



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 25, 2023 – 07:55 AM EDT

PDB ID : 3ALA  
Title : Crystal structure of vascular adhesion protein-1 in space group C2  
Authors : Ernberg, K.E.; McGrath, A.P.; Guss, J.M.  
Deposited on : 2010-07-29  
Resolution : 2.90 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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 : 2.36  
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) : 2.36

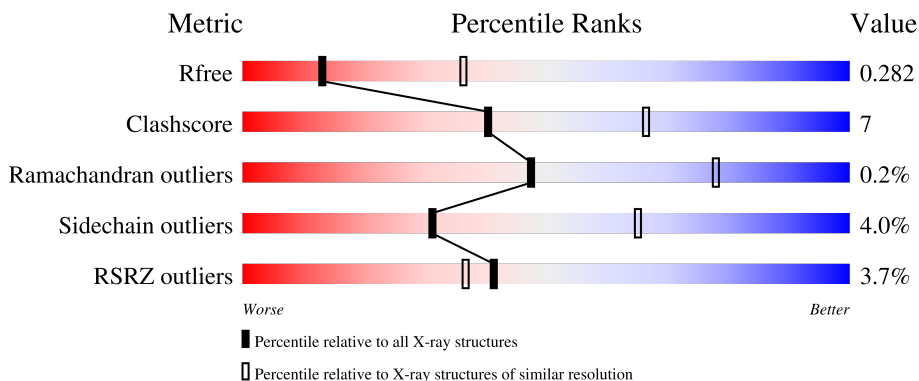
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.90 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.



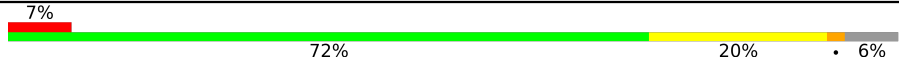
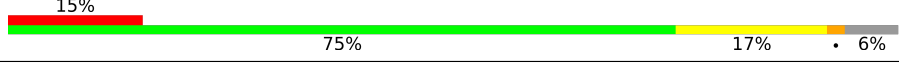
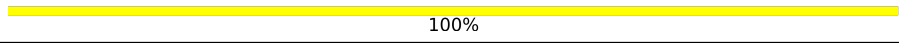
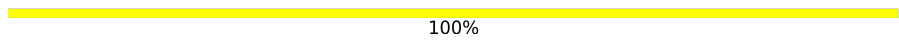
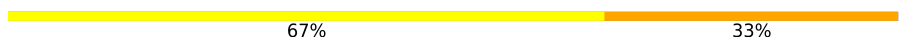


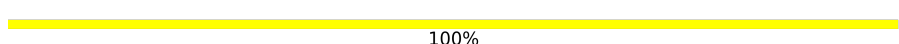





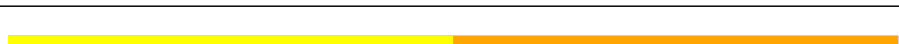
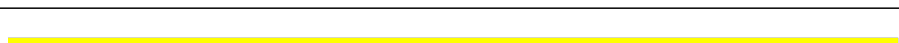

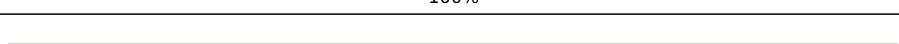
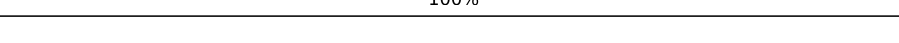
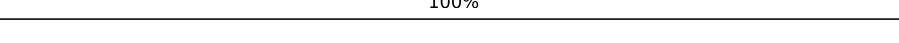
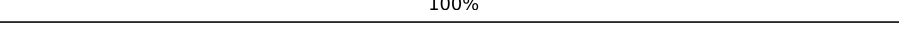
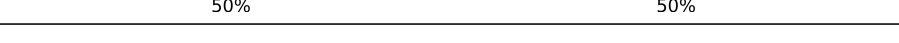
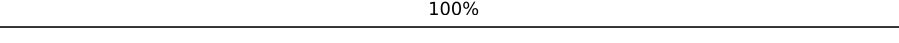
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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

Mol	Chain	Length	Quality of chain
1	A	748	 81% 11% • 6%
1	B	748	 80% 13% • 6%
1	C	748	 80% 13% • 5%
1	D	748	 83% 11% • 5%
1	E	748	 78% 15% • 6%

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Mol	Chain	Length	Quality of chain
1	F	748	 7% 72% 20% • 6%
1	G	748	 15% 75% 17% • 6%
2	H	3	 100%
2	K	3	 100%
2	M	3	 67% 33%
2	P	3	 33% 67%
2	S	3	 67% 33%
2	V	3	 100%
2	Y	3	 33% 67%
3	I	2	 50% 50%
3	N	2	 50% 50%
3	Q	2	 50% 50%
3	T	2	 50% 50%
3	W	2	 50% 50%
3	Z	2	 100%
4	J	2	 100%
4	O	2	 100%
4	R	2	 100%
4	U	2	 100%
4	X	2	 50% 50%
5	L	3	 100%
6	a	2	 100%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	BMA	P	3	X	-	-	-
3	NAG	Z	1	X	-	-	-
3	NAG	Z	2	-	-	-	X
4	NAG	J	1	X	-	-	-
4	FUL	O	2	X	-	-	-
4	NAG	R	1	X	-	-	-
4	NAG	U	1	X	-	-	-
5	NAG	L	1	X	-	-	-

## 2 Entry composition i

There are 11 unique types of molecules in this entry. The entry contains 39103 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 Membrane primary amine oxidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	705	5494	3539	927	1007	21	0	3	0
1	B	705	5488	3532	935	1000	21	0	2	0
1	C	709	5498	3546	927	1004	21	0	2	0
1	D	711	5510	3546	935	1007	22	0	1	0
1	E	702	5423	3496	914	992	21	0	0	0
1	F	701	5390	3460	916	993	21	0	3	0
1	G	706	5392	3470	907	994	21	8	1	0

There are 119 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	16	ASP	-	expression tag	UNP Q16853
A	17	ILE	-	expression tag	UNP Q16853
A	18	VAL	-	expression tag	UNP Q16853
A	19	ASP	-	expression tag	UNP Q16853
A	20	TYR	-	expression tag	UNP Q16853
A	21	LYS	-	expression tag	UNP Q16853
A	22	ASP	-	expression tag	UNP Q16853
A	23	ASP	-	expression tag	UNP Q16853
A	24	ASP	-	expression tag	UNP Q16853
A	25	ASP	-	expression tag	UNP Q16853
A	26	LYS	-	expression tag	UNP Q16853
A	27	GLU	-	expression tag	UNP Q16853
A	28	ASN	-	expression tag	UNP Q16853
A	29	LEU	-	expression tag	UNP Q16853
A	30	TYR	-	expression tag	UNP Q16853

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Chain	Residue	Modelled	Actual	Comment	Reference
A	31	PHE	-	expression tag	UNP Q16853
A	32	GLN	-	expression tag	UNP Q16853
B	16	ASP	-	expression tag	UNP Q16853
B	17	ILE	-	expression tag	UNP Q16853
B	18	VAL	-	expression tag	UNP Q16853
B	19	ASP	-	expression tag	UNP Q16853
B	20	TYR	-	expression tag	UNP Q16853
B	21	LYS	-	expression tag	UNP Q16853
B	22	ASP	-	expression tag	UNP Q16853
B	23	ASP	-	expression tag	UNP Q16853
B	24	ASP	-	expression tag	UNP Q16853
B	25	ASP	-	expression tag	UNP Q16853
B	26	LYS	-	expression tag	UNP Q16853
B	27	GLU	-	expression tag	UNP Q16853
B	28	ASN	-	expression tag	UNP Q16853
B	29	LEU	-	expression tag	UNP Q16853
B	30	TYR	-	expression tag	UNP Q16853
B	31	PHE	-	expression tag	UNP Q16853
B	32	GLN	-	expression tag	UNP Q16853
C	16	ASP	-	expression tag	UNP Q16853
C	17	ILE	-	expression tag	UNP Q16853
C	18	VAL	-	expression tag	UNP Q16853
C	19	ASP	-	expression tag	UNP Q16853
C	20	TYR	-	expression tag	UNP Q16853
C	21	LYS	-	expression tag	UNP Q16853
C	22	ASP	-	expression tag	UNP Q16853
C	23	ASP	-	expression tag	UNP Q16853
C	24	ASP	-	expression tag	UNP Q16853
C	25	ASP	-	expression tag	UNP Q16853
C	26	LYS	-	expression tag	UNP Q16853
C	27	GLU	-	expression tag	UNP Q16853
C	28	ASN	-	expression tag	UNP Q16853
C	29	LEU	-	expression tag	UNP Q16853
C	30	TYR	-	expression tag	UNP Q16853
C	31	PHE	-	expression tag	UNP Q16853
C	32	GLN	-	expression tag	UNP Q16853
D	16	ASP	-	expression tag	UNP Q16853
D	17	ILE	-	expression tag	UNP Q16853
D	18	VAL	-	expression tag	UNP Q16853
D	19	ASP	-	expression tag	UNP Q16853
D	20	TYR	-	expression tag	UNP Q16853
D	21	LYS	-	expression tag	UNP Q16853

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Chain	Residue	Modelled	Actual	Comment	Reference
D	22	ASP	-	expression tag	UNP Q16853
D	23	ASP	-	expression tag	UNP Q16853
D	24	ASP	-	expression tag	UNP Q16853
D	25	ASP	-	expression tag	UNP Q16853
D	26	LYS	-	expression tag	UNP Q16853
D	27	GLU	-	expression tag	UNP Q16853
D	28	ASN	-	expression tag	UNP Q16853
D	29	LEU	-	expression tag	UNP Q16853
D	30	TYR	-	expression tag	UNP Q16853
D	31	PHE	-	expression tag	UNP Q16853
D	32	GLN	-	expression tag	UNP Q16853
E	16	ASP	-	expression tag	UNP Q16853
E	17	ILE	-	expression tag	UNP Q16853
E	18	VAL	-	expression tag	UNP Q16853
E	19	ASP	-	expression tag	UNP Q16853
E	20	TYR	-	expression tag	UNP Q16853
E	21	LYS	-	expression tag	UNP Q16853
E	22	ASP	-	expression tag	UNP Q16853
E	23	ASP	-	expression tag	UNP Q16853
E	24	ASP	-	expression tag	UNP Q16853
E	25	ASP	-	expression tag	UNP Q16853
E	26	LYS	-	expression tag	UNP Q16853
E	27	GLU	-	expression tag	UNP Q16853
E	28	ASN	-	expression tag	UNP Q16853
E	29	LEU	-	expression tag	UNP Q16853
E	30	TYR	-	expression tag	UNP Q16853
E	31	PHE	-	expression tag	UNP Q16853
E	32	GLN	-	expression tag	UNP Q16853
F	16	ASP	-	expression tag	UNP Q16853
F	17	ILE	-	expression tag	UNP Q16853
F	18	VAL	-	expression tag	UNP Q16853
F	19	ASP	-	expression tag	UNP Q16853
F	20	TYR	-	expression tag	UNP Q16853
F	21	LYS	-	expression tag	UNP Q16853
F	22	ASP	-	expression tag	UNP Q16853
F	23	ASP	-	expression tag	UNP Q16853
F	24	ASP	-	expression tag	UNP Q16853
F	25	ASP	-	expression tag	UNP Q16853
F	26	LYS	-	expression tag	UNP Q16853
F	27	GLU	-	expression tag	UNP Q16853
F	28	ASN	-	expression tag	UNP Q16853
F	29	LEU	-	expression tag	UNP Q16853

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Chain	Residue	Modelled	Actual	Comment	Reference
F	30	TYR	-	expression tag	UNP Q16853
F	31	PHE	-	expression tag	UNP Q16853
F	32	GLN	-	expression tag	UNP Q16853
G	16	ASP	-	expression tag	UNP Q16853
G	17	ILE	-	expression tag	UNP Q16853
G	18	VAL	-	expression tag	UNP Q16853
G	19	ASP	-	expression tag	UNP Q16853
G	20	TYR	-	expression tag	UNP Q16853
G	21	LYS	-	expression tag	UNP Q16853
G	22	ASP	-	expression tag	UNP Q16853
G	23	ASP	-	expression tag	UNP Q16853
G	24	ASP	-	expression tag	UNP Q16853
G	25	ASP	-	expression tag	UNP Q16853
G	26	LYS	-	expression tag	UNP Q16853
G	27	GLU	-	expression tag	UNP Q16853
G	28	ASN	-	expression tag	UNP Q16853
G	29	LEU	-	expression tag	UNP Q16853
G	30	TYR	-	expression tag	UNP Q16853
G	31	PHE	-	expression tag	UNP Q16853
G	32	GLN	-	expression tag	UNP Q16853

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	H	3	Total	C	N	O	0	0	0
			39	22	2	15			
2	K	3	Total	C	N	O	0	0	0
			39	22	2	15			
2	M	3	Total	C	N	O	0	0	0
			39	22	2	15			
2	P	3	Total	C	N	O	0	0	0
			39	22	2	15			
2	S	3	Total	C	N	O	0	0	0
			39	22	2	15			
2	V	3	Total	C	N	O	0	0	0
			39	22	2	15			

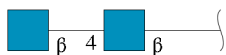
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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	Y	3	39	22	2	15	0	0	0

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



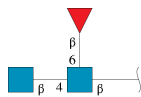
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
3	I	2	28	16	2	10	0	0	0
3	N	2	28	16	2	10	0	0	0
3	Q	2	28	16	2	10	0	0	0
3	T	2	28	16	2	10	0	0	0
3	W	2	28	16	2	10	0	0	0
3	Z	2	28	16	2	10	0	0	0

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
4	J	2	24	14	1	9	0	0	0
4	O	2	24	14	1	9	0	0	0
4	R	2	24	14	1	9	0	0	0
4	U	2	24	14	1	9	0	0	0
4	X	2	24	14	1	9	0	0	0

- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[beta-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
5	L	3	38	22	2	14	0	0	0

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
6	a	2	24	14	1	9	0	0	0

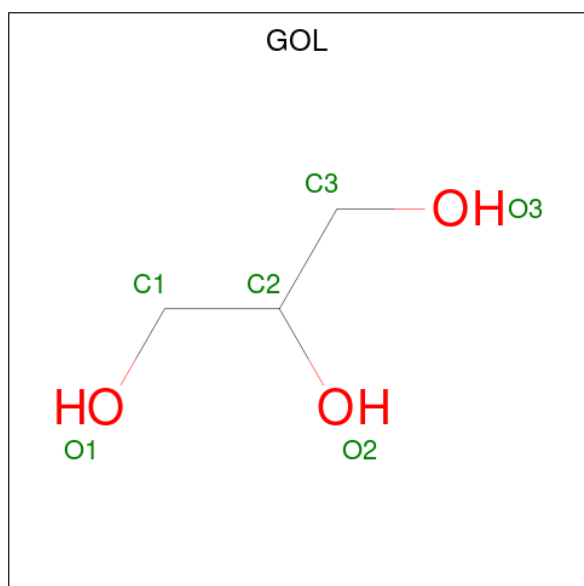
- Molecule 7 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	1	Total	Cu	0	0
			1	1		
7	B	1	Total	Cu	0	0
			1	1		
7	C	1	Total	Cu	0	0
			1	1		
7	D	1	Total	Cu	0	0
			1	1		
7	E	1	Total	Cu	0	0
			1	1		
7	F	1	Total	Cu	0	0
			1	1		
7	G	1	Total	Cu	0	0
			1	1		

- Molecule 8 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	2	Total Ca 2 2	0	0
8	B	2	Total Ca 2 2	0	0
8	C	2	Total Ca 2 2	0	0
8	D	2	Total Ca 2 2	0	0
8	E	2	Total Ca 2 2	0	0
8	F	2	Total Ca 2 2	0	0
8	G	2	Total Ca 2 2	0	0

- Molecule 9 is GLYCEROL (three-letter code: GOL) (formula: C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	A	1	Total C O 6 3 3	0	0

- Molecule 10 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C<sub>8</sub>H<sub>15</sub>NO<sub>6</sub>).



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

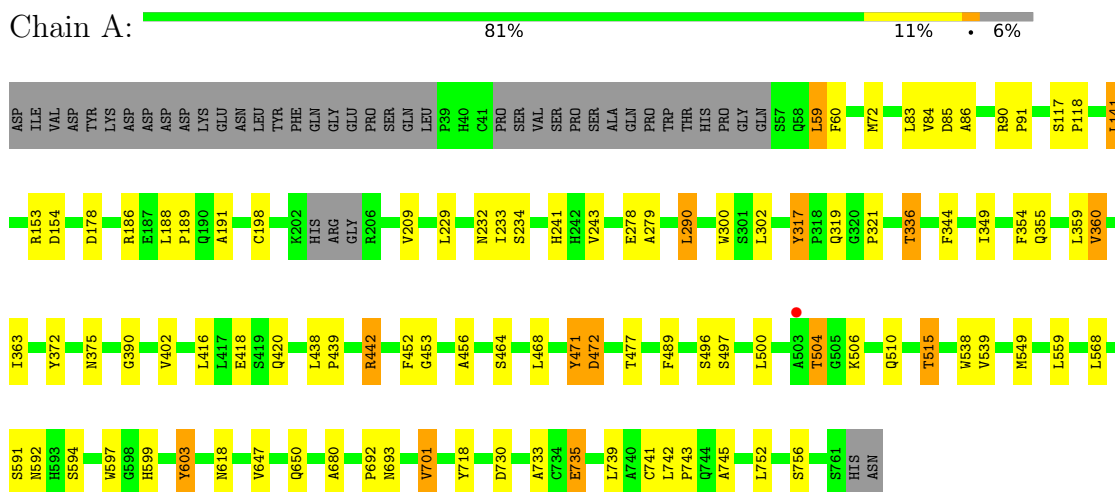
- Molecule 11 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
11	A	49	49	49	0	0
11	B	47	47	47	0	0
11	C	33	33	33	0	0
11	D	40	40	40	0	0
11	E	23	23	23	0	0
11	F	23	23	23	0	0
11	G	15	15	15	0	0

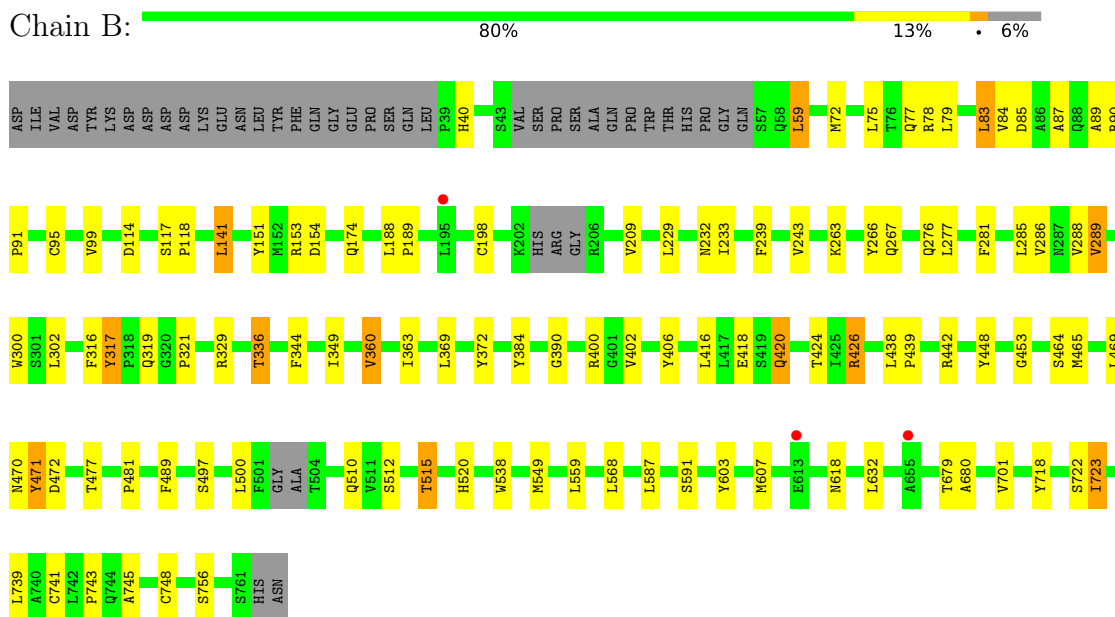
### 3 Residue-property plots

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

- Molecule 1: Membrane primary amine oxidase



- Molecule 1: Membrane primary amine oxidase

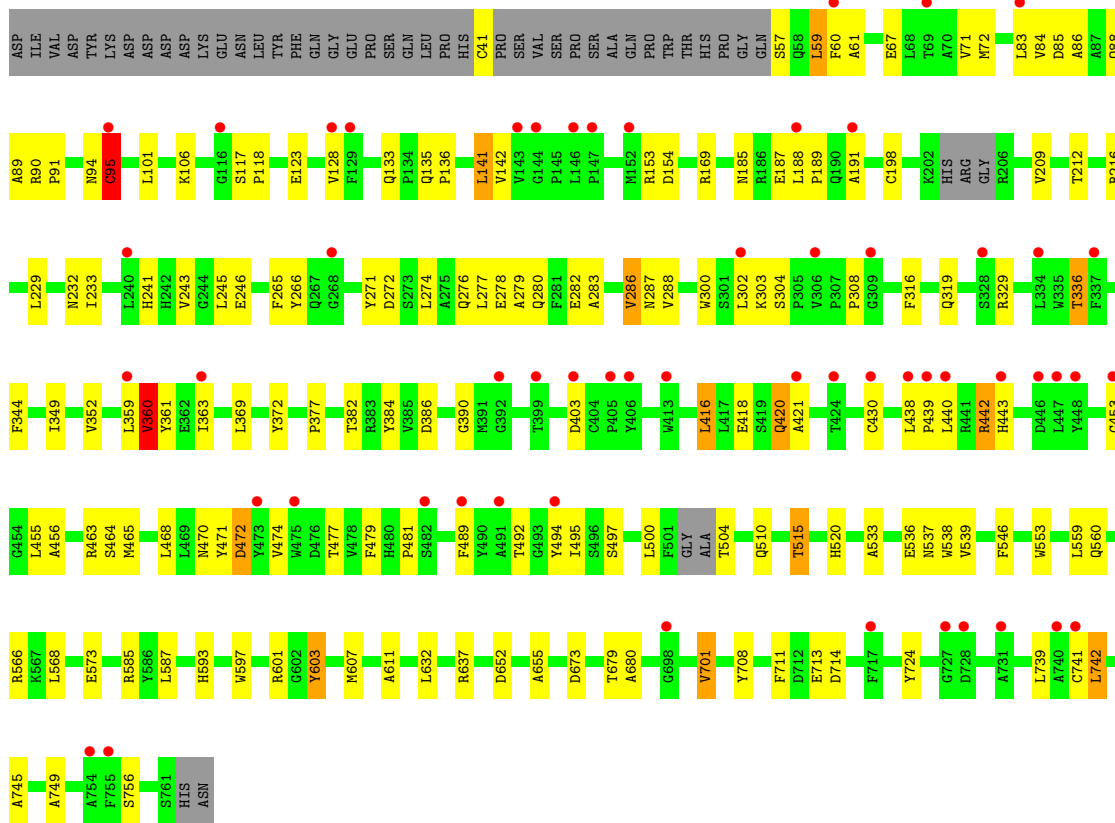


- Molecule 1: Membrane primary amine oxidase

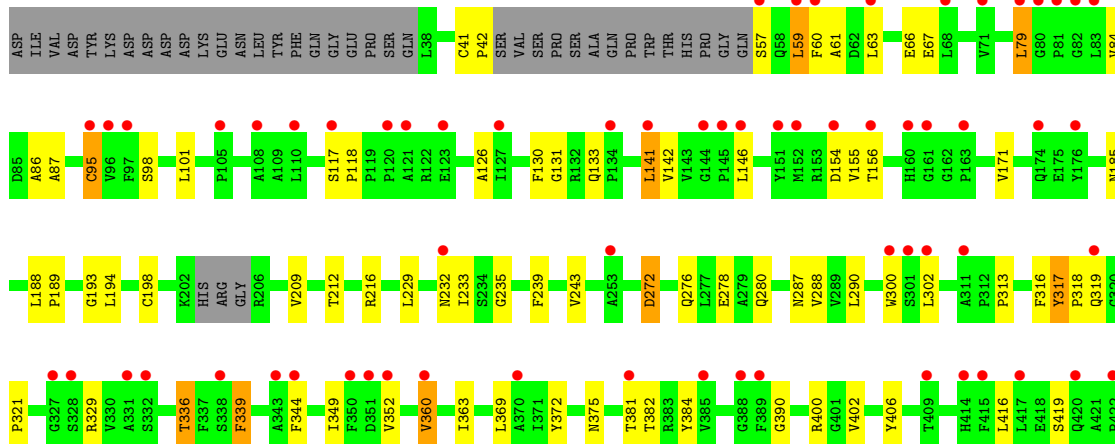
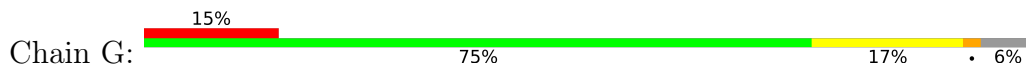


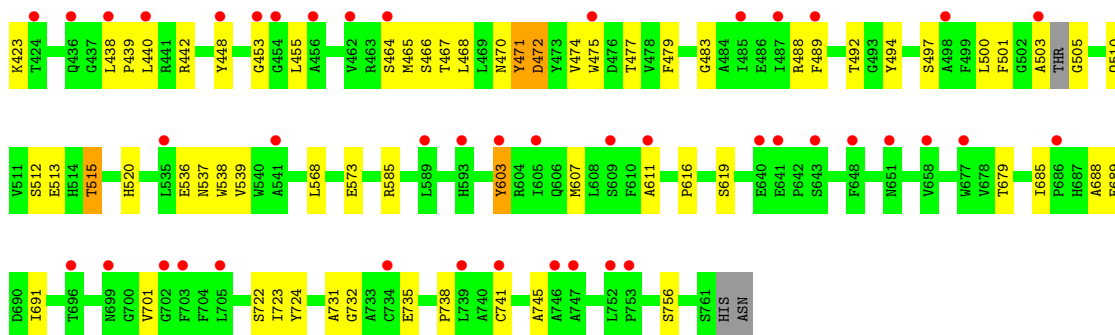


• Molecule 1: Membrane primary amine oxidase



• Molecule 1: Membrane primary amine oxidase





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

Chain H: 100%

MAG1  
MAG2  
BNA3

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

Chain K: 100%

MAG1  
MAG2  
BNA3

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

Chain M: 67% 33%

MAG1  
MAG2  
BNA3

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

Chain P: 33% 67%

MAG1  
MAG2  
BNA3

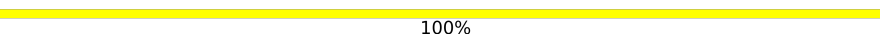
- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain S: 67% 33%

MAG1  
MAG2  
BNA3



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

Chain V:  100%

MAG1  
MAG2  
BMA3

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

Chain Y:  33% 67%

MAG1  
MAG2  
BMA3

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

Chain I:  50% 50%

MAG1  
MAG2

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

Chain N:  50% 50%


MAG1  
MAG2

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

Chain Q:  50% 50%

MAG1  
MAG2

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

Chain T:  50% 50%

MAG1  
MAG2

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

Chain W:  50% 50%

MAG1  
MAG2

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

Chain Z:  100%MAG1  
MAG2

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

Chain J:  100%MAG1  
FUL2

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

Chain O:  100%MAG1  
FUL2

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

Chain R:  100%MAG1  
FUL2


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

Chain U:  100%MAG1  
FUL2

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

Chain X:  50%  50%MAG1  
FUL2

- Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[beta-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:  100%

MAG1  
MAG2  
FOL3

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

Chain a:

100%

MAG1  
FUC2

## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	394.47Å 115.83Å 179.29Å 90.00° 112.34° 90.00°	Depositor
Resolution (Å)	110.40 – 2.90 110.40 – 2.90	Depositor EDS
% Data completeness (in resolution range)	98.3 (110.40-2.90) 98.3 (110.40-2.90)	Depositor EDS
$R_{merge}$	0.19	Depositor
$R_{sym}$	0.19	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.87 (at 2.91Å)	Xtrriage
Refinement program	REFMAC	Depositor
R, $R_{free}$	0.250 , 0.286 0.249 , 0.282	Depositor DCC
$R_{free}$ test set	8187 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	47.9	Xtrriage
Anisotropy	0.243	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 55.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.45$ , $\langle L^2 \rangle = 0.27$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	39103	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	40.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.82% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CU, FUL, TPQ, NAG, FUC, GOL, BMA, CA

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.76	1/5660 (0.0%)	0.72	2/7728 (0.0%)
1	B	0.76	2/5653 (0.0%)	0.73	2/7716 (0.0%)
1	C	0.70	2/5665 (0.0%)	0.71	1/7737 (0.0%)
1	D	0.69	0/5672	0.72	2/7746 (0.0%)
1	E	0.70	1/5582 (0.0%)	0.72	2/7622 (0.0%)
1	F	0.83	1/5551 (0.0%)	0.76	1/7583 (0.0%)
1	G	0.85	0/5553	0.77	1/7590 (0.0%)
All	All	0.76	7/39336 (0.0%)	0.73	11/53722 (0.0%)

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

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

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	430	CYS	CB-SG	-8.73	1.67	1.82
1	B	95	CYS	CB-SG	-7.45	1.69	1.82
1	C	95	CYS	CB-SG	-7.08	1.70	1.82
1	A	360	VAL	CB-CG1	-6.40	1.39	1.52
1	E	95	CYS	CB-SG	-5.80	1.72	1.81
1	C	360	VAL	CB-CG2	-5.13	1.42	1.52
1	B	360	VAL	CB-CG1	-5.01	1.42	1.52

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	701	VAL	CG1-CB-CG2	9.11	125.48	110.90
1	A	360	VAL	CG1-CB-CG2	6.69	121.61	110.90
1	D	360	VAL	CG1-CB-CG2	6.38	121.11	110.90
1	C	559	LEU	CB-CG-CD1	6.27	121.66	111.00
1	B	426	ARG	NE-CZ-NH1	6.23	123.41	120.30
1	A	153	ARG	NE-CZ-NH1	6.01	123.31	120.30
1	F	360	VAL	CG1-CB-CG2	5.97	120.46	110.90
1	E	83	LEU	CA-CB-CG	5.84	128.73	115.30
1	D	186	ARG	NE-CZ-NH1	5.71	123.15	120.30
1	B	360	VAL	CG1-CB-CG2	5.20	119.21	110.90
1	E	360	VAL	CG1-CB-CG2	5.01	118.91	110.90

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	F	95	CYS	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5494	0	5167	65	0
1	B	5488	0	5174	79	0
1	C	5498	0	5157	77	0
1	D	5510	0	5162	61	0
1	E	5423	0	5067	82	0
1	F	5390	0	4995	125	0
1	G	5392	0	4980	110	0
2	H	39	0	34	0	0
2	K	39	0	34	0	0
2	M	39	0	34	3	0
2	P	39	0	34	5	0
2	S	39	0	34	2	0
2	V	39	0	34	0	0
2	Y	39	0	34	4	0
3	I	28	0	25	1	0
3	N	28	0	25	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	Q	28	0	25	3	0
3	T	28	0	25	6	0
3	W	28	0	25	1	0
3	Z	28	0	25	0	0
4	J	24	0	22	0	0
4	O	24	0	22	0	0
4	R	24	0	22	0	0
4	U	24	0	22	0	0
4	X	24	0	22	1	0
5	L	38	0	34	0	0
6	a	24	0	22	0	0
7	A	1	0	0	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
7	D	1	0	0	0	0
7	E	1	0	0	0	0
7	F	1	0	0	0	0
7	G	1	0	0	0	0
8	A	2	0	0	0	0
8	B	2	0	0	0	0
8	C	2	0	0	0	0
8	D	2	0	0	0	0
8	E	2	0	0	0	0
8	F	2	0	0	0	0
8	G	2	0	0	0	0
9	A	6	0	8	0	0
10	B	14	0	13	4	0
10	D	14	0	13	0	0
11	A	49	0	0	0	0
11	B	47	0	0	1	0
11	C	33	0	0	0	0
11	D	40	0	0	0	0
11	E	23	0	0	0	0
11	F	23	0	0	0	0
11	G	15	0	0	3	0
All	All	39103	0	36290	544	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 7.

All (544) 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:232:ASN:ND2	3:N:1:NAG:H83	1.56	1.20
1:C:232:ASN:HD22	3:N:1:NAG:H83	0.90	1.06
1:E:206:ARG:O	3:T:1:NAG:H81	1.58	1.03
1:D:72:MET:HE1	1:D:416:LEU:HD11	1.41	1.01
1:D:232:ASN:HD22	3:Q:1:NAG:H83	1.19	1.01
1:E:271:TYR:CD2	1:E:277:LEU:HD13	1.96	0.99
1:F:286:VAL:HG12	1:F:286:VAL:O	1.63	0.95
1:D:72:MET:CE	1:D:416:LEU:HD11	1.97	0.93
1:E:360:VAL:HG21	1:E:363:ILE:HG13	1.50	0.93
1:E:232:ASN:HD22	3:T:1:NAG:H83	1.34	0.90
1:F:84:VAL:HG12	1:F:89:ALA:HB2	1.52	0.90
1:G:360:VAL:HG21	1:G:363:ILE:HG13	1.51	0.90
1:F:95:CYS:O	1:F:128:VAL:HG13	1.74	0.87
1:F:360:VAL:HG21	1:F:363:ILE:HG13	1.57	0.86
1:D:232:ASN:ND2	3:Q:1:NAG:H83	1.88	0.86
1:D:84:VAL:O	1:D:95[B]:CYS:SG	2.33	0.85
1:G:79:LEU:HD23	2:Y:2:NAG:H83	1.59	0.83
1:C:232:ASN:ND2	3:N:1:NAG:C8	2.42	0.83
1:C:285:LEU:HD23	1:C:285:LEU:O	1.78	0.83
1:A:360:VAL:HG11	1:A:363:ILE:HG13	1.62	0.82
1:B:360:VAL:HG11	1:B:363:ILE:HG13	1.62	0.81
1:C:38:LEU:HD13	1:D:749:ALA:HB3	1.63	0.81
10:B:1772:NAG:O3	10:B:1772:NAG:H82	1.81	0.81
1:D:680:ALA:HB1	1:D:701:VAL:HG13	1.62	0.79
1:C:360:VAL:HG21	1:C:363:ILE:HG13	1.63	0.79
1:F:453:GLY:HA3	1:G:302:LEU:HD13	1.64	0.79
1:D:95[B]:CYS:SG	1:D:96:VAL:N	2.53	0.78
1:B:99:VAL:CG2	1:B:416:LEU:HD23	2.13	0.78
1:E:680:ALA:HB1	1:E:701:VAL:HG13	1.65	0.77
1:C:38:LEU:HD11	1:D:40:HIS:CD2	2.19	0.77
1:C:232:ASN:HD22	3:N:1:NAG:C8	1.85	0.76
1:F:349:ILE:HD13	1:F:477:THR:HG21	1.67	0.76
1:F:597:TRP:CZ2	1:G:512:SER:HA	2.20	0.76
1:F:133:GLN:NE2	1:F:135:GLN:O	2.18	0.75
1:B:680:ALA:HB1	1:B:701:VAL:HG13	1.68	0.75
1:C:133:GLN:OE1	2:M:1:NAG:H61	1.87	0.74
1:F:680:ALA:HB1	1:F:701:VAL:HG13	1.68	0.74
1:C:680:ALA:HB1	1:C:701:VAL:HG13	1.70	0.74
1:D:72:MET:HE3	1:D:420:GLN:HA	1.68	0.73
1:D:360:VAL:HG11	1:D:363:ILE:HG13	1.70	0.73
1:G:229:LEU:O	1:G:243:VAL:HG22	1.88	0.73
1:G:349:ILE:HD13	1:G:477:THR:HG21	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:198:CYS:HB3	1:B:288:VAL:HG11	1.70	0.72
1:F:302:LEU:HD13	1:G:453:GLY:HA3	1.71	0.72
1:F:280:GLN:HA	1:F:283:ALA:HB3	1.72	0.72
1:B:72:MET:HE3	1:B:420:GLN:HA	1.72	0.71
1:C:438:LEU:HD22	1:C:439:PRO:HD2	1.72	0.71
1:A:438:LEU:HD22	1:A:439:PRO:HD2	1.73	0.70
1:F:286:VAL:O	1:F:286:VAL:CG1	2.37	0.70
1:F:739:LEU:HD11	1:G:402:VAL:HG23	1.74	0.70
1:C:38:LEU:HD11	1:D:40:HIS:HD2	1.55	0.69
1:F:277:LEU:O	1:F:277:LEU:HD12	1.93	0.69
1:F:84:VAL:CG1	1:F:89:ALA:HB2	2.22	0.69
1:G:130:PHE:CZ	2:Y:2:NAG:H82	2.28	0.69
1:B:317:TYR:N	1:B:317:TYR:HD2	1.90	0.68
1:A:680:ALA:HB1	1:A:701:VAL:HG13	1.74	0.68
1:D:59:LEU:HD23	1:D:59:LEU:O	1.93	0.68
1:G:352:VAL:HB	1:G:360:VAL:HG13	1.76	0.68
1:F:438:LEU:HD22	1:F:439:PRO:HD2	1.76	0.68
1:C:133:GLN:OE1	2:M:1:NAG:C6	2.41	0.67
1:D:117:SER:HB3	1:D:118:PRO:HD2	1.77	0.67
1:D:349:ILE:HD13	1:D:477:THR:HG21	1.77	0.66
1:A:349:ILE:HD13	1:A:477:THR:HG21	1.77	0.66
1:B:438:LEU:HD22	1:B:439:PRO:HD2	1.76	0.66
1:F:742:LEU:HD13	1:G:406:TYR:CD1	2.30	0.66
1:F:229:LEU:O	1:F:243:VAL:HG22	1.95	0.66
1:B:99:VAL:HG23	1:B:416:LEU:HD23	1.77	0.66
1:F:209:VAL:HB	1:G:448:TYR:CE2	2.31	0.66
1:A:209:VAL:HB	1:B:448:TYR:CE2	2.32	0.65
1:B:317:TYR:HD1	1:B:321:PRO:HA	1.61	0.65
1:F:597:TRP:CE2	1:G:512:SER:HA	2.31	0.65
1:A:730:ASP:HA	1:F:421:ALA:CB	2.27	0.65
1:E:72:MET:HE3	1:E:420:GLN:HA	1.78	0.65
1:E:232:ASN:ND2	3:T:1:NAG:H83	2.10	0.65
1:B:59:LEU:O	1:B:59:LEU:HD23	1.97	0.64
1:E:472:ASP:HB2	1:E:492:THR:HG23	1.79	0.64
1:D:372:TYR:OH	1:D:471:TPQ:H3	1.96	0.64
1:B:117:SER:HB3	1:B:118:PRO:HD2	1.79	0.63
1:G:503:ALA:O	1:G:505:GLY:N	2.30	0.63
1:F:344:PHE:HA	1:F:390:GLY:HA2	1.81	0.63
1:B:317:TYR:N	1:B:317:TYR:CD2	2.63	0.63
1:E:59:LEU:O	1:E:59:LEU:HD23	1.98	0.63
1:D:438:LEU:HD22	1:D:439:PRO:HD2	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:560:GLN:CG	1:G:619:SER:HB2	2.29	0.62
1:E:72:MET:CE	1:E:416:LEU:HD21	2.29	0.62
1:C:286:VAL:HG12	1:C:286:VAL:O	1.99	0.62
1:E:133:GLN:OE1	2:S:1:NAG:H61	1.99	0.62
1:E:232:ASN:HD22	3:T:1:NAG:C8	2.11	0.62
1:F:352:VAL:HB	1:F:360:VAL:HG13	1.82	0.62
1:A:90:ARG:NH1	1:A:178:ASP:OD1	2.33	0.61
1:F:303:LYS:HB2	1:G:724:TYR:CD2	2.35	0.61
1:B:424:THR:HG21	1:B:426:ARG:NH1	2.15	0.61
1:B:40:HIS:O	1:B:748:CYS:HB2	2.01	0.61
1:A:59:LEU:HD23	1:A:59:LEU:O	2.00	0.60
1:A:117:SER:HB3	1:A:118:PRO:HD2	1.83	0.60
1:A:302:LEU:HD13	1:B:453:GLY:HA3	1.82	0.60
1:D:39:PRO:O	1:D:748:CYS:HB2	2.01	0.60
1:A:504:THR:HB	1:A:506:LYS:HG3	1.82	0.60
1:C:739:LEU:HD13	1:D:400:ARG:O	2.01	0.60
1:C:506:LYS:HD3	1:D:563:GLN:NE2	2.16	0.60
1:E:72:MET:HE1	1:E:416:LEU:HD21	1.82	0.60
1:F:117:SER:HB3	1:F:118:PRO:HD2	1.83	0.60
1:F:546:PHE:CD1	1:G:616:PRO:HD3	2.37	0.60
1:A:730:ASP:HA	1:F:421:ALA:HB3	1.83	0.60
1:F:470:ASN:ND2	1:F:494:TYR:O	2.35	0.60
1:G:438:LEU:HD22	1:G:439:PRO:HD2	1.83	0.60
1:F:142:VAL:HB	1:F:153:ARG:HG3	1.83	0.59
1:F:566:ARG:NH2	1:G:505:GLY:O	2.34	0.59
1:E:117:SER:HB3	1:E:118:PRO:HD2	1.85	0.59
1:D:229:LEU:O	1:D:243:VAL:HG22	2.03	0.59
1:F:560:GLN:HG3	1:G:619:SER:HB2	1.83	0.59
1:G:79:LEU:HD23	2:Y:2:NAG:C8	2.29	0.59
1:C:349:ILE:HD13	1:C:477:THR:HG21	1.83	0.59
1:F:277:LEU:HD11	1:F:286:VAL:HG11	1.83	0.59
1:B:500:LEU:HD22	1:B:510:GLN:HG3	1.85	0.58
1:E:141:LEU:HD12	1:E:154:ASP:HA	1.85	0.58
1:F:233:ILE:HD11	1:F:300:TRP:HZ3	1.68	0.58
1:E:438:LEU:HD22	1:E:439:PRO:HD2	1.84	0.58
1:C:559:LEU:HD13	1:C:559:LEU:O	2.03	0.58
1:F:59:LEU:HD23	1:F:59:LEU:O	2.04	0.58
1:E:89:ALA:CB	1:E:95:CYS:SG	2.91	0.58
1:G:375:ASN:ND2	1:G:501:PHE:O	2.32	0.58
1:F:536:GLU:O	1:F:537:ASN:ND2	2.37	0.58
1:G:317:TYR:CD1	1:G:321:PRO:HA	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:117:SER:HB3	1:C:118:PRO:HD2	1.86	0.57
1:F:386:ASP:OD1	1:F:468:LEU:HD13	2.04	0.57
1:A:739:LEU:HD13	1:B:400:ARG:O	2.04	0.57
1:E:406:TYR:CD2	1:E:752:LEU:HD22	2.39	0.57
1:F:83:LEU:HD12	1:F:94:ASN:O	2.04	0.57
1:G:79:LEU:O	1:G:79:LEU:HD22	2.05	0.57
1:A:733:ALA:HB1	1:A:735:GLU:OE2	2.05	0.57
1:E:468:LEU:N	1:E:468:LEU:HD12	2.20	0.57
1:D:59:LEU:HD23	1:D:59:LEU:C	2.25	0.57
1:E:349:ILE:HD13	1:E:477:THR:HG21	1.86	0.57
1:G:344:PHE:HA	1:G:390:GLY:HA2	1.85	0.56
1:E:352:VAL:HB	1:E:360:VAL:HG13	1.87	0.56
1:G:319:GLN:HE21	1:G:745:ALA:HB1	1.70	0.56
1:G:470:ASN:ND2	1:G:494:TYR:O	2.37	0.56
1:F:72:MET:HE3	1:F:420:GLN:HA	1.87	0.56
1:F:85:ASP:OD1	1:F:420:GLN:HB2	2.05	0.56
1:F:304:SER:HB2	1:G:722:SER:OG	2.06	0.56
1:G:472:ASP:O	1:G:492:THR:HG22	2.06	0.56
1:F:141:LEU:HD12	1:F:154:ASP:HA	1.87	0.56
1:F:279:ALA:O	1:F:283:ALA:N	2.34	0.56
1:E:273:SER:OG	1:E:274:LEU:N	2.38	0.55
1:E:314:LEU:HD12	1:E:315:GLN:N	2.20	0.55
1:F:198:CYS:HB3	1:F:288:VAL:HG11	1.88	0.55
1:C:209:VAL:HG13	1:C:232:ASN:HB2	1.88	0.55
1:F:597:TRP:HB3	1:G:510:GLN:HB3	1.88	0.55
1:A:453:GLY:HA3	1:B:302:LEU:HD13	1.88	0.55
1:G:117:SER:HB3	1:G:118:PRO:HD2	1.87	0.55
1:B:316:PHE:C	1:B:317:TYR:HD2	2.09	0.55
1:D:72:MET:HE2	1:D:416:LEU:HD11	1.84	0.55
1:G:141:LEU:HD12	1:G:154:ASP:HA	1.88	0.55
1:C:141:LEU:HD12	1:C:154:ASP:HA	1.89	0.55
1:C:72:MET:O	1:C:76:THR:HG23	2.05	0.55
1:E:198:CYS:HA	1:E:290:LEU:HD12	1.89	0.55
1:G:86:ALA:HA	1:G:95:CYS:SG	2.47	0.55
1:E:209:VAL:HG13	1:E:232:ASN:HB2	1.89	0.55
1:E:229:LEU:O	1:E:243:VAL:HG22	2.07	0.55
1:D:344:PHE:HA	1:D:390:GLY:HA2	1.90	0.54
1:G:198:CYS:HB3	1:G:288:VAL:HG11	1.88	0.54
1:A:198:CYS:O	1:A:290:LEU:HD23	2.06	0.54
1:B:267:GLN:OE1	1:B:289:VAL:HG13	2.06	0.54
1:E:344:PHE:HA	1:E:390:GLY:HA2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:229:LEU:O	1:A:243:VAL:HG22	2.08	0.54
1:E:271:TYR:CE2	1:E:277:LEU:HD13	2.39	0.54
1:E:500:LEU:HD22	1:E:510:GLN:HG3	1.90	0.54
10:B:1772:NAG:O3	10:B:1772:NAG:C8	2.53	0.54
1:F:319:GLN:HE21	1:F:745:ALA:HB1	1.73	0.54
1:G:59:LEU:O	1:G:59:LEU:HD23	2.07	0.54
1:G:474:VAL:HG12	1:G:475:TRP:N	2.21	0.54
1:F:336:THR:HG22	1:F:336:THR:O	2.08	0.54
1:F:497:SER:HB2	1:F:515:THR:HG22	1.90	0.54
1:A:597:TRP:CE2	1:B:512:SER:HA	2.43	0.54
1:C:72:MET:HE1	1:C:416:LEU:HD21	1.90	0.53
1:A:234:SER:HA	3:I:1:NAG:H62	1.90	0.53
1:C:271:TYR:CE2	1:C:277:LEU:HD13	2.44	0.53
1:A:141:LEU:HD12	1:A:154:ASP:HA	1.90	0.53
1:A:344:PHE:HA	1:A:390:GLY:HA2	1.91	0.53
1:B:723:ILE:CD1	1:B:723:ILE:N	2.71	0.53
1:C:72:MET:HE3	1:C:420:GLN:HA	1.91	0.53
1:A:209:VAL:HG13	1:A:232:ASN:HB2	1.90	0.53
1:B:59:LEU:HD23	1:B:59:LEU:C	2.29	0.53
1:C:497:SER:HB2	1:C:515:THR:HG22	1.91	0.53
1:D:500:LEU:HD22	1:D:510:GLN:HG3	1.91	0.53
1:B:285:LEU:HG	1:B:285:LEU:O	2.09	0.52
1:C:72:MET:CE	1:C:416:LEU:HD21	2.38	0.52
1:B:277:LEU:HD12	1:B:277:LEU:O	2.10	0.52
1:C:302:LEU:HD13	1:D:453:GLY:HA3	1.90	0.52
1:G:472:ASP:HB2	1:G:492:THR:HG23	1.91	0.52
1:F:278:GLU:OE2	1:F:282:GLU:HG3	2.10	0.52
1:A:59:LEU:HD23	1:A:59:LEU:C	2.29	0.52
1:F:349:ILE:CD1	1:F:477:THR:HG21	2.37	0.52
1:D:349:ILE:CD1	1:D:477:THR:HG21	2.39	0.52
1:F:209:VAL:HG13	1:F:232:ASN:HB2	1.92	0.52
1:G:233:ILE:HD11	1:G:300:TRP:HZ3	1.75	0.52
1:F:59:LEU:HD23	1:F:59:LEU:C	2.30	0.51
1:F:72:MET:CE	1:F:420:GLN:HA	2.39	0.51
1:G:607:MET:HE1	1:G:679:THR:O	2.09	0.51
1:B:349:ILE:HD13	1:B:477:THR:HG21	1.93	0.51
1:E:166:TYR:O	1:E:169:ARG:NH1	2.44	0.51
1:G:349:ILE:CD1	1:G:477:THR:HG21	2.38	0.51
1:B:141:LEU:HD12	1:B:154:ASP:HA	1.93	0.51
1:C:59:LEU:HD23	1:C:59:LEU:O	2.11	0.51
1:C:99:VAL:CG2	1:C:416:LEU:HD23	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:497:SER:HB2	1:E:515:THR:HG22	1.93	0.51
1:B:344:PHE:HA	1:B:390:GLY:HA2	1.91	0.51
1:D:319:GLN:HE21	1:D:745:ALA:HB1	1.75	0.51
1:F:442:ARG:NH1	1:G:472:ASP:OD1	2.44	0.51
1:F:611:ALA:O	1:G:585:ARG:NH1	2.44	0.51
1:G:272:ASP:N	1:G:272:ASP:OD2	2.44	0.51
1:G:497:SER:HB2	1:G:515:THR:HG22	1.92	0.51
1:G:440:LEU:HD23	1:G:455:LEU:HD23	1.93	0.51
1:D:59:LEU:HD22	1:D:60:PHE:CE1	2.46	0.51
1:F:472:ASP:HB2	1:F:492:THR:HG23	1.93	0.50
1:G:731:ALA:HB3	11:G:767:HOH:O	2.10	0.50
1:B:336:THR:O	1:B:336:THR:HG22	2.10	0.50
1:B:549:MET:HE2	1:B:559:LEU:HD21	1.93	0.50
1:D:497:SER:HB2	1:D:515:THR:HG22	1.93	0.50
1:E:72:MET:CE	1:E:420:GLN:HA	2.40	0.50
1:G:61:ALA:O	1:G:101:LEU:HD22	2.12	0.50
1:A:500:LEU:HD22	1:A:510:GLN:HG3	1.93	0.50
1:B:680:ALA:HB1	1:B:701:VAL:CG1	2.41	0.50
1:G:193:GLY:HA3	1:G:278:GLU:OE1	2.12	0.50
1:B:372:TYR:OH	1:B:471:TPQ:H3	2.12	0.50
10:B:1772:NAG:O3	10:B:1772:NAG:C7	2.60	0.50
1:E:607:MET:HE1	1:E:679:THR:O	2.12	0.50
1:F:597:TRP:CZ3	1:G:513:GLU:N	2.80	0.50
1:B:72:MET:CE	1:B:420:GLN:HA	2.42	0.49
1:C:336:THR:HG22	1:C:336:THR:O	2.11	0.49
1:F:191:ALA:HA	1:F:278:GLU:HB2	1.94	0.49
1:G:316:PHE:CE1	1:G:318:PRO:HG3	2.47	0.49
1:G:500:LEU:HD22	1:G:510:GLN:HG3	1.94	0.49
1:A:372:TYR:OH	1:A:471:TPQ:H3	2.10	0.49
1:A:730:ASP:HA	1:F:421:ALA:HB2	1.94	0.49
1:B:188:LEU:N	1:B:189:PRO:CD	2.75	0.49
1:E:181:GLN:HG3	1:E:185:ASN:ND2	2.27	0.49
1:E:314:LEU:HD21	1:E:752:LEU:HD11	1.95	0.49
1:F:456:ALA:HB2	1:G:402:VAL:HA	1.94	0.49
1:B:72:MET:HE1	1:B:416:LEU:HD21	1.94	0.49
1:B:426:ARG:HG2	1:B:426:ARG:HH11	1.77	0.49
1:C:352:VAL:HB	1:C:360:VAL:HG13	1.94	0.49
1:A:497:SER:HB2	1:A:515:THR:HG22	1.94	0.49
1:E:59:LEU:HD23	1:E:59:LEU:C	2.32	0.49
1:E:375:ASN:ND2	1:E:499:PHE:O	2.45	0.49
1:B:209:VAL:HG13	1:B:232:ASN:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:263:LYS:NZ	11:B:789:HOH:O	2.45	0.49
1:C:194:LEU:HA	1:C:281:PHE:CE2	2.48	0.49
1:E:106:LYS:NZ	1:E:673:ASP:OD2	2.40	0.49
1:A:539:VAL:O	1:A:568:LEU:HD12	2.13	0.49
1:E:407:LEU:HG	1:E:752:LEU:HD21	1.93	0.49
1:F:245:LEU:HD12	1:F:265:PHE:O	2.13	0.49
1:B:75:LEU:HD22	1:B:79:LEU:HD22	1.95	0.49
1:C:500:LEU:HD22	1:C:510:GLN:HG3	1.94	0.49
1:F:123:GLU:OE2	1:F:153:ARG:NH2	2.46	0.49
1:A:317:TYR:CD1	1:A:321:PRO:HA	2.48	0.48
1:B:72:MET:CE	1:B:416:LEU:HD21	2.42	0.48
1:D:141:LEU:HD12	1:D:154:ASP:HA	1.95	0.48
1:C:344:PHE:HA	1:C:390:GLY:HA2	1.94	0.48
1:E:133:GLN:NE2	1:E:136:PRO:HA	2.28	0.48
1:G:194:LEU:CD1	1:G:288:VAL:HG21	2.43	0.48
1:C:59:LEU:HD23	1:C:59:LEU:C	2.33	0.48
1:C:285:LEU:O	1:C:285:LEU:CD2	2.57	0.48
1:E:133:GLN:OE1	2:S:1:NAG:C6	2.62	0.48
1:E:314:LEU:HD12	1:E:315:GLN:H	1.77	0.48
1:G:130:PHE:HB3	1:G:133:GLN:OE1	2.13	0.48
1:G:468:LEU:HD12	1:G:468:LEU:N	2.29	0.48
1:C:75:LEU:HD22	1:C:79:LEU:HD22	1.95	0.48
1:F:67:GLU:O	1:F:71:VAL:HG23	2.13	0.48
1:F:90:ARG:HB3	1:F:91:PRO:HD2	1.96	0.48
1:F:106:LYS:NZ	1:F:673:ASP:OD2	2.36	0.48
1:A:692:PRO:C	1:A:693:ASN:HD22	2.17	0.48
1:E:232:ASN:ND2	3:T:1:NAG:C7	2.76	0.48
1:F:188:LEU:N	1:F:189:PRO:CD	2.76	0.48
2:P:2:NAG:C3	2:P:2:NAG:H83	2.43	0.48
1:E:549:MET:HE2	1:E:559:LEU:HD21	1.95	0.48
2:P:2:NAG:O3	2:P:3:BMA:H2	2.14	0.48
1:F:560:GLN:HG2	1:G:619:SER:HB2	1.96	0.48
1:B:360:VAL:HG11	1:B:363:ILE:CG1	2.40	0.47
1:B:497:SER:HB2	1:B:515:THR:HG22	1.95	0.47
1:F:500:LEU:HD22	1:F:510:GLN:HG3	1.95	0.47
1:B:319:GLN:HE21	1:B:745:ALA:HB1	1.78	0.47
1:A:59:LEU:HD22	1:A:60:PHE:CE1	2.49	0.47
1:F:742:LEU:HD22	1:G:406:TYR:CE1	2.49	0.47
1:E:286:VAL:O	1:E:286:VAL:HG12	2.14	0.47
1:E:233:ILE:HD11	1:E:300:TRP:HZ3	1.79	0.47
1:D:502:GLY:HA3	1:D:504:THR:HG23	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:607:MET:HE1	1:D:679:THR:O	2.14	0.47
1:B:151:TYR:HB2	1:B:153:ARG:HE	1.79	0.47
1:C:549:MET:HB2	1:C:559:LEU:CD1	2.44	0.47
1:D:416:LEU:HD23	1:D:422:PRO:N	2.30	0.47
1:E:470:ASN:HB2	1:E:494:TYR:O	2.15	0.47
1:G:466:SER:HB3	1:G:468:LEU:HD11	1.97	0.47
1:E:369:LEU:HD12	1:E:384:TYR:O	2.15	0.47
1:E:652:ASP:OD2	1:E:655:ALA:HB3	2.15	0.47
1:C:308:PRO:HA	1:D:720:ALA:O	2.13	0.47
1:E:372:TYR:CD2	1:E:520:HIS:HB3	2.50	0.47
1:A:233:ILE:HD11	1:A:300:TRP:HZ3	1.78	0.47
1:A:359:LEU:HD22	1:A:603:TYR:CE1	2.49	0.47
1:A:442:ARG:CD	1:B:465:MET:SD	3.03	0.47
1:F:597:TRP:CH2	1:G:512:SER:HA	2.50	0.47
1:F:708:TYR:OH	1:G:685:ILE:HG21	2.16	0.47
1:B:89:ALA:O	1:B:174:GLN:HG2	2.14	0.46
1:D:209:VAL:HG13	1:D:232:ASN:HB2	1.96	0.46
1:F:233:ILE:HG13	1:F:241:HIS:CD2	2.49	0.46
1:B:607:MET:HE1	1:B:679:THR:O	2.14	0.46
1:C:95:CYS:O	1:C:128:VAL:HG13	2.16	0.46
1:E:95:CYS:O	1:E:128:VAL:HG13	2.16	0.46
1:F:416:LEU:HD12	1:F:416:LEU:C	2.35	0.46
1:G:212:THR:OG1	1:G:216:ARG:NH2	2.46	0.46
1:E:271:TYR:CE2	1:E:277:LEU:CD1	2.99	0.46
1:F:61:ALA:O	1:F:101:LEU:HD22	2.15	0.46
1:F:607:MET:HE1	1:F:679:THR:O	2.14	0.46
1:F:477:THR:HG22	1:F:479:PHE:CE1	2.51	0.46
1:G:209:VAL:HG13	1:G:232:ASN:HB2	1.97	0.46
1:G:339:PHE:CD1	1:G:339:PHE:C	2.88	0.46
1:A:191:ALA:HA	1:A:278:GLU:HB2	1.98	0.46
1:A:349:ILE:CD1	1:A:477:THR:HG21	2.44	0.46
1:G:79:LEU:HD22	1:G:79:LEU:C	2.36	0.46
1:B:75:LEU:O	1:B:79:LEU:HB2	2.16	0.46
1:B:114:ASP:HB3	1:E:114:ASP:O	2.15	0.46
1:C:587:LEU:HD22	1:C:632:LEU:HD21	1.98	0.46
1:F:233:ILE:HD11	1:F:300:TRP:CZ3	2.49	0.46
1:G:171:VAL:N	11:G:766:HOH:O	2.49	0.46
1:C:400:ARG:O	1:D:739:LEU:HD13	2.16	0.46
1:F:559:LEU:HD23	1:F:559:LEU:O	2.15	0.46
1:G:419:SER:CB	1:G:423:LYS:NZ	2.79	0.46
1:B:239:PHE:CD1	1:B:470:ASN:HB3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:133:GLN:HE21	1:E:136:PRO:HA	1.81	0.46
1:C:233:ILE:HD11	1:C:300:TRP:HZ3	1.80	0.46
1:C:233:ILE:HG13	1:C:241:HIS:CD2	2.51	0.46
1:C:559:LEU:HD13	1:C:559:LEU:C	2.36	0.46
1:D:233:ILE:HD11	1:D:300:TRP:HZ3	1.81	0.46
1:F:316:PHE:O	1:G:313:PRO:HA	2.16	0.46
1:F:369:LEU:HD12	1:F:384:TYR:O	2.15	0.46
1:A:86:ALA:CB	1:A:418:GLU:HA	2.46	0.46
1:B:77:GLN:HB3	1:B:78[B]:ARG:HE	1.81	0.45
1:B:722:SER:C	1:B:723:ILE:HD12	2.36	0.45
2:P:2:NAG:C3	2:P:2:NAG:C8	2.94	0.45
1:F:276:GLN:O	1:F:279:ALA:HB3	2.16	0.45
1:G:732:GLY:HA3	11:G:764:HOH:O	2.15	0.45
1:A:336:THR:HG22	1:A:336:THR:O	2.14	0.45
1:C:287:ASN:OD1	1:C:287:ASN:O	2.34	0.45
1:D:336:THR:O	1:D:336:THR:HG22	2.17	0.45
1:A:456:ALA:HB2	1:B:402:VAL:HA	1.98	0.45
1:C:448:TYR:CE2	1:D:209:VAL:HB	2.52	0.45
1:E:187:GLU:O	1:E:274:LEU:HD22	2.16	0.45
1:G:239:PHE:CD1	1:G:470:ASN:HB3	2.50	0.45
1:F:470:ASN:O	1:F:494:TYR:N	2.47	0.45
1:A:90:ARG:HB3	1:A:91:PRO:HD2	1.98	0.45
1:C:61:ALA:O	1:C:101:LEU:HD22	2.17	0.45
1:E:188:LEU:N	1:E:189:PRO:CD	2.80	0.45
1:E:281:PHE:HA	1:E:286:VAL:HB	1.98	0.45
1:F:271:TYR:OH	1:F:286:VAL:HG22	2.16	0.45
1:F:443:HIS:HA	1:G:472:ASP:OD1	2.17	0.45
1:G:188:LEU:N	1:G:189:PRO:CD	2.80	0.45
1:C:369:LEU:HD12	1:C:384:TYR:O	2.16	0.45
1:C:720:ALA:O	1:D:308:PRO:HA	2.17	0.45
1:F:86:ALA:HB3	1:F:418:GLU:HA	1.98	0.45
1:G:66:GLU:OE1	1:G:66:GLU:N	2.47	0.45
1:G:474:VAL:CG1	1:G:475:TRP:N	2.80	0.45
1:B:90:ARG:HB3	1:B:91:PRO:CD	2.47	0.45
1:D:67:GLU:O	1:D:71:VAL:HG23	2.17	0.45
1:D:369:LEU:HD12	1:D:384:TYR:O	2.17	0.45
1:E:386:ASP:OD1	1:E:468:LEU:HD22	2.16	0.45
1:F:41:CYS:SG	1:F:749:ALA:O	2.75	0.45
1:F:308:PRO:HG3	1:G:738:PRO:CG	2.47	0.45
1:G:536:GLU:O	1:G:537:ASN:ND2	2.50	0.45
1:C:106:LYS:NZ	1:C:673:ASP:OD2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:239:PHE:CD1	1:C:470:ASN:HB3	2.52	0.45
1:F:106:LYS:HG3	1:F:361:TYR:CE2	2.52	0.45
1:A:538:TRP:HB3	1:A:568:LEU:HD11	1.99	0.45
1:B:72:MET:HE2	1:B:416:LEU:HD11	1.99	0.45
1:F:266:TYR:OH	1:F:288:VAL:HG13	2.17	0.45
1:D:538:TRP:HB3	1:D:568:LEU:HD11	1.99	0.44
1:A:72:MET:CE	1:A:416:LEU:HD11	2.47	0.44
1:F:277:LEU:HD12	1:F:277:LEU:C	2.37	0.44
1:A:472:ASP:OD1	1:A:472:ASP:N	2.51	0.44
1:B:587:LEU:HD22	1:B:632:LEU:HD21	1.98	0.44
1:C:232:ASN:ND2	3:N:1:NAG:C7	2.80	0.44
1:C:287:ASN:O	1:C:287:ASN:CG	2.56	0.44
1:E:71:VAL:HG12	1:E:75:LEU:HD12	1.98	0.44
1:F:59:LEU:HD22	1:F:60:PHE:CE1	2.53	0.44
1:F:739:LEU:HD13	1:G:400:ARG:O	2.18	0.44
1:A:84:VAL:HG12	1:A:85:ASP:N	2.33	0.44
1:D:246:GLU:OE1	1:D:377:PRO:HD2	2.17	0.44
1:E:67:GLU:HB3	1:E:146:LEU:CD2	2.48	0.44
1:F:187:GLU:HB3	1:F:274:LEU:CD1	2.48	0.44
1:B:90:ARG:HB3	1:B:91:PRO:HD2	2.00	0.44
1:B:99:VAL:CG2	1:B:416:LEU:CD2	2.92	0.44
1:C:84:VAL:HG12	1:C:85:ASP:O	2.17	0.44
1:C:229:LEU:O	1:C:243:VAL:HG22	2.17	0.44
1:F:714:ASP:HB2	1:G:689:GLU:O	2.18	0.44
1:G:538:TRP:HB3	1:G:568:LEU:HD11	1.99	0.44
1:A:742:LEU:HB3	1:A:743:PRO:HD3	1.99	0.44
1:B:369:LEU:HD12	1:B:384:TYR:O	2.18	0.44
1:G:722:SER:C	1:G:723:ILE:HD13	2.38	0.44
1:B:372:TYR:CD2	1:B:520:HIS:HB3	2.53	0.44
1:A:72:MET:CE	1:A:420:GLN:HA	2.48	0.44
1:C:86:ALA:HA	1:C:95:CYS:SG	2.57	0.44
1:F:72:MET:HE1	1:F:416:LEU:HD11	2.00	0.44
1:A:752:LEU:HD12	1:B:743:PRO:HA	2.00	0.43
1:G:448:TYR:O	3:W:1:NAG:H5	2.18	0.43
1:C:59:LEU:HD22	1:C:60:PHE:CE1	2.53	0.43
1:C:402:VAL:HG23	1:D:739:LEU:HD11	2.01	0.43
1:E:317:TYR:N	1:E:317:TYR:CD2	2.86	0.43
1:A:591:SER:OG	1:A:592:ASN:N	2.51	0.43
1:F:133:GLN:NE2	1:F:136:PRO:HA	2.33	0.43
1:G:467:THR:HG23	1:G:471:TPQ:O	2.18	0.43
1:E:270:TYR:O	1:E:271:TYR:CD1	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:471:TPQ:HA	1:E:471:TPQ:O2	2.19	0.43
1:D:587:LEU:HD22	1:D:632:LEU:HD21	2.01	0.43
1:B:77:GLN:CB	1:B:78[B]:ARG:HE	2.32	0.43
1:C:443:HIS:HA	1:D:472:ASP:OD2	2.19	0.43
1:C:456:ALA:HB2	1:D:402:VAL:HA	2.01	0.43
1:D:232:ASN:ND2	3:Q:1:NAG:C8	2.71	0.43
1:F:106:LYS:HE3	1:F:637:ARG:CD	2.49	0.43
1:F:382:THR:HG21	1:F:384:TYR:CE2	2.54	0.43
1:F:585:ARG:NH1	1:G:611:ALA:O	2.52	0.43
1:F:724:TYR:OH	1:G:235:GLY:O	2.32	0.43
1:G:131:GLY:O	1:G:133:GLN:N	2.52	0.43
1:A:739:LEU:HD11	1:B:402:VAL:HG23	2.00	0.43
1:B:87:ALA:HB2	1:B:418:GLU:O	2.19	0.43
1:B:83:LEU:HD13	1:B:84:VAL:N	2.33	0.43
1:B:281:PHE:HA	1:B:286:VAL:HB	2.01	0.43
1:F:711:PHE:O	1:G:688:ALA:CB	2.67	0.43
1:F:403:ASP:O	1:F:463:ARG:NH1	2.51	0.43
1:C:465:MET:SD	1:D:442:ARG:CD	3.07	0.42
1:D:270:TYR:OH	1:D:377:PRO:HG3	2.19	0.42
1:D:416:LEU:HD23	1:D:421:ALA:C	2.40	0.42
1:F:212:THR:OG1	1:F:216:ARG:NH2	2.49	0.42
1:A:319:GLN:HE21	1:A:745:ALA:HB1	1.83	0.42
1:E:63:LEU:HD22	1:E:146:LEU:HD22	2.01	0.42
1:B:233:ILE:HD11	1:B:300:TRP:HZ3	1.85	0.42
1:B:276:GLN:O	1:B:277:LEU:C	2.56	0.42
1:E:471:TPQ:O2	1:E:471:TPQ:CA	2.67	0.42
1:F:587:LEU:HD22	1:F:632:LEU:HD21	2.01	0.42
1:A:233:ILE:HG13	1:A:241:HIS:CD2	2.54	0.42
10:B:1772:NAG:H82	10:B:1772:NAG:C3	2.48	0.42
1:C:90:ARG:NH1	1:C:178:ASP:OD1	2.52	0.42
1:C:188:LEU:N	1:C:189:PRO:CD	2.82	0.42
1:E:440:LEU:HD23	1:E:455:LEU:HD23	2.00	0.42
1:F:72:MET:HE1	1:F:416:LEU:HD21	2.00	0.42
1:F:652:ASP:OD2	1:F:655:ALA:HB3	2.19	0.42
1:G:477:THR:HG22	1:G:479:PHE:CE1	2.54	0.42
1:C:761:SER:O	1:C:762:HIS:C	2.57	0.42
1:D:61:ALA:O	1:D:101:LEU:HD22	2.18	0.42
1:G:59:LEU:HD22	1:G:60:PHE:CE1	2.55	0.42
1:G:382:THR:HG21	1:G:384:TYR:CE2	2.55	0.42
1:A:85:ASP:OD1	1:A:85:ASP:C	2.58	0.42
1:F:106:LYS:HG3	1:F:361:TYR:CZ	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:156:THR:HB	2:Y:1:NAG:C8	2.49	0.42
1:E:175:GLU:O	1:E:179:ILE:HG13	2.20	0.42
1:E:233:ILE:HG13	1:E:241:HIS:CD2	2.54	0.42
1:G:59:LEU:HD23	1:G:59:LEU:C	2.40	0.42
1:A:402:VAL:HG23	1:B:739:LEU:HD11	2.02	0.42
1:B:229:LEU:O	1:B:243:VAL:HG22	2.20	0.42
1:B:329:ARG:HH21	1:B:336:THR:HG23	1.85	0.42
1:C:329:ARG:HH21	1:C:336:THR:HG23	1.85	0.42
1:B:84:VAL:HG12	1:B:85:ASP:N	2.34	0.42
1:B:538:TRP:HB3	1:B:568:LEU:HD11	2.01	0.42
1:E:286:VAL:HG12	1:E:288:VAL:HG22	2.01	0.42
1:G:369:LEU:HD12	1:G:384:TYR:O	2.19	0.42
1:F:739:LEU:HD11	1:G:402:VAL:CG2	2.47	0.42
1:G:372:TYR:CD2	1:G:520:HIS:HB3	2.55	0.42
1:G:467:THR:HA	1:G:471:TPQ:O	2.19	0.42
1:A:188:LEU:N	1:A:189:PRO:CD	2.82	0.41
1:A:647:VAL:HG22	1:A:647:VAL:O	2.19	0.41
1:A:742:LEU:HD23	1:B:406:TYR:CD1	2.55	0.41
1:C:349:ILE:CD1	1:C:477:THR:HG21	2.50	0.41
1:F:713:GLU:HB2	1:G:691:ILE:O	2.20	0.41
1:G:63:LEU:HD22	1:G:146:LEU:HD22	2.01	0.41
1:G:483:GLY:O	1:G:603:TYR:OH	2.33	0.41
1:D:680:ALA:HB1	1:D:701:VAL:CG1	2.42	0.41
1:F:90:ARG:HB3	1:F:91:PRO:CD	2.49	0.41
1:F:246:GLU:OE1	1:F:377:PRO:HD2	2.19	0.41
1:G:67:GLU:HB3	1:G:146:LEU:CD2	2.50	0.41
1:A:86:ALA:HB3	1:A:418:GLU:HA	2.02	0.41
1:A:354:PHE:O	1:A:355:GLN:C	2.58	0.41
1:A:375[B]:ASN:HD22	1:A:375[B]:ASN:HA	1.66	0.41
1:E:89:ALA:HB2	1:E:95:CYS:SG	2.59	0.41
1:F:372:TYR:CD2	1:F:520:HIS:HB3	2.55	0.41
1:A:72:MET:HE2	1:A:420:GLN:HA	2.02	0.41
1:A:278:GLU:O	1:A:279:ALA:C	2.58	0.41
1:A:549:MET:HE2	1:A:559:LEU:HD21	2.01	0.41
1:A:594:SER:HA	1:A:599:HIS:O	2.20	0.41
1:B:266:TYR:OH	1:B:288:VAL:HG13	2.20	0.41
1:C:90:ARG:HB3	1:C:91:PRO:HD2	2.02	0.41
1:D:106:LYS:HG3	1:D:361:TYR:CE2	2.56	0.41
1:G:198:CYS:HA	1:G:290:LEU:CD2	2.50	0.41
1:B:233:ILE:HD13	1:B:233:ILE:HA	1.89	0.41
1:E:39:PRO:O	1:E:748:CYS:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:66:GLU:OE2	1:E:66:GLU:N	2.43	0.41
1:F:359:LEU:HD22	1:F:603:TYR:CE1	2.56	0.41
1:F:553:TRP:HH2	1:G:381:THR:HG21	1.85	0.41
1:C:133:GLN:OE1	2:M:1:NAG:H62	2.18	0.41
1:E:59:LEU:HD22	1:E:60:PHE:CE1	2.55	0.41
1:F:440:LEU:HD23	1:F:455:LEU:HD23	2.02	0.41
1:G:329:ARG:HH21	1:G:336:THR:HG23	1.86	0.41
1:G:503:ALA:O	1:G:505:GLY:HA3	2.20	0.41
1:A:90:ARG:HB3	1:A:91:PRO:CD	2.50	0.41
1:C:403:ASP:HB3	1:C:465:MET:CE	2.51	0.41
1:D:90:ARG:HB3	1:D:91:PRO:HD2	2.02	0.41
1:E:191:ALA:HA	1:E:278:GLU:OE2	2.20	0.41
1:C:187:GLU:HB3	1:C:274:LEU:CD1	2.50	0.41
1:C:692:PRO:C	1:C:693:ASN:HD22	2.23	0.41
1:G:98:SER:O	1:G:126:ALA:HA	2.21	0.41
1:B:723:ILE:N	1:B:723:ILE:HD12	2.35	0.41
1:C:246:GLU:OE1	1:C:377:PRO:HD2	2.21	0.41
1:E:261:ILE:O	1:E:261:ILE:HG22	2.21	0.41
1:E:519:VAL:HG22	1:E:520:HIS:N	2.36	0.41
1:F:470:ASN:HD22	1:F:495:ILE:C	2.24	0.41
1:F:539:VAL:O	1:F:568:LEU:HD12	2.21	0.41
1:G:41:CYS:HB3	1:G:42:PRO:CD	2.51	0.41
1:G:142:VAL:HG23	1:G:155:VAL:HG11	2.01	0.41
1:B:426:ARG:NH1	1:B:426:ARG:HG2	2.36	0.41
1:D:540:TRP:CE2	1:D:568:LEU:HD13	2.56	0.41
1:E:538:TRP:HB3	1:E:568:LEU:HD11	2.03	0.41
1:F:533:ALA:HB2	1:F:601:ARG:NH1	2.36	0.41
1:F:593:HIS:ND1	4:X:1:NAG:H82	2.36	0.41
1:C:206:ARG:O	3:N:1:NAG:C8	2.69	0.40
1:C:440:LEU:HD23	1:C:455:LEU:HD23	2.02	0.40
1:E:736:VAL:HG12	1:E:737:ASN:N	2.35	0.40
1:F:185:ASN:O	1:F:189:PRO:HG2	2.21	0.40
1:G:185:ASN:O	1:G:189:PRO:HG2	2.21	0.40
1:F:442:ARG:CD	1:G:465:MET:SD	3.10	0.40
1:F:538:TRP:HB3	1:F:568:LEU:HD11	2.01	0.40
1:C:755:PHE:CE2	1:D:737:ASN:ND2	2.90	0.40
1:D:90:ARG:HB3	1:D:91:PRO:CD	2.51	0.40
1:D:94:ASN:O	1:D:95[B]:CYS:HB2	2.21	0.40
1:E:232:ASN:ND2	3:T:1:NAG:C8	2.80	0.40
1:E:290:LEU:HD22	1:E:290:LEU:N	2.36	0.40
1:E:638:LYS:NZ	1:E:667:GLU:OE2	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:2:NAG:H83	2:P:2:NAG:H3	2.03	0.40
2:P:2:NAG:H83	2:P:2:NAG:O3	2.22	0.40
1:A:452:PHE:CD2	1:A:452:PHE:C	2.95	0.40
1:E:131:GLY:O	1:E:133:GLN:N	2.54	0.40
1:F:133:GLN:HE21	1:F:135:GLN:C	2.19	0.40
1:F:329:ARG:HH21	1:F:336:THR:HG23	1.87	0.40
1:F:465:MET:HE2	1:F:474:VAL:HG13	2.04	0.40
1:G:503:ALA:O	1:G:505:GLY:CA	2.68	0.40
1:G:503:ALA:C	1:G:505:GLY:N	2.75	0.40
1:G:539:VAL:O	1:G:568:LEU:HD12	2.21	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	701/748 (94%)	660 (94%)	40 (6%)	1 (0%)	51	82
1	B	698/748 (93%)	653 (94%)	44 (6%)	1 (0%)	51	82
1	C	702/748 (94%)	659 (94%)	40 (6%)	3 (0%)	34	66
1	D	705/748 (94%)	666 (94%)	38 (5%)	1 (0%)	51	82
1	E	693/748 (93%)	655 (94%)	35 (5%)	3 (0%)	34	66
1	F	696/748 (93%)	658 (94%)	37 (5%)	1 (0%)	51	82
1	G	698/748 (93%)	650 (93%)	47 (7%)	1 (0%)	51	82
All	All	4893/5236 (93%)	4601 (94%)	281 (6%)	11 (0%)	47	78

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	618	ASN

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Mol	Chain	Res	Type
1	G	87	ALA
1	C	618	ASN
1	C	279	ALA
1	E	272	ASP
1	E	618	ASN
1	A	618	ASN
1	B	618	ASN
1	F	286	VAL
1	C	42	PRO
1	E	279	ALA

### 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	568/625 (91%)	545 (96%)	23 (4%)	31 65
1	B	569/625 (91%)	549 (96%)	20 (4%)	36 70
1	C	565/625 (90%)	546 (97%)	19 (3%)	37 71
1	D	567/625 (91%)	546 (96%)	21 (4%)	34 68
1	E	555/625 (89%)	533 (96%)	22 (4%)	31 65
1	F	549/625 (88%)	524 (95%)	25 (5%)	27 60
1	G	545/625 (87%)	519 (95%)	26 (5%)	25 58
All	All	3918/4375 (90%)	3762 (96%)	156 (4%)	31 65

All (156) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	LEU
1	A	83	LEU
1	A	141	LEU
1	A	186	ARG
1	A	290	LEU
1	A	317	TYR
1	A	336	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	442	ARG
1	A	464	SER
1	A	468	LEU
1	A	472	ASP
1	A	489	PHE
1	A	496	SER
1	A	504	THR
1	A	515	THR
1	A	603	TYR
1	A	650	GLN
1	A	701	VAL
1	A	718[A]	TYR
1	A	718[B]	TYR
1	A	735	GLU
1	A	741	CYS
1	A	756	SER
1	B	59	LEU
1	B	83	LEU
1	B	141	LEU
1	B	289	VAL
1	B	317	TYR
1	B	336	THR
1	B	420	GLN
1	B	442	ARG
1	B	464	SER
1	B	469	LEU
1	B	472	ASP
1	B	481	PRO
1	B	489	PHE
1	B	515	THR
1	B	591	SER
1	B	603	TYR
1	B	718	TYR
1	B	723	ILE
1	B	741	CYS
1	B	756	SER
1	C	36	SER
1	C	59	LEU
1	C	135	GLN
1	C	141	LEU
1	C	276	GLN
1	C	286	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	290	LEU
1	C	336	THR
1	C	360	VAL
1	C	442	ARG
1	C	464	SER
1	C	472	ASP
1	C	489	PHE
1	C	515	THR
1	C	559	LEU
1	C	603	TYR
1	C	701	VAL
1	C	741	CYS
1	C	756	SER
1	D	57	SER
1	D	59	LEU
1	D	76	THR
1	D	77	GLN
1	D	141	LEU
1	D	273	SER
1	D	276	GLN
1	D	336	THR
1	D	442	ARG
1	D	464	SER
1	D	472	ASP
1	D	481	PRO
1	D	489	PHE
1	D	496	SER
1	D	515	THR
1	D	573	GLU
1	D	603	TYR
1	D	701	VAL
1	D	723	ILE
1	D	741	CYS
1	D	756	SER
1	E	41	CYS
1	E	59	LEU
1	E	77	GLN
1	E	85	ASP
1	E	141	LEU
1	E	179	ILE
1	E	181	GLN
1	E	290	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	E	317	TYR
1	E	336	THR
1	E	360	VAL
1	E	442	ARG
1	E	464	SER
1	E	468	LEU
1	E	489	PHE
1	E	515	THR
1	E	603	TYR
1	E	701	VAL
1	E	723	ILE
1	E	741	CYS
1	E	742	LEU
1	E	756	SER
1	F	57	SER
1	F	59	LEU
1	F	88	GLN
1	F	95	CYS
1	F	141	LEU
1	F	169	ARG
1	F	272	ASP
1	F	287	ASN
1	F	336	THR
1	F	360	VAL
1	F	416	LEU
1	F	420	GLN
1	F	442	ARG
1	F	464	SER
1	F	472	ASP
1	F	481	PRO
1	F	489	PHE
1	F	504	THR
1	F	515	THR
1	F	573	GLU
1	F	603	TYR
1	F	701	VAL
1	F	741	CYS
1	F	742	LEU
1	F	756	SER
1	G	57	SER
1	G	59	LEU
1	G	79	LEU

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Mol	Chain	Res	Type
1	G	84	VAL
1	G	95	CYS
1	G	141	LEU
1	G	272	ASP
1	G	276	GLN
1	G	280	GLN
1	G	287	ASN
1	G	317	TYR
1	G	336	THR
1	G	339	PHE
1	G	360	VAL
1	G	416	LEU
1	G	442	ARG
1	G	464	SER
1	G	472	ASP
1	G	488	ARG
1	G	489	PHE
1	G	515	THR
1	G	573	GLU
1	G	603	TYR
1	G	735	GLU
1	G	741	CYS
1	G	756	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	319	GLN
1	A	326	GLN
1	A	693	ASN
1	B	319	GLN
1	B	693	ASN
1	C	135	GLN
1	C	693	ASN
1	D	319	GLN
1	D	563	GLN
1	D	693	ASN
1	E	693	ASN
1	F	267	GLN
1	F	319	GLN
1	G	319	GLN
1	G	355	GLN

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Mol	Chain	Res	Type
1	G	693	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

7 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	TPQ	A	471	1	13,14,15	1.43	2 (15%)	15,19,21	2.02	3 (20%)
1	TPQ	E	471	1	13,14,15	1.69	2 (15%)	15,19,21	2.37	5 (33%)
1	TPQ	B	471	1	13,14,15	1.44	2 (15%)	15,19,21	2.44	3 (20%)
1	TPQ	D	471	1	13,14,15	1.44	1 (7%)	15,19,21	1.54	2 (13%)
1	TPQ	C	471	1	13,14,15	1.47	2 (15%)	15,19,21	1.79	4 (26%)
1	TPQ	G	471	1	13,14,15	1.50	2 (15%)	15,19,21	2.22	3 (20%)
1	TPQ	F	471	1	13,14,15	1.73	4 (30%)	15,19,21	1.42	3 (20%)

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
1	TPQ	A	471	1	-	3/5/22/24	0/1/1/1
1	TPQ	E	471	1	-	4/5/22/24	0/1/1/1
1	TPQ	B	471	1	-	2/5/22/24	0/1/1/1
1	TPQ	D	471	1	-	2/5/22/24	0/1/1/1
1	TPQ	C	471	1	-	3/5/22/24	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	TPQ	G	471	1	-	2/5/22/24	0/1/1/1
1	TPQ	F	471	1	-	4/5/22/24	0/1/1/1

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	471	TPQ	O4-C4	-3.96	1.23	1.34
1	C	471	TPQ	O4-C4	-3.83	1.24	1.34
1	A	471	TPQ	O4-C4	-3.79	1.24	1.34
1	E	471	TPQ	O4-C4	-3.65	1.24	1.34
1	B	471	TPQ	O4-C4	-3.48	1.25	1.34
1	G	471	TPQ	O4-C4	-3.36	1.25	1.34
1	F	471	TPQ	O4-C4	-3.12	1.25	1.34
1	F	471	TPQ	C3-C4	3.07	1.40	1.35
1	G	471	TPQ	C3-C4	2.86	1.40	1.35
1	B	471	TPQ	C1-C2	-2.65	1.45	1.49
1	E	471	TPQ	C3-C4	2.56	1.39	1.35
1	A	471	TPQ	C1-C2	-2.28	1.45	1.49
1	F	471	TPQ	C3-C2	2.14	1.50	1.44
1	C	471	TPQ	C3-C4	2.14	1.39	1.35
1	F	471	TPQ	C6-C1	2.04	1.40	1.34

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	471	TPQ	C6-C1-C2	6.98	124.00	118.64
1	E	471	TPQ	C6-C1-C2	6.10	123.33	118.64
1	G	471	TPQ	C6-C1-C2	5.80	123.10	118.64
1	E	471	TPQ	CB-CA-C	-5.35	101.43	111.47
1	C	471	TPQ	C6-C1-C2	5.01	122.49	118.64
1	G	471	TPQ	CB-CA-C	-4.88	102.32	111.47
1	A	471	TPQ	CB-CA-C	-4.64	102.77	111.47
1	A	471	TPQ	C6-C1-C2	4.54	122.13	118.64
1	B	471	TPQ	CB-CA-C	-4.42	103.19	111.47
1	D	471	TPQ	C6-C1-C2	3.80	121.56	118.64
1	F	471	TPQ	C6-C5-C4	3.13	122.35	117.03
1	C	471	TPQ	C1-C6-C5	-2.63	117.58	122.52
1	F	471	TPQ	C3-C4-C5	-2.44	118.73	121.26
1	B	471	TPQ	C1-C6-C5	-2.41	118.00	122.52
1	C	471	TPQ	C6-C5-C4	2.40	121.10	117.03
1	A	471	TPQ	CB-C1-C2	-2.33	114.39	118.57
1	E	471	TPQ	CB-C1-C2	-2.32	114.42	118.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	471	TPQ	CA-CB-C1	-2.17	109.36	113.51
1	C	471	TPQ	CB-CA-C	-2.15	107.44	111.47
1	E	471	TPQ	C1-C6-C5	-2.12	118.53	122.52
1	G	471	TPQ	C1-C6-C5	-2.08	118.61	122.52
1	F	471	TPQ	CB-C1-C2	2.07	122.28	118.57
1	D	471	TPQ	CA-CB-C1	2.07	117.46	113.51

There are no chirality outliers.

All (20) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	471	TPQ	N-CA-CB-C1
1	A	471	TPQ	C-CA-CB-C1
1	A	471	TPQ	O-C-CA-CB
1	B	471	TPQ	N-CA-CB-C1
1	B	471	TPQ	C-CA-CB-C1
1	C	471	TPQ	N-CA-CB-C1
1	C	471	TPQ	C-CA-CB-C1
1	D	471	TPQ	N-CA-CB-C1
1	D	471	TPQ	C-CA-CB-C1
1	E	471	TPQ	N-CA-CB-C1
1	E	471	TPQ	O-C-CA-CB
1	F	471	TPQ	C-CA-CB-C1
1	F	471	TPQ	O-C-CA-CB
1	G	471	TPQ	O-C-CA-CB
1	F	471	TPQ	N-CA-CB-C1
1	E	471	TPQ	C-CA-CB-C1
1	E	471	TPQ	C2-C1-CB-CA
1	G	471	TPQ	C2-C1-CB-CA
1	C	471	TPQ	C2-C1-CB-CA
1	F	471	TPQ	C2-C1-CB-CA

There are no ring outliers.

5 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	471	TPQ	1	0
1	E	471	TPQ	2	0
1	B	471	TPQ	1	0
1	D	471	TPQ	1	0
1	G	471	TPQ	2	0

## 5.5 Carbohydrates i

48 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	H	1	2,1	14,14,15	0.71	0	17,19,21	2.12	2 (11%)
2	NAG	H	2	2	14,14,15	0.78	1 (7%)	17,19,21	1.57	3 (17%)
2	BMA	H	3	2	11,11,12	0.99	0	15,15,17	2.35	7 (46%)
3	NAG	I	1	1,3	14,14,15	1.00	1 (7%)	17,19,21	2.75	5 (29%)
3	NAG	I	2	3	14,14,15	0.82	1 (7%)	17,19,21	1.02	0
4	NAG	J	1	1,4	14,14,15	2.37	3 (21%)	17,19,21	2.91	10 (58%)
4	FUL	J	2	4	10,10,11	1.54	2 (20%)	14,14,16	1.95	5 (35%)
2	NAG	K	1	2,1	14,14,15	0.73	0	17,19,21	2.24	4 (23%)
2	NAG	K	2	2	14,14,15	0.75	0	17,19,21	2.60	6 (35%)
2	BMA	K	3	2	11,11,12	1.09	1 (9%)	15,15,17	1.96	5 (33%)
5	NAG	L	1	5,1	14,14,15	0.77	0	17,19,21	2.12	4 (23%)
5	NAG	L	2	5	14,14,15	0.66	0	17,19,21	1.49	4 (23%)
5	FUL	L	3	5	10,10,11	1.94	3 (30%)	14,14,16	2.16	5 (35%)
2	NAG	M	1	2,1	14,14,15	1.04	1 (7%)	17,19,21	1.96	6 (35%)
2	NAG	M	2	2	14,14,15	0.94	1 (7%)	17,19,21	2.58	6 (35%)
2	BMA	M	3	2	11,11,12	1.19	1 (9%)	15,15,17	1.85	6 (40%)
3	NAG	N	1	1,3	14,14,15	0.72	0	17,19,21	1.69	4 (23%)
3	NAG	N	2	3	14,14,15	0.90	1 (7%)	17,19,21	2.97	6 (35%)
4	NAG	O	1	1,4	14,14,15	1.57	4 (28%)	17,19,21	1.86	4 (23%)
4	FUL	O	2	4	10,10,11	1.03	0	14,14,16	1.85	4 (28%)
2	NAG	P	1	2,1	14,14,15	1.05	1 (7%)	17,19,21	2.49	4 (23%)
2	NAG	P	2	2	14,14,15	0.52	0	17,19,21	2.02	5 (29%)
2	BMA	P	3	2	11,11,12	0.87	0	15,15,17	3.00	3 (20%)
3	NAG	Q	1	1,3	14,14,15	0.84	0	17,19,21	2.17	6 (35%)
3	NAG	Q	2	3	14,14,15	0.93	1 (7%)	17,19,21	1.48	3 (17%)
4	NAG	R	1	1,4	14,14,15	1.37	2 (14%)	17,19,21	1.72	5 (29%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
4	FUL	R	2	4	10,10,11	2.50	6 (60%)	14,14,16	2.10	7 (50%)
2	NAG	S	1	2,1	14,14,15	0.54	0	17,19,21	2.65	8 (47%)
2	NAG	S	2	2	14,14,15	0.59	0	17,19,21	1.22	2 (11%)
2	BMA	S	3	2	11,11,12	0.74	0	15,15,17	1.01	1 (6%)
3	NAG	T	1	1,3	14,14,15	0.55	0	17,19,21	1.65	2 (11%)
3	NAG	T	2	3	14,14,15	0.78	0	17,19,21	1.38	3 (17%)
4	NAG	U	1	1,4	14,14,15	1.39	2 (14%)	17,19,21	2.86	4 (23%)
4	FUL	U	2	4	10,10,11	1.88	2 (20%)	14,14,16	1.95	4 (28%)
2	NAG	V	1	2,1	14,14,15	0.84	1 (7%)	17,19,21	1.88	2 (11%)
2	NAG	V	2	2	14,14,15	0.76	0	17,19,21	2.41	4 (23%)
2	BMA	V	3	2	11,11,12	1.04	1 (9%)	15,15,17	1.23	0
3	NAG	W	1	1,3	14,14,15	0.58	0	17,19,21	2.02	6 (35%)
3	NAG	W	2	3	14,14,15	0.82	1 (7%)	17,19,21	2.23	4 (23%)
4	NAG	X	1	1,4	14,14,15	1.11	1 (7%)	17,19,21	3.61	5 (29%)
4	FUL	X	2	4	10,10,11	1.24	1 (10%)	14,14,16	2.77	5 (35%)
2	NAG	Y	1	2,1	14,14,15	0.70	0	17,19,21	2.31	3 (17%)
2	NAG	Y	2	2	14,14,15	0.70	0	17,19,21	1.73	3 (17%)
2	BMA	Y	3	2	11,11,12	0.76	0	15,15,17	1.82	2 (13%)
3	NAG	Z	1	1,3	14,14,15	0.59	0	17,19,21	2.43	7 (41%)
3	NAG	Z	2	3	14,14,15	0.58	0	17,19,21	1.08	2 (11%)
6	NAG	a	1	1,6	14,14,15	1.10	1 (7%)	17,19,21	2.19	5 (29%)
6	FUC	a	2	6	10,10,11	2.15	3 (30%)	14,14,16	1.51	3 (21%)

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	H	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	H	2	2	-	2/6/23/26	0/1/1/1
2	BMA	H	3	2	-	2/2/19/22	0/1/1/1
3	NAG	I	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	I	2	3	-	0/6/23/26	0/1/1/1
4	NAG	J	1	1,4	1/1/5/7	4/6/23/26	0/1/1/1
4	FUL	J	2	4	-	-	0/1/1/1
2	NAG	K	1	2,1	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	K	2	2	-	1/6/23/26	0/1/1/1
2	BMA	K	3	2	-	1/2/19/22	0/1/1/1
5	NAG	L	1	5,1	1/1/5/7	0/6/23/26	0/1/1/1
5	NAG	L	2	5	-	2/6/23/26	0/1/1/1
5	FUL	L	3	5	-	-	0/1/1/1
2	NAG	M	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	M	2	2	-	3/6/23/26	0/1/1/1
2	BMA	M	3	2	-	2/2/19/22	0/1/1/1
3	NAG	N	1	1,3	-	5/6/23/26	0/1/1/1
3	NAG	N	2	3	-	0/6/23/26	0/1/1/1
4	NAG	O	1	1,4	-	2/6/23/26	0/1/1/1
4	FUL	O	2	4	1/1/4/5	-	0/1/1/1
2	NAG	P	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	P	2	2	-	3/6/23/26	0/1/1/1
2	BMA	P	3	2	1/1/4/5	2/2/19/22	0/1/1/1
3	NAG	Q	1	1,3	-	4/6/23/26	0/1/1/1
3	NAG	Q	2	3	-	0/6/23/26	0/1/1/1
4	NAG	R	1	1,4	1/1/5/7	4/6/23/26	0/1/1/1
4	FUL	R	2	4	-	-	0/1/1/1
2	NAG	S	1	2,1	-	1/6/23/26	0/1/1/1
2	NAG	S	2	2	-	2/6/23/26	0/1/1/1
2	BMA	S	3	2	-	2/2/19/22	0/1/1/1
3	NAG	T	1	1,3	-	4/6/23/26	0/1/1/1
3	NAG	T	2	3	-	0/6/23/26	0/1/1/1
4	NAG	U	1	1,4	1/1/5/7	1/6/23/26	0/1/1/1
4	FUL	U	2	4	-	-	0/1/1/1
2	NAG	V	1	2,1	-	4/6/23/26	0/1/1/1
2	NAG	V	2	2	-	2/6/23/26	0/1/1/1
2	BMA	V	3	2	-	1/2/19/22	0/1/1/1
3	NAG	W	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	W	2	3	-	0/6/23/26	0/1/1/1
4	NAG	X	1	1,4	-	2/6/23/26	0/1/1/1
4	FUL	X	2	4	-	-	0/1/1/1
2	NAG	Y	1	2,1	-	0/6/23/26	0/1/1/1
2	NAG	Y	2	2	-	2/6/23/26	0/1/1/1
2	BMA	Y	3	2	-	2/2/19/22	0/1/1/1
3	NAG	Z	1	1,3	1/1/5/7	4/6/23/26	0/1/1/1
3	NAG	Z	2	3	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	NAG	a	1	1,6	-	4/6/23/26	0/1/1/1
6	FUC	a	2	6	-	-	0/1/1/1

All (43) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	J	1	NAG	O5-C1	7.04	1.55	1.43
6	a	2	FUC	O5-C1	5.01	1.51	1.43
4	R	2	FUL	O5-C1	4.56	1.51	1.43
4	U	2	FUL	O5-C1	4.52	1.50	1.43
5	L	3	FUL	O5-C1	4.48	1.50	1.43
4	R	2	FUL	C4-C3	3.67	1.61	1.52
4	O	1	NAG	O5-C1	3.47	1.49	1.43
4	J	1	NAG	O5-C5	3.34	1.50	1.43
6	a	2	FUC	O5-C5	3.28	1.50	1.43
2	M	3	BMA	C2-C3	3.18	1.57	1.52
4	U	1	NAG	O5-C1	3.17	1.48	1.43
4	R	1	NAG	C1-C2	3.14	1.57	1.52
4	J	2	FUL	O5-C5	3.03	1.50	1.43
2	P	1	NAG	O5-C1	-2.92	1.39	1.43
2	M	1	NAG	O5-C1	-2.76	1.39	1.43
4	J	2	FUL	C6-C5	2.69	1.58	1.51
2	K	3	BMA	C2-C3	2.65	1.56	1.52
4	R	2	FUL	O5-C5	2.59	1.49	1.43
4	U	2	FUL	O5-C5	2.57	1.49	1.43
2	V	3	BMA	C2-C3	2.52	1.56	1.52
5	L	3	FUL	O5-C5	2.51	1.48	1.43
4	O	1	NAG	C4-C3	2.50	1.58	1.52
4	U	1	NAG	C1-C2	2.41	1.55	1.52
4	R	2	FUL	C4-C5	2.39	1.58	1.52
3	Q	2	NAG	C1-C2	2.36	1.55	1.52
3	I	1	NAG	O5-C1	-2.35	1.40	1.43
2	H	2	NAG	O5-C1	-2.33	1.40	1.43
4	X	1	NAG	C1-C2	2.32	1.55	1.52
4	O	1	NAG	C3-C2	2.30	1.57	1.52
3	N	2	NAG	C1-C2	2.26	1.55	1.52
6	a	1	NAG	O5-C5	2.24	1.48	1.43
2	M	2	NAG	O5-C1	-2.24	1.40	1.43
4	R	1	NAG	O5-C1	2.23	1.47	1.43
3	W	2	NAG	C1-C2	2.19	1.55	1.52
5	L	3	FUL	C6-C5	2.18	1.56	1.51
4	J	1	NAG	C8-C7	2.18	1.55	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	O	1	NAG	C8-C7	2.10	1.54	1.50
4	R	2	FUL	O4-C4	2.05	1.47	1.43
3	I	2	NAG	C1-C2	2.03	1.55	1.52
4	R	2	FUL	C6-C5	2.03	1.56	1.51
2	V	1	NAG	C3-C2	2.03	1.56	1.52
4	X	2	FUL	C4-C3	2.02	1.57	1.52
6	a	2	FUC	C6-C5	2.02	1.56	1.51

All (204) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	X	1	NAG	O5-C5-C6	-12.87	87.03	107.20
2	P	3	BMA	C1-C2-C3	-8.80	98.85	109.67
3	N	2	NAG	C1-O5-C5	8.69	123.96	112.19
3	I	1	NAG	C1-C2-N2	-8.42	96.10	110.49
2	H	1	NAG	C1-O5-C5	7.30	122.08	112.19
4	U	1	NAG	C1-O5-C5	7.00	121.68	112.19
2	V	2	NAG	C1-O5-C5	7.00	121.67	112.19
2	K	2	NAG	C1-O5-C5	6.98	121.65	112.19
2	P	1	NAG	C1-O5-C5	6.84	121.45	112.19
2	Y	1	NAG	C1-C2-N2	-6.71	99.02	110.49
4	U	1	NAG	O5-C5-C6	-6.58	96.89	107.20
4	J	1	NAG	C1-O5-C5	6.54	121.05	112.19
4	X	2	FUL	C6-C5-C4	6.37	124.85	113.07
3	W	2	NAG	C1-O5-C5	6.19	120.58	112.19
3	Z	1	NAG	C4-C3-C2	-5.69	102.69	111.02
2	K	2	NAG	C4-C3-C2	5.66	119.31	111.02
2	Y	3	BMA	C3-C4-C5	5.64	120.30	110.24
2	H	3	BMA	C1-O5-C5	5.56	119.73	112.19
5	L	1	NAG	C6-C5-C4	5.49	125.87	113.00
2	V	1	NAG	C1-C2-N2	-5.25	101.53	110.49
2	M	2	NAG	C2-N2-C7	5.16	130.25	122.90
3	T	1	NAG	C1-C2-N2	-5.13	101.72	110.49
2	M	2	NAG	C1-C2-N2	-5.13	101.72	110.49
2	P	1	NAG	O5-C5-C6	-5.13	99.16	107.20
3	N	2	NAG	C1-C2-N2	5.12	119.24	110.49
4	X	2	FUL	O5-C5-C4	-5.09	100.39	109.52
3	W	1	NAG	C4-C3-C2	-5.06	103.60	111.02
2	K	1	NAG	C3-C4-C5	-5.03	101.26	110.24
2	P	3	BMA	C3-C4-C5	5.00	119.16	110.24
2	P	2	NAG	O5-C1-C2	-4.93	103.51	111.29
2	Y	1	NAG	C4-C3-C2	4.91	118.21	111.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	2	NAG	C4-C3-C2	4.88	118.17	111.02
4	U	2	FUL	O5-C5-C6	4.85	117.76	107.33
2	S	1	NAG	O5-C1-C2	-4.83	103.66	111.29
5	L	1	NAG	O5-C5-C4	-4.76	99.25	110.83
6	a	1	NAG	C1-O5-C5	4.65	118.49	112.19
2	K	1	NAG	O5-C1-C2	-4.52	104.14	111.29
4	U	1	NAG	O5-C5-C4	4.50	121.77	110.83
3	I	1	NAG	C3-C4-C5	-4.45	102.30	110.24
4	X	2	FUL	C1-O5-C5	-4.40	102.80	112.78
2	S	1	NAG	O5-C5-C6	4.38	114.07	107.20
3	Q	1	NAG	C1-O5-C5	4.36	118.11	112.19
2	S	1	NAG	C3-C4-C5	-4.32	102.53	110.24
2	H	2	NAG	O5-C1-C2	-4.31	104.48	111.29
4	O	1	NAG	O5-C1-C2	-4.30	104.51	111.29
2	K	3	BMA	C3-C4-C5	4.27	117.85	110.24
3	Q	1	NAG	O4-C4-C3	-4.26	100.50	110.35
6	a	1	NAG	O5-C5-C6	-4.23	100.58	107.20
2	M	1	NAG	O3-C3-C4	-4.20	100.63	110.35
2	S	1	NAG	C4-C3-C2	-4.17	104.91	111.02
6	a	1	NAG	O5-C1-C2	-4.15	104.74	111.29
3	Z	1	NAG	O5-C5-C6	4.13	113.68	107.20
5	L	3	FUL	O3-C3-C2	-4.03	102.27	109.99
2	V	2	NAG	O5-C1-C2	-4.03	104.92	111.29
2	M	3	BMA	C2-C3-C4	4.02	117.85	110.89
4	J	1	NAG	C3-C4-C5	-4.00	103.10	110.24
3	N	1	NAG	C1-C2-N2	-3.99	103.67	110.49
2	V	1	NAG	C4-C3-C2	3.92	116.77	111.02
2	K	3	BMA	C1-C2-C3	3.89	114.44	109.67
4	J	2	FUL	C1-O5-C5	3.79	121.37	112.78
5	L	3	FUL	O5-C1-C2	3.77	116.60	110.77
2	H	3	BMA	C1-C2-C3	3.77	114.30	109.67
3	Q	1	NAG	C1-C2-N2	-3.72	104.13	110.49
4	X	1	NAG	C3-C4-C5	-3.72	103.60	110.24
3	N	2	NAG	C4-C3-C2	-3.69	105.60	111.02
4	X	1	NAG	C6-C5-C4	3.69	121.64	113.00
4	O	2	FUL	C6-C5-C4	3.66	119.84	113.07
2	Y	2	NAG	O4-C4-C3	-3.65	101.91	110.35
4	J	1	NAG	O7-C7-N2	3.63	128.62	121.95
4	O	2	FUL	O5-C5-C6	-3.54	99.70	107.33
4	U	1	NAG	C6-C5-C4	-3.50	104.80	113.00
4	J	1	NAG	C2-N2-C7	3.48	127.85	122.90
3	Z	1	NAG	C1-O5-C5	3.48	116.90	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	W	2	NAG	C3-C4-C5	-3.46	104.08	110.24
4	R	2	FUL	C3-C4-C5	3.45	115.15	109.77
3	N	2	NAG	O5-C5-C6	3.45	112.61	107.20
2	V	2	NAG	O5-C5-C4	3.40	119.11	110.83
2	M	2	NAG	C1-O5-C5	-3.33	107.68	112.19
4	J	1	NAG	C4-C3-C2	-3.33	106.14	111.02
2	M	1	NAG	C8-C7-N2	3.32	121.72	116.10
2	S	1	NAG	C1-C2-N2	3.30	116.13	110.49
3	I	1	NAG	C8-C7-N2	3.30	121.68	116.10
4	U	2	FUL	O5-C1-C2	3.29	115.85	110.77
2	K	1	NAG	C1-O5-C5	3.29	116.64	112.19
3	T	2	NAG	C2-N2-C7	3.25	127.54	122.90
2	S	1	NAG	O3-C3-C2	3.25	116.18	109.47
4	R	1	NAG	O5-C5-C4	-3.20	103.05	110.83
5	L	3	FUL	C1-O5-C5	3.19	120.01	112.78
5	L	3	FUL	O5-C5-C6	3.19	114.20	107.33
3	W	2	NAG	O5-C5-C6	3.19	112.20	107.20
4	R	2	FUL	O4-C4-C3	3.17	117.68	110.35
5	L	2	NAG	C4-C3-C2	3.16	115.66	111.02
3	Q	2	NAG	C3-C4-C5	-3.16	104.61	110.24
2	M	2	NAG	C3-C4-C5	3.14	115.84	110.24
2	S	1	NAG	O4-C4-C5	3.13	117.08	109.30
4	R	2	FUL	O5-C5-C6	3.10	114.00	107.33
4	J	1	NAG	O5-C5-C6	3.06	112.00	107.20
2	P	3	BMA	O2-C2-C3	3.06	116.26	110.14
3	Z	1	NAG	O3-C3-C2	3.05	115.78	109.47
2	M	1	NAG	O5-C5-C6	-3.02	102.47	107.20
2	M	3	BMA	C1-O5-C5	-3.00	108.13	112.19
2	H	3	BMA	C2-C3-C4	-2.98	105.74	110.89
4	J	2	FUL	O5-C5-C4	2.94	114.79	109.52
3	Z	2	NAG	C1-C2-N2	2.93	115.49	110.49
5	L	1	NAG	O5-C5-C6	-2.90	102.66	107.20
2	K	1	NAG	C1-C2-N2	2.89	115.43	110.49
2	Y	2	NAG	O5-C1-C2	-2.88	106.74	111.29
2	S	2	NAG	O5-C1-C2	-2.88	106.75	111.29
3	I	1	NAG	C2-N2-C7	-2.87	118.81	122.90
3	W	1	NAG	C1-O5-C5	2.87	116.08	112.19
4	R	1	NAG	C3-C4-C5	-2.85	105.15	110.24
4	J	1	NAG	O5-C1-C2	-2.85	106.79	111.29
4	J	2	FUL	O5-C5-C6	2.85	113.46	107.33
3	Z	1	NAG	O7-C7-C8	-2.84	116.78	122.06
3	Q	1	NAG	O3-C3-C2	2.83	115.31	109.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	L	2	NAG	O3-C3-C2	-2.82	103.62	109.47
4	O	1	NAG	O4-C4-C3	2.81	116.84	110.35
6	a	2	FUC	C1-O5-C5	2.81	119.14	112.78
6	a	2	FUC	O5-C1-C2	2.80	115.10	110.77
2	H	3	BMA	C3-C4-C5	-2.79	105.26	110.24
4	U	2	FUL	C2-C3-C4	-2.78	106.08	110.89
6	a	2	FUC	O5-C5-C6	2.78	113.30	107.33
5	L	2	NAG	O5-C1-C2	2.77	115.67	111.29
4	X	1	NAG	O4-C4-C5	2.76	116.14	109.30
4	O	1	NAG	C1-C2-N2	-2.69	105.89	110.49
4	O	1	NAG	C1-O5-C5	2.69	115.84	112.19
2	S	3	BMA	C1-C2-C3	2.69	112.97	109.67
3	N	2	NAG	O3-C3-C2	2.68	115.01	109.47
2	M	1	NAG	O7-C7-C8	-2.67	117.10	122.06
4	J	2	FUL	C6-C5-C4	-2.67	108.14	113.07
4	R	1	NAG	C8-C7-N2	-2.63	111.65	116.10
4	X	1	NAG	C1-O5-C5	2.61	115.73	112.19
4	J	1	NAG	C1-C2-N2	2.61	114.94	110.49
4	J	1	NAG	O4-C4-C3	2.60	116.35	110.35
2	K	2	NAG	O3-C3-C4	-2.59	104.35	110.35
2	K	2	NAG	O5-C5-C4	2.58	117.11	110.83
2	H	2	NAG	C2-N2-C7	-2.58	119.22	122.90
3	W	1	NAG	O4-C4-C5	2.58	115.70	109.30
2	P	2	NAG	C8-C7-N2	2.58	120.46	116.10
4	R	2	FUL	C1-O5-C5	2.58	118.62	112.78
2	P	1	NAG	O4-C4-C3	-2.57	104.40	110.35
3	Q	1	NAG	C3-C4-C5	-2.57	105.65	110.24
2	S	2	NAG	C4-C3-C2	2.57	114.78	111.02
4	R	1	NAG	O7-C7-N2	2.54	126.63	121.95
3	W	1	NAG	C2-N2-C7	-2.52	119.32	122.90
4	J	1	NAG	C8-C7-N2	-2.51	111.85	116.10
3	N	2	NAG	C2-N2-C7	2.48	126.43	122.90
2	P	1	NAG	O3-C3-C4	-2.47	104.63	110.35
3	N	1	NAG	C1-O5-C5	2.44	115.49	112.19
3	I	1	NAG	O7-C7-N2	-2.43	117.48	121.95
4	O	2	FUL	C3-C4-C5	2.43	113.55	109.77
2	K	2	NAG	O4-C4-C5	2.43	115.33	109.30
2	P	2	NAG	C1-O5-C5	2.41	115.46	112.19
2	M	3	BMA	C1-C2-C3	2.40	112.62	109.67
4	X	2	FUL	O5-C5-C6	2.39	112.48	107.33
3	Z	1	NAG	C8-C7-N2	2.38	120.13	116.10
2	M	3	BMA	O2-C2-C3	2.38	114.91	110.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	Y	1	NAG	O4-C4-C5	2.35	115.12	109.30
2	M	2	NAG	O5-C5-C4	-2.34	105.12	110.83
4	X	2	FUL	O3-C3-C2	-2.34	105.52	109.99
3	Z	1	NAG	O5-C1-C2	-2.32	107.62	111.29
3	W	2	NAG	C1-C2-N2	2.31	114.43	110.49
2	P	2	NAG	C2-N2-C7	2.30	126.19	122.90
2	M	1	NAG	O3-C3-C2	2.30	114.23	109.47
5	L	3	FUL	C6-C5-C4	-2.29	108.84	113.07
2	H	1	NAG	O4-C4-C3	-2.28	105.07	110.35
6	a	1	NAG	C4-C3-C2	-2.28	107.68	111.02
4	R	1	NAG	C6-C5-C4	2.28	118.33	113.00
3	Q	2	NAG	O4-C4-C5	2.27	114.94	109.30
2	V	2	NAG	C4-C3-C2	2.26	114.33	111.02
4	R	2	FUL	O3-C3-C4	2.26	115.56	110.35
2	Y	2	NAG	O7-C7-C8	-2.25	117.88	122.06
3	Q	1	NAG	C8-C7-N2	2.24	119.90	116.10
3	T	1	NAG	O5-C5-C6	2.23	110.70	107.20
3	N	1	NAG	C4-C3-C2	2.23	114.28	111.02
2	K	3	BMA	C2-C3-C4	2.21	114.73	110.89
2	H	3	BMA	O3-C3-C2	2.20	114.21	109.99
4	R	2	FUL	O5-C1-C2	2.20	114.17	110.77
4	O	2	FUL	C1-O5-C5	-2.20	107.80	112.78
5	L	1	NAG	C2-N2-C7	-2.19	119.78	122.90
3	Z	2	NAG	C4-C3-C2	-2.19	107.81	111.02
2	H	2	NAG	O4-C4-C5	2.18	114.71	109.30
2	M	3	BMA	O5-C5-C6	2.16	110.59	107.20
3	W	1	NAG	C1-C2-N2	2.15	114.16	110.49
3	T	2	NAG	O7-C7-C8	-2.14	118.08	122.06
2	M	3	BMA	C3-C4-C5	2.14	114.05	110.24
3	W	1	NAG	O3-C3-C2	2.14	113.89	109.47
3	Q	2	NAG	O6-C6-C5	-2.13	104.00	111.29
4	R	2	FUL	C6-C5-C4	2.11	116.98	113.07
6	a	1	NAG	O5-C5-C4	2.10	115.94	110.83
2	K	3	BMA	O5-C5-C4	2.07	115.87	110.83
2	H	3	BMA	O5-C5-C6	2.07	110.45	107.20
2	K	3	BMA	O3-C3-C2	2.07	113.95	109.99
2	K	2	NAG	C6-C5-C4	-2.07	108.17	113.00
2	M	1	NAG	C1-O5-C5	2.06	114.98	112.19
2	S	1	NAG	C1-O5-C5	2.05	114.97	112.19
3	T	2	NAG	O7-C7-N2	2.05	125.71	121.95
5	L	2	NAG	O3-C3-C4	2.04	115.06	110.35
3	N	1	NAG	O7-C7-C8	-2.03	118.29	122.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	P	2	NAG	O4-C4-C3	2.02	115.02	110.35
2	H	3	BMA	O5-C1-C2	2.02	113.89	110.77
4	J	2	FUL	C3-C4-C5	2.01	112.90	109.77
2	Y	3	BMA	O4-C4-C3	-2.00	105.72	110.35
4	U	2	FUL	O4-C4-C3	-2.00	105.72	110.35

All (7) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	P	3	BMA	C1
3	Z	1	NAG	C1
4	J	1	NAG	C1
4	O	2	FUL	C1
4	R	1	NAG	C1
4	U	1	NAG	C1
5	L	1	NAG	C1

All (79) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	P	2	NAG	C3-C2-N2-C7
4	J	1	NAG	C3-C2-N2-C7
4	R	1	NAG	O5-C5-C6-O6
3	Z	2	NAG	C4-C5-C6-O6
3	T	1	NAG	O5-C5-C6-O6
3	Z	2	NAG	O5-C5-C6-O6
3	N	1	NAG	O5-C5-C6-O6
3	Q	1	NAG	O5-C5-C6-O6
4	X	1	NAG	O5-C5-C6-O6
2	H	3	BMA	O5-C5-C6-O6
2	M	3	BMA	C4-C5-C6-O6
2	P	3	BMA	C4-C5-C6-O6
2	Y	2	NAG	C4-C5-C6-O6
2	V	2	NAG	O5-C5-C6-O6
2	Y	3	BMA	O5-C5-C6-O6
2	M	3	BMA	O5-C5-C6-O6
4	O	1	NAG	O5-C5-C6-O6
5	L	2	NAG	C4-C5-C6-O6
2	M	2	NAG	C1-C2-N2-C7
2	V	1	NAG	C1-C2-N2-C7
4	R	1	NAG	C4-C5-C6-O6
2	Y	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
6	a	1	NAG	C4-C5-C6-O6
6	a	1	NAG	O5-C5-C6-O6
2	P	2	NAG	C8-C7-N2-C2
2	P	2	NAG	O7-C7-N2-C2
3	I	1	NAG	C8-C7-N2-C2
3	I	1	NAG	O7-C7-N2-C2
3	N	1	NAG	C8-C7-N2-C2
3	N	1	NAG	O7-C7-N2-C2
3	Q	1	NAG	C8-C7-N2-C2
3	Q	1	NAG	O7-C7-N2-C2
3	T	1	NAG	C8-C7-N2-C2
3	T	1	NAG	O7-C7-N2-C2
3	W	1	NAG	C8-C7-N2-C2
3	W	1	NAG	O7-C7-N2-C2
3	Z	1	NAG	C8-C7-N2-C2
3	Z	1	NAG	O7-C7-N2-C2
6	a	1	NAG	C8-C7-N2-C2
6	a	1	NAG	O7-C7-N2-C2
2	Y	3	BMA	C4-C5-C6-O6
3	T	1	NAG	C4-C5-C6-O6
2	V	2	NAG	C4-C5-C6-O6
3	N	1	NAG	C4-C5-C6-O6
3	Z	1	NAG	O5-C5-C6-O6
2	H	2	NAG	C4-C5-C6-O6
2	V	1	NAG	O5-C5-C6-O6
4	O	1	NAG	C4-C5-C6-O6
5	L	2	NAG	O5-C5-C6-O6
2	P	3	BMA	O5-C5-C6-O6
3	Q	1	NAG	C4-C5-C6-O6
2	H	3	BMA	C4-C5-C6-O6
4	R	1	NAG	C1-C2-N2-C7
4	J	1	NAG	O5-C5-C6-O6
2	S	3	BMA	C4-C5-C6-O6
2	S	3	BMA	O5-C5-C6-O6
2	V	3	BMA	O5-C5-C6-O6
2	H	2	NAG	O5-C5-C6-O6
2	S	2	NAG	C4-C5-C6-O6
2	H	1	NAG	O5-C5-C6-O6
2	M	1	NAG	O5-C5-C6-O6
2	S	1	NAG	O5-C5-C6-O6
2	M	2	NAG	C4-C5-C6-O6
2	K	2	NAG	C4-C5-C6-O6

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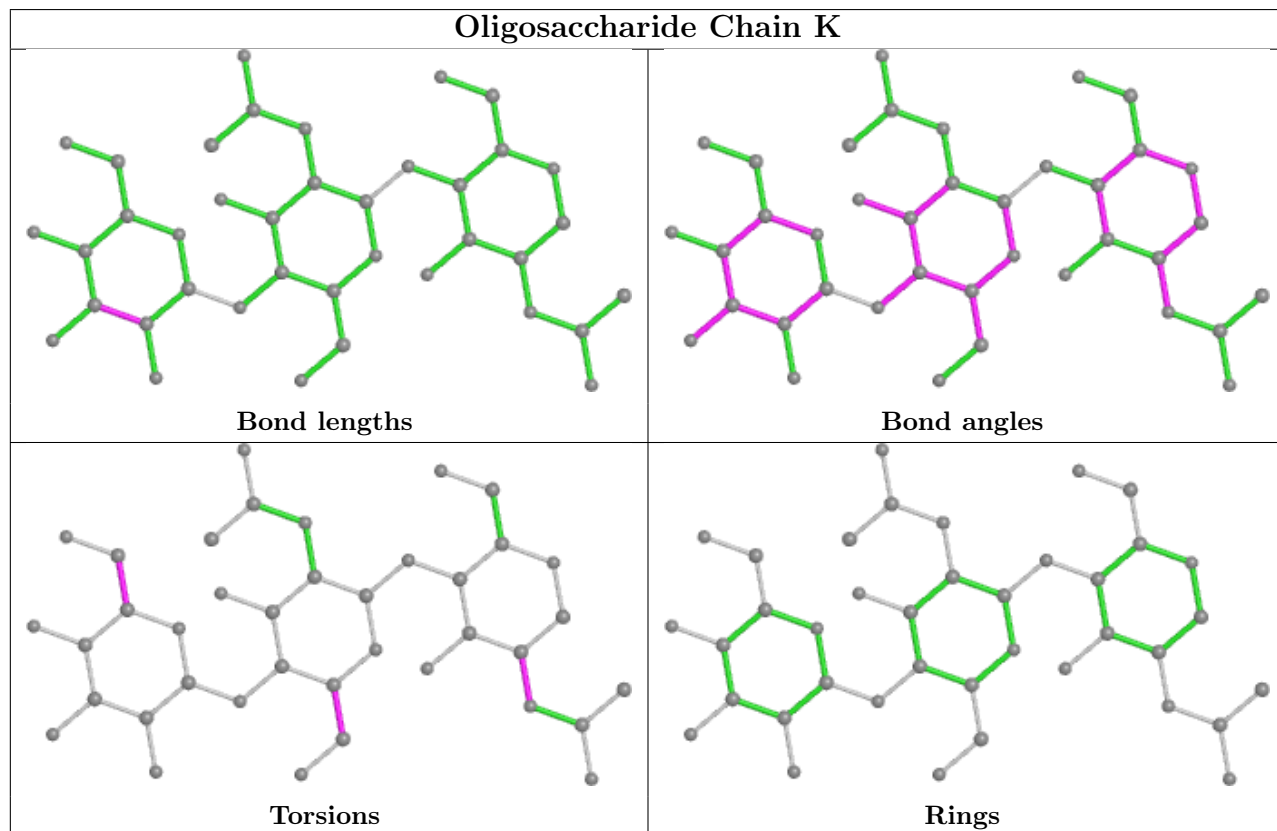
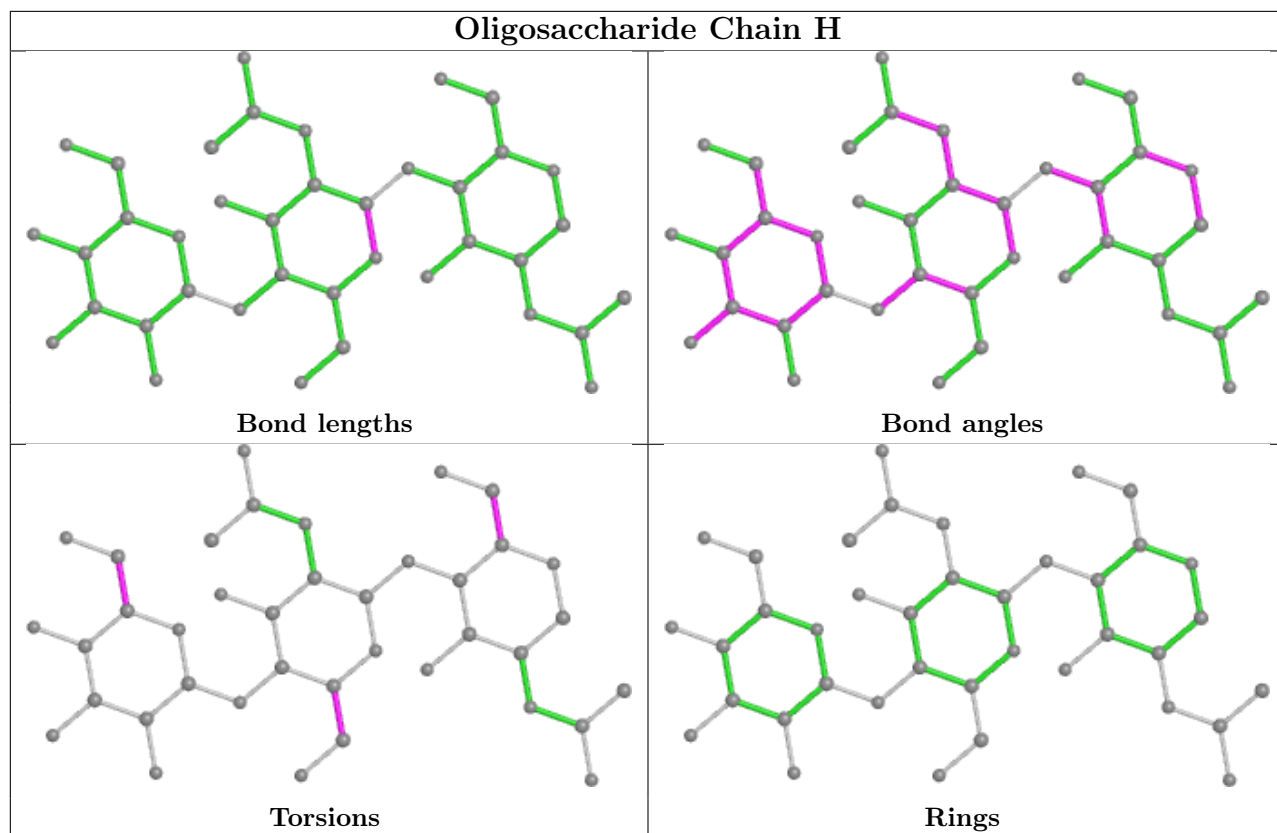
Mol	Chain	Res	Type	Atoms
2	V	1	NAG	C4-C5-C6-O6
2	P	1	NAG	O5-C5-C6-O6
2	S	2	NAG	O5-C5-C6-O6
2	K	1	NAG	C3-C2-N2-C7
2	K	3	BMA	O5-C5-C6-O6
3	Z	1	NAG	C4-C5-C6-O6
2	M	2	NAG	C3-C2-N2-C7
2	V	1	NAG	C3-C2-N2-C7
3	N	1	NAG	C3-C2-N2-C7
4	J	1	NAG	C1-C2-N2-C7
4	U	1	NAG	O5-C5-C6-O6
4	J	1	NAG	C4-C5-C6-O6
4	X	1	NAG	C4-C5-C6-O6
4	R	1	NAG	C3-C2-N2-C7
3	I	1	NAG	C4-C5-C6-O6

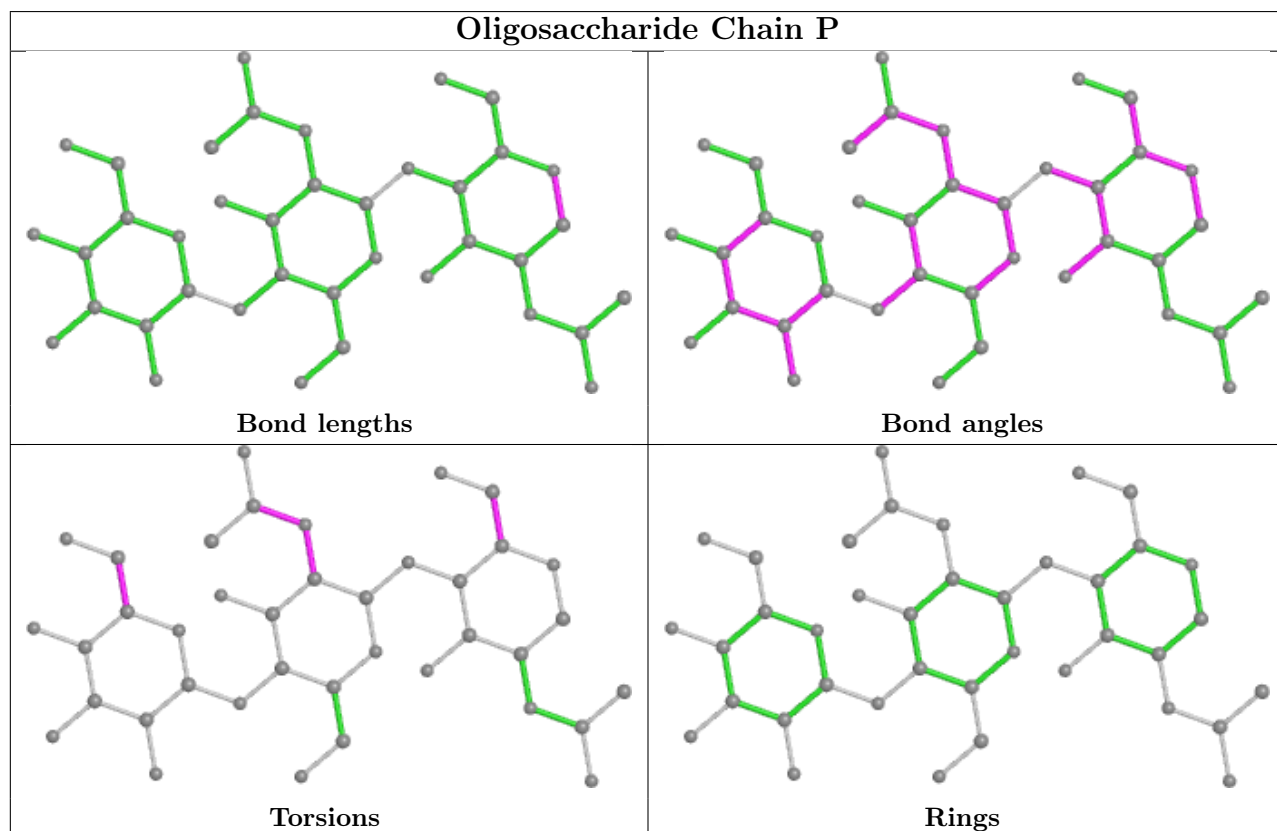
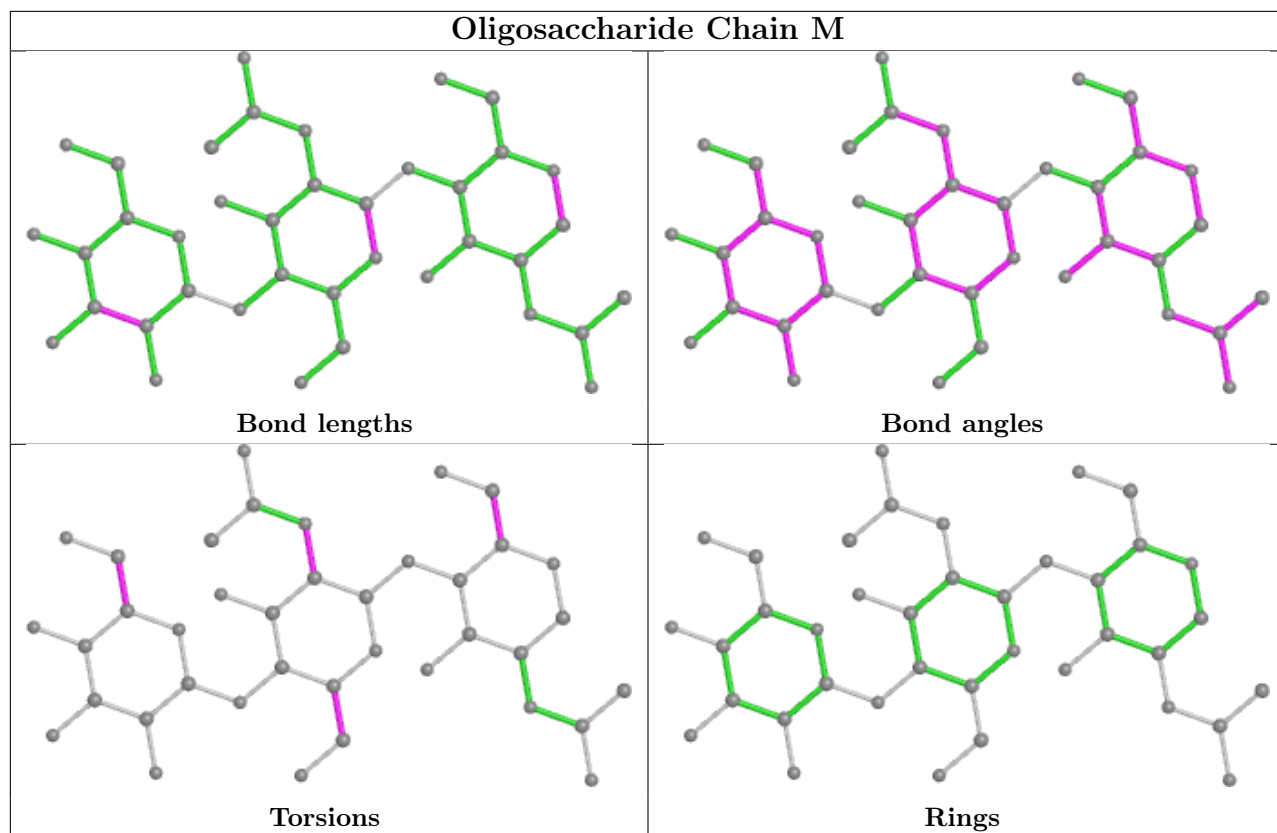
There are no ring outliers.

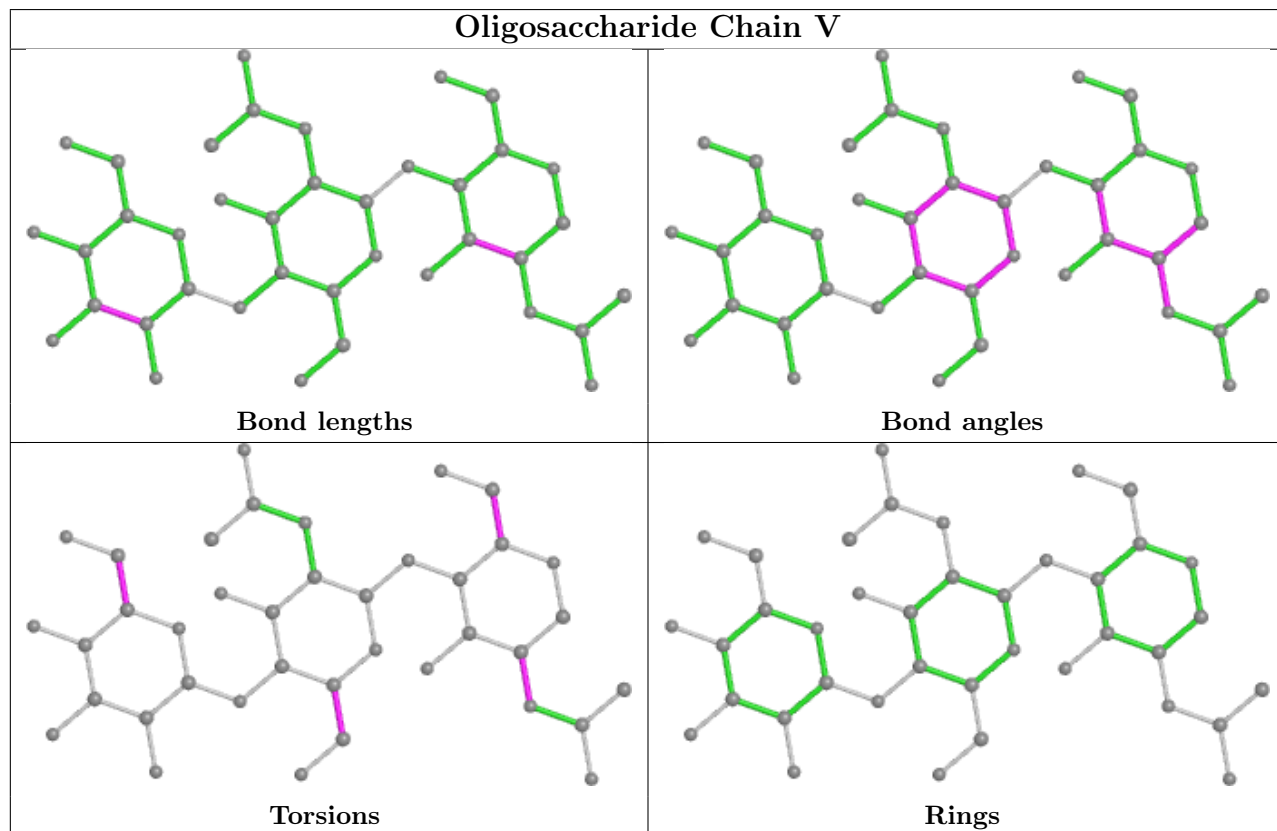
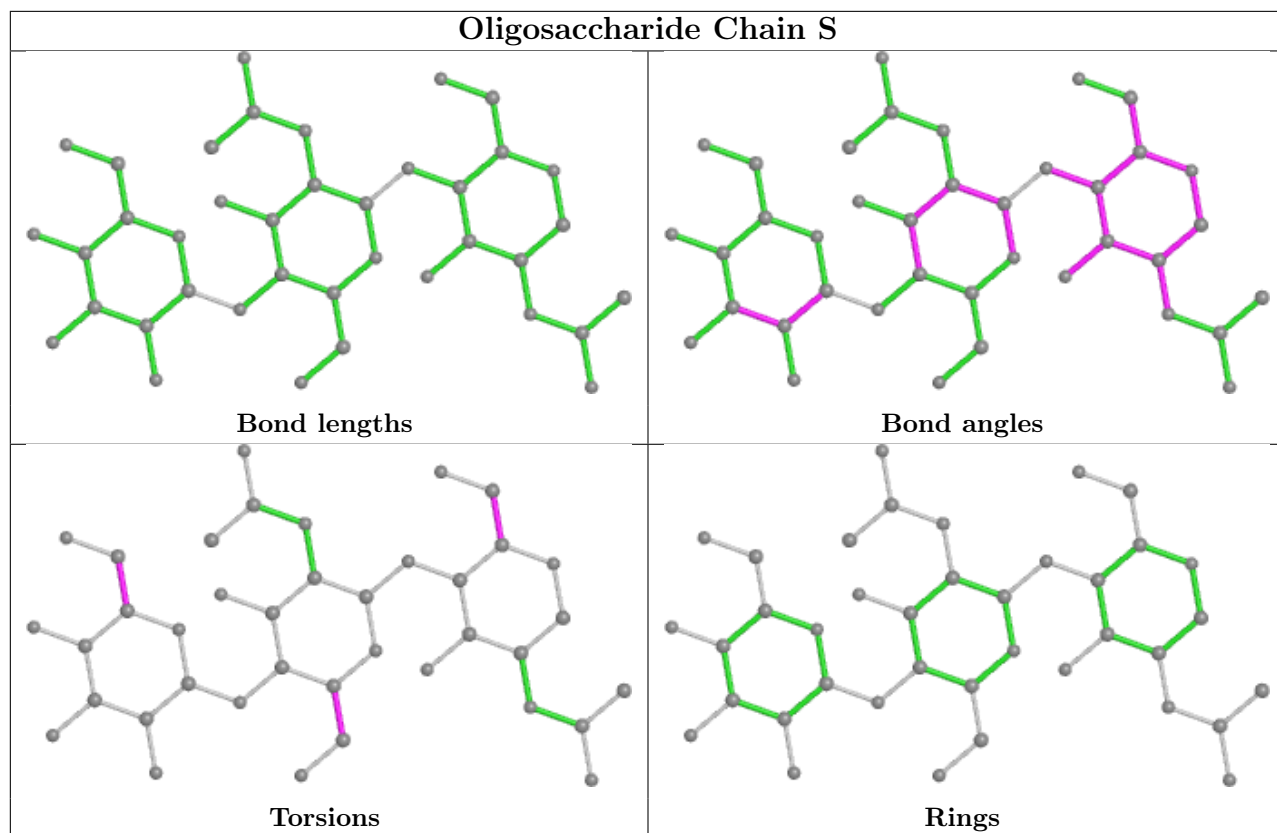
12 monomers are involved in 32 short contacts:

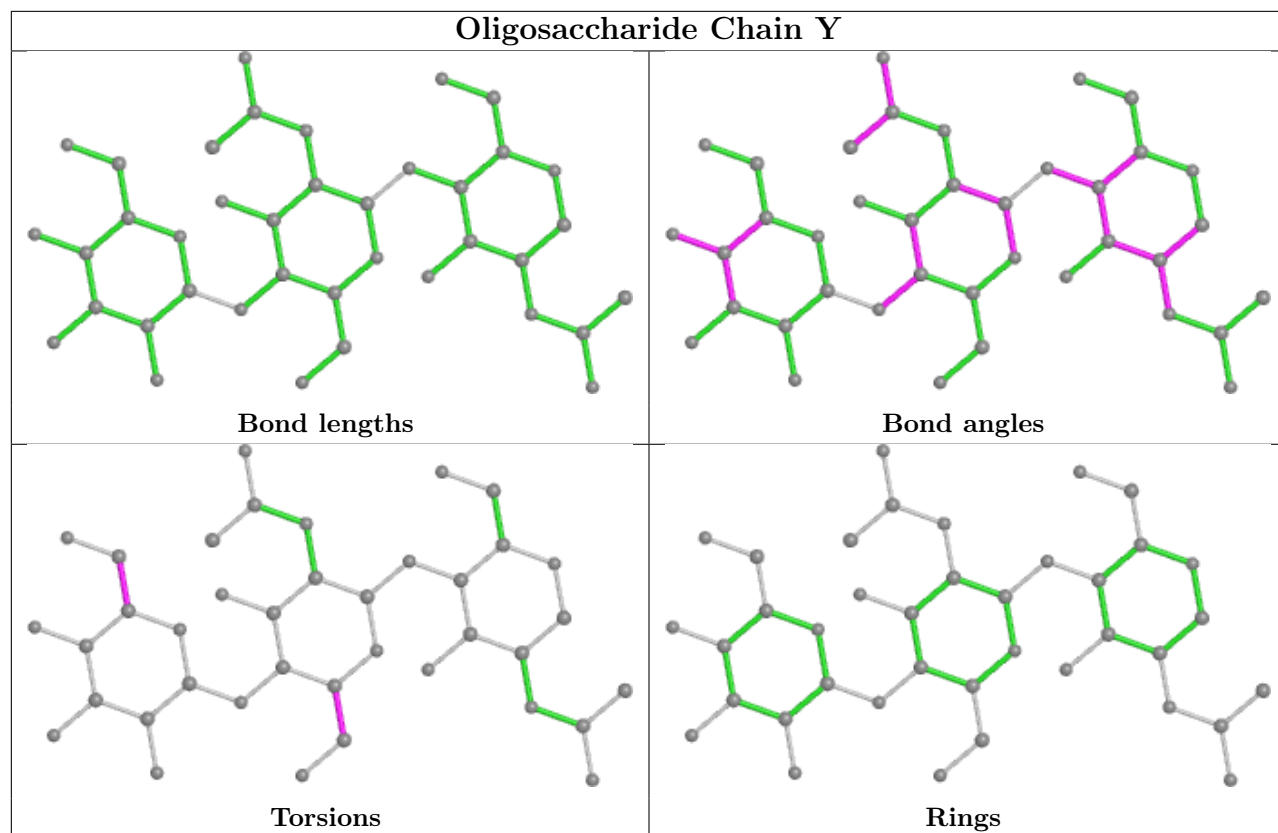
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	Y	1	NAG	1	0
3	Q	1	NAG	3	0
3	N	1	NAG	6	0
2	M	1	NAG	3	0
2	S	1	NAG	2	0
2	P	3	BMA	1	0
2	P	2	NAG	5	0
4	X	1	NAG	1	0
3	W	1	NAG	1	0
3	I	1	NAG	1	0
2	Y	2	NAG	3	0
3	T	1	NAG	6	0

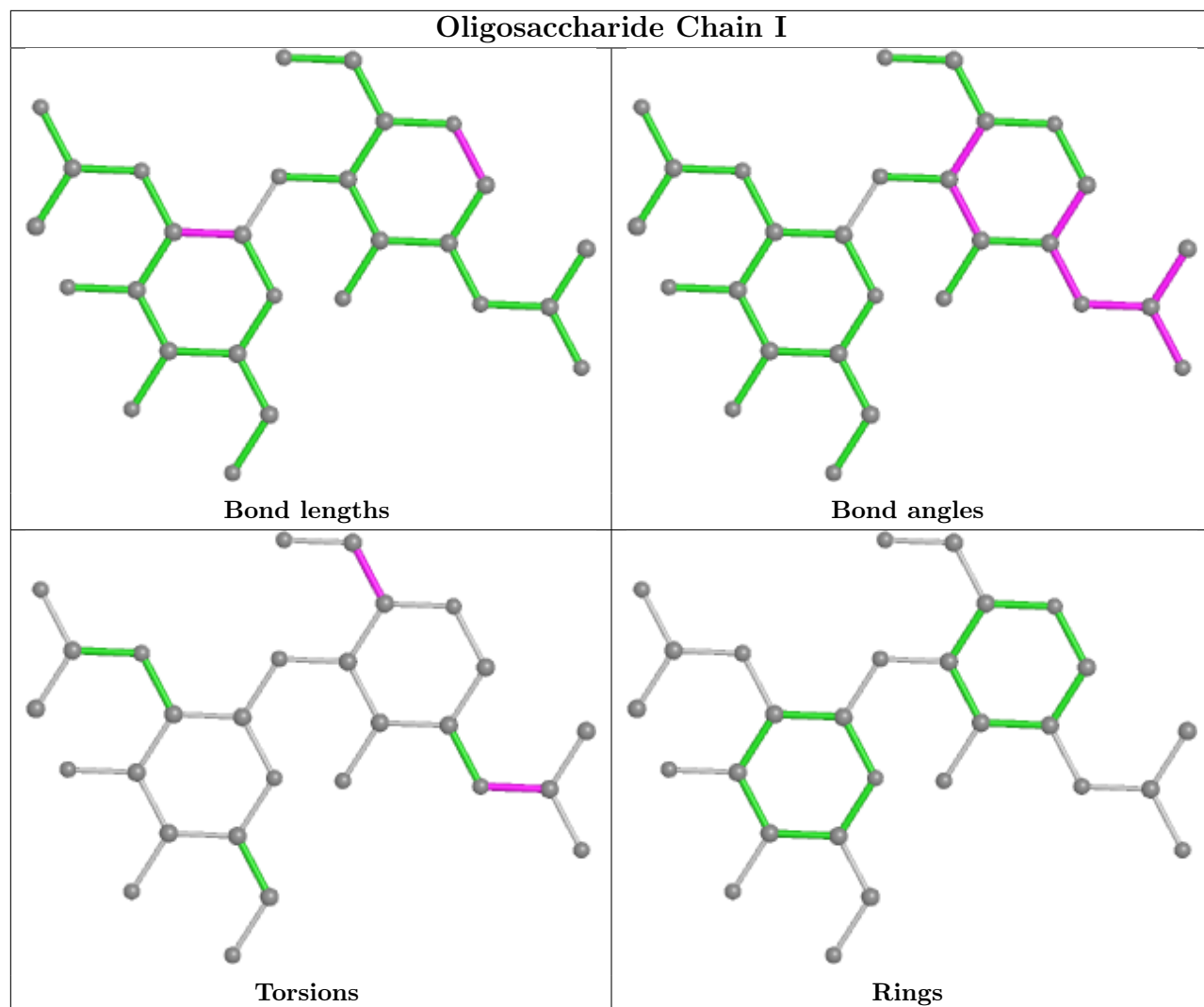
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

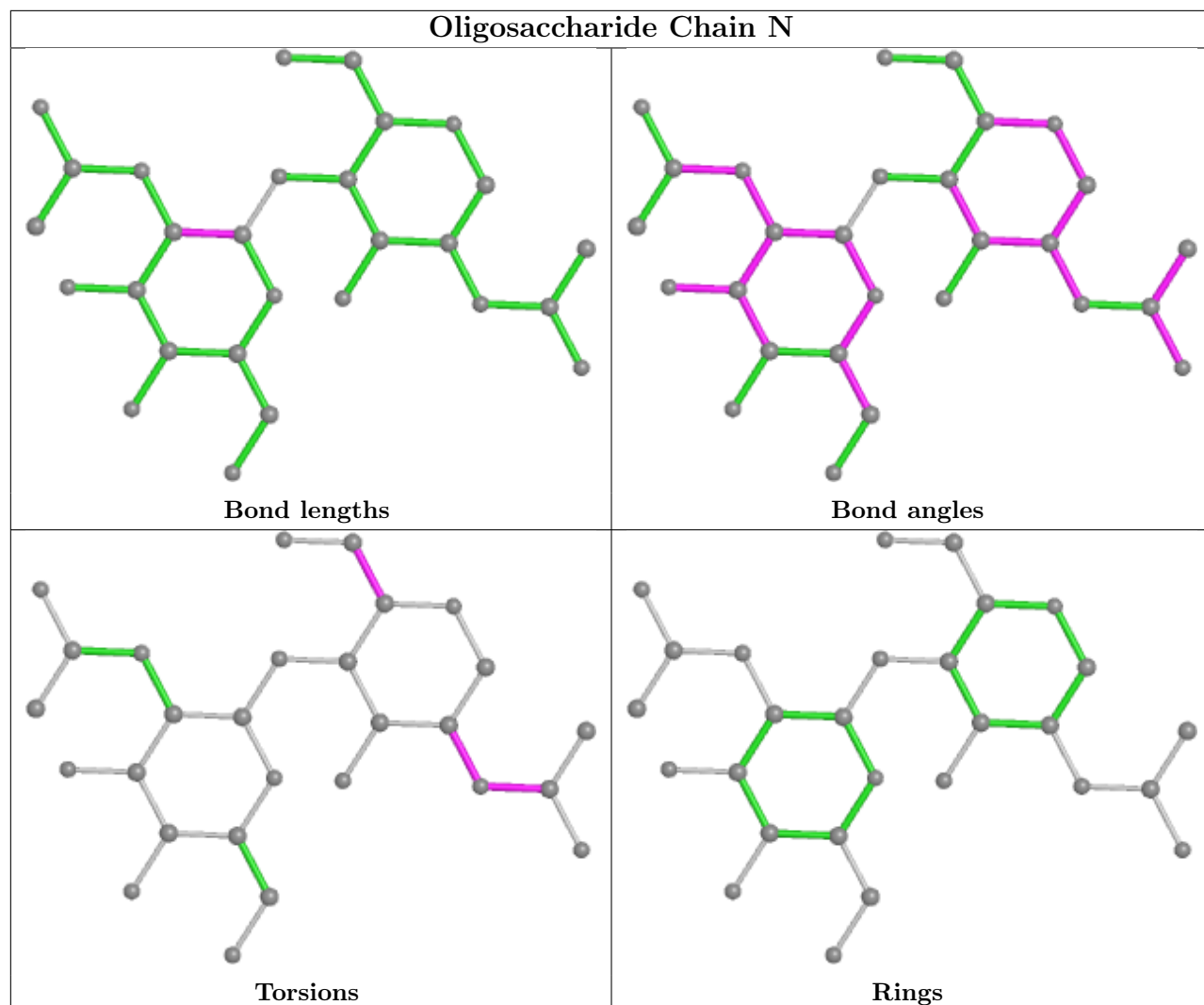


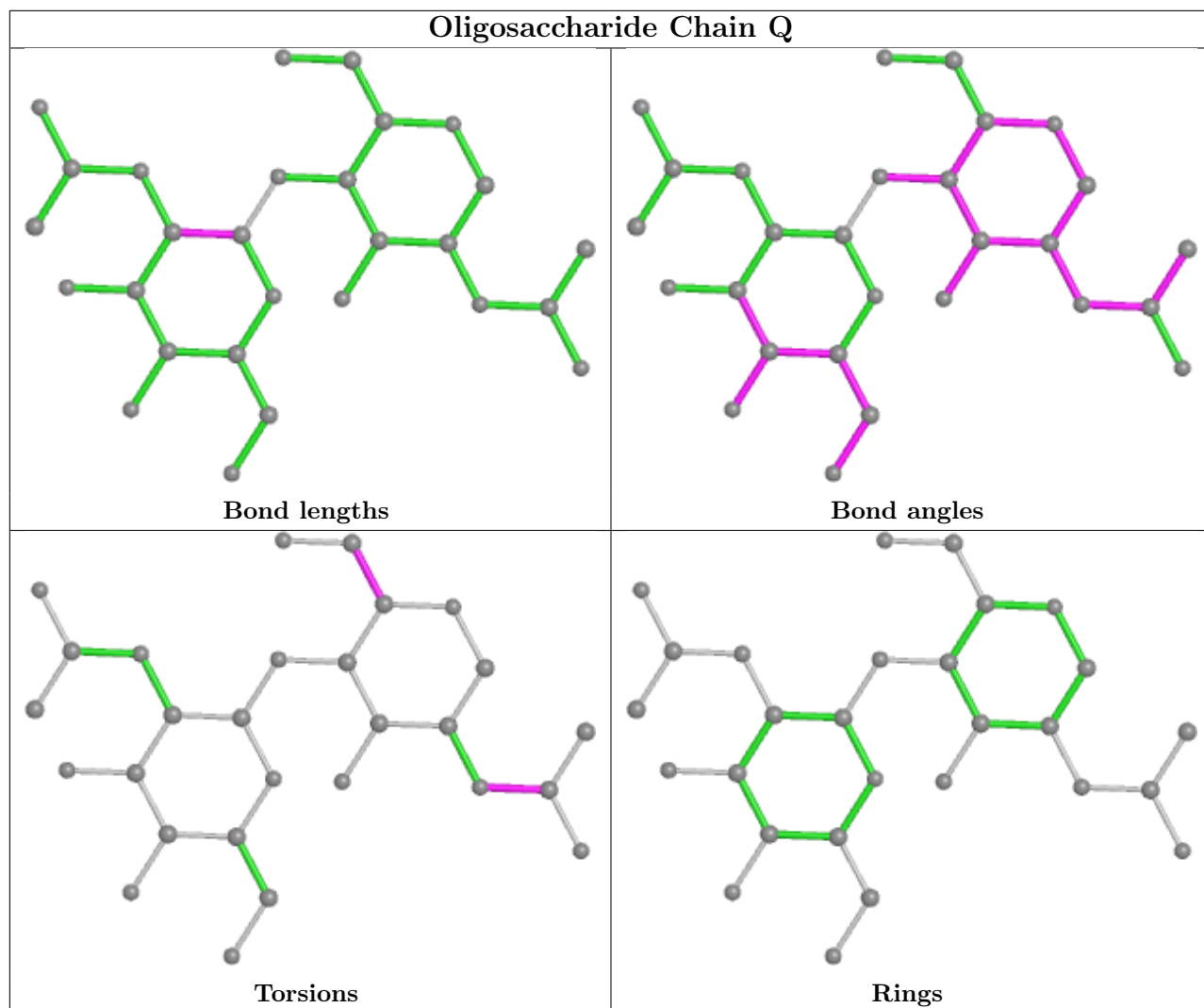




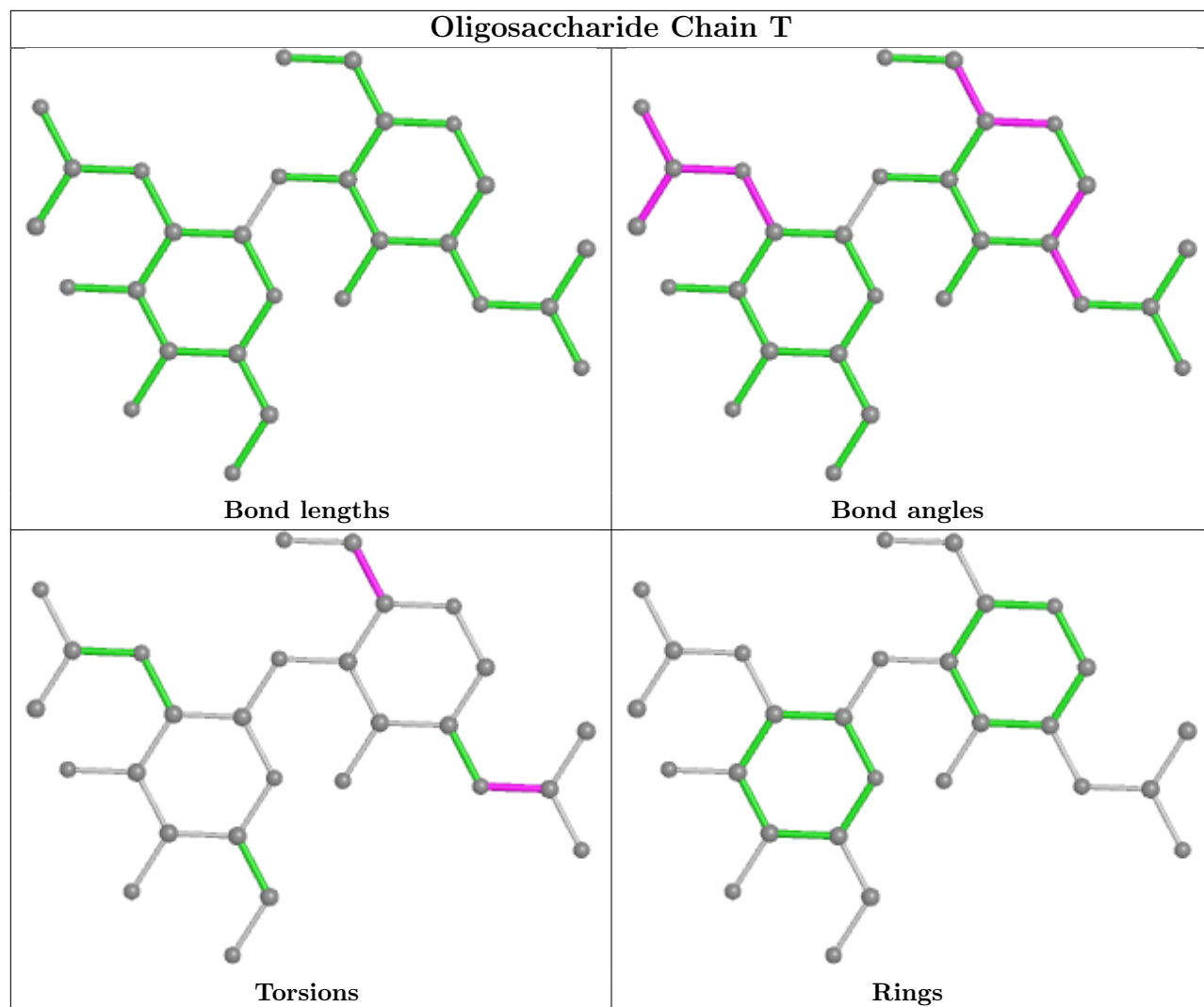


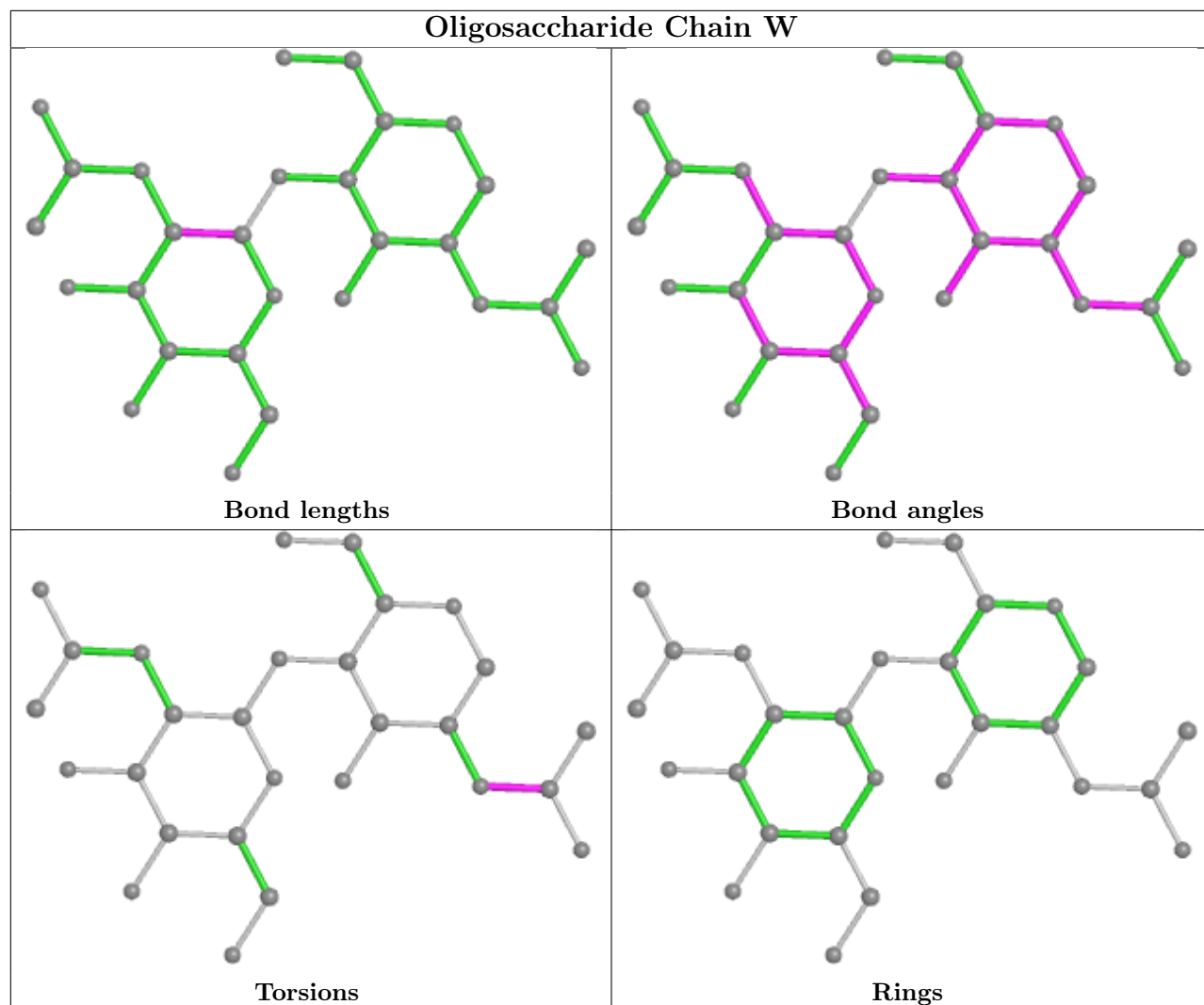


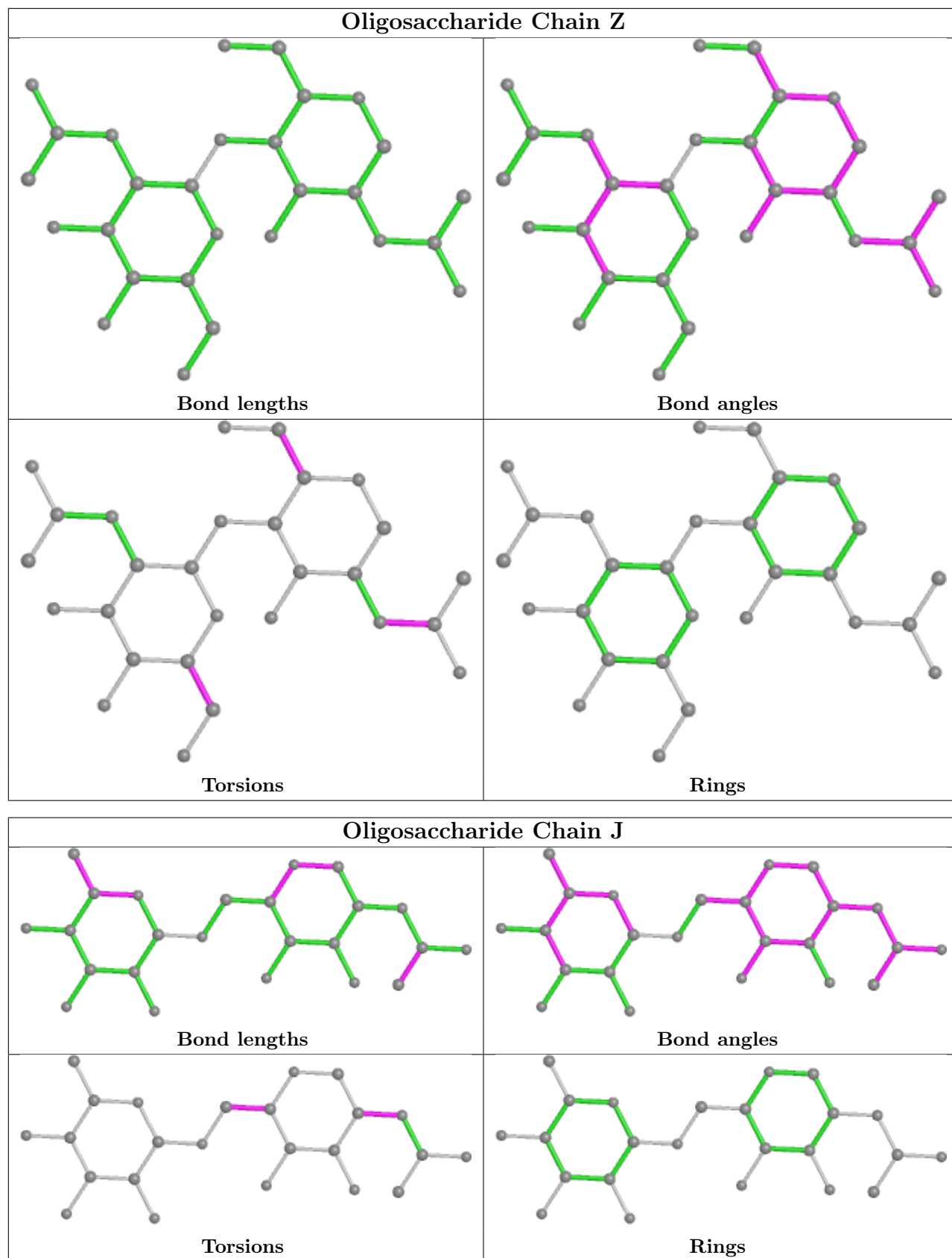


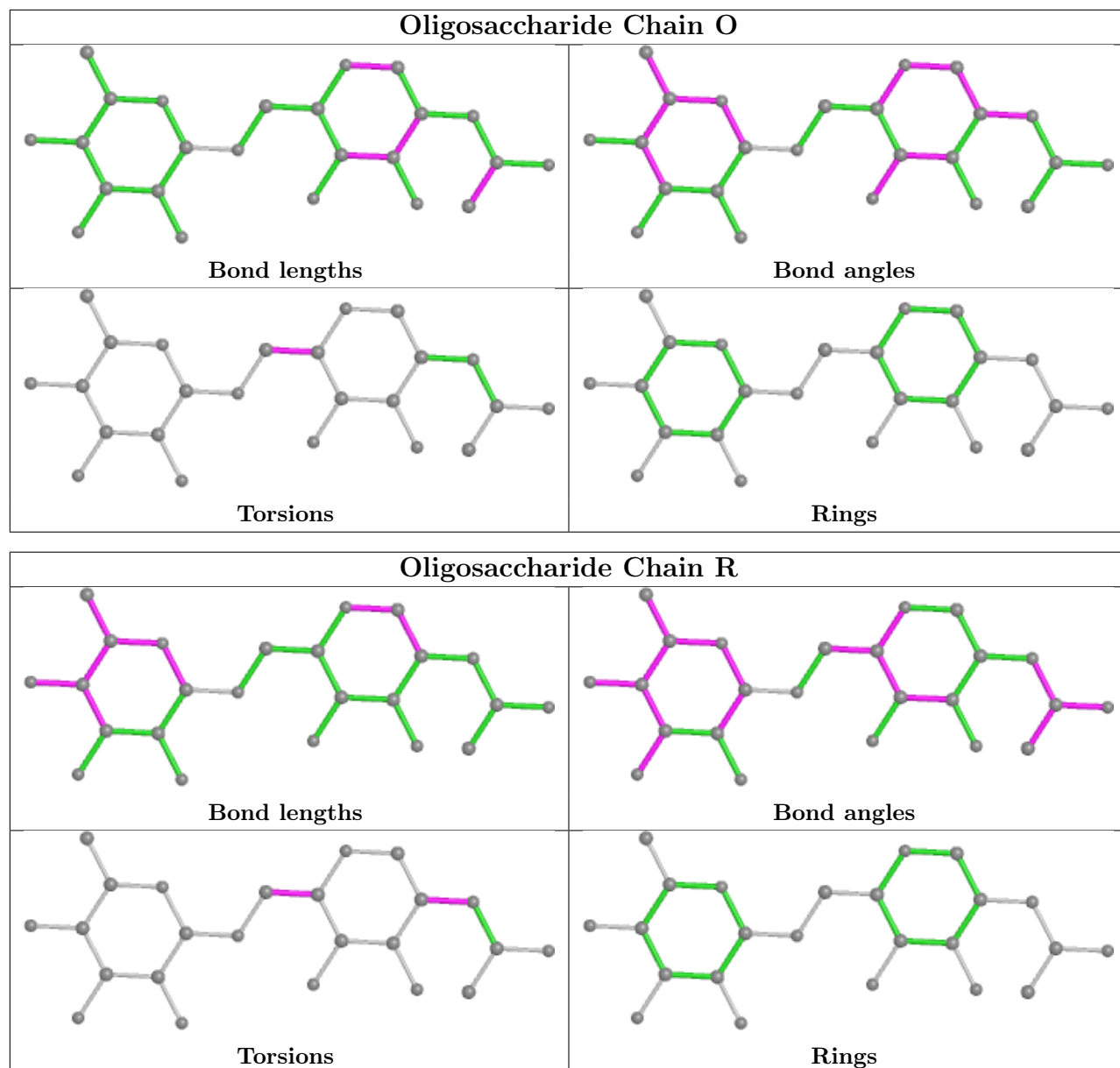


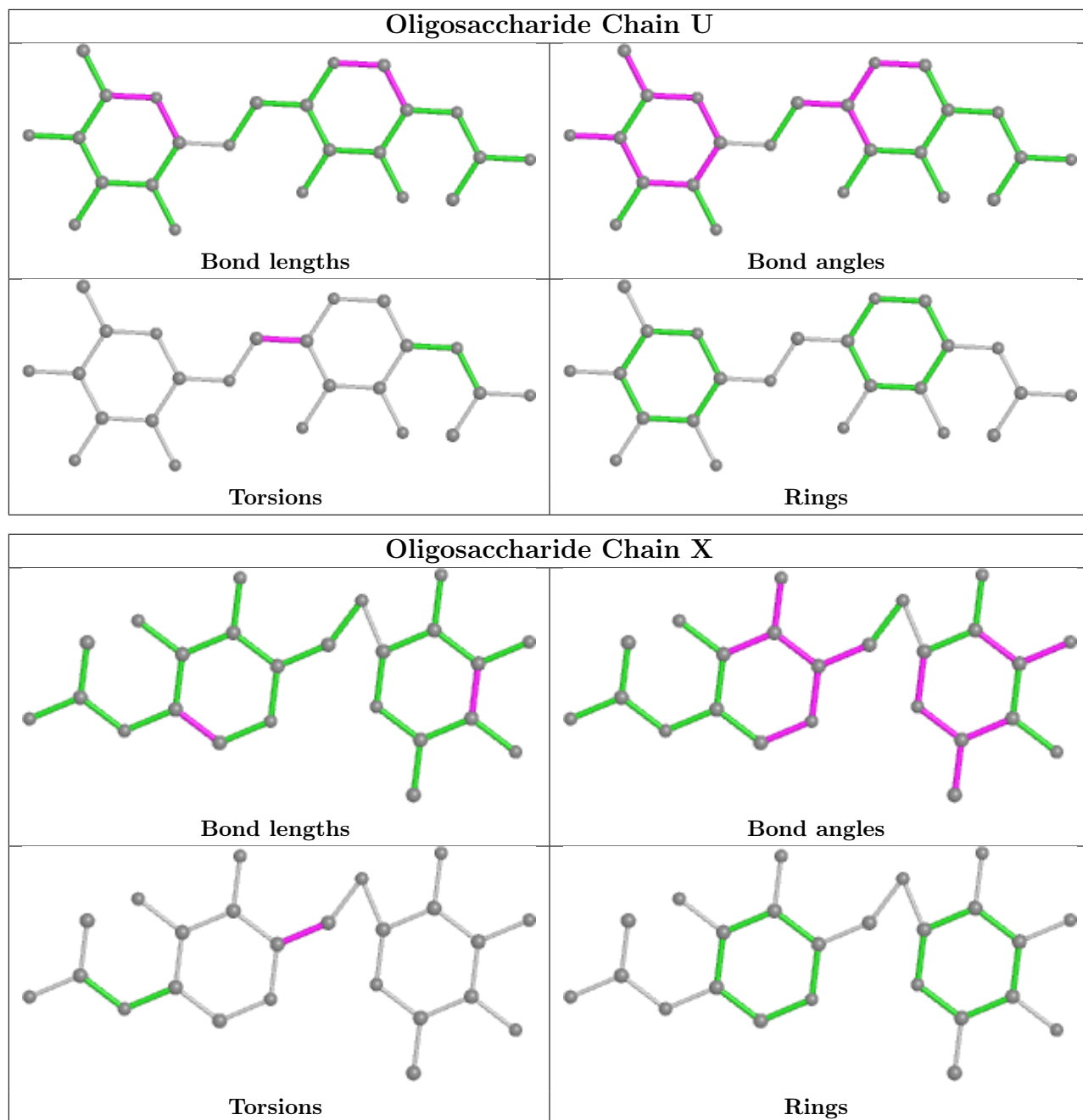


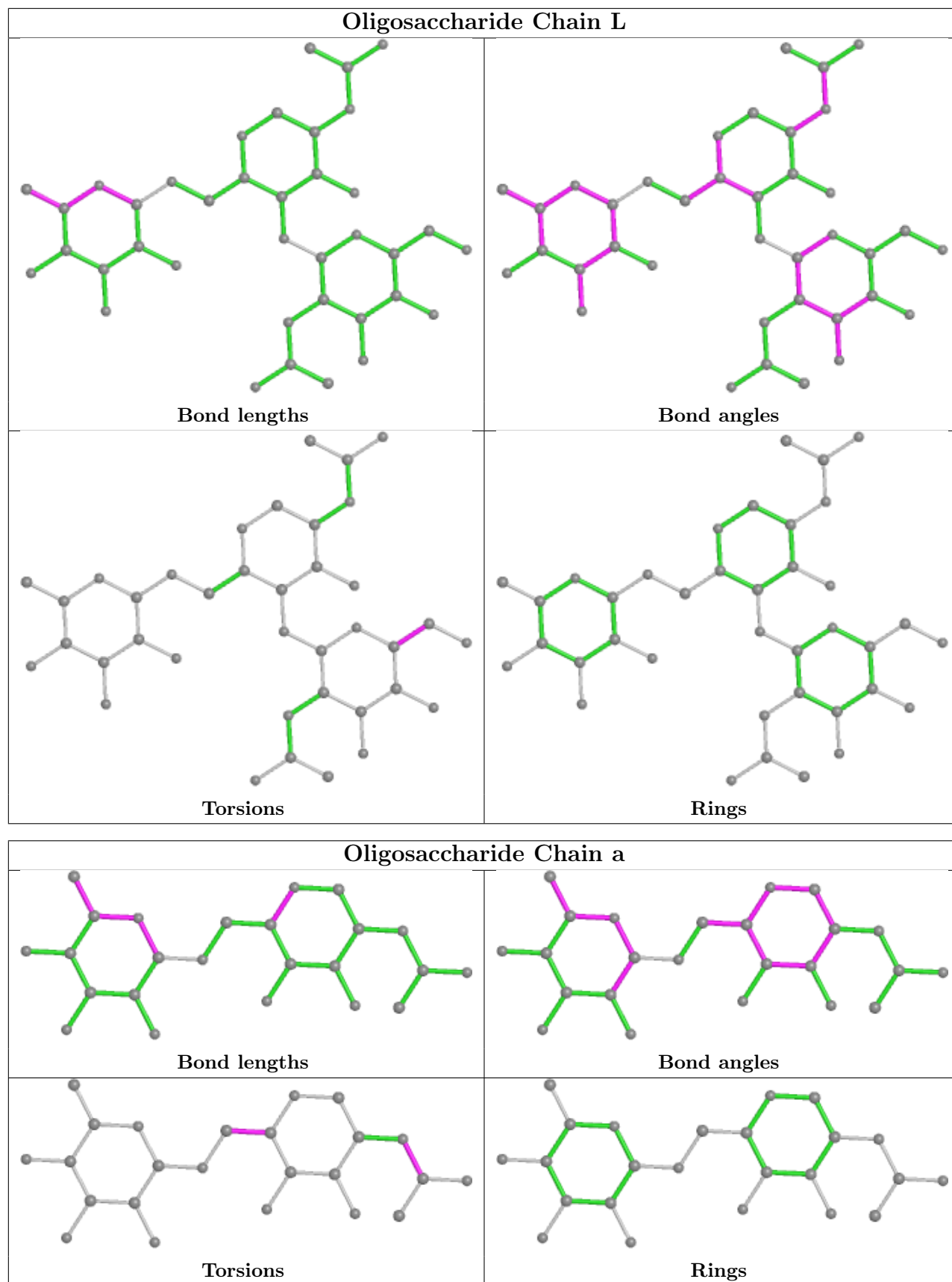












## 5.6 Ligand geometry

Of 24 ligands modelled in this entry, 21 are monoatomic - leaving 3 for Mogul analysis.

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
9	GOL	A	764	-	5,5,5	0.51	0	5,5,5	0.44	0
10	NAG	B	1772	1	14,14,15	0.76	0	17,19,21	3.26	10 (58%)
10	NAG	D	1775	1	14,14,15	0.69	0	17,19,21	1.93	4 (23%)

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
9	GOL	A	764	-	-	2/4/4/4	-
10	NAG	B	1772	1	-	6/6/23/26	0/1/1/1
10	NAG	D	1775	1	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	B	1772	NAG	C4-C3-C2	-7.61	99.87	111.02
10	B	1772	NAG	C1-O5-C5	7.42	122.25	112.19
10	B	1772	NAG	C1-C2-N2	5.20	119.37	110.49
10	D	1775	NAG	C2-N2-C7	4.69	129.58	122.90
10	D	1775	NAG	C1-O5-C5	3.97	117.57	112.19
10	D	1775	NAG	O5-C5-C6	2.82	111.62	107.20
10	B	1772	NAG	O4-C4-C5	2.70	116.00	109.30
10	B	1772	NAG	C3-C4-C5	-2.42	105.92	110.24
10	B	1772	NAG	O5-C1-C2	-2.23	107.76	111.29
10	B	1772	NAG	O7-C7-C8	-2.19	118.00	122.06
10	B	1772	NAG	O3-C3-C2	2.18	113.97	109.47
10	B	1772	NAG	O5-C5-C4	2.13	116.01	110.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	B	1772	NAG	O3-C3-C4	2.08	115.16	110.35
10	D	1775	NAG	O7-C7-N2	2.02	125.66	121.95

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	A	764	GOL	O1-C1-C2-O2
10	D	1775	NAG	C3-C2-N2-C7
10	B	1772	NAG	C1-C2-N2-C7
10	B	1772	NAG	C4-C5-C6-O6
10	B	1772	NAG	C8-C7-N2-C2
10	B	1772	NAG	O7-C7-N2-C2
9	A	764	GOL	O1-C1-C2-C3
10	B	1772	NAG	O5-C5-C6-O6
10	B	1772	NAG	C3-C2-N2-C7
10	D	1775	NAG	C4-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
10	B	1772	NAG	4	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.



## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	704/748 (94%)	0.47	1 (0%) 95   96	13, 39, 43, 63	0
1	B	704/748 (94%)	0.35	3 (0%) 92   93	12, 39, 43, 65	0
1	C	708/748 (94%)	0.33	1 (0%) 95   96	16, 39, 45, 73	0
1	D	710/748 (94%)	0.40	4 (0%) 89   89	16, 39, 46, 68	0
1	E	701/748 (93%)	0.29	8 (1%) 80   80	22, 39, 49, 76	0
1	F	700/748 (93%)	0.76	56 (8%) 12   9	26, 39, 47, 69	0
1	G	704/748 (94%)	1.03	109 (15%) 2   1	32, 39, 49, 82	0
All	All	4931/5236 (94%)	0.52	182 (3%) 41   37	12, 39, 46, 82	0

All (182) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	741	CYS	5.0
1	G	352	VAL	4.2
1	F	489	PHE	4.1
1	G	79	LEU	4.1
1	G	121	ALA	3.8
1	F	147	PRO	3.8
1	F	268	GLY	3.7
1	G	63	LEU	3.6
1	G	80	GLY	3.6
1	D	503	ALA	3.6
1	G	344	PHE	3.5
1	F	754	ALA	3.4
1	G	438	LEU	3.4
1	F	741	CYS	3.4
1	F	731	ALA	3.4
1	F	740	ALA	3.3
1	G	145	PRO	3.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	327	GLY	3.3
1	G	302	LEU	3.3
1	G	475	TRP	3.3
1	G	454	GLY	3.3
1	G	152	MET	3.3
1	G	739	LEU	3.2
1	F	717	PHE	3.2
1	G	176	TYR	3.2
1	G	319	GLN	3.2
1	F	728	ASP	3.2
1	G	648	PHE	3.2
1	G	487	ILE	3.1
1	G	96	VAL	3.1
1	F	424	THR	3.1
1	F	152	MET	3.0
1	G	385	VAL	3.0
1	F	438	LEU	3.0
1	F	698	GLY	3.0
1	F	116	GLY	3.0
1	F	95	CYS	3.0
1	G	677	TRP	2.9
1	G	696	THR	2.9
1	G	448	TYR	2.9
1	G	97	PHE	2.9
1	G	453	GLY	2.9
1	F	727	GLY	2.9
1	G	328	SER	2.9
1	G	59	LEU	2.8
1	G	301	SER	2.8
1	G	409	THR	2.8
1	G	253	ALA	2.8
1	G	503	ALA	2.8
1	G	127	ILE	2.8
1	F	337	PHE	2.8
1	G	535	LEU	2.8
1	F	448	TYR	2.8
1	G	151	TYR	2.8
1	F	399	THR	2.8
1	F	482	SER	2.7
1	A	503	ALA	2.7
1	F	413	TRP	2.7
1	F	446	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
1	F	309	GLY	2.7
1	G	640	GLU	2.7
1	F	146	LEU	2.7
1	G	370	ALA	2.7
1	G	734	CYS	2.7
1	E	114	ASP	2.7
1	G	161	GLY	2.7
1	G	351	ASP	2.6
1	G	57	SER	2.6
1	F	421	ALA	2.6
1	G	160	HIS	2.6
1	G	163	PRO	2.6
1	F	755	PHE	2.6
1	F	302	LEU	2.6
1	F	306	VAL	2.6
1	F	453	GLY	2.6
1	F	475	TRP	2.6
1	G	462	VAL	2.6
1	F	405	PRO	2.6
1	D	192	SER	2.6
1	G	422	PRO	2.6
1	G	611	ALA	2.5
1	G	703	PHE	2.5
1	G	120	PRO	2.5
1	G	609	SER	2.5
1	G	746	ALA	2.5
1	F	144	GLY	2.5
1	G	464	SER	2.5
1	G	651	ASN	2.5
1	F	447	LEU	2.5
1	E	242	HIS	2.5
1	G	154	ASP	2.5
1	G	705	LEU	2.5
1	G	699	ASN	2.5
1	G	82	GLY	2.4
1	G	388	GLY	2.4
1	F	430	CYS	2.4
1	G	641	GLU	2.4
1	F	128	VAL	2.4
1	F	143	VAL	2.4
1	G	485	ILE	2.4
1	D	386	ASP	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	174	GLN	2.4
1	F	240	LEU	2.4
1	G	156	THR	2.4
1	G	424	THR	2.4
1	G	141	LEU	2.4
1	G	389	PHE	2.3
1	G	593	HIS	2.3
1	F	403	ASP	2.3
1	F	443	HIS	2.3
1	G	144	GLY	2.3
1	F	473	TYR	2.3
1	G	498	ALA	2.3
1	F	359	LEU	2.3
1	G	752	LEU	2.3
1	G	146	LEU	2.3
1	G	605	ILE	2.3
1	G	753	PRO	2.3
1	G	456	ALA	2.3
1	F	439	PRO	2.3
1	F	440	LEU	2.3
1	G	110	LEU	2.3
1	F	69	THR	2.2
1	G	68	LEU	2.2
1	C	747	ALA	2.2
1	G	134	PRO	2.2
1	F	406	TYR	2.2
1	G	300	TRP	2.2
1	E	148	HIS	2.2
1	G	105	PRO	2.2
1	F	188	LEU	2.2
1	G	60	PHE	2.2
1	G	117	SER	2.2
1	F	191	ALA	2.2
1	G	350	PHE	2.2
1	G	417	LEU	2.2
1	G	440	LEU	2.2
1	G	108	ALA	2.2
1	F	328	SER	2.2
1	G	381	THR	2.1
1	F	60	PHE	2.1
1	F	491	ALA	2.1
1	G	658	VAL	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	95	CYS	2.1
1	G	331	ALA	2.1
1	G	332	SER	2.1
1	G	643	SER	2.1
1	F	129	PHE	2.1
1	F	334	LEU	2.1
1	G	489	PHE	2.1
1	D	664	ILE	2.1
1	G	360	VAL	2.1
1	G	415	PHE	2.1
1	G	747	ALA	2.1
1	F	392	GLY	2.1
1	G	414	HIS	2.1
1	G	541	ALA	2.1
1	G	589	LEU	2.1
1	G	436	GLN	2.1
1	F	363	ILE	2.1
1	G	338	SER	2.0
1	E	498	ALA	2.0
1	F	494	TYR	2.0
1	G	343	ALA	2.0
1	G	123	GLU	2.0
1	G	83	LEU	2.0
1	E	514	HIS	2.0
1	E	246	GLU	2.0
1	G	702	GLY	2.0
1	G	71	VAL	2.0
1	G	686	PRO	2.0
1	G	420	GLN	2.0
1	B	655	ALA	2.0
1	E	82	GLY	2.0
1	G	603	TYR	2.0
1	B	195	LEU	2.0
1	F	83	LEU	2.0
1	G	81	PRO	2.0
1	G	232	ASN	2.0
1	B	613	GLU	2.0
1	G	311	ALA	2.0
1	E	231	TYR	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	TPQ	G	471	14/15	0.86	0.44	44,60,67,84	0
1	TPQ	F	471	14/15	0.90	0.29	36,40,50,58	0
1	TPQ	C	471	14/15	0.92	0.27	22,47,61,78	0
1	TPQ	E	471	14/15	0.94	0.26	36,45,58,65	0
1	TPQ	D	471	14/15	0.95	0.23	21,31,48,64	0
1	TPQ	B	471	14/15	0.95	0.25	24,31,57,62	0
1	TPQ	A	471	14/15	0.97	0.20	17,28,56,58	0

## 6.3 Carbohydrates [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
2	BMA	V	3	11/12	0.48	0.26	97,102,107,110	0
2	BMA	Y	3	11/12	0.59	0.25	76,88,92,93	0
3	NAG	W	2	14/15	0.70	0.31	73,85,91,91	0
3	NAG	Z	2	14/15	0.71	0.41	83,100,107,111	0
2	BMA	H	3	11/12	0.73	0.22	57,73,77,77	0
2	BMA	M	3	11/12	0.73	0.23	58,73,74,75	0
2	BMA	K	3	11/12	0.74	0.17	53,61,69,71	0
3	NAG	N	2	14/15	0.76	0.31	56,75,81,82	0
2	BMA	P	3	11/12	0.77	0.18	42,68,74,76	0
2	BMA	S	3	11/12	0.78	0.17	58,76,83,87	0
3	NAG	T	2	14/15	0.78	0.22	60,80,85,86	0
3	NAG	W	1	14/15	0.81	0.20	48,66,75,79	0
4	NAG	U	1	14/15	0.81	0.24	39,72,84,89	0
6	NAG	a	1	14/15	0.81	0.18	55,76,89,89	0
3	NAG	Q	2	14/15	0.83	0.25	46,72,77,78	0
2	NAG	S	2	14/15	0.84	0.22	74,85,87,88	0
3	NAG	T	1	14/15	0.84	0.20	68,77,87,88	0
3	NAG	Z	1	14/15	0.85	0.22	70,79,85,92	0
2	NAG	M	2	14/15	0.86	0.21	43,53,66,67	0
4	NAG	R	1	14/15	0.86	0.18	34,68,74,90	0

*Continued on next page...*

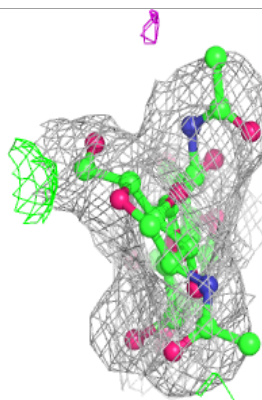
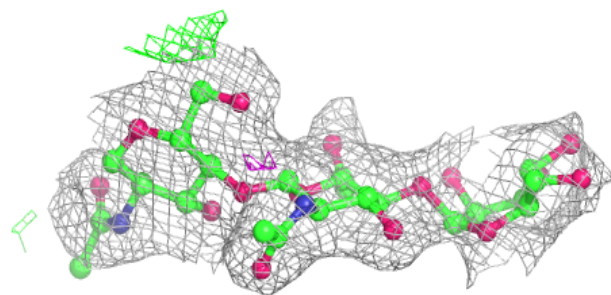
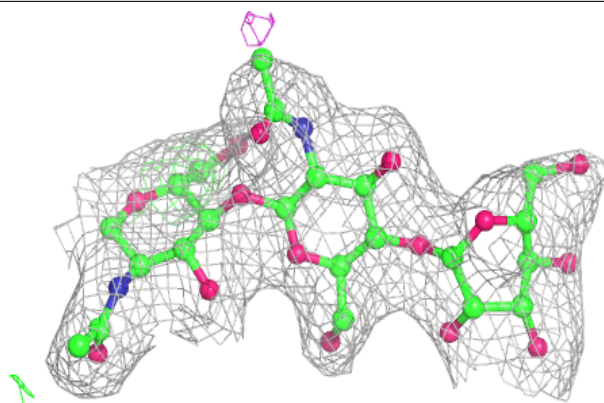
*Continued from previous page...*

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
6	FUC	a	2	10/11	0.86	0.24	39,68,73,76	0
4	NAG	J	1	14/15	0.87	0.17	21,56,68,72	0
5	NAG	L	2	14/15	0.87	0.22	51,59,71,74	0
4	NAG	O	1	14/15	0.87	0.19	29,40,47,51	0
2	NAG	P	2	14/15	0.87	0.24	45,68,74,77	0
2	NAG	K	2	14/15	0.88	0.19	34,55,65,66	0
2	NAG	Y	1	14/15	0.89	0.26	65,73,76,78	0
2	NAG	Y	2	14/15	0.89	0.24	63,80,85,89	0
4	FUL	R	2	10/11	0.90	0.16	15,51,58,58	0
2	NAG	V	1	14/15	0.90	0.16	32,56,60,67	0
4	FUL	X	2	10/11	0.90	0.13	33,47,56,57	0
2	NAG	V	2	14/15	0.91	0.18	49,66,83,86	0
4	FUL	U	2	10/11	0.92	0.16	46,55,58,61	0
4	NAG	X	1	14/15	0.92	0.14	33,45,55,59	0
3	NAG	I	2	14/15	0.92	0.17	39,54,56,60	0
2	NAG	H	2	14/15	0.93	0.14	31,46,56,62	0
5	FUL	L	3	10/11	0.94	0.17	21,29,43,47	0
2	NAG	S	1	14/15	0.94	0.14	34,50,64,74	0
3	NAG	Q	1	14/15	0.94	0.18	7,32,40,50	0
2	NAG	P	1	14/15	0.95	0.15	18,40,55,56	0
4	FUL	J	2	10/11	0.95	0.16	14,34,41,44	0
3	NAG	I	1	14/15	0.95	0.15	14,37,43,46	0
5	NAG	L	1	14/15	0.95	0.15	27,39,51,51	0
3	NAG	N	1	14/15	0.96	0.20	34,48,72,77	0
2	NAG	H	1	14/15	0.96	0.14	20,26,34,41	0
2	NAG	K	1	14/15	0.97	0.17	15,23,40,42	0
2	NAG	M	1	14/15	0.97	0.15	15,23,37,49	0
4	FUL	O	2	10/11	0.98	0.13	16,28,30,30	0

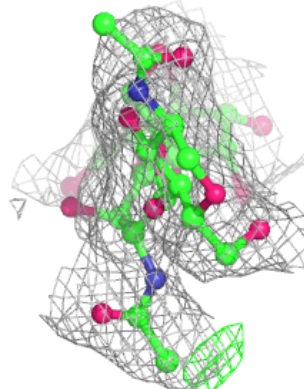
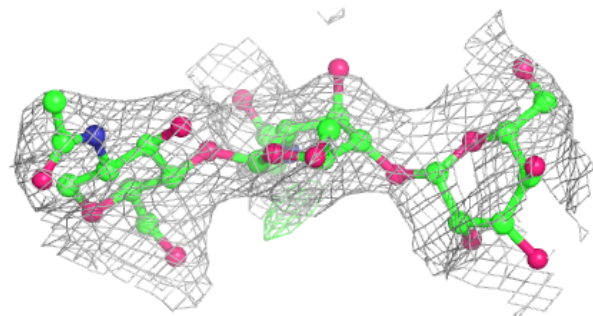
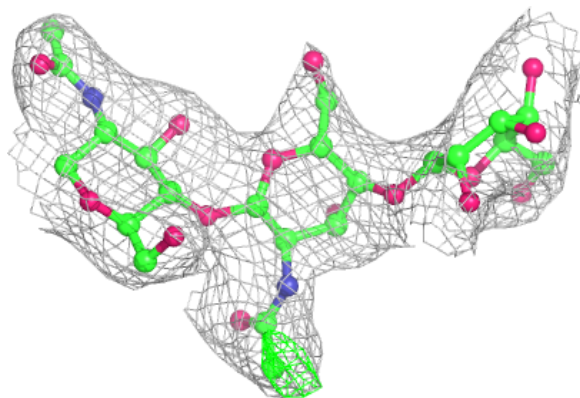
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

**Electron density around Chain 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 K:**

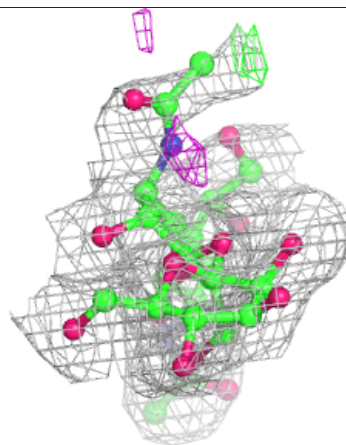
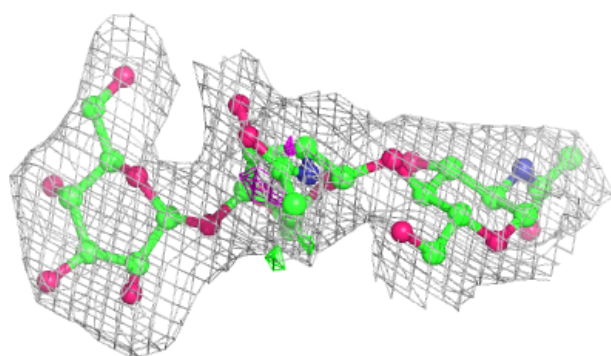
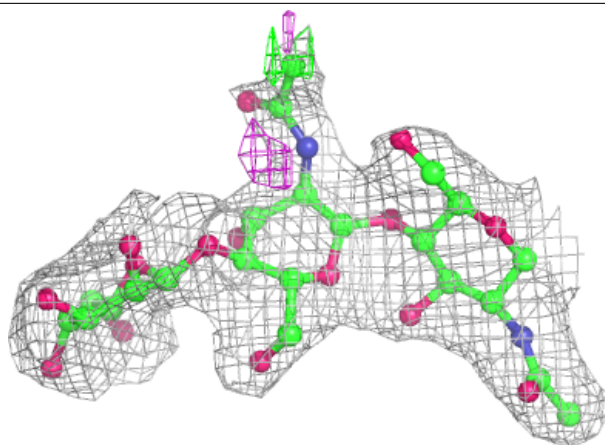
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



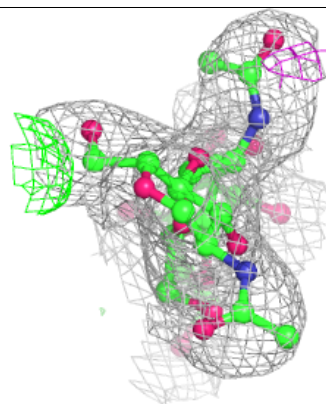
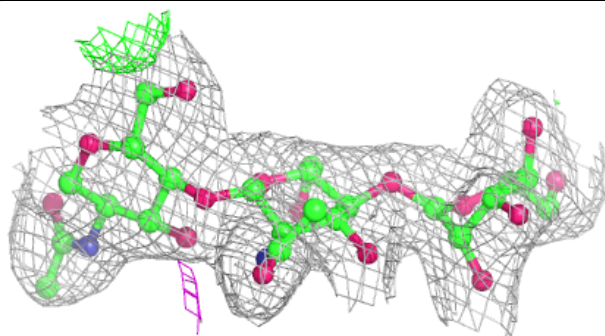
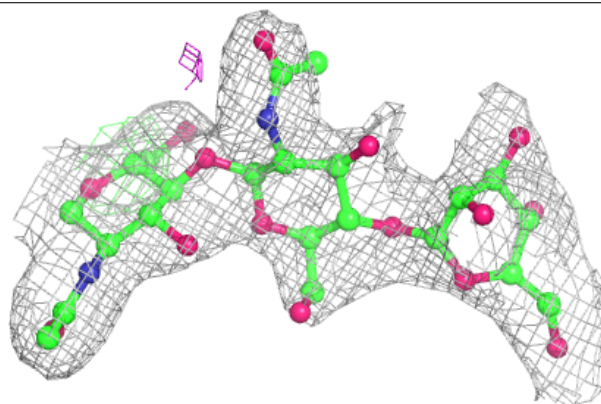


**Electron density around Chain M:**

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

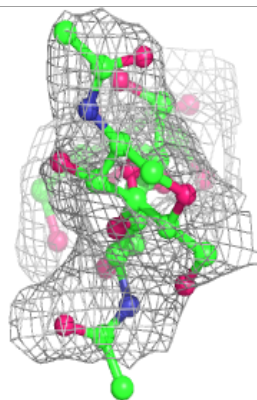
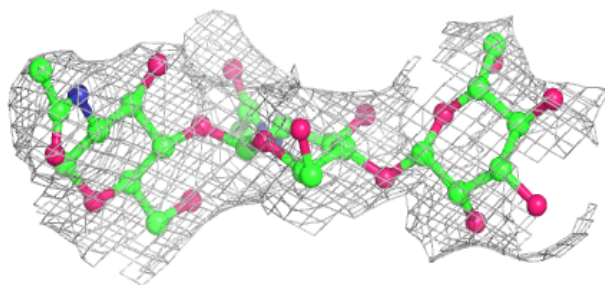
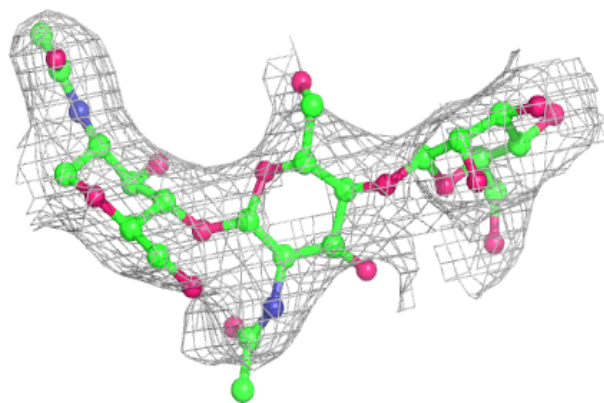
**Electron density around Chain P:**

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

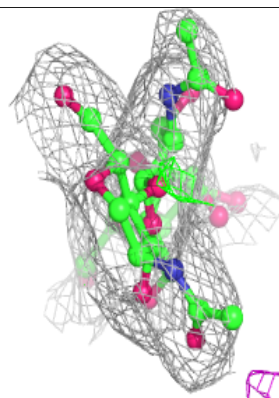
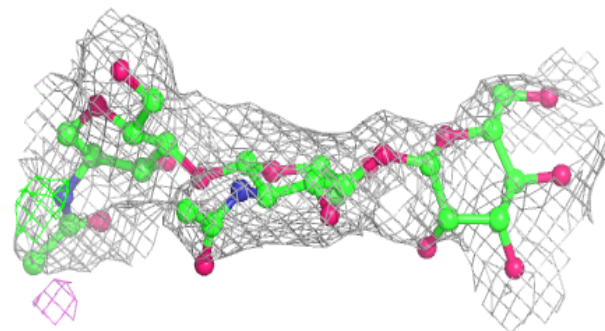
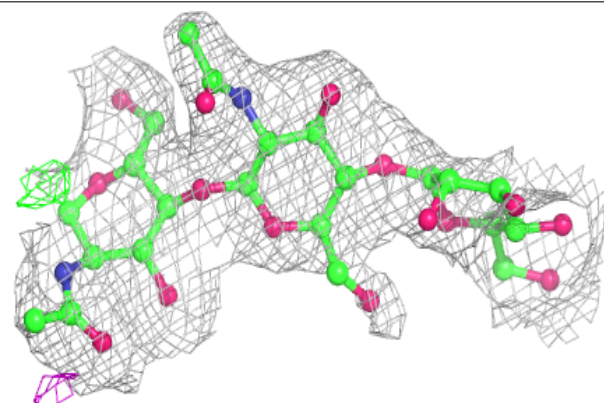


**Electron density around Chain S:**

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

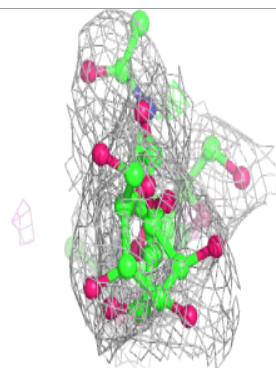
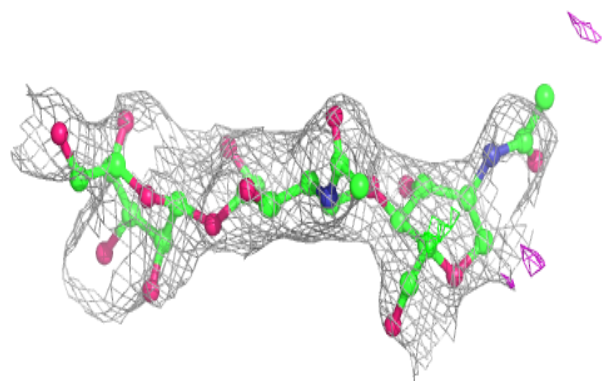
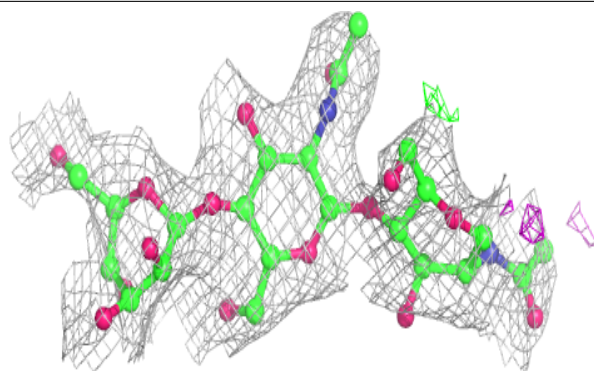
**Electron density around Chain V:**

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

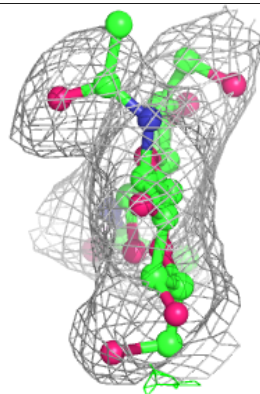
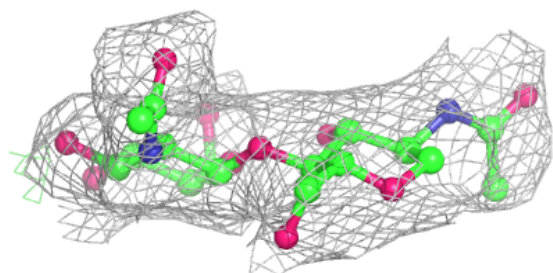
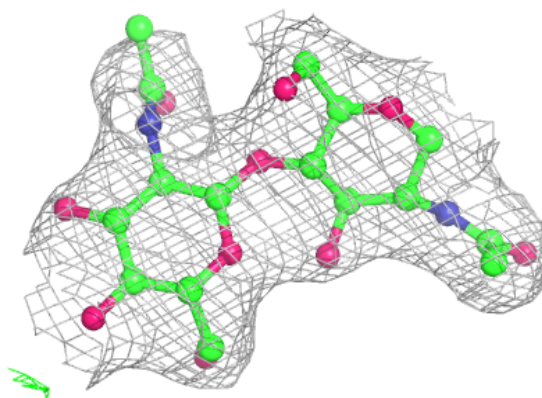


**Electron density around Chain Y:**

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

**Electron density around Chain I:**

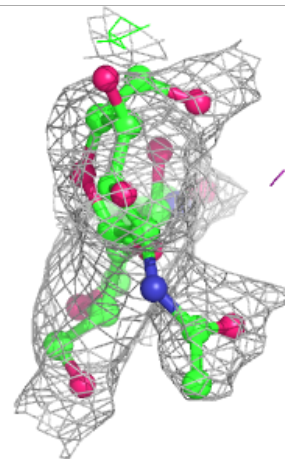
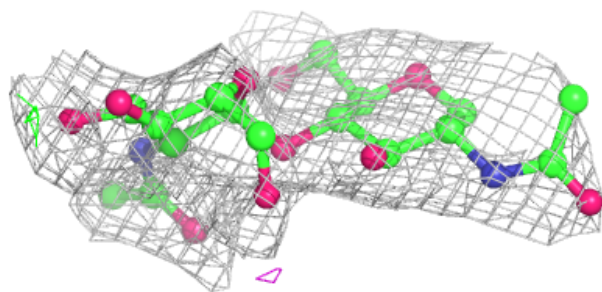
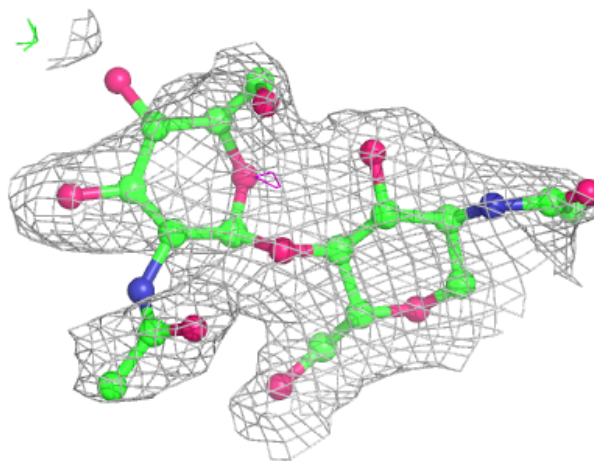
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





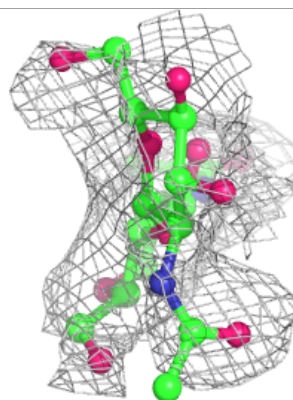
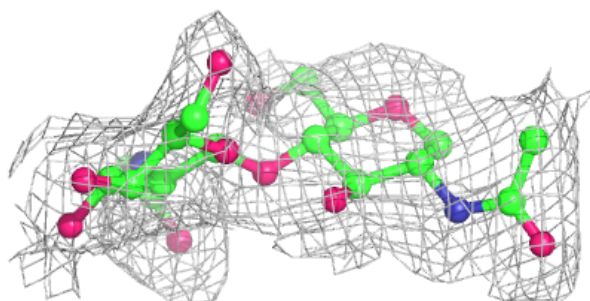
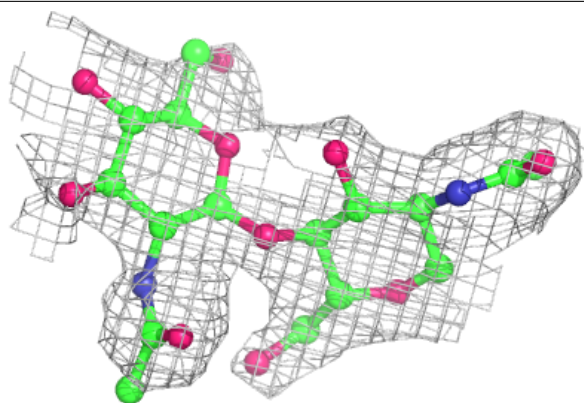
**Electron density around Chain N:**

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

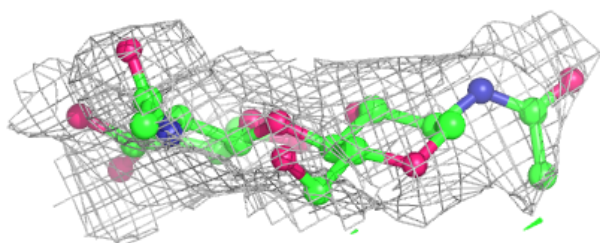
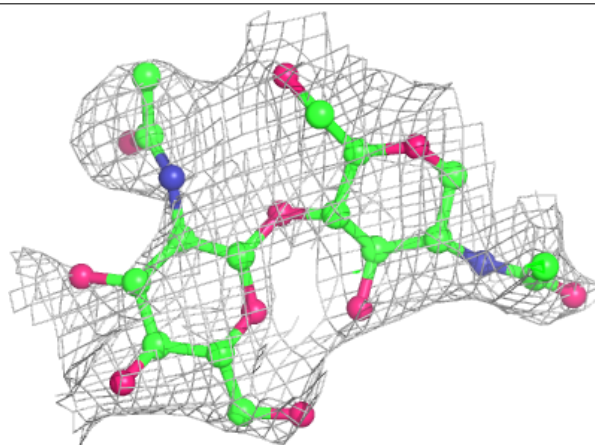


**Electron density around Chain Q:**

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

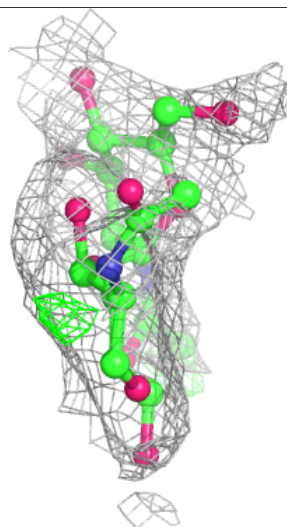
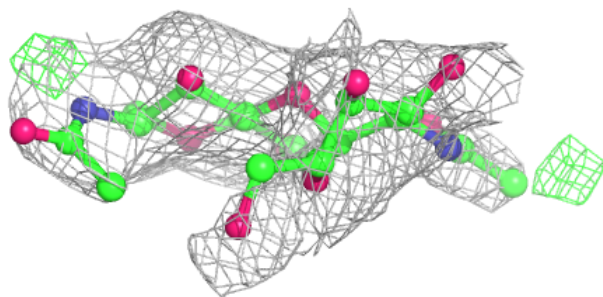
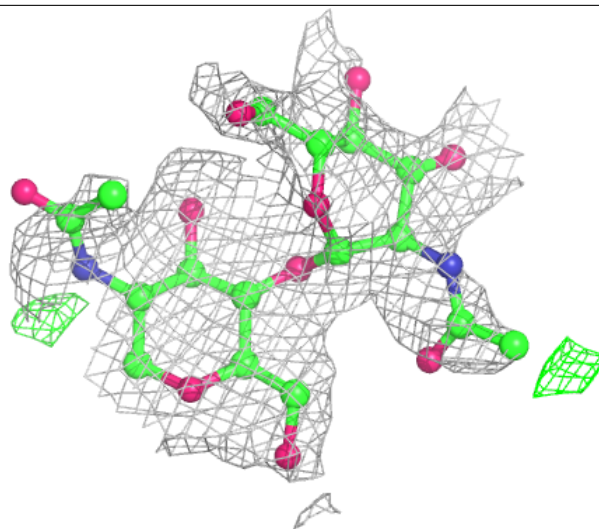
**Electron density around Chain T:**

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



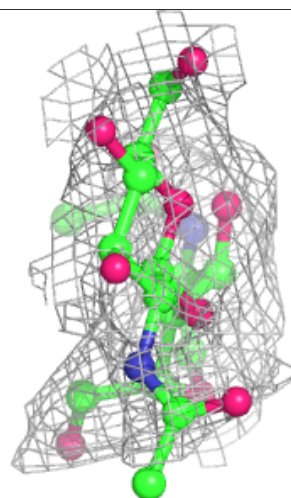
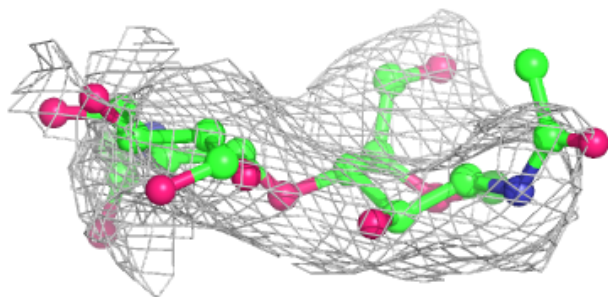
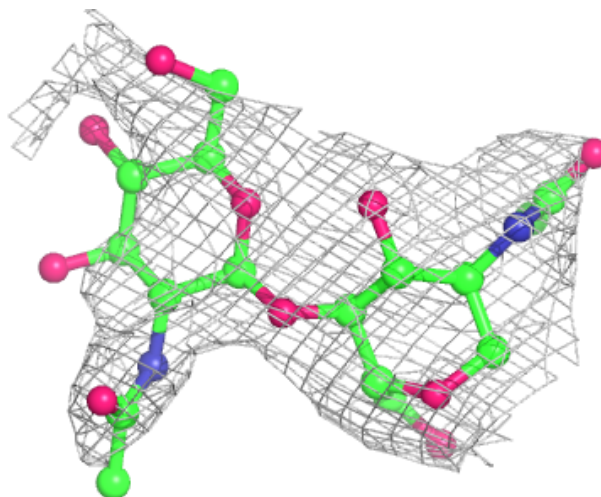
**Electron density around Chain W:**

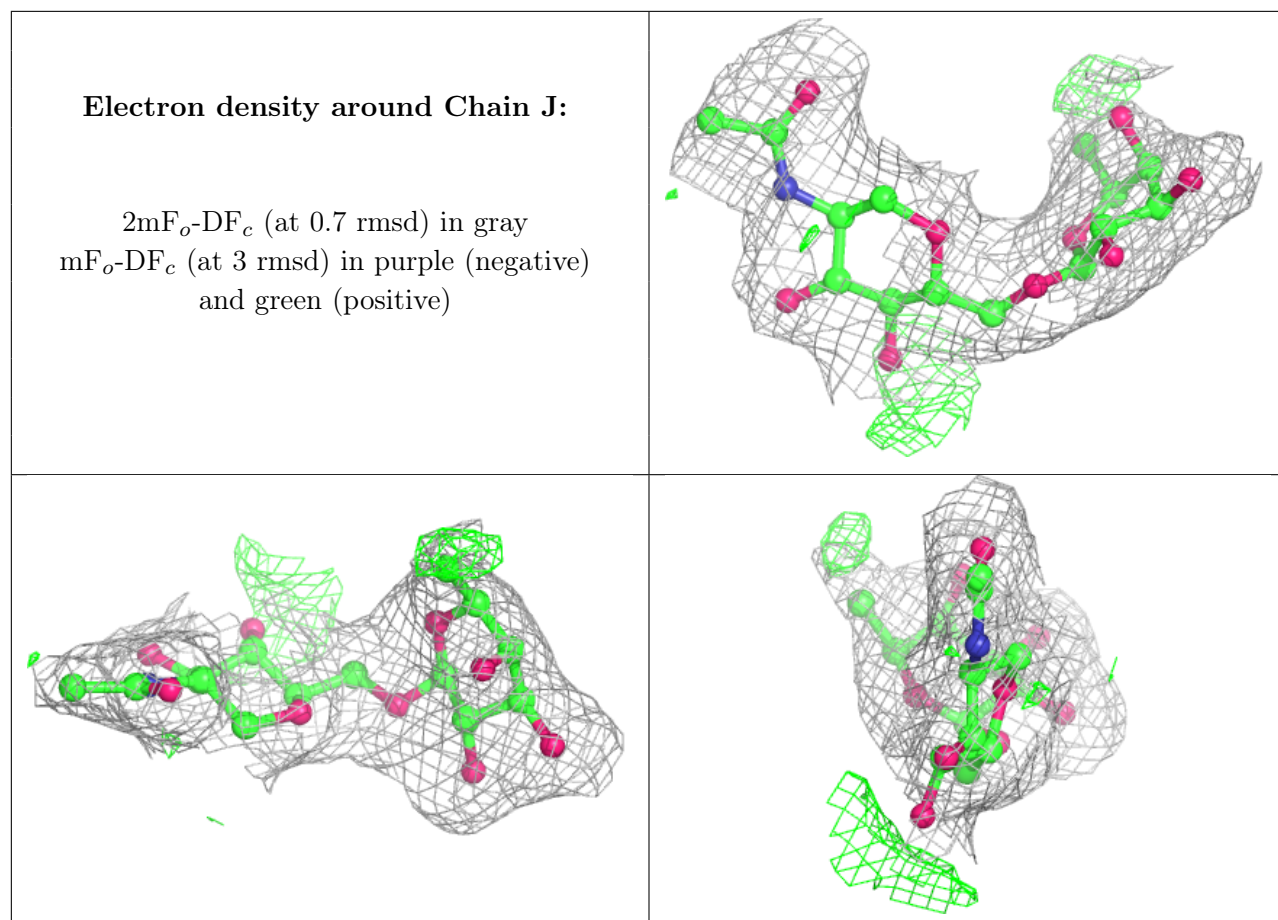
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around Chain Z:**

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

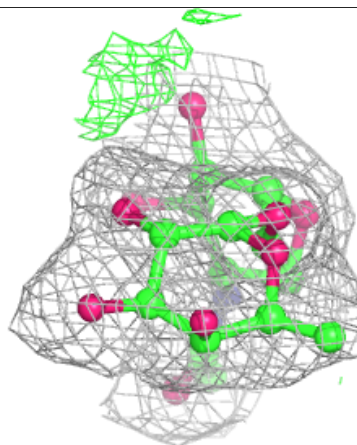
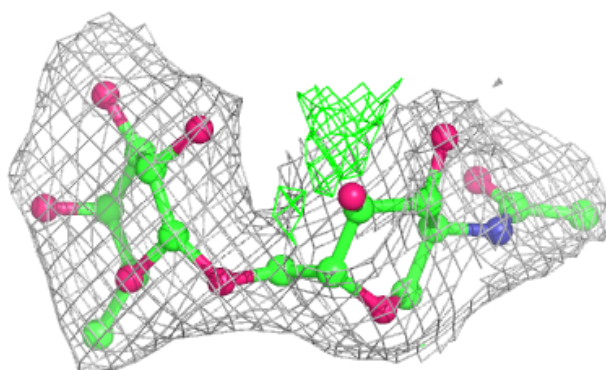
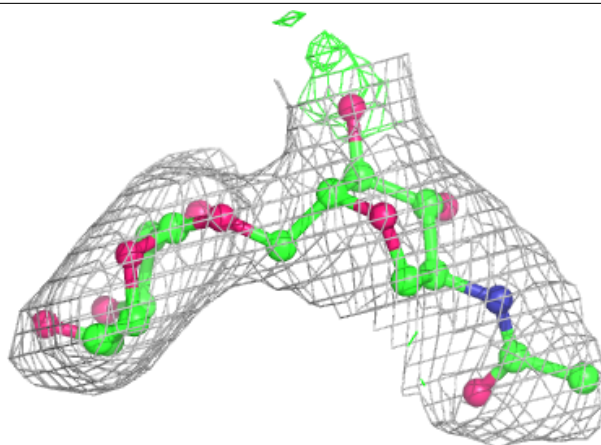




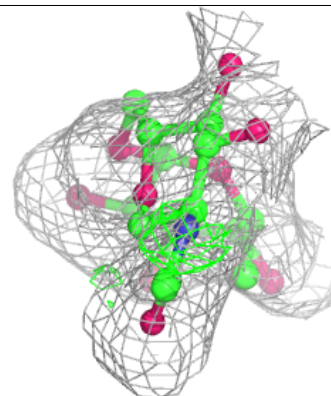
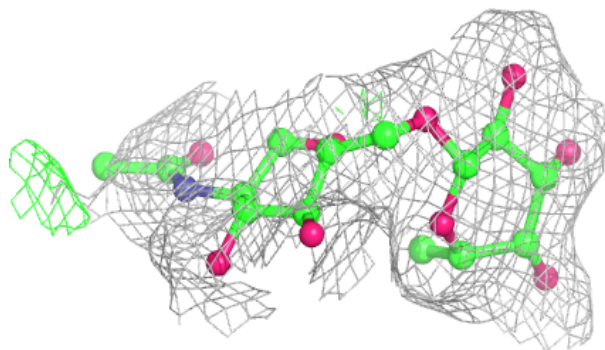
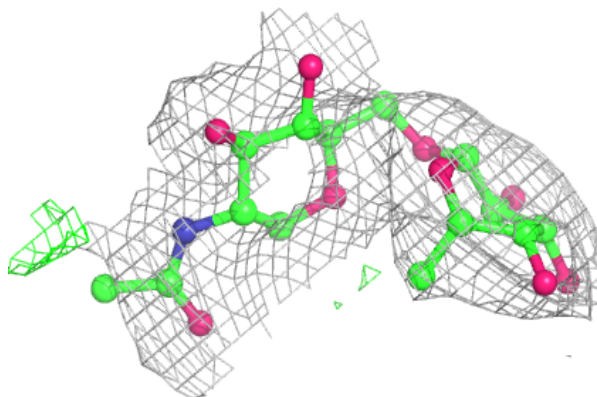


**Electron density around Chain O:**

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

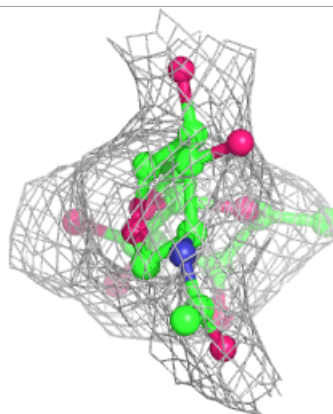
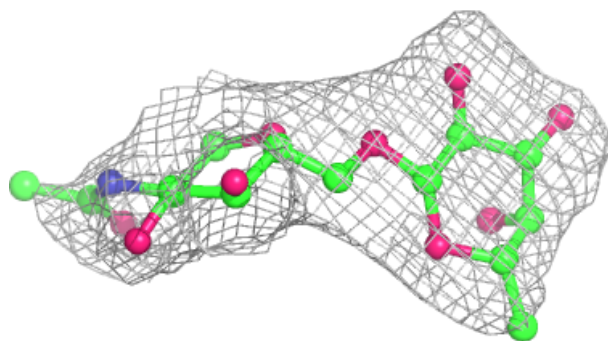
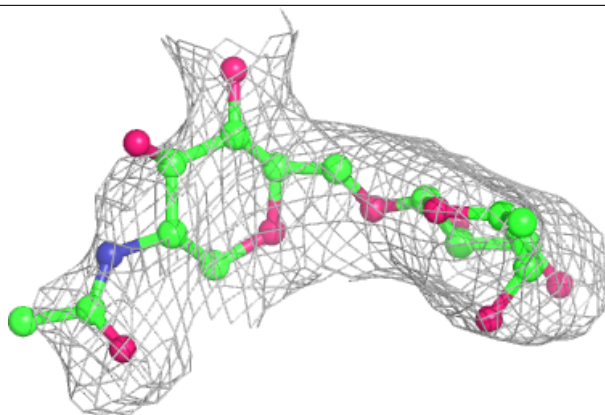
**Electron density around Chain R:**

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

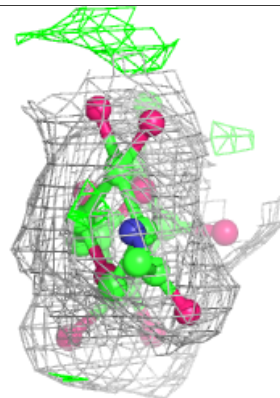
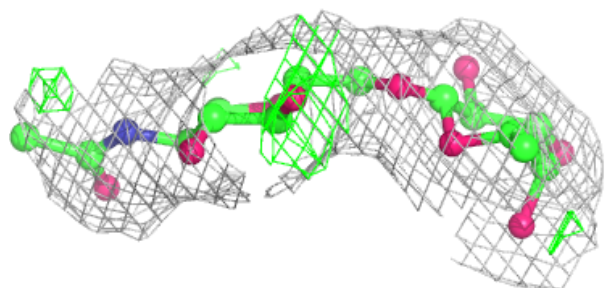
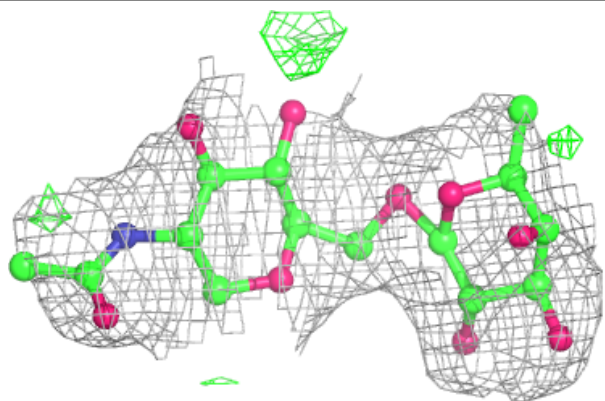


**Electron density around Chain U:**

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

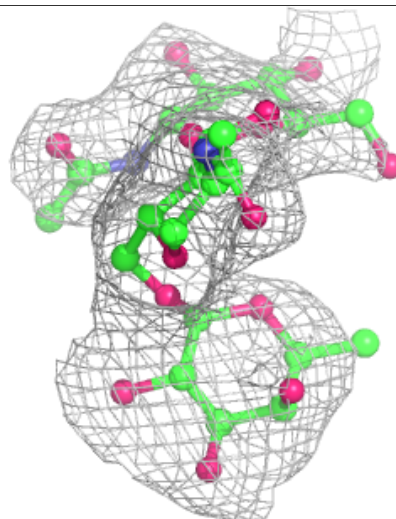
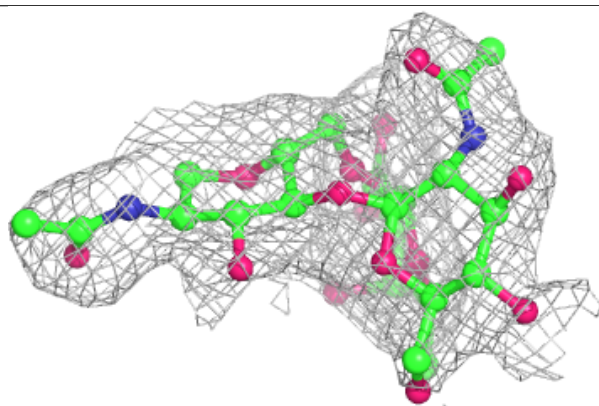
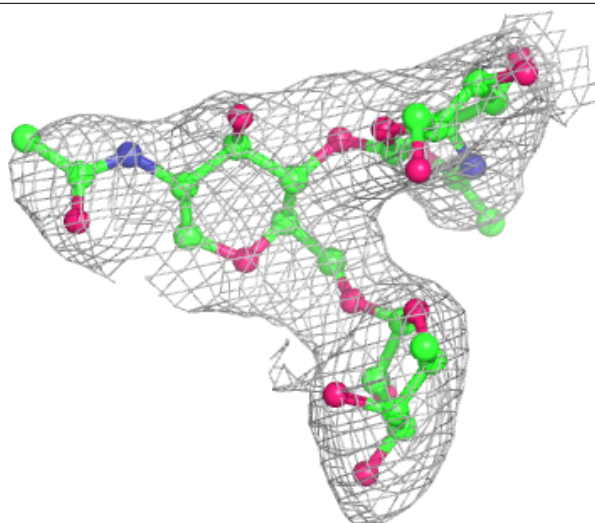
**Electron density around Chain X:**

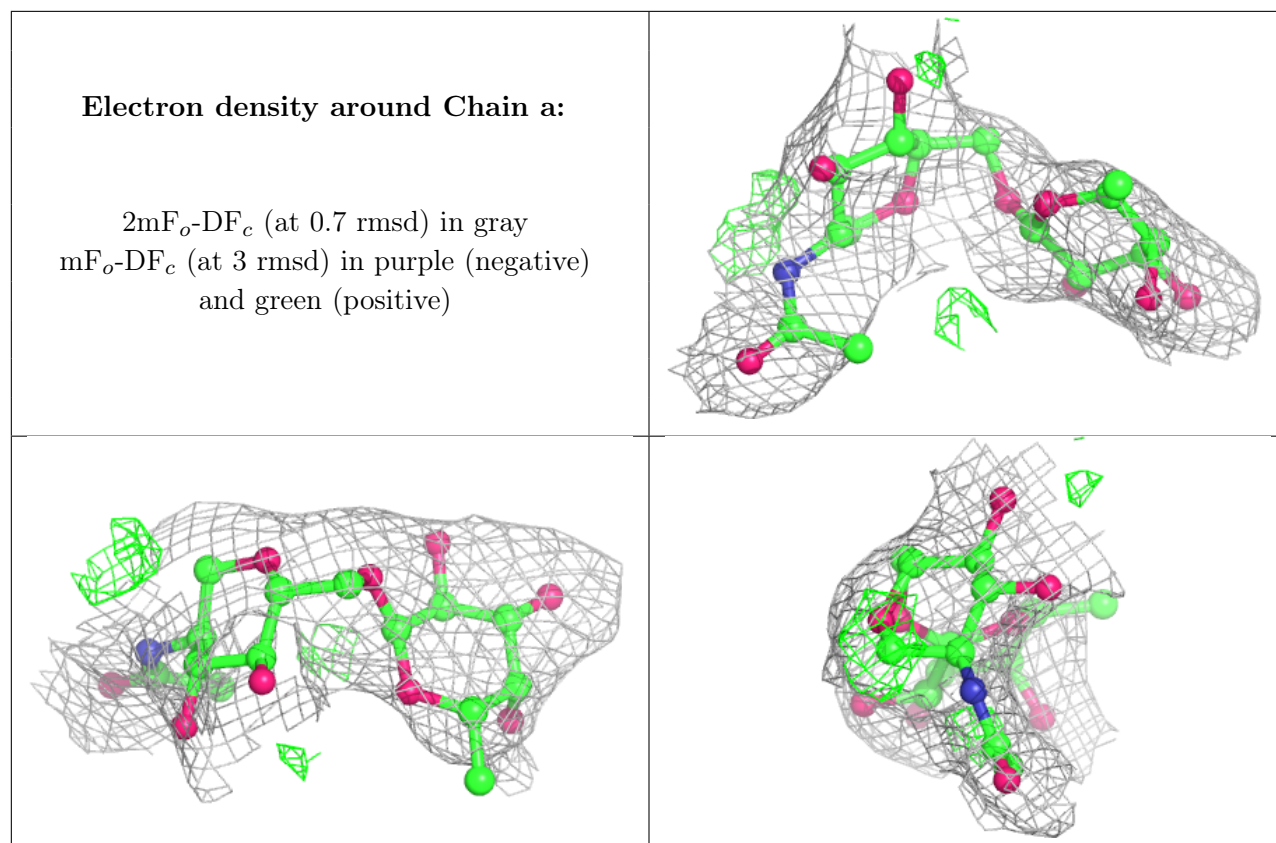
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around Chain L:**

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





## 6.4 Ligands [i](#)

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<sup>th</sup> 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( $\text{\AA}^2$ )	Q<0.9
10	NAG	B	1772	14/15	0.81	0.36	50,66,69,72	0
10	NAG	D	1775	14/15	0.82	0.19	74,84,90,90	0
8	CA	G	1763	1/1	0.89	0.09	51,51,51,51	0
9	GOL	A	764	6/6	0.91	0.16	43,43,43,43	0
7	CU	G	1762	1/1	0.92	0.05	69,69,69,69	0
8	CA	G	1764	1/1	0.93	0.17	94,94,94,94	0
8	CA	B	1764	1/1	0.93	0.31	88,88,88,88	0
8	CA	F	1764	1/1	0.94	0.09	91,91,91,91	0
8	CA	F	1763	1/1	0.94	0.10	42,42,42,42	0
8	CA	C	1763	1/1	0.95	0.11	34,34,34,34	0
8	CA	E	1763	1/1	0.96	0.12	43,43,43,43	0
7	CU	C	1762	1/1	0.96	0.06	58,58,58,58	0
8	CA	B	1763	1/1	0.96	0.14	35,35,35,35	0
8	CA	D	1764	1/1	0.96	0.09	65,65,65,65	0

*Continued on next page...*



*Continued from previous page...*

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
8	CA	D	1763	1/1	0.97	0.13	39,39,39,39	0
7	CU	E	1762	1/1	0.97	0.05	49,49,49,49	0
7	CU	F	1762	1/1	0.97	0.08	60,60,60,60	0
7	CU	A	1762	1/1	0.97	0.08	43,43,43,43	0
8	CA	C	1764	1/1	0.97	0.10	53,53,53,53	0
8	CA	E	1764	1/1	0.98	0.06	46,46,46,46	0
8	CA	A	1763	1/1	0.98	0.08	32,32,32,32	0
8	CA	A	1764	1/1	0.98	0.12	50,50,50,50	0
7	CU	B	1762	1/1	0.98	0.07	49,49,49,49	0
7	CU	D	1762	1/1	1.00	0.10	44,44,44,44	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.