WORLDWIDE PDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 16, 2022 – 12:07 pm GMT

PDB ID	:	7Z1C
Title	:	Nanobody H11-B5 and H11-F2 bound to RBD
Authors	:	Mikolajek, H.; Naismith, J.H.
Deposited on	:	2022-02-24
Resolution	:	1.90 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.27
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.27

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 1.90 Å.

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

■ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
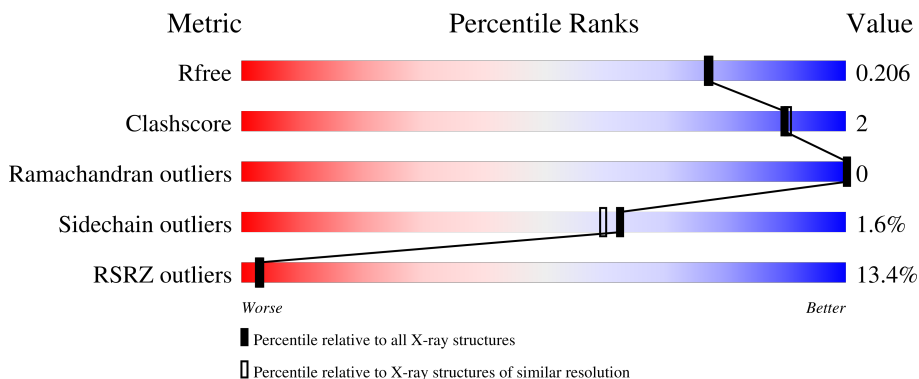
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	6207 (1.90-1.90)
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (1.90-1.90)

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

Mol	Chain	Length	Quality of chain
1	A	210	
1	C	210	
2	B	131	
2	D	131	
3	E	134	

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Mol	Chain	Length	Quality of chain
3	F	134	

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 7469 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Spike protein S1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	196	Total	C	N	O	S	0	0	0
			1552	995	259	290	8			
1	C	196	Total	C	N	O	S	0	2	0
			1565	1003	263	291	8			

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	533	LYS	-	expression tag	UNP P0DTC2
A	534	HIS	-	expression tag	UNP P0DTC2
A	535	HIS	-	expression tag	UNP P0DTC2
A	536	HIS	-	expression tag	UNP P0DTC2
A	537	HIS	-	expression tag	UNP P0DTC2
A	538	HIS	-	expression tag	UNP P0DTC2
A	539	HIS	-	expression tag	UNP P0DTC2
C	533	LYS	-	expression tag	UNP P0DTC2
C	534	HIS	-	expression tag	UNP P0DTC2
C	535	HIS	-	expression tag	UNP P0DTC2
C	536	HIS	-	expression tag	UNP P0DTC2
C	537	HIS	-	expression tag	UNP P0DTC2
C	538	HIS	-	expression tag	UNP P0DTC2
C	539	HIS	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called Nanobody F2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	125	Total	C	N	O	S	0	0	0
			987	624	171	188	4			
2	D	125	Total	C	N	O	S	0	0	0
			987	624	171	188	4			

- Molecule 3 is a protein called Nanobody B5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	F	125	Total 976	C 617	N 167	O 185	S 7	0	2	0
3	E	126	Total 979	C 618	N 169	O 187	S 5	0	0	0

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).
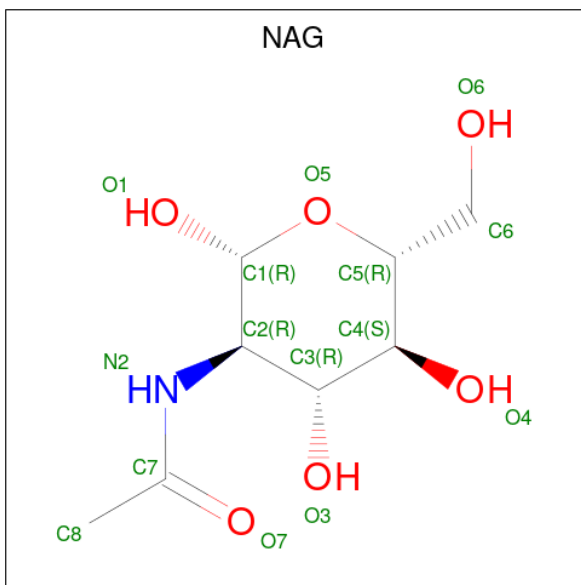
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total 14	C 8	N 1	O 5	0	0
4	C	1	Total 14	C 8	N 1	O 5	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$) (labeled as "Ligand of Interest" by depositor).

PEG

C4

OH O4

O2

O

C3

C1

HO

C2

O1
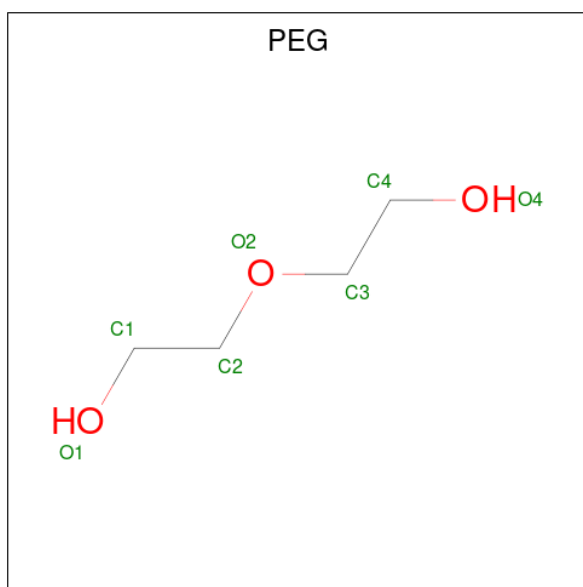
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 7	C 4	O 3	0	0
5	A	1	Total 7	C 4	O 3	0	0
5	A	1	Total 7	C 4	O 3	0	0
5	B	1	Total 7	C 4	O 3	0	0
5	B	1	Total 7	C 4	O 3	0	0
5	C	1	Total 7	C 4	O 3	0	0
5	C	1	Total 7	C 4	O 3	0	0
5	C	1	Total 7	C 4	O 3	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	104	Total 104	O 104	0	0
6	B	51	Total 51	O 51	0	0
6	F	13	Total 13	O 13	0	0
6	C	97	Total 97	O 97	0	0

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| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	D	66	Total 66	O 66	0	0
6	E	8	Total 8	O 8	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
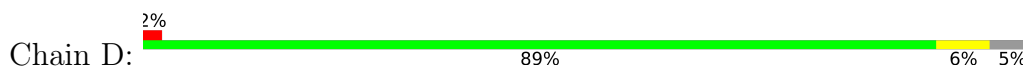
• Molecule 1: Spike protein S1
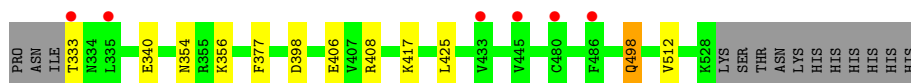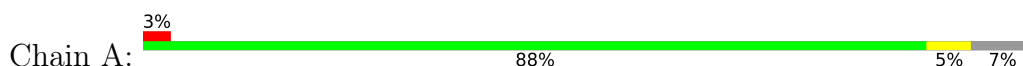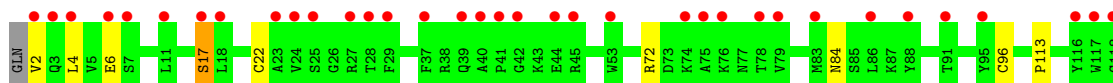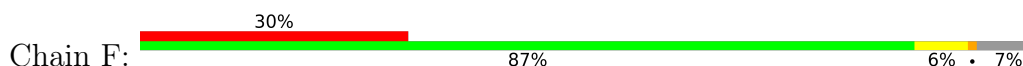

• Molecule 1: Spike protein S1
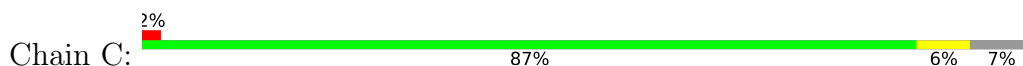
• Molecule 2: Nanobody F2

• Molecule 2: Nanobody F2

• Molecule 3: Nanobody B5

Q119 G120 T121 Q122 V123 S126 SER LYS HIS HIS HIS HIS HIS HIS
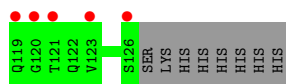
• Molecule 3: Nanobody B5

Chain E:

49%

90%   •   6%

Q1 V2 Q3 L4 V5 E6 S7 G8 G9 G10 L11 M12 Q13 A14 G15 G16 S17 L18 R19 L20 S21 C22 A23 V24 S25 G26 R27 T28 F29 F37 A40 P41 G42 K43 E44 R45 V48 D62 S63 V64 F68 T69 I70 S71 R72 D73 K74 A75 K76 V79 Y80 L81 Q82 M83

L86 K87 Y88 E89 D90 T91 A92 V93 Y94 Y95 C96 A97 Y114 G118 Q119 G120 T121 Q122 V123 T124 V125 S126 SER LYS HIS HIS HIS HIS HIS HIS
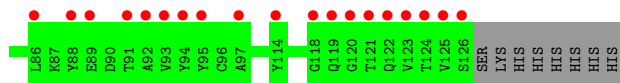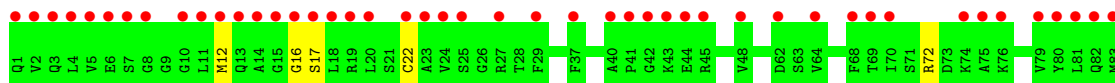
4   Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	56.90Å 56.94Å 115.89Å 80.08° 87.52° 66.11°	Depositor
Resolution (Å)	52.00 – 1.90 52.00 – 1.90	Depositor EDS
% Data completeness (in resolution range)	96.4 (52.00-1.90) 96.4 (52.00-1.90)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.28 (at 1.90Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.175 , 0.199 0.184 , 0.206	Depositor DCC
R_{free} test set	4916 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å^2)	42.7	Xtriage
Anisotropy	0.056	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< |L| > = 0.51, < L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	7469	wwPDB-VP
Average B, all atoms (Å^2)	62.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.95% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.64	0/1596	0.77	0/2172
1	C	0.62	0/1615	0.77	0/2197
2	B	0.65	0/1012	0.77	0/1371
2	D	0.64	0/1012	0.78	0/1371
3	E	0.66	0/1002	0.77	0/1356
3	F	0.65	0/1005	0.78	0/1360
All	All	0.64	0/7242	0.77	0/9827

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

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	494	SER	Peptide

5.2 Too-close contacts ⓘ

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1552	0	1472	5	0
1	C	1565	0	1491	6	0
2	B	987	0	941	3	0
2	D	987	0	941	5	0
3	E	979	0	939	1	0
3	F	976	0	936	5	0
4	A	14	0	13	0	0
4	C	14	0	13	0	0
5	A	21	0	30	0	0
5	B	14	0	20	1	0
5	C	21	0	30	0	0
6	A	104	0	0	0	5
6	B	51	0	0	0	0
6	C	97	0	0	2	5
6	D	66	0	0	1	0
6	E	8	0	0	0	0
6	F	13	0	0	0	0
All	All	7469	0	6826	24	5

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

The worst 5 of 24 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:A:340:GLU:OE1	1:A:356:LYS:NZ	2.29	0.61
1:C:340:GLU:OE1	1:C:356:LYS:NZ	2.30	0.58
3:F:6:GLU:HG3	3:F:96[A]:CYS:SG	2.50	0.52
3:F:4:LEU:HB3	3:F:96[A]:CYS:SG	2.51	0.50
2:D:65:LYS:NZ	6:D:201:HOH:O	2.42	0.50

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:706:HOH:O	6:C:723:HOH:O[1_545]	1.47	0.73
6:A:732:HOH:O	6:C:711:HOH:O[1_455]	1.62	0.58
6:A:704:HOH:O	6:C:791:HOH:O[1_455]	1.80	0.40
6:A:732:HOH:O	6:C:781:HOH:O[1_455]	2.04	0.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:788:HOH:O	6:C:723:HOH:O[1_545]	2.11	0.09

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	194/210 (92%)	188 (97%)	6 (3%)	0	100	100
1	C	196/210 (93%)	190 (97%)	6 (3%)	0	100	100
2	B	123/131 (94%)	121 (98%)	2 (2%)	0	100	100
2	D	123/131 (94%)	121 (98%)	2 (2%)	0	100	100
3	E	124/134 (92%)	121 (98%)	3 (2%)	0	100	100
3	F	125/134 (93%)	123 (98%)	2 (2%)	0	100	100
All	All	885/950 (93%)	864 (98%)	21 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	169/183 (92%)	165 (98%)	4 (2%)	49	43
1	C	171/183 (93%)	169 (99%)	2 (1%)	71	70
2	B	102/108 (94%)	102 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	D	102/108 (94%)	102 (100%)	0	100	100
3	E	99/107 (92%)	96 (97%)	3 (3%)	41	33
3	F	100/107 (94%)	97 (97%)	3 (3%)	41	33
All	All	743/796 (93%)	731 (98%)	12 (2%)	62	60

5 of 12 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	377	PHE
1	C	498	GLN
3	E	72	ARG
3	E	17	SER
1	A	498	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	1	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

10 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
5	PEG	A	604	-	6,6,6	0.15	0	5,5,5	0.13	0
4	NAG	C	601	1	14,14,15	0.41	0	17,19,21	0.69	0
4	NAG	A	601	1	14,14,15	0.29	0	17,19,21	0.69	0
5	PEG	B	201	-	6,6,6	0.16	0	5,5,5	0.11	0
5	PEG	A	602	-	6,6,6	0.17	0	5,5,5	0.09	0
5	PEG	C	603	-	6,6,6	0.11	0	5,5,5	0.06	0
5	PEG	C	604	-	6,6,6	0.18	0	5,5,5	0.10	0
5	PEG	B	202	-	6,6,6	0.17	0	5,5,5	0.14	0
5	PEG	C	602	-	6,6,6	0.12	0	5,5,5	0.08	0
5	PEG	A	603	-	6,6,6	0.16	0	5,5,5	0.17	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PEG	A	604	-	-	1/4/4/4	-
4	NAG	C	601	1	-	2/6/23/26	0/1/1/1
4	NAG	A	601	1	-	2/6/23/26	0/1/1/1
5	PEG	B	201	-	-	2/4/4/4	-
5	PEG	A	602	-	-	1/4/4/4	-
5	PEG	C	603	-	-	2/4/4/4	-
5	PEG	C	604	-	-	1/4/4/4	-
5	PEG	B	202	-	-	0/4/4/4	-
5	PEG	C	602	-	-	1/4/4/4	-
5	PEG	A	603	-	-	1/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 13 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	C	604	PEG	O1-C1-C2-O2

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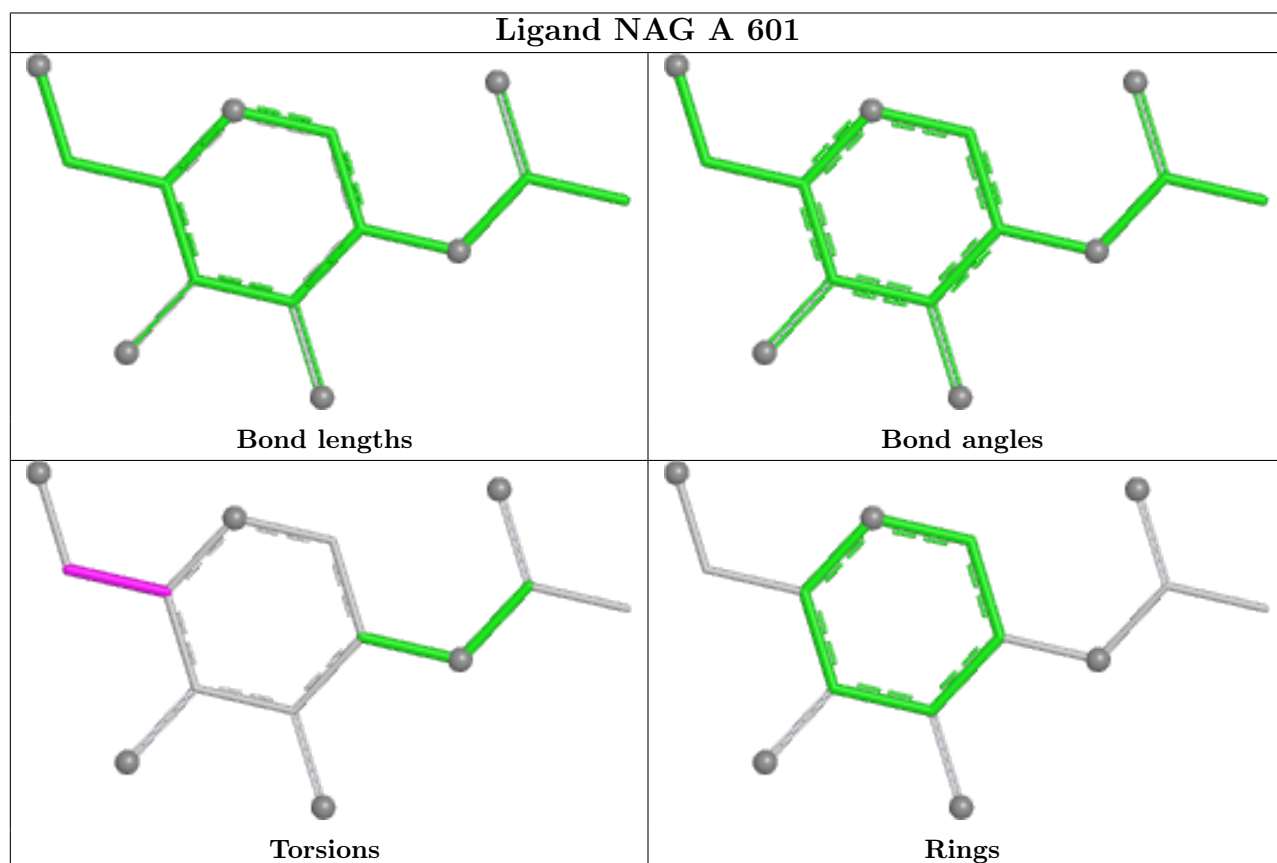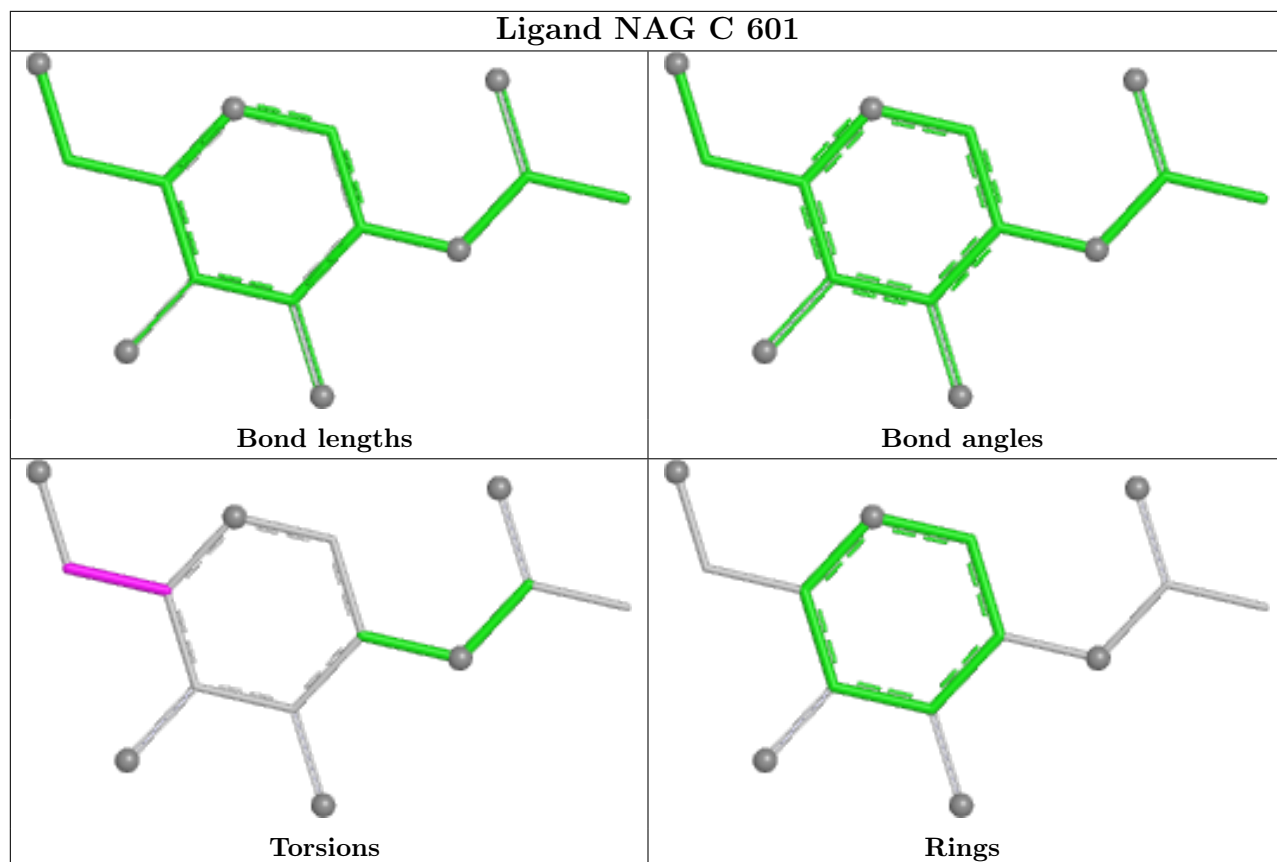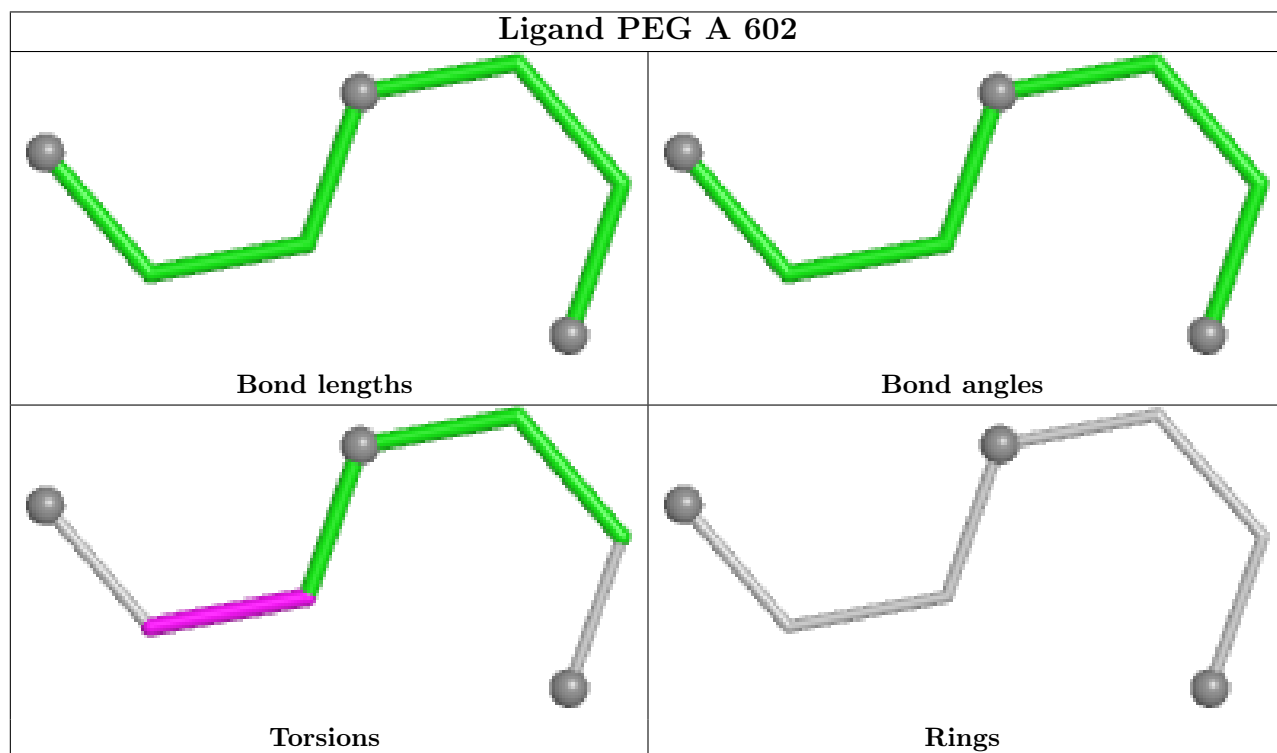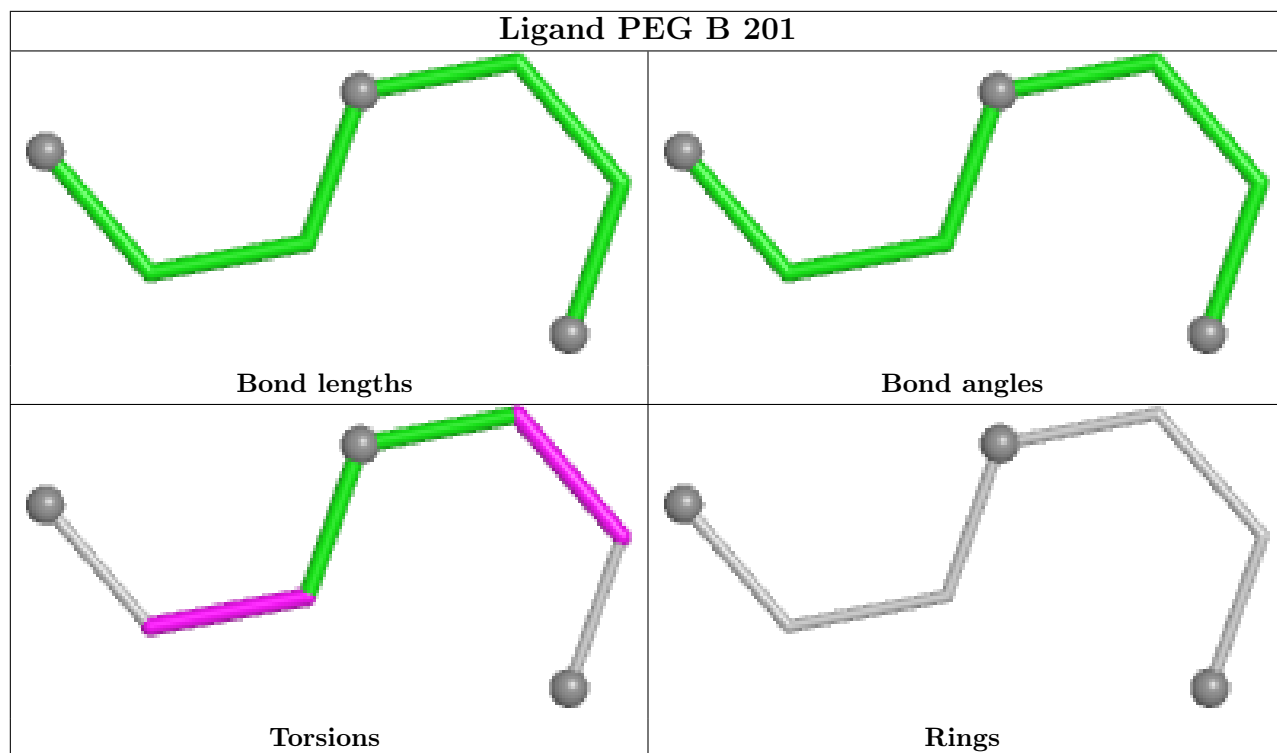| Mol	Chain	Res	Type	Atoms
4	C	601	NAG	C4-C5-C6-O6
5	A	602	PEG	O1-C1-C2-O2
4	C	601	NAG	O5-C5-C6-O6
4	A	601	NAG	C4-C5-C6-O6

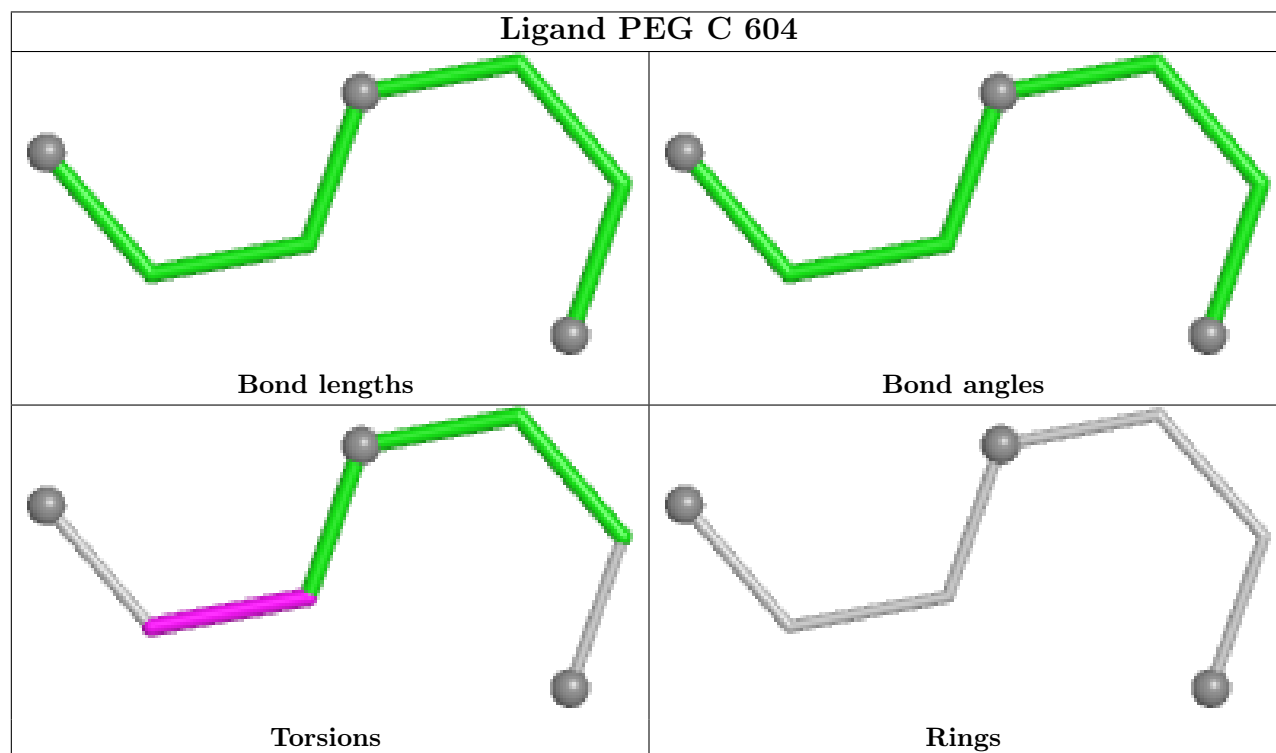There are no ring outliers.
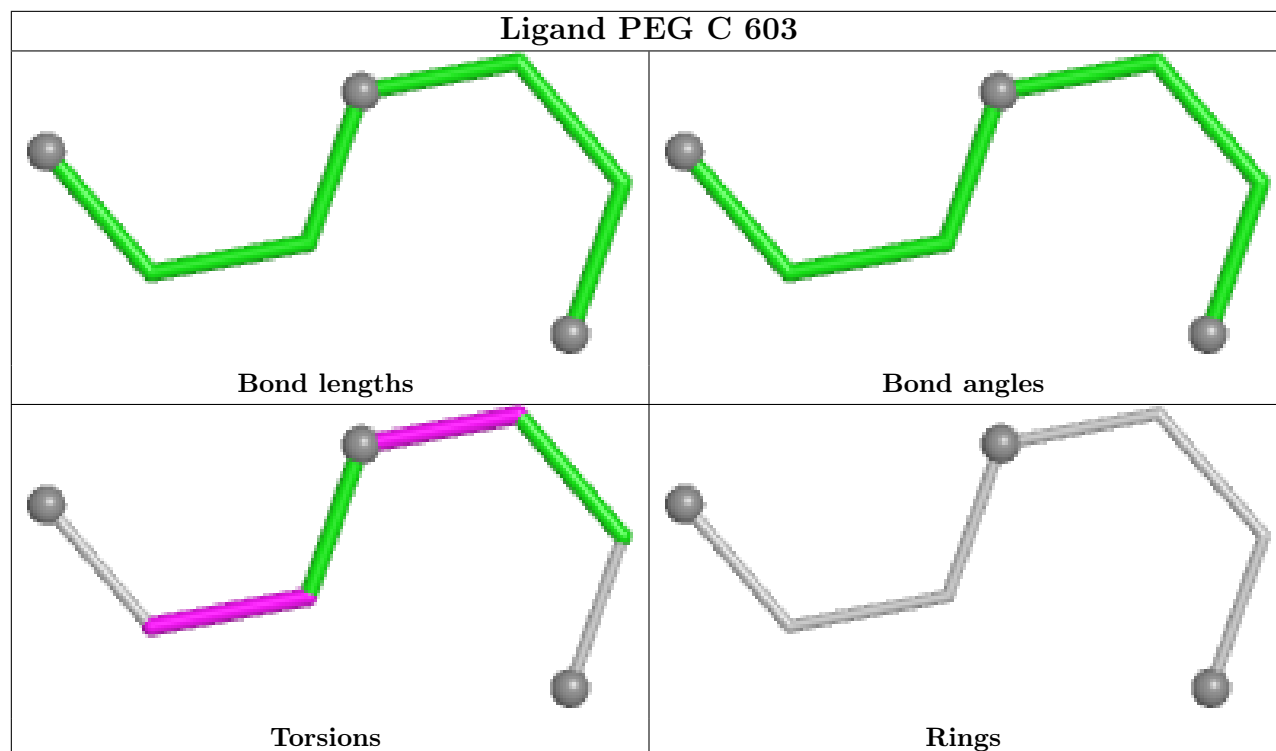
1 monomer is involved in 1 short contact:

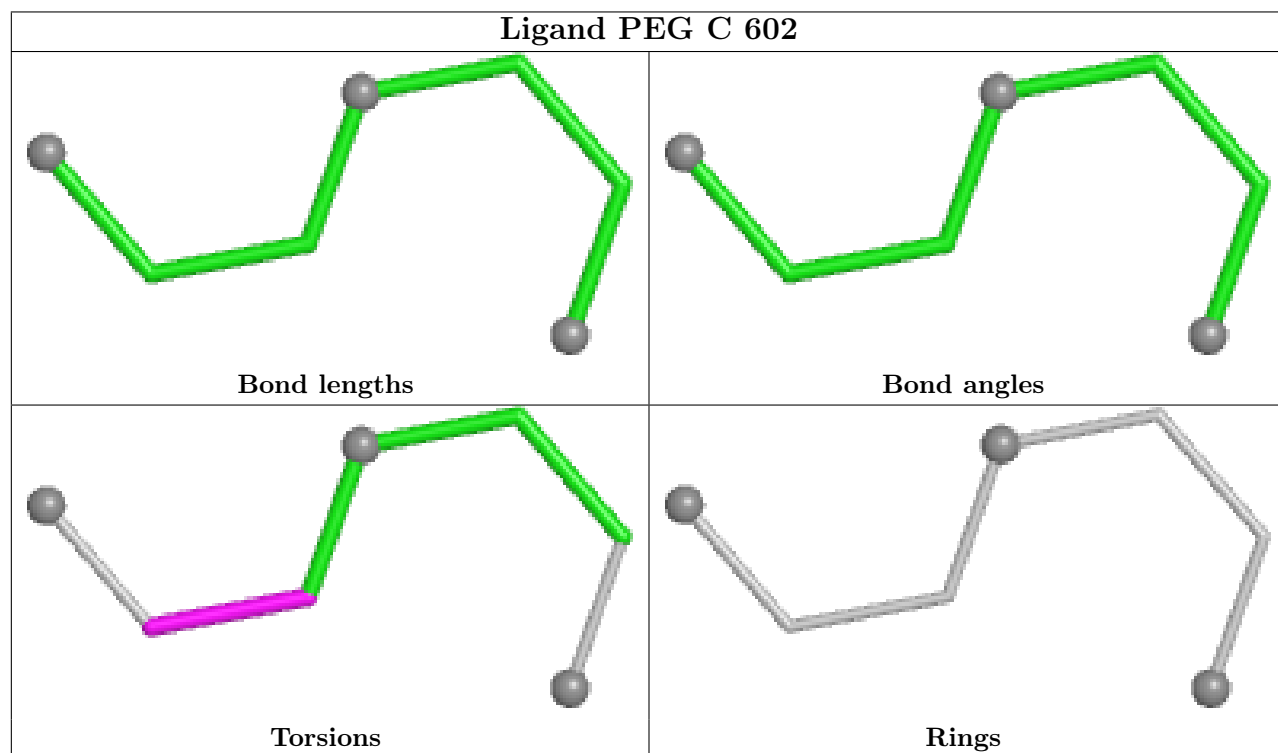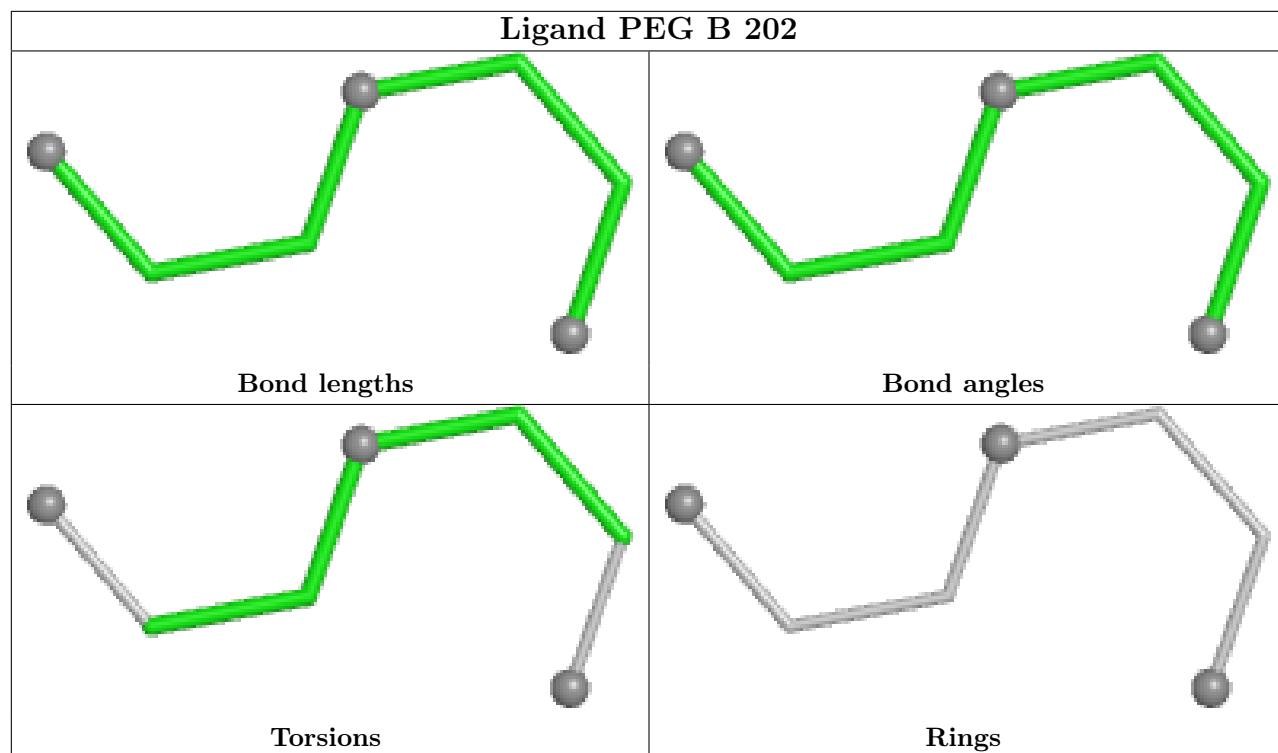| Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	201	PEG	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.
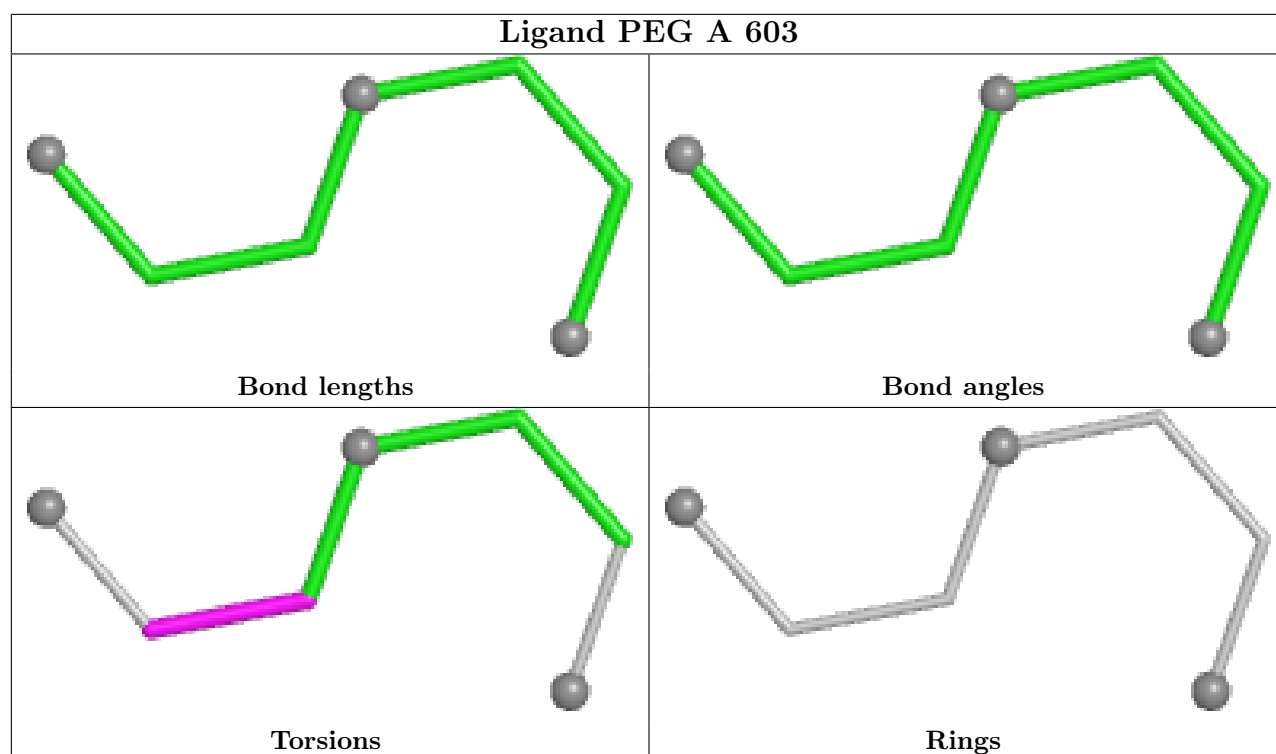

Ligand PEG A 604

Bond lengths   Bond angles

Torsions   Rings

Ligand NAG C 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG A 601

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG B 201

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG A 602

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG C 603

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG C 604

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG B 202

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG C 602

Bond lengths

Bond angles

Torsions

Rings

Ligand PEG A 603

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	196/210 (93%)	0.41	6 (3%)	49	51	34, 49, 92, 119	0
1	C	196/210 (93%)	0.47	5 (2%)	56	58	33, 49, 96, 125	0
2	B	125/131 (95%)	0.22	2 (1%)	72	74	34, 52, 82, 128	0
2	D	125/131 (95%)	0.19	2 (1%)	72	74	34, 52, 83, 117	0
3	E	126/134 (94%)	2.06	65 (51%)	0	0	49, 85, 118, 139	0
3	F	125/134 (93%)	1.59	40 (32%)	0	0	49, 83, 114, 120	0
All	All	893/950 (94%)	0.76	120 (13%)	3	3	33, 58, 108, 139	0

The worst 5 of 120 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	E	88	TYR	8.4
3	F	41	PRO	8.0
3	F	88	TYR	7.5
3	E	13	GLN	7.4
3	E	10	GLY	6.5

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

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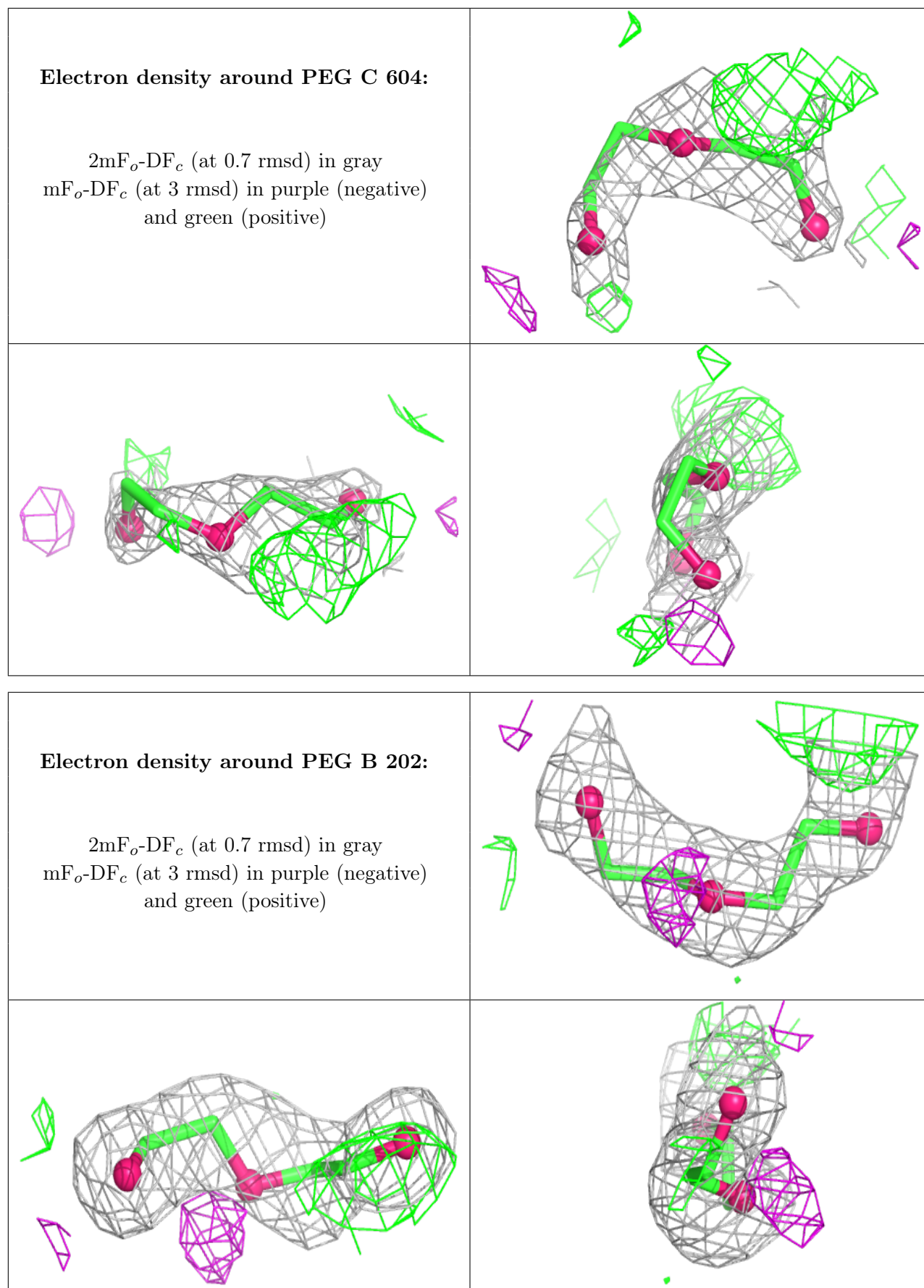
6.3 Carbohydrates ⓘ

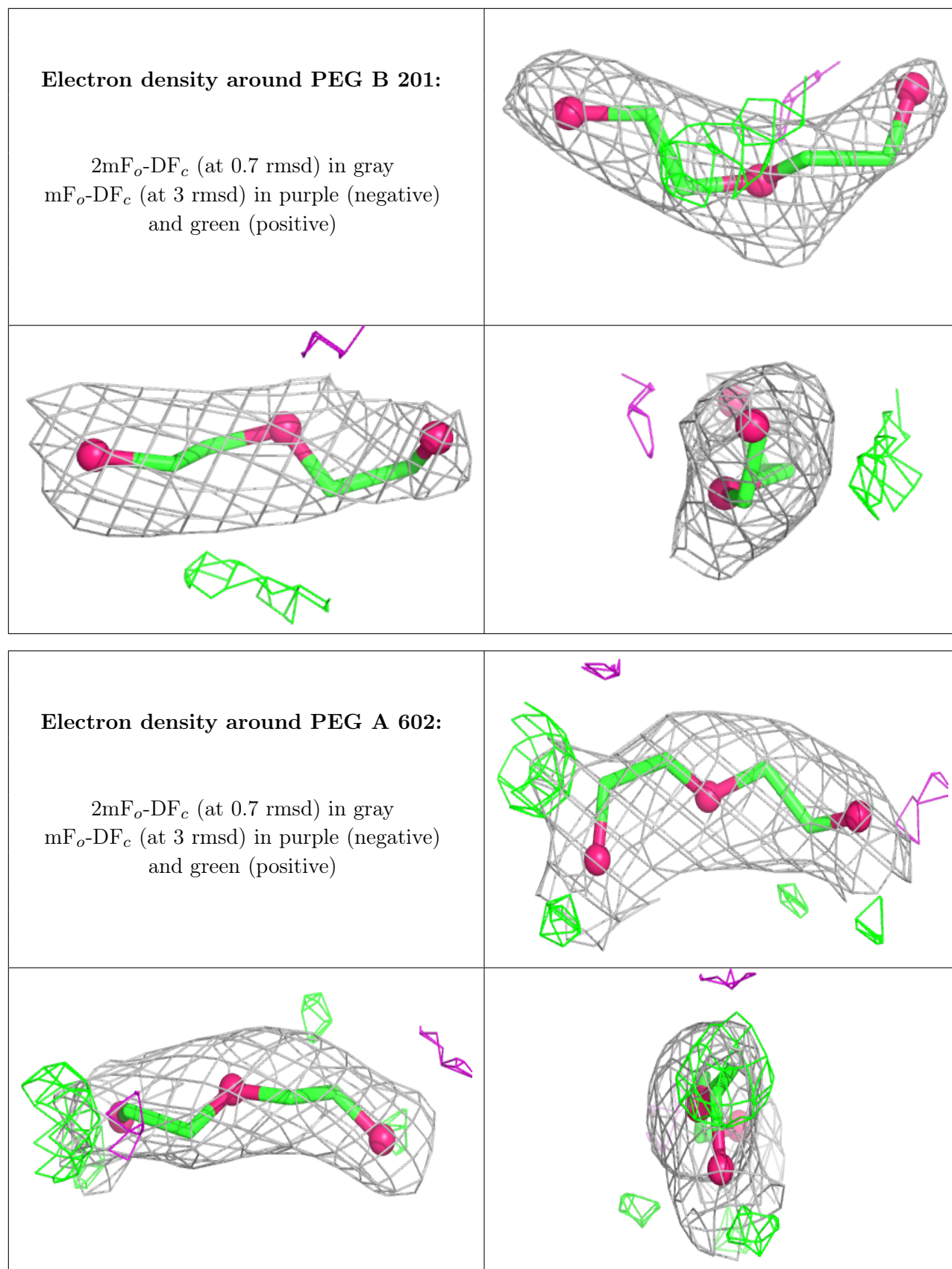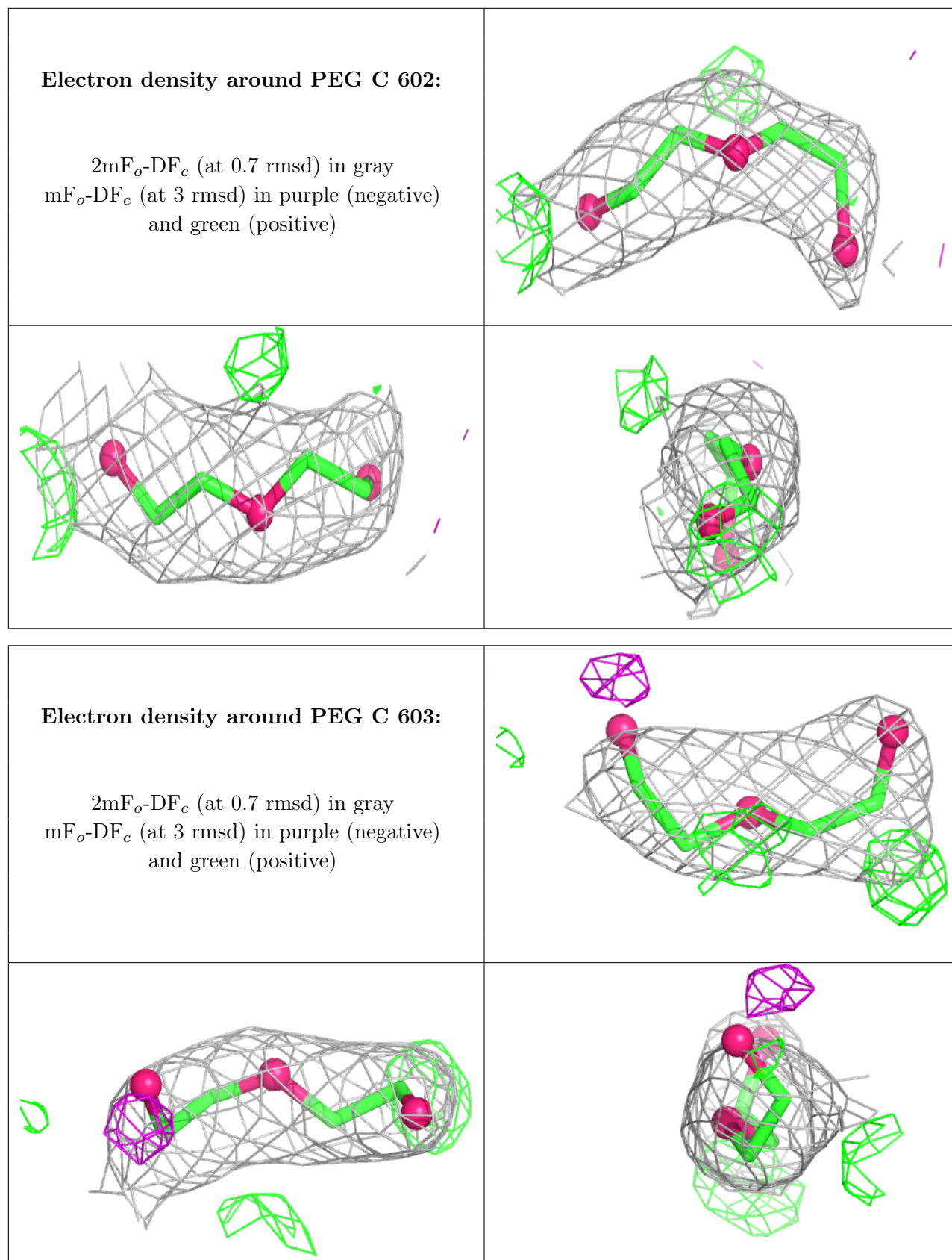There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.
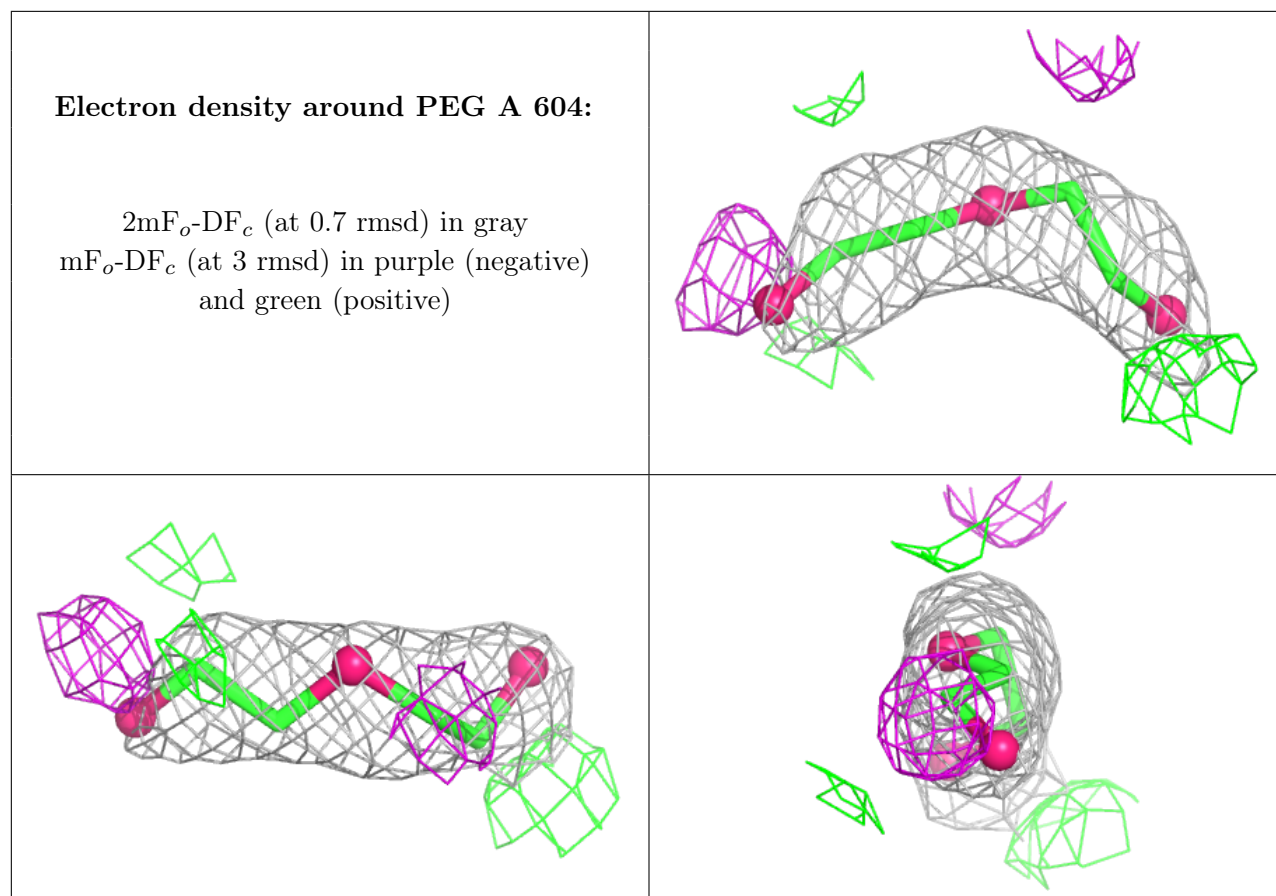
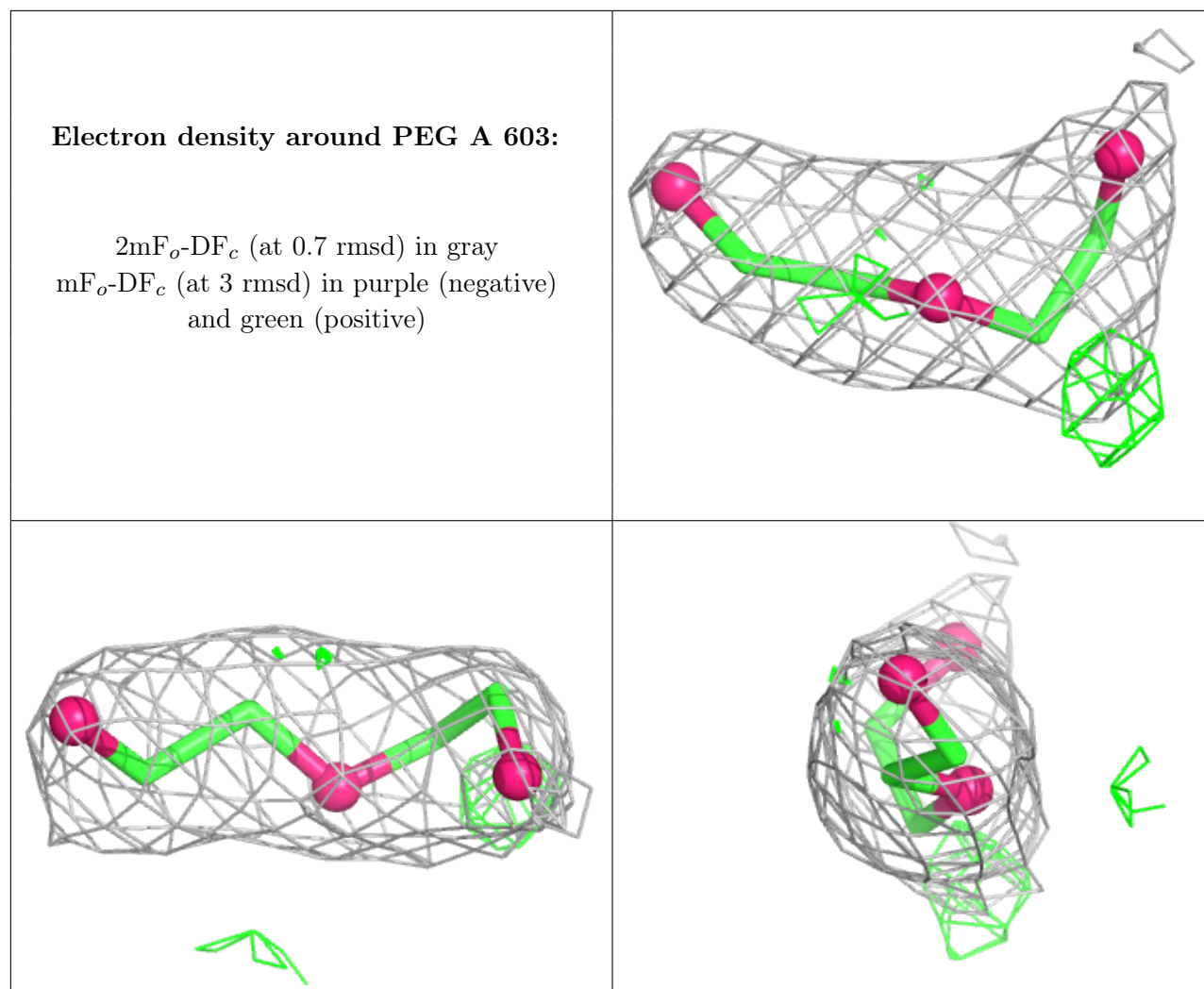| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	PEG	C	604	7/7	0.64	0.29	84,100,108,110	0
5	PEG	B	202	7/7	0.81	0.20	58,72,88,95	0
5	PEG	B	201	7/7	0.84	0.18	82,85,87,91	0
5	PEG	A	602	7/7	0.88	0.19	67,73,86,91	0
5	PEG	C	602	7/7	0.89	0.18	63,74,82,93	0
5	PEG	C	603	7/7	0.91	0.16	55,69,80,87	0
5	PEG	A	604	7/7	0.92	0.17	61,75,82,84	0
5	PEG	A	603	7/7	0.92	0.17	64,73,80,86	0
4	NAG	A	601	14/15	0.95	0.12	52,59,78,80	0
4	NAG	C	601	14/15	0.96	0.12	53,59,74,85	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.
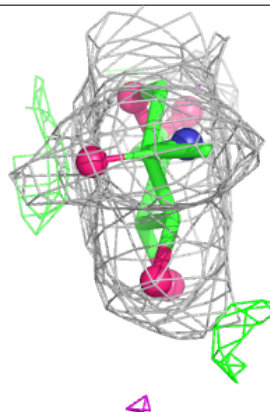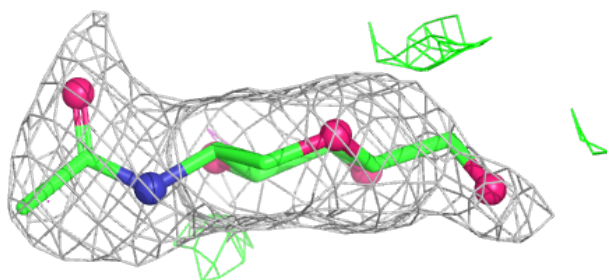
Electron density around PEG C 604:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray

mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

Electron density around PEG B 202:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray

mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

Electron density around PEG B 201:

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

Electron density around PEG A 602:

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

Electron density around PEG C 602:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around PEG C 603:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
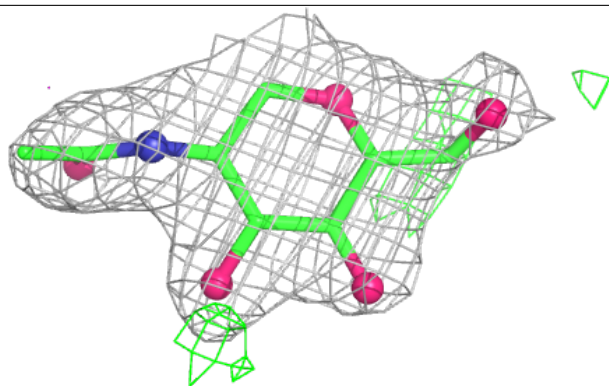and green (positive)

Electron density around PEG A 604:

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

Electron density around PEG A 603:

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

Electron density around NAG A 601:

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

Electron density around NAG C 601:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
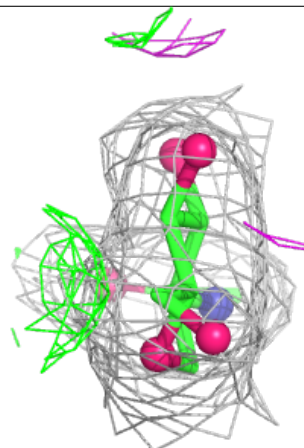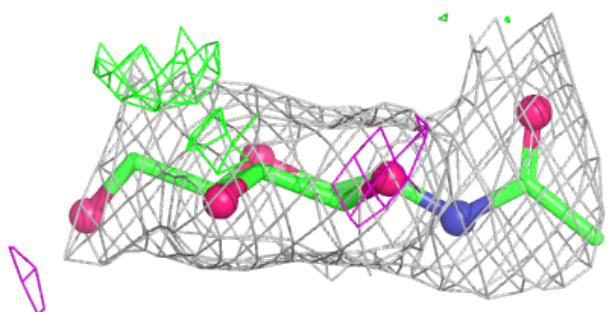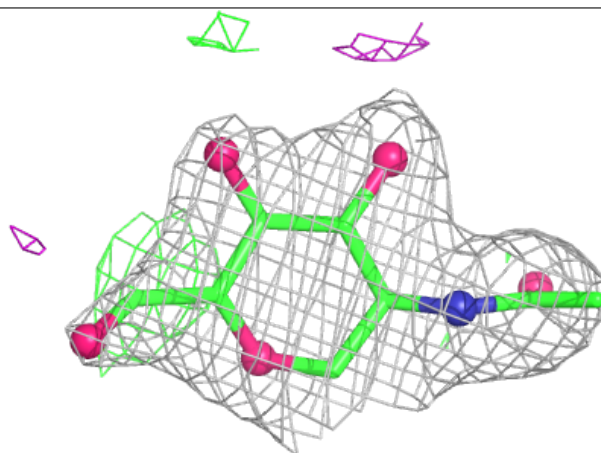
6.5 Other polymers (i)

There are no such residues in this entry.