



wwPDB EM Validation Summary Report ⓘ

Dec 17, 2022 – 01:09 PM EST

PDB ID : 7UZ4
EMDB ID : EMD-26878
Title : Structure of the SARS-CoV-2 S 6P trimer in complex with the mouse antibody Fab fragment, M8a-3
Authors : Fan, C.; Bjorkman, P.J.
Deposited on : 2022-05-08
Resolution : 3.10 Å(reported)
Based on initial model : 7SC1

This is a wwPDB EM Validation Summary 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.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

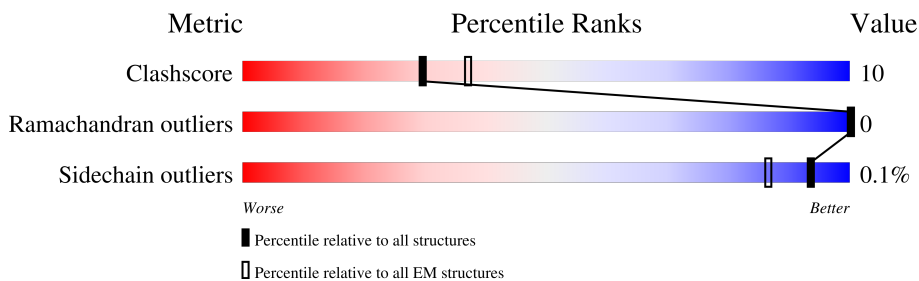
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.10 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.




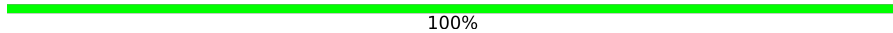
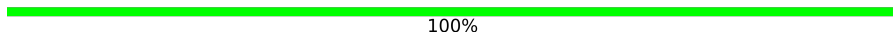
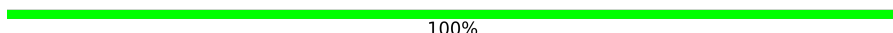
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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 $\leq 5\%$. 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	1256	11% (Poor fit) 64% (0 outliers) 21% (1 outlier) 15% (2+ outliers)
1	B	1256	13% (Poor fit) 66% (0 outliers) 19% (1 outlier) 15% (2+ outliers)
1	C	1256	14% (Poor fit) 66% (0 outliers) 19% (1 outlier) 15% (2+ outliers)
2	H	233	24% (Poor fit) 33% (0 outliers) 19% (1 outlier) 48% (2+ outliers)
2	M	233	40% (Poor fit) 33% (0 outliers) 18% (1 outlier) 48% (2+ outliers)
2	P	233	40% (Poor fit) 36% (0 outliers) 16% (1 outlier) 48% (2+ outliers)
3	L	214	29% (Poor fit) 31% (0 outliers) 18% (1 outlier) 50% (2+ outliers)
3	N	214	41% (Poor fit) 36% (0 outliers) 13% (1 outlier) 50% (2+ outliers)

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Mol	Chain	Length	Quality of chain
3	Q	214	 <p>43% 32% 17% 50%</p>
4	D	2	 <p>100%</p>
4	E	2	 <p>100%</p>
4	F	2	 <p>100%</p>

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 30762 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 Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1063	8247	5263	1372	1575	37	0	0
1	B	1063	8247	5263	1372	1575	37	0	0
1	C	1063	8247	5263	1372	1575	37	0	0

There are 165 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	ARG	deletion	UNP P0DTC2
A	?	-	ARG	deletion	UNP P0DTC2
A	?	-	ARG	deletion	UNP P0DTC2
A	817	PRO	PHE	engineered mutation	UNP P0DTC2
A	892	PRO	ALA	engineered mutation	UNP P0DTC2
A	899	PRO	ALA	engineered mutation	UNP P0DTC2
A	942	PRO	ALA	engineered mutation	UNP P0DTC2
A	986	PRO	LYS	engineered mutation	UNP P0DTC2
A	987	PRO	VAL	engineered mutation	UNP P0DTC2
A	1214	SER	-	expression tag	UNP P0DTC2
A	1215	GLY	-	expression tag	UNP P0DTC2
A	1216	ARG	-	expression tag	UNP P0DTC2
A	1217	LEU	-	expression tag	UNP P0DTC2
A	1218	VAL	-	expression tag	UNP P0DTC2
A	1219	PRO	-	expression tag	UNP P0DTC2
A	1220	ARG	-	expression tag	UNP P0DTC2
A	1221	GLY	-	expression tag	UNP P0DTC2
A	1222	SER	-	expression tag	UNP P0DTC2
A	1223	PRO	-	expression tag	UNP P0DTC2
A	1224	GLY	-	expression tag	UNP P0DTC2
A	1225	SER	-	expression tag	UNP P0DTC2
A	1226	GLY	-	expression tag	UNP P0DTC2
A	1227	TYR	-	expression tag	UNP P0DTC2
A	1228	ILE	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1229	PRO	-	expression tag	UNP P0DTC2
A	1230	GLU	-	expression tag	UNP P0DTC2
A	1231	ALA	-	expression tag	UNP P0DTC2
A	1232	PRO	-	expression tag	UNP P0DTC2
A	1233	ARG	-	expression tag	UNP P0DTC2
A	1234	ASP	-	expression tag	UNP P0DTC2
A	1235	GLY	-	expression tag	UNP P0DTC2
A	1236	GLN	-	expression tag	UNP P0DTC2
A	1237	ALA	-	expression tag	UNP P0DTC2
A	1238	TYR	-	expression tag	UNP P0DTC2
A	1239	VAL	-	expression tag	UNP P0DTC2
A	1240	ARG	-	expression tag	UNP P0DTC2
A	1241	LYS	-	expression tag	UNP P0DTC2
A	1242	ASP	-	expression tag	UNP P0DTC2
A	1243	GLY	-	expression tag	UNP P0DTC2
A	1244	GLU	-	expression tag	UNP P0DTC2
A	1245	TRP	-	expression tag	UNP P0DTC2
A	1246	VAL	-	expression tag	UNP P0DTC2
A	1247	LEU	-	expression tag	UNP P0DTC2
A	1248	LEU	-	expression tag	UNP P0DTC2
A	1249	SER	-	expression tag	UNP P0DTC2
A	1250	THR	-	expression tag	UNP P0DTC2
A	1251	PHE	-	expression tag	UNP P0DTC2
A	1252	LEU	-	expression tag	UNP P0DTC2
A	1253	GLY	-	expression tag	UNP P0DTC2
A	1254	HIS	-	expression tag	UNP P0DTC2
A	1255	HIS	-	expression tag	UNP P0DTC2
A	1256	HIS	-	expression tag	UNP P0DTC2
A	1257	HIS	-	expression tag	UNP P0DTC2
A	1258	HIS	-	expression tag	UNP P0DTC2
A	1259	HIS	-	expression tag	UNP P0DTC2
B	?	-	ARG	deletion	UNP P0DTC2
B	?	-	ARG	deletion	UNP P0DTC2
B	?	-	ARG	deletion	UNP P0DTC2
B	817	PRO	PHE	engineered mutation	UNP P0DTC2
B	892	PRO	ALA	engineered mutation	UNP P0DTC2
B	899	PRO	ALA	engineered mutation	UNP P0DTC2
B	942	PRO	ALA	engineered mutation	UNP P0DTC2
B	986	PRO	LYS	engineered mutation	UNP P0DTC2
B	987	PRO	VAL	engineered mutation	UNP P0DTC2
B	1214	SER	-	expression tag	UNP P0DTC2
B	1215	GLY	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1216	ARG	-	expression tag	UNP P0DTC2
B	1217	LEU	-	expression tag	UNP P0DTC2
B	1218	VAL	-	expression tag	UNP P0DTC2
B	1219	PRO	-	expression tag	UNP P0DTC2
B	1220	ARG	-	expression tag	UNP P0DTC2
B	1221	GLY	-	expression tag	UNP P0DTC2
B	1222	SER	-	expression tag	UNP P0DTC2
B	1223	PRO	-	expression tag	UNP P0DTC2
B	1224	GLY	-	expression tag	UNP P0DTC2
B	1225	SER	-	expression tag	UNP P0DTC2
B	1226	GLY	-	expression tag	UNP P0DTC2
B	1227	TYR	-	expression tag	UNP P0DTC2
B	1228	ILE	-	expression tag	UNP P0DTC2
B	1229	PRO	-	expression tag	UNP P0DTC2
B	1230	GLU	-	expression tag	UNP P0DTC2
B	1231	ALA	-	expression tag	UNP P0DTC2
B	1232	PRO	-	expression tag	UNP P0DTC2
B	1233	ARG	-	expression tag	UNP P0DTC2
B	1234	ASP	-	expression tag	UNP P0DTC2
B	1235	GLY	-	expression tag	UNP P0DTC2
B	1236	GLN	-	expression tag	UNP P0DTC2
B	1237	ALA	-	expression tag	UNP P0DTC2
B	1238	TYR	-	expression tag	UNP P0DTC2
B	1239	VAL	-	expression tag	UNP P0DTC2
B	1240	ARG	-	expression tag	UNP P0DTC2
B	1241	LYS	-	expression tag	UNP P0DTC2
B	1242	ASP	-	expression tag	UNP P0DTC2
B	1243	GLY	-	expression tag	UNP P0DTC2
B	1244	GLU	-	expression tag	UNP P0DTC2
B	1245	TRP	-	expression tag	UNP P0DTC2
B	1246	VAL	-	expression tag	UNP P0DTC2
B	1247	LEU	-	expression tag	UNP P0DTC2
B	1248	LEU	-	expression tag	UNP P0DTC2
B	1249	SER	-	expression tag	UNP P0DTC2
B	1250	THR	-	expression tag	UNP P0DTC2
B	1251	PHE	-	expression tag	UNP P0DTC2
B	1252	LEU	-	expression tag	UNP P0DTC2
B	1253	GLY	-	expression tag	UNP P0DTC2
B	1254	HIS	-	expression tag	UNP P0DTC2
B	1255	HIS	-	expression tag	UNP P0DTC2
B	1256	HIS	-	expression tag	UNP P0DTC2
B	1257	HIS	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1258	HIS	-	expression tag	UNP P0DTC2
B	1259	HIS	-	expression tag	UNP P0DTC2
C	?	-	ARG	deletion	UNP P0DTC2
C	?	-	ARG	deletion	UNP P0DTC2
C	?	-	ARG	deletion	UNP P0DTC2
C	817	PRO	PHE	engineered mutation	UNP P0DTC2
C	892	PRO	ALA	engineered mutation	UNP P0DTC2
C	899	PRO	ALA	engineered mutation	UNP P0DTC2
C	942	PRO	ALA	engineered mutation	UNP P0DTC2
C	986	PRO	LYS	engineered mutation	UNP P0DTC2
C	987	PRO	VAL	engineered mutation	UNP P0DTC2
C	1214	SER	-	expression tag	UNP P0DTC2
C	1215	GLY	-	expression tag	UNP P0DTC2
C	1216	ARG	-	expression tag	UNP P0DTC2
C	1217	LEU	-	expression tag	UNP P0DTC2
C	1218	VAL	-	expression tag	UNP P0DTC2
C	1219	PRO	-	expression tag	UNP P0DTC2
C	1220	ARG	-	expression tag	UNP P0DTC2
C	1221	GLY	-	expression tag	UNP P0DTC2
C	1222	SER	-	expression tag	UNP P0DTC2
C	1223	PRO	-	expression tag	UNP P0DTC2
C	1224	GLY	-	expression tag	UNP P0DTC2
C	1225	SER	-	expression tag	UNP P0DTC2
C	1226	GLY	-	expression tag	UNP P0DTC2
C	1227	TYR	-	expression tag	UNP P0DTC2
C	1228	ILE	-	expression tag	UNP P0DTC2
C	1229	PRO	-	expression tag	UNP P0DTC2
C	1230	GLU	-	expression tag	UNP P0DTC2
C	1231	ALA	-	expression tag	UNP P0DTC2
C	1232	PRO	-	expression tag	UNP P0DTC2
C	1233	ARG	-	expression tag	UNP P0DTC2
C	1234	ASP	-	expression tag	UNP P0DTC2
C	1235	GLY	-	expression tag	UNP P0DTC2
C	1236	GLN	-	expression tag	UNP P0DTC2
C	1237	ALA	-	expression tag	UNP P0DTC2
C	1238	TYR	-	expression tag	UNP P0DTC2
C	1239	VAL	-	expression tag	UNP P0DTC2
C	1240	ARG	-	expression tag	UNP P0DTC2
C	1241	LYS	-	expression tag	UNP P0DTC2
C	1242	ASP	-	expression tag	UNP P0DTC2
C	1243	GLY	-	expression tag	UNP P0DTC2
C	1244	GLU	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1245	TRP	-	expression tag	UNP P0DTC2
C	1246	VAL	-	expression tag	UNP P0DTC2
C	1247	LEU	-	expression tag	UNP P0DTC2
C	1248	LEU	-	expression tag	UNP P0DTC2
C	1249	SER	-	expression tag	UNP P0DTC2
C	1250	THR	-	expression tag	UNP P0DTC2
C	1251	PHE	-	expression tag	UNP P0DTC2
C	1252	LEU	-	expression tag	UNP P0DTC2
C	1253	GLY	-	expression tag	UNP P0DTC2
C	1254	HIS	-	expression tag	UNP P0DTC2
C	1255	HIS	-	expression tag	UNP P0DTC2
C	1256	HIS	-	expression tag	UNP P0DTC2
C	1257	HIS	-	expression tag	UNP P0DTC2
C	1258	HIS	-	expression tag	UNP P0DTC2
C	1259	HIS	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called M8a-3 Fab heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	H	120	946	607	151	184	4	0	0
2	M	120	946	607	151	184	4	0	0
2	P	120	946	607	151	184	4	0	0

- Molecule 3 is a protein called M8a-3 Fab light chain.

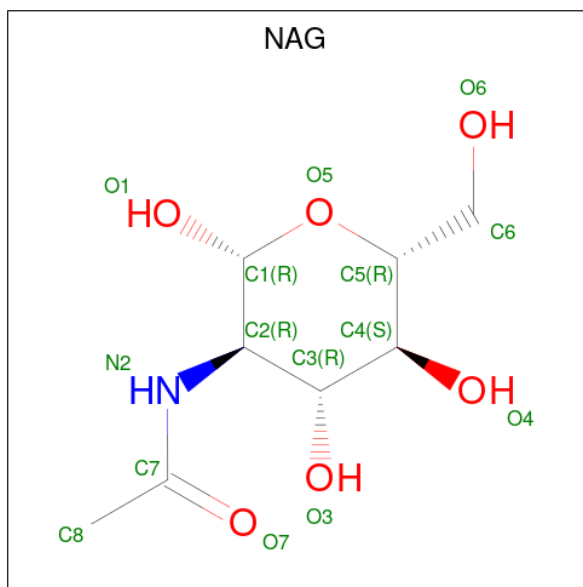
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	L	106	823	519	139	161	4	0	0
3	N	106	823	519	139	161	4	0	0
3	Q	106	823	519	139	161	4	0	0

- Molecule 4 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
4	D	2	Total	C	N	O	0	0
			28	16	2	10		
4	E	2	Total	C	N	O	0	0
			28	16	2	10		
4	F	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 5 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				AltConf
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	
5	A	1	Total	C	N	O	0
			210	120	15	75	

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	A	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0
5	B	1	210	120	15	75	0

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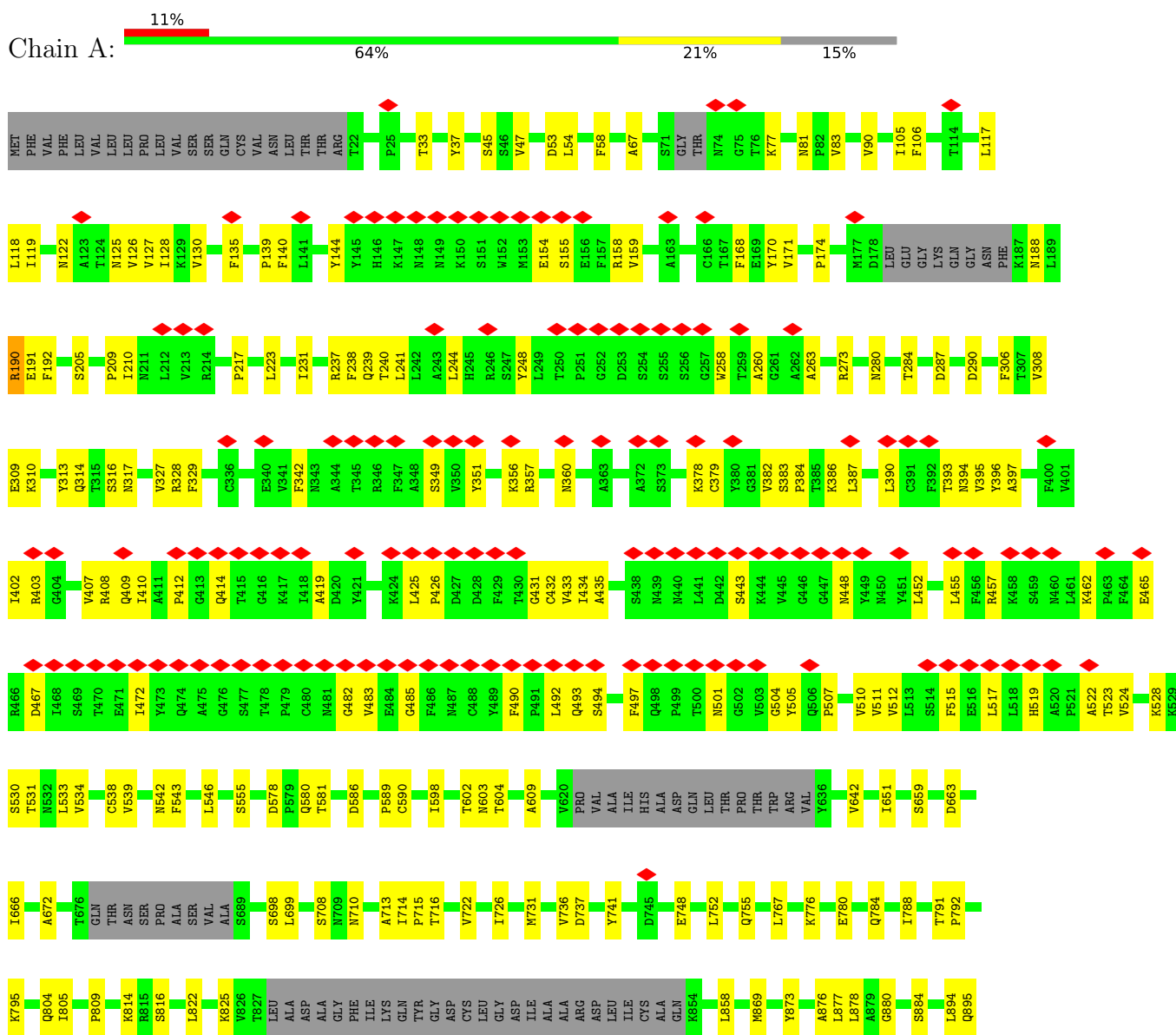
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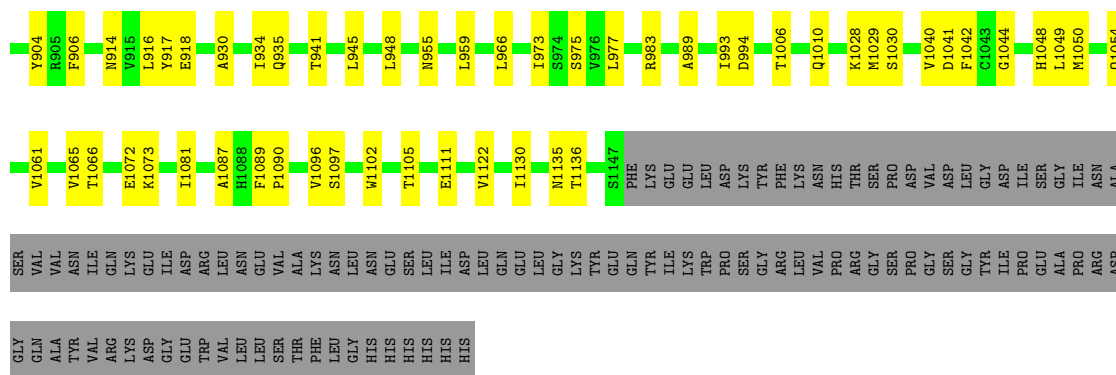
Mol	Chain	Residues	Atoms				AltConf
5	B	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	
5	C	1	Total	C	N	O	0
			210	120	15	75	

3 Residue-property plots [i](#)

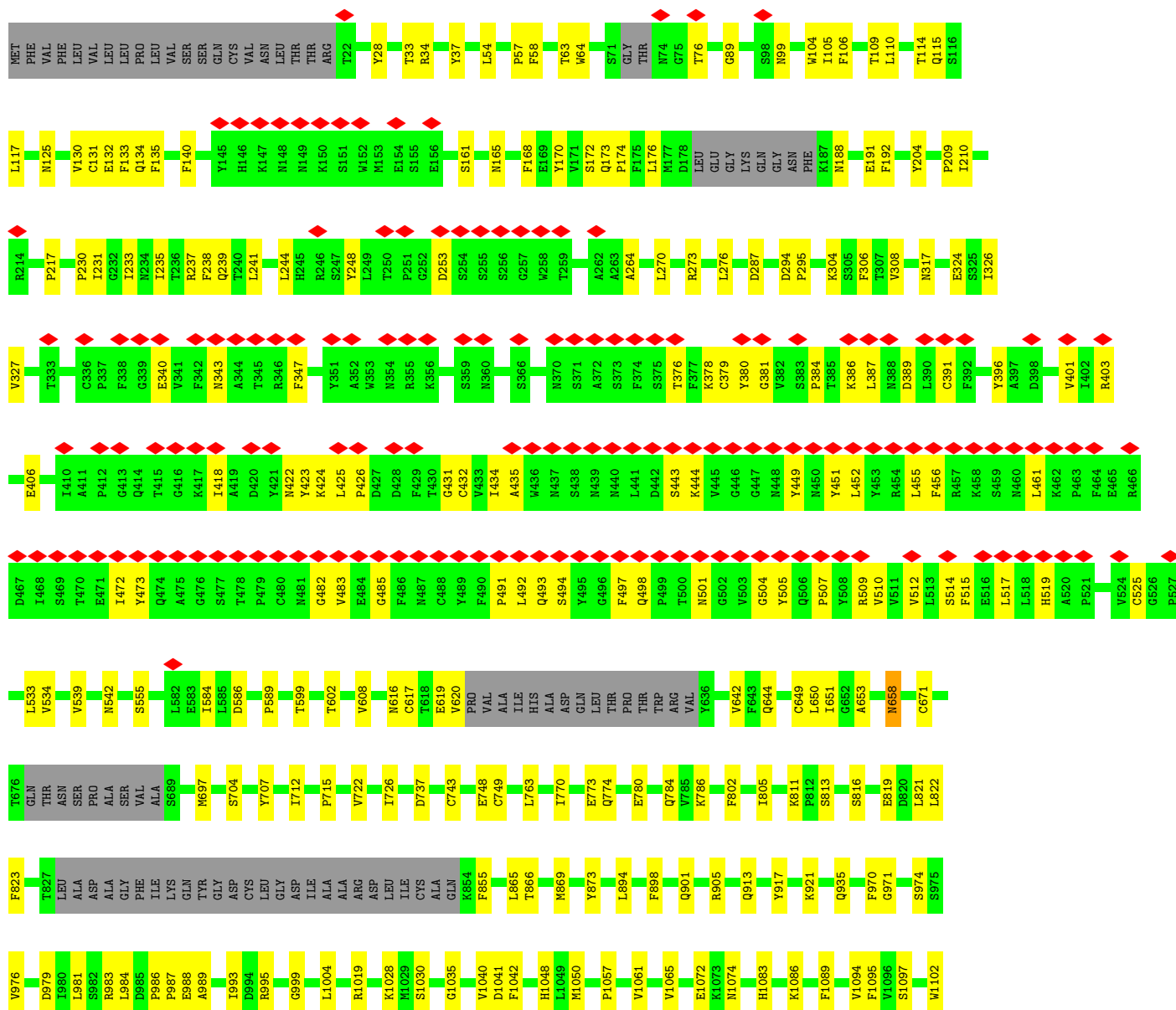
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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





● Molecule 1: Spike glycoprotein



F1103	V1104	T1105	Q1106	E1111	I1115	T1116	V1122	S1123	P1140	P1143	E1144	L1145	D1146	S1147	PHE	LYS	GLU	GLU	TYR	LEU	ASP	LYS	PHE	ARG	LYS	ASN	HIS	THR	ARG	GLY	PRO	ASP	ASP	VAL	VAL	ASP	GLY	GLY	ILE	PRO	PRO	ALA	ASN	VAL	VAL	ASN	ILE	GLN	ARG	GLY	ASP	TRP	VAL	LEU	ASN
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LEU	SER	THR	PHE	LEU	GLY	HIS	HIS	HIS	HIS	HIS
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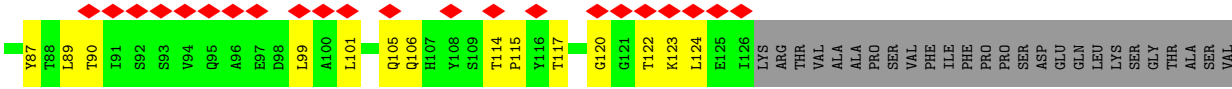
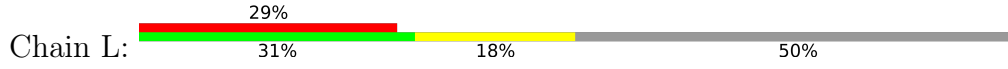
● Molecule 1: Spike glycoprotein



MET	PHE	VAL	PHE	VAL	LEU	VAL	LEU	LEU	PRO	LEU	VAL	VAL	SER	SER	GLN	CYS	VAL	VAL	ASN	LEU	LEU	THR	THR	ARG	T22	P25	P26	A27	R44	V47	W64	H69	V70	S71	GLY	THR	N74	K77	V83	T95	N89	I100	R102	F106	G107	T108	Q115	S116	L117	M121	N122	V130	C131	F132	F133	Q134	F135	L141	G142	V143	Y144	Y145	Y248	L249	L249	H245	R246	S247	I248	K147	N148	N149	K150	W152	M153	E154	F157	R158	N165	F168	E169	Y170	V171	S172	Q173	P174	F175	L176	M177	D178	LEU	GLY	LYS	GLN	GLY	PHE	K187	N188	L189	R190	K206	P209	I210	L211	F338	V341	F342	N343	A344	T345	R346	F347	A348	S349	V350	Y351	A352	W353	N354	R355	K356	R357	I358	S359	N360	C361	V362	A363	D364	Y365	S366	V367	L368	Y369	N370	S371	A372	S373	F374	T286	D287	L303	K304	S305	F306	T307	V308	S316	N317	I326	V327	R328	I332	T333	D389	L390	C391	F392	T393	N394	Y396	A397	D398	S399	F400	V401	I402	R403	G404	D405	E406	Q409	A410	A411	P412	G413	Q414	T415	G416	K417	I418	A419	D420	N421	N422	Y423	K424	L425	P426	D427	D428	F429	T430	G431	A435	W436	M437	S438	M439	N440	Y445	G446	G447	N448	Y449	L452	Y453	R454	L455	F456	K457	K458	S459	N460	L461	P463	F464	E465	R466	D467	I468	S469	T470	E471	I472	Y473	Q474	A475	G476	S477	T478	P479	C480	N481	G482	V483	E484	G485	F486	N487	C488	Y489	F490	P491	L492	Q493	S494	F497	Q498	P499	N501	G502	V503	G504	Y505	Q506	P507	Y508	V510	V511	V512	L513	S514	F515	E516	L517	L518	H519	A520	P521	T523	V524	C525	G526	P527	S530	L533	V534	F541	N542	T547	L552	S555	L560	Q564	R577	Q580	L585	D586	T599	T602	V608	V612	C617	V620	PRO	VAL	ALA	ILE	HIS	ALA	ASP	GLN	LEU	THR	PRO	THR	TRP	ARG	VAL	V636	C649	L650	I651	V656	T676	GLN	THR	ASN	SER	PHO	ALA	SER	VAL	ALA	GLY	PHE	ILE	LYS	GLN	TRP	GLY	CYS	LYS	LEU	GLY	ASP	ALA	ALA	ARG	ASP	LEU	ILE	CYS	ALA	K733	D737	F854	F855	L858	T866	H869	G880	S884	S1029	S1030	L894	Q895	I896	P897	Q901	Y904	R905	I909	G910	V911	N914	Y917	C1082	H1083	K1086	F1089	A1090	I931	A1094	F1095	L1103	V1104	T1105	Q1106	E1111	I1115	V1122	S1123	V1128	I1132	L1141	L1145	D1146	S1147	PHE	GLY	GLU	GLU	ASP	LYS	TYR	LEU	ASP	LYS	PHE	ARG	LYS	ASN	HIS	THR	ARG	GLY	PRO	ASP	VAL	VAL	ASP	GLY	GLY	ILE	PRO	PRO	ALA	ASN	VAL	VAL	ASN	ILE	GLN	ARG	LYS	ASP	GLY	ILE	ASP	TRP	VAL	LEU	ASN
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SER LEU SER SER SER VAL VAL THR VAL PRO PRO SER SER SER SER LEU GLY THR GLN THR THR TYR ILE CYS ASN VAL VAL ASN HIS HIS LYS PRO SER ASN THR LYS VAL ASP ASP LYS ASP THR THR HIS HIS HIS HIS HIS

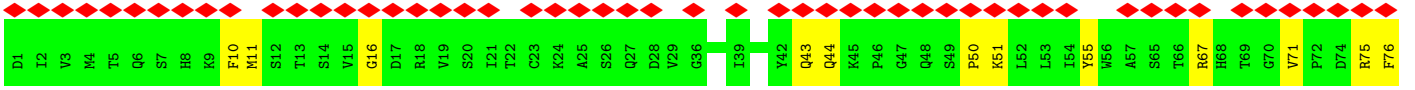
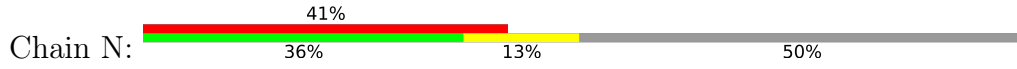
Molecule 3: M8a-3 Fab light chain



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

ALA CYS GLU VAL THR HIS GLN LEU SER PRO VAL THR LYS SER PHE ASN ARG GLY CYS

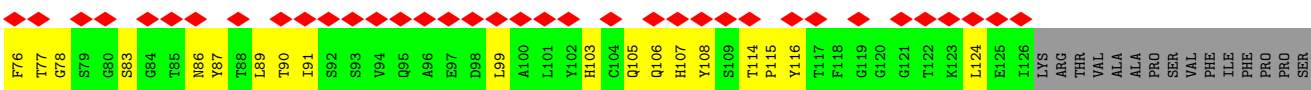
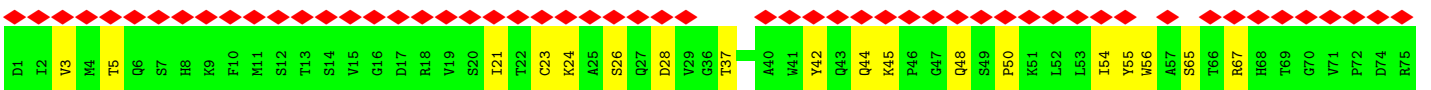
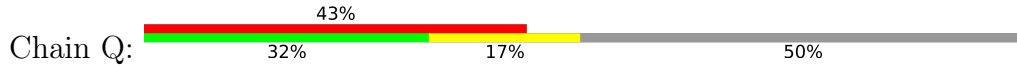
Molecule 3: M8a-3 Fab light chain



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

TYR GLU HIS LYS VAL TYR ALA CYS VAL THR HIS GLN LEU SER SER PRO VAL THR LYS SER ASN ARG GLU CYS

Molecule 3: M8a-3 Fab light chain



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

SER LYS ALA ASP TYR LYS HIS VAL TYR ALA VAL VAL CYS VAL LEU THR ASN HIS GLN TYR LEU SER PRO VAL THR LYS SER PHE ASN ARG GLY CYS

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

Chain D:  100%

MAGE
MAGZ

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

Chain E:  100%

MAGE
MAGZ

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

Chain F:  100%

MAGE
MAGZ

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	272779	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.963	Depositor
Minimum map value	-0.593	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.08	Depositor
Map size (Å)	299.52002, 299.52002, 299.52002	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8320001, 0.8320001, 0.8320001	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: 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	0.32	0/8443	0.48	0/11507
1	B	0.32	0/8443	0.48	0/11507
1	C	0.32	0/8443	0.48	0/11507
2	H	0.25	0/974	0.46	0/1327
2	M	0.25	0/974	0.47	0/1327
2	P	0.25	0/974	0.46	0/1327
3	L	0.25	0/844	0.49	0/1147
3	N	0.25	0/844	0.48	0/1147
3	Q	0.25	0/844	0.48	0/1147
All	All	0.31	0/30783	0.48	0/41943

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [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	8247	0	7950	179	0
1	B	8247	0	7950	162	0
1	C	8247	0	7950	162	0
2	H	946	0	904	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	M	946	0	904	29	0
2	P	946	0	904	30	0
3	L	823	0	792	28	0
3	N	823	0	792	19	0
3	Q	823	0	792	32	0
4	D	28	0	25	0	0
4	E	28	0	25	0	0
4	F	28	0	25	0	0
5	A	210	0	195	0	0
5	B	210	0	195	1	0
5	C	210	0	195	2	0
All	All	30762	0	29598	610	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 10.

The worst 5 of 610 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:408:ARG:HB2	3:L:56:TRP:HZ2	1.40	0.86
2:M:6:GLN:NE2	2:M:104:CYS:SG	2.52	0.81
1:B:658:ASN:C	1:B:658:ASN:HD22	1.83	0.80
2:P:6:GLN:NE2	2:P:104:CYS:SG	2.54	0.80
2:M:6:GLN:HB2	2:M:120:GLN:HB2	1.64	0.79

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	1051/1256 (84%)	1004 (96%)	47 (4%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	1051/1256 (84%)	1014 (96%)	37 (4%)	0	100	100
1	C	1051/1256 (84%)	1006 (96%)	45 (4%)	0	100	100
2	H	118/233 (51%)	110 (93%)	8 (7%)	0	100	100
2	M	118/233 (51%)	108 (92%)	10 (8%)	0	100	100
2	P	118/233 (51%)	109 (92%)	9 (8%)	0	100	100
3	L	104/214 (49%)	99 (95%)	5 (5%)	0	100	100
3	N	104/214 (49%)	98 (94%)	6 (6%)	0	100	100
3	Q	104/214 (49%)	97 (93%)	7 (7%)	0	100	100
All	All	3819/5109 (75%)	3645 (95%)	174 (5%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	912/1096 (83%)	911 (100%)	1 (0%)	93	98
1	B	912/1096 (83%)	911 (100%)	1 (0%)	93	98
1	C	912/1096 (83%)	910 (100%)	2 (0%)	93	97
2	H	104/203 (51%)	104 (100%)	0	100	100
2	M	104/203 (51%)	104 (100%)	0	100	100
2	P	104/203 (51%)	104 (100%)	0	100	100
3	L	91/188 (48%)	91 (100%)	0	100	100
3	N	91/188 (48%)	91 (100%)	0	100	100
3	Q	91/188 (48%)	91 (100%)	0	100	100
All	All	3321/4461 (74%)	3317 (100%)	4 (0%)	93	98

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	190	ARG
1	B	658	ASN
1	C	214	ARG
1	C	580	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 9 such sidechains are listed below:

Mol	Chain	Res	Type
1	C	914	ASN
2	H	6	GLN
1	B	99	ASN
1	B	644	GLN
1	C	239	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

6 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	$\# Z > 2$
4	NAG	D	1	1,4	14,14,15	0.31	0	17,19,21	0.55	0
4	NAG	D	2	4	14,14,15	0.21	0	17,19,21	0.53	0
4	NAG	E	1	1,4	14,14,15	0.44	0	17,19,21	0.50	0
4	NAG	E	2	4	14,14,15	0.17	0	17,19,21	0.58	0
4	NAG	F	1	1,4	14,14,15	0.47	0	17,19,21	0.46	0
4	NAG	F	2	4	14,14,15	0.18	0	17,19,21	0.46	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
4	NAG	D	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	D	2	4	-	3/6/23/26	0/1/1/1
4	NAG	E	1	1,4	-	2/6/23/26	0/1/1/1
4	NAG	E	2	4	-	1/6/23/26	0/1/1/1
4	NAG	F	1	1,4	-	1/6/23/26	0/1/1/1
4	NAG	F	2	4	-	3/6/23/26	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

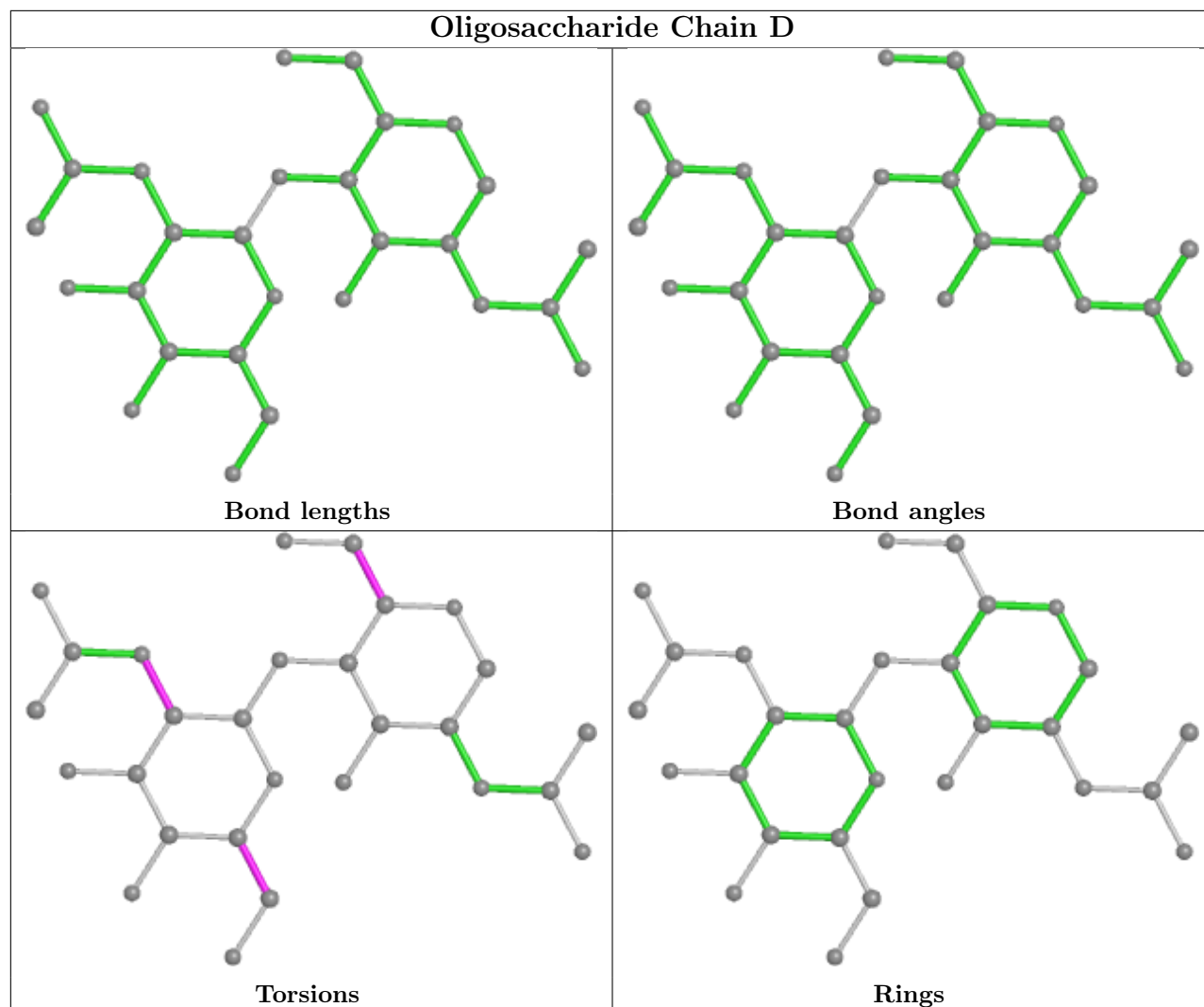
5 of 11 torsion outliers are listed below:

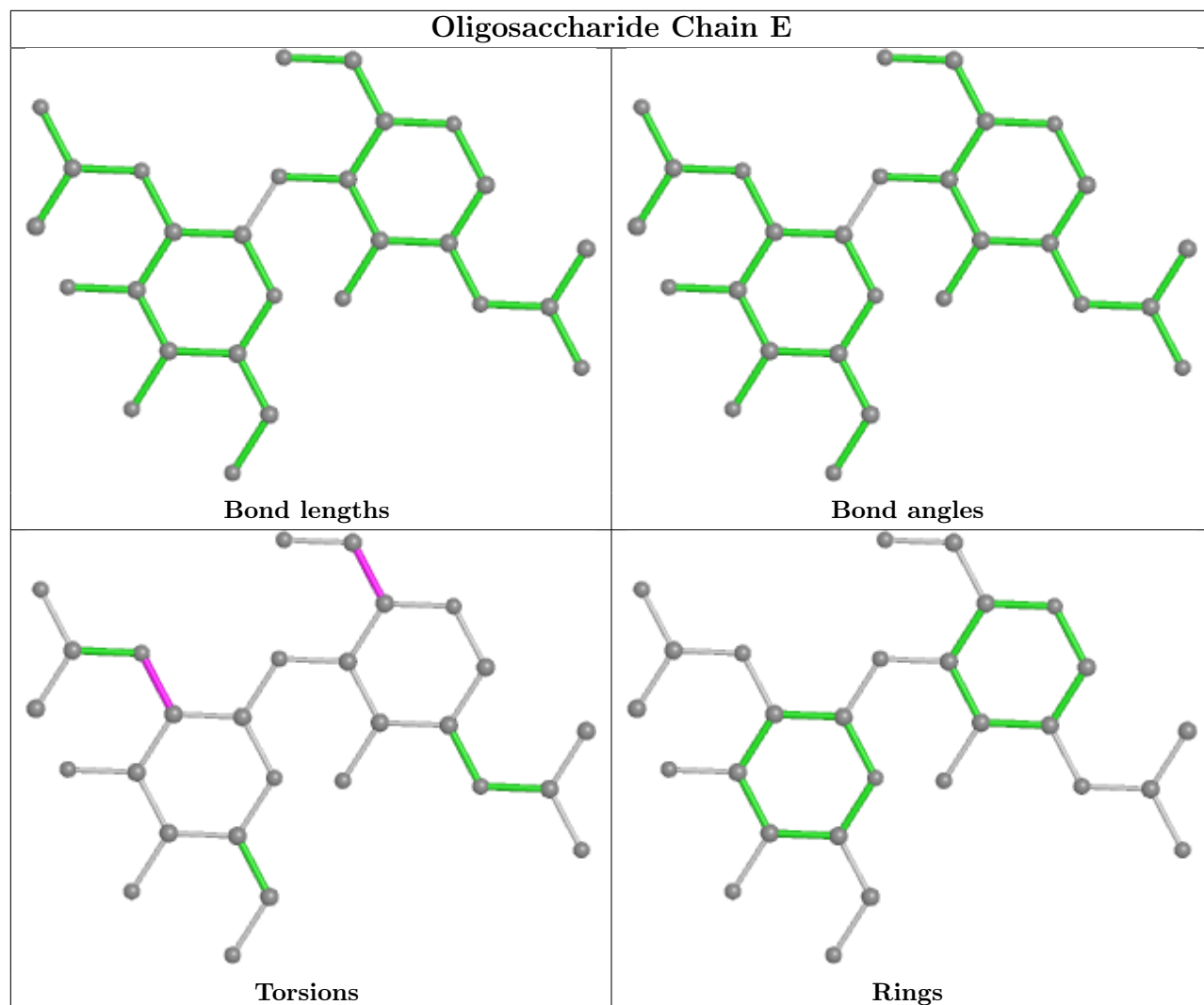
Mol	Chain	Res	Type	Atoms
4	D	2	NAG	O5-C5-C6-O6
4	F	2	NAG	O5-C5-C6-O6
4	E	1	NAG	O5-C5-C6-O6
4	D	2	NAG	C4-C5-C6-O6
4	E	1	NAG	C4-C5-C6-O6

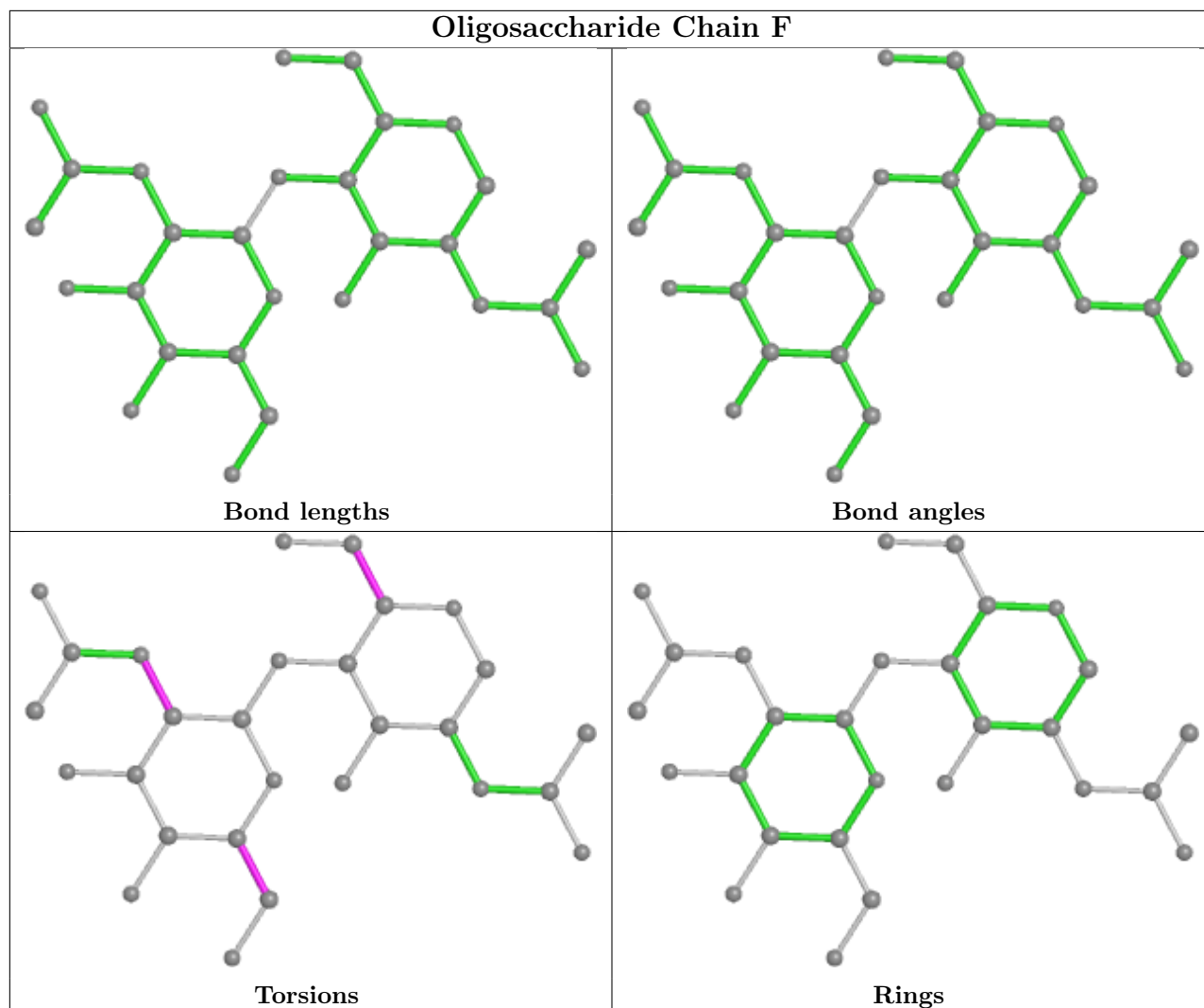
There are no ring outliers.

No monomer is involved in short contacts.

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







5.6 Ligand geometry [i](#)

45 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	NAG	A	1307	1	14,14,15	0.21	0	17,19,21	0.41	0
5	NAG	C	1308	1	14,14,15	0.20	0	17,19,21	0.46	0
5	NAG	C	1304	1	14,14,15	0.26	0	17,19,21	0.43	0
5	NAG	B	1307	1	14,14,15	0.27	0	17,19,21	0.40	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	NAG	C	1310	1	14,14,15	0.22	0	17,19,21	0.43	0
5	NAG	A	1313	1	14,14,15	0.22	0	17,19,21	0.38	0
5	NAG	A	1310	1	14,14,15	0.28	0	17,19,21	0.35	0
5	NAG	C	1313	1	14,14,15	0.24	0	17,19,21	0.43	0
5	NAG	B	1313	1	14,14,15	0.26	0	17,19,21	0.40	0
5	NAG	B	1314	1	14,14,15	0.32	0	17,19,21	0.48	0
5	NAG	B	1302	1	14,14,15	0.22	0	17,19,21	0.47	0
5	NAG	B	1305	1	14,14,15	0.25	0	17,19,21	0.38	0
5	NAG	C	1307	1	14,14,15	0.22	0	17,19,21	0.42	0
5	NAG	A	1304	1	14,14,15	0.19	0	17,19,21	0.41	0
5	NAG	B	1304	1	14,14,15	0.24	0	17,19,21	0.43	0
5	NAG	B	1308	1	14,14,15	0.25	0	17,19,21	0.41	0
5	NAG	B	1310	1	14,14,15	0.21	0	17,19,21	0.52	0
5	NAG	C	1309	1	14,14,15	0.25	0	17,19,21	0.46	0
5	NAG	A	1306	1	14,14,15	0.20	0	17,19,21	0.48	0
5	NAG	A	1312	1	14,14,15	0.18	0	17,19,21	0.44	0
5	NAG	C	1302	1	14,14,15	0.25	0	17,19,21	0.43	0
5	NAG	A	1309	1	14,14,15	0.25	0	17,19,21	0.38	0
5	NAG	C	1301	1	14,14,15	0.33	0	17,19,21	0.59	0
5	NAG	C	1303	1	14,14,15	0.27	0	17,19,21	0.39	0
5	NAG	A	1311	1	14,14,15	0.37	0	17,19,21	0.35	0
5	NAG	A	1308	1	14,14,15	0.23	0	17,19,21	0.39	0
5	NAG	A	1303	1	14,14,15	0.29	0	17,19,21	0.45	0
5	NAG	A	1302	1	14,14,15	0.24	0	17,19,21	0.42	0
5	NAG	C	1306	1	14,14,15	0.23	0	17,19,21	0.43	0
5	NAG	C	1311	1	14,14,15	0.31	0	17,19,21	0.43	0
5	NAG	C	1305	1	14,14,15	0.26	0	17,19,21	0.38	0
5	NAG	B	1309	1	14,14,15	0.30	0	17,19,21	0.38	0
5	NAG	C	1314	1	14,14,15	0.22	0	17,19,21	0.42	0
5	NAG	A	1305	1	14,14,15	0.23	0	17,19,21	0.37	0
5	NAG	C	1312	1	14,14,15	0.27	0	17,19,21	0.38	0
5	NAG	B	1306	1	14,14,15	0.22	0	17,19,21	0.47	0
5	NAG	A	1314	1	14,14,15	0.28	0	17,19,21	0.60	0
5	NAG	B	1312	1	14,14,15	0.25	0	17,19,21	0.40	0
5	NAG	B	1315	1	14,14,15	0.21	0	17,19,21	0.51	0
5	NAG	C	1315	1	14,14,15	0.34	0	17,19,21	0.39	0
5	NAG	B	1301	1	14,14,15	0.33	0	17,19,21	0.52	0
5	NAG	B	1303	1	14,14,15	0.20	0	17,19,21	0.44	0
5	NAG	B	1311	1	14,14,15	0.20	0	17,19,21	0.42	0
5	NAG	A	1315	1	14,14,15	0.25	0	17,19,21	0.55	0
5	NAG	A	1301	1	14,14,15	0.25	0	17,19,21	0.37	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	NAG	A	1307	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1308	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1304	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1307	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1310	1	-	4/6/23/26	0/1/1/1
5	NAG	A	1313	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1310	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1313	1	-	4/6/23/26	0/1/1/1
5	NAG	B	1313	1	-	3/6/23/26	0/1/1/1
5	NAG	B	1314	1	-	3/6/23/26	0/1/1/1
5	NAG	B	1302	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1305	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1307	1	-	1/6/23/26	0/1/1/1
5	NAG	A	1304	1	-	0/6/23/26	0/1/1/1
5	NAG	B	1304	1	-	0/6/23/26	0/1/1/1
5	NAG	B	1308	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1310	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1309	1	-	4/6/23/26	0/1/1/1
5	NAG	A	1306	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1312	1	-	4/6/23/26	0/1/1/1
5	NAG	C	1302	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1309	1	-	1/6/23/26	0/1/1/1
5	NAG	C	1301	1	-	3/6/23/26	0/1/1/1
5	NAG	C	1303	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1311	1	-	4/6/23/26	0/1/1/1
5	NAG	A	1308	1	-	0/6/23/26	0/1/1/1
5	NAG	A	1303	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1302	1	-	0/6/23/26	0/1/1/1
5	NAG	C	1306	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1311	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1305	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1309	1	-	1/6/23/26	0/1/1/1
5	NAG	C	1314	1	-	4/6/23/26	0/1/1/1
5	NAG	A	1305	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	C	1312	1	-	4/6/23/26	0/1/1/1
5	NAG	B	1306	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1314	1	-	3/6/23/26	0/1/1/1
5	NAG	B	1312	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1315	1	-	2/6/23/26	0/1/1/1
5	NAG	C	1315	1	-	4/6/23/26	0/1/1/1
5	NAG	B	1301	1	-	2/6/23/26	0/1/1/1
5	NAG	B	1303	1	-	1/6/23/26	0/1/1/1
5	NAG	B	1311	1	-	2/6/23/26	0/1/1/1
5	NAG	A	1315	1	-	3/6/23/26	0/1/1/1
5	NAG	A	1301	1	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 93 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	C	1301	NAG	C4-C5-C6-O6
5	A	1314	NAG	C4-C5-C6-O6
5	B	1305	NAG	C4-C5-C6-O6
5	A	1303	NAG	C4-C5-C6-O6
5	B	1312	NAG	O5-C5-C6-O6

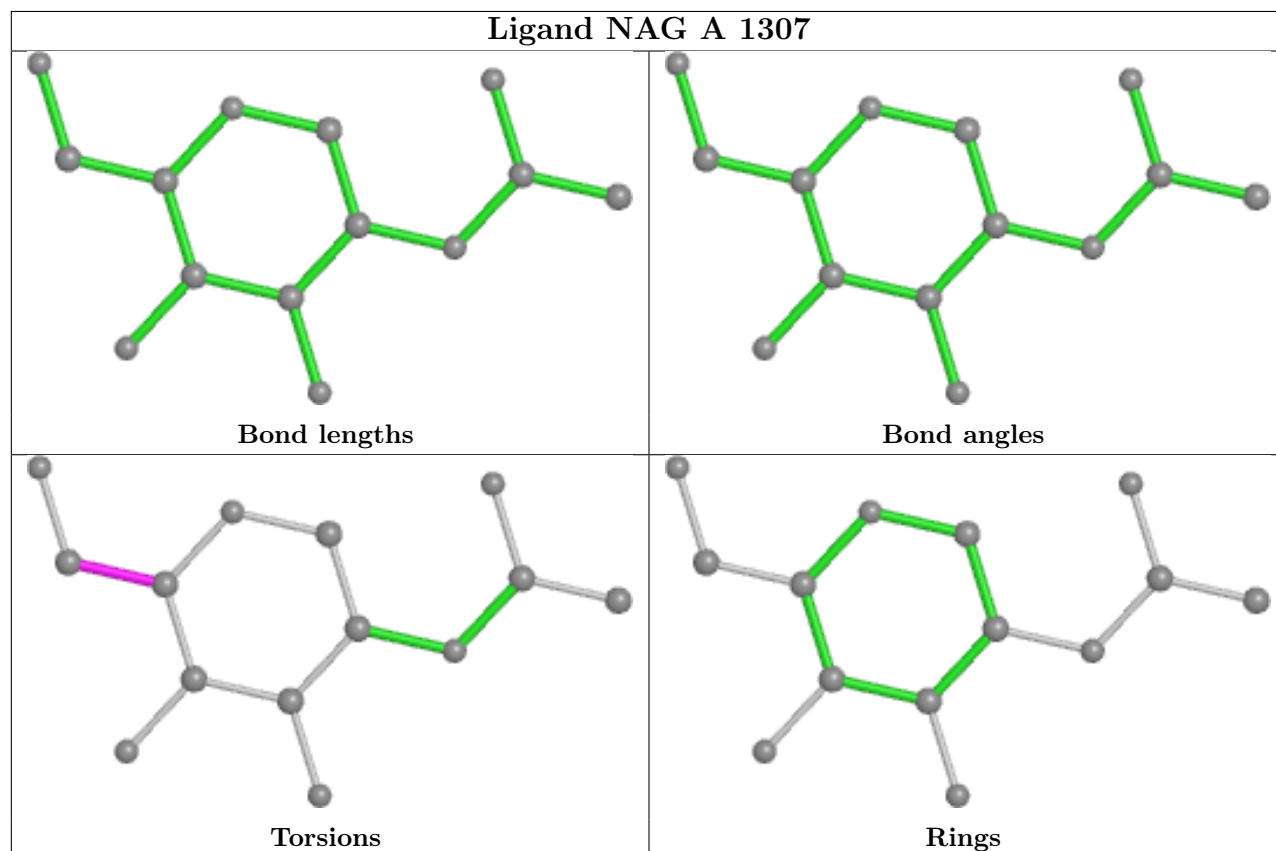
There are no ring outliers.

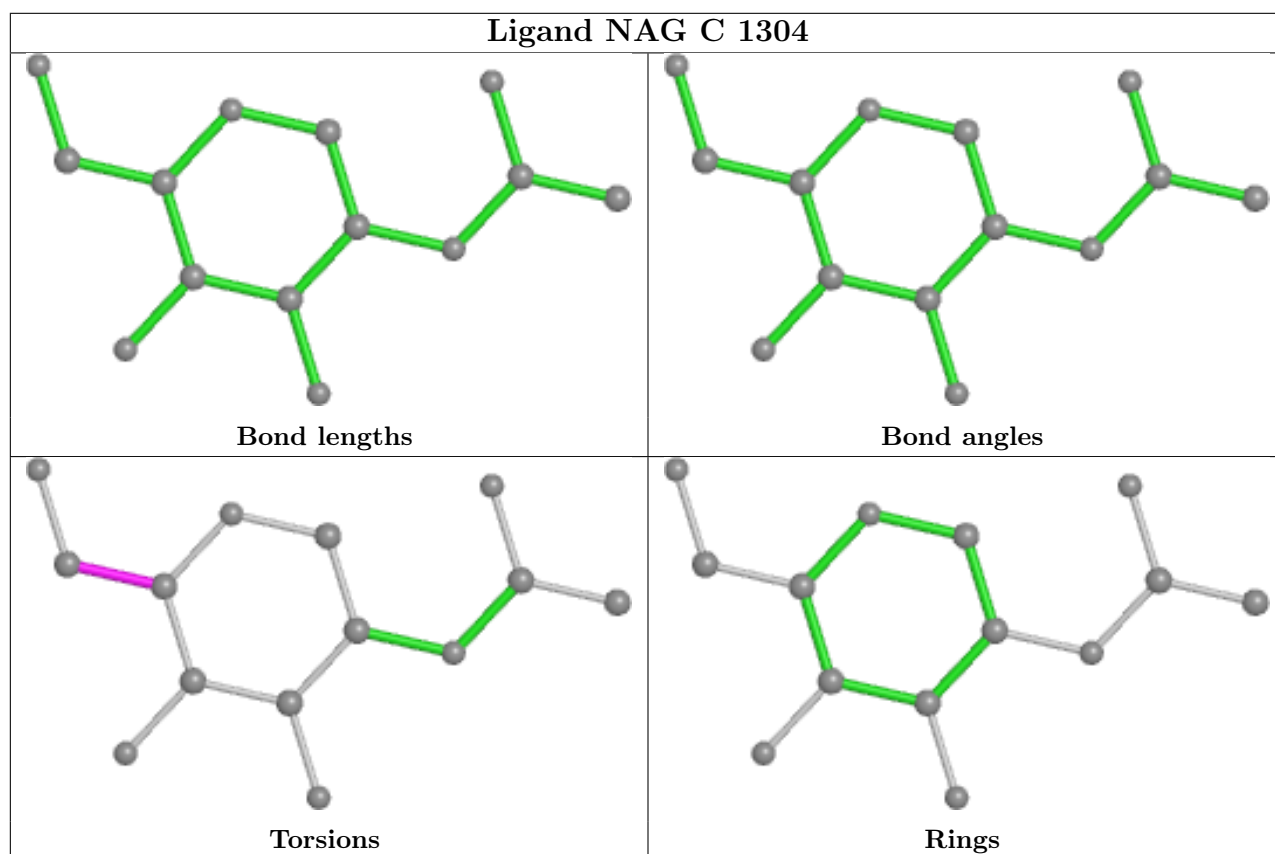
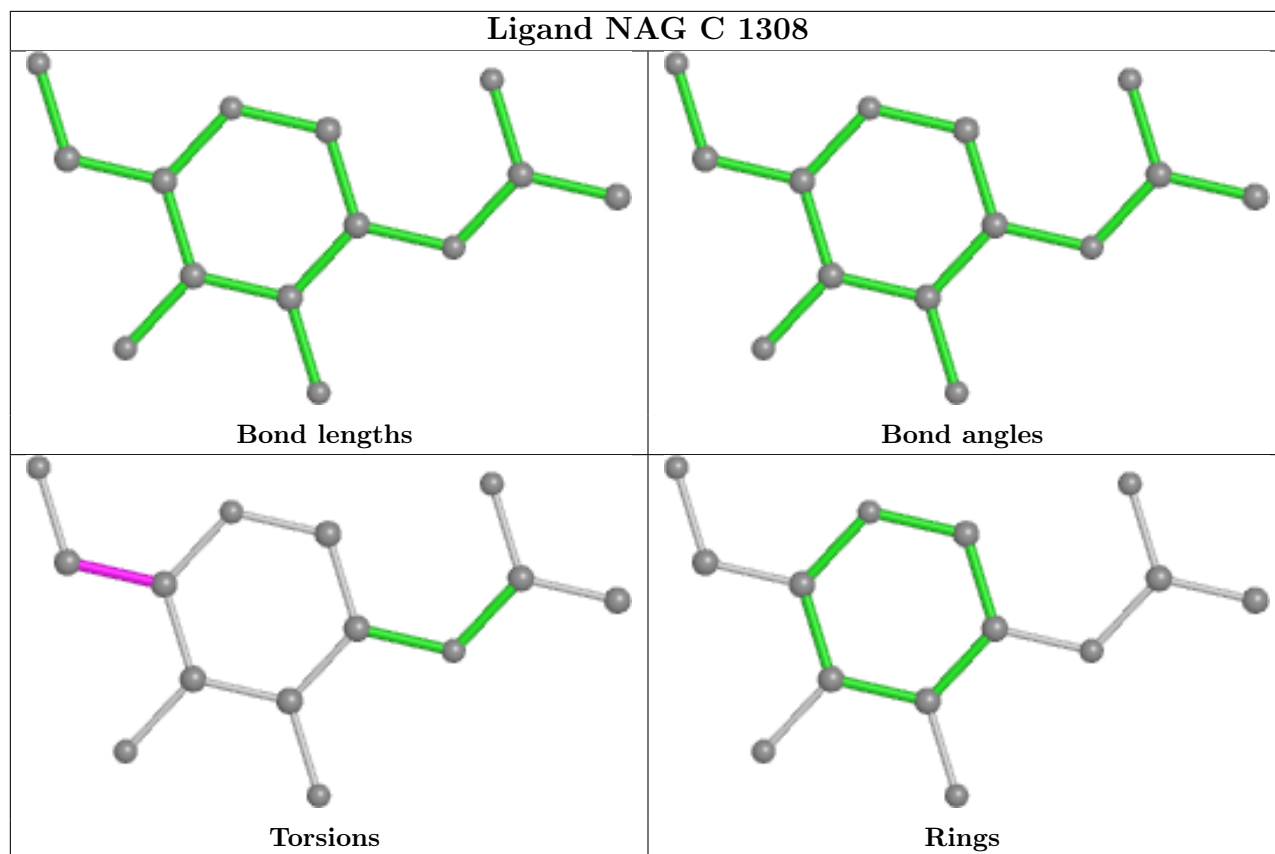
3 monomers are involved in 3 short contacts:

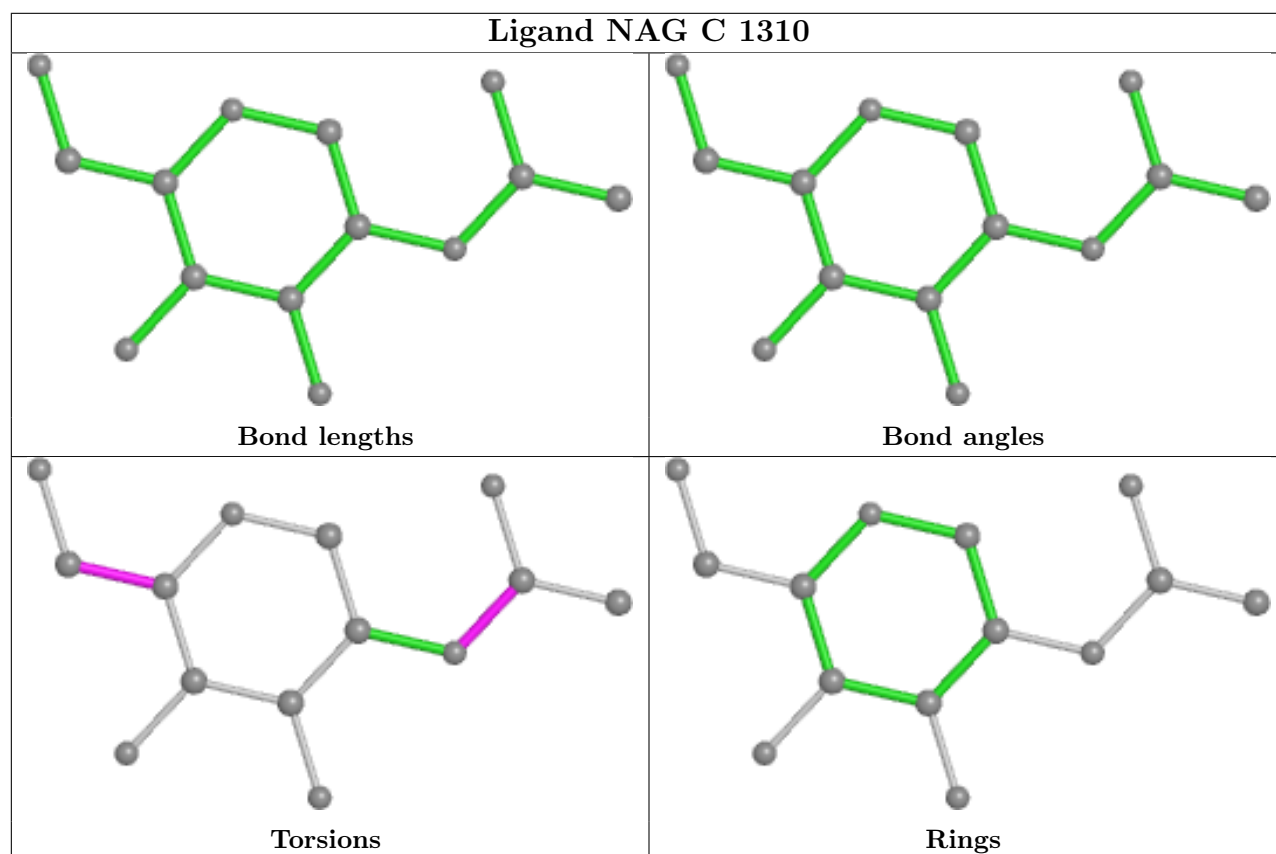
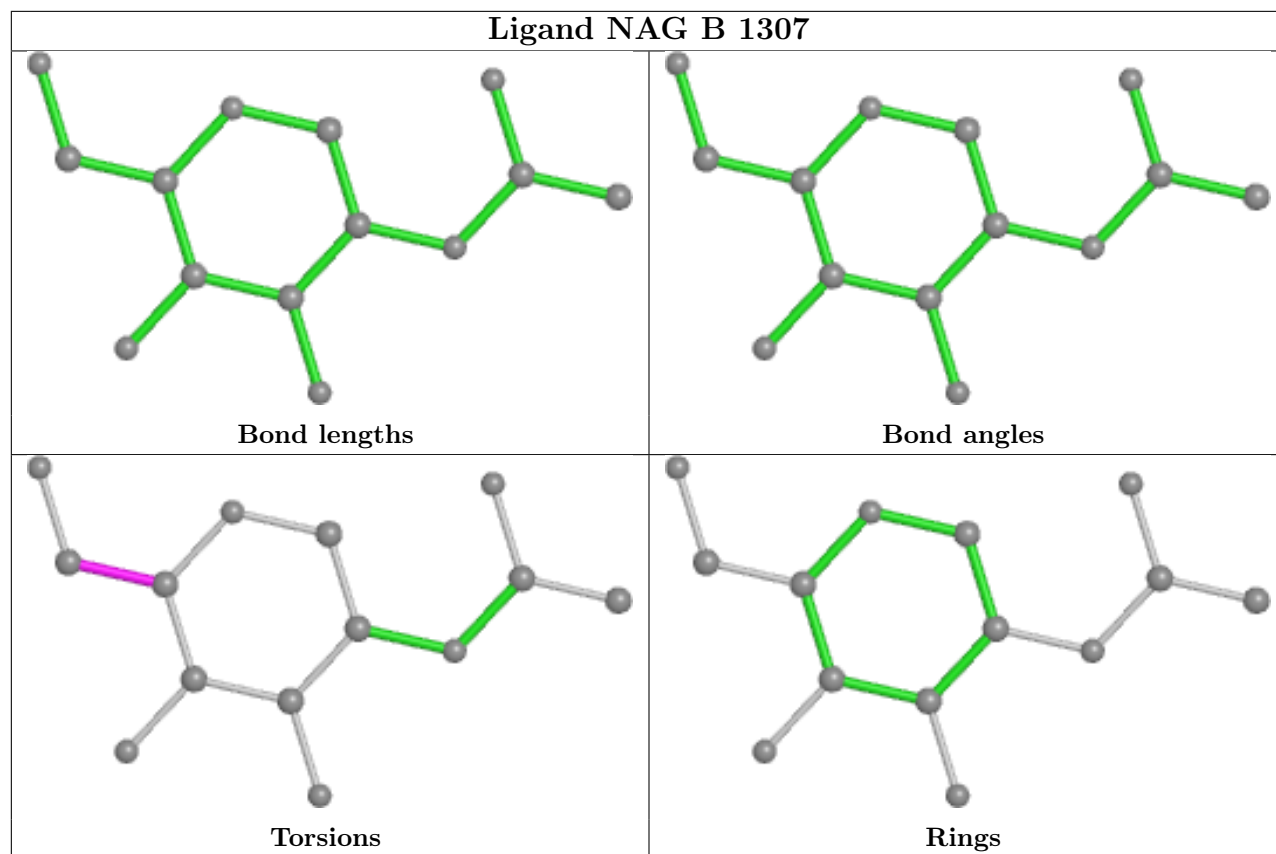
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	1307	NAG	1	0
5	C	1307	NAG	1	0
5	C	1315	NAG	1	0

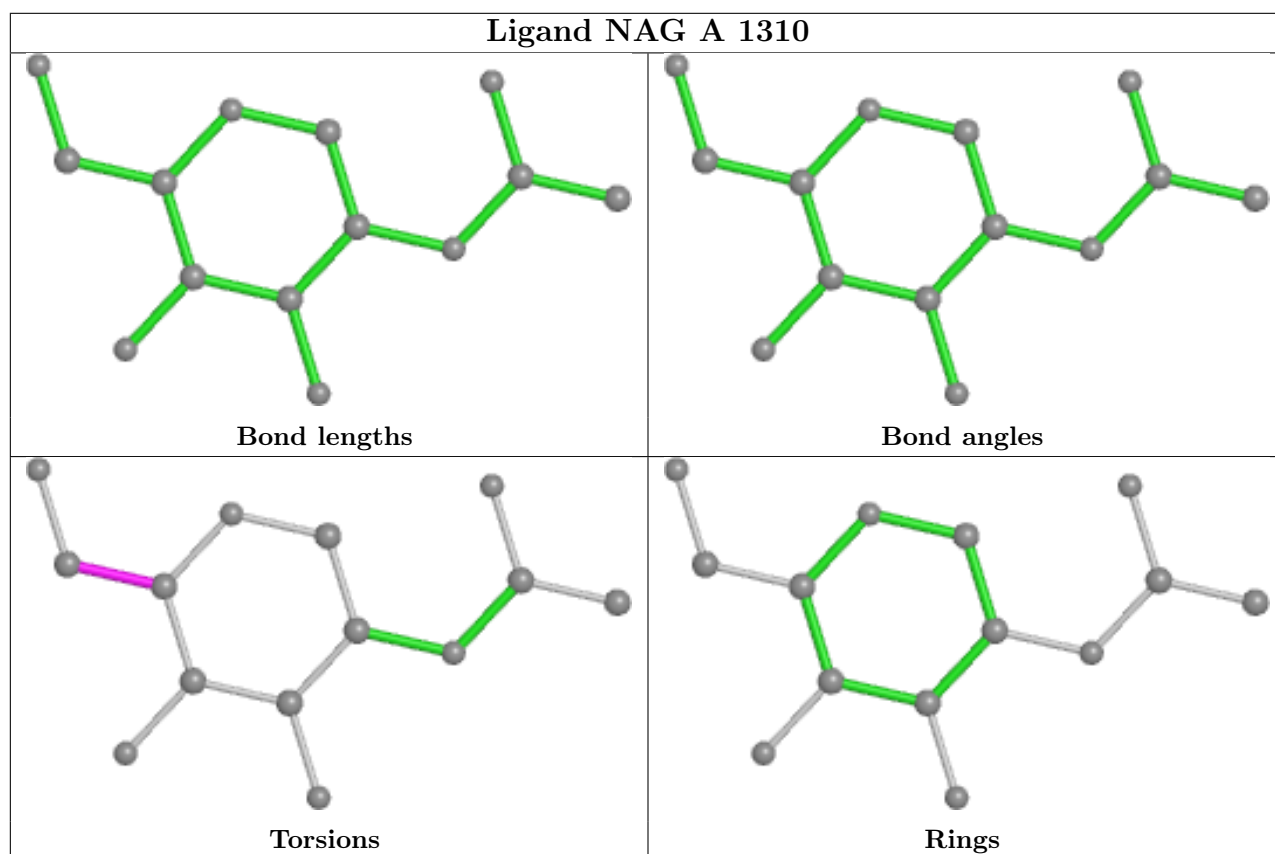
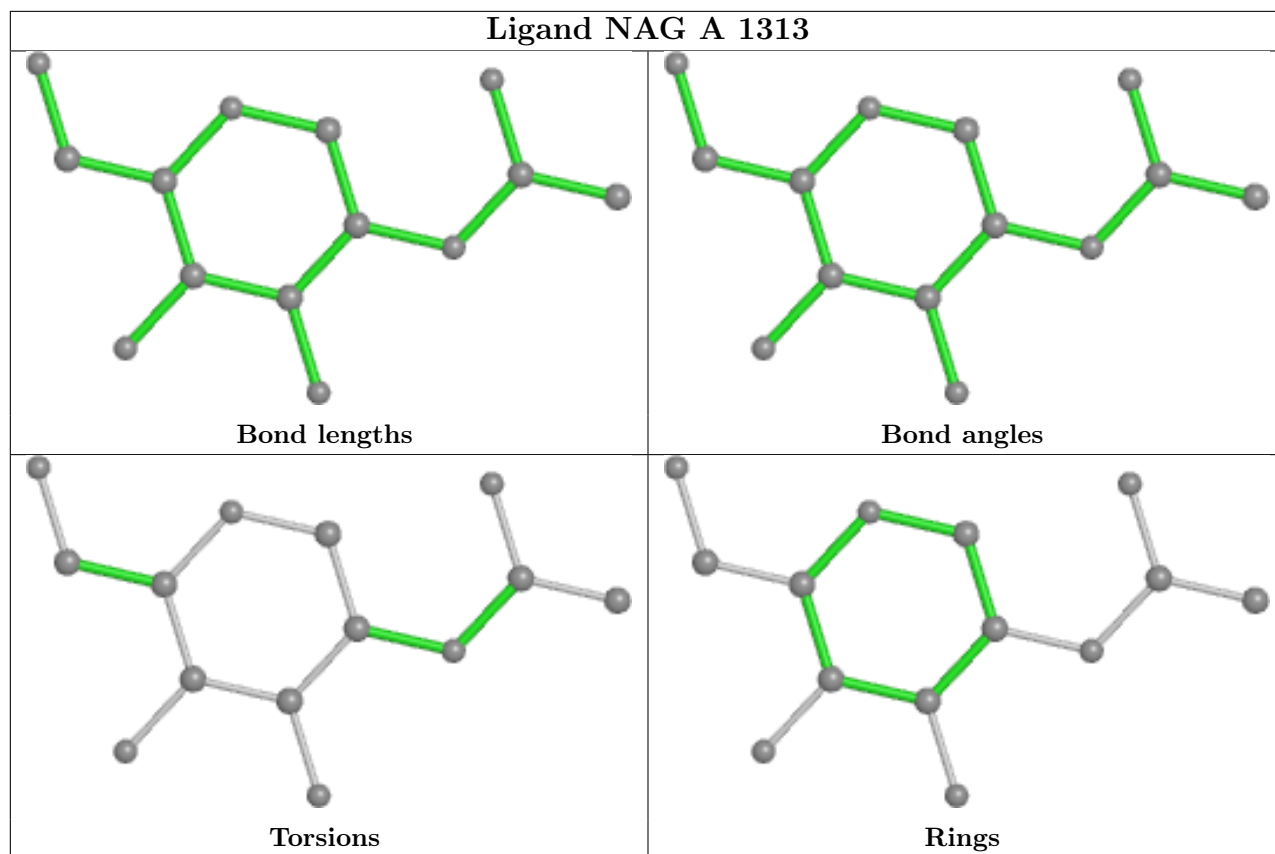
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 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

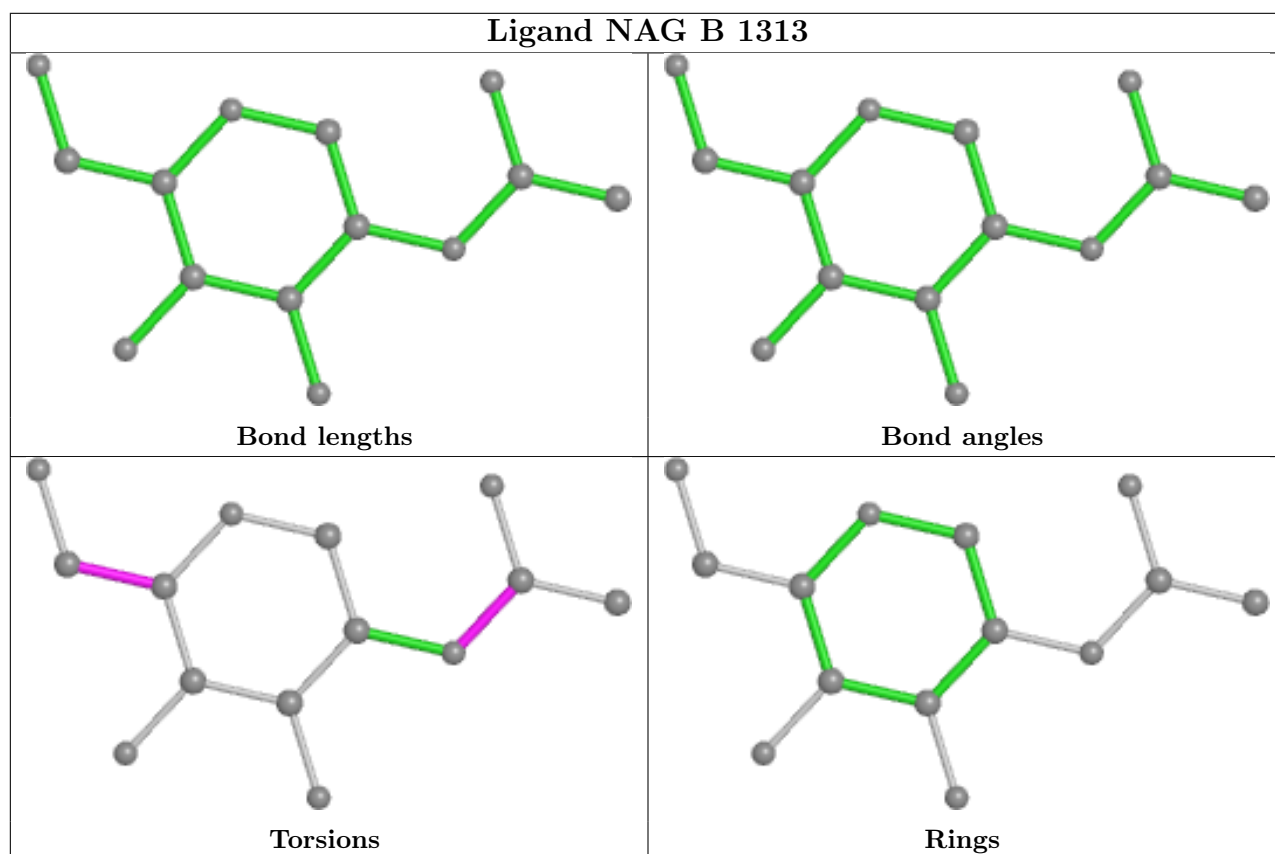
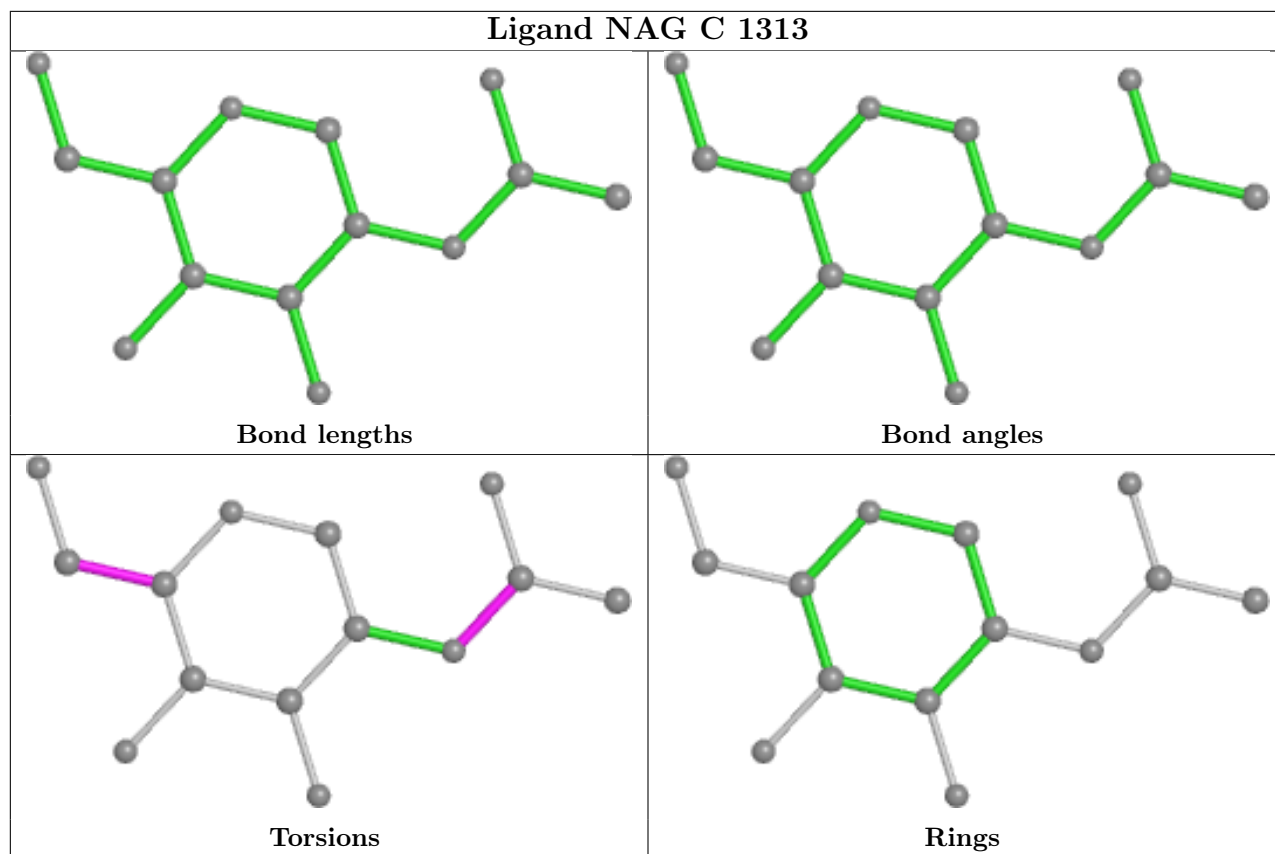
in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

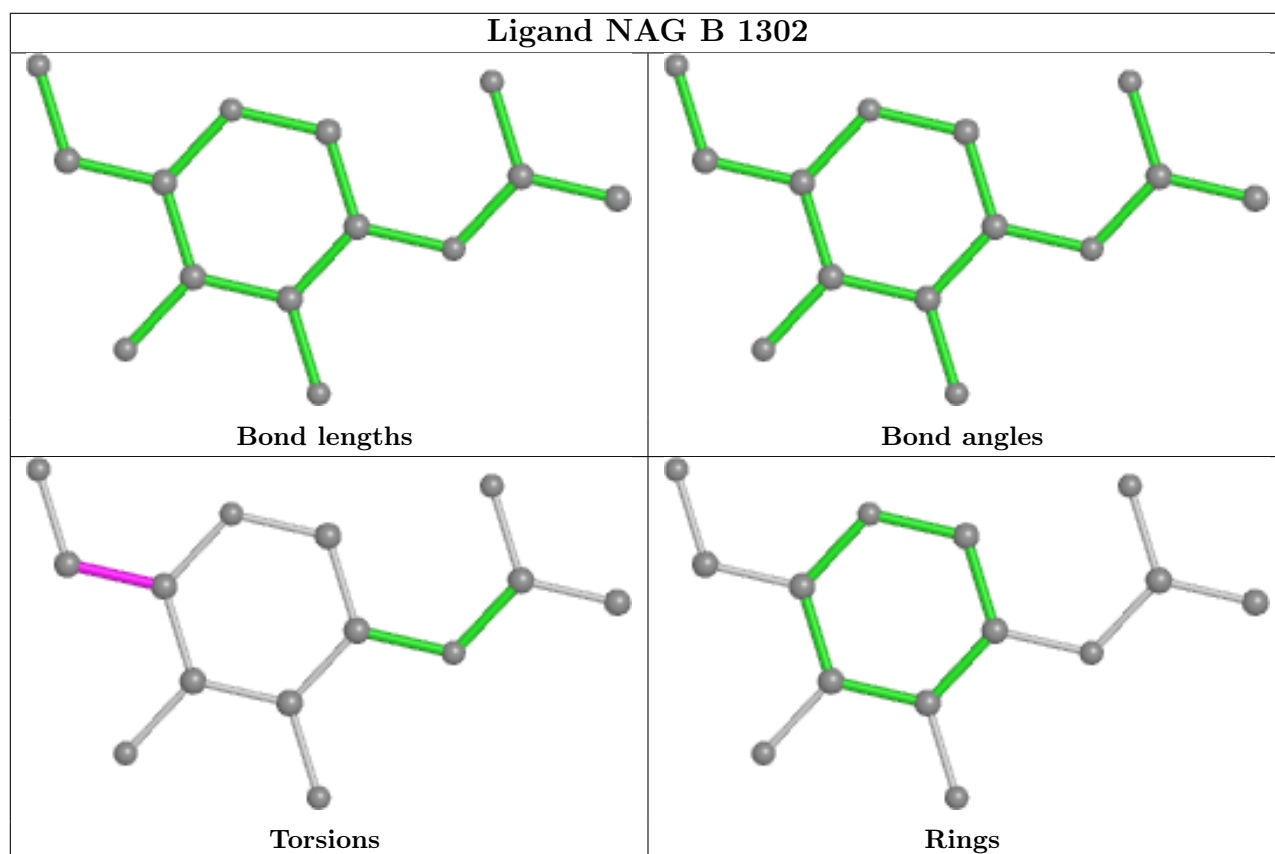
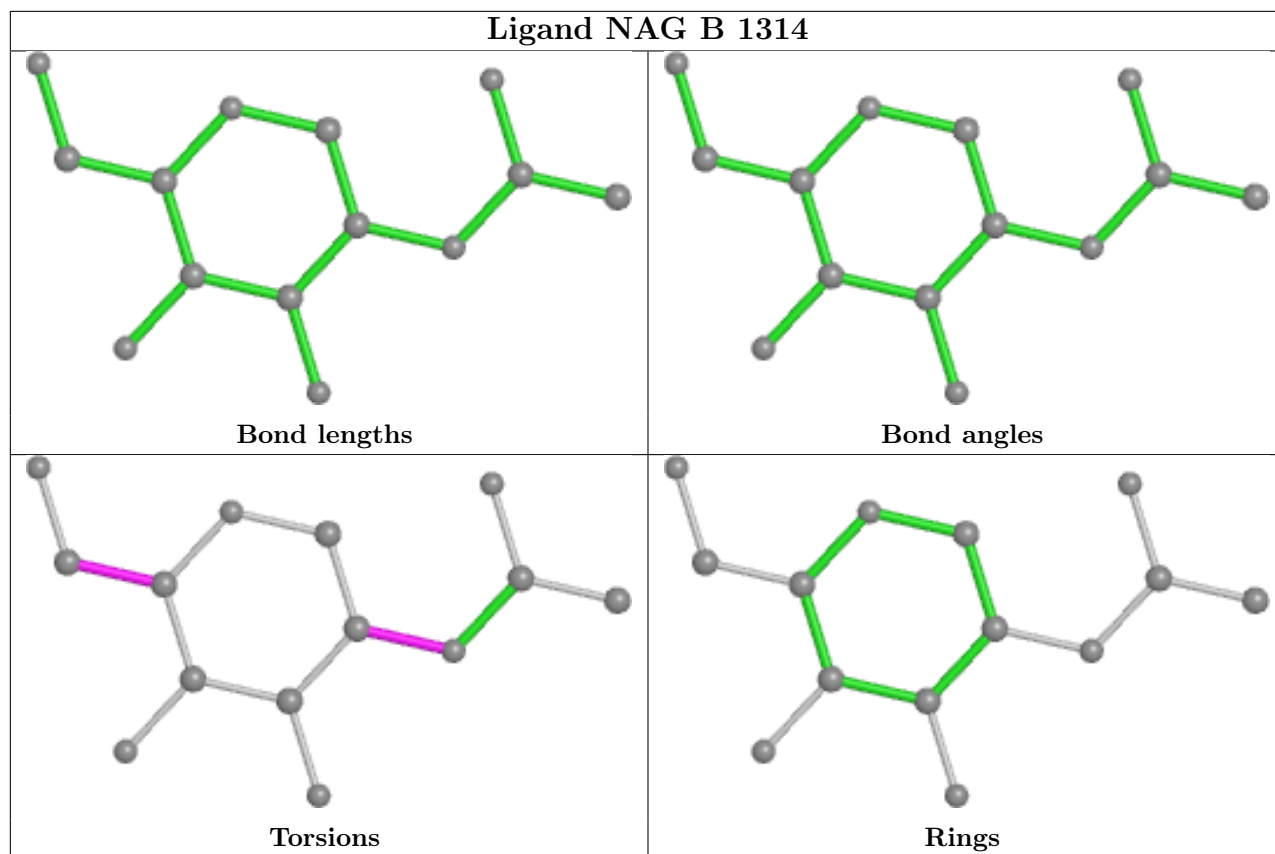


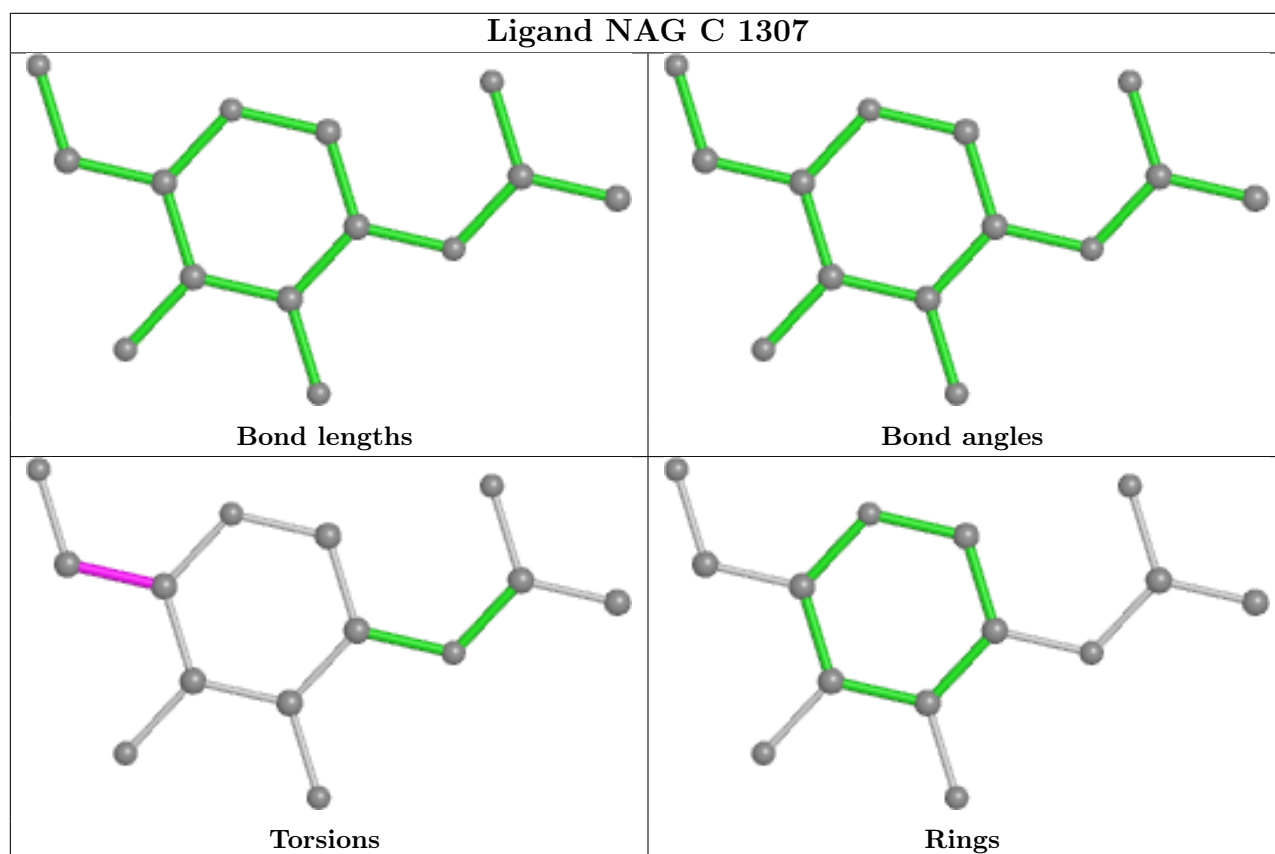
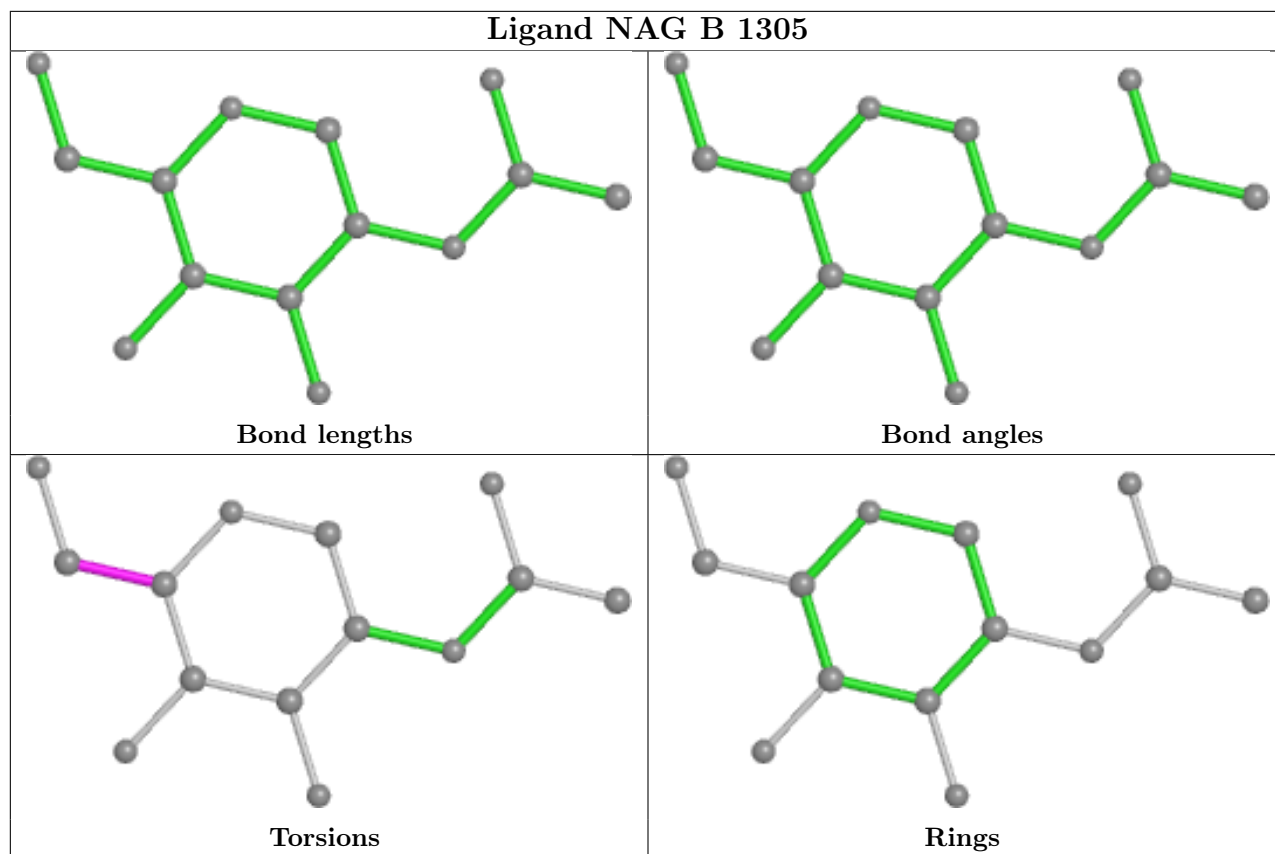


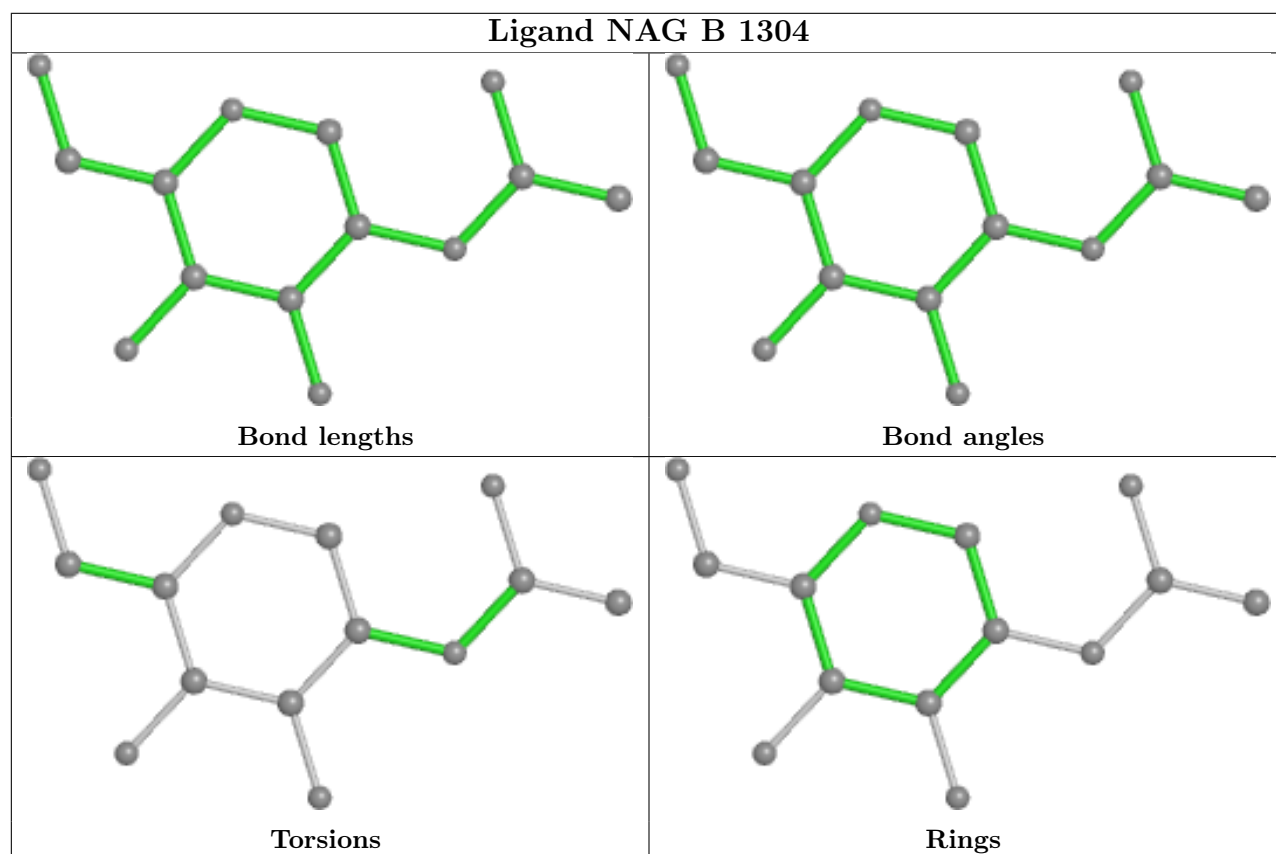
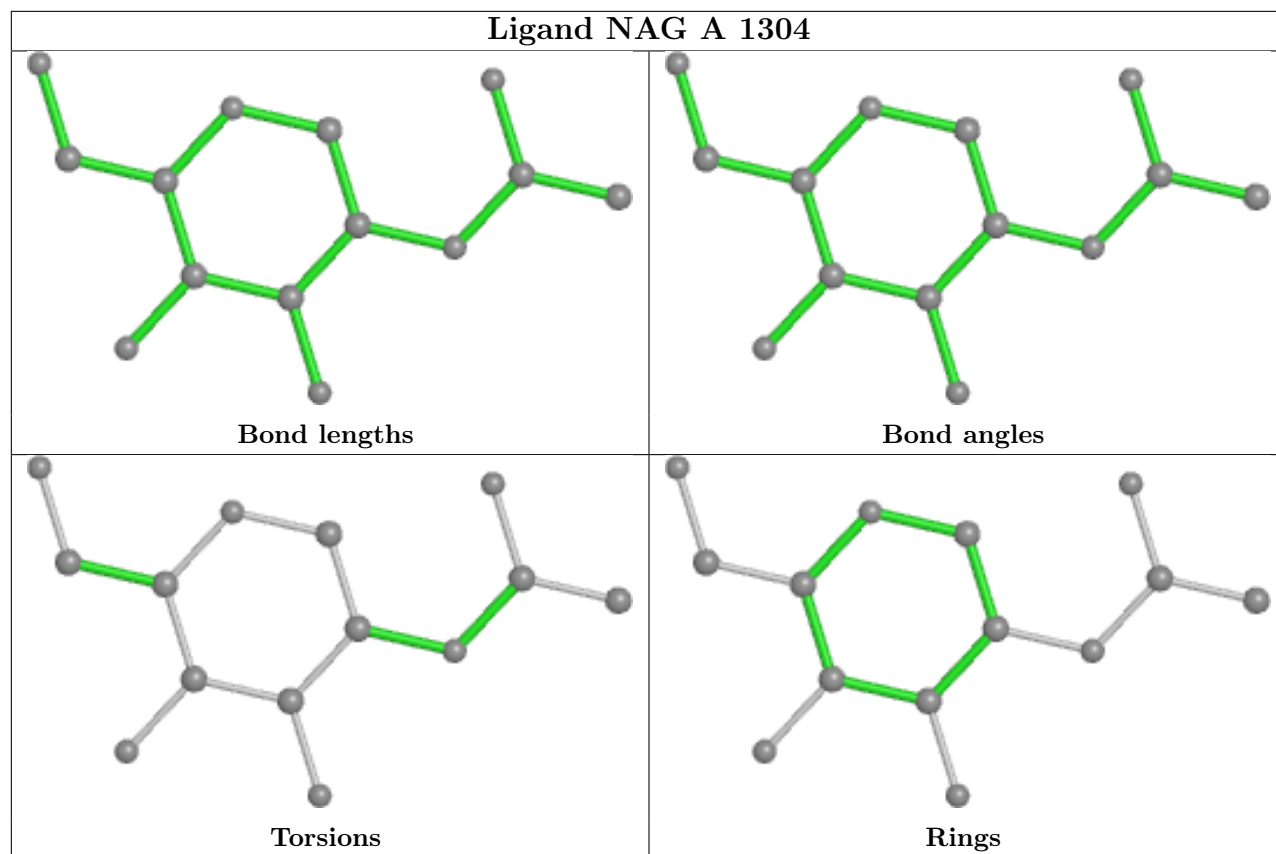


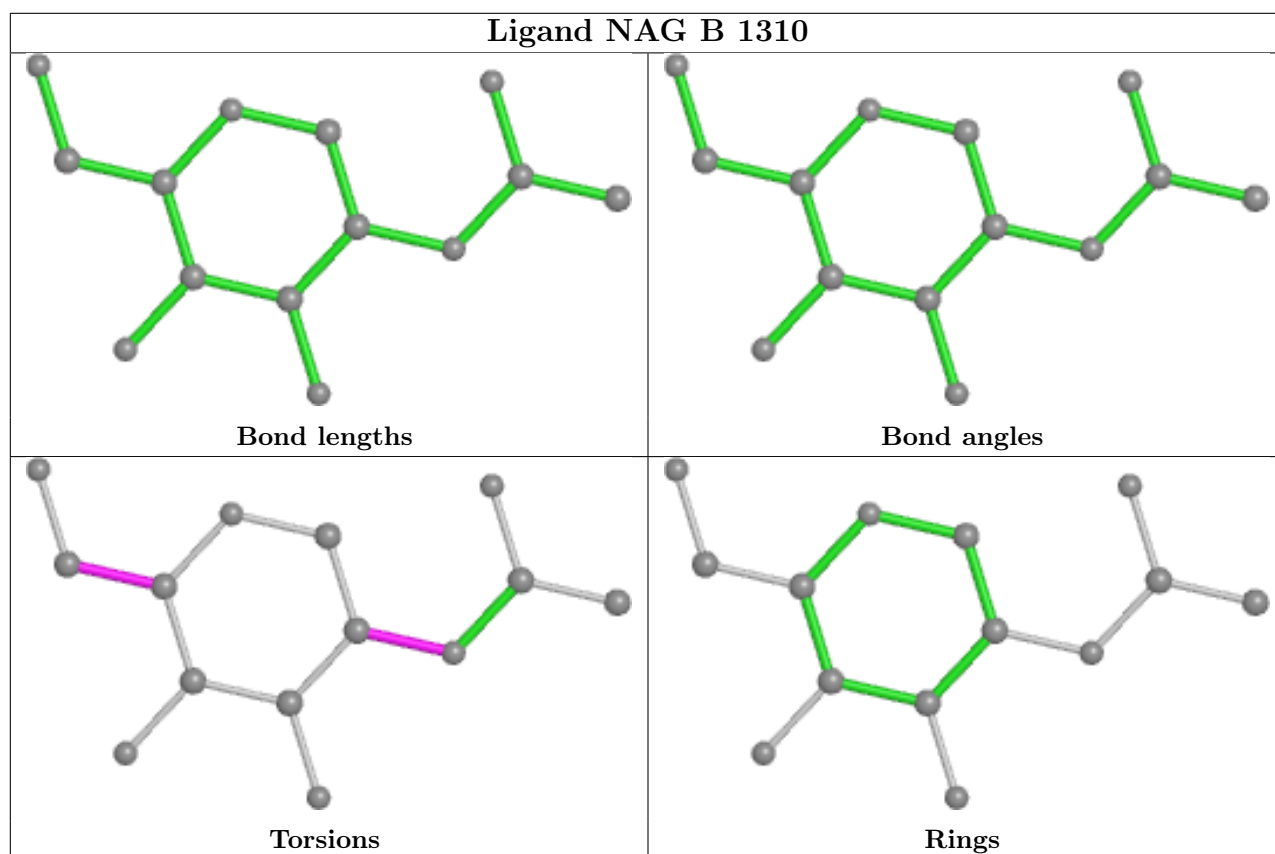
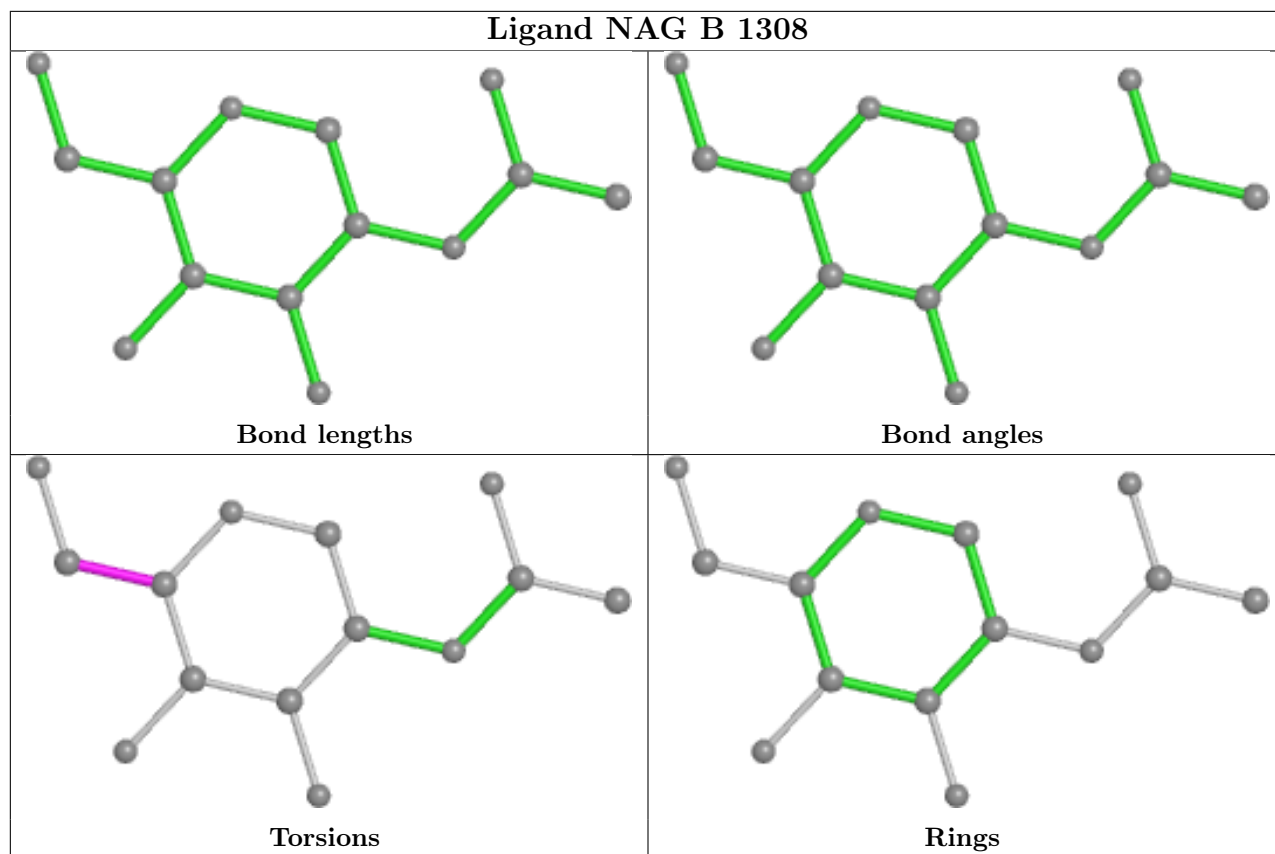


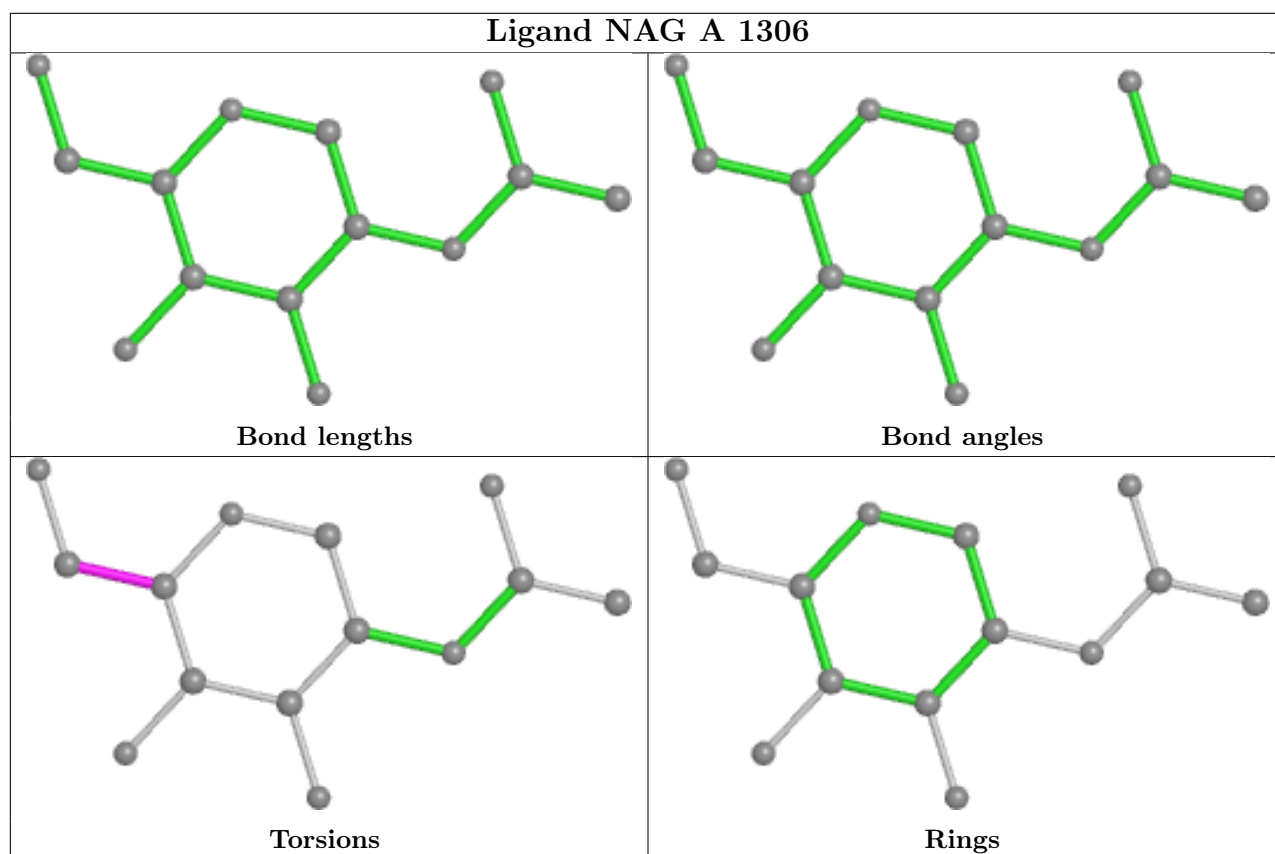
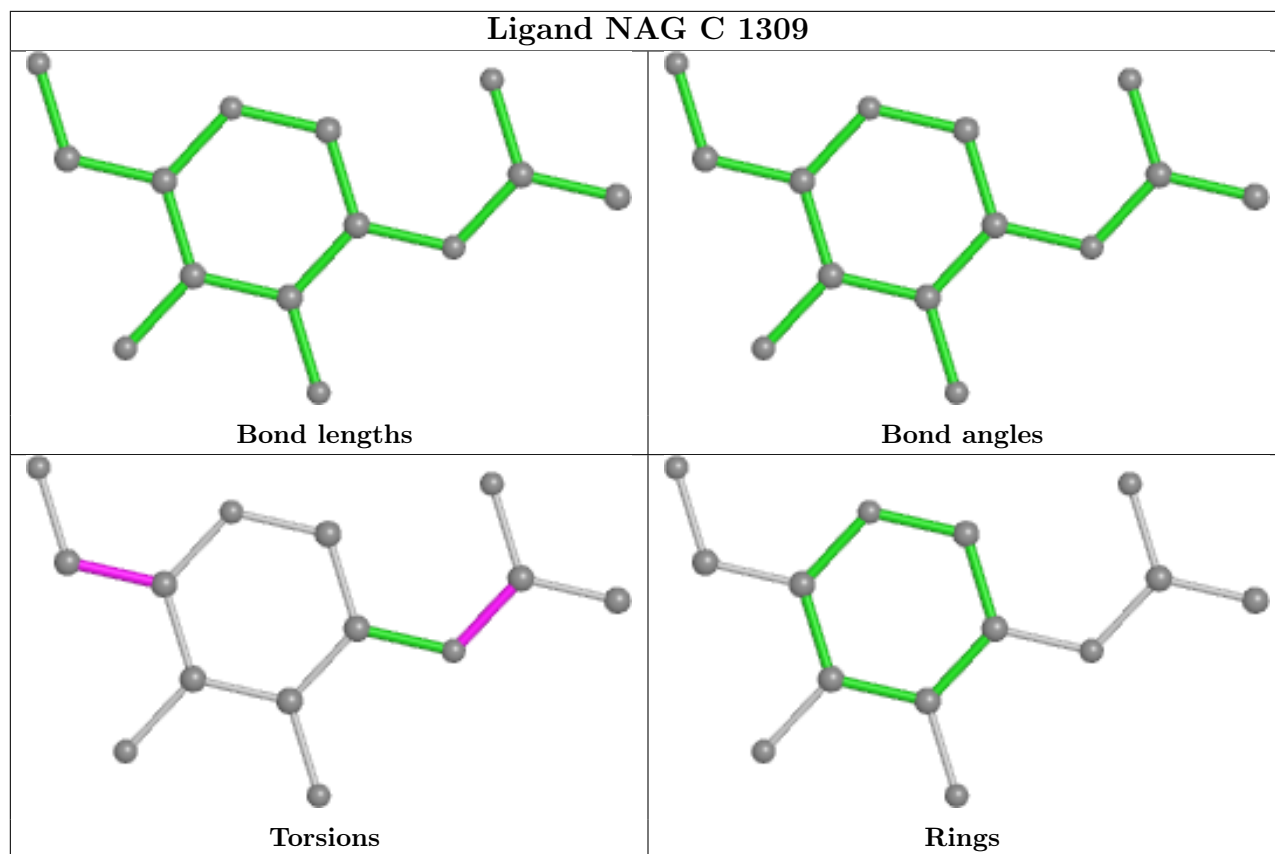


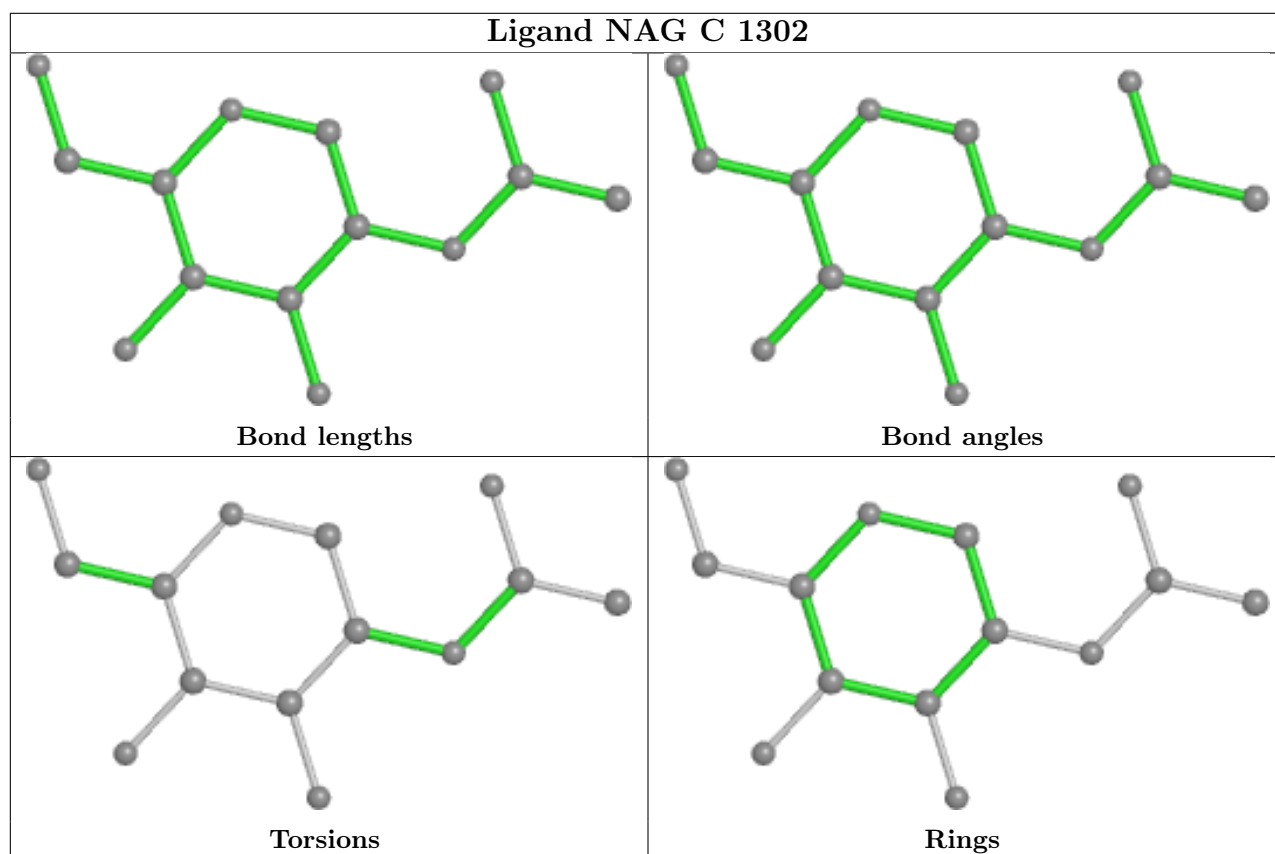
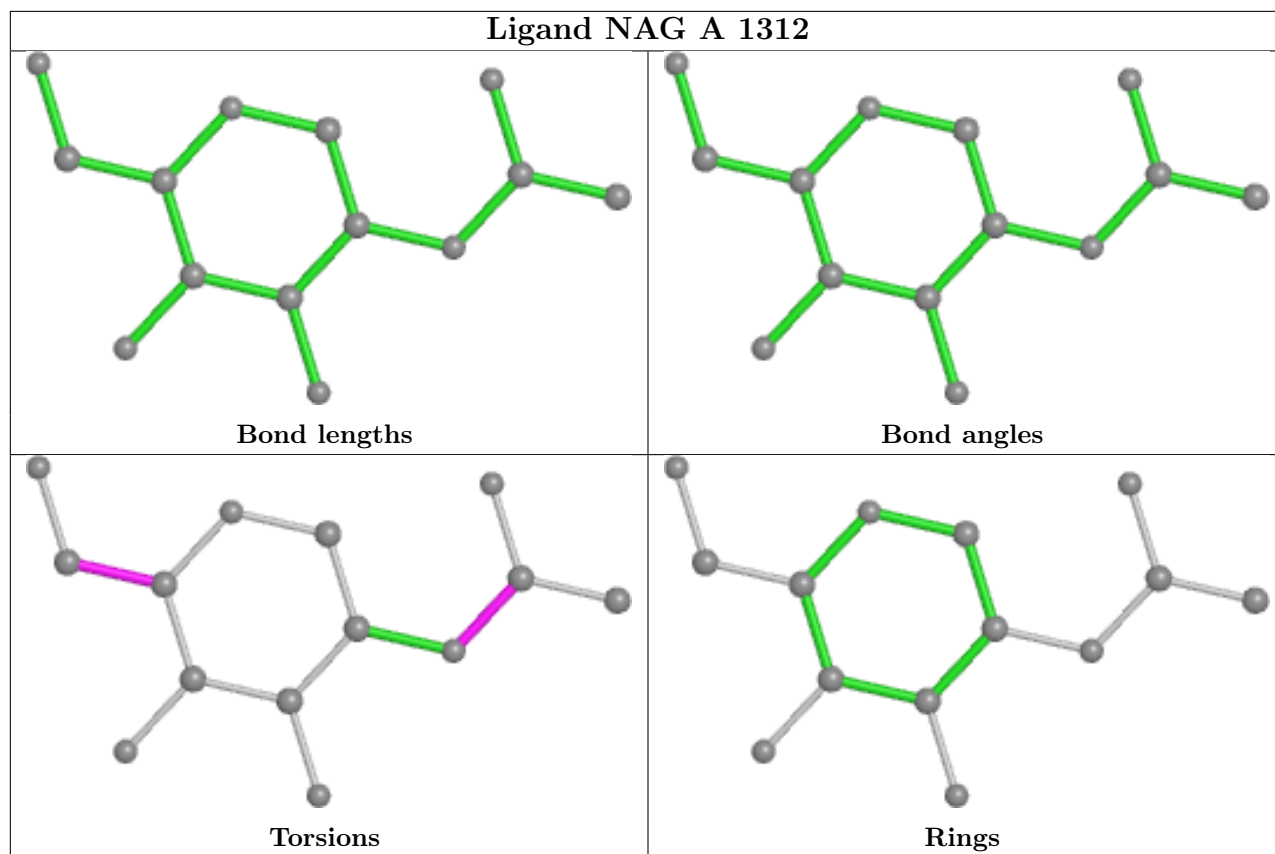


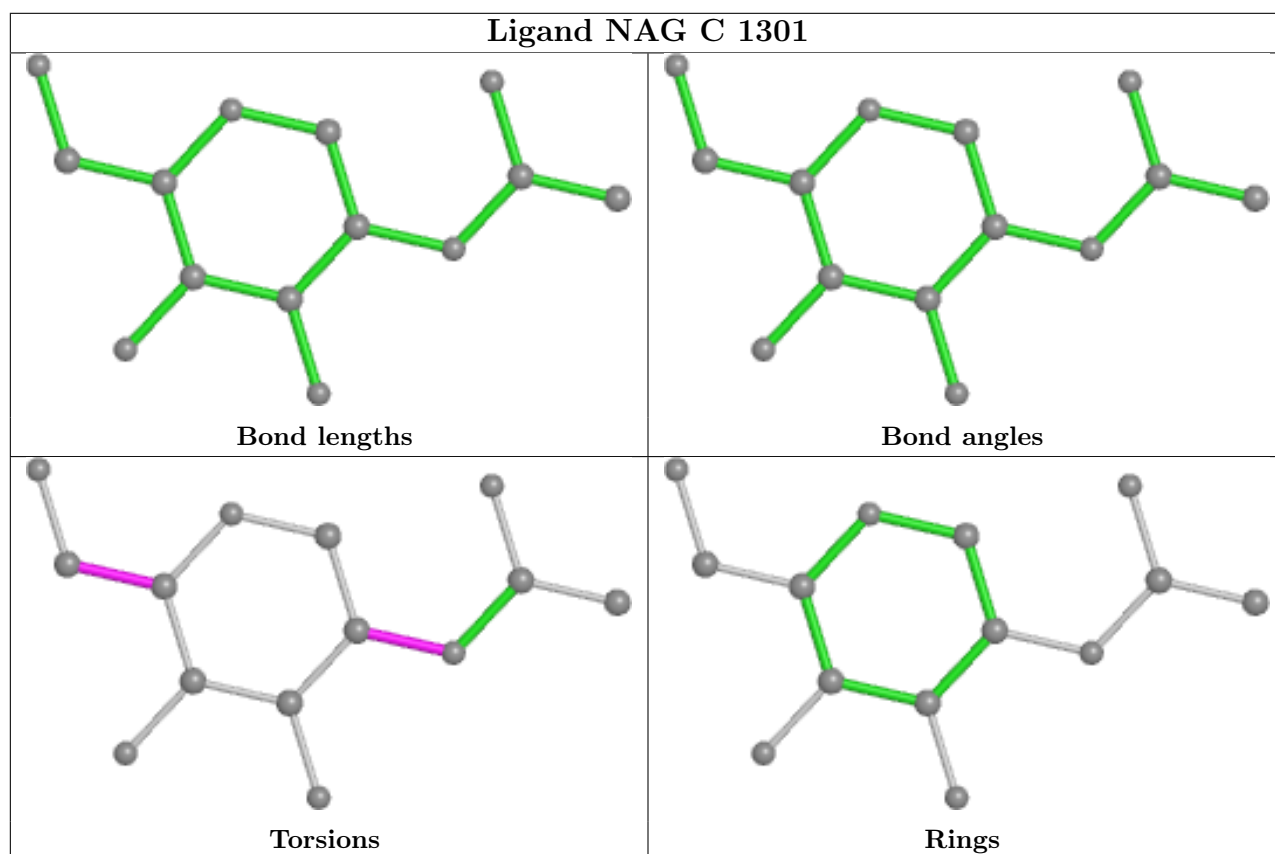
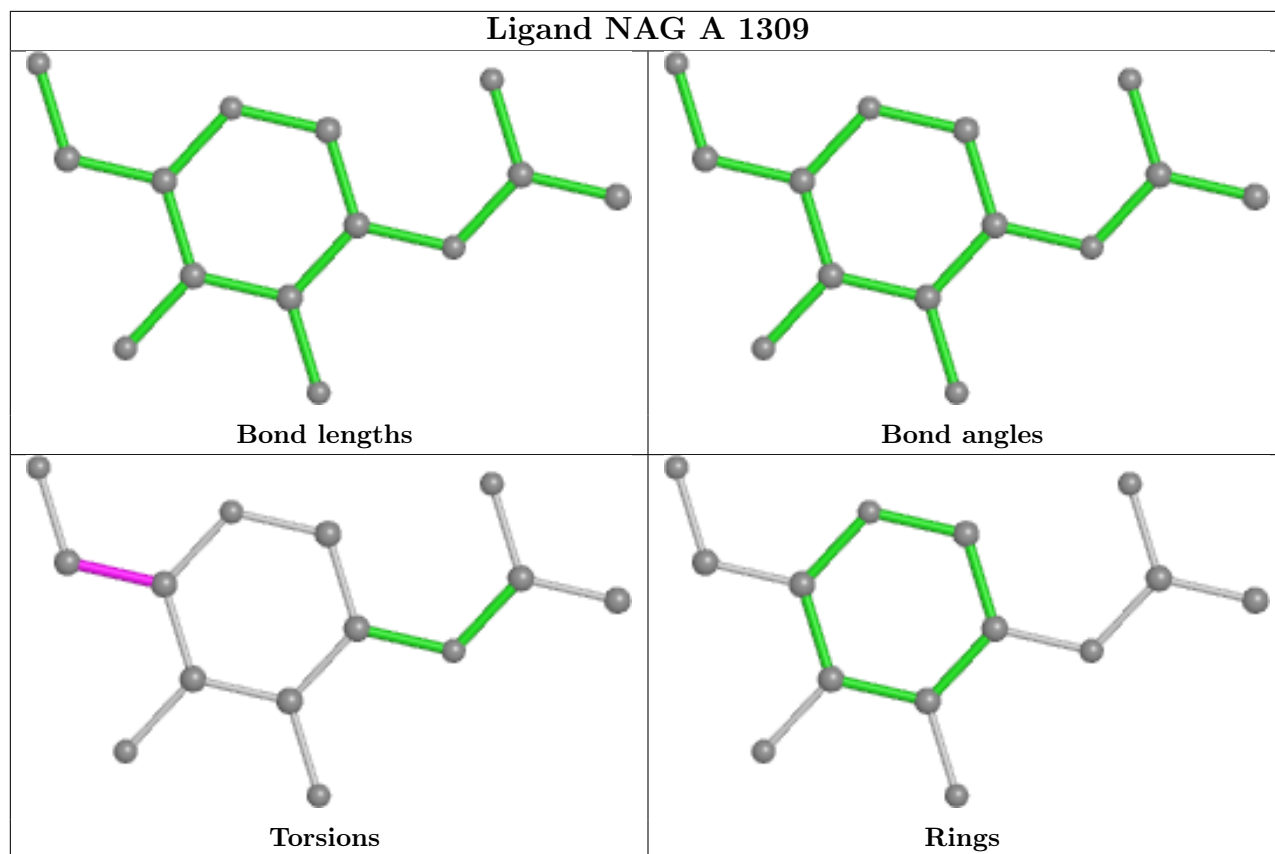


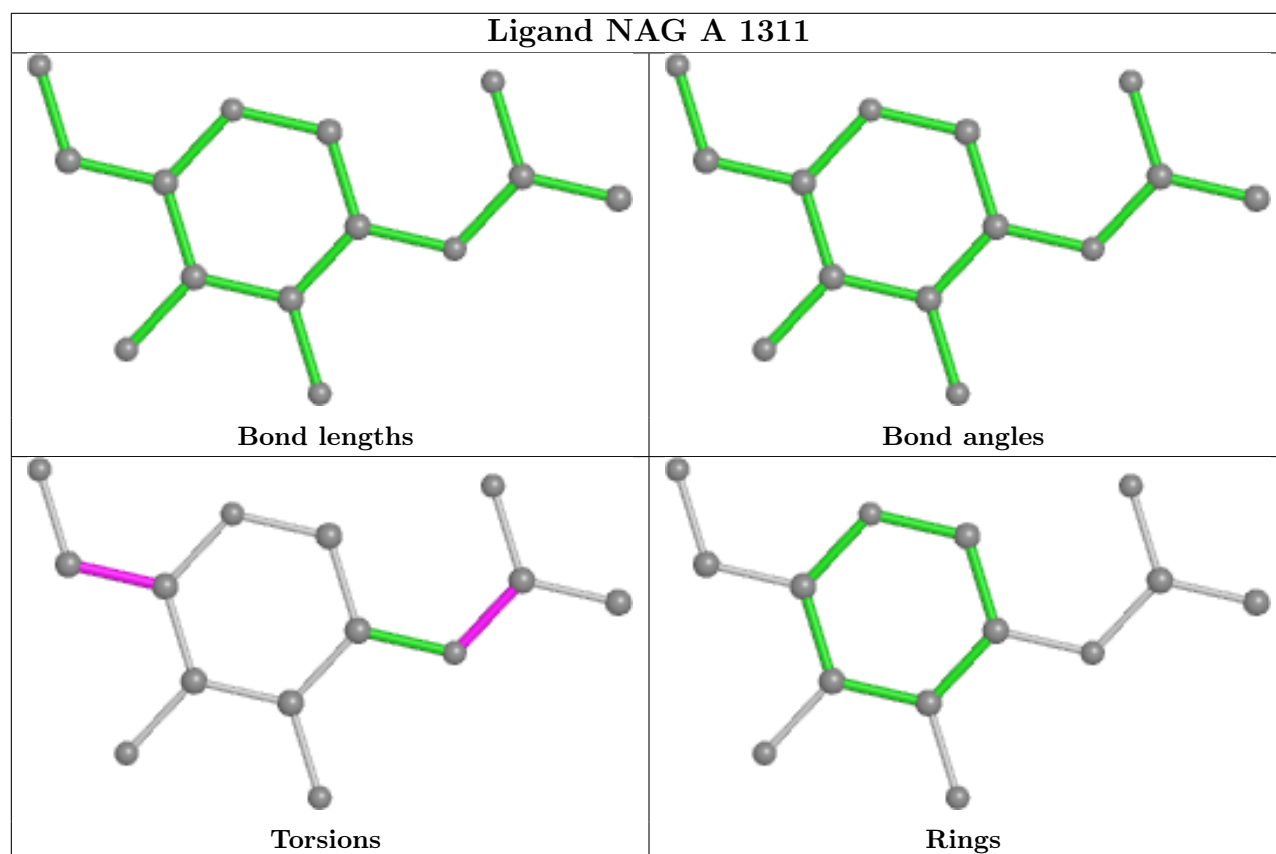
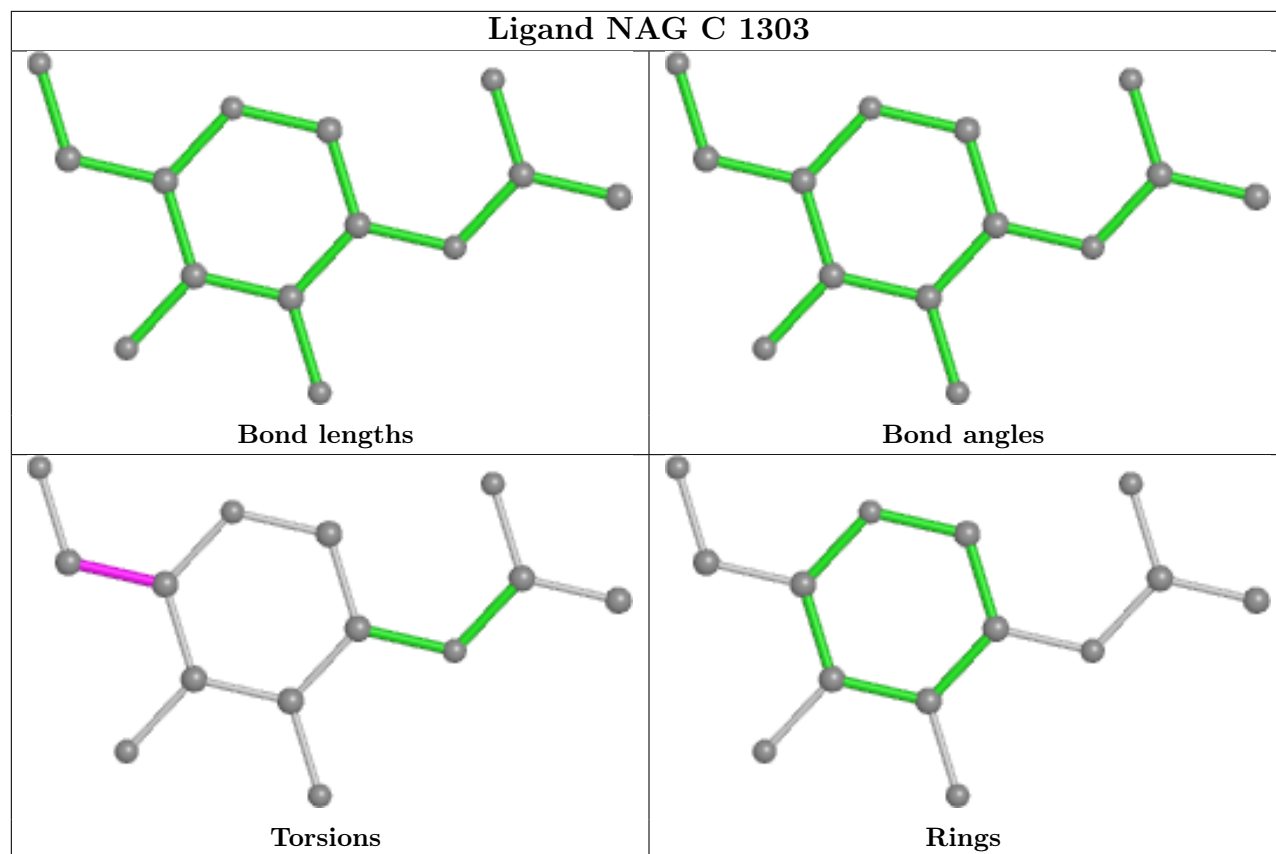


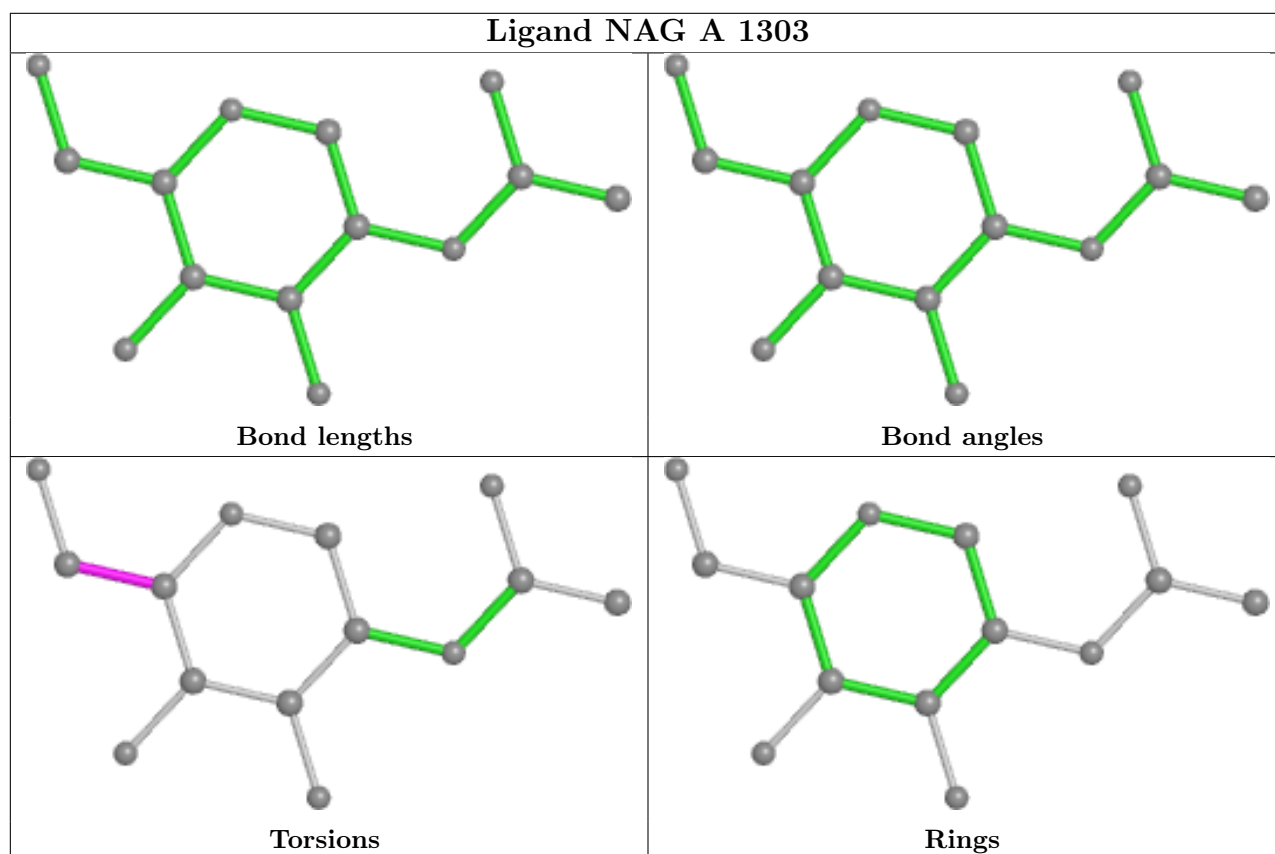
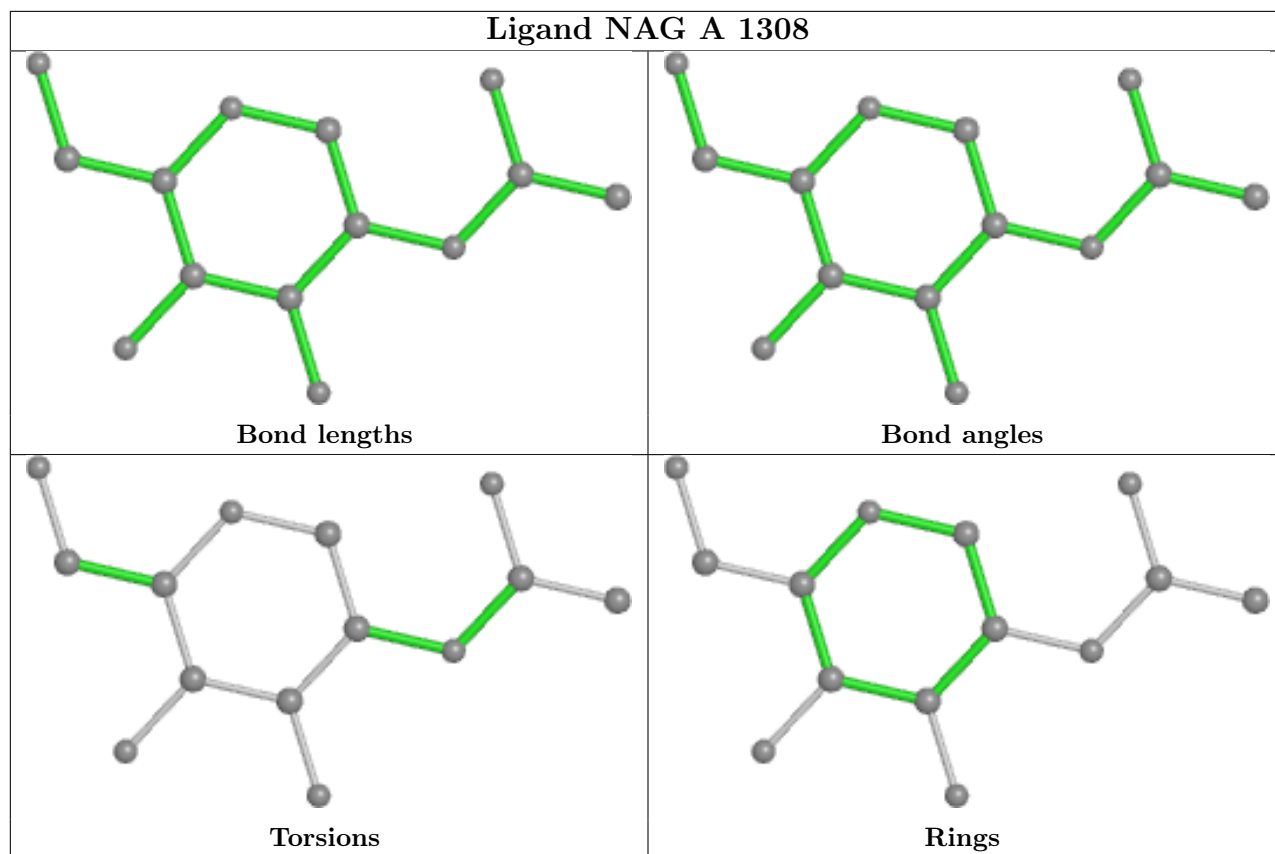


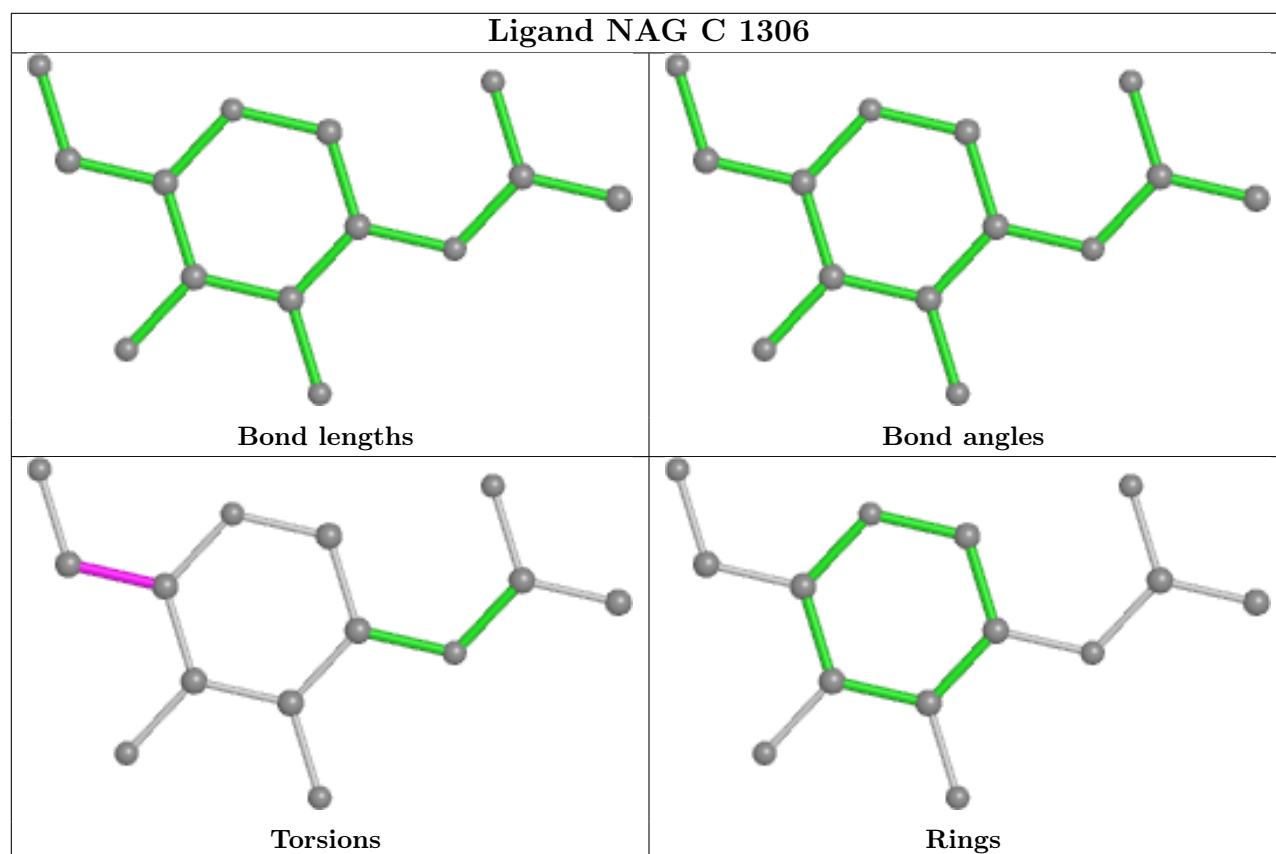
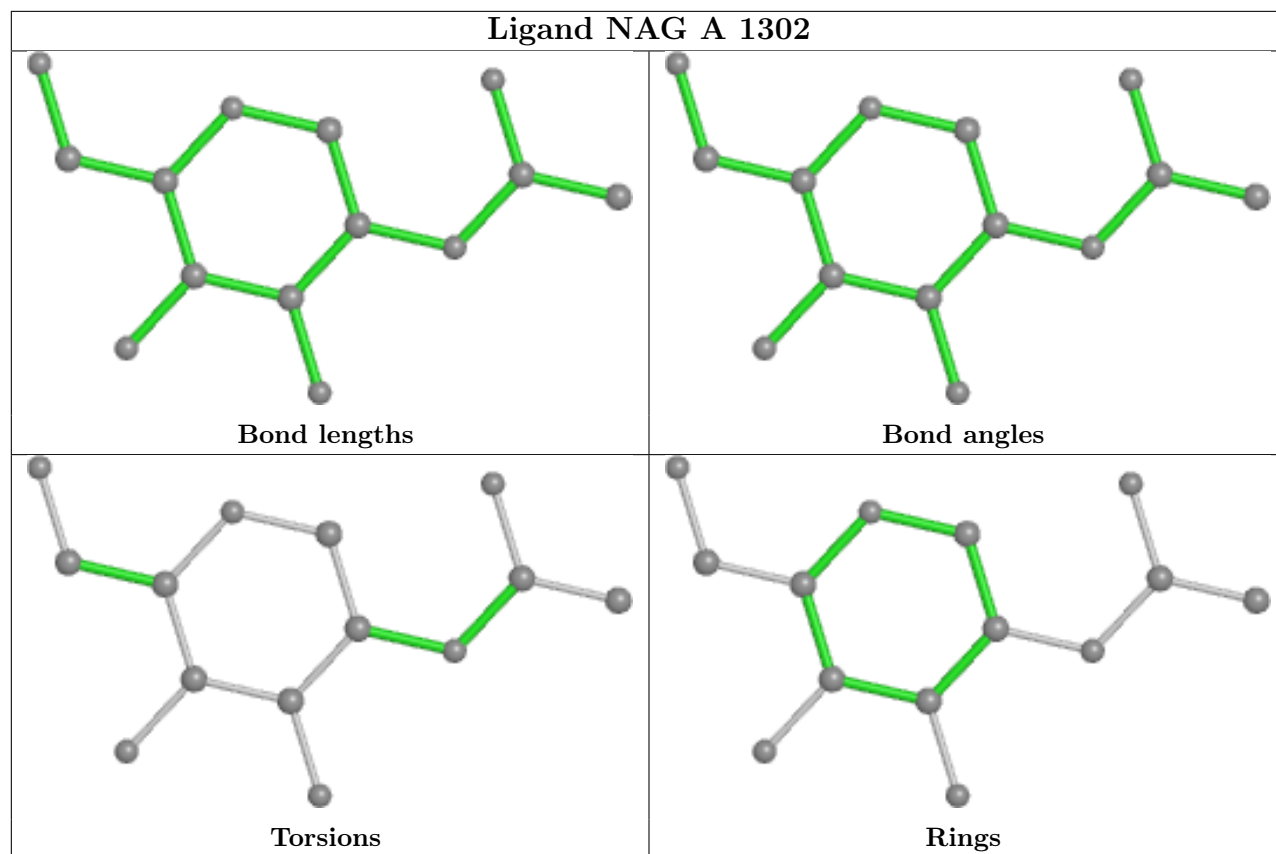


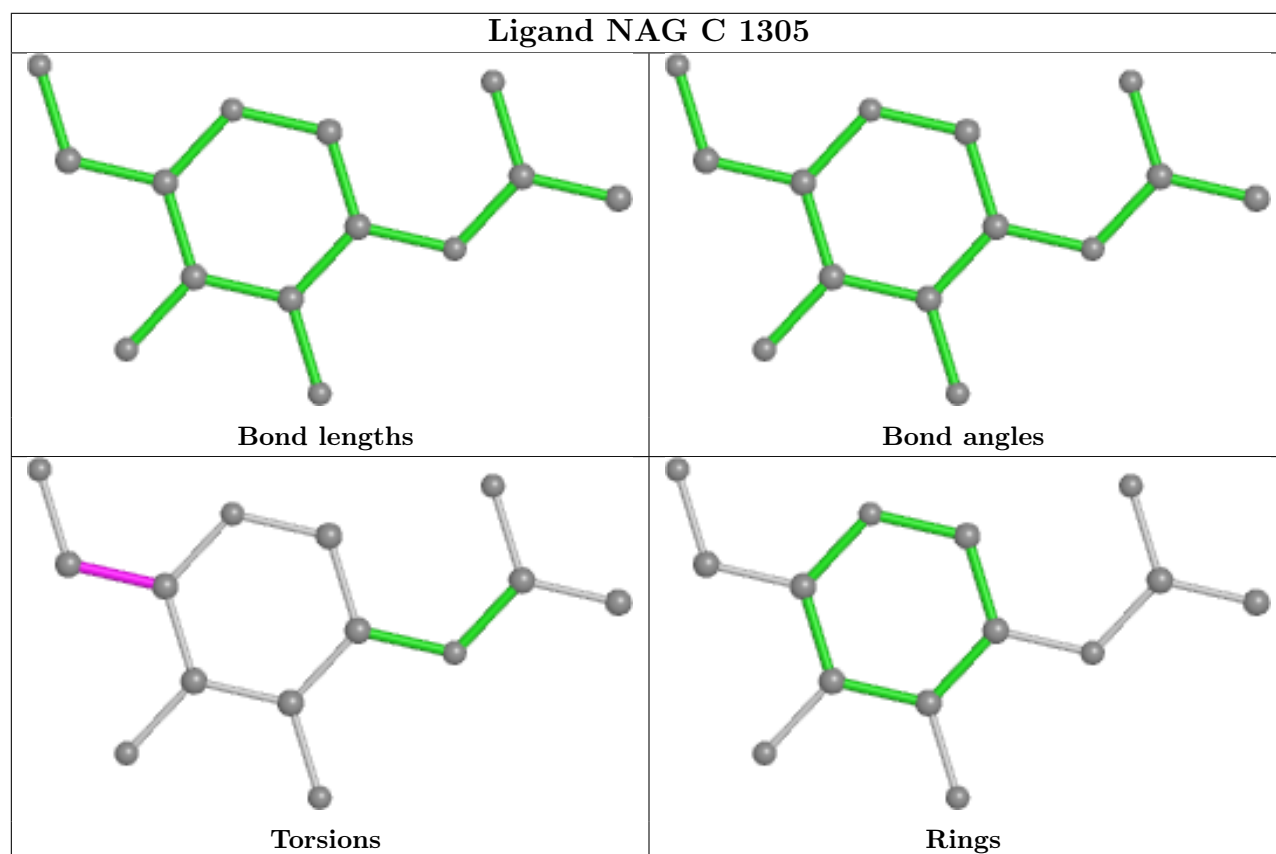
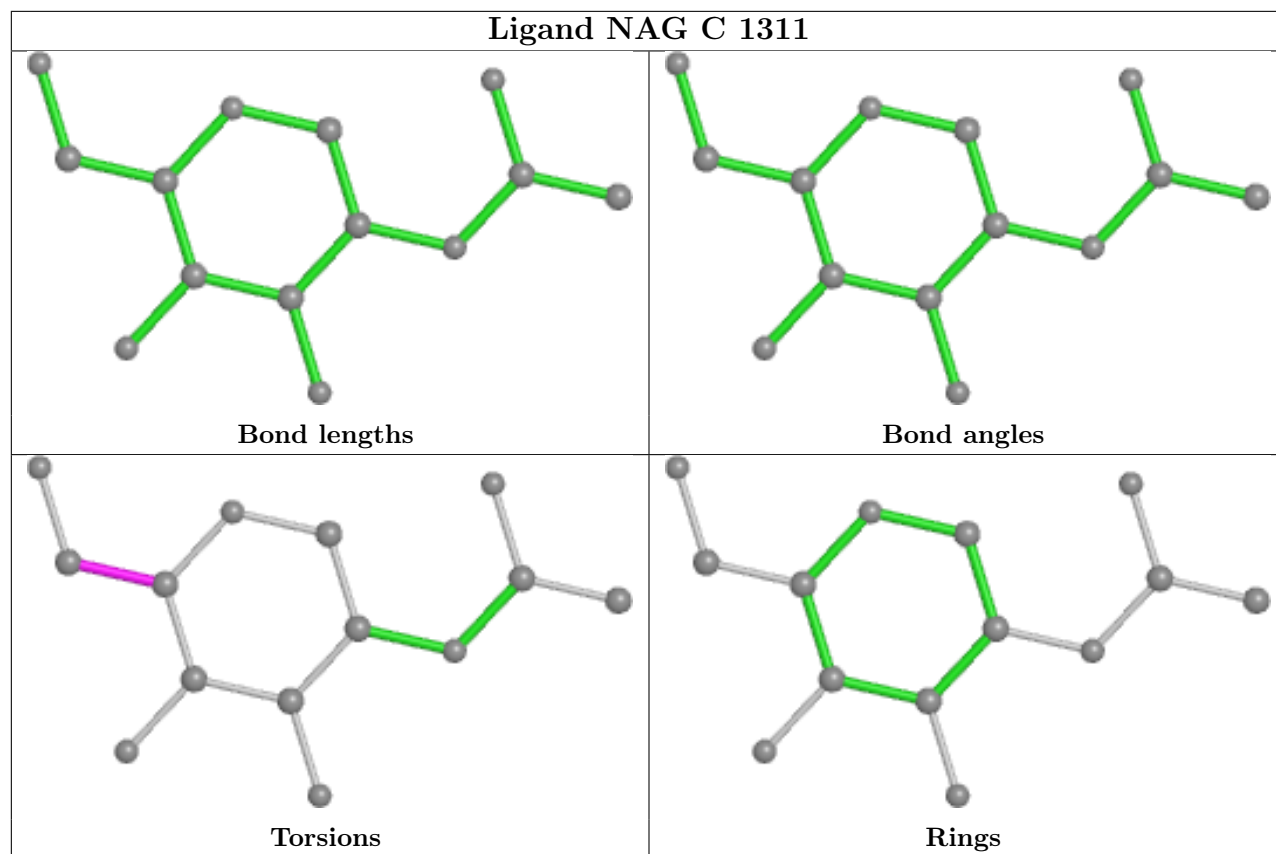


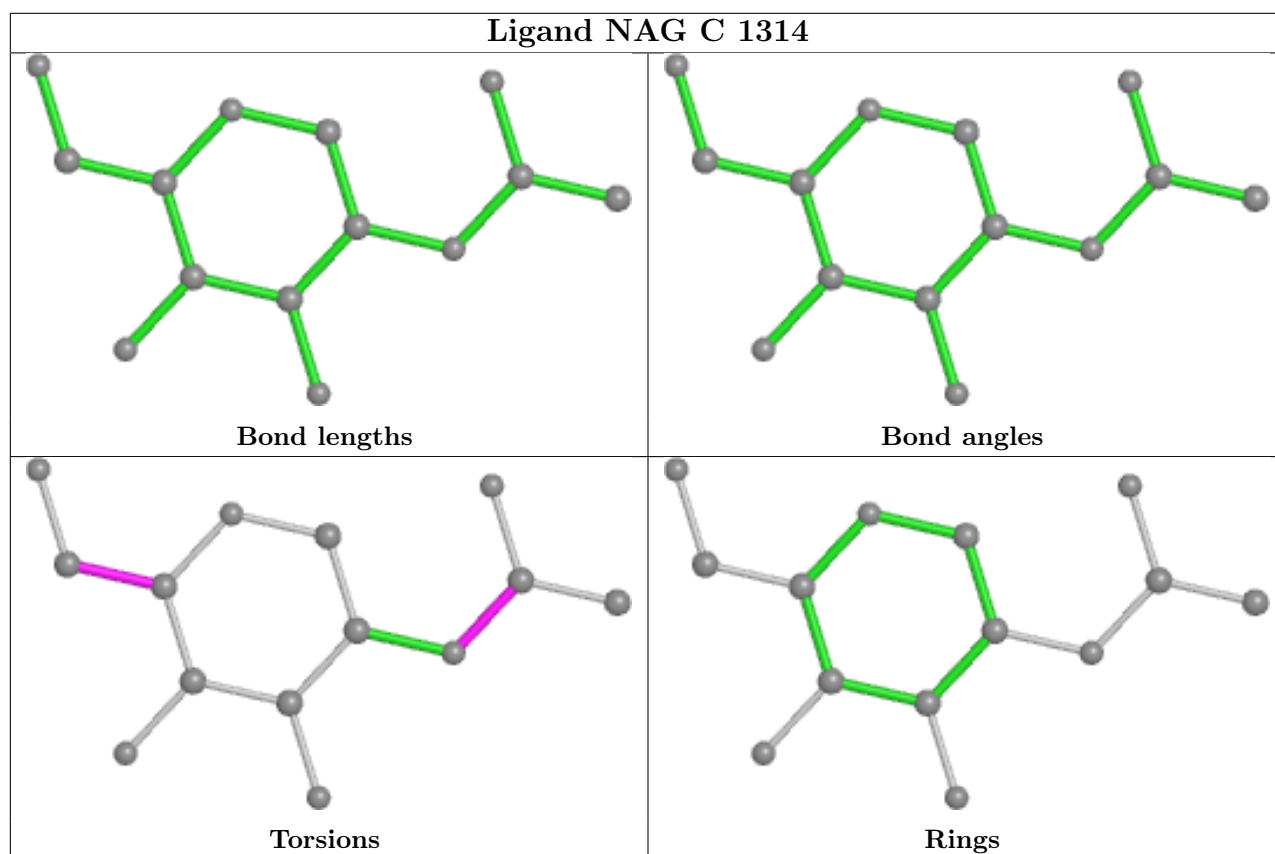
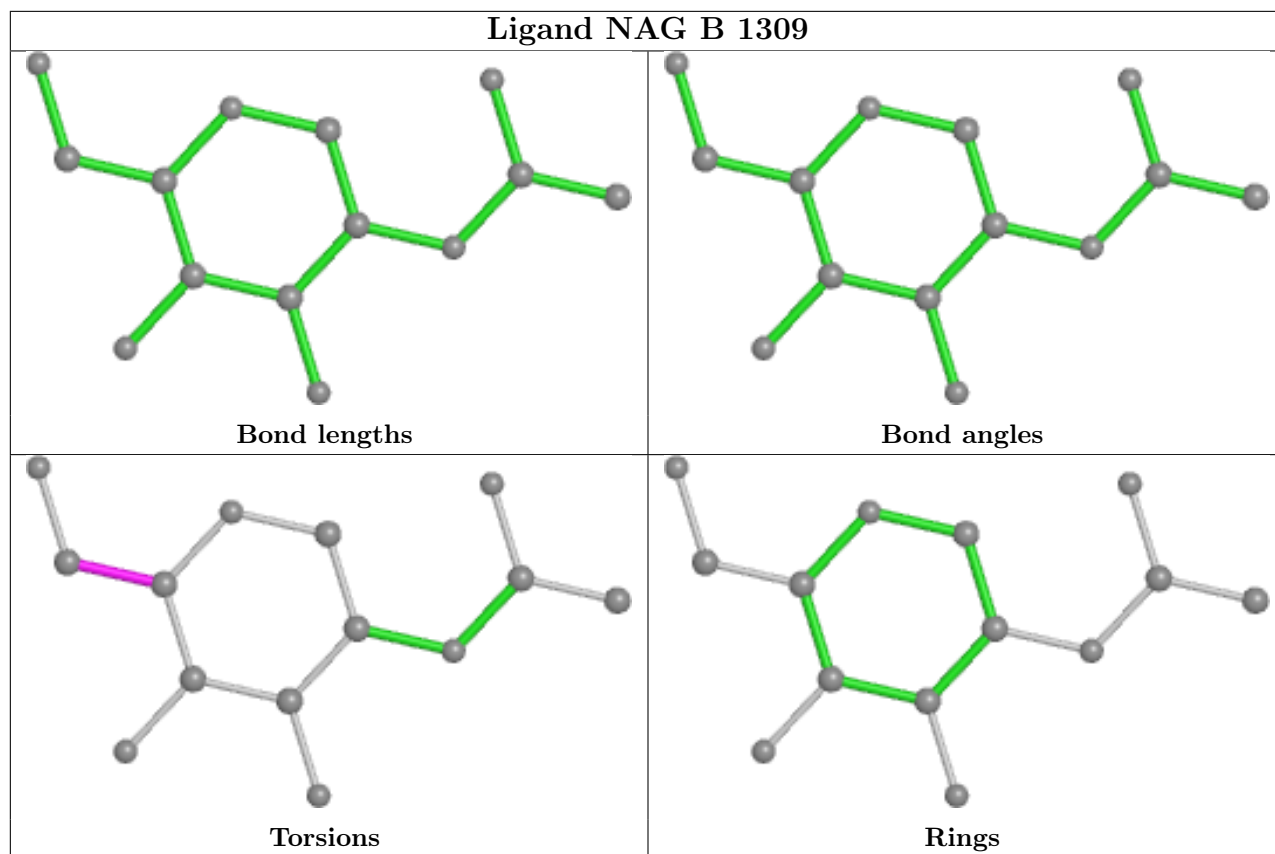


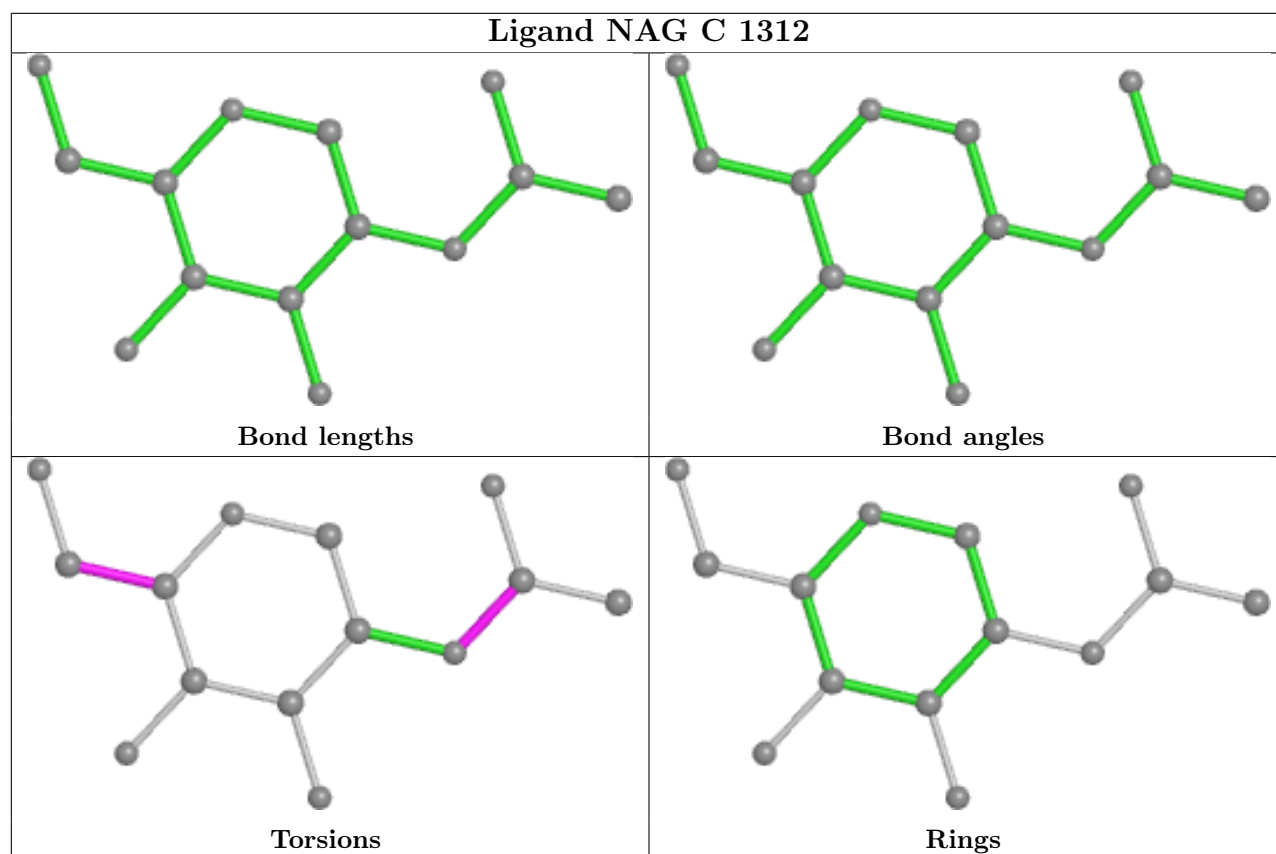
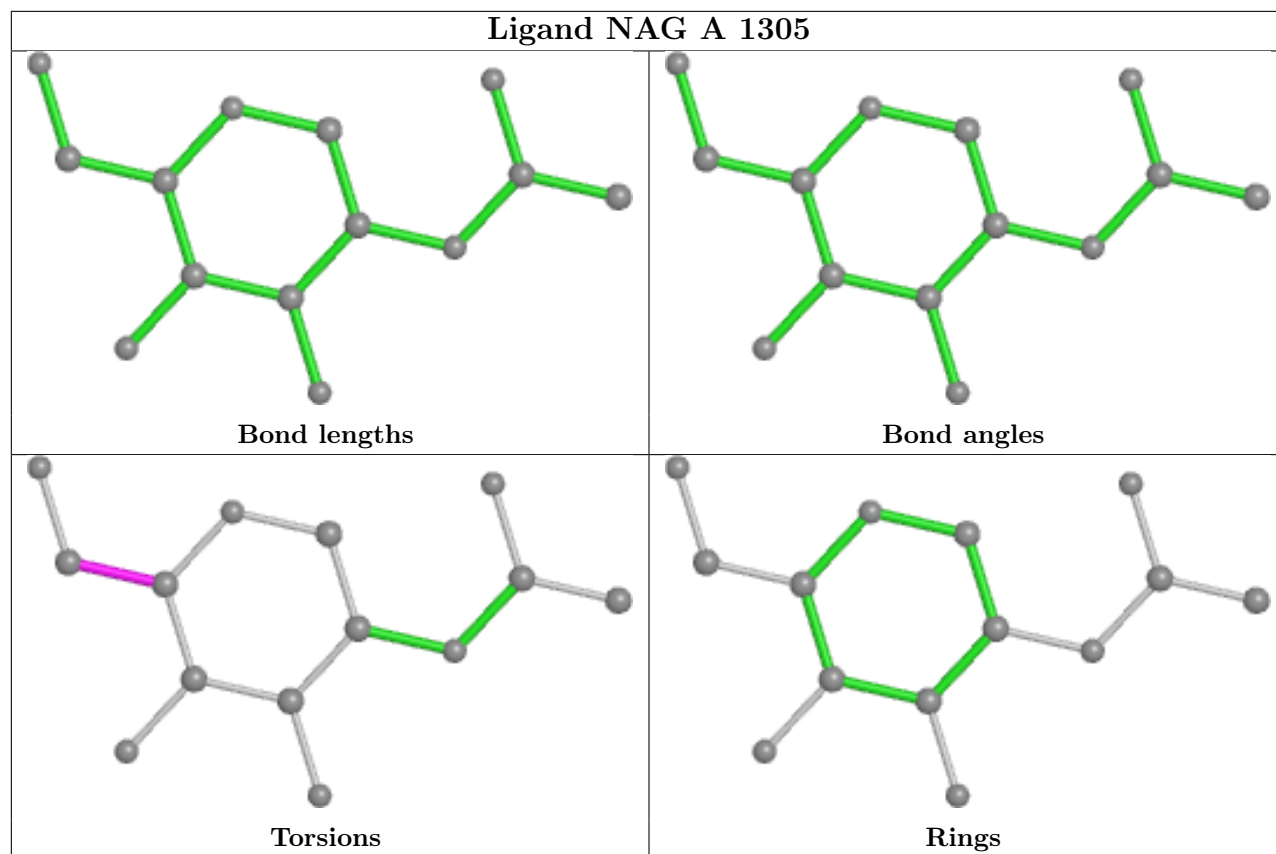


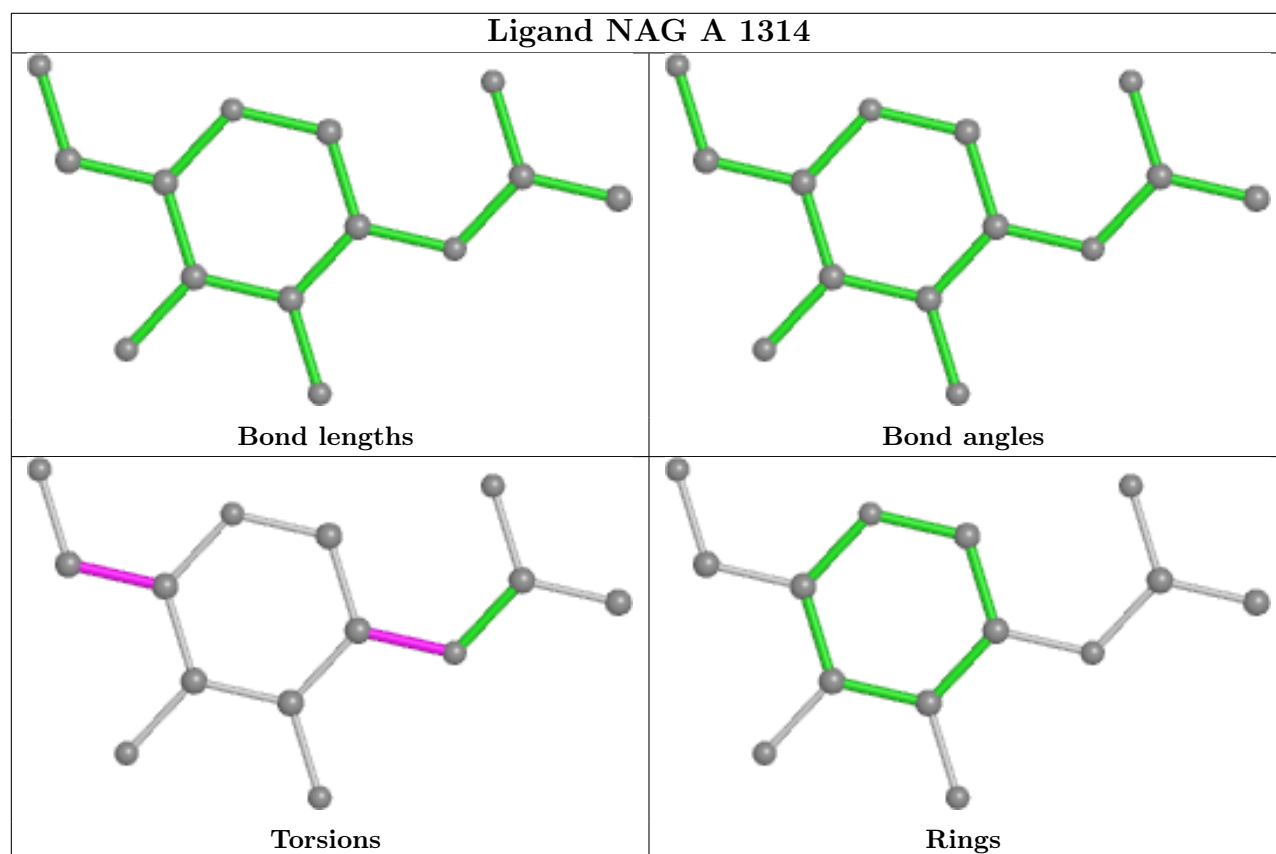
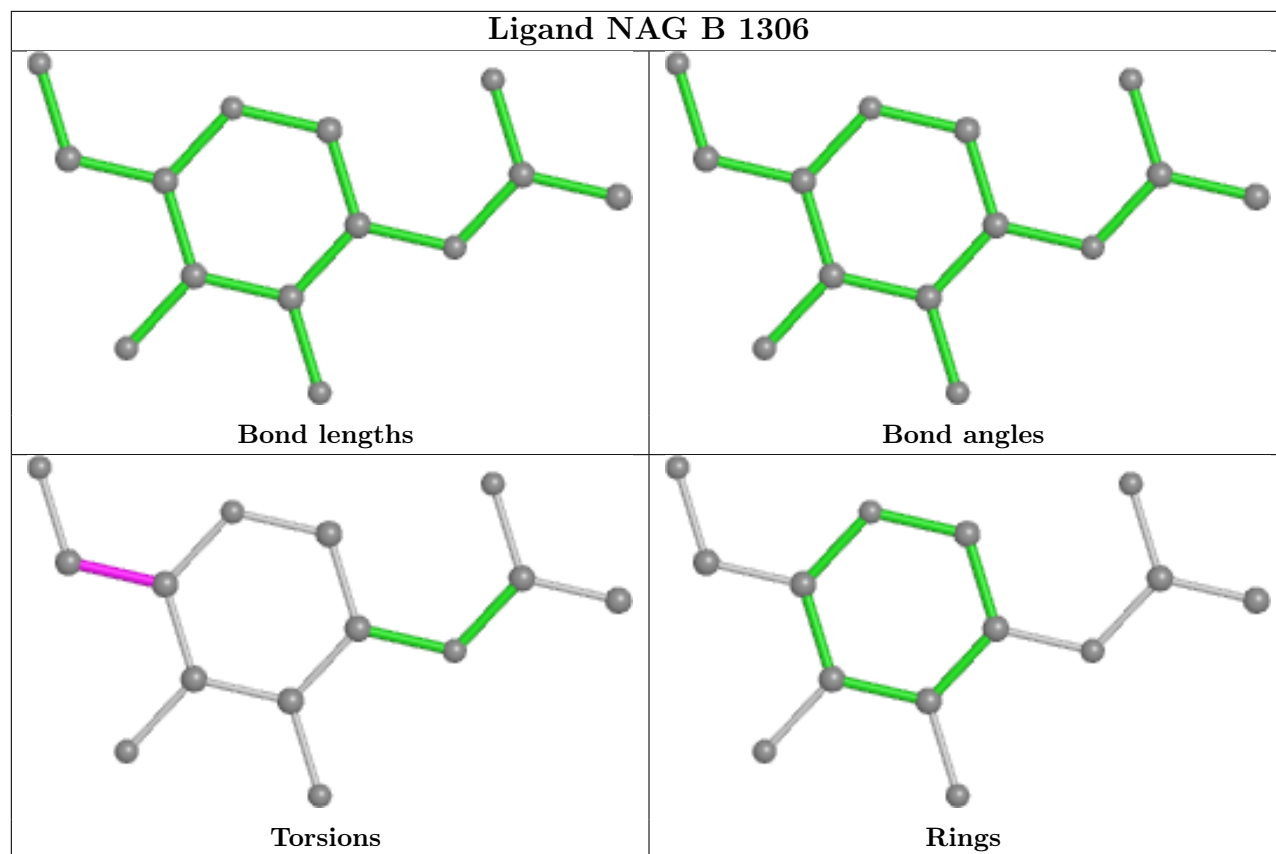


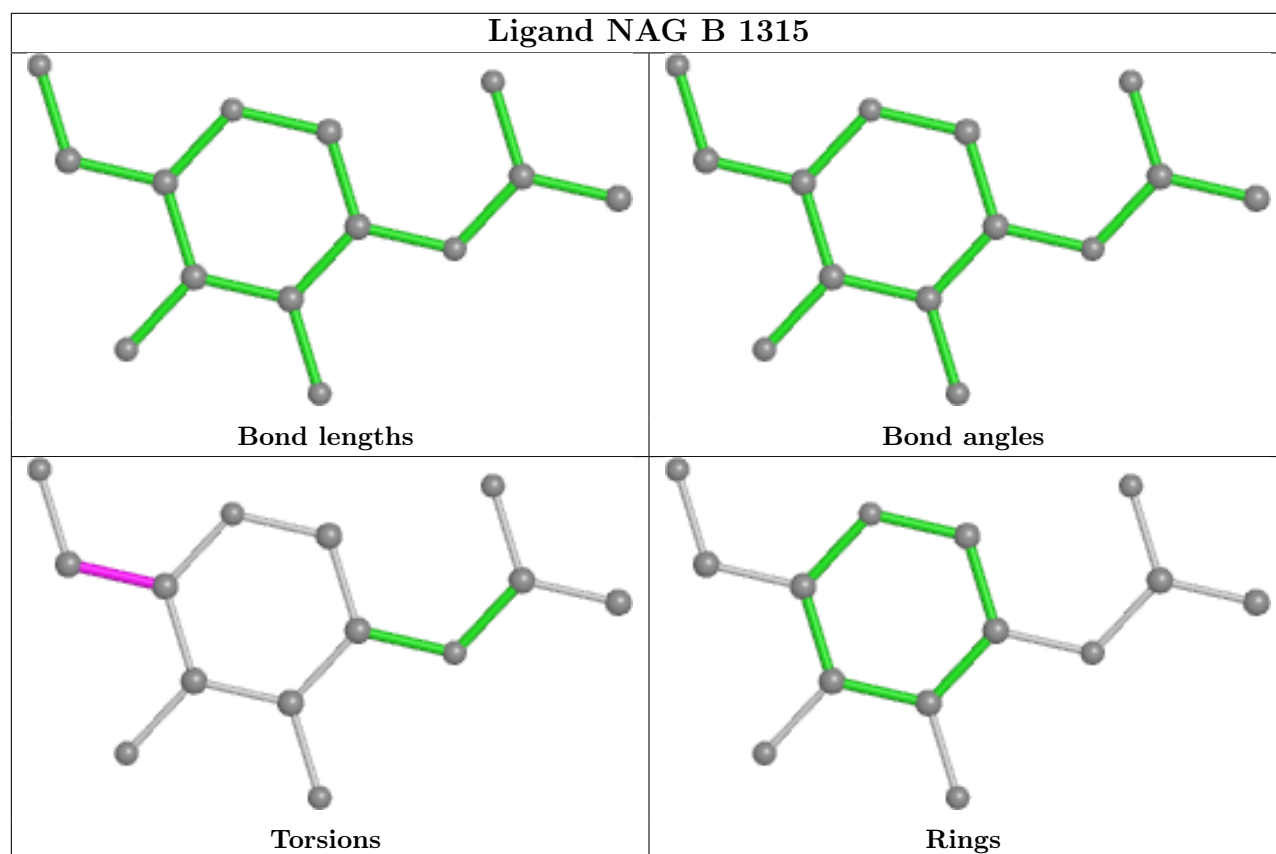
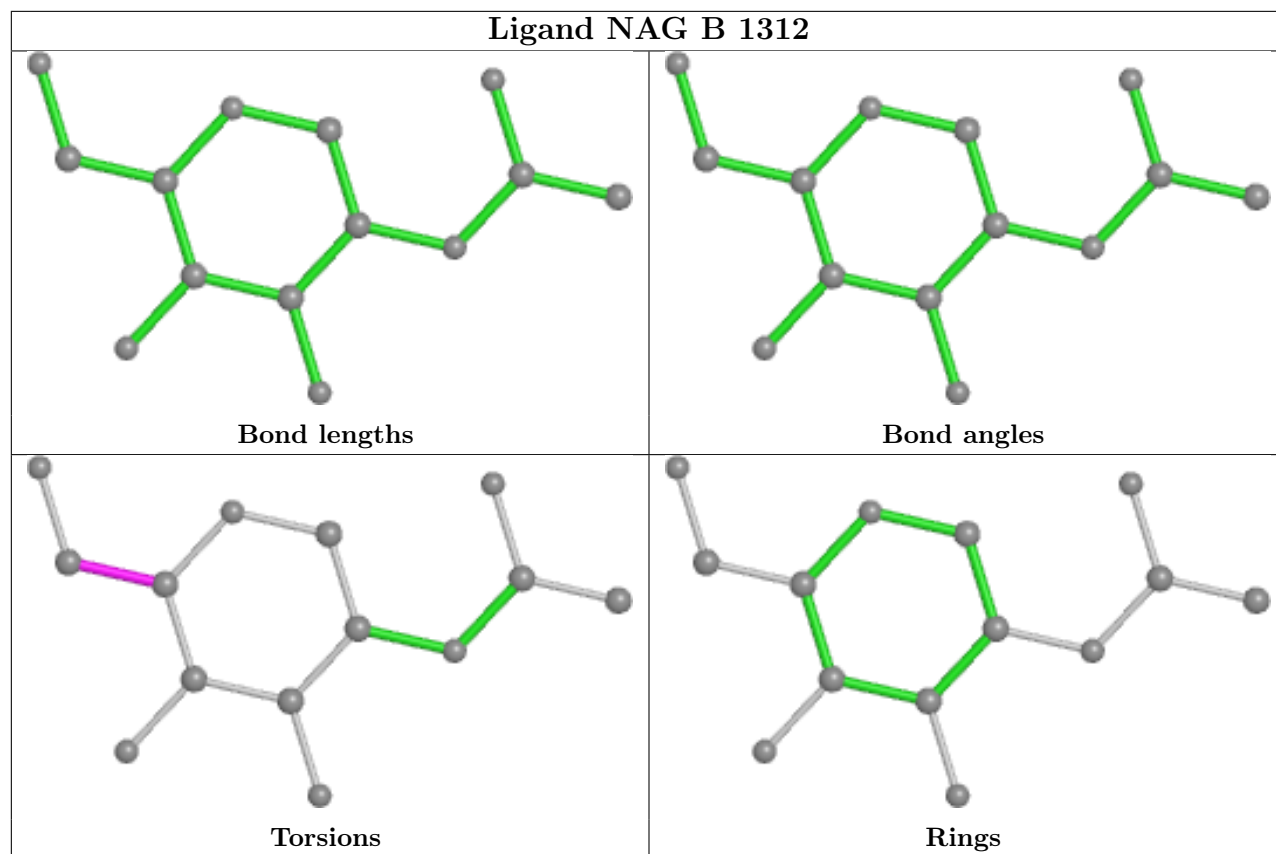


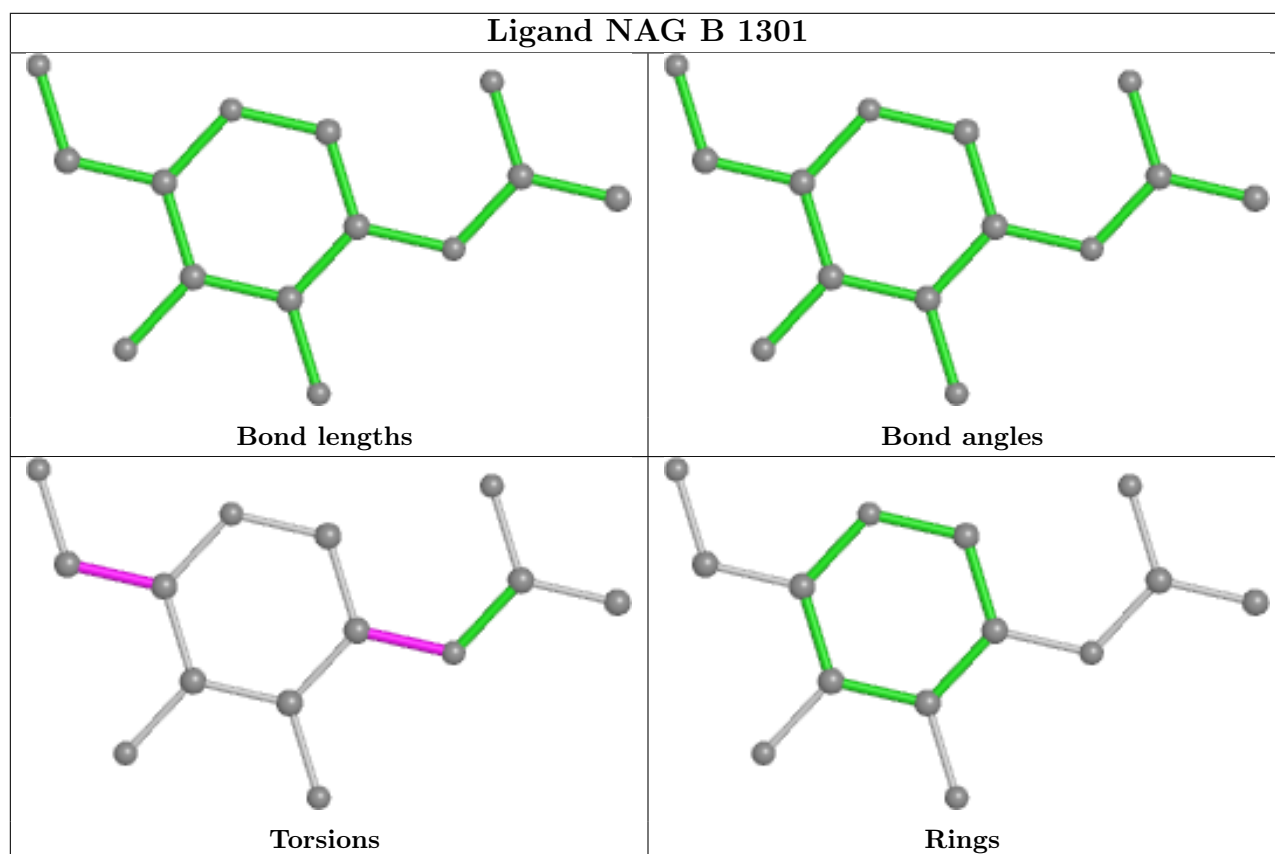
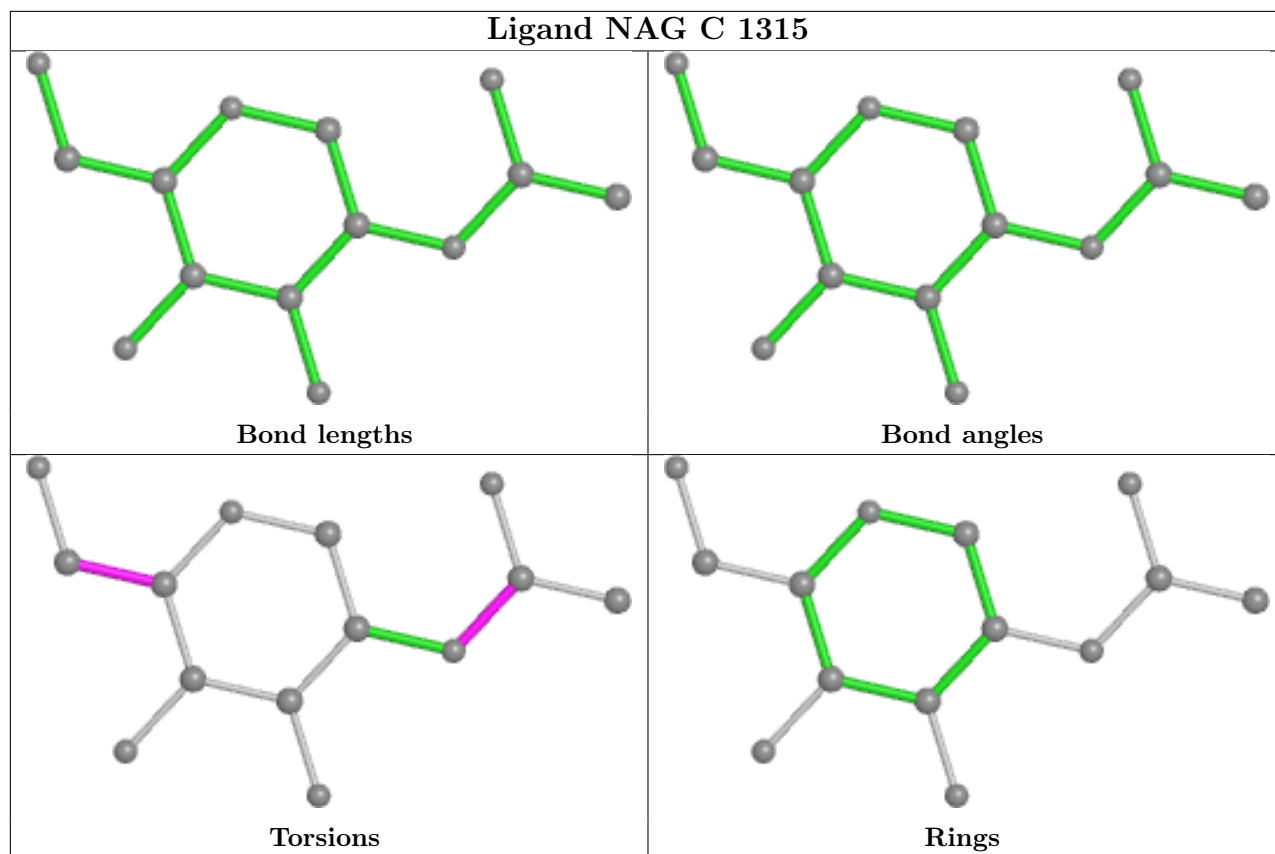


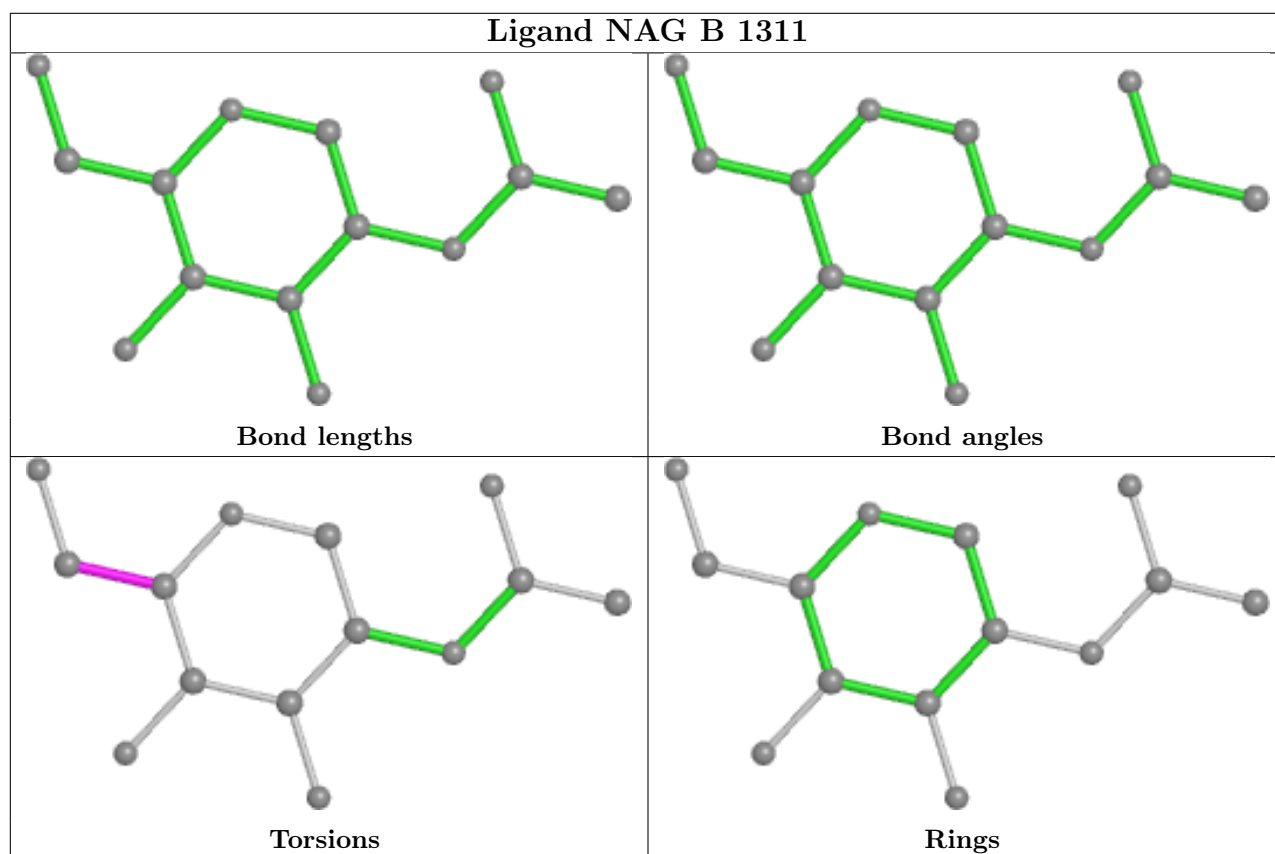
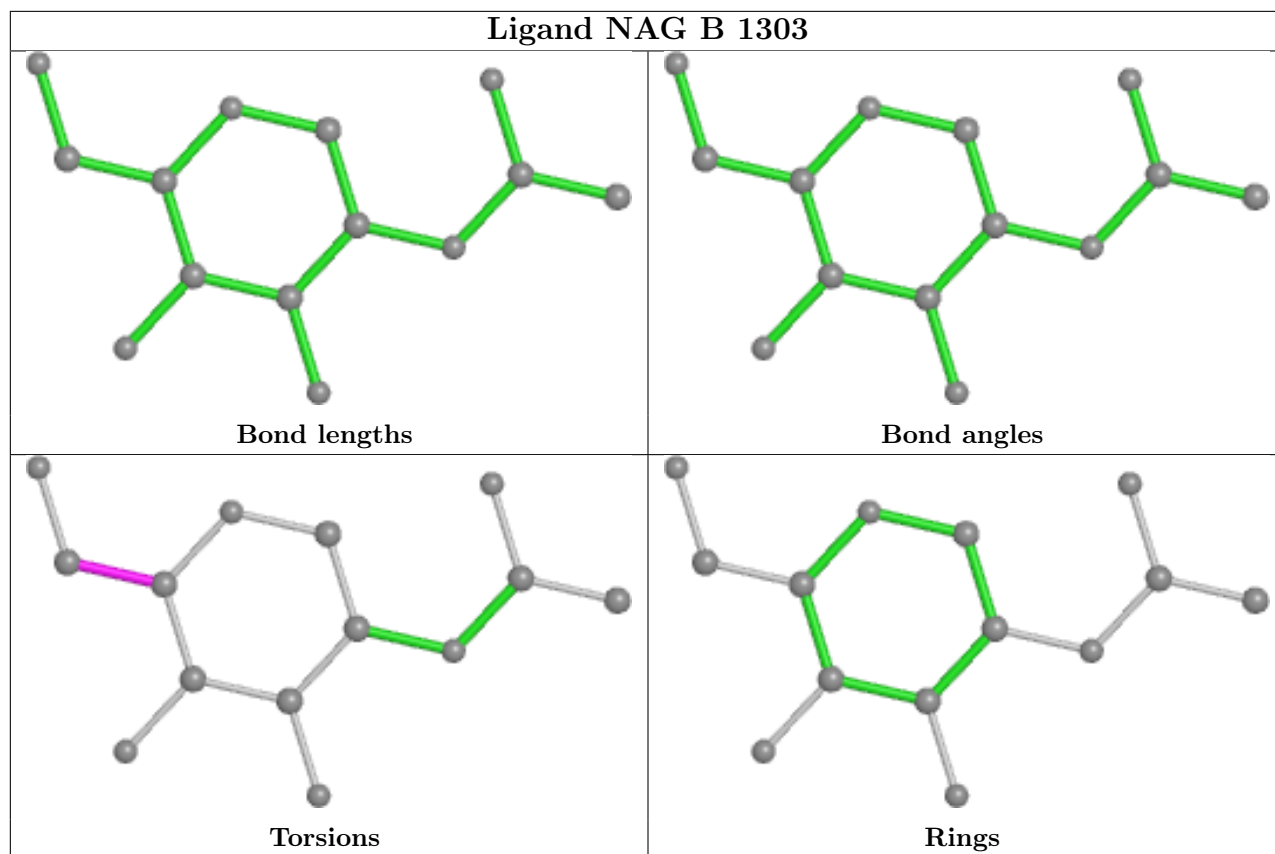


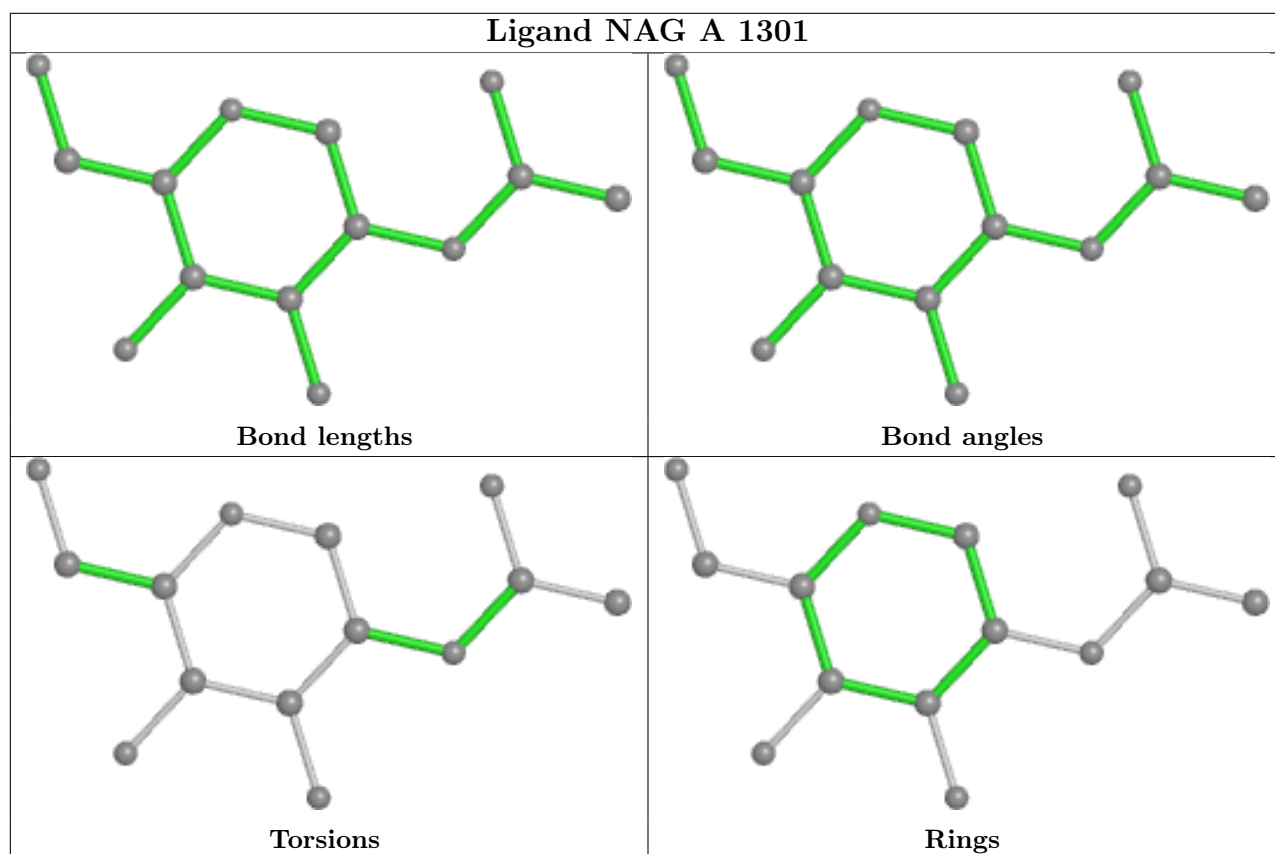
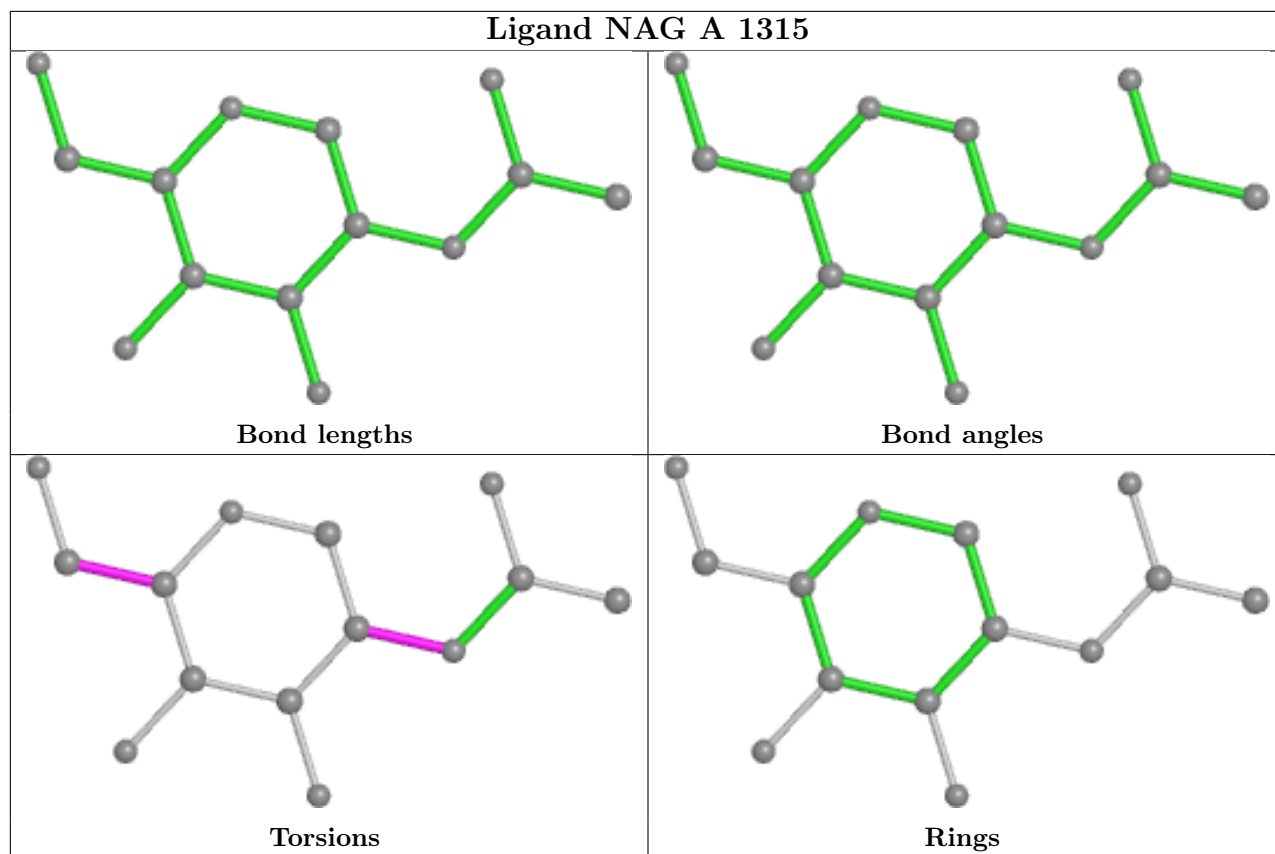












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

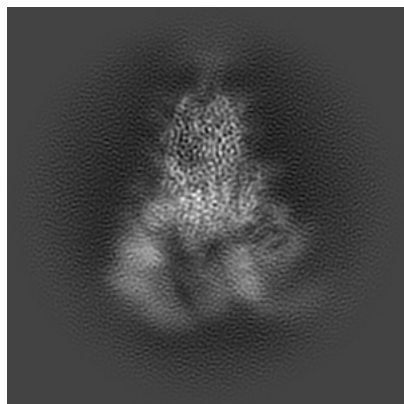
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-26878. These allow visual inspection of the internal detail of the map and identification of artifacts.

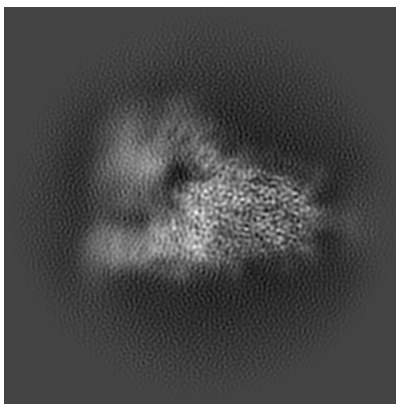
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

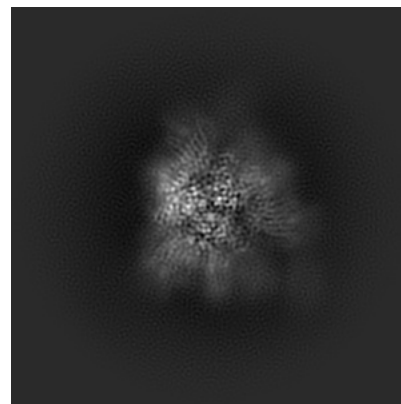
6.1.1 Primary map



X

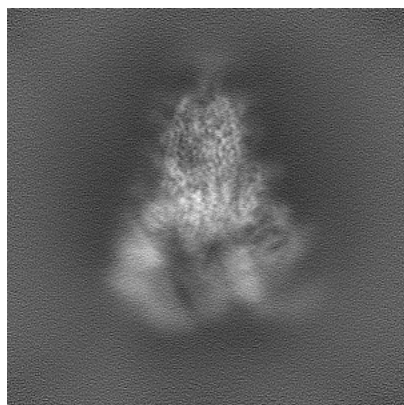


Y

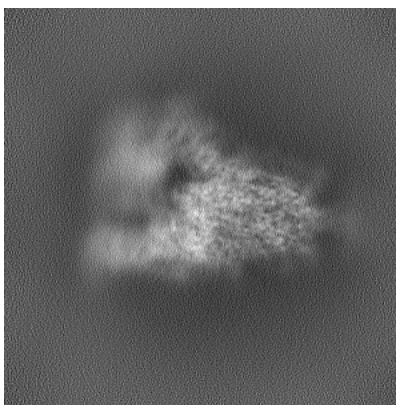


Z

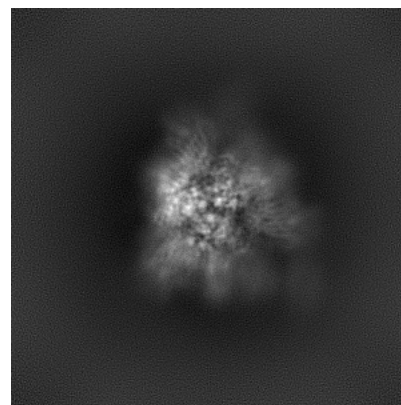
6.1.2 Raw map



X



Y

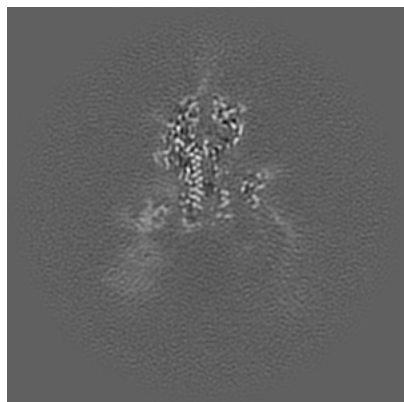


Z

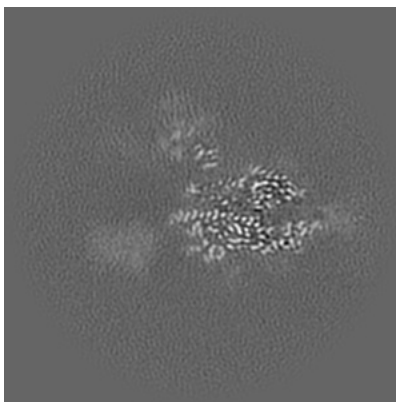
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

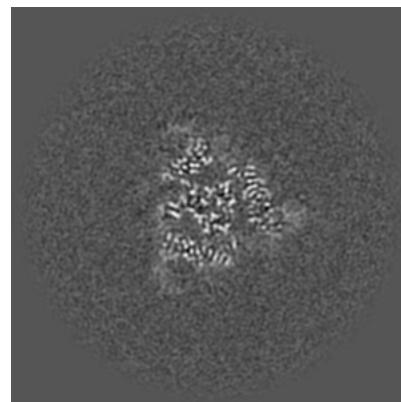
6.2.1 Primary map



X Index: 180

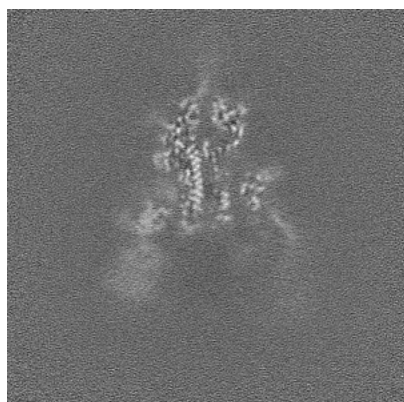


Y Index: 180

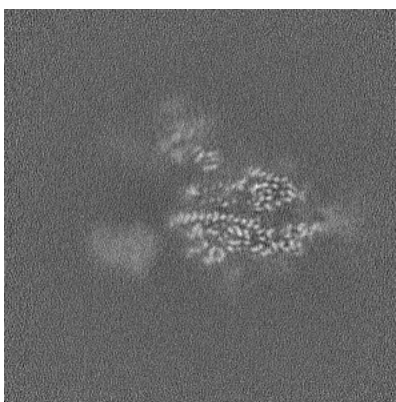


Z Index: 180

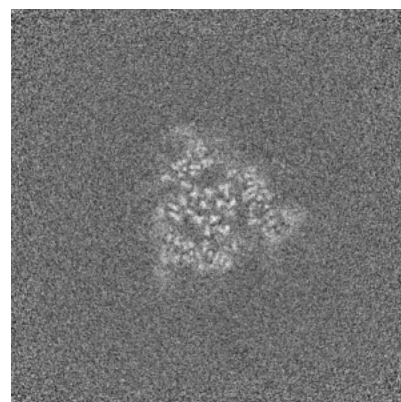
6.2.2 Raw map



X Index: 180



Y Index: 180

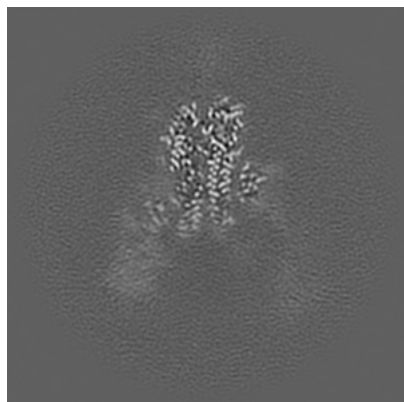


Z Index: 180

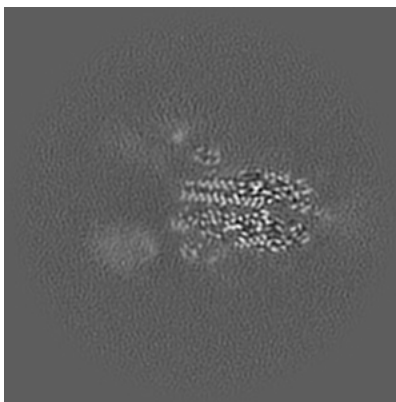
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

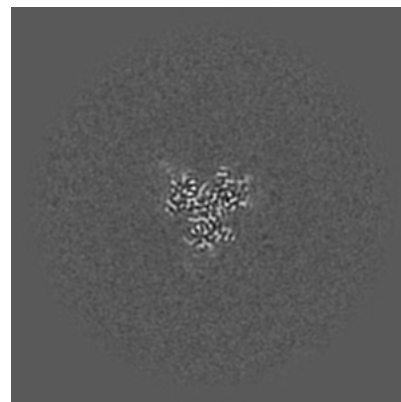
6.3.1 Primary map



X Index: 185

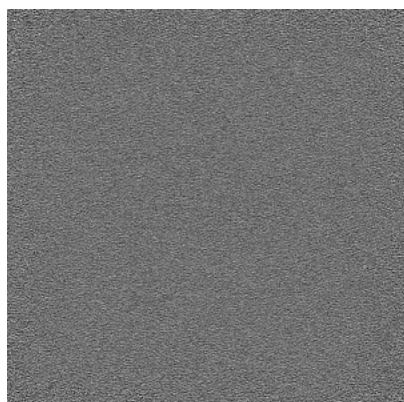


Y Index: 186

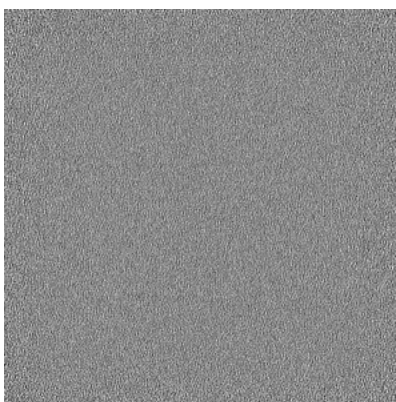


Z Index: 230

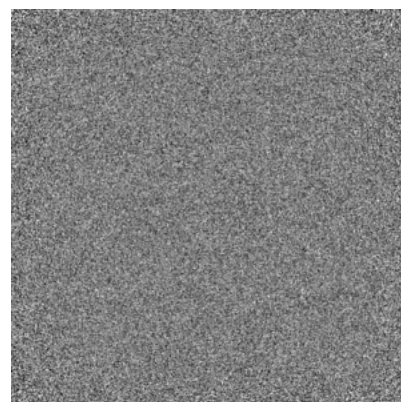
6.3.2 Raw map



X Index: 0



Y Index: 0

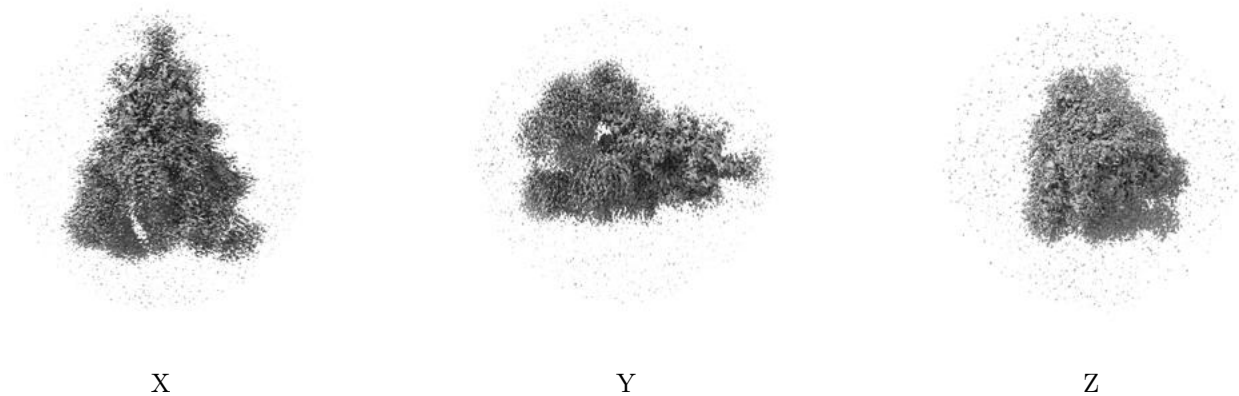


Z Index: 0

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

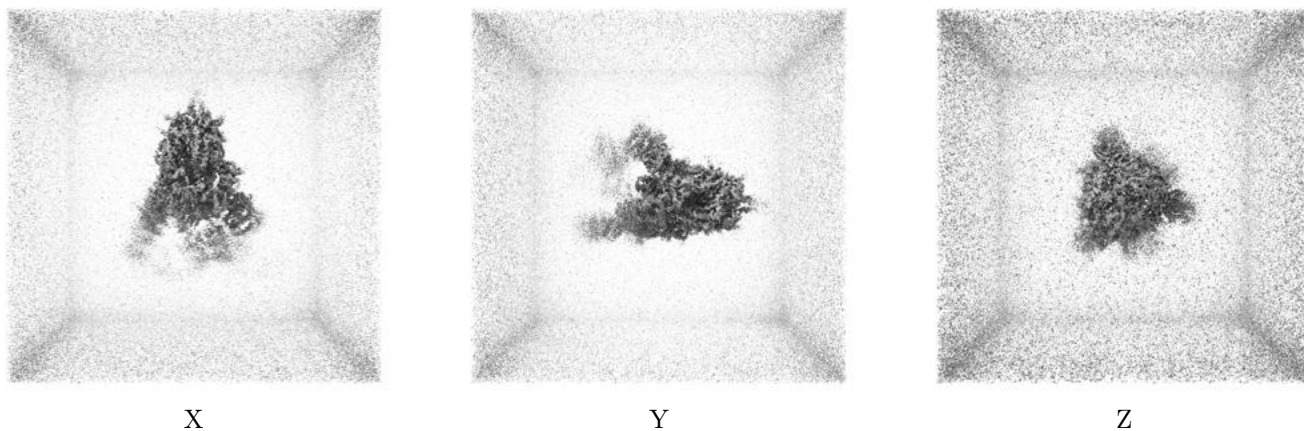
6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.08. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



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.

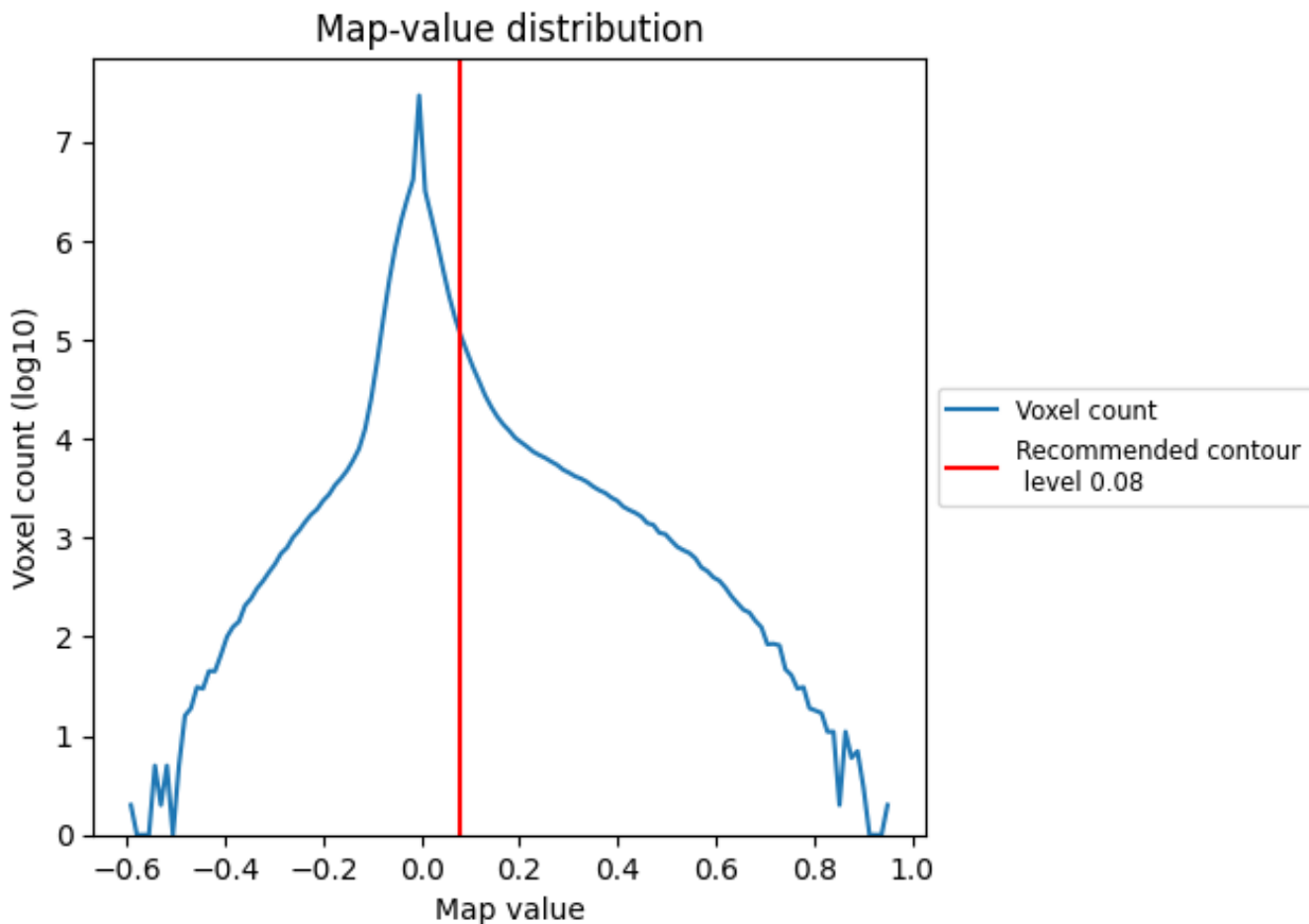
6.5 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

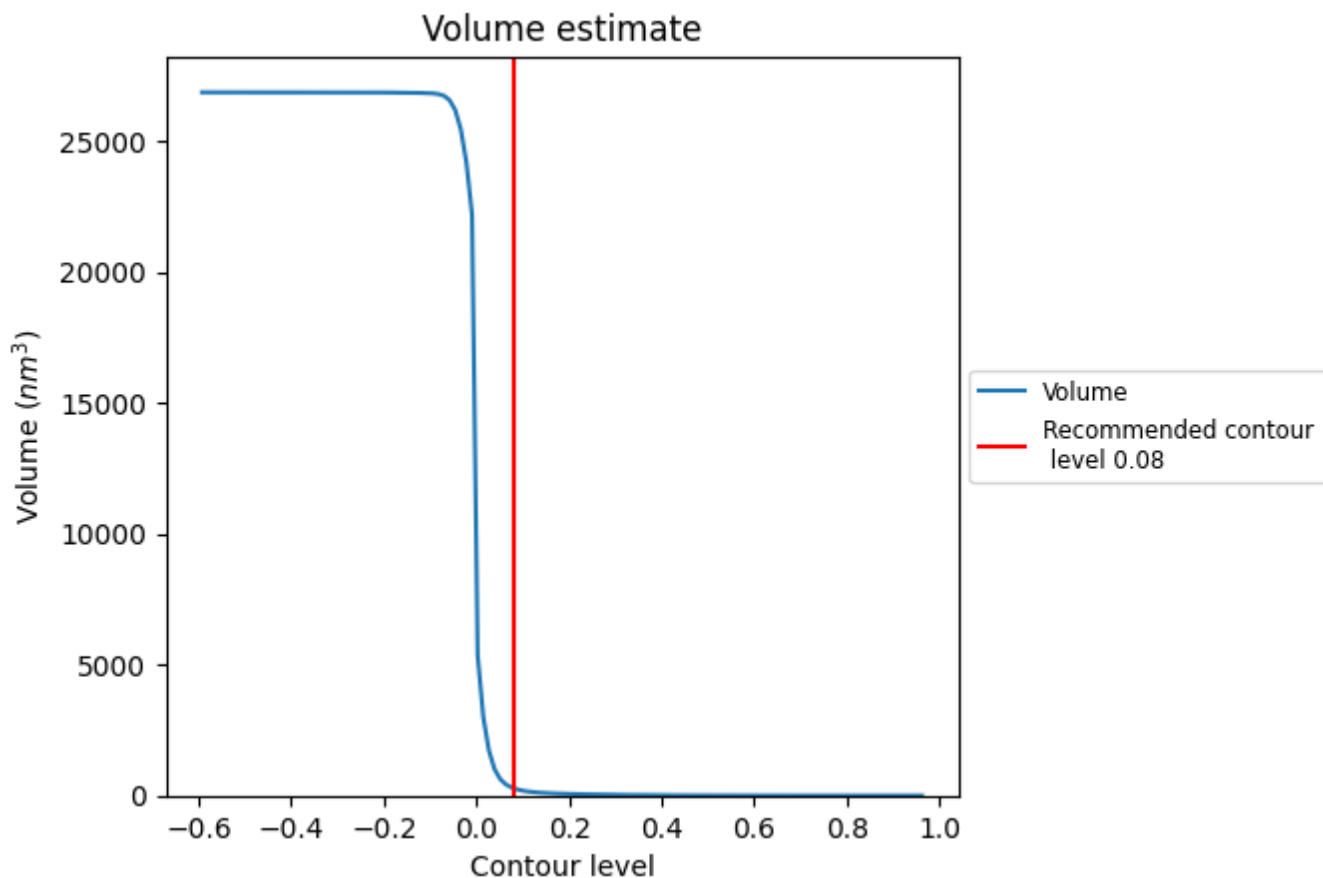
This section contains the results of statistical analysis of the map.

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.

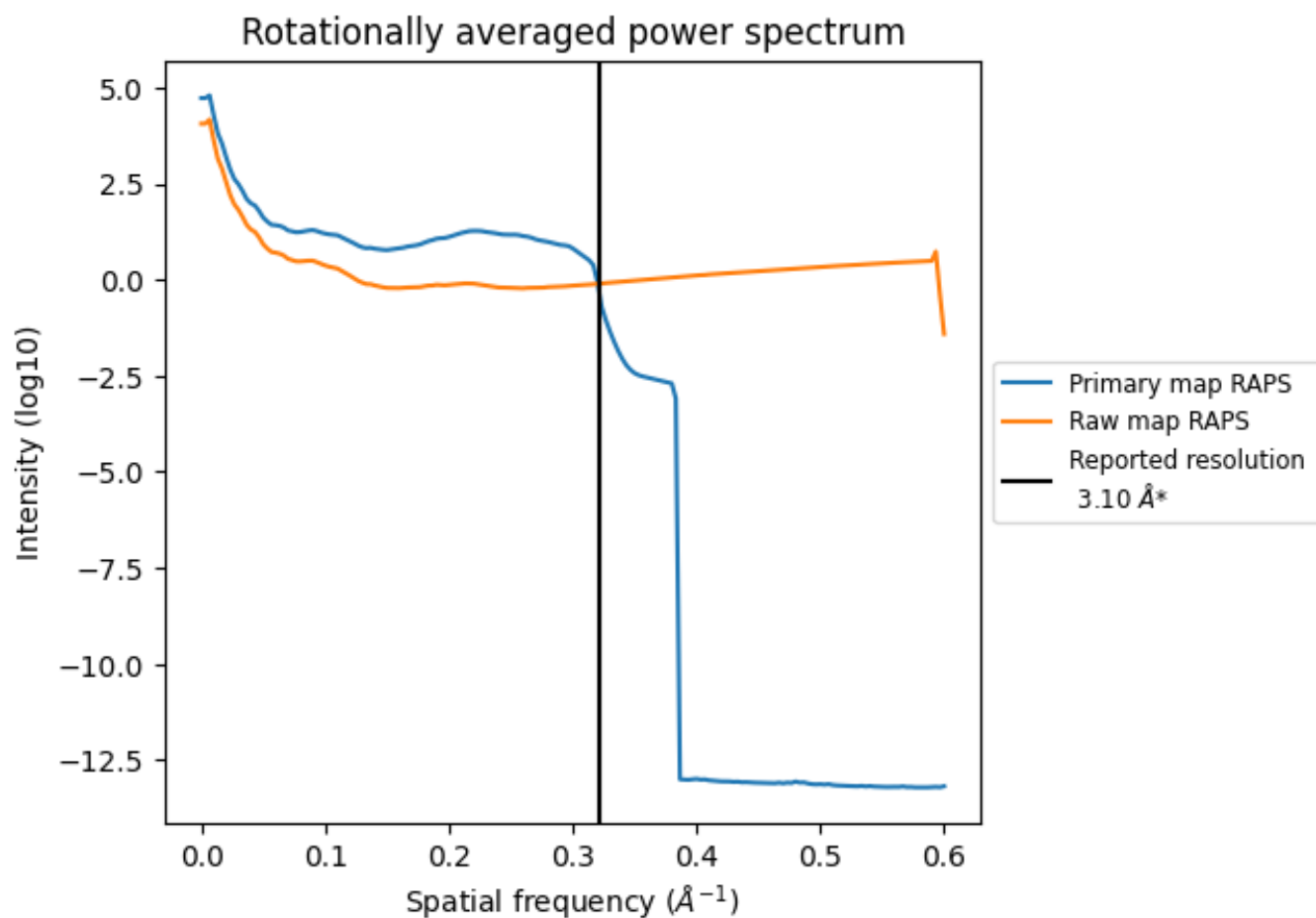
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 286 nm³; this corresponds to an approximate mass of 258 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 [i](#)

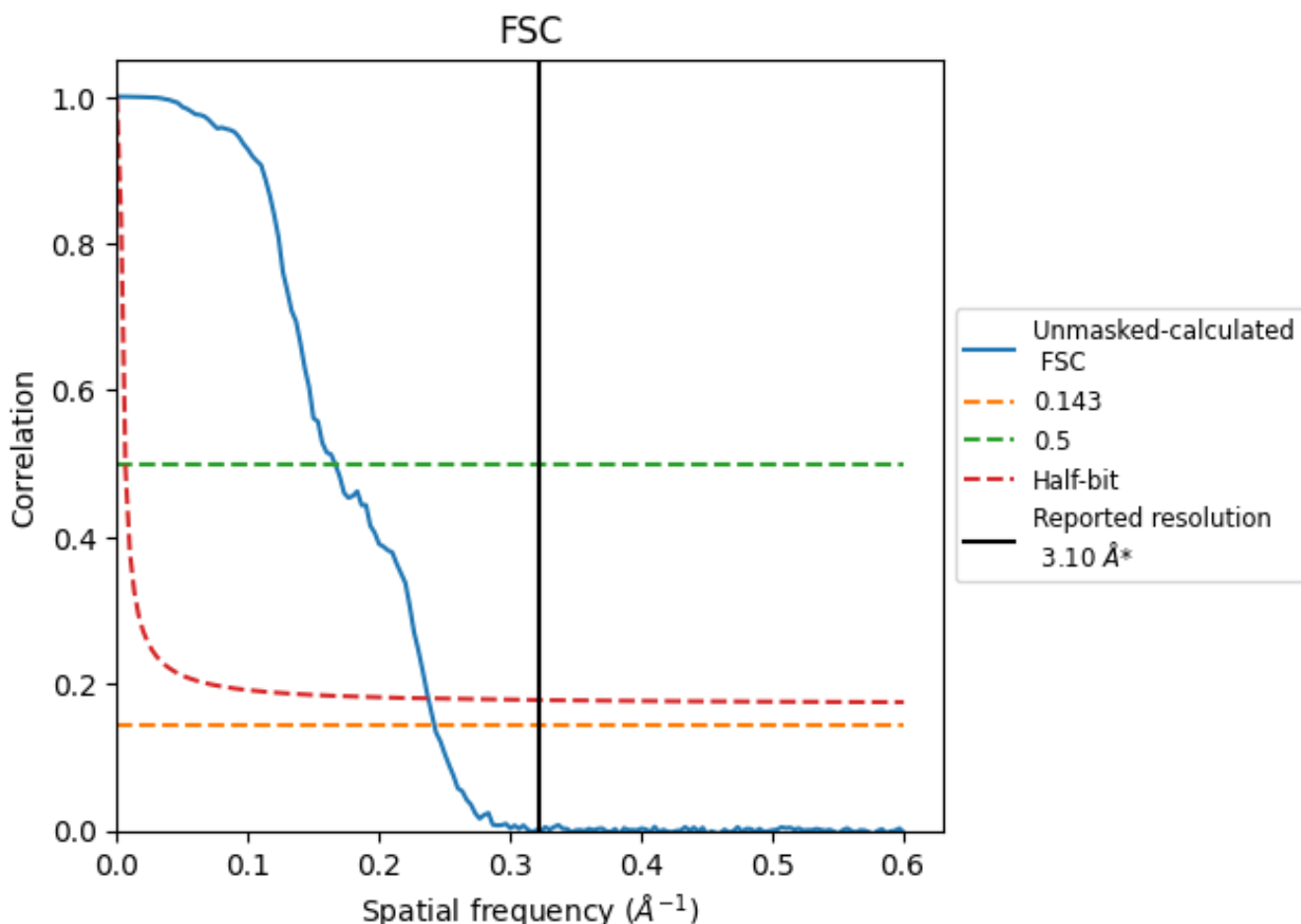


*Reported resolution corresponds to spatial frequency of 0.323 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.323 Å⁻¹

8.2 Resolution estimates [i](#)

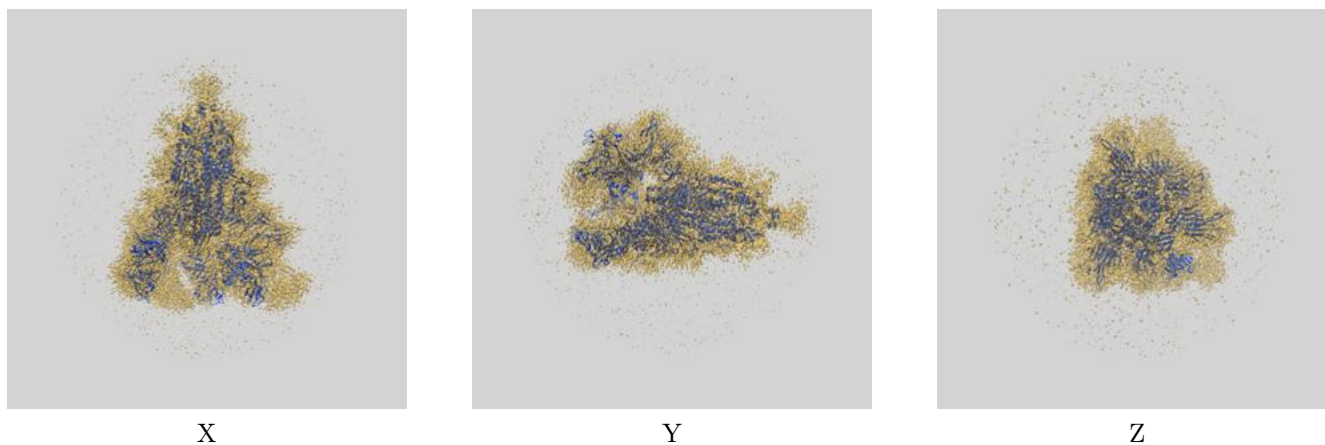
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.12	6.00	4.20

*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 4.12 differs from the reported value 3.1 by more than 10 %

9 Map-model fit [i](#)

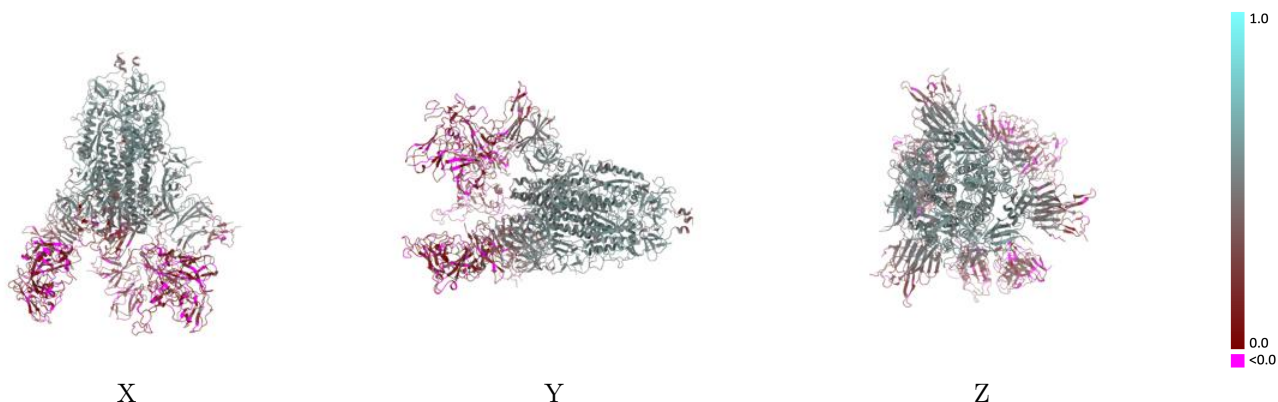
This section contains information regarding the fit between EMDB map EMD-26878 and PDB model 7UZ4. Per-residue inclusion information can be found in section [3](#) on page [12](#).

9.1 Map-model overlay [i](#)



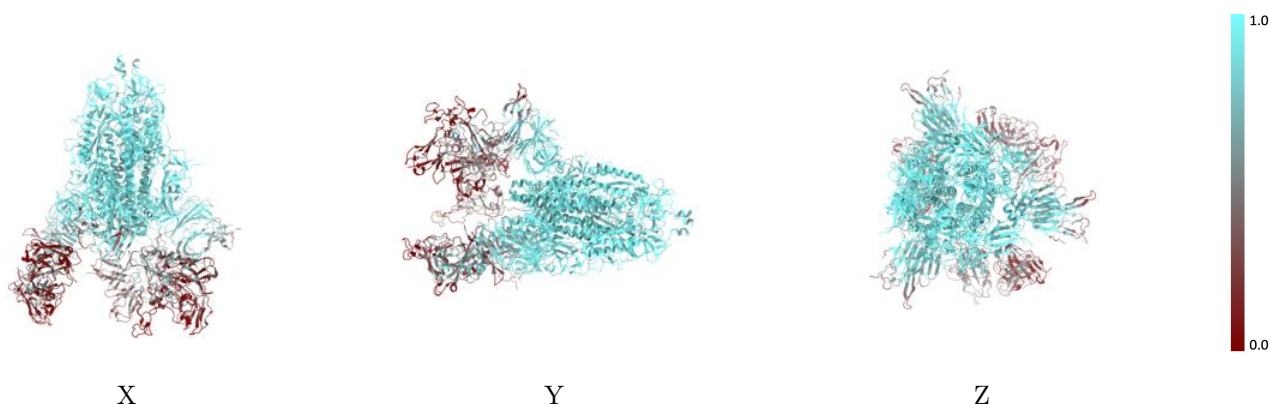
The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



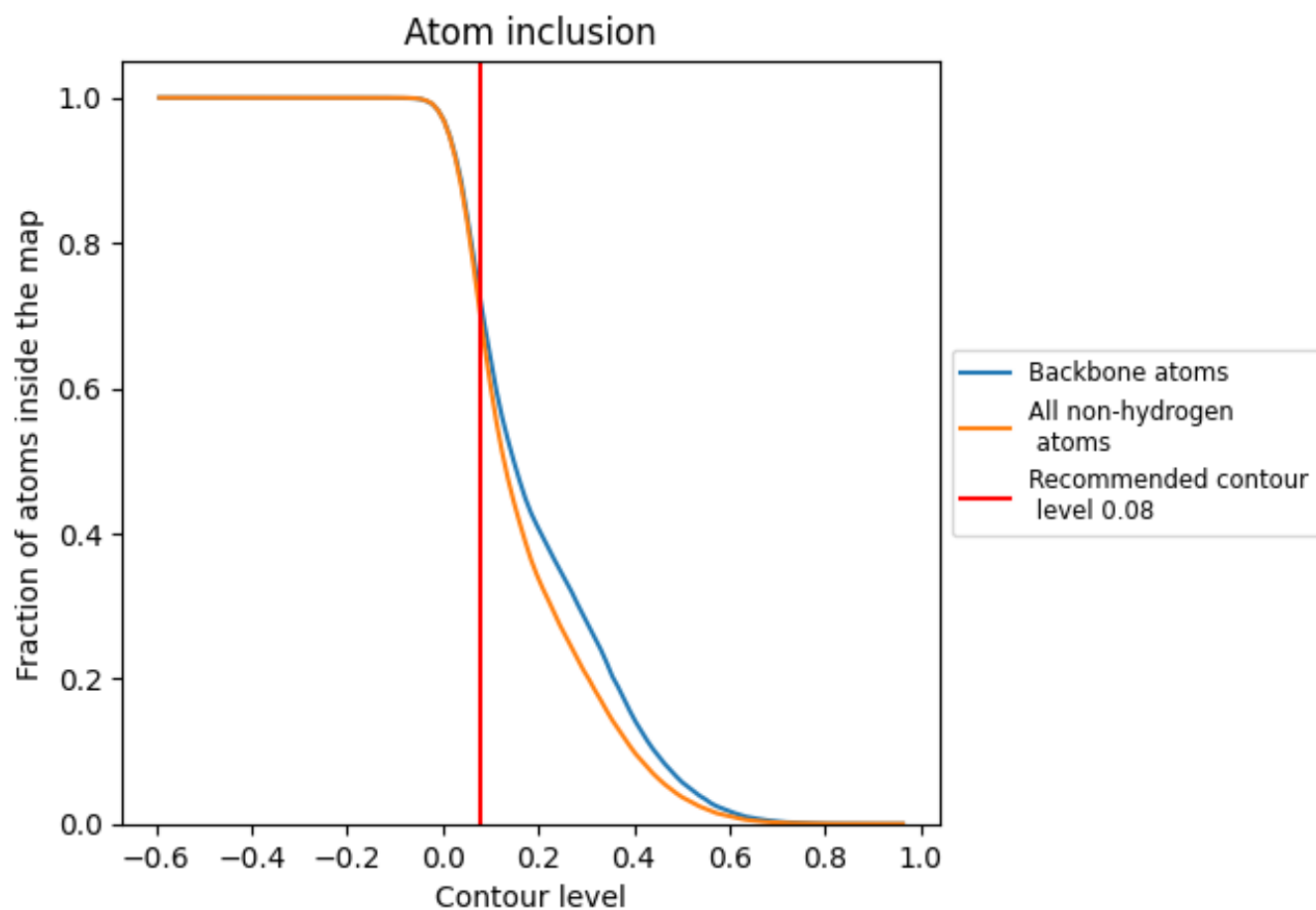
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [i](#)



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 (0.08).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 72% of all backbone atoms, 69% 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 (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6935	 0.3680
A	 0.7856	 0.4090
B	 0.7817	 0.4250
C	 0.7644	 0.4090
D	 0.9286	 0.5060
E	 0.9286	 0.5090
F	 0.8929	 0.4820
H	 0.4467	 0.1760
L	 0.3527	 0.1350
M	 0.2583	 0.1300
N	 0.2302	 0.1510
P	 0.2293	 0.1220
Q	 0.2005	 0.1370

