Full wwPDB X-ray Structure Validation Report ⓘ

Aug 17, 2020 – 02:50 PM BST

PDB ID	:	6FB3
Title	:	Teneurin 2 Partial Extracellular Domain
Authors	:	Jackson, V.A.; Carrasquero, M.; Lowe, E.D.; Seiradake, E.
Deposited on	:	2017-12-18
Resolution	:	2.38 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:

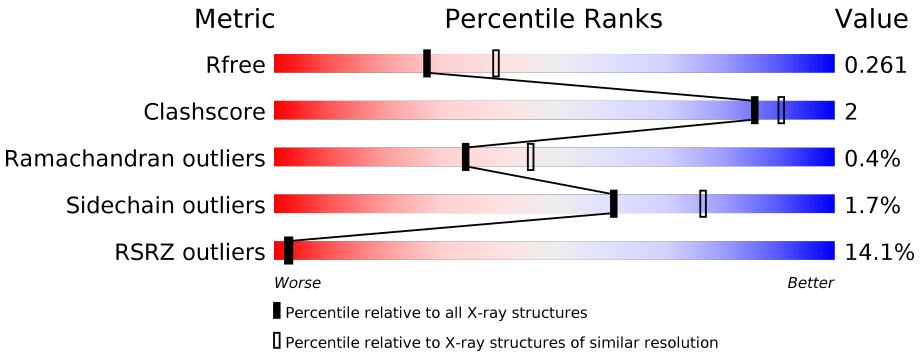
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.13.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.13.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.38 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	5509 (2.40-2.36)
Clashscore	141614	6082 (2.40-2.36)
Ramachandran outliers	138981	5973 (2.40-2.36)
Sidechain outliers	138945	5975 (2.40-2.36)
RSRZ outliers	127900	5397 (2.40-2.36)

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 <=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	1859	18% 91% 7%
1	B	1859	15% 91% 8%
1	C	1859	8% 91% 7%
1	D	1859	14% 91% 7%
2	E	8	25% 75%
2	K	8	25% 75%

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Mol	Chain	Length	Quality of chain
2	Q	8	13% 88%
2	W	8	25% 75%
3	F	2	100%
3	G	2	100%
3	H	2	50% 50%
3	I	2	100%
3	J	2	50% 50%
3	L	2	100%
3	M	2	100%
3	N	2	50% 50%
3	O	2	100%
3	P	2	100%
3	R	2	50% 50%
3	S	2	100%
3	T	2	50% 50%
3	U	2	50% 50%
3	V	2	50% 50%
3	X	2	100%
3	Y	2	100%
3	Z	2	50% 50%
3	a	2	100%
3	b	2	100%

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 59451 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 Teneurin-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1836	Total	C	N	O	S	0	1	0
			14513	9168	2508	2774	63			
1	B	1836	Total	C	N	O	S	0	1	0
			14513	9168	2508	2774	63			
1	C	1836	Total	C	N	O	S	0	1	0
			14513	9168	2508	2774	63			
1	D	1836	Total	C	N	O	S	0	1	0
			14513	9168	2508	2774	63			

There are 44 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	953	THR	-	expression tag	UNP Q9DER5
A	954	GLY	-	expression tag	UNP Q9DER5
A	2803	GLY	-	expression tag	UNP Q9DER5
A	2804	THR	-	expression tag	UNP Q9DER5
A	2805	LYS	-	expression tag	UNP Q9DER5
A	2806	HIS	-	expression tag	UNP Q9DER5
A	2807	HIS	-	expression tag	UNP Q9DER5
A	2808	HIS	-	expression tag	UNP Q9DER5
A	2809	HIS	-	expression tag	UNP Q9DER5
A	2810	HIS	-	expression tag	UNP Q9DER5
A	2811	HIS	-	expression tag	UNP Q9DER5
B	953	THR	-	expression tag	UNP Q9DER5
B	954	GLY	-	expression tag	UNP Q9DER5
B	2803	GLY	-	expression tag	UNP Q9DER5
B	2804	THR	-	expression tag	UNP Q9DER5
B	2805	LYS	-	expression tag	UNP Q9DER5
B	2806	HIS	-	expression tag	UNP Q9DER5
B	2807	HIS	-	expression tag	UNP Q9DER5
B	2808	HIS	-	expression tag	UNP Q9DER5
B	2809	HIS	-	expression tag	UNP Q9DER5
B	2810	HIS	-	expression tag	UNP Q9DER5

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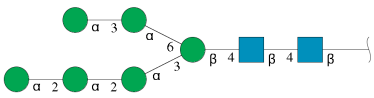
Chain	Residue	Modelled	Actual	Comment	Reference
B	2811	HIS	-	expression tag	UNP Q9DER5
C	953	THR	-	expression tag	UNP Q9DER5
C	954	GLY	-	expression tag	UNP Q9DER5
C	2803	GLY	-	expression tag	UNP Q9DER5
C	2804	THR	-	expression tag	UNP Q9DER5
C	2805	LYS	-	expression tag	UNP Q9DER5
C	2806	HIS	-	expression tag	UNP Q9DER5
C	2807	HIS	-	expression tag	UNP Q9DER5
C	2808	HIS	-	expression tag	UNP Q9DER5
C	2809	HIS	-	expression tag	UNP Q9DER5
C	2810	HIS	-	expression tag	UNP Q9DER5
C	2811	HIS	-	expression tag	UNP Q9DER5
D	953	THR	-	expression tag	UNP Q9DER5
D	954	GLY	-	expression tag	UNP Q9DER5
D	2803	GLY	-	expression tag	UNP Q9DER5
D	2804	THR	-	expression tag	UNP Q9DER5
D	2805	LYS	-	expression tag	UNP Q9DER5
D	2806	HIS	-	expression tag	UNP Q9DER5
D	2807	HIS	-	expression tag	UNP Q9DER5
D	2808	HIS	-	expression tag	UNP Q9DER5
D	2809	HIS	-	expression tag	UNP Q9DER5
D	2810	HIS	-	expression tag	UNP Q9DER5
D	2811	HIS	-	expression tag	UNP Q9DER5

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	E	8	Total	C	N	O	0	0	0
			94	52	2	40			
2	K	8	Total	C	N	O	0	0	0
			94	52	2	40			
2	Q	8	Total	C	N	O	0	0	0
			94	52	2	40			
2	W	8	Total	C	N	O	0	0	0
			94	52	2	40			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	F	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	G	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	H	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	I	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	J	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	L	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	M	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	N	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	O	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	P	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	R	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	S	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	T	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	U	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	V	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	X	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	Y	2	Total	C	N	O	0	0	0
			28	16	2	10			
3	Z	2	Total	C	N	O	0	0	0
			28	16	2	10			

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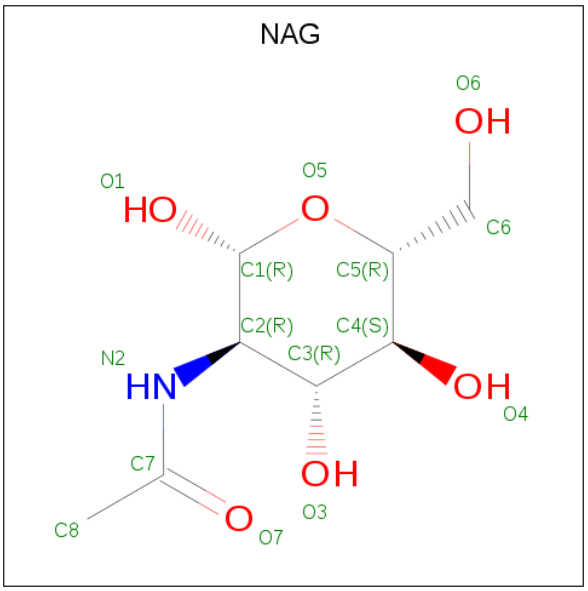
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	a	2	Total C N O 28 16 2 10	0	0	0
3	b	2	Total C N O 28 16 2 10	0	0	0

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



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

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

- Molecule 5 is water.

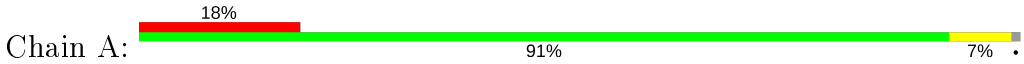
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	17	Total	O	0	0
			17	17		
5	B	29	Total	O	0	0
			29	29		
5	C	105	Total	O	0	0
			105	105		
5	D	32	Total	O	0	0
			32	32		

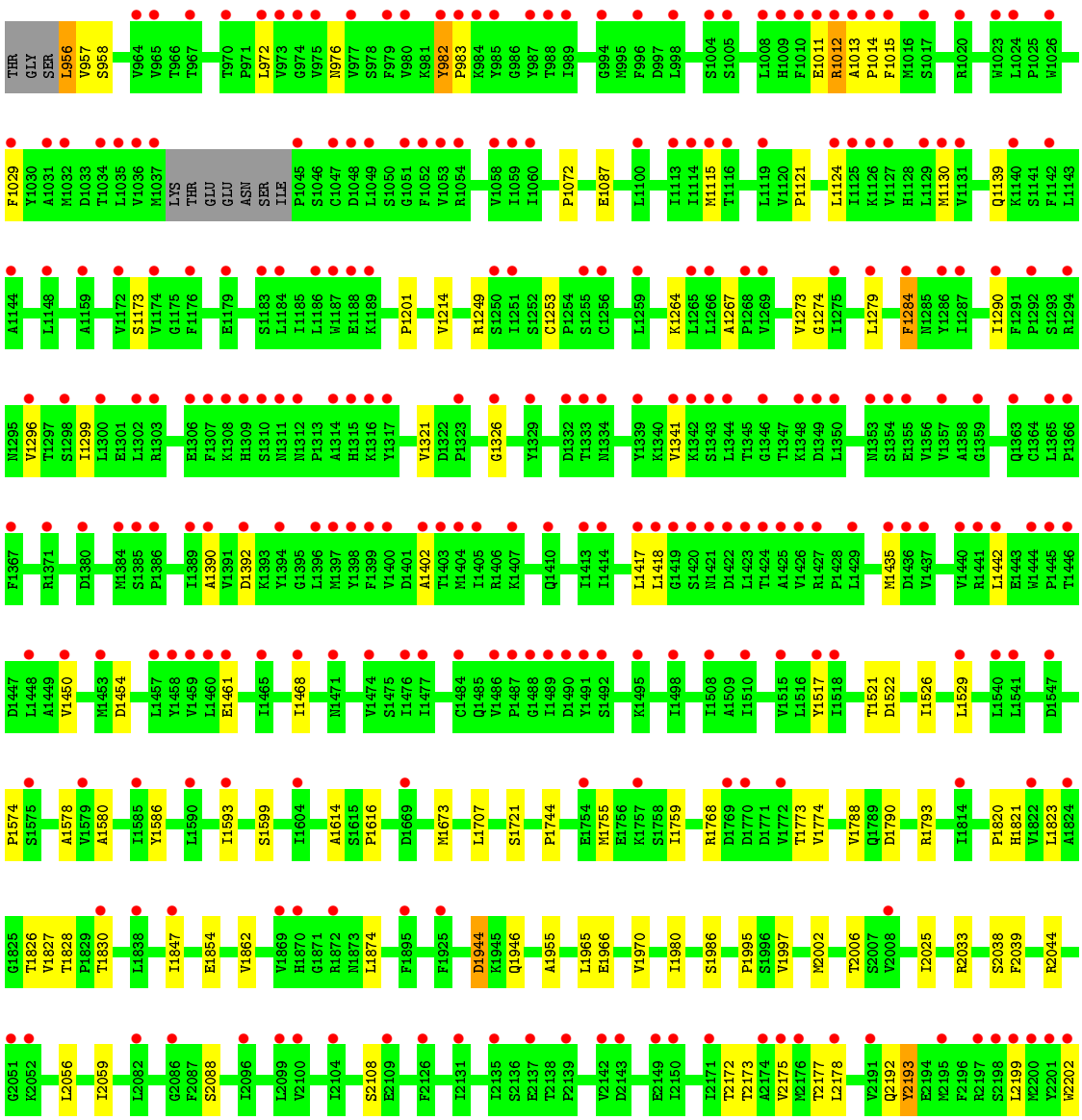
3 Residue-property plots (i)

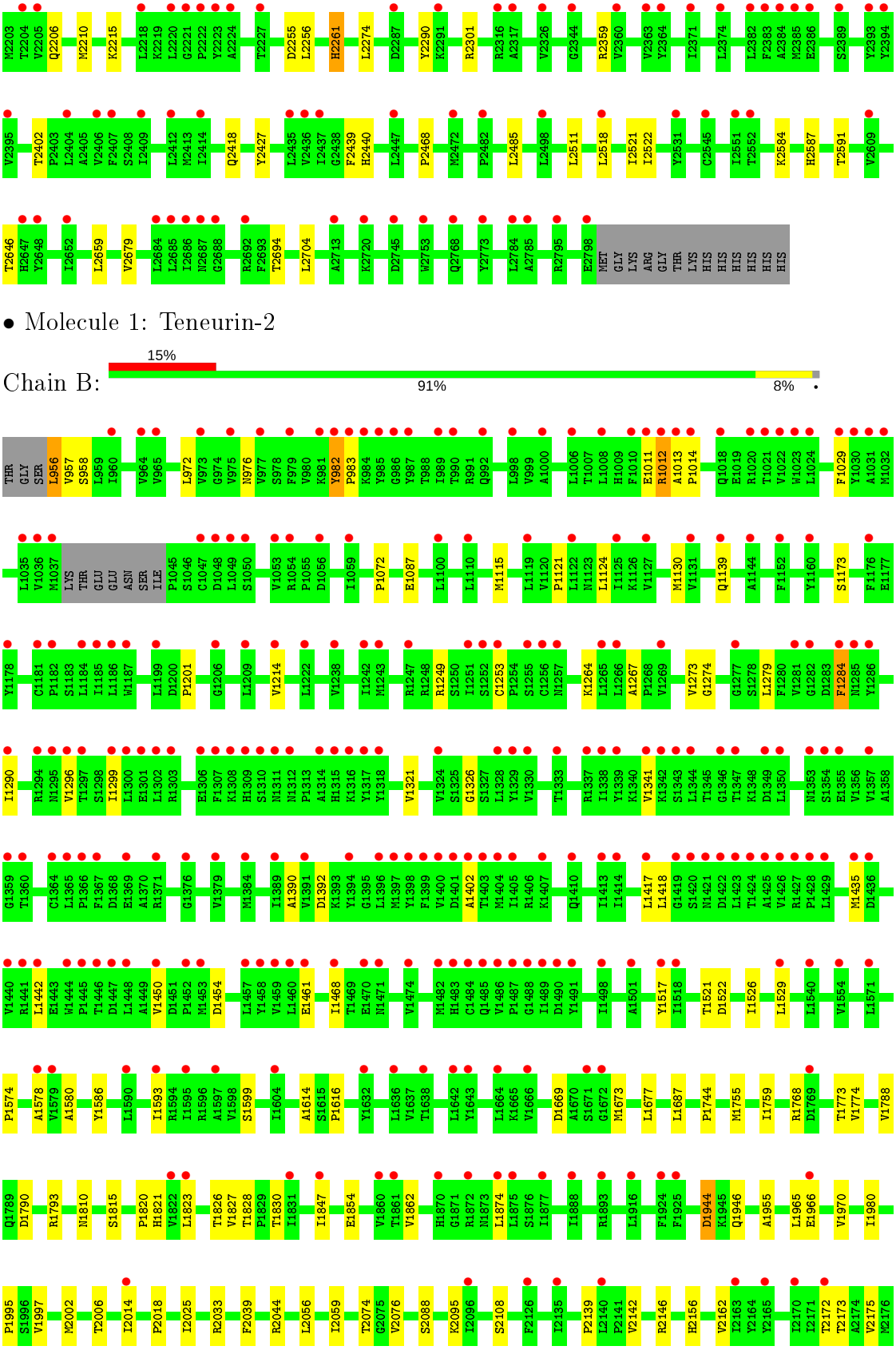
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Teneurin-2

Chain A:

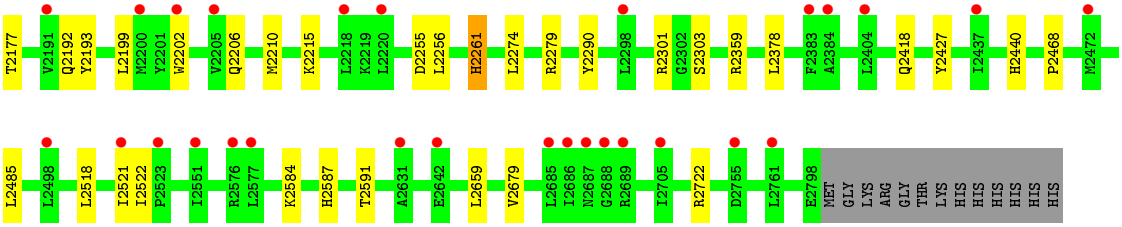




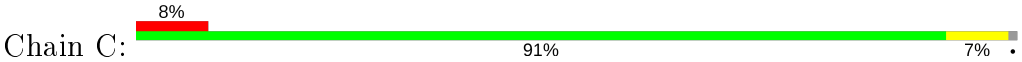


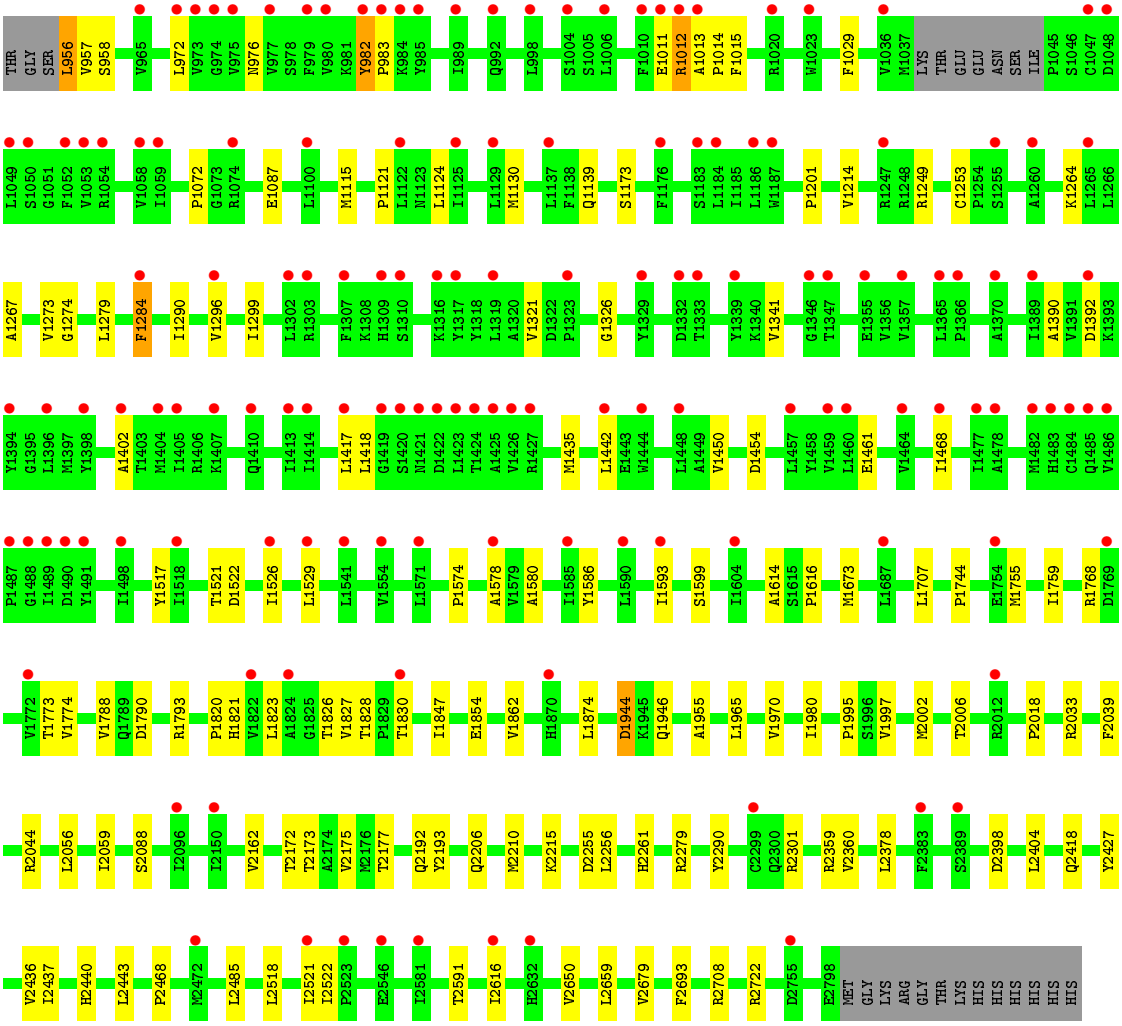
• Molecule 1: Teneurin-2

Chain B:

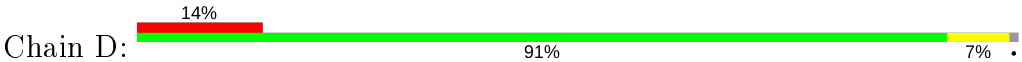


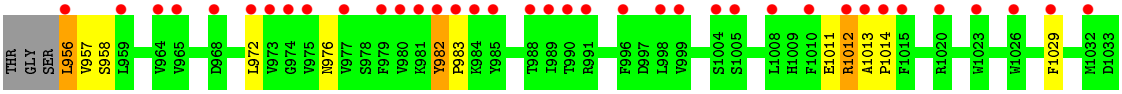
• Molecule 1: Teneurin-2

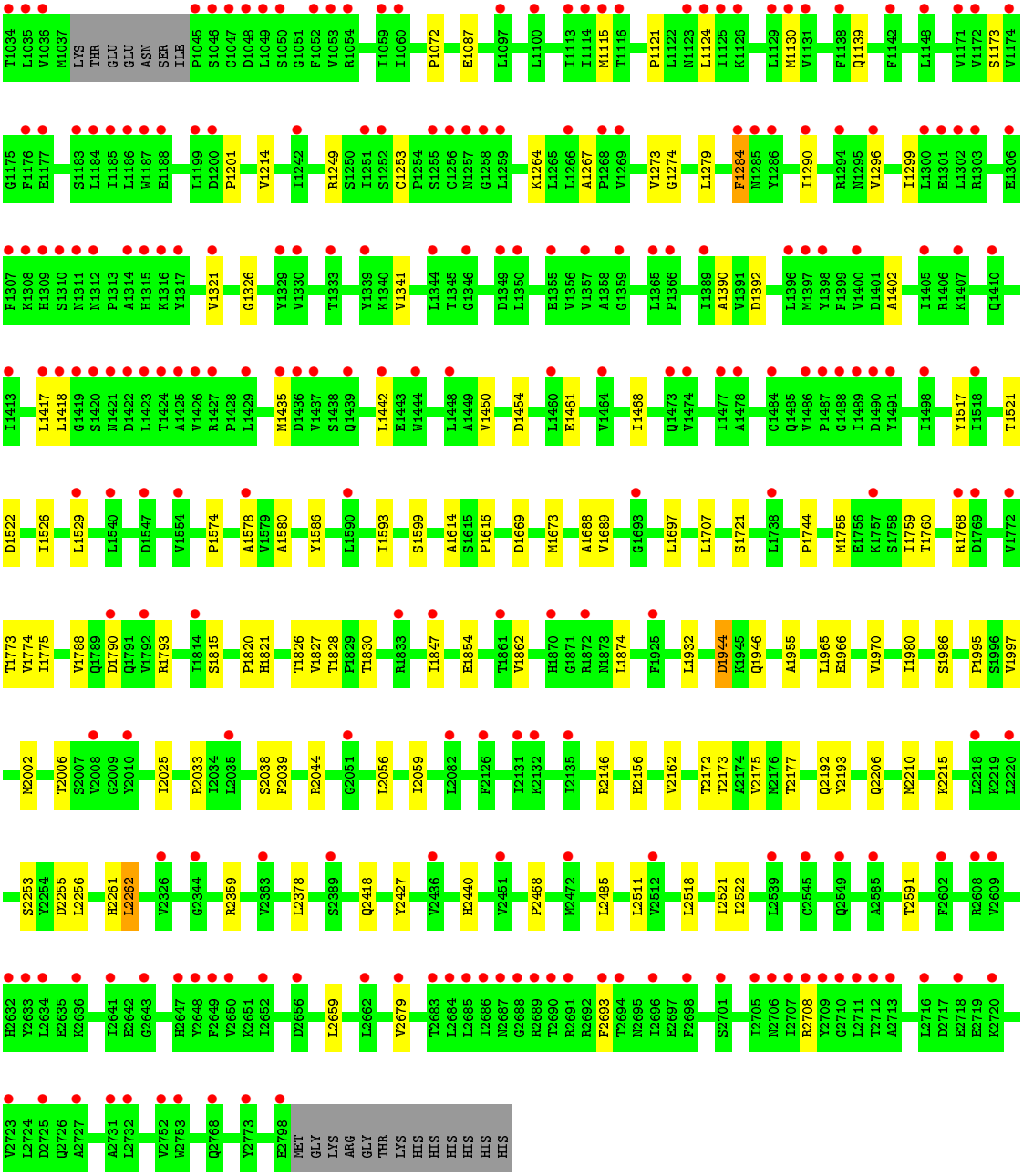




• Molecule 1: Teneurin-2

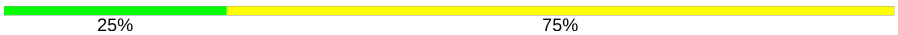


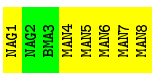




• Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:

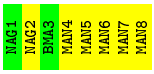




• Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1

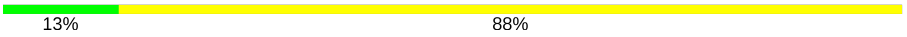
-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranos
e

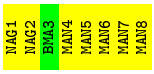
Chain K:



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

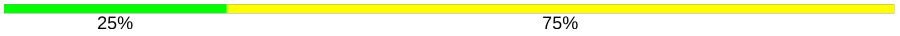
Chain Q:

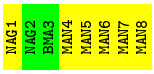




• Molecule 2: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyran
ose-(1-3)-[alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1
-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranos
e

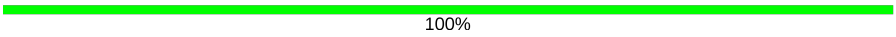
Chain W:





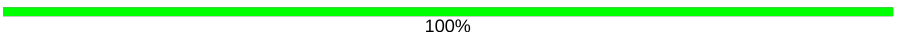
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc
opyranose

Chain F:



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

Chain G:

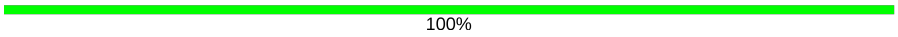


• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-gluc
opyranose

Chain H:

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

Chain I:

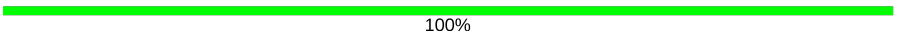


• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:

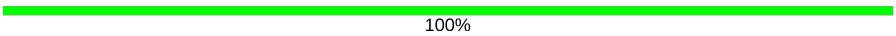
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:



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

Chain M:

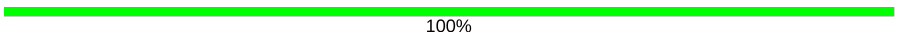


• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain N:

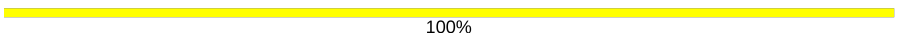
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain O:



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

Chain P:

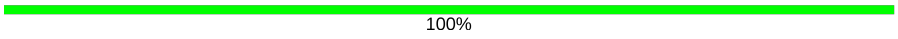


• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain R:

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

Chain S:



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

Chain T:

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

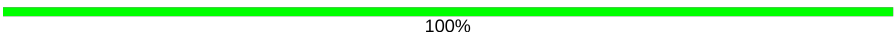
Chain U:

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

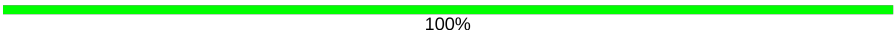
Chain V:

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

Chain X:



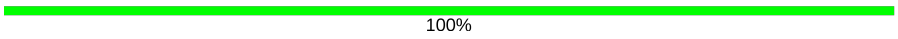
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Y: 

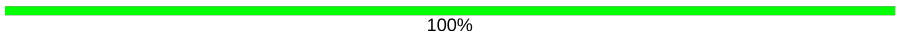
• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Z: 

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

Chain a: 

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

Chain b: 

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	88.56Å 452.56Å 146.36Å 90.00° 95.12° 90.00°	Depositor
Resolution (Å)	89.38 – 2.38 89.38 – 2.38	Depositor EDS
% Data completeness (in resolution range)	94.3 (89.38-2.38) 94.3 (89.38-2.38)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.31 (at 2.37Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.225 , 0.242 0.242 , 0.261	Depositor DCC
R_{free} test set	21455 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å^2)	47.8	Xtriage
Anisotropy	0.297	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 44.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	59451	wwPDB-VP
Average B, all atoms (Å^2)	76.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 45.90 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.2374e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

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

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	0.37	0/14827	0.62	0/20108
1	B	0.37	0/14827	0.62	0/20108
1	C	0.37	0/14827	0.62	0/20108
1	D	0.37	0/14827	0.62	0/20108
All	All	0.37	0/59308	0.62	0/80432

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	14513	0	14253	66	0
1	B	14513	0	14253	69	0
1	C	14513	0	14253	63	0
1	D	14513	0	14253	64	0
2	E	94	0	79	0	0
2	K	94	0	79	0	0
2	Q	94	0	79	0	0
2	W	94	0	79	0	0
3	F	28	0	25	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	G	28	0	25	0	0
3	H	28	0	25	0	0
3	I	28	0	25	0	0
3	J	28	0	25	0	0
3	L	28	0	25	0	0
3	M	28	0	25	0	0
3	N	28	0	25	0	0
3	O	28	0	25	0	0
3	P	28	0	25	0	0
3	R	28	0	25	0	0
3	S	28	0	25	0	0
3	T	28	0	25	0	0
3	U	28	0	25	0	0
3	V	28	0	25	0	0
3	X	28	0	25	0	0
3	Y	28	0	25	0	0
3	Z	28	0	25	0	0
3	a	28	0	25	0	0
3	b	28	0	25	0	0
4	A	70	0	65	0	0
4	B	70	0	65	0	0
4	C	70	0	65	0	0
4	D	70	0	65	0	0
5	A	17	0	0	0	0
5	B	29	0	0	0	0
5	C	105	0	0	0	0
5	D	32	0	0	0	0
All	All	59451	0	58088	260	0

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

All (260) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1821:HIS:HD2	1:C:1830:THR:HG21	1.41	0.85
1:A:1821:HIS:HD2	1:A:1830:THR:HG21	1.41	0.85
1:B:1821:HIS:HD2	1:B:1830:THR:HG21	1.41	0.83
1:D:1821:HIS:HD2	1:D:1830:THR:HG21	1.42	0.82
1:D:982:TYR:HB3	1:D:983:PRO:HD3	1.65	0.79
1:B:982:TYR:HB3	1:B:983:PRO:HD3	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:982:TYR:HB3	1:C:983:PRO:HD3	1.64	0.78
1:A:982:TYR:HB3	1:A:983:PRO:HD3	1.65	0.76
1:A:2468:PRO:HB3	1:A:2485:LEU:HB3	1.71	0.72
1:B:982:TYR:HB3	1:B:983:PRO:CD	2.20	0.72
1:C:982:TYR:HB3	1:C:983:PRO:CD	2.20	0.71
1:A:982:TYR:HB3	1:A:983:PRO:CD	2.20	0.71
1:D:1821:HIS:CD2	1:D:1830:THR:HG21	2.25	0.71
1:D:982:TYR:HB3	1:D:983:PRO:CD	2.20	0.71
1:D:2468:PRO:HB3	1:D:2485:LEU:HB3	1.73	0.71
1:B:1821:HIS:CD2	1:B:1830:THR:HG21	2.25	0.70
1:C:1821:HIS:CD2	1:C:1830:THR:HG21	2.25	0.70
1:A:1821:HIS:CD2	1:A:1830:THR:HG21	2.25	0.70
1:B:2468:PRO:HB3	1:B:2485:LEU:HB3	1.74	0.69
1:C:2468:PRO:HB3	1:C:2485:LEU:HB3	1.73	0.68
1:C:1201:PRO:HB3	1:C:1214:VAL:HB	1.78	0.65
1:A:1201:PRO:HB3	1:A:1214:VAL:HB	1.79	0.65
1:A:1130:MET:HB2	1:A:1173:SER:HB2	1.80	0.64
1:B:1130:MET:HB2	1:B:1173:SER:HB2	1.79	0.64
1:B:1201:PRO:HB3	1:B:1214:VAL:HB	1.79	0.63
1:D:1201:PRO:HB3	1:D:1214:VAL:HB	1.79	0.63
1:D:1130:MET:HB2	1:D:1173:SER:HB2	1.80	0.63
1:C:1130:MET:HB2	1:C:1173:SER:HB2	1.80	0.63
1:A:1521:THR:HB	1:A:1574:PRO:HD2	1.81	0.62
1:D:1521:THR:HB	1:D:1574:PRO:HD2	1.81	0.62
1:B:1521:THR:HB	1:B:1574:PRO:HD2	1.81	0.61
1:C:1521:THR:HB	1:C:1574:PRO:HD2	1.81	0.61
1:C:1773:THR:HG23	1:C:1788:VAL:HB	1.82	0.60
1:A:2173:THR:HG22	1:A:2175:VAL:H	1.67	0.60
1:B:2173:THR:HG22	1:B:2175:VAL:H	1.67	0.60
1:C:2173:THR:HG22	1:C:2175:VAL:H	1.66	0.60
1:B:1773:THR:HG23	1:B:1788:VAL:HB	1.83	0.59
1:A:1773:THR:HG23	1:A:1788:VAL:HB	1.84	0.59
1:D:1773:THR:HG23	1:D:1788:VAL:HB	1.84	0.59
1:D:2173:THR:HG22	1:D:2175:VAL:H	1.67	0.58
1:D:1744:PRO:HB2	1:D:2006:THR:HG21	1.87	0.56
1:A:1744:PRO:HB2	1:A:2006:THR:HG21	1.88	0.55
1:B:2142:VAL:HG12	1:D:1669:ASP:OD1	2.06	0.55
1:B:2418:GLN:HB2	1:B:2427:TYR:HB3	1.88	0.55
1:C:2290:TYR:CZ	1:C:2301:ARG:HG3	2.42	0.55
1:A:2418:GLN:HB2	1:A:2427:TYR:HB3	1.90	0.54
1:D:1955:ALA:HB3	1:D:2210:MET:HE3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1677:LEU:HG	1:B:1687:LEU:HD11	1.89	0.54
1:C:1390:ALA:HB1	1:C:1450:VAL:HG23	1.89	0.54
1:A:1390:ALA:HB1	1:A:1450:VAL:HG23	1.90	0.54
1:C:1955:ALA:HB3	1:C:2210:MET:HE3	1.90	0.54
1:D:2418:GLN:HB2	1:D:2427:TYR:HB3	1.90	0.54
1:B:1390:ALA:HB1	1:B:1450:VAL:HG23	1.90	0.53
1:D:1970:VAL:HG22	1:D:1980:ILE:HG12	1.90	0.53
1:D:1390:ALA:HB1	1:D:1450:VAL:HG23	1.90	0.53
1:B:2290:TYR:CZ	1:B:2301:ARG:HG3	2.44	0.52
1:C:2659:LEU:HD21	1:C:2679:VAL:HG11	1.91	0.52
1:C:2418:GLN:HB2	1:C:2427:TYR:HB3	1.91	0.52
1:D:2025:ILE:HB	1:D:2038:SER:HB2	1.92	0.52
1:B:1955:ALA:HB3	1:B:2210:MET:HE3	1.91	0.52
1:B:2659:LEU:HD21	1:B:2679:VAL:HG11	1.92	0.52
1:C:1854:GLU:HB2	1:C:1862:VAL:HB	1.92	0.52
1:C:1970:VAL:HG22	1:C:1980:ILE:HG12	1.91	0.52
1:A:1854:GLU:HB2	1:A:1862:VAL:HB	1.92	0.52
1:D:1130:MET:HG2	1:D:1139:GLN:HG2	1.92	0.52
1:B:1273:VAL:HG23	1:B:1578:ALA:HB1	1.92	0.52
1:B:972:LEU:HD22	1:B:1012:ARG:HE	1.75	0.52
1:D:1874:LEU:HD13	1:D:2521:ILE:HD12	1.92	0.52
1:A:1955:ALA:HB3	1:A:2210:MET:HE3	1.91	0.51
1:B:1874:LEU:HD13	1:B:2521:ILE:HD12	1.92	0.51
1:A:972:LEU:HD22	1:A:1012:ARG:HE	1.75	0.51
1:B:2014:ILE:HG12	1:B:2025:ILE:HG12	1.92	0.51
1:B:1827:VAL:HG13	1:B:1828:THR:HG23	1.92	0.51
1:B:1854:GLU:HB2	1:B:1862:VAL:HB	1.91	0.51
1:C:1827:VAL:HG13	1:C:1828:THR:HG23	1.92	0.51
1:C:972:LEU:HD22	1:C:1012:ARG:HE	1.74	0.51
1:D:1854:GLU:HB2	1:D:1862:VAL:HB	1.92	0.51
1:D:972:LEU:HD22	1:D:1012:ARG:HE	1.75	0.51
1:C:1874:LEU:HD13	1:C:2521:ILE:HD12	1.92	0.51
1:C:1130:MET:HG2	1:C:1139:GLN:HG2	1.93	0.51
1:D:1273:VAL:HG23	1:D:1578:ALA:HB1	1.92	0.51
1:D:1827:VAL:HG13	1:D:1828:THR:HG23	1.92	0.51
1:A:1273:VAL:HG23	1:A:1578:ALA:HB1	1.92	0.51
1:B:1130:MET:HG2	1:B:1139:GLN:HG2	1.92	0.51
1:C:1290:ILE:HG12	1:C:1296:VAL:HG22	1.93	0.50
1:B:1290:ILE:HG12	1:B:1296:VAL:HG22	1.93	0.50
1:C:1273:VAL:HG23	1:C:1578:ALA:HB1	1.92	0.50
1:A:1522:ASP:HB2	1:A:1526:ILE:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2290:TYR:CZ	1:A:2301:ARG:HG3	2.46	0.50
1:D:1290:ILE:HG12	1:D:1296:VAL:HG22	1.93	0.50
1:A:1290:ILE:HG12	1:A:1296:VAL:HG22	1.93	0.50
1:A:1130:MET:HG2	1:A:1139:GLN:HG2	1.92	0.50
1:A:1827:VAL:HG13	1:A:1828:THR:HG23	1.92	0.50
1:B:1274:GLY:HA2	1:B:1321:VAL:HG11	1.94	0.50
1:C:1522:ASP:HB2	1:C:1526:ILE:HB	1.92	0.50
1:A:1874:LEU:HD13	1:A:2521:ILE:HD12	1.93	0.50
1:A:1299:ILE:HD12	1:A:1341:VAL:HG11	1.94	0.49
1:D:1299:ILE:HD12	1:D:1341:VAL:HG11	1.94	0.49
1:A:2659:LEU:HD21	1:A:2679:VAL:HG11	1.95	0.49
1:B:1522:ASP:HB2	1:B:1526:ILE:HB	1.93	0.49
1:D:1522:ASP:HB2	1:D:1526:ILE:HB	1.92	0.49
1:A:1274:GLY:HA2	1:A:1321:VAL:HG11	1.94	0.49
1:B:1299:ILE:HD12	1:B:1341:VAL:HG11	1.93	0.49
1:D:1274:GLY:HA2	1:D:1321:VAL:HG11	1.95	0.49
1:D:2659:LEU:HD21	1:D:2679:VAL:HG11	1.95	0.49
1:C:1744:PRO:HB2	1:C:2006:THR:HG21	1.94	0.49
1:C:2039:PHE:HB2	1:C:2044:ARG:HB2	1.95	0.48
1:B:1755:MET:HG3	1:B:1759:ILE:HG12	1.95	0.48
1:C:1299:ILE:HD12	1:C:1341:VAL:HG11	1.94	0.48
1:D:1755:MET:HG3	1:D:1759:ILE:HG12	1.95	0.48
1:A:1755:MET:HG3	1:A:1759:ILE:HG12	1.95	0.48
1:B:2039:PHE:HB2	1:B:2044:ARG:HB2	1.94	0.48
1:C:1755:MET:HG3	1:C:1759:ILE:HG12	1.94	0.48
1:C:1279:LEU:HD23	1:C:1290:ILE:HD12	1.96	0.48
1:B:1995:PRO:HB2	1:B:2256:LEU:HB3	1.96	0.48
1:A:2039:PHE:HB2	1:A:2044:ARG:HB2	1.94	0.48
1:D:1279:LEU:HD23	1:D:1290:ILE:HD12	1.96	0.47
1:D:2039:PHE:HB2	1:D:2044:ARG:HB2	1.94	0.47
1:B:1279:LEU:HD23	1:B:1290:ILE:HD12	1.96	0.47
1:A:1279:LEU:HD23	1:A:1290:ILE:HD12	1.96	0.47
1:C:1274:GLY:HA2	1:C:1321:VAL:HG11	1.95	0.47
1:B:2088:SER:HB3	1:B:2108:SER:HB3	1.96	0.47
1:A:1995:PRO:HB2	1:A:2256:LEU:HB3	1.96	0.47
1:D:1788:VAL:HG22	1:D:1793:ARG:HG2	1.96	0.47
1:B:2261:HIS:HA	1:B:2274:LEU:HB2	1.96	0.47
1:A:1442:LEU:HG	1:A:1461:GLU:HG3	1.97	0.47
1:A:1788:VAL:HG22	1:A:1793:ARG:HG2	1.97	0.47
1:C:1788:VAL:HG22	1:C:1793:ARG:HG2	1.96	0.47
1:A:1013:ALA:HB3	1:A:1014:PRO:HD3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1442:LEU:HG	1:D:1461:GLU:HG3	1.97	0.47
1:D:2518:LEU:HB3	1:D:2522:ILE:HD12	1.96	0.47
1:D:1995:PRO:HB2	1:D:2256:LEU:HB3	1.97	0.46
1:B:2518:LEU:HB3	1:B:2522:ILE:HD12	1.97	0.46
1:D:2172:THR:HG22	1:D:2177:THR:HG22	1.97	0.46
1:C:2518:LEU:HB3	1:C:2522:ILE:HD12	1.97	0.46
1:A:2518:LEU:HB3	1:A:2522:ILE:HD12	1.97	0.46
1:B:1013:ALA:HB3	1:B:1014:PRO:HD3	1.96	0.46
1:B:1788:VAL:HG22	1:B:1793:ARG:HG2	1.97	0.46
1:C:1013:ALA:HB3	1:C:1014:PRO:HD3	1.96	0.46
1:D:1013:ALA:HB3	1:D:1014:PRO:HD3	1.96	0.46
1:C:1442:LEU:HG	1:C:1461:GLU:HG3	1.98	0.46
1:A:2646:THR:HG22	1:A:2704:LEU:HD22	1.97	0.46
1:B:1267:ALA:HB3	1:B:1284:PHE:HB2	1.98	0.46
1:B:2584:LYS:HB3	1:B:2587:HIS:HB2	1.98	0.46
1:A:2402:THR:HG23	1:A:2439:PHE:HA	1.98	0.45
1:B:2172:THR:HG22	1:B:2177:THR:HG22	1.99	0.45
1:C:1995:PRO:HB2	1:C:2256:LEU:HB3	1.98	0.45
1:C:1267:ALA:HB3	1:C:1284:PHE:HB2	1.99	0.45
1:C:956:LEU:HB3	1:C:957:VAL:H	1.63	0.45
1:B:1744:PRO:HB2	1:B:2006:THR:HG21	1.99	0.45
1:D:1267:ALA:HB3	1:D:1284:PHE:HB2	1.98	0.45
1:B:1955:ALA:HB3	1:B:2210:MET:CE	2.46	0.45
1:D:982:TYR:CB	1:D:983:PRO:CD	2.95	0.45
1:B:1442:LEU:HG	1:B:1461:GLU:HG3	1.98	0.45
1:A:1955:ALA:HB3	1:A:2210:MET:CE	2.47	0.44
1:D:1955:ALA:HB3	1:D:2210:MET:CE	2.46	0.44
1:A:2199:LEU:HD21	1:A:2202:TRP:CD1	2.52	0.44
1:A:2261:HIS:HA	1:A:2274:LEU:HB2	1.98	0.44
1:B:1517:TYR:HB3	1:B:1529:LEU:HD11	1.99	0.44
1:D:1820:PRO:HB3	1:D:1826:THR:HA	1.99	0.44
1:A:2056:LEU:HD21	1:A:2059:ILE:HD11	1.99	0.44
1:B:1820:PRO:HB3	1:B:1826:THR:HA	2.00	0.44
1:C:1955:ALA:HB3	1:C:2210:MET:CE	2.46	0.44
1:A:1267:ALA:HB3	1:A:1284:PHE:HB2	1.98	0.44
1:A:956:LEU:HB3	1:A:957:VAL:H	1.63	0.44
1:C:2172:THR:HG22	1:C:2177:THR:HG22	1.99	0.44
1:D:1707:LEU:HB3	1:D:1721:SER:HB2	2.00	0.44
1:A:1820:PRO:HB3	1:A:1826:THR:HA	2.00	0.44
1:B:1970:VAL:HG22	1:B:1980:ILE:HG12	1.99	0.44
1:A:976:ASN:HB3	1:A:1011:GLU:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:982:TYR:CB	1:A:983:PRO:CD	2.94	0.44
1:D:2693:PHE:CD2	1:D:2708:ARG:HG3	2.52	0.44
1:A:1970:VAL:HG22	1:A:1980:ILE:HG12	2.00	0.43
1:B:1614:ALA:HB3	1:B:1828:THR:HG21	1.99	0.43
1:C:1614:ALA:HB3	1:C:1828:THR:HG21	2.00	0.43
1:A:1517:TYR:HB3	1:A:1529:LEU:HD11	2.00	0.43
1:A:2206:GLN:HB2	1:A:2215:LYS:HB3	2.01	0.43
1:C:2056:LEU:HD21	1:C:2059:ILE:HD11	1.99	0.43
1:D:2056:LEU:HD21	1:D:2059:ILE:HD11	1.99	0.43
1:D:976:ASN:HB3	1:D:1011:GLU:HB2	2.00	0.43
1:A:2584:LYS:HB3	1:A:2587:HIS:HB2	2.00	0.43
1:D:1768:ARG:HH22	1:D:2033:ARG:HD2	1.84	0.43
1:C:976:ASN:HB3	1:C:1011:GLU:HB2	2.00	0.43
1:A:2172:THR:HG22	1:A:2177:THR:HG22	2.00	0.43
1:B:1072:PRO:HB2	1:B:1087:GLU:HG2	2.01	0.43
1:C:2693:PHE:CD2	1:C:2708:ARG:HG3	2.54	0.43
1:D:1688:ALA:HB3	1:D:1697:LEU:HB3	2.01	0.43
1:B:2018:PRO:HD2	1:B:2279:ARG:HG2	2.00	0.43
1:C:1517:TYR:HB3	1:C:1529:LEU:HD11	2.00	0.43
1:C:1820:PRO:HB3	1:C:1826:THR:HA	2.00	0.43
1:C:1121:PRO:HG2	1:C:1124:LEU:HB2	2.01	0.42
1:D:1517:TYR:HB3	1:D:1529:LEU:HD11	2.00	0.42
1:C:2206:GLN:HB2	1:C:2215:LYS:HB3	2.01	0.42
1:D:1249:ARG:HB3	1:D:1264:LYS:HB3	2.01	0.42
1:D:2253:SER:HB3	1:D:2262:LEU:HB2	2.02	0.42
1:A:1616:PRO:HG2	1:A:1830:THR:HG22	2.01	0.42
1:B:1249:ARG:HB3	1:B:1264:LYS:HB3	2.01	0.42
1:B:2056:LEU:HD21	1:B:2059:ILE:HD11	2.00	0.42
1:D:1944:ASP:HB3	1:D:1946:GLN:H	1.85	0.42
1:A:1944:ASP:HB3	1:A:1946:GLN:H	1.84	0.42
1:C:1616:PRO:HG2	1:C:1830:THR:HG22	2.02	0.42
1:A:1768:ARG:HH22	1:A:2033:ARG:HD2	1.85	0.42
1:B:1121:PRO:HG2	1:B:1124:LEU:HB2	2.01	0.42
1:B:2076:VAL:HB	1:B:2095:LYS:HD2	2.02	0.42
1:C:1072:PRO:HB2	1:C:1087:GLU:HG2	2.02	0.42
1:A:1249:ARG:HB3	1:A:1264:LYS:HB3	2.01	0.42
1:C:2436:VAL:HG12	1:C:2437:ILE:HD12	2.00	0.42
1:B:2139:PRO:HD2	1:D:1689:VAL:O	2.19	0.42
1:D:1614:ALA:HB3	1:D:1828:THR:HG21	2.01	0.42
1:D:2206:GLN:HB2	1:D:2215:LYS:HB3	2.01	0.42
1:A:1614:ALA:HB3	1:A:1828:THR:HG21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:956:LEU:HB3	1:B:957:VAL:H	1.62	0.42
1:C:1768:ARG:HH22	1:C:2033:ARG:HD2	1.85	0.42
1:B:2199:LEU:HD21	1:B:2202:TRP:CD1	2.54	0.42
1:D:1121:PRO:HG2	1:D:1124:LEU:HB2	2.01	0.42
1:A:2025:ILE:HB	1:A:2038:SER:HB2	2.01	0.41
1:D:1072:PRO:HB2	1:D:1087:GLU:HG2	2.02	0.41
1:C:1944:ASP:HB3	1:C:1946:GLN:H	1.85	0.41
1:A:1707:LEU:HB3	1:A:1721:SER:HB2	2.02	0.41
1:B:1417:LEU:HD21	1:B:1468:ILE:HG21	2.03	0.41
1:B:1768:ARG:HH22	1:B:2033:ARG:HD2	1.85	0.41
1:B:1580:ALA:HB2	1:B:1586:TYR:CE2	2.55	0.41
1:B:1821:HIS:CE1	1:B:1823:LEU:HB2	2.56	0.41
1:B:2206:GLN:HB2	1:B:2215:LYS:HB3	2.01	0.41
1:A:1580:ALA:HB2	1:A:1586:TYR:CE2	2.55	0.41
1:B:1944:ASP:HB3	1:B:1946:GLN:H	1.86	0.41
1:C:2398:ASP:HB3	1:C:2404:LEU:HD11	2.03	0.41
1:A:1821:HIS:CE1	1:A:1823:LEU:HB2	2.56	0.41
1:B:2162:VAL:HG11	1:B:2378:LEU:HD11	2.03	0.41
1:B:976:ASN:HB3	1:B:1011:GLU:HB2	2.00	0.41
1:C:1249:ARG:HB3	1:C:1264:LYS:HB3	2.02	0.41
1:C:2650:VAL:HG12	1:C:2708:ARG:HB3	2.02	0.41
1:D:1760:THR:HG22	1:D:1775:ILE:HG23	2.03	0.41
1:D:1616:PRO:HG2	1:D:1830:THR:HG22	2.02	0.41
1:D:956:LEU:HB3	1:D:957:VAL:H	1.63	0.41
1:C:1580:ALA:HB2	1:C:1586:TYR:CE2	2.56	0.41
1:C:1821:HIS:CE1	1:C:1823:LEU:HB2	2.55	0.41
1:D:1580:ALA:HB2	1:D:1586:TYR:CE2	2.55	0.41
1:A:1417:LEU:HD21	1:A:1468:ILE:HG21	2.03	0.41
1:D:2146:ARG:HB2	1:D:2156:HIS:HB3	2.03	0.41
1:A:2511:LEU:HD13	1:A:2518:LEU:HD11	2.03	0.41
1:D:2162:VAL:HG11	1:D:2378:LEU:HD11	2.03	0.41
1:A:2178:LEU:HD13	1:A:2193:TYR:CD1	2.56	0.41
1:B:1616:PRO:HG2	1:B:1830:THR:HG22	2.02	0.41
1:D:1417:LEU:HD21	1:D:1468:ILE:HG21	2.03	0.41
1:A:2088:SER:HB3	1:A:2108:SER:HB3	2.03	0.40
1:A:1012:ARG:HD2	1:A:1015:PHE:HD2	1.86	0.40
1:A:1121:PRO:HG2	1:A:1124:LEU:HB2	2.01	0.40
1:C:2162:VAL:HG11	1:C:2378:LEU:HD11	2.03	0.40
1:D:2511:LEU:HD13	1:D:2518:LEU:HD11	2.03	0.40
1:A:1072:PRO:HB2	1:A:1087:GLU:HG2	2.03	0.40
1:C:1012:ARG:HD2	1:C:1015:PHE:HD2	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1417:LEU:HD21	1:C:1468:ILE:HG21	2.02	0.40
1:C:2018:PRO:HD2	1:C:2279:ARG:HG2	2.03	0.40
1:B:1810:ASN:HA	1:B:2074:THR:HB	2.04	0.40
1:B:2146:ARG:HB2	1:B:2156:HIS:HB3	2.04	0.40
1:B:2192:GLN:HG3	1:B:2199:LEU:HD13	2.03	0.40
1:B:982:TYR:CB	1:B:983:PRO:CD	2.94	0.40
1:C:2360:VAL:HG21	1:C:2443:LEU:HD21	2.04	0.40
1:C:1707:LEU:HD21	1:C:2616:ILE:HG12	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1833/1859 (99%)	1769 (96%)	57 (3%)	7 (0%)	34	46
1	B	1833/1859 (99%)	1763 (96%)	63 (3%)	7 (0%)	34	46
1	C	1833/1859 (99%)	1768 (96%)	59 (3%)	6 (0%)	41	53
1	D	1833/1859 (99%)	1765 (96%)	61 (3%)	7 (0%)	34	46
All	All	7332/7436 (99%)	7065 (96%)	240 (3%)	27 (0%)	34	46

All (27) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	982	TYR
1	B	982	TYR
1	C	982	TYR
1	D	982	TYR
1	A	1997	VAL
1	C	1284	PHE
1	C	1997	VAL

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Mol	Chain	Res	Type
1	D	1997	VAL
1	A	1284	PHE
1	B	1284	PHE
1	D	1284	PHE
1	A	1402	ALA
1	A	1790	ASP
1	B	1790	ASP
1	B	1966	GLU
1	B	1997	VAL
1	C	1402	ALA
1	C	1790	ASP
1	D	1402	ALA
1	D	1790	ASP
1	A	1966	GLU
1	B	1402	ALA
1	D	1966	GLU
1	A	1326	GLY
1	B	1326	GLY
1	C	1326	GLY
1	D	1326	GLY

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1601/1620 (99%)	1574 (98%)	27 (2%)	60	76
1	B	1601/1620 (99%)	1573 (98%)	28 (2%)	60	76
1	C	1601/1620 (99%)	1574 (98%)	27 (2%)	60	76
1	D	1601/1620 (99%)	1572 (98%)	29 (2%)	59	75
All	All	6404/6480 (99%)	6293 (98%)	111 (2%)	60	76

All (111) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	956	LEU

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Mol	Chain	Res	Type
1	A	958	SER
1	A	1012	ARG
1	A	1029	PHE
1	A	1115	MET
1	A	1253	CYS
1	A	1392	ASP
1	A	1418	LEU
1	A	1435	MET
1	A	1454	ASP
1	A	1593	ILE
1	A	1599	SER
1	A	1673	MET
1	A	1774	VAL
1	A	1847	ILE
1	A	1944	ASP
1	A	1965	LEU
1	A	1986	SER
1	A	2002	MET
1	A	2192	GLN
1	A	2193	TYR
1	A	2255	ASP
1	A	2261	HIS
1	A	2359	ARG
1	A	2440	HIS
1	A	2591	THR
1	A	2694	THR
1	B	956	LEU
1	B	958	SER
1	B	1012	ARG
1	B	1029	PHE
1	B	1115	MET
1	B	1253	CYS
1	B	1392	ASP
1	B	1418	LEU
1	B	1435	MET
1	B	1454	ASP
1	B	1593	ILE
1	B	1599	SER
1	B	1669	ASP
1	B	1673	MET
1	B	1774	VAL
1	B	1815	SER

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Mol	Chain	Res	Type
1	B	1847	ILE
1	B	1944	ASP
1	B	1965	LEU
1	B	2002	MET
1	B	2193	TYR
1	B	2255	ASP
1	B	2261	HIS
1	B	2303	SER
1	B	2359	ARG
1	B	2440	HIS
1	B	2591	THR
1	B	2722	ARG
1	C	956	LEU
1	C	958	SER
1	C	1012	ARG
1	C	1029	PHE
1	C	1115	MET
1	C	1253	CYS
1	C	1392	ASP
1	C	1418	LEU
1	C	1435	MET
1	C	1454	ASP
1	C	1593	ILE
1	C	1599	SER
1	C	1673	MET
1	C	1774	VAL
1	C	1847	ILE
1	C	1944	ASP
1	C	1965	LEU
1	C	2002	MET
1	C	2088	SER
1	C	2192	GLN
1	C	2193	TYR
1	C	2255	ASP
1	C	2261	HIS
1	C	2359	ARG
1	C	2440	HIS
1	C	2591	THR
1	C	2722	ARG
1	D	956	LEU
1	D	958	SER
1	D	1012	ARG

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Mol	Chain	Res	Type
1	D	1029	PHE
1	D	1115	MET
1	D	1253	CYS
1	D	1392	ASP
1	D	1418	LEU
1	D	1435	MET
1	D	1454	ASP
1	D	1593	ILE
1	D	1599	SER
1	D	1673	MET
1	D	1774	VAL
1	D	1815	SER
1	D	1847	ILE
1	D	1932	LEU
1	D	1944	ASP
1	D	1965	LEU
1	D	1986	SER
1	D	2002	MET
1	D	2192	GLN
1	D	2193	TYR
1	D	2255	ASP
1	D	2261	HIS
1	D	2262	LEU
1	D	2359	ARG
1	D	2440	HIS
1	D	2591	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1285	ASN
1	A	1311	ASN
1	A	1892	HIS
1	A	2185	HIS
1	B	1285	ASN
1	B	1311	ASN
1	B	1892	HIS
1	B	2362	HIS
1	C	1311	ASN
1	C	1892	HIS
1	C	2362	HIS
1	D	1285	ASN

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Mol	Chain	Res	Type
1	D	1311	ASN
1	D	1892	HIS
1	D	2185	HIS
1	D	2322	ASN
1	D	2362	HIS
1	D	2587	HIS

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

72 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	NAG	E	1	1,2	14,14,15	0.42	0	17,19,21	0.69	1 (5%)
2	NAG	E	2	2	14,14,15	0.42	0	17,19,21	0.86	0
2	BMA	E	3	2	11,11,12	0.50	0	15,15,17	0.72	0
2	MAN	E	4	2	11,11,12	0.59	0	15,15,17	0.93	1 (6%)
2	MAN	E	5	2	11,11,12	0.65	0	15,15,17	0.76	1 (6%)
2	MAN	E	6	2	11,11,12	0.61	0	15,15,17	0.91	1 (6%)
2	MAN	E	7	2	11,11,12	0.67	0	15,15,17	1.06	1 (6%)
2	MAN	E	8	2	11,11,12	0.48	0	15,15,17	1.07	2 (13%)
3	NAG	F	1	1,3	14,14,15	0.41	0	17,19,21	0.69	0
3	NAG	F	2	3	14,14,15	0.43	0	17,19,21	0.61	0
3	NAG	G	1	1,3	14,14,15	0.43	0	17,19,21	0.59	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	NAG	G	2	3	14,14,15	0.44	0	17,19,21	0.68	0
3	NAG	H	1	1,3	14,14,15	0.43	0	17,19,21	0.91	2 (11%)
3	NAG	H	2	3	14,14,15	0.43	0	17,19,21	0.62	0
3	NAG	I	1	1,3	14,14,15	0.43	0	17,19,21	0.78	0
3	NAG	I	2	3	14,14,15	0.42	0	17,19,21	0.56	0
3	NAG	J	1	1,3	14,14,15	0.42	0	17,19,21	0.78	0
3	NAG	J	2	3	14,14,15	0.44	0	17,19,21	0.72	1 (5%)
2	NAG	K	1	1,2	14,14,15	0.42	0	17,19,21	0.69	0
2	NAG	K	2	2	14,14,15	0.41	0	17,19,21	0.87	1 (5%)
2	BMA	K	3	2	11,11,12	0.50	0	15,15,17	0.71	0
2	MAN	K	4	2	11,11,12	0.58	0	15,15,17	0.92	1 (6%)
2	MAN	K	5	2	11,11,12	0.63	0	15,15,17	0.76	1 (6%)
2	MAN	K	6	2	11,11,12	0.62	0	15,15,17	0.90	1 (6%)
2	MAN	K	7	2	11,11,12	0.67	0	15,15,17	1.05	1 (6%)
2	MAN	K	8	2	11,11,12	0.55	0	15,15,17	1.02	2 (13%)
3	NAG	L	1	1,3	14,14,15	0.41	0	17,19,21	0.71	0
3	NAG	L	2	3	14,14,15	0.42	0	17,19,21	0.71	0
3	NAG	M	1	1,3	14,14,15	0.43	0	17,19,21	0.58	0
3	NAG	M	2	3	14,14,15	0.42	0	17,19,21	0.65	0
3	NAG	N	1	1,3	14,14,15	0.41	0	17,19,21	0.88	2 (11%)
3	NAG	N	2	3	14,14,15	0.43	0	17,19,21	0.60	0
3	NAG	O	1	1,3	14,14,15	0.43	0	17,19,21	0.81	0
3	NAG	O	2	3	14,14,15	0.43	0	17,19,21	0.56	0
3	NAG	P	1	1,3	14,14,15	0.42	0	17,19,21	0.79	1 (5%)
3	NAG	P	2	3	14,14,15	0.45	0	17,19,21	0.69	1 (5%)
2	NAG	Q	1	1,2	14,14,15	0.42	0	17,19,21	0.72	1 (5%)
2	NAG	Q	2	2	14,14,15	0.42	0	17,19,21	0.85	1 (5%)
2	BMA	Q	3	2	11,11,12	0.48	0	15,15,17	0.71	0
2	MAN	Q	4	2	11,11,12	0.62	0	15,15,17	0.89	1 (6%)
2	MAN	Q	5	2	11,11,12	0.68	0	15,15,17	0.77	1 (6%)
2	MAN	Q	6	2	11,11,12	0.66	0	15,15,17	0.90	1 (6%)
2	MAN	Q	7	2	11,11,12	0.67	0	15,15,17	1.06	1 (6%)
2	MAN	Q	8	2	11,11,12	0.56	0	15,15,17	1.03	2 (13%)
3	NAG	R	1	1,3	14,14,15	0.43	0	17,19,21	0.75	1 (5%)
3	NAG	R	2	3	14,14,15	0.42	0	17,19,21	0.58	0
3	NAG	S	1	1,3	14,14,15	0.41	0	17,19,21	0.58	0
3	NAG	S	2	3	14,14,15	0.42	0	17,19,21	0.64	0
3	NAG	T	1	1,3	14,14,15	0.45	0	17,19,21	0.86	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	NAG	T	2	3	14,14,15	0.42	0	17,19,21	0.61	0
3	NAG	U	1	1,3	14,14,15	0.44	0	17,19,21	0.83	1 (5%)
3	NAG	U	2	3	14,14,15	0.43	0	17,19,21	0.58	0
3	NAG	V	1	1,3	14,14,15	0.43	0	17,19,21	0.80	1 (5%)
3	NAG	V	2	3	14,14,15	0.44	0	17,19,21	0.76	0
2	NAG	W	1	1,2	14,14,15	0.41	0	17,19,21	0.71	1 (5%)
2	NAG	W	2	2	14,14,15	0.40	0	17,19,21	0.83	0
2	BMA	W	3	2	11,11,12	0.54	0	15,15,17	0.68	0
2	MAN	W	4	2	11,11,12	0.58	0	15,15,17	0.91	1 (6%)
2	MAN	W	5	2	11,11,12	0.68	0	15,15,17	0.76	1 (6%)
2	MAN	W	6	2	11,11,12	0.62	0	15,15,17	0.86	1 (6%)
2	MAN	W	7	2	11,11,12	0.65	0	15,15,17	1.03	1 (6%)
2	MAN	W	8	2	11,11,12	0.61	0	15,15,17	1.05	2 (13%)
3	NAG	X	1	1,3	14,14,15	0.43	0	17,19,21	0.71	0
3	NAG	X	2	3	14,14,15	0.44	0	17,19,21	0.62	0
3	NAG	Y	1	1,3	14,14,15	0.43	0	17,19,21	0.60	0
3	NAG	Y	2	3	14,14,15	0.43	0	17,19,21	0.64	0
3	NAG	Z	1	1,3	14,14,15	0.45	0	17,19,21	0.86	2 (11%)
3	NAG	Z	2	3	14,14,15	0.42	0	17,19,21	0.58	0
3	NAG	a	1	1,3	14,14,15	0.43	0	17,19,21	0.79	0
3	NAG	a	2	3	14,14,15	0.42	0	17,19,21	0.56	0
3	NAG	b	1	1,3	14,14,15	0.42	0	17,19,21	0.77	0
3	NAG	b	2	3	14,14,15	0.44	0	17,19,21	0.72	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
2	NAG	E	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	E	2	2	-	0/6/23/26	0/1/1/1
2	BMA	E	3	2	-	2/2/19/22	0/1/1/1
2	MAN	E	4	2	-	0/2/19/22	0/1/1/1
2	MAN	E	5	2	-	0/2/19/22	0/1/1/1
2	MAN	E	6	2	-	0/2/19/22	0/1/1/1
2	MAN	E	7	2	-	2/2/19/22	0/1/1/1
2	MAN	E	8	2	-	2/2/19/22	0/1/1/1
3	NAG	F	1	1,3	-	2/6/23/26	0/1/1/1

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

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	S	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	S	2	3	-	2/6/23/26	0/1/1/1
3	NAG	T	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	T	2	3	-	2/6/23/26	0/1/1/1
3	NAG	U	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	U	2	3	-	4/6/23/26	0/1/1/1
3	NAG	V	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	V	2	3	-	2/6/23/26	0/1/1/1
2	NAG	W	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	W	2	2	-	0/6/23/26	0/1/1/1
2	BMA	W	3	2	-	2/2/19/22	0/1/1/1
2	MAN	W	4	2	-	0/2/19/22	0/1/1/1
2	MAN	W	5	2	-	0/2/19/22	0/1/1/1
2	MAN	W	6	2	-	0/2/19/22	0/1/1/1
2	MAN	W	7	2	-	2/2/19/22	0/1/1/1
2	MAN	W	8	2	-	2/2/19/22	0/1/1/1
3	NAG	X	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	X	2	3	-	2/6/23/26	0/1/1/1
3	NAG	Y	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	Y	2	3	-	2/6/23/26	0/1/1/1
3	NAG	Z	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	Z	2	3	-	2/6/23/26	0/1/1/1
3	NAG	a	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	a	2	3	-	3/6/23/26	0/1/1/1
3	NAG	b	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	b	2	3	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	7	MAN	C1-O5-C5	3.32	116.69	112.19
2	K	7	MAN	C1-O5-C5	3.29	116.65	112.19
2	Q	7	MAN	C1-O5-C5	3.24	116.58	112.19
2	W	7	MAN	C1-O5-C5	3.20	116.53	112.19
2	K	4	MAN	C1-O5-C5	2.90	116.12	112.19
2	W	8	MAN	C1-C2-C3	2.90	113.23	109.67
2	E	4	MAN	C1-O5-C5	2.90	116.11	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	W	4	MAN	C1-O5-C5	2.86	116.06	112.19
2	E	8	MAN	C1-C2-C3	2.83	113.15	109.67
2	Q	4	MAN	C1-O5-C5	2.82	116.01	112.19
2	Q	8	MAN	C1-C2-C3	2.81	113.11	109.67
2	Q	5	MAN	C1-O5-C5	2.76	115.93	112.19
2	E	6	MAN	C1-O5-C5	2.74	115.91	112.19
2	K	5	MAN	C1-O5-C5	2.74	115.90	112.19
2	K	8	MAN	C1-C2-C3	2.71	112.99	109.67
2	E	5	MAN	C1-O5-C5	2.68	115.82	112.19
2	K	6	MAN	C1-O5-C5	2.66	115.80	112.19
2	Q	6	MAN	C1-O5-C5	2.64	115.77	112.19
2	W	5	MAN	C1-O5-C5	2.62	115.74	112.19
2	W	6	MAN	C1-O5-C5	2.62	115.74	112.19
3	H	1	NAG	C4-C3-C2	2.24	114.30	111.02
3	H	1	NAG	C2-N2-C7	2.23	126.08	122.90
3	N	1	NAG	C4-C3-C2	2.22	114.28	111.02
3	Z	1	NAG	C2-N2-C7	2.21	126.05	122.90
3	J	2	NAG	C2-N2-C7	2.18	126.01	122.90
2	E	8	MAN	C1-O5-C5	2.17	115.14	112.19
2	K	8	MAN	C1-O5-C5	2.16	115.12	112.19
2	W	8	MAN	C1-O5-C5	2.15	115.11	112.19
3	T	1	NAG	C4-C3-C2	2.12	114.12	111.02
2	Q	8	MAN	C1-O5-C5	2.12	115.06	112.19
3	U	1	NAG	C2-N2-C7	2.10	125.90	122.90
3	P	1	NAG	C2-N2-C7	2.08	125.86	122.90
3	R	1	NAG	C2-N2-C7	2.07	125.85	122.90
3	P	2	NAG	C2-N2-C7	2.06	125.83	122.90
3	T	1	NAG	C2-N2-C7	2.06	125.83	122.90
2	W	1	NAG	C1-O5-C5	2.05	114.98	112.19
3	N	1	NAG	C2-N2-C7	2.05	125.83	122.90
3	Z	1	NAG	C4-C3-C2	2.05	114.02	111.02
2	Q	1	NAG	C1-O5-C5	2.03	114.95	112.19
2	Q	2	NAG	C2-N2-C7	2.01	125.77	122.90
2	E	1	NAG	C1-O5-C5	2.01	114.91	112.19
2	K	2	NAG	O5-C1-C2	2.01	114.45	111.29
3	V	1	NAG	C1-O5-C5	2.00	114.91	112.19

There are no chirality outliers.

All (95) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	H	2	NAG	C8-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
3	H	2	NAG	O7-C7-N2-C2
3	S	1	NAG	C8-C7-N2-C2
3	S	1	NAG	O7-C7-N2-C2
3	N	2	NAG	C8-C7-N2-C2
3	N	2	NAG	O7-C7-N2-C2
3	T	2	NAG	C8-C7-N2-C2
3	T	2	NAG	O7-C7-N2-C2
3	G	1	NAG	C8-C7-N2-C2
3	G	1	NAG	O7-C7-N2-C2
3	Y	1	NAG	C8-C7-N2-C2
3	Y	1	NAG	O7-C7-N2-C2
3	Z	2	NAG	C8-C7-N2-C2
3	Z	2	NAG	O7-C7-N2-C2
3	M	1	NAG	C8-C7-N2-C2
3	M	1	NAG	O7-C7-N2-C2
2	K	3	BMA	C4-C5-C6-O6
2	Q	3	BMA	C4-C5-C6-O6
2	W	3	BMA	C4-C5-C6-O6
2	E	3	BMA	C4-C5-C6-O6
3	O	2	NAG	C8-C7-N2-C2
3	I	2	NAG	C8-C7-N2-C2
3	U	2	NAG	C8-C7-N2-C2
3	a	2	NAG	C8-C7-N2-C2
3	F	2	NAG	O5-C5-C6-O6
2	W	8	MAN	C4-C5-C6-O6
2	E	8	MAN	C4-C5-C6-O6
3	R	2	NAG	O5-C5-C6-O6
3	X	2	NAG	O5-C5-C6-O6
2	K	8	MAN	C4-C5-C6-O6
2	Q	8	MAN	C4-C5-C6-O6
2	E	8	MAN	O5-C5-C6-O6
2	K	3	BMA	O5-C5-C6-O6
2	Q	3	BMA	O5-C5-C6-O6
2	W	8	MAN	O5-C5-C6-O6
3	O	2	NAG	O7-C7-N2-C2
3	I	2	NAG	O7-C7-N2-C2
3	U	2	NAG	O7-C7-N2-C2
3	a	2	NAG	O7-C7-N2-C2
2	K	8	MAN	O5-C5-C6-O6
3	L	2	NAG	O5-C5-C6-O6
2	Q	8	MAN	O5-C5-C6-O6
2	W	3	BMA	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
2	E	3	BMA	O5-C5-C6-O6
2	W	7	MAN	C4-C5-C6-O6
2	K	7	MAN	C4-C5-C6-O6
2	E	7	MAN	C4-C5-C6-O6
2	Q	7	MAN	C4-C5-C6-O6
3	S	2	NAG	C8-C7-N2-C2
3	G	2	NAG	C8-C7-N2-C2
3	G	2	NAG	O7-C7-N2-C2
3	Y	2	NAG	C8-C7-N2-C2
3	S	2	NAG	O7-C7-N2-C2
3	M	2	NAG	C8-C7-N2-C2
2	W	7	MAN	O5-C5-C6-O6
3	R	2	NAG	C4-C5-C6-O6
3	M	2	NAG	O7-C7-N2-C2
3	F	2	NAG	C4-C5-C6-O6
3	Y	2	NAG	O7-C7-N2-C2
2	K	7	MAN	O5-C5-C6-O6
2	Q	7	MAN	O5-C5-C6-O6
2	E	7	MAN	O5-C5-C6-O6
3	X	2	NAG	C4-C5-C6-O6
3	P	2	NAG	C4-C5-C6-O6
3	J	2	NAG	C4-C5-C6-O6
3	V	2	NAG	C4-C5-C6-O6
3	P	2	NAG	O5-C5-C6-O6
3	L	2	NAG	C4-C5-C6-O6
3	b	2	NAG	C4-C5-C6-O6
3	J	2	NAG	O5-C5-C6-O6
3	V	2	NAG	O5-C5-C6-O6
3	b	2	NAG	O5-C5-C6-O6
3	F	1	NAG	C8-C7-N2-C2
3	X	1	NAG	C8-C7-N2-C2
3	R	1	NAG	C8-C7-N2-C2
3	L	1	NAG	C8-C7-N2-C2
3	F	1	NAG	O7-C7-N2-C2
3	X	1	NAG	O7-C7-N2-C2
3	L	1	NAG	O7-C7-N2-C2
3	O	2	NAG	C4-C5-C6-O6
3	R	1	NAG	O7-C7-N2-C2
3	U	2	NAG	C4-C5-C6-O6
3	a	1	NAG	C8-C7-N2-C2
3	U	1	NAG	C8-C7-N2-C2
3	O	1	NAG	C8-C7-N2-C2

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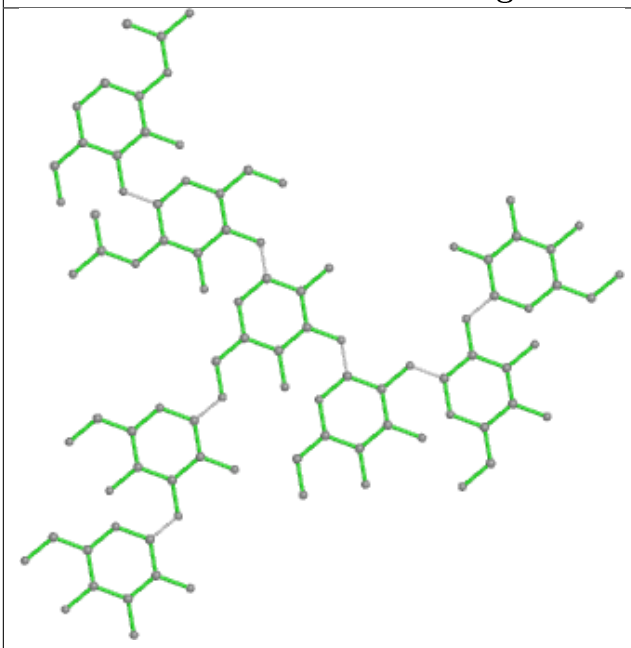
Mol	Chain	Res	Type	Atoms
3	a	2	NAG	C4-C5-C6-O6
3	I	2	NAG	C4-C5-C6-O6
3	I	1	NAG	C8-C7-N2-C2
3	U	1	NAG	O7-C7-N2-C2
3	O	2	NAG	O5-C5-C6-O6
3	a	1	NAG	O7-C7-N2-C2
3	U	2	NAG	O5-C5-C6-O6
3	O	1	NAG	O7-C7-N2-C2
3	U	1	NAG	C4-C5-C6-O6
3	I	1	NAG	C4-C5-C6-O6

There are no ring outliers.

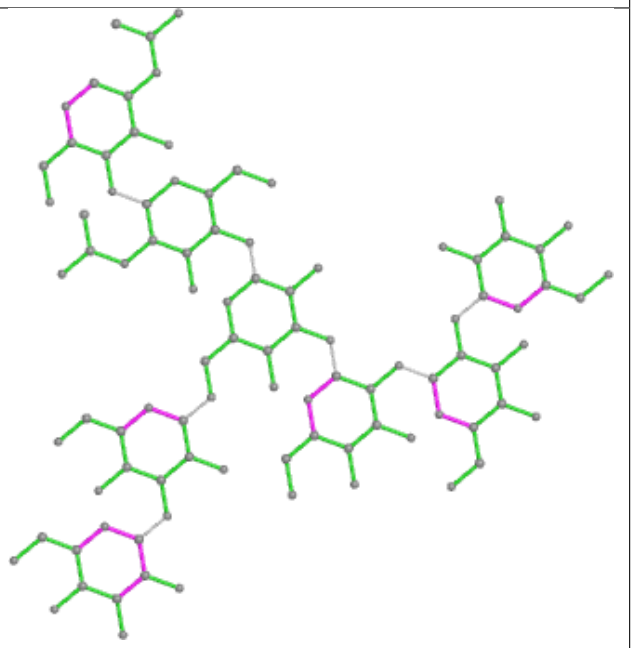
No monomer is involved in short contacts.

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

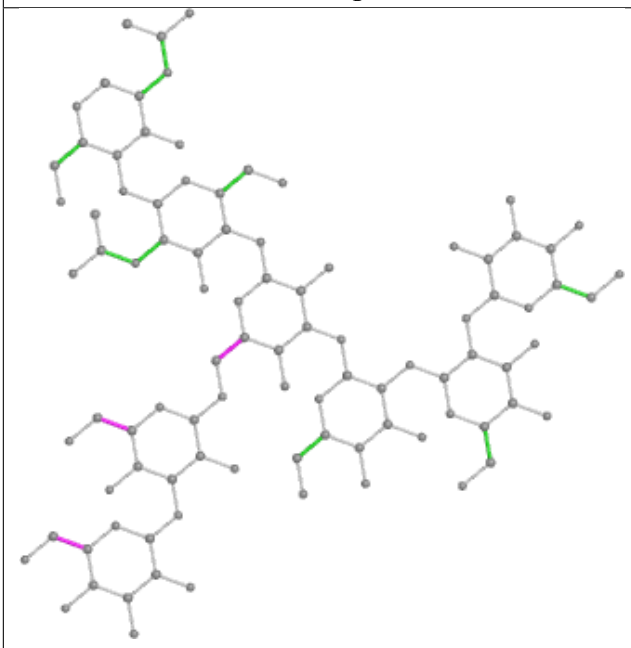
Oligosaccharide Chain E



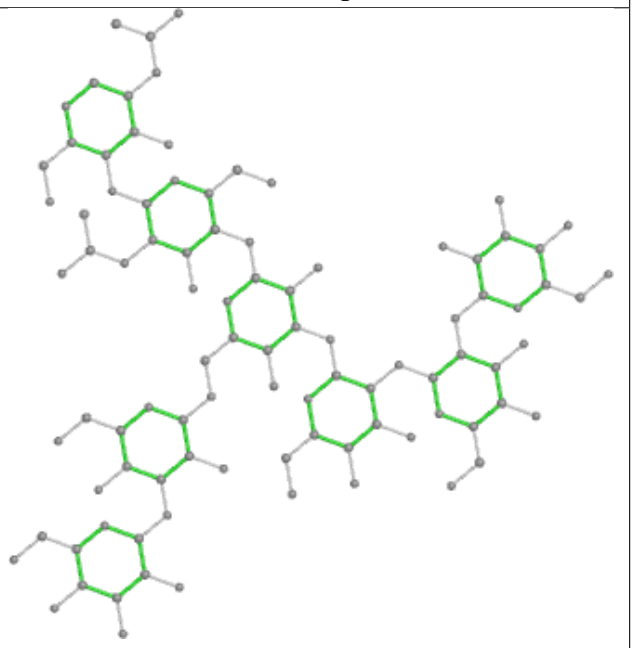
Bond lengths



Bond angles

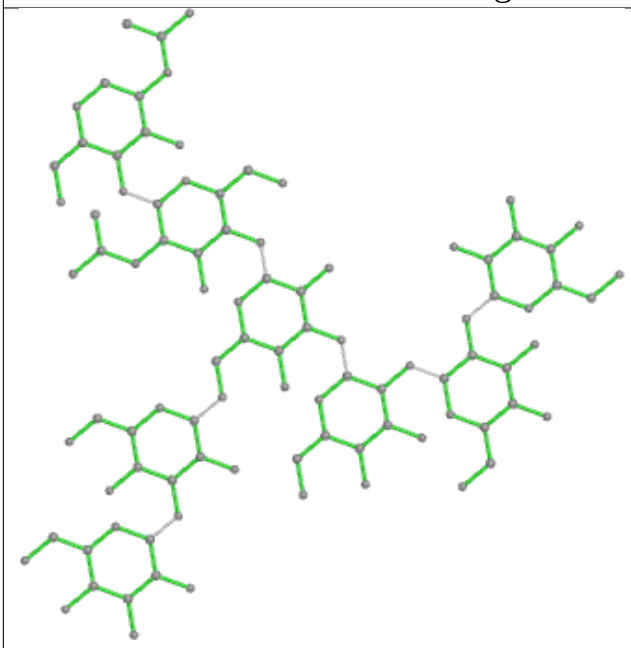


Torsions



Rings

Oligosaccharide Chain K



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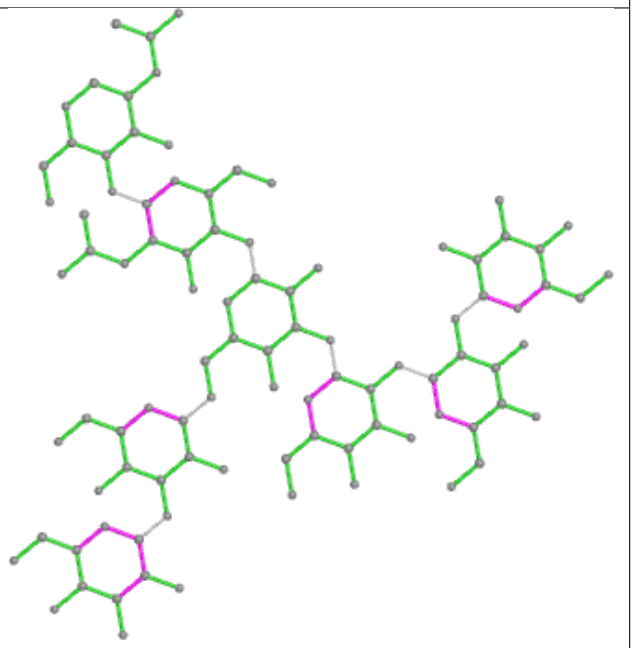
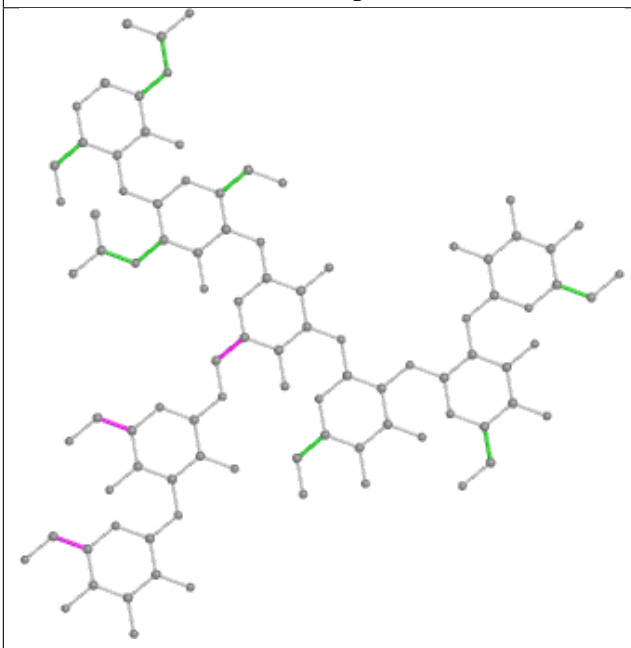


Bond angles



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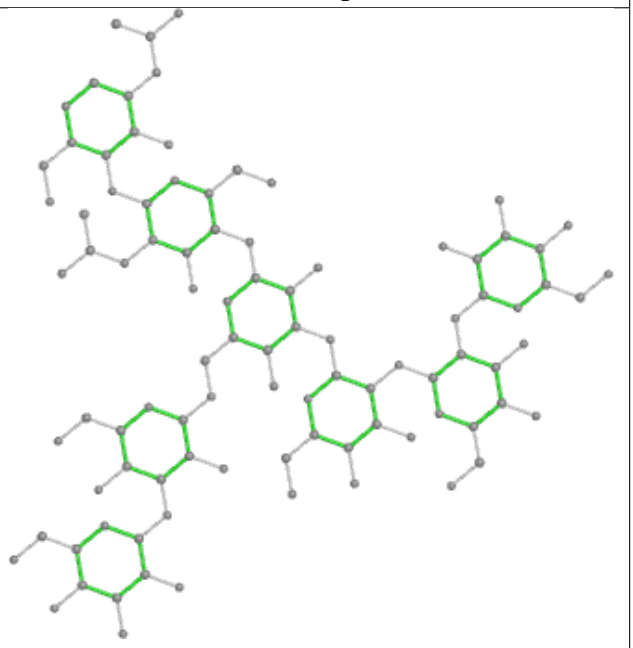
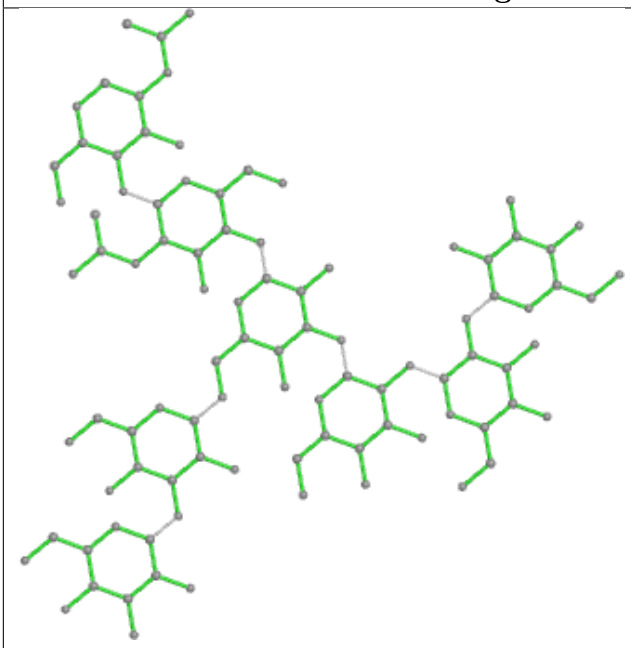


Rings

Oligosaccharide Chain Q



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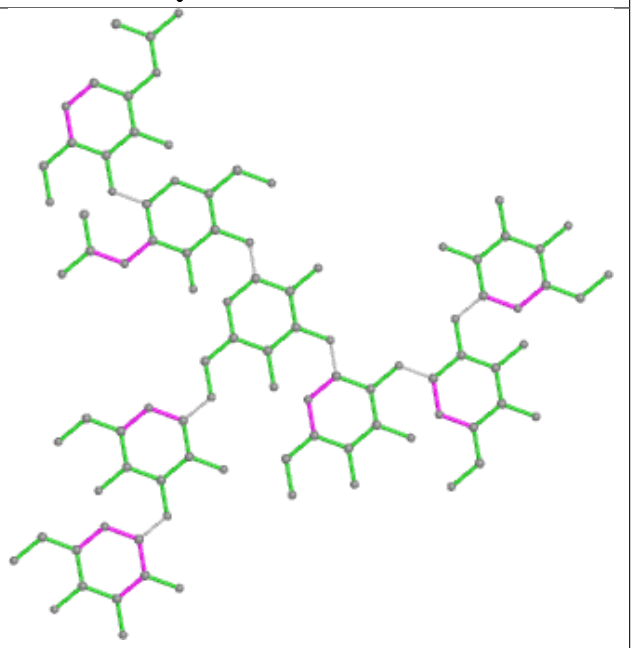
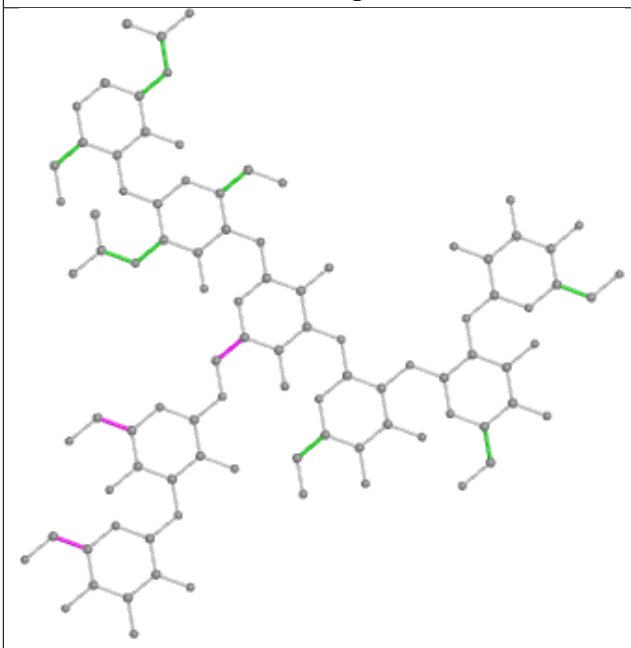
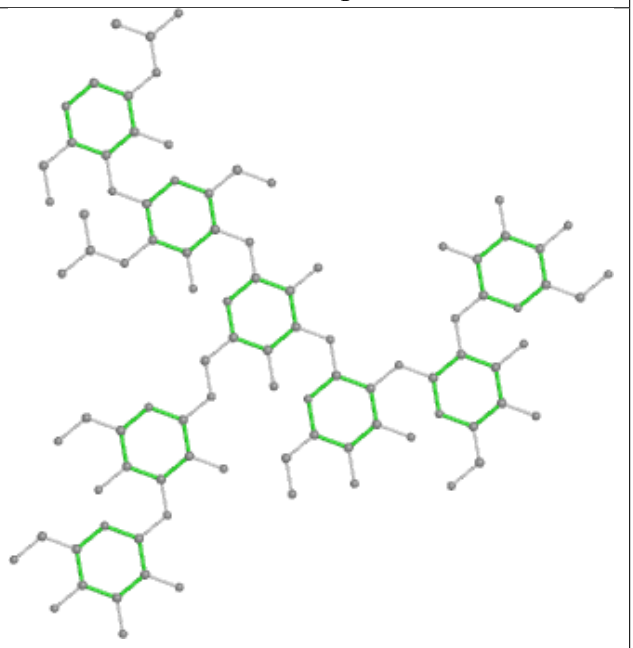


Bond angles

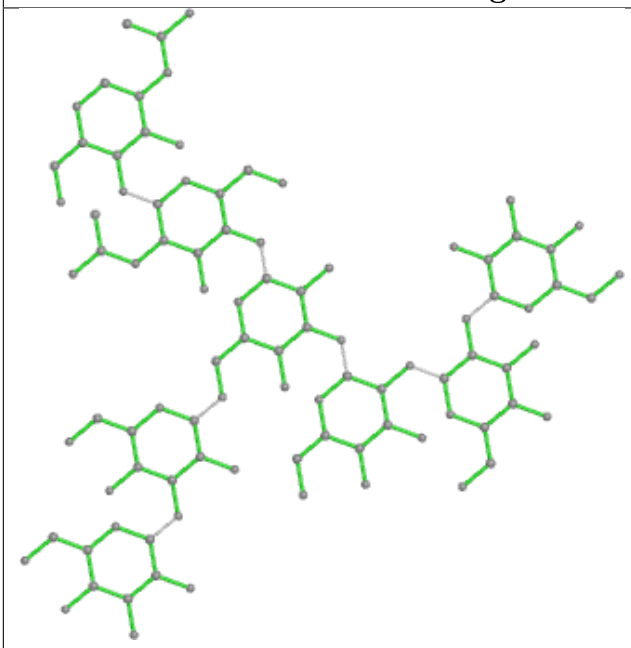


Torsions



Rings

Oligosaccharide Chain W



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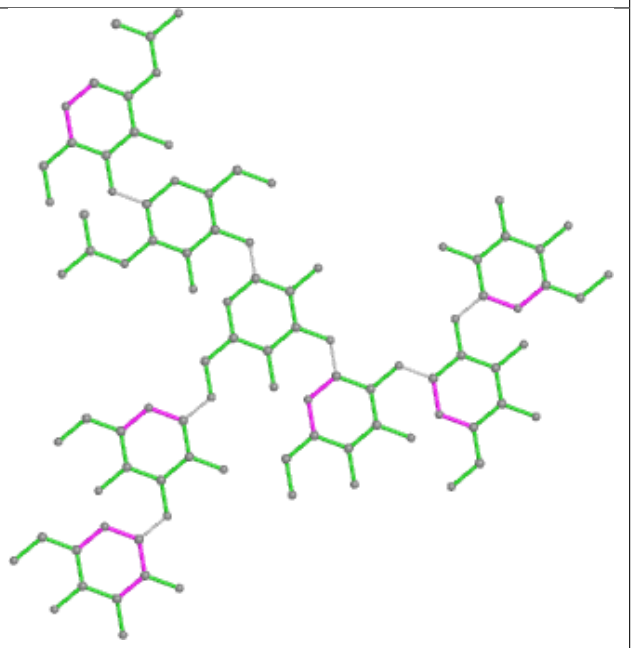
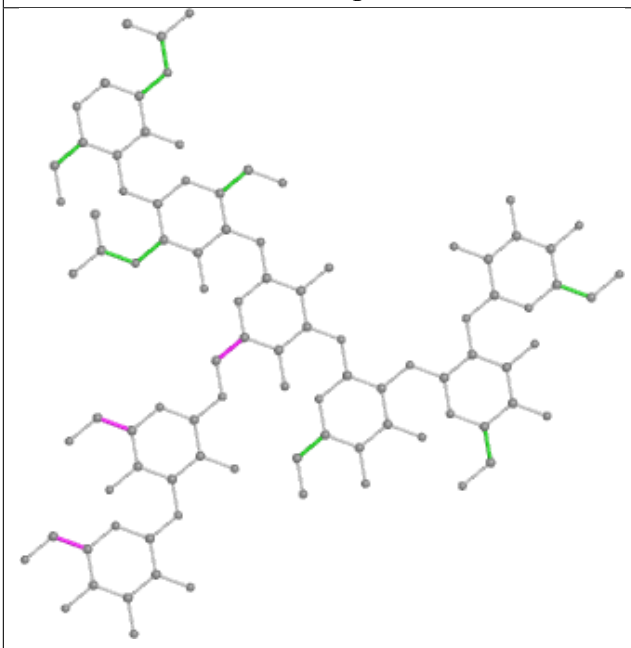


Bond angles



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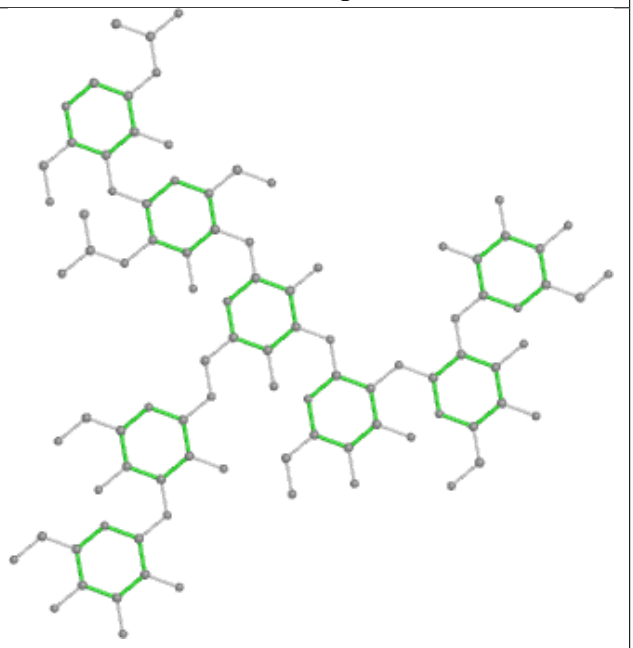
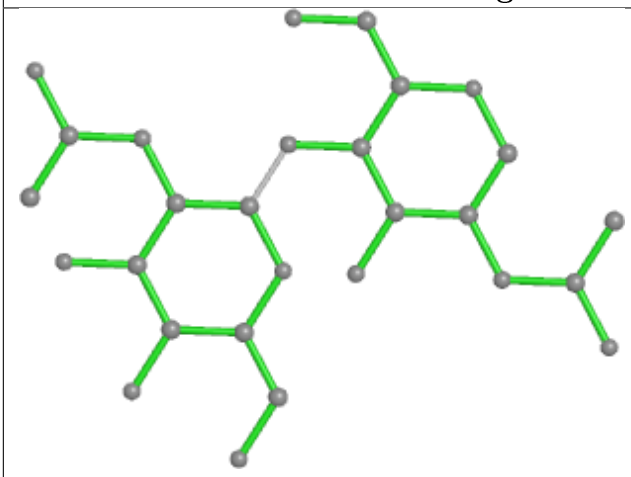


Rings

Oligosaccharide Chain F



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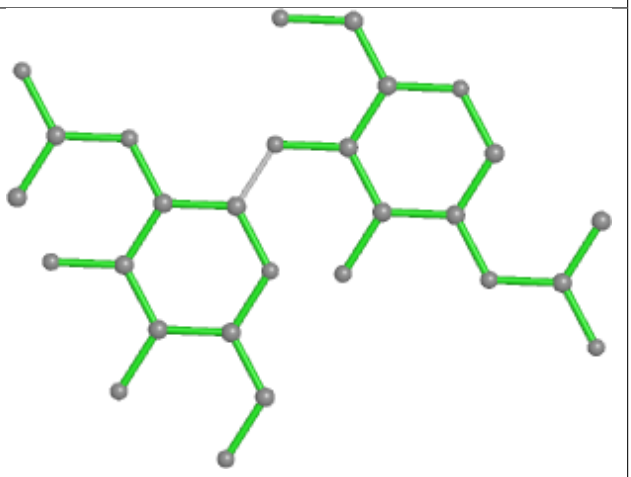
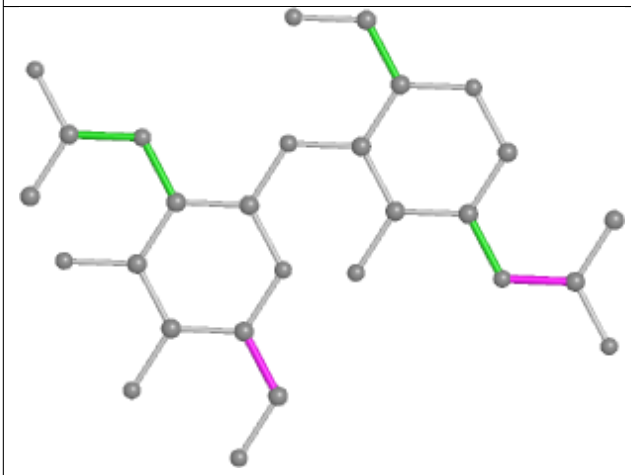


Bond angles



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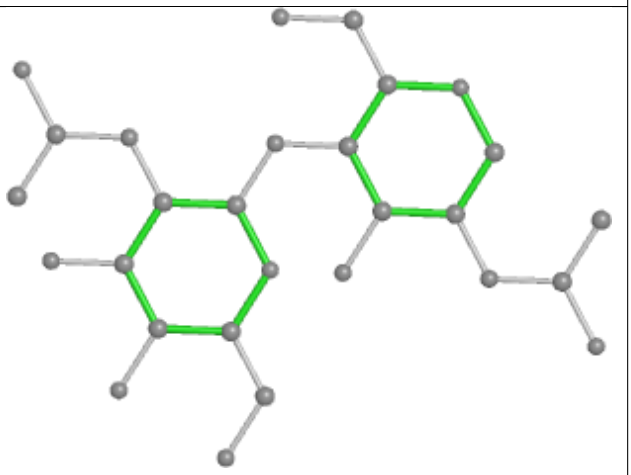
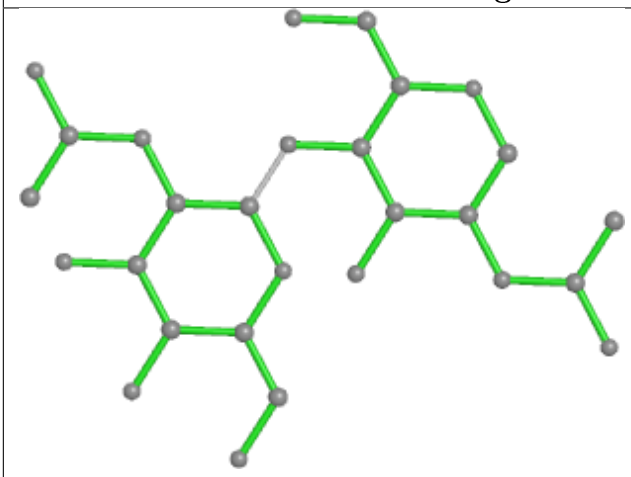


Rings

Oligosaccharide Chain G



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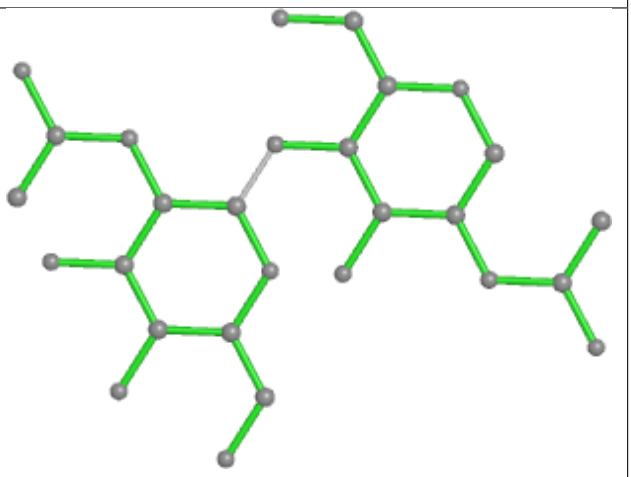
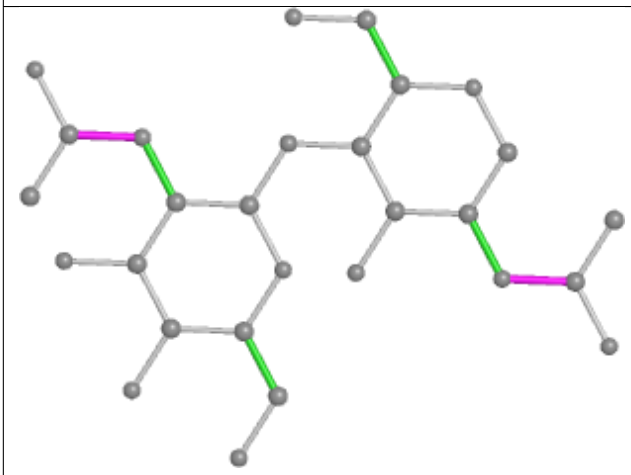


Bond angles



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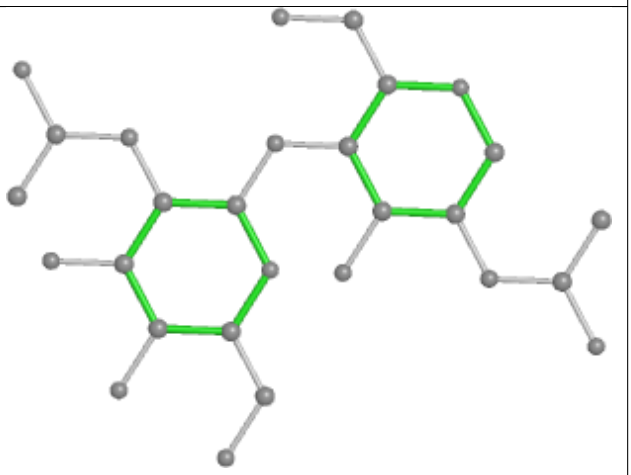
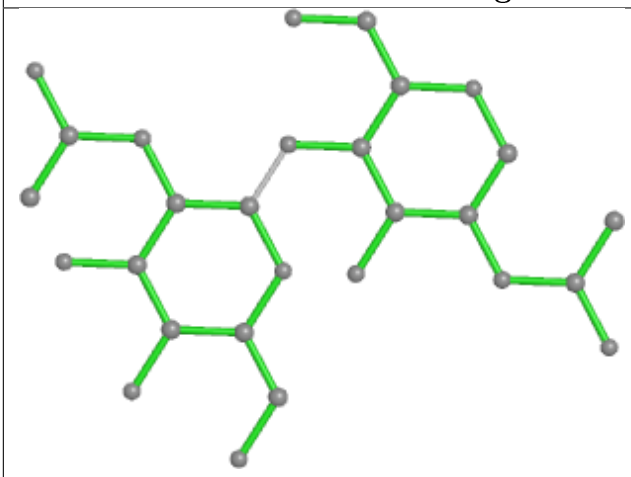


Rings

Oligosaccharide Chain H



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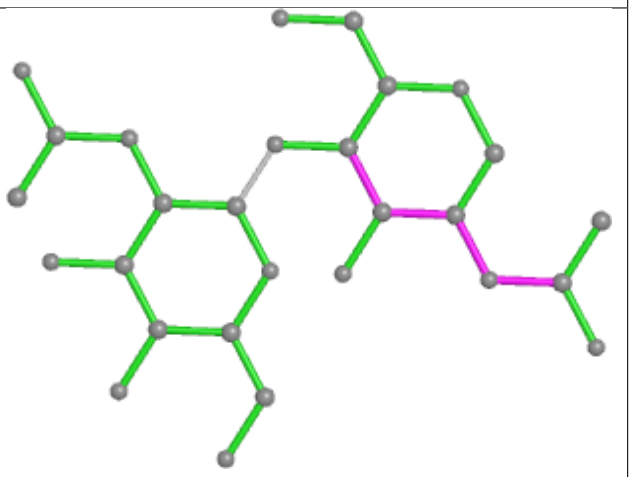
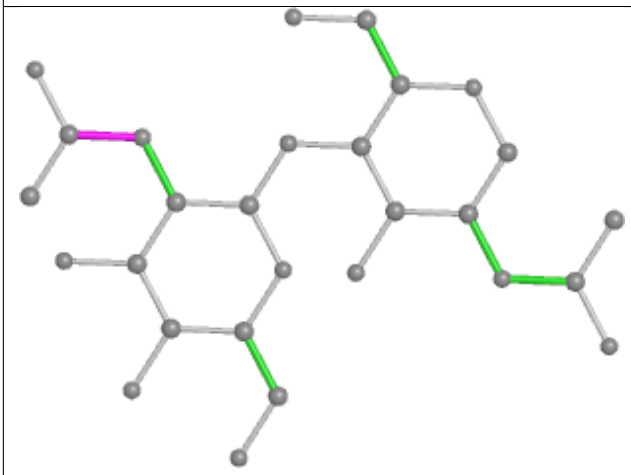


Bond angles



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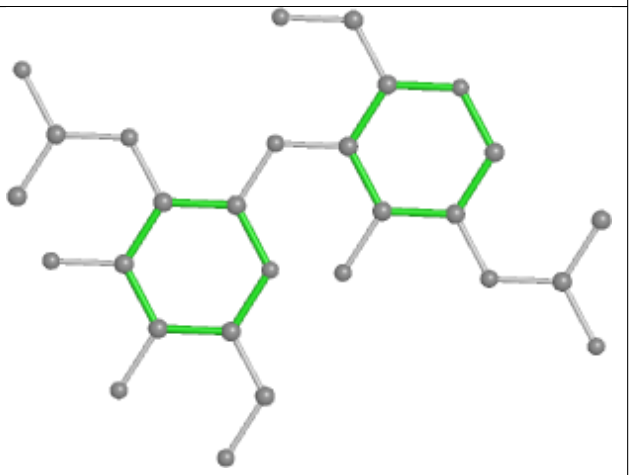
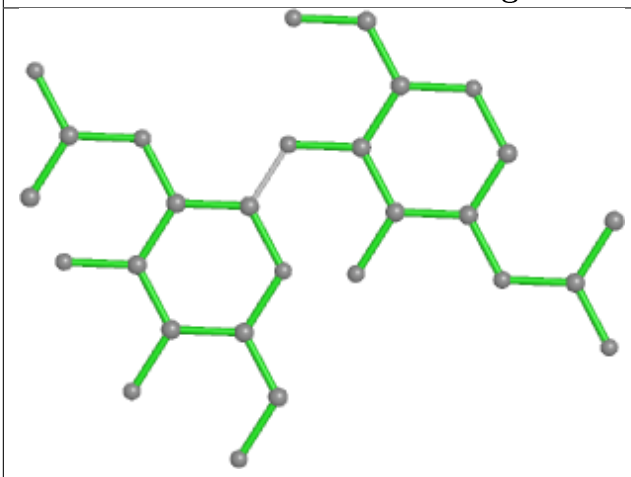


Rings

Oligosaccharide Chain I



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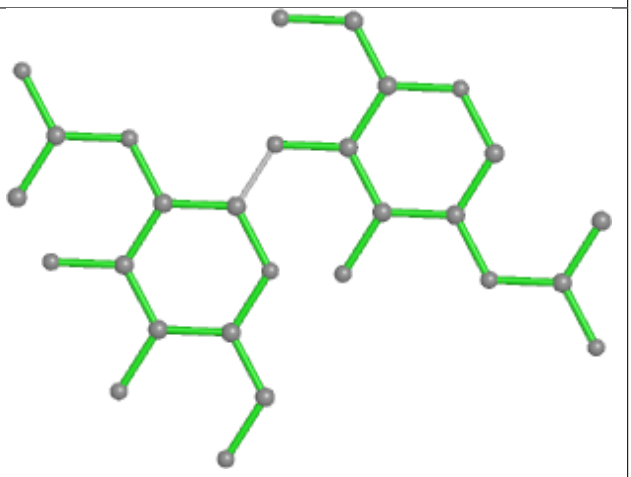
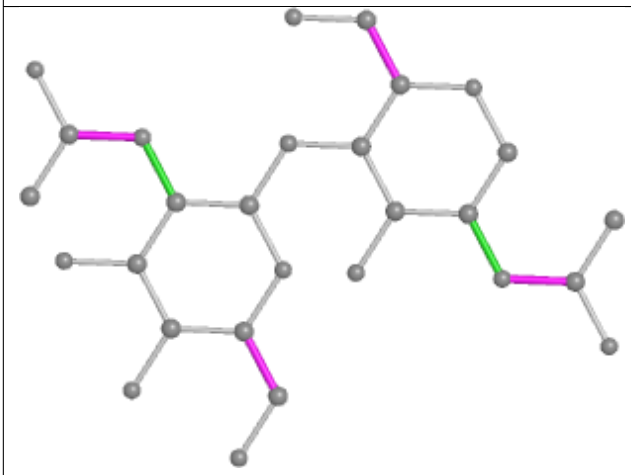


Bond angles



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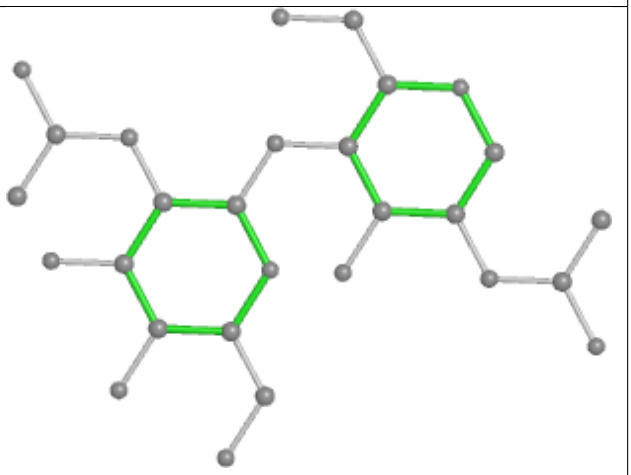
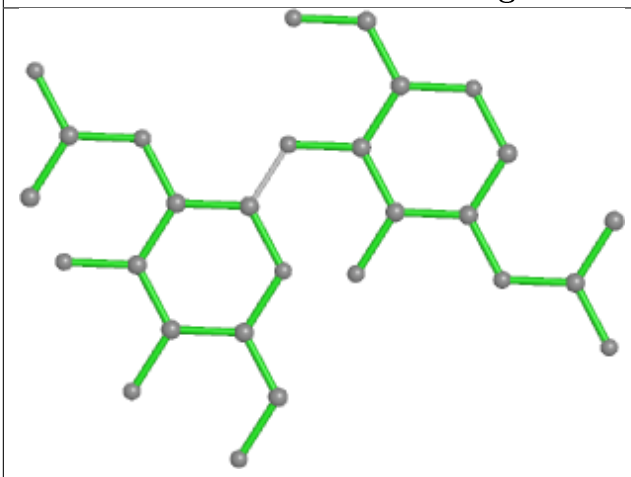


Rings

Oligosaccharide Chain J



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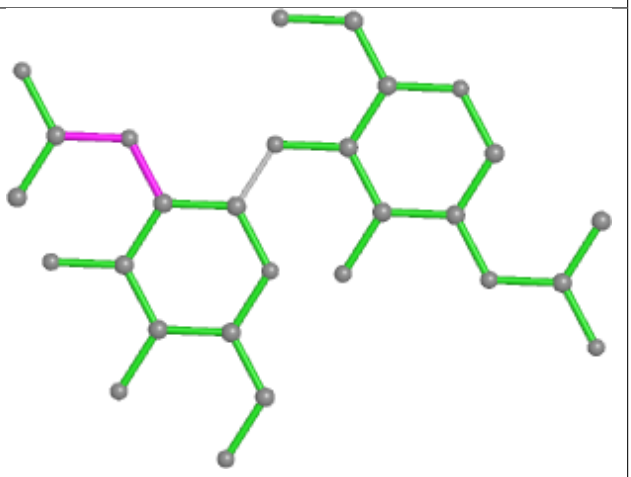

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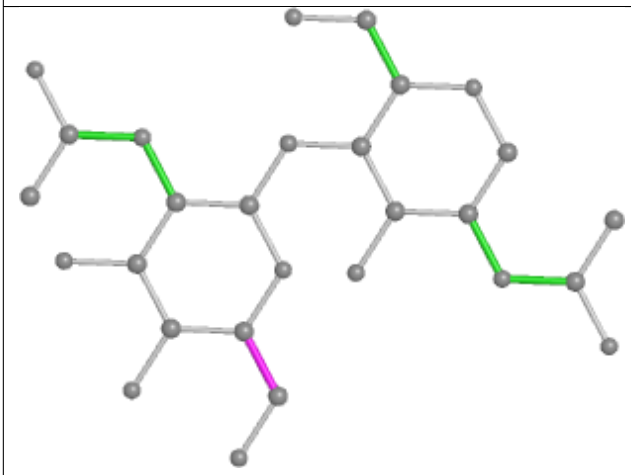

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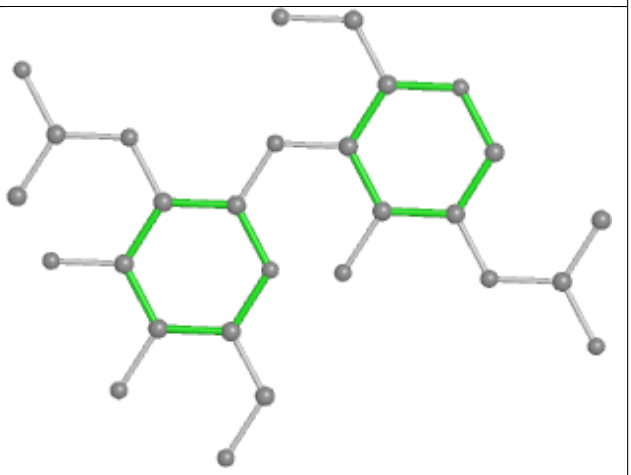
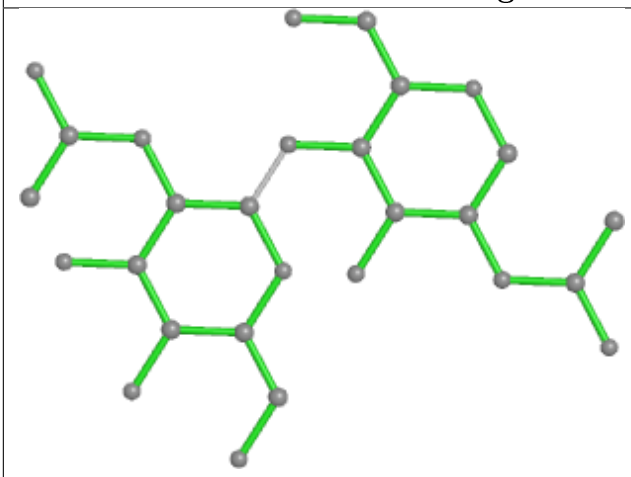


Rings

Oligosaccharide Chain L



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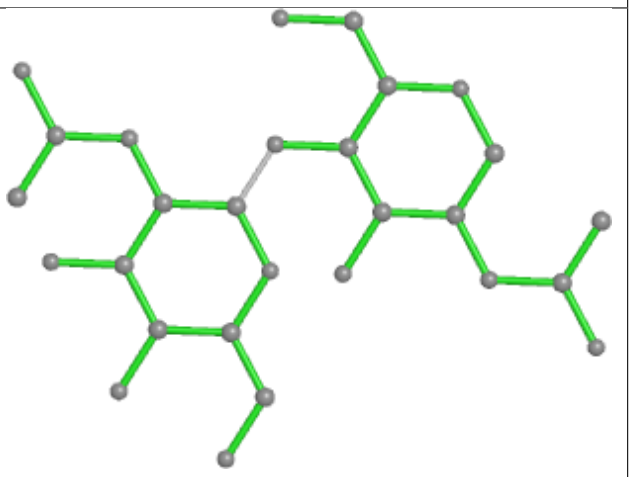
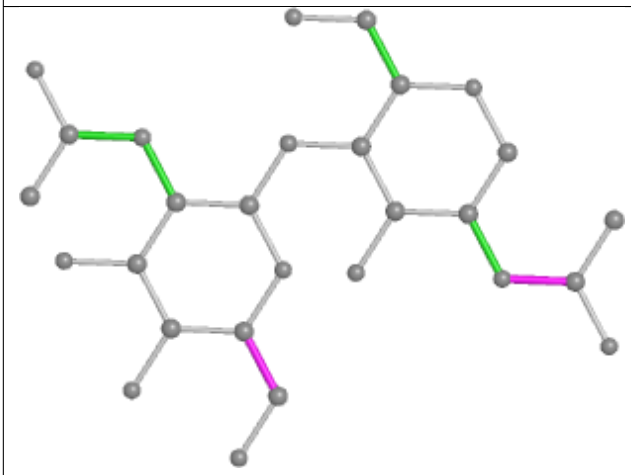


Bond angles



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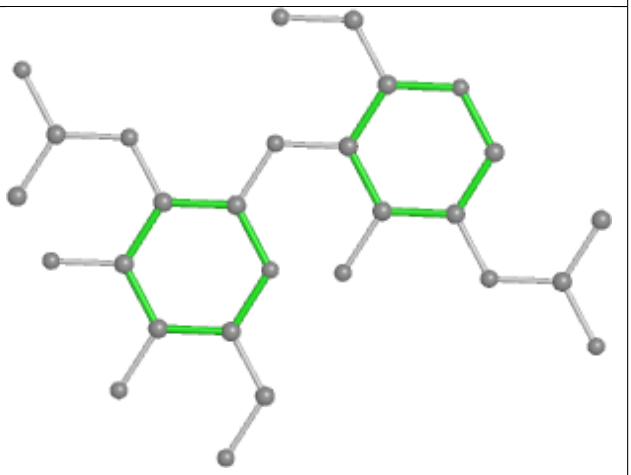
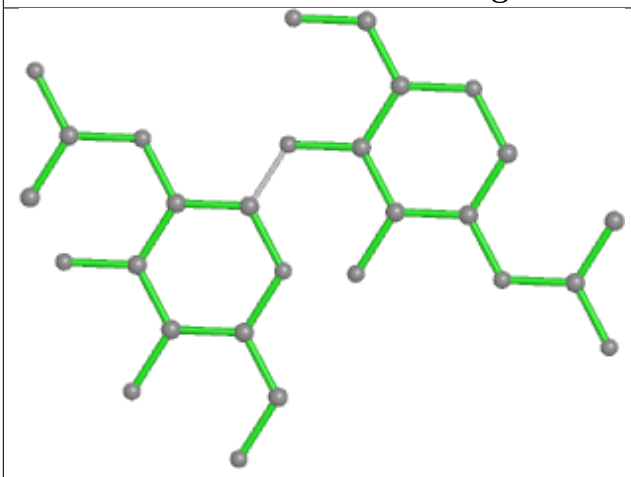


Rings

Oligosaccharide Chain M



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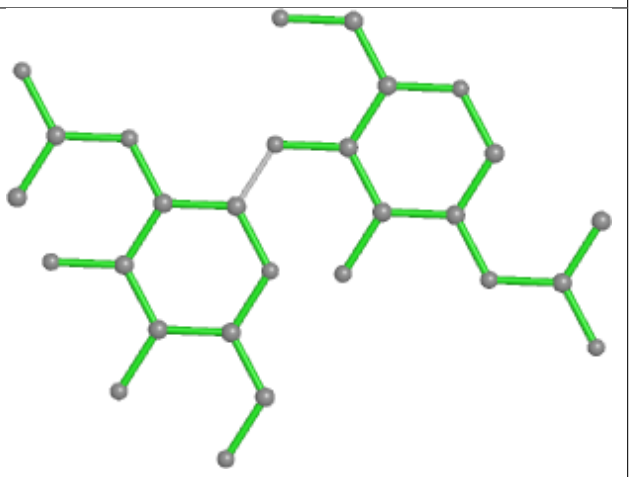
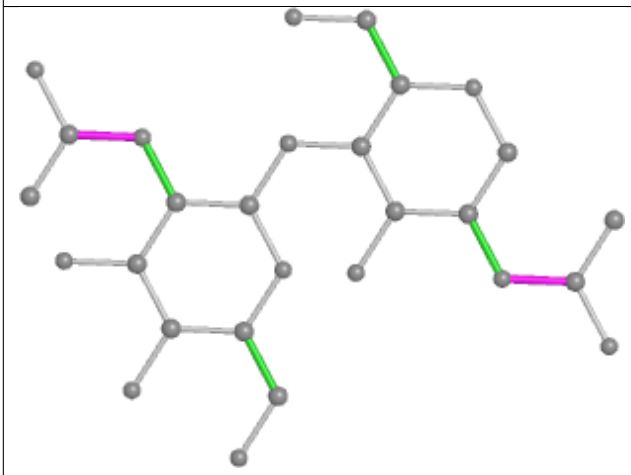


Bond angles



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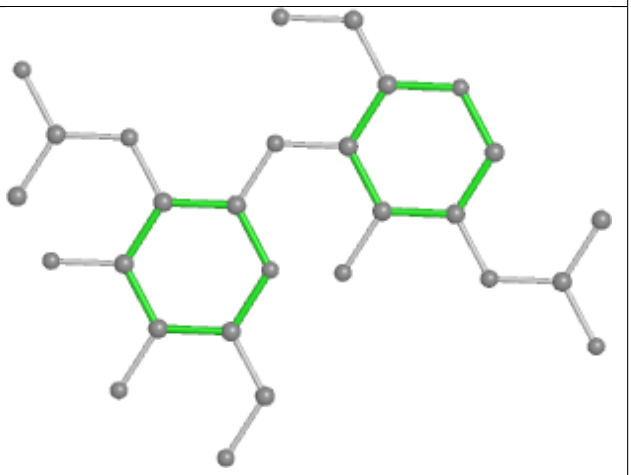
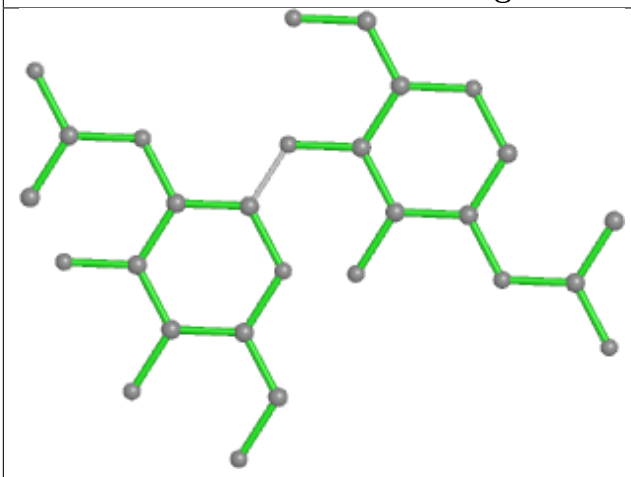


Rings

Oligosaccharide Chain N



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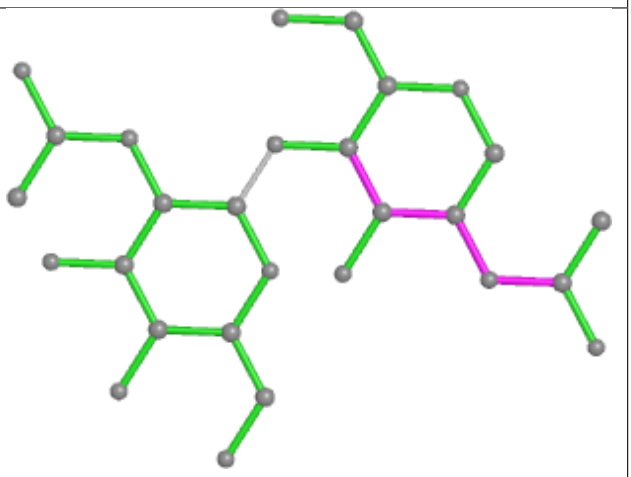
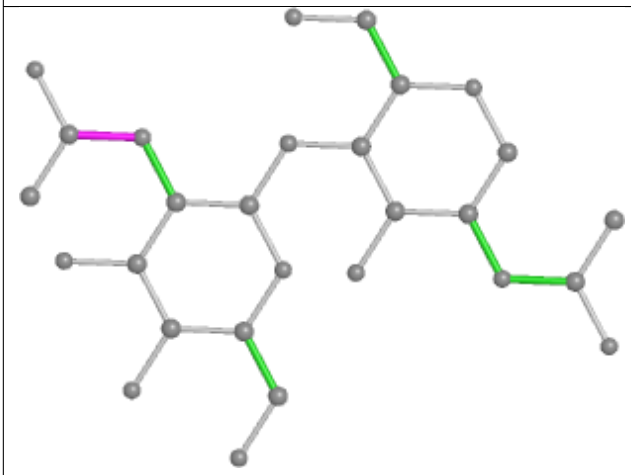


Bond angles



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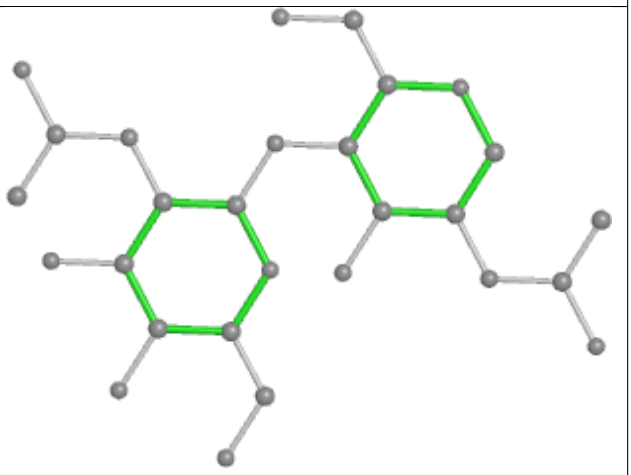
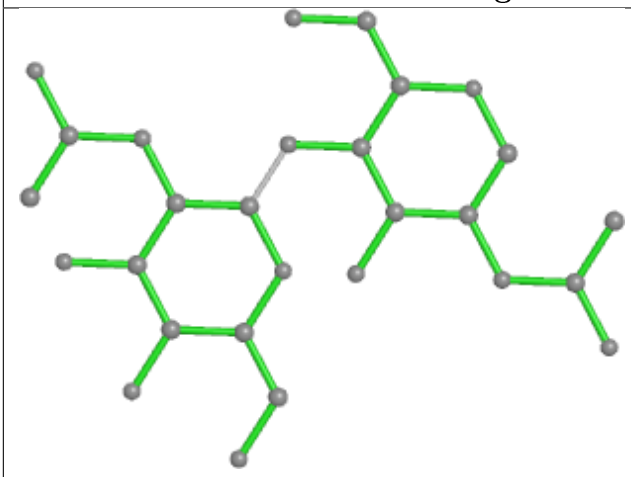
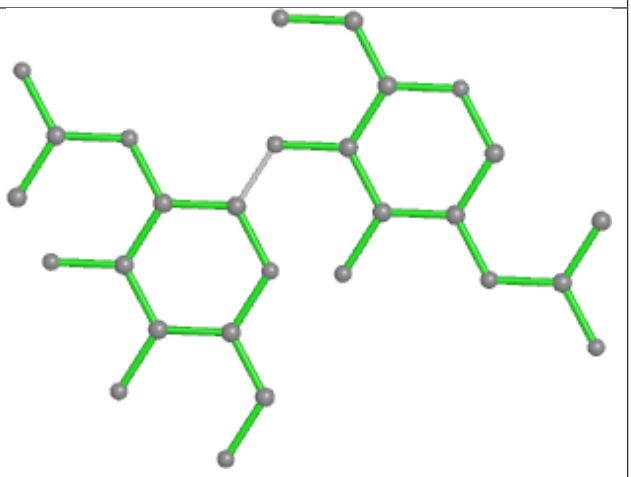
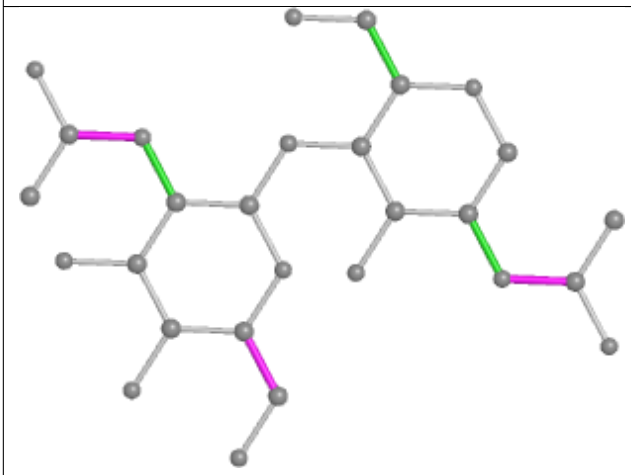
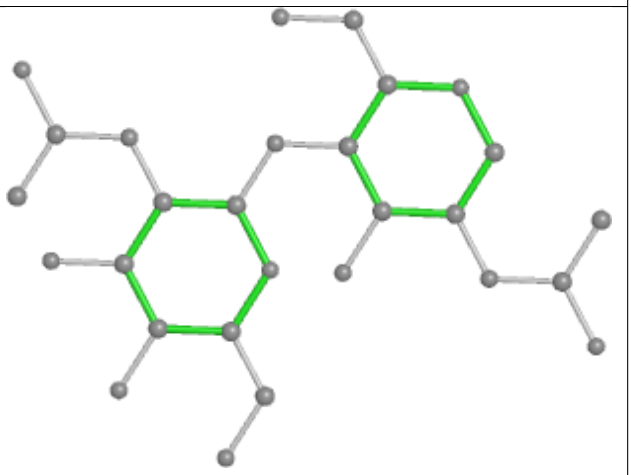
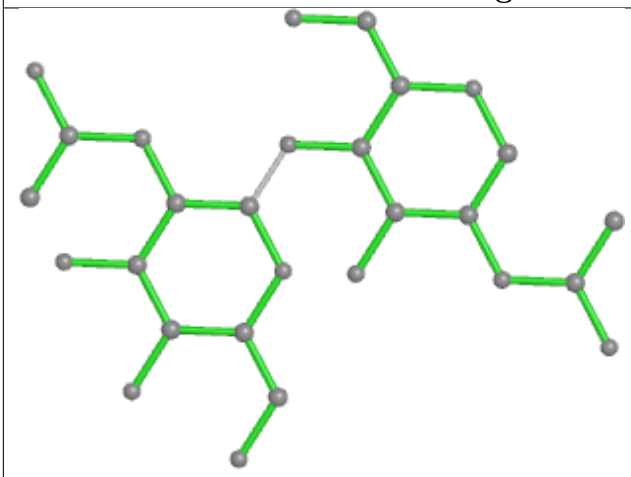


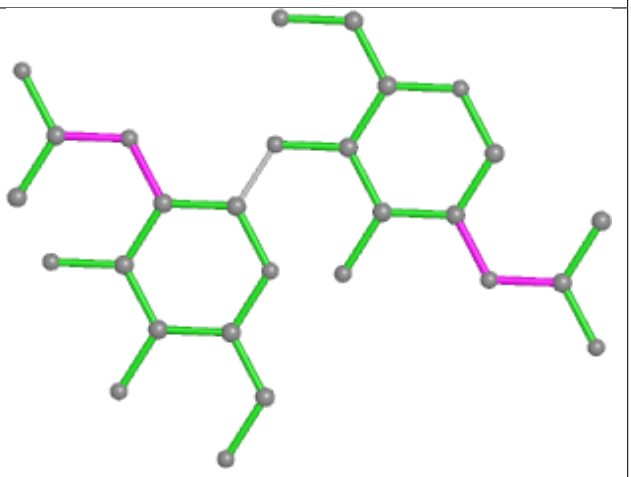
Rings

Oligosaccharide Chain O	
	
Bond lengths	**Bond angles**
	
Torsions	**Rings**

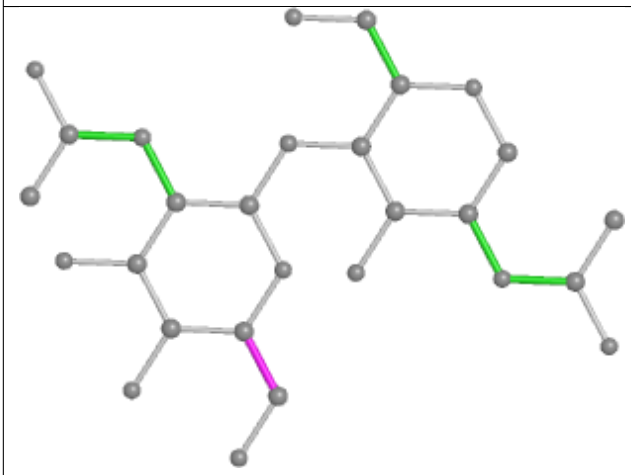
Oligosaccharide Chain P



Bond lengths



Bond angles



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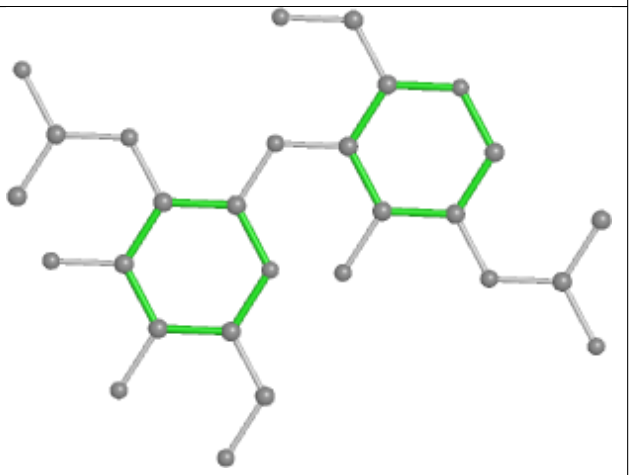
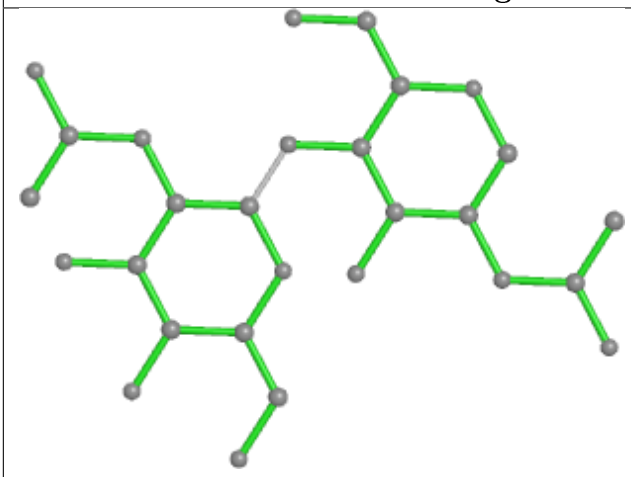
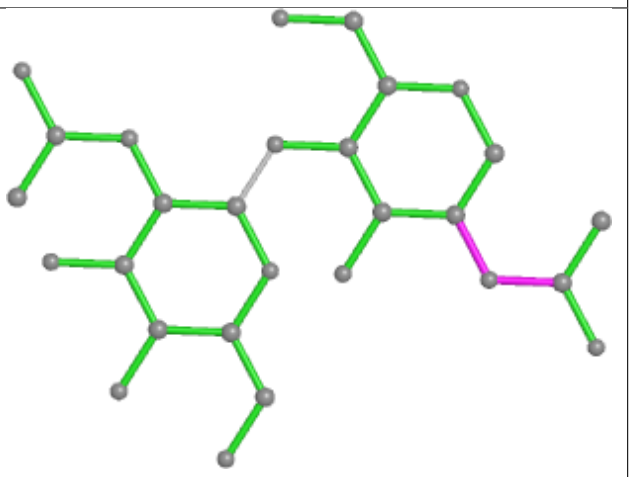


Rings

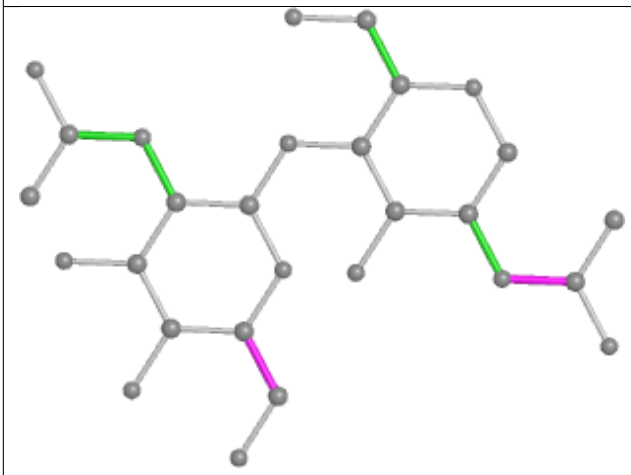
Oligosaccharide Chain R



Bond lengths



Bond angles



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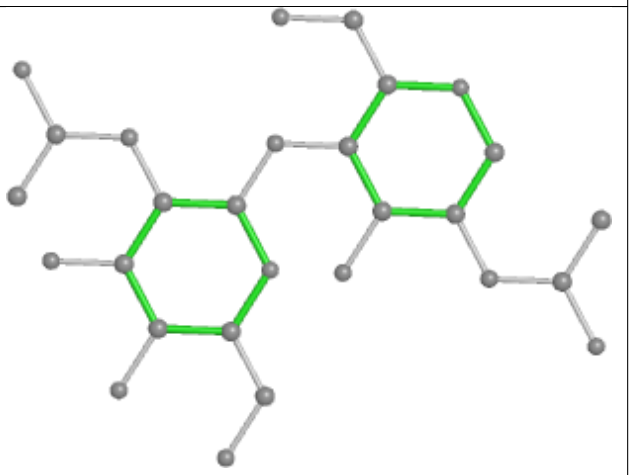
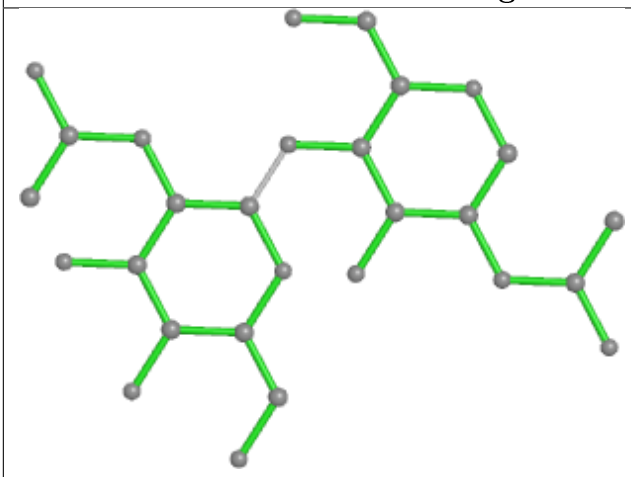
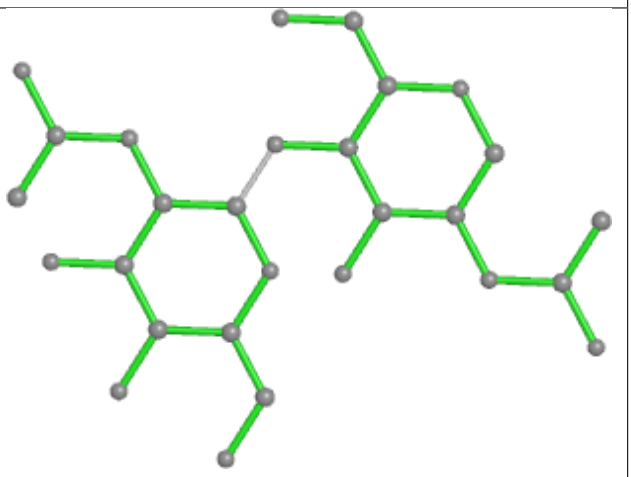


Rings

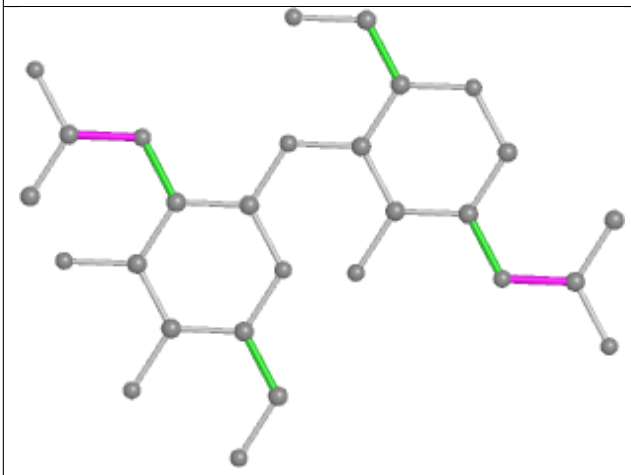
Oligosaccharide Chain S



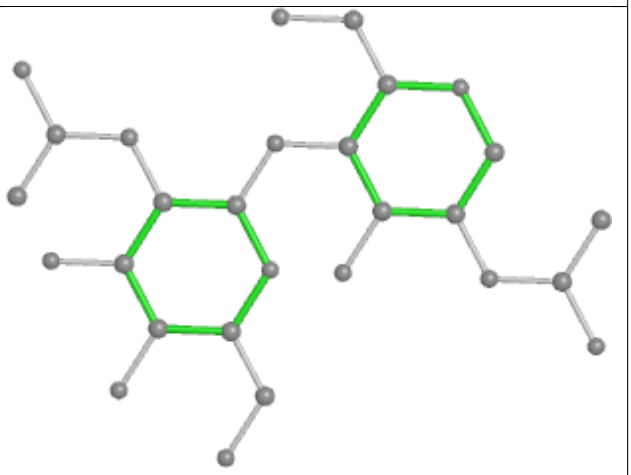
Bond lengths



Bond angles

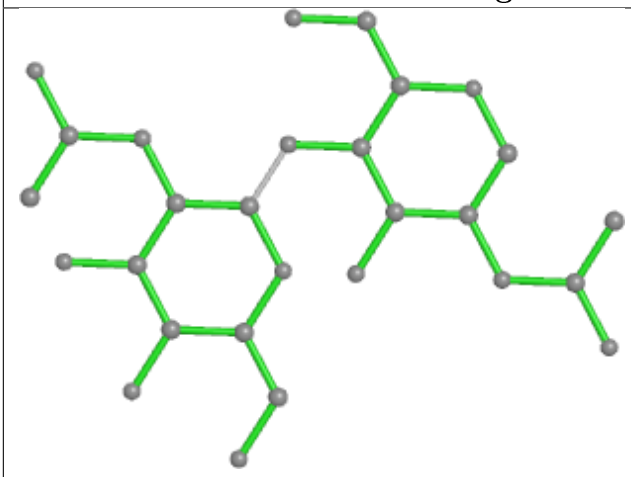


Torsions

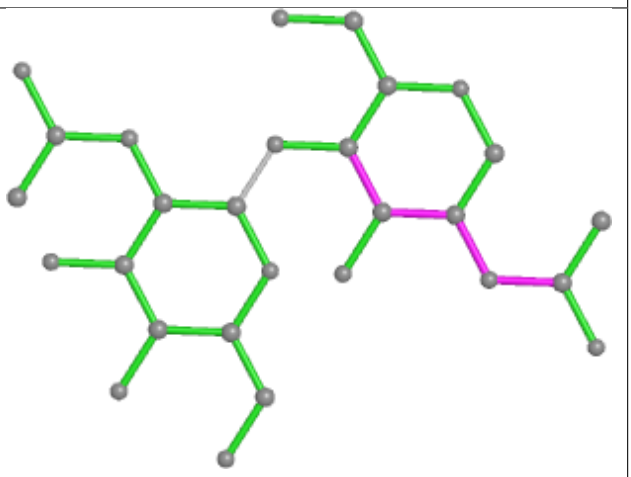


Rings

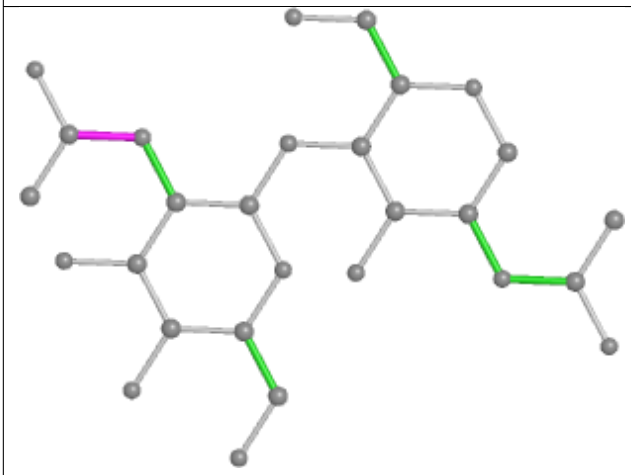
Oligosaccharide Chain T



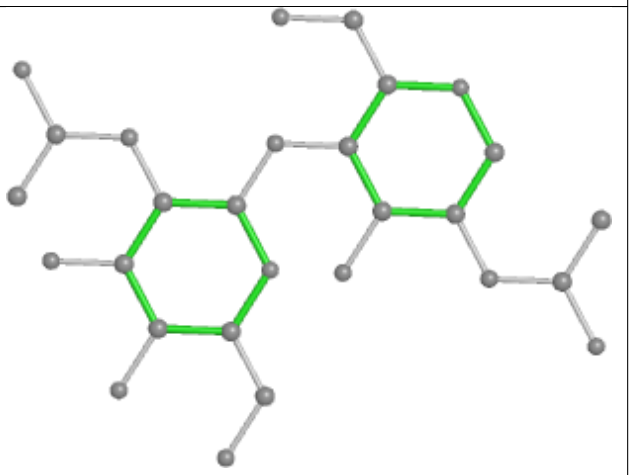
Bond lengths



Bond angles

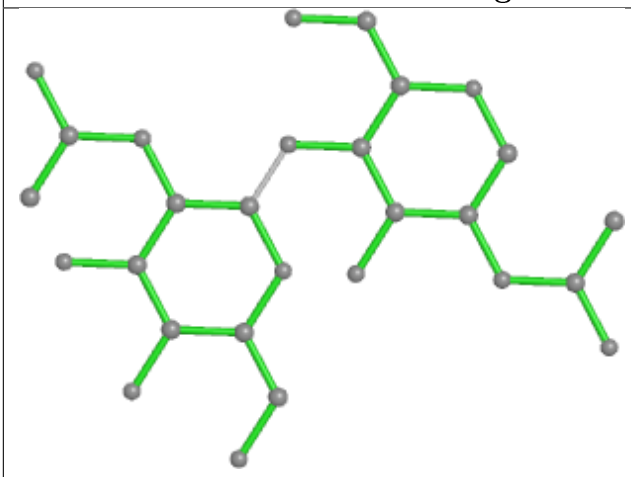


Torsions

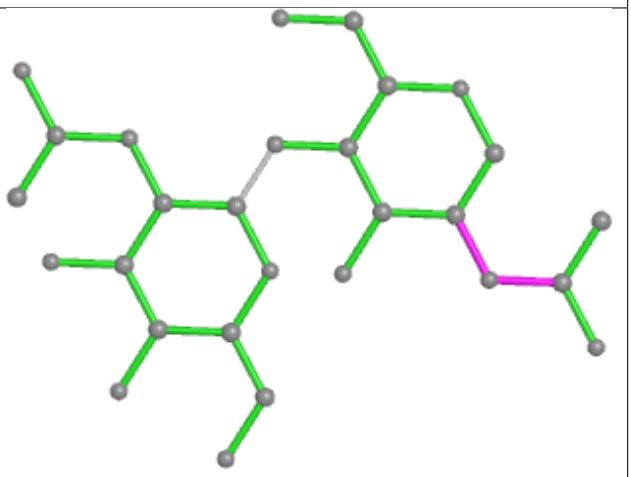


Rings

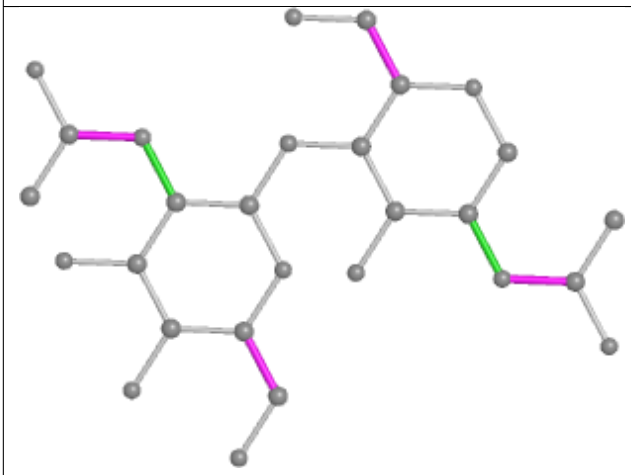
Oligosaccharide Chain U



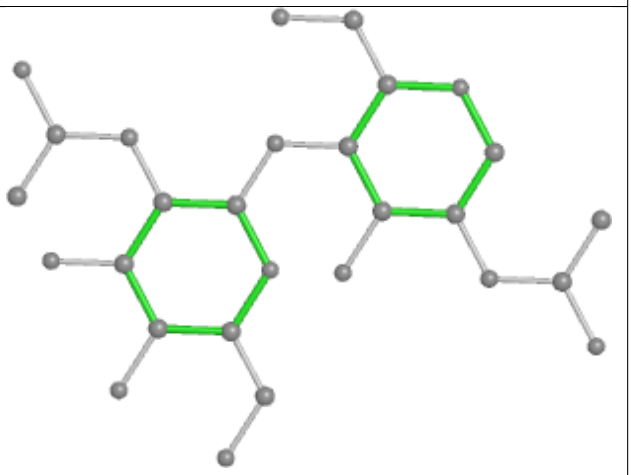
Bond lengths



Bond angles

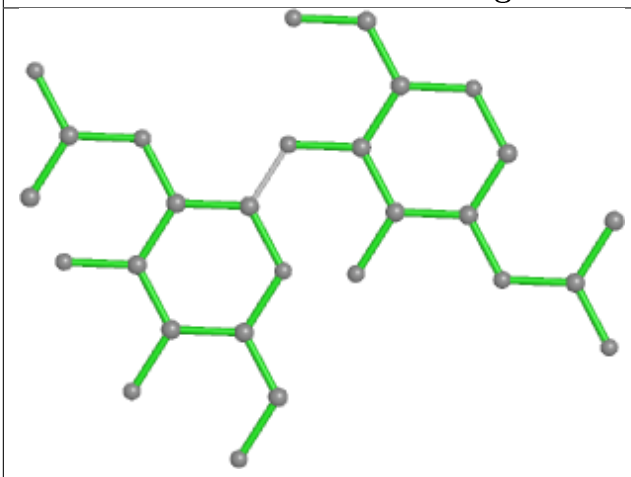


Torsions

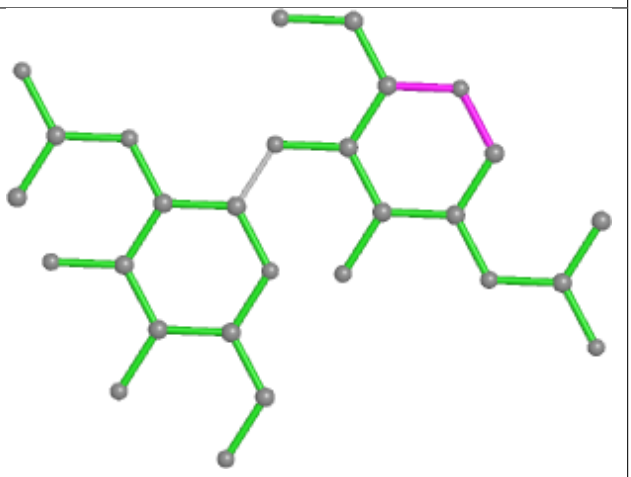


Rings

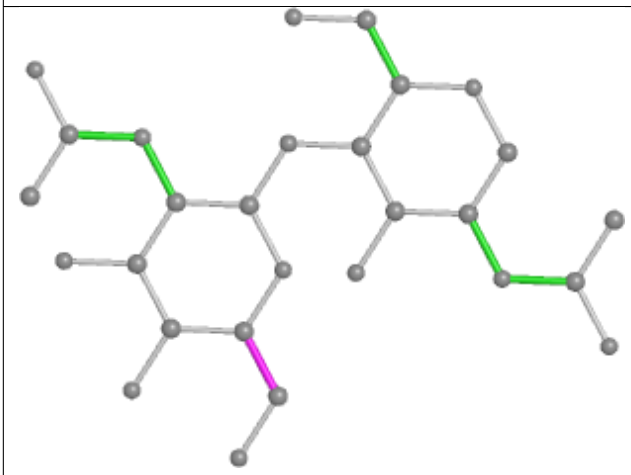
Oligosaccharide Chain V



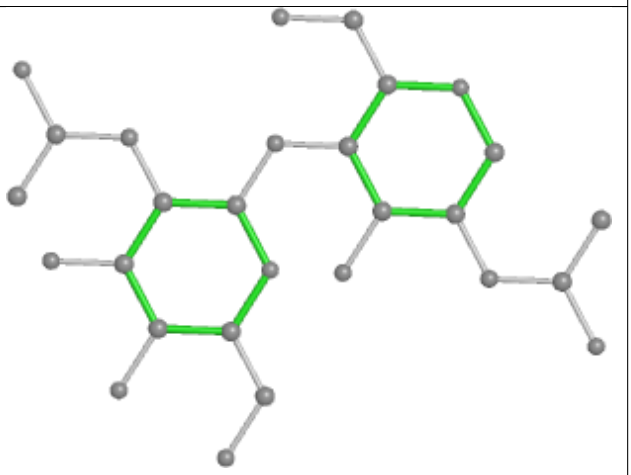
Bond lengths



Bond angles

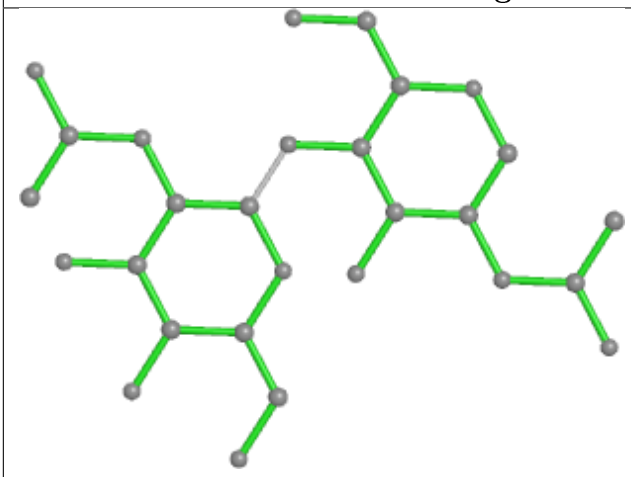


Torsions

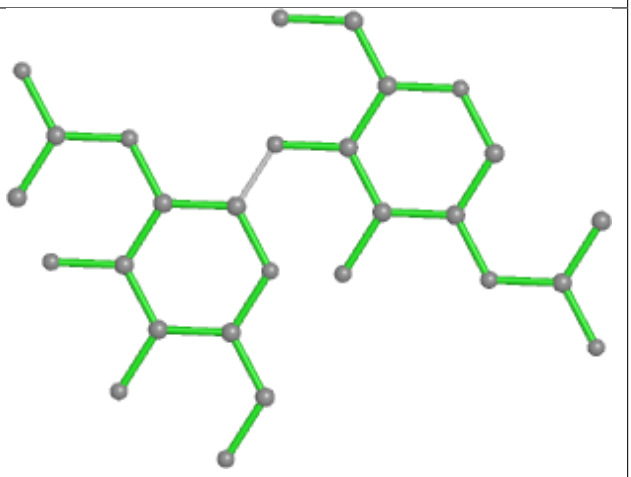


Rings

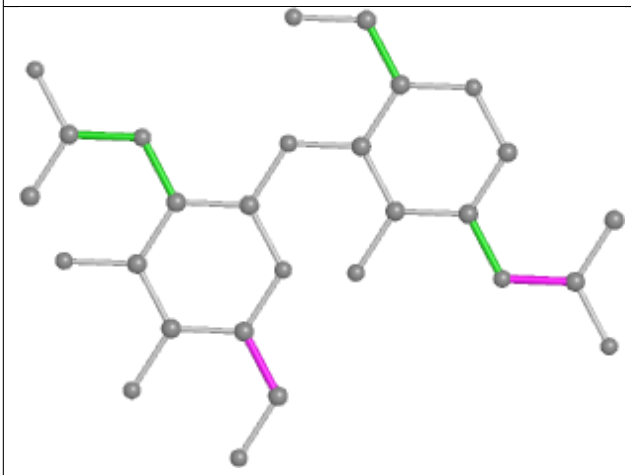
Oligosaccharide Chain X



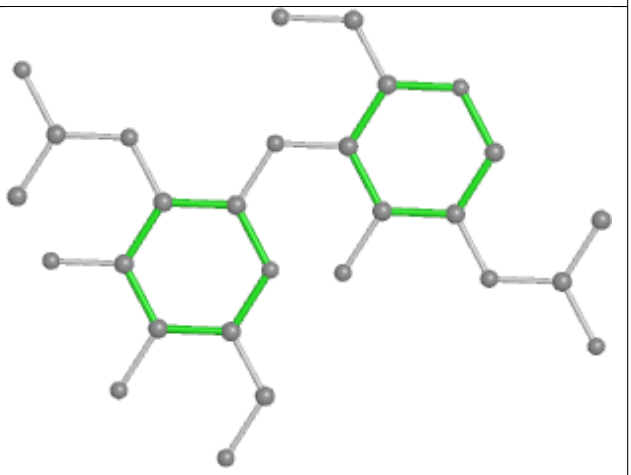
Bond lengths



Bond angles

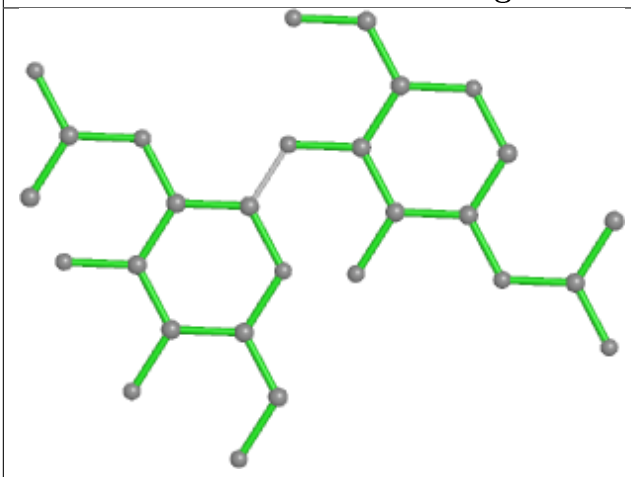


Torsions

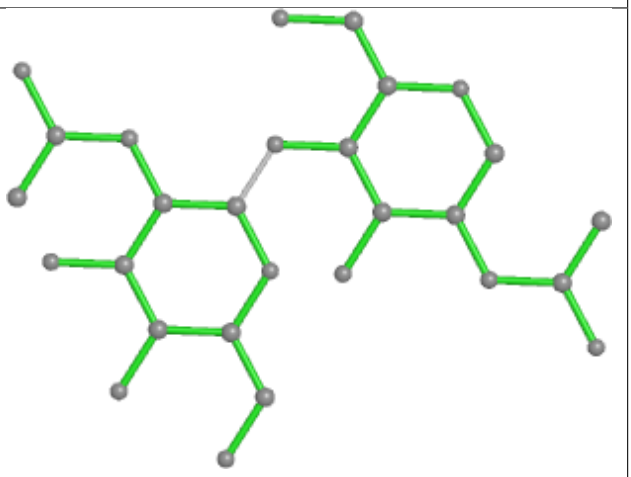


Rings

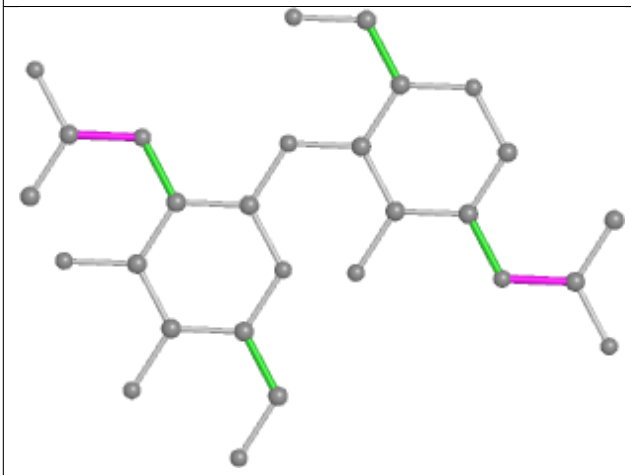
Oligosaccharide Chain Y



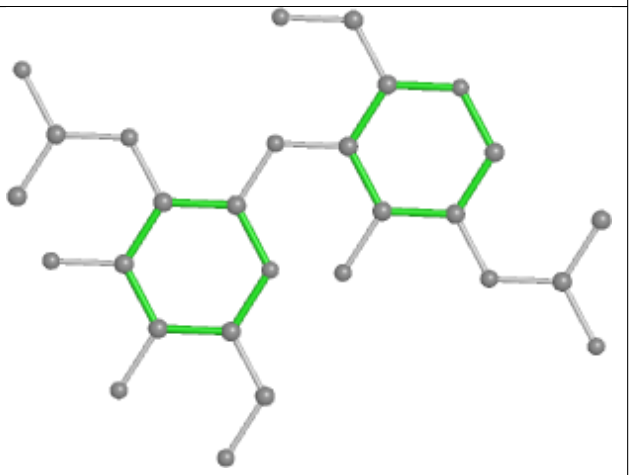
Bond lengths



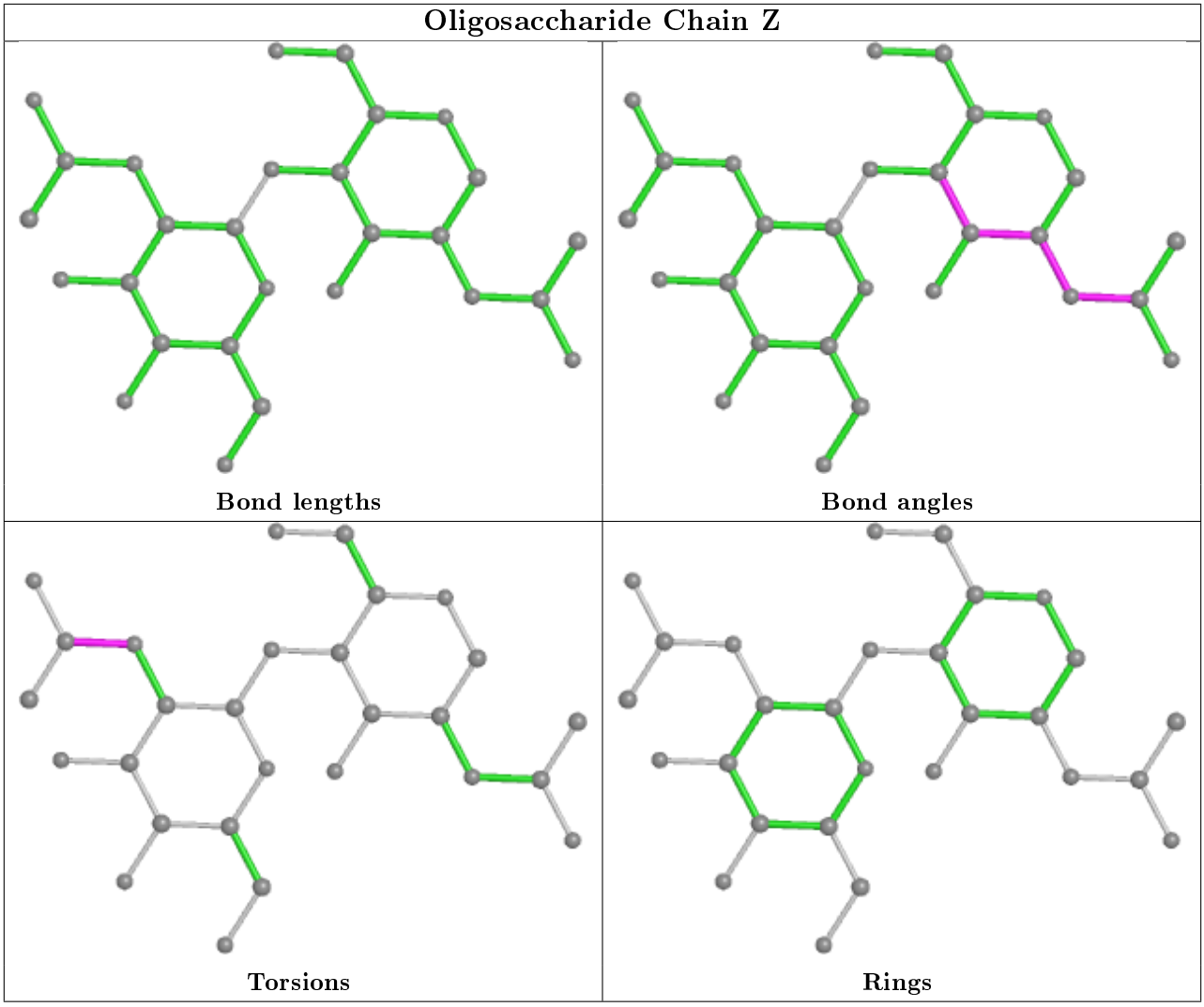
Bond angles



Torsions



Rings



5.6 Ligand geometry

20 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	$\#\|Z\| > 2$
4	NAG	B	3022	1	14,14,15	0.42	0	17,19,21	0.70	0
4	NAG	A	3022	1	14,14,15	0.43	0	17,19,21	0.67	0
4	NAG	D	3022	1	14,14,15	0.42	0	17,19,21	0.67	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	NAG	C	3014	1	14,14,15	0.45	0	17,19,21	1.43	3 (17%)
4	NAG	A	3019	1	14,14,15	0.44	0	17,19,21	0.68	0
4	NAG	A	3014	1	14,14,15	0.45	0	17,19,21	1.46	3 (17%)
4	NAG	A	3000	1	14,14,15	0.41	0	17,19,21	1.35	2 (11%)
4	NAG	C	3022	1	14,14,15	0.42	0	17,19,21	0.70	0
4	NAG	C	3019	1	14,14,15	0.42	0	17,19,21	0.68	0
4	NAG	A	3011	1	14,14,15	0.42	0	17,19,21	0.71	0
4	NAG	D	3011	1	14,14,15	0.42	0	17,19,21	0.72	0
4	NAG	D	3019	1	14,14,15	0.44	0	17,19,21	0.69	0
4	NAG	B	3011	1	14,14,15	0.43	0	17,19,21	0.69	0
4	NAG	C	3000	1	14,14,15	0.42	0	17,19,21	1.35	2 (11%)
4	NAG	C	3011	1	14,14,15	0.42	0	17,19,21	0.72	0
4	NAG	D	3014	1	14,14,15	0.45	0	17,19,21	1.45	3 (17%)
4	NAG	B	3000	1	14,14,15	0.41	0	17,19,21	1.35	2 (11%)
4	NAG	B	3014	1	14,14,15	0.44	0	17,19,21	1.47	3 (17%)
4	NAG	B	3019	1	14,14,15	0.44	0	17,19,21	0.70	0
4	NAG	D	3000	1	14,14,15	0.41	0	17,19,21	1.34	2 (11%)

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
4	NAG	B	3022	1	-	2/6/23/26	0/1/1/1
4	NAG	A	3022	1	-	2/6/23/26	0/1/1/1
4	NAG	D	3022	1	-	2/6/23/26	0/1/1/1
4	NAG	C	3014	1	-	5/6/23/26	0/1/1/1
4	NAG	A	3019	1	-	2/6/23/26	0/1/1/1
4	NAG	A	3014	1	-	5/6/23/26	0/1/1/1
4	NAG	A	3000	1	-	3/6/23/26	0/1/1/1
4	NAG	C	3022	1	-	2/6/23/26	0/1/1/1
4	NAG	C	3019	1	-	2/6/23/26	0/1/1/1
4	NAG	A	3011	1	-	4/6/23/26	0/1/1/1
4	NAG	D	3011	1	-	4/6/23/26	0/1/1/1
4	NAG	D	3019	1	-	3/6/23/26	0/1/1/1
4	NAG	B	3011	1	-	4/6/23/26	0/1/1/1
4	NAG	C	3000	1	-	3/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	C	3011	1	-	4/6/23/26	0/1/1/1
4	NAG	D	3014	1	-	5/6/23/26	0/1/1/1
4	NAG	B	3000	1	-	3/6/23/26	0/1/1/1
4	NAG	B	3014	1	-	5/6/23/26	0/1/1/1
4	NAG	B	3019	1	-	3/6/23/26	0/1/1/1
4	NAG	D	3000	1	-	3/6/23/26	0/1/1/1

There are no bond length outliers.

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	3014	NAG	C2-N2-C7	4.17	128.84	122.90
4	B	3014	NAG	C2-N2-C7	4.07	128.70	122.90
4	D	3014	NAG	C2-N2-C7	4.07	128.70	122.90
4	A	3000	NAG	C1-C2-N2	4.02	117.36	110.49
4	B	3000	NAG	C1-C2-N2	4.02	117.35	110.49
4	D	3000	NAG	C1-C2-N2	4.01	117.33	110.49
4	C	3000	NAG	C1-C2-N2	3.97	117.28	110.49
4	C	3014	NAG	C2-N2-C7	3.91	128.47	122.90
4	C	3000	NAG	C2-N2-C7	3.29	127.59	122.90
4	A	3000	NAG	C2-N2-C7	3.25	127.53	122.90
4	D	3000	NAG	C2-N2-C7	3.25	127.53	122.90
4	B	3000	NAG	C2-N2-C7	3.25	127.53	122.90
4	C	3014	NAG	C1-C2-N2	3.04	115.68	110.49
4	B	3014	NAG	C1-C2-N2	2.97	115.55	110.49
4	D	3014	NAG	C1-C2-N2	2.92	115.47	110.49
4	A	3014	NAG	C1-C2-N2	2.90	115.44	110.49
4	A	3014	NAG	O5-C1-C2	2.55	115.31	111.29
4	B	3014	NAG	O5-C1-C2	2.53	115.28	111.29
4	C	3014	NAG	O5-C1-C2	2.51	115.25	111.29
4	D	3014	NAG	O5-C1-C2	2.50	115.24	111.29

There are no chirality outliers.

All (66) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	3022	NAG	O7-C7-N2-C2
4	A	3022	NAG	O7-C7-N2-C2
4	D	3022	NAG	O7-C7-N2-C2
4	A	3019	NAG	C8-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
4	A	3019	NAG	O7-C7-N2-C2
4	A	3000	NAG	C8-C7-N2-C2
4	A	3000	NAG	O7-C7-N2-C2
4	C	3022	NAG	O7-C7-N2-C2
4	C	3019	NAG	C8-C7-N2-C2
4	C	3019	NAG	O7-C7-N2-C2
4	D	3019	NAG	C8-C7-N2-C2
4	D	3019	NAG	O7-C7-N2-C2
4	C	3000	NAG	C8-C7-N2-C2
4	C	3000	NAG	O7-C7-N2-C2
4	B	3000	NAG	C8-C7-N2-C2
4	B	3000	NAG	O7-C7-N2-C2
4	B	3019	NAG	C8-C7-N2-C2
4	B	3019	NAG	O7-C7-N2-C2
4	D	3000	NAG	C8-C7-N2-C2
4	D	3000	NAG	O7-C7-N2-C2
4	B	3022	NAG	C8-C7-N2-C2
4	A	3022	NAG	C8-C7-N2-C2
4	D	3022	NAG	C8-C7-N2-C2
4	C	3022	NAG	C8-C7-N2-C2
4	A	3011	NAG	C8-C7-N2-C2
4	A	3011	NAG	O7-C7-N2-C2
4	D	3011	NAG	C8-C7-N2-C2
4	D	3011	NAG	O7-C7-N2-C2
4	B	3011	NAG	C8-C7-N2-C2
4	B	3011	NAG	O7-C7-N2-C2
4	C	3011	NAG	C8-C7-N2-C2
4	C	3011	NAG	O7-C7-N2-C2
4	C	3014	NAG	C8-C7-N2-C2
4	D	3014	NAG	C8-C7-N2-C2
4	B	3014	NAG	C8-C7-N2-C2
4	C	3014	NAG	O5-C5-C6-O6
4	D	3014	NAG	O5-C5-C6-O6
4	B	3014	NAG	O5-C5-C6-O6
4	A	3014	NAG	O5-C5-C6-O6
4	C	3014	NAG	O7-C7-N2-C2
4	A	3014	NAG	C8-C7-N2-C2
4	D	3014	NAG	O7-C7-N2-C2
4	B	3014	NAG	O7-C7-N2-C2
4	C	3014	NAG	C1-C2-N2-C7
4	A	3014	NAG	C1-C2-N2-C7
4	D	3014	NAG	C1-C2-N2-C7

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Mol	Chain	Res	Type	Atoms
4	B	3014	NAG	C1-C2-N2-C7
4	A	3014	NAG	O7-C7-N2-C2
4	B	3011	NAG	O5-C5-C6-O6
4	A	3011	NAG	O5-C5-C6-O6
4	D	3011	NAG	O5-C5-C6-O6
4	C	3011	NAG	O5-C5-C6-O6
4	C	3014	NAG	C4-C5-C6-O6
4	D	3014	NAG	C4-C5-C6-O6
4	B	3014	NAG	C4-C5-C6-O6
4	A	3014	NAG	C4-C5-C6-O6
4	B	3011	NAG	C4-C5-C6-O6
4	A	3000	NAG	C3-C2-N2-C7
4	C	3000	NAG	C3-C2-N2-C7
4	B	3000	NAG	C3-C2-N2-C7
4	D	3000	NAG	C3-C2-N2-C7
4	A	3011	NAG	C4-C5-C6-O6
4	C	3011	NAG	C4-C5-C6-O6
4	D	3011	NAG	C4-C5-C6-O6
4	D	3019	NAG	C4-C5-C6-O6
4	B	3019	NAG	C4-C5-C6-O6

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	1836/1859 (98%)	1.25	337 (18%) 1 1	39, 80, 142, 183	0
1	B	1836/1859 (98%)	1.18	283 (15%) 2 2	40, 74, 129, 163	0
1	C	1836/1859 (98%)	0.95	146 (7%) 12 13	33, 57, 103, 143	0
1	D	1836/1859 (98%)	1.19	266 (14%) 2 2	33, 72, 136, 176	0
All	All	7344/7436 (98%)	1.14	1032 (14%) 2 3	33, 71, 130, 183	0

All (1032) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	1421	ASN	17.5
1	B	1491	TYR	16.2
1	A	1491	TYR	11.4
1	D	2686	ILE	11.4
1	A	1184	LEU	11.2
1	B	982	TYR	10.9
1	A	1488	GLY	10.8
1	B	1490	ASP	10.7
1	D	1491	TYR	10.4
1	D	1490	ASP	10.4
1	A	982	TYR	9.8
1	D	1307	PHE	9.4
1	D	982	TYR	8.6
1	B	1489	ILE	8.5
1	D	983	PRO	8.4
1	B	1035	LEU	8.3
1	A	1490	ASP	8.3
1	D	974	GLY	8.3
1	B	973	VAL	8.2
1	D	1309	HIS	8.2
1	B	1419	GLY	8.0

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Mol	Chain	Res	Type	RSRZ
1	C	1491	TYR	8.0
1	A	983	PRO	7.8
1	A	1309	HIS	7.8
1	D	2688	GLY	7.8
1	A	1010	PHE	7.7
1	D	2648	TYR	7.7
1	A	2202	TRP	7.5
1	A	1036	VAL	7.4
1	A	1421	ASN	7.4
1	D	985	TYR	7.3
1	C	1486	VAL	7.3
1	A	1054	ARG	7.3
1	A	1350	LEU	7.3
1	A	1489	ILE	7.3
1	D	1184	LEU	7.2
1	B	1010	PHE	7.2
1	A	1307	PHE	7.1
1	D	1310	SER	7.0
1	A	2394	TYR	7.0
1	C	1490	ASP	6.8
1	B	1176	PHE	6.7
1	A	965	VAL	6.7
1	B	1426	VAL	6.7
1	D	1012	ARG	6.6
1	D	1036	VAL	6.5
1	D	2649	PHE	6.5
1	A	1417	LEU	6.5
1	C	1421	ASN	6.5
1	D	1349	ASP	6.4
1	B	983	PRO	6.4
1	A	2220	LEU	6.4
1	B	1350	LEU	6.3
1	D	1419	GLY	6.2
1	C	1489	ILE	6.2
1	D	2685	LEU	6.1
1	A	1333	THR	6.1
1	B	1417	LEU	6.0
1	B	1049	LEU	6.0
1	D	1489	ILE	5.9
1	D	1049	LEU	5.9
1	B	1048	ASP	5.9
1	B	1488	GLY	5.8

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Mol	Chain	Res	Type	RSRZ
1	C	982	TYR	5.8
1	A	1012	ARG	5.8
1	D	965	VAL	5.8
1	A	1405	ILE	5.8
1	B	1346	GLY	5.8
1	A	1410	GLN	5.7
1	B	1011	GLU	5.7
1	D	2633	TYR	5.6
1	D	1052	PHE	5.6
1	A	1310	SER	5.6
1	A	979	PHE	5.6
1	A	984	LYS	5.6
1	B	1487	PRO	5.5
1	C	1424	THR	5.4
1	B	1185	ILE	5.4
1	A	1045	PRO	5.4
1	A	985	TYR	5.4
1	B	1307	PHE	5.4
1	A	2218	LEU	5.4
1	A	964	VAL	5.3
1	D	1054	ARG	5.3
1	A	974	GLY	5.3
1	C	985	TYR	5.2
1	B	1054	ARG	5.2
1	D	1015	PHE	5.2
1	B	1186	LEU	5.2
1	C	1365	LEU	5.2
1	A	1418	LEU	5.1
1	B	1404	MET	5.1
1	D	1114	ILE	5.1
1	B	1365	LEU	5.1
1	A	1349	ASP	5.1
1	B	1310	SER	5.0
1	B	1311	ASN	5.0
1	A	1251	ILE	5.0
1	C	1419	GLY	5.0
1	D	1010	PHE	5.0
1	D	1442	LEU	5.0
1	D	2687	ASN	5.0
1	A	1365	LEU	5.0
1	A	1424	THR	5.0
1	C	973	VAL	4.9

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Mol	Chain	Res	Type	RSRZ
1	B	1184	LEU	4.9
1	B	1444	TRP	4.9
1	D	1421	ASN	4.9
1	B	1020	ARG	4.9
1	B	1427	ARG	4.9
1	A	2201	TYR	4.9
1	A	1419	GLY	4.9
1	A	1400	VAL	4.9
1	A	1303	ARG	4.9
1	B	1405	ILE	4.9
1	B	1424	THR	4.9
1	B	965	VAL	4.8
1	A	1314	ALA	4.8
1	A	1186	LEU	4.8
1	D	2696	ILE	4.8
1	B	985	TYR	4.8
1	D	2684	LEU	4.8
1	D	2773	TYR	4.8
1	D	2690	THR	4.7
1	D	1417	LEU	4.7
1	B	1428	PRO	4.7
1	B	1457	LEU	4.7
1	B	1571	LEU	4.7
1	B	1315	HIS	4.7
1	A	1142	PHE	4.7
1	B	1554	VAL	4.7
1	A	1014	PRO	4.7
1	D	1486	VAL	4.6
1	B	1396	LEU	4.6
1	B	1394	TYR	4.6
1	D	1284	PHE	4.6
1	D	1148	LEU	4.6
1	D	1423	LEU	4.6
1	B	1389	ILE	4.5
1	A	2221	GLY	4.5
1	B	1297	THR	4.5
1	A	1148	LEU	4.5
1	D	1311	ASN	4.5
1	D	979	PHE	4.5
1	B	1453	MET	4.5
1	A	1013	ALA	4.5
1	A	1444	TRP	4.5

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Mol	Chain	Res	Type	RSRZ
1	B	1329	TYR	4.5
1	A	1436	ASP	4.4
1	B	1122	LEU	4.4
1	D	2708	ARG	4.4
1	D	1053	VAL	4.4
1	A	2383	PHE	4.4
1	B	1012	ARG	4.4
1	D	2711	LEU	4.4
1	A	1053	VAL	4.4
1	D	964	VAL	4.4
1	D	1315	HIS	4.4
1	A	1453	MET	4.4
1	D	1424	THR	4.4
1	D	973	VAL	4.3
1	B	2689	ARG	4.3
1	D	1484	CYS	4.3
1	B	1474	VAL	4.3
1	B	2202	TRP	4.3
1	A	1047	CYS	4.3
1	D	1306	GLU	4.3
1	C	1423	LEU	4.3
1	D	1554	VAL	4.3
1	B	1309	HIS	4.3
1	B	1178	TYR	4.3
1	C	983	PRO	4.3
1	D	2706	ASN	4.2
1	A	2227	THR	4.2
1	C	1554	VAL	4.2
1	D	1185	ILE	4.2
1	A	1384	MET	4.2
1	A	1590	LEU	4.2
1	B	1339	TYR	4.2
1	A	1048	ASP	4.2
1	A	1308	LYS	4.2
1	B	1413	ILE	4.2
1	C	1049	LEU	4.2
1	D	1014	PRO	4.2
1	B	1308	LYS	4.2
1	B	1486	VAL	4.2
1	D	989	ILE	4.2
1	D	1255	SER	4.2
1	A	988	THR	4.1

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Mol	Chain	Res	Type	RSRZ
1	B	1578	ALA	4.1
1	B	2688	GLY	4.1
1	D	1047	CYS	4.1
1	D	1488	GLY	4.1
1	C	1011	GLU	4.1
1	D	1422	ASP	4.1
1	A	1484	CYS	4.1
1	B	1047	CYS	4.1
1	D	2131	ILE	4.1
1	A	1396	LEU	4.1
1	A	1015	PHE	4.1
1	D	2693	PHE	4.1
1	B	1484	CYS	4.1
1	B	1355	GLU	4.1
1	D	2549	GLN	4.1
1	D	1048	ASP	4.0
1	B	1485	GLN	4.0
1	B	979	PHE	4.0
1	A	1389	ILE	4.0
1	D	1129	LEU	4.0
1	C	1047	CYS	4.0
1	D	2650	VAL	4.0
1	D	1312	ASN	4.0
1	B	1367	PHE	4.0
1	A	1284	PHE	4.0
1	C	1427	ARG	4.0
1	D	2689	ARG	4.0
1	B	975	VAL	4.0
1	B	1414	ILE	3.9
1	A	1398	TYR	3.9
1	D	1365	LEU	3.9
1	A	1477	ILE	3.9
1	B	992	GLN	3.9
1	B	1410	GLN	3.9
1	D	1045	PRO	3.9
1	C	1444	TRP	3.9
1	D	2694	THR	3.9
1	D	2707	ILE	3.9
1	D	2716	LEU	3.9
1	D	2720	LYS	3.9
1	B	1299	ILE	3.9
1	B	1420	SER	3.9

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Mol	Chain	Res	Type	RSRZ
1	C	1010	PHE	3.9
1	D	975	VAL	3.9
1	A	1413	ILE	3.9
1	D	1269	VAL	3.9
1	C	1013	ALA	3.9
1	D	1350	LEU	3.9
1	C	965	VAL	3.8
1	B	1590	LEU	3.8
1	A	1515	VAL	3.8
1	D	1187	TRP	3.8
1	D	1444	TRP	3.8
1	C	974	GLY	3.8
1	A	1343	SER	3.8
1	A	1269	VAL	3.8
1	A	1255	SER	3.8
1	A	1407	LYS	3.8
1	A	973	VAL	3.8
1	B	1468	ILE	3.8
1	B	1032	MET	3.8
1	A	1129	LEU	3.8
1	B	1284	PHE	3.7
1	C	1048	ASP	3.7
1	C	1488	GLY	3.7
1	B	1328	LEU	3.7
1	A	1399	PHE	3.7
1	A	1035	LEU	3.7
1	D	998	LEU	3.7
1	C	1054	ARG	3.7
1	C	1394	TYR	3.7
1	A	1517	TYR	3.7
1	B	1422	ASP	3.7
1	D	1308	LYS	3.7
1	D	1183	SER	3.7
1	A	1113	ILE	3.7
1	A	2191	VAL	3.7
1	B	1053	VAL	3.7
1	B	964	VAL	3.7
1	B	1300	LEU	3.6
1	C	1122	LEU	3.6
1	C	1310	SER	3.6
1	B	1366	PRO	3.6
1	D	1142	PHE	3.6

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Mol	Chain	Res	Type	RSRZ
1	A	1422	ASP	3.6
1	A	2768	GLN	3.6
1	A	2176	MET	3.6
1	C	1396	LEU	3.6
1	D	1590	LEU	3.6
1	D	1769	ASP	3.6
1	A	1296	VAL	3.6
1	D	1186	LEU	3.6
1	B	1238	VAL	3.6
1	B	2687	ASN	3.6
1	D	1366	PRO	3.6
1	B	1316	LYS	3.6
1	A	1585	ILE	3.6
1	B	1255	SER	3.6
1	A	1346	GLY	3.6
1	B	1459	VAL	3.6
1	C	1590	LEU	3.6
1	D	1346	GLY	3.6
1	D	1116	THR	3.6
1	A	1486	VAL	3.5
1	D	2218	LEU	3.5
1	B	1398	TYR	3.5
1	B	1483	HIS	3.5
1	D	1115	MET	3.5
1	D	1251	ILE	3.5
1	C	1053	VAL	3.5
1	D	1426	VAL	3.5
1	A	1052	PHE	3.5
1	A	1872	ARG	3.5
1	C	1012	ARG	3.5
1	B	1341	VAL	3.5
1	A	1317	TYR	3.5
1	B	1030	TYR	3.5
1	A	1769	ASP	3.5
1	B	1024	LEU	3.5
1	B	1664	LEU	3.5
1	B	2220	LEU	3.5
1	B	1253	CYS	3.5
1	D	1300	LEU	3.4
1	D	2652	ILE	3.4
1	A	980	VAL	3.4
1	B	1672	GLY	3.4

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Mol	Chain	Res	Type	RSRZ
1	C	977	VAL	3.4
1	D	1425	ALA	3.4
1	C	1255	SER	3.4
1	A	2545	CYS	3.4
1	B	1302	LEU	3.4
1	C	1389	ILE	3.4
1	A	1420	SER	3.4
1	B	1000	ALA	3.4
1	A	1115	MET	3.4
1	D	2632	HIS	3.4
1	C	2755	ASP	3.4
1	A	2648	TYR	3.4
1	D	1303	ARG	3.4
1	D	2643	GLY	3.4
1	A	1130	MET	3.4
1	A	989	ILE	3.4
1	A	1541	LEU	3.4
1	B	1448	LEU	3.4
1	D	1266	LEU	3.4
1	D	1529	LEU	3.4
1	A	1311	ASN	3.4
1	D	1020	ARG	3.4
1	A	2222	PRO	3.4
1	C	1410	GLN	3.4
1	A	1059	ILE	3.4
1	C	1417	LEU	3.4
1	C	1484	CYS	3.4
1	C	1036	VAL	3.3
1	B	1014	PRO	3.3
1	A	1029	PHE	3.3
1	D	1498	ILE	3.3
1	C	1769	ASP	3.3
1	D	2710	GLY	3.3
1	B	1347	THR	3.3
1	C	1425	ALA	3.3
1	A	1547	ASP	3.3
1	A	1367	PHE	3.3
1	C	979	PHE	3.3
1	A	2174	ALA	3.3
1	B	1482	MET	3.3
1	D	2662	LEU	3.3
1	A	2198	SER	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	1307	PHE	3.3
1	D	1059	ILE	3.3
1	B	1371	ARG	3.3
1	B	1359	GLY	3.3
1	C	984	LYS	3.3
1	A	1437	VAL	3.3
1	D	1258	GLY	3.2
1	A	1009	HIS	3.2
1	B	1187	TRP	3.2
1	D	984	LYS	3.2
1	A	1125	ILE	3.2
1	A	1294	ARG	3.2
1	A	1366	PRO	3.2
1	C	1487	PRO	3.2
1	A	2364	TYR	3.2
1	A	1259	LEU	3.2
1	A	2200	MET	3.2
1	D	1396	LEU	3.2
1	A	2131	ILE	3.2
1	D	2709	TYR	3.2
1	B	977	VAL	3.2
1	D	1405	ILE	3.2
1	A	1315	HIS	3.2
1	B	1022	VAL	3.2
1	B	1330	VAL	3.2
1	B	2140	LEU	3.2
1	D	2634	LEU	3.2
1	A	1403	THR	3.2
1	A	1023	TRP	3.2
1	A	2498	LEU	3.2
1	A	2798	GLU	3.1
1	C	1183	SER	3.1
1	D	1050	SER	3.1
1	B	1023	TRP	3.1
1	B	1353	ASN	3.1
1	A	1457	LEU	3.1
1	A	1441	ARG	3.1
1	D	2705	ILE	3.1
1	D	1925	PHE	3.1
1	A	2785	ALA	3.1
1	B	1643	TYR	3.1
1	C	1426	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
1	A	1427	ARG	3.1
1	B	2218	LEU	3.1
1	B	1333	THR	3.1
1	B	2755	ASP	3.1
1	A	1159	ALA	3.1
1	B	1036	VAL	3.1
1	D	2718	GLU	3.1
1	A	1529	LEU	3.1
1	D	1259	LEU	3.1
1	B	1593	ILE	3.1
1	B	981	LYS	3.1
1	D	1296	VAL	3.1
1	A	1329	TYR	3.1
1	B	1286	TYR	3.1
1	B	1343	SER	3.1
1	B	1344	LEU	3.1
1	D	1034	THR	3.1
1	A	1326	GLY	3.1
1	D	1113	ILE	3.1
1	B	1303	ARG	3.1
1	B	1314	ALA	3.1
1	A	1174	VAL	3.0
1	B	1127	VAL	3.0
1	D	999	VAL	3.0
1	D	1046	SER	3.0
1	A	1037	MET	3.0
1	A	1187	TRP	3.0
1	B	1247	ARG	3.0
1	C	2521	ILE	3.0
1	B	1870	HIS	3.0
1	A	2436	VAL	3.0
1	A	1306	GLU	3.0
1	A	1049	LEU	3.0
1	B	1337	ARG	3.0
1	D	2051	GLY	3.0
1	A	2437	ILE	3.0
1	B	1407	LYS	3.0
1	D	2585	ALA	3.0
1	D	2683	THR	3.0
1	A	1265	LEU	3.0
1	B	1769	ASP	3.0
1	B	1242	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	2521	ILE	3.0
1	B	1671	SER	3.0
1	D	991	ARG	3.0
1	D	1330	VAL	3.0
1	C	992	GLN	3.0
1	D	2732	LEU	3.0
1	B	1031	ALA	3.0
1	B	2163	ILE	3.0
1	A	1341	VAL	3.0
1	A	1474	VAL	3.0
1	A	2142	VAL	3.0
1	C	1357	VAL	3.0
1	A	1300	LEU	3.0
1	A	1312	ASN	3.0
1	C	1870	HIS	3.0
1	D	1427	ARG	3.0
1	B	1501	ALA	3.0
1	A	1518	ILE	3.0
1	D	2602	PHE	3.0
1	C	1296	VAL	3.0
1	C	1247	ARG	3.0
1	C	1303	ARG	3.0
1	D	2725	ASP	2.9
1	B	1441	ARG	2.9
1	B	1251	ILE	2.9
1	B	1595	ILE	2.9
1	D	1123	ASN	2.9
1	C	1366	PRO	2.9
1	C	1284	PHE	2.9
1	A	1440	VAL	2.9
1	B	1281	VAL	2.9
1	A	2753	TRP	2.9
1	A	1032	MET	2.9
1	A	2435	LEU	2.9
1	A	2051	GLY	2.9
1	A	2687	ASN	2.9
1	A	1461	GLU	2.9
1	A	2195	MET	2.9
1	D	1429	LEU	2.9
1	A	1348	LYS	2.9
1	B	1461	GLU	2.9
1	A	1051	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	2404	LEU	2.9
1	B	1037	MET	2.9
1	D	1130	MET	2.9
1	D	1317	TYR	2.9
1	A	1476	ILE	2.9
1	A	2104	ILE	2.9
1	B	2686	ILE	2.9
1	A	1426	VAL	2.9
1	C	1346	GLY	2.9
1	B	1257	ASN	2.9
1	A	1124	LEU	2.9
1	A	2382	LEU	2.9
1	B	998	LEU	2.9
1	B	1402	ALA	2.9
1	B	1874	LEU	2.9
1	A	1114	ILE	2.8
1	C	1585	ILE	2.8
1	D	1242	ILE	2.8
1	D	1410	GLN	2.8
1	D	1035	LEU	2.8
1	D	1023	TRP	2.8
1	D	1329	TYR	2.8
1	A	1757	LYS	2.8
1	A	2137	GLU	2.8
1	C	989	ILE	2.8
1	D	2768	GLN	2.8
1	B	1399	PHE	2.8
1	B	2383	PHE	2.8
1	D	1321	VAL	2.8
1	A	1404	MET	2.8
1	B	1384	MET	2.8
1	B	1529	LEU	2.8
1	D	1199	LEU	2.8
1	A	2223	TYR	2.8
1	B	1285	ASN	2.8
1	A	2551	ILE	2.8
1	A	2652	ILE	2.8
1	C	1317	TYR	2.8
1	D	1436	ASP	2.8
1	A	1754	GLU	2.8
1	A	2412	LEU	2.8
1	A	2684	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
1	B	1423	LEU	2.8
1	D	1302	LEU	2.8
1	B	990	THR	2.8
1	A	1394	TYR	2.8
1	A	2371	ILE	2.8
1	B	1160	TYR	2.8
1	D	1757	LYS	2.8
1	B	1666	VAL	2.8
1	D	1314	ALA	2.8
1	A	1302	LEU	2.8
1	A	2518	LEU	2.8
1	B	1100	LEU	2.8
1	C	1186	LEU	2.8
1	A	2344	GLY	2.8
1	A	1256	CYS	2.8
1	A	2393	TYR	2.8
1	B	1632	TYR	2.8
1	A	1870	HIS	2.8
1	A	2100	VAL	2.8
1	D	1174	VAL	2.8
1	D	2436	VAL	2.8
1	A	998	LEU	2.8
1	A	2178	LEU	2.8
1	D	1389	ILE	2.8
1	D	1477	ILE	2.8
1	C	1329	TYR	2.8
1	B	1296	VAL	2.7
1	B	1391	VAL	2.7
1	C	998	LEU	2.7
1	B	1338	ILE	2.7
1	C	1498	ILE	2.7
1	D	2798	GLU	2.7
1	A	1770	ASP	2.7
1	B	1056	ASP	2.7
1	B	1364	CYS	2.7
1	A	1268	PRO	2.7
1	A	2205	VAL	2.7
1	C	1404	MET	2.7
1	A	1385	SER	2.7
1	C	1420	SER	2.7
1	A	1925	PHE	2.7
1	B	1379	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	1176	PHE	2.7
1	B	1265	LEU	2.7
1	A	2686	ILE	2.7
1	D	1487	PRO	2.7
1	A	987	TYR	2.7
1	A	1425	ALA	2.7
1	A	2326	VAL	2.7
1	B	1357	VAL	2.7
1	A	1471	ASN	2.7
1	A	2685	LEU	2.7
1	C	1333	THR	2.7
1	D	1435	MET	2.7
1	D	2712	THR	2.7
1	B	1301	GLU	2.7
1	A	1604	ILE	2.7
1	A	2139	PRO	2.7
1	D	1200	ASP	2.7
1	A	1397	MET	2.7
1	A	1435	MET	2.7
1	D	1188	GLU	2.7
1	A	1298	SER	2.7
1	B	1290	ILE	2.7
1	A	1116	THR	2.7
1	B	1324	VAL	2.7
1	C	972	LEU	2.7
1	A	2472	MET	2.7
1	A	1026	TRP	2.6
1	A	1468	ILE	2.6
1	A	1176	PHE	2.6
1	B	1860	VAL	2.6
1	B	1916	LEU	2.6
1	B	2576	ARG	2.6
1	C	975	VAL	2.6
1	D	1872	ARG	2.6
1	A	1005	SER	2.6
1	C	1004	SER	2.6
1	A	1460	LEU	2.6
1	A	2008	VAL	2.6
1	A	2082	LEU	2.6
1	A	2407	PHE	2.6
1	D	956	LEU	2.6
1	D	996	PHE	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	1349	ASP	2.6
1	B	1831	ILE	2.6
1	D	2545	CYS	2.6
1	D	1316	LYS	2.6
1	B	1317	TYR	2.6
1	B	1458	TYR	2.6
1	D	1301	GLU	2.6
1	B	2384	ALA	2.6
1	D	1478	ALA	2.6
1	B	2551	ILE	2.6
1	D	1413	ILE	2.6
1	D	1359	GLY	2.6
1	A	1380	ASP	2.6
1	B	1354	SER	2.6
1	B	987	TYR	2.6
1	B	1872	ARG	2.6
1	B	1893	ARG	2.6
1	D	1355	GLU	2.6
1	C	1407	LYS	2.6
1	A	1492	SER	2.6
1	A	1100	LEU	2.6
1	B	1029	PHE	2.6
1	B	1269	VAL	2.6
1	B	2200	MET	2.6
1	A	1458	TYR	2.6
1	D	1339	TYR	2.6
1	A	1498	ILE	2.6
1	D	1172	VAL	2.5
1	C	1332	ASP	2.5
1	A	1316	LYS	2.5
1	A	1183	SER	2.5
1	A	1429	LEU	2.5
1	D	1124	LEU	2.5
1	A	1359	GLY	2.5
1	A	1354	SER	2.5
1	A	2135	ILE	2.5
1	B	1847	ILE	2.5
1	A	1355	GLU	2.5
1	B	1369	GLU	2.5
1	D	1473	GLN	2.5
1	A	2374	LEU	2.5
1	B	1119	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
1	C	1187	TRP	2.5
1	A	975	VAL	2.5
1	A	1058	VAL	2.5
1	D	2126	PHE	2.5
1	D	1252	SER	2.5
1	D	2636	LYS	2.5
1	A	970	THR	2.5
1	A	2171	ILE	2.5
1	C	1309	HIS	2.5
1	A	972	LEU	2.5
1	A	1266	LEU	2.5
1	B	1008	LEU	2.5
1	B	1442	LEU	2.5
1	C	1529	LEU	2.5
1	C	1355	GLU	2.5
1	A	1363	GLN	2.5
1	A	2713	ALA	2.5
1	C	1578	ALA	2.5
1	D	1420	SER	2.5
1	A	1371	ARG	2.5
1	A	1465	ILE	2.5
1	A	1847	ILE	2.5
1	C	1405	ILE	2.5
1	D	1814	ILE	2.5
1	A	1442	LEU	2.5
1	B	1540	LEU	2.5
1	C	1541	LEU	2.5
1	B	1152	PHE	2.5
1	C	1402	ALA	2.5
1	D	2691	ARG	2.5
1	A	1189	LYS	2.5
1	D	1407	LYS	2.5
1	B	1294	ARG	2.4
1	A	2384	ALA	2.4
1	A	2406	VAL	2.4
1	C	1052	PHE	2.4
1	C	1058	VAL	2.4
1	D	1171	VAL	2.4
1	B	1966	GLU	2.4
1	A	1830	THR	2.4
1	B	1861	THR	2.4
1	D	2753	TRP	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	1339	TYR	2.4
1	D	1286	TYR	2.4
1	A	2414	ILE	2.4
1	C	1593	ILE	2.4
1	D	1518	ILE	2.4
1	A	2389	SER	2.4
1	C	1184	LEU	2.4
1	D	1738	LEU	2.4
1	B	2472	MET	2.4
1	D	2472	MET	2.4
1	D	1029	PHE	2.4
1	A	1508	ILE	2.4
1	B	1888	ILE	2.4
1	B	2170	ILE	2.4
1	A	1344	LEU	2.4
1	C	1442	LEU	2.4
1	C	1448	LEU	2.4
1	D	1032	MET	2.4
1	D	2713	ALA	2.4
1	D	2326	VAL	2.4
1	B	986	GLY	2.4
1	B	1021	THR	2.4
1	B	1436	ASP	2.4
1	D	981	LYS	2.4
1	A	1119	LEU	2.4
1	A	1540	LEU	2.4
1	B	1139	GLN	2.4
1	A	2149	GLU	2.4
1	D	1013	ALA	2.4
1	B	1924	PHE	2.4
1	A	1279	LEU	2.4
1	B	1875	LEU	2.4
1	D	1448	LEU	2.4
1	A	1342	LYS	2.4
1	B	1401	ASP	2.4
1	A	1323	PRO	2.4
1	A	2395	VAL	2.4
1	D	988	THR	2.4
1	D	990	THR	2.4
1	A	2773	TYR	2.4
1	A	2143	ASP	2.4
1	B	1266	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	1460	LEU	2.4
1	C	1265	LEU	2.4
1	B	1144	ALA	2.4
1	A	1869	VAL	2.4
1	A	1495	LYS	2.3
1	D	1126	LYS	2.3
1	A	1332	ASP	2.3
1	A	1290	ILE	2.3
1	A	1510	ILE	2.3
1	A	2096	ILE	2.3
1	C	1477	ILE	2.3
1	A	994	GLY	2.3
1	C	1137	LEU	2.3
1	C	1370	ALA	2.3
1	D	1418	LEU	2.3
1	B	1638	THR	2.3
1	A	996	PHE	2.3
1	A	1450	VAL	2.3
1	A	2126	PHE	2.3
1	B	1214	VAL	2.3
1	B	1471	ASN	2.3
1	C	1050	SER	2.3
1	D	1004	SER	2.3
1	D	968	ASP	2.3
1	D	1790	ASP	2.3
1	B	1206	GLY	2.3
1	C	1485	GLN	2.3
1	A	1448	LEU	2.3
1	B	1425	ALA	2.3
1	D	972	LEU	2.3
1	D	1540	LEU	2.3
1	A	1392	ASP	2.3
1	A	1575	SER	2.3
1	A	1895	PHE	2.3
1	D	977	VAL	2.3
1	D	1772	VAL	2.3
1	A	1011	GLU	2.3
1	A	1140	LYS	2.3
1	D	1870	HIS	2.3
1	D	2647	HIS	2.3
1	B	960	ILE	2.3
1	B	2437	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	2705	ILE	2.3
1	C	1518	ILE	2.3
1	A	1487	PRO	2.3
1	A	1353	ASN	2.3
1	C	1460	LEU	2.3
1	A	1127	VAL	2.3
1	B	1440	VAL	2.3
1	C	1822	VAL	2.3
1	D	1294	ARG	2.3
1	B	1181	CYS	2.3
1	C	1478	ALA	2.3
1	C	1824	ALA	2.3
1	D	1005	SER	2.3
1	C	1482	MET	2.3
1	A	1172	VAL	2.3
1	D	2752	VAL	2.3
1	A	2316	ARG	2.3
1	A	2692	ARG	2.3
1	A	2287	ASP	2.3
1	C	1392	ASP	2.3
1	C	1260	ALA	2.3
1	B	1403	THR	2.3
1	D	1333	THR	2.3
1	D	2082	LEU	2.3
1	D	2539	LEU	2.3
1	A	2795	ARG	2.3
1	C	1020	ARG	2.3
1	A	1772	VAL	2.3
1	A	2175	VAL	2.3
1	D	1792	VAL	2.3
1	D	2609	VAL	2.3
1	A	2720	LYS	2.3
1	B	1498	ILE	2.3
1	C	1413	ILE	2.3
1	A	1024	LEU	2.2
1	B	1823	LEU	2.2
1	B	1282	GLY	2.2
1	D	1177	GLU	2.2
1	D	1398	TYR	2.2
1	C	2299	CYS	2.2
1	B	1925	PHE	2.2
1	D	2723	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	1182	PRO	2.2
1	B	1445	PRO	2.2
1	B	1018	GLN	2.2
1	A	1144	ALA	2.2
1	B	1125	ILE	2.2
1	D	1125	ILE	2.2
1	D	2608	ARG	2.2
1	A	1838	LEU	2.2
1	A	2291	LYS	2.2
1	B	1222	LEU	2.2
1	B	1429	LEU	2.2
1	B	2577	LEU	2.2
1	C	1100	LEU	2.2
1	A	1669	ASP	2.2
1	D	1547	ASP	2.2
1	D	2010	TYR	2.2
1	A	1179	GLU	2.2
1	A	2363	VAL	2.2
1	B	1822	VAL	2.2
1	D	980	VAL	2.2
1	D	2008	VAL	2.2
1	D	2451	VAL	2.2
1	D	2679	VAL	2.2
1	A	1004	SER	2.2
1	D	1026	TRP	2.2
1	A	1126	LYS	2.2
1	A	1824	ALA	2.2
1	A	2409	ILE	2.2
1	B	989	ILE	2.2
1	B	1013	ALA	2.2
1	B	1518	ILE	2.2
1	B	1604	ILE	2.2
1	C	1468	ILE	2.2
1	C	1604	ILE	2.2
1	C	1830	THR	2.2
1	A	2647	HIS	2.2
1	D	2220	LEU	2.2
1	B	1435	MET	2.2
1	C	2472	MET	2.2
1	A	1386	PRO	2.2
1	A	1445	PRO	2.2
1	A	2197	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	1316	LYS	2.2
1	C	1459	VAL	2.2
1	D	1400	VAL	2.2
1	D	1437	VAL	2.2
1	B	1050	SER	2.2
1	A	2150	ILE	2.2
1	B	1312	ASN	2.2
1	C	1059	ILE	2.2
1	C	2581	ILE	2.2
1	B	2404	LEU	2.2
1	C	1302	LEU	2.2
1	D	1100	LEU	2.2
1	A	1286	TYR	2.2
1	B	2523	PRO	2.2
1	B	1131	VAL	2.2
1	B	2126	PHE	2.2
1	A	1188	GLU	2.2
1	C	1347	THR	2.2
1	A	1275	ILE	2.2
1	C	1125	ILE	2.2
1	D	2641	ILE	2.2
1	B	984	LYS	2.2
1	D	2132	LYS	2.2
1	C	1129	LEU	2.2
1	C	1319	LEU	2.2
1	D	1344	LEU	2.2
1	A	1250	SER	2.2
1	A	2386	GLU	2.2
1	A	2531	TYR	2.2
1	B	1470	GLU	2.2
1	C	1754	GLU	2.2
1	B	1295	ASN	2.2
1	D	1257	ASN	2.2
1	D	1464	VAL	2.2
1	D	2512	VAL	2.2
1	C	1176	PHE	2.2
1	A	1446	THR	2.2
1	A	1414	ILE	2.2
1	A	1593	ILE	2.2
1	B	2014	ILE	2.2
1	C	2616	ILE	2.2
1	D	1397	MET	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	2165	TYR	2.1
1	C	1398	TYR	2.1
1	A	1459	VAL	2.1
1	B	1450	VAL	2.1
1	B	1579	VAL	2.1
1	C	1074	ARG	2.1
1	A	1287	ILE	2.1
1	A	1814	ILE	2.1
1	C	2150	ILE	2.1
1	A	1008	LEU	2.1
1	B	1199	LEU	2.1
1	B	2761	LEU	2.1
1	C	1687	LEU	2.1
1	D	1833	ARG	2.1
1	A	1822	VAL	2.1
1	A	967	THR	2.1
1	A	1402	ALA	2.1
1	A	2204	THR	2.1
1	A	2224	ALA	2.1
1	D	2656	ASP	2.1
1	B	1059	ILE	2.1
1	D	2135	ILE	2.1
1	A	2447	LEU	2.1
1	B	1006	LEU	2.1
1	B	1636	LEU	2.1
1	C	1323	PRO	2.1
1	A	2109	GLU	2.1
1	A	1034	THR	2.1
1	A	1357	VAL	2.1
1	A	2360	VAL	2.1
1	B	2205	VAL	2.1
1	B	2631	ALA	2.1
1	C	980	VAL	2.1
1	C	1339	TYR	2.1
1	D	1578	ALA	2.1
1	B	1447	ASP	2.1
1	C	1422	ASP	2.1
1	A	2199	LEU	2.1
1	A	2482	PRO	2.1
1	A	2688	GLY	2.1
1	B	2642	GLU	2.1
1	C	2523	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	1693	GLY	2.1
1	D	1847	ILE	2.1
1	A	2784	LEU	2.1
1	D	1097	LEU	2.1
1	A	1131	VAL	2.1
1	A	1390	ALA	2.1
1	A	2552	THR	2.1
1	B	1400	VAL	2.1
1	C	1464	VAL	2.1
1	A	1020	ARG	2.1
1	A	2086	GLY	2.1
1	B	2096	ILE	2.1
1	C	1457	LEU	2.1
1	C	1571	LEU	2.1
1	D	2035	LEU	2.1
1	A	2385	MET	2.1
1	B	1243	MET	2.1
1	C	1483	HIS	2.1
1	A	1031	ALA	2.1
1	B	2172	THR	2.1
1	D	1285	ASN	2.1
1	A	977	VAL	2.1
1	A	2609	VAL	2.1
1	C	1772	VAL	2.1
1	D	1131	VAL	2.1
1	D	1474	VAL	2.1
1	D	2363	VAL	2.1
1	B	1318	TYR	2.1
1	B	1517	TYR	2.1
1	D	1138	PHE	2.1
1	D	2698	PHE	2.1
1	A	2099	LEU	2.1
1	B	1110	LEU	2.1
1	B	1877	ILE	2.1
1	B	2685	LEU	2.1
1	D	1008	LEU	2.1
1	D	1439	GLN	2.1
1	A	2052	LYS	2.1
1	D	1861	THR	2.1
1	B	1277	GLY	2.1
1	B	1376	GLY	2.1
1	D	1256	CYS	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	2344	GLY	2.1
1	B	1452	PRO	2.1
1	A	2745	ASP	2.0
1	B	1642	LEU	2.0
1	C	1414	ILE	2.0
1	C	1526	ILE	2.0
1	C	2632	HIS	2.0
1	B	1209	LEU	2.0
1	C	2012	ARG	2.0
1	D	959	LEU	2.0
1	D	1290	ILE	2.0
1	D	1768	ARG	2.0
1	B	1360	THR	2.0
1	D	2727	ALA	2.0
1	D	2731	ALA	2.0
1	B	1306	GLU	2.0
1	D	2701	SER	2.0
1	A	1292	PRO	2.0
1	A	1579	VAL	2.0
1	B	2191	VAL	2.0
1	D	1268	PRO	2.0
1	C	1023	TRP	2.0
1	C	2383	PHE	2.0
1	B	1342	LYS	2.0
1	A	1423	LEU	2.0
1	B	2135	ILE	2.0
1	B	2298	LEU	2.0
1	C	2096	ILE	2.0
1	B	1397	MET	2.0
1	B	1597	ALA	2.0
1	C	2389	SER	2.0
1	D	2389	SER	2.0
1	D	1357	VAL	2.0
1	A	1334	ASN	2.0
1	B	1256	CYS	2.0
1	A	1060	ILE	2.0
1	B	2498	LEU	2.0
1	C	1006	LEU	2.0
1	C	2546	GLU	2.0
1	D	1060	ILE	2.0
1	D	1460	LEU	2.0
1	A	1017	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	B	1252	SER	2.0
1	B	1446	THR	2.0
1	A	2317	ALA	2.0

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

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

6.3 Carbohydrates (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	MAN	E	7	11/12	0.55	0.23	172,175,175,176	0
2	MAN	E	6	11/12	0.61	0.20	182,185,186,186	0
2	MAN	W	8	11/12	0.66	0.23	137,141,146,147	0
2	MAN	K	7	11/12	0.70	0.18	117,122,127,129	0
2	MAN	E	8	11/12	0.72	0.25	175,176,176,176	0
2	MAN	W	7	11/12	0.74	0.18	120,124,130,133	0
3	NAG	Y	2	14/15	0.76	0.20	111,114,116,117	0
3	NAG	O	2	14/15	0.76	0.30	104,107,110,111	0
3	NAG	S	2	14/15	0.76	0.18	93,95,97,97	0
3	NAG	N	2	14/15	0.76	0.24	128,132,136,136	0
2	MAN	K	8	11/12	0.77	0.20	132,135,139,140	0
2	MAN	Q	7	11/12	0.77	0.20	103,109,113,113	0
3	NAG	J	2	14/15	0.77	0.15	93,94,97,99	0
3	NAG	P	2	14/15	0.77	0.16	86,89,92,92	0
2	MAN	E	4	11/12	0.78	0.25	164,166,168,171	0
3	NAG	a	2	14/15	0.79	0.35	107,111,116,117	0
3	NAG	G	2	14/15	0.80	0.24	110,112,117,118	0
3	NAG	b	1	14/15	0.81	0.15	89,99,102,102	0
3	NAG	b	2	14/15	0.81	0.18	96,102,107,110	0
2	MAN	Q	8	11/12	0.82	0.23	116,119,122,122	0
3	NAG	L	2	14/15	0.82	0.29	119,122,127,129	0
3	NAG	M	2	14/15	0.82	0.16	103,105,108,108	0
3	NAG	F	2	14/15	0.82	0.25	91,95,100,102	0
2	MAN	E	5	11/12	0.83	0.20	173,173,176,179	0
3	NAG	U	2	14/15	0.84	0.23	91,93,96,97	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	NAG	I	2	14/15	0.84	0.24	104,107,112,113	0
2	MAN	W	6	11/12	0.85	0.17	114,116,119,120	0
3	NAG	R	2	14/15	0.85	0.21	85,89,92,92	0
3	NAG	V	2	14/15	0.85	0.14	72,76,79,79	0
2	BMA	E	3	11/12	0.86	0.19	156,161,165,168	0
3	NAG	X	2	14/15	0.86	0.20	93,98,103,105	0
2	MAN	Q	6	11/12	0.86	0.18	92,95,98,99	0
3	NAG	H	2	14/15	0.86	0.15	104,109,113,114	0
3	NAG	T	2	14/15	0.86	0.17	91,94,97,98	0
2	MAN	K	5	11/12	0.87	0.16	104,107,111,114	0
2	MAN	K	6	11/12	0.87	0.20	118,121,123,123	0
3	NAG	I	1	14/15	0.87	0.22	82,90,96,100	0
3	NAG	N	1	14/15	0.88	0.18	100,110,116,122	0
3	NAG	Z	2	14/15	0.88	0.18	100,107,109,110	0
2	MAN	W	5	11/12	0.88	0.16	100,102,107,110	0
3	NAG	L	1	14/15	0.89	0.14	106,110,112,115	0
3	NAG	O	1	14/15	0.89	0.17	81,90,95,99	0
2	NAG	E	1	14/15	0.89	0.26	109,116,126,126	0
2	BMA	K	3	11/12	0.90	0.16	92,98,106,112	0
3	NAG	X	1	14/15	0.91	0.14	83,85,88,91	0
2	BMA	Q	3	11/12	0.91	0.15	76,77,90,97	0
3	NAG	J	1	14/15	0.91	0.16	78,87,93,93	0
3	NAG	a	1	14/15	0.92	0.16	87,95,102,104	0
2	BMA	W	3	11/12	0.92	0.17	96,99,108,114	0
3	NAG	U	1	14/15	0.92	0.14	69,79,83,86	0
2	MAN	K	4	11/12	0.93	0.14	96,102,107,108	0
3	NAG	F	1	14/15	0.93	0.14	77,80,84,87	0
2	MAN	Q	5	11/12	0.93	0.16	79,80,83,87	0
3	NAG	T	1	14/15	0.94	0.16	61,73,81,86	0
3	NAG	Z	1	14/15	0.94	0.18	59,77,86,92	0
2	NAG	E	2	14/15	0.94	0.18	129,136,140,150	0
3	NAG	G	1	14/15	0.94	0.15	93,96,100,105	0
2	NAG	Q	2	14/15	0.94	0.17	61,63,67,72	0
2	NAG	Q	1	14/15	0.94	0.16	47,52,56,57	0
3	NAG	H	1	14/15	0.94	0.17	76,89,97,100	0
3	NAG	R	1	14/15	0.94	0.15	70,73,76,81	0
2	NAG	W	1	14/15	0.94	0.16	67,73,78,80	0
3	NAG	V	1	14/15	0.95	0.16	46,54,58,65	0
2	NAG	K	1	14/15	0.95	0.15	55,63,69,70	0
3	NAG	M	1	14/15	0.95	0.17	91,92,96,99	0
2	NAG	K	2	14/15	0.95	0.15	72,74,78,85	0
3	NAG	P	1	14/15	0.95	0.15	69,77,80,83	0

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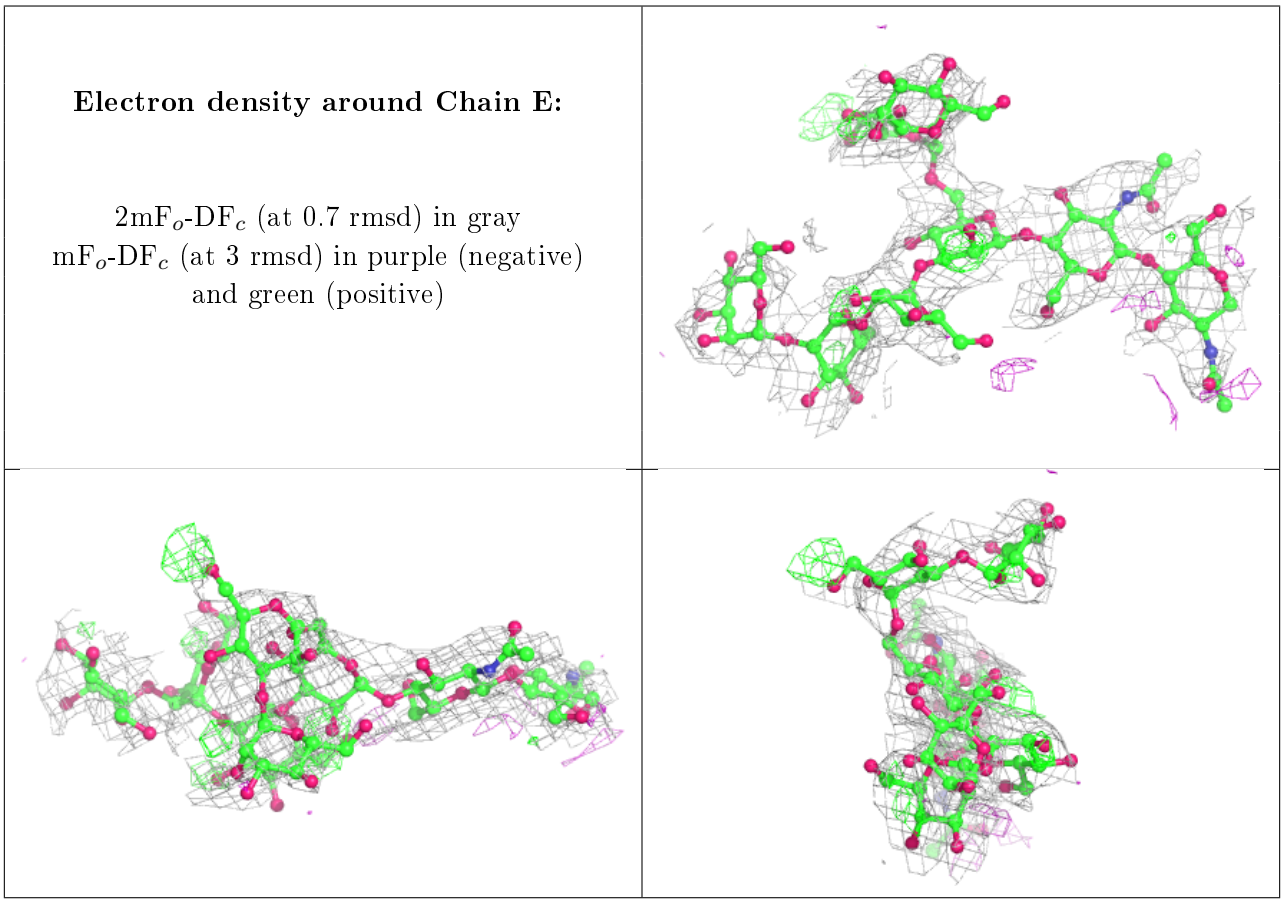
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	NAG	S	1	14/15	0.95	0.17	79,81,85,88	0
2	NAG	W	2	14/15	0.95	0.17	83,89,93,93	0
2	MAN	Q	4	11/12	0.95	0.12	67,72,75,78	0
3	NAG	Y	1	14/15	0.96	0.17	96,99,103,107	0
2	MAN	W	4	11/12	0.97	0.12	87,97,101,102	0

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.

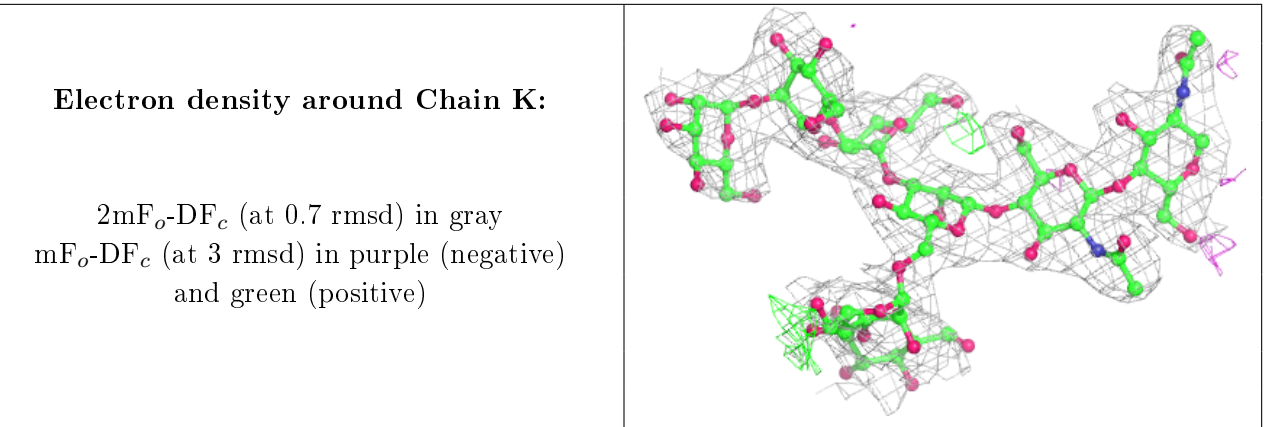
Electron density around Chain E:

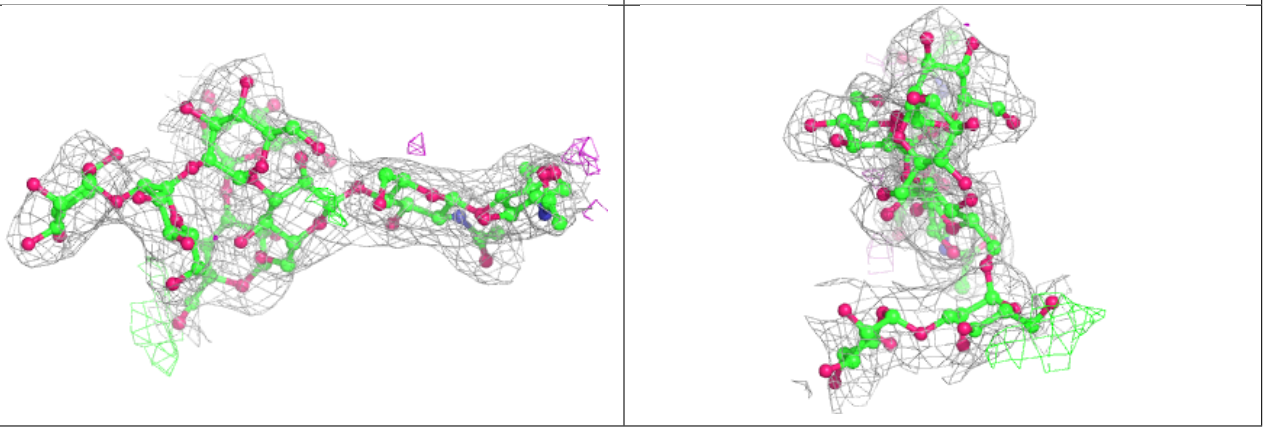
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around Chain K:

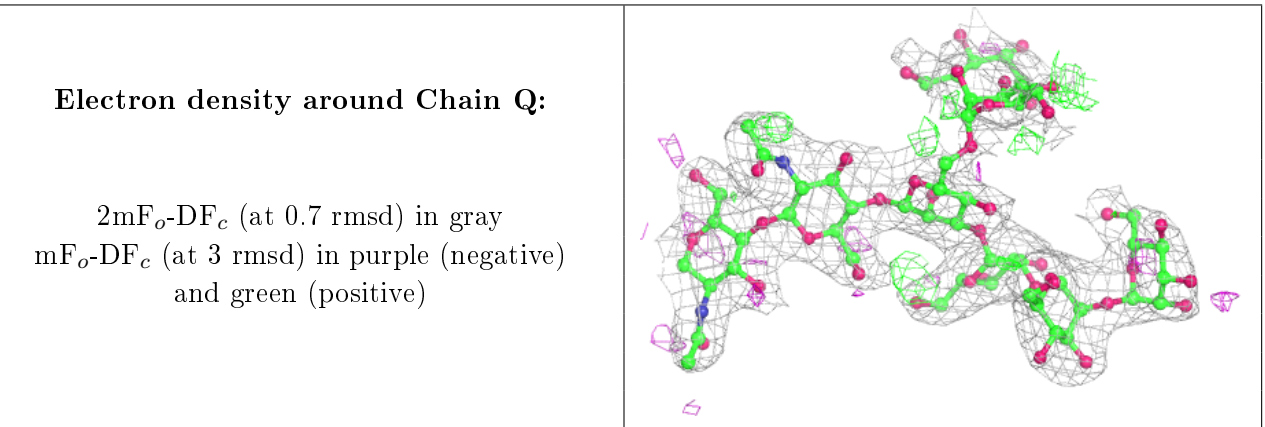
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

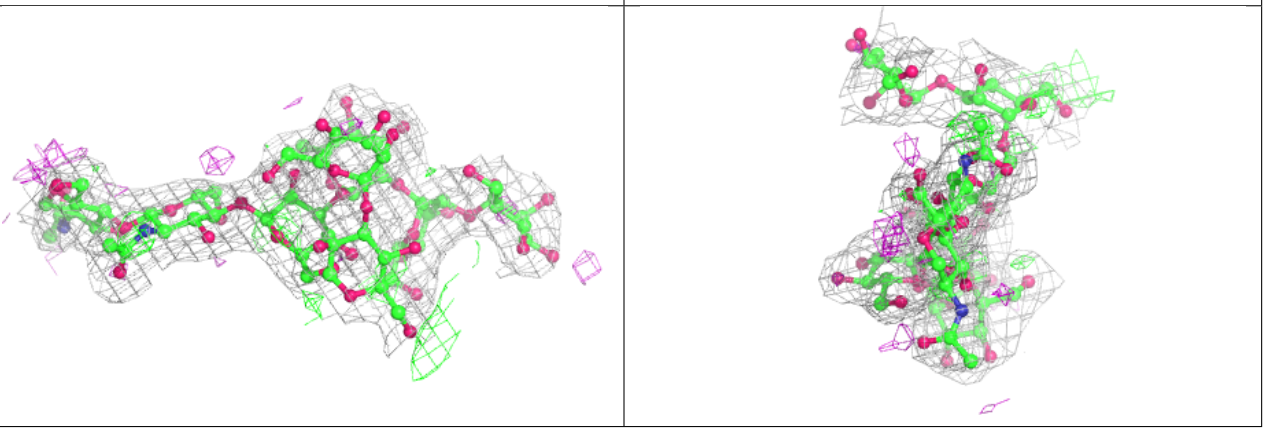




Electron density around Chain Q:

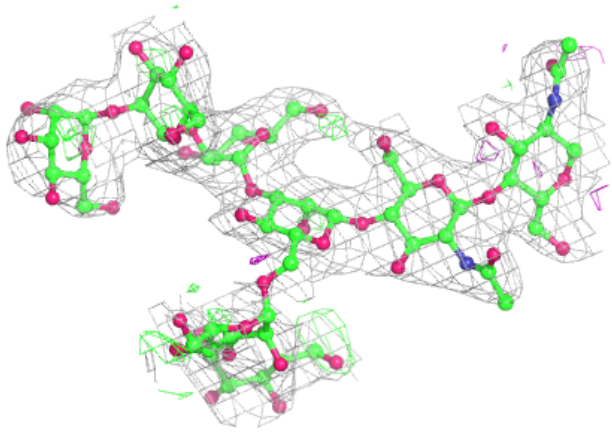
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

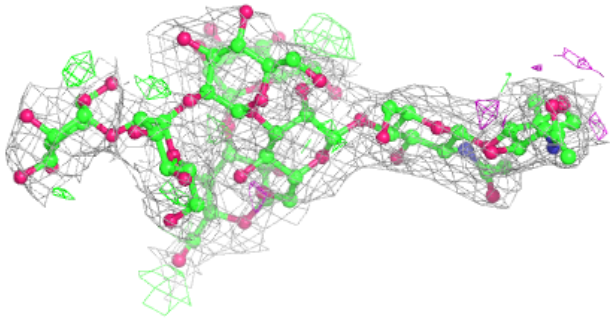


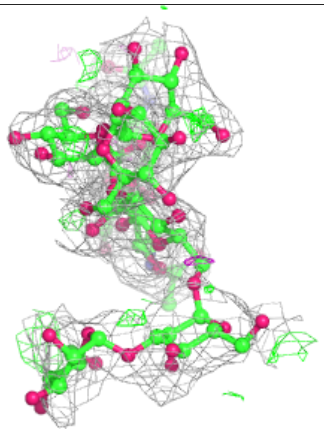


Electron density around Chain W:

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

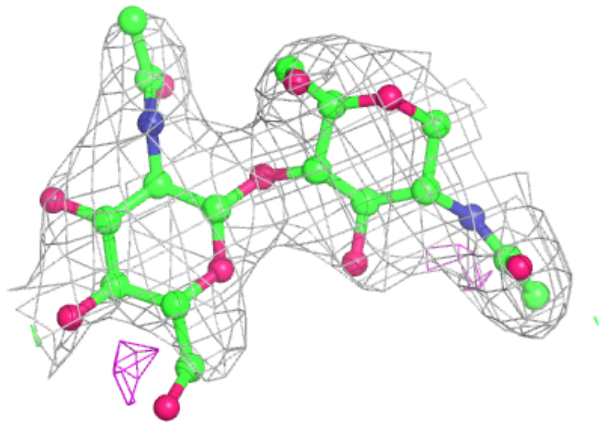


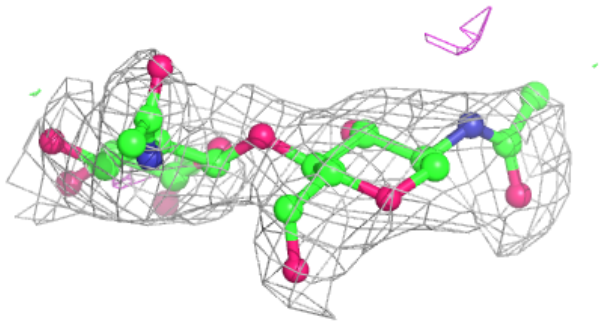


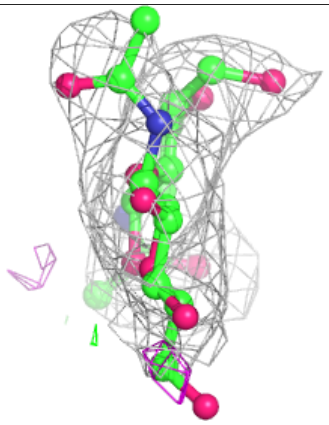


Electron density around Chain F:

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

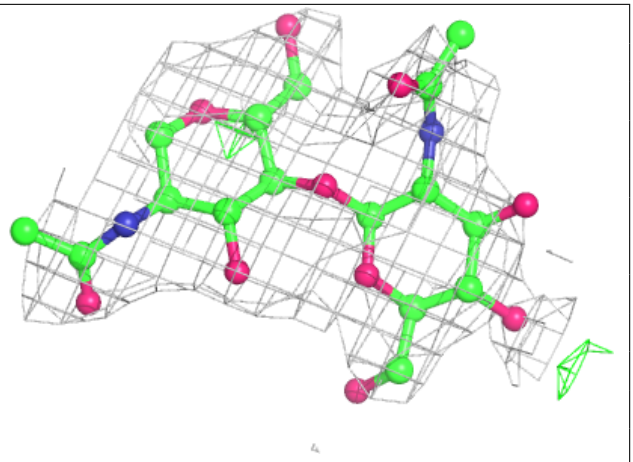


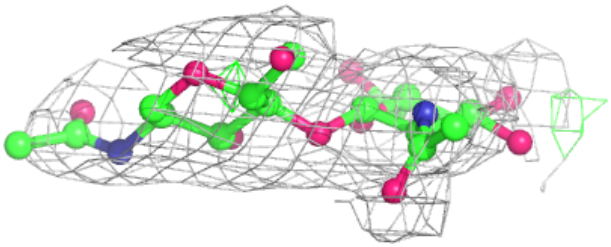


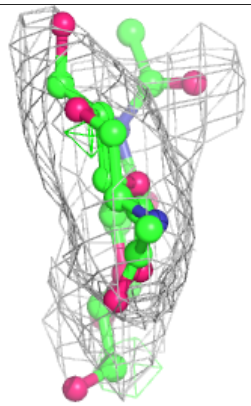


Electron density around Chain G:

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

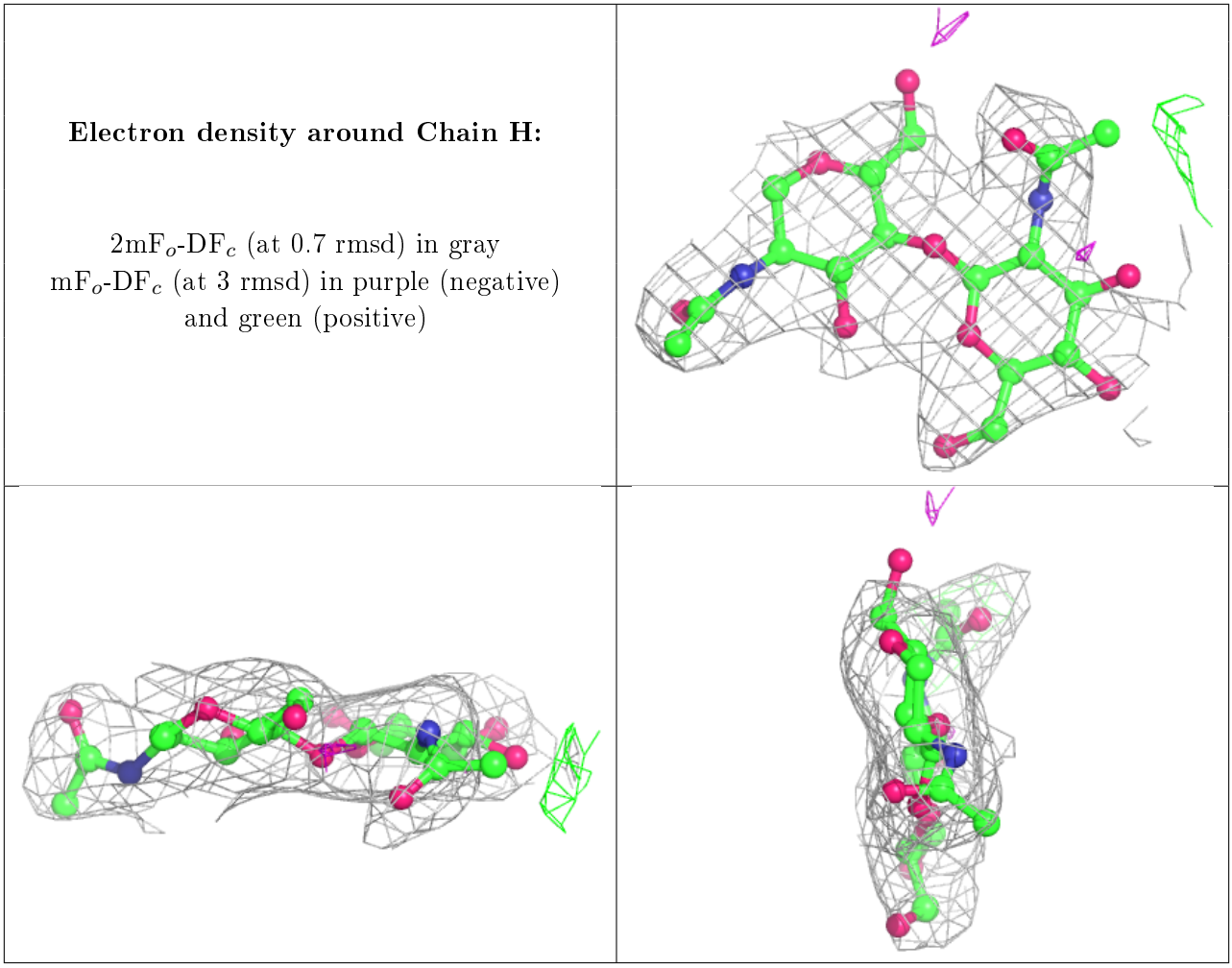






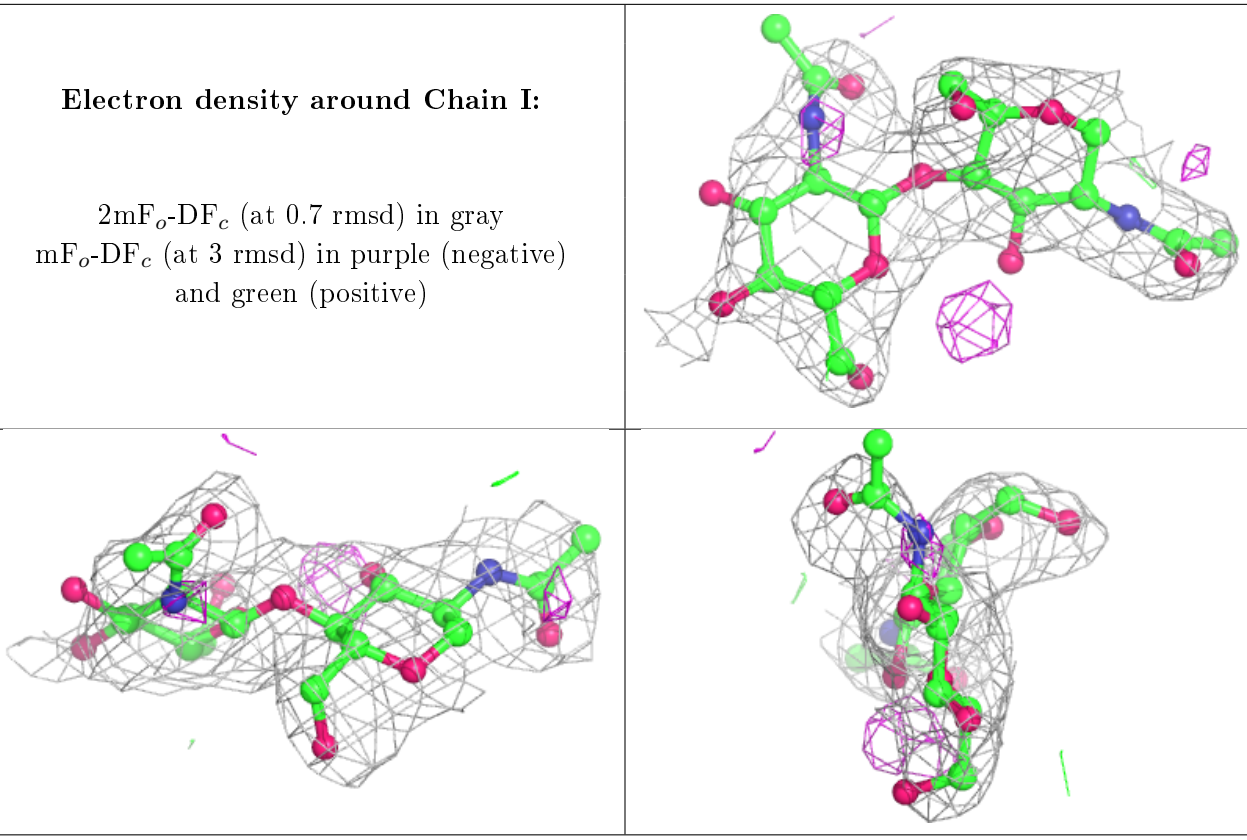
Electron density around Chain H:

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



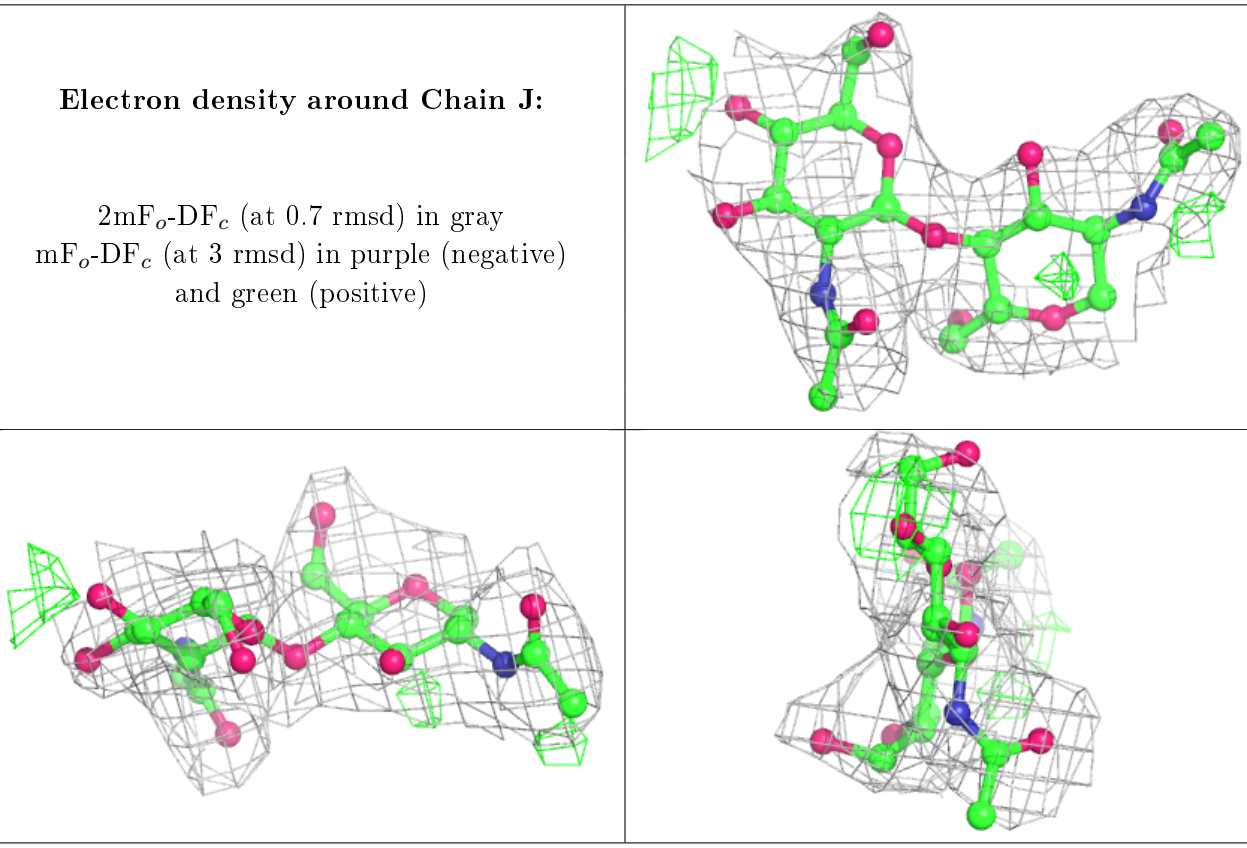
Electron density around Chain I:

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



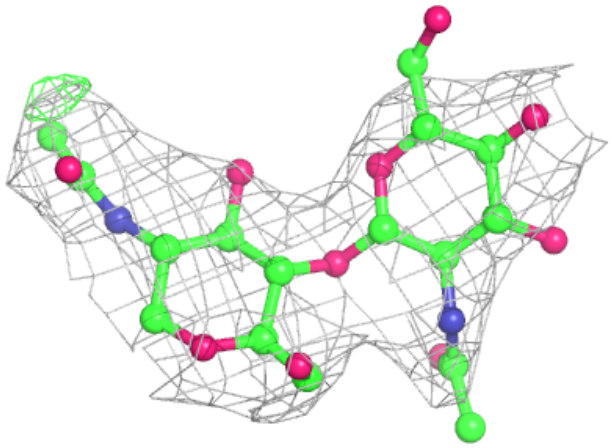
Electron density around Chain J:

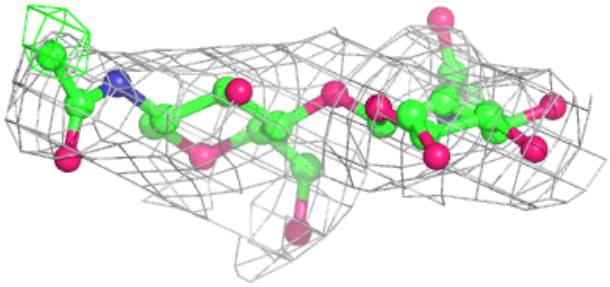
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

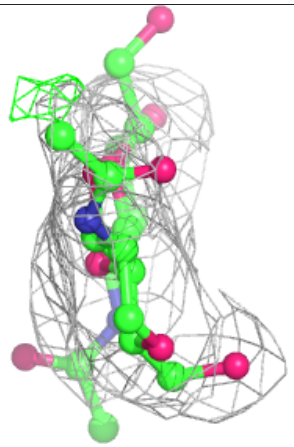


Electron density around Chain L:

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

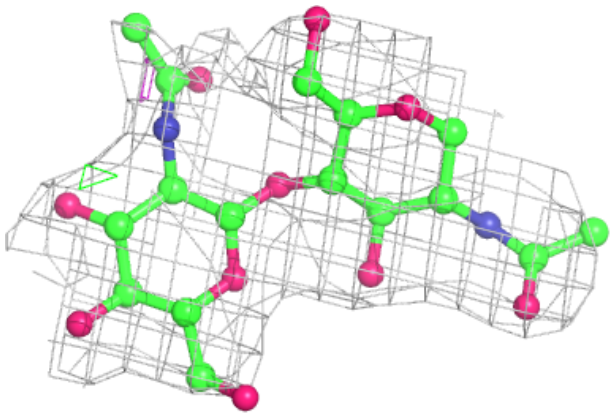


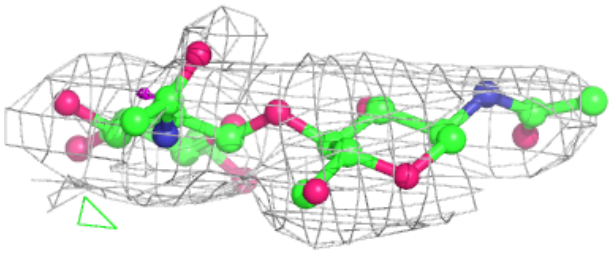


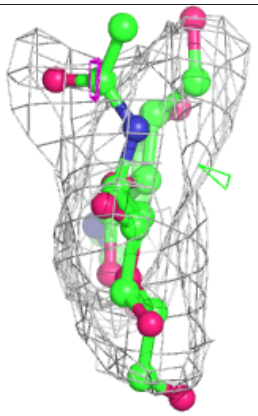


Electron density around Chain M:

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

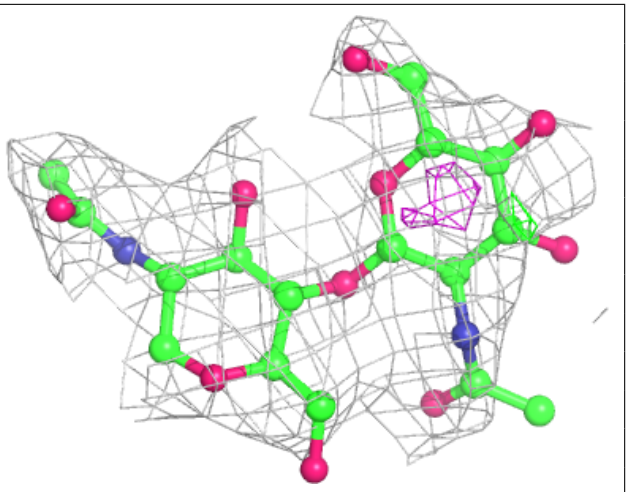


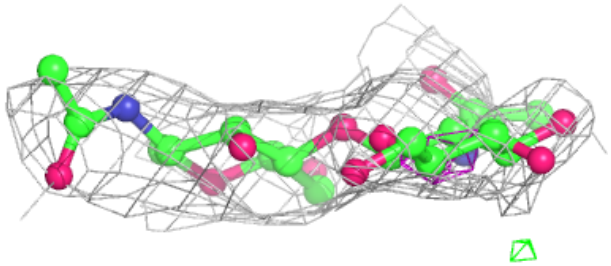


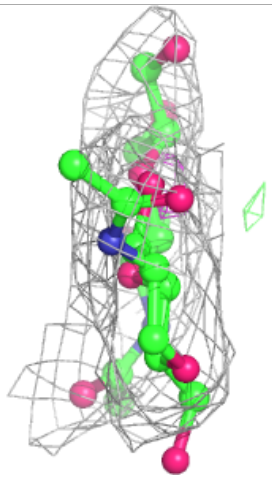


Electron density around Chain N:

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

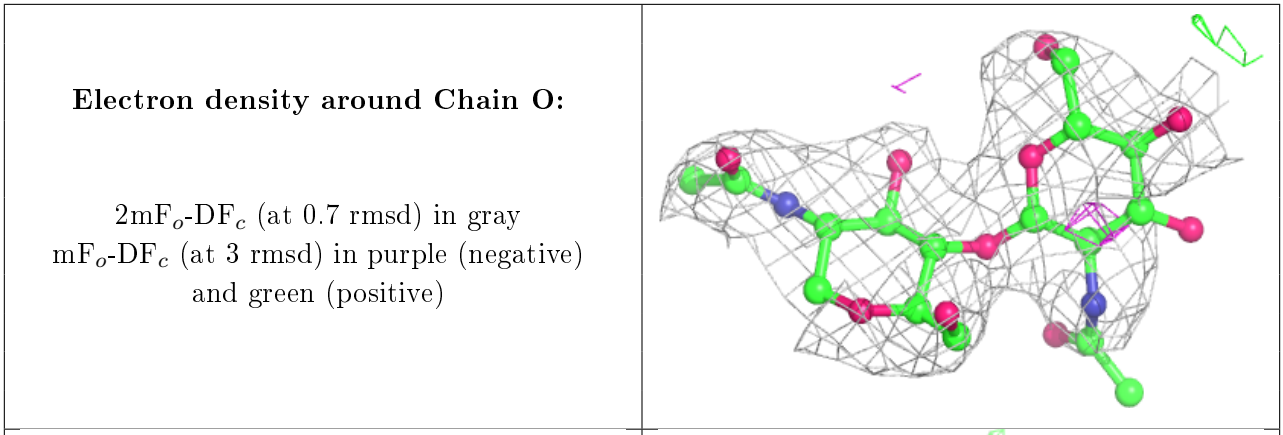






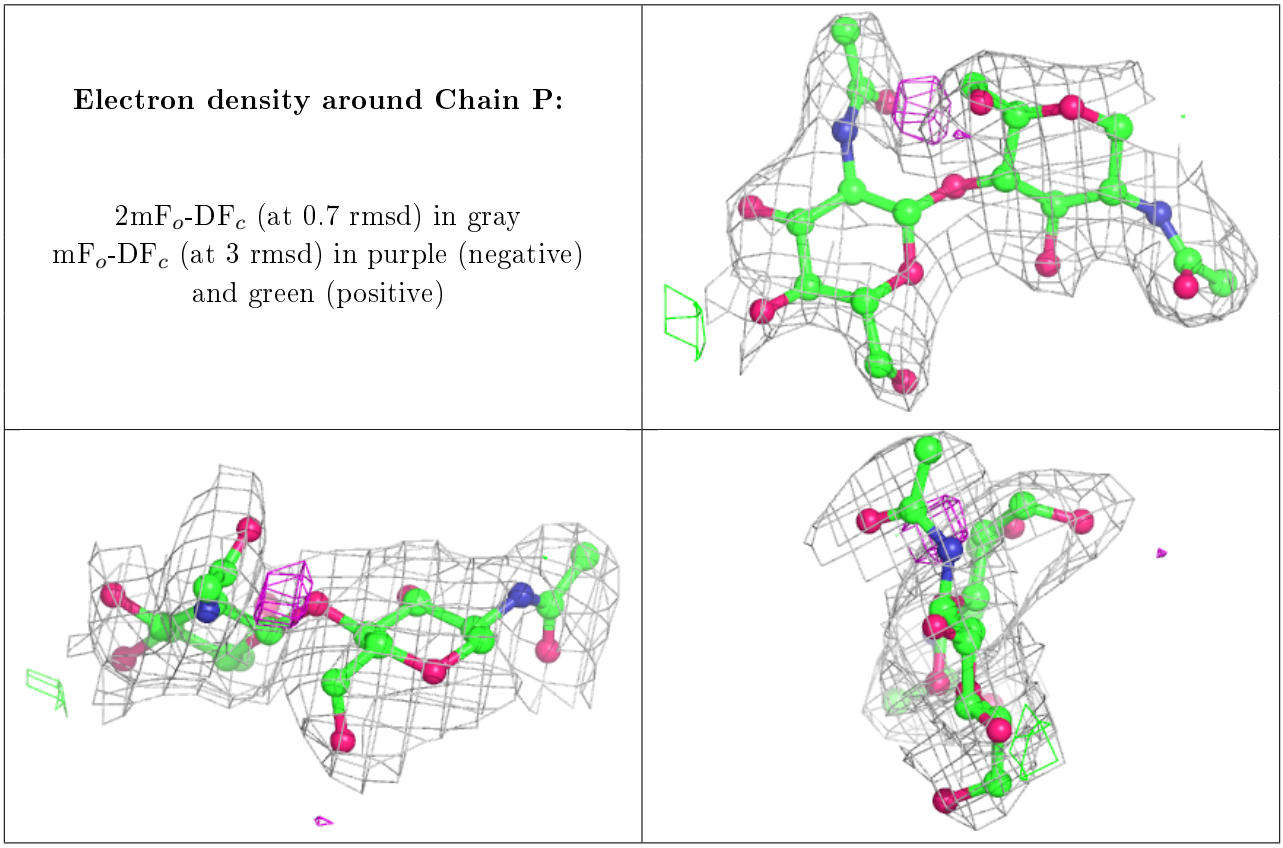
Electron density around Chain O:

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



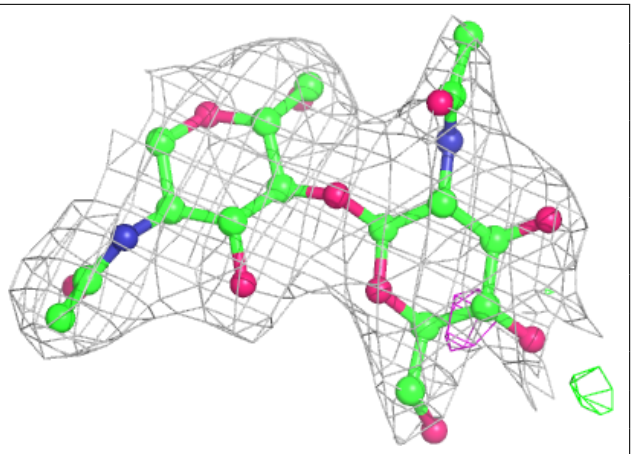
Electron density around Chain P:

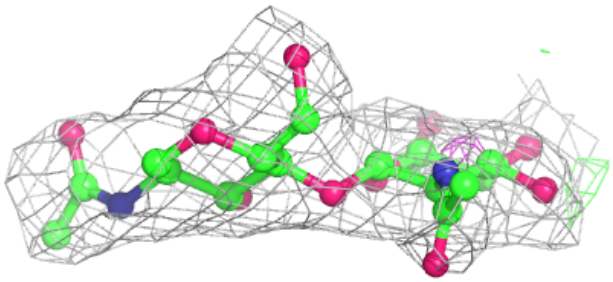
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

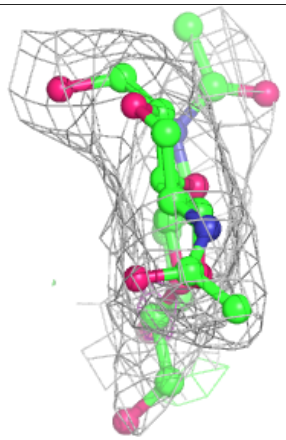


Electron density around Chain R:

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

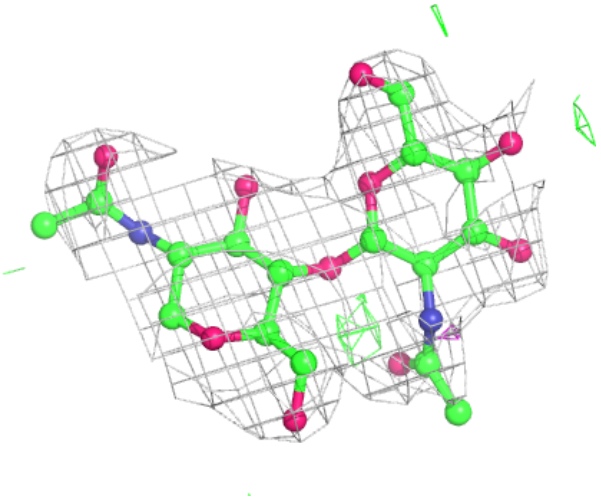


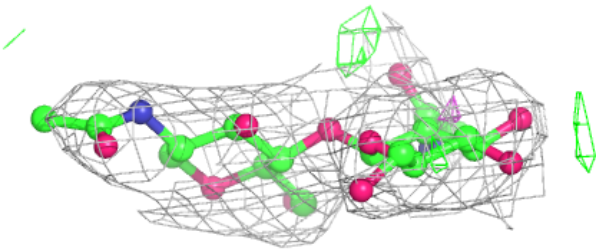


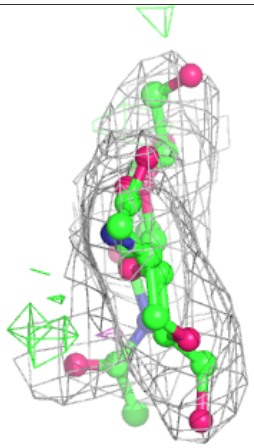


Electron density around Chain S:

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

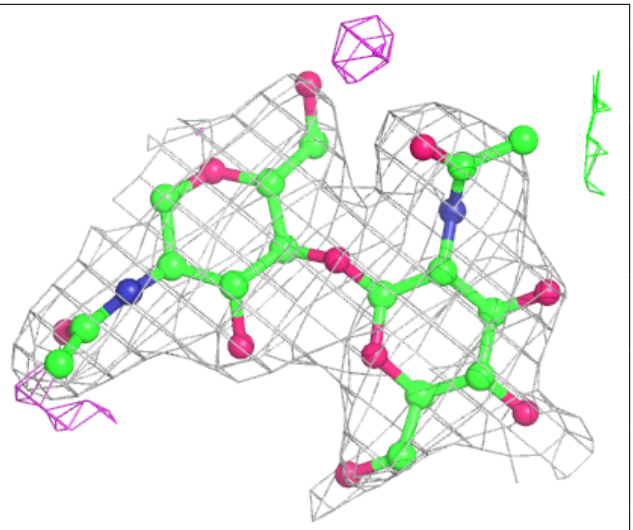


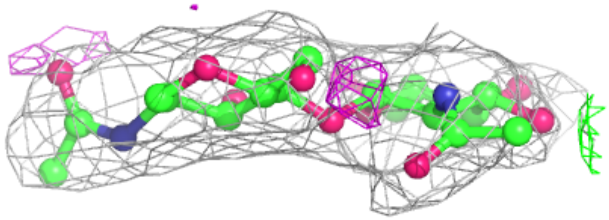


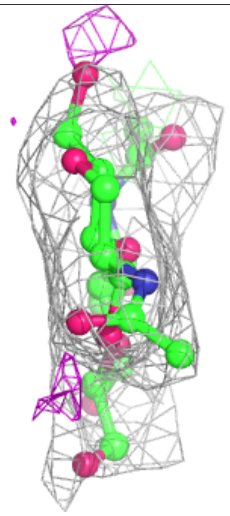


Electron density around Chain T:

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

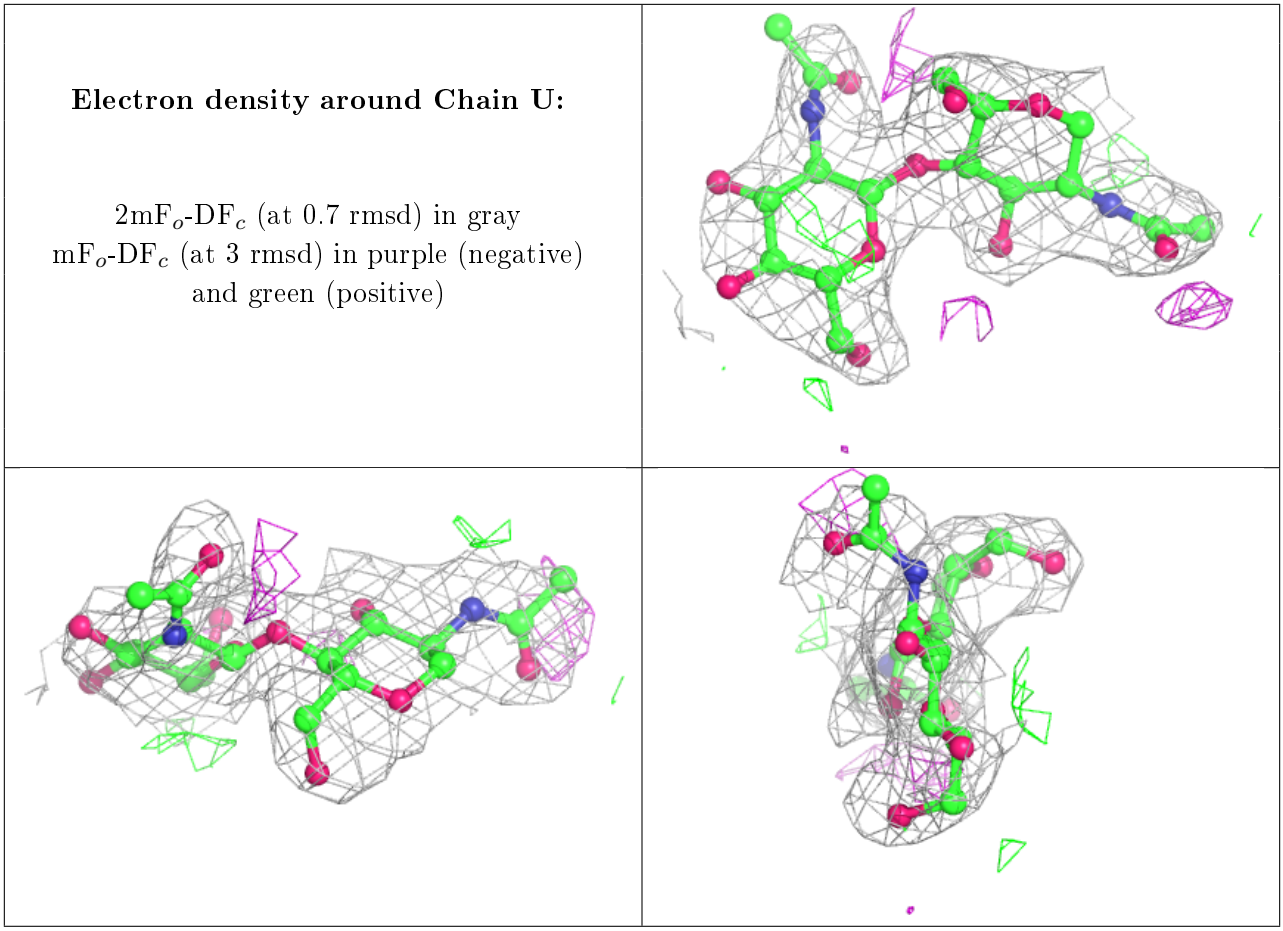






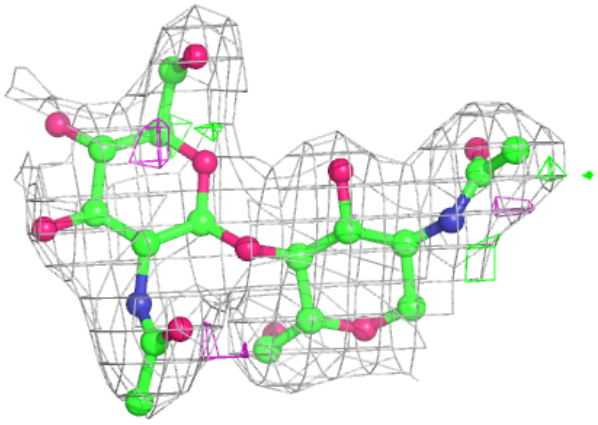
Electron density around Chain U:

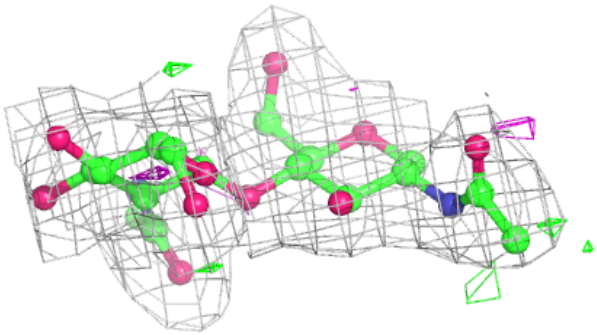
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

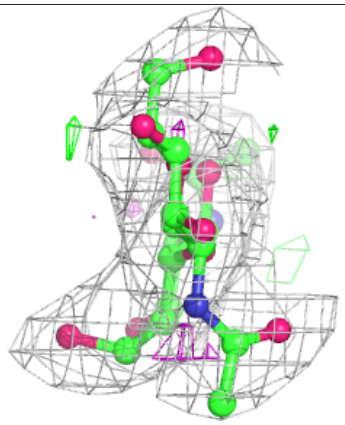


Electron density around Chain V:

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

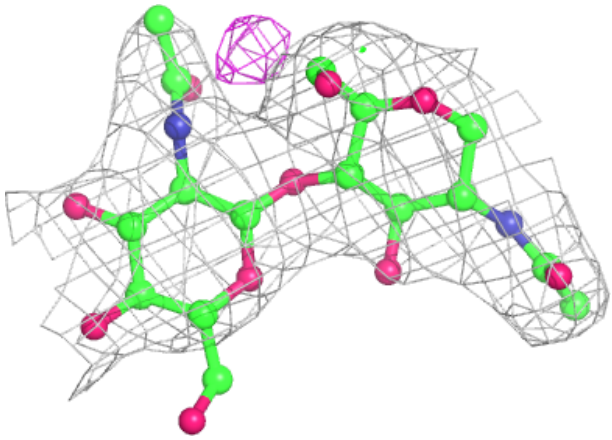


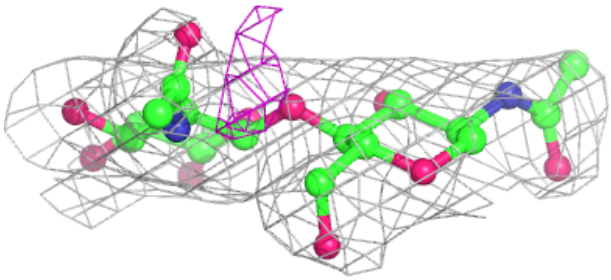


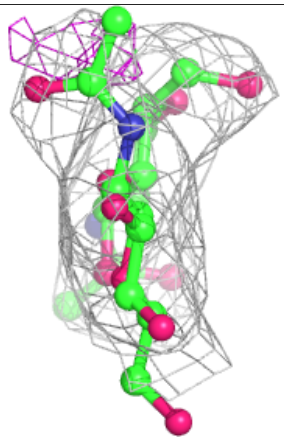


Electron density around Chain X:

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

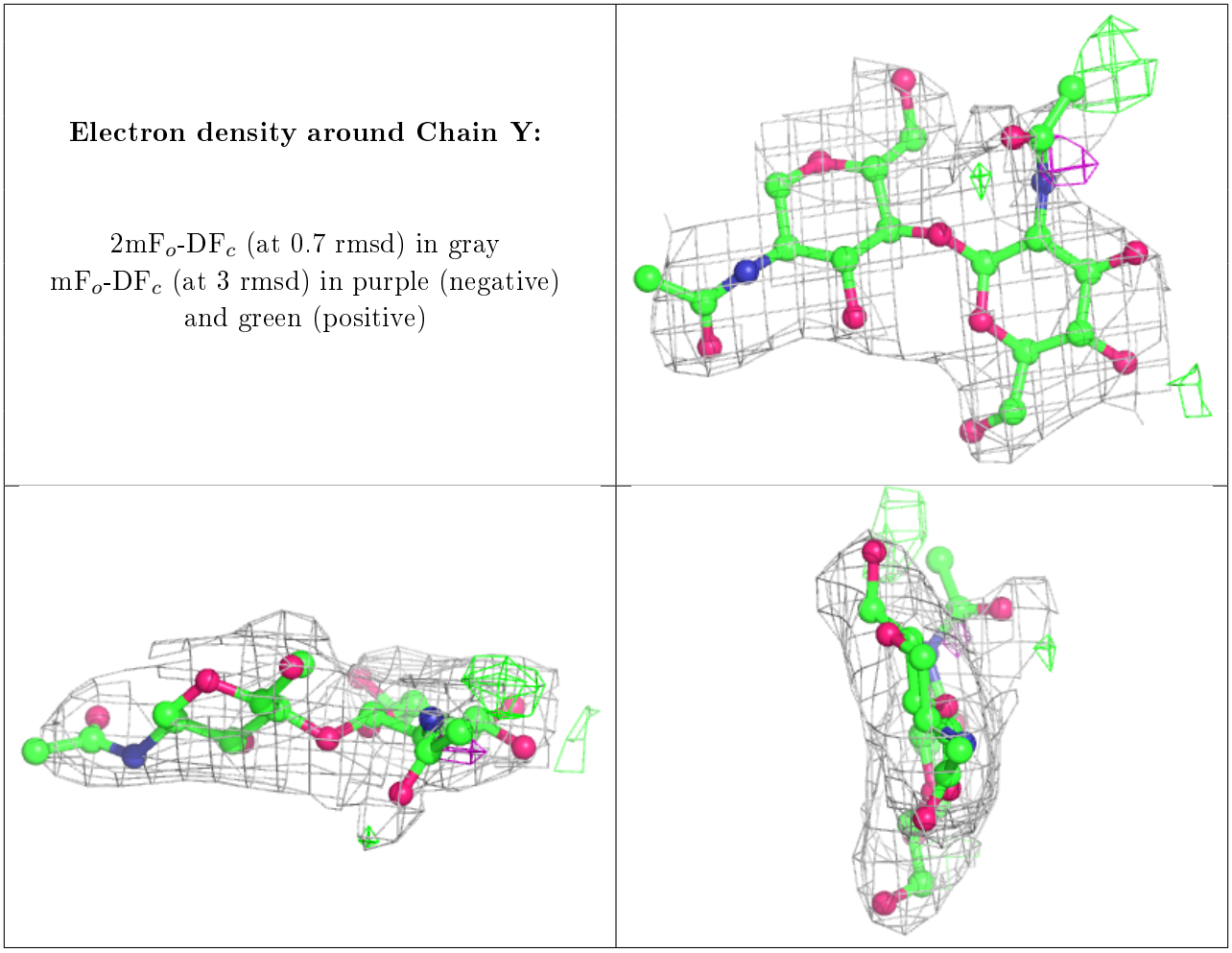


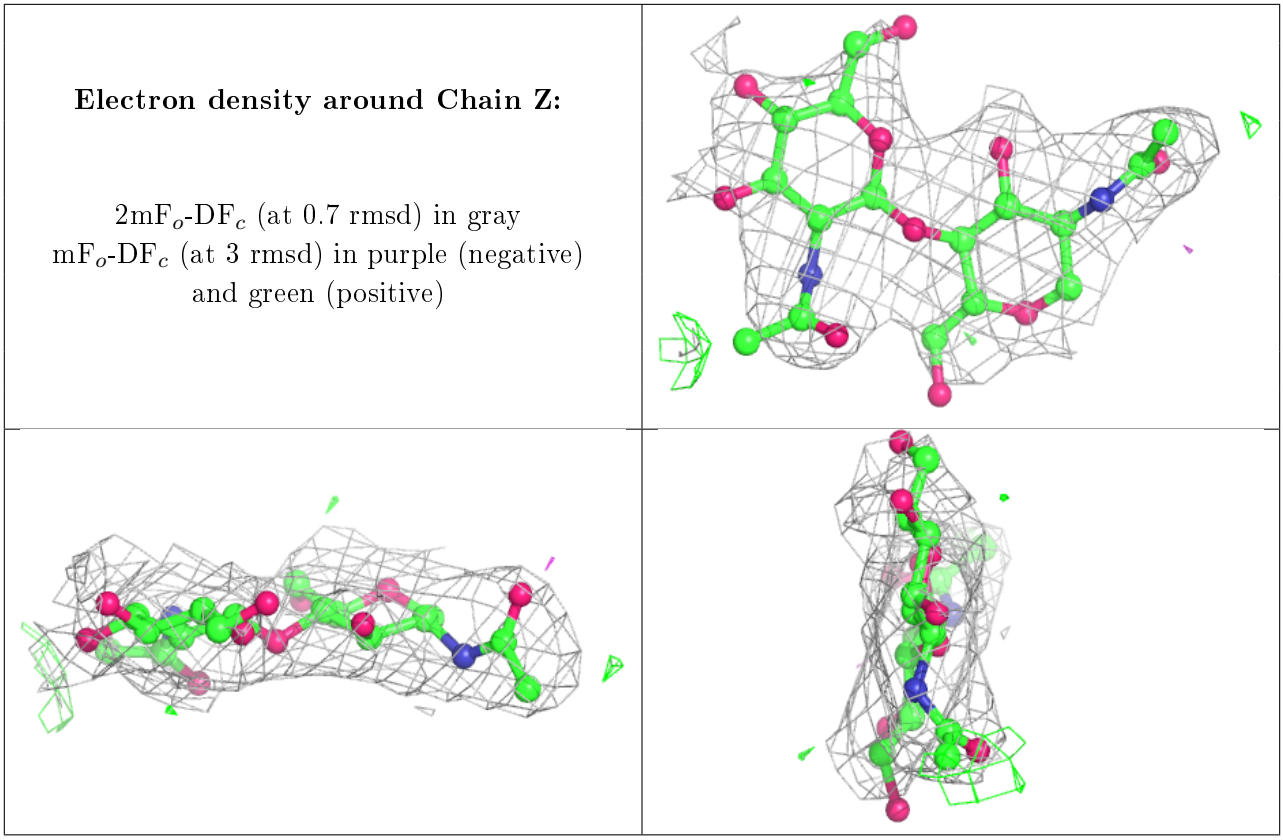




Electron density around Chain Y:

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





6.4 Ligands

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	NAG	A	3019	14/15	0.61	0.30	183,185,186,186	0
4	NAG	D	3019	14/15	0.65	0.25	123,126,128,130	0
4	NAG	A	3000	14/15	0.69	0.26	184,187,188,188	0
4	NAG	C	3011	14/15	0.72	0.22	87,92,93,95	0
4	NAG	B	3022	14/15	0.74	0.18	145,148,152,152	0
4	NAG	C	3014	14/15	0.76	0.23	92,96,96,96	0
4	NAG	D	3014	14/15	0.76	0.21	96,100,101,102	0
4	NAG	A	3011	14/15	0.77	0.19	98,103,107,108	0
4	NAG	C	3019	14/15	0.77	0.21	116,118,120,121	0
4	NAG	A	3014	14/15	0.78	0.22	110,113,116,116	0
4	NAG	D	3000	14/15	0.78	0.24	150,156,159,160	0
4	NAG	D	3011	14/15	0.79	0.18	117,120,124,125	0
4	NAG	B	3011	14/15	0.80	0.24	106,109,111,112	0
4	NAG	B	3014	14/15	0.81	0.25	91,95,100,102	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	NAG	B	3000	14/15	0.82	0.24	166,170,173,174	0
4	NAG	C	3022	14/15	0.82	0.18	111,113,114,115	0
4	NAG	C	3000	14/15	0.82	0.23	121,122,124,124	0
4	NAG	A	3022	14/15	0.83	0.16	134,137,139,139	0
4	NAG	B	3019	14/15	0.84	0.16	128,131,135,135	0
4	NAG	D	3022	14/15	0.85	0.16	124,127,128,128	0

6.5 Other polymers

There are no such residues in this entry.