Full wwPDB EM Validation Report ⓘ

Feb 25, 2026 – 03:10 PM JST

PDB ID	:	8JUU / pdb_00008juu
EMDB ID	:	EMD-36664
Title	:	rat megalin
Authors	:	Goto, S.; Tsutsumi, A.; Lee, Y.; Hosojima, M.; Kabasawa, H.; Komochi, K.; Yun-san, L.; Nagatoshi, S.; Tsumoto, K.; Nishizawa, T.; Kikkawa, M.; Saito, A.
Deposited on	:	2023-06-27
Resolution	:	3.80 Å(reported)
Based on initial model	:	.

This is a Full wwPDB EM 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/EMValidationReportHelp
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:

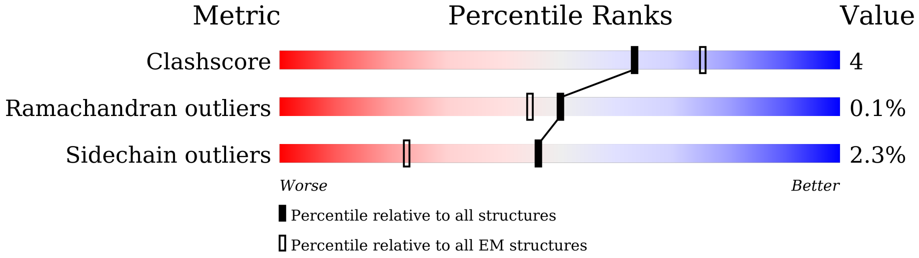
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.48.1

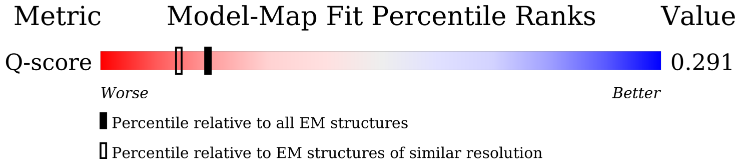
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 Å.

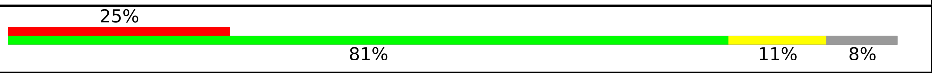
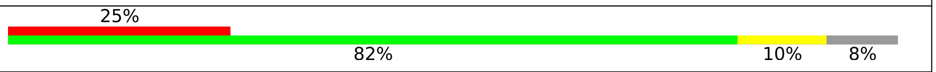
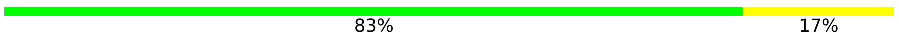
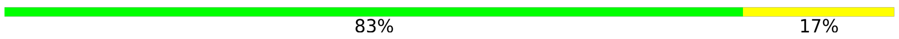
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	10198 (3.30 - 4.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	4660	
1	B	4660	
2	C	6	
2	I	6	

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Mol	Chain	Length	Quality of chain
3	D	3	🟥 33% 🟩 100%
3	J	3	🟥 33% 🟩 100%
4	G	5	🟥 20% 🟩 80% 🟨 20%
4	K	5	🟩 100%
5	H	5	🟥 20% 🟩 100%
5	L	5	🟩 100%
5	O	5	🟩 100%
5	R	5	🟩 100%
6	M	6	🟥 83% 🟩 100%
6	P	6	🟥 67% 🟩 100%
7	N	5	🟩 80% 🟨 20%
7	Q	5	🟩 100%
8	E	3	🟥 67% 🟩 67% 🟨 33%
8	T	3	🟥 67% 🟩 100%
8	b	3	🟥 100% 🟩 100%
8	c	3	🟥 33% 🟩 33% 🟨 67%
8	l	3	🟥 100% 🟨 100%
8	o	3	🟥 67% 🟩 67% 🟨 33%
8	w	3	🟥 67% 🟩 67% 🟨 33%
8	x	3	🟥 33% 🟩 67% 🟨 33%
9	0	2	🟥 100% 🟩 100%
9	3	2	🟥 100% 🟩 100%
9	5	2	🟥 100% 🟨 100%
9	F	2	🟩 100%
9	S	2	🟥 50% 🟩 50% 🟨 50%

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Mol	Chain	Length	Quality of chain
9	U	2	🟩 50% 🟨 50%
9	V	2	🟥 50% 🟨 100%
9	X	2	🟥 50% 🟩 100%
9	Z	2	🟥 50% 🟩 50% 🟨 50%
9	a	2	🟥 50% 🟩 100%
9	e	2	🟥 100% 🟨 100%
9	f	2	🟥 50% 🟩 100%
9	i	2	🟥 100% 🟩 100%
9	k	2	🟥 100% 🟨 100%
9	m	2	🟩 50% 🟨 50%
9	n	2	🟥 50% 🟨 100%
9	p	2	🟩 50% 🟧 50%
9	q	2	🟥 100% 🟩 100%
9	s	2	🟥 50% 🟩 50% 🟨 50%
9	u	2	🟥 50% 🟨 100%
9	v	2	🟥 50% 🟩 100%
9	z	2	🟥 100% 🟨 100%
10	1	5	🟥 100% 🟩 20% 🟨 80%
10	2	5	🟥 80% 🟨 100%
10	W	5	🟥 60% 🟩 80% 🟨 20%
10	Y	5	🟩 60% 🟨 40%
10	d	5	🟥 60% 🟩 80% 🟨 20%
10	g	5	🟥 100% 🟩 60% 🟨 40%
10	h	5	🟥 80% 🟩 60% 🟨 40%
10	r	5	🟥 80% 🟩 40% 🟨 40% 🟧 20%

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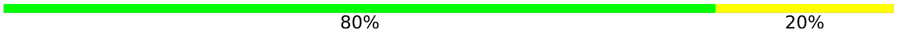
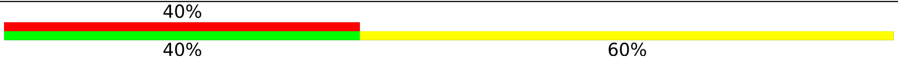
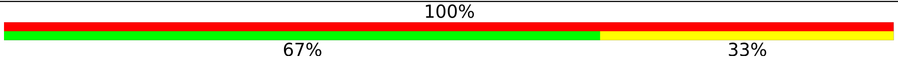
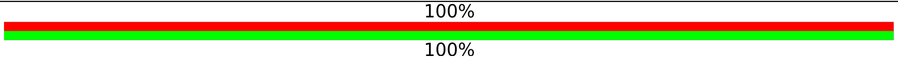
Mol	Chain	Length	Quality of chain
10	t	5	
10	y	5	
11	4	3	
11	j	3	

2 Entry composition (i)

There are 15 unique types of molecules in this entry. The entry contains 70018 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 LDL receptor related protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4308	Total 33638	C 20708	N 5950	O 6605	S 375	0	0
1	B	4308	Total 33638	C 20708	N 5950	O 6605	S 375	0	0

- Molecule 2 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	C	6	Total 33	C 21	N 6	O 6	0	0
2	I	6	Total 33	C 21	N 6	O 6	0	0

- Molecule 3 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	3	Total 16	C 9	N 3	O 3	S 1	0	0
3	J	3	Total 16	C 9	N 3	O 3	S 1	0	0

- Molecule 4 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	G	5	Total 33	C 19	N 5	O 9	0	0
4	K	5	Total 33	C 19	N 5	O 9	0	0

- Molecule 5 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms	AltConf	Trace
5	H	5	Total C N O 28 16 6 6	0	0
5	L	5	Total C N O 28 16 6 6	0	0
5	O	5	Total C N O 28 16 6 6	0	0
5	R	5	Total C N O 28 16 6 6	0	0

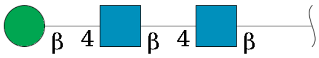
- Molecule 6 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms	AltConf	Trace
6	M	6	Total C N O 30 18 6 6	0	0
6	P	6	Total C N O 30 18 6 6	0	0

- Molecule 7 is a protein called unclear peptide.

Mol	Chain	Residues	Atoms	AltConf	Trace
7	N	5	Total C N O 28 16 6 6	0	0
7	Q	5	Total C N O 28 16 6 6	0	0

- Molecule 8 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	AltConf	Trace
8	E	3	Total C N O 39 22 2 15	0	0
8	T	3	Total C N O 39 22 2 15	0	0
8	b	3	Total C N O 39 22 2 15	0	0
8	c	3	Total C N O 39 22 2 15	0	0
8	l	3	Total C N O 39 22 2 15	0	0

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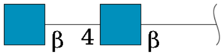
Mol	Chain	Residues	Atoms	AltConf	Trace
8	o	3	Total C N O 39 22 2 15	0	0
8	w	3	Total C N O 39 22 2 15	0	0
8	x	3	Total C N O 39 22 2 15	0	0

- Molecule 9 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms	AltConf	Trace
9	F	2	Total C N O 28 16 2 10	0	0
9	S	2	Total C N O 28 16 2 10	0	0
9	U	2	Total C N O 28 16 2 10	0	0
9	V	2	Total C N O 28 16 2 10	0	0
9	X	2	Total C N O 28 16 2 10	0	0
9	Z	2	Total C N O 28 16 2 10	0	0
9	a	2	Total C N O 28 16 2 10	0	0
9	e	2	Total C N O 28 16 2 10	0	0
9	f	2	Total C N O 28 16 2 10	0	0
9	i	2	Total C N O 28 16 2 10	0	0
9	k	2	Total C N O 28 16 2 10	0	0
9	m	2	Total C N O 28 16 2 10	0	0
9	n	2	Total C N O 28 16 2 10	0	0
9	p	2	Total C N O 28 16 2 10	0	0

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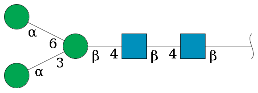
Mol	Chain	Residues	Atoms	AltConf	Trace
9	q	2	Total C N O 28 16 2 10	0	0
9	s	2	Total C N O 28 16 2 10	0	0
9	u	2	Total C N O 28 16 2 10	0	0
9	v	2	Total C N O 28 16 2 10	0	0
9	z	2	Total C N O 28 16 2 10	0	0
9	0	2	Total C N O 28 16 2 10	0	0
9	3	2	Total C N O 28 16 2 10	0	0
9	5	2	Total C N O 28 16 2 10	0	0

- Molecule 10 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms	AltConf	Trace
10	W	5	Total C N O 61 34 2 25	0	0
10	Y	5	Total C N O 61 34 2 25	0	0
10	d	5	Total C N O 61 34 2 25	0	0
10	g	5	Total C N O 61 34 2 25	0	0
10	h	5	Total C N O 61 34 2 25	0	0
10	r	5	Total C N O 61 34 2 25	0	0
10	t	5	Total C N O 61 34 2 25	0	0
10	y	5	Total C N O 61 34 2 25	0	0

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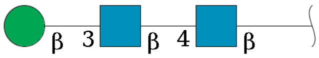
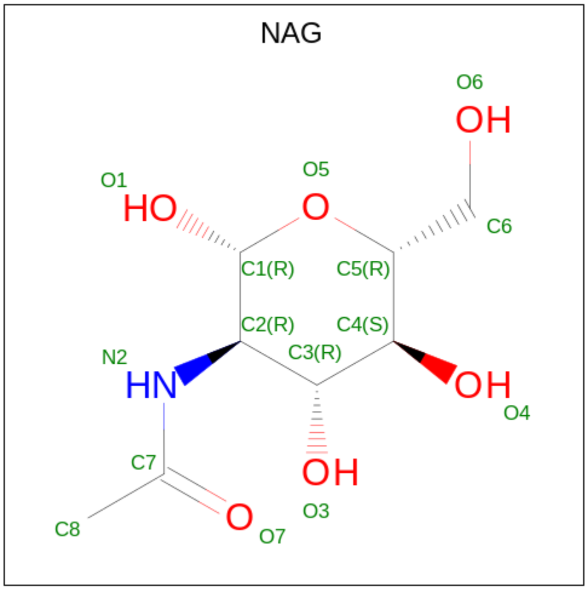
Mol	Chain	Residues	Atoms	AltConf	Trace
10	1	5	Total C N O 61 34 2 25	0	0
10	2	5	Total C N O 61 34 2 25	0	0

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



Mol	Chain	Residues	Atoms	AltConf	Trace
11	j	3	Total C N O 39 22 2 15	0	0
11	4	3	Total C N O 39 22 2 15	0	0

- Molecule 12 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	AltConf
12	A	1	Total C N O 14 8 1 5	0
12	A	1	Total C N O 14 8 1 5	0

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

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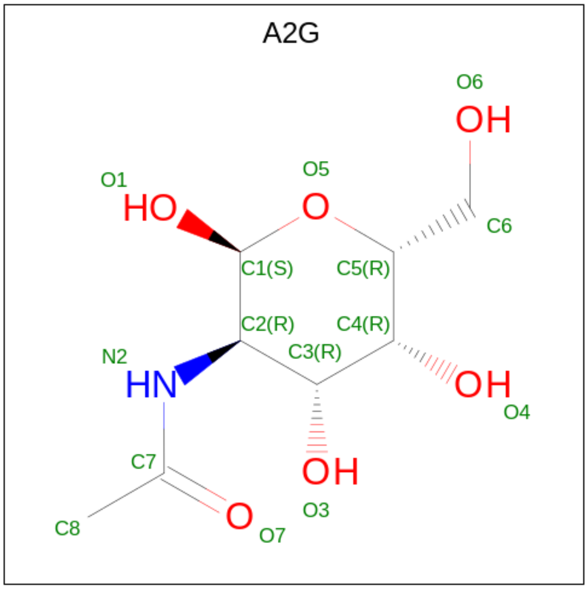
Mol	Chain	Residues	Atoms	AltConf
12	B	1	Total C N O 14 8 1 5	0

- Molecule 13 is 2-acetamido-2-deoxy-alpha-D-galactopyranose (CCD ID: A2G) (formula: $C_8H_{15}NO_6$).


A2G
O6
OH
O1
HO
O5
O
C6
C1(S)
C5(R)
C2(R)
C4(R)
N2
C3(R)
HN
OH
O4
C7
OH
O3
C8
O
O7

Mol	Chain	Residues	Atoms	AltConf
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0
13	A	1	Total C N O 14 8 1 5	0

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

- Molecule 14 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	AltConf
14	A	44	Total Ca 44 44	0
14	B	44	Total Ca 44 44	0

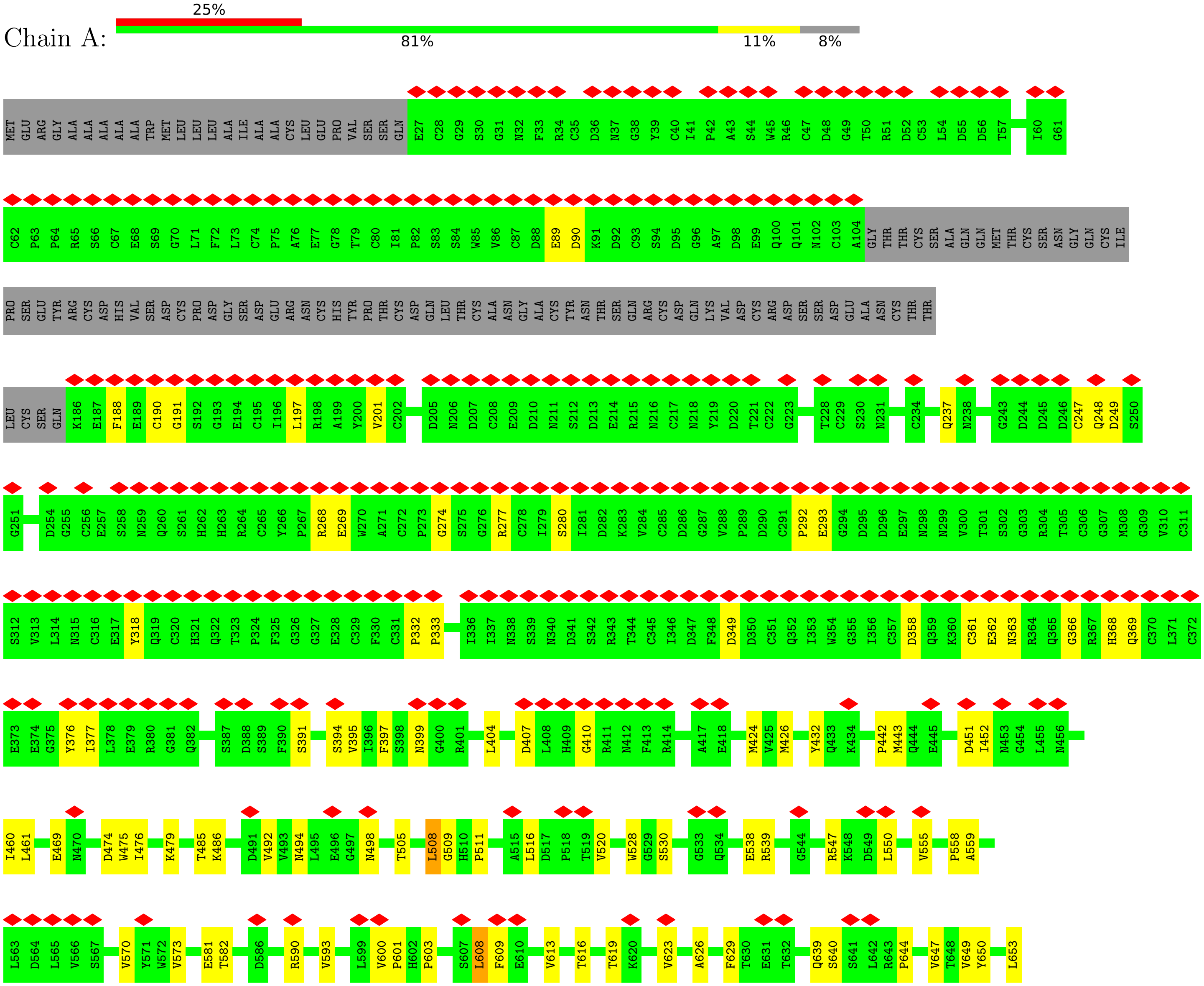
- Molecule 15 is NICKEL (II) ION (CCD ID: NI) (formula: Ni).

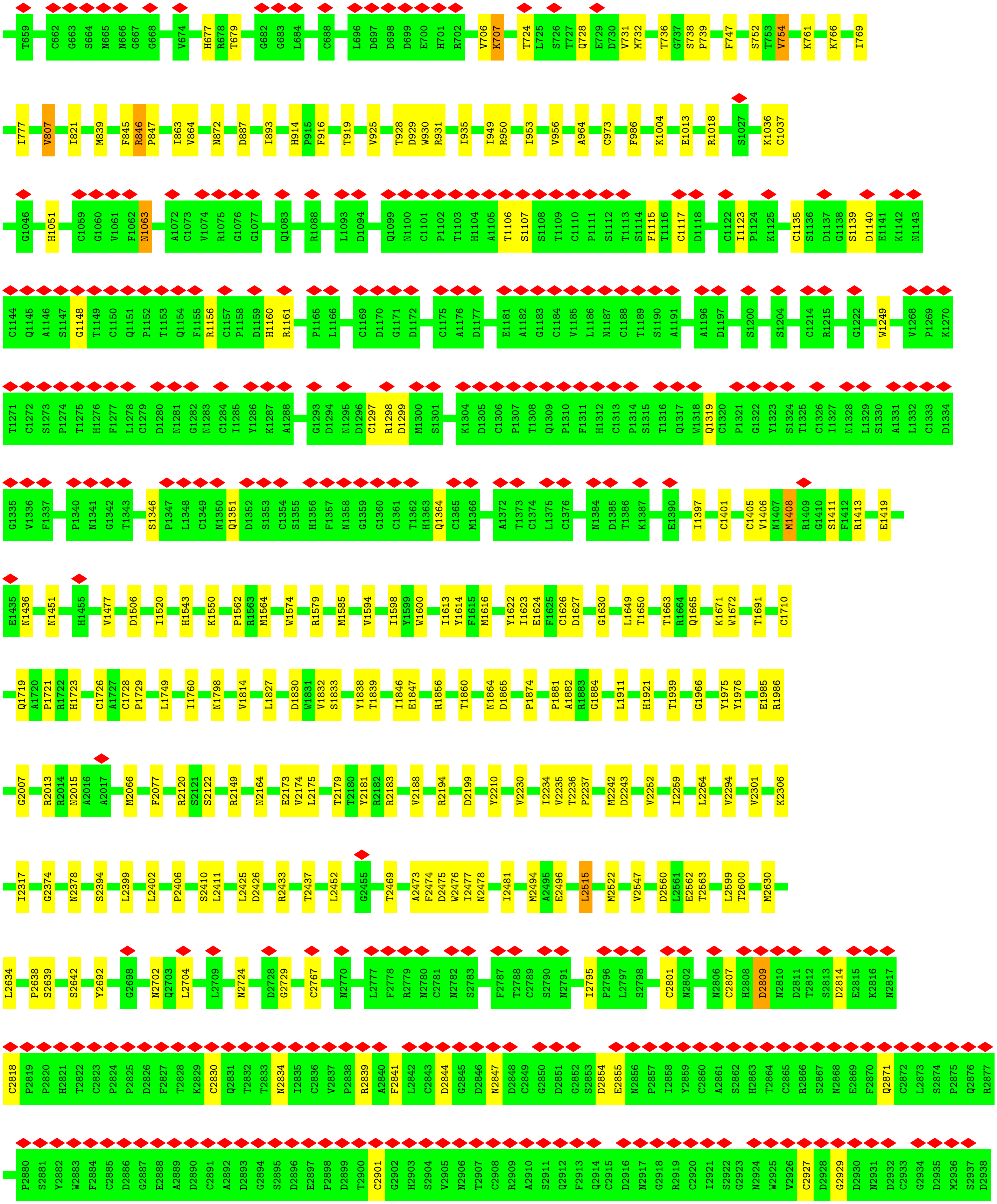
Mol	Chain	Residues	Atoms	AltConf
15	A	1	Total Ni 1 1	0
15	B	1	Total Ni 1 1	0

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: LDL receptor related protein 2




T659 C662 G663 S664 N665 N666 G667 G668 V674 H677 R678 T679 G682 G683 L684 C688 L696 D697 D698 D699 E700 H701 R702 V706 K707 T724 L725 S726 T727 Q728 E729 D730 V731 M732 T736 G737 S738 P739 F747 S752 T753 V754 K761 K766 I769
I777 V807 I821 M839 F845 R846 P847 I863 V864 N872 D887 I893 H914 P915 F916 T919 V925 T928 D929 W930 R931 I935 I949 R950 I953 V956 A964 C973 F986 K1004 E1013 R1018 S1027 K1036 C1037
G1046 H1051 C1059 G1060 V1061 F1062 N1063 A1072 C1073 V1074 R1075 G1076 G1077 Q1083 R1088 L1093 D1094 Q1099 N1100 C1101 P1102 T1103 H1104 A1105 T1106 S1107 S1108 T1109 C1110 P1111 S1112 T1113 S1114 F1115 T1116 C1117 D1118 C1122 I1123 P1124 K1125 C1135 S1136 D1137 G1138 S1139 D1140 E1141 K1142 N1143
C1144 Q1145 A1146 S1147 G1148 T1149 C1150 Q1151 P1152 T1153 Q1154 F1155 R1156 C1157 P1158 D1159 H1160 R1161 P1165 L1166 C1169 D1170 G1171 D1172 C1175 A1176 D1177 E1181 A1182 G1183 C1184 V1185 L1186 N1187 C1188 T1189 S1190 A1191 A1196 D1197 S1200 S1204 C1214 R1215 G1222 W1249 V1268 P1269 K1270
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G1335 V1336 F1337 P1340 N1341 G1342 T1343 S1346 P1347 L1348 C1349 N1350 Q1351 D1352 S1353 C1354 S1355 H1356 F1357 N1358 G1359 G1360 C1361 T1362 H1363 Q1364 C1365 M1366 A1372 T1373 C1374 L1375 C1376 N1384 D1385 T1386 K1387 E1390 I1397 C1401 C1405 V1406 N1407 M1408 R1409 G1410 S1411 F1412 R1413 E1419
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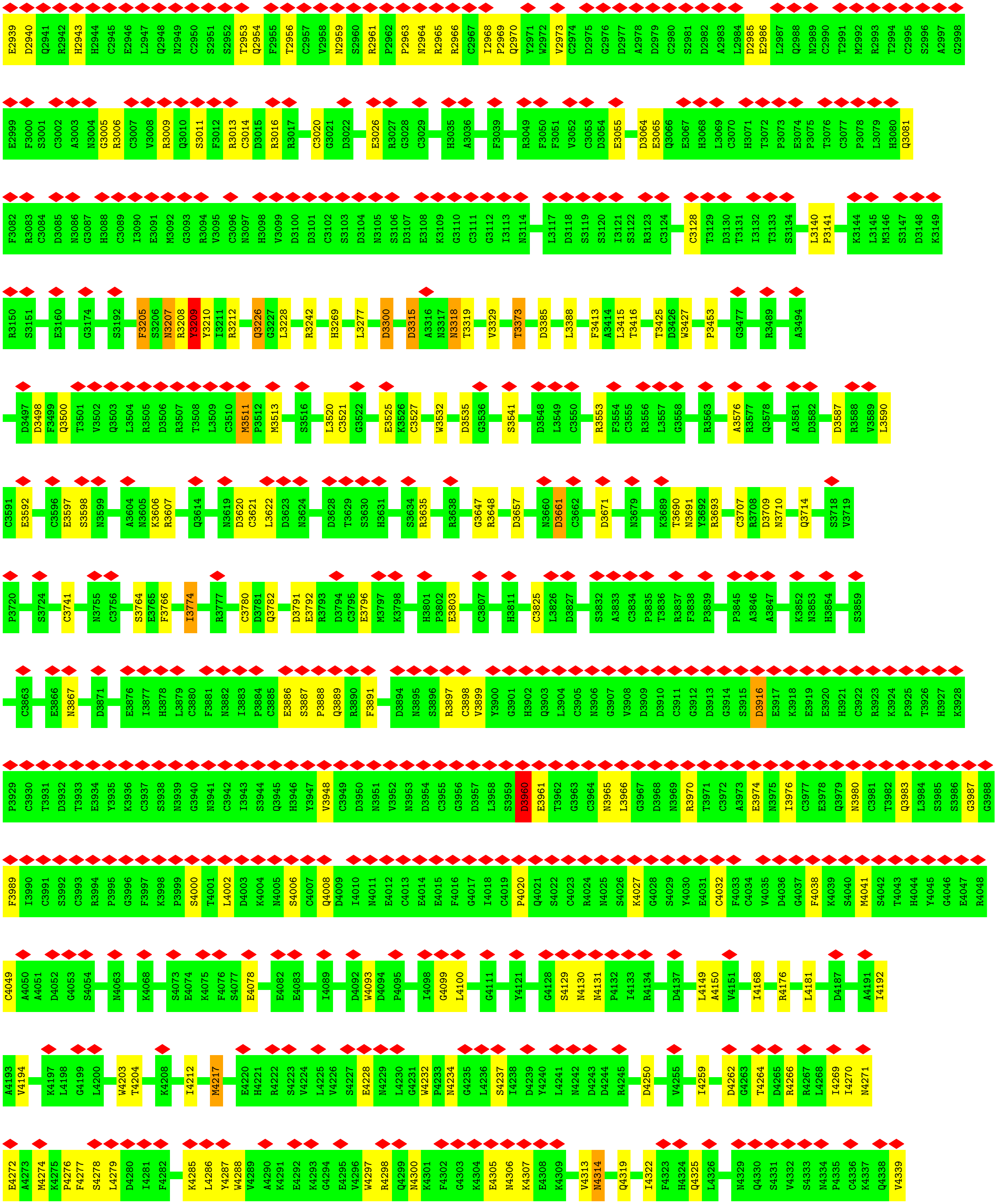
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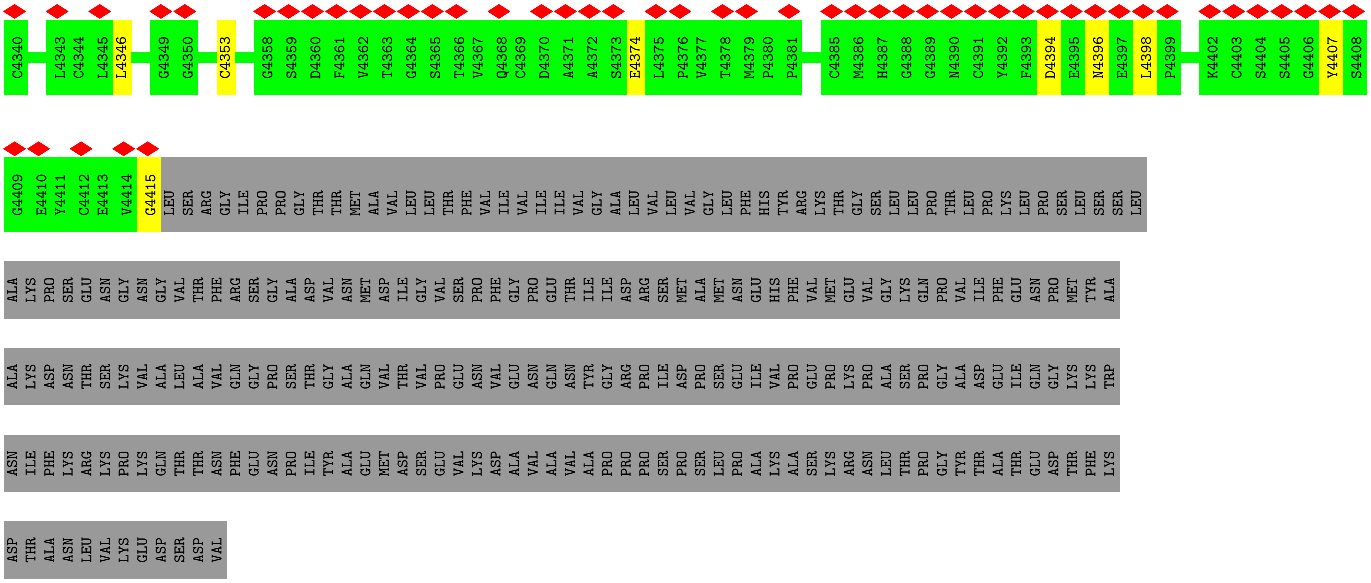
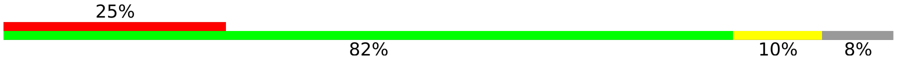
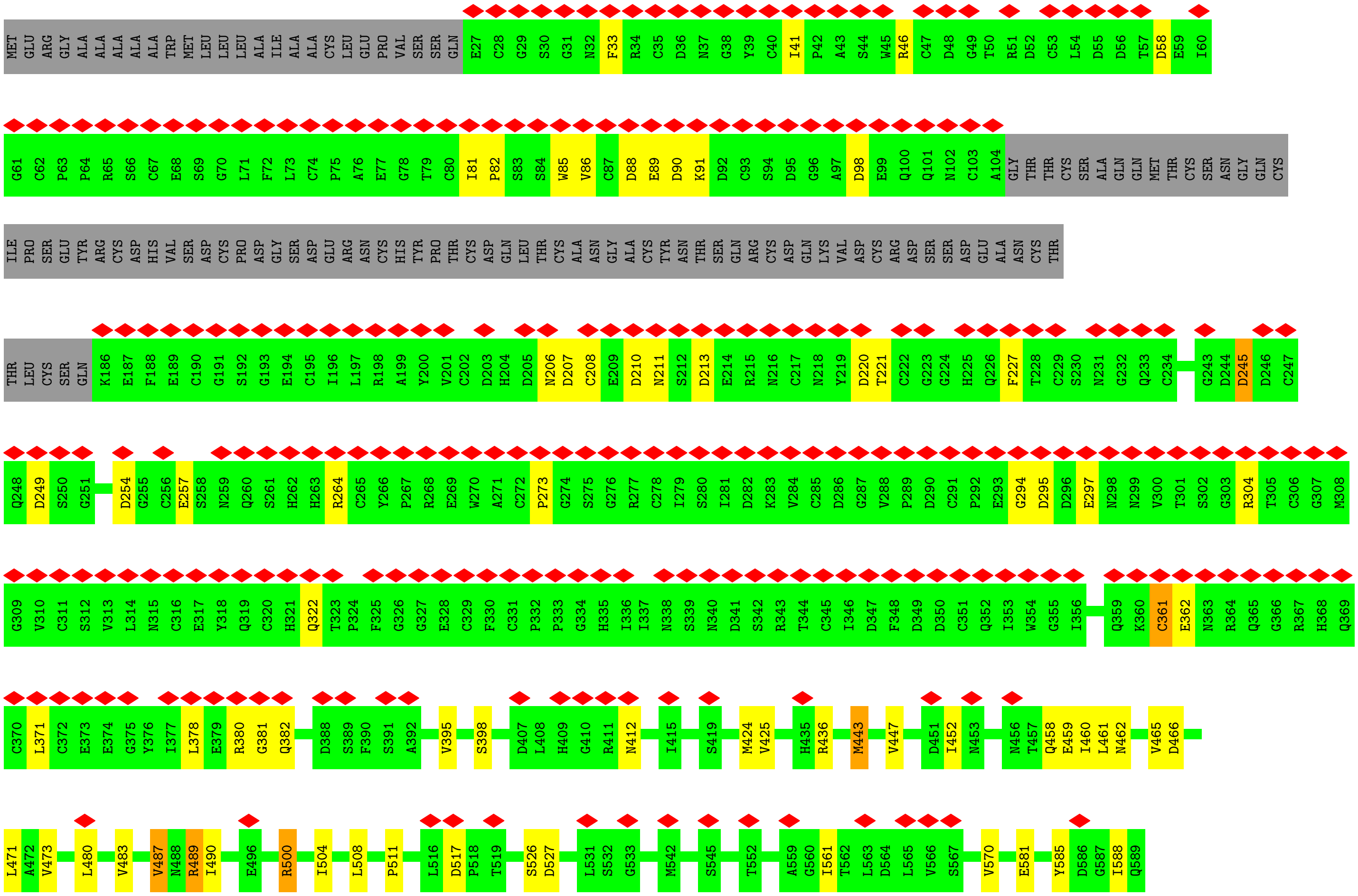
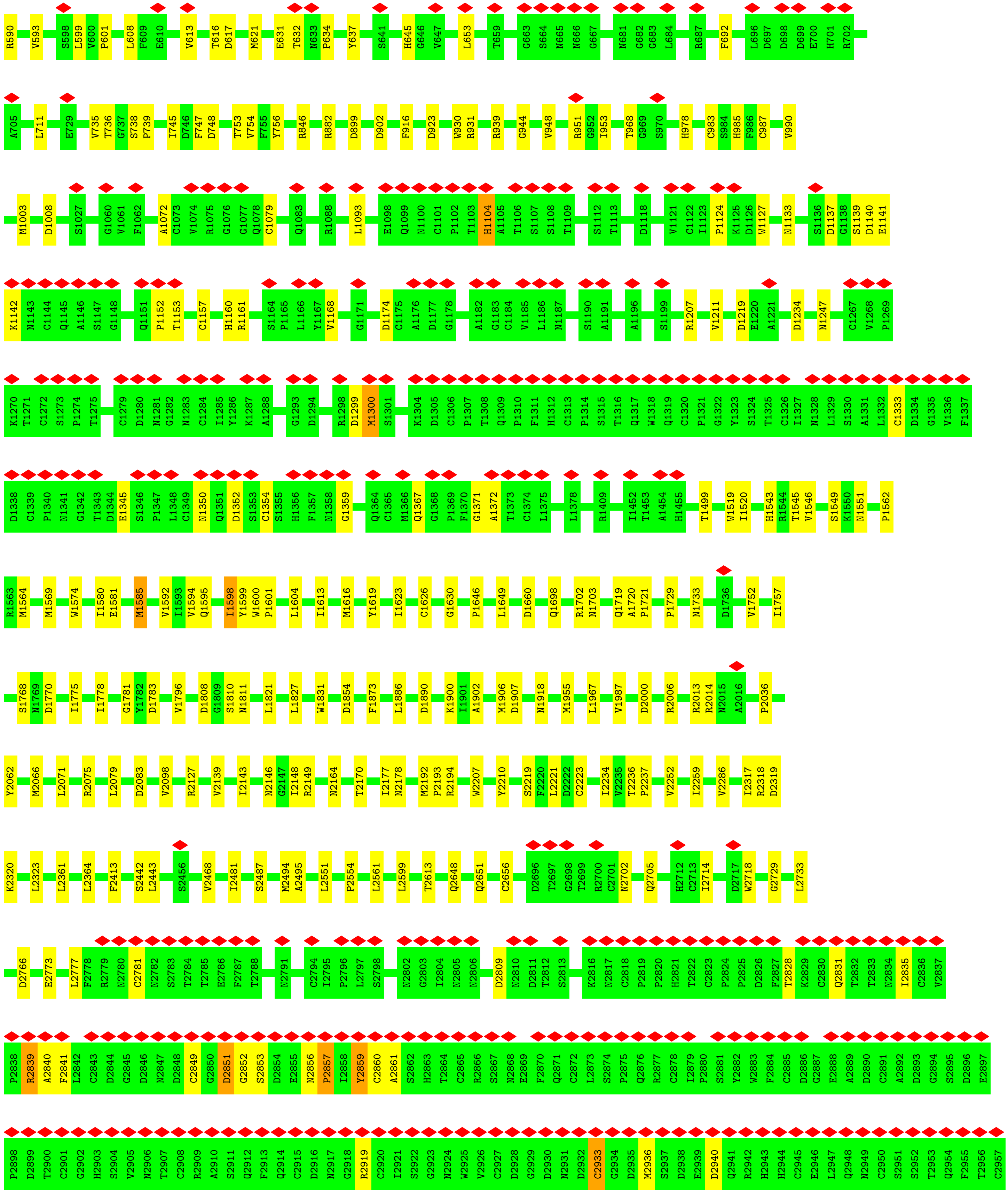


- Molecule 1: LDL receptor related protein 2

Chain B:



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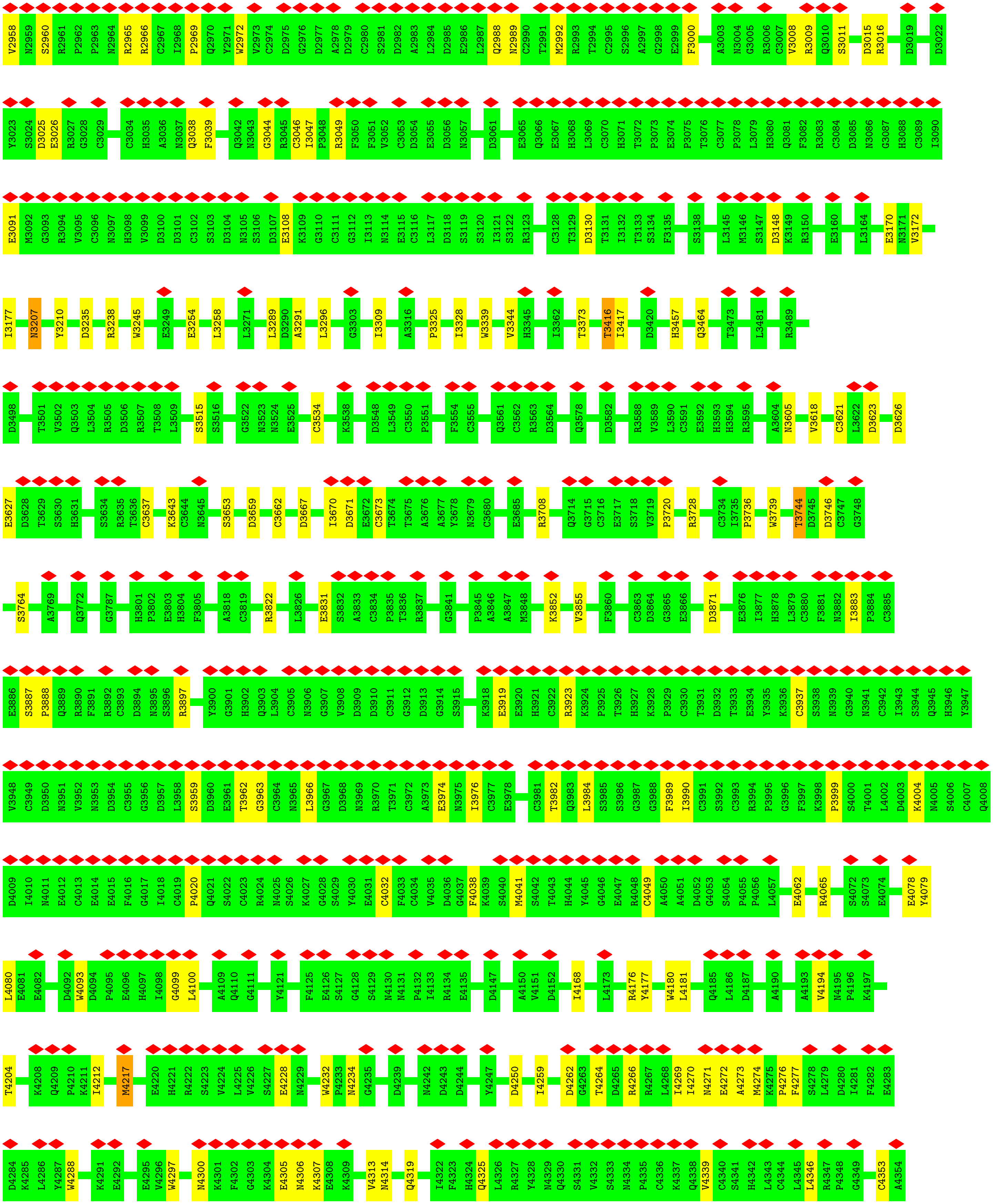
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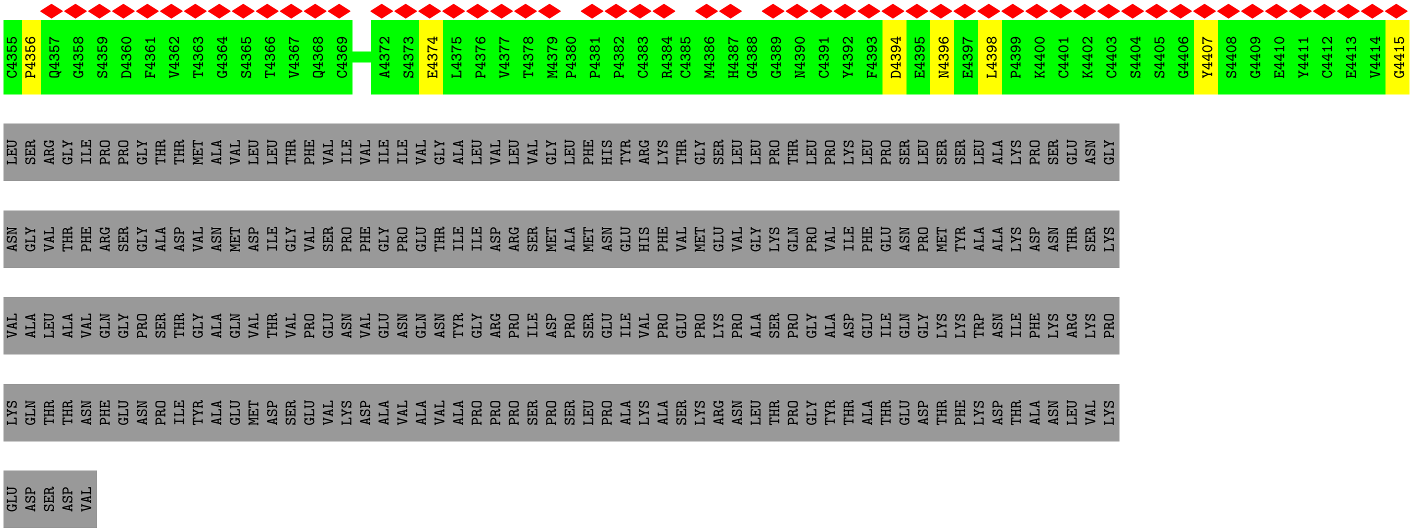
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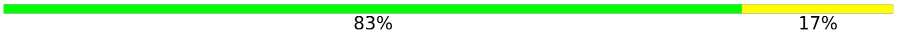
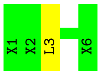
ASN GLY VAL THR PHE ARG SER GLY ALA ASP VAL ASN MET ASP ILE GLY VAL SER PRO PHE GLY PRO GLU THR ILE ILE ASP ARG SER MET ALA MET ASN GLU HIS PHE VAL MET GLU VAL GLY LYS GLN PRO VAL ILE PHE GLU ASN PRO MET TYR ALA ALA LYS ASP ASN THR SER LYS
VAL ALA LEU ALA VAL GLN GLY PRO SER THR GLY ALA GLN VAL THR VAL PRO GLU ASN VAL GLU ASN GLN ASN TYR GLY ARG PRO ILE ASP PRO SER GLU ILE VAL PRO GLU PRO LYS PRO ALA SER PRO GLY ALA ASP GLU ILE GLN GLY LYS LYS TRP ASN ILE PHE LYS ARG LYS PRO
LYS GLN THR THR ASN PHE GLU ASN PRO ILE TYR ALA GLU MET ASP SER GLU VAL LYS ASP ALA VAL ALA VAL ALA PRO PRO SER PRO SER LEU PRO ALA LYS ALA SER LYS ARG ASN LEU THR PRO GLY TYR THR ALA THR GLU ASP THR PHE LYS ASP THR ALA ASN LEU VAL LYS
GLU ASP SER ASP VAL

- Molecule 2: unclear peptide

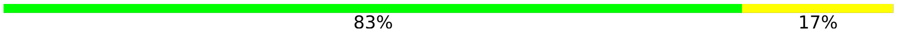
Chain C:

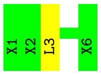




- Molecule 2: unclear peptide

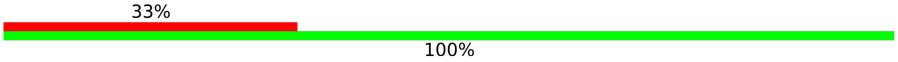
Chain I:

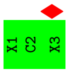




- Molecule 3: unclear peptide

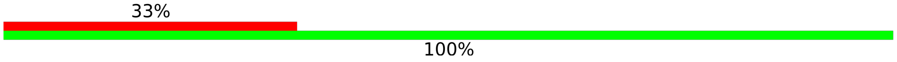
Chain D:

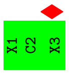




- Molecule 3: unclear peptide

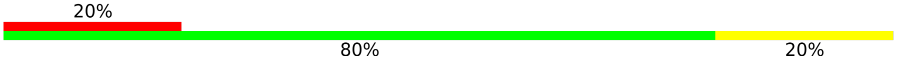
Chain J:

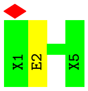




- Molecule 4: unclear peptide

Chain G:



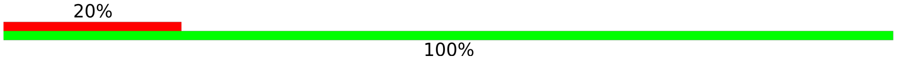


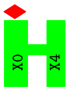
- Molecule 4: unclear peptide

Chain K:

There are no outlier residues recorded for this chain.

- Molecule 5: unclear peptide

Chain H:




- Molecule 5: unclear peptide

Chain L:

There are no outlier residues recorded for this chain.

- Molecule 5: unclear peptide

Chain O:

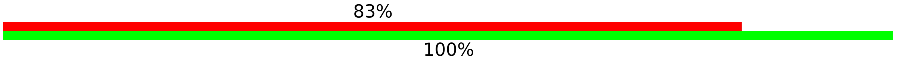
There are no outlier residues recorded for this chain.

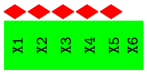
- Molecule 5: unclear peptide

Chain R:

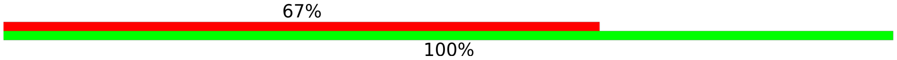
There are no outlier residues recorded for this chain.

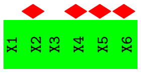
- Molecule 6: unclear peptide

Chain M:




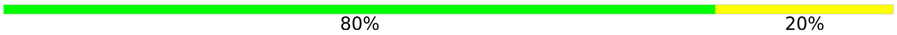
- Molecule 6: unclear peptide

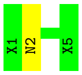
Chain P:




- Molecule 7: unclear peptide

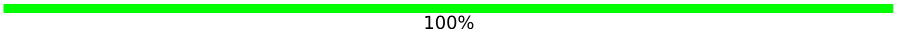
Chain N:





- Molecule 7: unclear peptide

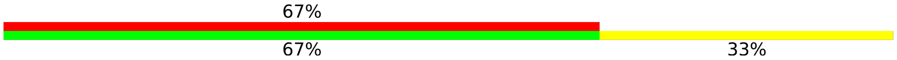
Chain Q:

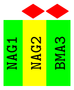


There are no outlier residues recorded for this chain.

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

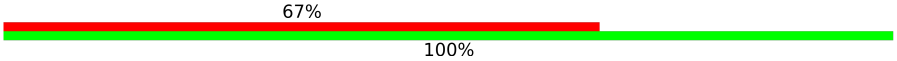
Chain E:

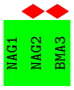




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

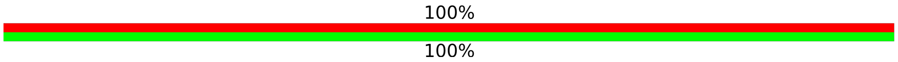
Chain T:

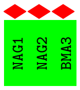




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

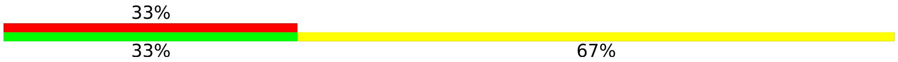
Chain b:

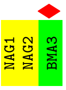




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

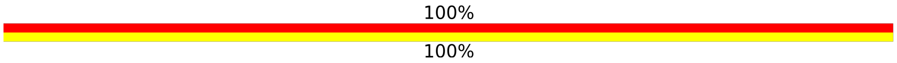
Chain c:

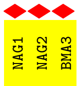




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

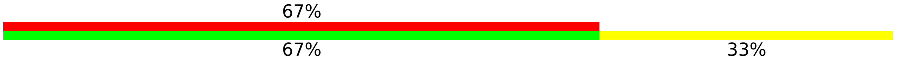
Chain l:

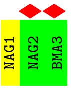




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

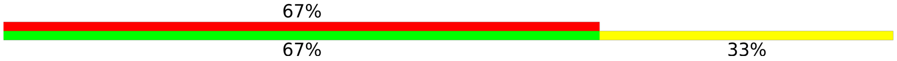
Chain o:

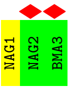




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

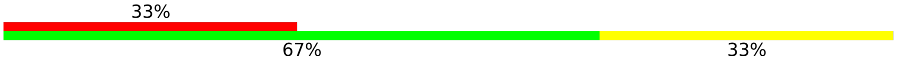
Chain w:

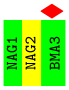




- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

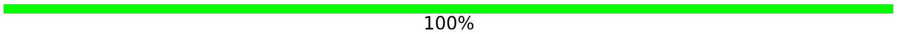
Chain x:

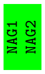




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

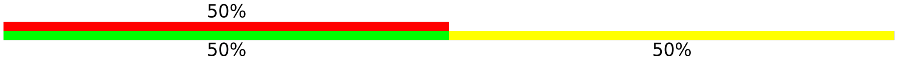
Chain F:

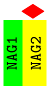




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

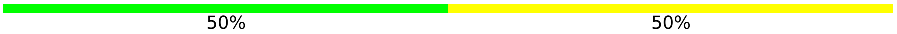
Chain S:

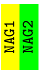




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

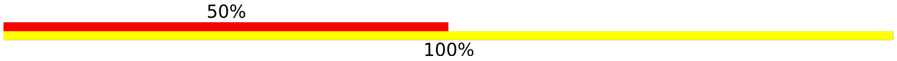
Chain U:

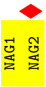




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

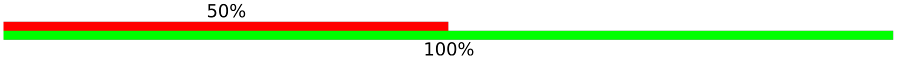
Chain V:

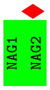




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

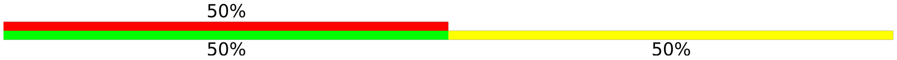
Chain X:

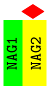




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

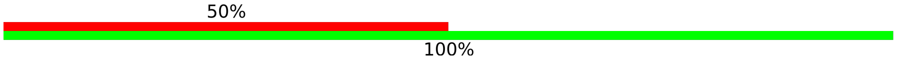
Chain Z:

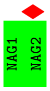




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

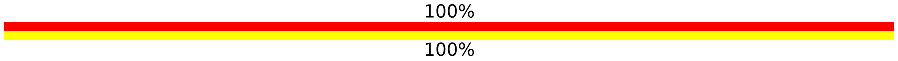
Chain a:

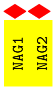




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

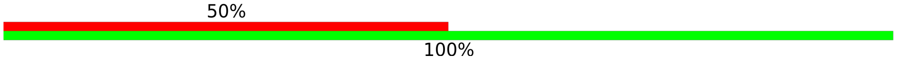
Chain e:

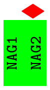




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

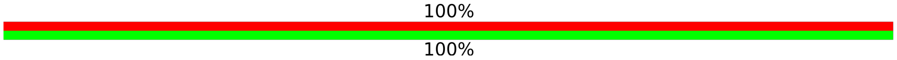
Chain f:

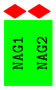




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

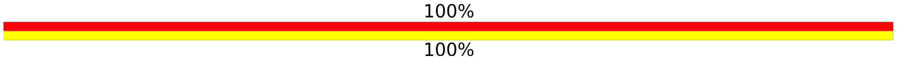
Chain i:

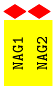




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

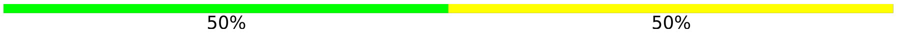
Chain k:

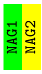




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

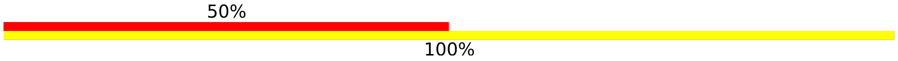
Chain m:

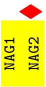




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

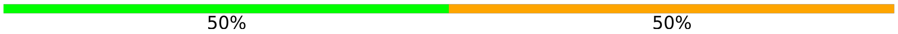
Chain n:

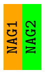




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

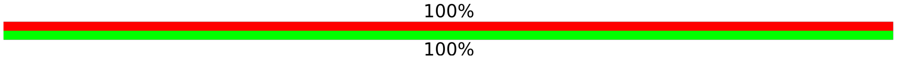
Chain p:

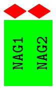




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

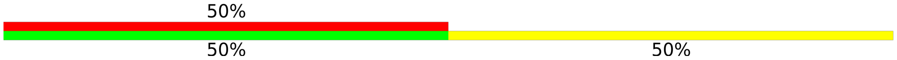
Chain q:

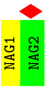




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

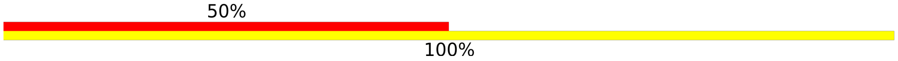
Chain s:

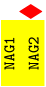




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

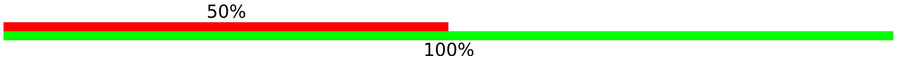
Chain u:

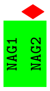




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

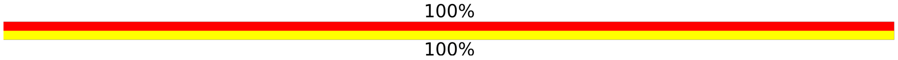
Chain v:

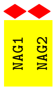




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

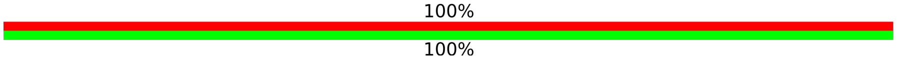
Chain z:

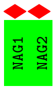




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

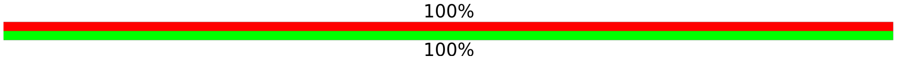
Chain 0:

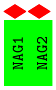




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

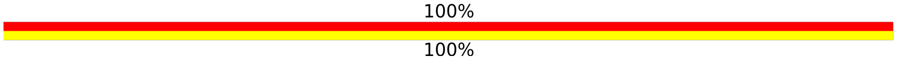
Chain 3:

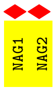




- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

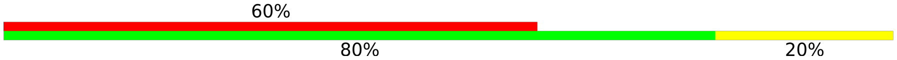
Chain 5:

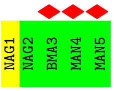




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

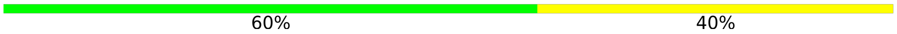
Chain W:

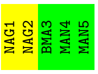




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

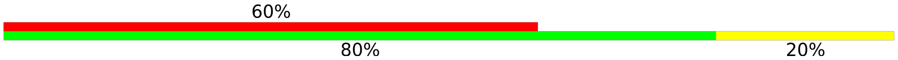
Chain Y:

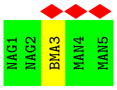




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

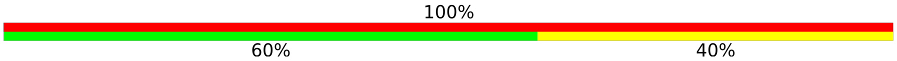
Chain d:

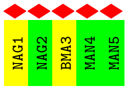




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

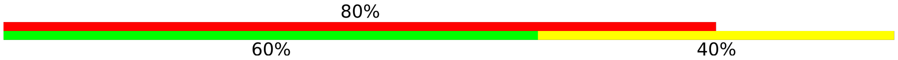
Chain g:

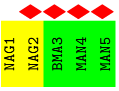




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

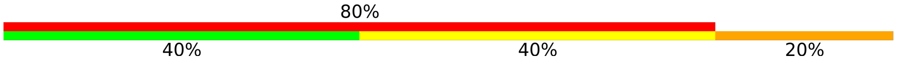
Chain h:

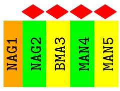




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

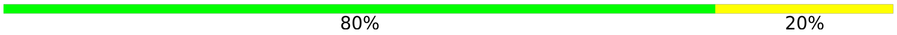
Chain r:

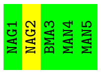




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

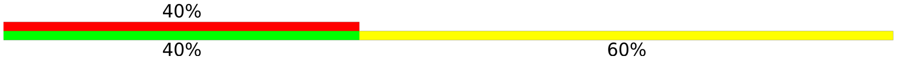
Chain t:

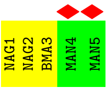




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

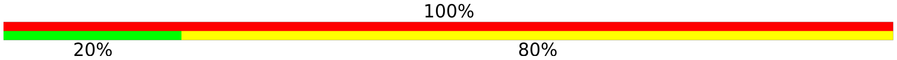
Chain y:

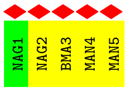




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

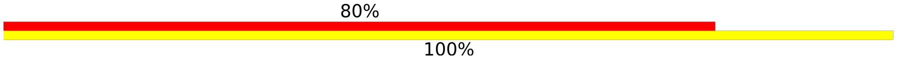
Chain 1:

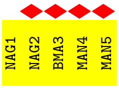




- Molecule 10: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

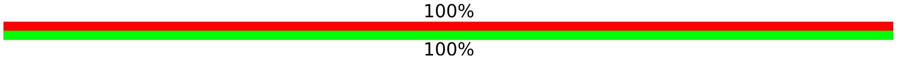
Chain 2:

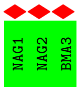




- Molecule 11: beta-D-mannopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

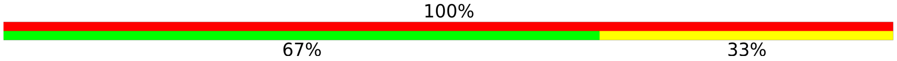
Chain j:

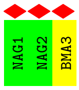




- Molecule 11: beta-D-mannopyranose-(1-3)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 4:





4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	101096	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{Å}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.214	Depositor
Minimum map value	-0.116	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	366.86002, 366.86002, 366.86002	wwPDB
Map dimensions	260, 260, 260	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.411, 1.411, 1.411	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NI, MAN, CA, BMA, A2G, NAG

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	0.51	0/34456	0.80	13/46804 (0.0%)
1	B	0.94	0/34456	0.96	14/46804 (0.0%)
2	C	0.63	0/7	0.91	0/8
2	I	0.64	0/7	1.15	0/8
3	D	1.27	0/5	0.88	0/5
3	J	1.00	0/5	0.70	0/5
4	G	0.79	0/17	0.83	0/21
4	K	0.86	0/17	0.85	0/21
5	H	0.91	0/7	0.74	0/8
5	L	0.90	0/7	1.01	0/8
5	O	0.78	0/7	0.85	0/8
5	R	0.71	0/7	0.81	0/8
7	N	1.00	0/7	1.84	0/8
7	Q	0.54	0/7	1.94	0/8
All	All	0.76	0/69012	0.88	27/93724 (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	A	0	1
1	B	0	1
All	All	0	2

There are no bond length outliers.

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3916	ASP	CA-CB-CG	8.63	121.23	112.60
1	A	3300	ASP	CA-CB-CG	7.96	120.56	112.60
1	A	3315	ASP	CA-CB-CG	7.83	120.43	112.60
1	A	986	PHE	CA-CB-CG	7.32	121.12	113.80
1	B	923	ASP	CA-CB-CG	6.67	119.27	112.60
1	B	2809	ASP	CA-CB-CG	6.66	119.26	112.60
1	B	2851	ASP	CA-CB-CG	6.52	119.12	112.60
1	A	1063	ASN	CA-CB-CG	6.21	118.81	112.60
1	A	1506	ASP	CA-CB-CG	5.63	118.23	112.60
1	A	2841	PHE	CA-CB-CG	5.58	119.38	113.80
1	A	1864	ASN	CA-CB-CG	5.56	118.16	112.60
1	B	3937	CYS	CA-C-N	5.50	127.92	120.38
1	B	3937	CYS	C-N-CA	5.50	127.92	120.38
1	B	2000	ASP	CA-CB-CG	5.50	118.10	112.60
1	B	3148	ASP	CA-CB-CG	5.45	118.05	112.60
1	A	3318	ASN	CA-CB-CG	5.44	118.04	112.60
1	B	3207	ASN	CA-CB-CG	5.42	118.02	112.60
1	B	3999	PRO	CA-C-N	5.41	129.35	120.63
1	B	3999	PRO	C-N-CA	5.41	129.35	120.63
1	B	2413	PHE	CA-CB-CG	5.41	119.21	113.80
1	A	90	ASP	CA-CB-CG	5.37	117.97	112.60
1	B	1008	ASP	CA-CB-CG	5.33	117.93	112.60
1	A	1865	ASP	CA-CB-CG	5.28	117.88	112.60
1	B	2857	PRO	N-CA-C	-5.26	107.28	113.86
1	A	2847	ASN	CA-CB-CG	5.16	117.76	112.60
1	B	220	ASP	CA-CB-CG	5.05	117.65	112.60
1	A	3960	ASP	CA-CB-CG	5.05	117.65	112.60

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	3242	ARG	Sidechain
1	B	2839	ARG	Sidechain

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	33638	0	31027	279	0
1	B	33638	0	31025	254	0
2	C	33	0	18	3	0
2	I	33	0	18	4	0
3	D	16	0	8	0	0
3	J	16	0	8	0	0
4	G	33	0	19	1	0
4	K	33	0	18	0	0
5	H	28	0	13	0	0
5	L	28	0	12	0	0
5	O	28	0	12	0	0
5	R	28	0	12	0	0
6	M	30	0	8	0	0
6	P	30	0	8	0	0
7	N	28	0	12	3	0
7	Q	28	0	12	0	0
8	E	39	0	34	0	0
8	T	39	0	34	0	0
8	b	39	0	34	0	0
8	c	39	0	34	1	0
8	l	39	0	34	0	0
8	o	39	0	34	1	0
8	w	39	0	34	0	0
8	x	39	0	34	0	0
9	0	28	0	25	0	0
9	3	28	0	25	0	0
9	5	28	0	25	0	0
9	F	28	0	25	0	0
9	S	28	0	25	0	0
9	U	28	0	25	1	0
9	V	28	0	25	0	0
9	X	28	0	25	0	0
9	Z	28	0	25	0	0
9	a	28	0	25	0	0
9	e	28	0	25	0	0
9	f	28	0	25	0	0
9	i	28	0	25	0	0
9	k	28	0	25	0	0
9	m	28	0	25	0	0
9	n	28	0	25	0	0
9	p	28	0	25	1	0
9	q	28	0	25	0	0
9	s	28	0	25	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	u	28	0	25	0	0
9	v	28	0	25	0	0
9	z	28	0	25	0	0
10	1	61	0	52	0	0
10	2	61	0	52	0	0
10	W	61	0	52	0	0
10	Y	61	0	52	1	0
10	d	61	0	52	0	0
10	g	61	0	52	0	0
10	h	61	0	52	0	0
10	r	61	0	52	1	0
10	t	61	0	52	1	0
10	y	61	0	52	1	0
11	4	39	0	34	0	0
11	j	39	0	34	0	0
12	A	168	0	156	0	0
12	B	168	0	156	1	0
13	A	154	0	132	0	0
13	B	154	0	132	0	0
14	A	44	0	0	0	0
14	B	44	0	0	0	0
15	A	1	0	0	0	0
15	B	1	0	0	0	0
All	All	70018	0	64216	534	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 4.

All (534) 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:B:3852:LYS:NZ	1:B:3871:ASP:OD2	2.15	0.80
1:B:1616:MET:HE3	1:B:1646:PRO:HB2	1.65	0.78
1:A:426:MET:HB2	1:A:442:PRO:HD3	1.66	0.77
1:A:3621:CYS:O	1:A:3622:LEU:HG	1.86	0.75
1:A:460:ILE:HG22	1:A:461:LEU:HG	1.69	0.74
1:A:3425:THR:HB	1:A:3453:PRO:HB2	1.68	0.73
1:A:1574:TRP:CE3	2:I:3:LEU:HD13	2.23	0.73
10:y:1:NAG:H61	10:y:2:NAG:HN2	1.53	0.73
1:A:4269:ILE:HG22	1:A:4270:ILE:HG23	1.71	0.72
1:A:1436:ASN:ND2	1:A:1451:ASN:OD1	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4269:ILE:HG22	1:B:4270:ILE:HG23	1.74	0.69
1:A:3525:GLU:N	1:A:3525:GLU:OE1	2.26	0.68
1:A:4204:THR:HG22	1:A:4212:ILE:HG12	1.74	0.68
1:B:4204:THR:HG22	1:B:4212:ILE:HG12	1.75	0.67
1:A:2600:THR:HG21	1:A:2642:SER:HA	1.75	0.67
1:B:380:ARG:HE	1:B:382:GLN:HB3	1.59	0.67
1:B:2149:ARG:HG2	1:B:2194:ARG:HD2	1.75	0.67
1:B:3959:SER:HA	1:B:3962:THR:HG23	1.76	0.66
1:A:1408:MET:HE2	1:A:1411:SER:HB3	1.76	0.66
1:B:3852:LYS:CE	1:B:3871:ASP:OD2	2.45	0.65
1:B:2936:MET:SD	1:B:2940:ASP:HB3	2.37	0.65
1:B:3009:ARG:HG2	1:B:3011:SER:H	1.61	0.65
1:B:1595:GLN:HA	1:B:1598:ILE:HD11	1.79	0.65
1:A:2801:CYS:SG	1:A:2818:CYS:N	2.69	0.65
1:B:1574:TRP:CE3	2:C:3:LEU:HD23	2.32	0.64
1:B:504:ILE:HG22	1:B:508:LEU:HD11	1.78	0.64
1:A:1839:THR:HG22	1:A:1846:ILE:HG12	1.80	0.64
1:A:1719:GLN:HG3	1:A:1721:PRO:HD2	1.80	0.63
1:B:1811:ASN:OD1	9:s:1:NAG:N2	2.32	0.63
1:B:3852:LYS:HE3	1:B:3871:ASP:OD2	1.99	0.62
1:A:4407:TYR:HA	1:A:4415:GLY:HA3	1.81	0.62
1:B:4407:TYR:HA	1:B:4415:GLY:HA3	1.81	0.62
1:B:91:LYS:HE2	1:B:91:LYS:HA	1.80	0.62
1:A:846:ARG:HB3	1:A:847:PRO:HD3	1.82	0.62
1:A:613:VAL:HG23	1:A:626:ALA:HB3	1.81	0.61
1:A:863:ILE:HG13	1:A:864:VAL:HG23	1.82	0.61
1:B:4274:MET:HE1	1:B:4297:TRP:CE2	2.35	0.61
1:A:1520:ILE:HD12	1:A:1562:PRO:HB2	1.83	0.61
1:B:1519:TRP:HB3	1:B:1698:GLN:HE21	1.65	0.61
1:A:1600:TRP:CD2	2:I:3:LEU:HD12	2.36	0.61
1:A:2179:THR:HG22	1:A:2181:TYR:H	1.65	0.61
1:A:2235:VAL:HG12	1:A:2236:THR:HG23	1.83	0.61
1:A:509:GLY:HA3	1:A:530:SER:HA	1.82	0.61
1:B:2210:TYR:HB2	1:B:2236:THR:HA	1.81	0.61
1:B:1234:ASP:HA	1:B:1247:ASN:ND2	2.16	0.60
1:A:2961:ARG:HG2	1:A:2963:PRO:HD2	1.83	0.60
1:B:2859:TYR:O	1:B:2861:ALA:N	2.35	0.60
1:A:2433:ARG:NH2	1:A:2496:GLU:OE2	2.33	0.60
1:A:1106:THR:HG22	1:A:1107:SER:H	1.66	0.60
1:B:297:GLU:O	1:B:304:ARG:NH1	2.34	0.60
1:A:1543:HIS:HB3	1:A:1729:PRO:HG3	1.81	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:237:GLN:OE1	1:A:539:ARG:NH1	2.33	0.59
1:A:2013:ARG:NH2	1:A:2015:ASN:OD1	2.33	0.59
1:A:4274:MET:HE1	1:A:4297:TRP:CE2	2.37	0.59
1:B:4038:PHE:HB3	1:B:4049:CYS:HB3	1.85	0.59
1:A:639:GLN:NE2	1:A:640:SER:O	2.36	0.59
1:B:1569:MET:HE2	1:B:1585:MET:HA	1.85	0.59
1:A:2953:THR:O	1:A:2970:GLN:NE2	2.36	0.58
1:B:1616:MET:CE	1:B:1646:PRO:HB2	2.33	0.58
1:A:4008:GLN:HB2	1:B:90:ASP:HB3	1.86	0.58
1:A:4038:PHE:HB3	1:A:4049:CYS:HB3	1.85	0.58
1:B:3344:VAL:HG11	1:B:3653:SER:HB2	1.85	0.58
1:A:475:TRP:CD1	1:A:476:ILE:HG23	2.39	0.58
1:A:4006:SER:OG	1:B:89:GLU:OE2	2.21	0.58
1:B:608:LEU:HB3	1:B:613:VAL:HG12	1.86	0.58
1:B:4093:TRP:CE2	1:B:4325:GLN:HB3	2.39	0.58
1:B:4228:GLU:N	1:B:4228:GLU:OE1	2.37	0.58
1:A:600:VAL:HG23	1:A:600:VAL:O	2.04	0.57
1:A:1397:ILE:HD12	1:A:1397:ILE:H	1.69	0.57
1:A:3965:ASN:O	1:A:3970:ARG:NH1	2.37	0.57
1:B:3210:TYR:OH	1:B:3764:SER:N	2.34	0.57
1:B:86:VAL:HG23	1:B:98:ASP:HB2	1.86	0.57
1:B:1616:MET:HG2	1:B:1623:ILE:HG12	1.86	0.57
1:A:4093:TRP:CE2	1:A:4325:GLN:HB3	2.38	0.57
1:B:3605:ASN:ND2	1:B:3623:ASP:OD2	2.36	0.57
1:B:711:LEU:HD22	1:B:745:ILE:HD13	1.85	0.57
1:A:2066:MET:HE2	1:A:2077:PHE:HB2	1.87	0.57
1:A:4394:ASP:OD1	1:A:4398:LEU:N	2.37	0.57
1:A:1579:ARG:HA	1:A:1598:ILE:HD11	1.87	0.56
1:B:846:ARG:O	1:B:846:ARG:NH2	2.38	0.56
1:B:4394:ASP:OD1	1:B:4398:LEU:N	2.36	0.56
1:A:4228:GLU:OE1	1:A:4228:GLU:N	2.38	0.56
1:A:3055:GLU:N	1:A:3065:GLU:OE1	2.38	0.56
1:B:735:VAL:HG11	1:B:756:TYR:CZ	2.41	0.56
1:B:254:ASP:HB3	1:B:588:ILE:CG2	2.36	0.56
1:B:1733:ASN:OD1	10:r:1:NAG:N2	2.39	0.55
1:B:3016:ARG:N	1:B:3026:GLU:OE1	2.39	0.55
1:A:3766:PHE:HD2	1:A:3774:ILE:HD11	1.70	0.55
1:B:3025:ASP:OD1	1:B:3025:ASP:N	2.39	0.55
1:B:2146:ASN:O	1:B:2149:ARG:NH2	2.39	0.55
1:B:294:GLY:O	1:B:304:ARG:NH1	2.40	0.55
1:B:1352:ASP:O	1:B:1367:GLN:NE2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2170:THR:HG21	1:B:2192:MET:HA	1.89	0.55
1:B:1821:LEU:HD13	1:B:2075:ARG:HD2	1.89	0.55
1:B:3963:GLY:H	1:B:4004:LYS:HD2	1.72	0.55
1:B:1600:TRP:CD2	2:C:3:LEU:HD22	2.42	0.55
1:A:2956:THR:OG1	1:A:2965:ARG:NH2	2.40	0.55
1:A:3657:ASP:OD1	1:A:3693:ARG:NH1	2.35	0.55
1:A:3385:ASP:OD1	1:A:3388:LEU:N	2.40	0.54
1:A:4000:SER:HA	1:A:4008:GLN:HE22	1.71	0.54
1:B:378:LEU:HD21	1:B:381:GLY:HA2	1.88	0.54
1:A:2149:ARG:HG2	1:A:2194:ARG:HD2	1.90	0.54
1:A:3413:PHE:CD2	1:A:3427:TRP:CZ2	2.95	0.54
1:B:2919:ARG:HD3	1:B:2933:CYS:O	2.08	0.54
1:A:3974:GLU:HB2	1:A:3976:ILE:HD11	1.89	0.54
1:A:559:ALA:HB3	1:A:573:VAL:HG23	1.89	0.54
1:B:3238:ARG:NH2	1:B:3464:GLN:O	2.41	0.53
1:A:3520:LEU:HD23	1:A:3527:CYS:SG	2.49	0.53
1:A:4313:VAL:HG22	1:A:4314:ASN:H	1.73	0.53
1:A:1838:TYR:CZ	1:A:1847:GLU:HG3	2.44	0.53
1:B:2702:ASN:HB3	1:B:2705:GLN:HG3	1.91	0.53
1:A:486:LYS:HG2	1:A:736:THR:HG21	1.90	0.53
1:A:1663:THR:HG23	1:A:1665:GLN:HG2	1.90	0.53
1:B:2852:GLY:O	1:B:2856:ASN:N	2.41	0.53
1:A:3791:ASP:OD1	1:A:3791:ASP:N	2.42	0.53
1:B:2839:ARG:O	1:B:2841:PHE:N	2.42	0.53
1:B:3289:LEU:HD21	1:B:3339:TRP:HB2	1.90	0.53
1:A:277:ARG:HH21	1:A:292:PRO:HD3	1.74	0.52
1:B:527:ASP:N	1:B:527:ASP:OD1	2.41	0.52
1:B:2831:GLN:H	1:B:2853:SER:HB2	1.74	0.52
1:A:363:ASN:HA	1:A:368:HIS:HA	1.91	0.52
1:B:2361:LEU:HD12	1:B:2364:LEU:HD12	1.91	0.52
1:A:2210:TYR:HB2	1:A:2236:THR:HA	1.90	0.52
1:B:526:SER:HB3	1:B:561:ILE:HD11	1.92	0.52
1:A:845:PHE:O	1:A:846:ARG:C	2.52	0.52
1:B:257:GLU:N	1:B:257:GLU:OE1	2.43	0.52
1:A:3592:GLU:O	1:A:3606:LYS:NZ	2.43	0.52
1:B:1564:MET:HE2	1:B:1702:ARG:HG2	1.92	0.52
1:A:1117:CYS:HB3	1:A:1139:SER:HB3	1.92	0.52
1:B:1918:ASN:OD1	1:B:1918:ASN:N	2.43	0.52
1:B:3038:GLN:HG2	1:B:3046:CYS:HB3	1.92	0.52
1:A:706:VAL:HG21	1:A:731:VAL:HG11	1.92	0.52
1:A:1594:VAL:HG12	1:A:1598:ILE:HD13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2374:GLY:N	1:A:2411:LEU:O	2.42	0.52
1:B:2219:SER:OG	1:B:2223:CYS:HA	2.10	0.52
1:B:361:CYS:SG	1:B:362:GLU:N	2.82	0.52
1:A:274:GLY:HA3	1:A:293:GLU:HG3	1.92	0.51
1:A:3576:ALA:HB1	1:A:3622:LEU:HD21	1.91	0.51
1:B:1139:SER:O	1:B:1142:LYS:NZ	2.38	0.51
1:B:1752:VAL:HG23	1:B:1757:ILE:HG12	1.92	0.51
1:B:483:VAL:HG22	1:B:490:ILE:HG12	1.92	0.51
1:B:2148:ILE:HD13	1:B:2164:ASN:HB3	1.92	0.51
1:B:1520:ILE:O	1:B:1703:ASN:ND2	2.44	0.51
1:A:4276:PRO:HB3	1:A:4288:TRP:CD1	2.46	0.51
1:A:1650:THR:HG21	1:A:1691:THR:HA	1.93	0.51
1:A:3635:ARG:NH2	1:A:3647:GLY:O	2.43	0.51
1:B:2062:TYR:OH	1:B:2083:ASP:OD2	2.26	0.51
1:A:2426:ASP:OD2	1:A:2473:ALA:HA	2.11	0.51
1:A:2970:GLN:HG2	1:A:2973:VAL:HB	1.93	0.51
1:A:3520:LEU:HD13	1:A:3521:CYS:O	2.11	0.51
1:B:4232:TRP:N	1:B:4250:ASP:OD1	2.44	0.51
1:A:2066:MET:HE1	1:A:2317:ILE:HG21	1.92	0.51
1:A:3966:LEU:HD22	1:A:3987:GLY:HA3	1.93	0.51
1:A:1004:LYS:HD3	1:A:1018:ARG:HH11	1.76	0.51
1:A:2956:THR:O	1:A:2965:ARG:NH2	2.44	0.51
1:A:539:ARG:HD3	1:A:550:LEU:HD13	1.93	0.50
1:A:4234:ASN:HD21	1:A:4277:PHE:HA	1.75	0.50
1:B:1604:LEU:HD22	1:B:1613:ILE:HD11	1.93	0.50
12:B:4704:NAG:H82	10:t:2:NAG:H82	1.94	0.50
1:A:4279:LEU:HD12	1:A:4286:LEU:HD11	1.92	0.50
1:A:616:THR:HG23	1:A:644:PRO:HB2	1.93	0.50
1:A:1832:VAL:HG22	1:A:1881:PRO:HB3	1.93	0.50
1:A:3500:GLN:HB3	1:A:3511:MET:SD	2.52	0.50
1:A:2406:PRO:HG3	1:A:2630:MET:HE1	1.93	0.50
1:B:245:ASP:OD1	1:B:245:ASP:N	2.45	0.50
1:A:707:LYS:HE3	1:A:964:ALA:HB3	1.94	0.50
1:A:3210:TYR:HE2	1:A:3764:SER:HB2	1.77	0.49
1:B:254:ASP:HB3	1:B:588:ILE:HG23	1.94	0.49
1:B:1157:CYS:HB2	1:B:1160:HIS:HB3	1.93	0.49
1:B:3416:THR:HG21	1:B:3457:HIS:HA	1.93	0.49
1:A:1616:MET:HG2	1:A:1623:ILE:HG12	1.92	0.49
1:A:2959:ASN:HD22	1:A:2964:ASN:ND2	2.09	0.49
1:B:581:GLU:CD	1:B:590:ARG:HE	2.21	0.49
1:B:2013:ARG:HH21	1:B:2013:ARG:HG3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3671:ASP:OD1	1:B:3671:ASP:N	2.45	0.49
1:B:2149:ARG:NH1	4:G:2:GLU:HB2	2.28	0.49
1:A:2986:GLU:HG3	1:A:3006:ARG:HD2	1.95	0.49
1:B:1886:LEU:HB2	1:B:1906:MET:HG3	1.94	0.49
1:A:3782:GLN:HE22	1:A:3825:CYS:HA	1.78	0.49
1:A:1966:GLY:HA3	1:A:2007:GLY:HA2	1.93	0.49
1:A:2394:SER:OG	1:A:2639:SER:O	2.27	0.49
1:A:4232:TRP:N	1:A:4250:ASP:OD1	2.45	0.49
1:A:2242:MET:HE1	1:A:2264:LEU:HD11	1.95	0.49
1:A:399:ASN:HB2	1:A:404:LEU:HD13	1.95	0.49
1:A:3891:PHE:N	1:A:3899:VAL:O	2.44	0.49
1:B:1907:ASP:OD1	1:B:1907:ASP:C	2.56	0.49
1:A:738:SER:HB2	1:A:739:PRO:HD3	1.94	0.49
1:A:3140:LEU:HG	1:A:3141:PRO:HD2	1.94	0.49
1:A:4300:ASN:ND2	1:A:4305:GLU:OE2	2.41	0.49
1:B:953:ILE:O	1:B:953:ILE:HG13	2.12	0.49
1:B:1616:MET:SD	1:B:1649:LEU:HB3	2.53	0.49
1:A:1626:CYS:SG	1:A:1627:ASP:N	2.86	0.48
1:A:1600:TRP:CG	2:I:3:LEU:HD12	2.48	0.48
1:A:3005:GLY:HA3	1:A:3020:CYS:HB3	1.95	0.48
1:B:81:ILE:HD12	1:B:81:ILE:O	2.13	0.48
1:A:407:ASP:OD1	1:A:410:GLY:N	2.45	0.48
1:A:1160:HIS:CD2	1:A:1161:ARG:HG2	2.48	0.48
1:A:2929:GLY:HA2	1:A:2966:ARG:HB3	1.95	0.48
1:A:2973:VAL:HG23	1:A:2985:ASP:HB2	1.95	0.48
1:A:494:ASN:OD1	1:A:498:ASN:N	2.38	0.48
1:A:872:ASN:HD21	7:N:2:ASN:HD21	1.61	0.48
1:A:1749:LEU:HD23	1:A:1760:ILE:HD11	1.94	0.48
1:A:2210:TYR:CB	1:A:2236:THR:HA	2.44	0.48
1:B:1574:TRP:CZ3	2:C:3:LEU:HD23	2.49	0.48
1:B:1581:GLU:HG2	1:B:1592:VAL:HG22	1.94	0.48
1:A:528:TRP:HA	1:A:558:PRO:HD2	1.95	0.48
1:A:4287:TYR:CD2	1:A:4322:ILE:HD11	2.49	0.48
1:B:1354:CYS:HA	1:B:1359:GLY:HA3	1.96	0.48
1:B:2319:ASP:OD1	1:B:2320:LYS:N	2.47	0.48
1:B:3000:PHE:N	1:B:3008:VAL:O	2.47	0.48
1:A:2634:LEU:HD12	1:A:2638:PRO:HG3	1.96	0.48
1:B:1299:ASP:O	1:B:1300:MET:HG2	2.13	0.48
1:A:1798:ASN:C	1:A:1798:ASN:OD1	2.57	0.48
1:B:1873:PHE:N	1:B:1890:ASP:OD1	2.39	0.48
1:B:3887:SER:OG	1:B:3888:PRO:HD3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:394:SER:O	1:A:650:TYR:N	2.43	0.48
1:A:2475:ASP:OD1	1:A:2477:ILE:HG13	2.13	0.48
1:B:1350:ASN:H	1:B:1371:GLY:HA3	1.79	0.48
1:B:1775:ILE:HG22	1:B:1778:ILE:HD11	1.95	0.48
1:B:3291:ALA:HA	1:B:3325:PRO:HD2	1.96	0.48
1:B:4271:ASN:OD1	1:B:4271:ASN:N	2.47	0.48
1:B:4300:ASN:ND2	1:B:4305:GLU:OE2	2.41	0.48
1:A:2809:ASP:N	1:A:2809:ASP:OD1	2.36	0.47
1:B:33:PHE:N	1:B:41:ILE:O	2.46	0.47
1:B:2849:CYS:SG	1:B:2853:SER:HB3	2.54	0.47
1:B:4099:GLY:O	1:B:4100:LEU:HD23	2.14	0.47
1:B:500:ARG:HD3	1:B:692:PHE:HE2	1.80	0.47
1:A:846:ARG:NH1	1:A:1249:TRP:CD2	2.82	0.47
1:A:1975:TYR:CE2	1:A:1986:ARG:HD3	2.49	0.47
1:A:3064:ASP:N	1:A:3064:ASP:OD1	2.48	0.47
1:B:227:PHE:CE1	1:B:588:ILE:HD11	2.49	0.47
1:B:2714:ILE:HD13	1:B:2718:TRP:HB2	1.97	0.47
1:A:3691:ASN:ND2	1:A:3707:CYS:O	2.48	0.47
1:A:3887:SER:N	1:A:3888:PRO:HD2	2.30	0.47
1:B:2835:ILE:HD12	1:B:2835:ILE:H	1.79	0.47
1:B:3015:ASP:N	1:B:3026:GLU:OE1	2.42	0.47
1:B:3662:CYS:SG	1:B:3667:ASP:HB3	2.55	0.47
1:B:3984:LEU:HD22	1:B:3990:ILE:HG13	1.97	0.47
1:A:3597:GLU:HG3	1:A:3598:SER:H	1.80	0.47
1:B:1140:ASP:OD1	1:B:1141:GLU:HG2	2.14	0.47
1:B:2139:VAL:HG12	1:B:2143:ILE:HD11	1.97	0.47
1:A:508:LEU:HD22	1:A:511:PRO:HB3	1.96	0.47
1:A:949:ILE:O	1:A:950:ARG:HD2	2.14	0.47
1:A:1004:LYS:HD3	1:A:1018:ARG:NH1	2.29	0.47
1:B:985:HIS:CE1	1:B:1003:MET:HE1	2.49	0.47
1:B:2442:SER:C	1:B:2443:LEU:HD23	2.40	0.47
1:B:3258:LEU:HD23	1:B:3258:LEU:HA	1.69	0.47
1:A:766:LYS:HD2	1:A:777:ILE:HD11	1.95	0.47
1:A:2234:ILE:HD11	1:A:2237:PRO:HB3	1.96	0.47
1:B:82:PRO:HD2	1:B:85:TRP:CD1	2.50	0.47
1:B:1207:ARG:NH2	1:B:1219:ASP:O	2.44	0.47
1:B:2494:MET:HG3	1:B:2495:ALA:O	2.15	0.47
1:A:3535:ASP:HA	1:A:3553:ARG:HD2	1.96	0.47
1:B:1551:ASN:HD22	9:p:1:NAG:C7	2.27	0.47
1:A:451:ASP:OD1	1:A:452:ILE:N	2.48	0.46
1:A:1830:ASP:OD2	1:A:1833:SER:OG	2.23	0.46

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
1:A:2560:ASP:OD2	1:A:2563:THR:OG1	2.28	0.46
1:A:3576:ALA:CB	1:A:3622:LEU:HD21	2.44	0.46
1:B:1906:MET:HE3	1:B:2036:PRO:HG2	1.96	0.46
1:A:1106:THR:HG22	1:A:1107:SER:N	2.30	0.46
1:A:3498:ASP:OD2	1:A:3527:CYS:HB2	2.16	0.46
1:A:3607:ARG:NH1	1:A:3620:ASP:O	2.48	0.46
1:B:621:MET:HE1	1:B:1133:ASN:HD21	1.80	0.46
1:A:845:PHE:CZ	1:A:1298:ARG:HG2	2.51	0.46
1:A:2562:GLU:N	1:A:2562:GLU:OE1	2.48	0.46
1:A:3209:TYR:HA	1:A:3228:LEU:HB2	1.97	0.46
1:A:3513:MET:CG	1:A:3513:MET:O	2.64	0.46
1:A:4287:TYR:HD2	1:A:4322:ILE:HD11	1.81	0.46
1:B:1900:LYS:HE2	1:B:1902:ALA:HB2	1.96	0.46
1:B:3210:TYR:HH	1:B:3764:SER:H	1.62	0.46
1:A:3648:ARG:NH2	1:A:3661:ASP:O	2.49	0.46
1:A:4099:GLY:O	1:A:4100:LEU:HD23	2.14	0.46
1:B:1580:ILE:HB	1:B:1594:VAL:HB	1.97	0.46
1:B:1752:VAL:HG11	1:B:1783:ASP:HA	1.98	0.46
1:A:807:VAL:HG13	1:A:821:ILE:HB	1.96	0.46
1:A:2844:ASP:H	1:A:2855:GLU:HB3	1.81	0.46
1:A:4000:SER:C	1:A:4002:LEU:H	2.23	0.46
1:A:928:THR:HG22	1:A:935:ILE:HG12	1.97	0.46
1:A:2474:PHE:HD1	1:A:2481:ILE:HG12	1.81	0.46
1:B:398:SER:OG	1:B:425:VAL:O	2.24	0.46
1:B:939:ARG:CZ	1:B:944:GLY:HA2	2.46	0.46
1:B:1104:HIS:ND1	1:B:1104:HIS:C	2.73	0.46
1:B:2468:VAL:HG22	1:B:2487:SER:HB3	1.98	0.46
1:A:2437:THR:HB	1:A:2469:THR:HG23	1.98	0.46
1:B:460:ILE:HG22	1:B:461:LEU:HG	1.97	0.46
1:B:3039:PHE:HD2	1:B:3047:ILE:HD11	1.81	0.46
1:A:1036:LYS:HG2	1:A:1037:CYS:H	1.80	0.46
1:A:2183:ARG:NH1	1:A:2410:SER:OG	2.49	0.46
1:A:4271:ASN:OD1	1:A:4271:ASN:N	2.47	0.46
1:B:88:ASP:O	1:B:89:GLU:HG2	2.16	0.46
1:B:1333:CYS:HA	1:B:1345:GLU:HG3	1.98	0.46
1:B:1545:THR:HB	1:B:1729:PRO:HA	1.98	0.46
1:A:1115:PHE:N	1:A:1123:ILE:O	2.49	0.45
1:A:366:GLY:C	1:A:368:HIS:H	2.24	0.45
1:A:469:GLU:HG3	1:A:485:THR:HG21	1.98	0.45
1:A:2970:GLN:HG2	1:A:2970:GLN:O	2.16	0.45
1:B:601:PRO:HD2	1:B:617:ASP:OD2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3417:ILE:HD12	1:B:3417:ILE:N	2.31	0.45
1:B:3919:GLU:HG2	1:B:3923:ARG:CZ	2.46	0.45
1:A:2630:MET:HE2	1:A:2630:MET:HA	1.98	0.45
1:A:3886:GLU:OE1	1:A:3889:GLN:NE2	2.30	0.45
1:B:2969:PRO:HD2	1:B:2972:TRP:HE1	1.81	0.45
1:B:599:LEU:HG	1:B:634:PRO:HD3	1.97	0.45
1:A:3009:ARG:HD2	1:A:3011:SER:HB3	1.98	0.45
1:B:2958:VAL:HA	1:B:2966:ARG:HD2	1.97	0.45
1:B:1562:PRO:HA	1:B:1585:MET:HE2	1.98	0.45
1:B:2252:VAL:HG12	1:B:2259:ILE:HG12	1.99	0.45
1:B:3016:ARG:NH1	1:B:3044:GLY:O	2.46	0.45
1:A:1600:TRP:CE2	2:I:3:LEU:HD12	2.52	0.45
1:A:3329:VAL:HG11	1:A:3373:THR:HA	1.99	0.45
1:A:4306:ASN:N	1:A:4306:ASN:OD1	2.50	0.45
1:B:424:MET:HG2	1:B:443:MET:HG3	1.99	0.45
1:B:2177:ILE:HG22	1:B:2178:ASN:OD1	2.17	0.45
1:A:1976:TYR:OH	1:A:1985:GLU:OE1	2.28	0.45
1:A:2394:SER:HB3	1:A:2425:LEU:HD11	1.99	0.45
1:B:2551:LEU:HD13	1:B:2554:PRO:HB3	1.98	0.45
1:A:358:ASP:HA	1:A:629:PHE:HZ	1.82	0.45
1:B:249:ASP:OD1	1:B:249:ASP:C	2.59	0.45
1:B:4306:ASN:OD1	1:B:4306:ASN:N	2.50	0.45
1:A:4027:LYS:NZ	1:B:90:ASP:OD2	2.50	0.45
1:B:273:PRO:HD2	1:B:295:ASP:HB3	1.99	0.45
1:B:3744:THR:OG1	1:B:3746:ASP:OD1	2.34	0.45
1:B:4020:PRO:HD2	1:B:4032:CYS:HB3	1.99	0.45
1:A:1408:MET:SD	1:A:1413:ARG:NH2	2.89	0.44
1:B:1702:ARG:HH21	1:B:1702:ARG:HB2	1.80	0.44
1:B:3736:PRO:HD2	1:B:3739:TRP:CE3	2.51	0.44
1:B:4177:TYR:HA	1:B:4356:PRO:HG3	1.98	0.44
1:A:3016:ARG:N	1:A:3026:GLU:OE2	2.50	0.44
1:B:2071:LEU:HD12	1:B:2323:LEU:HD22	2.00	0.44
1:B:46:ARG:HD2	1:B:58:ASP:O	2.17	0.44
1:B:1499:THR:HG21	8:o:1:NAG:H82	2.00	0.44
1:B:1519:TRP:CD2	1:B:1698:GLN:HG3	2.52	0.44
1:B:4234:ASN:HD21	1:B:4277:PHE:HA	1.81	0.44
1:B:4272:GLU:O	1:B:4307:LYS:NZ	2.50	0.44
1:A:269:GLU:HA	1:A:280:SER:HA	2.00	0.44
1:A:474:ASP:HB3	1:A:479:LYS:HB2	1.99	0.44
1:A:953:ILE:HG23	1:A:956:VAL:HB	2.00	0.44
1:A:4078:GLU:HB3	1:A:4129:SER:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:517:ASP:OD2	1:B:585:TYR:OH	2.26	0.44
1:B:916:PHE:CD2	1:B:930:TRP:CZ2	3.06	0.44
1:B:3976:ILE:HD13	1:B:3989:PHE:CE2	2.52	0.44
1:A:397:PHE:CD2	1:A:623:VAL:HG21	2.53	0.44
1:A:2927:CYS:SG	1:A:2939:GLU:HA	2.58	0.44
1:A:4272:GLU:O	1:A:4307:LYS:NZ	2.50	0.44
1:B:2194:ARG:HG3	1:B:2210:TYR:CZ	2.52	0.44
1:B:4194:VAL:HB	1:B:4217:MET:HE3	2.00	0.44
1:A:4130:ASN:C	1:A:4131:ASN:HD22	2.26	0.44
1:B:3049:ARG:HD3	1:B:3049:ARG:O	2.18	0.44
1:A:362:GLU:O	1:A:369:GLN:N	2.50	0.44
1:A:3009:ARG:HG3	1:A:3011:SER:H	1.82	0.44
1:A:4274:MET:HE1	1:A:4297:TRP:NE1	2.33	0.44
1:B:473:VAL:HG12	1:B:480:LEU:HD12	2.00	0.44
1:B:931:ARG:HH11	1:B:1211:VAL:HB	1.82	0.44
1:A:4149:LEU:HD23	1:A:4150:ALA:N	2.33	0.44
1:B:1543:HIS:HB3	1:B:1729:PRO:HG3	2.00	0.44
1:B:3170:GLU:HB3	1:B:3177:ILE:HG23	2.00	0.44
1:B:4259:ILE:HG22	1:B:4266:ARG:HA	1.99	0.44
1:A:916:PHE:CD1	1:A:930:TRP:CZ2	3.05	0.43
1:A:4194:VAL:HB	1:A:4217:MET:HE3	1.99	0.43
1:B:1626:CYS:HB3	1:B:1630:GLY:HA2	1.98	0.43
1:A:2294:VAL:HG12	1:A:2301:VAL:HG22	2.00	0.43
1:B:465:VAL:HG23	1:B:465:VAL:O	2.18	0.43
1:B:1808:ASP:OD2	1:B:1810:SER:OG	2.36	0.43
1:B:2965:ARG:HH22	1:B:2966:ARG:NH1	2.16	0.43
1:B:3621:CYS:SG	1:B:3626:ASP:HB3	2.59	0.43
1:A:1419:GLU:OE1	1:A:1419:GLU:N	2.43	0.43
1:A:3013:ARG:HG3	1:A:3014:CYS:SG	2.58	0.43
1:A:4020:PRO:HD2	1:A:4032:CYS:HB3	2.00	0.43
1:B:637:TYR:CD1	1:B:637:TYR:C	2.95	0.43
1:A:376:TYR:CZ	1:A:653:LEU:HD13	2.53	0.43
1:A:609:PHE:HB2	1:A:649:VAL:HG11	2.01	0.43
1:A:1004:LYS:NZ	1:A:1013:GLU:OE2	2.52	0.43
1:A:3277:LEU:HD12	1:A:3277:LEU:C	2.43	0.43
1:B:508:LEU:HD23	1:B:511:PRO:HB3	2.01	0.43
1:A:1614:TYR:HB3	1:A:1649:LEU:HD21	1.99	0.43
1:A:3780:CYS:HA	1:A:3792:GLU:OE1	2.18	0.43
1:B:2143:ILE:HD12	1:B:2148:ILE:HD11	2.01	0.43
1:A:608:LEU:HD23	1:A:608:LEU:HA	1.89	0.43
1:A:1626:CYS:SG	1:A:1630:GLY:HA2	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4285:LYS:HD2	1:A:4298:ARG:HD2	2.00	0.43
1:B:459:GLU:OE2	1:B:462:ASN:ND2	2.44	0.43
1:B:3831:GLU:HG3	1:B:3855:VAL:HG12	2.00	0.43
1:A:600:VAL:HB	1:A:603:PRO:HG3	2.01	0.43
1:A:914:HIS:CE1	7:N:2:ASN:HD22	2.37	0.43
1:A:2481:ILE:HD12	1:A:2494:MET:HE3	2.01	0.43
1:A:3983:GLN:HA	1:A:3989:PHE:HA	2.00	0.43
1:B:436:ARG:NH1	1:B:458:GLN:OE1	2.52	0.43
1:B:1796:VAL:HG13	1:B:1827:LEU:HD22	2.01	0.43
1:B:2839:ARG:C	1:B:2841:PHE:H	2.26	0.43
1:B:2857:PRO:HA	1:B:2861:ALA:HB3	2.00	0.43
1:A:3205:PHE:CD2	1:A:3212:ARG:HB2	2.54	0.43
1:A:391:SER:OG	1:A:432:TYR:OH	2.36	0.43
1:A:1148:GLY:HA2	1:A:1156:ARG:CZ	2.49	0.43
1:A:1397:ILE:HD12	1:A:1397:ILE:N	2.33	0.43
1:A:2940:ASP:HB3	1:A:2943:HIS:HD2	1.84	0.43
1:A:1564:MET:HE2	1:A:1723:HIS:HD2	1.84	0.42
1:A:1827:LEU:HD23	1:A:1838:TYR:HB3	2.00	0.42
1:A:1839:THR:HG21	1:A:1874:PRO:HB2	2.00	0.42
1:A:1856:ARG:HA	1:A:1856:ARG:HH21	1.84	0.42
1:A:3587:ASP:HB2	1:A:3590:LEU:HD13	2.00	0.42
1:A:3622:LEU:C	1:A:3622:LEU:HD12	2.44	0.42
1:A:3803:GLU:OE1	1:A:3803:GLU:N	2.42	0.42
1:B:398:SER:HB3	1:B:645:HIS:HB2	2.01	0.42
1:B:948:VAL:HG21	1:B:951:ARG:HH11	1.84	0.42
8:c:1:NAG:H61	8:c:2:NAG:C7	2.50	0.42
1:A:247:CYS:C	1:A:249:ASP:H	2.27	0.42
1:A:4259:ILE:HG22	1:A:4266:ARG:HA	2.01	0.42
1:B:85:TRP:HA	1:B:85:TRP:CE3	2.54	0.42
1:B:1367:GLN:HA	1:B:1372:ALA:HA	2.01	0.42
1:B:3659:ASP:OD2	1:B:3708:ARG:NE	2.53	0.42
1:A:268:ARG:NH2	1:A:333:PRO:HA	2.33	0.42
1:A:1622:TYR:CD1	1:A:1624:GLU:HG3	2.55	0.42
1:A:3891:PHE:CD1	1:A:3891:PHE:C	2.97	0.42
1:B:1831:TRP:CD2	1:B:2014:ARG:HD2	2.55	0.42
1:B:2729:GLY:O	1:B:2733:LEU:N	2.53	0.42
1:B:4181:LEU:HD12	1:B:4181:LEU:HA	1.84	0.42
1:A:761:LYS:HG2	1:A:1051:HIS:CE1	2.54	0.42
1:A:1847:GLU:HB3	1:A:1860:THR:HA	2.00	0.42
1:B:747:PHE:HA	1:B:754:VAL:HA	2.01	0.42
1:A:1882:ALA:C	1:A:1884:GLY:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1574:TRP:HB3	1:B:1601:PRO:HD2	2.02	0.42
1:B:1781:GLY:O	1:B:2006:ARG:HG2	2.19	0.42
1:B:2831:GLN:N	1:B:2853:SER:HB2	2.33	0.42
1:B:3296:LEU:HD22	1:B:3309:ILE:HD11	2.00	0.42
1:A:2954:GLN:HA	1:A:2969:PRO:HA	2.02	0.42
1:A:3690:THR:OG1	1:A:3709:ASP:OD2	2.28	0.42
1:A:4176:ARG:NH2	1:A:4374:GLU:O	2.52	0.42
1:A:4228:GLU:O	1:A:4266:ARG:NH2	2.36	0.42
1:B:1768:SER:HB3	1:B:1770:ASP:OD2	2.19	0.42
1:B:2988:GLN:NE2	1:B:2989:ASN:OD1	2.47	0.42
1:B:4176:ARG:NH2	1:B:4374:GLU:O	2.52	0.42
1:B:4274:MET:HE1	1:B:4297:TRP:NE1	2.34	0.42
1:A:1405:CYS:SG	1:A:1406:VAL:N	2.93	0.42
1:A:2961:ARG:NH2	1:A:3671:ASP:OD2	2.52	0.42
1:A:846:ARG:CB	1:A:847:PRO:HD3	2.49	0.42
1:A:2402:LEU:HD21	1:A:2630:MET:HB3	2.02	0.42
1:A:2475:ASP:OD2	1:A:2478:ASN:HB3	2.18	0.42
1:A:2515:LEU:HA	1:A:2522:MET:HA	2.02	0.42
1:A:2807:CYS:SG	1:A:2814:ASP:HB2	2.59	0.42
1:A:3796:GLU:OE1	1:A:3796:GLU:HA	2.19	0.42
1:B:1519:TRP:CE3	1:B:1698:GLN:NE2	2.88	0.42
1:B:471:LEU:HD21	1:B:480:LEU:HD11	2.02	0.42
1:B:1546:VAL:CG1	1:B:1549:SER:HB2	2.50	0.42
1:A:1550:LYS:HE2	9:U:1:NAG:H82	2.01	0.42
1:A:1585:MET:HE3	1:A:1585:MET:HB3	1.84	0.42
1:A:3205:PHE:HE1	1:A:3453:PRO:HA	1.85	0.42
1:B:412:ASN:OD1	1:B:412:ASN:N	2.53	0.42
1:B:1139:SER:HA	1:B:1142:LYS:HE3	2.01	0.42
1:A:538:GLU:CD	1:A:547:ARG:HH11	2.28	0.41
1:A:752:SER:HB3	1:A:769:ILE:HD12	2.01	0.41
1:A:3948:VAL:HG13	1:A:3960:ASP:O	2.21	0.41
1:A:4278:SER:HB3	1:A:4319:GLN:HA	2.02	0.41
1:B:487:VAL:HG23	1:B:489:ARG:HE	1.85	0.41
1:B:1093:LEU:HA	1:B:1093:LEU:HD12	1.81	0.41
1:B:1854:ASP:OD1	1:B:1854:ASP:N	2.47	0.41
1:A:1413:ARG:NH2	1:A:1413:ARG:HB2	2.35	0.41
1:A:2243:ASP:OD2	1:A:2306:LYS:NZ	2.39	0.41
1:A:2724:ASN:OD1	1:A:2729:GLY:N	2.51	0.41
1:A:4181:LEU:HD12	1:A:4181:LEU:HA	1.88	0.41
1:B:3720:PRO:HA	1:B:3728:ARG:HH22	1.84	0.41
1:B:2960:SER:HB3	1:B:2966:ARG:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4228:GLU:O	1:B:4266:ARG:NH2	2.36	0.41
1:A:188:PHE:HB3	1:A:201:VAL:HG21	2.02	0.41
1:A:397:PHE:HB3	1:A:647:VAL:HG13	2.01	0.41
1:B:206:ASN:C	1:B:208:CYS:H	2.27	0.41
1:B:210:ASP:OD1	1:B:211:ASN:N	2.54	0.41
1:B:1827:LEU:HD12	1:B:1827:LEU:HA	1.78	0.41
1:A:581:GLU:OE1	1:A:590:ARG:NE	2.42	0.41
1:B:1072:ALA:HA	1:B:1079:CYS:HB2	2.02	0.41
1:B:2318:ARG:HG2	1:B:2318:ARG:HH21	1.85	0.41
1:B:3289:LEU:CD1	1:B:3328:ILE:HD12	2.50	0.41
1:B:4273:ALA:C	1:B:4274:MET:HG3	2.46	0.41
1:A:349:ASP:CG	1:A:363:ASN:HD22	2.29	0.41
1:A:1710:CYS:HB3	1:A:1726:CYS:HB3	1.98	0.41
1:B:466:ASP:OD1	1:B:736:THR:OG1	2.24	0.41
1:B:2066:MET:HE1	1:B:2317:ILE:HD13	2.03	0.41
1:A:318:TYR:HB2	1:A:332:PRO:HD3	2.03	0.41
1:A:1921:HIS:CG	1:A:1939:THR:HB	2.56	0.41
1:A:2476:TRP:CD1	1:A:2477:ILE:HG23	2.55	0.41
1:A:3207:ASN:HD22	1:A:3207:ASN:HA	1.53	0.41
1:B:3883:ILE:HD12	1:B:3883:ILE:C	2.46	0.41
1:A:3208:ARG:C	1:A:3210:TYR:H	2.29	0.41
1:A:3209:TYR:O	1:A:3226:GLN:HA	2.20	0.41
1:B:882:ARG:NH1	1:B:902:ASP:OD2	2.54	0.41
1:B:2839:ARG:C	1:B:2841:PHE:N	2.79	0.41
10:Y:1:NAG:H62	10:Y:2:NAG:H82	2.03	0.41
1:A:424:MET:HB2	1:A:443:MET:HG3	2.03	0.41
1:A:677:HIS:CE1	1:A:679:THR:HG23	2.56	0.41
1:A:1135:CYS:SG	1:A:1140:ASP:HB3	2.61	0.41
1:A:1297:CYS:C	1:A:1299:ASP:H	2.27	0.41
1:A:1671:LYS:HE3	1:A:1672:TRP:CZ2	2.55	0.41
1:A:2120:ARG:C	1:A:2122:SER:H	2.29	0.41
1:A:3269:HIS:HB2	1:A:3532:TRP:CZ2	2.56	0.41
1:B:380:ARG:HG2	1:B:382:GLN:H	1.86	0.41
1:B:738:SER:OG	1:B:739:PRO:HD3	2.21	0.41
1:B:1124:PRO:HD2	1:B:1127:TRP:CE3	2.56	0.41
1:B:1161:ARG:NH1	1:B:1174:ASP:O	2.49	0.41
1:B:2234:ILE:HD11	1:B:2237:PRO:HB3	2.03	0.41
1:B:3009:ARG:H	1:B:3009:ARG:HE	1.68	0.41
1:B:3245:TRP:CE2	1:B:3254:GLU:HB2	2.55	0.41
1:A:601:PRO:HB2	1:A:619:THR:HB	2.02	0.41
1:A:3897:ARG:H	1:A:3897:ARG:HG2	1.80	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:748:ASP:N	1:B:753:THR:O	2.51	0.41
1:B:1599:TYR:HB3	1:B:1619:TYR:HB3	2.03	0.41
1:B:1719:GLN:HG3	1:B:1721:PRO:HD2	2.02	0.41
1:B:2648:GLN:NE2	1:B:2651:GLN:OE1	2.54	0.41
1:B:4276:PRO:HB3	1:B:4288:TRP:CD1	2.56	0.41
1:A:197:LEU:O	1:A:201:VAL:HG23	2.20	0.40
1:A:4192:ILE:HG22	1:A:4203:TRP:HB2	2.04	0.40
1:A:4262:ASP:OD1	1:A:4264:THR:HG22	2.22	0.40
1:B:3637:CYS:SG	1:B:3643:LYS:HA	2.61	0.40
1:A:2164:ASN:ND2	1:A:2173:GLU:OE2	2.54	0.40
1:A:2199:ASP:CG	1:A:2242:MET:HE2	2.46	0.40
1:B:452:ILE:N	1:B:452:ILE:HD12	2.36	0.40
1:B:2481:ILE:HB	1:B:2494:MET:HG2	2.03	0.40
1:B:3618:VAL:N	1:B:3627:GLU:OE1	2.54	0.40
1:A:2399:LEU:HD22	1:A:2425:LEU:HD21	2.04	0.40
1:B:2149:ARG:HG2	1:B:2194:ARG:CD	2.47	0.40
1:B:4180:TRP:N	1:B:4180:TRP:CD1	2.89	0.40
1:A:872:ASN:ND2	7:N:2:ASN:HD21	2.19	0.40
1:A:2378:ASN:OD1	1:A:2378:ASN:N	2.44	0.40
1:A:2702:ASN:HB3	1:A:2704:LEU:CD2	2.52	0.40
1:A:3710:ASN:O	1:A:3714:GLN:HG2	2.21	0.40
1:B:3966:LEU:HD23	1:B:3966:LEU:HA	1.89	0.40
1:A:190:CYS:SG	1:A:191:GLY:N	2.94	0.40
1:A:747:PHE:HA	1:A:754:VAL:HA	2.04	0.40
1:A:2252:VAL:HG12	1:A:2259:ILE:HG12	2.03	0.40
1:B:983:CYS:SG	1:B:987:CYS:HB3	2.62	0.40
1:B:1720:ALA:N	1:B:1721:PRO:HD2	2.36	0.40
1:B:2193:PRO:HB3	1:B:2207:TRP:CD1	2.57	0.40
1:B:2936:MET:HE3	1:B:2936:MET:HB3	1.94	0.40
1:B:3670:ILE:HA	1:B:3673:CYS:HB2	2.03	0.40
1:B:4079:TYR:CG	1:B:4080:LEU:N	2.88	0.40
1:B:4262:ASP:OD1	1:B:4264:THR:HG22	2.22	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 PDB entries followed by that with respect to all EM entries.

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	4304/4660 (92%)	3970 (92%)	332 (8%)	2 (0%)	100	100
1	B	4304/4660 (92%)	3979 (92%)	322 (8%)	3 (0%)	48	79
2	C	1/6 (17%)	1 (100%)	0	0	100	100
2	I	1/6 (17%)	1 (100%)	0	0	100	100
3	D	1/3 (33%)	1 (100%)	0	0	100	100
3	J	1/3 (33%)	0	1 (100%)	0	100	100
4	G	2/5 (40%)	0	2 (100%)	0	100	100
4	K	2/5 (40%)	1 (50%)	1 (50%)	0	100	100
5	H	1/5 (20%)	1 (100%)	0	0	100	100
5	L	1/5 (20%)	1 (100%)	0	0	100	100
5	O	1/5 (20%)	0	1 (100%)	0	100	100
5	R	1/5 (20%)	1 (100%)	0	0	100	100
7	N	1/5 (20%)	1 (100%)	0	0	100	100
7	Q	1/5 (20%)	1 (100%)	0	0	100	100
All	All	8622/9378 (92%)	7958 (92%)	659 (8%)	5 (0%)	50	79

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	2840	ALA
1	B	2860	CYS
1	A	3209	TYR
1	A	846	ARG
1	B	1152	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 PDB entries followed by that with respect to all EM entries.

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	3791/4089 (93%)	3698 (98%)	93 (2%)	42	62
1	B	3791/4089 (93%)	3710 (98%)	81 (2%)	48	66
2	C	1/1 (100%)	1 (100%)	0	100	100
2	I	1/1 (100%)	1 (100%)	0	100	100
3	D	1/1 (100%)	1 (100%)	0	100	100
3	J	1/1 (100%)	1 (100%)	0	100	100
4	G	2/2 (100%)	2 (100%)	0	100	100
4	K	2/2 (100%)	2 (100%)	0	100	100
5	H	1/1 (100%)	1 (100%)	0	100	100
5	L	1/1 (100%)	1 (100%)	0	100	100
5	O	1/1 (100%)	1 (100%)	0	100	100
5	R	1/1 (100%)	1 (100%)	0	100	100
7	N	1/1 (100%)	1 (100%)	0	100	100
7	Q	1/1 (100%)	1 (100%)	0	100	100
All	All	7596/8192 (93%)	7422 (98%)	174 (2%)	46	63

All (174) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	89	GLU
1	A	248	GLN
1	A	361	CYS
1	A	377	ILE
1	A	395	VAL
1	A	492	VAL
1	A	505	THR
1	A	508	LEU
1	A	516	LEU
1	A	520	VAL
1	A	555	VAL
1	A	570	VAL
1	A	582	THR
1	A	593	VAL
1	A	608	LEU
1	A	707	LYS
1	A	724	THR
1	A	728	GLN
1	A	732	MET

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Mol	Chain	Res	Type
1	A	754	VAL
1	A	807	VAL
1	A	839	MET
1	A	887	ASP
1	A	893	ILE
1	A	919	THR
1	A	925	VAL
1	A	929	ASP
1	A	931	ARG
1	A	973	CYS
1	A	1063	ASN
1	A	1319	GLN
1	A	1346	SER
1	A	1351	GLN
1	A	1364	GLN
1	A	1401	CYS
1	A	1408	MET
1	A	1477	VAL
1	A	1613	ILE
1	A	1728	CYS
1	A	1814	VAL
1	A	1911	LEU
1	A	2174	VAL
1	A	2175	LEU
1	A	2188	VAL
1	A	2230	VAL
1	A	2452	LEU
1	A	2515	LEU
1	A	2547	VAL
1	A	2599	LEU
1	A	2692	TYR
1	A	2767	CYS
1	A	2795	ILE
1	A	2809	ASP
1	A	2830	CYS
1	A	2834	ASN
1	A	2839	ARG
1	A	2854	ASP
1	A	2871	GLN
1	A	2901	CYS
1	A	2968	ILE
1	A	3081	GLN

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Mol	Chain	Res	Type
1	A	3128	CYS
1	A	3205	PHE
1	A	3207	ASN
1	A	3209	TYR
1	A	3226	GLN
1	A	3300	ASP
1	A	3315	ASP
1	A	3318	ASN
1	A	3319	THR
1	A	3373	THR
1	A	3415	LEU
1	A	3416	THR
1	A	3511	MET
1	A	3541	SER
1	A	3661	ASP
1	A	3741	CYS
1	A	3774	ILE
1	A	3867	ASN
1	A	3898	CYS
1	A	3916	ASP
1	A	3960	ASP
1	A	3961	GLU
1	A	3980	ASN
1	A	4041	MET
1	A	4168	ILE
1	A	4217	MET
1	A	4237	SER
1	A	4314	ASN
1	A	4339	VAL
1	A	4346	LEU
1	A	4353	CYS
1	A	4396	ASN
1	B	207	ASP
1	B	213	ASP
1	B	221	THR
1	B	245	ASP
1	B	264	ARG
1	B	322	GLN
1	B	361	CYS
1	B	371	LEU
1	B	395	VAL
1	B	443	MET

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Mol	Chain	Res	Type
1	B	447	VAL
1	B	487	VAL
1	B	489	ARG
1	B	500	ARG
1	B	570	VAL
1	B	593	VAL
1	B	616	THR
1	B	631	GLU
1	B	632	THR
1	B	653	LEU
1	B	899	ASP
1	B	968	THR
1	B	978	HIS
1	B	990	VAL
1	B	1104	HIS
1	B	1137	ASP
1	B	1153	THR
1	B	1168	VAL
1	B	1300	MET
1	B	1585	MET
1	B	1598	ILE
1	B	1660	ASP
1	B	1955	MET
1	B	1967	LEU
1	B	1987	VAL
1	B	2079	LEU
1	B	2098	VAL
1	B	2127	ARG
1	B	2221	LEU
1	B	2286	VAL
1	B	2561	LEU
1	B	2599	LEU
1	B	2613	THR
1	B	2656	CYS
1	B	2766	ASP
1	B	2773	GLU
1	B	2777	LEU
1	B	2781	CYS
1	B	2828	THR
1	B	2851	ASP
1	B	2859	TYR
1	B	2933	CYS

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Mol	Chain	Res	Type
1	B	2992	MET
1	B	3091	GLU
1	B	3108	GLU
1	B	3130	ASP
1	B	3172	VAL
1	B	3207	ASN
1	B	3235	ASP
1	B	3373	THR
1	B	3416	THR
1	B	3515	SER
1	B	3534	CYS
1	B	3744	THR
1	B	3822	ARG
1	B	3897	ARG
1	B	3974	GLU
1	B	3982	THR
1	B	4041	MET
1	B	4062	GLU
1	B	4065	ARG
1	B	4078	GLU
1	B	4168	ILE
1	B	4217	MET
1	B	4313	VAL
1	B	4314	ASN
1	B	4319	GLN
1	B	4339	VAL
1	B	4346	LEU
1	B	4353	CYS
1	B	4396	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (96) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	352	GLN
1	A	368	HIS
1	A	638	HIS
1	A	660	ASN
1	A	1009	GLN
1	A	1053	ASN
1	A	1283	ASN
1	A	1317	GLN
1	A	1350	ASN

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Mol	Chain	Res	Type
1	A	1458	ASN
1	A	1523	ASN
1	A	1610	ASN
1	A	1670	ASN
1	A	1780	HIS
1	A	1803	HIS
1	A	1920	GLN
1	A	1921	HIS
1	A	2026	ASN
1	A	2322	ASN
1	A	2349	GLN
1	A	2351	ASN
1	A	2356	HIS
1	A	2431	ASN
1	A	2446	GLN
1	A	2604	GLN
1	A	2677	GLN
1	A	2758	HIS
1	A	2770	ASN
1	A	2903	HIS
1	A	2931	ASN
1	A	2941	GLN
1	A	2943	HIS
1	A	2959	ASN
1	A	3081	GLN
1	A	3318	ASN
1	A	3400	HIS
1	A	3402	HIS
1	A	3518	GLN
1	A	3552	HIS
1	A	3714	GLN
1	A	3854	HIS
1	A	3921	HIS
1	A	4011	ASN
1	A	4131	ASN
1	A	4234	ASN
1	A	4390	ASN
1	B	100	GLN
1	B	226	GLN
1	B	259	ASN
1	B	431	HIS
1	B	478	ASN

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Mol	Chain	Res	Type
1	B	612	HIS
1	B	633	ASN
1	B	665	ASN
1	B	751	HIS
1	B	980	ASN
1	B	1051	HIS
1	B	1133	ASN
1	B	1317	GLN
1	B	1543	HIS
1	B	1576	HIS
1	B	1698	GLN
1	B	1719	GLN
1	B	1746	GLN
1	B	1798	ASN
1	B	2026	ASN
1	B	2084	HIS
1	B	2100	HIS
1	B	2107	ASN
1	B	2431	ASN
1	B	2465	ASN
1	B	2595	HIS
1	B	2648	GLN
1	B	2650	GLN
1	B	2722	ASN
1	B	2954	GLN
1	B	2970	GLN
1	B	3057	ASN
1	B	3066	GLN
1	B	3086	ASN
1	B	3318	ASN
1	B	3387	HIS
1	B	3500	GLN
1	B	3614	GLN
1	B	3691	ASN
1	B	3714	GLN
1	B	3722	HIS
1	B	3732	HIS
1	B	3733	HIS
1	B	3789	ASN
1	B	3806	GLN
1	B	3965	ASN
1	B	4130	ASN

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Mol	Chain	Res	Type
1	B	4234	ASN
1	B	4390	ASN
7	N	2	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 ⓘ

124 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	$\#\|Z\|>2$
9	NAG	0	1	9,1	14,14,15	0.40	0	17,19,21	0.51	0
9	NAG	0	2	9	14,14,15	0.40	0	17,19,21	0.58	0
10	NAG	1	1	10,1	14,14,15	0.45	0	17,19,21	0.73	0
10	NAG	1	2	10	14,14,15	0.57	0	17,19,21	0.97	1 (5%)
10	BMA	1	3	10	11,11,12	1.00	1 (9%)	15,15,17	1.11	1 (6%)
10	MAN	1	4	10	11,11,12	0.95	1 (9%)	15,15,17	1.00	2 (13%)
10	MAN	1	5	10	11,11,12	0.80	0	15,15,17	0.88	1 (6%)
10	NAG	2	1	10,1	14,14,15	0.51	0	17,19,21	1.03	1 (5%)
10	NAG	2	2	10	14,14,15	0.58	0	17,19,21	0.81	1 (5%)
10	BMA	2	3	10	11,11,12	1.14	1 (9%)	15,15,17	1.30	2 (13%)
10	MAN	2	4	10	11,11,12	0.89	1 (9%)	15,15,17	0.86	1 (6%)
10	MAN	2	5	10	11,11,12	0.82	0	15,15,17	1.27	2 (13%)
9	NAG	3	1	9,1	14,14,15	0.41	0	17,19,21	0.51	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
9	NAG	3	2	9	14,14,15	0.39	0	17,19,21	0.55	0
11	NAG	4	1	11,1	14,14,15	0.43	0	17,19,21	0.41	0
11	NAG	4	2	11	14,14,15	0.39	0	17,19,21	0.45	0
11	BMA	4	3	11	11,11,12	0.80	1 (9%)	15,15,17	0.82	1 (6%)
9	NAG	5	1	9,1	14,14,15	0.55	0	17,19,21	0.81	1 (5%)
9	NAG	5	2	9	14,14,15	0.56	0	17,19,21	0.89	1 (5%)
8	NAG	E	1	8,1	14,14,15	0.40	0	17,19,21	0.48	0
8	NAG	E	2	8	14,14,15	0.41	0	17,19,21	0.82	1 (5%)
8	BMA	E	3	8	11,11,12	0.21	0	15,15,17	0.56	0
9	NAG	F	1	9,1	14,14,15	0.40	0	17,19,21	0.41	0
9	NAG	F	2	9	14,14,15	0.40	0	17,19,21	0.35	0
9	NAG	S	1	9,1	14,14,15	0.42	0	17,19,21	0.55	0
9	NAG	S	2	9	14,14,15	0.41	0	17,19,21	0.81	1 (5%)
8	NAG	T	1	8,1	14,14,15	0.36	0	17,19,21	0.66	0
8	NAG	T	2	8	14,14,15	0.50	0	17,19,21	0.75	0
8	BMA	T	3	8	11,11,12	0.25	0	15,15,17	0.62	0
9	NAG	U	1	9,1	14,14,15	0.41	0	17,19,21	0.45	0
9	NAG	U	2	9	14,14,15	0.39	0	17,19,21	0.42	0
9	NAG	V	1	9,1	14,14,15	0.63	0	17,19,21	1.10	2 (11%)
9	NAG	V	2	9	14,14,15	0.61	0	17,19,21	1.08	1 (5%)
10	NAG	W	1	10,1	14,14,15	0.40	0	17,19,21	0.99	2 (11%)
10	NAG	W	2	10	14,14,15	0.39	0	17,19,21	0.54	0
10	BMA	W	3	10	11,11,12	0.27	0	15,15,17	0.76	0
10	MAN	W	4	10	11,11,12	0.24	0	15,15,17	0.52	0
10	MAN	W	5	10	11,11,12	0.29	0	15,15,17	0.59	0
9	NAG	X	1	9,1	14,14,15	0.39	0	17,19,21	0.44	0
9	NAG	X	2	9	14,14,15	0.40	0	17,19,21	0.75	0
10	NAG	Y	1	10,1	14,14,15	0.47	0	17,19,21	0.63	0
10	NAG	Y	2	10	14,14,15	0.41	0	17,19,21	0.61	0
10	BMA	Y	3	10	11,11,12	0.38	0	15,15,17	0.62	0
10	MAN	Y	4	10	11,11,12	0.21	0	15,15,17	0.58	0
10	MAN	Y	5	10	11,11,12	0.30	0	15,15,17	0.58	0
9	NAG	Z	1	9,1	14,14,15	0.41	0	17,19,21	0.50	0
9	NAG	Z	2	9	14,14,15	0.41	0	17,19,21	0.75	1 (5%)
9	NAG	a	1	9,1	14,14,15	0.38	0	17,19,21	0.42	0
9	NAG	a	2	9	14,14,15	0.39	0	17,19,21	0.49	0
8	NAG	b	1	8,1	14,14,15	0.44	0	17,19,21	0.44	0
8	NAG	b	2	8	14,14,15	0.39	0	17,19,21	0.40	0
8	BMA	b	3	8	11,11,12	0.20	0	15,15,17	0.56	0
8	NAG	c	1	8,1	14,14,15	0.46	0	17,19,21	0.56	0
8	NAG	c	2	8	14,14,15	0.43	0	17,19,21	0.57	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
8	BMA	c	3	8	11,11,12	0.28	0	15,15,17	0.61	0
10	NAG	d	1	10,1	14,14,15	0.44	0	17,19,21	0.42	0
10	NAG	d	2	10	14,14,15	0.39	0	17,19,21	0.42	0
10	BMA	d	3	10	11,11,12	0.27	0	15,15,17	0.75	1 (6%)
10	MAN	d	4	10	11,11,12	0.26	0	15,15,17	0.62	0
10	MAN	d	5	10	11,11,12	0.27	0	15,15,17	0.53	0
9	NAG	e	1	9,1	14,14,15	0.59	0	17,19,21	1.26	2 (11%)
9	NAG	e	2	9	14,14,15	0.55	0	17,19,21	0.93	1 (5%)
9	NAG	f	1	9,1	14,14,15	0.43	0	17,19,21	0.40	0
9	NAG	f	2	9	14,14,15	0.41	0	17,19,21	0.49	0
10	NAG	g	1	10,1	14,14,15	0.50	0	17,19,21	1.40	2 (11%)
10	NAG	g	2	10	14,14,15	0.43	0	17,19,21	0.43	0
10	BMA	g	3	10	11,11,12	0.24	0	15,15,17	0.71	1 (6%)
10	MAN	g	4	10	11,11,12	0.29	0	15,15,17	0.53	0
10	MAN	g	5	10	11,11,12	0.29	0	15,15,17	0.52	0
10	NAG	h	1	10,1	14,14,15	0.45	0	17,19,21	1.16	1 (5%)
10	NAG	h	2	10	14,14,15	0.49	0	17,19,21	0.77	1 (5%)
10	BMA	h	3	10	11,11,12	0.37	0	15,15,17	0.72	0
10	MAN	h	4	10	11,11,12	0.30	0	15,15,17	0.60	0
10	MAN	h	5	10	11,11,12	0.31	0	15,15,17	0.54	0
9	NAG	i	1	9,1	14,14,15	0.41	0	17,19,21	0.55	0
9	NAG	i	2	9	14,14,15	0.41	0	17,19,21	0.55	0
11	NAG	j	1	11,1	14,14,15	0.41	0	17,19,21	0.39	0
11	NAG	j	2	11	14,14,15	0.40	0	17,19,21	0.46	0
11	BMA	j	3	11	11,11,12	0.27	0	15,15,17	0.53	0
9	NAG	k	1	9,1	14,14,15	0.64	0	17,19,21	1.10	1 (5%)
9	NAG	k	2	9	14,14,15	0.67	0	17,19,21	1.30	1 (5%)
8	NAG	l	1	8,1	14,14,15	0.50	0	17,19,21	1.00	1 (5%)
8	NAG	l	2	8	14,14,15	0.57	0	17,19,21	0.75	1 (5%)
8	BMA	l	3	8	11,11,12	0.84	1 (9%)	15,15,17	1.03	2 (13%)
9	NAG	m	1	9,1	14,14,15	0.47	0	17,19,21	0.85	0
9	NAG	m	2	9	14,14,15	0.53	0	17,19,21	0.87	1 (5%)
9	NAG	n	1	9,1	14,14,15	0.55	0	17,19,21	0.93	1 (5%)
9	NAG	n	2	9	14,14,15	0.56	0	17,19,21	0.92	1 (5%)
8	NAG	o	1	8,1	14,14,15	0.43	0	17,19,21	0.54	0
8	NAG	o	2	8	14,14,15	0.42	0	17,19,21	0.41	0
8	BMA	o	3	8	11,11,12	0.28	0	15,15,17	0.64	0
9	NAG	p	1	9,1	14,14,15	0.38	0	17,19,21	0.79	1 (5%)
9	NAG	p	2	9	14,14,15	0.42	0	17,19,21	0.54	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
9	NAG	q	1	9,1	14,14,15	0.40	0	17,19,21	0.59	0
9	NAG	q	2	9	14,14,15	0.40	0	17,19,21	0.38	0
10	NAG	r	1	10,1	14,14,15	0.48	0	17,19,21	0.90	1 (5%)
10	NAG	r	2	10	14,14,15	0.42	0	17,19,21	0.66	0
10	BMA	r	3	10	11,11,12	0.28	0	15,15,17	0.73	1 (6%)
10	MAN	r	4	10	11,11,12	0.26	0	15,15,17	0.59	0
10	MAN	r	5	10	11,11,12	0.95	1 (9%)	15,15,17	0.92	1 (6%)
9	NAG	s	1	9,1	14,14,15	0.45	0	17,19,21	0.70	0
9	NAG	s	2	9	14,14,15	0.40	0	17,19,21	0.49	0
10	NAG	t	1	10,1	14,14,15	0.44	0	17,19,21	0.98	0
10	NAG	t	2	10	14,14,15	0.41	0	17,19,21	0.70	0
10	BMA	t	3	10	11,11,12	0.28	0	15,15,17	0.45	0
10	MAN	t	4	10	11,11,12	0.31	0	15,15,17	0.57	0
10	MAN	t	5	10	11,11,12	0.27	0	15,15,17	0.57	0
9	NAG	u	1	9,1	14,14,15	0.59	0	17,19,21	0.83	1 (5%)
9	NAG	u	2	9	14,14,15	0.57	0	17,19,21	1.00	1 (5%)
9	NAG	v	1	9,1	14,14,15	0.42	0	17,19,21	0.60	0
9	NAG	v	2	9	14,14,15	0.39	0	17,19,21	0.42	0
8	NAG	w	1	8,1	14,14,15	0.52	0	17,19,21	1.04	1 (5%)
8	NAG	w	2	8	14,14,15	0.38	0	17,19,21	0.66	0
8	BMA	w	3	8	11,11,12	0.22	0	15,15,17	0.63	0
8	NAG	x	1	8,1	14,14,15	0.48	0	17,19,21	0.74	0
8	NAG	x	2	8	14,14,15	0.40	0	17,19,21	0.99	1 (5%)
8	BMA	x	3	8	11,11,12	0.30	0	15,15,17	0.57	0
10	NAG	y	1	10,1	14,14,15	0.46	0	17,19,21	0.50	0
10	NAG	y	2	10	14,14,15	0.44	0	17,19,21	0.53	0
10	BMA	y	3	10	11,11,12	0.29	0	15,15,17	0.80	1 (6%)
10	MAN	y	4	10	11,11,12	0.28	0	15,15,17	0.52	0
10	MAN	y	5	10	11,11,12	0.27	0	15,15,17	0.52	0
9	NAG	z	1	9,1	14,14,15	0.54	0	17,19,21	1.14	1 (5%)
9	NAG	z	2	9	14,14,15	0.63	0	17,19,21	1.00	1 (5%)

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	0	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	0	2	9	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
10	NAG	1	1	10,1	-	2/6/23/26	0/1/1/1
10	NAG	1	2	10	-	0/6/23/26	0/1/1/1
10	BMA	1	3	10	-	0/2/19/22	0/1/1/1
10	MAN	1	4	10	-	0/2/19/22	0/1/1/1
10	MAN	1	5	10	-	0/2/19/22	0/1/1/1
10	NAG	2	1	10,1	-	0/6/23/26	0/1/1/1
10	NAG	2	2	10	-	0/6/23/26	0/1/1/1
10	BMA	2	3	10	-	2/2/19/22	0/1/1/1
10	MAN	2	4	10	-	0/2/19/22	0/1/1/1
10	MAN	2	5	10	-	0/2/19/22	0/1/1/1
9	NAG	3	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	3	2	9	-	3/6/23/26	0/1/1/1
11	NAG	4	1	11,1	-	0/6/23/26	0/1/1/1
11	NAG	4	2	11	-	2/6/23/26	0/1/1/1
11	BMA	4	3	11	-	0/2/19/22	0/1/1/1
9	NAG	5	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	5	2	9	-	0/6/23/26	0/1/1/1
8	NAG	E	1	8,1	-	0/6/23/26	0/1/1/1
8	NAG	E	2	8	-	3/6/23/26	0/1/1/1
8	BMA	E	3	8	-	0/2/19/22	0/1/1/1
9	NAG	F	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	F	2	9	-	3/6/23/26	0/1/1/1
9	NAG	S	1	9,1	-	2/6/23/26	0/1/1/1
9	NAG	S	2	9	-	3/6/23/26	0/1/1/1
8	NAG	T	1	8,1	-	0/6/23/26	0/1/1/1
8	NAG	T	2	8	-	0/6/23/26	0/1/1/1
8	BMA	T	3	8	-	0/2/19/22	0/1/1/1
9	NAG	U	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	U	2	9	-	0/6/23/26	0/1/1/1
9	NAG	V	1	9,1	-	1/6/23/26	0/1/1/1
9	NAG	V	2	9	-	1/6/23/26	0/1/1/1
10	NAG	W	1	10,1	-	2/6/23/26	0/1/1/1
10	NAG	W	2	10	-	0/6/23/26	0/1/1/1
10	BMA	W	3	10	-	0/2/19/22	0/1/1/1
10	MAN	W	4	10	-	0/2/19/22	0/1/1/1
10	MAN	W	5	10	-	0/2/19/22	0/1/1/1
9	NAG	X	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	X	2	9	-	2/6/23/26	0/1/1/1
10	NAG	Y	1	10,1	-	0/6/23/26	0/1/1/1
10	NAG	Y	2	10	-	1/6/23/26	0/1/1/1

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

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	BMA	l	3	8	-	0/2/19/22	0/1/1/1
9	NAG	m	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	m	2	9	-	1/6/23/26	0/1/1/1
9	NAG	n	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	n	2	9	-	0/6/23/26	0/1/1/1
8	NAG	o	1	8,1	-	1/6/23/26	0/1/1/1
8	NAG	o	2	8	-	0/6/23/26	0/1/1/1
8	BMA	o	3	8	-	0/2/19/22	0/1/1/1
9	NAG	p	1	9,1	-	0/6/23/26	0/1/1/1
9	NAG	p	2	9	-	1/6/23/26	0/1/1/1
9	NAG	q	1	9,1	-	4/6/23/26	0/1/1/1
9	NAG	q	2	9	-	2/6/23/26	0/1/1/1
10	NAG	r	1	10,1	-	0/6/23/26	0/1/1/1
10	NAG	r	2	10	-	1/6/23/26	0/1/1/1
10	BMA	r	3	10	-	2/2/19/22	0/1/1/1
10	MAN	r	4	10	-	0/2/19/22	0/1/1/1
10	MAN	r	5	10	-	0/2/19/22	0/1/1/1
9	NAG	s	1	9,1	-	2/6/23/26	0/1/1/1
9	NAG	s	2	9	-	0/6/23/26	0/1/1/1
10	NAG	t	1	10,1	-	1/6/23/26	0/1/1/1
10	NAG	t	2	10	-	0/6/23/26	0/1/1/1
10	BMA	t	3	10	-	0/2/19/22	0/1/1/1
10	MAN	t	4	10	-	0/2/19/22	0/1/1/1
10	MAN	t	5	10	-	0/2/19/22	0/1/1/1
9	NAG	u	1	9,1	-	2/6/23/26	0/1/1/1
9	NAG	u	2	9	-	0/6/23/26	0/1/1/1
9	NAG	v	1	9,1	-	1/6/23/26	0/1/1/1
9	NAG	v	2	9	-	2/6/23/26	0/1/1/1
8	NAG	w	1	8,1	-	0/6/23/26	0/1/1/1
8	NAG	w	2	8	-	4/6/23/26	0/1/1/1
8	BMA	w	3	8	-	0/2/19/22	0/1/1/1
8	NAG	x	1	8,1	-	2/6/23/26	0/1/1/1
8	NAG	x	2	8	-	0/6/23/26	0/1/1/1
8	BMA	x	3	8	-	0/2/19/22	0/1/1/1
10	NAG	y	1	10,1	-	2/6/23/26	0/1/1/1
10	NAG	y	2	10	-	4/6/23/26	0/1/1/1
10	BMA	y	3	10	-	0/2/19/22	0/1/1/1
10	MAN	y	4	10	-	0/2/19/22	0/1/1/1
10	MAN	y	5	10	-	0/2/19/22	0/1/1/1
9	NAG	z	1	9,1	-	0/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	NAG	z	2	9	-	3/6/23/26	0/1/1/1

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	1	3	BMA	O5-C5	2.42	1.48	1.43
10	1	4	MAN	O5-C5	2.24	1.48	1.43
10	2	3	BMA	O5-C5	2.24	1.48	1.43
10	r	5	MAN	O5-C5	2.24	1.48	1.43
10	2	4	MAN	O5-C5	2.14	1.47	1.43
8	l	3	BMA	O5-C5	2.04	1.47	1.43
11	4	3	BMA	O5-C5	2.00	1.47	1.43

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	k	2	NAG	C1-O5-C5	4.06	117.69	112.19
9	e	1	NAG	C1-O5-C5	3.69	117.20	112.19
10	2	1	NAG	C1-O5-C5	3.68	117.18	112.19
10	1	3	BMA	C1-O5-C5	3.62	117.10	112.19
9	V	2	NAG	C1-O5-C5	3.57	117.03	112.19
8	w	1	NAG	C1-O5-C5	3.50	116.94	112.19
8	x	2	NAG	O5-C1-C2	-3.20	106.23	111.29
10	2	5	MAN	C1-C2-C3	3.18	113.58	109.67
9	z	1	NAG	C1-O5-C5	3.16	116.48	112.19
10	g	1	NAG	O5-C1-C2	3.13	116.22	111.29
10	h	1	NAG	C1-O5-C5	3.11	116.41	112.19
10	1	2	NAG	C1-O5-C5	3.04	116.32	112.19
9	V	1	NAG	C4-C3-C2	3.00	115.42	111.02
9	u	2	NAG	C1-O5-C5	2.91	116.13	112.19
9	n	2	NAG	C1-O5-C5	2.89	116.11	112.19
8	l	3	BMA	C1-O5-C5	2.87	116.08	112.19
10	2	3	BMA	C1-O5-C5	2.84	116.04	112.19
10	r	1	NAG	C1-C2-N2	2.78	115.23	110.49
9	e	2	NAG	C1-O5-C5	2.78	115.95	112.19
10	W	1	NAG	C1-O5-C5	2.74	115.91	112.19
9	k	1	NAG	C1-C2-N2	2.72	115.13	110.49
10	2	5	MAN	C1-O5-C5	2.70	115.85	112.19
10	2	3	BMA	C1-C2-C3	2.64	112.91	109.67
10	W	1	NAG	O5-C1-C2	-2.60	107.18	111.29
10	g	1	NAG	C3-C4-C5	-2.53	105.73	110.24
9	5	2	NAG	C1-O5-C5	2.52	115.61	112.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	1	4	MAN	C1-C2-C3	2.51	112.75	109.67
9	n	1	NAG	C4-C3-C2	2.45	114.61	111.02
9	5	1	NAG	C1-O5-C5	2.45	115.51	112.19
10	2	2	NAG	C1-O5-C5	2.43	115.49	112.19
8	l	2	NAG	C1-O5-C5	2.42	115.47	112.19
10	1	4	MAN	C1-O5-C5	2.35	115.38	112.19
8	E	2	NAG	C1-C2-N2	2.35	114.50	110.49
9	m	2	NAG	C1-O5-C5	2.31	115.32	112.19
8	l	3	BMA	C1-C2-C3	2.31	112.51	109.67
10	r	5	MAN	C1-O5-C5	2.29	115.29	112.19
10	d	3	BMA	C1-C2-C3	2.28	112.47	109.67
9	p	1	NAG	O5-C1-C2	-2.27	107.70	111.29
9	e	1	NAG	O5-C1-C2	2.27	114.88	111.29
10	y	3	BMA	C1-C2-C3	2.26	112.44	109.67
9	V	1	NAG	C2-N2-C7	2.21	126.06	122.90
11	4	3	BMA	C1-O5-C5	2.15	115.11	112.19
9	u	1	NAG	C1-O5-C5	2.15	115.10	112.19
10	r	3	BMA	C1-C2-C3	2.14	112.30	109.67
10	2	4	MAN	C1-O5-C5	2.12	115.06	112.19
9	z	2	NAG	C1-C2-N2	2.09	114.05	110.49
10	1	5	MAN	C1-O5-C5	2.08	115.01	112.19
10	g	3	BMA	C1-O5-C5	2.06	114.98	112.19
8	l	1	NAG	C1-O5-C5	2.03	114.94	112.19
9	S	2	NAG	C1-C2-N2	2.02	113.95	110.49
9	Z	2	NAG	C2-N2-C7	2.02	125.78	122.90
10	h	2	NAG	C1-O5-C5	2.01	114.92	112.19

There are no chirality outliers.

All (78) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	F	2	NAG	C3-C2-N2-C7
9	F	2	NAG	C8-C7-N2-C2
9	F	2	NAG	O7-C7-N2-C2
10	y	2	NAG	C8-C7-N2-C2
10	y	2	NAG	O7-C7-N2-C2
9	S	1	NAG	C8-C7-N2-C2
9	q	1	NAG	C8-C7-N2-C2
11	j	2	NAG	O5-C5-C6-O6
11	4	2	NAG	O5-C5-C6-O6
10	1	1	NAG	O5-C5-C6-O6
10	2	3	BMA	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
9	q	1	NAG	O7-C7-N2-C2
10	y	2	NAG	C1-C2-N2-C7
10	r	3	BMA	O5-C5-C6-O6
10	2	3	BMA	C4-C5-C6-O6
9	S	1	NAG	O7-C7-N2-C2
9	s	1	NAG	C8-C7-N2-C2
8	w	2	NAG	C8-C7-N2-C2
8	w	2	NAG	O7-C7-N2-C2
9	v	2	NAG	C8-C7-N2-C2
10	1	1	NAG	C4-C5-C6-O6
10	r	3	BMA	C4-C5-C6-O6
9	f	1	NAG	C8-C7-N2-C2
9	s	1	NAG	O7-C7-N2-C2
9	v	2	NAG	O7-C7-N2-C2
9	0	2	NAG	C8-C7-N2-C2
9	3	2	NAG	C8-C7-N2-C2
8	l	1	NAG	O5-C5-C6-O6
11	4	2	NAG	C4-C5-C6-O6
9	u	1	NAG	O5-C5-C6-O6
9	i	2	NAG	C8-C7-N2-C2
11	j	2	NAG	C4-C5-C6-O6
10	y	1	NAG	O5-C5-C6-O6
9	q	1	NAG	C1-C2-N2-C7
8	x	1	NAG	C4-C5-C6-O6
9	f	1	NAG	O7-C7-N2-C2
10	W	1	NAG	C8-C7-N2-C2
10	y	1	NAG	C4-C5-C6-O6
8	x	1	NAG	O5-C5-C6-O6
8	w	2	NAG	C1-C2-N2-C7
9	z	2	NAG	O5-C5-C6-O6
9	p	2	NAG	O5-C5-C6-O6
10	Y	2	NAG	O5-C5-C6-O6
10	h	5	MAN	O5-C5-C6-O6
9	3	2	NAG	O7-C7-N2-C2
9	S	2	NAG	O5-C5-C6-O6
9	v	1	NAG	O5-C5-C6-O6
9	V	2	NAG	O5-C5-C6-O6
9	i	2	NAG	O7-C7-N2-C2
9	0	2	NAG	O7-C7-N2-C2
8	E	2	NAG	C1-C2-N2-C7
8	o	1	NAG	O5-C5-C6-O6
9	X	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
9	3	2	NAG	O5-C5-C6-O6
9	i	2	NAG	O5-C5-C6-O6
9	q	1	NAG	C3-C2-N2-C7
10	W	1	NAG	O7-C7-N2-C2
10	g	3	BMA	O5-C5-C6-O6
9	q	2	NAG	C8-C7-N2-C2
9	X	2	NAG	C1-C2-N2-C7
10	t	1	NAG	C1-C2-N2-C7
9	V	1	NAG	C1-C2-N2-C7
8	w	2	NAG	C3-C2-N2-C7
9	Z	2	NAG	C3-C2-N2-C7
9	k	2	NAG	C3-C2-N2-C7
10	y	2	NAG	C3-C2-N2-C7
8	E	2	NAG	C8-C7-N2-C2
9	u	1	NAG	C4-C5-C6-O6
9	z	2	NAG	C1-C2-N2-C7
9	q	2	NAG	O7-C7-N2-C2
8	E	2	NAG	O7-C7-N2-C2
9	S	2	NAG	C1-C2-N2-C7
9	k	1	NAG	C4-C5-C6-O6
9	S	2	NAG	C3-C2-N2-C7
9	m	2	NAG	C3-C2-N2-C7
9	z	2	NAG	C3-C2-N2-C7
8	l	1	NAG	C4-C5-C6-O6
10	r	2	NAG	C8-C7-N2-C2

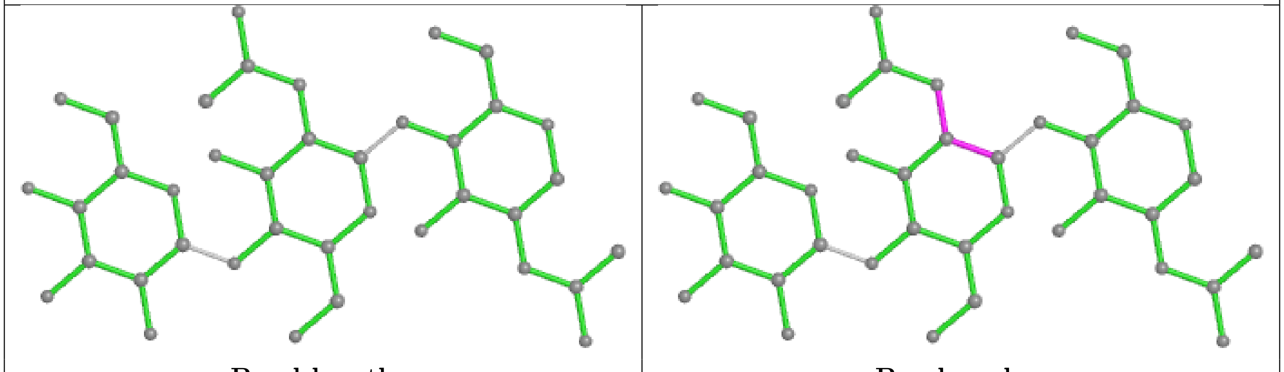
There are no ring outliers.

12 monomers are involved in 9 short contacts:

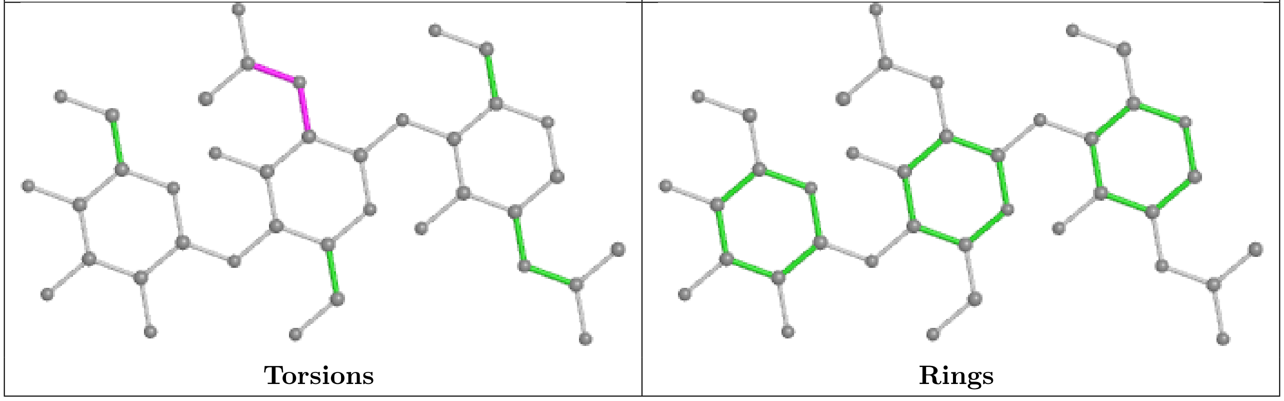
Mol	Chain	Res	Type	Clashes	Symm-Clashes
10	y	1	NAG	1	0
8	o	1	NAG	1	0
10	t	2	NAG	1	0
10	Y	1	NAG	1	0
9	U	1	NAG	1	0
10	r	1	NAG	1	0
10	Y	2	NAG	1	0
9	p	1	NAG	1	0
8	c	2	NAG	1	0
8	c	1	NAG	1	0
9	s	1	NAG	1	0
10	y	2	NAG	1	0

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

Oligosaccharide Chain E

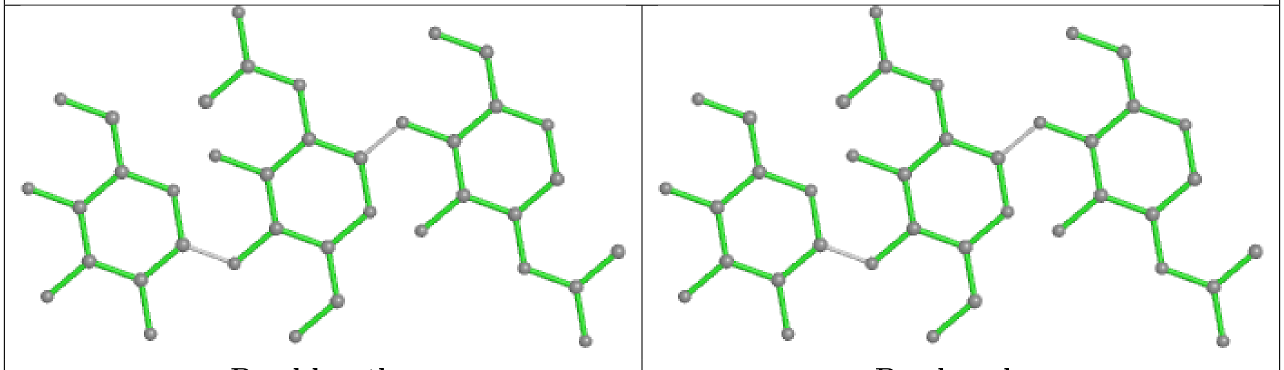


Bond lengths **Bond angles**

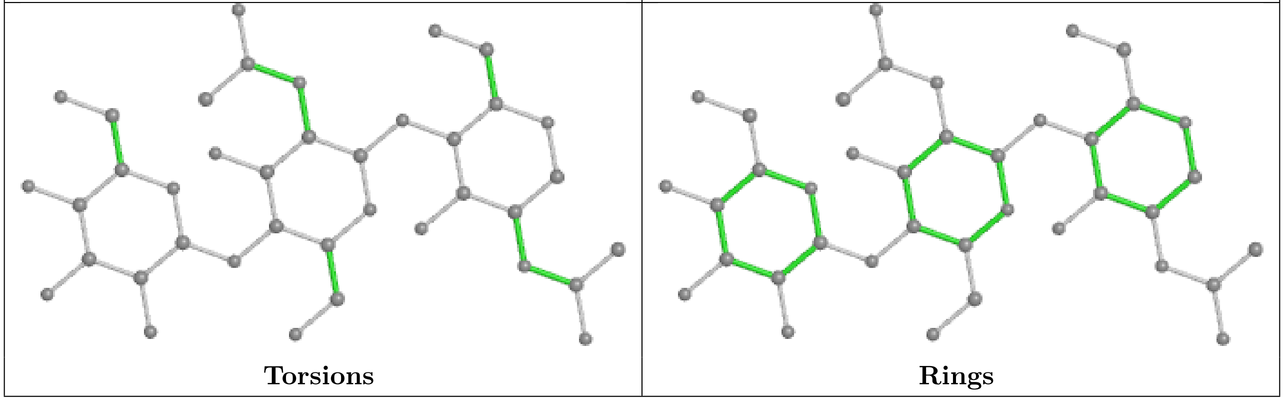


Torsions **Rings**

Oligosaccharide Chain T

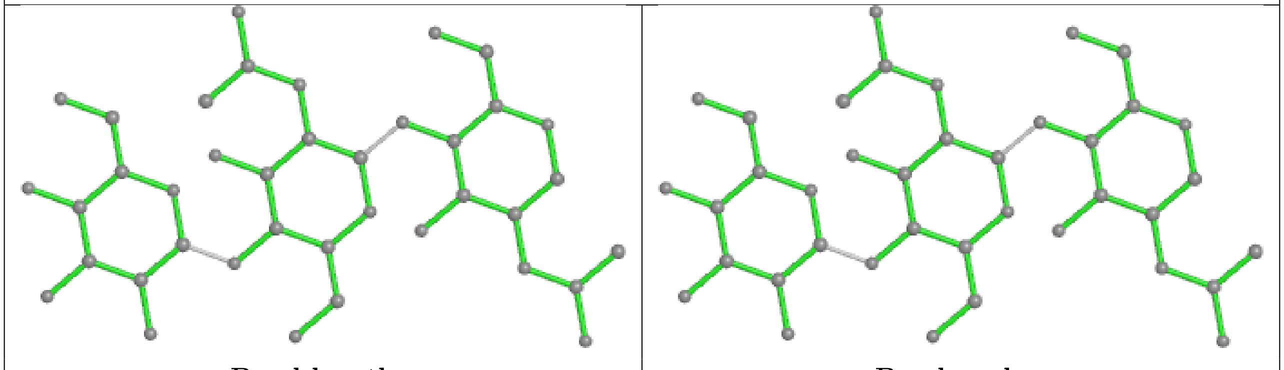


Bond lengths **Bond angles**



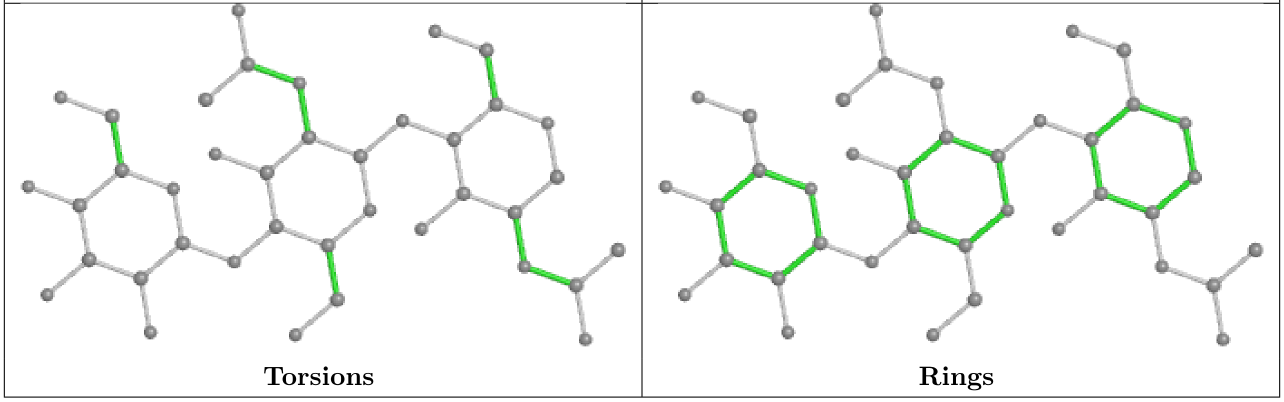
Torsions **Rings**

Oligosaccharide Chain b



Bond lengths

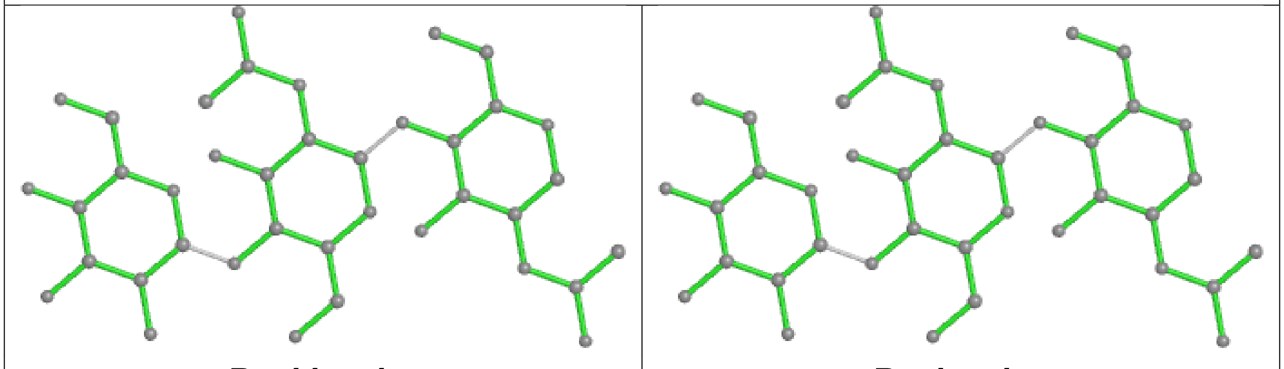
Bond angles



Torsions

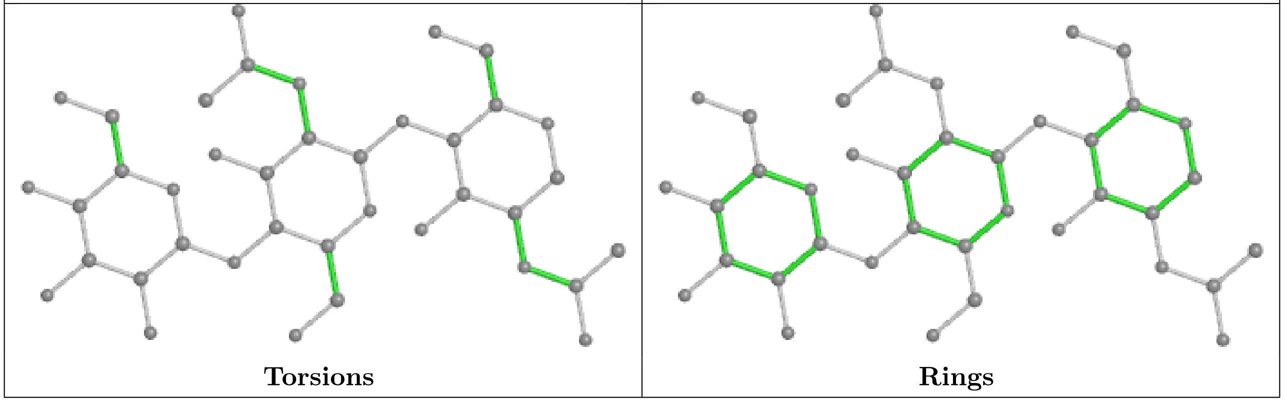
Rings

Oligosaccharide Chain c



Bond lengths

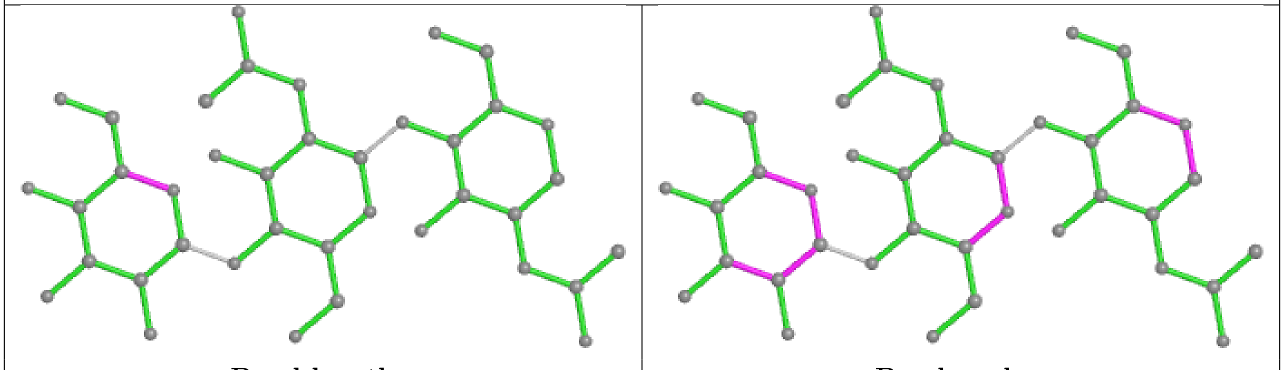
Bond angles



Torsions

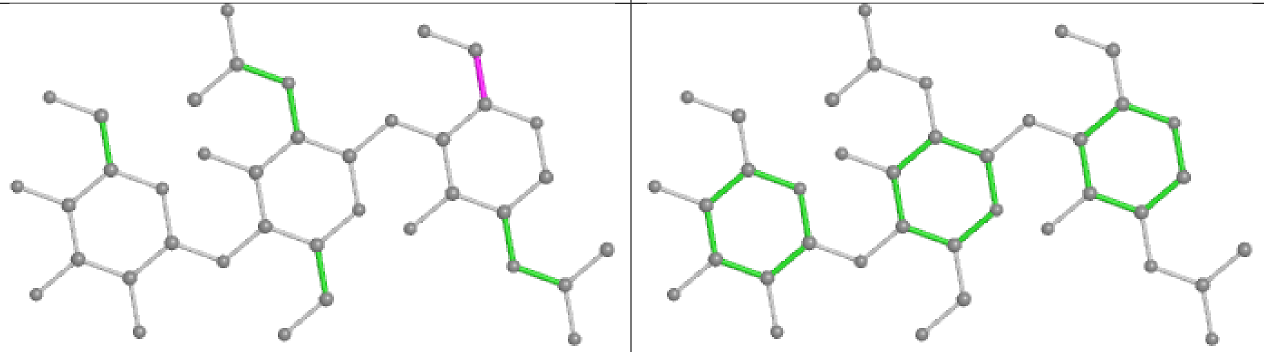
Rings

Oligosaccharide Chain l



Bond lengths

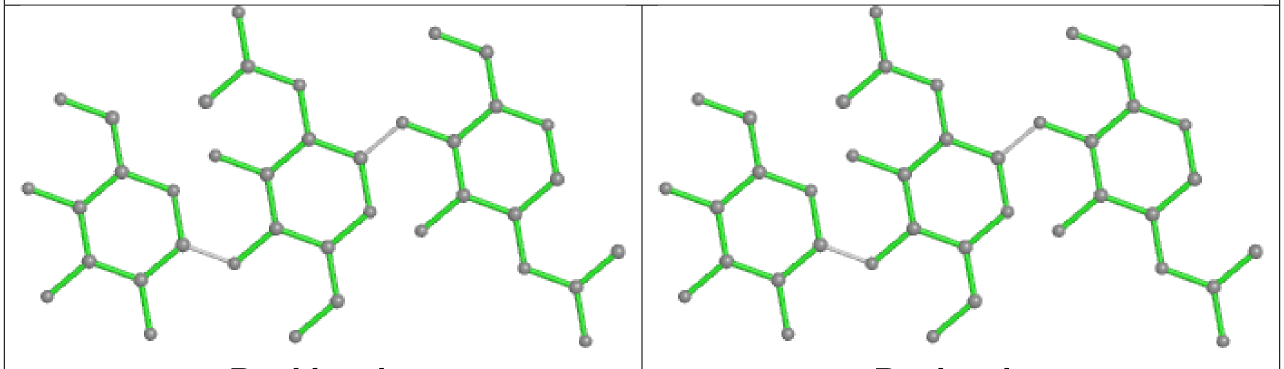
Bond angles



Torsions

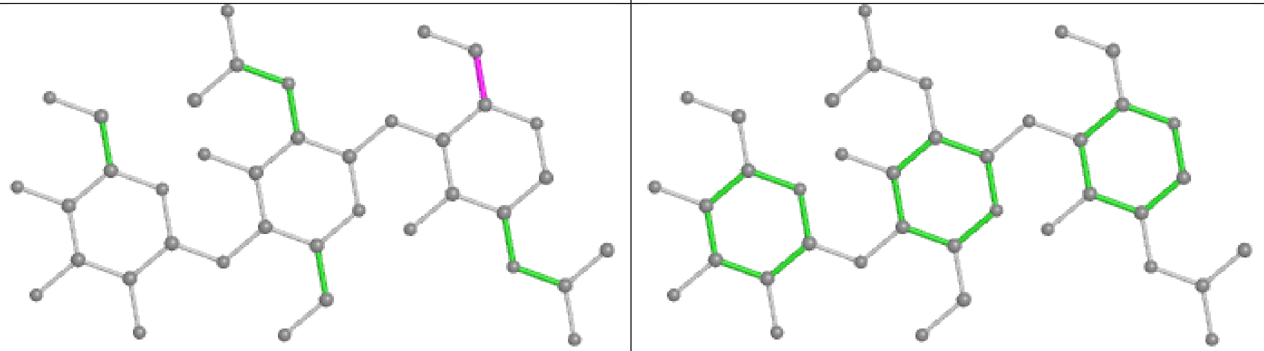
Rings

Oligosaccharide Chain o



Bond lengths

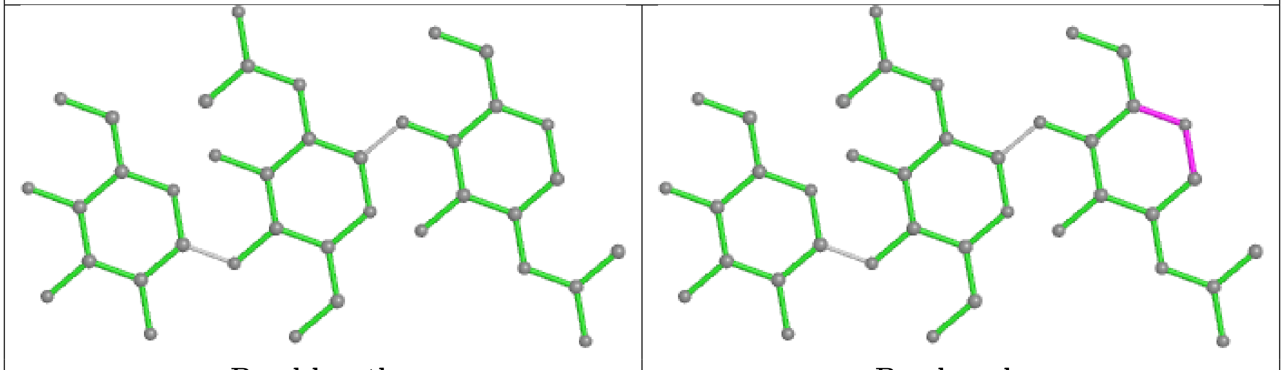
Bond angles



Torsions

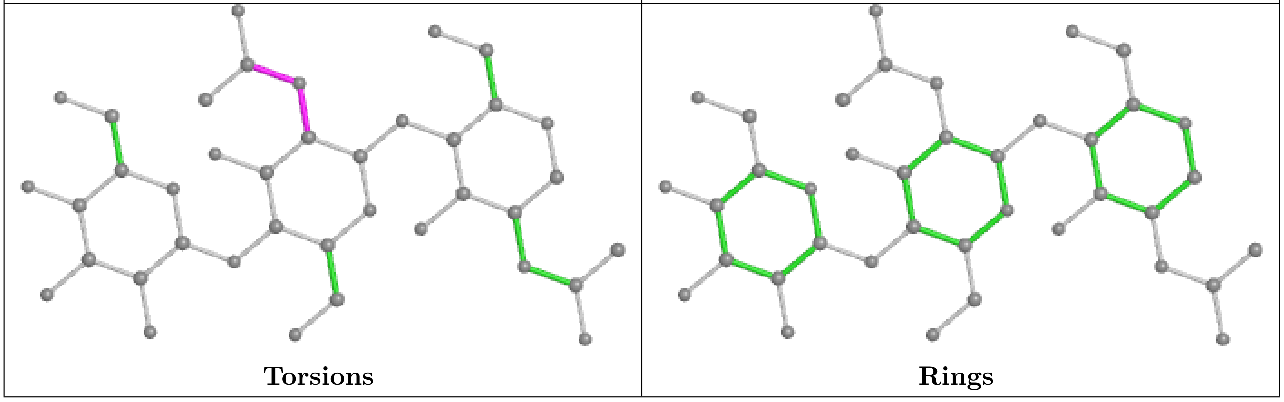
Rings

Oligosaccharide Chain w



Bond lengths

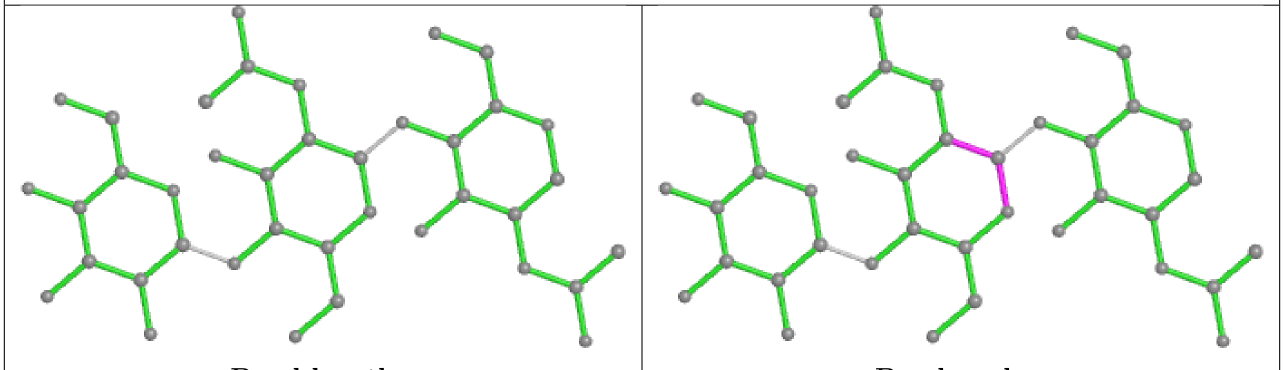
Bond angles



Torsions

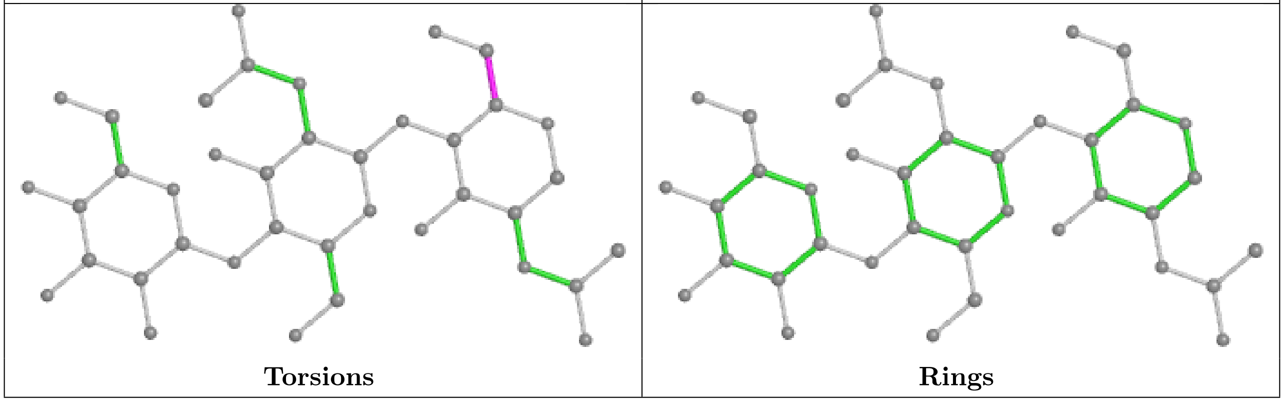
Rings

Oligosaccharide Chain x



Bond lengths

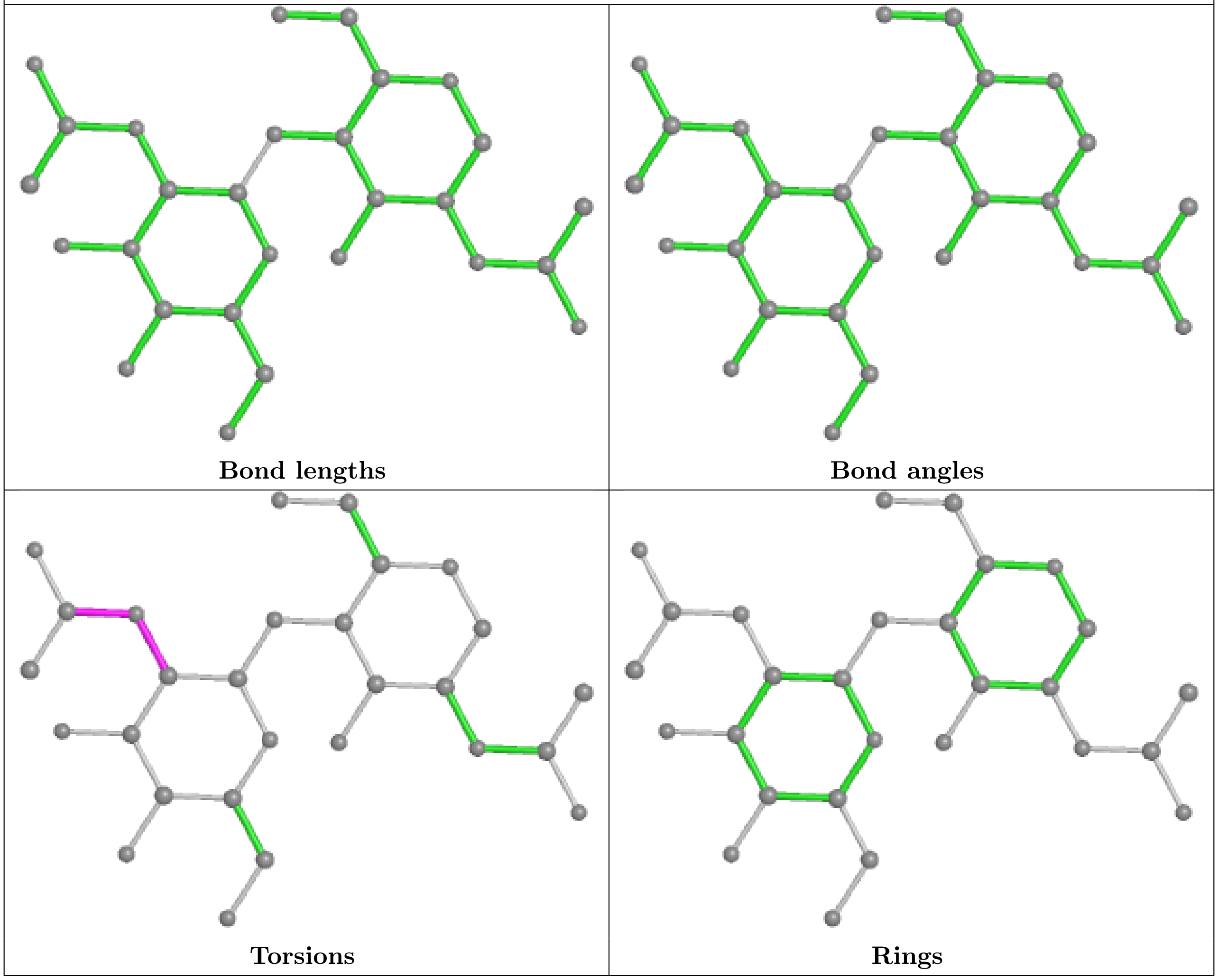
Bond angles



Torsions

Rings

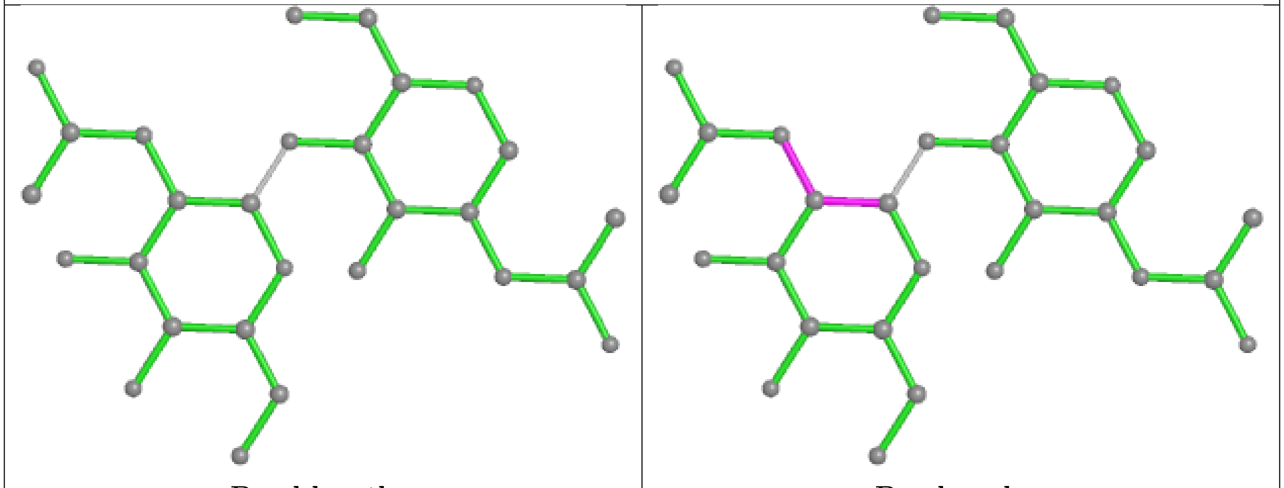
Oligosaccharide Chain F



Bond lengths **Bond angles**

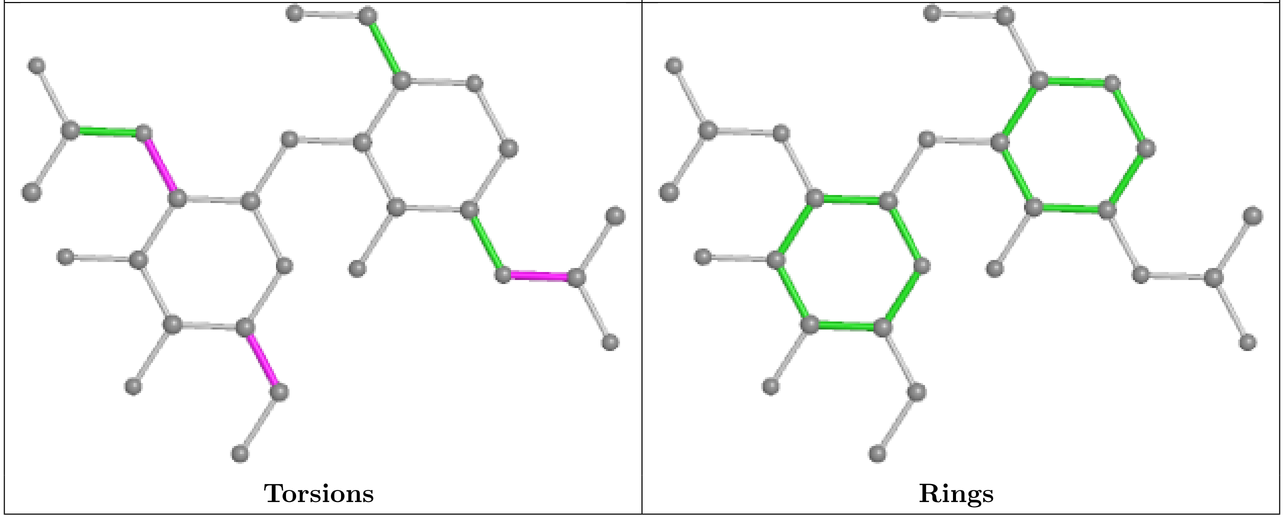
Torsions **Rings**

Oligosaccharide Chain S



Bond lengths

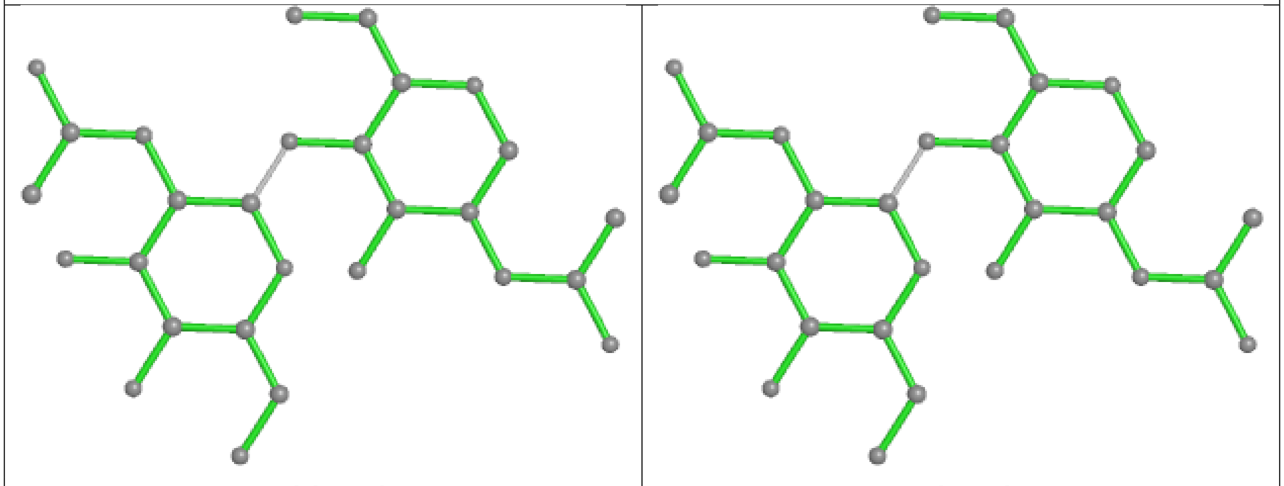
Bond angles



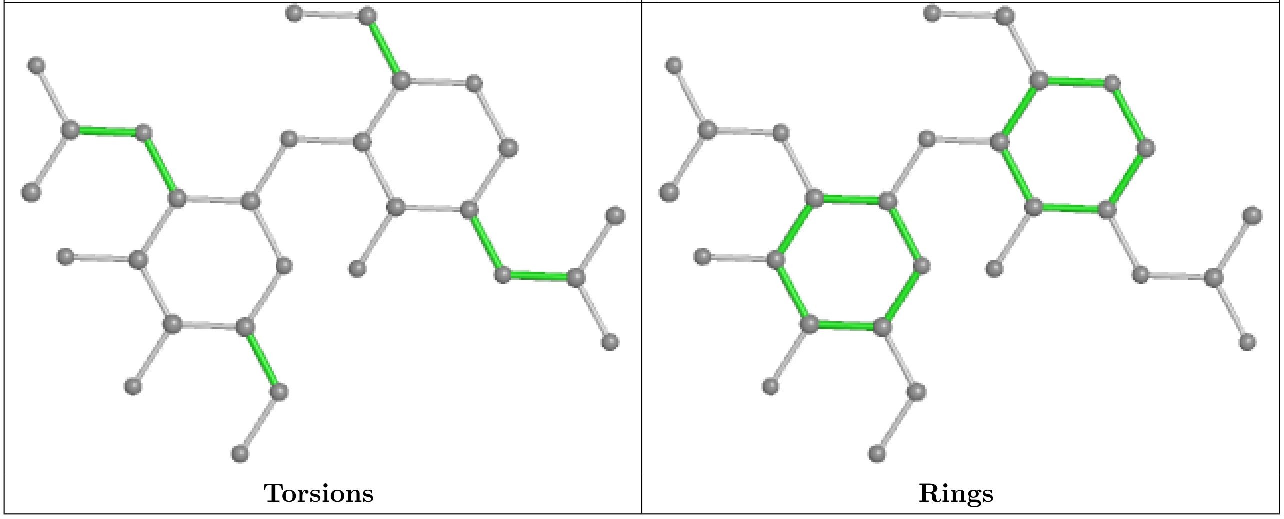
Torsions

Rings

Oligosaccharide Chain U

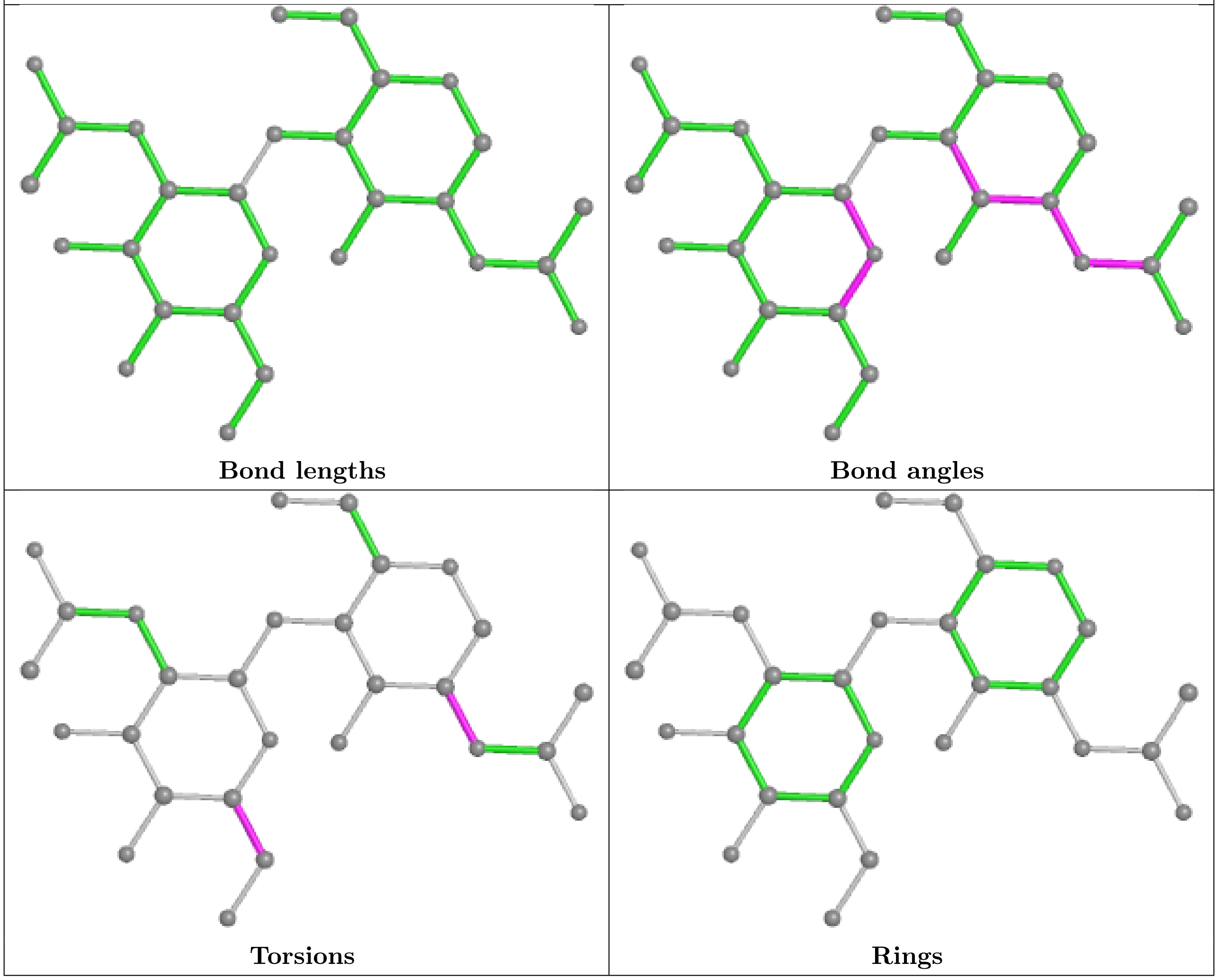


Bond lengths **Bond angles**



Torsions **Rings**

Oligosaccharide Chain V



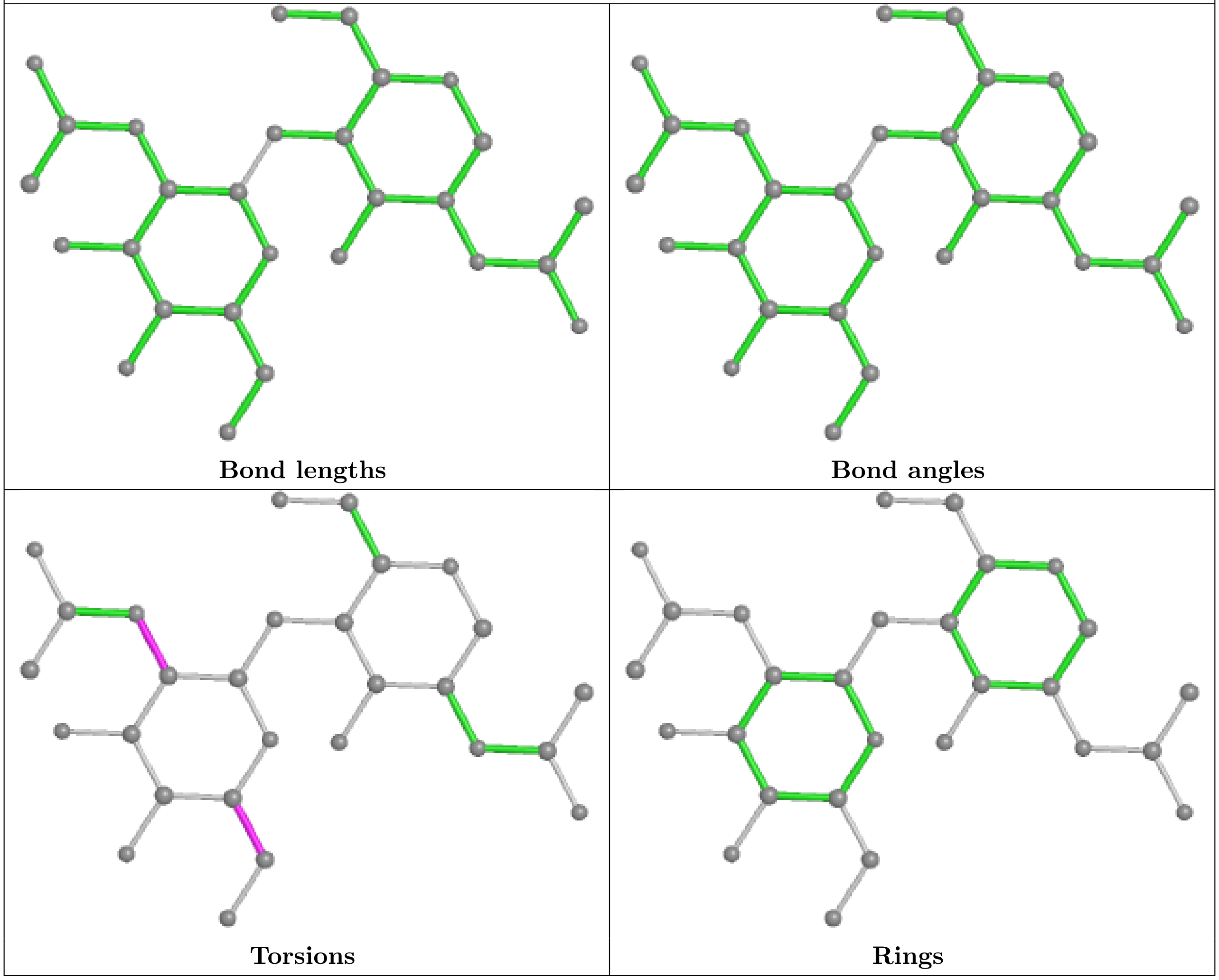
Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain X



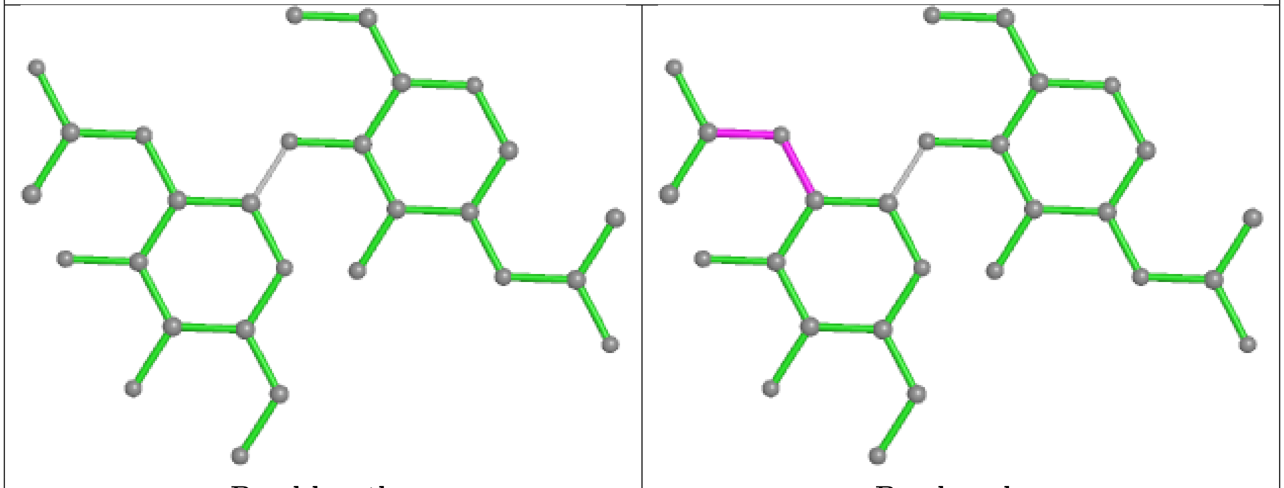
Bond lengths

Bond angles

Torsions

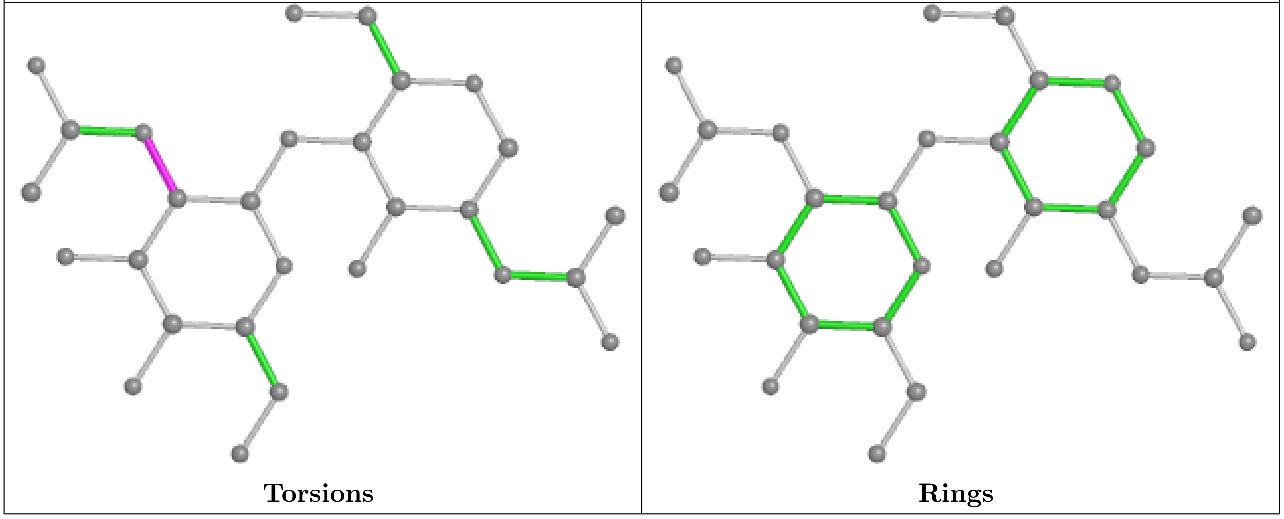
Rings

Oligosaccharide Chain Z



Bond lengths

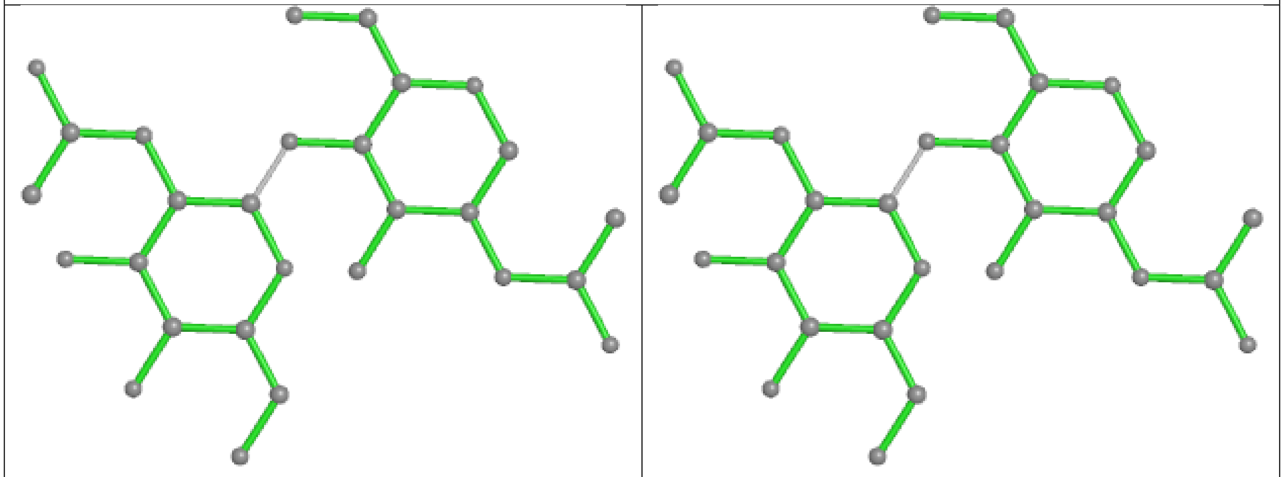
Bond angles



Torsions

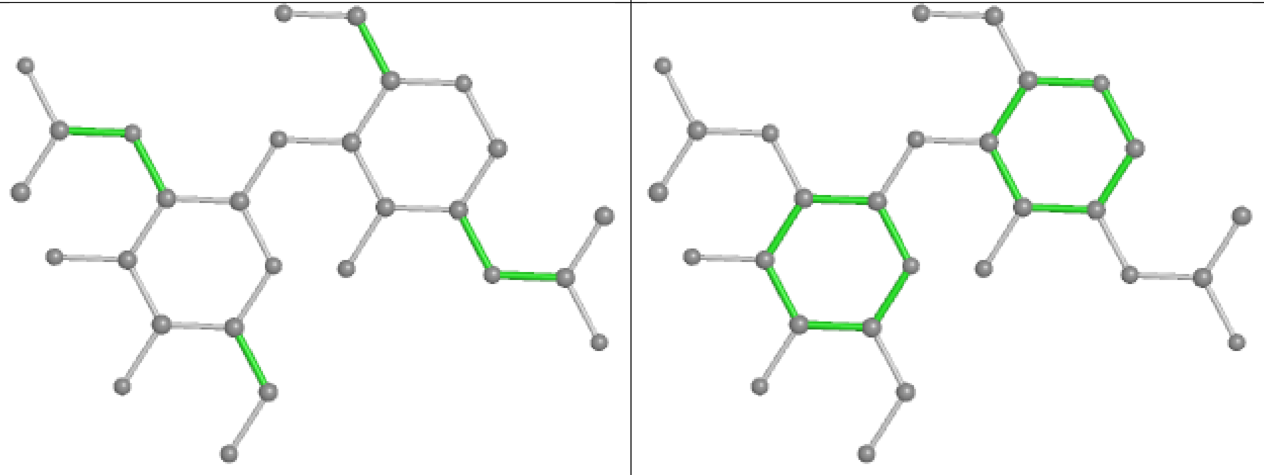
Rings

Oligosaccharide Chain a



Bond lengths

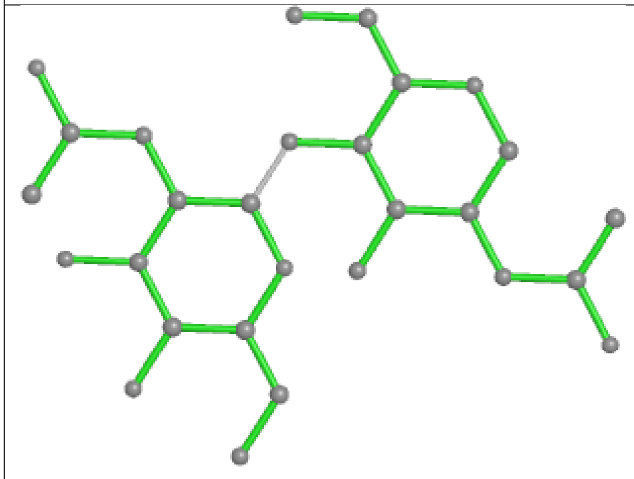
Bond angles



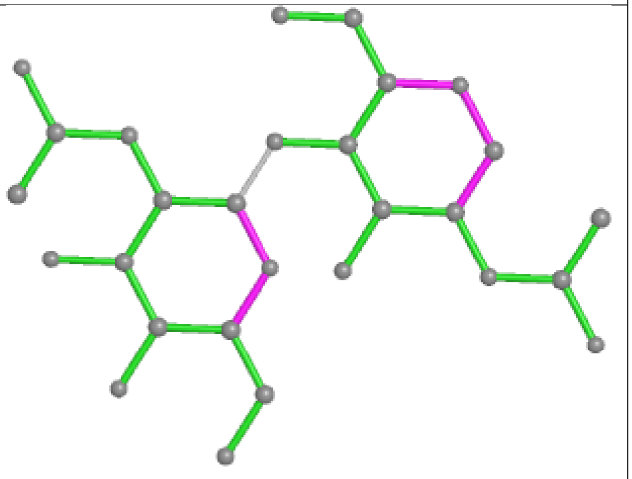
Torsions

Rings

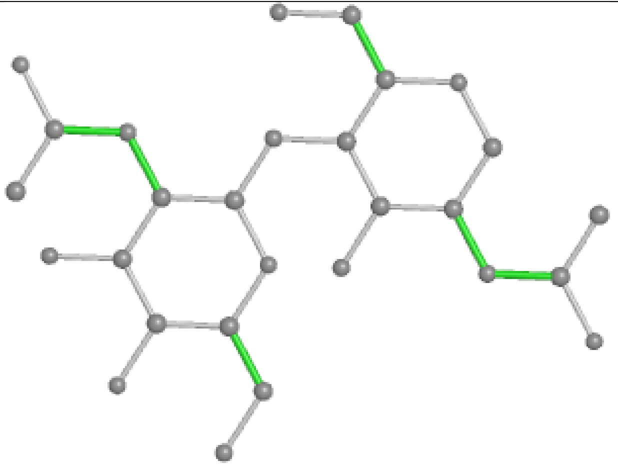
Oligosaccharide Chain e



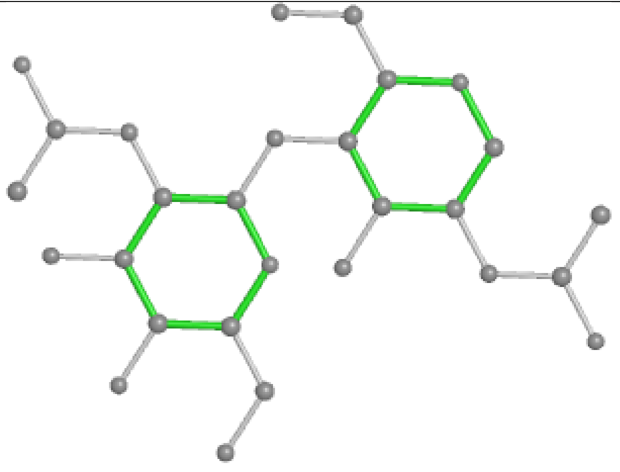
Bond lengths



Bond angles

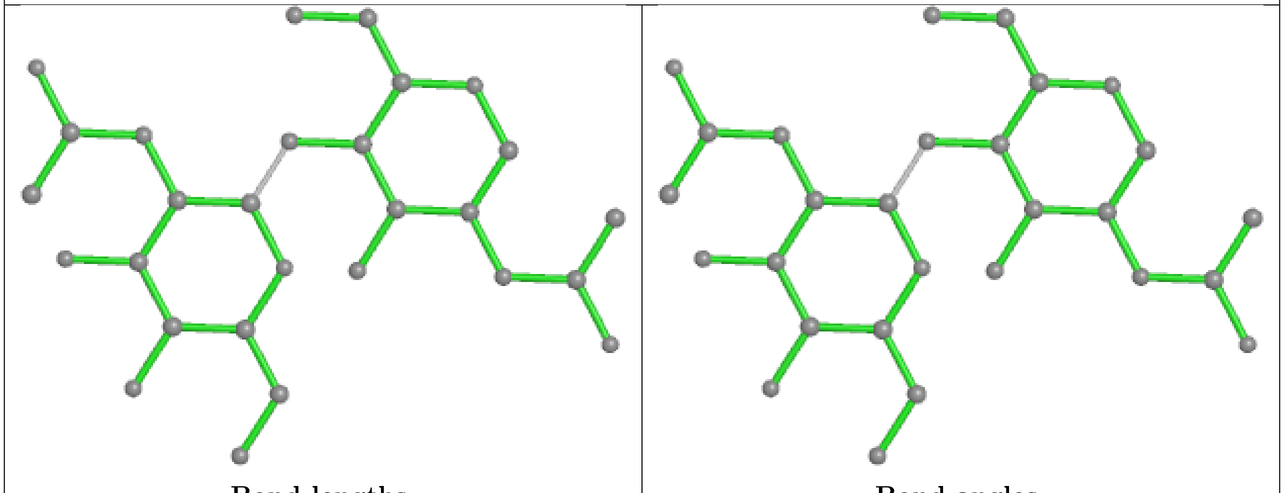


Torsions



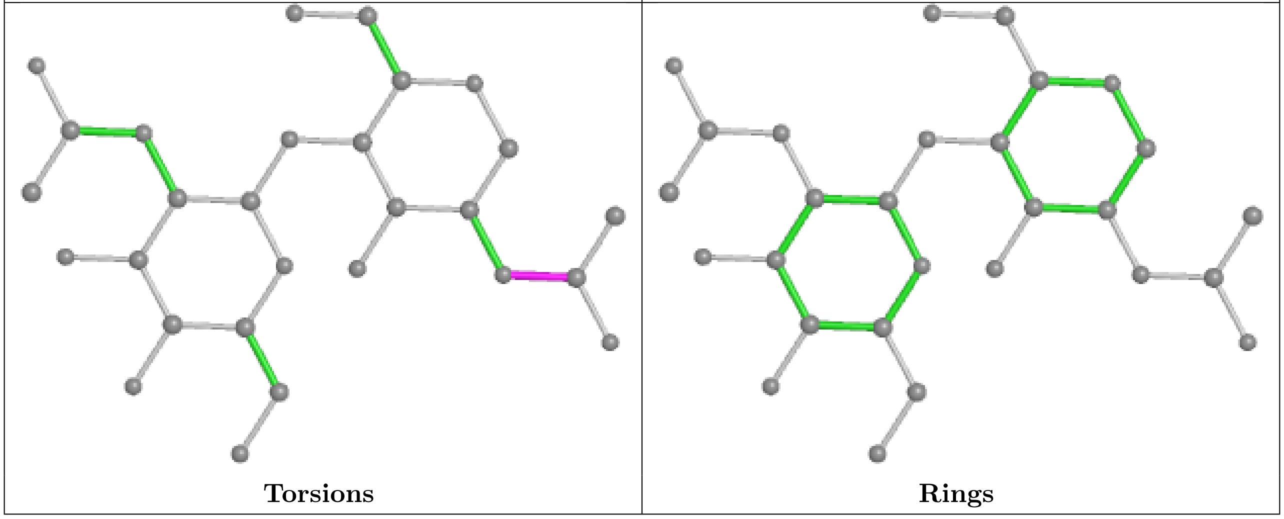
Rings

Oligosaccharide Chain f



Bond lengths

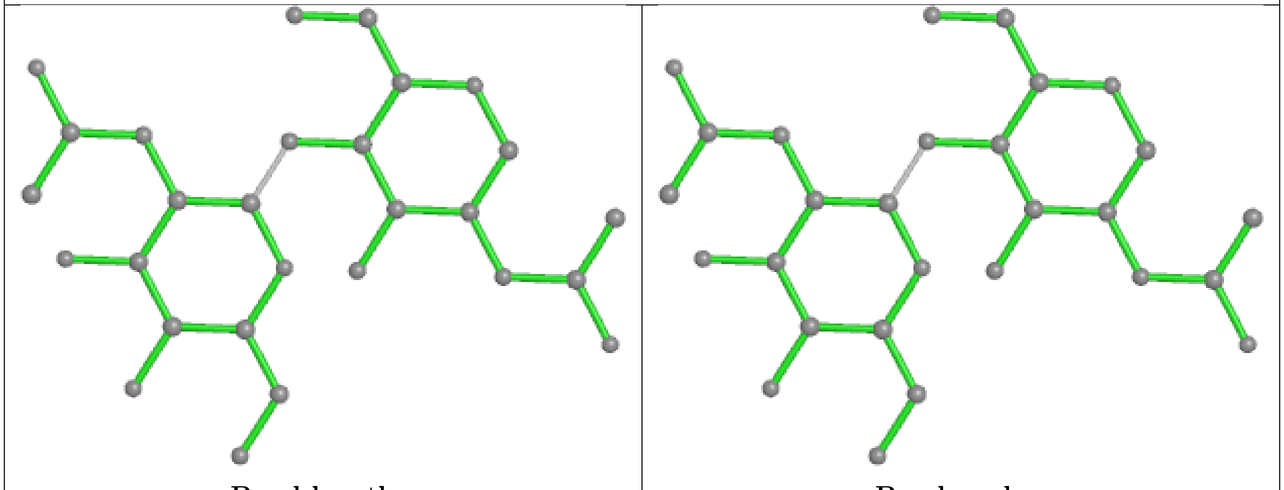
Bond angles



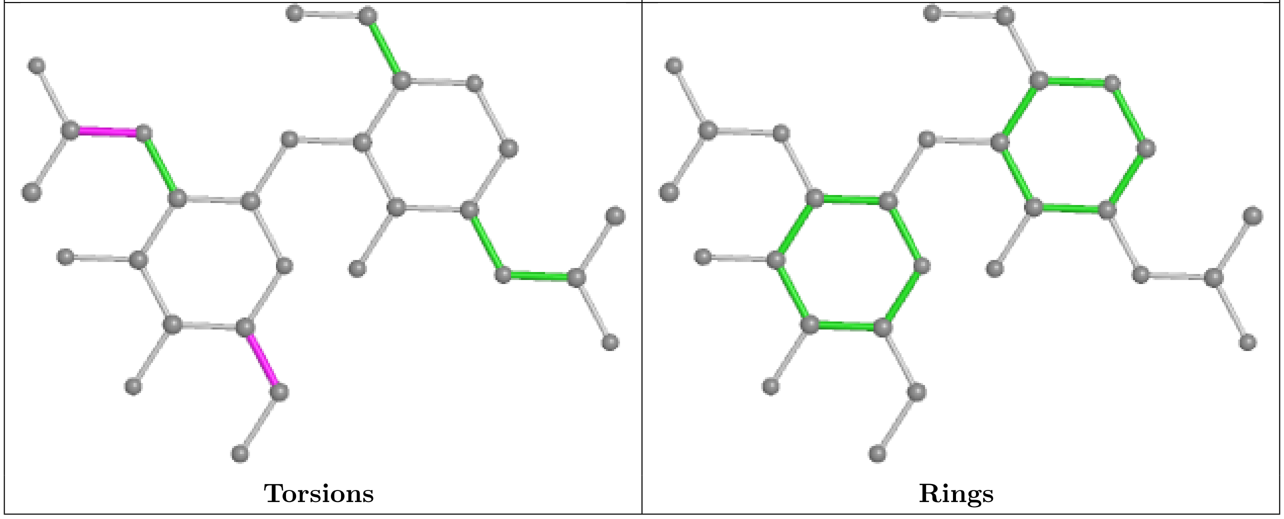
Torsions

Rings

Oligosaccharide Chain i

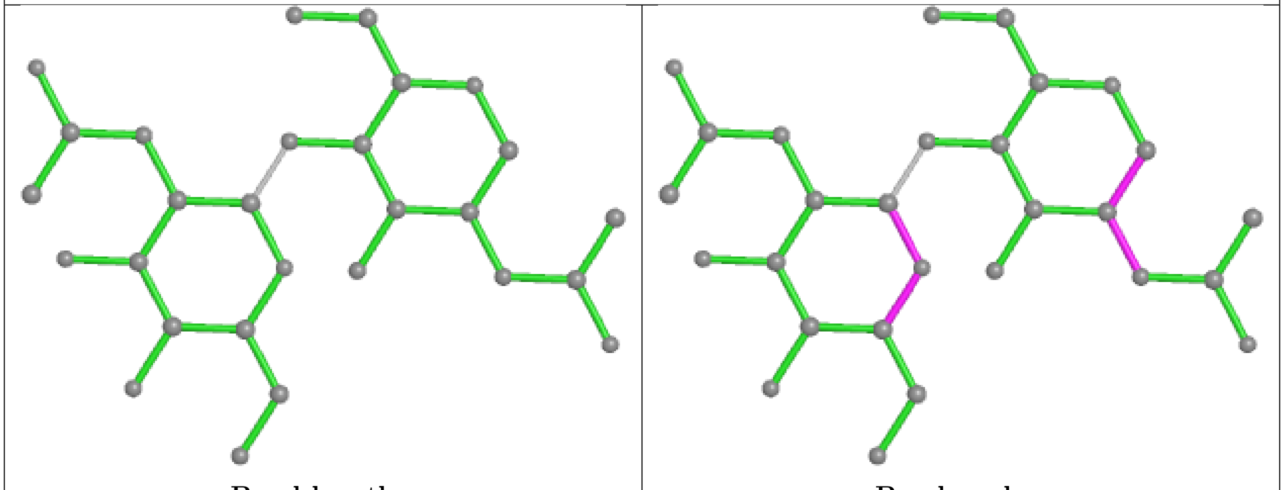


Bond lengths Bond angles

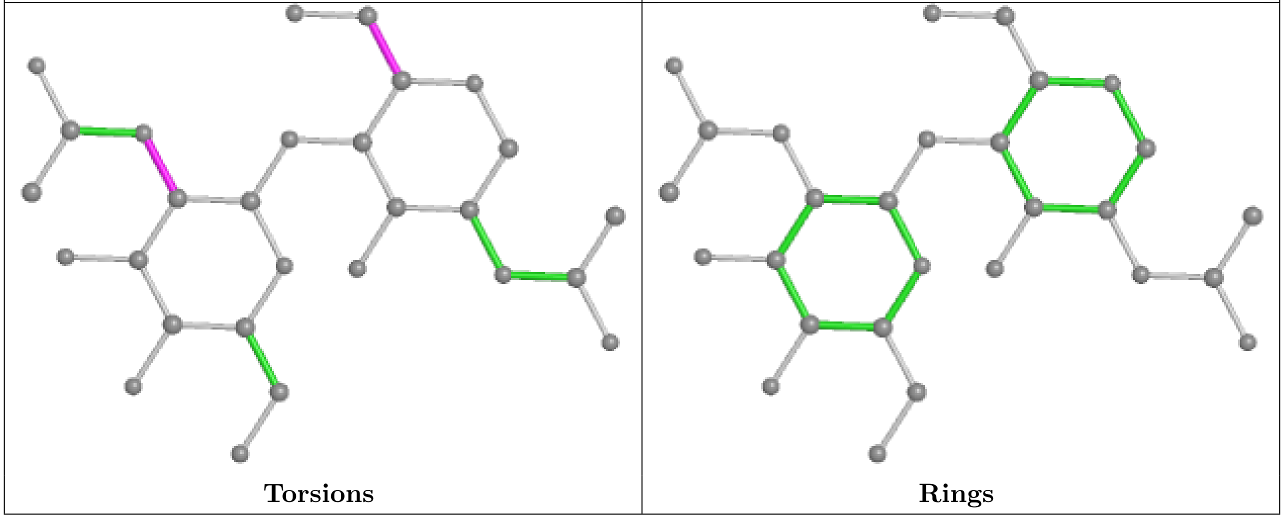


Torsions Rings

Oligosaccharide Chain k

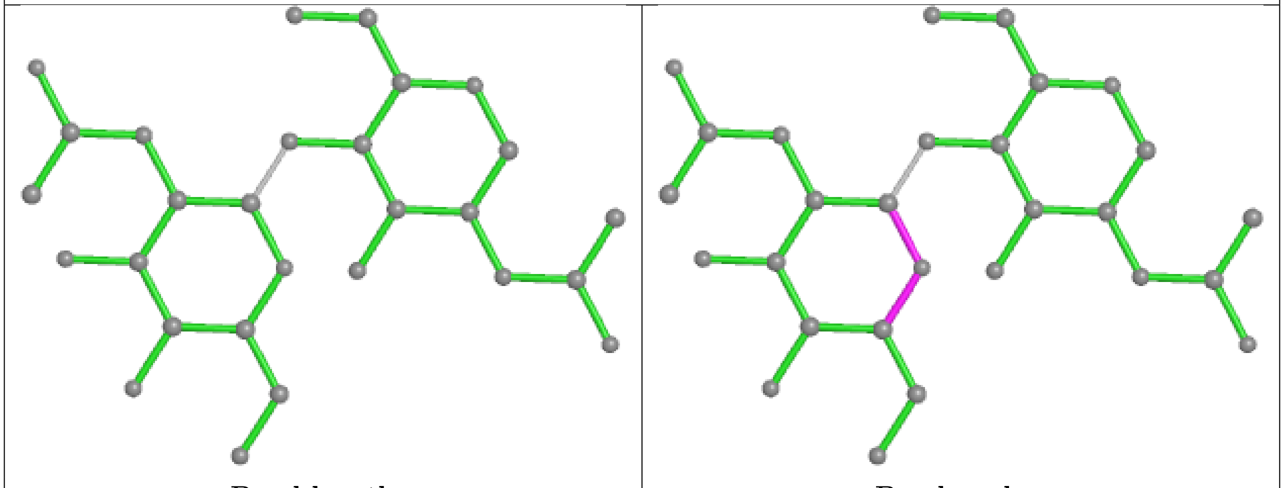


Bond lengths **Bond angles**



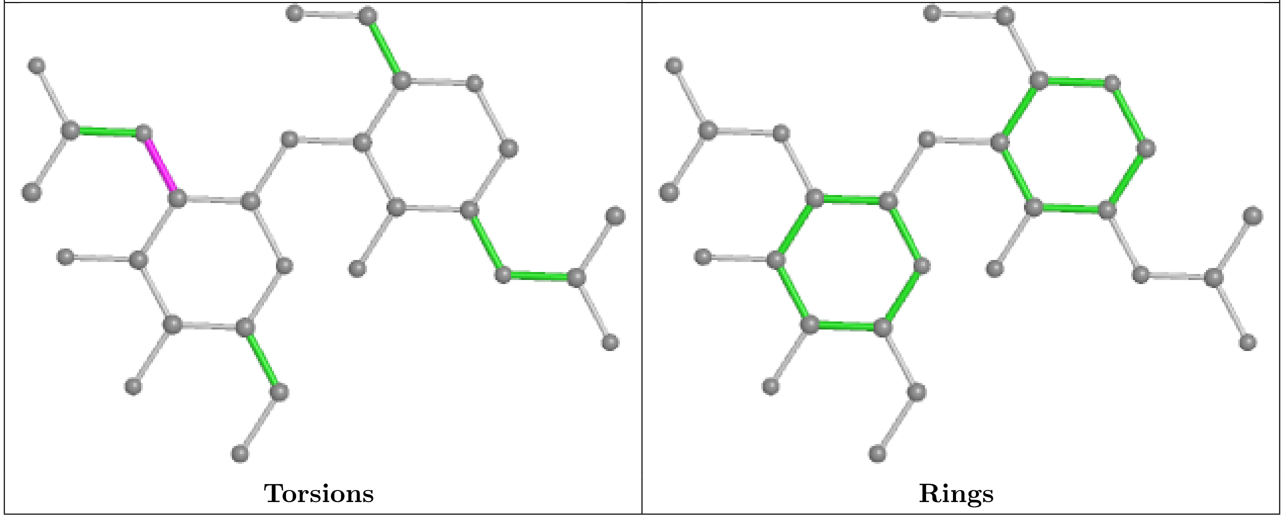
Torsions **Rings**

Oligosaccharide Chain m



Bond lengths

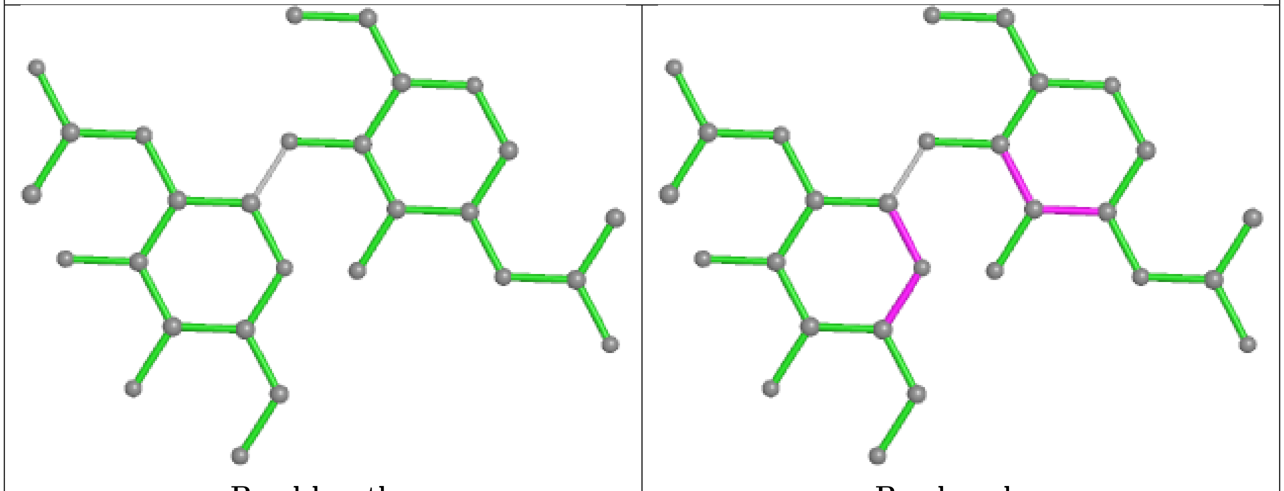
Bond angles



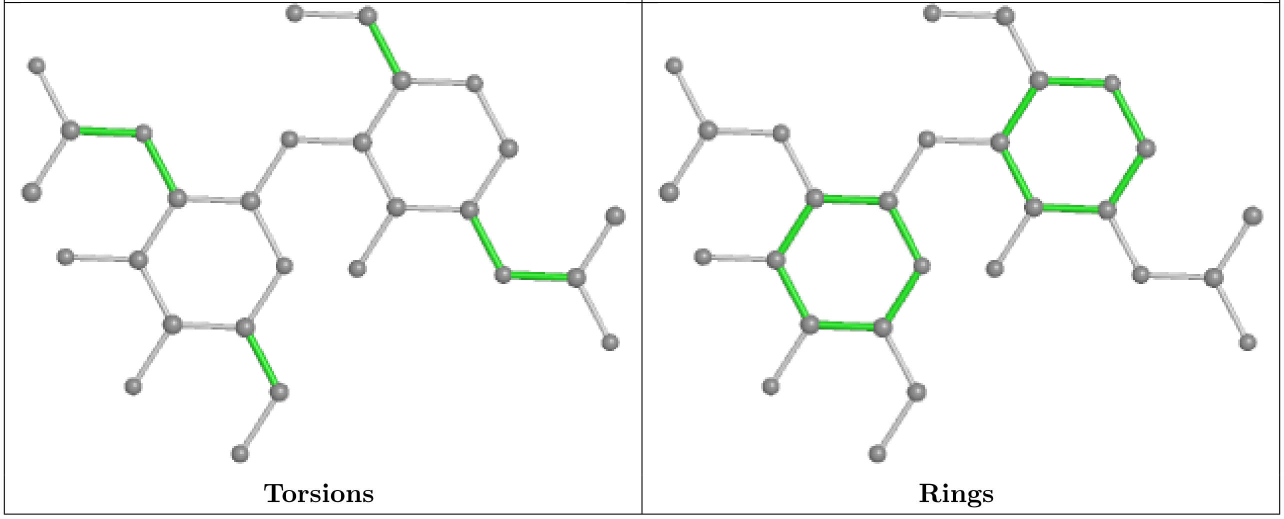
Torsions

Rings

Oligosaccharide Chain n

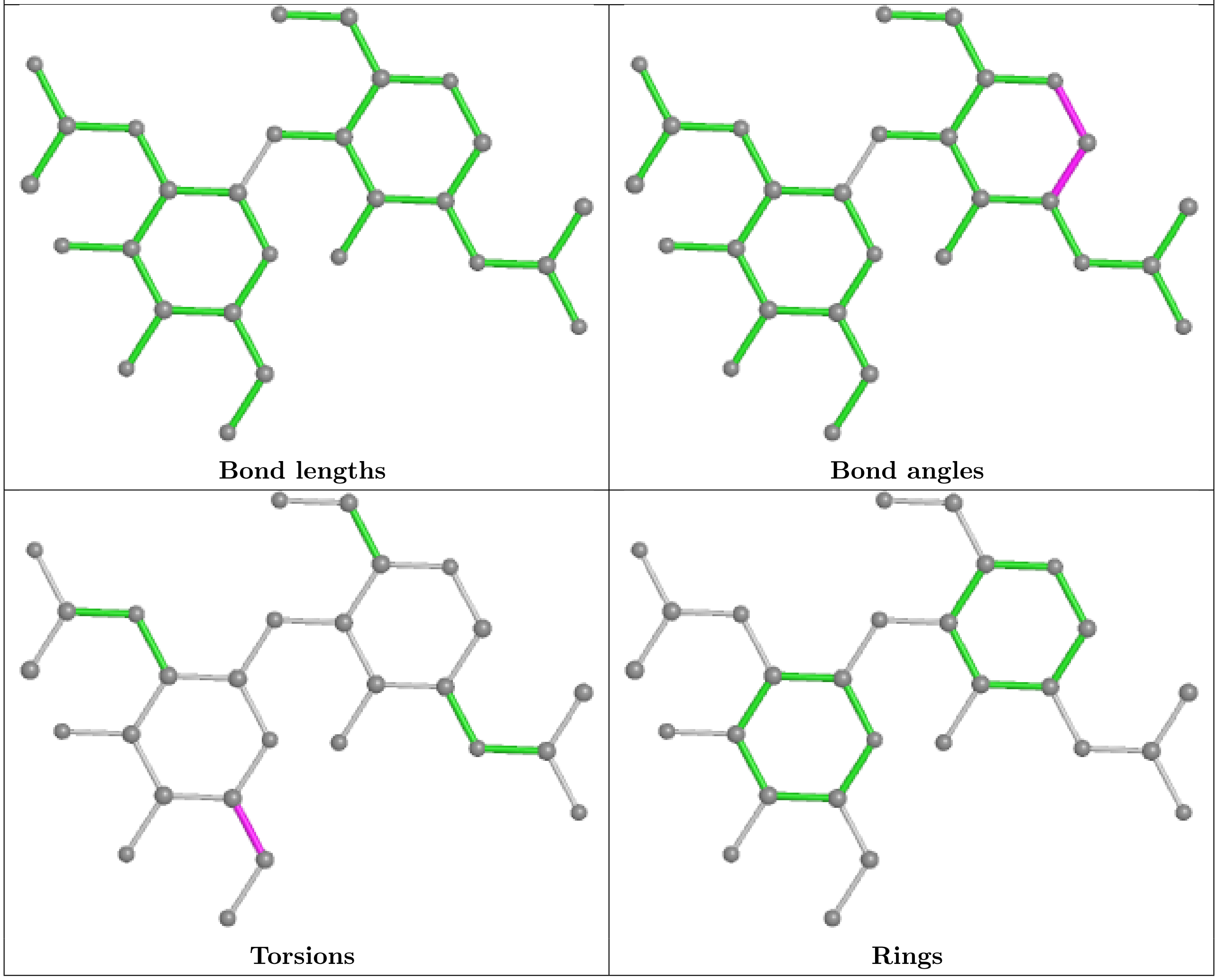


Bond lengths **Bond angles**



Torsions **Rings**

Oligosaccharide Chain p



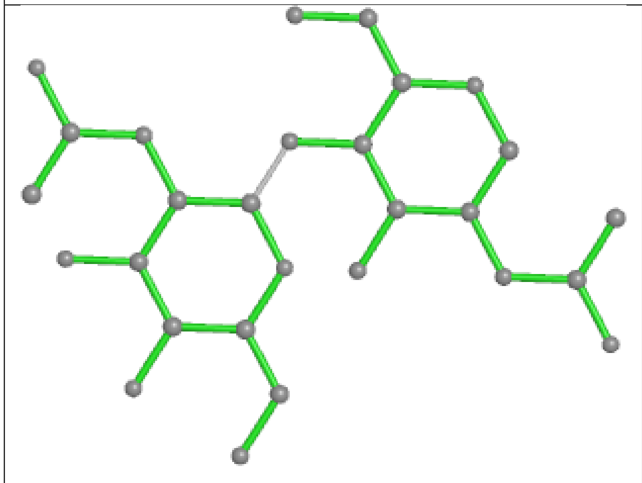
Bond lengths

Bond angles

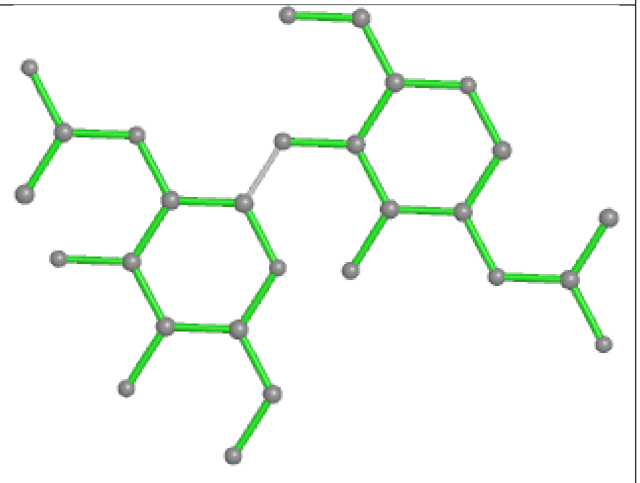
Torsions

Rings

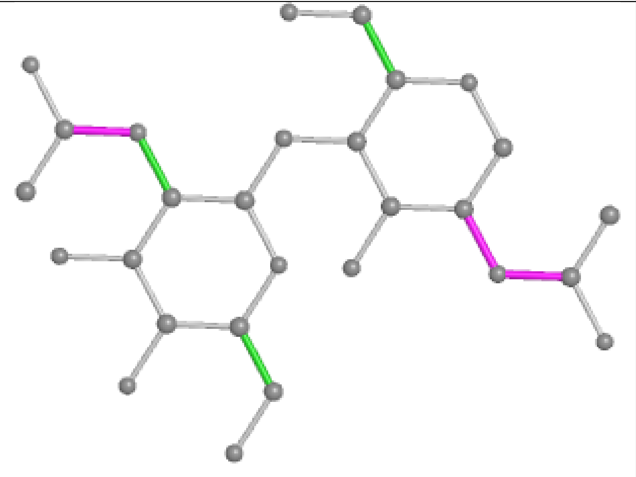
Oligosaccharide Chain q



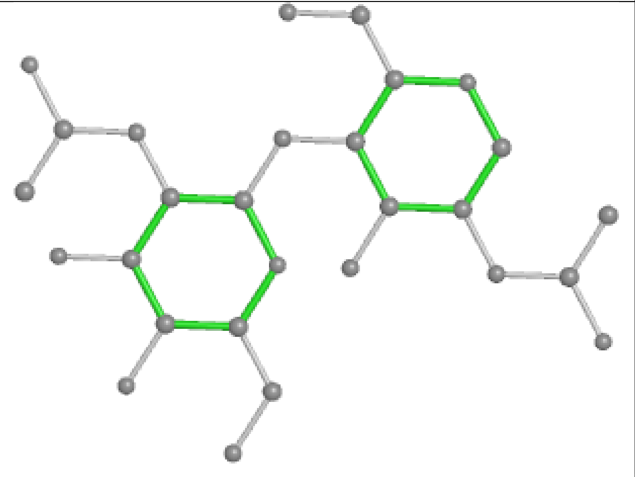
Bond lengths



Bond angles

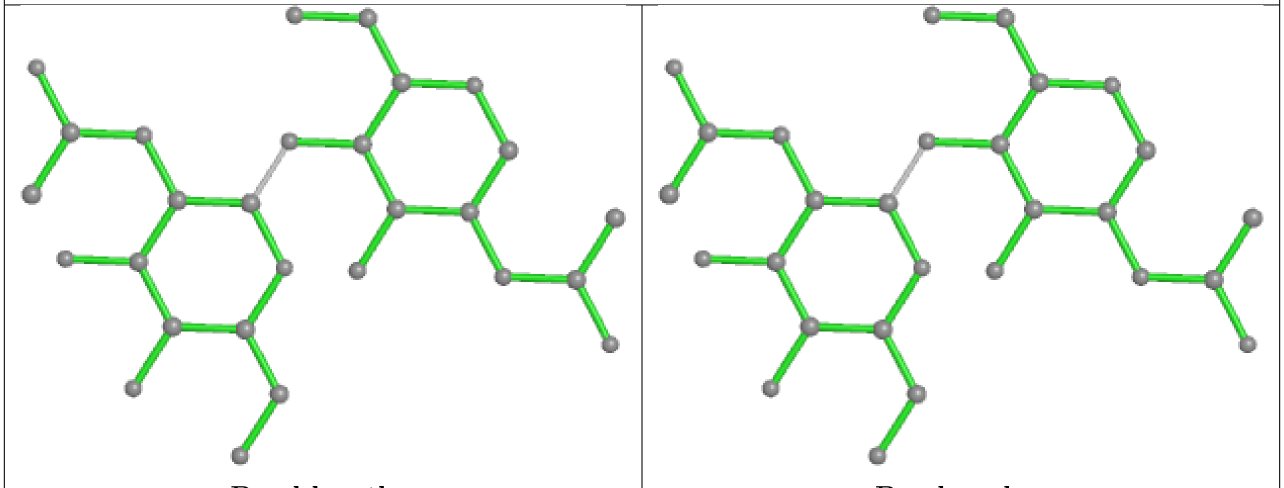


Torsions

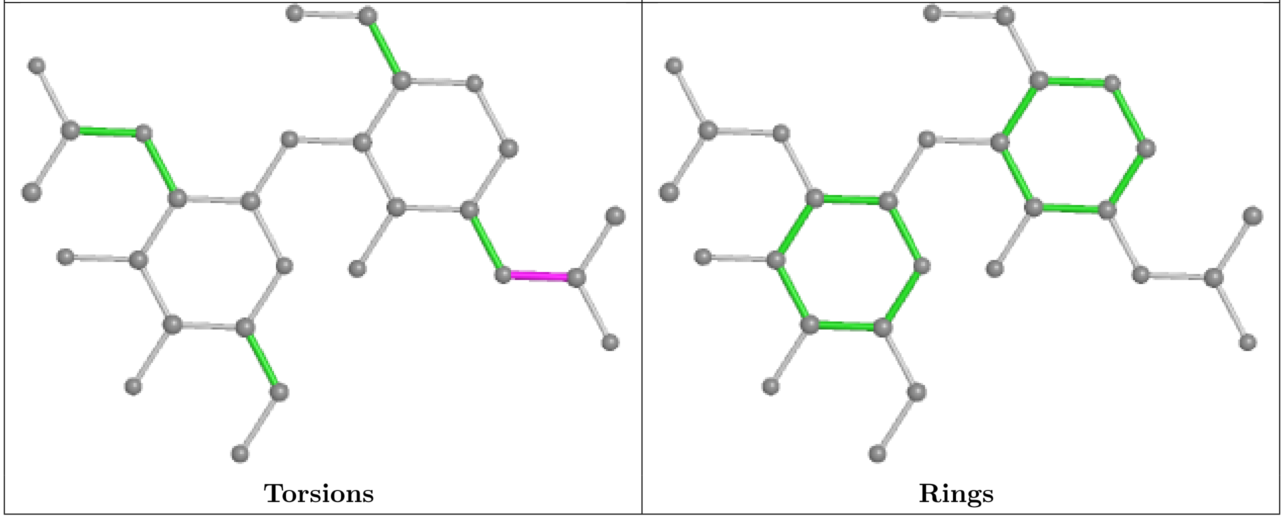


Rings

Oligosaccharide Chain s

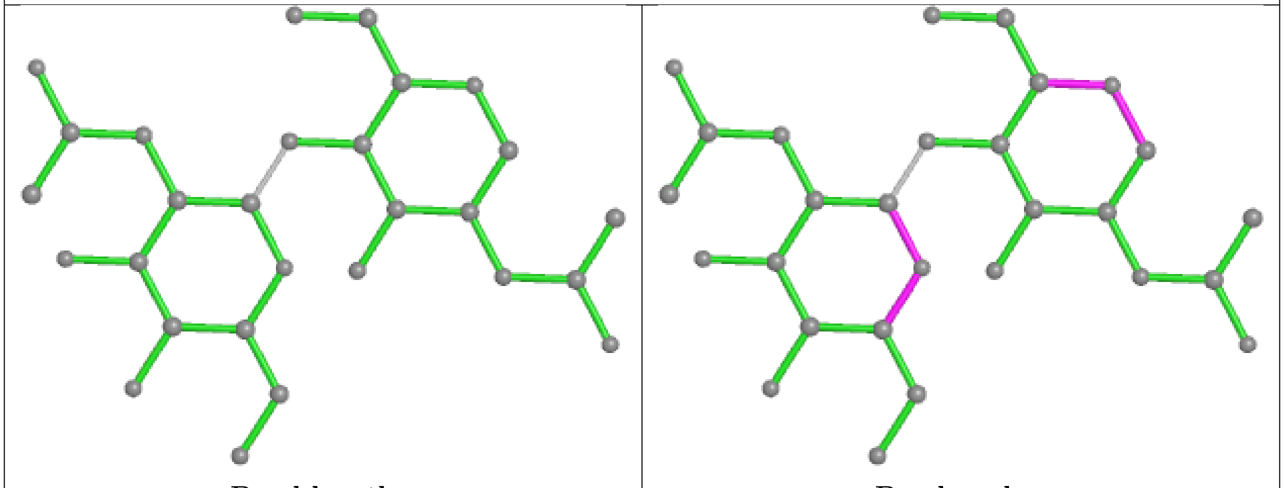


Bond lengths Bond angles



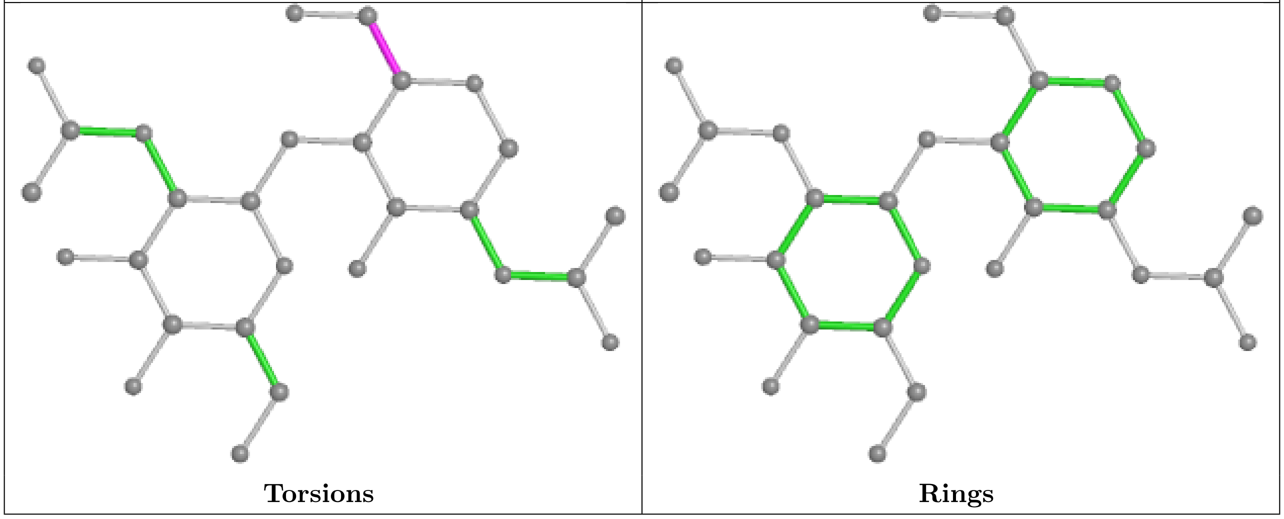
Torsions Rings

Oligosaccharide Chain u



Bond lengths

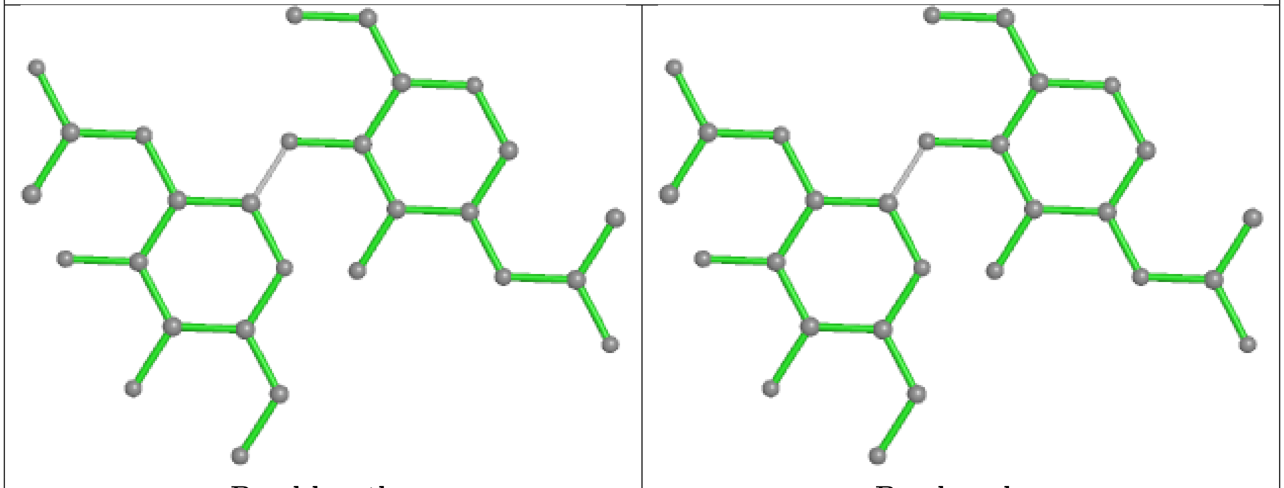
Bond angles



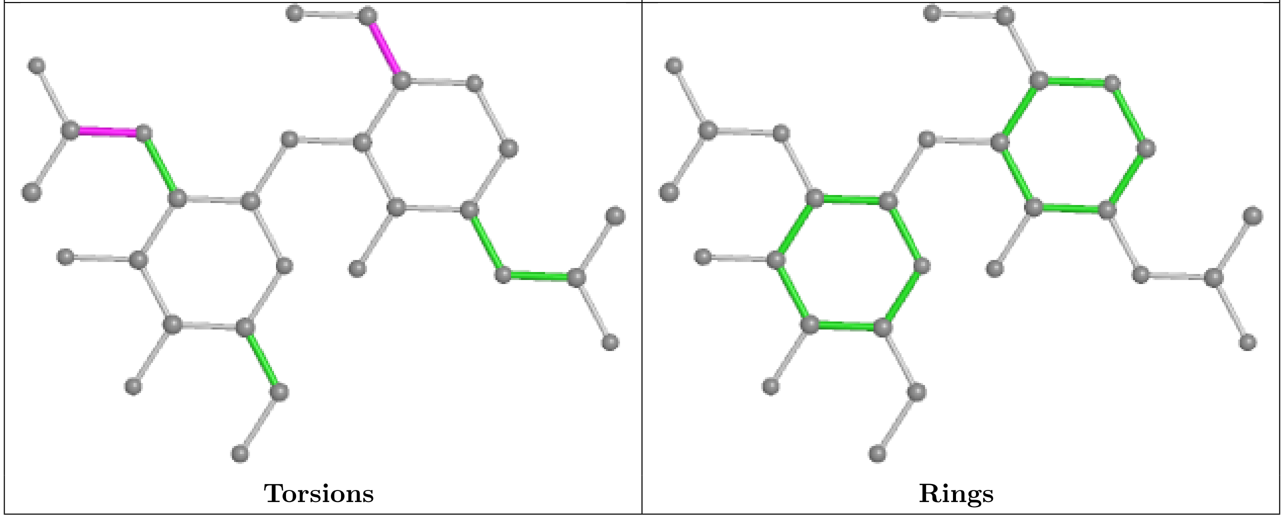
Torsions

Rings

Oligosaccharide Chain v

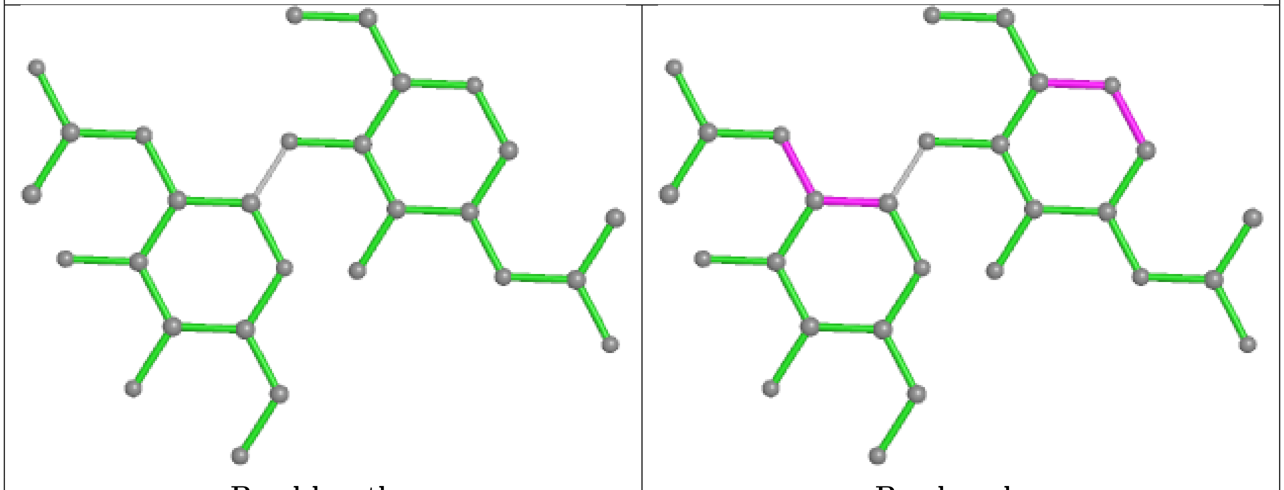


Bond lengths Bond angles



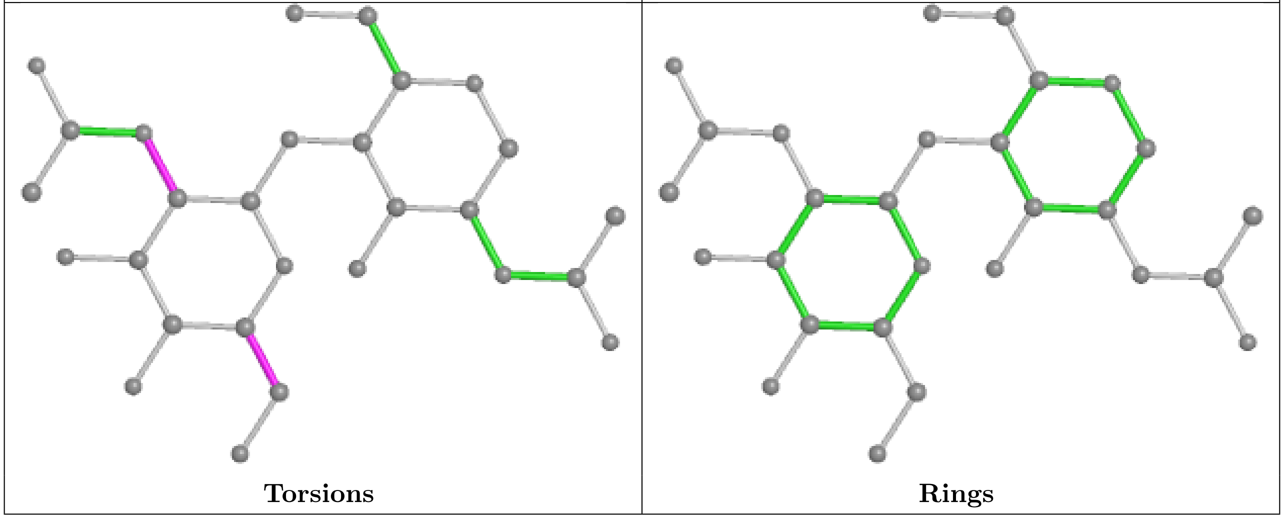
Torsions Rings

Oligosaccharide Chain z



Bond lengths

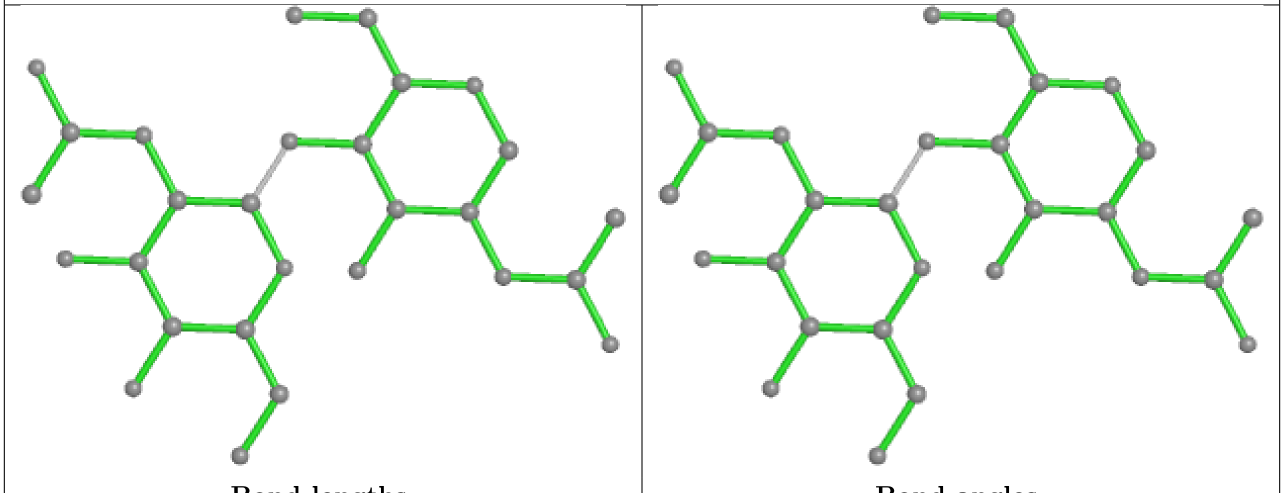
Bond angles



Torsions

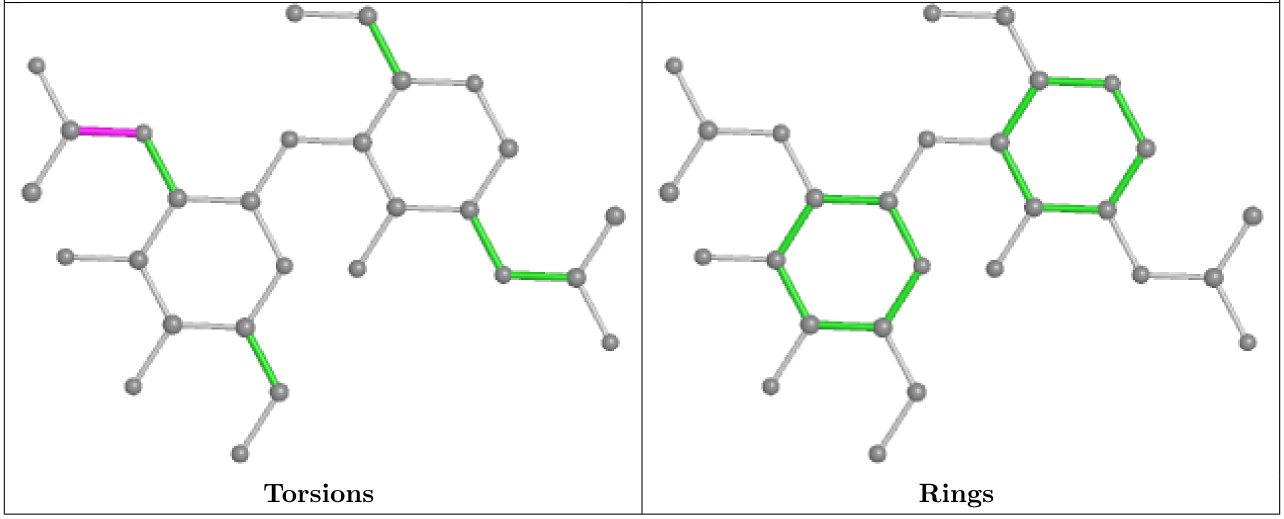
Rings

Oligosaccharide Chain 0



Bond lengths

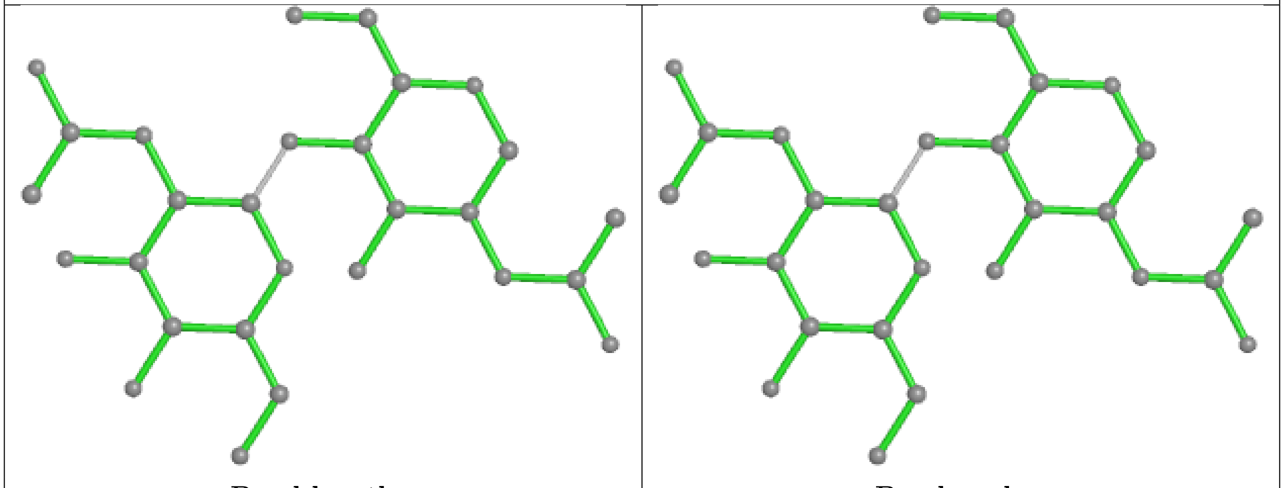
Bond angles



Torsions

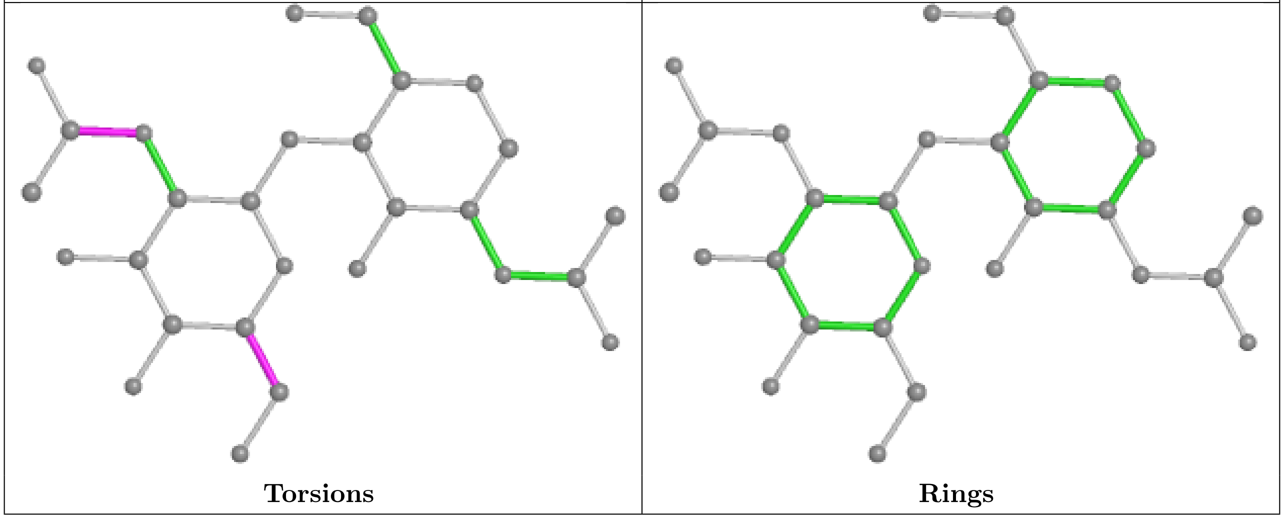
Rings

Oligosaccharide Chain 3



Bond lengths

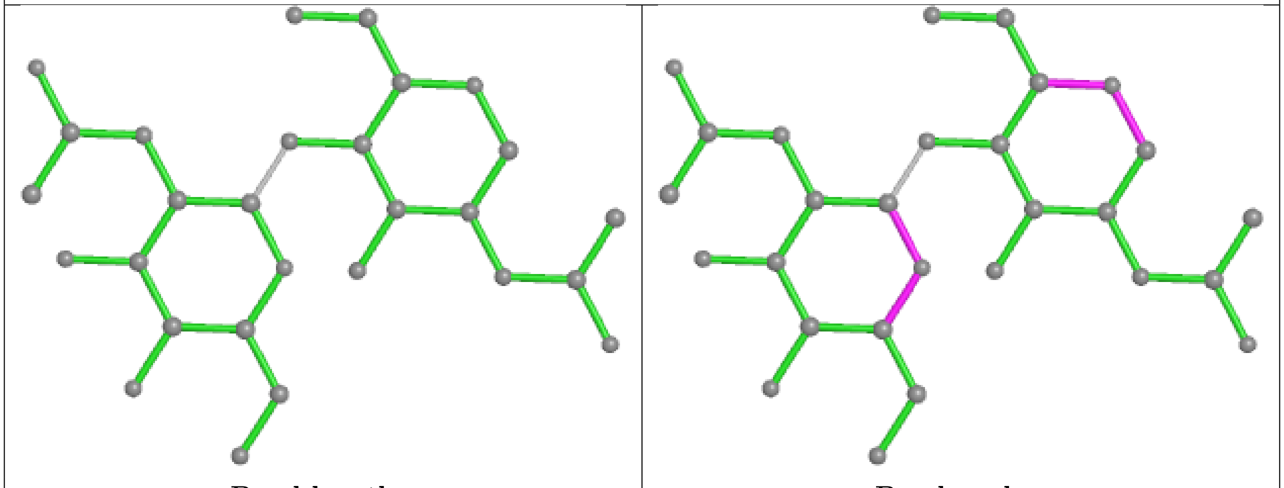
Bond angles



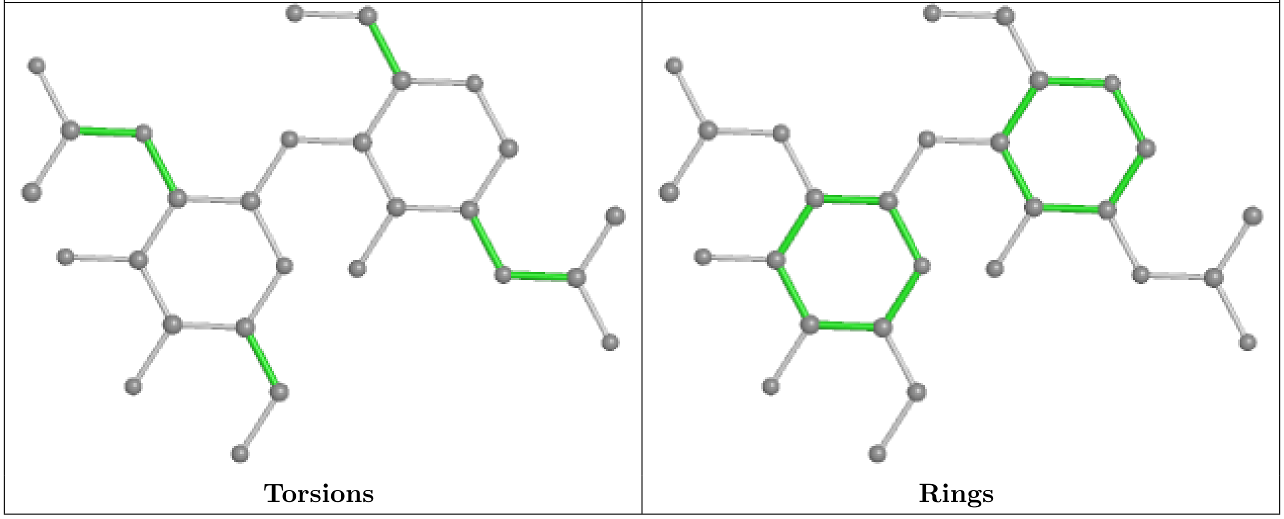
Torsions

Rings

Oligosaccharide Chain 5

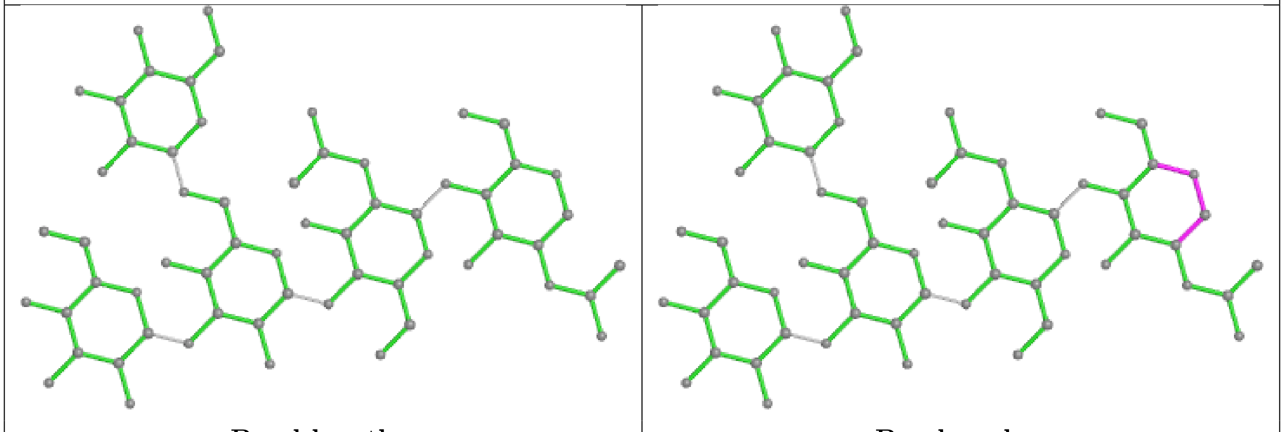


Bond lengths **Bond angles**

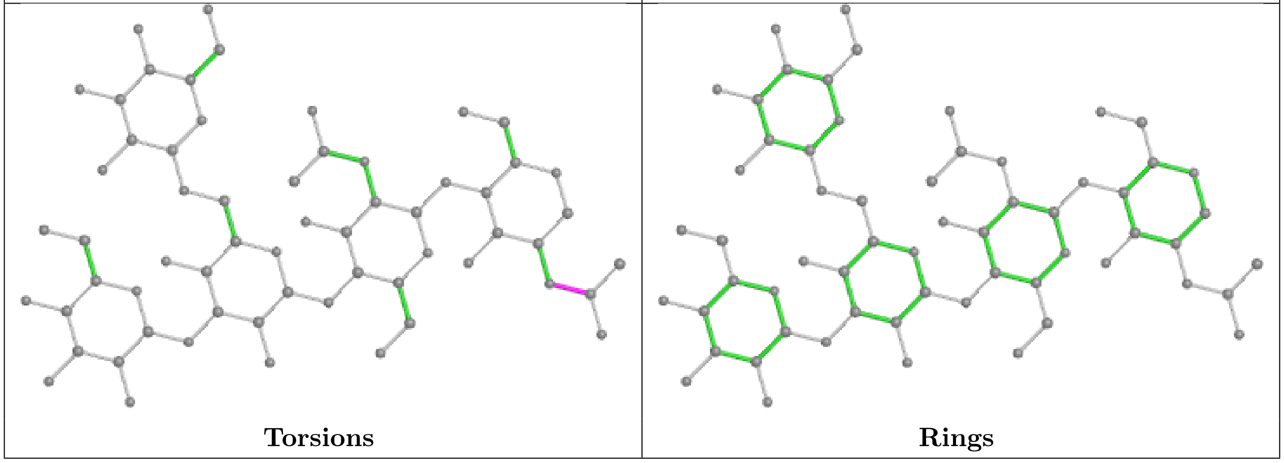


Torsions **Rings**

Oligosaccharide Chain W

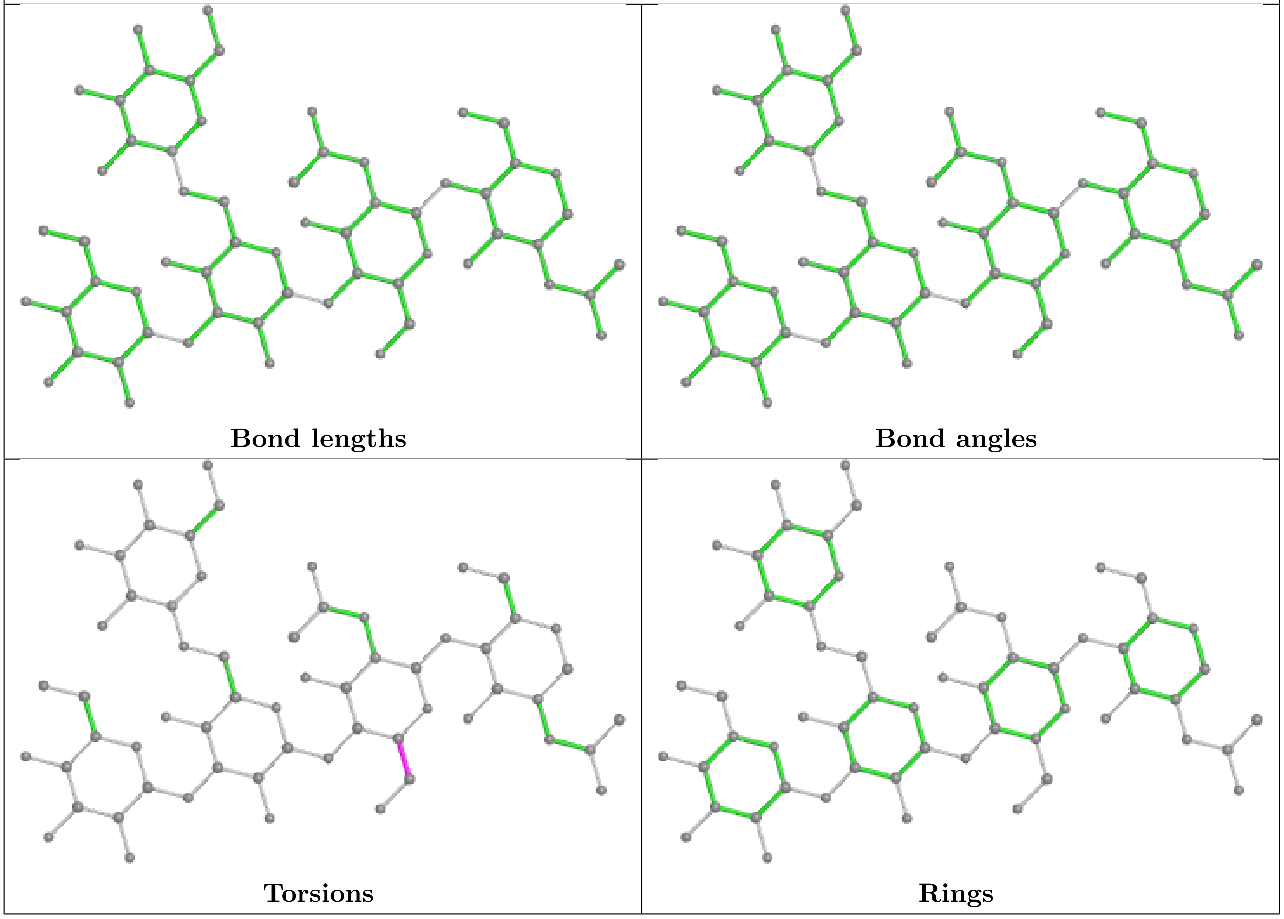


Bond lengths **Bond angles**



Torsions **Rings**

Oligosaccharide Chain Y



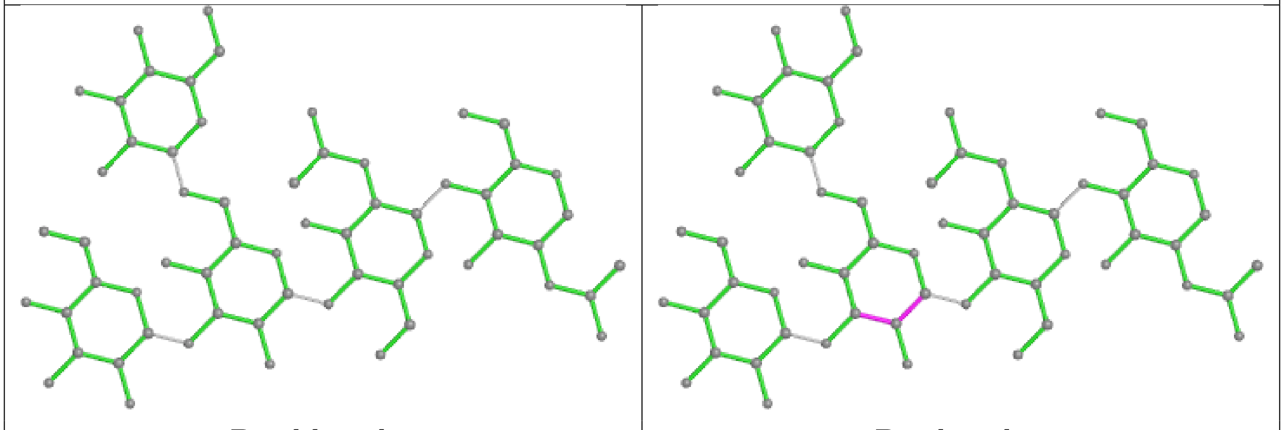
Bond lengths

Bond angles

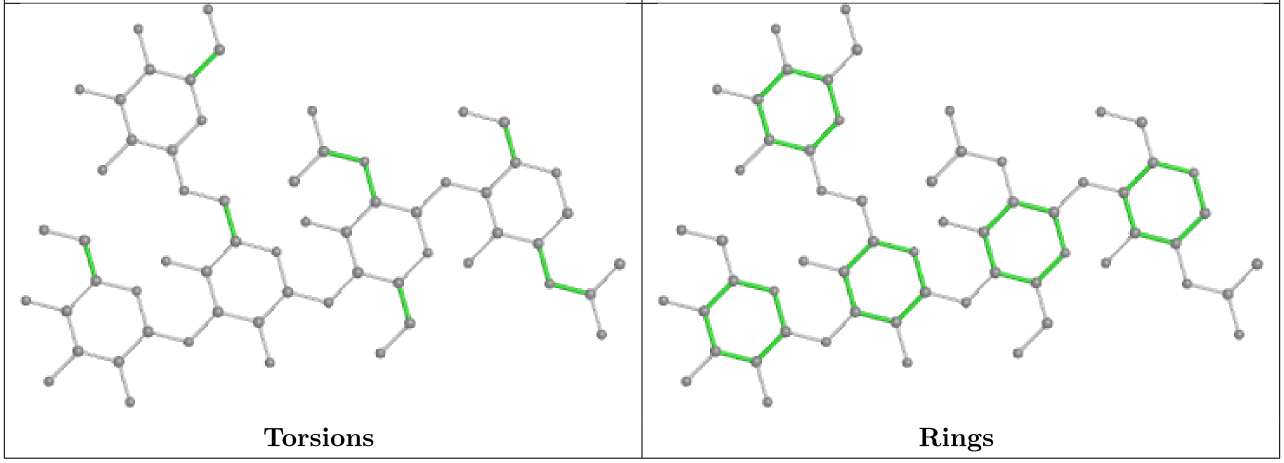
Torsions

Rings

Oligosaccharide Chain d

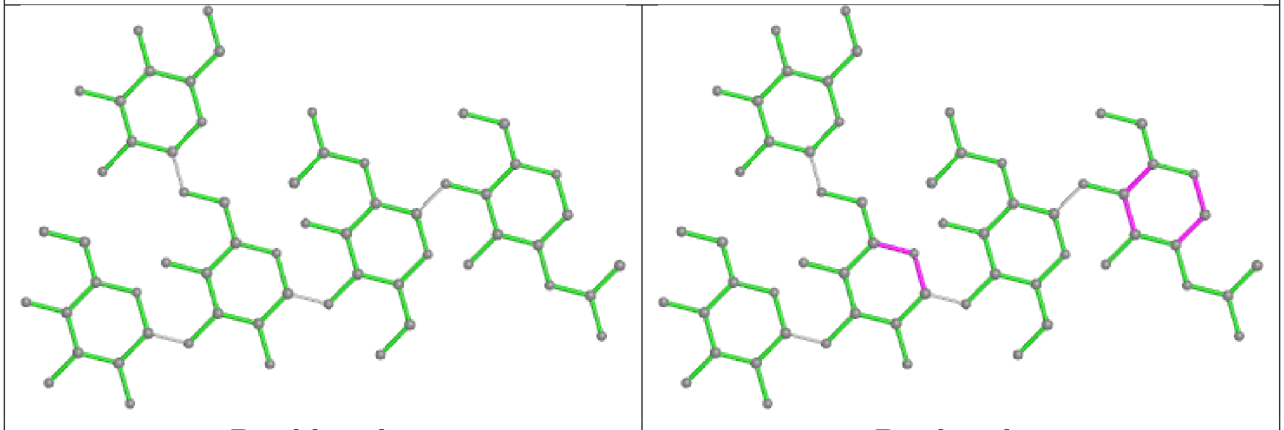


Bond lengths **Bond angles**

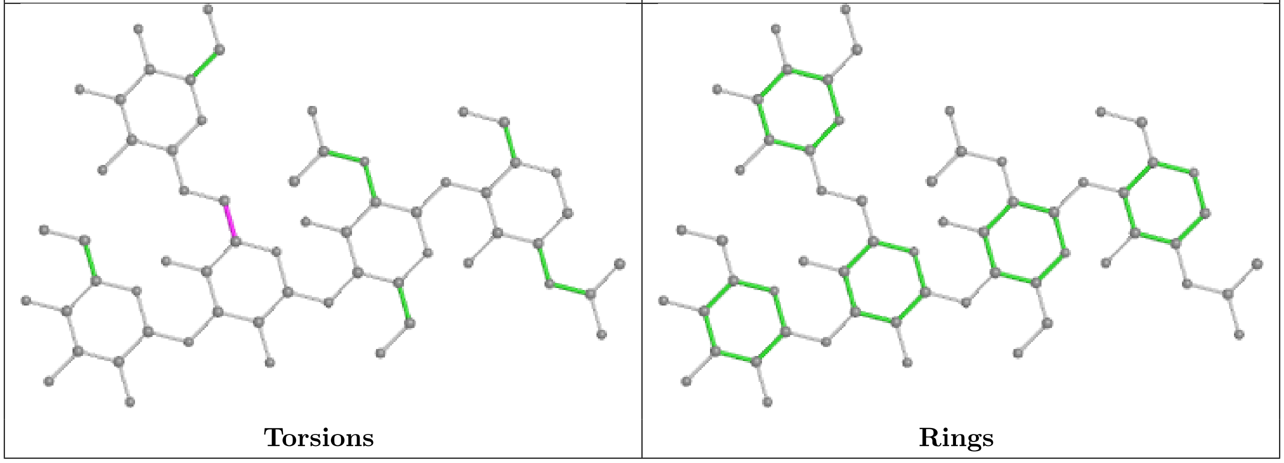


Torsions **Rings**

Oligosaccharide Chain g

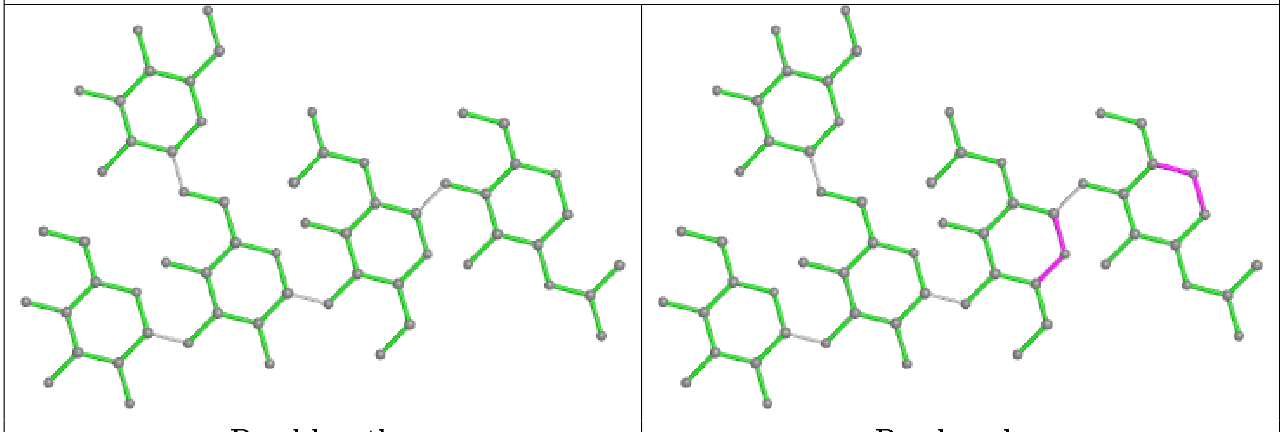


Bond lengths **Bond angles**

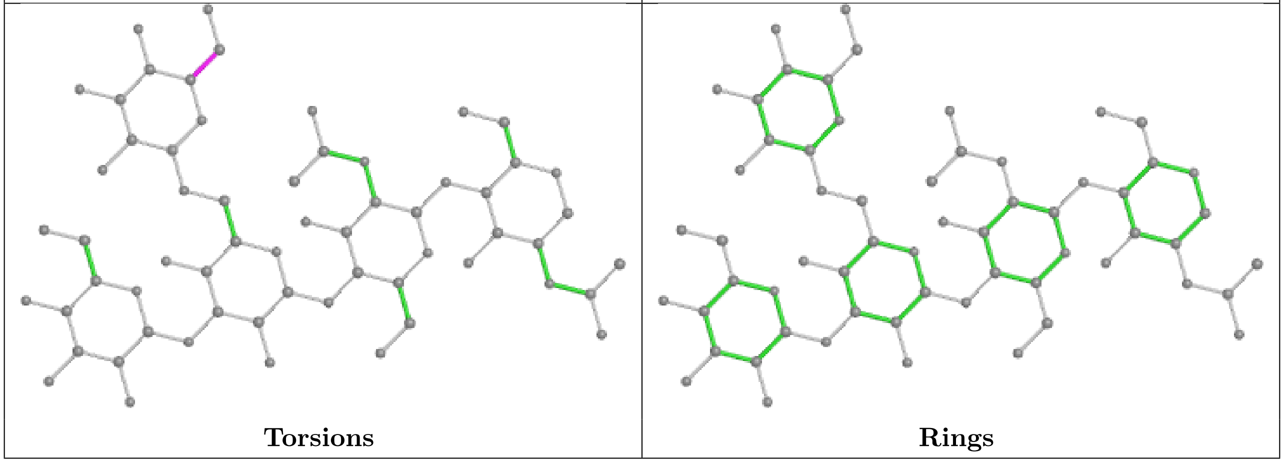


Torsions **Rings**

Oligosaccharide Chain h

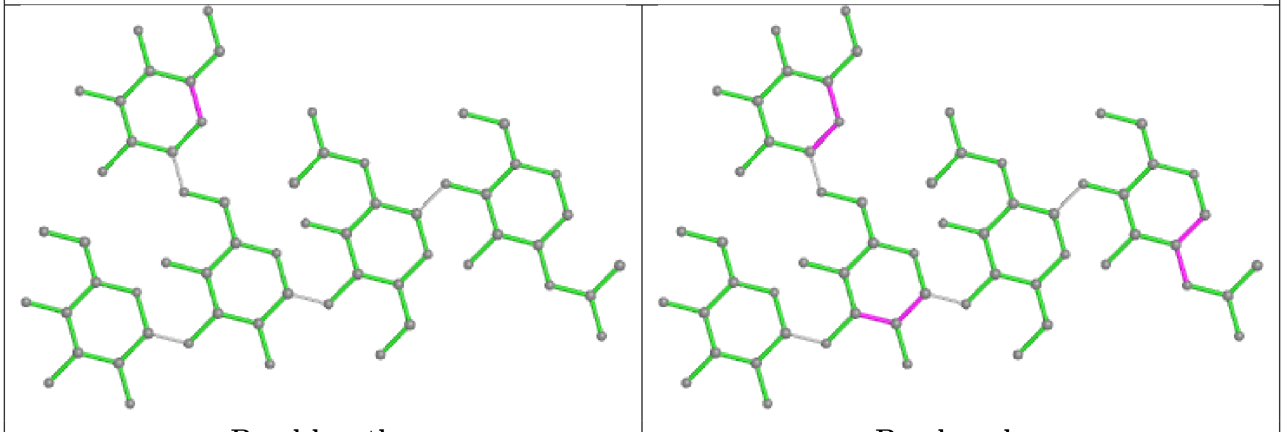


Bond lengths **Bond angles**

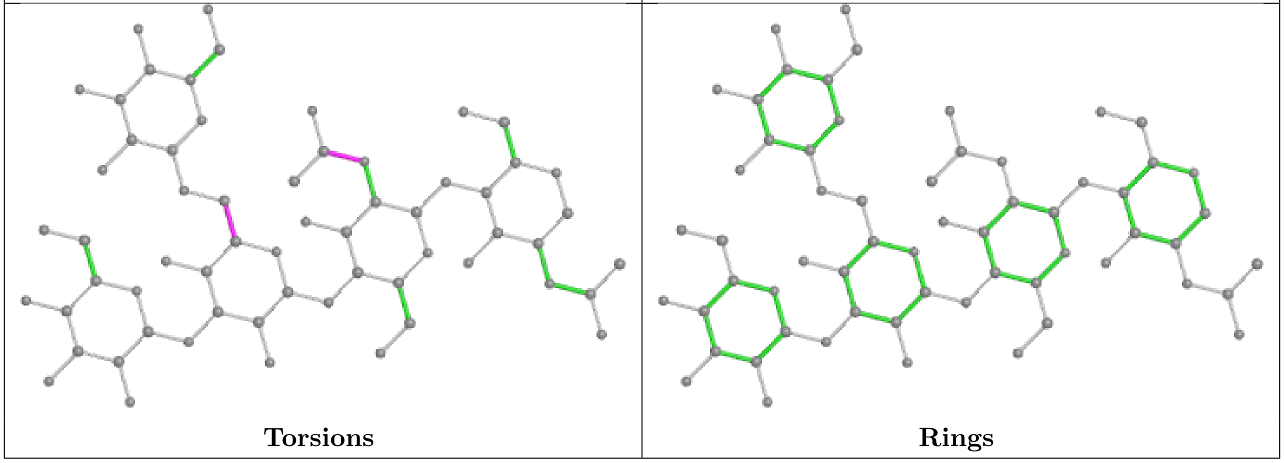


Torsions **Rings**

Oligosaccharide Chain r

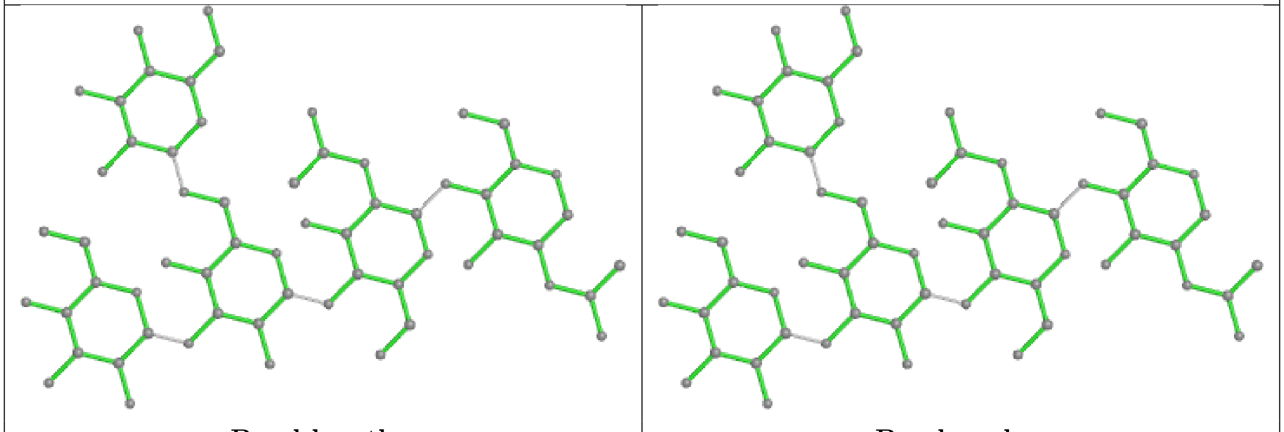


Bond lengths **Bond angles**



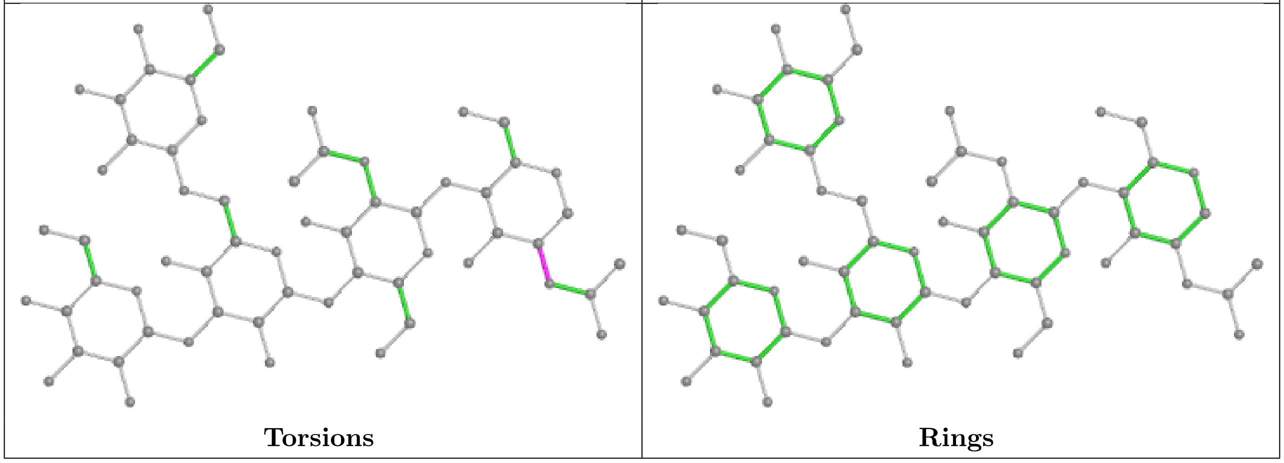
Torsions **Rings**

Oligosaccharide Chain t



Bond lengths

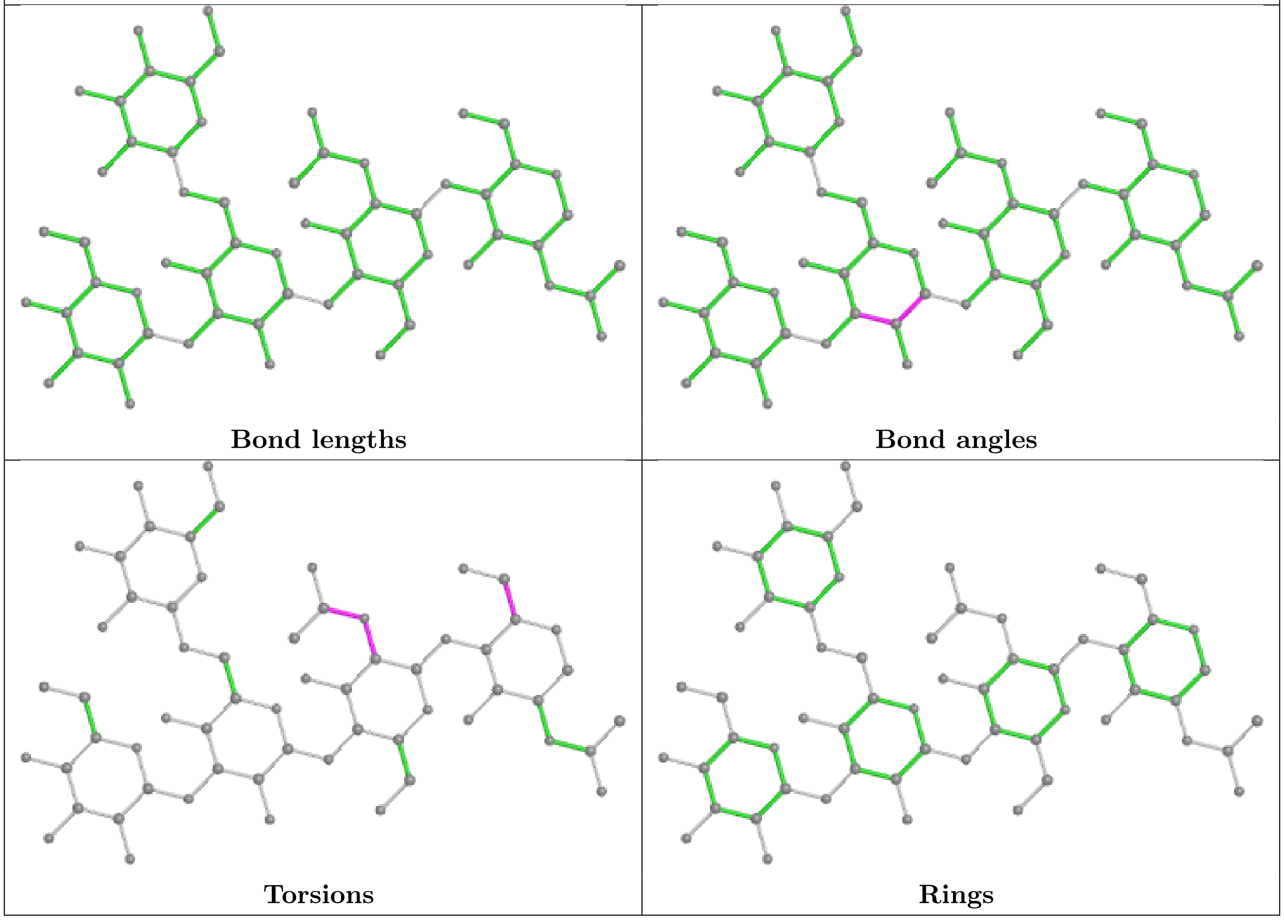
Bond angles



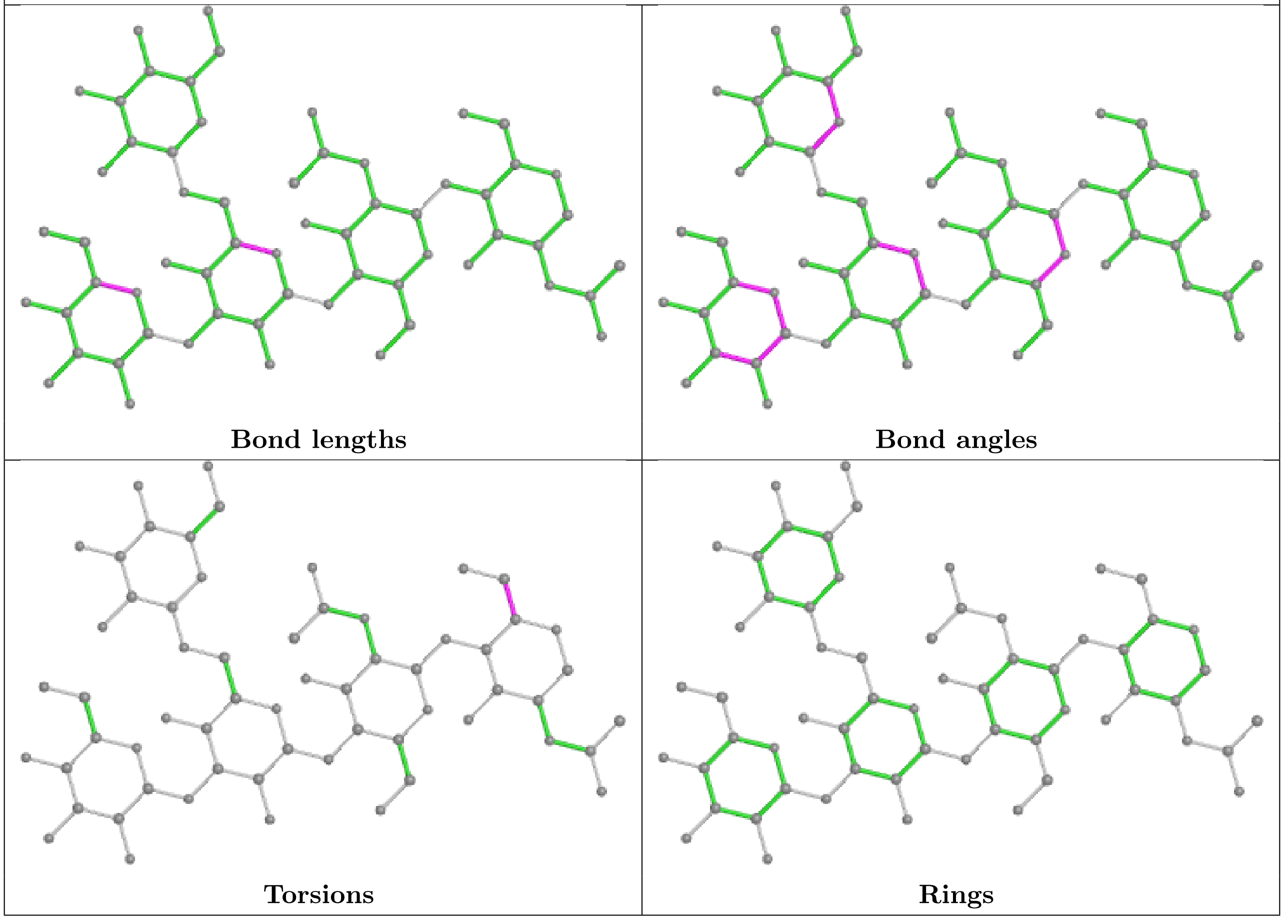
Torsions

Rings

Oligosaccharide Chain y


Bond lengths
Bond angles
Torsions
Rings

Oligosaccharide Chain 1



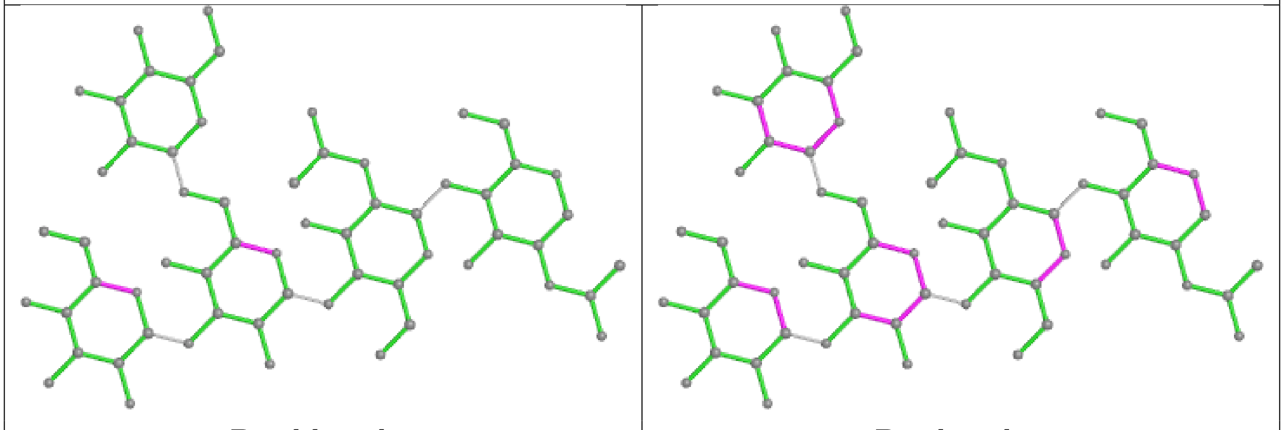
Bond lengths

Bond angles

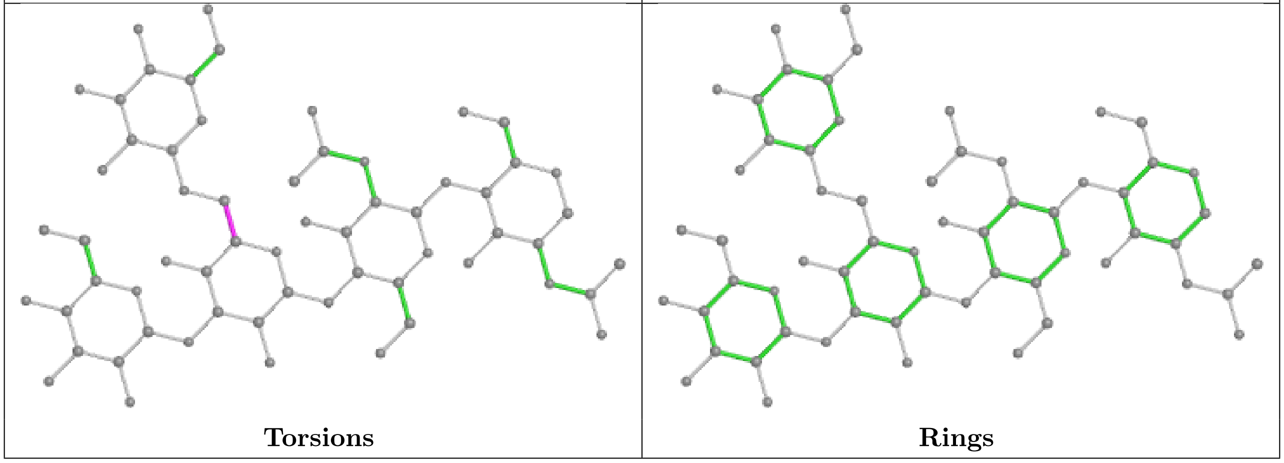
Torsions

Rings

Oligosaccharide Chain 2

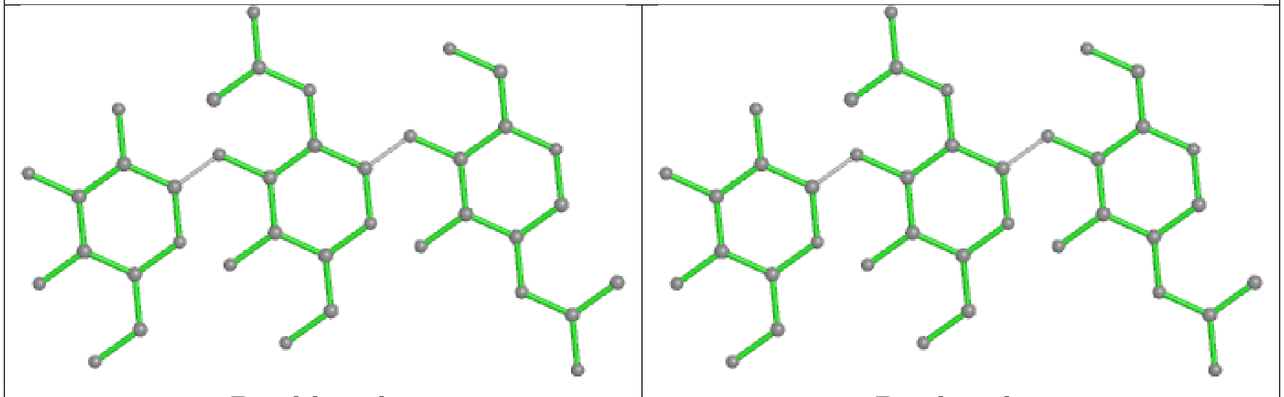


Bond lengths **Bond angles**

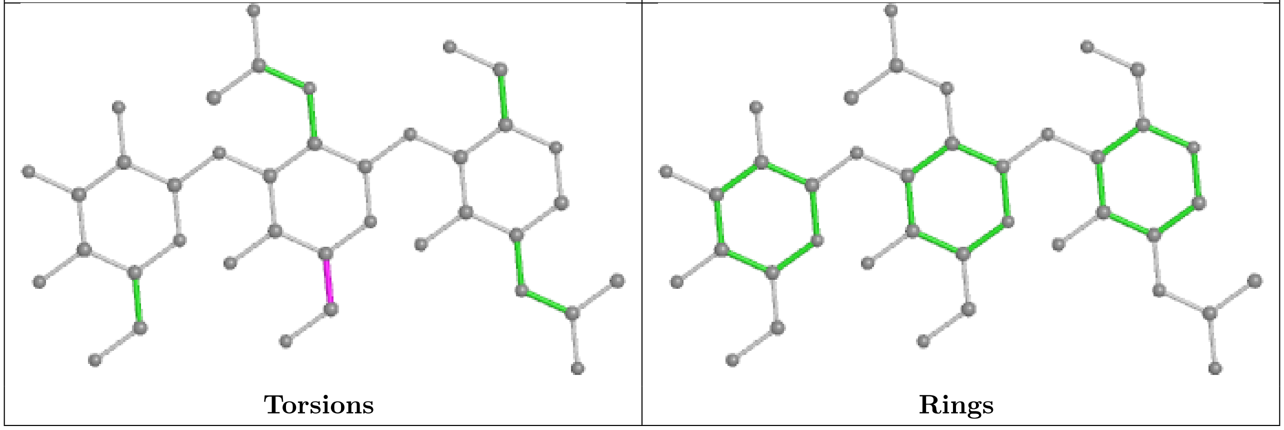


Torsions **Rings**

Oligosaccharide Chain j

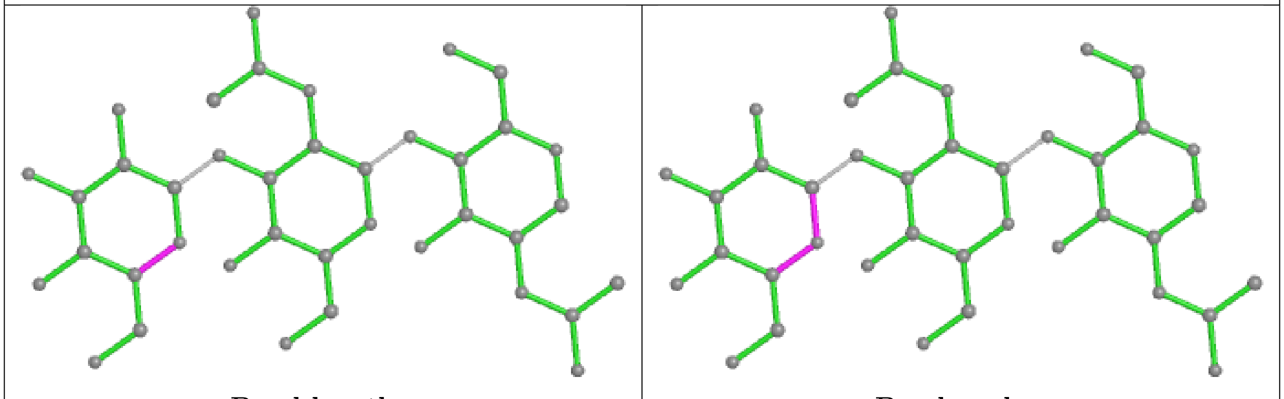


Bond lengths **Bond angles**

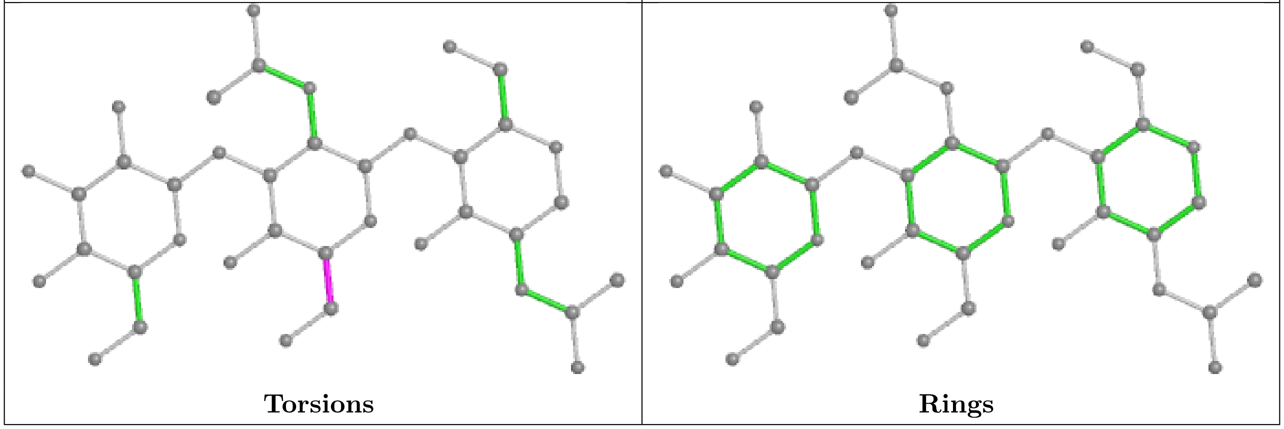


Torsions **Rings**

Oligosaccharide Chain 4



Bond lengths **Bond angles**



Torsions **Rings**

5.6 Ligand geometry ⓘ

Of 136 ligands modelled in this entry, 90 are monoatomic - leaving 46 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	$\#\|Z\| > 2$
13	A2G	B	4721	1	14,14,15	1.18	1 (7%)	17,19,21	1.60	6 (35%)
12	NAG	B	4709	1	14,14,15	0.62	0	17,19,21	0.96	1 (5%)
13	A2G	B	4713	1	14,14,15	0.60	0	17,19,21	1.44	3 (17%)
13	A2G	A	4719	1	14,14,15	0.49	0	17,19,21	1.01	1 (5%)
12	NAG	A	4709	1	14,14,15	0.53	0	17,19,21	0.92	1 (5%)
13	A2G	B	4723	1	14,14,15	0.47	0	17,19,21	0.65	0
12	NAG	B	4712	1	14,14,15	0.40	0	17,19,21	0.53	0
13	A2G	B	4722	1	14,14,15	0.56	0	17,19,21	0.77	0
12	NAG	A	4708	1	14,14,15	0.41	0	17,19,21	0.53	0
13	A2G	A	4717	1	14,14,15	0.62	1 (7%)	17,19,21	1.58	4 (23%)
13	A2G	A	4723	1	14,14,15	0.48	0	17,19,21	1.06	2 (11%)
12	NAG	A	4702	1	14,14,15	0.39	0	17,19,21	0.51	0
12	NAG	A	4712	1	14,14,15	0.54	0	17,19,21	1.39	2 (11%)
12	NAG	B	4710	1	14,14,15	0.69	0	17,19,21	0.90	1 (5%)
13	A2G	B	4720	1	14,14,15	0.58	0	17,19,21	1.35	2 (11%)
13	A2G	A	4713	1	14,14,15	0.50	0	17,19,21	1.11	1 (5%)
13	A2G	B	4718	1	14,14,15	0.59	0	17,19,21	1.05	2 (11%)
12	NAG	A	4705	1	14,14,15	0.61	0	17,19,21	1.05	1 (5%)
12	NAG	A	4701	1	14,14,15	0.40	0	17,19,21	0.38	0
13	A2G	A	4714	1	14,14,15	0.62	0	17,19,21	0.66	0
12	NAG	A	4711	1	14,14,15	0.54	0	17,19,21	0.77	0
13	A2G	B	4719	1	14,14,15	0.50	0	17,19,21	0.91	0
12	NAG	B	4701	1	14,14,15	0.41	0	17,19,21	0.41	0
13	A2G	B	4716	1	14,14,15	0.54	0	17,19,21	1.05	1 (5%)
13	A2G	A	4721	1	14,14,15	0.45	0	17,19,21	1.13	2 (11%)
13	A2G	B	4717	1	14,14,15	0.53	0	17,19,21	1.00	2 (11%)
12	NAG	B	4707	1	14,14,15	0.40	0	17,19,21	0.46	0
13	A2G	B	4715	1	14,14,15	0.44	0	17,19,21	1.18	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
12	NAG	B	4703	1	14,14,15	0.62	0	17,19,21	1.15	2 (11%)
13	A2G	B	4714	1	14,14,15	0.46	0	17,19,21	0.74	0
13	A2G	A	4715	1	14,14,15	0.61	0	17,19,21	1.51	2 (11%)
13	A2G	A	4720	1	14,14,15	0.55	0	17,19,21	1.30	1 (5%)
12	NAG	B	4708	1	14,14,15	0.59	0	17,19,21	1.06	2 (11%)
13	A2G	A	4716	1	14,14,15	0.46	0	17,19,21	1.04	2 (11%)
12	NAG	A	4703	1	14,14,15	0.59	0	17,19,21	0.99	1 (5%)
13	A2G	A	4722	1	14,14,15	0.60	0	17,19,21	1.32	2 (11%)
12	NAG	B	4705	1	14,14,15	0.40	0	17,19,21	0.63	0
12	NAG	B	4702	1	14,14,15	0.42	0	17,19,21	0.51	0
12	NAG	B	4704	1	14,14,15	0.55	0	17,19,21	1.03	1 (5%)
12	NAG	A	4710	1	14,14,15	0.38	0	17,19,21	0.53	0
12	NAG	B	4706	1	14,14,15	0.60	0	17,19,21	1.04	1 (5%)
12	NAG	A	4707	1	14,14,15	0.57	0	17,19,21	1.06	1 (5%)
12	NAG	A	4706	1	14,14,15	0.46	0	17,19,21	1.18	1 (5%)
12	NAG	B	4711	1	14,14,15	0.63	0	17,19,21	1.14	2 (11%)
13	A2G	A	4718	1	14,14,15	0.63	0	17,19,21	0.97	0
12	NAG	A	4704	1	14,14,15	0.42	0	17,19,21	0.78	1 (5%)

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
13	A2G	B	4721	1	-	1/6/23/26	0/1/1/1
12	NAG	B	4709	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4713	1	-	1/6/23/26	0/1/1/1
13	A2G	A	4719	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4709	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4723	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4712	1	-	3/6/23/26	0/1/1/1
13	A2G	B	4722	1	-	0/6/23/26	0/1/1/1
12	NAG	A	4708	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4717	1	-	2/6/23/26	0/1/1/1
13	A2G	A	4723	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4702	1	-	0/6/23/26	0/1/1/1
12	NAG	A	4712	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4710	1	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
13	A2G	B	4720	1	-	2/6/23/26	0/1/1/1
13	A2G	A	4713	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4718	1	-	0/6/23/26	0/1/1/1
12	NAG	A	4705	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4701	1	-	1/6/23/26	0/1/1/1
13	A2G	A	4714	1	-	0/6/23/26	0/1/1/1
12	NAG	A	4711	1	-	2/6/23/26	0/1/1/1
13	A2G	B	4719	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4701	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4716	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4721	1	-	1/6/23/26	0/1/1/1
13	A2G	B	4717	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4707	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4715	1	-	2/6/23/26	0/1/1/1
12	NAG	B	4703	1	-	0/6/23/26	0/1/1/1
13	A2G	B	4714	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4715	1	-	2/6/23/26	0/1/1/1
13	A2G	A	4720	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4708	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4716	1	-	0/6/23/26	0/1/1/1
12	NAG	A	4703	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4722	1	-	0/6/23/26	0/1/1/1
12	NAG	B	4705	1	-	3/6/23/26	0/1/1/1
12	NAG	B	4702	1	-	3/6/23/26	0/1/1/1
12	NAG	B	4704	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4710	1	-	3/6/23/26	0/1/1/1
12	NAG	B	4706	1	-	3/6/23/26	0/1/1/1
12	NAG	A	4707	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4706	1	-	2/6/23/26	0/1/1/1
12	NAG	B	4711	1	-	0/6/23/26	0/1/1/1
13	A2G	A	4718	1	-	1/6/23/26	0/1/1/1
12	NAG	A	4704	1	-	0/6/23/26	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	B	4721	A2G	O5-C1	-2.83	1.39	1.43
13	A	4717	A2G	O5-C1	-2.05	1.40	1.43

All (53) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	A	4717	A2G	C1-O5-C5	-4.68	105.85	112.19
13	A	4715	A2G	C2-N2-C7	4.65	129.52	122.90
13	A	4722	A2G	C1-O5-C5	-4.38	106.25	112.19
13	B	4720	A2G	C1-O5-C5	-4.14	106.58	112.19
12	A	4706	NAG	C1-O5-C5	4.04	117.66	112.19
13	A	4713	A2G	C1-O5-C5	-3.99	106.79	112.19
12	A	4712	NAG	C1-O5-C5	3.96	117.56	112.19
12	A	4707	NAG	C1-O5-C5	3.65	117.14	112.19
12	A	4712	NAG	O5-C1-C2	3.56	116.91	111.29
13	B	4716	A2G	C1-O5-C5	-3.45	107.52	112.19
13	B	4713	A2G	C1-C2-N2	3.39	116.29	110.49
12	B	4703	NAG	C1-O5-C5	3.32	116.69	112.19
13	A	4720	A2G	O5-C5-C6	3.32	112.41	107.20
13	A	4716	A2G	C1-O5-C5	-3.14	107.94	112.19
13	B	4721	A2G	C1-C2-N2	3.07	115.72	110.49
12	B	4704	NAG	C1-O5-C5	3.01	116.27	112.19
12	A	4705	NAG	C1-O5-C5	3.01	116.26	112.19
13	B	4718	A2G	C1-O5-C5	-2.95	108.20	112.19
13	A	4723	A2G	O5-C5-C6	2.93	111.79	107.20
12	B	4711	NAG	C1-O5-C5	2.89	116.11	112.19
12	A	4709	NAG	C1-O5-C5	2.87	116.08	112.19
13	B	4721	A2G	C2-N2-C7	2.85	126.95	122.90
13	B	4720	A2G	O5-C1-C2	2.82	115.74	111.29
13	B	4718	A2G	O5-C1-C2	2.77	115.66	111.29
12	B	4709	NAG	C1-O5-C5	2.77	115.94	112.19
13	B	4715	A2G	O5-C5-C6	2.75	111.52	107.20
13	A	4722	A2G	O5-C1-C2	2.65	115.47	111.29
13	B	4713	A2G	O5-C1-C2	2.57	115.34	111.29
13	A	4717	A2G	C1-C2-N2	2.57	114.87	110.49
13	A	4715	A2G	O5-C5-C6	2.55	111.20	107.20
12	B	4706	NAG	C2-N2-C7	2.49	126.45	122.90
13	B	4717	A2G	C1-C2-N2	2.47	114.71	110.49
13	A	4721	A2G	C2-N2-C7	2.44	126.37	122.90
12	A	4703	NAG	C1-O5-C5	2.43	115.48	112.19
12	B	4708	NAG	C1-O5-C5	2.42	115.47	112.19
13	A	4717	A2G	O5-C1-C2	2.42	115.11	111.29
13	B	4717	A2G	O5-C5-C6	2.41	110.98	107.20
13	B	4721	A2G	O3-C3-C2	-2.40	104.50	109.47
12	B	4710	NAG	C2-N2-C7	2.38	126.30	122.90
13	B	4713	A2G	C1-O5-C5	-2.30	109.08	112.19
13	A	4717	A2G	C2-N2-C7	2.29	126.16	122.90
12	A	4704	NAG	O5-C1-C2	2.24	114.82	111.29
13	A	4716	A2G	O5-C1-C2	2.24	114.82	111.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	A	4721	A2G	O5-C5-C6	2.16	110.60	107.20
12	B	4708	NAG	O5-C1-C2	2.15	114.69	111.29
13	B	4721	A2G	O5-C5-C4	-2.14	105.63	110.83
13	B	4715	A2G	O5-C1-C2	2.11	114.62	111.29
13	A	4723	A2G	C1-O5-C5	-2.11	109.33	112.19
13	B	4721	A2G	O4-C4-C3	-2.11	105.47	110.35
12	B	4711	NAG	O5-C1-C2	2.10	114.61	111.29
13	A	4719	A2G	O5-C5-C6	2.10	110.49	107.20
12	B	4703	NAG	O5-C1-C2	2.09	114.58	111.29
13	B	4721	A2G	O7-C7-N2	2.07	125.75	121.95

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
12	A	4710	NAG	C8-C7-N2-C2
12	A	4710	NAG	O7-C7-N2-C2
12	B	4702	NAG	C8-C7-N2-C2
12	B	4702	NAG	O7-C7-N2-C2
12	B	4706	NAG	C3-C2-N2-C7
12	B	4706	NAG	C8-C7-N2-C2
12	B	4706	NAG	O7-C7-N2-C2
13	A	4715	A2G	C3-C2-N2-C7
12	B	4712	NAG	C8-C7-N2-C2
12	B	4712	NAG	O7-C7-N2-C2
13	B	4720	A2G	C1-C2-N2-C7
12	B	4705	NAG	C8-C7-N2-C2
12	A	4710	NAG	C1-C2-N2-C7
12	B	4702	NAG	C1-C2-N2-C7
12	B	4705	NAG	O7-C7-N2-C2
12	B	4712	NAG	C1-C2-N2-C7
12	A	4711	NAG	O5-C5-C6-O6
13	A	4723	A2G	O5-C5-C6-O6
13	A	4718	A2G	O5-C5-C6-O6
12	A	4707	NAG	O5-C5-C6-O6
12	B	4704	NAG	O5-C5-C6-O6
13	A	4717	A2G	O5-C5-C6-O6
13	B	4721	A2G	O5-C5-C6-O6
12	A	4701	NAG	O5-C5-C6-O6
13	A	4715	A2G	O5-C5-C6-O6
12	A	4706	NAG	O5-C5-C6-O6
13	B	4715	A2G	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
12	B	4710	NAG	O5-C5-C6-O6
12	B	4705	NAG	C3-C2-N2-C7
13	A	4721	A2G	C1-C2-N2-C7
12	A	4711	NAG	C4-C5-C6-O6
12	A	4705	NAG	C3-C2-N2-C7
12	A	4706	NAG	C3-C2-N2-C7
13	A	4717	A2G	C3-C2-N2-C7
13	B	4713	A2G	C3-C2-N2-C7
13	B	4715	A2G	C1-C2-N2-C7
13	A	4719	A2G	C1-C2-N2-C7
13	B	4720	A2G	C3-C2-N2-C7

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	B	4704	NAG	1	0

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

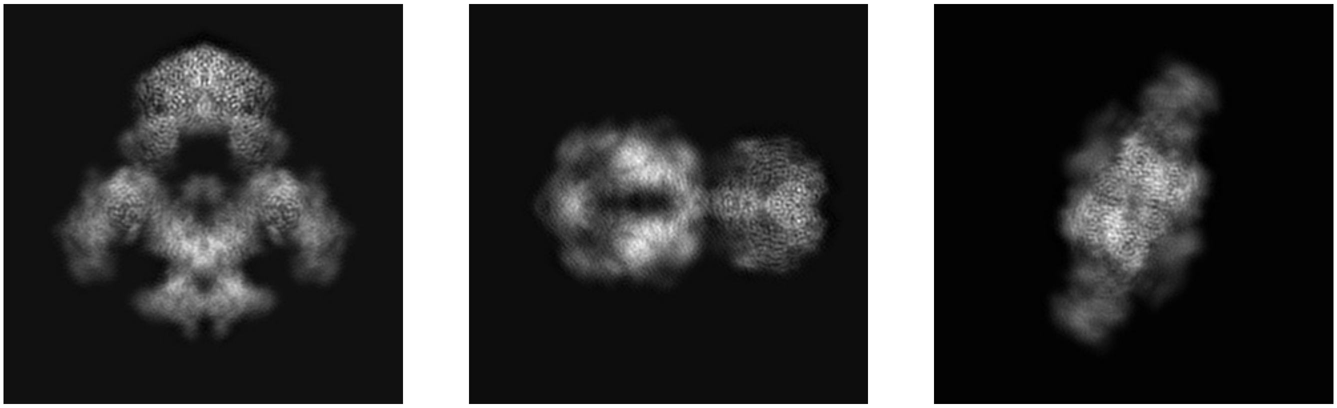
6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-36664. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

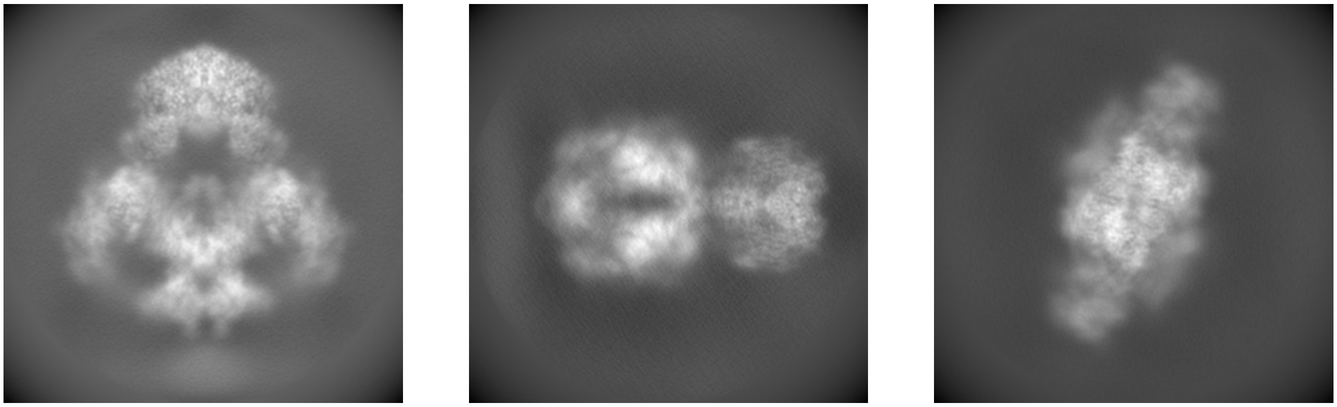
6.1 Orthogonal projections ⓘ

6.1.1 Primary map



X Y Z

6.1.2 Raw map

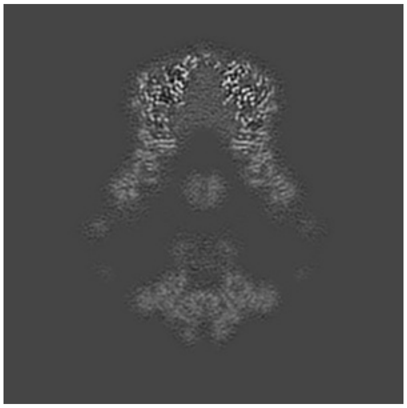


X Y Z

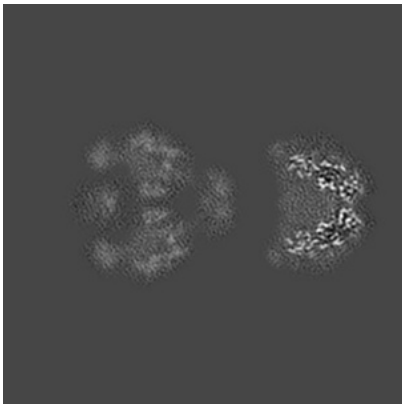
The images above show the map projected in three orthogonal directions.

6.2 Central slices

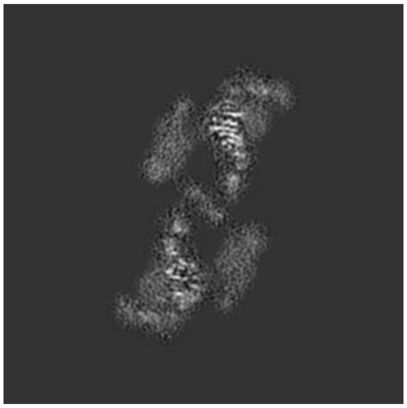
6.2.1 Primary map



X Index: 130

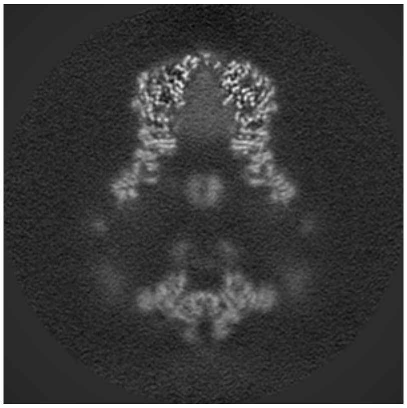


Y Index: 130

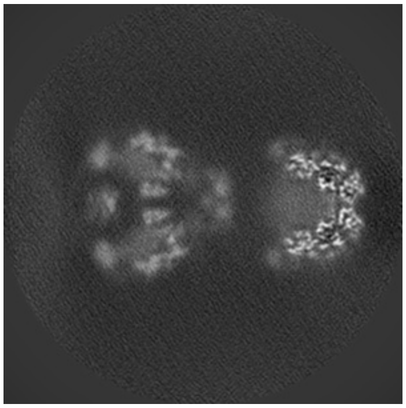


Z Index: 130

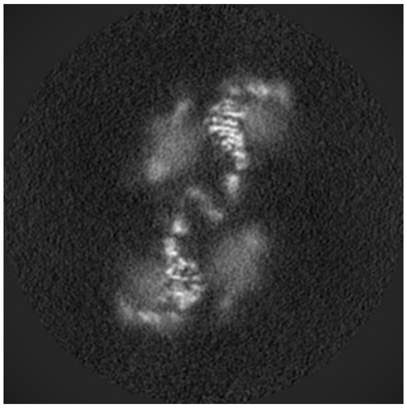
6.2.2 Raw map



X Index: 130



Y Index: 130

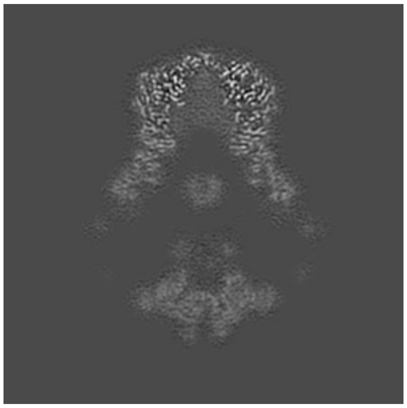


Z Index: 130

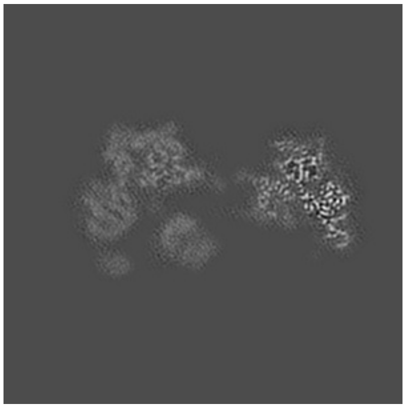
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices

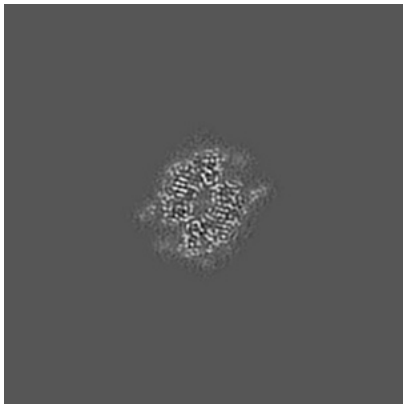
6.3.1 Primary map



X Index: 131

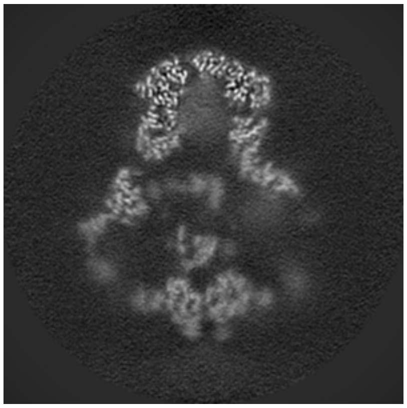


Y Index: 149

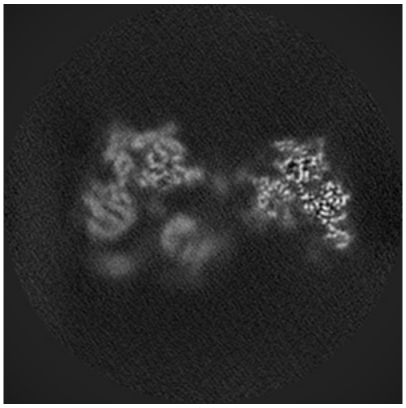


Z Index: 215

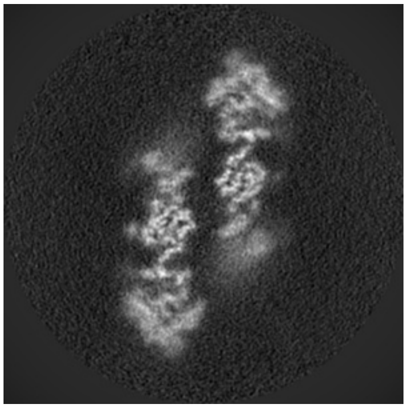
6.3.2 Raw map



X Index: 124



Y Index: 149

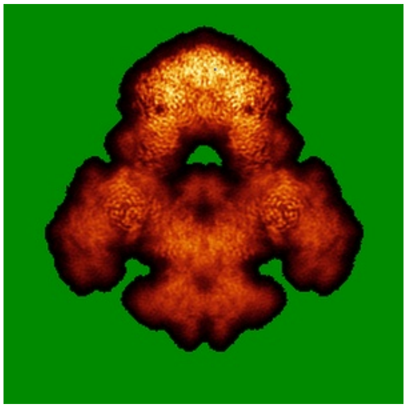


Z Index: 113

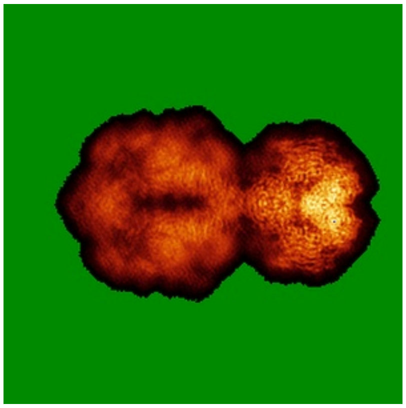
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color)

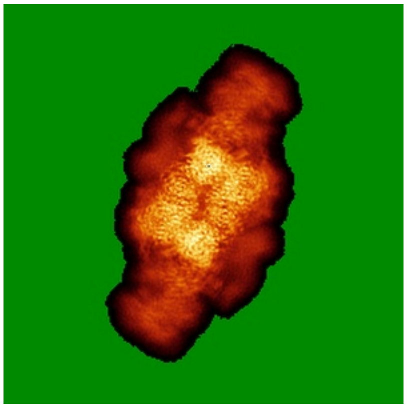
6.4.1 Primary map



X

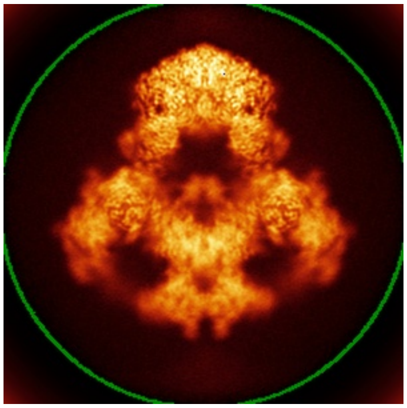


Y

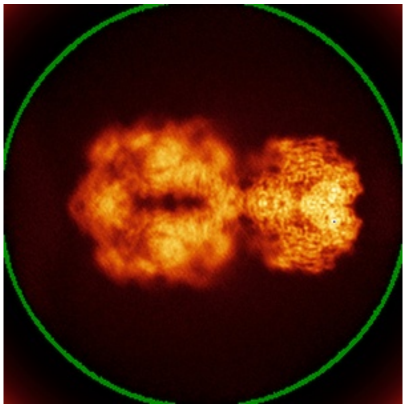


Z

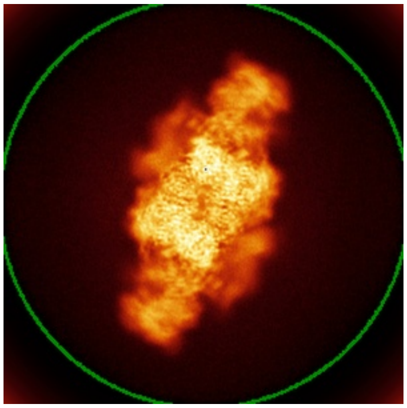
6.4.2 Raw map



X



Y

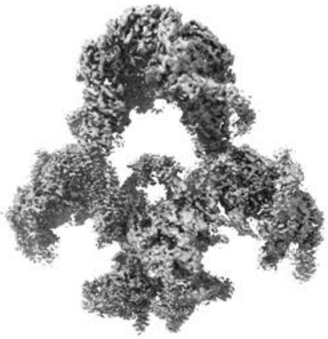


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

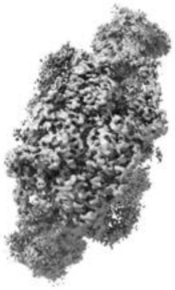
6.5 Orthogonal surface views ⓘ

6.5.1 Primary map



X

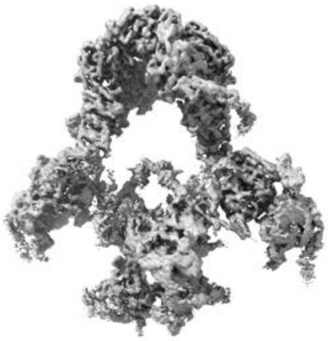
Y



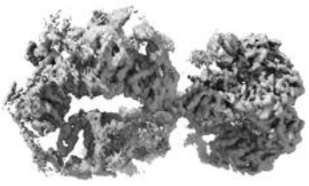
Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X



Y

Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

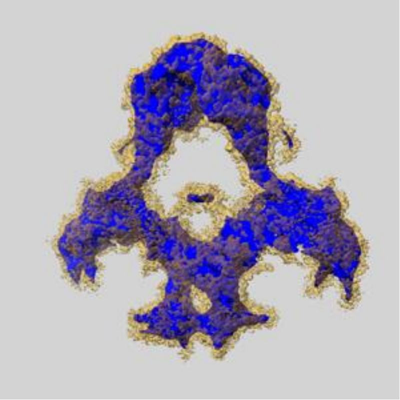
6.6 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

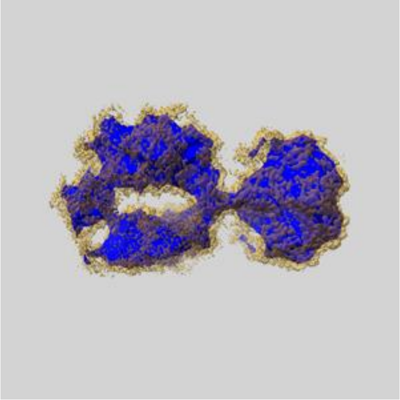
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

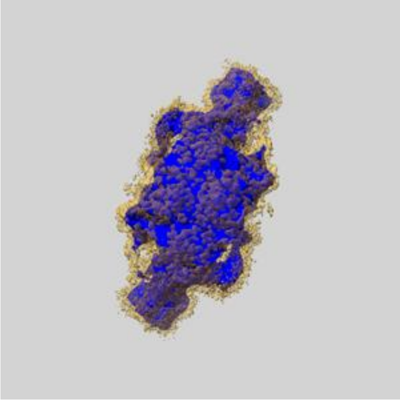
6.6.1 emd_36664_msk_1.map



X



Y

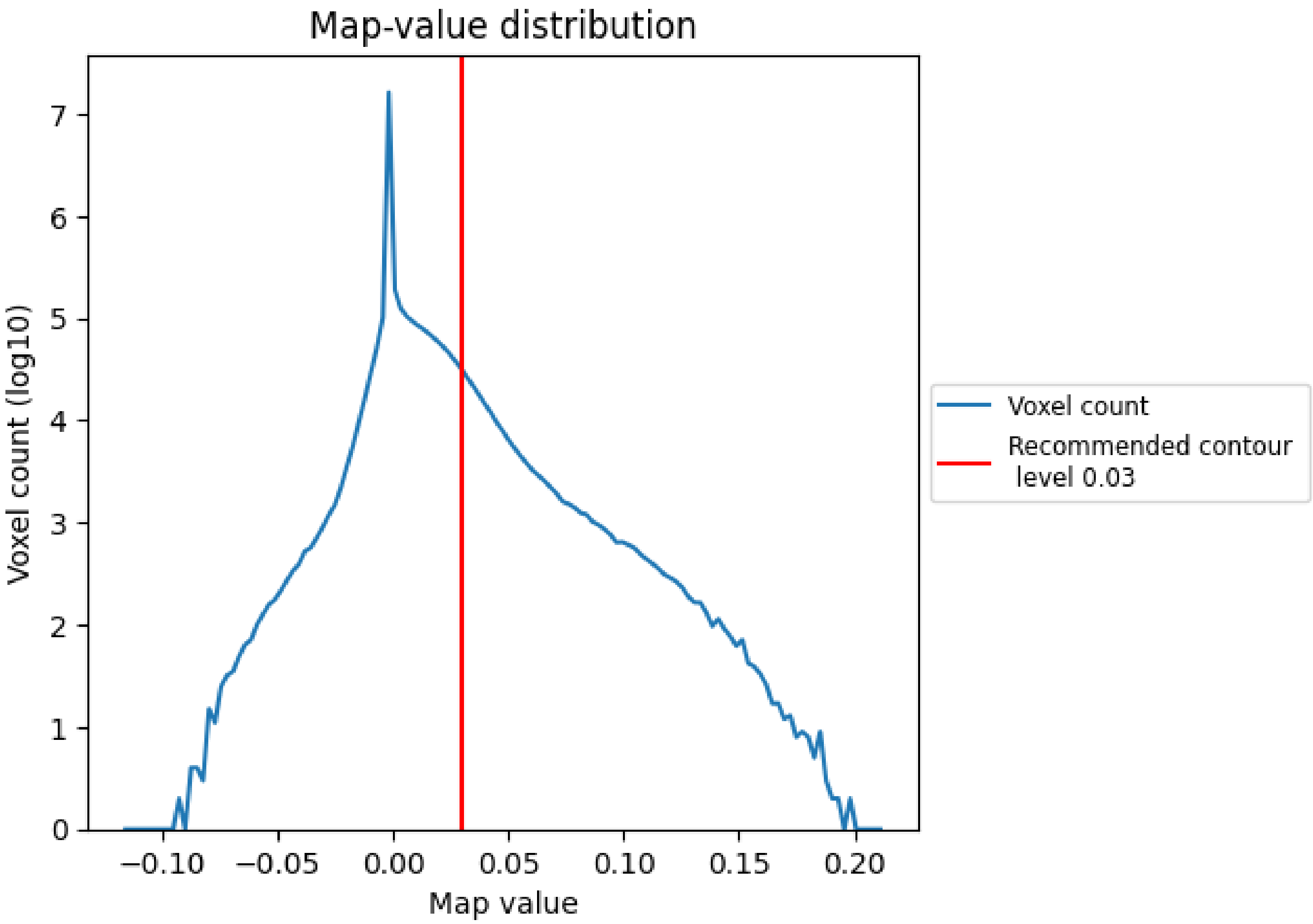


Z

7 Map analysis (i)

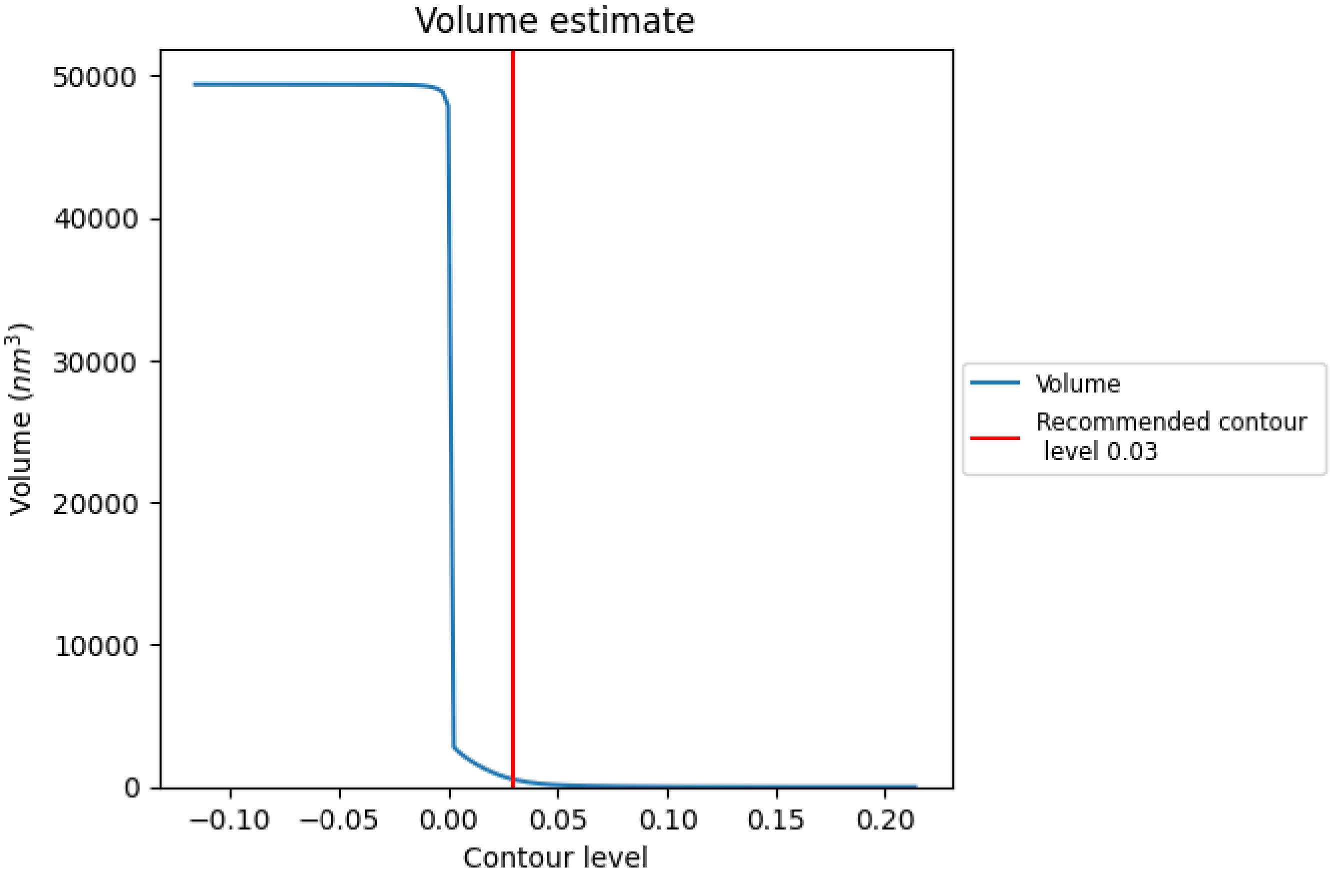
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

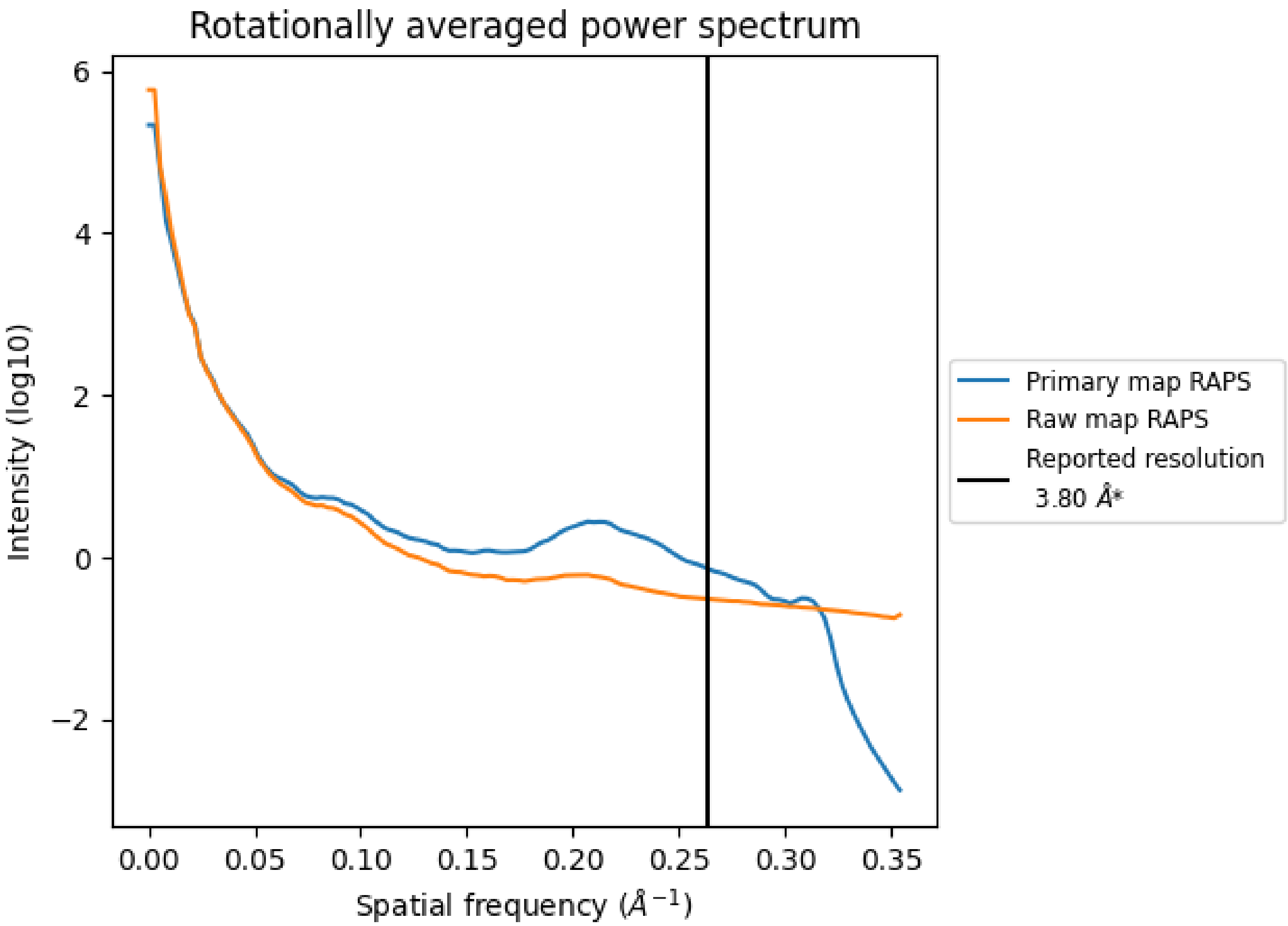
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 525 nm^3; this corresponds to an approximate mass of 474 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

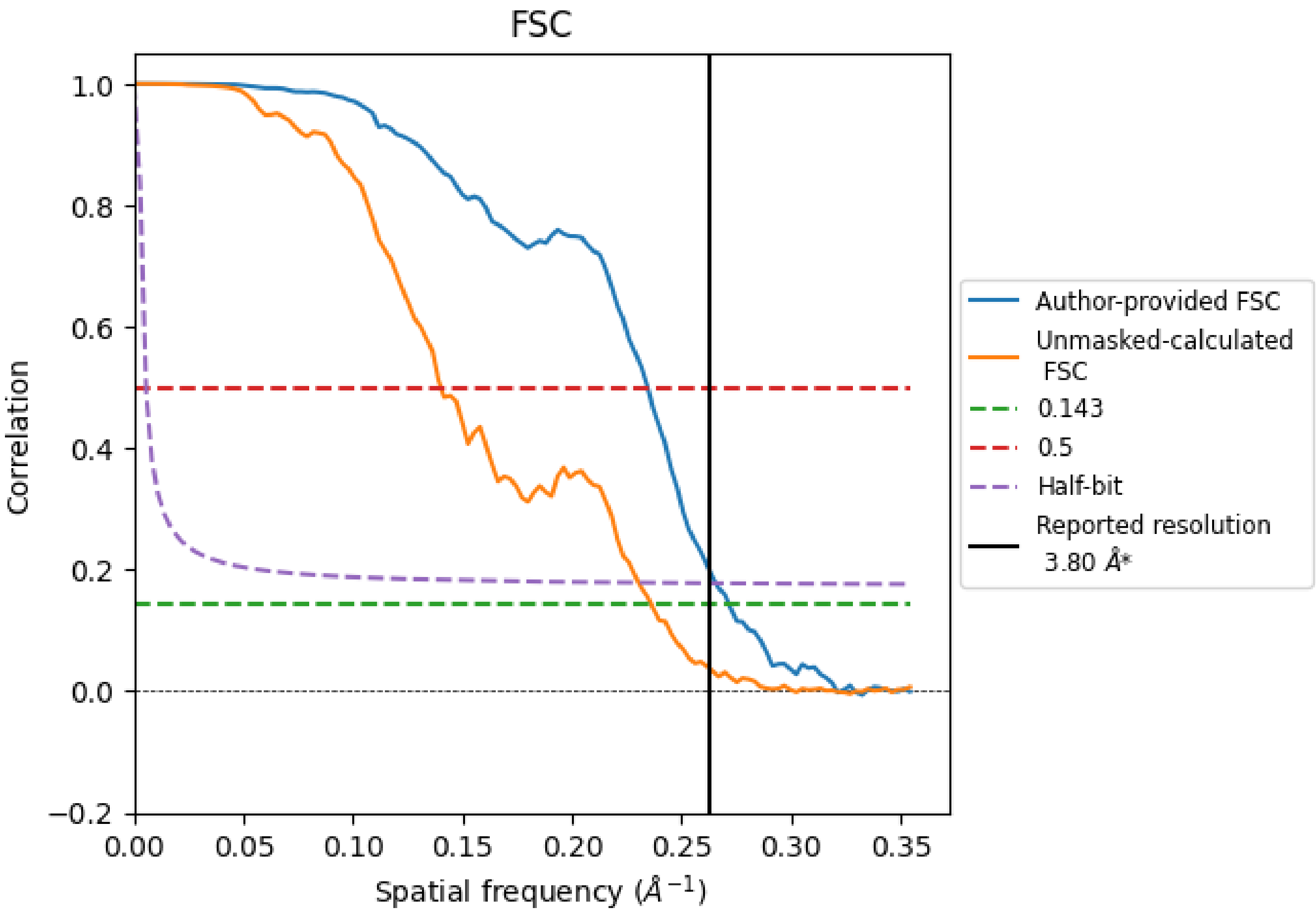


*Reported resolution corresponds to spatial frequency of 0.263 Å^{-1}

8 Fourier-Shell correlation ⓘ

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC ⓘ



*Reported resolution corresponds to spatial frequency of 0.263 Å^{-1}

8.2 Resolution estimates ⓘ

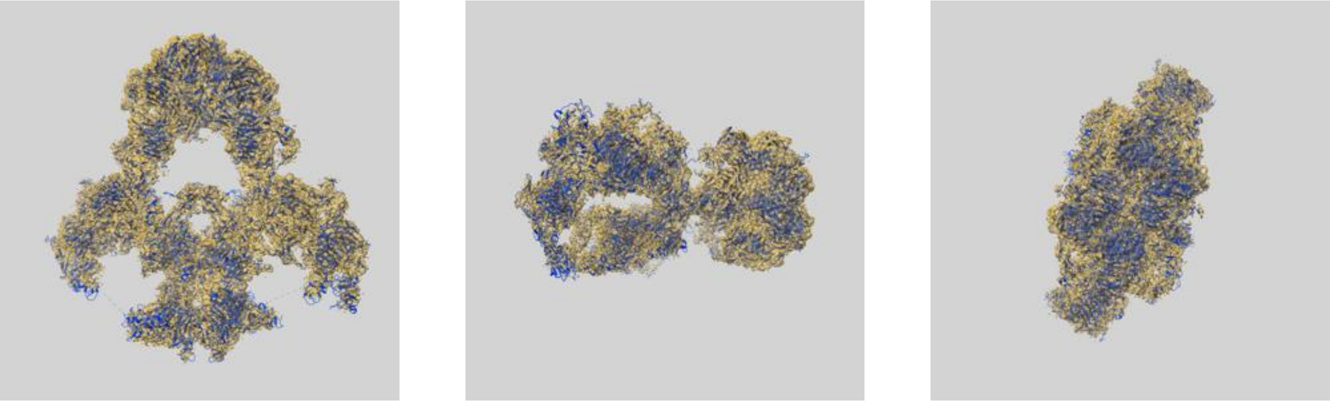
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.68	4.26	3.76
Unmasked-calculated*	4.23	7.13	4.34

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.23 differs from the reported value 3.8 by more than 10 %

9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-36664 and PDB model 8JUU. Per-residue inclusion information can be found in section 3 on page 14.

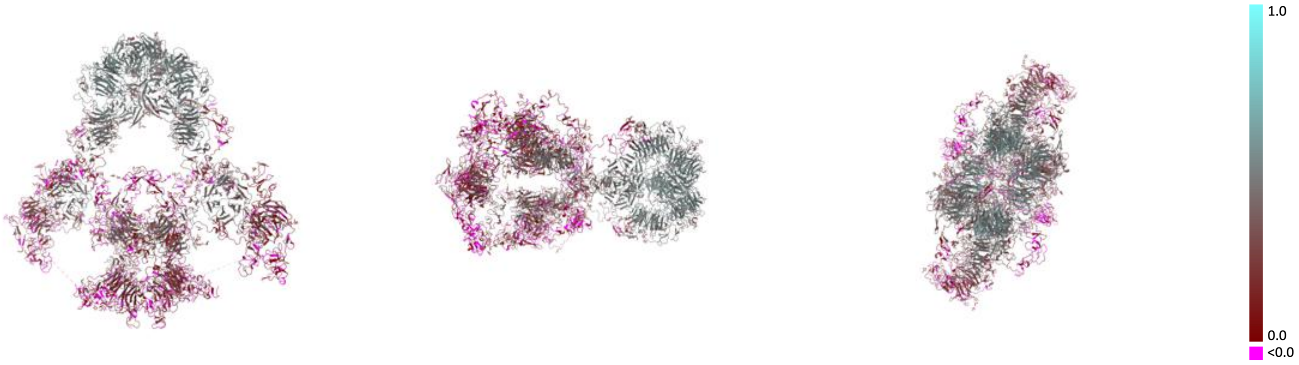
9.1 Map-model overlay



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

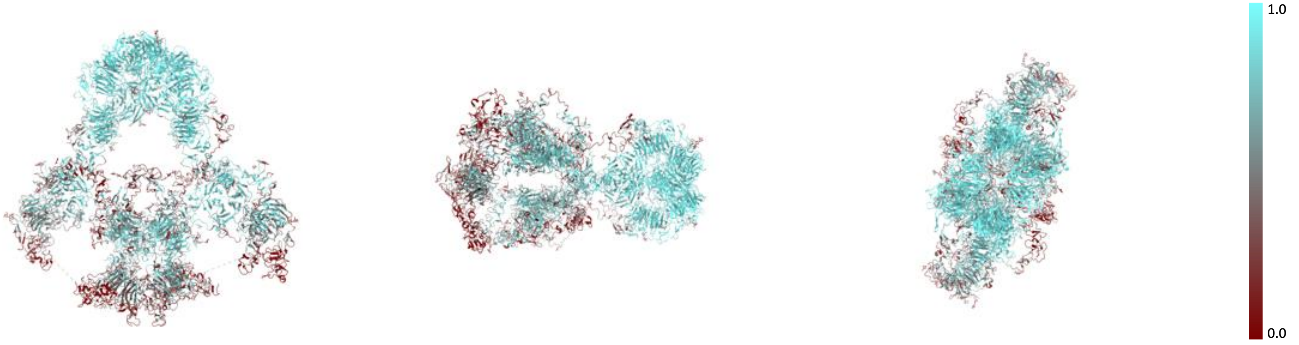
9.2 Q-score mapped to coordinate model ⓘ



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

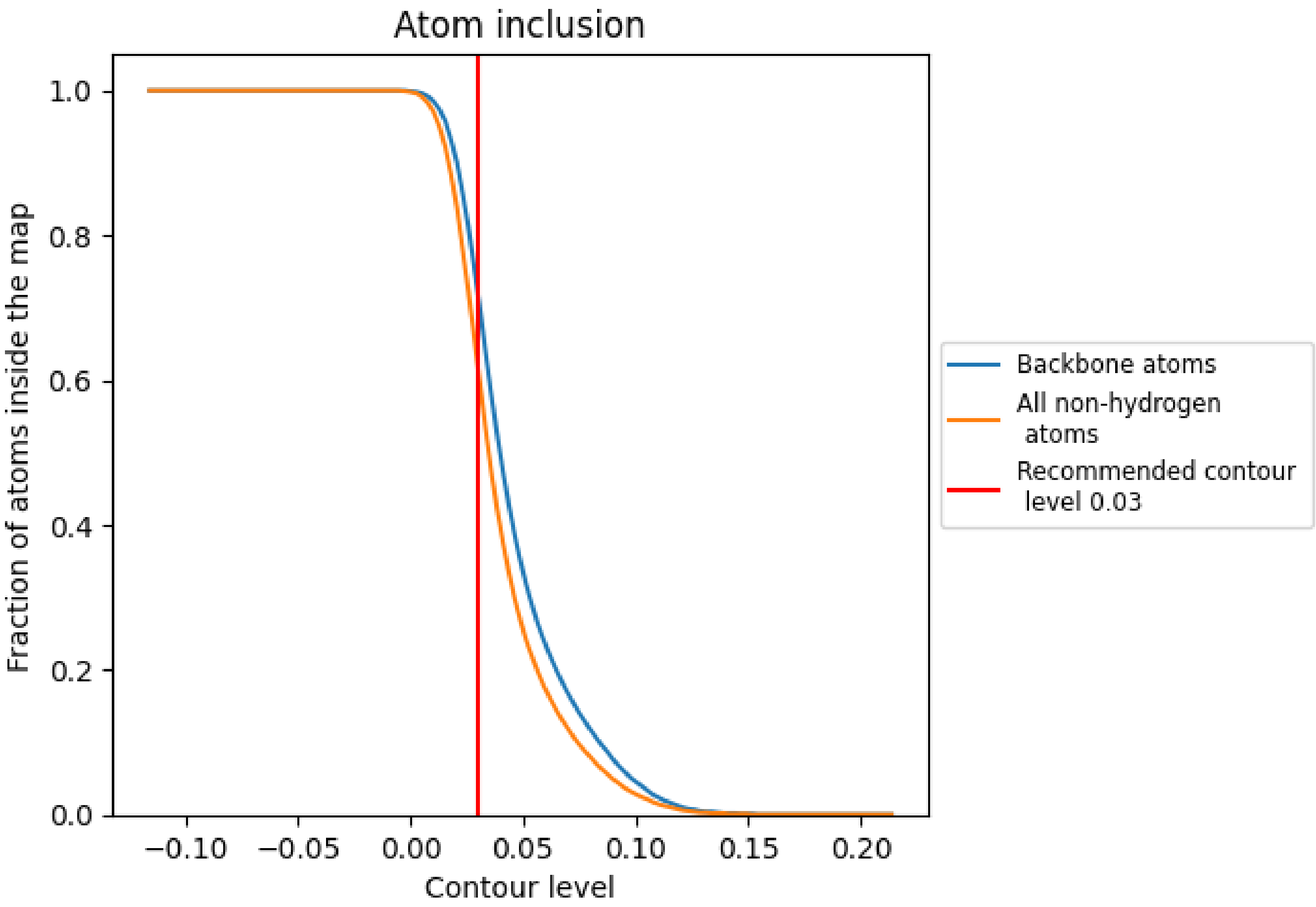
9.3 Atom inclusion mapped to coordinate model ⓘ



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.03).

9.4 Atom inclusion ⓘ



At the recommended contour level, 72% of all backbone atoms, 62% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6160	0.2910
0	0.1790	0.1980
1	0.1470	0.0530
2	0.2130	0.1250
3	0.0000	0.0110
4	0.1280	0.0760
5	0.1430	0.2140
A	0.6200	0.2900
B	0.6210	0.2940
C	0.9090	0.4680
D	0.7500	0.3370
E	0.1540	0.0630
F	0.7500	0.3140
G	0.8180	0.4800
H	0.7140	0.3330
I	0.9090	0.4880
J	0.7500	0.3780
K	0.7580	0.3720
L	0.7860	0.4220
M	0.3330	0.1600
N	0.8930	0.4140
O	0.9640	0.4720
P	0.4670	0.1510
Q	1.0000	0.4880
R	0.9290	0.3910
S	0.2500	0.1690
T	0.5130	0.2980
U	0.6430	0.3810
V	0.4290	0.2320
W	0.4430	0.3610
X	0.5000	0.2450
Y	0.8690	0.4650
Z	0.5360	0.3450
a	0.5000	0.3060
b	0.1790	0.2150

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Chain	Atom inclusion	Q-score
c	0.4620	0.2950
d	0.4590	0.2960
e	0.1790	0.2740
f	0.3930	0.2000
g	0.0980	0.1360
h	0.2460	0.1010
i	0.1430	0.1490
j	0.1280	0.1430
k	0.1430	0.1040
l	0.1280	0.0670
m	0.6790	0.3170
n	0.3210	0.2720
o	0.4360	0.3370
p	0.6790	0.3510
q	0.2140	0.2240
r	0.3280	0.3190
s	0.5360	0.3350
t	0.8850	0.4900
u	0.5000	0.3300
v	0.3930	0.3380
w	0.1540	0.1440
x	0.5380	0.2900
y	0.4750	0.2590
z	0.0710	0.0560