



Full wwPDB EM Validation Report ⓘ

Nov 3, 2024 – 07:44 AM EST

PDB ID : 7RQX
EMDB ID : EMD-24639
Title : Cryo-EM structure of the full-length TRPV1 with RTx at 25 degrees Celsius, in an intermediate-open state, class A
Authors : Kwon, D.H.; Suo, Y.; Lee, S.-Y.
Deposited on : 2021-08-08
Resolution : 3.36 Å(reported)
Based on initial model : 7LP9

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.dev113
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

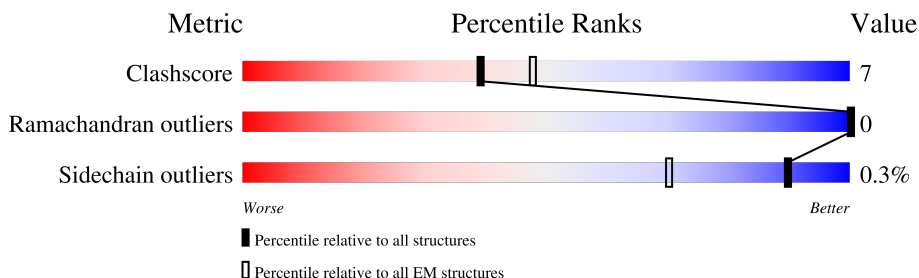
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.36 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	868	<div> <div>20%</div> <div>49%</div> <div>9%</div> <div>42%</div> </div>
1	B	868	<div> <div>20%</div> <div>49%</div> <div>9%</div> <div>42%</div> </div>
1	C	868	<div> <div>20%</div> <div>49%</div> <div>9%</div> <div>42%</div> </div>
1	D	868	<div> <div>20%</div> <div>49%</div> <div>9%</div> <div>42%</div> </div>

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 31446 atoms, of which 15340 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 Transient receptor potential cation channel subfamily V member 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	504	Total	C	H	N	O	S	0	0
			7413	2501	3586	624	679	23		
1	C	504	Total	C	H	N	O	S	0	0
			7413	2501	3586	624	679	23		
1	D	504	Total	C	H	N	O	S	0	0
			7413	2501	3586	624	679	23		
1	B	504	Total	C	H	N	O	S	0	0
			7413	2501	3586	624	679	23		

There are 120 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	839	GLU	-	expression tag	UNP O35433
A	840	ASN	-	expression tag	UNP O35433
A	841	SER	-	expression tag	UNP O35433
A	842	LEU	-	expression tag	UNP O35433
A	843	GLU	-	expression tag	UNP O35433
A	844	VAL	-	expression tag	UNP O35433
A	845	LEU	-	expression tag	UNP O35433
A	846	PHE	-	expression tag	UNP O35433
A	847	GLN	-	expression tag	UNP O35433
A	848	GLY	-	expression tag	UNP O35433
A	849	PRO	-	expression tag	UNP O35433
A	850	ASP	-	expression tag	UNP O35433
A	851	TYR	-	expression tag	UNP O35433
A	852	LYS	-	expression tag	UNP O35433
A	853	ASP	-	expression tag	UNP O35433
A	854	ASP	-	expression tag	UNP O35433
A	855	ASP	-	expression tag	UNP O35433
A	856	ASP	-	expression tag	UNP O35433
A	857	LYS	-	expression tag	UNP O35433
A	858	ALA	-	expression tag	UNP O35433
A	859	HIS	-	expression tag	UNP O35433

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Chain	Residue	Modelled	Actual	Comment	Reference
A	860	HIS	-	expression tag	UNP O35433
A	861	HIS	-	expression tag	UNP O35433
A	862	HIS	-	expression tag	UNP O35433
A	863	HIS	-	expression tag	UNP O35433
A	864	HIS	-	expression tag	UNP O35433
A	865	HIS	-	expression tag	UNP O35433
A	866	HIS	-	expression tag	UNP O35433
A	867	HIS	-	expression tag	UNP O35433
A	868	HIS	-	expression tag	UNP O35433
C	839	GLU	-	expression tag	UNP O35433
C	840	ASN	-	expression tag	UNP O35433
C	841	SER	-	expression tag	UNP O35433
C	842	LEU	-	expression tag	UNP O35433
C	843	GLU	-	expression tag	UNP O35433
C	844	VAL	-	expression tag	UNP O35433
C	845	LEU	-	expression tag	UNP O35433
C	846	PHE	-	expression tag	UNP O35433
C	847	GLN	-	expression tag	UNP O35433
C	848	GLY	-	expression tag	UNP O35433
C	849	PRO	-	expression tag	UNP O35433
C	850	ASP	-	expression tag	UNP O35433
C	851	TYR	-	expression tag	UNP O35433
C	852	LYS	-	expression tag	UNP O35433
C	853	ASP	-	expression tag	UNP O35433
C	854	ASP	-	expression tag	UNP O35433
C	855	ASP	-	expression tag	UNP O35433
C	856	ASP	-	expression tag	UNP O35433
C	857	LYS	-	expression tag	UNP O35433
C	858	ALA	-	expression tag	UNP O35433
C	859	HIS	-	expression tag	UNP O35433
C	860	HIS	-	expression tag	UNP O35433
C	861	HIS	-	expression tag	UNP O35433
C	862	HIS	-	expression tag	UNP O35433
C	863	HIS	-	expression tag	UNP O35433
C	864	HIS	-	expression tag	UNP O35433
C	865	HIS	-	expression tag	UNP O35433
C	866	HIS	-	expression tag	UNP O35433
C	867	HIS	-	expression tag	UNP O35433
C	868	HIS	-	expression tag	UNP O35433
D	839	GLU	-	expression tag	UNP O35433
D	840	ASN	-	expression tag	UNP O35433
D	841	SER	-	expression tag	UNP O35433

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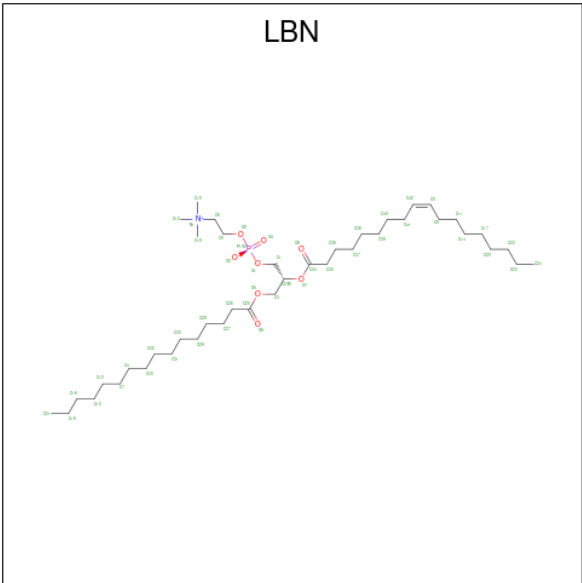
Chain	Residue	Modelled	Actual	Comment	Reference
D	842	LEU	-	expression tag	UNP O35433
D	843	GLU	-	expression tag	UNP O35433
D	844	VAL	-	expression tag	UNP O35433
D	845	LEU	-	expression tag	UNP O35433
D	846	PHE	-	expression tag	UNP O35433
D	847	GLN	-	expression tag	UNP O35433
D	848	GLY	-	expression tag	UNP O35433
D	849	PRO	-	expression tag	UNP O35433
D	850	ASP	-	expression tag	UNP O35433
D	851	TYR	-	expression tag	UNP O35433
D	852	LYS	-	expression tag	UNP O35433
D	853	ASP	-	expression tag	UNP O35433
D	854	ASP	-	expression tag	UNP O35433
D	855	ASP	-	expression tag	UNP O35433
D	856	ASP	-	expression tag	UNP O35433
D	857	LYS	-	expression tag	UNP O35433
D	858	ALA	-	expression tag	UNP O35433
D	859	HIS	-	expression tag	UNP O35433
D	860	HIS	-	expression tag	UNP O35433
D	861	HIS	-	expression tag	UNP O35433
D	862	HIS	-	expression tag	UNP O35433
D	863	HIS	-	expression tag	UNP O35433
D	864	HIS	-	expression tag	UNP O35433
D	865	HIS	-	expression tag	UNP O35433
D	866	HIS	-	expression tag	UNP O35433
D	867	HIS	-	expression tag	UNP O35433
D	868	HIS	-	expression tag	UNP O35433
B	839	GLU	-	expression tag	UNP O35433
B	840	ASN	-	expression tag	UNP O35433
B	841	SER	-	expression tag	UNP O35433
B	842	LEU	-	expression tag	UNP O35433
B	843	GLU	-	expression tag	UNP O35433
B	844	VAL	-	expression tag	UNP O35433
B	845	LEU	-	expression tag	UNP O35433
B	846	PHE	-	expression tag	UNP O35433
B	847	GLN	-	expression tag	UNP O35433
B	848	GLY	-	expression tag	UNP O35433
B	849	PRO	-	expression tag	UNP O35433
B	850	ASP	-	expression tag	UNP O35433
B	851	TYR	-	expression tag	UNP O35433
B	852	LYS	-	expression tag	UNP O35433
B	853	ASP	-	expression tag	UNP O35433

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Chain	Residue	Modelled	Actual	Comment	Reference
B	854	ASP	-	expression tag	UNP O35433
B	855	ASP	-	expression tag	UNP O35433
B	856	ASP	-	expression tag	UNP O35433
B	857	LYS	-	expression tag	UNP O35433
B	858	ALA	-	expression tag	UNP O35433
B	859	HIS	-	expression tag	UNP O35433
B	860	HIS	-	expression tag	UNP O35433
B	861	HIS	-	expression tag	UNP O35433
B	862	HIS	-	expression tag	UNP O35433
B	863	HIS	-	expression tag	UNP O35433
B	864	HIS	-	expression tag	UNP O35433
B	865	HIS	-	expression tag	UNP O35433
B	866	HIS	-	expression tag	UNP O35433
B	867	HIS	-	expression tag	UNP O35433
B	868	HIS	-	expression tag	UNP O35433

- Molecule 2 is 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphocholine (three-letter code: LBN) (formula: C₄₂H₈₂NO₈P).



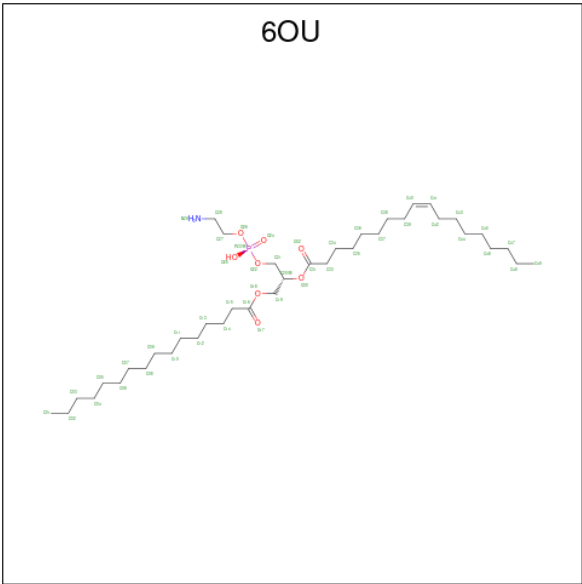
Mol	Chain	Residues	Atoms						AltConf
2	A	1	Total	C	H	N	O	P	0
			77	23	44	1	8	1	
2	A	1	Total	C	H	N	O	P	0
			102	32	60	1	8	1	
2	C	1	Total	C	H	N	O	P	0
			77	23	44	1	8	1	

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Mol	Chain	Residues	Atoms					AltConf
2	C	1	Total	C	H	N	O	P
			102	32	60	1	8	1
2	D	1	Total	C	H	N	O	P
			102	32	60	1	8	1
2	D	1	Total	C	H	N	O	P
			77	23	44	1	8	1
2	B	1	Total	C	H	N	O	P
			102	32	60	1	8	1
2	B	1	Total	C	H	N	O	P
			77	23	44	1	8	1

- Molecule 3 is [(2 {R})-1-[2-azanylethoxy(oxidanyl)phosphoryl]oxy-3-hexadecanoyloxy-prop an-2-yl] ({Z})-octadec-9-enoate (three-letter code: 6OU) (formula: C₃₉H₇₆NO₈P).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	H			
			29	10	19			0
3	A	1	Total	C	H	O	P	
			74	24	41	8	1	0
3	A	1	Total	C	H	O	P	
			80	26	45	8	1	0
3	C	1	Total	C	H	O	P	
			74	24	41	8	1	0
3	C	1	Total	C	H			
			29	10	19			0
3	C	1	Total	C	H	O	P	
			80	26	45	8	1	0

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Mol	Chain	Residues	Atoms					AltConf
3	D	1	Total 80	C 26	H 45	O 8	P 1	0
3	D	1	Total 29	C 10	H 19			0
3	B	1	Total 74	C 24	H 41	O 8	P 1	0
3	B	1	Total 80	C 26	H 45	O 8	P 1	0
3	B	1	Total 74	C 24	H 41	O 8	P 1	0
3	B	1	Total 29	C 10	H 19			0

- # 6EU

Mol	Chain	Residues	Atoms				AltConf
4	A	1	Total 86	C 37	H 40	O 9	0
4	C	1	Total 86	C 37	H 40	O 9	0
4	D	1	Total 86	C 37	H 40	O 9	0
4	B	1	Total 86	C 37	H 40	O 9	0

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- WORLD WIDE
PDB
PROTEIN DATA BANK

Mol	Chain	Residues	Atoms		AltConf
5	A	2	Total	Na	0
			2	2	

[illegible]

- Molecule 1: Transient receptor potential cation channel subfamily V member 1

Chain C: 20% 49% 9% 42%

[illegible]

ARG	LYS	THR	ASP	SER	LEU	LYS	GLN	PHE	VAL	ASN	ALA	SER	THR	THR	ASP	ASP	TYR	TYR	LYS	GLY	GLN	T203	T204	T205	H206	T207	A208	T209	E210	R211	R212	T213	M214	T215	L216	V217	T218	L219	L220	V221	E222	M223	GLY	ASP	ASP	VAL	GLN	ALA	ALA	ALA	ASN	GLY	ASP	PHE	PHE	LYS	LYS	THR	THR
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GLY	ARG	PRO	THR	PHE	TYR	PHE
G248						
E249						
L250						
P251						
L252						
S253						
L254						
A255						
A256						
C257						
T258						
N259						
Q260						
L261						
A262						
L263						
V264						
K265						
F266						
L267						
L268						
Q269						
N270						
S271						
W272						
Q273						
P274						
A275						
D276						
L277						
S278						
A279						
R280						
D281						
S282						
V283						
G284						
N285						
T286						
H289						
A290						
L291						
V294						
A295						
D296						
N297						
T298						
V299						
D300						
N301						
T302						

K303	F304	V305	S307	M308	Y309	E311	T312	L313	I314	G316	A317	K318	L319	H320	P321	T322	L323	K324	L325	E326	E327	I328	T329	T330	R331	K332	G333	L334	A336	A341	S342	I346	L349	A350	Y351	Q354	R355	E356	I357	H358	E359	P360	E361	C362	R363	H364	L365	S366	E371	U372
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R594	R595	E536	Y537	Y538	V542	F543	L563	Q560	I564	F580	F587	T593	T597	E600	D601	G602	LYS	ASN	ASN	SER	SER	LEU	PRO	MET	GLU	GLU	THR	PRO	HIS	LYS	CYS	CYS	ARG	GLY	GLY	ALA	ALA	CYS	LYS	PRO	PRO	GLY	M625	G626	Y627	M628	T641	M644	L647	T648
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D737	Y738	R739	D745	E746	V747	N748	W749	T750	T751	W752	ASN	THR	ASN	ASN	VAL	GLY	ILE	ILE	ASN	GLU	ASP	PRO	GLY	ASN	CYS	GLU	GLY	VAL	LYS	ARG	THR	ASN	SER	PHE	SER	LEU	ARG	SER	GLY	ARG	VAL	SER	GLY	ARG	ASN	LYS	THR	ASN	ALA	LEU	VAL	PRO	LEU	LEU	ARG	ASP	ALA	THR
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THR	ARG	ASP	ARG	HIS	ALA	THR	GLN	GLU	VAL	GLN	LEU	GLN	LYS	HIS	TYR	THR	GLY	SER	LEU	PRO	GLY	ASP	GLU	GLU	ALA	VAL	PHE	LYS	ASP	SER	GLY	GLU	LYS	ASN	SER	LEU	VAL	GLU	GLU	GLY	PRO	THR	ASP	GLY	PRO	THR	ASP	ASP	ALA	HIS
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- Molecule 1: Transient receptor potential cation channel subfamily V member 1

Chain D: 



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	32121	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 ($e^-/\text{\AA}^2$)	44	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	3.629	Depositor
Minimum map value	-2.296	Depositor
Average map value	0.010	Depositor
Map value standard deviation	0.099	Depositor
Recommended contour level	0.56	Depositor
Map size (Å)	263.424, 263.424, 263.424	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.029, 1.029, 1.029	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: 6OU, LBN, NA, 6EU

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	0.27	0/3918	0.47	0/5337
1	B	0.27	0/3918	0.46	0/5337
1	C	0.27	0/3918	0.47	0/5337
1	D	0.27	0/3918	0.47	0/5337
All	All	0.27	0/15672	0.47	0/21348

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	3827	3586	3591	61	0
1	B	3827	3586	3591	59	0
1	C	3827	3586	3591	62	0
1	D	3827	3586	3591	65	0
2	A	75	104	0	0	0
2	B	75	104	0	0	0
2	C	75	104	0	0	0
2	D	75	104	0	0	0
3	A	78	105	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	111	146	0	0	0
3	C	78	105	0	0	0
3	D	45	64	0	0	0
4	A	46	40	0	2	0
4	B	46	40	0	2	0
4	C	46	40	0	2	0
4	D	46	40	0	2	0
5	A	2	0	0	0	0
All	All	16106	15340	14364	214	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (214) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:647:LEU:CD2	1:D:644:MET:HE1	2.23	0.69
1:A:644:MET:HE1	1:D:647:LEU:CD2	2.24	0.67
1:C:644:MET:HE1	1:B:647:LEU:CD2	2.25	0.66
1:C:298:THR:O	1:C:302:THR:N	2.25	0.65
1:D:641:THR:O	1:D:675:LEU:HD11	1.98	0.64
1:A:647:LEU:CD2	1:B:644:MET:HE1	2.27	0.64
1:A:641:THR:O	1:A:675:LEU:HD11	1.97	0.64
1:B:298:THR:O	1:B:302:THR:N	2.25	0.64
1:A:298:THR:O	1:A:302:THR:N	2.25	0.64
1:B:641:THR:O	1:B:675:LEU:HD11	1.97	0.64
1:C:641:THR:O	1:C:675:LEU:HD11	1.98	0.63
1:D:298:THR:O	1:D:302:THR:N	2.25	0.61
1:D:731:THR:HG22	1:D:735:LYS:O	2.01	0.61
1:C:731:THR:HG22	1:C:735:LYS:O	2.01	0.60
1:A:593:THR:O	1:A:597:THR:HG23	2.02	0.60
1:C:580:PHE:CE2	1:C:678:LEU:HD22	2.37	0.60
1:D:580:PHE:CE2	1:D:678:LEU:HD22	2.37	0.60
1:B:580:PHE:CE2	1:B:678:LEU:HD22	2.37	0.60
1:B:593:THR:O	1:B:597:THR:HG23	2.02	0.60
1:A:580:PHE:CE2	1:A:678:LEU:HD22	2.37	0.59
1:A:731:THR:HG22	1:A:735:LYS:O	2.01	0.59
1:D:593:THR:O	1:D:597:THR:HG23	2.02	0.59
1:B:731:THR:HG22	1:B:735:LYS:O	2.01	0.59
1:C:593:THR:O	1:C:597:THR:HG23	2.02	0.59
1:B:399:ILE:HD11	1:B:412:MET:HG2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:399:ILE:HD11	1:C:412:MET:HG2	1.85	0.58
1:C:318:LYS:NZ	1:C:362:CYS:SG	2.77	0.58
1:A:341:ALA:HA	1:A:412:MET:HE1	1.87	0.57
1:A:399:ILE:HD11	1:A:412:MET:HG2	1.85	0.57
1:A:307:SER:O	1:A:311:GLU:OE1	2.23	0.57
1:C:341:ALA:HA	1:C:412:MET:HE1	1.87	0.57
1:D:399:ILE:HD11	1:D:412:MET:HG2	1.85	0.56
1:B:307:SER:O	1:B:311:GLU:OE1	2.23	0.56
1:B:341:ALA:HA	1:B:412:MET:HE1	1.88	0.56
1:C:647:LEU:CD2	1:D:644:MET:CE	2.82	0.56
1:D:341:ALA:HA	1:D:412:MET:HE1	1.87	0.56
1:B:318:LYS:NZ	1:B:362:CYS:SG	2.77	0.56
1:A:318:LYS:NZ	1:A:362:CYS:SG	2.77	0.56
1:C:644:MET:CE	1:B:647:LEU:CD2	2.84	0.56
1:C:307:SER:O	1:C:311:GLU:OE1	2.23	0.56
1:D:307:SER:O	1:D:311:GLU:OE1	2.23	0.56
1:C:587:PHE:HE1	1:D:553:LEU:HD11	1.70	0.55
1:D:318:LYS:NZ	1:D:362:CYS:SG	2.77	0.54
1:D:580:PHE:CD2	1:D:678:LEU:HD22	2.43	0.54
1:C:580:PHE:CD2	1:C:678:LEU:HD22	2.43	0.54
1:A:580:PHE:CD2	1:A:678:LEU:HD22	2.43	0.53
1:C:553:LEU:HD11	1:B:587:PHE:HE1	1.73	0.53
1:B:580:PHE:CD2	1:B:678:LEU:HD22	2.43	0.53
1:A:473:PHE:O	1:A:476:THR:OG1	2.24	0.52
1:A:644:MET:CE	1:D:647:LEU:CD2	2.87	0.52
1:D:258:THR:HG22	1:D:258:THR:O	2.10	0.52
1:B:258:THR:O	1:B:258:THR:HG22	2.10	0.52
1:A:258:THR:HG22	1:A:258:THR:O	2.10	0.51
1:C:666:TYR:CE1	1:C:670:THR:HG21	2.46	0.51
1:C:258:THR:HG22	1:C:258:THR:O	2.10	0.51
1:C:473:PHE:O	1:C:476:THR:OG1	2.24	0.51
1:D:473:PHE:O	1:D:476:THR:OG1	2.24	0.51
1:C:587:PHE:CE1	1:D:553:LEU:HD11	2.46	0.51
1:B:666:TYR:CE1	1:B:670:THR:HG21	2.46	0.51
1:D:666:TYR:CE1	1:D:670:THR:HG21	2.46	0.51
1:B:701:ARG:HA	1:B:704:THR:HG22	1.94	0.50
1:D:341:ALA:HB3	1:D:398:VAL:HG21	1.94	0.50
1:C:662:LEU:HD11	1:D:542:VAL:HG12	1.94	0.50
1:A:666:TYR:CE1	1:A:670:THR:HG21	2.46	0.50
1:A:701:ARG:HA	1:A:704:THR:HG22	1.94	0.50
1:A:341:ALA:HB3	1:A:398:VAL:HG21	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:701:ARG:HA	1:C:704:THR:HG22	1.94	0.50
1:C:341:ALA:HB3	1:C:398:VAL:HG21	1.94	0.49
1:C:515:LEU:HD21	4:C:904:6EU:CBB	2.42	0.49
1:B:260:GLN:O	1:B:262:ALA:N	2.45	0.49
1:A:685:THR:O	1:A:689:ILE:HG12	2.13	0.49
1:D:515:LEU:HD21	4:D:905:6EU:CBB	2.42	0.49
1:C:685:THR:O	1:C:689:ILE:HG12	2.13	0.49
1:D:685:THR:O	1:D:689:ILE:HG12	2.13	0.49
1:D:701:ARG:HA	1:D:704:THR:HG22	1.94	0.49
1:B:515:LEU:HD21	4:B:907:6EU:CBB	2.42	0.49
1:A:647:LEU:CD2	1:B:644:MET:CE	2.90	0.49
1:C:260:GLN:O	1:C:262:ALA:N	2.45	0.49
1:A:515:LEU:HD21	4:A:903:6EU:CBB	2.42	0.49
1:C:542:VAL:HG12	1:B:662:LEU:HD11	1.95	0.48
1:D:260:GLN:O	1:D:262:ALA:N	2.45	0.48
1:A:260:GLN:O	1:A:262:ALA:N	2.45	0.48
1:B:341:ALA:HB3	1:B:398:VAL:HG21	1.94	0.48
1:C:543:PHE:CE2	1:B:658:VAL:HG13	2.48	0.48
1:D:326:GLU:OE2	1:D:355:ARG:NH1	2.42	0.48
1:B:685:THR:O	1:B:689:ILE:HG12	2.13	0.48
1:A:542:VAL:HG12	1:D:662:LEU:HD11	1.96	0.48
1:C:514:ILE:O	1:C:518:VAL:HG23	2.14	0.48
1:C:710:LYS:O	1:C:713:LEU:HD22	2.14	0.48
1:A:710:LYS:O	1:A:713:LEU:HD22	2.14	0.47
1:B:473:PHE:O	1:B:476:THR:OG1	2.24	0.47
1:B:710:LYS:O	1:B:713:LEU:HD22	2.14	0.47
1:D:514:ILE:O	1:D:518:VAL:HG23	2.14	0.47
1:A:326:GLU:OE2	1:A:355:ARG:NH1	2.42	0.47
1:C:396:LEU:CD1	1:C:422:LEU:HD21	2.45	0.47
1:C:553:LEU:HD11	1:B:587:PHE:CE1	2.49	0.47
1:C:647:LEU:HD22	1:D:644:MET:HE1	1.93	0.47
1:D:710:LYS:O	1:D:713:LEU:HD22	2.14	0.47
1:A:514:ILE:O	1:A:518:VAL:HG23	2.14	0.47
1:C:406:THR:OG1	1:C:409:ARG:HB2	2.15	0.47
1:A:644:MET:HE1	1:D:647:LEU:HD22	1.96	0.47
1:C:644:MET:HE1	1:B:647:LEU:HD22	1.94	0.47
1:C:658:VAL:HG13	1:D:543:PHE:CE2	2.49	0.47
1:D:309:TYR:CE2	1:D:313:LEU:HD11	2.50	0.47
1:D:396:LEU:CD1	1:D:422:LEU:HD21	2.45	0.47
1:B:396:LEU:CD1	1:B:422:LEU:HD21	2.44	0.47
1:A:396:LEU:CD1	1:A:422:LEU:HD21	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:309:TYR:CE2	1:A:313:LEU:HD11	2.50	0.47
4:C:904:6EU:CAW	4:C:904:6EU:CAT	2.93	0.47
1:B:406:THR:OG1	1:B:409:ARG:HB2	2.15	0.47
1:B:514:ILE:O	1:B:518:VAL:HG23	2.14	0.47
1:D:302:THR:O	1:D:306:THR:HG22	2.15	0.47
4:D:905:6EU:CAW	4:D:905:6EU:CAT	2.93	0.47
1:D:406:THR:OG1	1:D:409:ARG:HB2	2.15	0.46
1:B:302:THR:O	1:B:306:THR:HG22	2.15	0.46
1:A:553:LEU:HD11	1:D:587:PHE:HE1	1.79	0.46
1:C:309:TYR:CE2	1:C:313:LEU:HD11	2.50	0.46
1:C:326:GLU:OE2	1:C:355:ARG:NH1	2.42	0.46
4:A:903:6EU:CAW	4:A:903:6EU:CAT	2.93	0.46
1:B:309:TYR:CE2	1:B:313:LEU:HD11	2.50	0.46
1:C:396:LEU:HD13	1:C:422:LEU:HD21	1.97	0.46
1:B:529:LEU:HD22	1:B:534:ARG:HG2	1.98	0.46
1:A:406:THR:OG1	1:A:409:ARG:HB2	2.15	0.46
1:B:396:LEU:HD13	1:B:422:LEU:HD21	1.97	0.46
4:B:907:6EU:CAW	4:B:907:6EU:CAT	2.93	0.46
1:A:400:ALA:HB3	1:A:706:LEU:HD12	1.99	0.46
1:D:396:LEU:HD13	1:D:422:LEU:HD21	1.97	0.46
1:A:302:THR:O	1:A:306:THR:HG22	2.15	0.45
1:D:400:ALA:HB3	1:D:706:LEU:HD12	1.99	0.45
1:C:302:THR:O	1:C:306:THR:HG22	2.15	0.45
1:C:529:LEU:HD22	1:C:534:ARG:HG2	1.98	0.45
1:A:396:LEU:HD13	1:A:422:LEU:HD21	1.97	0.45
1:A:529:LEU:HD22	1:A:534:ARG:HG2	1.98	0.45
1:B:400:ALA:HB3	1:B:706:LEU:HD12	1.98	0.45
1:A:647:LEU:HD22	1:B:644:MET:HE1	1.98	0.45
1:C:400:ALA:HB3	1:C:706:LEU:HD12	1.99	0.45
1:A:538:VAL:O	1:A:542:VAL:HG23	2.18	0.44
1:A:577:LEU:HD13	1:D:673:LEU:HD12	1.99	0.44
1:B:377:VAL:HG23	1:B:745:ASP:OD1	2.17	0.44
1:C:291:LEU:O	1:C:294:VAL:HG12	2.18	0.44
1:A:662:LEU:HD11	1:B:542:VAL:HG12	1.99	0.44
1:C:699:LEU:O	1:C:699:LEU:HD23	2.18	0.44
1:D:529:LEU:HD22	1:D:534:ARG:HG2	1.98	0.44
1:B:538:VAL:O	1:B:542:VAL:HG23	2.18	0.44
1:B:699:LEU:HD23	1:B:699:LEU:O	2.18	0.44
1:A:377:VAL:HG23	1:A:745:ASP:OD1	2.17	0.44
1:A:534:ARG:HG3	1:A:536:GLU:H	1.83	0.44
1:D:377:VAL:HG23	1:D:745:ASP:OD1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:662:LEU:HD11	1:D:542:VAL:CG1	2.48	0.44
1:D:699:LEU:HD23	1:D:699:LEU:O	2.18	0.44
1:B:534:ARG:HG3	1:B:536:GLU:H	1.83	0.44
1:A:542:VAL:CG1	1:D:662:LEU:HD11	2.47	0.43
1:A:699:LEU:O	1:A:699:LEU:HD23	2.18	0.43
1:D:626:SER:O	1:D:626:SER:OG	2.34	0.43
1:C:600:GLU:OE2	1:D:455:ARG:NH2	2.34	0.43
1:B:291:LEU:O	1:B:294:VAL:HG12	2.18	0.43
1:C:377:VAL:HG23	1:C:745:ASP:OD1	2.17	0.43
1:C:538:VAL:O	1:C:542:VAL:HG23	2.18	0.43
1:C:542:VAL:CG1	1:B:662:LEU:HD11	2.49	0.43
1:C:309:TYR:CZ	1:C:313:LEU:HD11	2.54	0.43
1:D:291:LEU:O	1:D:294:VAL:HG12	2.18	0.43
1:D:534:ARG:HG3	1:D:536:GLU:H	1.83	0.43
1:B:309:TYR:CZ	1:B:313:LEU:HD11	2.54	0.43
1:A:291:LEU:O	1:A:294:VAL:HG12	2.18	0.42
1:D:538:VAL:O	1:D:542:VAL:HG23	2.18	0.42
1:A:673:LEU:HD12	1:B:577:LEU:HD13	2.01	0.42
1:C:534:ARG:HG3	1:C:536:GLU:H	1.83	0.42
1:C:560:GLN:HB2	1:C:697:TRP:CE2	2.54	0.42
1:B:560:GLN:HB2	1:B:697:TRP:CE2	2.54	0.42
1:A:256:ALA:HB1	1:A:308:MET:CE	2.50	0.42
1:C:354:GLN:O	1:C:354:GLN:HG3	2.20	0.42
1:B:256:ALA:HB1	1:B:308:MET:CE	2.50	0.42
1:A:560:GLN:HB2	1:A:697:TRP:CE2	2.54	0.42
1:A:309:TYR:CZ	1:A:313:LEU:HD11	2.54	0.42
1:A:354:GLN:O	1:A:354:GLN:HG3	2.20	0.42
1:A:688:LYS:O	1:A:692:GLU:HG3	2.20	0.42
1:D:560:GLN:HB2	1:D:697:TRP:CE2	2.54	0.42
1:B:688:LYS:O	1:B:692:GLU:HG3	2.20	0.42
1:D:309:TYR:CZ	1:D:313:LEU:HD11	2.54	0.41
1:D:354:GLN:HG3	1:D:354:GLN:O	2.20	0.41
1:A:597:THR:HG22	1:B:453:TYR:HA	2.02	0.41
1:B:564:ILE:O	1:B:564:ILE:HG22	2.20	0.41
1:C:564:ILE:HG22	1:C:564:ILE:O	2.20	0.41
1:B:355:ARG:NH2	1:B:365:LEU:O	2.49	0.41
1:A:662:LEU:HD11	1:B:542:VAL:CG1	2.50	0.41
1:B:354:GLN:HG3	1:B:354:GLN:O	2.20	0.41
1:A:453:TYR:HA	1:D:597:THR:HG22	2.01	0.41
1:C:256:ALA:HB1	1:C:308:MET:CE	2.50	0.41
1:B:326:GLU:OE2	1:B:355:ARG:NH1	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:386:CYS:O	1:A:386:CYS:SG	2.79	0.41
1:C:386:CYS:O	1:C:386:CYS:SG	2.79	0.41
1:D:564:ILE:O	1:D:564:ILE:HG22	2.20	0.41
1:D:688:LYS:O	1:D:692:GLU:HG3	2.20	0.41
1:A:553:LEU:HD11	1:D:587:PHE:CE1	2.56	0.41
1:D:256:ALA:HB1	1:D:308:MET:CE	2.50	0.41
1:B:386:CYS:SG	1:B:386:CYS:O	2.79	0.41
1:A:423:GLN:NE2	1:A:427:ASP:OD2	2.54	0.41
1:A:644:MET:HE1	1:D:647:LEU:HD23	2.03	0.41
1:B:675:LEU:O	1:B:679:ILE:HD12	2.21	0.41
1:A:675:LEU:O	1:A:679:ILE:HD12	2.21	0.41
1:C:496:PHE:CZ	1:C:514:ILE:HD13	2.56	0.41
1:C:688:LYS:O	1:C:692:GLU:HG3	2.20	0.41
1:D:399:ILE:CD1	1:D:412:MET:HG2	2.51	0.41
1:A:564:ILE:O	1:A:564:ILE:HG22	2.20	0.40
1:C:453:TYR:HA	1:B:597:THR:HG22	2.03	0.40
1:B:496:PHE:CZ	1:B:514:ILE:HD13	2.56	0.40
1:C:256:ALA:HB1	1:C:308:MET:HE2	2.02	0.40
1:D:386:CYS:SG	1:D:386:CYS:O	2.79	0.40
1:A:543:PHE:CE2	1:D:658:VAL:HG13	2.56	0.40
1:C:658:VAL:HG21	1:D:539:ALA:HB1	2.02	0.40
1:D:675:LEU:O	1:D:679:ILE:HD12	2.21	0.40
1:D:751:THR:HG23	1:D:752:TRP:N	2.37	0.40
1:A:496:PHE:CZ	1:A:514:ILE:HD13	2.56	0.40
1:C:751:THR:HG23	1:C:752:TRP:N	2.37	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	498/868 (57%)	481 (97%)	17 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	498/868 (57%)	481 (97%)	17 (3%)	0	100	100
1	C	498/868 (57%)	482 (97%)	16 (3%)	0	100	100
1	D	498/868 (57%)	481 (97%)	17 (3%)	0	100	100
All	All	1992/3472 (57%)	1925 (97%)	67 (3%)	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 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	374/770 (49%)	373 (100%)	1 (0%)	91	95
1	B	374/770 (49%)	373 (100%)	1 (0%)	91	95
1	C	374/770 (49%)	373 (100%)	1 (0%)	91	95
1	D	374/770 (49%)	373 (100%)	1 (0%)	91	95
All	All	1496/3080 (49%)	1492 (100%)	4 (0%)	90	95

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

Mol	Chain	Res	Type
1	A	420	ARG
1	C	420	ARG
1	D	420	ARG
1	B	420	ARG

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

Mol	Chain	Res	Type
1	A	289	HIS

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 oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 26 ligands modelled in this entry, 2 are monoatomic - leaving 24 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
2	LBN	A	901	-	32,32,51	1.42	3 (9%)	38,40,59	0.97	1 (2%)
4	6EU	C	904	-	45,52,52	4.47	18 (40%)	44,83,83	2.16	9 (20%)
4	6EU	D	905	-	45,52,52	4.48	18 (40%)	44,83,83	2.15	9 (20%)
3	6OU	A	902	-	9,9,48	0.76	0	8,8,53	0.35	0
3	6OU	B	901	-	32,32,48	1.55	3 (9%)	35,37,53	0.83	2 (5%)
3	6OU	C	903	-	9,9,48	0.77	0	8,8,53	0.35	0
3	6OU	D	904	-	9,9,48	0.76	0	8,8,53	0.35	0
3	6OU	B	903	-	34,34,48	1.71	4 (11%)	37,39,53	0.92	2 (5%)
3	6OU	A	904	-	32,32,48	1.55	3 (9%)	35,37,53	0.83	2 (5%)
3	6OU	D	901	-	34,34,48	1.71	4 (11%)	37,39,53	0.92	2 (5%)
2	LBN	C	901	-	32,32,51	1.42	3 (9%)	38,40,59	0.96	1 (2%)
3	6OU	A	906	-	34,34,48	1.71	4 (11%)	37,39,53	0.92	2 (5%)
3	6OU	B	906	-	9,9,48	0.77	0	8,8,53	0.35	0
2	LBN	B	902	-	41,41,51	1.34	4 (9%)	47,49,59	0.90	2 (4%)
3	6OU	B	905	-	32,32,48	1.55	3 (9%)	35,37,53	0.83	2 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	LBN	C	906	-	41,41,51	1.34	4 (9%)	47,49,59	0.90	2 (4%)
3	6OU	C	905	-	34,34,48	1.71	3 (8%)	37,39,53	0.92	2 (5%)
2	LBN	D	902	-	41,41,51	1.34	4 (9%)	47,49,59	0.90	2 (4%)
2	LBN	D	903	-	32,32,51	1.42	3 (9%)	38,40,59	0.96	1 (2%)
4	6EU	B	907	-	45,52,52	4.47	17 (37%)	44,83,83	2.16	9 (20%)
2	LBN	A	905	-	41,41,51	1.34	4 (9%)	47,49,59	0.91	2 (4%)
2	LBN	B	904	-	32,32,51	1.42	3 (9%)	38,40,59	0.97	1 (2%)
4	6EU	A	903	-	45,52,52	4.47	18 (40%)	44,83,83	2.16	9 (20%)
3	6OU	C	902	-	32,32,48	1.55	4 (12%)	35,37,53	0.83	2 (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
2	LBN	A	901	-	-	22/36/36/55	-
4	6EU	C	904	-	-	3/20/101/101	0/8/7/7
4	6EU	D	905	-	-	3/20/101/101	0/8/7/7
3	6OU	A	902	-	-	4/7/7/52	-
3	6OU	B	901	-	-	16/36/36/52	-
3	6OU	C	903	-	-	4/7/7/52	-
3	6OU	D	904	-	-	4/7/7/52	-
3	6OU	B	903	-	-	16/36/36/52	-
3	6OU	A	904	-	-	16/36/36/52	-
3	6OU	D	901	-	-	16/36/36/52	-
2	LBN	C	901	-	-	22/36/36/55	-
3	6OU	A	906	-	-	16/36/36/52	-
3	6OU	B	906	-	-	4/7/7/52	-
2	LBN	B	902	-	-	21/45/45/55	-
3	6OU	B	905	-	-	16/36/36/52	-
2	LBN	C	906	-	-	21/45/45/55	-
3	6OU	C	905	-	-	16/36/36/52	-
2	LBN	D	902	-	-	21/45/45/55	-
2	LBN	D	903	-	-	22/36/36/55	-
4	6EU	B	907	-	-	3/20/101/101	0/8/7/7

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LBN	A	905	-	-	21/45/45/55	-
2	LBN	B	904	-	-	22/36/36/55	-
4	6EU	A	903	-	-	3/20/101/101	0/8/7/7
3	6OU	C	902	-	-	16/36/36/52	-

All (127) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	904	6EU	CAS-CAX	17.98	1.61	1.33
4	D	905	6EU	CAS-CAX	17.98	1.61	1.33
4	B	907	6EU	CAS-CAX	17.97	1.61	1.33
4	A	903	6EU	CAS-CAX	17.97	1.61	1.33
4	D	905	6EU	OAB-CAL	-11.31	1.27	1.43
4	C	904	6EU	OAB-CAL	-11.29	1.27	1.43
4	A	903	6EU	OAB-CAL	-11.27	1.27	1.43
4	B	907	6EU	OAB-CAL	-11.24	1.27	1.43
4	C	904	6EU	CAW-CBA	9.28	1.52	1.33
4	B	907	6EU	CAW-CBA	9.27	1.52	1.33
4	A	903	6EU	CAW-CBA	9.27	1.52	1.33
4	D	905	6EU	CAW-CBA	9.26	1.52	1.33
4	D	905	6EU	CAM-CAL	7.41	1.65	1.54
4	B	907	6EU	CAM-CAL	7.41	1.65	1.54
4	A	903	6EU	CAK-CAS	7.40	1.67	1.50
4	A	903	6EU	CAM-CAL	7.39	1.65	1.54
4	C	904	6EU	CAM-CAL	7.39	1.65	1.54
4	D	905	6EU	CAK-CAS	7.38	1.67	1.50
4	B	907	6EU	CAK-CAS	7.37	1.67	1.50
4	C	904	6EU	CAK-CAS	7.35	1.67	1.50
4	B	907	6EU	CAP-CAM	7.14	1.67	1.53
4	D	905	6EU	CAP-CAM	7.13	1.67	1.53
4	C	904	6EU	CAP-CAM	7.13	1.67	1.53
4	A	903	6EU	CAP-CAM	7.13	1.67	1.53
4	B	907	6EU	OAA-CAQ	6.45	1.50	1.42
4	D	905	6EU	OAA-CAQ	6.41	1.50	1.42
4	A	903	6EU	OAA-CAQ	6.41	1.50	1.42
4	C	904	6EU	OAA-CAQ	6.36	1.50	1.42
4	D	905	6EU	OAA-CAJ	6.33	1.58	1.44
4	A	903	6EU	OAA-CAJ	6.32	1.58	1.44
4	C	904	6EU	OAA-CAJ	6.32	1.58	1.44
4	B	907	6EU	OAA-CAJ	6.28	1.57	1.44
3	B	903	6OU	P23-O22	5.44	1.77	1.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	906	6OU	P23-O22	5.43	1.77	1.60
3	C	905	6OU	P23-O22	5.43	1.77	1.60
3	D	901	6OU	P23-O22	5.42	1.77	1.60
2	D	902	LBN	P1-O2	5.13	1.79	1.59
2	B	902	LBN	P1-O2	5.12	1.79	1.59
2	C	906	LBN	P1-O2	5.11	1.79	1.59
2	A	905	LBN	P1-O2	5.11	1.79	1.59
3	A	906	6OU	P23-O26	5.01	1.73	1.54
3	B	903	6OU	P23-O26	5.00	1.73	1.54
3	D	901	6OU	P23-O26	5.00	1.73	1.54
3	C	905	6OU	P23-O26	4.99	1.73	1.54
2	A	901	LBN	P1-O2	4.88	1.78	1.59
2	B	904	LBN	P1-O2	4.88	1.78	1.59
2	D	903	LBN	P1-O2	4.87	1.78	1.59
2	C	901	LBN	P1-O2	4.86	1.78	1.59
4	D	905	6EU	CAJ-CAO	4.82	1.62	1.54
4	C	904	6EU	CAJ-CAO	4.81	1.62	1.54
4	B	907	6EU	CAJ-CAO	4.79	1.62	1.54
4	A	903	6EU	CAJ-CAO	4.78	1.62	1.54
3	C	902	6OU	P23-O22	4.55	1.77	1.59
3	B	901	6OU	P23-O22	4.55	1.77	1.59
3	A	904	6OU	P23-O22	4.54	1.77	1.59
3	B	905	6OU	P23-O22	4.54	1.77	1.59
4	C	904	6EU	OAC-CAM	-4.17	1.38	1.44
4	A	903	6EU	OAC-CAM	-4.16	1.38	1.44
4	D	905	6EU	OAC-CAM	-4.16	1.38	1.44
4	B	907	6EU	OAC-CAM	-4.15	1.38	1.44
4	C	904	6EU	OAB-CAQ	-4.13	1.34	1.41
4	A	903	6EU	OAB-CAQ	-4.10	1.34	1.41
4	B	907	6EU	OAB-CAQ	-4.10	1.34	1.41
4	D	905	6EU	OAB-CAQ	-4.09	1.34	1.41
3	B	905	6OU	P23-O26	3.54	1.73	1.59
3	A	904	6OU	P23-O26	3.53	1.73	1.59
3	B	901	6OU	P23-O26	3.53	1.73	1.59
3	C	902	6OU	P23-O26	3.52	1.73	1.59
4	D	905	6EU	OAH-CBQ	2.95	1.42	1.37
4	C	904	6EU	OAF-CBK	2.94	1.41	1.33
4	A	903	6EU	OAF-CBK	2.93	1.41	1.33
4	B	907	6EU	OAF-CBK	2.93	1.41	1.33
4	A	903	6EU	OAH-CBQ	2.93	1.41	1.37
4	D	905	6EU	OAF-CBK	2.93	1.41	1.33
4	C	904	6EU	OAH-CBQ	2.92	1.41	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	907	6EU	OAH-CBQ	2.90	1.41	1.37
4	A	903	6EU	CAY-CBE	2.63	1.55	1.51
4	D	905	6EU	CAY-CBE	2.62	1.55	1.51
4	B	907	6EU	CAY-CBE	2.61	1.55	1.51
4	C	904	6EU	CAY-CBE	2.59	1.55	1.51
3	A	906	6OU	C21-C20	2.38	1.58	1.50
3	C	905	6OU	C21-C20	2.36	1.58	1.50
3	C	902	6OU	C21-C20	2.35	1.58	1.50
3	D	901	6OU	C21-C20	2.35	1.58	1.50
3	B	903	6OU	C21-C20	2.35	1.58	1.50
3	B	905	6OU	C21-C20	2.35	1.58	1.50
3	A	904	6OU	C21-C20	2.33	1.58	1.50
3	B	901	6OU	C21-C20	2.33	1.58	1.50
2	C	906	LBN	P1-O1	2.32	1.68	1.59
2	B	904	LBN	O2-C9	-2.32	1.35	1.44
2	A	905	LBN	P1-O1	2.31	1.68	1.59
2	D	902	LBN	P1-O1	2.31	1.68	1.59
2	B	902	LBN	P1-O1	2.31	1.68	1.59
2	C	901	LBN	O2-C9	-2.30	1.35	1.44
2	D	903	LBN	O2-C9	-2.29	1.35	1.44
2	A	901	LBN	O2-C9	-2.29	1.35	1.44
2	C	906	LBN	C1-C2	2.22	1.57	1.50
2	D	902	LBN	C1-C2	2.21	1.57	1.50
2	B	902	LBN	C1-C2	2.21	1.57	1.50
2	A	905	LBN	C1-C2	2.19	1.57	1.50
2	C	906	LBN	O2-C9	-2.19	1.36	1.44
2	D	902	LBN	O2-C9	-2.18	1.36	1.44
2	B	902	LBN	O2-C9	-2.18	1.36	1.44
2	A	905	LBN	O2-C9	-2.17	1.36	1.44
2	B	904	LBN	P1-O1	2.11	1.67	1.59
4	B	907	6EU	CBC-CAX	2.11	1.56	1.50
4	C	904	6EU	CBM-CBN	2.10	1.55	1.51
2	C	901	LBN	P1-O1	2.10	1.67	1.59
4	C	904	6EU	CBC-CAX	2.09	1.56	1.50
2	A	901	LBN	P1-O1	2.09	1.67	1.59
4	A	903	6EU	CBC-CAX	2.08	1.55	1.50
2	D	903	LBN	P1-O1	2.08	1.67	1.59
4	D	905	6EU	CBM-CBN	2.07	1.55	1.51
4	A	903	6EU	CBM-CBN	2.07	1.55	1.51
4	D	905	6EU	CBC-CAX	2.06	1.55	1.50
4	C	904	6EU	OAI-CBS	2.04	1.40	1.36
4	C	904	6EU	OAE-CAZ	-2.04	1.18	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	903	6EU	OAI-CBS	2.03	1.40	1.36
4	D	905	6EU	OAI-CBS	2.03	1.40	1.36
4	A	903	6EU	OAE-CAZ	-2.03	1.18	1.22
3	B	903	6OU	O3O-C31	2.03	1.40	1.34
4	B	907	6EU	CBM-CBN	2.02	1.54	1.51
4	B	907	6EU	OAI-CBS	2.02	1.40	1.36
4	D	905	6EU	OAE-CAZ	-2.02	1.18	1.22
3	D	901	6OU	O3O-C31	2.02	1.40	1.34
3	C	902	6OU	C19-C20	2.01	1.57	1.50
3	A	906	6OU	O3O-C31	2.00	1.39	1.34

All (64) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	C	904	6EU	CBD-CAV-CAM	-7.34	98.85	116.79
4	B	907	6EU	CBD-CAV-CAM	-7.33	98.86	116.79
4	A	903	6EU	CBD-CAV-CAM	-7.33	98.86	116.79
4	D	905	6EU	CBD-CAV-CAM	-7.33	98.87	116.79
4	B	907	6EU	OAF-CBK-CBM	5.82	120.30	111.21
4	A	903	6EU	OAF-CBK-CBM	5.82	120.30	111.21
4	D	905	6EU	OAF-CBK-CBM	5.80	120.26	111.21
4	C	904	6EU	OAF-CBK-CBM	5.79	120.25	111.21
4	B	907	6EU	CAQ-CAY-CBE	-5.40	107.26	113.60
4	C	904	6EU	CAQ-CAY-CBE	-5.39	107.27	113.60
4	A	903	6EU	CAQ-CAY-CBE	-5.39	107.28	113.60
4	D	905	6EU	CAQ-CAY-CBE	-5.37	107.29	113.60
4	C	904	6EU	OAH-CBQ-CBS	3.70	120.10	114.55
4	A	903	6EU	OAH-CBQ-CBS	3.70	120.10	114.55
4	B	907	6EU	OAH-CBQ-CBS	3.69	120.08	114.55
4	A	903	6EU	CAJ-OAA-CAQ	3.67	119.64	113.53
4	B	907	6EU	CAJ-OAA-CAQ	3.67	119.63	113.53
4	D	905	6EU	CAJ-OAA-CAQ	3.67	119.62	113.53
4	C	904	6EU	CAJ-OAA-CAQ	3.66	119.62	113.53
4	D	905	6EU	OAH-CBQ-CBS	3.66	120.04	114.55
4	C	904	6EU	CAM-CAV-CBB	3.49	131.28	121.88
2	B	904	LBN	O3-P1-O4	3.48	128.64	112.44
2	A	901	LBN	O3-P1-O4	3.47	128.60	112.44
4	A	903	6EU	CAM-CAV-CBB	3.47	131.23	121.88
2	D	903	LBN	O3-P1-O4	3.47	128.58	112.44
4	B	907	6EU	CAM-CAV-CBB	3.47	131.22	121.88
2	C	901	LBN	O3-P1-O4	3.47	128.57	112.44
4	D	905	6EU	CAM-CAV-CBB	3.47	131.22	121.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	905	6OU	O25-P23-O24	3.43	124.20	110.83
3	D	901	6OU	O25-P23-O24	3.43	124.20	110.83
3	B	903	6OU	O25-P23-O24	3.43	124.19	110.83
3	A	906	6OU	O25-P23-O24	3.43	124.18	110.83
2	D	902	LBN	O3-P1-O4	3.42	128.37	112.44
2	C	906	LBN	O3-P1-O4	3.42	128.34	112.44
2	B	902	LBN	O3-P1-O4	3.41	128.33	112.44
2	A	905	LBN	O3-P1-O4	3.41	128.30	112.44
4	A	903	6EU	CBF-CBA-CAW	-2.84	124.96	130.40
4	C	904	6EU	CBF-CBA-CAW	-2.83	124.98	130.40
4	D	905	6EU	CBF-CBA-CAW	-2.83	124.98	130.40
4	B	907	6EU	CBF-CBA-CAW	-2.82	125.00	130.40
3	B	905	6OU	O25-P23-O24	2.54	124.26	112.44
3	A	904	6OU	O25-P23-O24	2.54	124.25	112.44
3	B	901	6OU	O25-P23-O24	2.54	124.25	112.44
3	C	902	6OU	O25-P23-O24	2.53	124.23	112.44
4	D	905	6EU	CBD-CAV-CBB	2.44	129.92	121.12
4	B	907	6EU	CBD-CAV-CBB	2.44	129.91	121.12
4	A	903	6EU	CBD-CAV-CBB	2.43	129.91	121.12
4	C	904	6EU	CBD-CAV-CBB	2.42	129.87	121.12
3	B	905	6OU	O30-C31-C33	2.39	116.64	111.48
3	B	901	6OU	O30-C31-C33	2.38	116.63	111.48
3	C	902	6OU	O30-C31-C33	2.38	116.63	111.48
3	A	904	6OU	O30-C31-C33	2.37	116.62	111.48
3	C	905	6OU	O30-C31-C33	2.30	116.46	111.48
3	A	906	6OU	O30-C31-C33	2.30	116.45	111.48
3	D	901	6OU	O30-C31-C33	2.29	116.44	111.48
3	B	903	6OU	O30-C31-C33	2.29	116.44	111.48
4	D	905	6EU	OAC-CAQ-CAY	2.04	114.12	111.18
4	B	907	6EU	OAC-CAQ-CAY	2.04	114.11	111.18
4	A	903	6EU	OAC-CAQ-CAY	2.03	114.09	111.18
2	D	902	LBN	O2-P1-O4	-2.03	100.91	108.94
2	A	905	LBN	O2-P1-O4	-2.02	100.91	108.94
2	B	902	LBN	O2-P1-O4	-2.02	100.92	108.94
2	C	906	LBN	O2-P1-O4	-2.02	100.93	108.94
4	C	904	6EU	OAC-CAQ-CAY	2.01	114.07	111.18

There are no chirality outliers.

All (328) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	901	LBN	C1-O1-P1-O2

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Mol	Chain	Res	Type	Atoms
2	A	901	LBN	C1-O1-P1-O3
2	A	901	LBN	C9-O2-P1-O3
2	A	901	LBN	N1-C6-C9-O2
2	A	905	LBN	C2-C1-O1-P1
2	A	905	LBN	C9-O2-P1-O1
2	A	905	LBN	C9-O2-P1-O4
2	A	905	LBN	N1-C6-C9-O2
2	A	905	LBN	C35-C34-O7-C2
2	C	901	LBN	C1-O1-P1-O2
2	C	901	LBN	C1-O1-P1-O3
2	C	901	LBN	C9-O2-P1-O3
2	C	901	LBN	N1-C6-C9-O2
2	C	906	LBN	C2-C1-O1-P1
2	C	906	LBN	C9-O2-P1-O1
2	C	906	LBN	C9-O2-P1-O4
2	C	906	LBN	N1-C6-C9-O2
2	C	906	LBN	C35-C34-O7-C2
2	D	902	LBN	C2-C1-O1-P1
2	D	902	LBN	C9-O2-P1-O1
2	D	902	LBN	C9-O2-P1-O4
2	D	902	LBN	N1-C6-C9-O2
2	D	902	LBN	C35-C34-O7-C2
2	D	903	LBN	C1-O1-P1-O2
2	D	903	LBN	C1-O1-P1-O3
2	D	903	LBN	C9-O2-P1-O3
2	D	903	LBN	N1-C6-C9-O2
2	B	902	LBN	C2-C1-O1-P1
2	B	902	LBN	C9-O2-P1-O1
2	B	902	LBN	C9-O2-P1-O4
2	B	902	LBN	N1-C6-C9-O2
2	B	902	LBN	C35-C34-O7-C2
2	B	904	LBN	C1-O1-P1-O2
2	B	904	LBN	C1-O1-P1-O3
2	B	904	LBN	C9-O2-P1-O3
2	B	904	LBN	N1-C6-C9-O2
3	A	904	6OU	C21-O22-P23-O24
3	A	906	6OU	C21-O22-P23-O25
3	A	906	6OU	C21-O22-P23-O26
3	C	902	6OU	C21-O22-P23-O24
3	C	905	6OU	C21-O22-P23-O25
3	C	905	6OU	C21-O22-P23-O26
3	D	901	6OU	C21-O22-P23-O25

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Mol	Chain	Res	Type	Atoms
3	D	901	6OU	C21-O22-P23-O26
3	B	901	6OU	C21-O22-P23-O24
3	B	903	6OU	C21-O22-P23-O25
3	B	903	6OU	C21-O22-P23-O26
3	B	905	6OU	C21-O22-P23-O24
4	A	903	6EU	OAA-CAQ-CAY-CBE
4	A	903	6EU	OAC-CAQ-CAY-CBE
4	A	903	6EU	OAB-CAQ-CAY-CBE
4	C	904	6EU	OAA-CAQ-CAY-CBE
4	C	904	6EU	OAC-CAQ-CAY-CBE
4	C	904	6EU	OAB-CAQ-CAY-CBE
4	D	905	6EU	OAA-CAQ-CAY-CBE
4	D	905	6EU	OAC-CAQ-CAY-CBE
4	D	905	6EU	OAB-CAQ-CAY-CBE
4	B	907	6EU	OAA-CAQ-CAY-CBE
4	B	907	6EU	OAC-CAQ-CAY-CBE
4	B	907	6EU	OAB-CAQ-CAY-CBE
3	A	904	6OU	O17-C16-O18-C19
3	C	902	6OU	O17-C16-O18-C19
3	B	901	6OU	O17-C16-O18-C19
3	B	905	6OU	O17-C16-O18-C19
3	A	904	6OU	C15-C16-O18-C19
3	C	902	6OU	C15-C16-O18-C19
3	B	901	6OU	C15-C16-O18-C19
3	B	905	6OU	C15-C16-O18-C19
2	A	905	LBN	O8-C34-O7-C2
2	C	906	LBN	O8-C34-O7-C2
2	D	902	LBN	O8-C34-O7-C2
2	B	902	LBN	O8-C34-O7-C2
2	A	901	LBN	C34-C35-C36-C37
2	C	901	LBN	C34-C35-C36-C37
2	D	903	LBN	C34-C35-C36-C37
2	B	904	LBN	C34-C35-C36-C37
2	A	905	LBN	C25-C26-C27-C28
2	C	906	LBN	C25-C26-C27-C28
2	D	902	LBN	C25-C26-C27-C28
2	B	902	LBN	C25-C26-C27-C28
2	A	905	LBN	C26-C25-O5-C3
2	C	906	LBN	C26-C25-O5-C3
2	D	902	LBN	C26-C25-O5-C3
2	B	902	LBN	C26-C25-O5-C3
3	A	906	6OU	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
3	C	905	6OU	C12-C13-C14-C15
3	D	901	6OU	C12-C13-C14-C15
3	B	903	6OU	C12-C13-C14-C15
3	A	902	6OU	C44-C45-C46-C47
3	C	903	6OU	C44-C45-C46-C47
3	D	904	6OU	C44-C45-C46-C47
3	B	906	6OU	C44-C45-C46-C47
3	C	905	6OU	C09-C10-C11-C12
3	B	903	6OU	C09-C10-C11-C12
3	A	906	6OU	C09-C10-C11-C12
2	A	905	LBN	C26-C27-C28-C29
2	C	906	LBN	C26-C27-C28-C29
2	D	902	LBN	C26-C27-C28-C29
2	B	902	LBN	C26-C27-C28-C29
3	D	901	6OU	C09-C10-C11-C12
2	A	901	LBN	C35-C36-C37-C38
2	C	901	LBN	C35-C36-C37-C38
2	B	904	LBN	C35-C36-C37-C38
2	A	905	LBN	O6-C25-O5-C3
2	C	906	LBN	O6-C25-O5-C3
2	D	902	LBN	O6-C25-O5-C3
2	B	902	LBN	O6-C25-O5-C3
2	D	903	LBN	C35-C36-C37-C38
3	A	906	6OU	C11-C12-C13-C14
3	C	905	6OU	C11-C12-C13-C14
3	D	901	6OU	C11-C12-C13-C14
3	B	903	6OU	C11-C12-C13-C14
3	A	904	6OU	C33-C34-C35-C36
3	B	901	6OU	C33-C34-C35-C36
3	B	905	6OU	C33-C34-C35-C36
3	C	902	6OU	C33-C34-C35-C36
3	A	906	6OU	C10-C11-C12-C13
3	C	905	6OU	C10-C11-C12-C13
3	D	901	6OU	C10-C11-C12-C13
3	B	903	6OU	C10-C11-C12-C13
3	A	906	6OU	C34-C35-C36-C37
3	C	905	6OU	C34-C35-C36-C37
3	D	901	6OU	C34-C35-C36-C37
3	B	903	6OU	C34-C35-C36-C37
3	A	906	6OU	C07-C08-C09-C10
3	C	905	6OU	C07-C08-C09-C10
3	D	901	6OU	C07-C08-C09-C10

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Mol	Chain	Res	Type	Atoms
3	B	903	6OU	C07-C08-C09-C10
2	A	901	LBN	C26-C25-O5-C3
2	D	903	LBN	C26-C25-O5-C3
2	B	904	LBN	C26-C25-O5-C3
3	A	906	6OU	C31-C33-C34-C35
3	C	905	6OU	C31-C33-C34-C35
3	D	901	6OU	C31-C33-C34-C35
3	B	903	6OU	C31-C33-C34-C35
2	C	901	LBN	C26-C25-O5-C3
2	A	901	LBN	C2-C1-O1-P1
2	C	901	LBN	C2-C1-O1-P1
2	D	903	LBN	C2-C1-O1-P1
2	B	904	LBN	C2-C1-O1-P1
2	A	905	LBN	C14-C11-C8-C5
2	C	906	LBN	C14-C11-C8-C5
2	D	902	LBN	C14-C11-C8-C5
2	B	902	LBN	C14-C11-C8-C5
2	A	905	LBN	C34-C35-C36-C37
2	C	906	LBN	C34-C35-C36-C37
2	D	902	LBN	C34-C35-C36-C37
2	B	902	LBN	C34-C35-C36-C37
3	A	904	6OU	C12-C13-C14-C15
3	C	902	6OU	C12-C13-C14-C15
3	B	901	6OU	C12-C13-C14-C15
3	B	905	6OU	C12-C13-C14-C15
2	A	901	LBN	C1-C2-C3-O5
2	A	905	LBN	C1-C2-C3-O5
2	C	901	LBN	C1-C2-C3-O5
2	C	906	LBN	C1-C2-C3-O5
2	D	902	LBN	C1-C2-C3-O5
2	D	903	LBN	C1-C2-C3-O5
2	B	902	LBN	C1-C2-C3-O5
2	B	904	LBN	C1-C2-C3-O5
2	A	905	LBN	C30-C31-C32-C33
2	C	906	LBN	C30-C31-C32-C33
2	D	902	LBN	C30-C31-C32-C33
2	B	902	LBN	C30-C31-C32-C33
2	A	901	LBN	O6-C25-O5-C3
2	C	901	LBN	O6-C25-O5-C3
2	D	903	LBN	O6-C25-O5-C3
2	B	904	LBN	O6-C25-O5-C3
3	C	902	6OU	C36-C37-C38-C39

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Mol	Chain	Res	Type	Atoms
3	A	904	6OU	C36-C37-C38-C39
3	B	901	6OU	C36-C37-C38-C39
3	B	905	6OU	C36-C37-C38-C39
2	A	905	LBN	C37-C38-C39-C40
2	C	906	LBN	C37-C38-C39-C40
2	B	902	LBN	C37-C38-C39-C40
2	D	902	LBN	C37-C38-C39-C40
3	A	904	6OU	C10-C11-C12-C13
2	C	901	LBN	C30-C31-C32-C33
3	B	905	6OU	C10-C11-C12-C13
2	A	901	LBN	C30-C31-C32-C33
2	D	903	LBN	C30-C31-C32-C33
2	B	904	LBN	C30-C31-C32-C33
3	C	902	6OU	C10-C11-C12-C13
3	B	901	6OU	C10-C11-C12-C13
3	A	904	6OU	O30-C20-C21-O22
3	C	902	6OU	O30-C20-C21-O22
3	B	901	6OU	O30-C20-C21-O22
3	B	905	6OU	O30-C20-C21-O22
2	A	901	LBN	O7-C2-C3-O5
2	A	905	LBN	O7-C2-C3-O5
2	C	901	LBN	O7-C2-C3-O5
2	C	906	LBN	O7-C2-C3-O5
2	D	902	LBN	O7-C2-C3-O5
2	D	903	LBN	O7-C2-C3-O5
2	B	902	LBN	O7-C2-C3-O5
2	B	904	LBN	O7-C2-C3-O5
3	A	904	6OU	C40-C41-C42-C43
3	C	902	6OU	C40-C41-C42-C43
3	B	901	6OU	C40-C41-C42-C43
3	B	905	6OU	C40-C41-C42-C43
3	A	904	6OU	C19-C20-C21-O22
3	B	901	6OU	C19-C20-C21-O22
3	B	905	6OU	C19-C20-C21-O22
2	C	906	LBN	C28-C29-C30-C31
2	B	902	LBN	C28-C29-C30-C31
3	A	902	6OU	C45-C46-C47-C48
3	C	903	6OU	C45-C46-C47-C48
3	D	904	6OU	C45-C46-C47-C48
3	B	906	6OU	C45-C46-C47-C48
2	D	902	LBN	C28-C29-C30-C31
2	A	905	LBN	C28-C29-C30-C31

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Mol	Chain	Res	Type	Atoms
2	A	901	LBN	C28-C29-C30-C31
2	C	901	LBN	C28-C29-C30-C31
2	D	903	LBN	C28-C29-C30-C31
2	B	904	LBN	C28-C29-C30-C31
3	C	902	6OU	C19-C20-C21-O22
3	A	904	6OU	C20-C21-O22-P23
3	C	902	6OU	C20-C21-O22-P23
3	B	901	6OU	C20-C21-O22-P23
3	B	905	6OU	C20-C21-O22-P23
2	A	905	LBN	C31-C32-C33-C4
2	C	906	LBN	C31-C32-C33-C4
2	D	902	LBN	C31-C32-C33-C4
2	B	902	LBN	C31-C32-C33-C4
3	A	902	6OU	C40-C41-C42-C43
3	C	903	6OU	C40-C41-C42-C43
3	D	904	6OU	C40-C41-C42-C43
3	B	906	6OU	C40-C41-C42-C43
3	A	906	6OU	C36-C37-C38-C39
3	C	905	6OU	C36-C37-C38-C39
3	D	901	6OU	C36-C37-C38-C39
3	B	903	6OU	C36-C37-C38-C39
2	A	901	LBN	C9-O2-P1-O1
2	A	901	LBN	C9-O2-P1-O4
2	C	901	LBN	C9-O2-P1-O1
2	C	901	LBN	C9-O2-P1-O4
2	D	903	LBN	C9-O2-P1-O1
2	D	903	LBN	C9-O2-P1-O4
2	B	904	LBN	C9-O2-P1-O1
2	B	904	LBN	C9-O2-P1-O4
3	A	904	6OU	C21-O22-P23-O26
3	C	902	6OU	C21-O22-P23-O26
3	B	901	6OU	C21-O22-P23-O26
3	B	905	6OU	C21-O22-P23-O26
3	A	906	6OU	C20-C21-O22-P23
3	C	905	6OU	C20-C21-O22-P23
3	D	901	6OU	C20-C21-O22-P23
3	B	903	6OU	C20-C21-O22-P23
2	A	901	LBN	C9-C6-N1-C12
2	C	901	LBN	C9-C6-N1-C12
2	D	903	LBN	C9-C6-N1-C12
2	B	904	LBN	C9-C6-N1-C12
3	A	904	6OU	C37-C38-C39-C40

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Mol	Chain	Res	Type	Atoms
3	C	902	6OU	C37-C38-C39-C40
3	B	901	6OU	C37-C38-C39-C40
3	B	905	6OU	C37-C38-C39-C40
3	A	906	6OU	C40-C41-C42-C43
3	C	905	6OU	C40-C41-C42-C43
3	D	901	6OU	C40-C41-C42-C43
3	B	903	6OU	C40-C41-C42-C43
2	A	905	LBN	C39-C40-C41-C42
2	C	906	LBN	C39-C40-C41-C42
2	D	902	LBN	C39-C40-C41-C42
2	B	902	LBN	C39-C40-C41-C42
2	A	901	LBN	C9-C6-N1-C18
2	C	901	LBN	C9-C6-N1-C18
2	D	903	LBN	C9-C6-N1-C18
2	B	904	LBN	C9-C6-N1-C18
2	C	901	LBN	C26-C27-C28-C29
2	A	901	LBN	C26-C27-C28-C29
2	D	903	LBN	C26-C27-C28-C29
2	B	904	LBN	C26-C27-C28-C29
3	B	905	6OU	C34-C35-C36-C37
3	A	904	6OU	C34-C35-C36-C37
3	C	902	6OU	C34-C35-C36-C37
3	B	901	6OU	C34-C35-C36-C37
2	A	901	LBN	C9-C6-N1-C15
2	C	901	LBN	C9-C6-N1-C15
2	D	903	LBN	C9-C6-N1-C15
2	B	904	LBN	C9-C6-N1-C15
3	A	906	6OU	O30-C20-C21-O22
3	C	905	6OU	O30-C20-C21-O22
3	D	901	6OU	O30-C20-C21-O22
3	B	903	6OU	O30-C20-C21-O22
3	A	906	6OU	C14-C15-C16-O18
3	C	905	6OU	C14-C15-C16-O18
3	D	901	6OU	C14-C15-C16-O18
3	B	903	6OU	C14-C15-C16-O18
2	A	901	LBN	O1-C1-C2-C3
2	C	901	LBN	O1-C1-C2-C3
2	D	903	LBN	O1-C1-C2-C3
2	B	904	LBN	O1-C1-C2-C3
3	A	904	6OU	C31-C33-C34-C35
3	B	905	6OU	C31-C33-C34-C35
3	C	902	6OU	C31-C33-C34-C35

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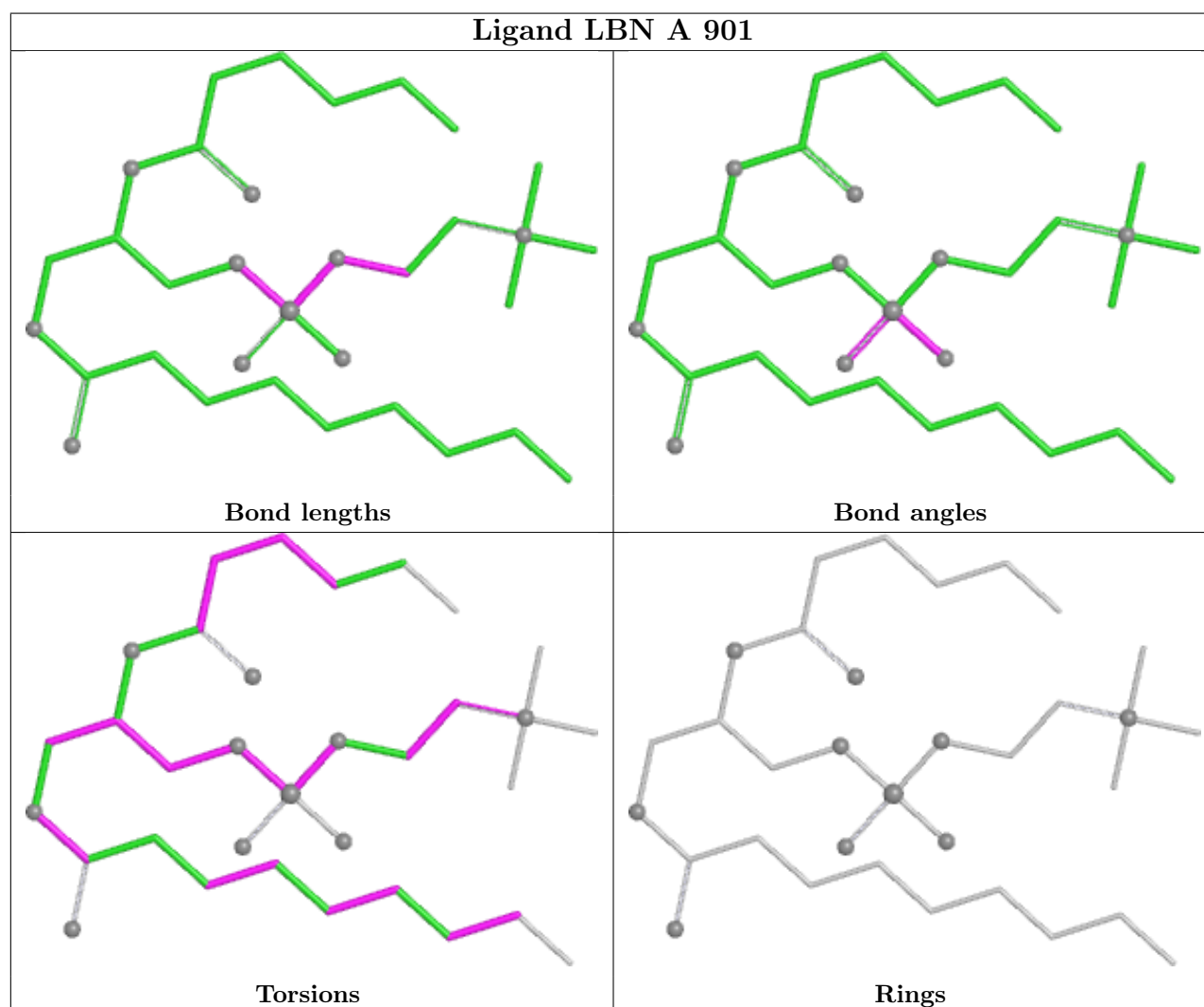
Mol	Chain	Res	Type	Atoms
3	B	901	6OU	C31-C33-C34-C35
2	C	901	LBN	O7-C34-C35-C36
2	A	901	LBN	O7-C34-C35-C36
2	B	904	LBN	O7-C34-C35-C36
3	A	906	6OU	C19-C20-C21-O22
3	C	905	6OU	C19-C20-C21-O22
3	D	901	6OU	C19-C20-C21-O22
3	B	903	6OU	C19-C20-C21-O22
2	D	903	LBN	O7-C34-C35-C36
2	A	905	LBN	C42-C5-C8-C11
2	C	906	LBN	C42-C5-C8-C11
2	D	902	LBN	C42-C5-C8-C11
2	B	902	LBN	C42-C5-C8-C11
2	B	904	LBN	O8-C34-C35-C36
2	D	903	LBN	O8-C34-C35-C36
3	D	904	6OU	C46-C47-C48-C49
3	A	902	6OU	C46-C47-C48-C49
3	B	906	6OU	C46-C47-C48-C49
2	A	901	LBN	O8-C34-C35-C36
2	C	901	LBN	O8-C34-C35-C36
3	C	903	6OU	C46-C47-C48-C49
2	A	905	LBN	O5-C25-C26-C27
2	C	906	LBN	O5-C25-C26-C27
2	D	902	LBN	O5-C25-C26-C27
2	B	902	LBN	O5-C25-C26-C27
3	A	904	6OU	O30-C31-C33-C34
3	A	906	6OU	O30-C31-C33-C34
3	C	902	6OU	O30-C31-C33-C34
3	C	905	6OU	O30-C31-C33-C34
3	D	901	6OU	O30-C31-C33-C34
3	B	901	6OU	O30-C31-C33-C34
3	B	903	6OU	O30-C31-C33-C34
3	B	905	6OU	O30-C31-C33-C34

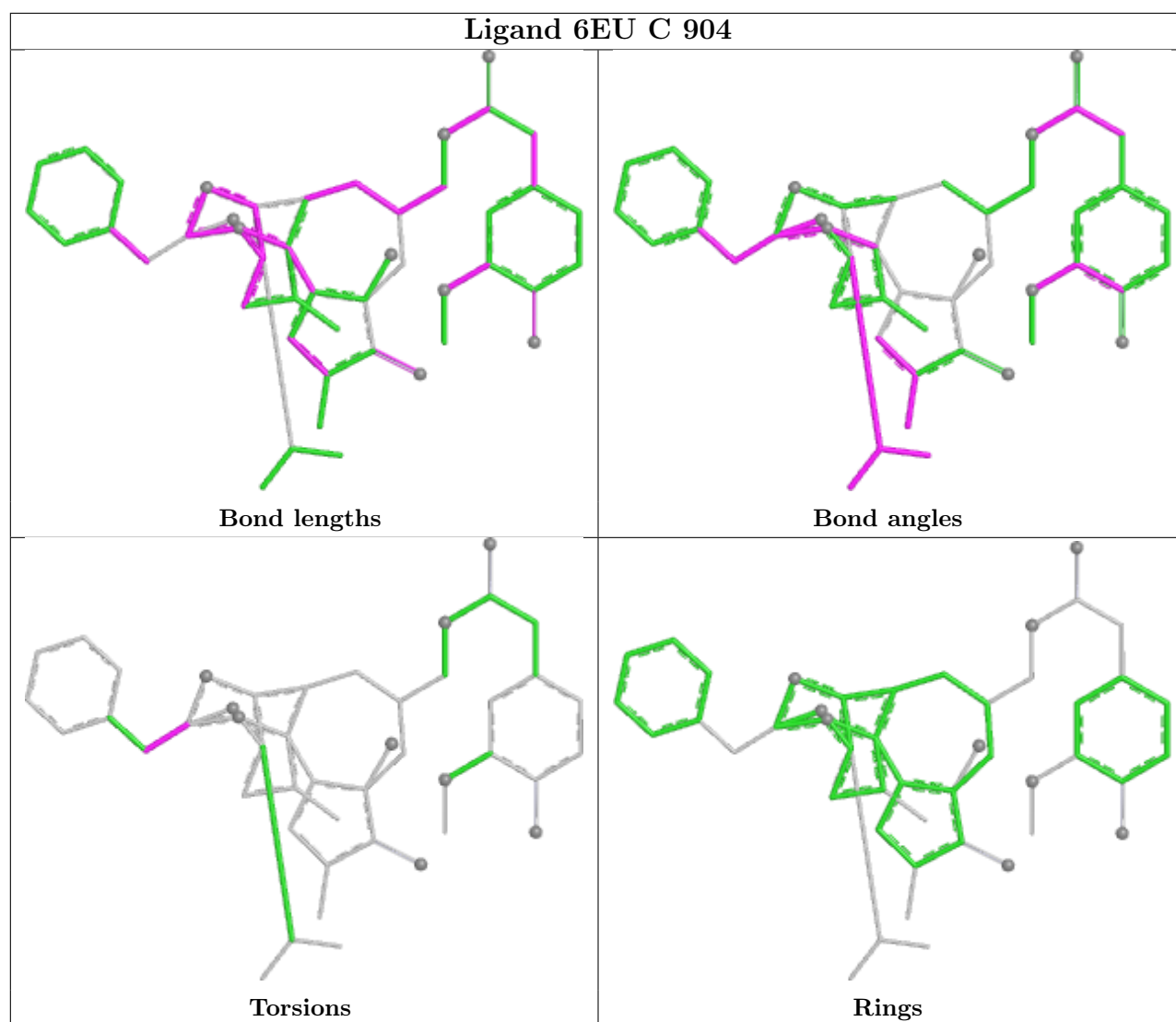
There are no ring outliers.

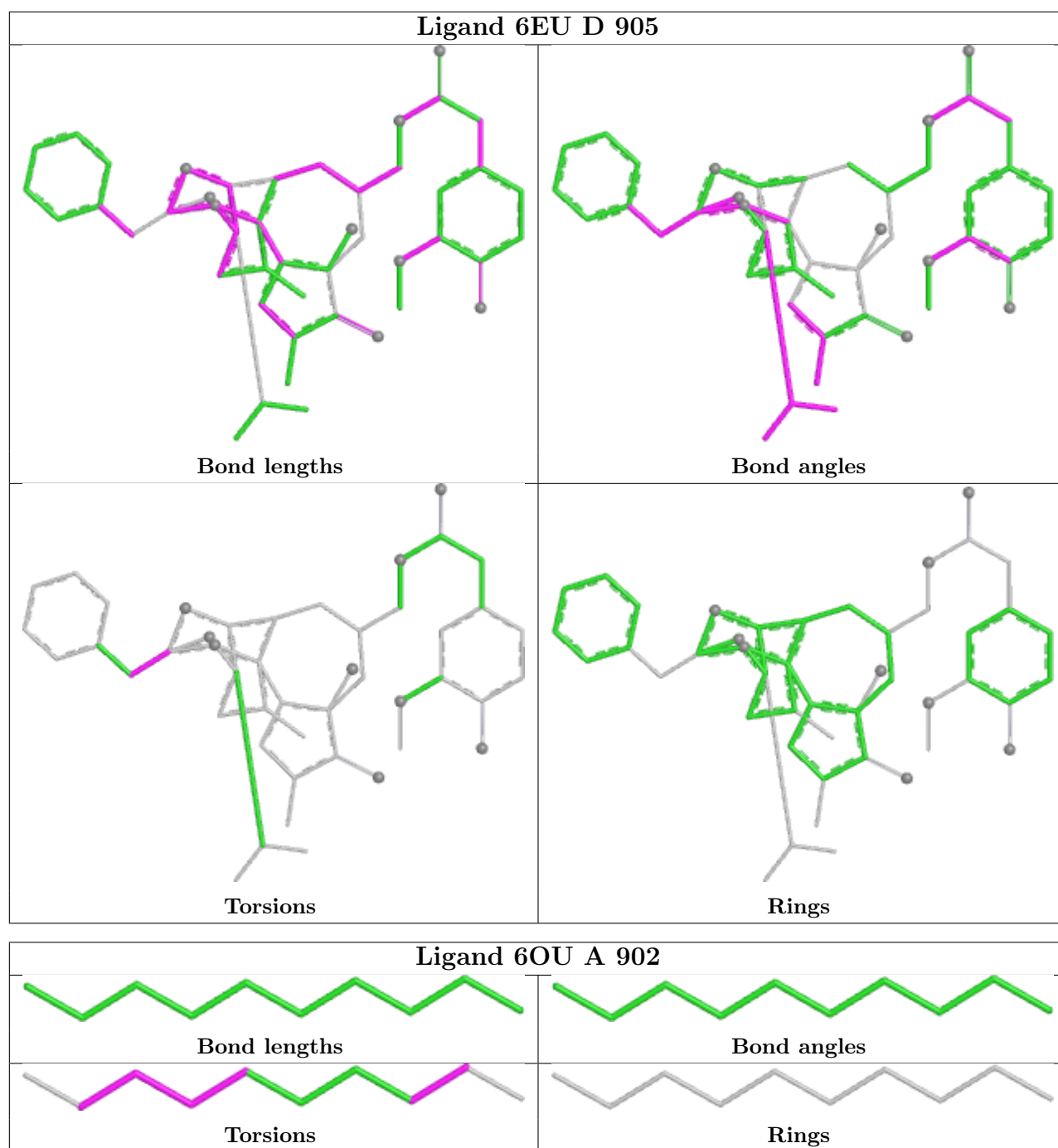
4 monomers are involved in 8 short contacts:

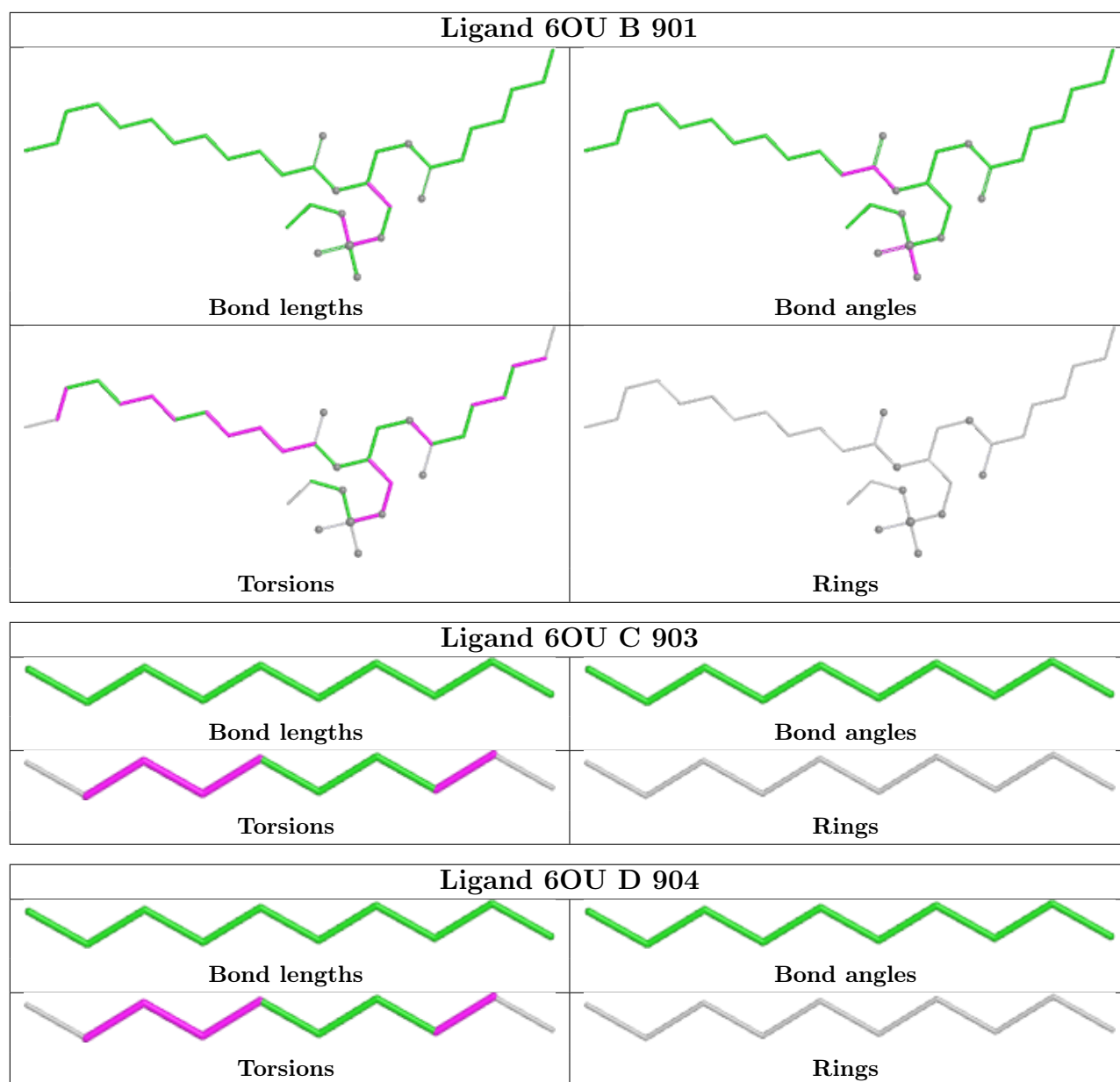
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	904	6EU	2	0
4	D	905	6EU	2	0
4	B	907	6EU	2	0
4	A	903	6EU	2	0

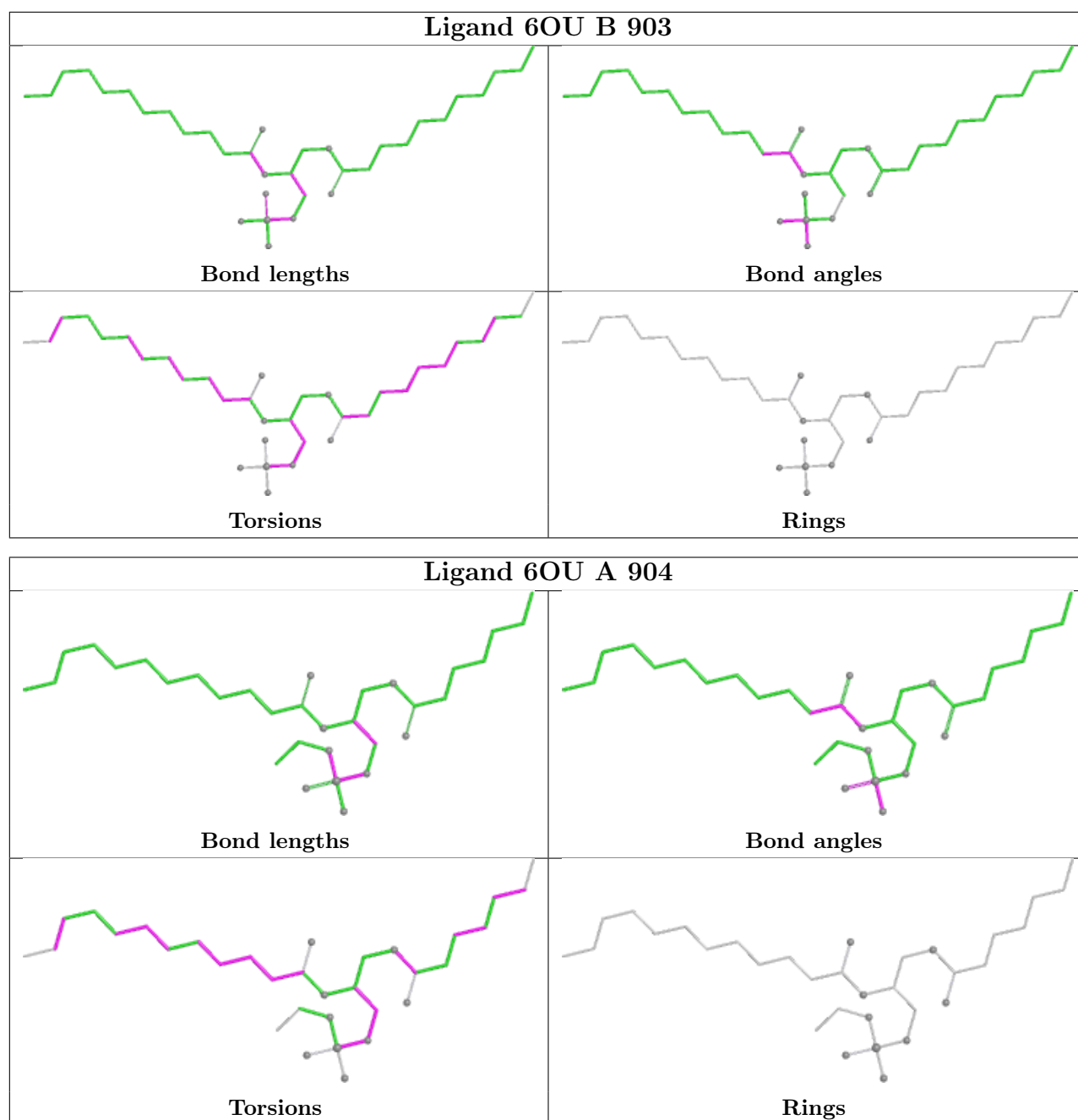
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

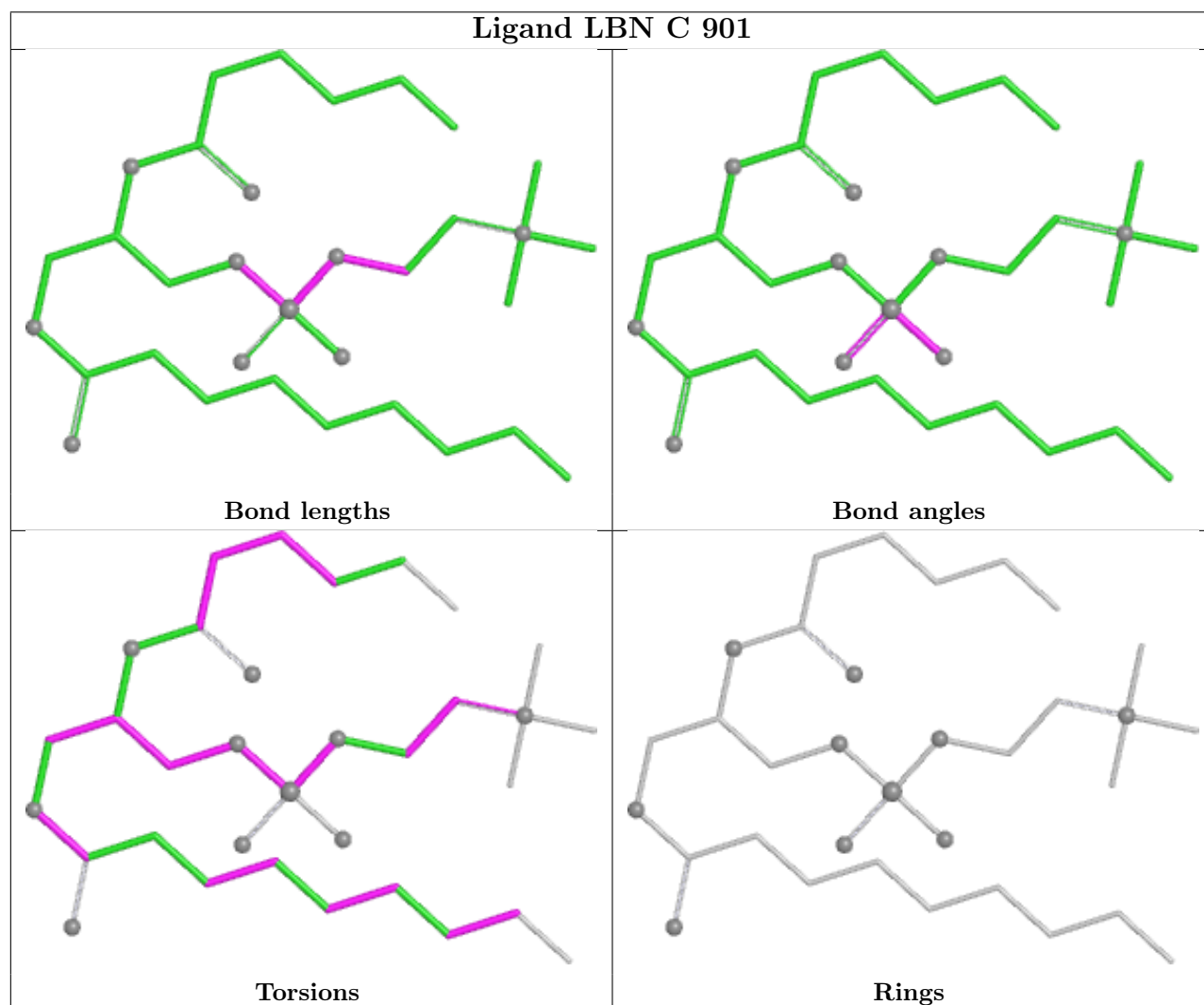
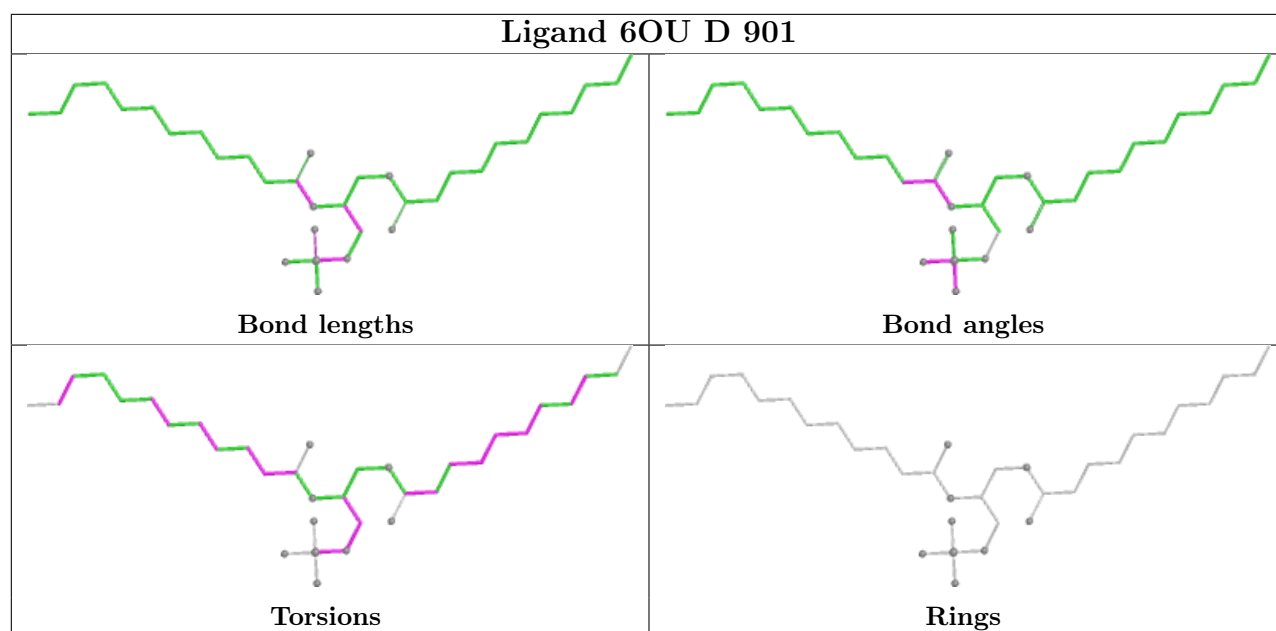


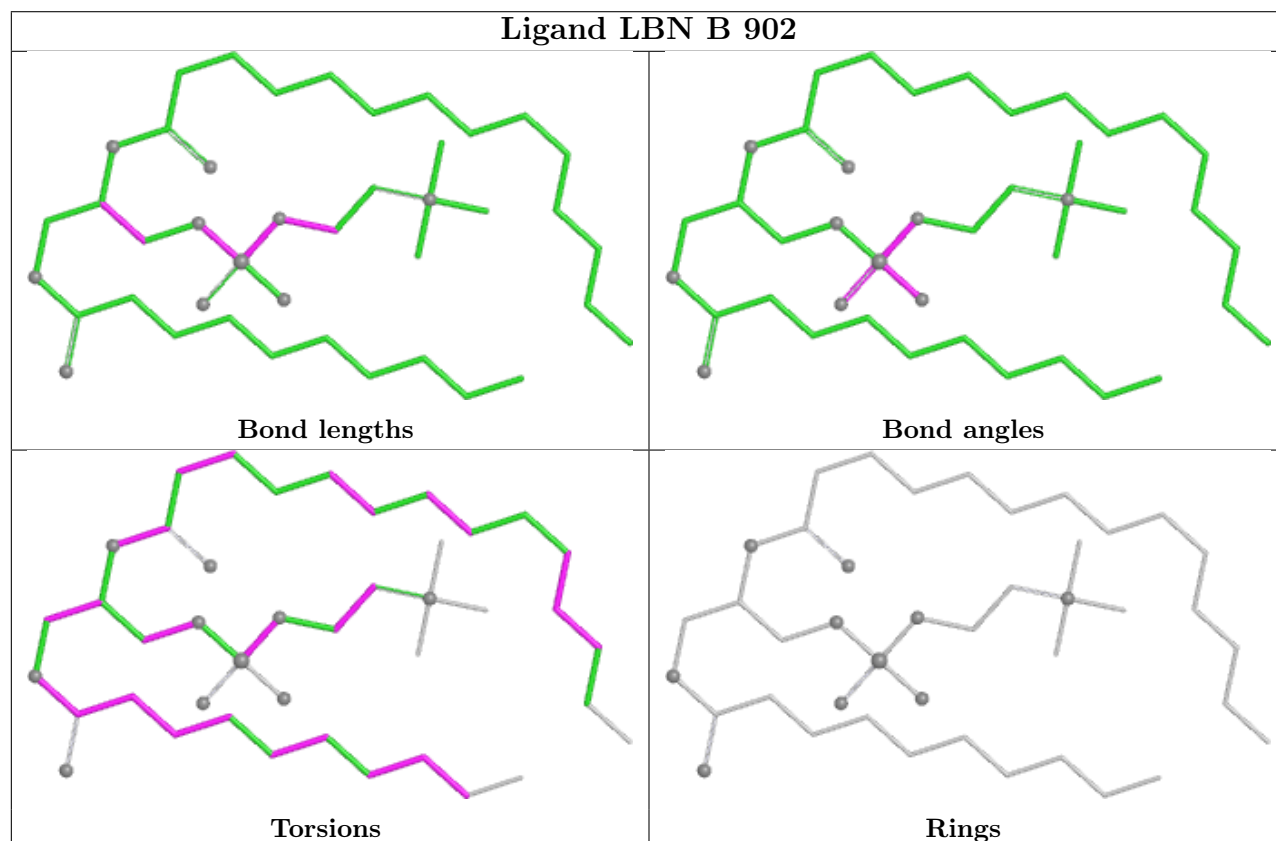
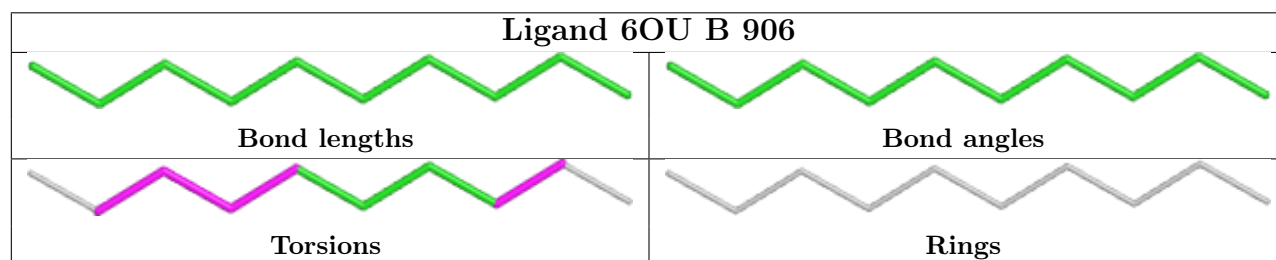
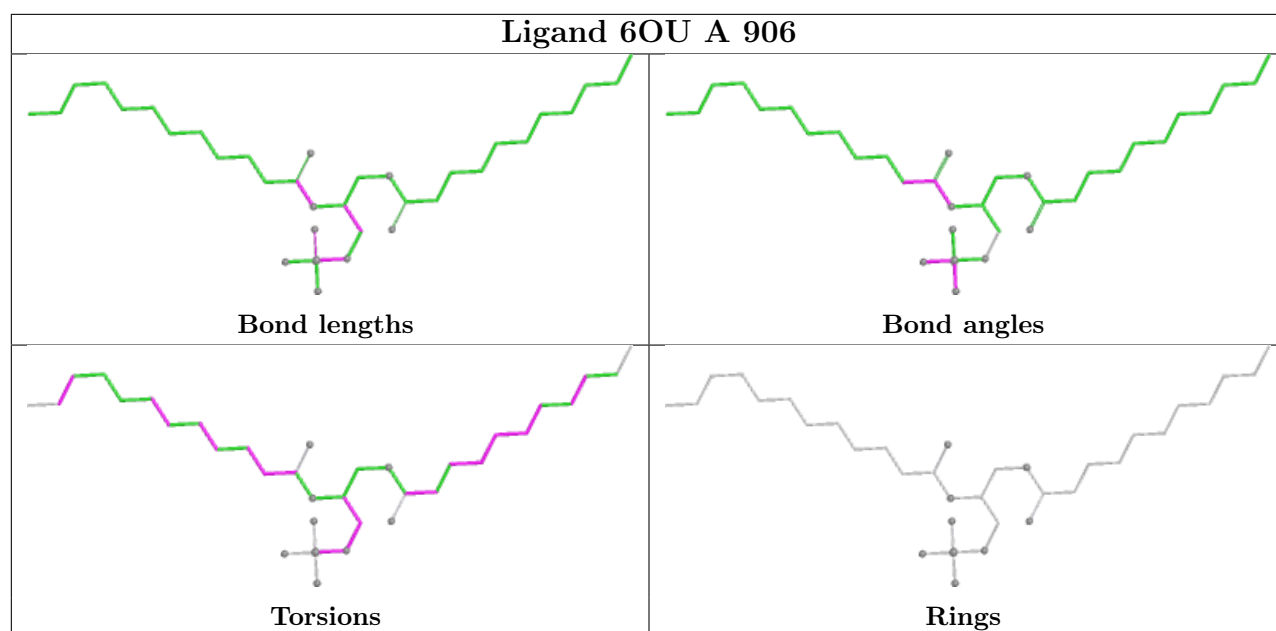


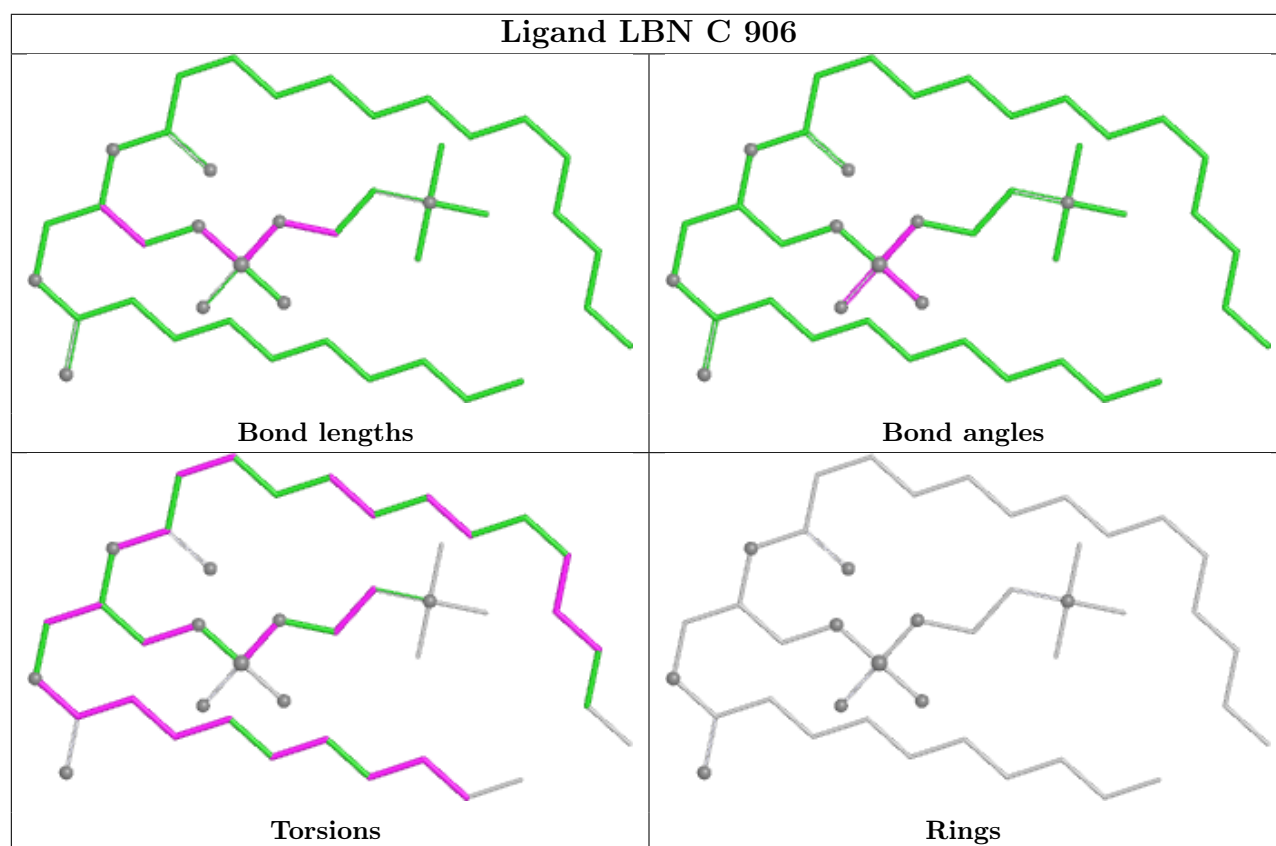
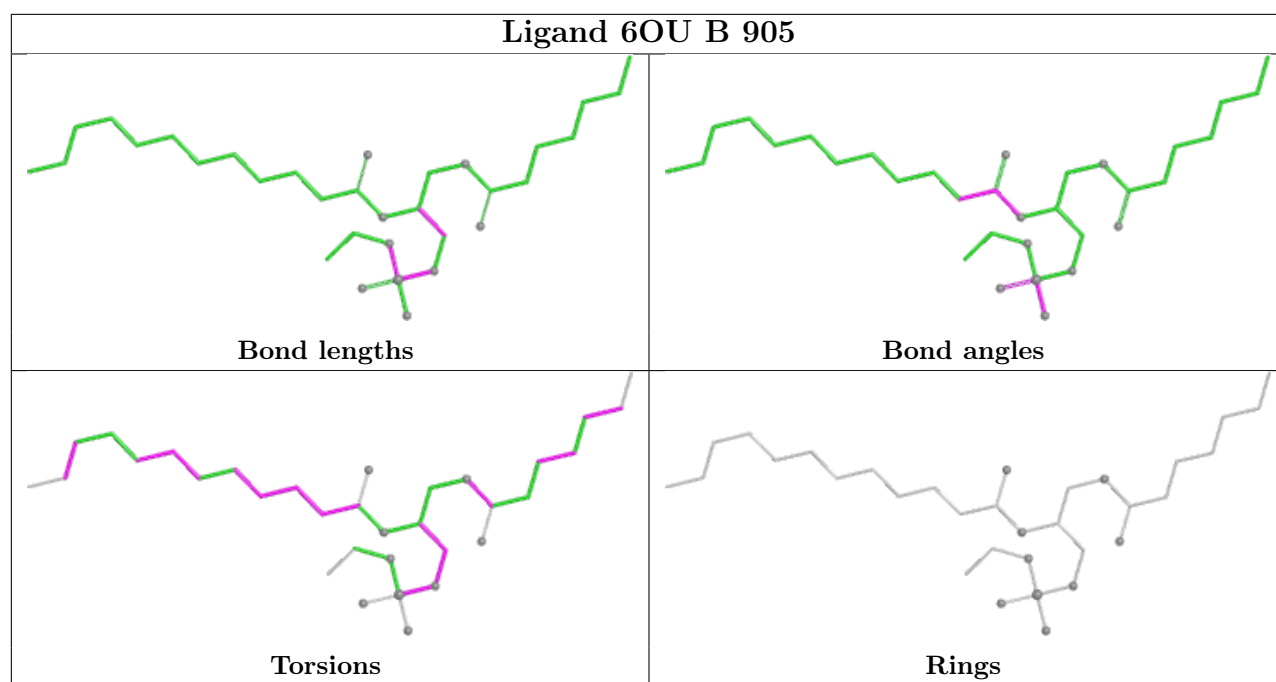


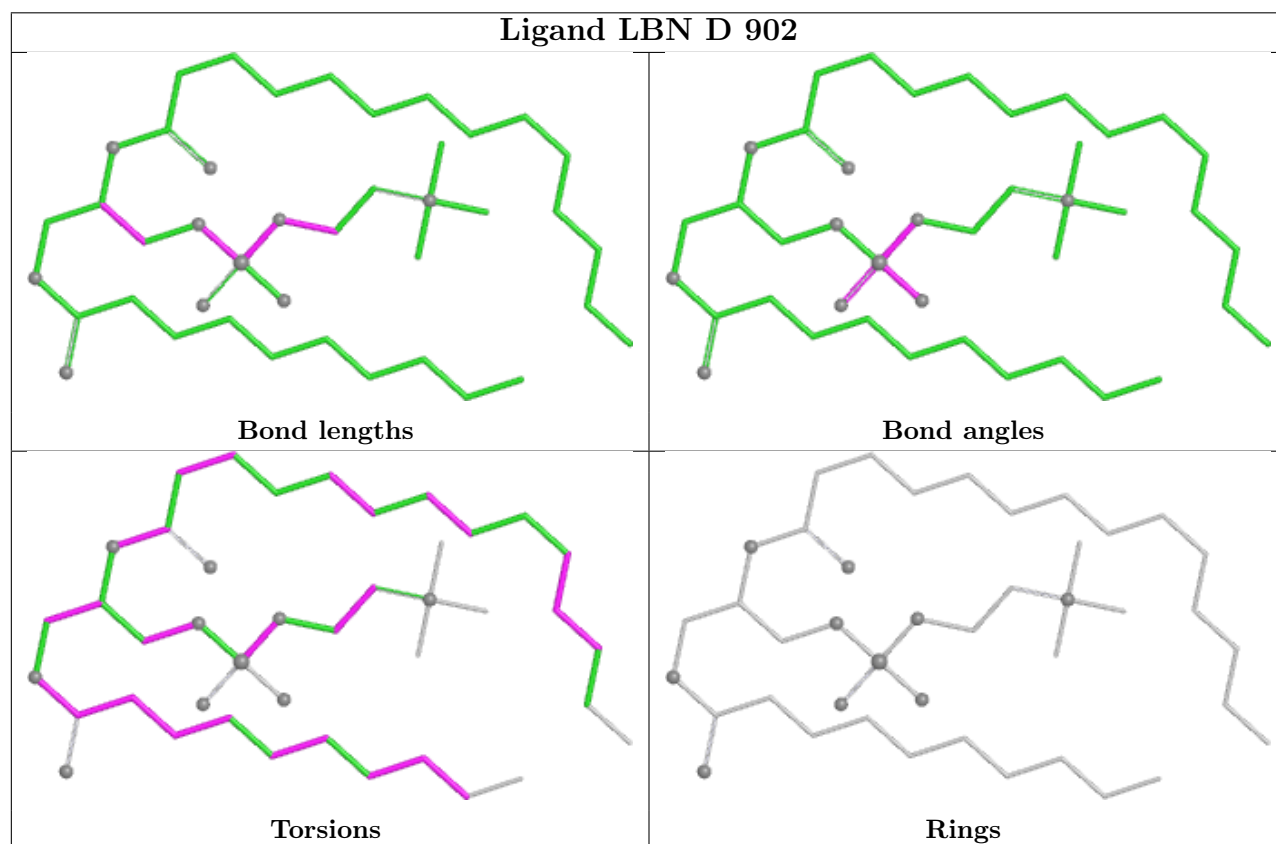
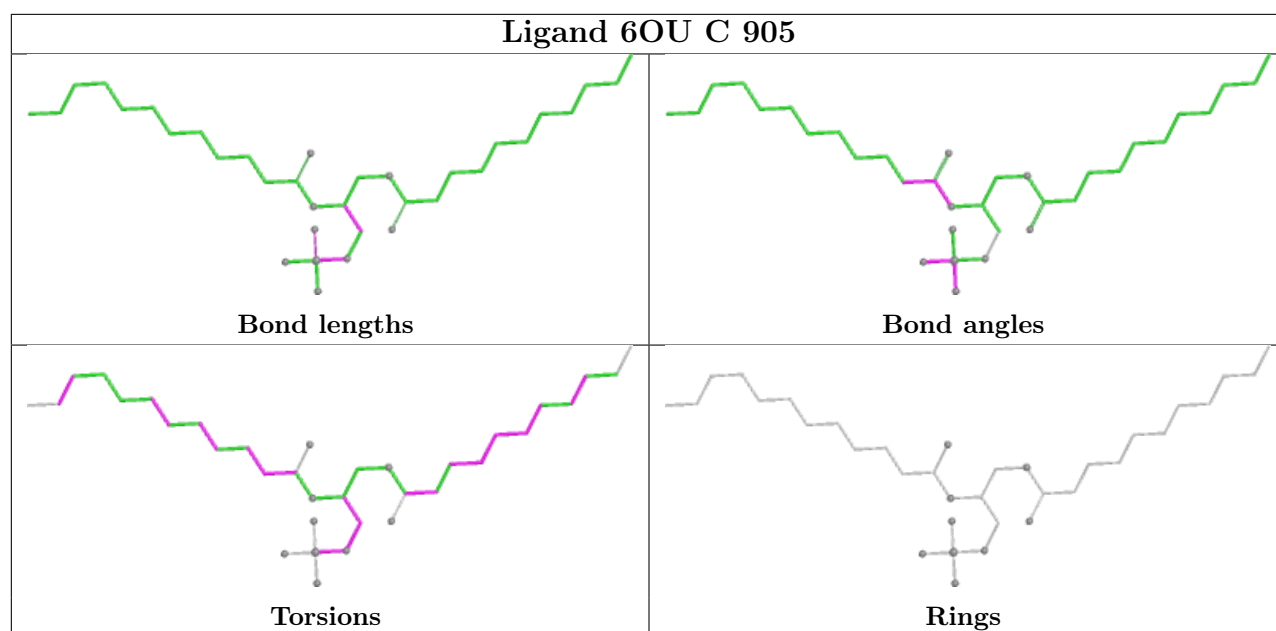


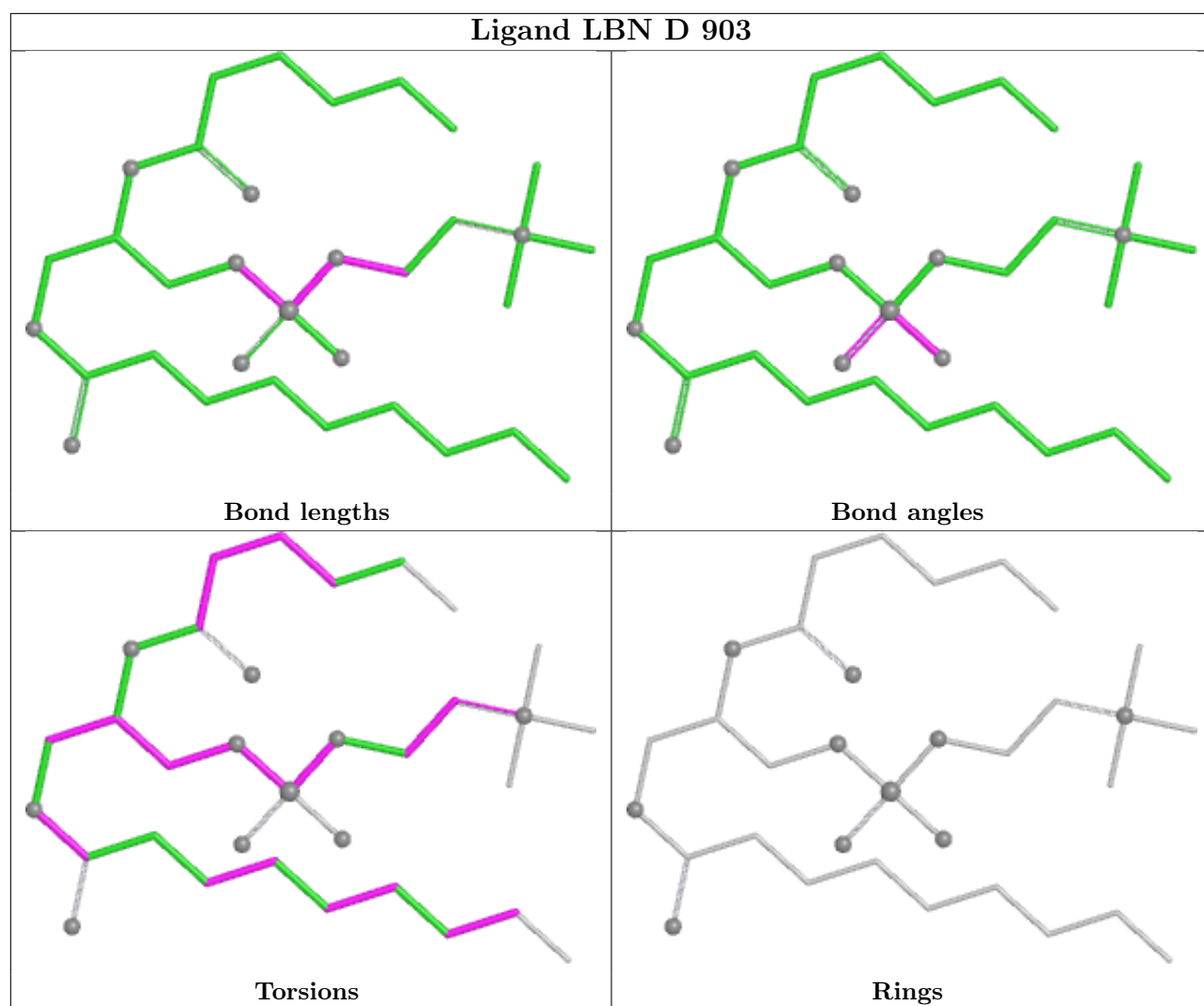


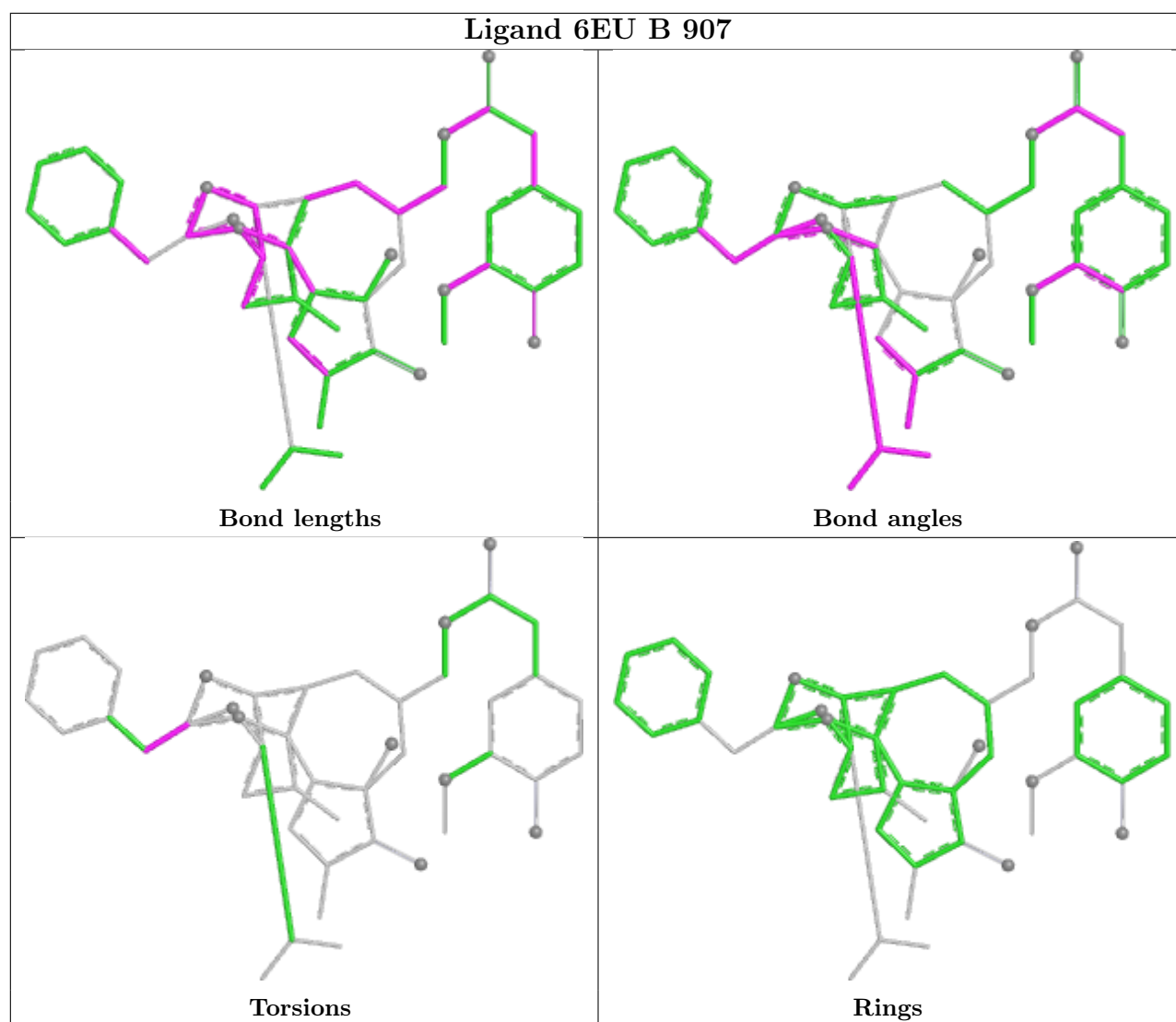


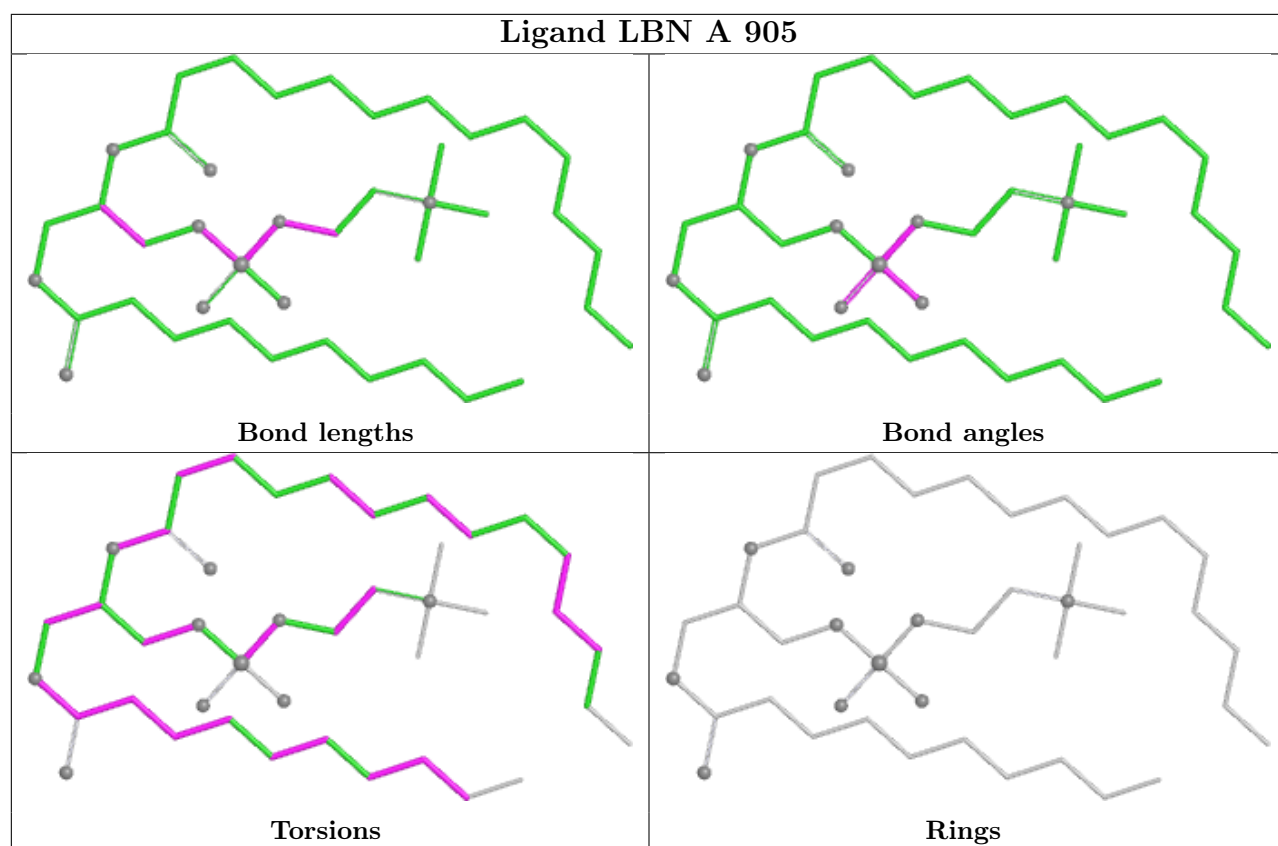


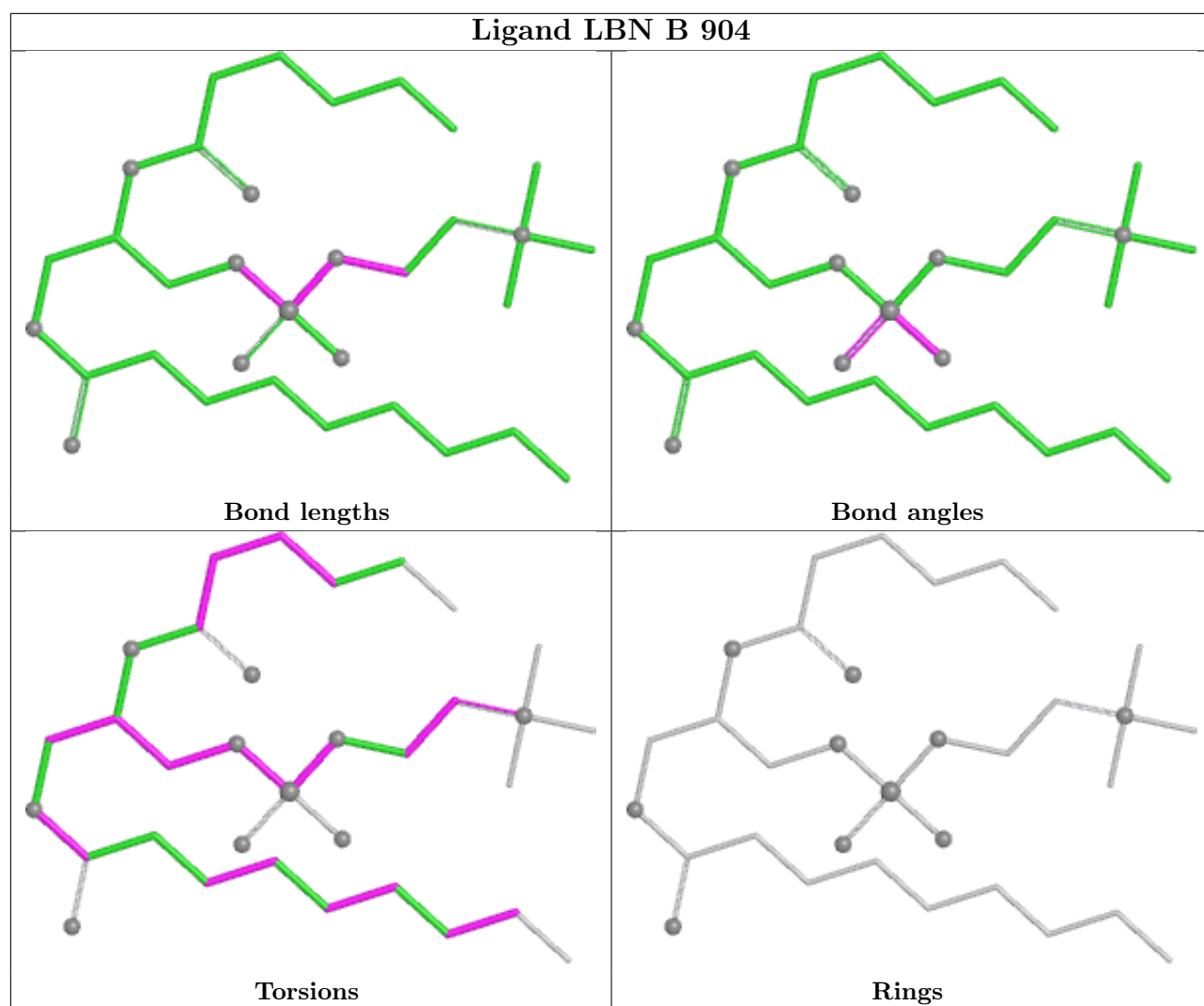


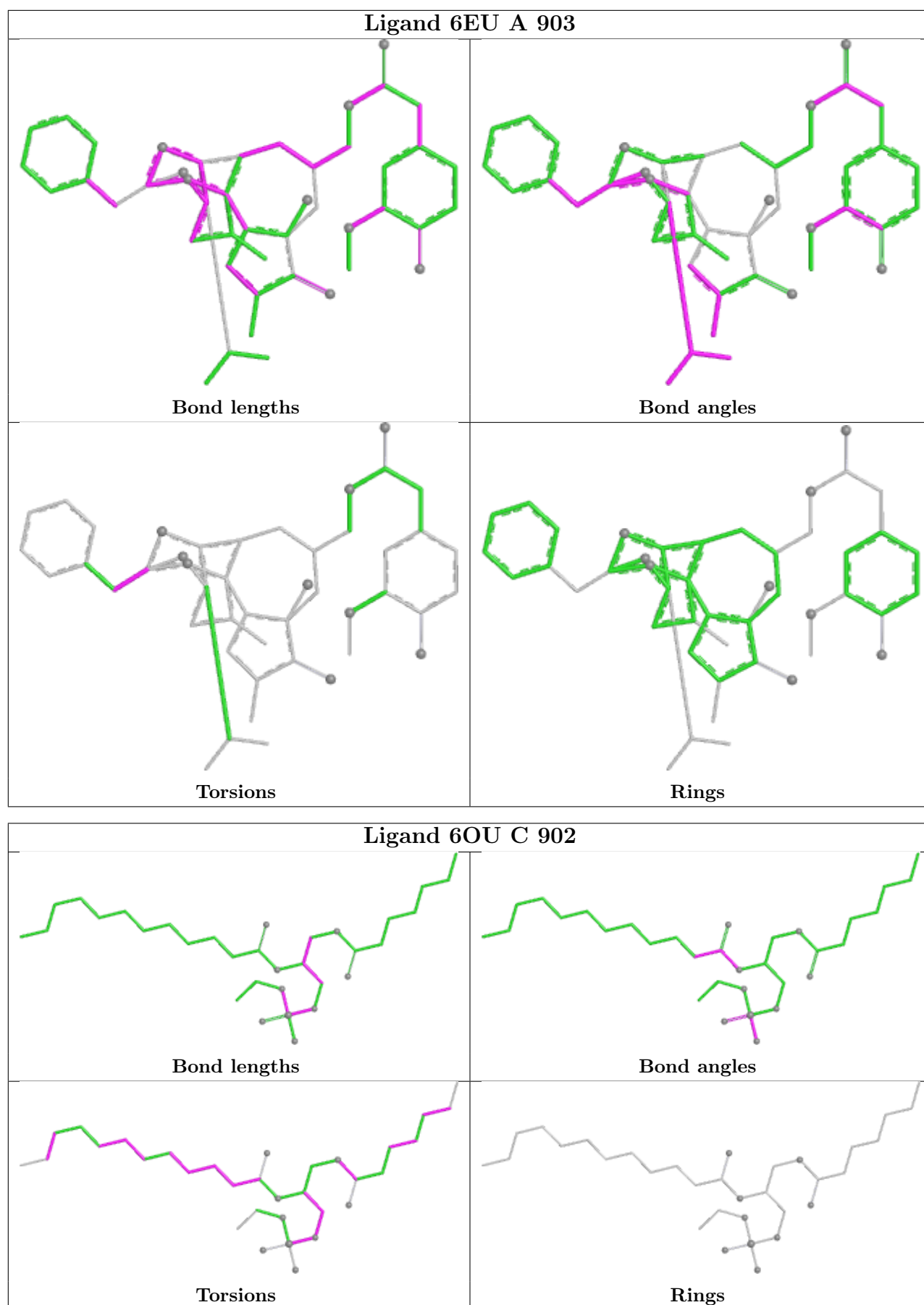












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

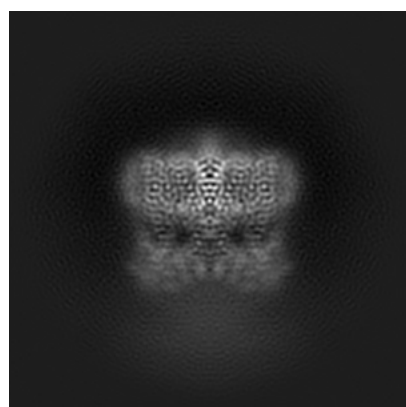
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-24639. These allow visual inspection of the internal detail of the map and identification of artifacts.

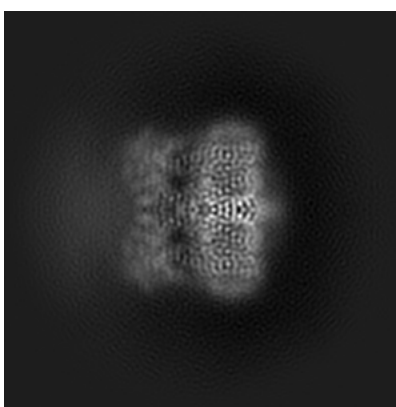
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

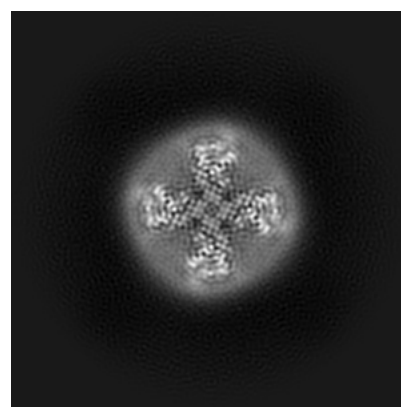
6.1.1 Primary map



X



Y

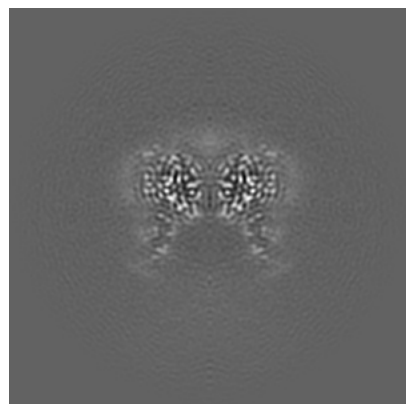


Z

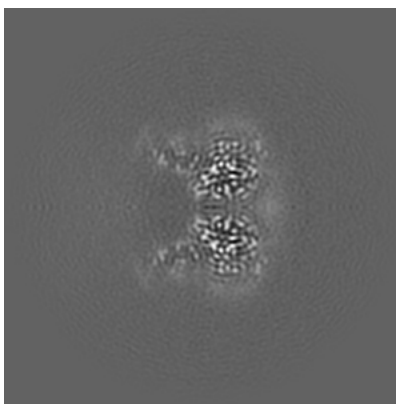
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

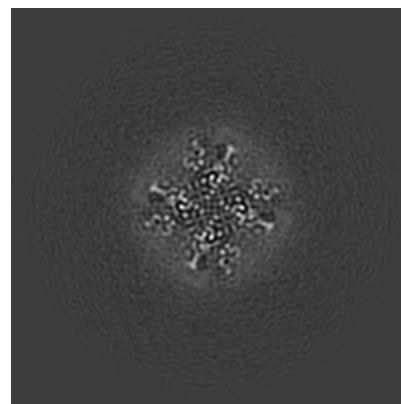
6.2.1 Primary map



X Index: 128



Y Index: 128

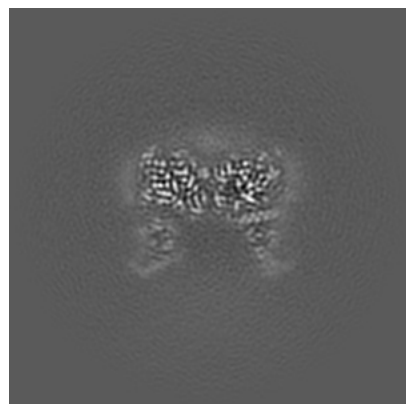


Z Index: 128

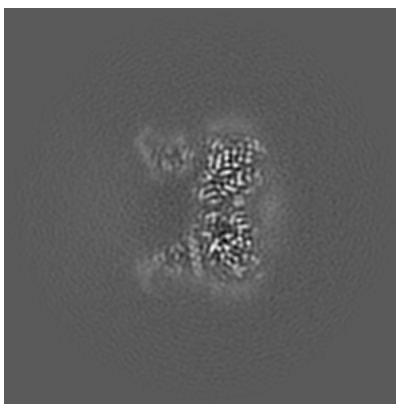
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

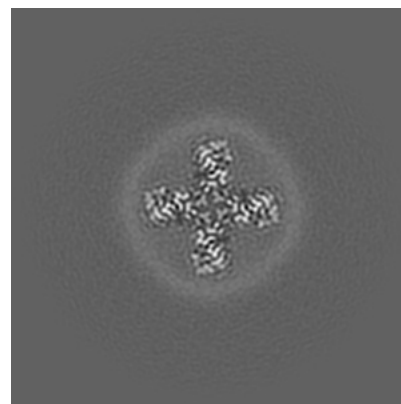
6.3.1 Primary map



X Index: 132



Y Index: 132

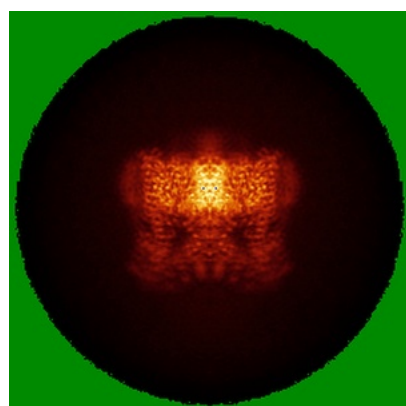


Z Index: 147

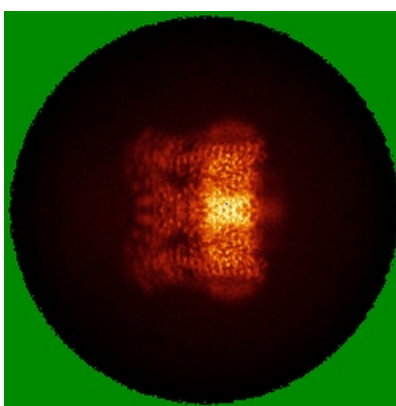
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

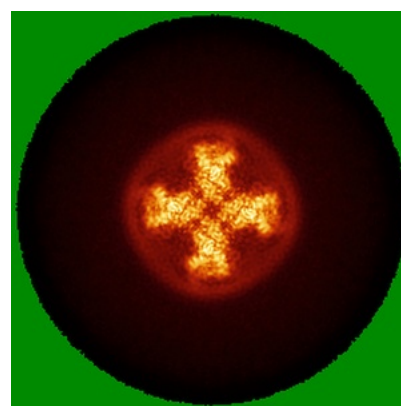
6.4.1 Primary map



X



Y

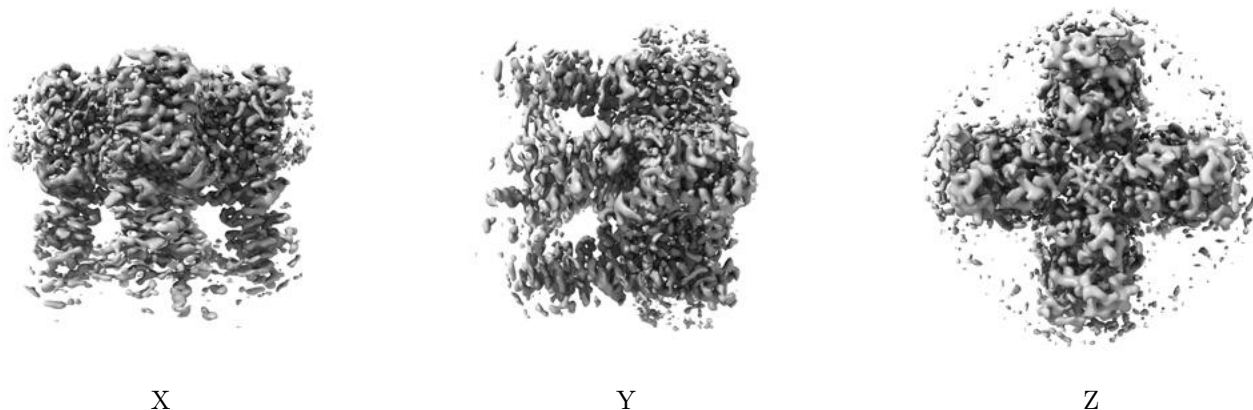


Z

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 [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.56. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

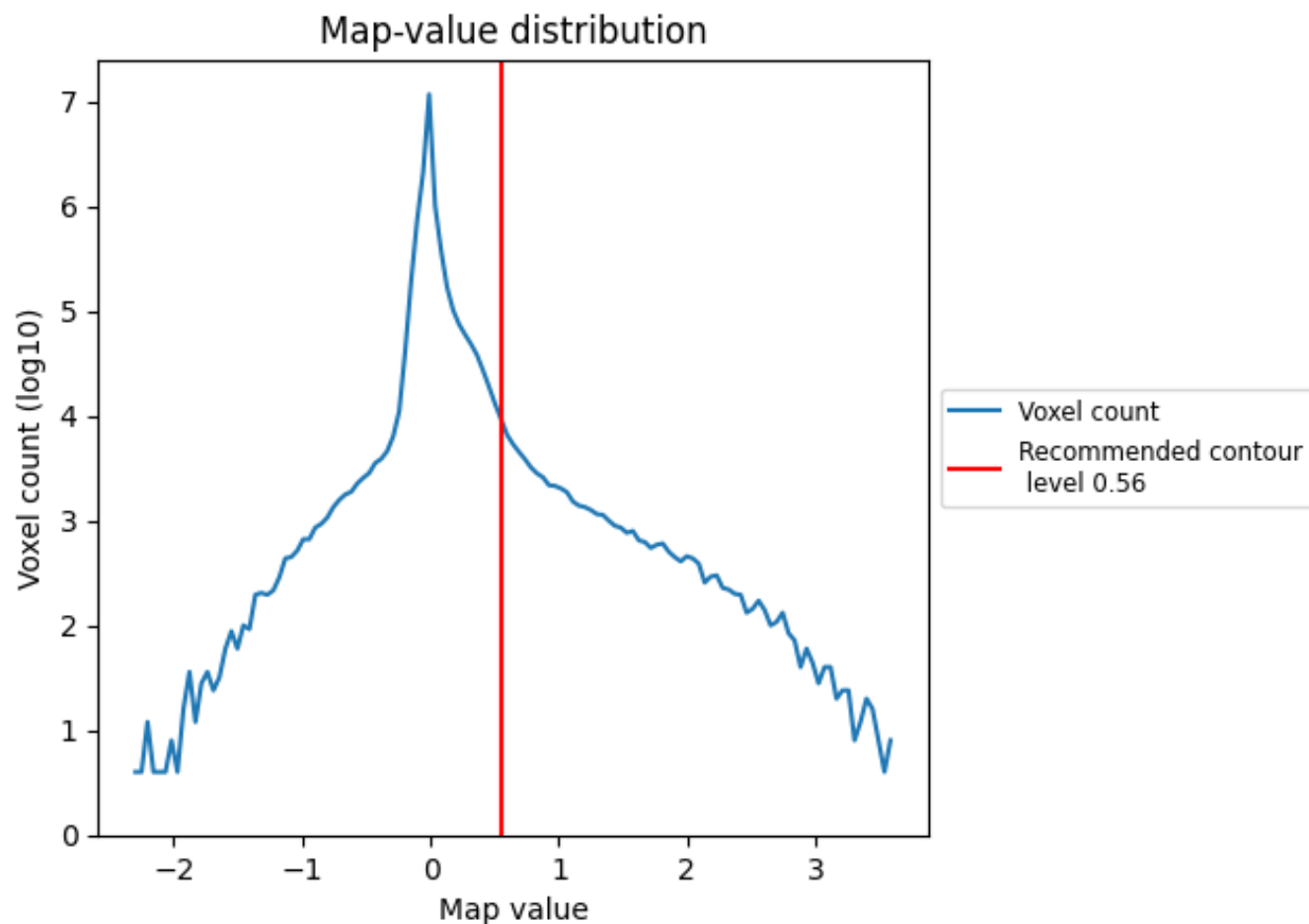
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

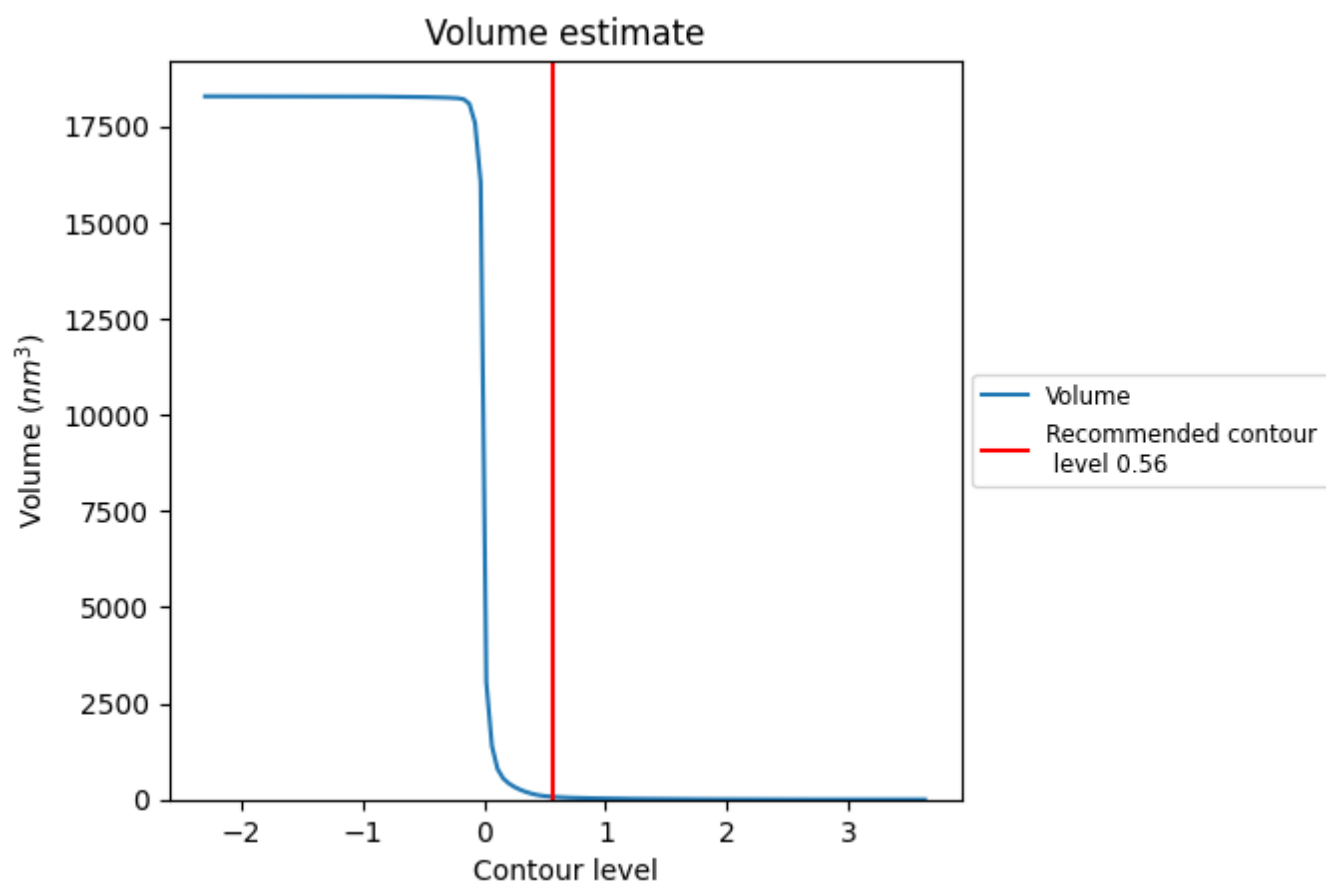
This section contains the results of statistical analysis of the map.

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.

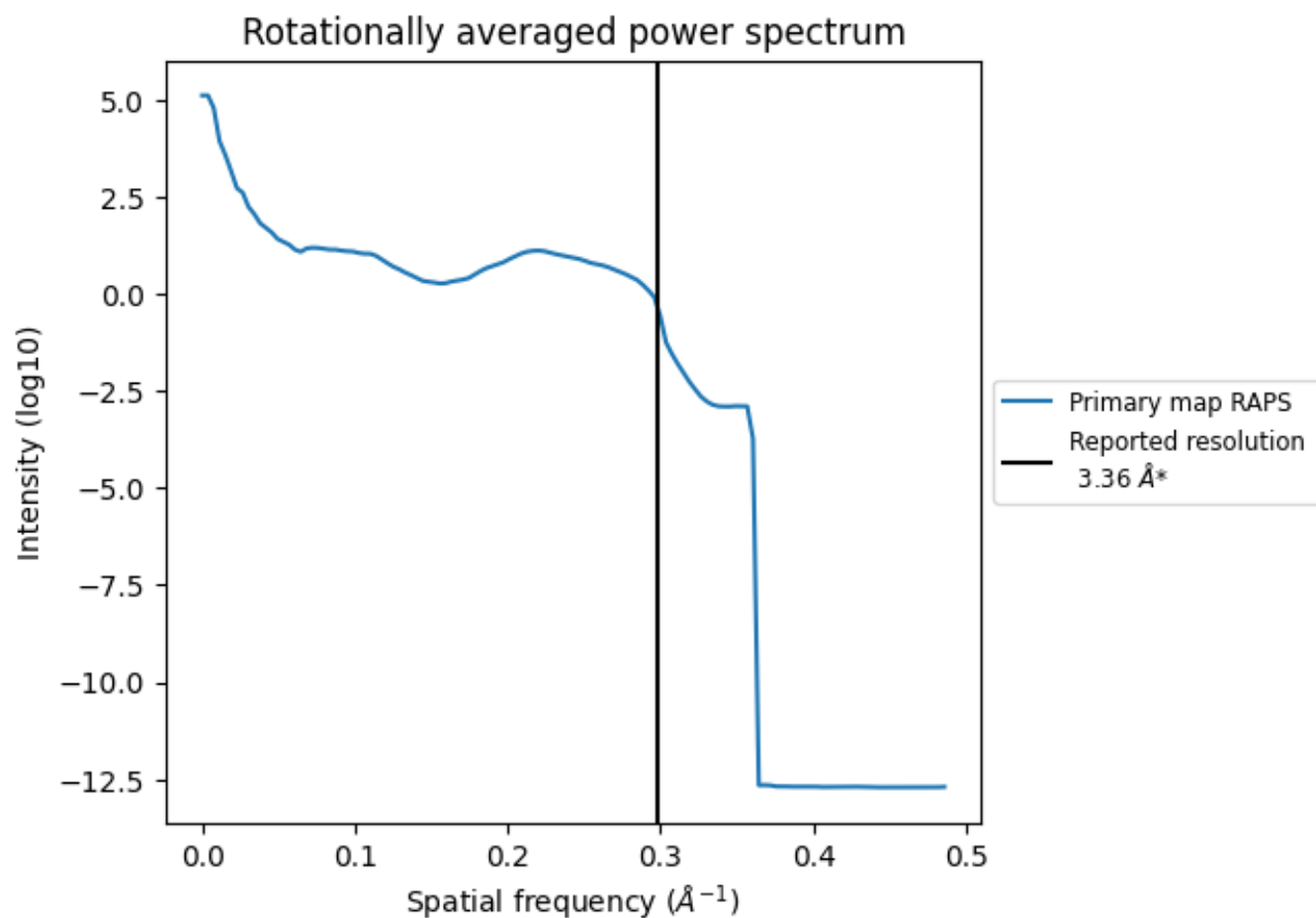
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 71 nm³; this corresponds to an approximate mass of 64 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 0.298 Å⁻¹

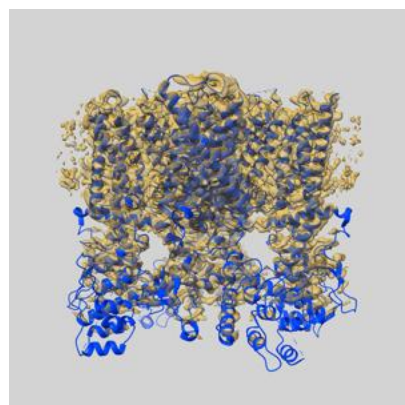
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

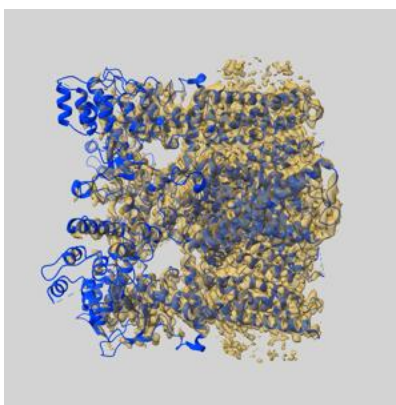
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-24639 and PDB model 7RQX. Per-residue inclusion information can be found in section [3](#) on page [10](#).

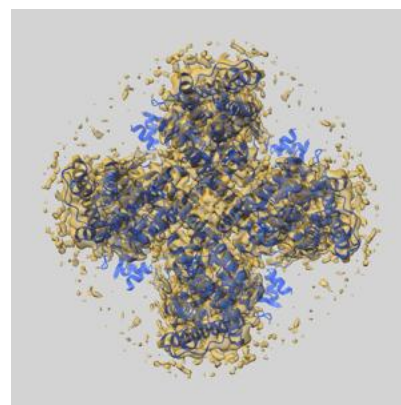
9.1 Map-model overlay [i](#)



X



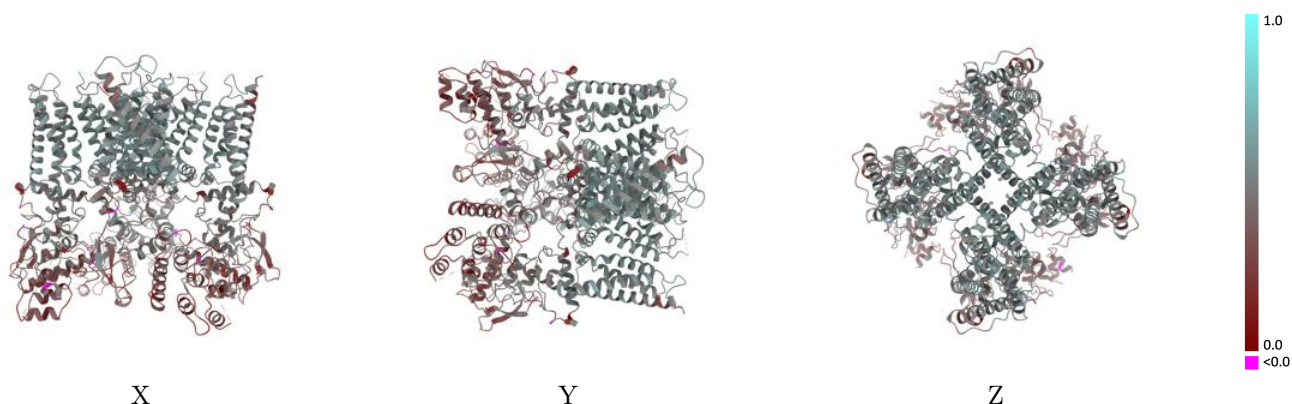
Y



Z

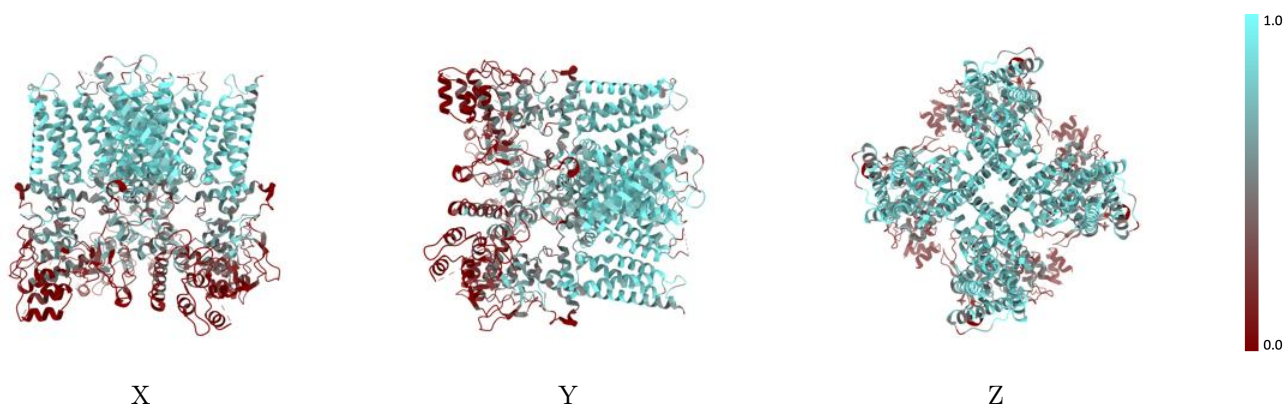
The images above show the 3D surface view of the map at the recommended contour level 0.56 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



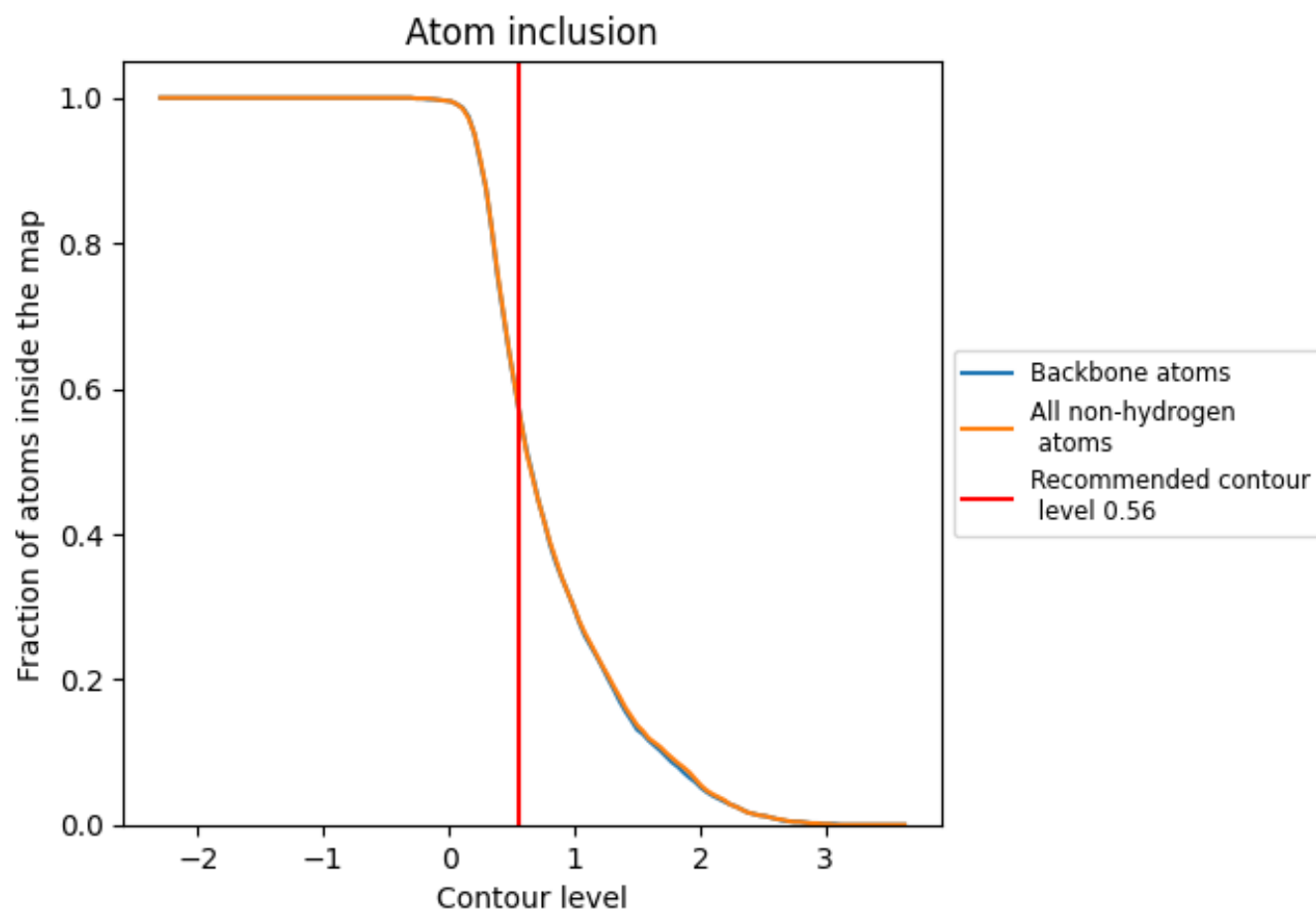
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.56).

9.4 Atom inclusion [i](#)



At the recommended contour level, 57% of all backbone atoms, 57% 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 (0.56) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.5690	<div></div> 0.4510
A	<div></div> 0.5680	<div></div> 0.4560
B	<div></div> 0.5700	<div></div> 0.4510
C	<div></div> 0.5670	<div></div> 0.4480
D	<div></div> 0.5700	<div></div> 0.4520

