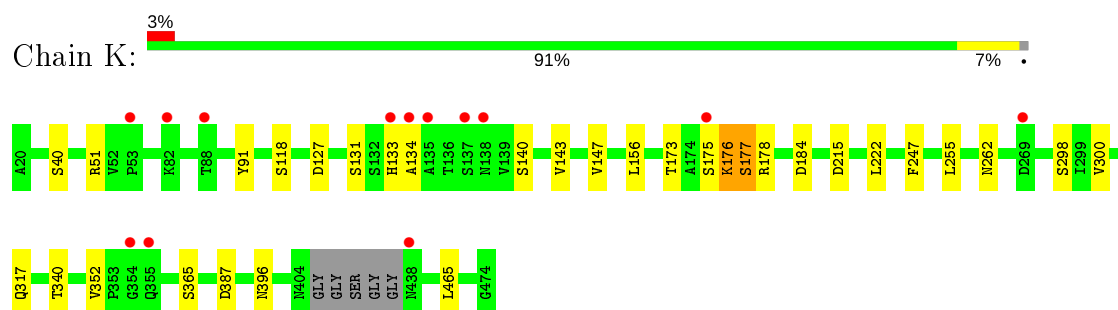
- Molecule 1: Major capsid protein L1



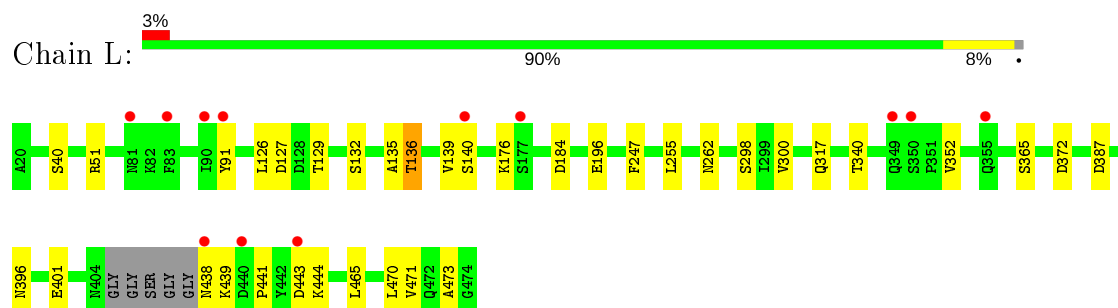
- Molecule 1: Major capsid protein L1



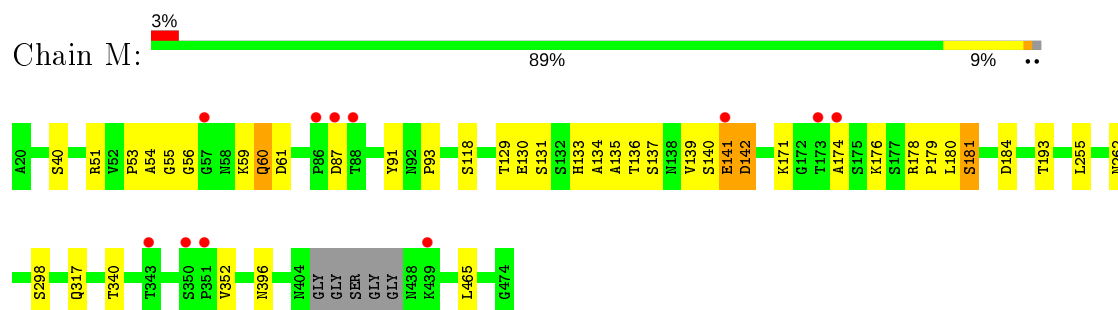
- Molecule 1: Major capsid protein L1



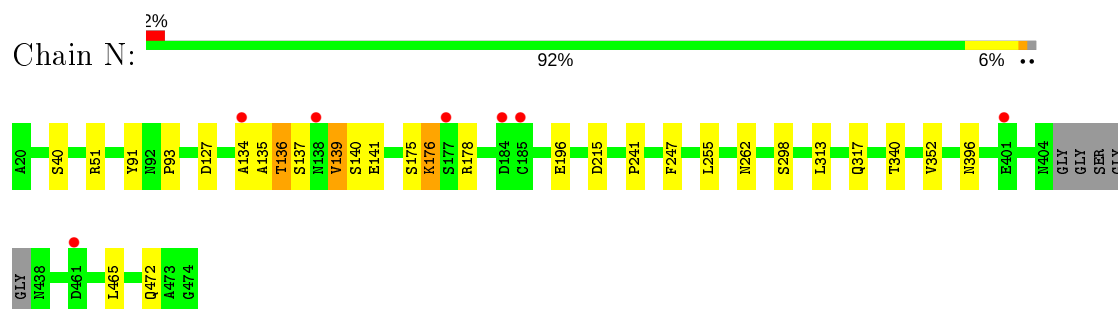
- Molecule 1: Major capsid protein L1



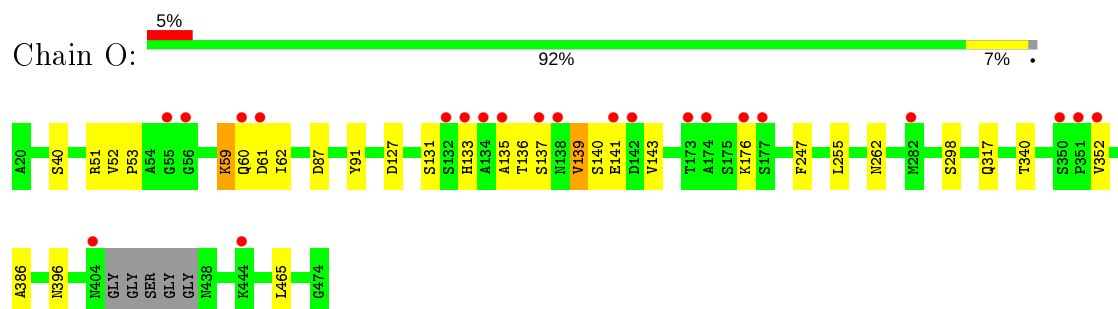
- Molecule 1: Major capsid protein L1



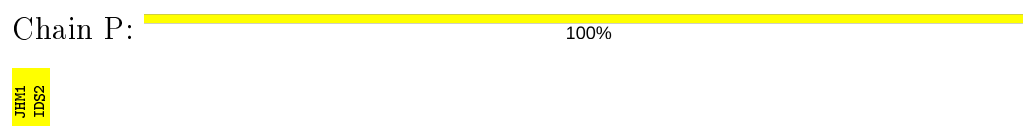
- Molecule 1: Major capsid protein L1



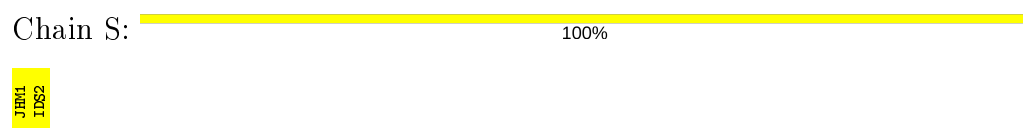
- Molecule 1: Major capsid protein L1



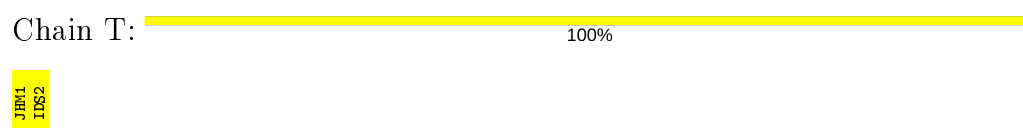
- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose



- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose



- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose



- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose



JHM1
IDS2


- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain W:  100%JHM1
IDS2


- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain Y:  100%JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain Z:  100%JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain a:  100%JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain d:  100%JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose


Chain i:  100%JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain j:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain k:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain l:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain m:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain n:  100%


JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain o:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain q:  100%


JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain r:  100%

JHM1
IDS2

- Molecule 2: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain s:  100%


JHM1
IDS2

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain Q:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain R:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain V:  100%


JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain X:  100%


JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain b:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain c:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain g:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain h:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 3: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain p:  100%

JHM1
IDS2
JHM3
IDS4

- Molecule 4: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain e:  100%

JHM1
IDS2
JHM3
IDS4
JHM5
IDS6

- Molecule 5: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-alpha-D-glucopyranose

Chain f:

90%

10%

JHM1
IDS2
JHM3
IDS4
JHM5
IDS6
JHM7
IDS8
JHM9
IDS10

4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	80.99 Å 106.49 Å 237.66 Å 88.46° 85.75° 69.02°	Depositor
Resolution (Å)	42.79 – 3.37 42.79 – 3.37	Depositor EDS
% Data completeness (in resolution range)	89.3 (42.79-3.37) 84.3 (42.79-3.37)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.50 (at 3.40 Å)	Xtriage
Refinement program	PHENIX 1.8.4 _1496	Depositor
R, R_{free}	0.171 , 0.234 0.171 , 0.229	Depositor DCC
R_{free} test set	4610 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	60.2	Xtriage
Anisotropy	0.424	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.26 , 44.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.017 for -h,-h+k,-l	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	51075	wwPDB-VP
Average B, all atoms (Å ²)	80.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: JHM, IDS

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/3400	0.42	0/4622
1	B	0.26	0/3400	0.45	1/4622 (0.0%)
1	C	0.25	0/3400	0.44	0/4622
1	D	0.28	0/3400	0.46	0/4622
1	E	0.25	0/3400	0.44	0/4622
1	F	0.25	0/3400	0.43	0/4622
1	G	0.24	0/3400	0.44	0/4622
1	H	0.25	0/3400	0.45	0/4622
1	I	0.25	0/3400	0.44	0/4622
1	J	0.24	0/3400	0.42	1/4622 (0.0%)
1	K	0.24	0/3400	0.43	0/4622
1	L	0.27	0/3400	0.48	0/4622
1	M	0.29	0/3400	0.46	0/4622
1	N	0.25	0/3400	0.46	0/4622
1	O	0.27	0/3400	0.46	0/4622
All	All	0.26	0/51000	0.45	2/69330 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	H	0	1

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	178	ARG	NE-CZ-NH1	5.73	123.17	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	J	255	LEU	CA-CB-CG	5.11	127.06	115.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	H	133	HIS	Peptide

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	418/427 (98%)	383 (92%)	28 (7%)	7 (2%)	9	36
1	B	418/427 (98%)	380 (91%)	30 (7%)	8 (2%)	8	34
1	C	418/427 (98%)	379 (91%)	31 (7%)	8 (2%)	8	34
1	D	418/427 (98%)	376 (90%)	32 (8%)	10 (2%)	6	30
1	E	418/427 (98%)	382 (91%)	31 (7%)	5 (1%)	13	44
1	F	418/427 (98%)	382 (91%)	28 (7%)	8 (2%)	8	34
1	G	418/427 (98%)	372 (89%)	30 (7%)	16 (4%)	3	21
1	H	418/427 (98%)	371 (89%)	37 (9%)	10 (2%)	6	30
1	I	418/427 (98%)	378 (90%)	29 (7%)	11 (3%)	5	28
1	J	418/427 (98%)	383 (92%)	28 (7%)	7 (2%)	9	36
1	K	418/427 (98%)	382 (91%)	28 (7%)	8 (2%)	8	34
1	L	418/427 (98%)	372 (89%)	31 (7%)	15 (4%)	3	22

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	M	418/427 (98%)	374 (90%)	23 (6%)	21 (5%)	2	15
1	N	418/427 (98%)	377 (90%)	27 (6%)	14 (3%)	4	24
1	O	418/427 (98%)	372 (89%)	34 (8%)	12 (3%)	4	26
All	All	6270/6405 (98%)	5663 (90%)	447 (7%)	160 (3%)	5	28

All (160) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	40	SER
1	B	177	SER
1	C	132	SER
1	C	133	HIS
1	C	139	VAL
1	C	298	SER
1	D	56	GLY
1	D	60	GLN
1	D	177	SER
1	F	40	SER
1	G	40	SER
1	G	131	SER
1	G	142	ASP
1	G	173	THR
1	G	298	SER
1	H	40	SER
1	H	138	ASN
1	I	40	SER
1	I	132	SER
1	I	133	HIS
1	I	134	ALA
1	I	137	SER
1	J	40	SER
1	K	40	SER
1	K	176	LYS
1	L	40	SER
1	L	135	ALA
1	L	139	VAL
1	L	140	SER
1	L	471	VAL
1	M	40	SER
1	M	55	GLY
1	M	131	SER

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Mol	Chain	Res	Type
1	M	136	THR
1	M	140	SER
1	M	142	ASP
1	N	40	SER
1	N	135	ALA
1	N	136	THR
1	N	137	SER
1	N	176	LYS
1	O	40	SER
1	O	137	SER
1	O	139	VAL
1	A	40	SER
1	A	298	SER
1	B	172	GLY
1	B	298	SER
1	B	443	ASP
1	C	40	SER
1	C	131	SER
1	D	40	SER
1	D	181	SER
1	D	298	SER
1	E	40	SER
1	E	134	ALA
1	F	133	HIS
1	F	298	SER
1	G	135	ALA
1	G	141	GLU
1	G	172	GLY
1	G	181	SER
1	G	182	GLN
1	H	132	SER
1	H	133	HIS
1	H	137	SER
1	H	173	THR
1	I	131	SER
1	I	135	ALA
1	I	298	SER
1	J	134	ALA
1	J	140	SER
1	K	177	SER
1	K	298	SER
1	L	126	LEU

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Mol	Chain	Res	Type
1	L	136	THR
1	L	298	SER
1	L	470	LEU
1	L	473	ALA
1	M	54	ALA
1	M	56	GLY
1	M	134	ALA
1	M	137	SER
1	M	139	VAL
1	N	134	ALA
1	N	141	GLU
1	N	298	SER
1	O	135	ALA
1	O	298	SER
1	A	134	ALA
1	B	134	ALA
1	B	140	SER
1	D	140	SER
1	D	182	GLN
1	E	140	SER
1	E	298	SER
1	F	132	SER
1	F	140	SER
1	G	132	SER
1	I	140	SER
1	J	131	SER
1	J	298	SER
1	K	131	SER
1	K	140	SER
1	L	132	SER
1	L	443	ASP
1	M	130	GLU
1	M	179	PRO
1	M	298	SER
1	N	139	VAL
1	N	140	SER
1	N	175	SER
1	O	60	GLN
1	O	131	SER
1	O	141	GLU
1	A	140	SER
1	C	141	GLU

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Mol	Chain	Res	Type
1	G	175	SER
1	H	142	ASP
1	H	298	SER
1	K	134	ALA
1	L	401	GLU
1	M	60	GLN
1	M	141	GLU
1	M	181	SER
1	O	53	PRO
1	O	59	LYS
1	A	131	SER
1	B	352	VAL
1	D	134	ALA
1	E	352	VAL
1	G	174	ALA
1	H	130	GLU
1	I	60	GLN
1	M	135	ALA
1	M	174	ALA
1	N	352	VAL
1	O	386	ALA
1	A	60	GLN
1	A	352	VAL
1	C	352	VAL
1	G	60	GLN
1	G	352	VAL
1	H	352	VAL
1	J	352	VAL
1	L	352	VAL
1	M	352	VAL
1	D	352	VAL
1	F	352	VAL
1	J	139	VAL
1	M	93	PRO
1	N	93	PRO
1	I	352	VAL
1	K	352	VAL
1	F	139	VAL
1	L	441	PRO
1	N	241	PRO
1	F	57	GLY
1	G	57	GLY

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Mol	Chain	Res	Type
1	O	352	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	369/370 (100%)	353 (96%)	16 (4%)	29	60
1	B	369/370 (100%)	350 (95%)	19 (5%)	24	55
1	C	369/370 (100%)	348 (94%)	21 (6%)	20	52
1	D	369/370 (100%)	344 (93%)	25 (7%)	16	46
1	E	369/370 (100%)	348 (94%)	21 (6%)	20	52
1	F	369/370 (100%)	351 (95%)	18 (5%)	25	57
1	G	369/370 (100%)	350 (95%)	19 (5%)	24	55
1	H	369/370 (100%)	345 (94%)	24 (6%)	17	48
1	I	369/370 (100%)	353 (96%)	16 (4%)	29	60
1	J	369/370 (100%)	356 (96%)	13 (4%)	36	65
1	K	369/370 (100%)	343 (93%)	26 (7%)	15	45
1	L	369/370 (100%)	347 (94%)	22 (6%)	19	50
1	M	369/370 (100%)	345 (94%)	24 (6%)	17	48
1	N	369/370 (100%)	351 (95%)	18 (5%)	25	57
1	O	369/370 (100%)	348 (94%)	21 (6%)	20	52
All	All	5535/5550 (100%)	5232 (94%)	303 (6%)	21	53

All (303) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	51	ARG
1	A	91	TYR
1	A	133	HIS
1	A	154	THR
1	A	176	LYS

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Mol	Chain	Res	Type
1	A	196	GLU
1	A	247	PHE
1	A	255	LEU
1	A	262	ASN
1	A	289	CYS
1	A	300	VAL
1	A	317	GLN
1	A	340	THR
1	A	396	ASN
1	A	465	LEU
1	A	472	GLN
1	B	51	ARG
1	B	87	ASP
1	B	91	TYR
1	B	133	HIS
1	B	178	ARG
1	B	180	LEU
1	B	184	ASP
1	B	255	LEU
1	B	262	ASN
1	B	300	VAL
1	B	317	GLN
1	B	340	THR
1	B	363	GLN
1	B	387	ASP
1	B	396	ASN
1	B	438	ASN
1	B	439	LYS
1	B	440	ASP
1	B	465	LEU
1	C	51	ARG
1	C	91	TYR
1	C	95	THR
1	C	96	GLN
1	C	136	THR
1	C	141	GLU
1	C	143	VAL
1	C	156	LEU
1	C	176	LYS
1	C	184	ASP
1	C	222	LEU
1	C	247	PHE

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Mol	Chain	Res	Type
1	C	255	LEU
1	C	262	ASN
1	C	301	THR
1	C	317	GLN
1	C	340	THR
1	C	387	ASP
1	C	396	ASN
1	C	465	LEU
1	C	472	GLN
1	D	51	ARG
1	D	58	ASN
1	D	59	LYS
1	D	61	ASP
1	D	62	ILE
1	D	91	TYR
1	D	127	ASP
1	D	133	HIS
1	D	139	VAL
1	D	140	SER
1	D	143	VAL
1	D	171	LYS
1	D	173	THR
1	D	180	LEU
1	D	184	ASP
1	D	213	LEU
1	D	222	LEU
1	D	255	LEU
1	D	262	ASN
1	D	313	LEU
1	D	317	GLN
1	D	340	THR
1	D	365	SER
1	D	385	THR
1	D	465	LEU
1	E	51	ARG
1	E	91	TYR
1	E	127	ASP
1	E	133	HIS
1	E	173	THR
1	E	177	SER
1	E	178	ARG
1	E	180	LEU

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Mol	Chain	Res	Type
1	E	184	ASP
1	E	213	LEU
1	E	255	LEU
1	E	262	ASN
1	E	270	THR
1	E	273	GLN
1	E	313	LEU
1	E	317	GLN
1	E	340	THR
1	E	387	ASP
1	E	396	ASN
1	E	465	LEU
1	E	472	GLN
1	F	51	ARG
1	F	87	ASP
1	F	88	THR
1	F	127	ASP
1	F	132	SER
1	F	133	HIS
1	F	143	VAL
1	F	176	LYS
1	F	184	ASP
1	F	220	VAL
1	F	247	PHE
1	F	255	LEU
1	F	262	ASN
1	F	300	VAL
1	F	317	GLN
1	F	340	THR
1	F	396	ASN
1	F	465	LEU
1	G	51	ARG
1	G	91	TYR
1	G	132	SER
1	G	133	HIS
1	G	136	THR
1	G	139	VAL
1	G	142	ASP
1	G	143	VAL
1	G	175	SER
1	G	181	SER
1	G	185	CYS

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Mol	Chain	Res	Type
1	G	222	LEU
1	G	255	LEU
1	G	262	ASN
1	G	317	GLN
1	G	340	THR
1	G	396	ASN
1	G	465	LEU
1	G	472	GLN
1	H	51	ARG
1	H	91	TYR
1	H	127	ASP
1	H	132	SER
1	H	136	THR
1	H	156	LEU
1	H	157	CYS
1	H	176	LYS
1	H	178	ARG
1	H	180	LEU
1	H	181	SER
1	H	184	ASP
1	H	247	PHE
1	H	255	LEU
1	H	262	ASN
1	H	274	SER
1	H	280	THR
1	H	313	LEU
1	H	317	GLN
1	H	340	THR
1	H	392	ILE
1	H	396	ASN
1	H	465	LEU
1	H	472	GLN
1	I	51	ARG
1	I	91	TYR
1	I	96	GLN
1	I	127	ASP
1	I	133	HIS
1	I	156	LEU
1	I	176	LYS
1	I	255	LEU
1	I	262	ASN
1	I	270	THR

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Mol	Chain	Res	Type
1	I	280	THR
1	I	313	LEU
1	I	317	GLN
1	I	340	THR
1	I	396	ASN
1	I	465	LEU
1	J	51	ARG
1	J	91	TYR
1	J	127	ASP
1	J	133	HIS
1	J	176	LYS
1	J	184	ASP
1	J	255	LEU
1	J	262	ASN
1	J	289	CYS
1	J	317	GLN
1	J	340	THR
1	J	387	ASP
1	J	465	LEU
1	K	51	ARG
1	K	91	TYR
1	K	118	SER
1	K	127	ASP
1	K	133	HIS
1	K	143	VAL
1	K	147	VAL
1	K	156	LEU
1	K	173	THR
1	K	175	SER
1	K	176	LYS
1	K	177	SER
1	K	178	ARG
1	K	184	ASP
1	K	215	ASP
1	K	222	LEU
1	K	247	PHE
1	K	255	LEU
1	K	262	ASN
1	K	300	VAL
1	K	317	GLN
1	K	340	THR
1	K	365	SER

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Mol	Chain	Res	Type
1	K	387	ASP
1	K	396	ASN
1	K	465	LEU
1	L	51	ARG
1	L	91	TYR
1	L	127	ASP
1	L	129	THR
1	L	136	THR
1	L	176	LYS
1	L	184	ASP
1	L	196	GLU
1	L	247	PHE
1	L	255	LEU
1	L	262	ASN
1	L	300	VAL
1	L	317	GLN
1	L	340	THR
1	L	365	SER
1	L	372	ASP
1	L	387	ASP
1	L	396	ASN
1	L	438	ASN
1	L	439	LYS
1	L	444	LYS
1	L	465	LEU
1	M	51	ARG
1	M	59	LYS
1	M	60	GLN
1	M	61	ASP
1	M	87	ASP
1	M	91	TYR
1	M	118	SER
1	M	129	THR
1	M	133	HIS
1	M	141	GLU
1	M	142	ASP
1	M	171	LYS
1	M	176	LYS
1	M	178	ARG
1	M	180	LEU
1	M	181	SER
1	M	184	ASP

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Mol	Chain	Res	Type
1	M	193	THR
1	M	255	LEU
1	M	262	ASN
1	M	317	GLN
1	M	340	THR
1	M	396	ASN
1	M	465	LEU
1	N	51	ARG
1	N	91	TYR
1	N	127	ASP
1	N	136	THR
1	N	139	VAL
1	N	176	LYS
1	N	178	ARG
1	N	196	GLU
1	N	215	ASP
1	N	247	PHE
1	N	255	LEU
1	N	262	ASN
1	N	313	LEU
1	N	317	GLN
1	N	340	THR
1	N	396	ASN
1	N	465	LEU
1	N	472	GLN
1	O	51	ARG
1	O	52	VAL
1	O	59	LYS
1	O	61	ASP
1	O	62	ILE
1	O	87	ASP
1	O	91	TYR
1	O	127	ASP
1	O	133	HIS
1	O	136	THR
1	O	139	VAL
1	O	140	SER
1	O	143	VAL
1	O	176	LYS
1	O	247	PHE
1	O	255	LEU
1	O	262	ASN

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Mol	Chain	Res	Type
1	O	317	GLN
1	O	340	THR
1	O	396	ASN
1	O	465	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (220) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	60	GLN
1	A	69	GLN
1	A	153	GLN
1	A	182	GLN
1	A	192	ASN
1	A	262	ASN
1	A	273	GLN
1	A	305	GLN
1	A	308	ASN
1	A	317	GLN
1	A	321	ASN
1	A	326	HIS
1	A	341	ASN
1	A	349	GLN
1	A	367	HIS
1	A	396	ASN
1	B	69	GLN
1	B	92	ASN
1	B	153	GLN
1	B	262	ASN
1	B	308	ASN
1	B	317	GLN
1	B	326	HIS
1	B	341	ASN
1	B	367	HIS
1	B	396	ASN
1	B	462	GLN
1	C	69	GLN
1	C	138	ASN
1	C	153	GLN
1	C	182	GLN
1	C	262	ASN
1	C	308	ASN
1	C	317	GLN

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Mol	Chain	Res	Type
1	C	321	ASN
1	C	326	HIS
1	C	341	ASN
1	C	349	GLN
1	C	367	HIS
1	C	396	ASN
1	C	462	GLN
1	D	69	GLN
1	D	153	GLN
1	D	192	ASN
1	D	259	HIS
1	D	262	ASN
1	D	273	GLN
1	D	308	ASN
1	D	317	GLN
1	D	326	HIS
1	D	341	ASN
1	D	367	HIS
1	D	396	ASN
1	D	462	GLN
1	E	69	GLN
1	E	153	GLN
1	E	182	GLN
1	E	254	GLN
1	E	262	ASN
1	E	308	ASN
1	E	317	GLN
1	E	321	ASN
1	E	326	HIS
1	E	341	ASN
1	E	367	HIS
1	E	396	ASN
1	E	462	GLN
1	F	69	GLN
1	F	153	GLN
1	F	182	GLN
1	F	254	GLN
1	F	262	ASN
1	F	273	GLN
1	F	308	ASN
1	F	317	GLN
1	F	321	ASN

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Mol	Chain	Res	Type
1	F	326	HIS
1	F	327	ASN
1	F	341	ASN
1	F	367	HIS
1	F	396	ASN
1	F	462	GLN
1	G	69	GLN
1	G	92	ASN
1	G	133	HIS
1	G	153	GLN
1	G	254	GLN
1	G	262	ASN
1	G	273	GLN
1	G	308	ASN
1	G	317	GLN
1	G	326	HIS
1	G	327	ASN
1	G	341	ASN
1	G	367	HIS
1	G	396	ASN
1	G	462	GLN
1	H	69	GLN
1	H	92	ASN
1	H	133	HIS
1	H	153	GLN
1	H	182	GLN
1	H	192	ASN
1	H	254	GLN
1	H	262	ASN
1	H	308	ASN
1	H	317	GLN
1	H	326	HIS
1	H	341	ASN
1	H	367	HIS
1	H	396	ASN
1	H	462	GLN
1	I	69	GLN
1	I	153	GLN
1	I	182	GLN
1	I	226	GLN
1	I	254	GLN
1	I	262	ASN

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Mol	Chain	Res	Type
1	I	273	GLN
1	I	308	ASN
1	I	317	GLN
1	I	321	ASN
1	I	326	HIS
1	I	341	ASN
1	I	367	HIS
1	I	396	ASN
1	I	462	GLN
1	J	69	GLN
1	J	138	ASN
1	J	153	GLN
1	J	182	GLN
1	J	192	ASN
1	J	254	GLN
1	J	262	ASN
1	J	308	ASN
1	J	317	GLN
1	J	321	ASN
1	J	326	HIS
1	J	327	ASN
1	J	341	ASN
1	J	349	GLN
1	J	367	HIS
1	J	396	ASN
1	J	462	GLN
1	K	69	GLN
1	K	153	GLN
1	K	182	GLN
1	K	254	GLN
1	K	262	ASN
1	K	308	ASN
1	K	317	GLN
1	K	326	HIS
1	K	341	ASN
1	K	349	GLN
1	K	367	HIS
1	K	396	ASN
1	K	462	GLN
1	L	69	GLN
1	L	153	GLN
1	L	182	GLN

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Mol	Chain	Res	Type
1	L	192	ASN
1	L	254	GLN
1	L	262	ASN
1	L	308	ASN
1	L	317	GLN
1	L	321	ASN
1	L	326	HIS
1	L	341	ASN
1	L	349	GLN
1	L	367	HIS
1	L	396	ASN
1	L	438	ASN
1	L	462	GLN
1	M	60	GLN
1	M	69	GLN
1	M	92	ASN
1	M	153	GLN
1	M	182	GLN
1	M	254	GLN
1	M	262	ASN
1	M	273	GLN
1	M	308	ASN
1	M	317	GLN
1	M	321	ASN
1	M	326	HIS
1	M	327	ASN
1	M	341	ASN
1	M	367	HIS
1	M	393	GLN
1	M	396	ASN
1	M	462	GLN
1	N	69	GLN
1	N	92	ASN
1	N	153	GLN
1	N	182	GLN
1	N	254	GLN
1	N	262	ASN
1	N	273	GLN
1	N	308	ASN
1	N	317	GLN
1	N	321	ASN
1	N	326	HIS

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Mol	Chain	Res	Type
1	N	341	ASN
1	N	349	GLN
1	N	367	HIS
1	N	396	ASN
1	N	462	GLN
1	O	69	GLN
1	O	153	GLN
1	O	262	ASN
1	O	273	GLN
1	O	308	ASN
1	O	317	GLN
1	O	319	HIS
1	O	321	ASN
1	O	327	ASN
1	O	341	ASN
1	O	367	HIS
1	O	396	ASN
1	O	462	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

90 monosaccharides are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
2	JHM	P	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	IDS	P	2	2	12,15,17	2.10	1 (8%)	12,22,26	2.35	2 (16%)
3	JHM	Q	1	3	15,15,15	1.10	2 (13%)	18,22,22	1.27	2 (11%)
3	IDS	Q	2	3	13,16,17	2.32	2 (15%)	15,24,26	6.14	4 (26%)
3	JHM	Q	3	3	14,14,15	0.95	1 (7%)	18,20,22	1.42	3 (16%)
3	IDS	Q	4	3	12,15,17	2.11	1 (8%)	12,22,26	2.36	2 (16%)
3	JHM	R	1	3	15,15,15	1.09	2 (13%)	18,22,22	1.25	2 (11%)
3	IDS	R	2	3	13,16,17	2.28	2 (15%)	15,24,26	4.27	4 (26%)
3	JHM	R	3	3	14,14,15	0.97	1 (7%)	18,20,22	1.43	3 (16%)
3	IDS	R	4	3	12,15,17	2.10	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	S	1	2	15,15,15	1.10	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	S	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.35	2 (16%)
2	JHM	T	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.26	2 (11%)
2	IDS	T	2	2	12,15,17	2.08	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	U	1	2	15,15,15	1.09	2 (13%)	18,22,22	1.26	2 (11%)
2	IDS	U	2	2	12,15,17	2.08	1 (8%)	12,22,26	2.34	2 (16%)
3	JHM	V	1	3	15,15,15	1.07	2 (13%)	18,22,22	1.24	2 (11%)
3	IDS	V	2	3	13,16,17	2.21	2 (15%)	15,24,26	3.66	4 (26%)
3	JHM	V	3	3	14,14,15	0.94	1 (7%)	18,20,22	1.42	3 (16%)
3	IDS	V	4	3	12,15,17	2.09	1 (8%)	12,22,26	2.33	2 (16%)
2	JHM	W	1	2	15,15,15	1.07	2 (13%)	18,22,22	1.26	2 (11%)
2	IDS	W	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.34	2 (16%)
3	JHM	X	1	3	15,15,15	1.08	2 (13%)	18,22,22	1.26	2 (11%)
3	IDS	X	2	3	13,16,17	2.03	1 (7%)	15,24,26	4.06	3 (20%)
3	JHM	X	3	3	14,14,15	0.95	1 (7%)	18,20,22	1.41	3 (16%)
3	IDS	X	4	3	12,15,17	2.09	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	Y	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.24	2 (11%)
2	IDS	Y	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	Z	1	2	15,15,15	1.10	2 (13%)	18,22,22	1.27	2 (11%)
2	IDS	Z	2	2	12,15,17	2.10	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	a	1	2	15,15,15	1.09	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	a	2	2	12,15,17	2.11	1 (8%)	12,22,26	2.37	2 (16%)
3	JHM	b	1	3	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)
3	IDS	b	2	3	13,16,17	2.04	1 (7%)	15,24,26	3.44	3 (20%)
3	JHM	b	3	3	14,14,15	0.98	1 (7%)	18,20,22	1.42	3 (16%)
3	IDS	b	4	3	12,15,17	2.11	1 (8%)	12,22,26	2.35	2 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	JHM	c	1	3	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)
3	IDS	c	2	3	13,16,17	2.44	2 (15%)	15,24,26	6.69	4 (26%)
3	JHM	c	3	3	14,14,15	0.95	1 (7%)	18,20,22	1.43	3 (16%)
3	IDS	c	4	3	12,15,17	2.09	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	d	1	2	15,15,15	1.06	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	d	2	2	12,15,17	2.08	1 (8%)	12,22,26	2.34	2 (16%)
4	JHM	e	1	4	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)
4	IDS	e	2	4	13,16,17	2.45	2 (15%)	15,24,26	3.35	4 (26%)
4	JHM	e	3	4	14,14,15	0.95	1 (7%)	18,20,22	1.41	3 (16%)
4	IDS	e	4	4	13,16,17	2.06	1 (7%)	15,24,26	3.39	4 (26%)
4	JHM	e	5	4	14,14,15	0.95	1 (7%)	18,20,22	1.42	3 (16%)
4	IDS	e	6	4	12,15,17	2.10	1 (8%)	12,22,26	2.35	2 (16%)
5	JHM	f	1	5	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
5	IDS	f	10	5	12,15,17	2.09	1 (8%)	12,22,26	2.37	2 (16%)
5	IDS	f	2	5	13,16,17	2.46	2 (15%)	15,24,26	4.13	3 (20%)
5	JHM	f	3	5	14,14,15	0.97	1 (7%)	18,20,22	1.41	3 (16%)
5	IDS	f	4	5	13,16,17	2.40	2 (15%)	15,24,26	3.73	3 (20%)
5	JHM	f	5	5	14,14,15	0.95	1 (7%)	18,20,22	1.43	3 (16%)
5	IDS	f	6	5	13,16,17	2.02	1 (7%)	15,24,26	4.23	3 (20%)
5	JHM	f	7	5	14,14,15	0.96	1 (7%)	18,20,22	1.41	3 (16%)
5	IDS	f	8	5	13,16,17	2.21	2 (15%)	15,24,26	4.18	3 (20%)
5	JHM	f	9	5	14,14,15	0.95	1 (7%)	18,20,22	1.42	3 (16%)
3	JHM	g	1	3	15,15,15	1.07	2 (13%)	18,22,22	1.24	2 (11%)
3	IDS	g	2	3	13,16,17	2.04	1 (7%)	15,24,26	4.80	4 (26%)
3	JHM	g	3	3	14,14,15	0.96	1 (7%)	18,20,22	1.42	3 (16%)
3	IDS	g	4	3	12,15,17	2.09	1 (8%)	12,22,26	2.35	2 (16%)
3	JHM	h	1	3	15,15,15	1.08	2 (13%)	18,22,22	1.24	2 (11%)
3	IDS	h	2	3	13,16,17	2.02	1 (7%)	15,24,26	2.97	4 (26%)
3	JHM	h	3	3	14,14,15	0.96	1 (7%)	18,20,22	1.43	3 (16%)
3	IDS	h	4	3	12,15,17	2.09	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	i	1	2	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	i	2	2	12,15,17	2.12	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	j	1	2	15,15,15	1.06	2 (13%)	18,22,22	1.24	2 (11%)
2	IDS	j	2	2	12,15,17	2.10	1 (8%)	12,22,26	2.37	2 (16%)
2	JHM	k	1	2	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	IDS	k	2	2	12,15,17	2.08	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	l	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	l	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	m	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	m	2	2	12,15,17	2.11	1 (8%)	12,22,26	2.35	2 (16%)
2	JHM	n	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	n	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.36	2 (16%)
2	JHM	o	1	2	15,15,15	1.09	2 (13%)	18,22,22	1.24	2 (11%)
2	IDS	o	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.35	2 (16%)
3	JHM	p	1	3	15,15,15	1.07	2 (13%)	18,22,22	1.25	2 (11%)
3	IDS	p	2	3	13,16,17	2.12	2 (15%)	15,24,26	3.37	4 (26%)
3	JHM	p	3	3	14,14,15	0.94	1 (7%)	18,20,22	1.42	3 (16%)
3	IDS	p	4	3	12,15,17	2.08	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	q	1	2	15,15,15	1.07	2 (13%)	18,22,22	1.26	2 (11%)
2	IDS	q	2	2	12,15,17	2.09	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	r	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	r	2	2	12,15,17	2.10	1 (8%)	12,22,26	2.34	2 (16%)
2	JHM	s	1	2	15,15,15	1.08	2 (13%)	18,22,22	1.25	2 (11%)
2	IDS	s	2	2	12,15,17	2.10	1 (8%)	12,22,26	2.33	2 (16%)

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	JHM	P	1	2	-	2/6/22/22	0/1/1/1
2	IDS	P	2	2	-	0/5/22/29	0/1/1/1
3	JHM	Q	1	3	-	0/6/22/22	0/1/1/1
3	IDS	Q	2	3	-	0/5/26/29	0/1/1/1
3	JHM	Q	3	3	-	0/6/20/22	0/1/1/1
3	IDS	Q	4	3	-	0/5/22/29	0/1/1/1
3	JHM	R	1	3	-	2/6/22/22	0/1/1/1
3	IDS	R	2	3	-	0/5/26/29	0/1/1/1
3	JHM	R	3	3	-	0/6/20/22	0/1/1/1
3	IDS	R	4	3	-	0/5/22/29	0/1/1/1
2	JHM	S	1	2	-	0/6/22/22	0/1/1/1
2	IDS	S	2	2	-	0/5/22/29	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	JHM	T	1	2	-	0/6/22/22	0/1/1/1
2	IDS	T	2	2	-	0/5/22/29	0/1/1/1
2	JHM	U	1	2	-	1/6/22/22	0/1/1/1
2	IDS	U	2	2	-	0/5/22/29	0/1/1/1
3	JHM	V	1	3	-	2/6/22/22	0/1/1/1
3	IDS	V	2	3	-	0/5/26/29	0/1/1/1
3	JHM	V	3	3	-	0/6/20/22	0/1/1/1
3	IDS	V	4	3	-	0/5/22/29	0/1/1/1
2	JHM	W	1	2	-	1/6/22/22	0/1/1/1
2	IDS	W	2	2	-	0/5/22/29	0/1/1/1
3	JHM	X	1	3	-	0/6/22/22	0/1/1/1
3	IDS	X	2	3	-	0/5/26/29	0/1/1/1
3	JHM	X	3	3	-	2/6/20/22	0/1/1/1
3	IDS	X	4	3	-	0/5/22/29	0/1/1/1
2	JHM	Y	1	2	-	2/6/22/22	0/1/1/1
2	IDS	Y	2	2	-	0/5/22/29	0/1/1/1
2	JHM	Z	1	2	-	0/6/22/22	0/1/1/1
2	IDS	Z	2	2	-	0/5/22/29	0/1/1/1
2	JHM	a	1	2	-	2/6/22/22	0/1/1/1
2	IDS	a	2	2	-	0/5/22/29	0/1/1/1
3	JHM	b	1	3	-	2/6/22/22	0/1/1/1
3	IDS	b	2	3	-	0/5/26/29	0/1/1/1
3	JHM	b	3	3	-	2/6/20/22	0/1/1/1
3	IDS	b	4	3	-	0/5/22/29	0/1/1/1
3	JHM	c	1	3	-	0/6/22/22	0/1/1/1
3	IDS	c	2	3	-	0/5/26/29	0/1/1/1
3	JHM	c	3	3	-	1/6/20/22	0/1/1/1
3	IDS	c	4	3	-	0/5/22/29	0/1/1/1
2	JHM	d	1	2	-	2/6/22/22	0/1/1/1
2	IDS	d	2	2	-	0/5/22/29	0/1/1/1
4	JHM	e	1	4	-	1/6/22/22	0/1/1/1
4	IDS	e	2	4	-	0/5/26/29	0/1/1/1
4	JHM	e	3	4	-	1/6/20/22	0/1/1/1
4	IDS	e	4	4	-	0/5/26/29	0/1/1/1
4	JHM	e	5	4	-	1/6/20/22	0/1/1/1
4	IDS	e	6	4	-	0/5/22/29	0/1/1/1
5	JHM	f	1	5	-	2/6/22/22	0/1/1/1
5	IDS	f	10	5	-	0/5/22/29	0/1/1/1
5	IDS	f	2	5	-	0/5/26/29	0/1/1/1
5	JHM	f	3	5	-	2/6/20/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	IDS	f	4	5	-	0/5/26/29	0/1/1/1
5	JHM	f	5	5	-	0/6/20/22	0/1/1/1
5	IDS	f	6	5	-	0/5/26/29	0/1/1/1
5	JHM	f	7	5	-	2/6/20/22	0/1/1/1
5	IDS	f	8	5	-	0/5/26/29	0/1/1/1
5	JHM	f	9	5	-	2/6/20/22	0/1/1/1
3	JHM	g	1	3	-	2/6/22/22	0/1/1/1
3	IDS	g	2	3	-	0/5/26/29	0/1/1/1
3	JHM	g	3	3	-	0/6/20/22	0/1/1/1
3	IDS	g	4	3	-	0/5/22/29	0/1/1/1
3	JHM	h	1	3	-	2/6/22/22	0/1/1/1
3	IDS	h	2	3	-	0/5/26/29	0/1/1/1
3	JHM	h	3	3	-	0/6/20/22	0/1/1/1
3	IDS	h	4	3	-	0/5/22/29	0/1/1/1
2	JHM	i	1	2	-	0/6/22/22	0/1/1/1
2	IDS	i	2	2	-	0/5/22/29	0/1/1/1
2	JHM	j	1	2	-	1/6/22/22	0/1/1/1
2	IDS	j	2	2	-	0/5/22/29	0/1/1/1
2	JHM	k	1	2	-	1/6/22/22	0/1/1/1
2	IDS	k	2	2	-	0/5/22/29	0/1/1/1
2	JHM	l	1	2	-	1/6/22/22	0/1/1/1
2	IDS	l	2	2	-	0/5/22/29	0/1/1/1
2	JHM	m	1	2	-	0/6/22/22	0/1/1/1
2	IDS	m	2	2	-	0/5/22/29	0/1/1/1
2	JHM	n	1	2	-	0/6/22/22	0/1/1/1
2	IDS	n	2	2	-	0/5/22/29	0/1/1/1
2	JHM	o	1	2	-	2/6/22/22	0/1/1/1
2	IDS	o	2	2	-	0/5/22/29	0/1/1/1
3	JHM	p	1	3	-	1/6/22/22	0/1/1/1
3	IDS	p	2	3	-	0/5/26/29	0/1/1/1
3	JHM	p	3	3	-	1/6/20/22	0/1/1/1
3	IDS	p	4	3	-	0/5/22/29	0/1/1/1
2	JHM	q	1	2	-	1/6/22/22	0/1/1/1
2	IDS	q	2	2	-	0/5/22/29	0/1/1/1
2	JHM	r	1	2	-	1/6/22/22	0/1/1/1
2	IDS	r	2	2	-	0/5/22/29	0/1/1/1
2	JHM	s	1	2	-	1/6/22/22	0/1/1/1
2	IDS	s	2	2	-	0/5/22/29	0/1/1/1

All (129) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	g	2	IDS	O2-C2	-6.59	1.37	1.47
2	i	2	IDS	O2-C2	-6.59	1.37	1.47
3	Q	4	IDS	O2-C2	-6.57	1.37	1.47
2	m	2	IDS	O2-C2	-6.56	1.37	1.47
3	b	4	IDS	O2-C2	-6.55	1.37	1.47
2	P	2	IDS	O2-C2	-6.55	1.37	1.47
4	e	2	IDS	O2-C2	-6.55	1.37	1.47
2	a	2	IDS	O2-C2	-6.54	1.37	1.47
3	b	2	IDS	O2-C2	-6.54	1.37	1.47
4	e	4	IDS	O2-C2	-6.53	1.37	1.47
3	R	2	IDS	O2-C2	-6.52	1.37	1.47
5	f	2	IDS	O2-C2	-6.52	1.37	1.47
2	s	2	IDS	O2-C2	-6.52	1.37	1.47
5	f	6	IDS	O2-C2	-6.52	1.37	1.47
3	p	2	IDS	O2-C2	-6.52	1.37	1.47
2	W	2	IDS	O2-C2	-6.51	1.37	1.47
2	j	2	IDS	O2-C2	-6.51	1.37	1.47
2	Z	2	IDS	O2-C2	-6.51	1.37	1.47
4	e	6	IDS	O2-C2	-6.51	1.37	1.47
2	o	2	IDS	O2-C2	-6.51	1.37	1.47
5	f	4	IDS	O2-C2	-6.50	1.37	1.47
2	r	2	IDS	O2-C2	-6.50	1.37	1.47
3	V	4	IDS	O2-C2	-6.50	1.37	1.47
3	h	4	IDS	O2-C2	-6.50	1.37	1.47
3	h	2	IDS	O2-C2	-6.49	1.37	1.47
2	l	2	IDS	O2-C2	-6.48	1.37	1.47
3	g	4	IDS	O2-C2	-6.48	1.37	1.47
2	n	2	IDS	O2-C2	-6.48	1.37	1.47
3	R	4	IDS	O2-C2	-6.48	1.37	1.47
5	f	10	IDS	O2-C2	-6.47	1.37	1.47
3	X	4	IDS	O2-C2	-6.47	1.37	1.47
3	X	2	IDS	O2-C2	-6.47	1.37	1.47
3	c	2	IDS	O2-C2	-6.46	1.37	1.47
3	c	4	IDS	O2-C2	-6.46	1.37	1.47
2	Y	2	IDS	O2-C2	-6.46	1.37	1.47
2	k	2	IDS	O2-C2	-6.46	1.37	1.47
3	Q	2	IDS	O2-C2	-6.46	1.37	1.47
2	U	2	IDS	O2-C2	-6.45	1.37	1.47
5	f	8	IDS	O2-C2	-6.44	1.37	1.47
3	p	4	IDS	O2-C2	-6.44	1.37	1.47
3	V	2	IDS	O2-C2	-6.44	1.37	1.47
2	d	2	IDS	O2-C2	-6.44	1.37	1.47
2	q	2	IDS	O2-C2	-6.44	1.37	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	S	2	IDS	O2-C2	-6.43	1.37	1.47
2	T	2	IDS	O2-C2	-6.42	1.37	1.47
5	f	2	IDS	O4-C4	5.04	1.54	1.43
4	e	2	IDS	O4-C4	4.94	1.54	1.43
3	c	2	IDS	O4-C4	4.94	1.54	1.43
5	f	4	IDS	O4-C4	4.65	1.53	1.43
3	Q	2	IDS	O4-C4	4.22	1.52	1.43
3	R	2	IDS	O4-C4	3.80	1.51	1.43
3	V	2	IDS	O4-C4	3.33	1.50	1.43
5	f	8	IDS	O4-C4	3.30	1.50	1.43
3	b	3	JHM	C3-C4	2.24	1.55	1.52
2	n	1	JHM	O1-C1	2.22	1.45	1.39
2	s	1	JHM	O1-C1	2.22	1.45	1.39
3	X	1	JHM	O1-C1	2.21	1.45	1.39
2	a	1	JHM	O1-C1	2.21	1.45	1.39
3	Q	1	JHM	C3-C4	2.21	1.55	1.52
3	c	1	JHM	O1-C1	2.20	1.45	1.39
2	W	1	JHM	O1-C1	2.20	1.45	1.39
2	Z	1	JHM	O1-C1	2.20	1.45	1.39
2	d	1	JHM	O1-C1	2.20	1.45	1.39
3	Q	1	JHM	O1-C1	2.19	1.45	1.39
2	S	1	JHM	O1-C1	2.19	1.45	1.39
2	o	1	JHM	O1-C1	2.19	1.45	1.39
2	Y	1	JHM	O1-C1	2.19	1.45	1.39
2	i	1	JHM	O1-C1	2.19	1.45	1.39
2	k	1	JHM	O1-C1	2.18	1.45	1.39
2	l	1	JHM	O1-C1	2.18	1.45	1.39
2	j	1	JHM	O1-C1	2.18	1.45	1.39
2	m	1	JHM	O1-C1	2.18	1.45	1.39
2	U	1	JHM	O1-C1	2.18	1.45	1.39
5	f	1	JHM	O1-C1	2.18	1.45	1.39
2	P	1	JHM	O1-C1	2.18	1.45	1.39
2	T	1	JHM	O1-C1	2.18	1.45	1.39
3	h	1	JHM	O1-C1	2.18	1.45	1.39
2	Z	1	JHM	C3-C4	2.17	1.55	1.52
2	q	1	JHM	O1-C1	2.17	1.45	1.39
4	e	1	JHM	O1-C1	2.17	1.45	1.39
2	r	1	JHM	O1-C1	2.17	1.45	1.39
3	R	3	JHM	C3-C4	2.17	1.55	1.52
3	R	1	JHM	O1-C1	2.17	1.45	1.39
5	f	1	JHM	C3-C4	2.17	1.55	1.52
3	p	1	JHM	O1-C1	2.17	1.45	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	p	2	IDS	O4-C4	2.16	1.48	1.43
3	V	1	JHM	O1-C1	2.16	1.45	1.39
3	b	1	JHM	O1-C1	2.16	1.45	1.39
3	g	1	JHM	O1-C1	2.16	1.45	1.39
4	e	5	JHM	C3-C4	2.14	1.55	1.52
3	h	3	JHM	C3-C4	2.14	1.55	1.52
2	Y	1	JHM	C3-C4	2.14	1.55	1.52
2	U	1	JHM	C3-C4	2.14	1.55	1.52
3	X	1	JHM	C3-C4	2.13	1.55	1.52
5	f	7	JHM	C3-C4	2.13	1.55	1.52
3	c	1	JHM	C3-C4	2.13	1.55	1.52
5	f	3	JHM	C3-C4	2.13	1.55	1.52
2	a	1	JHM	C3-C4	2.12	1.55	1.52
3	b	1	JHM	C3-C4	2.12	1.55	1.52
2	T	1	JHM	C3-C4	2.12	1.55	1.52
2	P	1	JHM	C3-C4	2.11	1.55	1.52
3	V	1	JHM	C3-C4	2.11	1.55	1.52
4	e	3	JHM	C3-C4	2.11	1.55	1.52
5	f	5	JHM	C3-C4	2.11	1.55	1.52
2	S	1	JHM	C3-C4	2.11	1.55	1.52
3	X	3	JHM	C3-C4	2.10	1.55	1.52
3	g	3	JHM	C3-C4	2.10	1.55	1.52
2	d	1	JHM	C3-C4	2.10	1.55	1.52
2	l	1	JHM	C3-C4	2.10	1.55	1.52
2	s	1	JHM	C3-C4	2.09	1.55	1.52
3	R	1	JHM	C3-C4	2.09	1.55	1.52
3	V	3	JHM	C3-C4	2.09	1.55	1.52
3	Q	3	JHM	C3-C4	2.08	1.55	1.52
2	i	1	JHM	C3-C4	2.08	1.55	1.52
4	e	1	JHM	C3-C4	2.08	1.55	1.52
3	g	1	JHM	C3-C4	2.08	1.55	1.52
2	q	1	JHM	C3-C4	2.08	1.55	1.52
2	r	1	JHM	C3-C4	2.08	1.55	1.52
2	o	1	JHM	C3-C4	2.07	1.55	1.52
3	p	1	JHM	C3-C4	2.07	1.55	1.52
2	m	1	JHM	C3-C4	2.07	1.55	1.52
3	h	1	JHM	C3-C4	2.06	1.55	1.52
2	j	1	JHM	C3-C4	2.06	1.55	1.52
5	f	9	JHM	C3-C4	2.06	1.55	1.52
3	p	3	JHM	C3-C4	2.06	1.55	1.52
2	k	1	JHM	C3-C4	2.05	1.55	1.52
2	W	1	JHM	C3-C4	2.04	1.55	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	n	1	JHM	C3-C4	2.03	1.55	1.52
3	c	3	JHM	C3-C4	2.03	1.55	1.52

All (219) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	c	2	IDS	O4-C4-C5	23.53	155.01	110.05
3	Q	2	IDS	O4-C4-C5	21.09	150.35	110.05
3	g	2	IDS	O4-C4-C5	15.71	140.07	110.05
5	f	6	IDS	O4-C4-C5	14.20	137.18	110.05
3	R	2	IDS	O4-C4-C3	14.12	143.00	110.35
5	f	8	IDS	O4-C4-C5	13.85	136.52	110.05
5	f	2	IDS	O4-C4-C5	13.72	136.26	110.05
3	X	2	IDS	O4-C4-C3	13.36	141.24	110.35
5	f	4	IDS	O4-C4-C5	11.90	132.78	110.05
3	V	2	IDS	O4-C4-C5	10.46	130.04	110.05
3	b	2	IDS	O4-C4-C5	10.44	130.00	110.05
3	p	2	IDS	O4-C4-C5	9.90	128.97	110.05
4	e	2	IDS	O4-C4-C3	9.54	132.40	110.35
4	e	4	IDS	O4-C4-C5	9.00	127.24	110.05
3	Q	2	IDS	O4-C4-C3	-7.34	93.39	110.35
3	c	2	IDS	O4-C4-C3	-7.20	93.71	110.35
3	b	2	IDS	C2-O2-S	7.13	127.21	117.91
2	a	2	IDS	C2-O2-S	7.12	127.20	117.91
3	g	2	IDS	C2-O2-S	7.11	127.19	117.91
2	S	2	IDS	C2-O2-S	7.10	127.17	117.91
2	Z	2	IDS	C2-O2-S	7.09	127.16	117.91
3	h	4	IDS	C2-O2-S	7.09	127.16	117.91
2	j	2	IDS	C2-O2-S	7.09	127.16	117.91
2	k	2	IDS	C2-O2-S	7.09	127.16	117.91
5	f	10	IDS	C2-O2-S	7.08	127.15	117.91
2	i	2	IDS	C2-O2-S	7.08	127.14	117.91
4	e	6	IDS	C2-O2-S	7.08	127.14	117.91
4	e	2	IDS	C2-O2-S	7.08	127.14	117.91
3	Q	4	IDS	C2-O2-S	7.07	127.14	117.91
4	e	4	IDS	C2-O2-S	7.07	127.14	117.91
5	f	8	IDS	C2-O2-S	7.07	127.13	117.91
2	Y	2	IDS	C2-O2-S	7.06	127.12	117.91
2	T	2	IDS	C2-O2-S	7.06	127.12	117.91
3	p	2	IDS	C2-O2-S	7.06	127.12	117.91
5	f	2	IDS	C2-O2-S	7.06	127.11	117.91
3	Q	2	IDS	C2-O2-S	7.06	127.11	117.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	n	2	IDS	C2-O2-S	7.05	127.11	117.91
5	f	6	IDS	C2-O2-S	7.05	127.11	117.91
3	c	2	IDS	C2-O2-S	7.05	127.11	117.91
3	R	4	IDS	C2-O2-S	7.05	127.10	117.91
3	X	4	IDS	C2-O2-S	7.05	127.10	117.91
2	l	2	IDS	C2-O2-S	7.05	127.10	117.91
3	c	4	IDS	C2-O2-S	7.05	127.10	117.91
2	q	2	IDS	C2-O2-S	7.05	127.10	117.91
2	P	2	IDS	C2-O2-S	7.04	127.10	117.91
3	R	2	IDS	C2-O2-S	7.04	127.10	117.91
2	U	2	IDS	C2-O2-S	7.04	127.10	117.91
3	g	4	IDS	C2-O2-S	7.04	127.10	117.91
2	o	2	IDS	C2-O2-S	7.04	127.09	117.91
3	b	4	IDS	C2-O2-S	7.03	127.08	117.91
2	r	2	IDS	C2-O2-S	7.03	127.08	117.91
2	m	2	IDS	C2-O2-S	7.03	127.08	117.91
3	V	4	IDS	C2-O2-S	7.03	127.08	117.91
3	p	4	IDS	C2-O2-S	7.03	127.08	117.91
2	W	2	IDS	C2-O2-S	7.03	127.08	117.91
3	h	2	IDS	C2-O2-S	7.03	127.07	117.91
3	X	2	IDS	C2-O2-S	7.02	127.07	117.91
5	f	4	IDS	C2-O2-S	7.01	127.06	117.91
2	d	2	IDS	C2-O2-S	7.01	127.05	117.91
3	V	2	IDS	C2-O2-S	7.01	127.05	117.91
2	s	2	IDS	C2-O2-S	7.00	127.05	117.91
3	h	2	IDS	O4-C4-C3	6.77	126.00	110.35
3	g	2	IDS	O4-C4-C3	-5.50	97.63	110.35
3	V	2	IDS	O4-C4-C3	-4.99	98.82	110.35
4	e	4	IDS	O4-C4-C3	4.98	121.86	110.35
3	h	2	IDS	O4-C4-C5	4.47	118.59	110.05
5	f	5	JHM	C2-C3-C4	-3.50	107.13	111.16
3	p	3	JHM	C2-C3-C4	-3.49	107.14	111.16
5	f	9	JHM	C2-C3-C4	-3.49	107.15	111.16
5	f	3	JHM	C2-C3-C4	-3.49	107.15	111.16
3	h	3	JHM	C2-C3-C4	-3.48	107.16	111.16
3	g	3	JHM	C2-C3-C4	-3.48	107.16	111.16
5	f	7	JHM	C2-C3-C4	-3.47	107.17	111.16
3	Q	3	JHM	C2-C3-C4	-3.47	107.17	111.16
3	b	3	JHM	C2-C3-C4	-3.46	107.18	111.16
4	e	5	JHM	C2-C3-C4	-3.46	107.19	111.16
3	R	3	JHM	C2-C3-C4	-3.45	107.20	111.16
3	c	3	JHM	C2-C3-C4	-3.44	107.20	111.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	V	3	JHM	C2-C3-C4	-3.44	107.21	111.16
3	X	3	JHM	C2-C3-C4	-3.43	107.21	111.16
4	e	3	JHM	C2-C3-C4	-3.41	107.23	111.16
3	R	1	JHM	C3-C4-C5	-3.35	106.64	109.97
3	Q	1	JHM	C3-C4-C5	-3.33	106.65	109.97
3	b	1	JHM	C3-C4-C5	-3.33	106.65	109.97
3	b	3	JHM	C3-C4-C5	-3.32	106.66	109.97
2	d	1	JHM	C3-C4-C5	-3.31	106.67	109.97
2	a	1	JHM	C3-C4-C5	-3.31	106.68	109.97
2	Z	1	JHM	C3-C4-C5	-3.30	106.69	109.97
4	e	2	IDS	O4-C4-C5	3.29	116.34	110.05
2	o	1	JHM	C3-C4-C5	-3.29	106.70	109.97
2	U	1	JHM	C3-C4-C5	-3.28	106.70	109.97
5	f	1	JHM	C3-C4-C5	-3.28	106.70	109.97
3	R	3	JHM	C3-C4-C5	-3.27	106.71	109.97
2	P	1	JHM	C3-C4-C5	-3.27	106.71	109.97
2	W	1	JHM	C3-C4-C5	-3.26	106.72	109.97
3	h	3	JHM	C3-C4-C5	-3.26	106.72	109.97
2	q	1	JHM	C3-C4-C5	-3.26	106.72	109.97
2	m	1	JHM	C3-C4-C5	-3.25	106.73	109.97
2	Y	1	JHM	C3-C4-C5	-3.25	106.73	109.97
3	c	3	JHM	C3-C4-C5	-3.24	106.74	109.97
2	i	1	JHM	C3-C4-C5	-3.24	106.74	109.97
5	f	9	JHM	C3-C4-C5	-3.24	106.74	109.97
3	p	3	JHM	C3-C4-C5	-3.24	106.74	109.97
5	f	5	JHM	C3-C4-C5	-3.23	106.75	109.97
3	X	1	JHM	C3-C4-C5	-3.23	106.75	109.97
2	r	1	JHM	C3-C4-C5	-3.23	106.75	109.97
3	V	1	JHM	C3-C4-C5	-3.23	106.75	109.97
3	g	1	JHM	C3-C4-C5	-3.23	106.75	109.97
4	e	3	JHM	C3-C4-C5	-3.23	106.75	109.97
4	e	5	JHM	C3-C4-C5	-3.22	106.76	109.97
2	s	1	JHM	C3-C4-C5	-3.22	106.76	109.97
3	X	3	JHM	C3-C4-C5	-3.22	106.76	109.97
2	n	1	JHM	C3-C4-C5	-3.22	106.76	109.97
2	T	1	JHM	C3-C4-C5	-3.22	106.76	109.97
3	Q	3	JHM	C3-C4-C5	-3.22	106.76	109.97
4	e	1	JHM	C3-C4-C5	-3.21	106.77	109.97
3	c	1	JHM	C3-C4-C5	-3.21	106.77	109.97
2	S	1	JHM	C3-C4-C5	-3.21	106.77	109.97
2	k	1	JHM	C3-C4-C5	-3.20	106.78	109.97
5	f	7	JHM	C3-C4-C5	-3.20	106.78	109.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	V	3	JHM	C3-C4-C5	-3.20	106.78	109.97
3	p	1	JHM	C3-C4-C5	-3.19	106.79	109.97
3	h	1	JHM	C3-C4-C5	-3.19	106.79	109.97
3	g	3	JHM	C3-C4-C5	-3.19	106.80	109.97
5	f	3	JHM	C3-C4-C5	-3.18	106.80	109.97
2	l	1	JHM	C3-C4-C5	-3.18	106.80	109.97
2	j	1	JHM	C3-C4-C5	-3.13	106.85	109.97
3	c	2	IDS	C1-C2-C3	2.91	113.76	109.40
3	Q	2	IDS	C1-C2-C3	2.91	113.75	109.40
3	b	2	IDS	C1-C2-C3	2.90	113.74	109.40
4	e	2	IDS	C1-C2-C3	2.89	113.71	109.40
3	g	2	IDS	C1-C2-C3	2.88	113.71	109.40
3	R	2	IDS	C1-C2-C3	2.88	113.70	109.40
3	V	2	IDS	C1-C2-C3	2.87	113.70	109.40
5	f	8	IDS	C1-C2-C3	2.87	113.69	109.40
5	f	6	IDS	C1-C2-C3	2.87	113.69	109.40
3	X	2	IDS	C1-C2-C3	2.87	113.69	109.40
4	e	4	IDS	C1-C2-C3	2.86	113.68	109.40
3	h	2	IDS	C1-C2-C3	2.86	113.67	109.40
5	f	2	IDS	C1-C2-C3	2.85	113.66	109.40
3	p	2	IDS	C1-C2-C3	2.84	113.65	109.40
5	f	4	IDS	C1-C2-C3	2.83	113.63	109.40
3	R	2	IDS	O4-C4-C5	-2.72	104.85	110.05
2	k	2	IDS	C1-C2-C3	2.71	113.78	109.94
2	Z	2	IDS	C1-C2-C3	2.70	113.76	109.94
3	X	4	IDS	C1-C2-C3	2.69	113.75	109.94
2	Y	2	IDS	C1-C2-C3	2.69	113.74	109.94
2	U	2	IDS	C1-C2-C3	2.68	113.73	109.94
2	W	2	IDS	C1-C2-C3	2.68	113.73	109.94
3	p	4	IDS	C1-C2-C3	2.68	113.73	109.94
2	a	2	IDS	C1-C2-C3	2.66	113.71	109.94
2	o	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	T	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	r	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	m	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	j	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	S	2	IDS	C1-C2-C3	2.66	113.70	109.94
2	n	2	IDS	C1-C2-C3	2.66	113.70	109.94
3	R	4	IDS	C1-C2-C3	2.65	113.70	109.94
4	e	6	IDS	C1-C2-C3	2.65	113.70	109.94
5	f	10	IDS	C1-C2-C3	2.65	113.70	109.94
3	b	4	IDS	C1-C2-C3	2.65	113.70	109.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	l	2	IDS	C1-C2-C3	2.65	113.69	109.94
3	h	4	IDS	C1-C2-C3	2.65	113.69	109.94
2	d	2	IDS	C1-C2-C3	2.65	113.69	109.94
3	c	4	IDS	C1-C2-C3	2.65	113.69	109.94
2	P	2	IDS	C1-C2-C3	2.64	113.68	109.94
3	g	4	IDS	C1-C2-C3	2.64	113.68	109.94
3	V	4	IDS	C1-C2-C3	2.63	113.66	109.94
3	Q	4	IDS	C1-C2-C3	2.62	113.65	109.94
2	s	2	IDS	C1-C2-C3	2.62	113.64	109.94
2	i	2	IDS	C1-C2-C3	2.61	113.63	109.94
2	q	2	IDS	C1-C2-C3	2.60	113.62	109.94
4	e	1	JHM	C2-C3-C4	-2.44	107.14	110.69
2	j	1	JHM	C2-C3-C4	-2.44	107.15	110.69
2	Z	1	JHM	C2-C3-C4	-2.43	107.15	110.69
3	p	1	JHM	C2-C3-C4	-2.43	107.15	110.69
3	X	1	JHM	C2-C3-C4	-2.43	107.16	110.69
3	V	1	JHM	C2-C3-C4	-2.43	107.16	110.69
2	l	1	JHM	C2-C3-C4	-2.43	107.16	110.69
2	d	1	JHM	C2-C3-C4	-2.42	107.16	110.69
2	T	1	JHM	C2-C3-C4	-2.42	107.17	110.69
3	g	1	JHM	C2-C3-C4	-2.42	107.17	110.69
3	h	1	JHM	C2-C3-C4	-2.41	107.18	110.69
3	Q	1	JHM	C2-C3-C4	-2.41	107.19	110.69
3	c	1	JHM	C2-C3-C4	-2.40	107.19	110.69
3	b	1	JHM	C2-C3-C4	-2.40	107.19	110.69
2	P	1	JHM	C2-C3-C4	-2.40	107.20	110.69
2	k	1	JHM	C2-C3-C4	-2.40	107.20	110.69
2	s	1	JHM	C2-C3-C4	-2.40	107.20	110.69
2	U	1	JHM	C2-C3-C4	-2.39	107.20	110.69
2	q	1	JHM	C2-C3-C4	-2.39	107.21	110.69
5	f	1	JHM	C2-C3-C4	-2.39	107.21	110.69
2	r	1	JHM	C2-C3-C4	-2.39	107.21	110.69
2	Y	1	JHM	C2-C3-C4	-2.39	107.21	110.69
2	a	1	JHM	C2-C3-C4	-2.38	107.22	110.69
2	i	1	JHM	C2-C3-C4	-2.38	107.23	110.69
2	m	1	JHM	C2-C3-C4	-2.38	107.23	110.69
2	n	1	JHM	C2-C3-C4	-2.38	107.23	110.69
2	W	1	JHM	C2-C3-C4	-2.37	107.24	110.69
2	S	1	JHM	C2-C3-C4	-2.37	107.24	110.69
3	R	1	JHM	C2-C3-C4	-2.37	107.24	110.69
2	o	1	JHM	C2-C3-C4	-2.37	107.24	110.69
3	c	3	JHM	C1-C2-C3	-2.23	106.95	110.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	p	2	IDS	O4-C4-C3	2.21	115.46	110.35
5	f	3	JHM	C1-C2-C3	-2.21	106.99	110.68
3	g	3	JHM	C1-C2-C3	-2.19	107.02	110.68
3	b	3	JHM	C1-C2-C3	-2.19	107.02	110.68
4	e	5	JHM	C1-C2-C3	-2.19	107.02	110.68
3	R	3	JHM	C1-C2-C3	-2.19	107.02	110.68
3	X	3	JHM	C1-C2-C3	-2.19	107.02	110.68
5	f	7	JHM	C1-C2-C3	-2.18	107.03	110.68
5	f	9	JHM	C1-C2-C3	-2.18	107.05	110.68
5	f	5	JHM	C1-C2-C3	-2.17	107.06	110.68
3	Q	3	JHM	C1-C2-C3	-2.17	107.06	110.68
3	V	3	JHM	C1-C2-C3	-2.17	107.06	110.68
4	e	3	JHM	C1-C2-C3	-2.17	107.06	110.68
3	h	3	JHM	C1-C2-C3	-2.16	107.08	110.68
3	p	3	JHM	C1-C2-C3	-2.11	107.15	110.68

There are no chirality outliers.

All (46) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	R	1	JHM	C6-O6-S-O8
2	o	1	JHM	C6-O6-S-O8
2	Y	1	JHM	C6-O6-S-O8
5	f	3	JHM	C6-O6-S-O8
3	h	1	JHM	C6-O6-S-O8
3	g	1	JHM	C6-O6-S-O8
2	P	1	JHM	C6-O6-S-O8
2	d	1	JHM	C6-O6-S-O8
2	a	1	JHM	C6-O6-S-O8
3	X	3	JHM	C6-O6-S-O8
5	f	1	JHM	C6-O6-S-O8
3	b	1	JHM	C6-O6-S-O8
5	f	7	JHM	C6-O6-S-O8
3	b	3	JHM	C6-O6-S-O8
3	V	1	JHM	C6-O6-S-O8
5	f	9	JHM	C6-O6-S-O8
2	U	1	JHM	C6-O6-S-O9
3	R	1	JHM	C6-O6-S-O7
3	p	1	JHM	C6-O6-S-O9
2	o	1	JHM	C6-O6-S-O7
2	Y	1	JHM	C6-O6-S-O7
4	e	5	JHM	C6-O6-S-O9

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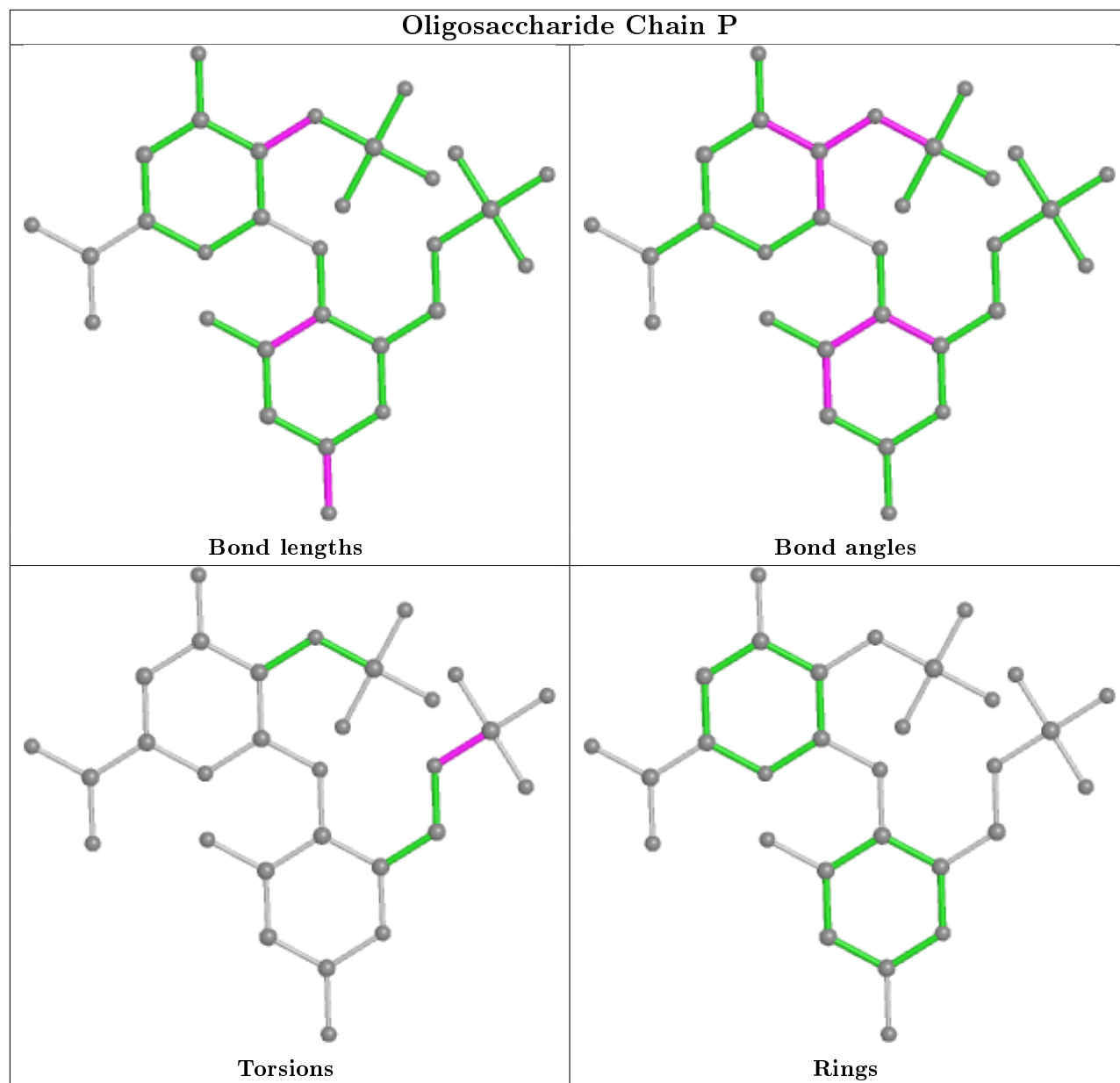
Mol	Chain	Res	Type	Atoms
5	f	3	JHM	C6-O6-S-O7
2	W	1	JHM	C6-O6-S-O9
3	h	1	JHM	C6-O6-S-O7
3	g	1	JHM	C6-O6-S-O7
4	e	1	JHM	C6-O6-S-O9
2	P	1	JHM	C6-O6-S-O7
2	d	1	JHM	C6-O6-S-O7
2	a	1	JHM	C6-O6-S-O7
2	k	1	JHM	C6-O6-S-O9
3	X	3	JHM	C6-O6-S-O7
5	f	1	JHM	C6-O6-S-O7
3	c	3	JHM	C6-O6-S-O9
3	b	1	JHM	C6-O6-S-O7
4	e	3	JHM	C6-O6-S-O9
2	j	1	JHM	C6-O6-S-O9
2	r	1	JHM	C6-O6-S-O9
5	f	7	JHM	C6-O6-S-O7
2	s	1	JHM	C6-O6-S-O9
3	b	3	JHM	C6-O6-S-O7
3	V	1	JHM	C6-O6-S-O7
2	q	1	JHM	C6-O6-S-O9
3	p	3	JHM	C6-O6-S-O9
5	f	9	JHM	C6-O6-S-O7
2	l	1	JHM	C6-O6-S-O9

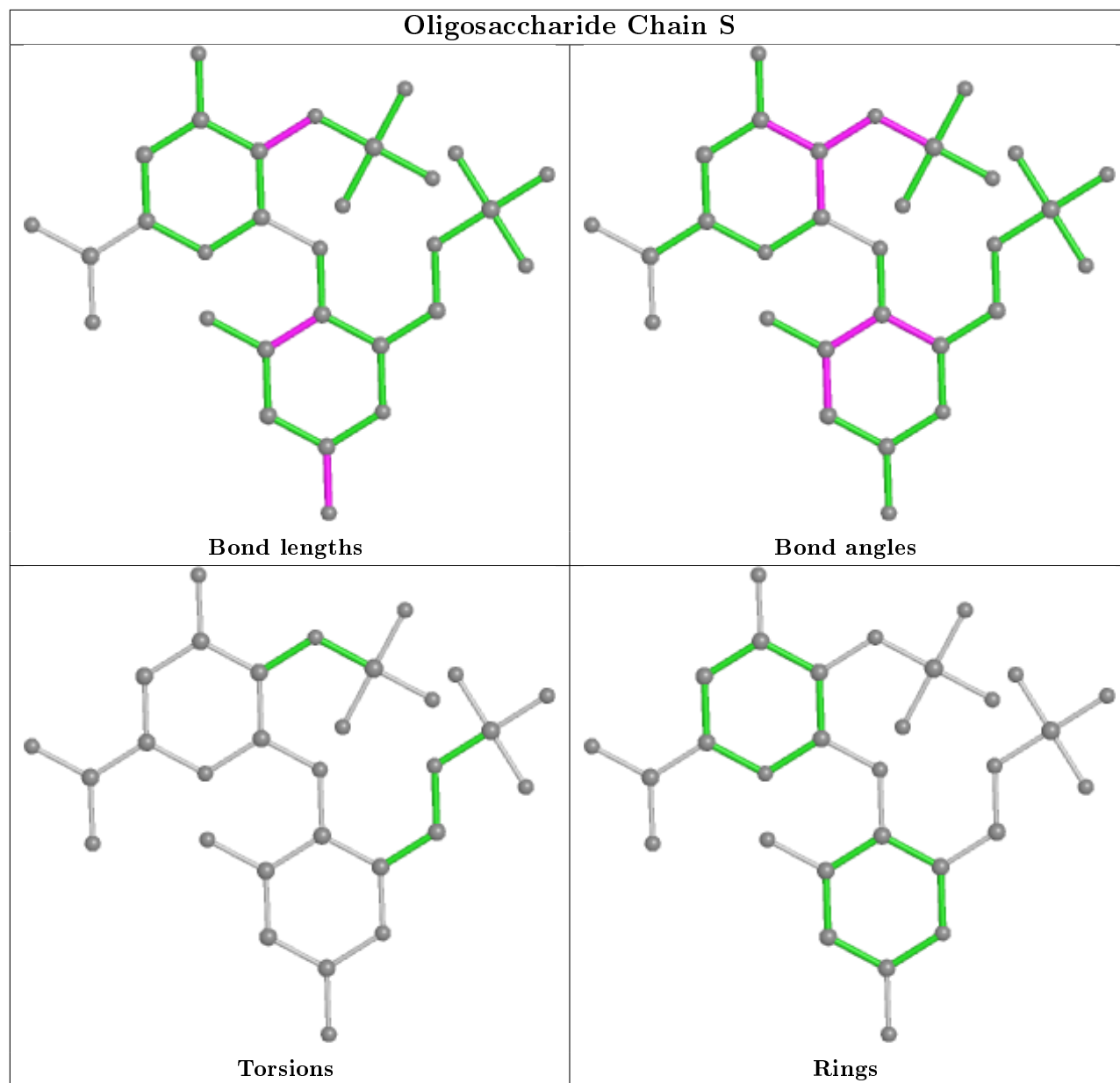
There are no ring outliers.

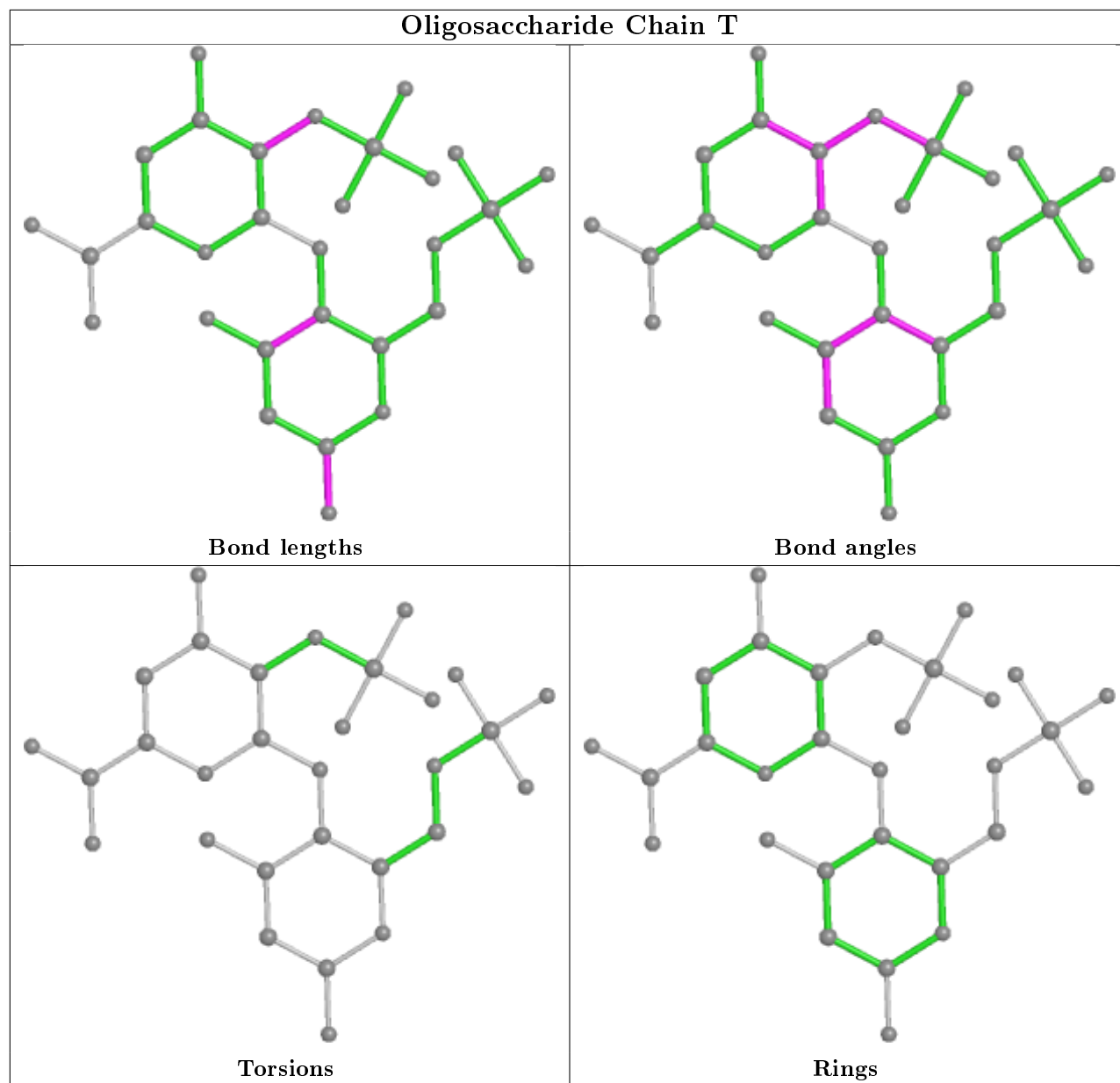
1 monomer is involved in 1 short contact:

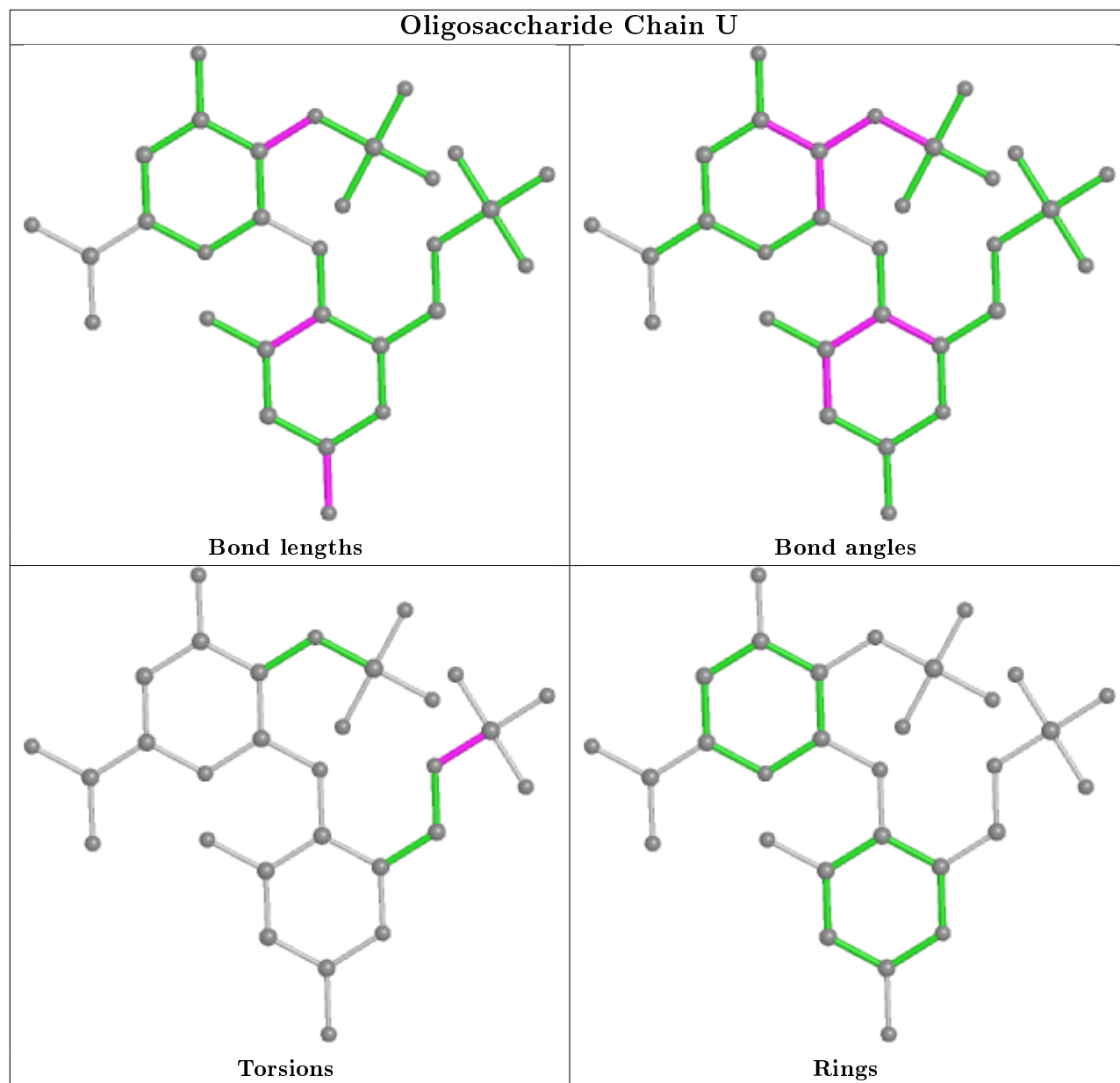
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	f	3	JHM	0	1

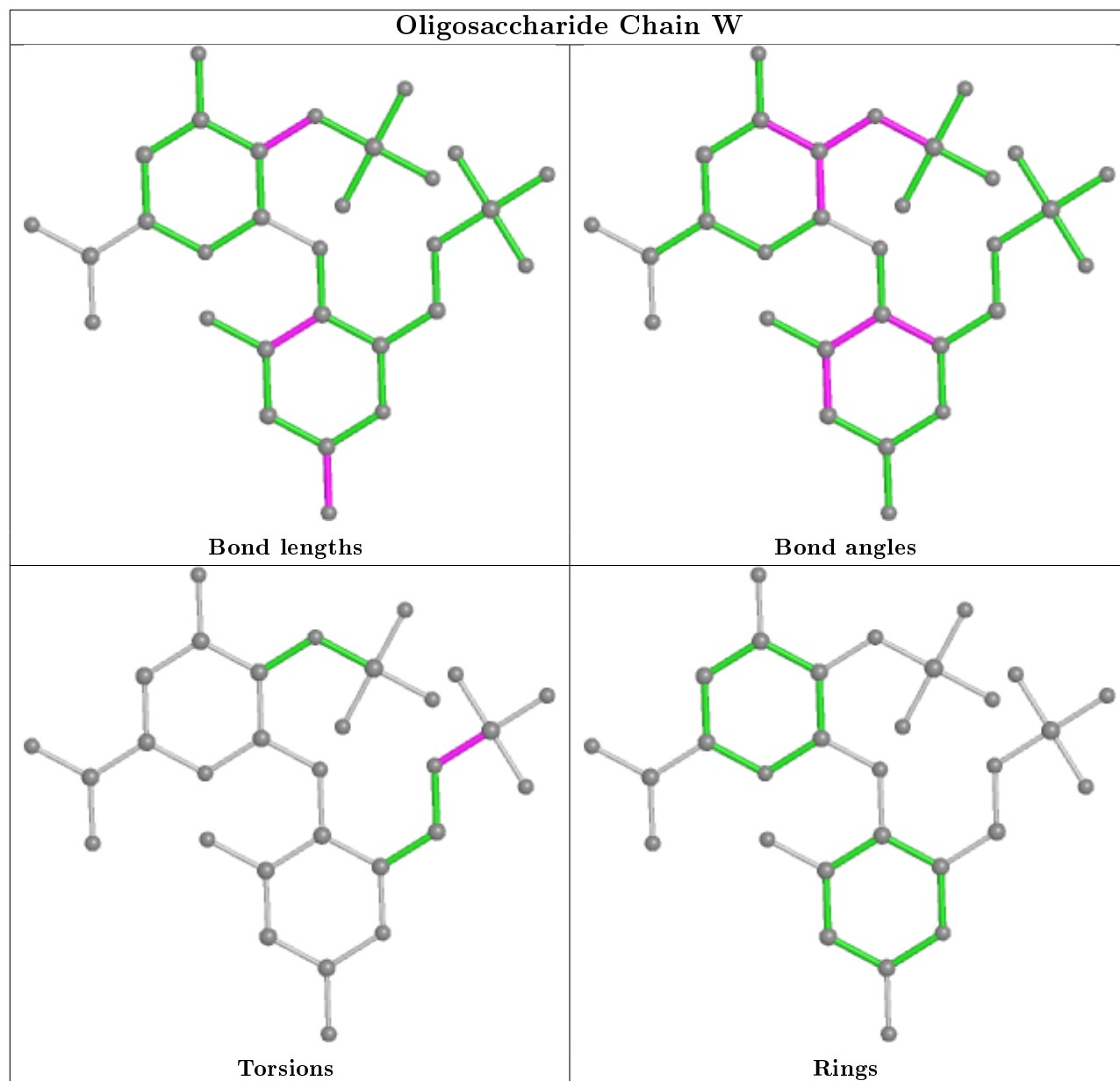
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

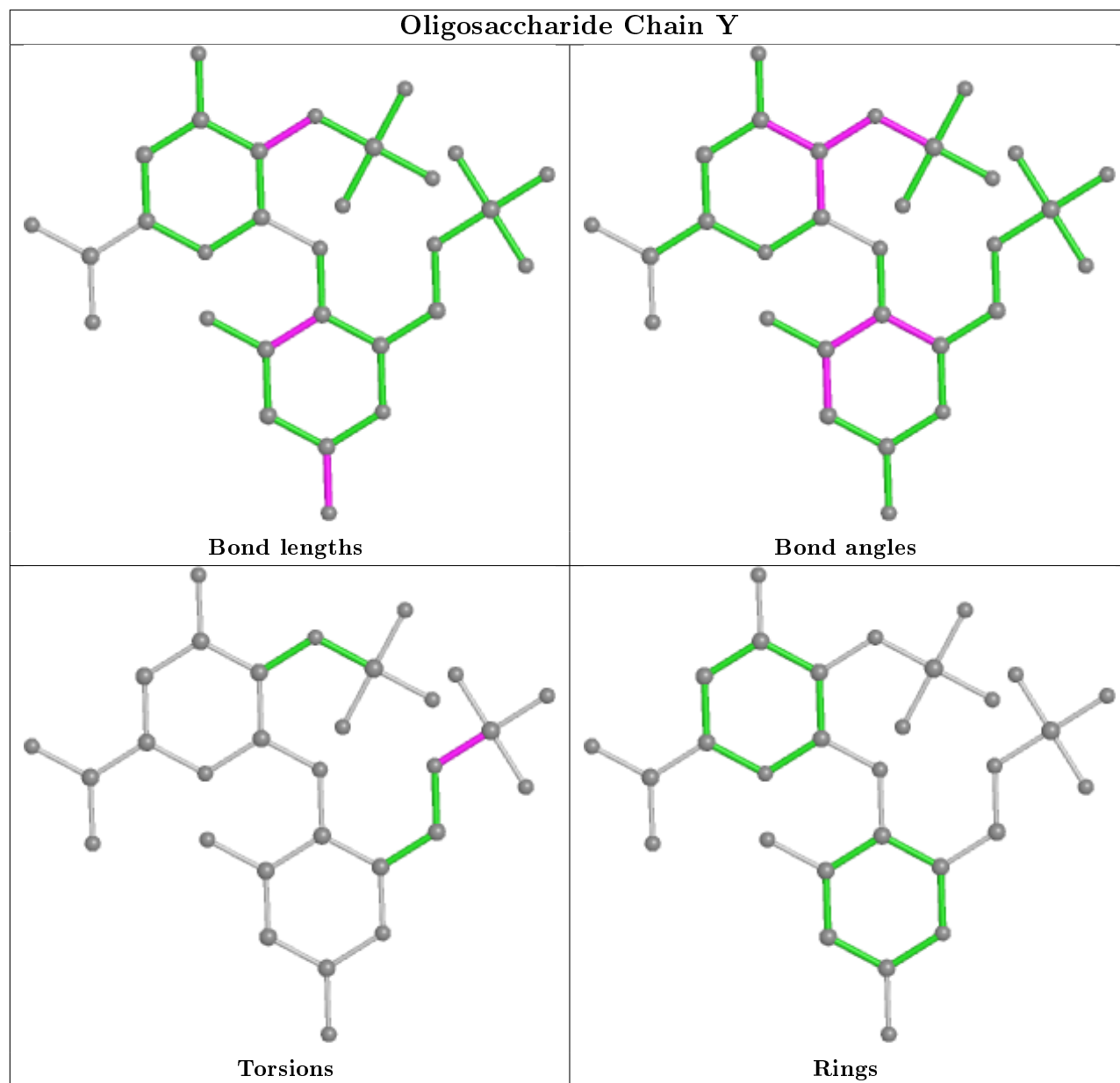


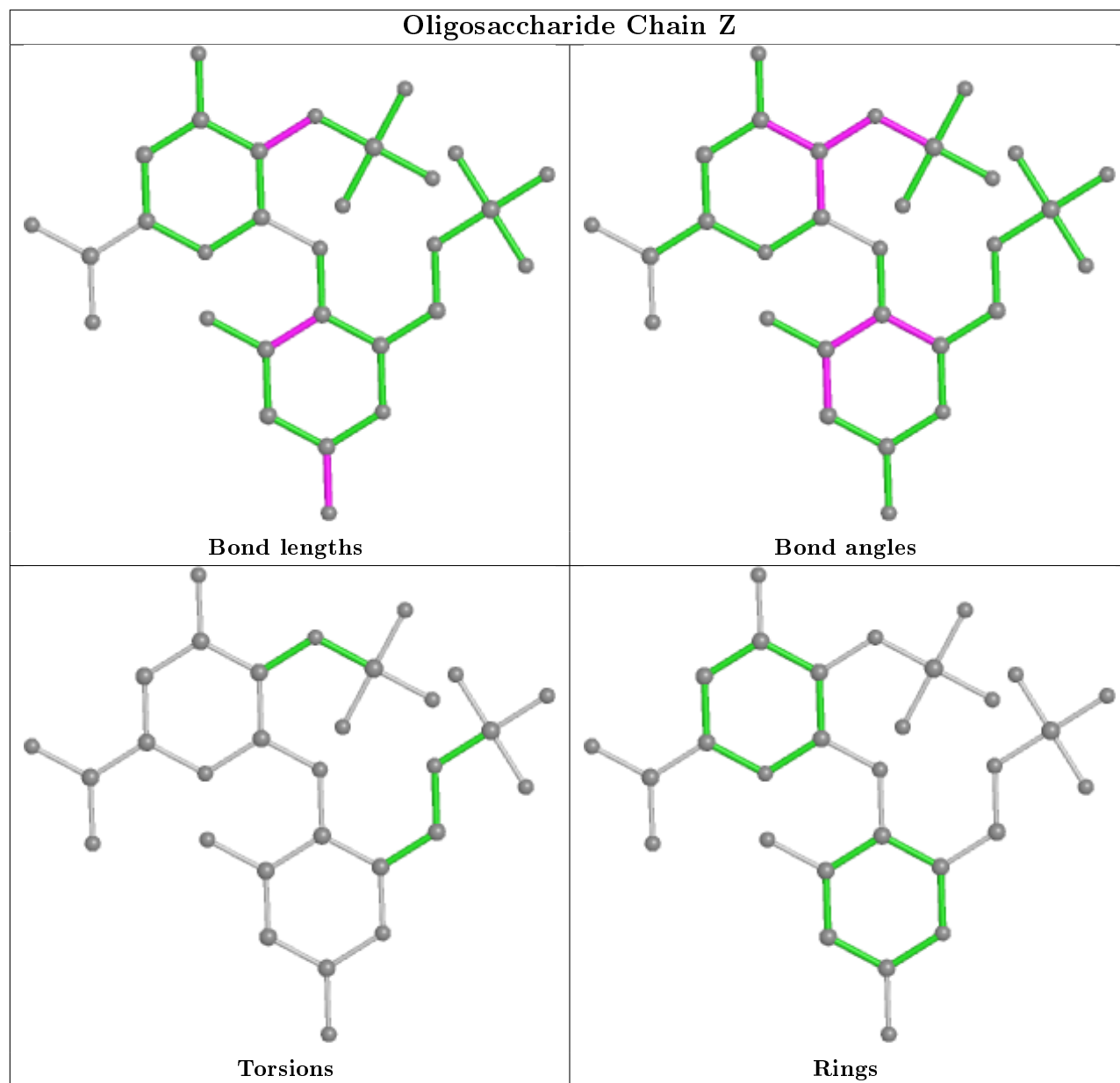




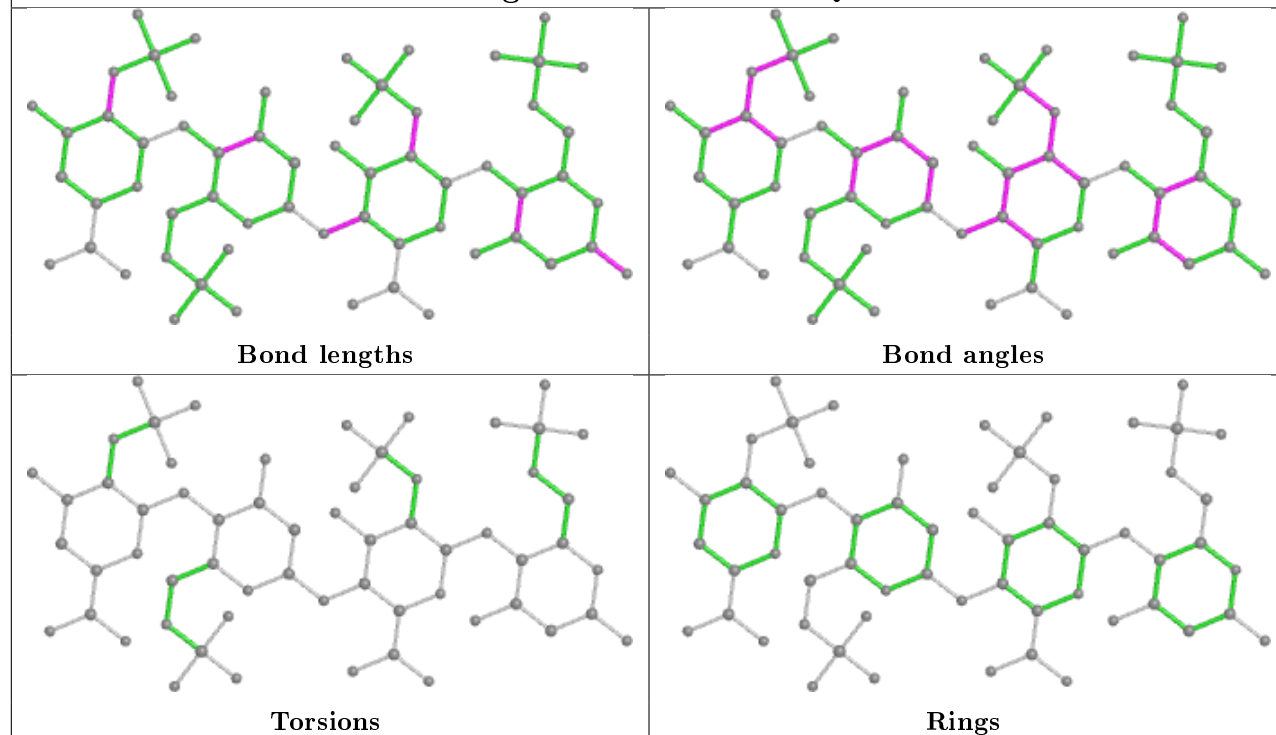




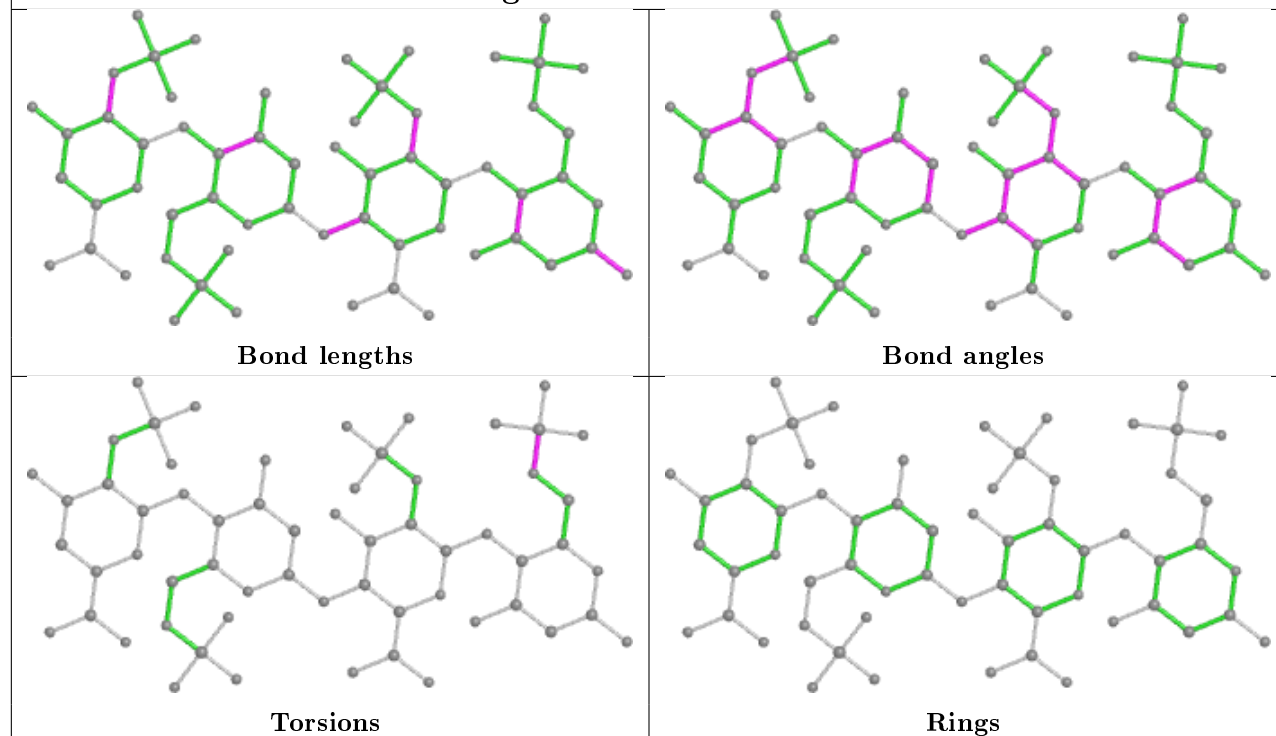


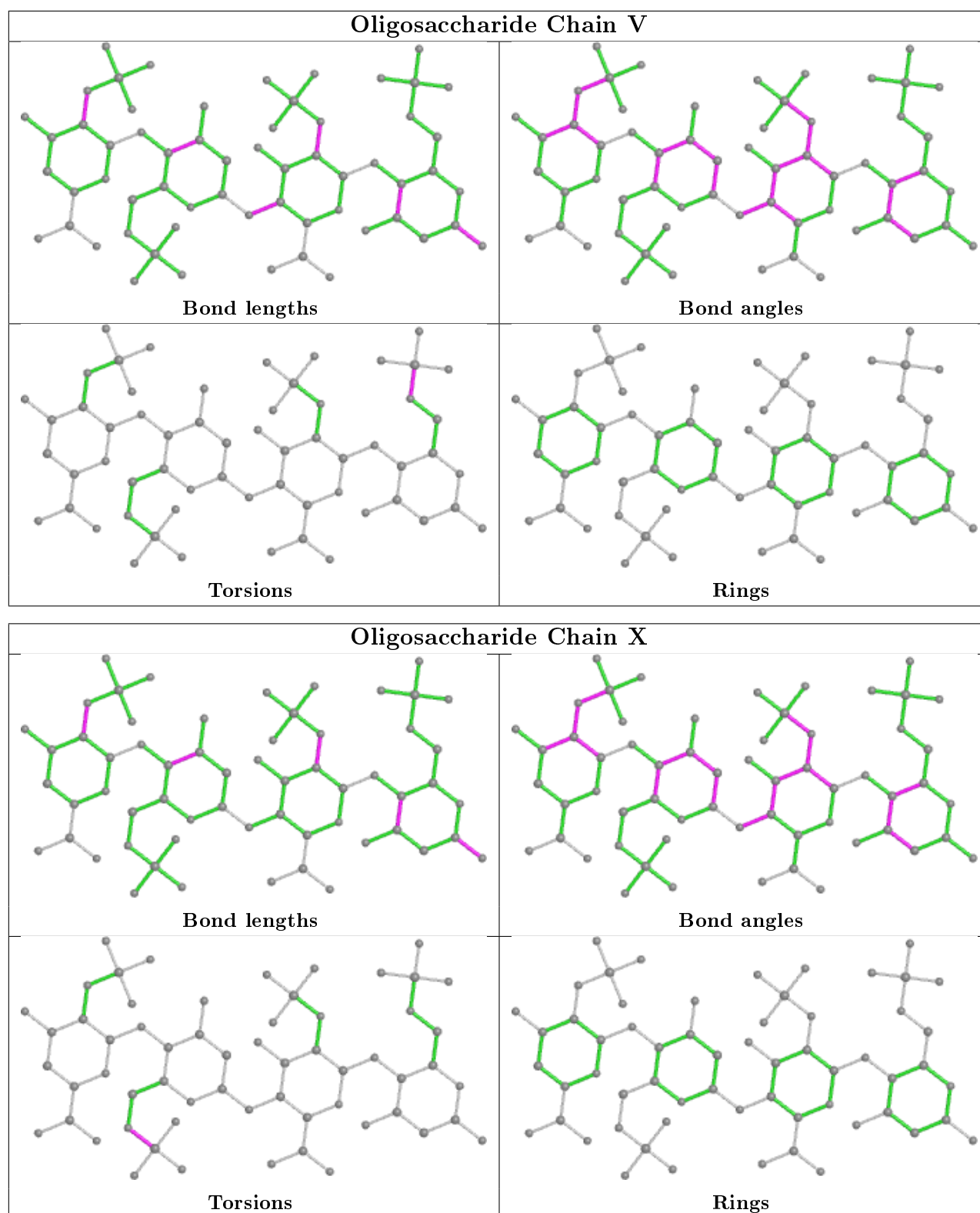


Oligosaccharide Chain Q



Oligosaccharide Chain R





5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å ²)	Q<0.9
1	A	422/427 (98%)	-0.11	16 (3%)	40	43	37, 75, 133, 159	0
1	B	422/427 (98%)	-0.14	17 (4%)	38	41	34, 72, 130, 174	0
1	C	422/427 (98%)	-0.20	13 (3%)	49	53	26, 63, 122, 162	0
1	D	422/427 (98%)	-0.27	10 (2%)	59	62	30, 64, 129, 174	0
1	E	422/427 (98%)	-0.27	10 (2%)	59	62	30, 66, 125, 160	0
1	F	422/427 (98%)	-0.22	10 (2%)	59	62	34, 75, 131, 166	0
1	G	422/427 (98%)	-0.02	18 (4%)	35	39	36, 77, 134, 203	0
1	H	422/427 (98%)	-0.19	12 (2%)	53	57	31, 64, 118, 150	0
1	I	422/427 (98%)	-0.25	9 (2%)	63	67	30, 64, 122, 143	0
1	J	422/427 (98%)	-0.08	10 (2%)	59	62	33, 70, 137, 164	0
1	K	422/427 (98%)	-0.10	13 (3%)	49	53	38, 74, 129, 168	0
1	L	422/427 (98%)	-0.09	12 (2%)	53	57	43, 72, 128, 157	0
1	M	422/427 (98%)	-0.10	11 (2%)	56	59	44, 76, 128, 147	0
1	N	422/427 (98%)	-0.16	7 (1%)	70	74	43, 79, 128, 151	0
1	O	422/427 (98%)	-0.03	22 (5%)	27	30	40, 77, 136, 169	0
All	All	6330/6405 (98%)	-0.15	190 (3%)	50	54	26, 71, 129, 203	0

All (190) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	137	SER	6.6
1	D	135	ALA	6.0
1	H	177	SER	5.9
1	O	141	GLU	5.8
1	H	174	ALA	5.6
1	E	135	ALA	5.6
1	O	177	SER	5.5

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Mol	Chain	Res	Type	RSRZ
1	C	350	SER	5.5
1	B	134	ALA	5.3
1	O	351	PRO	5.2
1	O	133	HIS	5.2
1	B	137	SER	5.0
1	O	55	GLY	5.0
1	G	88	THR	4.8
1	J	174	ALA	4.7
1	M	86	PRO	4.7
1	D	133	HIS	4.6
1	O	56	GLY	4.5
1	D	134	ALA	4.5
1	E	134	ALA	4.4
1	C	174	ALA	4.4
1	E	177	SER	4.3
1	B	135	ALA	4.3
1	B	173	THR	4.3
1	C	88	THR	4.3
1	H	175	SER	4.3
1	D	175	SER	4.3
1	J	90	ILE	4.2
1	G	175	SER	4.2
1	H	176	LYS	4.2
1	A	138	ASN	4.1
1	B	133	HIS	4.1
1	A	136	THR	4.0
1	K	88	THR	4.0
1	O	350	SER	4.0
1	O	134	ALA	4.0
1	O	137	SER	3.9
1	J	351	PRO	3.9
1	E	474	GLY	3.9
1	C	176	LYS	3.9
1	M	174	ALA	3.8
1	B	177	SER	3.8
1	H	178	ARG	3.8
1	D	174	ALA	3.8
1	F	177	SER	3.8
1	C	135	ALA	3.8
1	A	86	PRO	3.7
1	M	343	THR	3.7
1	E	439	LYS	3.7

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Mol	Chain	Res	Type	RSRZ
1	G	55	GLY	3.7
1	G	384	LEU	3.7
1	I	86	PRO	3.7
1	K	134	ALA	3.6
1	L	438	ASN	3.6
1	O	176	LYS	3.6
1	B	56	GLY	3.6
1	B	175	SER	3.6
1	M	57	GLY	3.6
1	O	135	ALA	3.5
1	D	177	SER	3.5
1	N	177	SER	3.5
1	G	56	GLY	3.5
1	A	177	SER	3.5
1	A	133	HIS	3.5
1	E	141	GLU	3.5
1	M	87	ASP	3.5
1	I	90	ILE	3.4
1	M	173	THR	3.4
1	F	133	HIS	3.4
1	L	91	TYR	3.4
1	M	439	LYS	3.4
1	B	136	THR	3.4
1	O	404	ASN	3.4
1	E	314	HIS	3.4
1	A	87	ASP	3.3
1	O	173	THR	3.3
1	H	88	THR	3.3
1	O	282	MET	3.3
1	K	354	GLY	3.3
1	N	184	ASP	3.3
1	J	350	SER	3.2
1	D	176	LYS	3.2
1	B	174	ALA	3.2
1	O	174	ALA	3.2
1	O	138	ASN	3.2
1	C	134	ALA	3.1
1	A	141	GLU	3.1
1	A	350	SER	3.1
1	M	350	SER	3.1
1	H	173	THR	3.0
1	G	177	SER	3.0

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Mol	Chain	Res	Type	RSRZ
1	G	94	GLU	3.0
1	H	179	PRO	2.9
1	G	282	MET	2.9
1	K	135	ALA	2.9
1	J	352	VAL	2.8
1	C	136	THR	2.8
1	L	349	GLN	2.8
1	B	179	PRO	2.8
1	I	354	GLY	2.8
1	O	352	VAL	2.8
1	M	351	PRO	2.8
1	C	175	SER	2.8
1	G	383	THR	2.8
1	F	134	ALA	2.7
1	K	138	ASN	2.7
1	L	440	ASP	2.7
1	H	349	GLN	2.7
1	K	355	GLN	2.7
1	E	175	SER	2.7
1	C	438	ASN	2.7
1	E	182	GLN	2.6
1	L	350	SER	2.6
1	B	138	ASN	2.6
1	F	173	THR	2.6
1	O	61	ASP	2.6
1	A	55	GLY	2.6
1	B	172	GLY	2.6
1	C	177	SER	2.6
1	J	175	SER	2.6
1	G	173	THR	2.6
1	F	438	ASN	2.5
1	G	439	LYS	2.5
1	L	81	ASN	2.5
1	L	177	SER	2.5
1	J	138	ASN	2.5
1	G	289	CYS	2.5
1	M	141	GLU	2.5
1	H	133	HIS	2.5
1	G	174	ALA	2.5
1	G	60	GLN	2.5
1	A	315	LYS	2.4
1	D	180	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	G	474	GLY	2.4
1	C	351	PRO	2.4
1	I	387	ASP	2.4
1	B	282	MET	2.4
1	K	137	SER	2.4
1	I	88	THR	2.4
1	O	142	ASP	2.4
1	B	315	LYS	2.4
1	G	85	LEU	2.4
1	I	355	GLN	2.3
1	F	282	MET	2.3
1	J	177	SER	2.3
1	B	438	ASN	2.3
1	I	141	GLU	2.3
1	H	315	LYS	2.3
1	K	82	LYS	2.3
1	K	133	HIS	2.3
1	F	179	PRO	2.3
1	J	141	GLU	2.2
1	L	140	SER	2.2
1	K	438	ASN	2.2
1	L	355	GLN	2.2
1	H	350	SER	2.2
1	F	315	LYS	2.2
1	O	444	LYS	2.2
1	C	314	HIS	2.2
1	A	139	VAL	2.2
1	C	349	GLN	2.2
1	D	57	GLY	2.2
1	F	176	LYS	2.2
1	N	185	CYS	2.2
1	K	175	SER	2.2
1	N	134	ALA	2.2
1	O	132	SER	2.2
1	D	58	ASN	2.2
1	L	90	ILE	2.2
1	I	439	LYS	2.1
1	G	138	ASN	2.1
1	F	314	HIS	2.1
1	K	53	PRO	2.1
1	N	401	GLU	2.1
1	I	87	ASP	2.1

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Mol	Chain	Res	Type	RSRZ
1	J	173	THR	2.1
1	N	138	ASN	2.1
1	E	133	HIS	2.1
1	L	443	ASP	2.1
1	A	179	PRO	2.1
1	M	88	THR	2.0
1	K	269	ASP	2.0
1	O	60	GLN	2.0
1	A	176	LYS	2.0
1	A	474	GLY	2.0
1	N	461	ASP	2.0
1	L	83	PHE	2.0
1	G	179	PRO	2.0
1	B	176	LYS	2.0
1	A	313	LEU	2.0

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

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

6.3 Carbohydrates [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	JHM	j	1	15/15	-0.13	1.04	212,232,254,254	0
2	IDS	m	2	15/17	-0.10	0.75	249,251,259,263	0
3	JHM	h	3	14/15	-0.03	0.86	271,292,314,314	0
2	JHM	Y	1	15/15	0.09	0.89	235,255,276,277	0
2	JHM	i	1	15/15	0.12	0.89	228,247,270,272	0
2	IDS	U	2	15/17	0.16	1.19	260,261,269,273	0
2	JHM	U	1	15/15	0.19	0.68	235,256,278,278	0
2	IDS	a	2	15/17	0.20	0.66	211,213,221,225	0
5	IDS	f	4	16/17	0.21	0.86	238,318,323,327	0
3	IDS	p	4	15/17	0.22	0.69	221,222,230,234	0
3	JHM	R	1	15/15	0.24	0.59	224,245,267,269	0
2	JHM	T	1	15/15	0.24	0.64	203,225,247,247	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	IDS	h	4	15/17	0.26	0.68	261,263,270,274	0
2	JHM	a	1	15/15	0.28	0.90	193,214,235,235	0
2	IDS	d	2	15/17	0.28	0.57	223,225,232,236	0
4	IDS	e	2	16/17	0.28	0.57	251,281,287,291	0
3	JHM	R	3	14/15	0.29	0.68	232,253,274,274	0
2	JHM	S	1	15/15	0.29	0.64	258,278,299,300	0
2	JHM	m	1	15/15	0.29	0.83	207,227,248,249	0
2	IDS	T	2	15/17	0.30	0.88	255,256,264,268	0
3	JHM	b	3	14/15	0.30	0.40	217,237,258,259	0
3	JHM	h	1	15/15	0.31	0.97	245,266,287,288	0
5	JHM	f	9	14/15	0.31	0.90	238,259,280,282	0
3	JHM	V	1	15/15	0.31	0.82	233,254,275,276	0
2	JHM	r	1	15/15	0.32	0.73	198,219,240,240	0
3	JHM	X	3	14/15	0.32	0.56	200,219,242,243	0
2	IDS	Y	2	15/17	0.32	0.56	226,227,235,239	0
2	IDS	r	2	15/17	0.32	0.91	270,272,280,283	0
2	JHM	q	1	15/15	0.33	0.81	235,255,277,278	0
3	IDS	Q	4	15/17	0.33	0.67	264,265,274,278	0
2	JHM	n	1	15/15	0.33	0.62	185,205,226,227	0
3	JHM	b	1	15/15	0.34	0.68	254,274,294,296	0
5	JHM	f	7	14/15	0.34	0.56	216,237,260,261	0
3	IDS	h	2	16/17	0.34	1.16	293,295,301,305	0
3	IDS	b	2	16/17	0.34	0.55	241,271,279,282	0
3	IDS	p	2	16/17	0.35	0.87	227,266,274,278	0
3	JHM	c	1	15/15	0.36	0.58	204,224,246,247	0
2	IDS	S	2	15/17	0.37	0.49	281,283,290,294	0
3	IDS	R	4	15/17	0.38	0.54	238,240,249,252	0
2	JHM	s	1	15/15	0.39	0.85	210,231,252,253	0
3	JHM	p	1	15/15	0.40	1.00	222,243,265,265	0
5	JHM	f	1	15/15	0.41	0.95	234,255,276,277	0
3	IDS	c	2	16/17	0.41	0.63	221,223,233,237	0
2	IDS	j	2	15/17	0.41	1.03	247,248,256,260	0
4	IDS	e	4	16/17	0.43	0.60	249,286,292,296	0
2	IDS	Z	2	15/17	0.43	0.57	252,254,262,266	0
2	IDS	i	2	15/17	0.43	0.49	261,264,269,273	0
3	IDS	c	4	15/17	0.43	0.90	231,233,240,244	0
3	JHM	c	3	14/15	0.45	0.59	214,234,257,257	0
2	IDS	l	2	15/17	0.45	0.63	260,261,269,274	0
3	JHM	g	1	15/15	0.45	0.86	217,238,258,259	0
3	JHM	p	3	14/15	0.45	0.73	204,224,246,246	0
3	JHM	g	3	14/15	0.46	0.42	228,248,270,270	0

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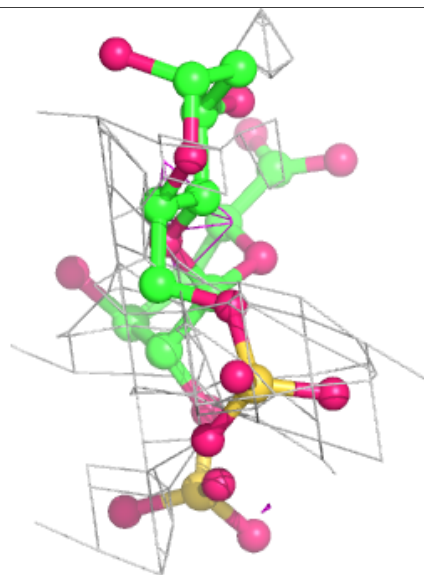
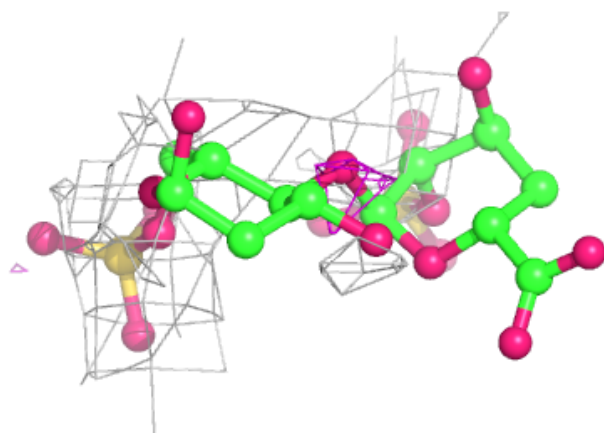
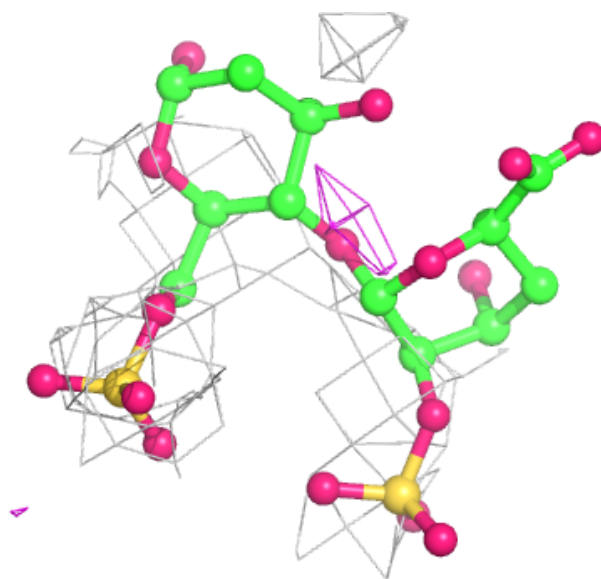
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	JHM	Z	1	15/15	0.47	0.74	206,227,248,249	0
3	IDS	R	2	16/17	0.48	0.74	255,258,263,267	0
2	IDS	k	2	15/17	0.48	0.60	226,227,235,239	0
5	IDS	f	10	15/17	0.49	0.62	227,229,236,239	0
3	JHM	X	1	15/15	0.49	0.50	206,226,248,249	0
2	IDS	q	2	15/17	0.50	0.76	261,263,271,275	0
4	JHM	e	1	15/15	0.51	0.50	264,284,305,307	0
2	JHM	k	1	15/15	0.51	0.71	218,238,261,261	0
2	IDS	n	2	15/17	0.51	0.71	245,247,254,258	0
5	JHM	f	3	14/15	0.52	0.70	225,245,267,268	0
3	JHM	Q	3	14/15	0.52	0.50	213,233,255,255	0
2	JHM	l	1	15/15	0.52	0.51	224,244,266,266	0
2	IDS	W	2	15/17	0.52	0.64	219,221,228,231	0
2	JHM	o	1	15/15	0.53	0.70	220,240,261,262	0
5	JHM	f	5	14/15	0.53	0.60	214,234,255,256	0
2	JHM	W	1	15/15	0.55	0.69	223,243,265,266	0
3	IDS	Q	2	16/17	0.56	0.56	219,222,234,236	0
5	IDS	f	8	16/17	0.56	0.54	186,189,199,262	0
3	JHM	V	3	14/15	0.56	0.56	210,231,253,254	0
4	JHM	e	3	14/15	0.57	0.34	227,248,268,270	0
4	IDS	e	6	15/17	0.57	0.68	239,241,247,251	0
3	IDS	b	4	15/17	0.59	0.41	235,237,245,248	0
2	IDS	s	2	15/17	0.60	0.72	227,229,237,241	0
2	JHM	d	1	15/15	0.60	0.58	201,221,243,244	0
5	IDS	f	2	16/17	0.61	0.67	248,255,262,265	0
5	IDS	f	6	16/17	0.62	0.51	209,212,222,240	0
4	JHM	e	5	14/15	0.62	0.66	226,246,268,269	0
3	IDS	X	2	16/17	0.63	0.50	222,227,235,239	0
2	JHM	P	1	15/15	0.63	0.52	192,212,234,235	0
3	IDS	g	2	16/17	0.63	0.62	251,264,272,276	0
3	JHM	Q	1	15/15	0.64	0.70	194,215,236,236	0
3	IDS	V	2	16/17	0.68	0.62	234,267,274,278	0
2	IDS	P	2	15/17	0.68	0.66	267,270,276,279	0
3	IDS	X	4	15/17	0.68	0.85	230,232,239,243	0
3	IDS	g	4	15/17	0.69	0.55	238,240,248,252	0
3	IDS	V	4	15/17	0.79	0.34	273,275,282,286	0
2	IDS	o	2	15/17	0.80	0.36	214,215,224,228	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.

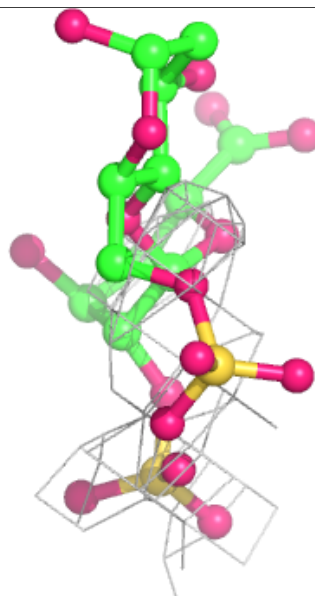
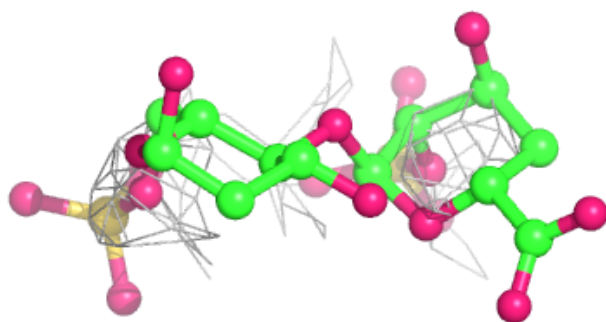
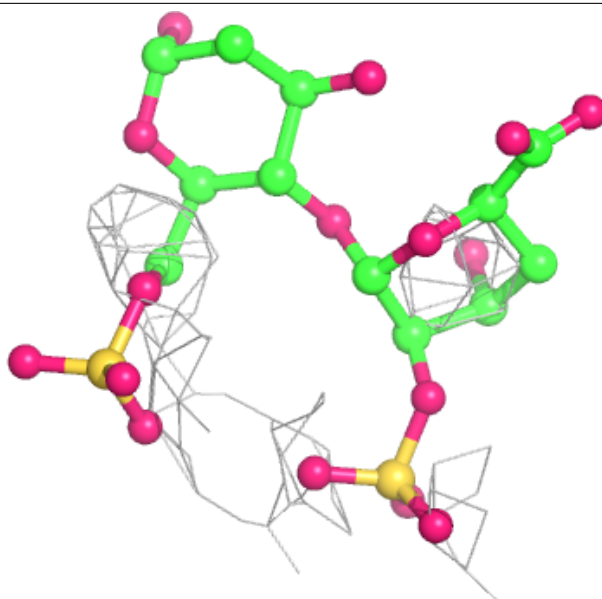
Electron density around Chain P:

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



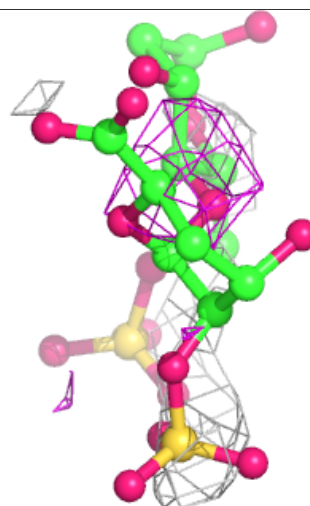
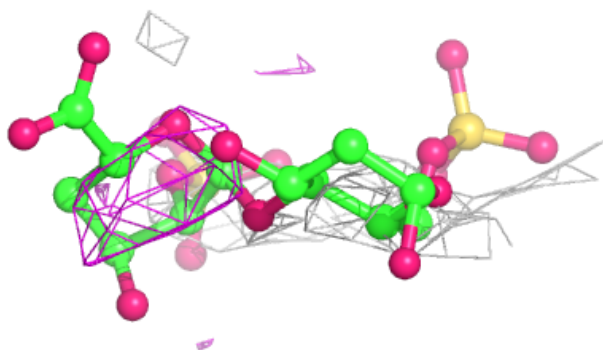
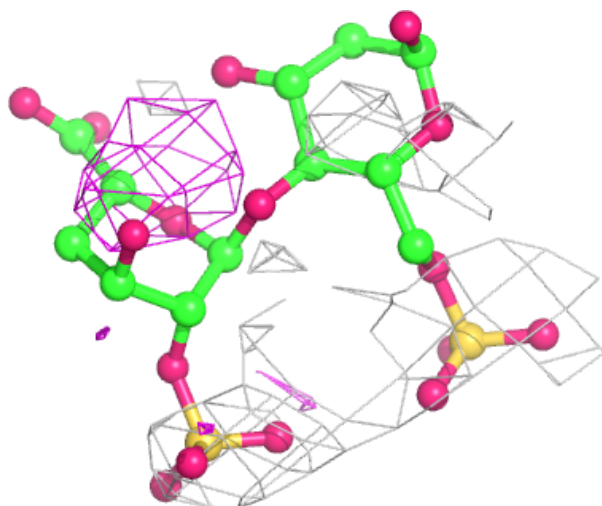
Electron density around Chain S:

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



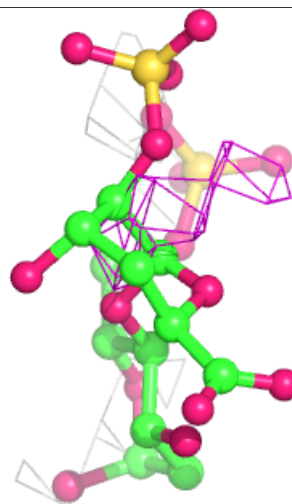
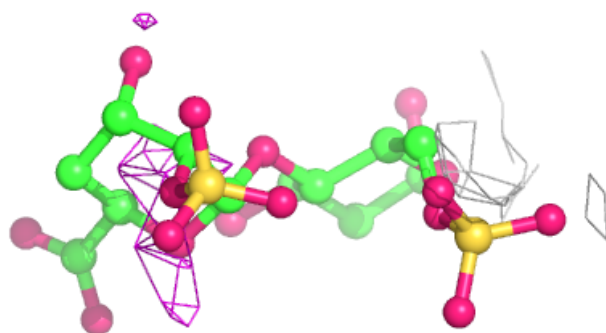
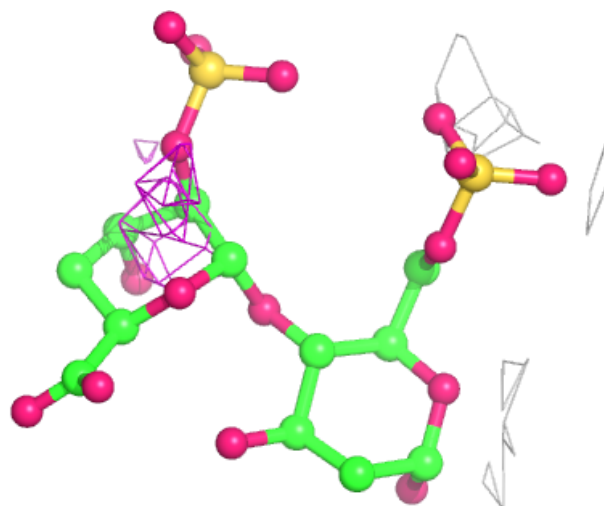
Electron density around Chain T:

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



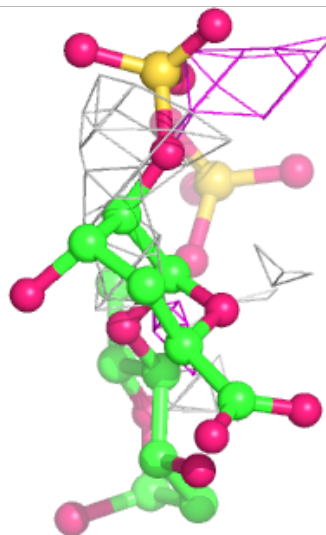
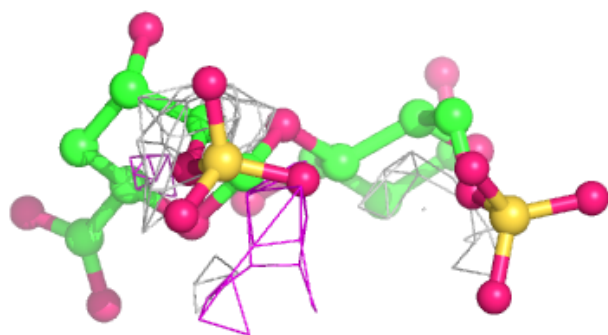
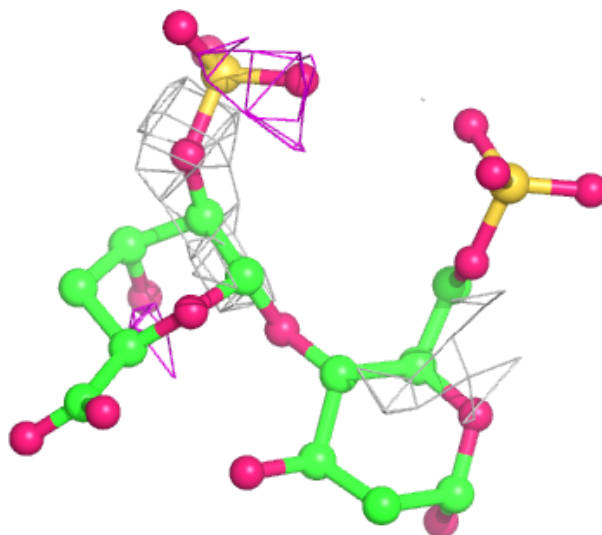
Electron density around Chain U:

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



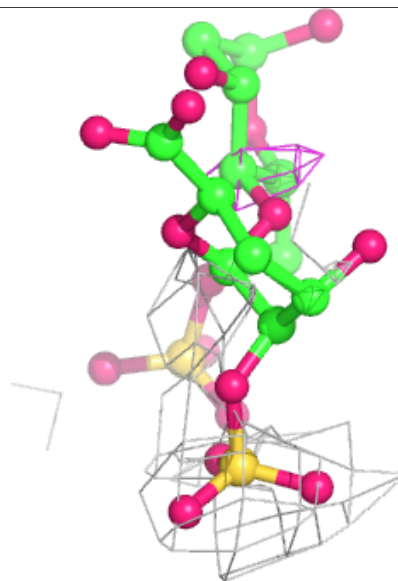
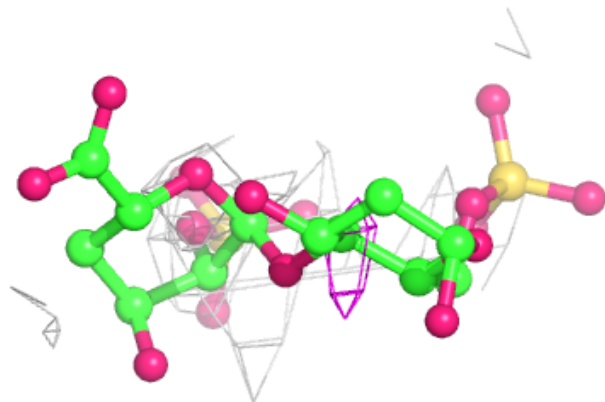
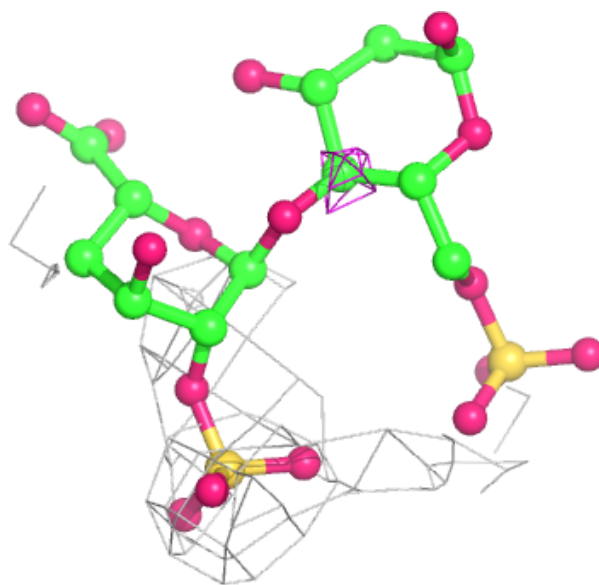
Electron density around Chain W:

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



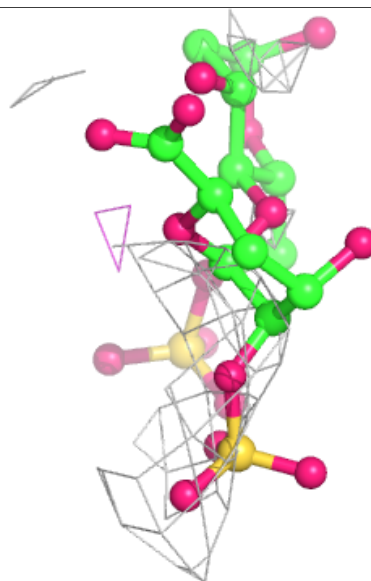
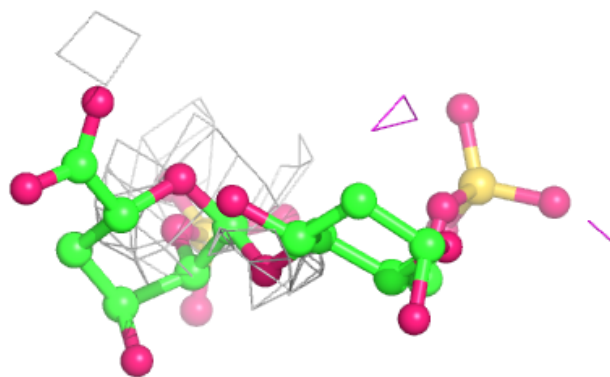
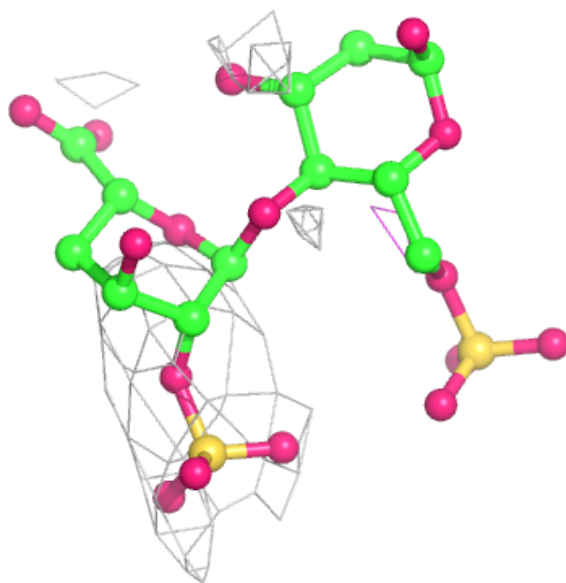
Electron density around Chain Y:

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



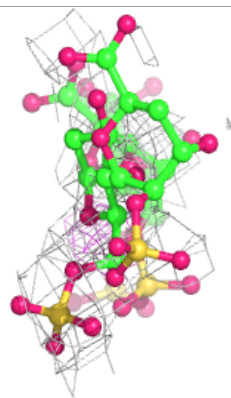
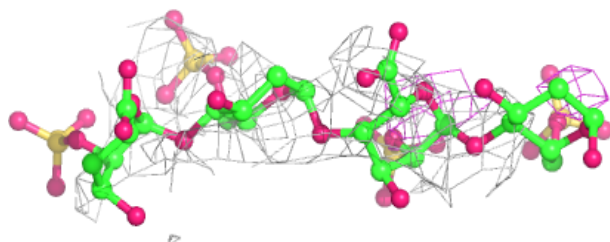
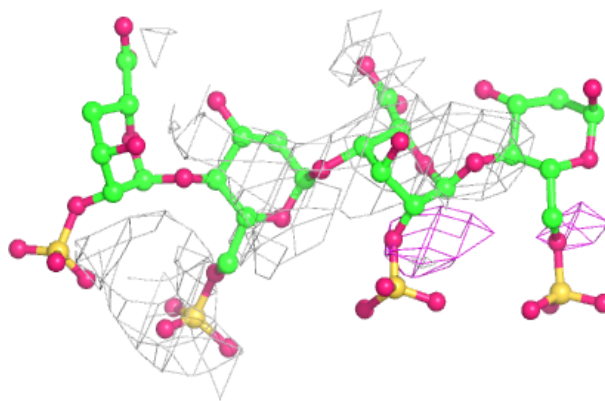
Electron density around Chain Z:

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

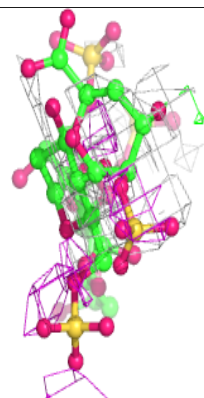
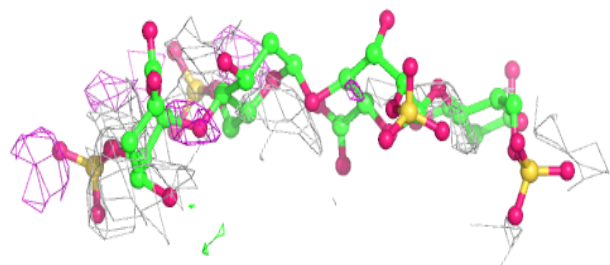
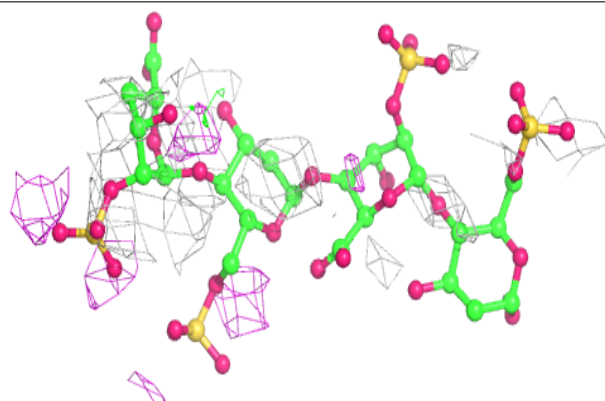


Electron density around Chain Q:

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

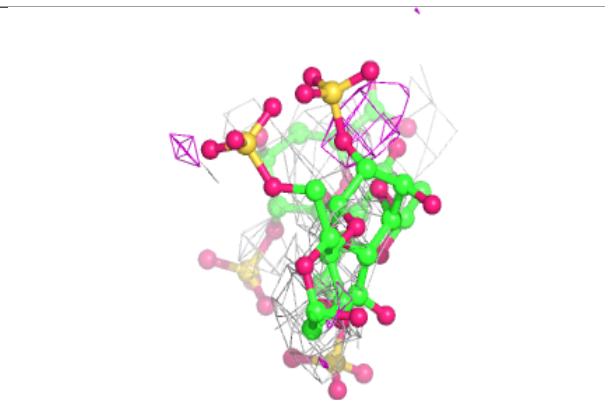
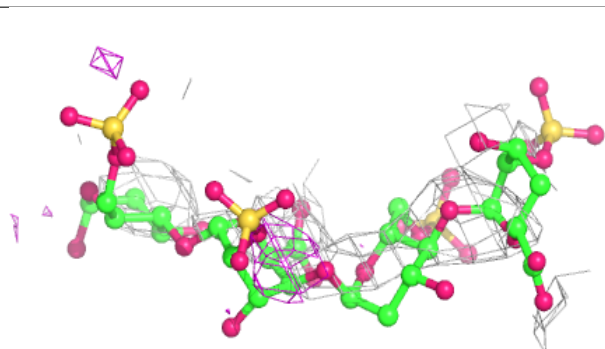
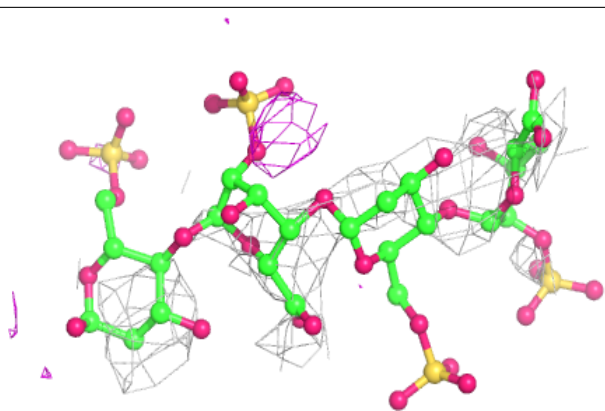
**Electron density around Chain R:**

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

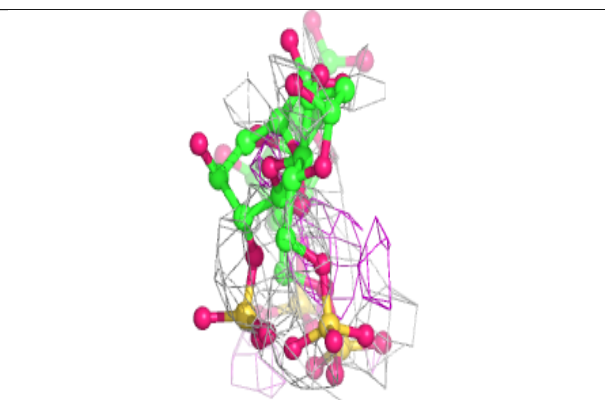
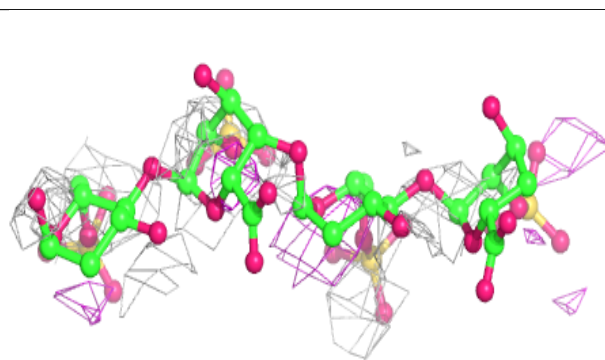
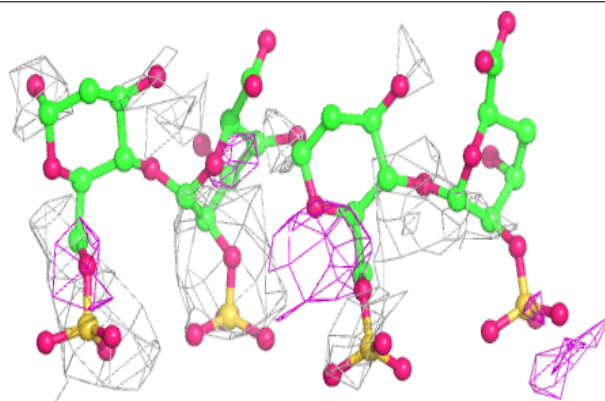


Electron density around Chain V:

$2mF_o-DF_c$ (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)



6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.