



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 12, 2026 – 04:49 PM UTC

PDB ID : 4MHH / pdb_00004mhh
Title : Crystal structure of Fab H5M9 in complex with influenza virus hemagglutinin from A/Viet Nam/1203/2004 (H5N1)
Authors : Zhu, X.; Wilson, I.A.
Deposited on : 2013-08-29
Resolution : 3.56 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

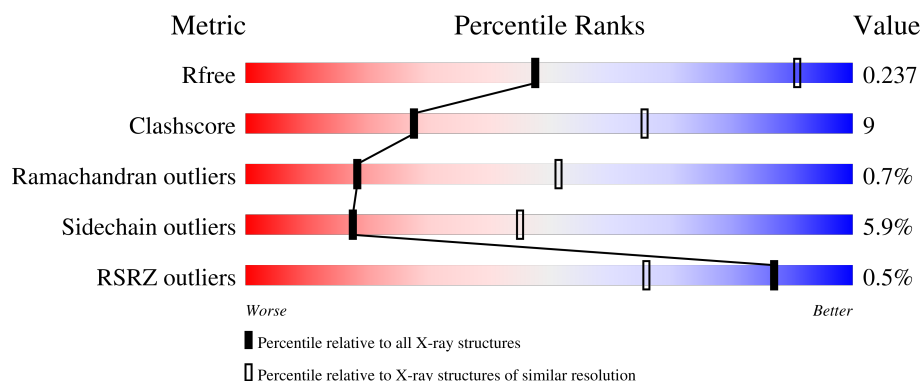
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

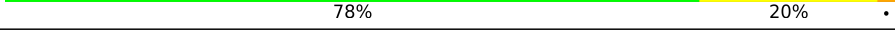
The reported resolution of this entry is 3.56 Å.

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



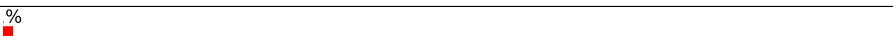
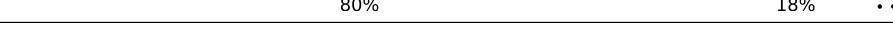
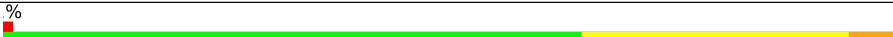
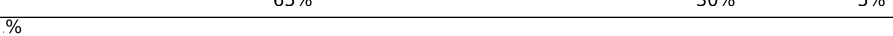
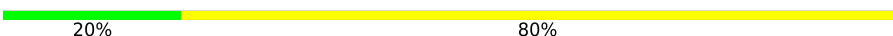
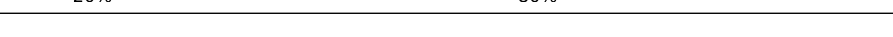
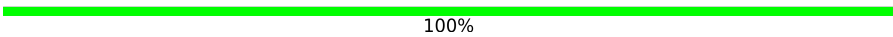
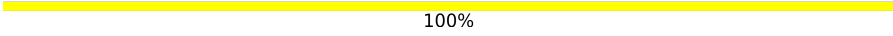
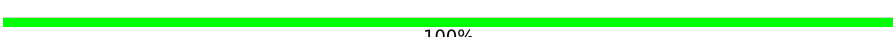
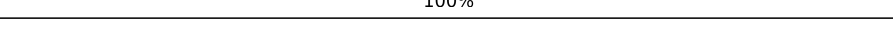
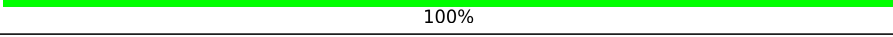
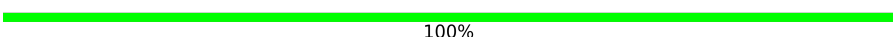
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1410 (3.62-3.50)
Clashscore	190562	1480 (3.62-3.50)
Ramachandran outliers	187476	1440 (3.62-3.50)
Sidechain outliers	187428	1441 (3.62-3.50)
RSRZ outliers	180081	1409 (3.62-3.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	334	 73% 21% . .
1	C	334	 76% 18% . .
1	E	334	 71% 22% . .
2	I	218	 78% 20% .
2	K	218	 77% 21% .

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Mol	Chain	Length	Quality of chain
2	L	218	
3	B	181	
3	D	181	
3	F	181	
4	G	222	
4	H	222	
4	J	222	
5	M	5	
5	S	5	
5	X	5	
6	N	2	
6	O	2	
6	P	2	
6	R	2	
6	T	2	
6	U	2	
6	V	2	
6	W	2	
6	Y	2	
6	a	2	
7	Q	3	
7	Z	3	
7	b	3	
8	c	4	

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 22784 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 Hemagglutinin HA1 chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	324	Total	C	N	O	S	0	0	0
			2568	1622	443	488	15			
1	C	324	Total	C	N	O	S	0	0	0
			2568	1622	443	488	15			
1	E	324	Total	C	N	O	S	0	0	0
			2568	1622	443	488	15			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	ALA	-	expression tag	UNP Q6DQ33
A	8	ASP	-	expression tag	UNP Q6DQ33
A	9	PRO	-	expression tag	UNP Q6DQ33
A	10	GLY	-	expression tag	UNP Q6DQ33
C	7	ALA	-	expression tag	UNP Q6DQ33
C	8	ASP	-	expression tag	UNP Q6DQ33
C	9	PRO	-	expression tag	UNP Q6DQ33
C	10	GLY	-	expression tag	UNP Q6DQ33
E	7	ALA	-	expression tag	UNP Q6DQ33
E	8	ASP	-	expression tag	UNP Q6DQ33
E	9	PRO	-	expression tag	UNP Q6DQ33
E	10	GLY	-	expression tag	UNP Q6DQ33

- Molecule 2 is a protein called H5M9 antibody, light chain (kappa).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	217	Total	C	N	O	S	0	0	0
			1683	1044	291	342	6			
2	I	217	Total	C	N	O	S	0	0	0
			1683	1044	291	342	6			
2	K	217	Total	C	N	O	S	0	0	0
			1683	1044	291	342	6			

- Molecule 3 is a protein called Hemagglutinin HA2 chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	B	177	Total	C	N	O	S	0	0	0
			1433	889	251	285	8			
3	D	177	Total	C	N	O	S	0	0	0
			1433	889	251	285	8			
3	F	177	Total	C	N	O	S	0	0	0
			1433	889	251	285	8			

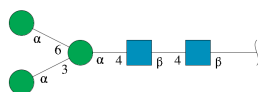
There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	175	SER	-	expression tag	UNP Q6DQ33
B	176	GLY	-	expression tag	UNP Q6DQ33
B	177	ARG	-	expression tag	UNP Q6DQ33
B	178	LEU	-	expression tag	UNP Q6DQ33
B	179	VAL	-	expression tag	UNP Q6DQ33
B	180	PRO	-	expression tag	UNP Q6DQ33
B	181	ARG	-	expression tag	UNP Q6DQ33
D	175	SER	-	expression tag	UNP Q6DQ33
D	176	GLY	-	expression tag	UNP Q6DQ33
D	177	ARG	-	expression tag	UNP Q6DQ33
D	178	LEU	-	expression tag	UNP Q6DQ33
D	179	VAL	-	expression tag	UNP Q6DQ33
D	180	PRO	-	expression tag	UNP Q6DQ33
D	181	ARG	-	expression tag	UNP Q6DQ33
F	175	SER	-	expression tag	UNP Q6DQ33
F	176	GLY	-	expression tag	UNP Q6DQ33
F	177	ARG	-	expression tag	UNP Q6DQ33
F	178	LEU	-	expression tag	UNP Q6DQ33
F	179	VAL	-	expression tag	UNP Q6DQ33
F	180	PRO	-	expression tag	UNP Q6DQ33
F	181	ARG	-	expression tag	UNP Q6DQ33

- Molecule 4 is a protein called H5M9 antibody, heavy chain (IgG1).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	H	222	Total	C	N	O	S	0	0	0
			1682	1062	277	334	9			
4	G	222	Total	C	N	O	S	0	0	0
			1682	1062	277	334	9			
4	J	222	Total	C	N	O	S	0	0	0
			1682	1062	277	334	9			

- Molecule 5 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



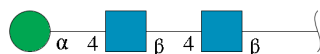
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	M	5	Total	C	N	O	0	0	0
			61	34	2	25			
5	S	5	Total	C	N	O	0	0	0
			61	34	2	25			
5	X	5	Total	C	N	O	0	0	0
			61	34	2	25			

- Molecule 6 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
6	N	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	O	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	P	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	R	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	T	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	U	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	V	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	W	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	Y	2	Total	C	N	O	0	0	0
			28	16	2	10			
6	a	2	Total	C	N	O	0	0	0
			28	16	2	10			

- Molecule 7 is an oligosaccharide called alpha-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
7	Q	3	Total	C	N	O	0	0	0
			39	22	2	15			
7	Z	3	Total	C	N	O	0	0	0
			39	22	2	15			
7	b	3	Total	C	N	O	0	0	0
			39	22	2	15			

- Molecule 8 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
8	c	4	Total	C	N	O	0	0	0
			50	28	2	20			

- Molecule 9 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: C₈H₁₅NO₆).

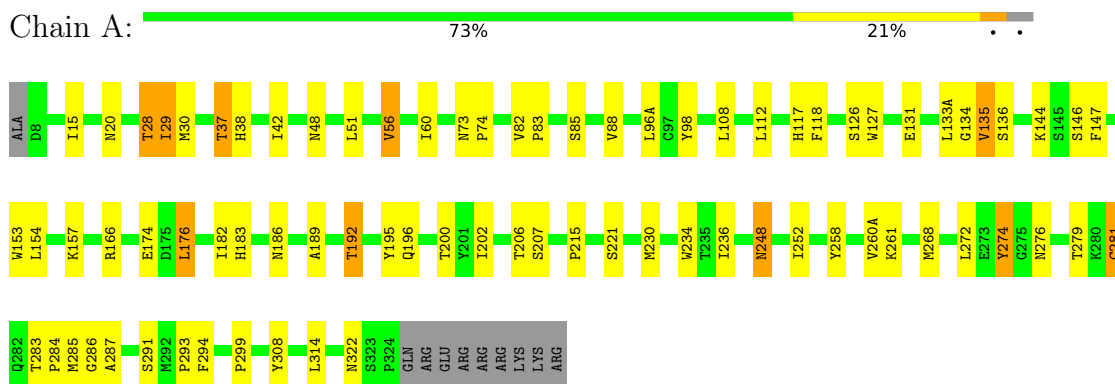


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
9	L	1	Total	C	N	O	0	0
			14	8	1	5		
9	I	1	Total	C	N	O	0	0
			14	8	1	5		
9	K	1	Total	C	N	O	0	0
			14	8	1	5		
9	F	1	Total	C	N	O	0	0
			14	8	1	5		

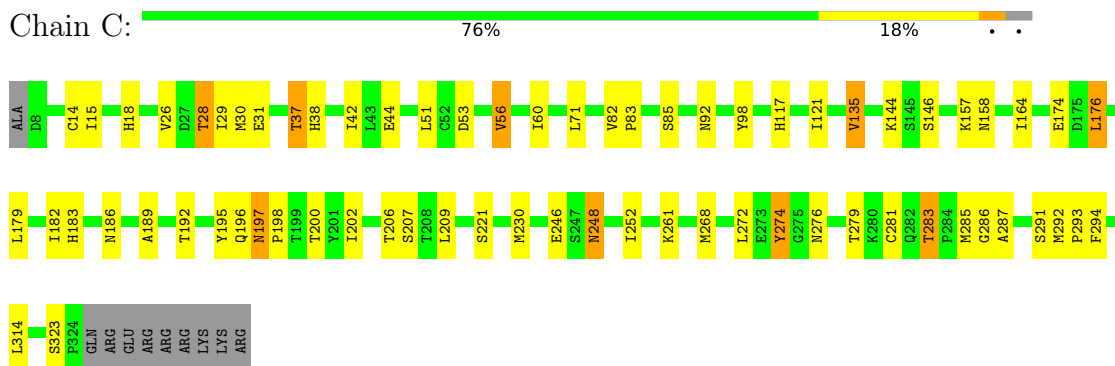
3 Residue-property plots

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.

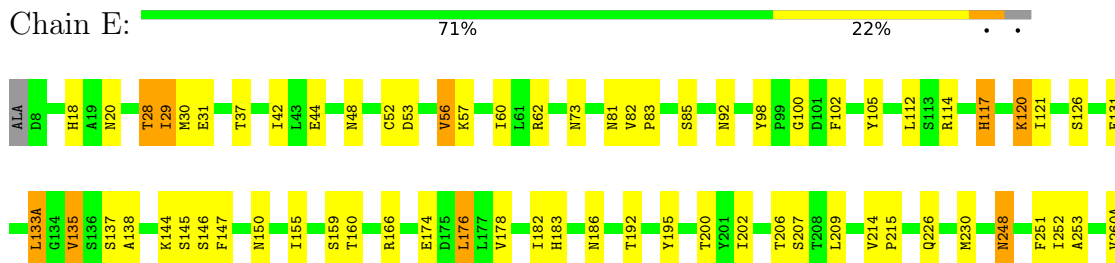
• Molecule 1: Hemagglutinin HA1 chain



• Molecule 1: Hemagglutinin HA1 chain

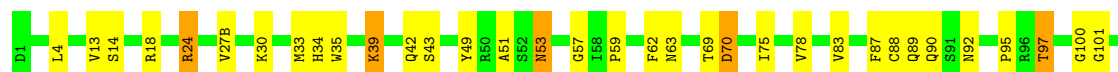


• Molecule 1: Hemagglutinin HA1 chain





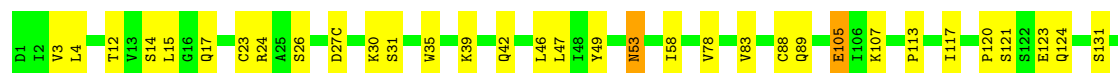
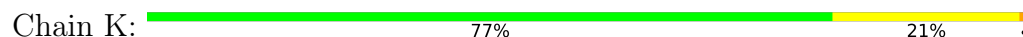
- Molecule 2: H5M9 antibody, light chain (kappa)



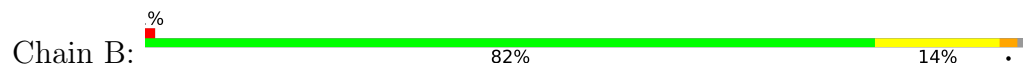
- Molecule 2: H5M9 antibody, light chain (kappa)



- Molecule 2: H5M9 antibody, light chain (kappa)

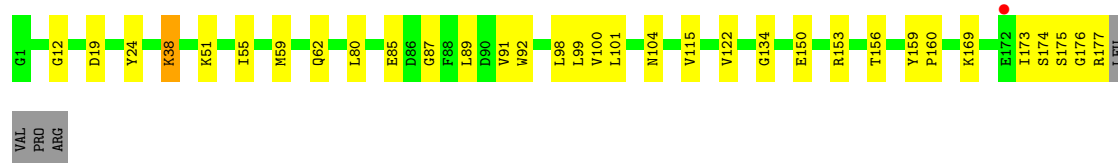


- Molecule 3: Hemagglutinin HA2 chain



- Molecule 3: Hemagglutinin HA2 chain





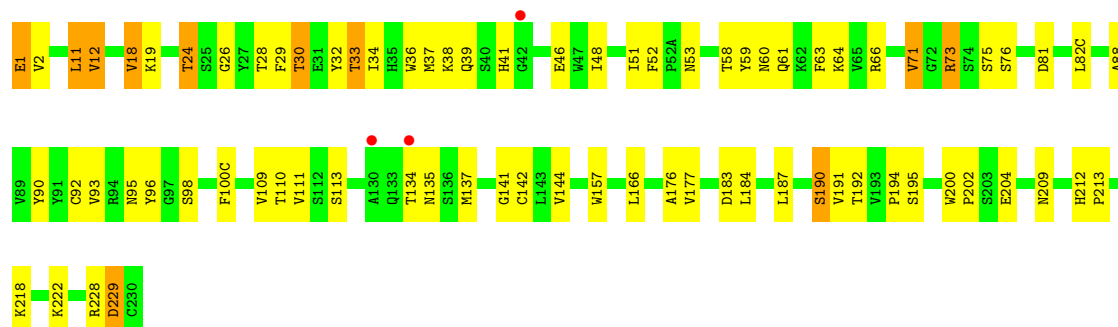
- Molecule 3: Hemagglutinin HA2 chain

Chain F: 78% 19% ..



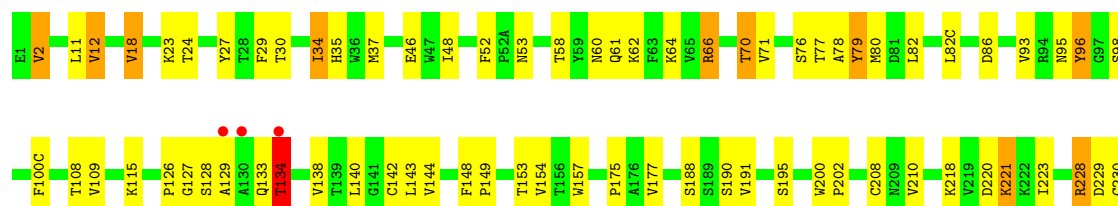
- Molecule 4: H5M9 antibody, heavy chain (IgG1)

Chain H: 65% 30% 5%



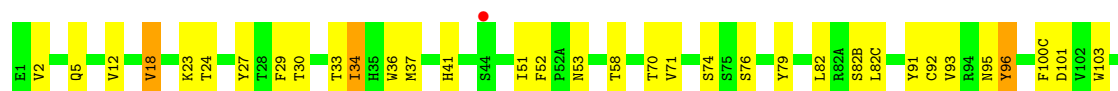
- Molecule 4: H5M9 antibody, heavy chain (IgG1)

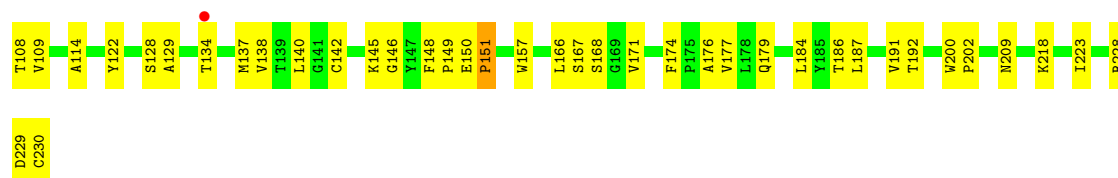
Chain G: 67% 28% 5%



- Molecule 4: H5M9 antibody, heavy chain (IgG1)

Chain J: 67% 31% 2%





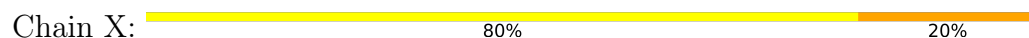
- Molecule 5: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 5: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 5: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



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



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

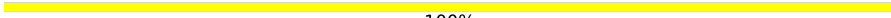


- Molecule 6: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain P:  50% 50%

MAG1
MAG2

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

Chain R:  100%

MAG1
MAG2

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

Chain T:  100%

MAG1
MAG2

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

Chain U:  100%

MAG1
MAG2

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

Chain V:  100%

MAG1
MAG2

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

Chain W:  100%

MAG1
MAG2

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

Chain Y:  100%

MAG1
MAG2

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

Chain a:  100%

MAG1
MAG2

- Molecule 7: alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Q:  67% 33%

MAG1
MAG2
MAN3

- Molecule 7: alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Z:  67% 33%

MAG1
MAG2
MAN3

- Molecule 7: alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain b:  33% 67%

MAG1
MAG2
MAN3

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

Chain c:  25% 25% 50%

MAG1
MAG2
MAN3
MAN4

4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	142.01Å 251.42Å 230.81Å 90.00° 107.01° 90.00°	Depositor
Resolution (Å)	47.30 – 3.56 47.30 – 3.56	Depositor EDS
% Data completeness (in resolution range)	91.5 (47.30-3.56) 91.6 (47.30-3.56)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.16 (at 3.57Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.201 , 0.238 0.204 , 0.237	Depositor DCC
R_{free} test set	4217 reflections (4.58%)	wwPDB-VP
Wilson B-factor (Å ²)	126.7	Xtriage
Anisotropy	0.211	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 105.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	22784	wwPDB-VP
Average B, all atoms (Å ²)	144.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.26% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.74	0/2631	1.18	13/3574 (0.4%)
1	C	0.72	1/2631 (0.0%)	1.14	17/3574 (0.5%)
1	E	0.80	0/2631	1.25	22/3574 (0.6%)
2	I	0.61	0/1720	0.94	0/2332
2	K	0.57	0/1720	0.90	0/2332
2	L	0.74	0/1720	1.04	5/2332 (0.2%)
3	B	0.72	0/1460	1.04	2/1961 (0.1%)
3	D	0.76	0/1460	1.04	3/1961 (0.2%)
3	F	0.84	2/1460 (0.1%)	1.15	1/1961 (0.1%)
4	G	0.69	1/1728 (0.1%)	1.02	1/2361 (0.0%)
4	H	0.78	1/1728 (0.1%)	1.08	1/2361 (0.0%)
4	J	0.59	0/1728	0.93	0/2361
All	All	0.72	5/22617 (0.0%)	1.08	65/30684 (0.2%)

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	C	0	1
1	E	0	1
All	All	0	2

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	G	134	THR	CA-CB	6.78	1.62	1.53
4	H	134	THR	CA-CB	6.52	1.62	1.53
3	F	177	ARG	CZ-NH1	5.49	1.40	1.32
1	C	157	LYS	C-N	5.45	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	F	137	CYS	CA-C	-5.25	1.46	1.52

All (65) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	82	VAL	CA-C-N	14.54	134.16	120.21
1	E	82	VAL	C-N-CA	14.54	134.16	120.21
1	E	195	TYR	N-CA-C	-14.35	89.55	108.34
1	A	195	TYR	N-CA-C	-12.54	91.91	108.34
1	C	195	TYR	N-CA-C	-11.29	93.54	108.34
1	A	82	VAL	CA-C-N	10.76	130.54	120.21
1	A	82	VAL	C-N-CA	10.76	130.54	120.21
1	C	82	VAL	CA-C-N	8.18	128.06	120.21
1	C	82	VAL	C-N-CA	8.18	128.06	120.21
1	E	276	ASN	CB-CA-C	-7.78	100.85	111.89
1	E	117	HIS	N-CA-C	7.31	119.99	107.93
1	E	52	CYS	N-CA-C	7.13	120.57	109.52
1	A	276	ASN	CB-CA-C	-6.88	102.12	111.89
4	G	127	GLY	N-CA-C	6.51	119.42	111.93
1	C	92	ASN	CA-C-N	6.46	126.84	119.93
1	C	92	ASN	C-N-CA	6.46	126.84	119.93
4	H	141	GLY	N-CA-C	6.46	120.53	111.10
1	C	276	ASN	CB-CA-C	-6.29	102.96	111.89
1	A	274	TYR	N-CA-C	6.24	119.40	110.10
1	C	272	LEU	N-CA-C	6.14	117.96	110.41
1	C	196	GLN	N-CA-C	-6.14	104.86	112.72
1	E	56	VAL	N-CA-C	6.12	116.93	107.99
2	L	63	ASN	N-CA-CB	6.12	120.62	110.47
1	A	56	VAL	N-CA-C	6.10	116.89	107.99
1	E	281	CYS	N-CA-C	6.03	118.51	108.13
1	E	279	THR	N-CA-C	6.00	117.90	108.96
1	E	186	ASN	N-CA-C	6.00	117.89	111.36
1	A	322	ASN	N-CA-C	5.98	119.39	109.46
1	E	73	ASN	CA-C-N	5.89	126.31	119.47
1	E	73	ASN	C-N-CA	5.89	126.31	119.47
1	E	272	LEU	N-CA-C	5.72	117.44	110.41
1	E	248	ASN	N-CA-C	-5.70	105.25	114.09
3	D	134	GLY	N-CA-C	-5.68	106.83	115.00
3	B	112	ASP	N-CA-C	-5.67	105.01	111.07
1	A	196	GLN	N-CA-C	-5.63	105.51	112.72
1	E	160	THR	N-CA-C	5.59	117.90	109.41
2	L	195	GLU	N-CA-C	5.57	117.81	108.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	56	VAL	N-CA-C	5.56	116.11	107.99
1	C	274	TYR	N-CA-C	5.55	118.37	110.10
2	L	57	GLY	CA-C-N	-5.53	118.52	123.33
2	L	57	GLY	C-N-CA	-5.53	118.52	123.33
1	C	197	ASN	CA-C-N	5.48	125.17	119.64
1	C	197	ASN	C-N-CA	5.48	125.17	119.64
1	A	248	ASN	N-CA-C	-5.48	105.60	114.09
3	F	112	ASP	N-CA-C	-5.43	105.26	111.07
2	L	100	GLY	N-CA-C	-5.39	106.26	112.73
1	E	286	GLY	N-CA-C	5.34	117.32	110.96
1	A	272	LEU	N-CA-C	5.33	116.97	110.41
1	C	117	HIS	N-CA-C	5.30	116.68	107.93
1	E	83	PRO	CA-C-O	-5.26	114.89	122.31
1	C	195	TYR	CA-C-N	-5.26	112.99	122.46
1	C	195	TYR	C-N-CA	-5.26	112.99	122.46
3	D	174	SER	N-CA-C	5.24	116.99	111.28
1	A	186	ASN	N-CA-C	5.18	117.01	111.36
1	E	81	ASN	N-CA-C	5.17	118.57	107.67
1	A	281	CYS	N-CA-C	5.16	117.01	108.13
1	C	248	ASN	N-CA-C	-5.15	106.11	114.09
1	E	133(A)	LEU	N-CA-C	-5.12	106.62	112.92
3	D	115	VAL	N-CA-C	5.12	115.34	110.53
1	C	186	ASN	N-CA-C	5.05	116.86	111.36
1	E	274	TYR	N-CA-C	5.05	117.62	110.10
3	B	121	LYS	N-CA-C	-5.04	105.87	111.36
1	A	276	ASN	N-CA-C	5.02	118.32	111.39
1	E	92	ASN	CA-C-N	5.01	125.29	119.93
1	E	92	ASN	C-N-CA	5.01	125.29	119.93

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	323	SER	Peptide
1	E	323	SER	Peptide

5.2 Too-close contacts

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

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2568	0	2504	52	0
1	C	2568	0	2504	38	0
1	E	2568	0	2504	52	0
2	I	1683	0	1606	29	0
2	K	1683	0	1606	26	0
2	L	1683	0	1606	45	0
3	B	1433	0	1339	21	0
3	D	1433	0	1339	21	0
3	F	1433	0	1339	25	0
4	G	1682	0	1632	42	0
4	H	1682	0	1632	46	0
4	J	1682	0	1632	41	0
5	M	61	0	52	0	0
5	S	61	0	52	0	0
5	X	61	0	52	1	0
6	N	28	0	25	0	0
6	O	28	0	25	1	0
6	P	28	0	25	2	0
6	R	28	0	25	1	0
6	T	28	0	25	0	0
6	U	28	0	25	0	0
6	V	28	0	25	0	0
6	W	28	0	25	0	0
6	Y	28	0	25	0	0
6	a	28	0	25	0	0
7	Q	39	0	34	0	0
7	Z	39	0	34	0	0
7	b	39	0	34	2	0
8	c	50	0	43	1	0
9	F	14	0	13	0	0
9	I	14	0	13	0	0
9	K	14	0	13	0	0
9	L	14	0	13	0	0
All	All	22784	0	21846	403	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 9.

All (403) 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:283:THR:HG22	1:C:285:MET:H	1.30	0.96
1:A:283:THR:HG22	1:A:285:MET:H	1.36	0.89
1:E:37:THR:HG22	1:E:320:LEU:H	1.37	0.88
1:E:283:THR:HG22	1:E:285:MET:H	1.43	0.82
2:I:36:TYR:HH	4:G:100(C):PHE:HD1	1.29	0.80
1:A:131:GLU:HB3	1:A:133(A):LEU:HD23	1.66	0.78
4:H:48:ILE:HA	4:H:63:PHE:HD2	1.49	0.77
1:E:279:THR:HB	1:E:281:CYS:H	1.51	0.75
2:L:120:PRO:HB3	2:L:131:SER:H	1.50	0.75
4:G:66:ARG:NH2	4:G:86:ASP:OD1	2.20	0.75
1:E:279:THR:HG21	1:E:287:ALA:HB1	1.70	0.74
3:B:150:GLU:HB3	7:b:1:NAG:H62	1.69	0.73
1:C:182:ILE:HD12	1:C:202:ILE:HD12	1.68	0.73
1:E:37:THR:CG2	1:E:320:LEU:H	2.01	0.73
1:A:182:ILE:HD12	1:A:202:ILE:HD12	1.69	0.73
2:K:149:LYS:HB2	2:K:193:THR:HG22	1.71	0.72
2:K:120:PRO:HB3	2:K:131:SER:H	1.53	0.72
4:G:70:THR:HG23	4:G:79:TYR:HB2	1.72	0.71
4:G:154:VAL:HG22	4:G:210:VAL:HG22	1.74	0.70
1:A:314:LEU:HD22	3:B:100:VAL:HG21	1.74	0.69
2:L:119:PRO:HB2	4:H:228:ARG:HH21	1.57	0.68
1:E:283:THR:HB	1:E:286:GLY:O	1.93	0.68
4:J:24:THR:HG22	4:J:76:SER:O	1.93	0.68
1:C:279:THR:HG21	1:C:287:ALA:HB1	1.76	0.67
2:L:90:GLN:HE21	2:L:97:THR:CG2	2.08	0.67
1:A:283:THR:HB	1:A:286:GLY:O	1.94	0.67
1:E:30:MET:HE2	3:D:51:LYS:NZ	2.08	0.67
1:A:294:PHE:CZ	3:B:59:MET:HE2	2.33	0.64
1:E:314:LEU:HD22	3:F:100:VAL:HG21	1.79	0.64
1:A:28:THR:HG22	1:A:30:MET:H	1.61	0.64
1:A:279:THR:HG21	1:A:287:ALA:HB1	1.78	0.64
4:H:12:VAL:HG21	4:H:82(C):LEU:HD13	1.80	0.64
3:D:176:GLY:O	3:D:177:ARG:HG3	1.98	0.64
1:C:56:VAL:HB	1:C:85:SER:HB3	1.79	0.63
1:E:37:THR:HG22	1:E:320:LEU:N	2.12	0.63
4:H:18:VAL:HG22	4:H:82(C):LEU:HD11	1.81	0.63
1:A:279:THR:HB	1:A:281:CYS:H	1.63	0.63
4:G:18:VAL:HG23	4:G:82:LEU:HB2	1.79	0.62
1:E:206:THR:HB	1:E:209:LEU:H	1.64	0.62
4:G:208:CYS:N	4:G:221:LYS:O	2.28	0.61
1:C:283:THR:HG22	1:C:285:MET:N	2.11	0.61
4:H:200:TRP:CD1	4:H:202:PRO:HA	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:TYR:CD1	1:A:230:MET:HE2	2.35	0.61
1:E:135:VAL:HG22	1:E:146:SER:HA	1.81	0.61
2:K:120:PRO:O	4:J:228:ARG:NH2	2.34	0.60
1:C:283:THR:HB	1:C:286:GLY:O	2.01	0.60
1:E:126:SER:O	1:E:166:ARG:NH2	2.35	0.59
2:K:113:PRO:HD3	2:K:198:HIS:CD2	2.37	0.59
4:H:19:LYS:HZ3	4:H:81:ASP:HB2	1.68	0.59
4:H:1:GLU:O	4:H:26:GLY:HA3	2.03	0.59
4:H:19:LYS:NZ	4:H:81:ASP:HB2	2.18	0.59
4:G:128:SER:OG	4:G:230:CYS:SG	2.61	0.59
4:J:137:MET:HE3	4:J:192:THR:HG22	1.85	0.58
1:C:121:ILE:HD11	1:C:176:LEU:HD11	1.84	0.58
4:G:142:CYS:HB2	4:G:157:TRP:CH2	2.39	0.58
4:H:200:TRP:CG	4:H:202:PRO:HA	2.38	0.58
1:C:135:VAL:HG22	1:C:146:SER:HA	1.86	0.58
1:E:182:ILE:HD12	1:E:202:ILE:HD12	1.85	0.58
2:L:90:GLN:HE21	2:L:97:THR:HG23	1.68	0.58
1:E:98:TYR:CD1	1:E:230:MET:HE2	2.39	0.57
4:J:145:LYS:HD2	4:J:179:GLN:HE22	1.69	0.57
1:A:42:ILE:HB	1:A:293:PRO:HG2	1.86	0.57
4:H:39:GLN:O	4:H:88:ALA:HB1	2.03	0.57
4:G:30:THR:HB	4:G:53:ASN:HB2	1.86	0.57
3:F:87:GLY:O	3:F:91:VAL:HG23	2.05	0.57
1:A:294:PHE:HZ	3:B:59:MET:HE2	1.68	0.57
2:L:116:SER:HA	2:L:207:LYS:HD2	1.87	0.57
2:I:95:PRO:O	2:I:97:THR:HG22	2.04	0.56
1:A:206:THR:HG22	1:A:207:SER:H	1.69	0.56
1:A:56:VAL:HB	1:A:85:SER:HB3	1.87	0.56
3:D:55:ILE:HG12	3:D:99:LEU:HD21	1.86	0.56
4:H:59:TYR:HD2	4:H:64:LYS:HD3	1.70	0.56
2:I:155:ARG:HH11	2:I:155:ARG:HG2	1.70	0.56
1:E:53:ASP:OD2	4:H:98:SER:OG	2.23	0.56
1:E:62:ARG:NH2	4:H:28:THR:HG21	2.21	0.56
2:L:192:TYR:HB2	2:L:209:PHE:CE1	2.41	0.55
3:D:19:ASP:OD1	3:D:19:ASP:N	2.33	0.55
2:I:90:GLN:HE21	2:I:97:THR:HG23	1.71	0.55
3:B:15:GLN:HG3	6:P:1:NAG:H83	1.89	0.55
1:E:120:LYS:HE2	1:E:150:ASN:OD1	2.05	0.55
4:G:133:GLN:NE2	4:G:134:THR:O	2.39	0.55
2:L:110:ASP:OD2	2:L:199:LYS:HE2	2.07	0.55
3:B:72:ASN:OD1	3:B:75:ARG:NH2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:48:ILE:HA	4:H:63:PHE:CD2	2.36	0.55
4:H:190:SER:O	4:H:190:SER:OG	2.22	0.55
4:J:51:ILE:HD13	4:J:71:VAL:HG23	1.89	0.55
1:E:56:VAL:HB	1:E:85:SER:HB3	1.89	0.55
4:G:18:VAL:HG22	4:G:82(C):LEU:HD11	1.88	0.55
1:C:279:THR:HB	1:C:281:CYS:H	1.72	0.54
2:I:27(C):ASP:OD2	2:I:31:SER:OG	2.24	0.54
1:A:283:THR:HG22	1:A:285:MET:N	2.15	0.54
1:C:15:ILE:HD11	3:D:122:VAL:HG21	1.87	0.54
1:C:206:THR:HG22	1:C:207:SER:H	1.72	0.54
4:J:30:THR:HB	4:J:53:ASN:HB2	1.90	0.54
2:L:35:TRP:CZ3	2:L:88:CYS:HB3	2.43	0.54
4:J:24:THR:HG21	4:J:29:PHE:CD1	2.43	0.54
1:E:200:THR:HA	1:E:248:ASN:HD21	1.73	0.54
2:L:49:TYR:CE1	2:L:53:ASN:HB2	2.43	0.53
2:K:213:GLU:HB3	4:J:230:CYS:SG	2.48	0.53
3:F:169:LYS:O	3:F:173:ILE:HG12	2.07	0.53
4:G:143:LEU:HD12	4:G:188:SER:HB3	1.88	0.53
4:J:36:TRP:CZ3	4:J:92:CYS:HB2	2.43	0.53
1:A:83:PRO:HG3	4:J:96:TYR:CZ	2.44	0.53
1:A:126:SER:O	1:A:166:ARG:NH2	2.40	0.53
2:I:19:ALA:HB3	2:I:75:ILE:HB	1.91	0.53
1:A:206:THR:HG22	1:A:207:SER:N	2.24	0.53
2:L:193:THR:HG23	2:L:208:SER:HB3	1.90	0.53
3:D:87:GLY:O	3:D:91:VAL:HG23	2.09	0.53
3:B:55:ILE:HG12	3:B:99:LEU:HD21	1.91	0.52
1:C:28:THR:HG22	1:C:30:MET:H	1.74	0.52
3:B:150:GLU:HG2	3:B:153:ARG:HH12	1.74	0.52
2:K:12:THR:HG23	2:K:105:GLU:HB3	1.91	0.52
1:C:98:TYR:CD1	1:C:230:MET:HE2	2.44	0.52
2:L:141:PRO:HD2	2:L:198:HIS:HE1	1.74	0.52
2:L:147:LYS:HE3	2:L:195:GLU:HB3	1.91	0.52
4:H:38:LYS:HB2	4:H:90:TYR:CE1	2.45	0.52
1:C:200:THR:HA	1:C:248:ASN:OD1	2.10	0.52
1:C:37:THR:HB	1:C:38:HIS:ND1	2.25	0.52
1:A:60:ILE:HD12	1:A:274:TYR:HB2	1.91	0.52
2:I:83:VAL:HG13	2:I:106:ILE:HG12	1.91	0.52
1:A:200:THR:HA	1:A:248:ASN:OD1	2.10	0.51
1:A:108:LEU:HB2	1:A:234:TRP:CZ2	2.46	0.51
4:H:33:THR:CG2	4:H:95:ASN:HD22	2.23	0.51
1:E:102:PHE:O	1:E:105:TYR:HB2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:35:TRP:CZ3	2:K:88:CYS:HB3	2.46	0.51
4:G:24:THR:HG22	4:G:76:SER:O	2.11	0.51
1:E:121:ILE:HD11	1:E:176:LEU:HD11	1.93	0.51
2:L:124:GLN:NE2	2:L:131:SER:OG	2.38	0.51
1:E:30:MET:HE2	3:D:51:LYS:HZ1	1.76	0.51
4:J:142:CYS:HB2	4:J:157:TRP:CH2	2.46	0.51
1:A:56:VAL:HG23	2:K:30:LYS:HZ1	1.75	0.51
2:L:193:THR:HG22	2:L:194:CYS:H	1.74	0.51
1:C:206:THR:HG22	1:C:207:SER:N	2.25	0.50
1:E:251:PHE:CE2	1:E:253:ALA:HB2	2.47	0.50
1:C:60:ILE:HD12	1:C:274:TYR:HB2	1.93	0.50
2:I:35:TRP:CZ3	2:I:88:CYS:HB3	2.47	0.50
4:H:12:VAL:HG23	4:H:111:VAL:HG22	1.93	0.50
4:J:36:TRP:CH2	4:J:92:CYS:HB2	2.46	0.50
1:C:294:PHE:CZ	3:D:59:MET:HE2	2.47	0.50
3:F:19:ASP:OD1	3:F:19:ASP:N	2.44	0.50
1:C:206:THR:HB	1:C:209:LEU:H	1.77	0.50
1:E:60:ILE:HD12	1:E:274:TYR:HB2	1.94	0.50
2:I:89:GLN:HB2	2:I:98:PHE:CD2	2.47	0.50
1:E:18:HIS:HB2	3:F:20:GLY:O	2.12	0.50
3:B:94:TYR:CZ	3:B:98:LEU:HD22	2.46	0.50
4:J:176:ALA:HA	4:J:187:LEU:HB3	1.94	0.50
1:E:206:THR:HG22	1:E:207:SER:H	1.76	0.50
4:G:52:PHE:CE2	4:G:53:ASN:HB3	2.47	0.50
2:L:27(B):VAL:O	2:L:27(B):VAL:HG22	2.12	0.50
2:K:17:GLN:O	2:K:78:VAL:HG23	2.12	0.50
3:B:99:LEU:HD13	3:D:98:LEU:HD21	1.93	0.50
2:L:166:GLN:HB2	2:L:173:TYR:CE1	2.47	0.49
2:I:141:PRO:HD2	2:I:198:HIS:HE1	1.77	0.49
2:I:142:LYS:HB3	2:I:173:TYR:CZ	2.47	0.49
3:F:150:GLU:HG2	3:F:153:ARG:HH12	1.77	0.49
2:L:13:VAL:HG11	2:L:78:VAL:HG21	1.93	0.49
2:I:198:HIS:ND1	2:I:199:LYS:N	2.59	0.49
4:G:138:VAL:HG12	4:G:195:SER:HA	1.93	0.49
1:A:200:THR:OG1	1:A:215:PRO:HG3	2.12	0.49
4:J:145:LYS:HG3	4:J:186:THR:OG1	2.12	0.49
1:C:164:ILE:O	1:C:246:GLU:HA	2.12	0.49
1:E:57:LYS:HE3	4:H:32:TYR:CE2	2.47	0.49
4:H:93:VAL:HG11	4:H:100(C):PHE:HB3	1.94	0.49
4:H:137:MET:HE3	4:H:192:THR:HG22	1.95	0.49
1:A:15:ILE:HG12	3:B:119:TYR:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:148:TRP:CE3	2:L:179:LEU:HD13	2.47	0.49
4:G:200:TRP:CG	4:G:202:PRO:HA	2.48	0.49
4:G:140:LEU:HD22	4:G:223:ILE:HG21	1.94	0.49
1:E:206:THR:HG22	1:E:207:SER:N	2.27	0.48
4:G:37:MET:HE3	4:G:46:GLU:O	2.13	0.48
4:J:18:VAL:HG23	4:J:82:LEU:HB2	1.95	0.48
1:E:147:PHE:CE1	1:E:230:MET:HE3	2.48	0.48
3:B:151:SER:HB2	3:B:156:THR:HG22	1.94	0.48
4:J:52:PHE:CE2	4:J:53:ASN:HB3	2.48	0.48
2:I:59:PRO:HG2	2:I:62:PHE:CE2	2.48	0.48
1:A:189:ALA:O	1:A:192:THR:HG22	2.12	0.48
3:D:150:GLU:HG2	3:D:153:ARG:HH12	1.77	0.48
4:H:51:ILE:HD13	4:H:71:VAL:HG23	1.96	0.48
2:K:183:LYS:NZ	2:K:184:ASP:OD1	2.42	0.48
4:G:190:SER:O	4:G:190:SER:OG	2.32	0.48
4:J:34:ILE:HG22	4:J:51:ILE:HG22	1.96	0.48
4:G:35:HIS:CD2	4:G:95:ASN:HB3	2.49	0.48
4:J:150:GLU:OE1	4:J:151:PRO:HA	2.14	0.48
4:G:34:ILE:HD13	4:G:93:VAL:O	2.13	0.47
1:A:268:MET:HG2	1:A:284:PRO:HG3	1.95	0.47
8:c:2:NAG:H4	8:c:3:MAN:O2	2.13	0.47
1:C:83:PRO:HG3	4:G:96:TYR:CZ	2.50	0.47
1:A:28:THR:HG22	1:A:30:MET:N	2.29	0.47
1:C:71:LEU:HD23	1:C:179:LEU:HD23	1.96	0.47
2:L:135:PHE:CD2	4:H:190:SER:HB2	2.49	0.47
2:I:88:CYS:O	2:I:99:GLY:N	2.45	0.47
2:K:49:TYR:CE1	2:K:53:ASN:HB2	2.49	0.47
3:F:84:MET:HE3	3:F:88:PHE:CE2	2.49	0.47
1:A:127:TRP:CZ2	1:A:154:LEU:HD11	2.49	0.47
2:L:195:GLU:HG3	2:L:206:VAL:HG22	1.96	0.47
3:D:169:LYS:O	3:D:173:ILE:HG13	2.14	0.47
4:H:183:ASP:O	4:H:184:LEU:HD23	2.15	0.47
4:G:12:VAL:HG21	4:G:82(C):LEU:HD13	1.97	0.47
1:E:294:PHE:HZ	3:F:59:MET:HE2	1.80	0.47
2:K:121:SER:OG	2:K:123:GLU:OE1	2.32	0.47
4:G:208:CYS:O	4:G:220:ASP:HA	2.14	0.47
4:J:200:TRP:CG	4:J:202:PRO:HA	2.50	0.47
1:C:183:HIS:HB2	1:C:252:ILE:HD11	1.97	0.47
4:J:140:LEU:HD22	4:J:223:ILE:HG21	1.96	0.47
4:H:48:ILE:HG12	4:H:63:PHE:CD2	2.50	0.47
4:J:36:TRP:HA	4:J:91:TYR:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:27(B):VAL:HG23	2:I:92:ASN:HB2	1.98	0.46
2:I:90:GLN:HE21	2:I:97:THR:CG2	2.27	0.46
4:H:29:PHE:CD2	4:H:76:SER:HA	2.50	0.46
2:L:53:ASN:OD1	2:L:53:ASN:N	2.47	0.46
2:L:169:LYS:HD2	2:L:169:LYS:HA	1.79	0.46
4:G:23:LYS:HG3	4:G:77:THR:OG1	2.15	0.46
4:G:66:ARG:HE	4:G:66:ARG:HB2	1.47	0.46
4:J:114:ALA:HB3	4:J:148:PHE:CE2	2.50	0.46
1:C:18:HIS:HD2	1:C:37:THR:HG21	1.81	0.46
2:L:33:MET:HB3	2:L:51:ALA:HB2	1.96	0.46
2:I:11:LEU:O	2:I:104:LEU:HD12	2.16	0.46
2:L:24:ARG:NH1	2:L:70:ASP:HB3	2.31	0.46
2:K:14:SER:OG	2:K:17:GLN:HG3	2.15	0.46
2:L:89:GLN:NE2	4:H:100(C):PHE:HE1	2.13	0.46
2:I:149:LYS:HB2	2:I:193:THR:HB	1.96	0.46
4:J:18:VAL:HG22	4:J:82(C):LEU:HD11	1.97	0.46
5:X:1:NAG:H61	5:X:2:NAG:HN2	1.80	0.46
1:E:137:SER:HA	1:E:145:SER:HB2	1.97	0.46
3:D:175:SER:OG	3:D:177:ARG:O	2.34	0.46
1:A:51:LEU:HD13	1:A:88:VAL:HG21	1.98	0.46
1:E:48:ASN:OD1	1:E:48:ASN:C	2.59	0.46
1:E:294:PHE:CZ	3:F:59:MET:HE2	2.50	0.46
2:L:167:ASP:HB3	2:L:170:ASP:OD1	2.16	0.46
4:H:60:ASN:OD1	4:H:61:GLN:N	2.49	0.46
1:E:100:GLY:HA3	1:E:230:MET:O	2.16	0.46
4:J:33:THR:CG2	4:J:95:ASN:HD22	2.28	0.46
3:B:87:GLY:O	3:B:91:VAL:HG23	2.17	0.45
1:A:135:VAL:HG22	1:A:146:SER:HA	1.98	0.45
2:K:144:ILE:HD13	2:K:198:HIS:CD2	2.52	0.45
3:D:59:MET:HE3	3:D:62:GLN:OE1	2.16	0.45
3:B:76:ARG:HH22	3:F:74:GLU:CD	2.22	0.45
3:B:38:LYS:HB2	3:B:38:LYS:HE2	1.72	0.45
3:F:128:ASP:O	3:F:170:ARG:NH1	2.50	0.45
4:G:82:LEU:HA	4:G:82:LEU:HD23	1.61	0.45
4:G:126:PRO:O	4:G:228:ARG:HG3	2.17	0.45
2:K:46:LEU:HD22	4:J:101:ASP:HA	1.98	0.45
3:D:159:TYR:HB3	3:D:160:PRO:HD3	1.99	0.45
1:E:28:THR:HG22	1:E:30:MET:H	1.82	0.45
2:K:3:VAL:HB	2:K:26:SER:HB3	1.98	0.45
2:L:135:PHE:C	2:L:136:LEU:HD12	2.42	0.45
2:K:4:LEU:HD22	2:K:23:CYS:SG	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:37:MET:HE3	4:H:46:GLU:O	2.17	0.45
4:J:37:MET:HG3	4:J:103:TRP:CZ3	2.52	0.45
1:A:299:PRO:HB3	1:A:308:TYR:CD2	2.52	0.45
2:I:14:SER:OG	2:I:17:GLN:HG3	2.17	0.45
2:I:49:TYR:CE1	2:I:53:ASN:HB2	2.52	0.45
4:J:128:SER:HB2	4:J:228:ARG:O	2.17	0.45
2:L:34:HIS:O	2:L:88:CYS:HA	2.17	0.44
2:I:155:ARG:HG2	2:I:155:ARG:NH1	2.32	0.44
3:B:19:ASP:OD1	3:B:19:ASP:N	2.40	0.44
4:H:30:THR:HB	4:H:53:ASN:HB2	1.99	0.44
1:A:29:ILE:HD13	3:F:103:GLU:OE2	2.17	0.44
1:A:176:LEU:HD23	1:A:258:TYR:O	2.17	0.44
1:C:314:LEU:HD22	3:D:100:VAL:HG21	2.00	0.44
3:B:142:HIS:HB2	3:B:165:GLU:CD	2.43	0.44
3:F:26:HIS:HB2	3:F:149:MET:SD	2.57	0.44
4:J:93:VAL:HG11	4:J:100(C):PHE:HB3	1.99	0.44
1:A:183:HIS:HB2	1:A:252:ILE:HD11	1.99	0.44
1:C:28:THR:HG22	1:C:31:GLU:H	1.83	0.44
1:E:117:HIS:ND1	1:E:260(A):VAL:HG11	2.31	0.44
3:F:80:LEU:O	3:F:80:LEU:HD12	2.16	0.44
2:I:89:GLN:NE2	4:G:100(C):PHE:HE1	2.16	0.44
1:E:114:ARG:NH2	1:E:264:ASP:OD1	2.50	0.44
2:K:89:GLN:NE2	4:J:100(C):PHE:HE1	2.16	0.44
2:K:124:GLN:HG3	4:J:122:TYR:CE2	2.53	0.44
4:H:142:CYS:HB2	4:H:157:TRP:CH2	2.52	0.44
4:G:60:ASN:OD1	4:G:61:GLN:N	2.51	0.44
4:J:176:ALA:HB2	4:J:187:LEU:HD23	2.00	0.44
1:E:214:VAL:HG13	1:E:215:PRO:HD2	2.00	0.44
2:L:90:GLN:HE21	2:L:97:THR:HG22	1.82	0.44
4:H:52:PHE:CE2	4:H:53:ASN:HB3	2.53	0.44
1:E:176:LEU:HD23	1:E:178:VAL:HG22	2.00	0.44
2:I:59:PRO:HG2	2:I:62:PHE:HE2	1.82	0.44
1:A:112:LEU:HD23	1:A:112:LEU:HA	1.84	0.43
3:F:119:TYR:CE2	3:F:136:GLY:HA2	2.53	0.43
4:J:82:LEU:HD23	4:J:82:LEU:HA	1.77	0.43
4:G:153:THR:O	4:G:210:VAL:HA	2.19	0.43
1:A:117:HIS:ND1	1:A:260(A):VAL:HG11	2.33	0.43
1:C:14:CYS:O	3:D:24:TYR:HA	2.18	0.43
1:E:112:LEU:HA	1:E:112:LEU:HD23	1.82	0.43
2:L:148:TRP:CD2	2:L:179:LEU:HD13	2.53	0.43
1:A:236:ILE:HD13	1:A:236:ILE:HA	1.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:39:LYS:NZ	2:L:39:LYS:HB3	2.33	0.43
4:G:2:VAL:HG12	4:G:27:TYR:HD1	1.82	0.43
1:A:73:ASN:HA	1:A:74:PRO:HD2	1.80	0.43
2:L:111:ALA:O	2:L:200:THR:HG21	2.17	0.43
3:F:107:THR:O	3:F:110:PHE:HB3	2.17	0.43
4:H:48:ILE:HG12	4:H:63:PHE:CE2	2.54	0.43
4:G:34:ILE:HG21	4:G:78:ALA:CB	2.49	0.43
1:A:147:PHE:CZ	1:A:230:MET:HE3	2.54	0.43
2:L:150:ILE:HG12	2:L:192:TYR:CD1	2.53	0.43
3:B:170:ARG:O	3:B:173:ILE:HG22	2.18	0.43
1:C:26:VAL:HB	3:D:104:ASN:ND2	2.34	0.43
2:I:140:TYR:CG	2:I:141:PRO:HA	2.53	0.43
4:H:137:MET:SD	4:H:194:PRO:HA	2.59	0.43
4:G:93:VAL:HG11	4:G:100(C):PHE:HB3	2.00	0.43
1:E:283:THR:HG23	1:E:284:PRO:HD2	2.01	0.43
3:D:101:LEU:HD23	3:D:101:LEU:HA	1.80	0.43
1:C:285:MET:HA	1:C:285:MET:HE2	2.00	0.43
2:K:164:THR:HG23	4:J:174:PHE:CD1	2.54	0.43
3:B:57:ASP:O	3:B:60:ASN:HB2	2.19	0.43
3:F:159:TYR:HB3	3:F:160:PRO:HD3	2.01	0.43
4:J:93:VAL:HG21	4:J:103:TRP:CE3	2.53	0.43
1:C:28:THR:CG2	1:C:30:MET:H	2.32	0.42
2:K:47:LEU:HD23	2:K:58:ILE:HD12	2.01	0.42
2:K:107:LYS:HA	2:K:140:TYR:OH	2.19	0.42
4:H:73:ARG:H	4:H:73:ARG:HG2	1.49	0.42
4:J:167:SER:O	4:J:171:VAL:HG23	2.19	0.42
1:C:42:ILE:HB	1:C:293:PRO:HG2	2.01	0.42
1:C:189:ALA:O	1:C:192:THR:HG22	2.19	0.42
2:L:62:PHE:CD1	2:L:75:ILE:HG12	2.55	0.42
3:B:2:LEU:O	3:F:113:SER:OG	2.34	0.42
4:G:200:TRP:CD1	4:G:202:PRO:HA	2.54	0.42
1:E:131:GLU:HB3	1:E:133(A):LEU:HG	2.01	0.42
2:K:186:TYR:HE1	2:K:192:TYR:CE2	2.37	0.42
3:F:84:MET:HE3	3:F:88:PHE:CD2	2.54	0.42
7:b:2:NAG:H4	7:b:3:MAN:H2	1.27	0.42
1:A:118:PHE:CD1	1:A:258:TYR:HB3	2.55	0.42
4:G:66:ARG:H	4:G:66:ARG:HG3	1.59	0.42
4:G:148:PHE:HA	4:G:149:PRO:HA	1.75	0.42
1:A:37:THR:HB	1:A:38:HIS:ND1	2.33	0.42
2:L:59:PRO:HG2	2:L:62:PHE:CE2	2.55	0.42
2:L:186:TYR:CE1	2:L:192:TYR:CE2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:J:2:VAL:HG13	4:J:27:TYR:HD1	1.84	0.42
1:E:20:ASN:C	1:E:20:ASN:OD1	2.61	0.42
2:I:162:SER:OG	4:G:175:PRO:HG2	2.19	0.42
4:H:93:VAL:CG1	4:H:100(C):PHE:HB3	2.50	0.42
6:R:1:NAG:H61	6:R:2:NAG:HN2	1.84	0.42
1:A:299:PRO:HB3	1:A:308:TYR:CE2	2.54	0.42
1:E:42:ILE:HB	1:E:293:PRO:HG2	2.01	0.42
2:L:119:PRO:HB3	2:L:209:PHE:CE2	2.55	0.42
3:F:68:ARG:NH1	3:F:81:ASN:OD1	2.53	0.42
3:F:150:GLU:HG2	3:F:153:ARG:NH1	2.34	0.42
1:C:44:GLU:HB2	1:C:292:MET:HG3	2.00	0.42
2:I:195:GLU:HG3	2:I:206:VAL:HG22	2.01	0.42
2:K:113:PRO:HD3	2:K:198:HIS:HD2	1.82	0.42
4:J:148:PHE:HA	4:J:149:PRO:HA	1.76	0.42
1:C:135:VAL:HG22	1:C:146:SER:CA	2.49	0.42
3:D:38:LYS:H	3:D:38:LYS:HG3	1.48	0.42
4:H:19:LYS:HE2	4:H:81:ASP:OD1	2.20	0.42
1:C:279:THR:CG2	1:C:287:ALA:HB1	2.47	0.42
2:I:27(B):VAL:O	2:I:27(B):VAL:HG22	2.19	0.42
2:K:27(C):ASP:OD2	2:K:31:SER:OG	2.23	0.42
1:A:127:TRP:CE2	1:A:154:LEU:HD11	2.55	0.41
3:D:85:GLU:O	3:D:89:LEU:HG	2.19	0.41
1:A:131:GLU:HG2	1:A:157:LYS:HG3	2.02	0.41
2:L:27(B):VAL:HG23	2:L:92:ASN:HB2	2.02	0.41
1:A:48:ASN:OD1	1:A:48:ASN:C	2.63	0.41
1:E:200:THR:OG1	1:E:215:PRO:HG3	2.19	0.41
2:L:118:PHE:HA	2:L:119:PRO:HD3	1.87	0.41
2:L:119:PRO:HG3	2:L:209:PHE:CD2	2.55	0.41
6:O:1:NAG:H62	6:O:2:NAG:H82	2.01	0.41
1:C:197:ASN:HA	1:C:198:PRO:HD3	1.93	0.41
4:J:33:THR:HG23	4:J:95:ASN:HD22	1.86	0.41
1:E:18:HIS:HD2	1:E:37:THR:OG1	2.03	0.41
2:L:18:ARG:O	2:L:18:ARG:HG3	2.20	0.41
2:L:87:PHE:CE1	2:L:101:GLY:HA3	2.56	0.41
2:L:193:THR:HG22	2:L:194:CYS:N	2.34	0.41
1:A:20:ASN:HA	6:P:1:NAG:H82	2.03	0.41
1:A:28:THR:CG2	1:A:30:MET:H	2.29	0.41
4:G:48:ILE:HD12	4:G:80:MET:HE1	2.02	0.41
1:A:283:THR:CG2	1:A:285:MET:H	2.21	0.41
4:J:146:GLY:HA2	4:J:184:LEU:HB3	2.02	0.41
1:A:42:ILE:HB	1:A:293:PRO:CG	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:28:THR:HG22	1:E:31:GLU:H	1.85	0.41
1:E:183:HIS:HB2	1:E:252:ILE:HD11	2.02	0.41
3:F:22:TYR:HH	3:F:111:HIS:HD1	1.64	0.41
4:H:36:TRP:CZ3	4:H:92:CYS:HB2	2.56	0.41
4:H:157:TRP:CZ2	4:H:191:VAL:HG12	2.56	0.41
4:G:37:MET:HE3	4:G:37:MET:HB3	1.82	0.41
1:A:96(A):LEU:HD23	1:A:96(A):LEU:HA	1.84	0.41
1:E:29:ILE:HD12	3:F:105:GLU:OE2	2.21	0.41
2:I:89:GLN:HG3	2:I:98:PHE:CE1	2.55	0.41
3:D:62:GLN:HG3	3:D:92:TRP:CD2	2.56	0.41
4:H:24:THR:HG22	4:H:76:SER:OG	2.21	0.41
4:H:95:ASN:HA	4:H:100(C):PHE:HA	2.02	0.41
4:G:24:THR:HG21	4:G:29:PHE:CD1	2.56	0.41
1:C:53:ASP:OD2	4:G:98:SER:OG	2.32	0.40
4:J:70:THR:OG1	4:J:79:TYR:HB2	2.21	0.40
1:A:135:VAL:HG13	1:A:136:SER:N	2.37	0.40
1:E:44:GLU:HB2	1:E:292:MET:HG3	2.03	0.40
2:I:27(D):ASN:O	2:I:28:PHE:HB2	2.22	0.40
1:C:51:LEU:HD22	1:C:268:MET:HE1	2.02	0.40
1:E:29:ILE:H	1:E:29:ILE:HG13	1.47	0.40
2:L:4:LEU:HD23	2:L:4:LEU:HA	1.73	0.40
3:B:76:ARG:NH2	3:F:74:GLU:OE2	2.44	0.40
3:F:55:ILE:HG12	3:F:99:LEU:HD21	2.04	0.40
4:H:11:LEU:HA	4:H:110:THR:O	2.21	0.40
4:H:33:THR:HG23	4:H:95:ASN:HD22	1.86	0.40
4:H:176:ALA:HA	4:H:187:LEU:HB3	2.03	0.40
4:H:212:HIS:HA	4:H:213:PRO:HD2	1.96	0.40
4:J:200:TRP:CD1	4:J:202:PRO:HA	2.56	0.40
1:A:134:GLY:HA3	1:A:153:TRP:HB3	2.04	0.40
1:E:138:ALA:HB2	1:E:226:GLN:HG2	2.04	0.40
2:L:95:PRO:O	2:L:97:THR:HG22	2.21	0.40
2:K:167:ASP:HB3	2:K:170:ASP:OD1	2.21	0.40
4:H:66:ARG:H	4:H:66:ARG:HG3	1.53	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	322/334 (96%)	304 (94%)	17 (5%)	1 (0%)	36	65
1	C	322/334 (96%)	303 (94%)	18 (6%)	1 (0%)	36	65
1	E	322/334 (96%)	304 (94%)	16 (5%)	2 (1%)	21	54
2	I	215/218 (99%)	194 (90%)	19 (9%)	2 (1%)	14	47
2	K	215/218 (99%)	197 (92%)	18 (8%)	0	100	100
2	L	215/218 (99%)	197 (92%)	18 (8%)	0	100	100
3	B	175/181 (97%)	170 (97%)	5 (3%)	0	100	100
3	D	175/181 (97%)	171 (98%)	3 (2%)	1 (1%)	21	54
3	F	175/181 (97%)	170 (97%)	5 (3%)	0	100	100
4	G	220/222 (99%)	189 (86%)	28 (13%)	3 (1%)	9	38
4	H	220/222 (99%)	190 (86%)	26 (12%)	4 (2%)	6	34
4	J	220/222 (99%)	192 (87%)	23 (10%)	5 (2%)	5	30
All	All	2796/2865 (98%)	2581 (92%)	196 (7%)	19 (1%)	18	51

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	323	SER
4	H	135	ASN
4	J	129	ALA
4	H	229	ASP
4	G	96	TYR
4	J	96	TYR
4	J	168	SER
1	A	144	LYS
1	C	144	LYS
1	E	144	LYS
4	H	96	TYR
4	G	129	ALA

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Mol	Chain	Res	Type
2	I	138	ASN
2	I	158	GLY
4	H	41	HIS
4	G	229	ASP
4	J	82(B)	SER
3	D	12	GLY
4	J	151	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	291/300 (97%)	281 (97%)	10 (3%)	32	57
1	C	291/300 (97%)	280 (96%)	11 (4%)	29	55
1	E	291/300 (97%)	280 (96%)	11 (4%)	29	55
2	I	190/191 (100%)	179 (94%)	11 (6%)	18	45
2	K	190/191 (100%)	178 (94%)	12 (6%)	16	43
2	L	190/191 (100%)	172 (90%)	18 (10%)	8	32
3	B	151/155 (97%)	147 (97%)	4 (3%)	40	62
3	D	151/155 (97%)	148 (98%)	3 (2%)	48	66
3	F	151/155 (97%)	150 (99%)	1 (1%)	76	78
4	G	193/193 (100%)	171 (89%)	22 (11%)	5	26
4	H	193/193 (100%)	168 (87%)	25 (13%)	4	21
4	J	193/193 (100%)	175 (91%)	18 (9%)	8	32
All	All	2475/2517 (98%)	2329 (94%)	146 (6%)	18	45

All (146) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	28	THR
1	A	29	ILE
1	A	37	THR

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Mol	Chain	Res	Type
1	A	135	VAL
1	A	174	GLU
1	A	176	LEU
1	A	192	THR
1	A	221	SER
1	A	261	LYS
1	A	291	SER
1	C	28	THR
1	C	29	ILE
1	C	37	THR
1	C	135	VAL
1	C	158	ASN
1	C	174	GLU
1	C	176	LEU
1	C	221	SER
1	C	261	LYS
1	C	283	THR
1	C	291	SER
1	E	28	THR
1	E	29	ILE
1	E	120	LYS
1	E	135	VAL
1	E	155	ILE
1	E	159	SER
1	E	174	GLU
1	E	176	LEU
1	E	192	THR
1	E	261	LYS
1	E	291	SER
2	L	14	SER
2	L	24	ARG
2	L	30	LYS
2	L	39	LYS
2	L	42	GLN
2	L	43	SER
2	L	53	ASN
2	L	69	THR
2	L	70	ASP
2	L	83	VAL
2	L	97	THR
2	L	116	SER
2	L	142	LYS

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Mol	Chain	Res	Type
2	L	184	ASP
2	L	197	THR
2	L	202	THR
2	L	207	LYS
2	L	213	GLU
2	I	20	THR
2	I	39	LYS
2	I	42	GLN
2	I	53	ASN
2	I	83	VAL
2	I	97	THR
2	I	117	ILE
2	I	132	VAL
2	I	199	LYS
2	I	207	LYS
2	I	213	GLU
2	K	15	LEU
2	K	24	ARG
2	K	39	LYS
2	K	42	GLN
2	K	53	ASN
2	K	83	VAL
2	K	105	GLU
2	K	117	ILE
2	K	165	ASP
2	K	178	THR
2	K	193	THR
2	K	207	LYS
3	B	38	LYS
3	B	80	LEU
3	B	156	THR
3	B	173	ILE
3	D	38	LYS
3	D	80	LEU
3	D	156	THR
3	F	80	LEU
4	H	1	GLU
4	H	2	VAL
4	H	11	LEU
4	H	12	VAL
4	H	18	VAL
4	H	24	THR

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Mol	Chain	Res	Type
4	H	30	THR
4	H	33	THR
4	H	34	ILE
4	H	58	THR
4	H	71	VAL
4	H	73	ARG
4	H	75	SER
4	H	109	VAL
4	H	113	SER
4	H	144	VAL
4	H	166	LEU
4	H	177	VAL
4	H	190	SER
4	H	195	SER
4	H	204	GLU
4	H	209	ASN
4	H	218	LYS
4	H	222	LYS
4	H	229	ASP
4	G	2	VAL
4	G	11	LEU
4	G	12	VAL
4	G	18	VAL
4	G	34	ILE
4	G	58	THR
4	G	62	LYS
4	G	64	LYS
4	G	66	ARG
4	G	70	THR
4	G	71	VAL
4	G	79	TYR
4	G	108	THR
4	G	109	VAL
4	G	115	LYS
4	G	134	THR
4	G	144	VAL
4	G	177	VAL
4	G	191	VAL
4	G	218	LYS
4	G	221	LYS
4	G	228	ARG
4	J	5	GLN

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Mol	Chain	Res	Type
4	J	12	VAL
4	J	18	VAL
4	J	23	LYS
4	J	34	ILE
4	J	41	HIS
4	J	58	THR
4	J	74	SER
4	J	108	THR
4	J	109	VAL
4	J	134	THR
4	J	138	VAL
4	J	166	LEU
4	J	177	VAL
4	J	191	VAL
4	J	209	ASN
4	J	218	LYS
4	J	229	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	142	GLN
1	A	196	GLN
1	A	276	ASN
1	C	95	ASN
1	C	122	GLN
1	C	172	ASN
1	C	211	GLN
1	C	226	GLN
1	C	276	ASN
1	E	110	HIS
1	E	276	ASN
2	L	27(D)	ASN
2	L	38	GLN
2	L	92	ASN
2	L	161	ASN
2	L	190	ASN
2	L	210	ASN
2	I	27(D)	ASN
2	I	38	GLN
2	I	53	ASN
2	K	17	GLN

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Mol	Chain	Res	Type
2	K	38	GLN
2	K	190	ASN
3	B	146	ASN
3	F	30	GLN
3	F	146	ASN
4	H	39	GLN
4	H	95	ASN
4	H	172	HIS
4	G	39	GLN
4	G	61	GLN
4	G	95	ASN
4	J	39	GLN
4	J	95	ASN
4	J	135	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

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	$\# Z > 2$
5	NAG	M	1	5,1	14,14,15	0.33	0	17,19,21	0.66	1 (5%)
5	NAG	M	2	5	14,14,15	0.51	0	17,19,21	0.50	0
5	MAN	M	3	5	11,11,12	2.00	3 (27%)	15,15,17	1.70	4 (26%)
5	MAN	M	4	5	11,11,12	1.25	1 (9%)	15,15,17	1.39	2 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	MAN	M	5	5	11,11,12	1.01	1 (9%)	15,15,17	0.86	0
6	NAG	N	1	6,1	14,14,15	0.21	0	17,19,21	0.43	0
6	NAG	N	2	6	14,14,15	0.21	0	17,19,21	0.39	0
6	NAG	O	1	6,1	14,14,15	0.67	1 (7%)	17,19,21	0.58	0
6	NAG	O	2	6	14,14,15	0.56	0	17,19,21	0.44	0
6	NAG	P	1	6,1	14,14,15	0.37	0	17,19,21	0.44	0
6	NAG	P	2	6	14,14,15	0.58	0	17,19,21	0.45	0
7	NAG	Q	1	7,1	14,14,15	0.25	0	17,19,21	0.40	0
7	NAG	Q	2	7	14,14,15	0.40	0	17,19,21	0.46	0
7	MAN	Q	3	7	11,11,12	1.54	4 (36%)	15,15,17	1.67	4 (26%)
6	NAG	R	1	6,1	14,14,15	0.24	0	17,19,21	0.54	0
6	NAG	R	2	6	14,14,15	0.23	0	17,19,21	0.42	0
5	NAG	S	1	5,1	14,14,15	0.49	0	17,19,21	0.48	0
5	NAG	S	2	5	14,14,15	0.76	1 (7%)	17,19,21	0.77	0
5	MAN	S	3	5	11,11,12	1.89	4 (36%)	15,15,17	1.37	3 (20%)
5	MAN	S	4	5	11,11,12	1.49	2 (18%)	15,15,17	1.45	1 (6%)
5	MAN	S	5	5	11,11,12	1.60	2 (18%)	15,15,17	1.29	1 (6%)
6	NAG	T	1	6,1	14,14,15	0.24	0	17,19,21	0.43	0
6	NAG	T	2	6	14,14,15	0.21	0	17,19,21	0.37	0
6	NAG	U	1	6,1	14,14,15	0.35	0	17,19,21	0.37	0
6	NAG	U	2	6	14,14,15	0.64	0	17,19,21	0.57	0
6	NAG	V	1	6,1	14,14,15	0.34	0	17,19,21	0.54	0
6	NAG	V	2	6	14,14,15	0.27	0	17,19,21	0.38	0
6	NAG	W	1	6,1	14,14,15	0.35	0	17,19,21	0.34	0
6	NAG	W	2	6	14,14,15	0.20	0	17,19,21	0.41	0
5	NAG	X	1	5,1	14,14,15	0.33	0	17,19,21	0.52	0
5	NAG	X	2	5	14,14,15	0.85	1 (7%)	17,19,21	0.72	0
5	MAN	X	3	5	11,11,12	1.85	3 (27%)	15,15,17	1.70	3 (20%)
5	MAN	X	4	5	11,11,12	1.41	2 (18%)	15,15,17	1.36	1 (6%)
5	MAN	X	5	5	11,11,12	1.73	3 (27%)	15,15,17	1.52	3 (20%)
6	NAG	Y	1	6,1	14,14,15	0.68	1 (7%)	17,19,21	0.76	0
6	NAG	Y	2	6	14,14,15	1.18	1 (7%)	17,19,21	1.08	1 (5%)
7	NAG	Z	1	7,1	14,14,15	0.43	0	17,19,21	0.56	0
7	NAG	Z	2	7	14,14,15	0.37	0	17,19,21	0.51	0
7	MAN	Z	3	7	11,11,12	2.19	6 (54%)	15,15,17	2.04	1 (6%)
6	NAG	a	1	6,1	14,14,15	0.21	0	17,19,21	0.55	0
6	NAG	a	2	6	14,14,15	0.24	0	17,19,21	0.37	0
7	NAG	b	1	7,3	14,14,15	0.36	0	17,19,21	0.60	0
7	NAG	b	2	7	14,14,15	0.48	0	17,19,21	1.36	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	MAN	b	3	7	11,11,12	1.87	2 (18%)	15,15,17	1.77	2 (13%)
8	NAG	c	1	3,8	14,14,15	0.45	0	17,19,21	0.55	0
8	NAG	c	2	8	14,14,15	0.48	0	17,19,21	1.06	1 (5%)
8	MAN	c	3	8	11,11,12	1.98	3 (27%)	15,15,17	1.93	5 (33%)
8	MAN	c	4	8	11,11,12	1.62	3 (27%)	15,15,17	1.03	1 (6%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	M	1	5,1	-	2/6/23/26	0/1/1/1
5	NAG	M	2	5	-	0/6/23/26	0/1/1/1
5	MAN	M	3	5	-	2/2/19/22	0/1/1/1
5	MAN	M	4	5	-	1/2/19/22	0/1/1/1
5	MAN	M	5	5	-	2/2/19/22	0/1/1/1
6	NAG	N	1	6,1	-	2/6/23/26	0/1/1/1
6	NAG	N	2	6	-	2/6/23/26	0/1/1/1
6	NAG	O	1	6,1	-	3/6/23/26	0/1/1/1
6	NAG	O	2	6	-	2/6/23/26	0/1/1/1
6	NAG	P	1	6,1	-	0/6/23/26	0/1/1/1
6	NAG	P	2	6	-	2/6/23/26	0/1/1/1
7	NAG	Q	1	7,1	-	2/6/23/26	0/1/1/1
7	NAG	Q	2	7	-	2/6/23/26	0/1/1/1
7	MAN	Q	3	7	-	2/2/19/22	0/1/1/1
6	NAG	R	1	6,1	-	0/6/23/26	0/1/1/1
6	NAG	R	2	6	-	2/6/23/26	0/1/1/1
5	NAG	S	1	5,1	-	2/6/23/26	0/1/1/1
5	NAG	S	2	5	-	0/6/23/26	0/1/1/1
5	MAN	S	3	5	-	2/2/19/22	0/1/1/1
5	MAN	S	4	5	-	2/2/19/22	0/1/1/1
5	MAN	S	5	5	-	0/2/19/22	0/1/1/1
6	NAG	T	1	6,1	-	2/6/23/26	0/1/1/1
6	NAG	T	2	6	-	2/6/23/26	0/1/1/1
6	NAG	U	1	6,1	-	0/6/23/26	0/1/1/1
6	NAG	U	2	6	-	2/6/23/26	0/1/1/1

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

All (44) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	M	3	MAN	C2-C3	4.26	1.59	1.52
6	Y	2	NAG	O5-C1	3.99	1.50	1.43
5	X	3	MAN	C2-C3	3.91	1.58	1.52
8	c	3	MAN	C1-C2	3.86	1.61	1.52
8	c	3	MAN	C2-C3	3.78	1.58	1.52
5	S	3	MAN	C4-C5	3.62	1.60	1.53
7	b	3	MAN	C1-C2	3.54	1.60	1.52
5	S	5	MAN	C2-C3	3.50	1.57	1.52
7	b	3	MAN	O5-C5	3.49	1.50	1.43
7	Z	3	MAN	O5-C5	3.39	1.50	1.43
5	X	5	MAN	C1-C2	3.34	1.60	1.52
8	c	4	MAN	C4-C5	3.24	1.59	1.53
5	M	3	MAN	C4-C3	3.17	1.60	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	Q	3	MAN	C4-C5	3.12	1.59	1.53
7	Z	3	MAN	C4-C5	3.11	1.59	1.53
5	X	2	NAG	O5-C1	-3.02	1.38	1.43
5	X	5	MAN	C2-C3	2.95	1.57	1.52
7	Z	3	MAN	C2-C3	2.83	1.56	1.52
5	X	4	MAN	O5-C5	2.81	1.48	1.43
5	S	3	MAN	O5-C1	-2.73	1.39	1.43
5	S	4	MAN	C1-C2	2.73	1.58	1.52
5	M	3	MAN	O5-C5	2.72	1.48	1.43
8	c	4	MAN	C4-C3	2.72	1.59	1.52
5	S	3	MAN	C4-C3	2.66	1.59	1.52
5	X	3	MAN	O5-C1	-2.65	1.39	1.43
5	S	2	NAG	O5-C1	-2.64	1.39	1.43
5	S	4	MAN	O5-C5	2.64	1.48	1.43
7	Q	3	MAN	O5-C1	-2.61	1.39	1.43
5	X	3	MAN	C4-C3	2.51	1.58	1.52
5	S	5	MAN	C1-C2	2.50	1.58	1.52
5	X	5	MAN	C4-C3	2.49	1.58	1.52
8	c	3	MAN	O5-C5	2.43	1.48	1.43
7	Z	3	MAN	C1-C2	2.43	1.58	1.52
6	Y	1	NAG	O5-C1	-2.40	1.39	1.43
5	X	4	MAN	C1-C2	2.33	1.57	1.52
5	M	4	MAN	O5-C5	2.32	1.47	1.43
8	c	4	MAN	O5-C5	2.30	1.47	1.43
7	Z	3	MAN	C4-C3	2.27	1.58	1.52
7	Q	3	MAN	O5-C5	2.25	1.47	1.43
6	O	1	NAG	C1-C2	2.14	1.55	1.52
5	M	5	MAN	C4-C3	2.13	1.57	1.52
7	Q	3	MAN	C4-C3	2.08	1.57	1.52
5	S	3	MAN	C2-C3	2.05	1.55	1.52
7	Z	3	MAN	O2-C2	2.02	1.47	1.43

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	Z	3	MAN	C1-O5-C5	6.75	121.23	112.19
7	b	3	MAN	C1-O5-C5	5.42	119.45	112.19
8	c	3	MAN	C1-O5-C5	4.90	118.75	112.19
5	S	4	MAN	C1-O5-C5	4.73	118.53	112.19
7	b	2	NAG	C1-O5-C5	4.38	118.06	112.19
5	M	4	MAN	C1-O5-C5	4.22	117.84	112.19
5	X	4	MAN	C1-O5-C5	4.11	117.69	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	Y	2	NAG	C1-O5-C5	3.91	117.43	112.19
5	X	5	MAN	C1-O5-C5	3.87	117.37	112.19
7	Q	3	MAN	C3-C4-C5	3.68	116.91	110.23
5	X	3	MAN	C2-C3-C4	3.59	117.17	110.86
5	S	5	MAN	C1-O5-C5	3.52	116.91	112.19
7	Q	3	MAN	C1-O5-C5	3.49	116.86	112.19
5	X	3	MAN	C3-C4-C5	3.34	116.29	110.23
5	S	3	MAN	C3-C4-C5	3.18	116.00	110.23
8	c	2	NAG	C1-O5-C5	3.16	116.42	112.19
8	c	3	MAN	C1-C2-C3	3.03	114.06	109.64
5	M	3	MAN	C2-C3-C4	3.02	116.17	110.86
5	M	3	MAN	C1-O5-C5	2.94	116.12	112.19
5	M	3	MAN	C1-C2-C3	2.94	113.92	109.64
5	X	3	MAN	C1-C2-C3	2.91	113.88	109.64
5	M	3	MAN	C3-C4-C5	2.73	115.17	110.23
7	b	2	NAG	C3-C4-C5	2.54	114.84	110.23
5	X	5	MAN	O5-C1-C2	2.51	116.77	110.79
5	S	3	MAN	C1-O5-C5	2.48	115.51	112.19
5	X	5	MAN	O2-C2-C1	2.43	114.79	109.22
5	M	4	MAN	O2-C2-C3	-2.38	105.22	110.15
8	c	3	MAN	O5-C1-C2	2.30	116.28	110.79
7	b	3	MAN	O5-C1-C2	2.27	116.20	110.79
7	Q	3	MAN	O2-C2-C3	-2.25	105.50	110.15
8	c	4	MAN	C1-O5-C5	2.17	115.09	112.19
5	M	1	NAG	C1-O5-C5	2.14	115.05	112.19
5	S	3	MAN	O5-C5-C4	2.10	115.94	110.83
7	Q	3	MAN	O5-C5-C4	2.09	115.91	110.83
8	c	3	MAN	O2-C2-C1	2.06	113.94	109.22
8	c	3	MAN	O3-C3-C2	2.01	114.16	110.05

There are no chirality outliers.

All (63) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	Y	2	NAG	C4-C5-C6-O6
6	O	1	NAG	O5-C5-C6-O6
6	a	2	NAG	O5-C5-C6-O6
6	N	1	NAG	O5-C5-C6-O6
6	U	2	NAG	O5-C5-C6-O6
7	b	3	MAN	O5-C5-C6-O6
5	S	1	NAG	O5-C5-C6-O6
7	Q	3	MAN	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
6	U	2	NAG	C4-C5-C6-O6
5	M	5	MAN	O5-C5-C6-O6
8	c	2	NAG	O5-C5-C6-O6
6	O	1	NAG	C4-C5-C6-O6
6	N	2	NAG	O5-C5-C6-O6
6	P	2	NAG	O5-C5-C6-O6
5	X	3	MAN	O5-C5-C6-O6
5	S	3	MAN	O5-C5-C6-O6
6	Y	2	NAG	O5-C5-C6-O6
7	b	2	NAG	O5-C5-C6-O6
6	T	1	NAG	O5-C5-C6-O6
7	Z	2	NAG	O5-C5-C6-O6
5	X	3	MAN	C4-C5-C6-O6
6	a	2	NAG	C4-C5-C6-O6
7	b	2	NAG	C4-C5-C6-O6
6	T	2	NAG	O5-C5-C6-O6
6	W	2	NAG	O5-C5-C6-O6
5	S	1	NAG	C4-C5-C6-O6
6	N	1	NAG	C4-C5-C6-O6
6	P	2	NAG	C4-C5-C6-O6
6	T	1	NAG	C4-C5-C6-O6
7	Q	2	NAG	O5-C5-C6-O6
8	c	2	NAG	C4-C5-C6-O6
5	S	3	MAN	C4-C5-C6-O6
5	M	3	MAN	C4-C5-C6-O6
6	R	2	NAG	O5-C5-C6-O6
6	N	2	NAG	C4-C5-C6-O6
6	O	2	NAG	O5-C5-C6-O6
7	Z	2	NAG	C4-C5-C6-O6
6	W	2	NAG	C4-C5-C6-O6
7	b	3	MAN	C4-C5-C6-O6
6	a	1	NAG	O5-C5-C6-O6
5	S	4	MAN	C4-C5-C6-O6
6	T	2	NAG	C4-C5-C6-O6
5	X	1	NAG	C4-C5-C6-O6
6	a	1	NAG	C4-C5-C6-O6
5	M	5	MAN	C4-C5-C6-O6
7	Q	2	NAG	C4-C5-C6-O6
5	M	1	NAG	C4-C5-C6-O6
5	X	1	NAG	O5-C5-C6-O6
5	M	1	NAG	O5-C5-C6-O6
6	V	2	NAG	O5-C5-C6-O6

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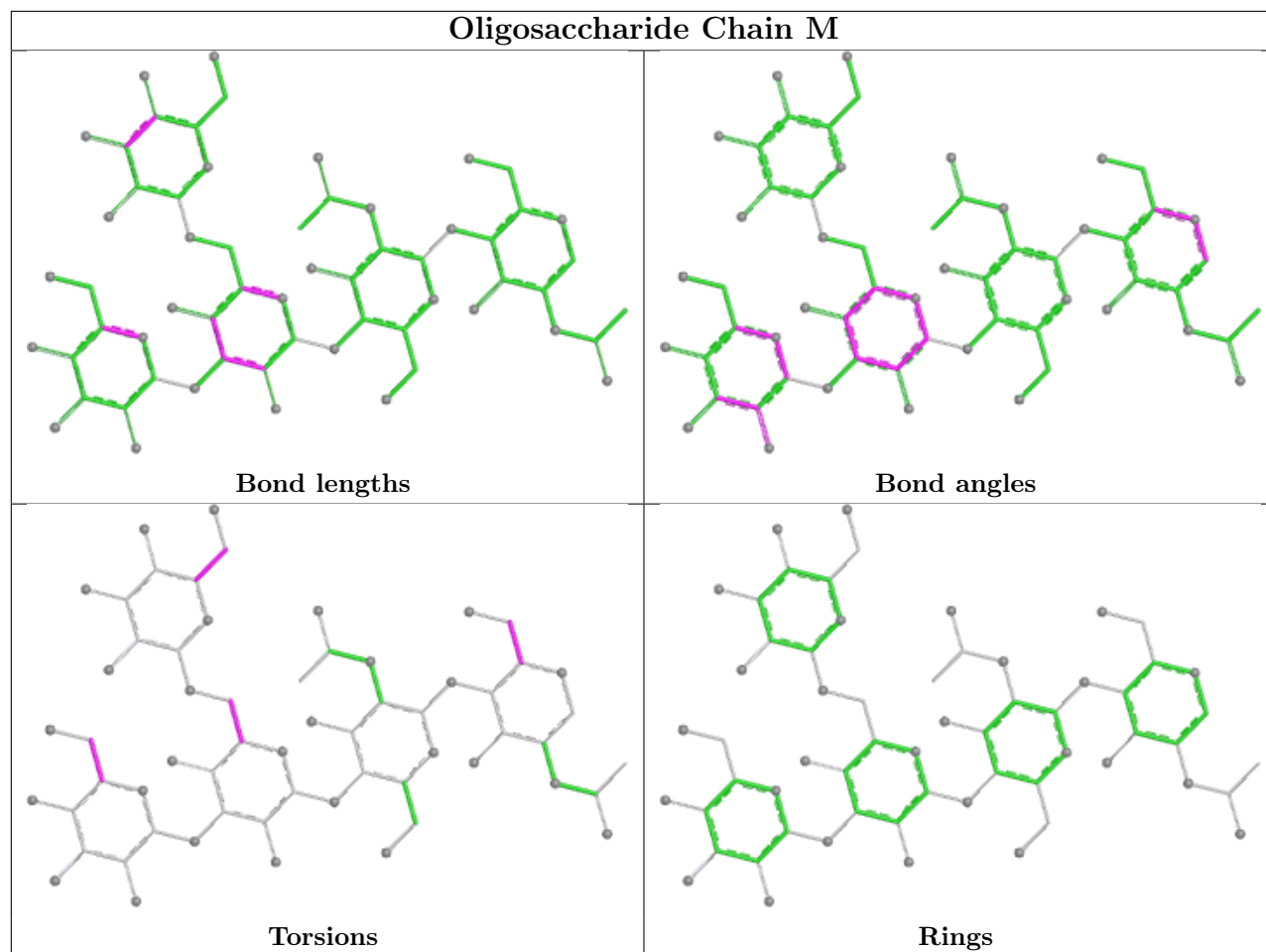
Mol	Chain	Res	Type	Atoms
7	Q	1	NAG	C4-C5-C6-O6
8	c	3	MAN	O5-C5-C6-O6
7	Q	1	NAG	O5-C5-C6-O6
6	R	2	NAG	C4-C5-C6-O6
5	X	4	MAN	C4-C5-C6-O6
5	M	3	MAN	O5-C5-C6-O6
6	O	2	NAG	C4-C5-C6-O6
5	S	4	MAN	O5-C5-C6-O6
5	M	4	MAN	C4-C5-C6-O6
6	V	1	NAG	C4-C5-C6-O6
6	O	1	NAG	C1-C2-N2-C7
7	Q	3	MAN	C4-C5-C6-O6
6	V	1	NAG	O5-C5-C6-O6

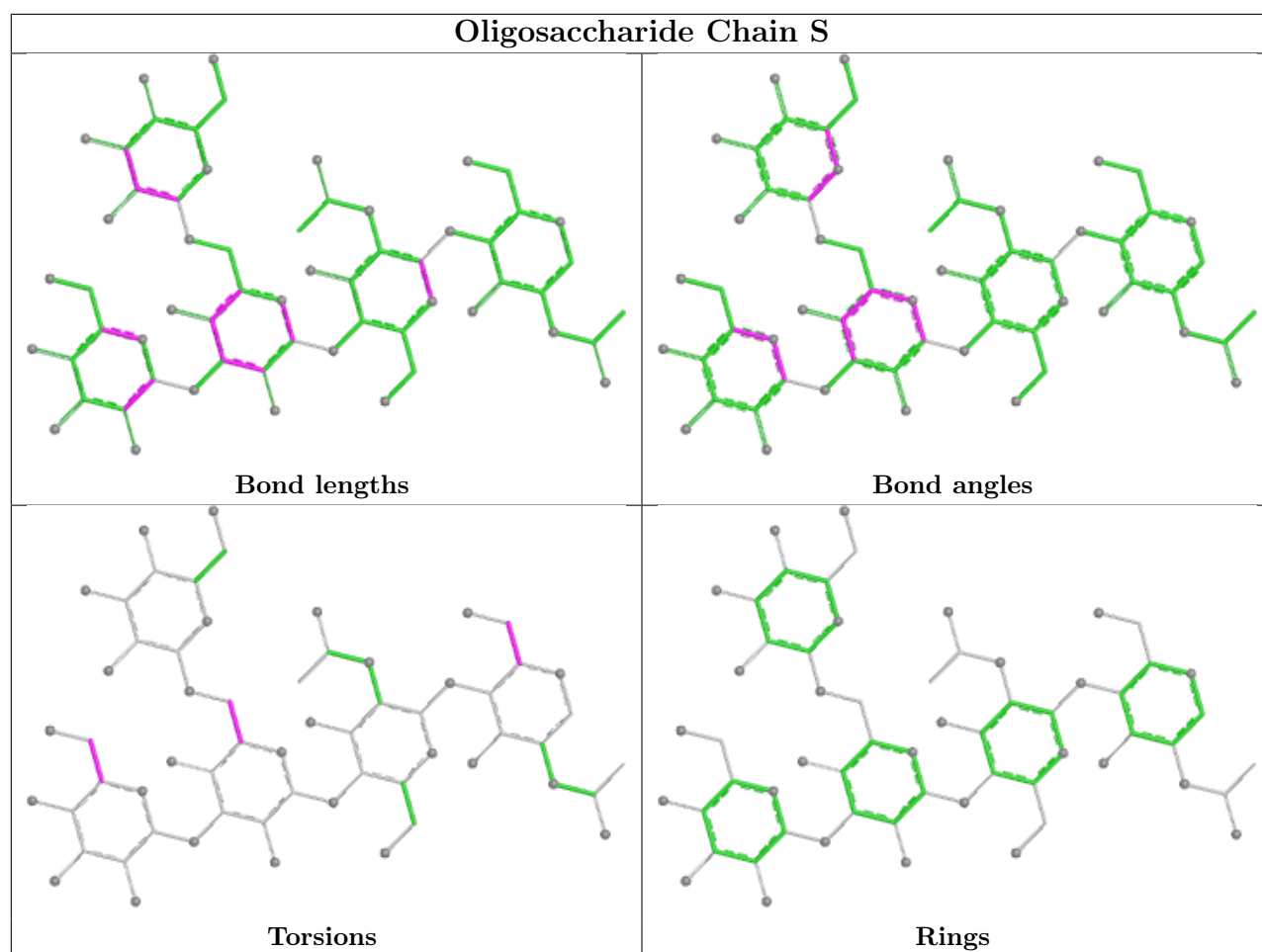
There are no ring outliers.

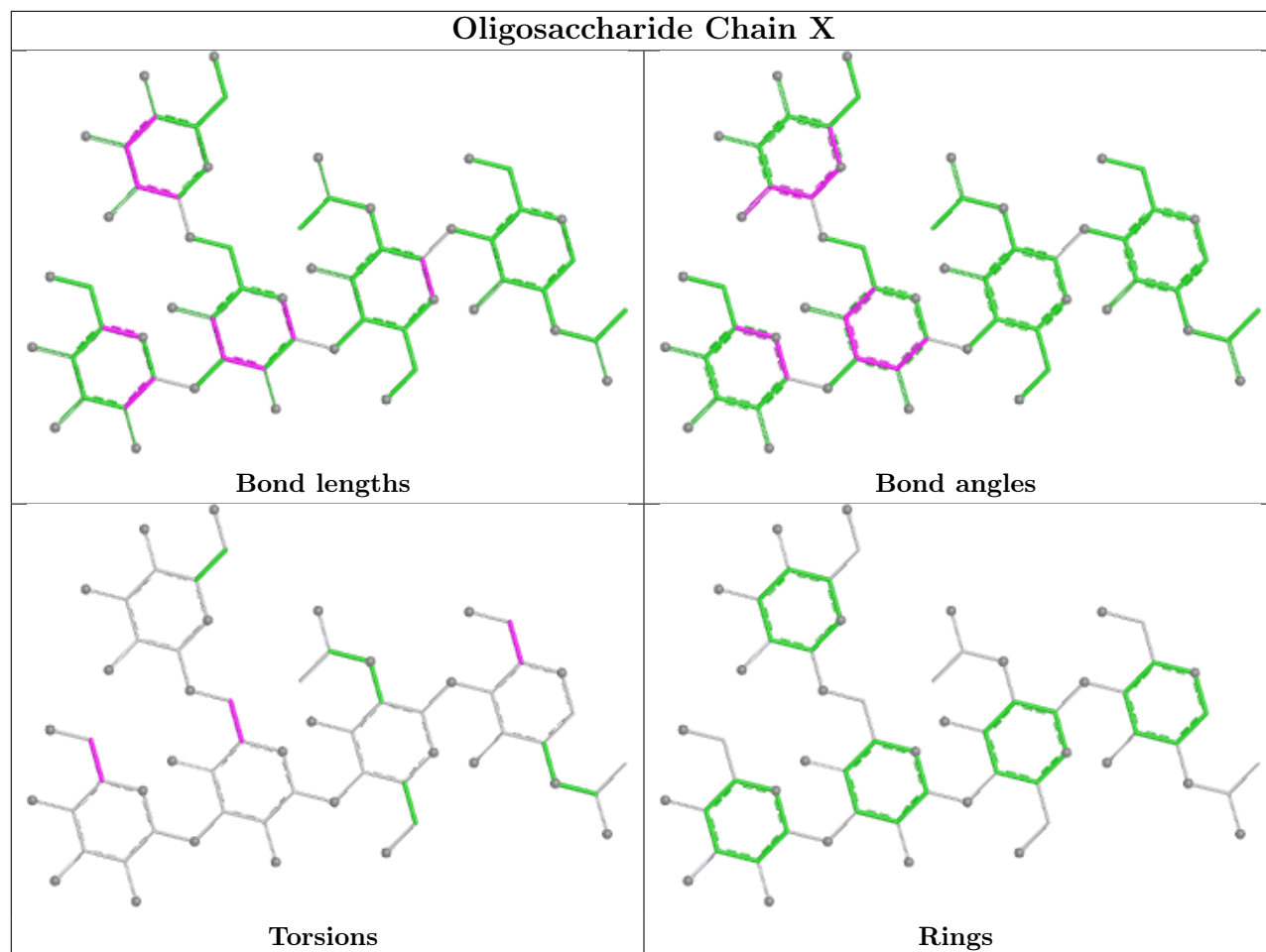
12 monomers are involved in 8 short contacts:

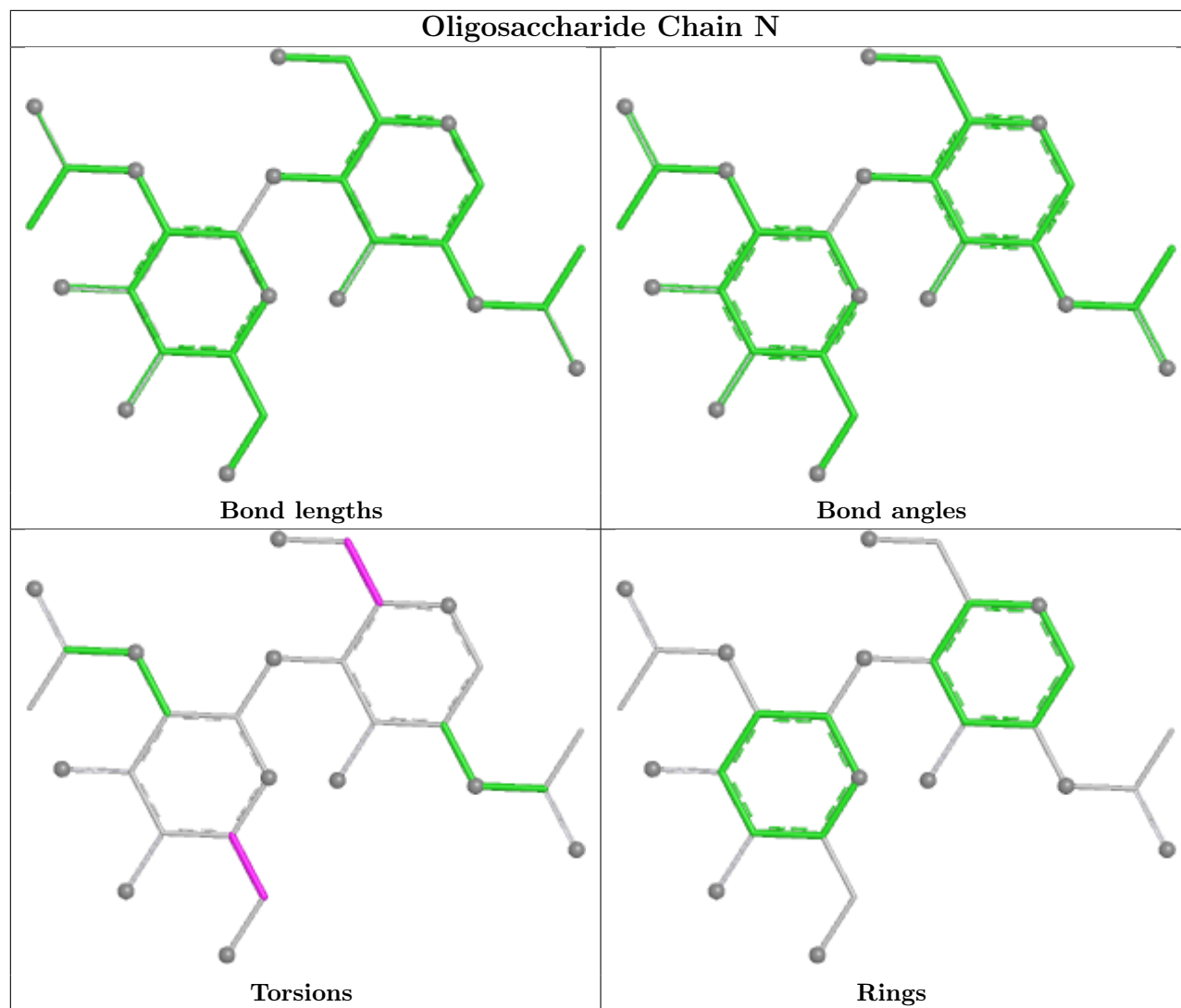
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	O	2	NAG	1	0
6	O	1	NAG	1	0
5	X	1	NAG	1	0
8	c	3	MAN	1	0
6	R	2	NAG	1	0
7	b	3	MAN	1	0
6	R	1	NAG	1	0
5	X	2	NAG	1	0
8	c	2	NAG	1	0
7	b	2	NAG	1	0
6	P	1	NAG	2	0
7	b	1	NAG	1	0

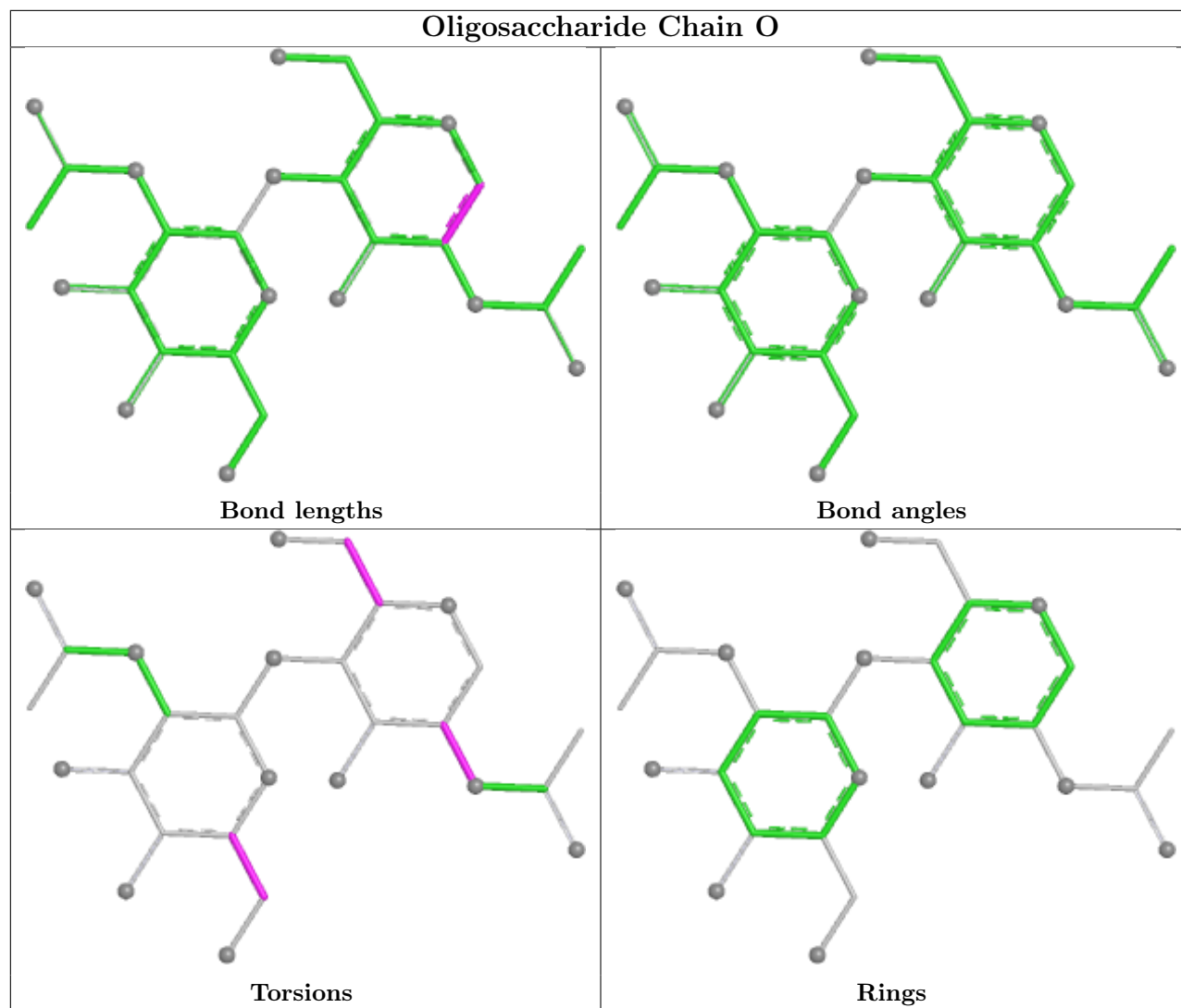
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

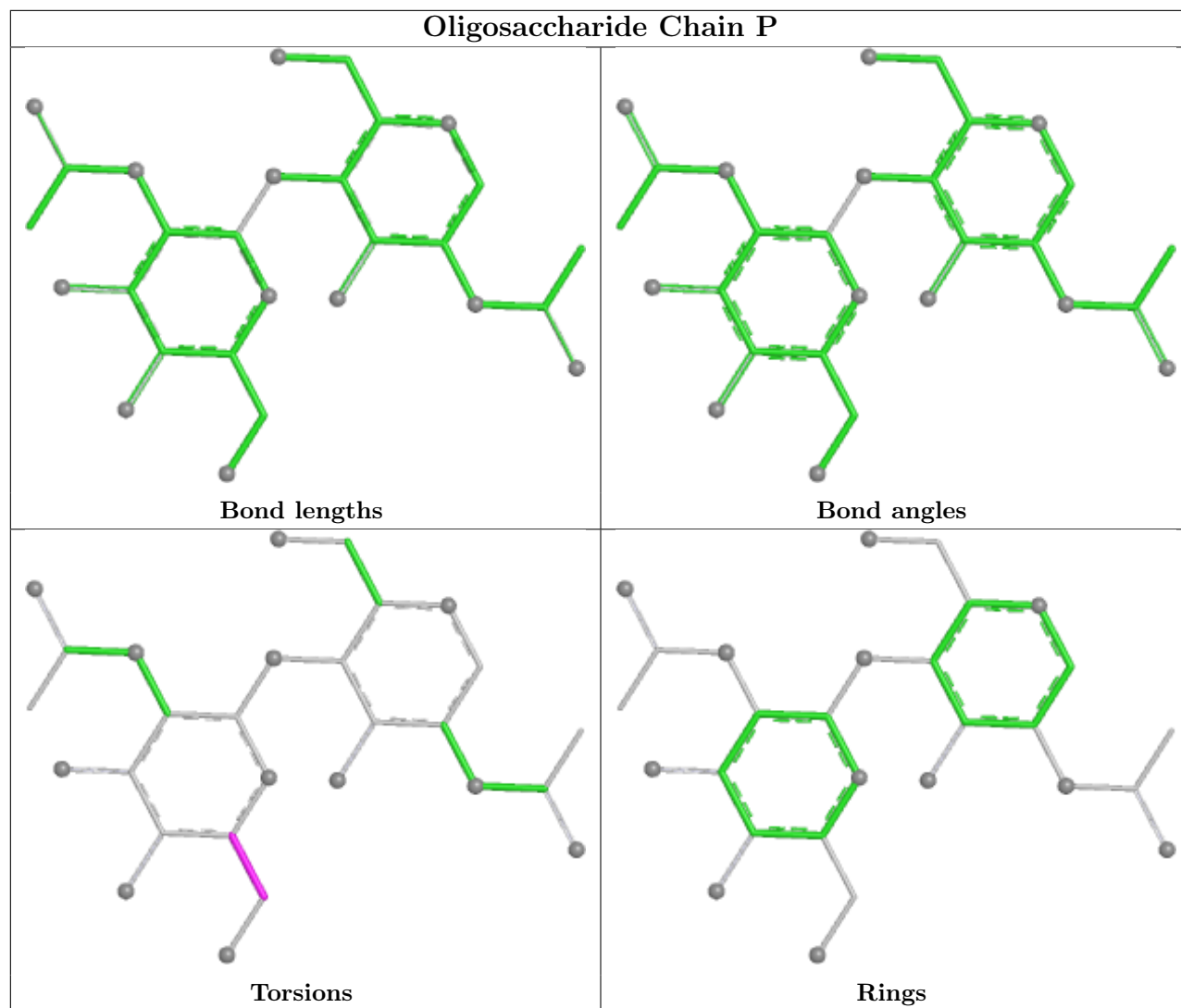


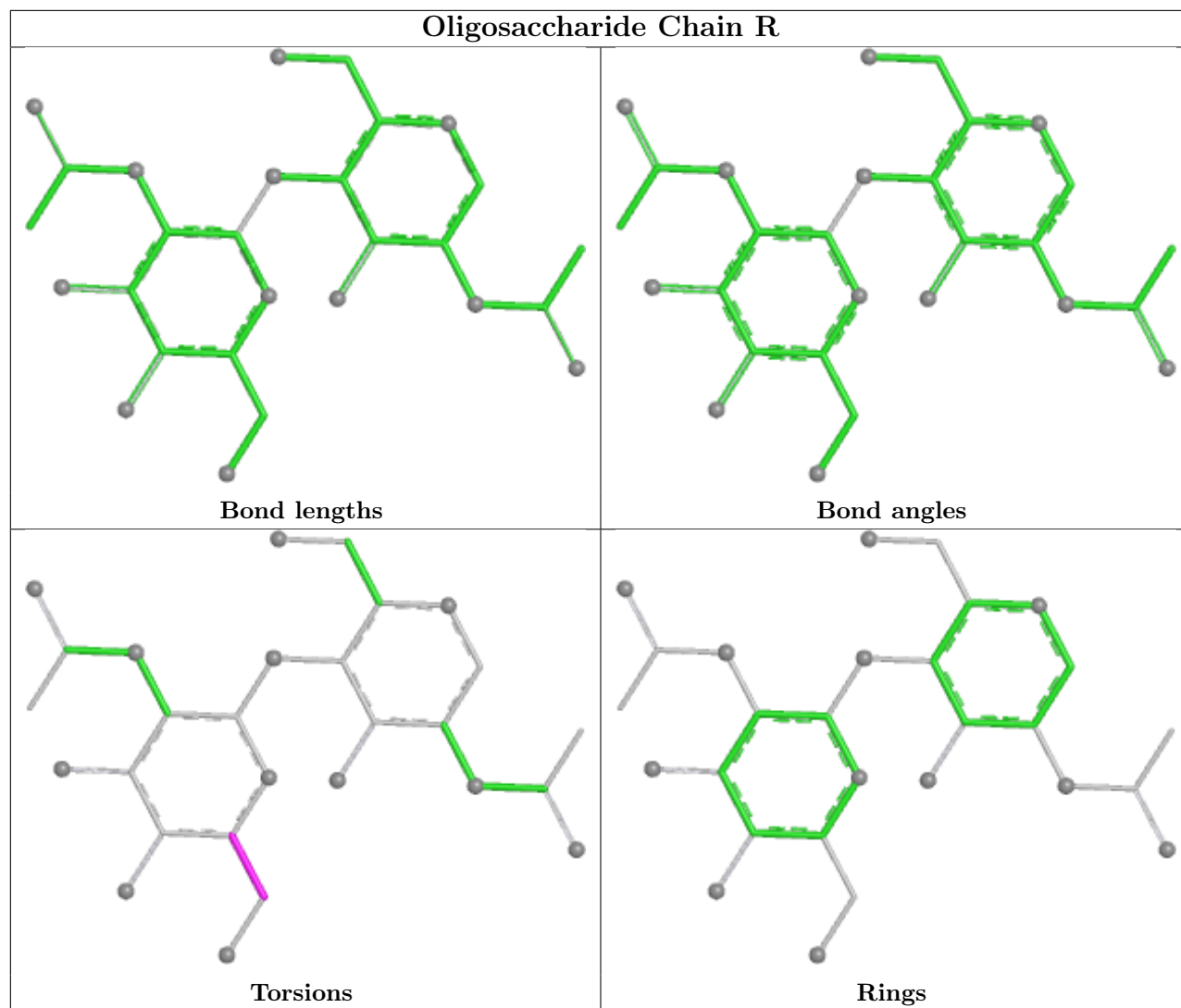


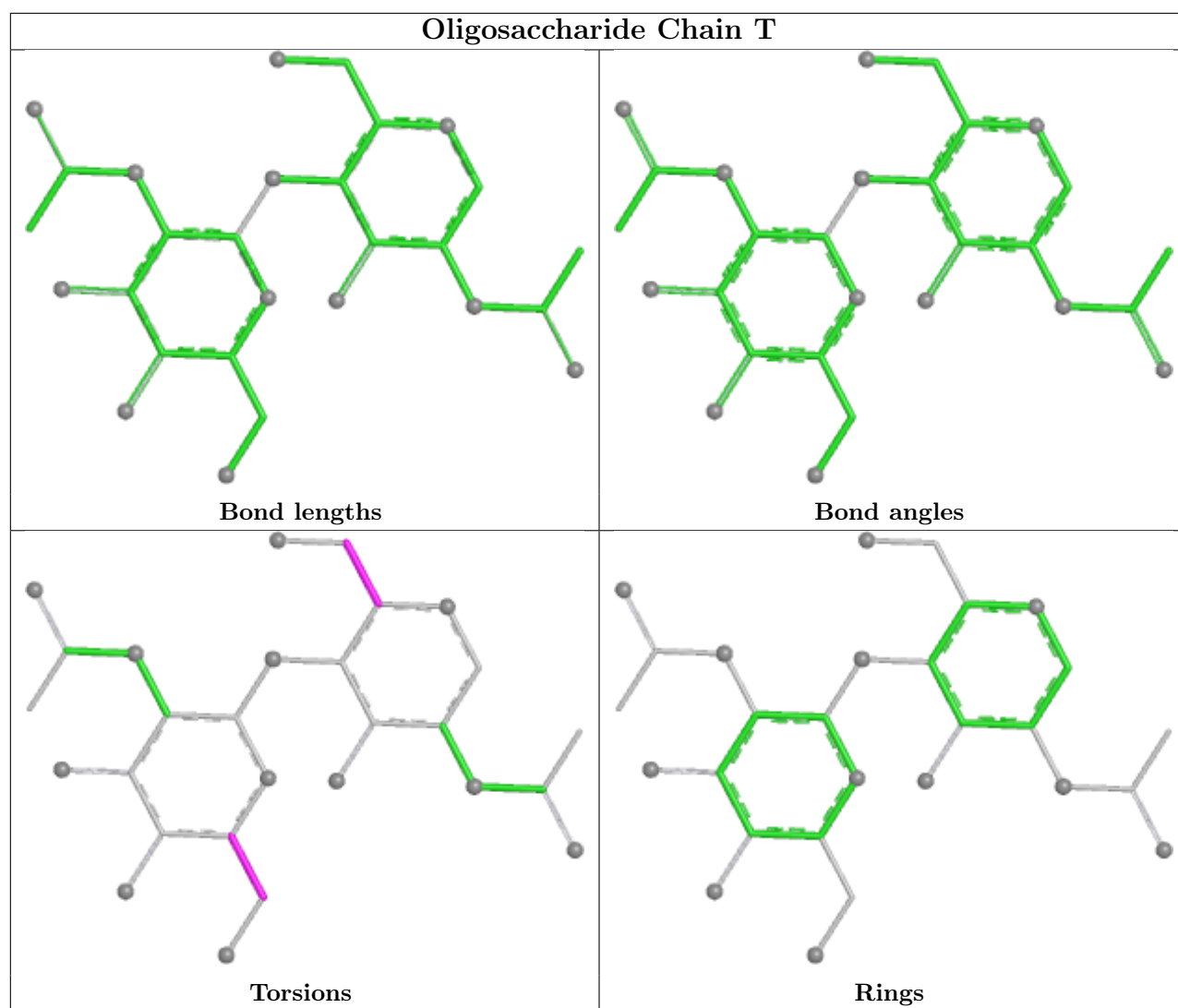


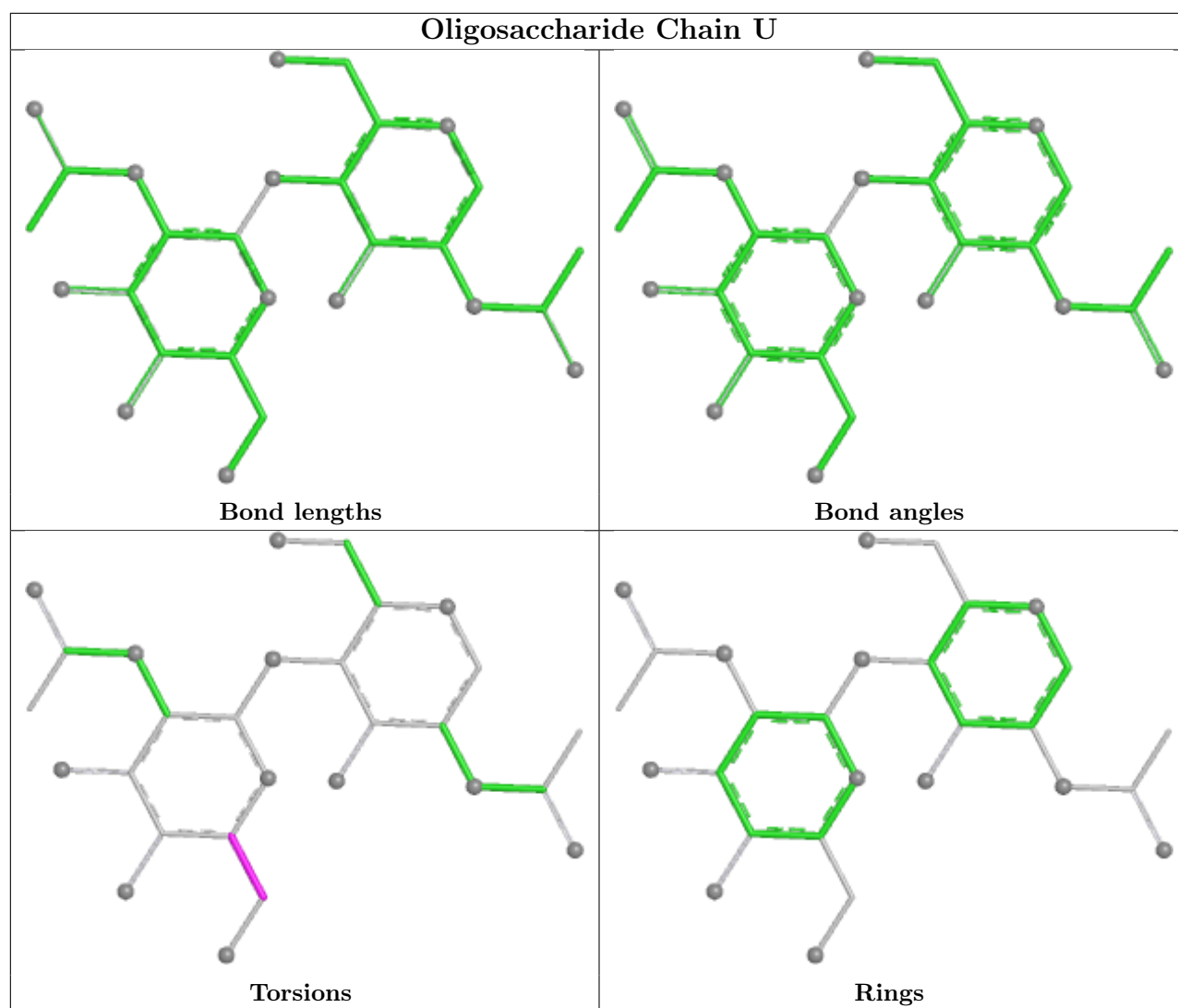


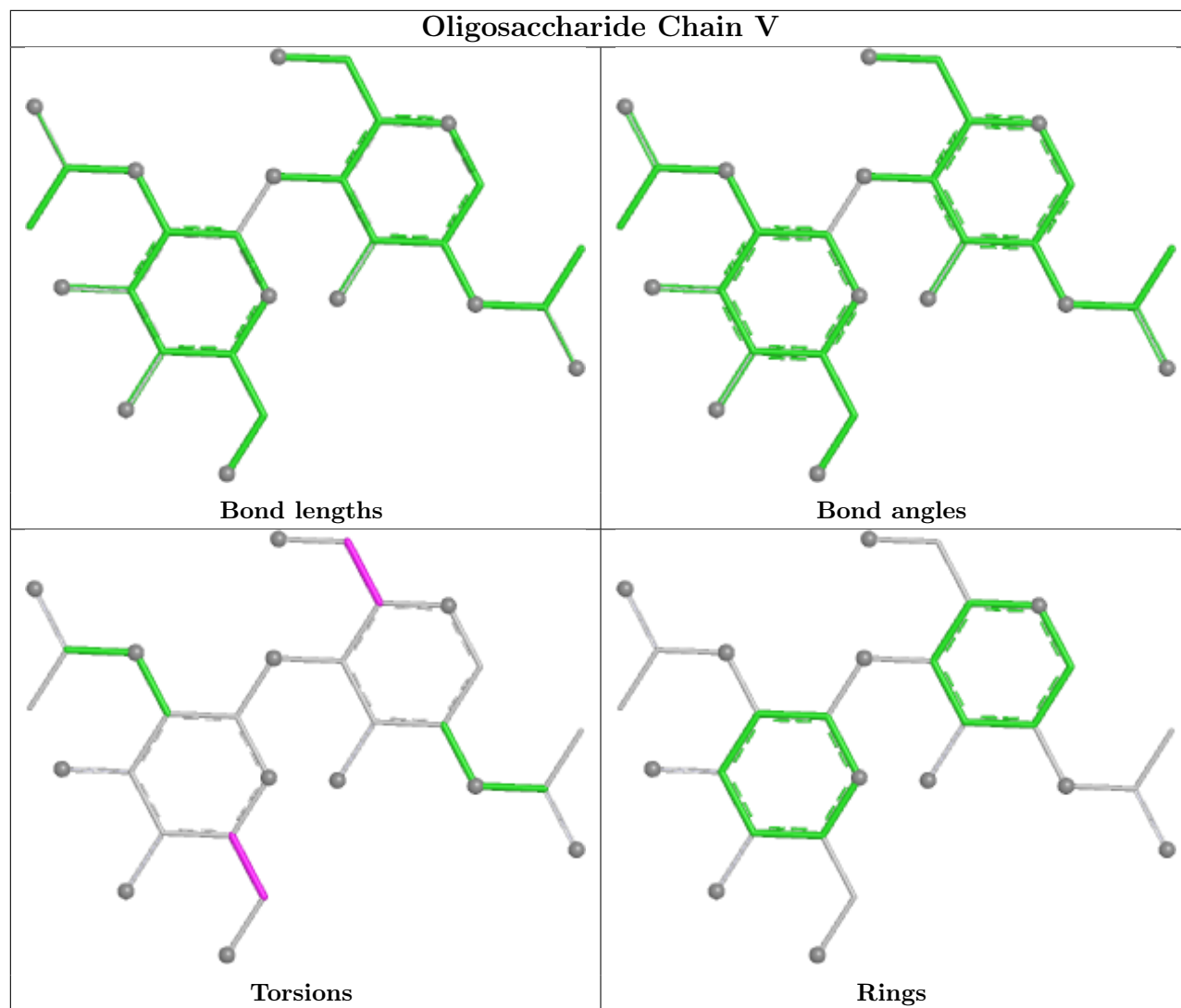


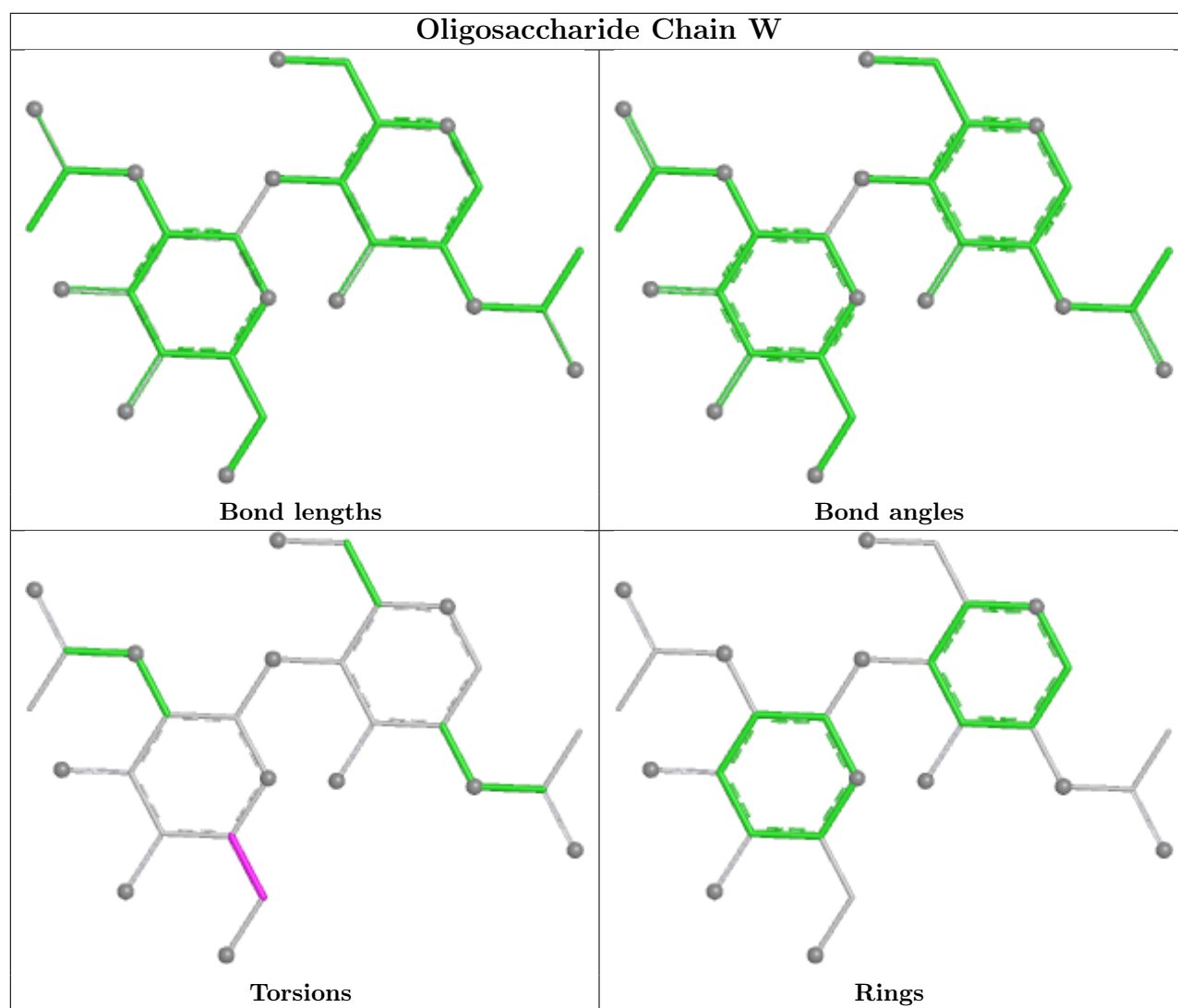


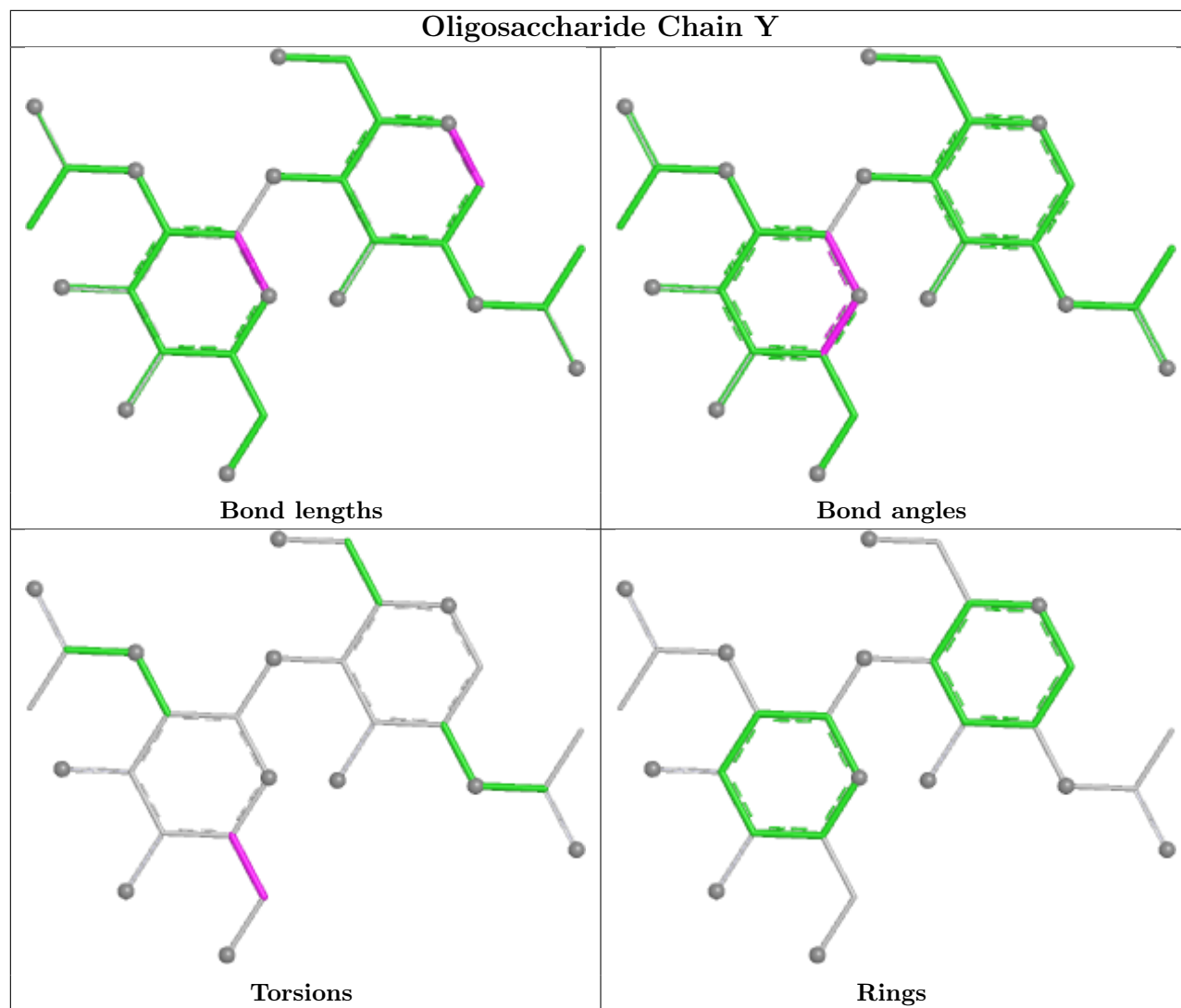


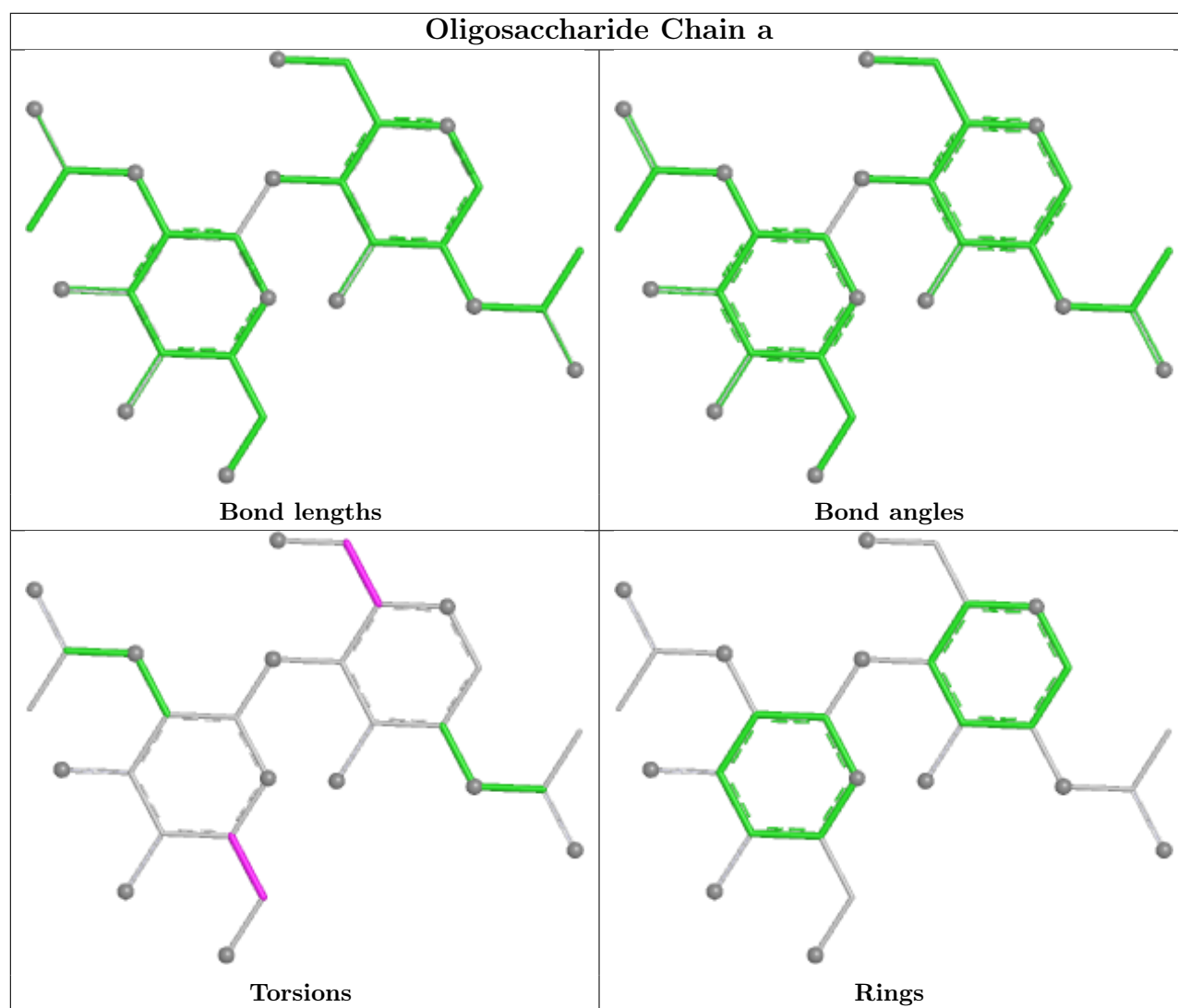


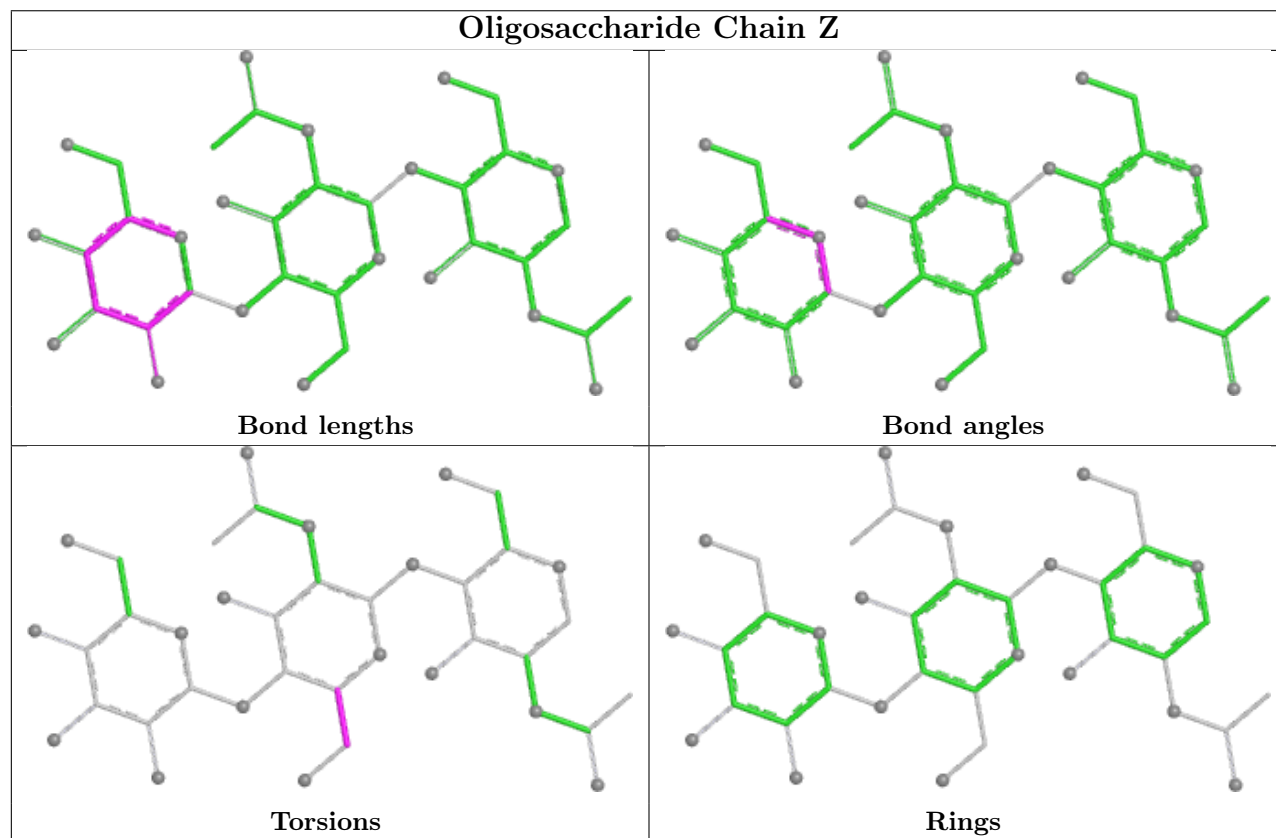
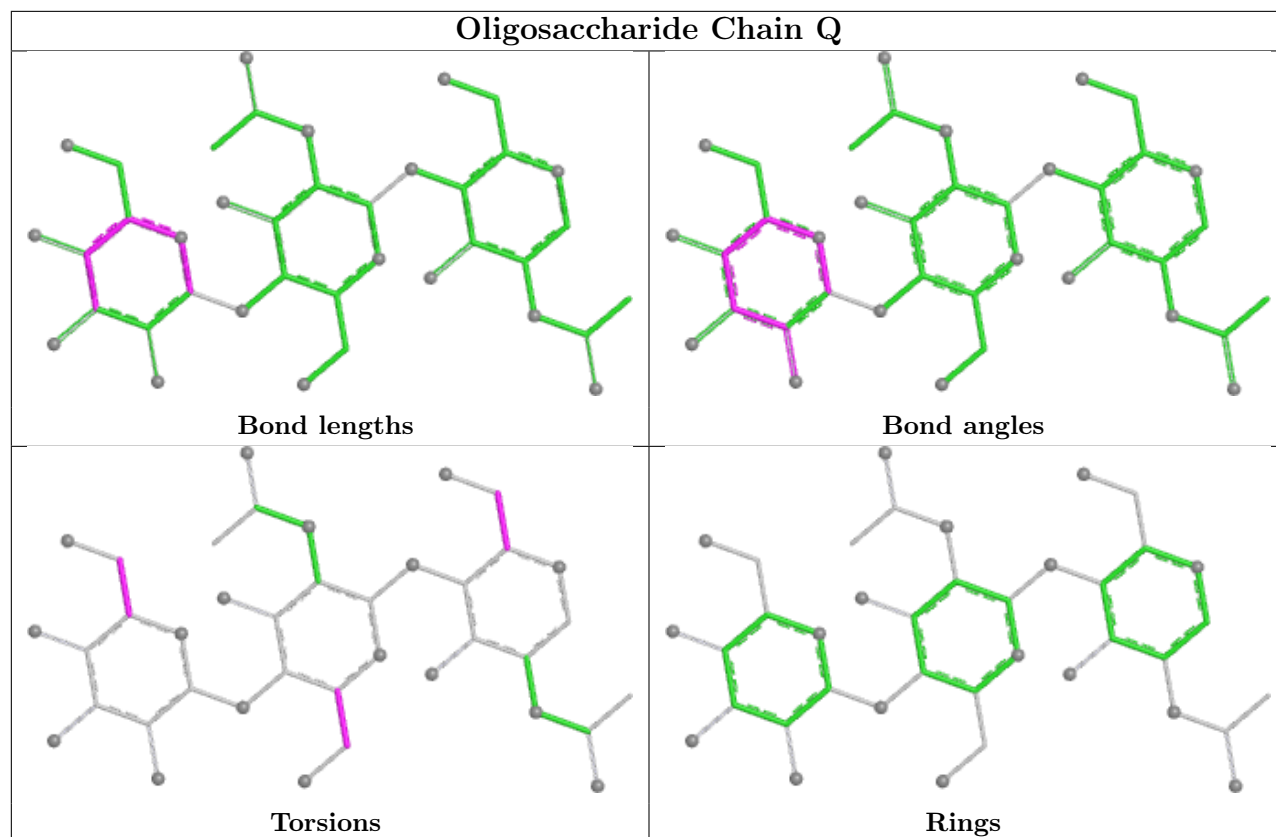


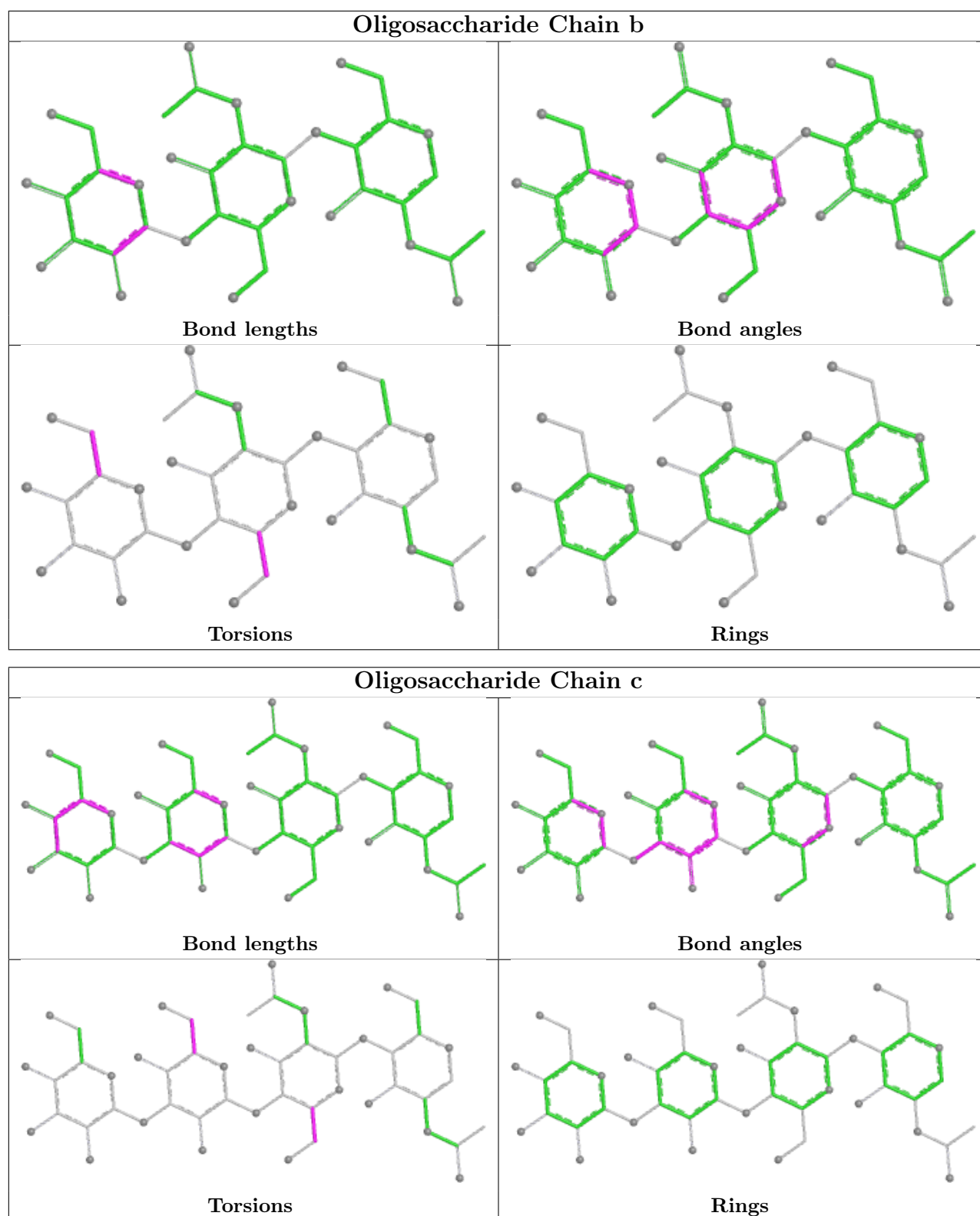












5.6 Ligand geometry [i](#)

4 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
9	NAG	K	701	2	14,14,15	0.34	0	17,19,21	0.42	0
9	NAG	F	2001	3	14,14,15	0.25	0	17,19,21	0.44	0
9	NAG	L	701	2	14,14,15	0.52	0	17,19,21	0.44	0
9	NAG	I	701	2	14,14,15	0.48	0	17,19,21	0.42	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	NAG	K	701	2	-	0/6/23/26	0/1/1/1
9	NAG	F	2001	3	-	2/6/23/26	0/1/1/1
9	NAG	L	701	2	-	0/6/23/26	0/1/1/1
9	NAG	I	701	2	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	I	701	NAG	O5-C5-C6-O6
9	I	701	NAG	C4-C5-C6-O6
9	F	2001	NAG	C4-C5-C6-O6
9	F	2001	NAG	O5-C5-C6-O6

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	324/334 (97%)	-0.28	0 100 100	104, 135, 164, 210	0
1	C	324/334 (97%)	-0.24	0 100 100	107, 138, 165, 200	0
1	E	324/334 (97%)	-0.33	0 100 100	97, 124, 151, 184	0
2	I	217/218 (99%)	-0.21	1 (0%) 87 66	119, 148, 175, 191	0
2	K	217/218 (99%)	-0.11	1 (0%) 87 66	130, 166, 184, 211	0
2	L	217/218 (99%)	-0.25	0 100 100	96, 126, 150, 182	0
3	B	177/181 (97%)	-0.06	2 (1%) 78 52	98, 149, 207, 218	0
3	D	177/181 (97%)	-0.06	1 (0%) 85 63	101, 150, 192, 218	0
3	F	177/181 (97%)	-0.10	0 100 100	103, 135, 172, 189	0
4	G	222/222 (100%)	-0.03	3 (1%) 73 45	104, 142, 186, 217	1 (0%)
4	H	222/222 (100%)	-0.18	3 (1%) 73 45	96, 126, 167, 203	1 (0%)
4	J	222/222 (100%)	-0.06	2 (0%) 81 56	130, 162, 212, 235	1 (0%)
All	All	2820/2865 (98%)	-0.18	13 (0%) 87 66	96, 140, 189, 235	3 (0%)

All (13) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	H	134	THR	4.7
4	G	129	ALA	4.3
4	H	42	GLY	4.1
4	G	130	ALA	4.1
4	J	134	THR	3.4
3	B	171	GLU	3.2
2	I	207	LYS	2.8
3	B	11	GLU	2.8
4	G	134	THR	2.7
3	D	172	GLU	2.4
4	H	130	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
4	J	44	SER	2.3
2	K	155	ARG	2.2

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

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

6.3 Carbohydrates [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
6	NAG	U	1	14/15	0.08	0.17	162,185,195,196	0
6	NAG	U	2	14/15	0.12	0.16	151,188,191,192	0
6	NAG	P	2	14/15	0.15	0.14	170,186,192,195	0
6	NAG	V	2	14/15	0.23	0.13	195,215,220,220	0
6	NAG	O	2	14/15	0.30	0.13	203,224,230,231	0
5	MAN	S	5	11/12	0.36	0.10	223,235,246,246	0
7	MAN	Q	3	11/12	0.37	0.14	223,230,239,242	0
6	NAG	O	1	14/15	0.38	0.14	195,214,225,228	0
5	MAN	M	4	11/12	0.39	0.10	224,237,243,246	0
6	NAG	N	2	14/15	0.41	0.13	187,212,219,220	0
6	NAG	Y	2	14/15	0.43	0.12	180,202,209,209	0
6	NAG	R	2	14/15	0.46	0.11	188,204,214,217	0
5	MAN	S	4	11/12	0.46	0.10	211,234,241,242	0
7	NAG	Q	2	14/15	0.48	0.13	194,213,228,237	0
5	MAN	X	5	11/12	0.50	0.10	204,228,234,234	0
6	NAG	W	2	14/15	0.52	0.11	197,212,219,219	0
5	MAN	S	3	11/12	0.52	0.09	219,234,242,243	0
6	NAG	V	1	14/15	0.55	0.13	174,190,204,213	0
6	NAG	P	1	14/15	0.55	0.12	165,179,188,191	0
7	MAN	Z	3	11/12	0.55	0.12	184,206,217,217	0
5	MAN	X	3	11/12	0.56	0.09	211,224,230,230	0
5	MAN	X	4	11/12	0.56	0.09	200,226,233,233	0
5	NAG	M	2	14/15	0.59	0.10	191,201,220,229	0
5	MAN	M	5	11/12	0.59	0.08	222,237,239,240	0
6	NAG	T	2	14/15	0.59	0.12	193,205,210,211	0
5	MAN	M	3	11/12	0.59	0.08	227,235,241,241	0

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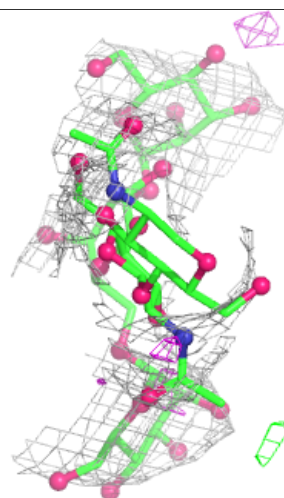
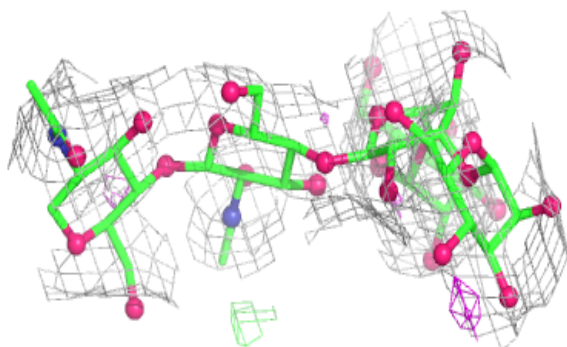
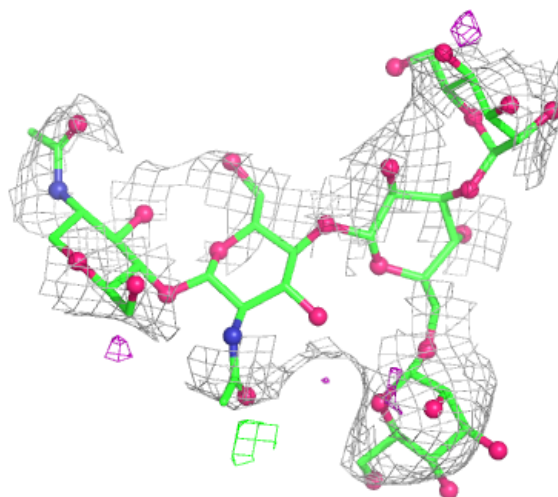
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
6	NAG	T	1	14/15	0.72	0.13	160,180,198,204	0
7	NAG	Z	1	14/15	0.75	0.09	163,190,203,209	0
5	NAG	S	2	14/15	0.75	0.09	194,204,221,226	0
7	NAG	Z	2	14/15	0.76	0.12	171,207,213,213	0
6	NAG	N	1	14/15	0.76	0.10	159,181,194,208	0
5	NAG	X	2	14/15	0.78	0.10	178,190,204,214	0
6	NAG	R	1	14/15	0.82	0.11	160,170,187,197	0
6	NAG	a	1	14/15	-	-	159,190,199,208	0
6	NAG	a	2	14/15	-	-	193,218,224,224	0
6	NAG	W	1	14/15	0.86	0.08	158,173,186,201	0
5	NAG	M	1	14/15	0.87	0.07	142,165,185,186	0
6	NAG	Y	1	14/15	0.87	0.10	155,174,183,197	0
5	NAG	S	1	14/15	0.89	0.08	137,158,177,194	0
7	NAG	Q	1	14/15	0.91	0.09	158,173,189,199	0
5	NAG	X	1	14/15	0.91	0.09	140,152,166,170	0
7	NAG	b	1	14/15	-	-	204,228,239,243	0
7	NAG	b	2	14/15	-	-	222,239,247,247	0
7	MAN	b	3	11/12	-	-	209,241,248,248	0
8	NAG	c	1	14/15	-	-	180,205,219,225	0
8	NAG	c	2	14/15	-	-	209,229,235,236	0
8	MAN	c	3	11/12	-	-	211,229,240,243	0
8	MAN	c	4	11/12	-	-	212,240,244,244	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.

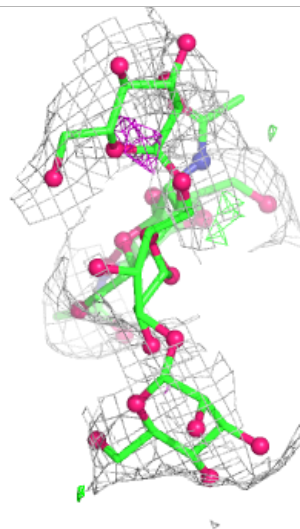
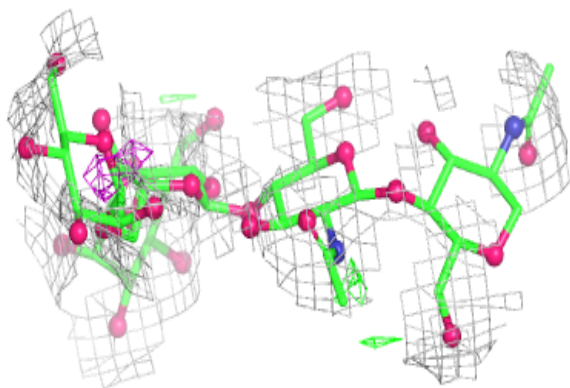
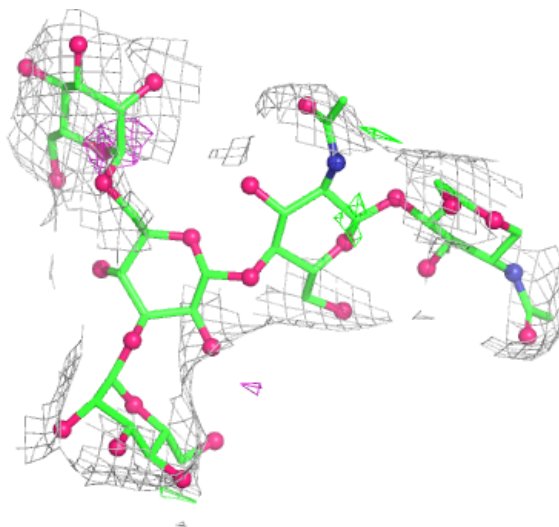
Electron density around Chain M:

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



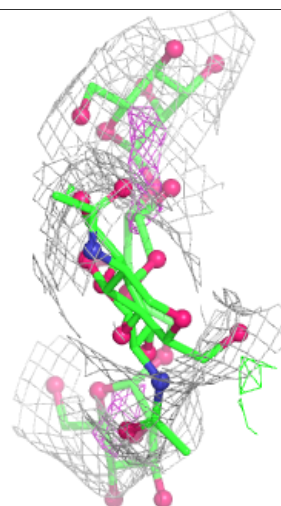
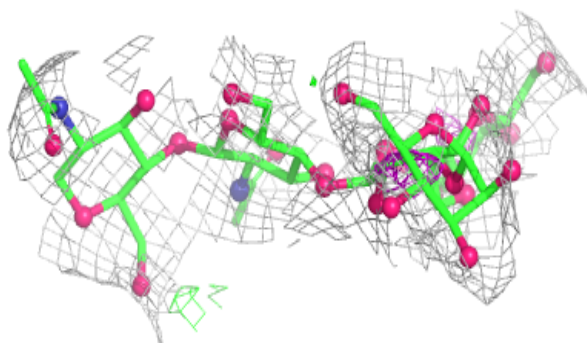
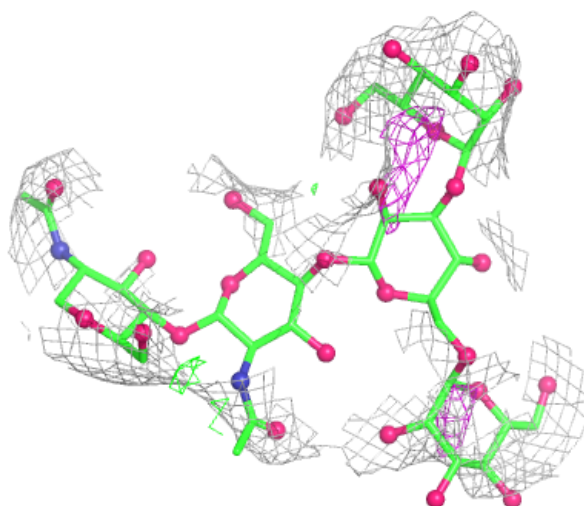
Electron density around Chain S:

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



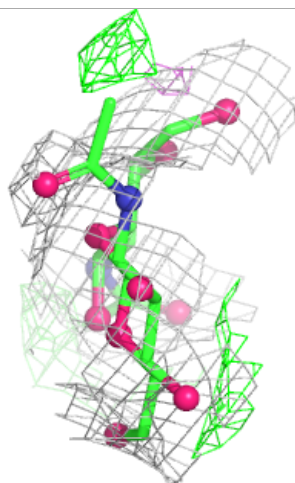
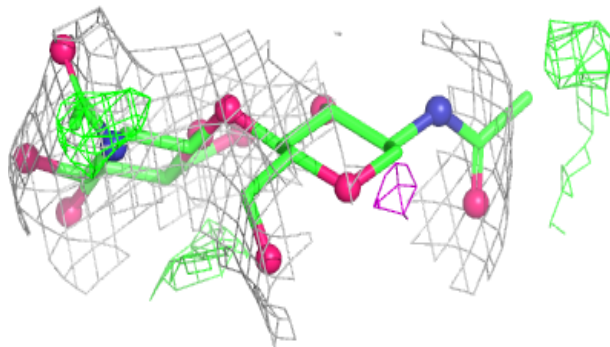
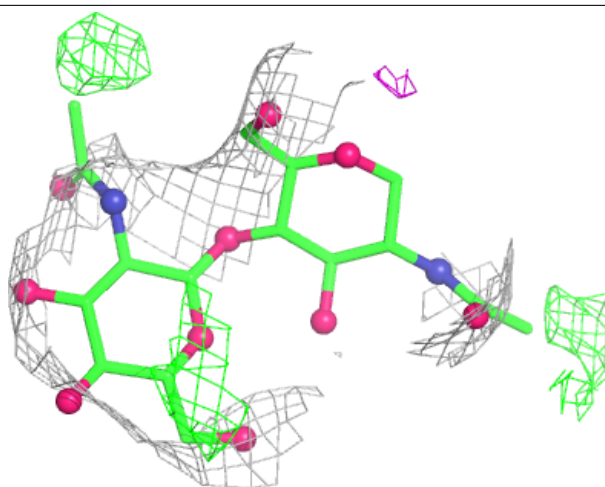
Electron density around Chain X:

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



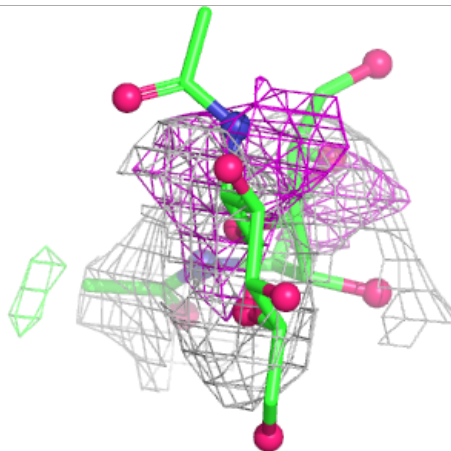
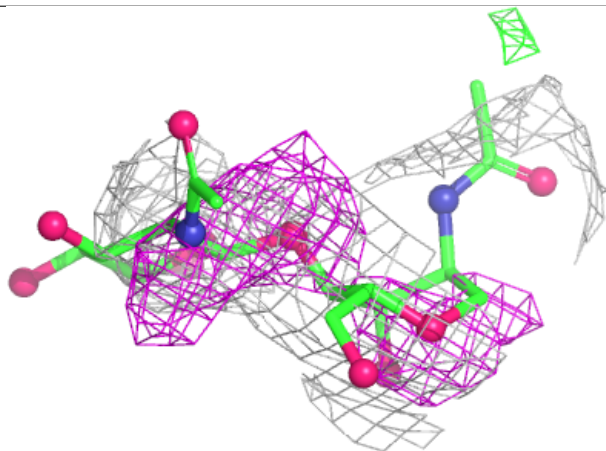
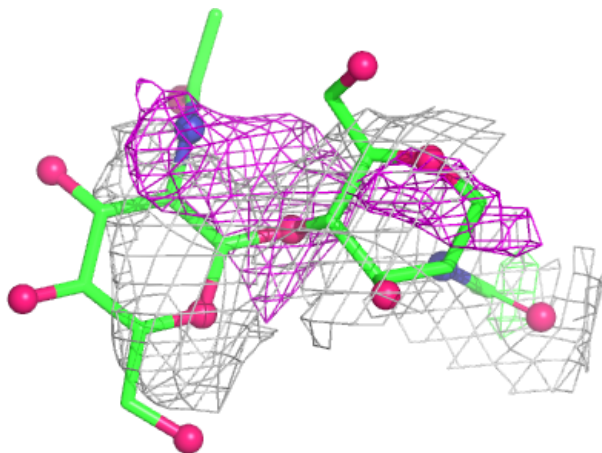
Electron density around Chain N:

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



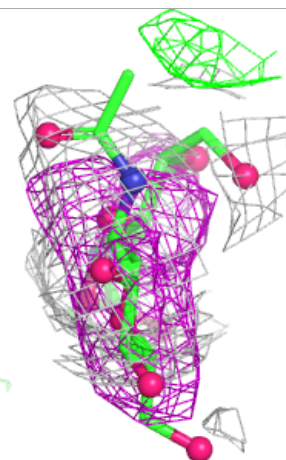
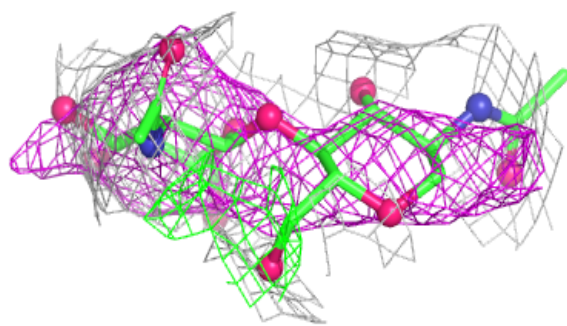
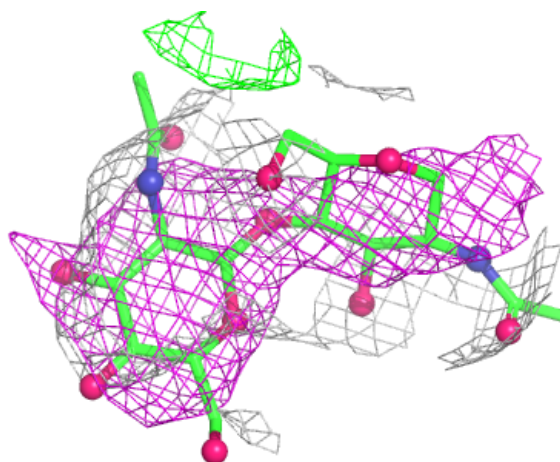
Electron density around Chain O:

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



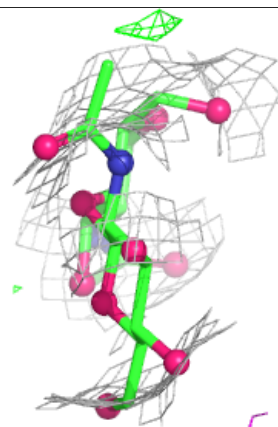
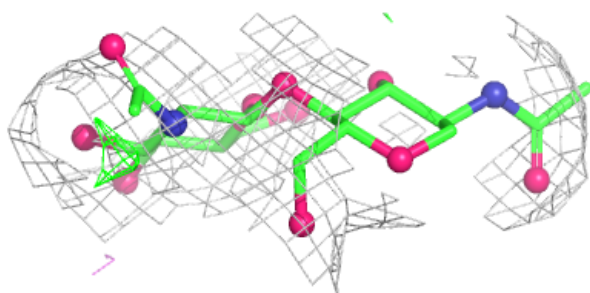
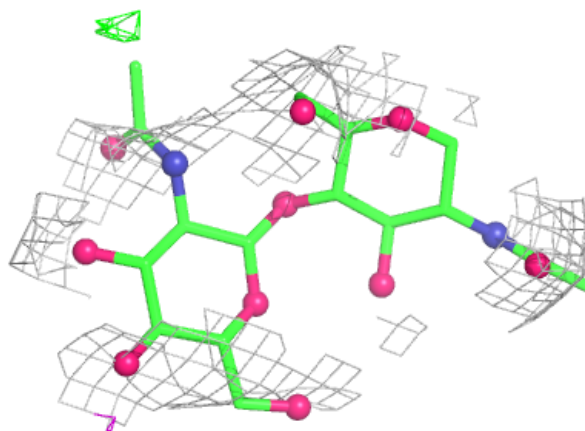
Electron density around Chain P:

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

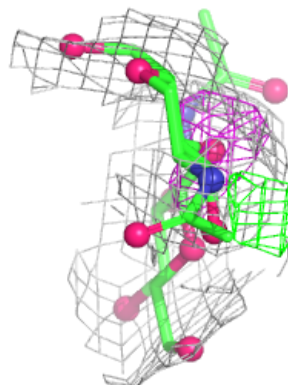
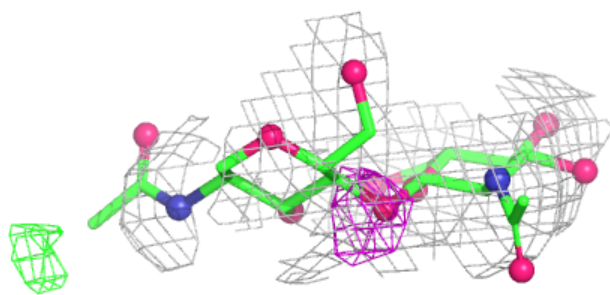
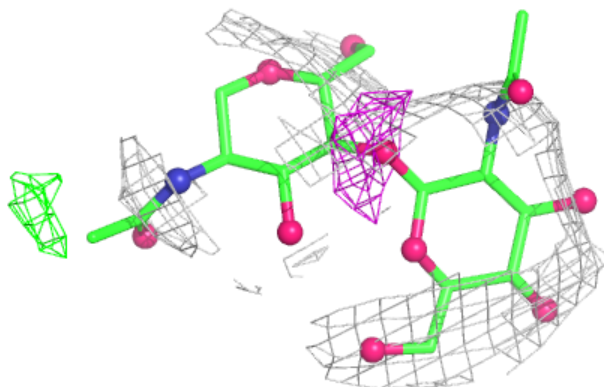


Electron density around Chain R:

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

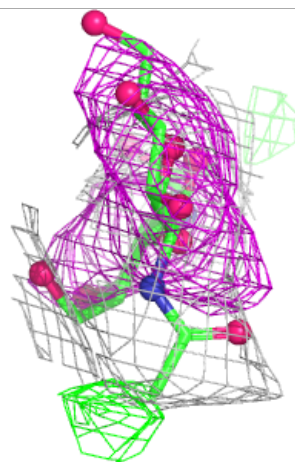
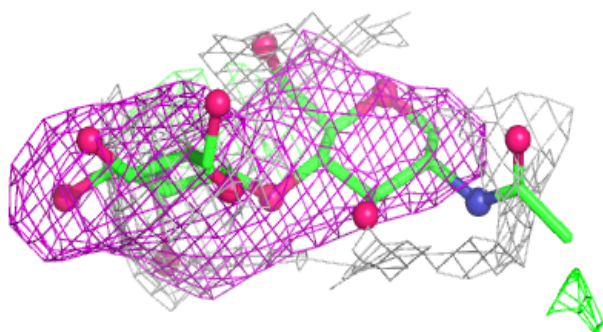
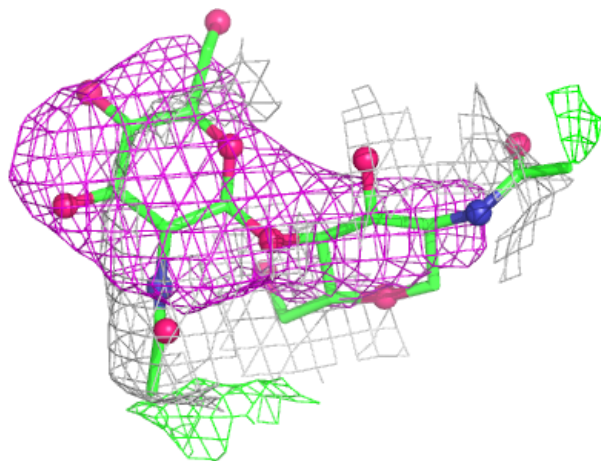
**Electron density around Chain T:**

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



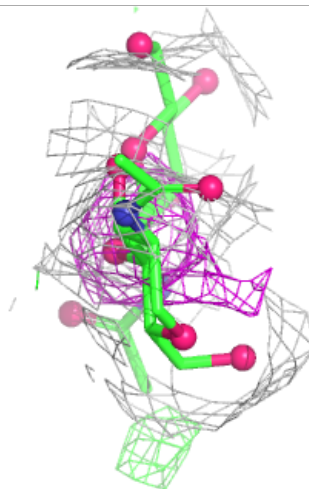
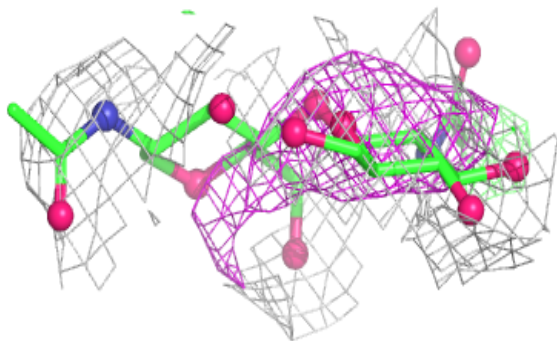
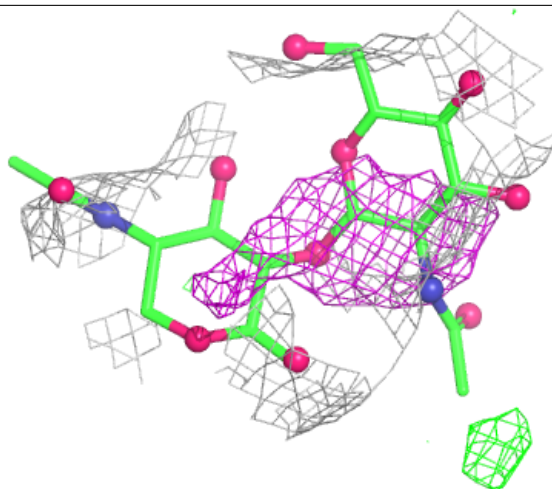
Electron density around Chain U:

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



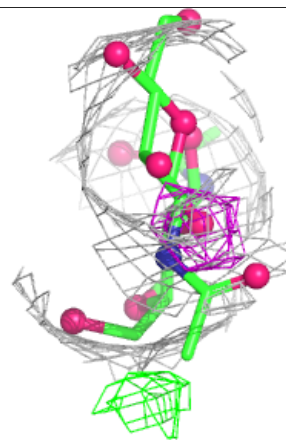
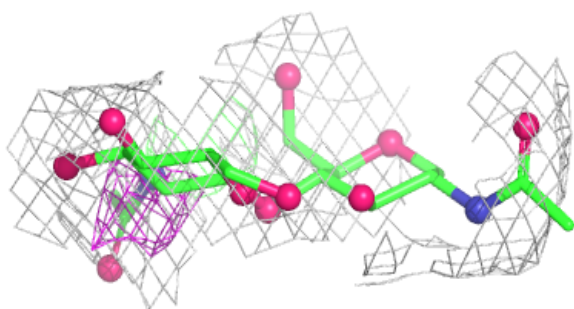
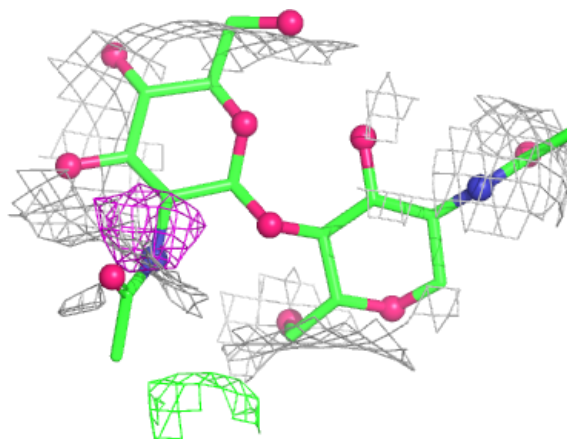
Electron density around Chain V:

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



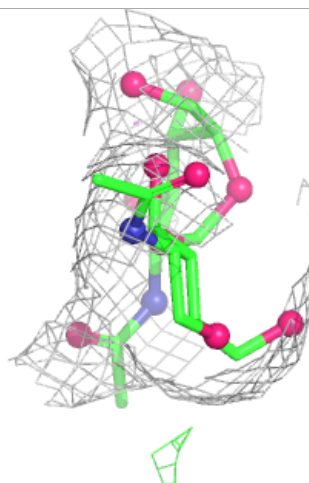
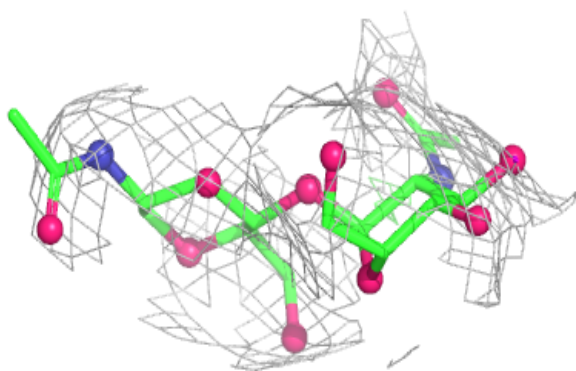
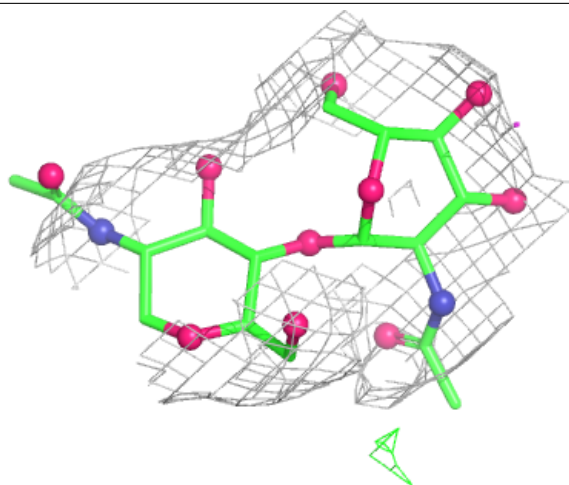
Electron density around Chain W:

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



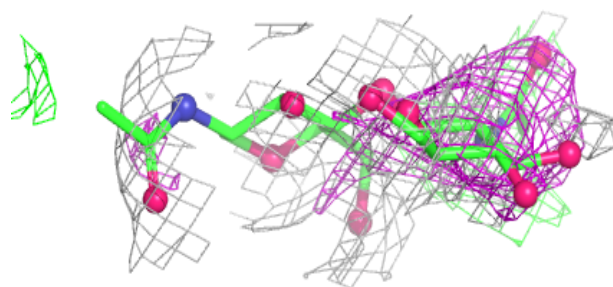
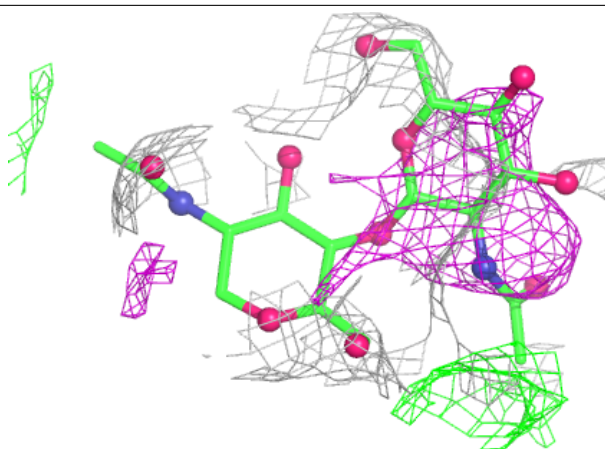
Electron density around Chain Y:

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



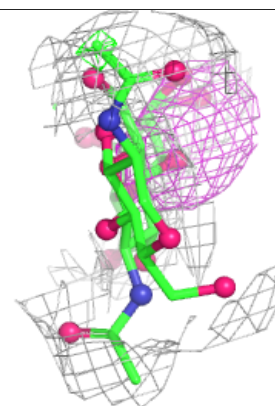
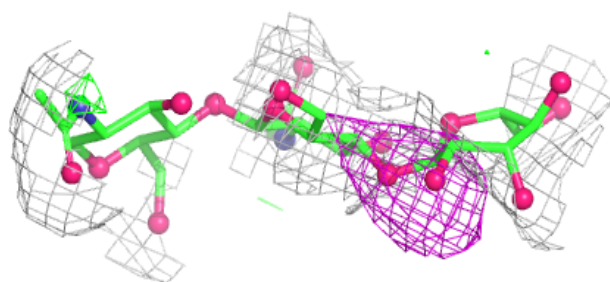
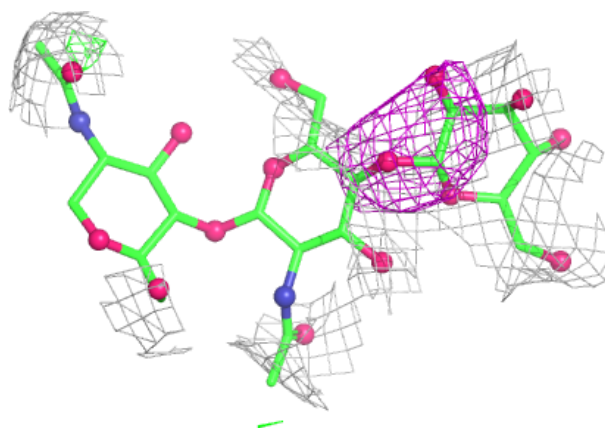
Electron density around Chain a:

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

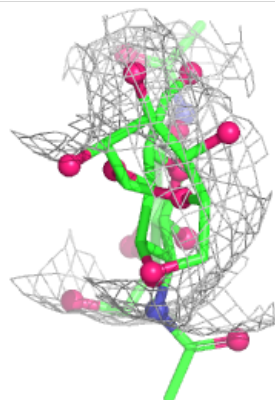
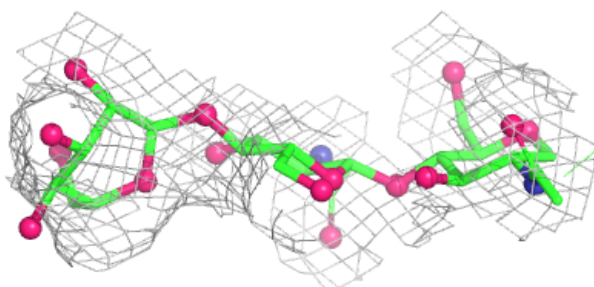
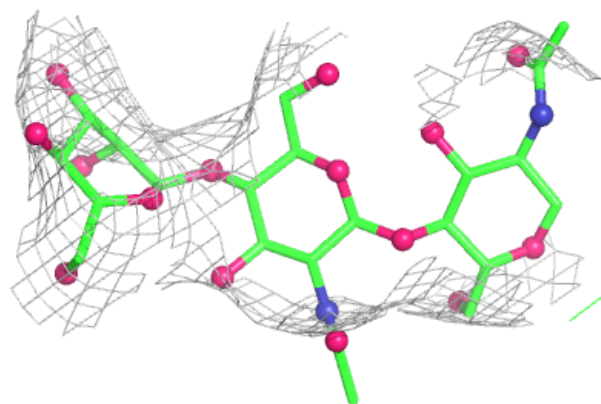


Electron density around Chain Q:

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

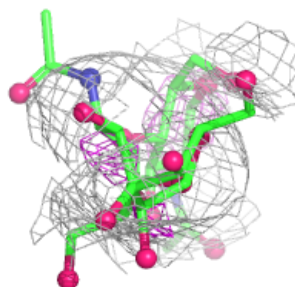
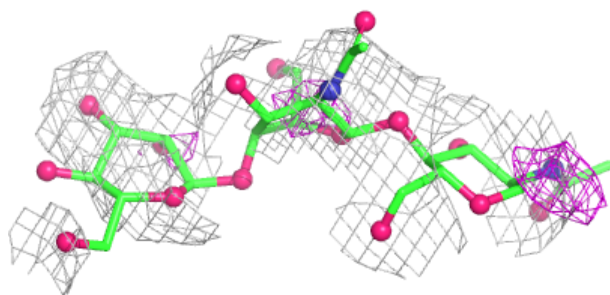
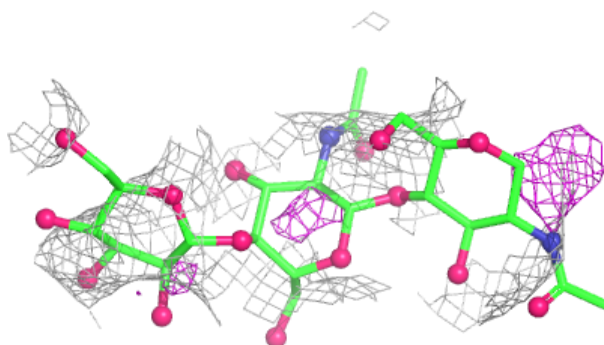
**Electron density around Chain Z:**

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

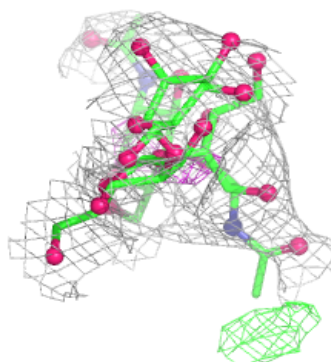
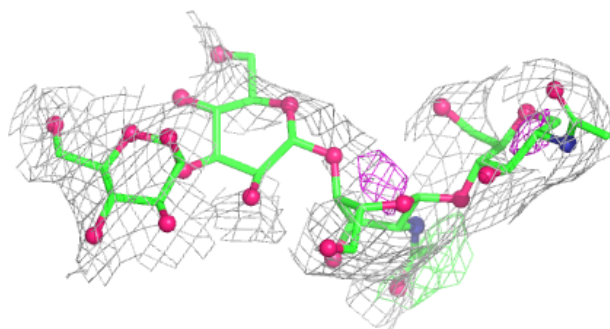
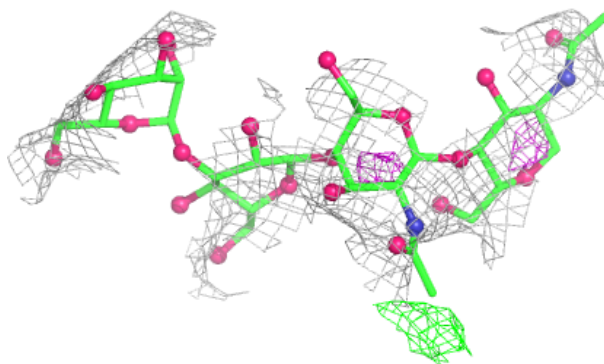


Electron density around Chain b:

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

**Electron density around Chain c:**

$2mF_o-DF_c$ (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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
9	NAG	F	2001	14/15	0.13	0.16	156,174,183,184	0
9	NAG	I	701	14/15	0.35	0.17	144,169,178,178	0
9	NAG	K	701	14/15	0.51	0.14	158,172,178,179	0
9	NAG	L	701	14/15	0.64	0.14	137,155,163,171	0

6.5 Other polymers [i](#)

There are no such residues in this entry.