WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jun 24, 2024 – 08:56 PM EDT

PDB ID	:	6ZMQ
Title	:	Cytochrome c Heme Lyase CcmF
Authors	:	Brausemann, A.; Einsle, O.
Deposited on	:	2020-07-03
Resolution	:	2.67 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

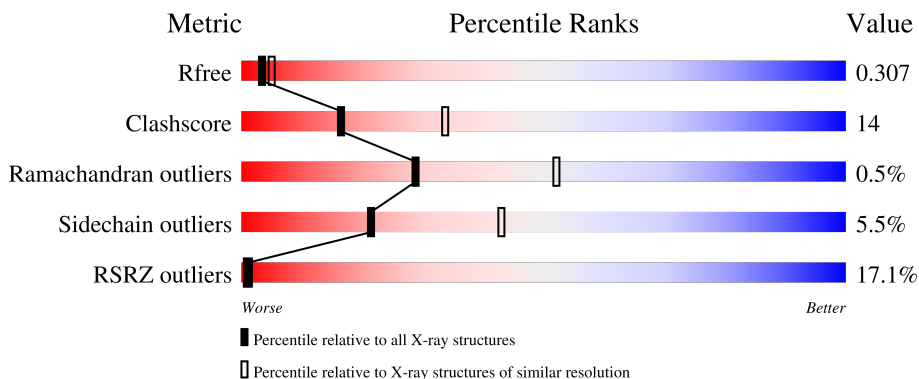|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.67 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	Percentile Ranks	Value
Rfree		0.307
Clashscore		14
Ramachandran outliers		0.5%
Sidechain outliers		5.5%
RSRZ outliers		17.1%

Worse   *Better*

▮ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	3863 (2.70-2.66)
Clashscore	141614	4210 (2.70-2.66)
Ramachandran outliers	138981	4141 (2.70-2.66)
Sidechain outliers	138945	4141 (2.70-2.66)
RSRZ outliers	127900	3780 (2.70-2.66)

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

Mol	Chain	Length	Quality of chain
1	A	660	15% / 63% / 22% / • / 11%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	PTY	A	704	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	PTY	A	706	-	-	-	X

2 Entity composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 4966 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Cytochrome C-type biogenesis protein ccmF.

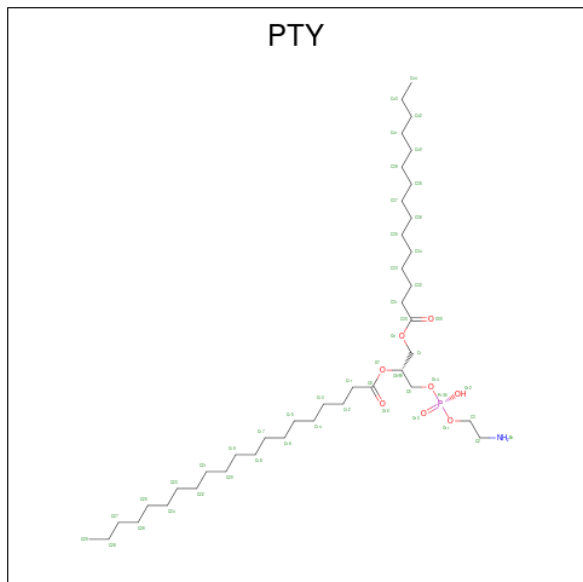| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	589	4636	3107	765	750	14	0	0	0

There are 17 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-16	TRP	-	expression tag	UNP Q72IU4
A	-15	SER	-	expression tag	UNP Q72IU4
A	-14	HIS	-	expression tag	UNP Q72IU4
A	-13	PRO	-	expression tag	UNP Q72IU4
A	-12	GLN	-	expression tag	UNP Q72IU4
A	-11	PHE	-	expression tag	UNP Q72IU4
A	-10	GLU	-	expression tag	UNP Q72IU4
A	-9	LYS	-	expression tag	UNP Q72IU4
A	-8	GLY	-	expression tag	UNP Q72IU4
A	-7	ALA	-	expression tag	UNP Q72IU4
A	-6	GLU	-	expression tag	UNP Q72IU4
A	-5	ASN	-	expression tag	UNP Q72IU4
A	-4	LEU	-	expression tag	UNP Q72IU4
A	-3	TYR	-	expression tag	UNP Q72IU4
A	-2	PHE	-	expression tag	UNP Q72IU4
A	-1	GLN	-	expression tag	UNP Q72IU4
A	0	SER	-	expression tag	UNP Q72IU4

- Molecule 2 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: $C_{34}H_{32}FeN_4O_4$) (labeled as "Ligand of Interest" by depositor).

HEM

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	Fe	N	O	0	0
			43	34	1	4	4		

- Molecule 3 is DODECYL-BETA-D-MALTOSIDE (three-letter code: LMT) (formula: $C_{24}H_{46}O_{11}$).

LMT

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			35	24	11		
3	A	1	Total	C	O	0	0
			35	24	11		

- Molecule 4 is PHOSPHATIDYLETHANOLAMINE (three-letter code: PTY) (formula: $C_{40}H_{80}NO_8P$).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	P	0	0
			50	40	1	8	1		
4	A	1	Total	C	N	O	P	0	0
			50	40	1	8	1		
4	A	1	Total	C	N	O	P	0	0
			50	40	1	8	1		
4	A	1	Total	C	N	O	P	0	0
			50	40	1	8	1		

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	17	Total	O	0	0
			17	17		

3 Residue-property plots ⓘ

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

• Molecule 1: Cytochrome C-type biogenesis protein ccmF
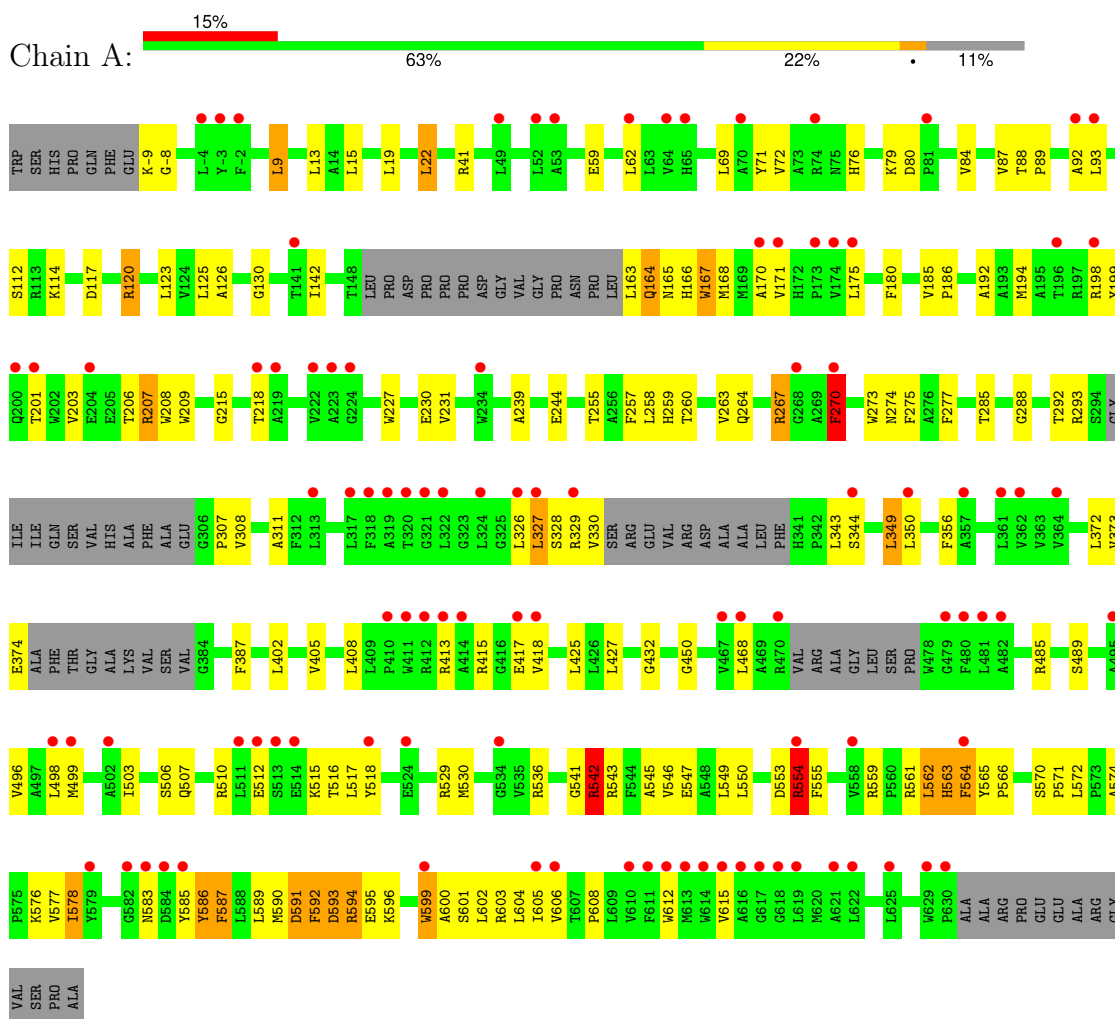
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	68.72Å 128.27Å 134.98Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.15 – 2.67 92.98 – 2.67	Depositor EDS
% Data completeness (in resolution range)	44.1 (48.15-2.67) 44.7 (92.98-2.67)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.02 (at 2.65Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.271 , 0.308 0.273 , 0.307	Depositor DCC
R_{free} test set	787 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	77.6	Xtriage
Anisotropy	0.152	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.26 , 22.9	EDS
L-test for twinning[2]	$< |L| > = 0.46, < L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.034 for -h,l,k	Xtriage
F_o,F_c correlation	0.72	EDS
Total number of atoms	4966	wwPDB-VP
Average B, all atoms (Å^2)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.96% of the height of the origin peak. No significant pseudotranslation is detected.*

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: LMT, HEM, PTY

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	0.53	1/4781 (0.0%)	0.89	18/6522 (0.3%)

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

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

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	566	PRO	N-CA	11.87	1.67	1.47

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	566	PRO	N-CA-C	-10.08	85.89	112.10
1	A	22	LEU	CA-CB-CG	7.64	132.88	115.30
1	A	9	LEU	CA-CB-CG	6.67	130.65	115.30
1	A	566	PRO	CA-N-CD	-6.32	102.65	111.50
1	A	585	TYR	CB-CA-C	-6.29	97.81	110.40
1	A	163	LEU	CA-CB-CG	6.24	129.66	115.30
1	A	578	ILE	CG1-CB-CG2	-6.23	97.69	111.40
1	A	349	LEU	CA-CB-CG	5.96	129.00	115.30
1	A	468	LEU	CA-CB-CG	5.86	128.79	115.30
1	A	372	LEU	CA-CB-CG	5.77	128.56	115.30
1	A	498	LEU	CA-CB-CG	5.53	128.01	115.30
1	A	517	LEU	CA-CB-CG	5.47	127.89	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	585	TYR	C-N-CA	-5.41	108.19	121.70
1	A	518	TYR	CA-CB-CG	5.36	123.58	113.40
1	A	255	THR	CA-CB-OG1	-5.35	97.77	109.00
1	A	585	TYR	CA-CB-CG	5.19	123.27	113.40
1	A	260	THR	CB-CA-C	5.13	125.46	111.60
1	A	270	PHE	CB-CG-CD2	-5.13	117.21	120.80

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	565	TYR	Mainchain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4636	0	4702	139	0
2	A	43	0	30	5	0
3	A	70	0	91	1	0
4	A	200	0	316	9	0
5	A	17	0	0	1	0
All	All	4966	0	5139	144	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 14.

All (144) 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:554:ARG:HH21	1:A:554:ARG:HG2	1.24	1.02
1:A:586:TYR:OH	1:A:606:VAL:CG1	2.11	0.98
1:A:270:PHE:CE1	1:A:350:LEU:HG	1.99	0.97
1:A:76:HIS:ND1	1:A:79:LYS:HB2	1.83	0.94
1:A:586:TYR:OH	1:A:606:VAL:HG13	1.72	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:76:HIS:CG	1:A:79:LYS:HB2	2.08	0.87
1:A:541:GLY:O	1:A:543:ARG:N	2.09	0.85
1:A:80:ASP:HB2	1:A:542:ARG:HH22	1.42	0.84
1:A:270:PHE:CZ	1:A:350:LEU:HB2	2.15	0.81
1:A:612:TRP:HA	1:A:615:VAL:HG12	1.61	0.80
1:A:343:LEU:HD23	1:A:413:ARG:HH21	1.45	0.79
1:A:80:ASP:HB2	1:A:542:ARG:NH2	1.97	0.77
1:A:343:LEU:HD23	1:A:413:ARG:NH2	1.99	0.77
1:A:515:LYS:NZ	1:A:530:MET:CE	2.50	0.75
1:A:554:ARG:HG2	1:A:554:ARG:NH2	1.96	0.75
1:A:515:LYS:HZ1	1:A:530:MET:CE	2.01	0.74
1:A:80:ASP:H	1:A:542:ARG:NH2	1.87	0.73
1:A:499:MET:O	1:A:503:ILE:HG13	1.88	0.73
1:A:545:ALA:HB1	1:A:563:HIS:NE2	2.04	0.72
1:A:270:PHE:CE1	1:A:350:LEU:CG	2.72	0.72
1:A:590:MET:HG3	1:A:604:LEU:HD23	1.73	0.71
1:A:80:ASP:CB	1:A:542:ARG:HH22	2.03	0.70
1:A:594:ARG:HG3	1:A:594:ARG:HH21	1.58	0.69
1:A:120:ARG:HB2	1:A:192:ALA:HB1	1.74	0.69
1:A:562:LEU:H	1:A:562:LEU:HD23	1.58	0.68
1:A:311:ALA:HA	4:A:704:PTY:H132	1.77	0.67
1:A:594:ARG:HG3	1:A:594:ARG:NH2	2.10	0.67
1:A:564:PHE:CE1	1:A:574:ALA:HB1	2.30	0.66
1:A:275:PHE:HB2	1:A:327:LEU:CD1	2.26	0.66
1:A:120:ARG:NH2	1:A:201:THR:HG23	2.10	0.66
1:A:536:ARG:H	1:A:547:GLU:HB2	1.61	0.66
1:A:417:GLU:CD	1:A:418:VAL:HG22	2.16	0.65
1:A:554:ARG:HH21	1:A:554:ARG:CG	2.04	0.64
1:A:142:ILE:HD11	1:A:307:PRO:HG2	1.83	0.61
1:A:541:GLY:C	1:A:543:ARG:H	2.03	0.61
1:A:168:MET:HA	1:A:171:VAL:HG22	1.83	0.61
1:A:515:LYS:NZ	1:A:530:MET:HE3	2.16	0.60
1:A:80:ASP:H	1:A:542:ARG:HH22	1.49	0.59
1:A:257:PHE:HB2	1:A:277:PHE:HB3	1.85	0.58
1:A:529:ARG:O	1:A:529:ARG:HG3	2.03	0.58
1:A:550:LEU:HD11	1:A:602:LEU:HD21	1.86	0.57
1:A:80:ASP:N	1:A:542:ARG:HH22	2.03	0.57
1:A:227:TRP:HD1	1:A:231:VAL:HB	1.69	0.57
1:A:549:LEU:HD12	1:A:549:LEU:H	1.68	0.57
1:A:417:GLU:OE2	1:A:418:VAL:HG22	2.04	0.56
1:A:586:TYR:HD1	1:A:587:PHE:H	1.52	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:LEU:HB2	1:A:72:VAL:HG12	1.89	0.55
1:A:485:ARG:O	1:A:489:SER:HB3	2.07	0.54
1:A:506:SER:HA	1:A:608:PRO:HD2	1.90	0.54
1:A:270:PHE:HE1	1:A:350:LEU:HG	1.65	0.53
1:A:275:PHE:HB2	1:A:327:LEU:HD12	1.90	0.53
1:A:258:LEU:HD21	2:A:701:HEM:HBD1	1.91	0.53
1:A:594:ARG:HD3	1:A:596:LYS:HE2	1.90	0.53
1:A:417:GLU:OE1	1:A:418:VAL:HG22	2.09	0.53
1:A:515:LYS:HZ3	1:A:530:MET:CE	2.22	0.53
1:A:130:GLY:HA3	4:A:704:PTY:H232	1.90	0.52
1:A:592:PHE:HE1	1:A:600:ALA:HB1	1.75	0.52
1:A:499:MET:HE3	1:A:503:ILE:HD11	1.91	0.52
1:A:9:LEU:O	1:A:13:LEU:HB2	2.09	0.52
1:A:516:THR:HA	1:A:601:SER:HA	1.91	0.52
1:A:586:TYR:OH	1:A:606:VAL:HG12	2.05	0.52
1:A:62:LEU:HD23	1:A:76:HIS:NE2	2.25	0.51
1:A:373:VAL:O	1:A:374:GLU:HG3	2.09	0.51
1:A:515:LYS:NZ	1:A:530:MET:HE1	2.23	0.51
1:A:270:PHE:HB3	1:A:273:TRP:HB2	1.93	0.51
1:A:559:ARG:HE	1:A:561:ARG:HE	1.58	0.51
1:A:591:ASP:HB3	1:A:603:ARG:HB3	1.93	0.51
1:A:-9:LYS:HD3	1:A:-8:GLY:H	1.75	0.50
1:A:402:LEU:HA	1:A:405:VAL:HG12	1.93	0.50
1:A:596:LYS:HD2	1:A:599:TRP:HE1	1.77	0.50
1:A:417:GLU:CD	1:A:418:VAL:CG2	2.79	0.50
1:A:563:HIS:HB3	1:A:577:VAL:HG23	1.94	0.50
1:A:167:TRP:O	1:A:170:ALA:HB3	2.12	0.50
1:A:415:ARG:HH21	1:A:417:GLU:HB3	1.75	0.50
1:A:84:VAL:HA	1:A:87:VAL:HG22	1.93	0.50
1:A:589:LEU:HB3	1:A:605:ILE:HG13	1.93	0.50
4:A:705:PTY:H211	4:A:705:PTY:H351	1.93	0.49
1:A:203:VAL:HA	1:A:206:THR:HG22	1.95	0.49
1:A:59:GLU:HG2	1:A:89:PRO:HG2	1.94	0.49
1:A:114:LYS:HZ1	1:A:125:LEU:HD21	1.77	0.49
1:A:62:LEU:CD2	1:A:76:HIS:CD2	2.95	0.49
1:A:570:SER:O	1:A:572:LEU:N	2.46	0.49
1:A:185:VAL:HG11	1:A:209:TRP:CD1	2.48	0.48
1:A:586:TYR:CZ	1:A:606:VAL:HG13	2.49	0.48
1:A:175:LEU:HD11	4:A:706:PTY:H442	1.94	0.48
1:A:62:LEU:HD23	1:A:76:HIS:CD2	2.49	0.48
1:A:71:TYR:HE1	1:A:92:ALA:HB3	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:417:GLU:OE2	1:A:418:VAL:CG2	2.62	0.47
1:A:583:ASN:HB2	1:A:586:TYR:HB3	1.97	0.47
1:A:80:ASP:OD2	1:A:542:ARG:NH1	2.43	0.47
1:A:512:GLU:HB2	1:A:605:ILE:HG22	1.96	0.47
1:A:264:GLN:OE1	1:A:274:ASN:ND2	2.47	0.47
1:A:263:VAL:HG23	1:A:349:LEU:HD12	1.96	0.47
1:A:185:VAL:HG13	1:A:186:PRO:HD2	1.97	0.47
1:A:288:GLY:O	1:A:292:THR:HG23	2.15	0.47
1:A:239:ALA:HB3	1:A:244:GLU:HG3	1.96	0.46
1:A:612:TRP:CA	1:A:615:VAL:HG12	2.41	0.46
1:A:15:LEU:HD22	1:A:19:LEU:HD12	1.97	0.46
1:A:576:LYS:HD3	1:A:593:ASP:H	1.81	0.46
1:A:180:PHE:HB2	1:A:285:THR:HG22	1.98	0.46
1:A:541:GLY:C	1:A:543:ARG:N	2.62	0.45
1:A:207:ARG:NH1	2:A:701:HEM:O1D	2.49	0.45
1:A:263:VAL:CG2	1:A:349:LEU:HD12	2.47	0.45
4:A:705:PTY:H391	4:A:705:PTY:H241	1.98	0.45
1:A:586:TYR:HD1	1:A:587:PHE:N	2.13	0.45
1:A:194:MET:HE3	1:A:326:LEU:HB2	1.99	0.45
4:A:706:PTY:H221	4:A:706:PTY:H252	1.75	0.45
1:A:230:GLU:HA	1:A:578:ILE:HD11	1.99	0.45
1:A:570:SER:OG	1:A:571:PRO:HD2	2.17	0.45
1:A:344:SER:OG	1:A:413:ARG:N	2.48	0.44
1:A:93:LEU:HD11	1:A:308:VAL:HG11	2.00	0.44
1:A:549:LEU:HD12	1:A:549:LEU:N	2.31	0.44
1:A:84:VAL:O	1:A:88:THR:OG1	2.25	0.44
1:A:117:ASP:OD1	1:A:198:ARG:NH1	2.50	0.44
1:A:259:HIS:NE2	2:A:701:HEM:C4B	2.78	0.44
1:A:72:VAL:O	1:A:76:HIS:N	2.51	0.44
1:A:326:LEU:HA	1:A:329:ARG:HG2	2.00	0.44
1:A:263:VAL:O	1:A:267:ARG:N	2.51	0.44
1:A:244:GLU:OE1	1:A:293:ARG:NH1	2.51	0.43
1:A:275:PHE:CB	1:A:327:LEU:CD1	2.94	0.43
1:A:507:GLN:HG3	4:A:707:PTY:H331	2.00	0.43
1:A:76:HIS:ND1	1:A:79:LYS:CB	2.70	0.43
1:A:586:TYR:CD1	1:A:587:PHE:N	2.86	0.42
1:A:432:GLY:HA3	1:A:450:GLY:HA2	2.01	0.42
4:A:706:PTY:H332	4:A:706:PTY:H182	2.01	0.42
1:A:215:GLY:HA2	1:A:218:THR:HG22	2.01	0.42
1:A:180:PHE:HA	1:A:285:THR:HG21	2.01	0.42
1:A:275:PHE:CB	1:A:327:LEU:HD12	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:356:PHE:HZ	2:A:701:HEM:HMC1	1.84	0.42
1:A:270:PHE:CE1	1:A:350:LEU:CD2	3.03	0.42
1:A:496:VAL:HG23	2:A:701:HEM:CBC	2.50	0.42
1:A:546:VAL:HG23	1:A:564:PHE:HB3	2.00	0.41
1:A:208:TRP:NE1	4:A:706:PTY:O11	2.49	0.41
1:A:41:ARG:NH1	5:A:801:HOH:O	2.52	0.41
1:A:123:LEU:HD23	1:A:123:LEU:HA	1.80	0.41
1:A:199:TYR:CZ	1:A:330:VAL:HG21	2.56	0.41
1:A:408:LEU:HD12	1:A:425:LEU:HD11	2.02	0.41
1:A:554:ARG:HB3	1:A:555:PHE:H	1.67	0.41
1:A:164:GLN:HB2	1:A:165:ASN:H	1.60	0.41
1:A:22:LEU:HD23	1:A:126:ALA:O	2.22	0.40
1:A:545:ALA:HB1	1:A:563:HIS:CD2	2.56	0.40
1:A:166:HIS:CG	1:A:231:VAL:HG11	2.57	0.40
1:A:326:LEU:HD22	1:A:329:ARG:HE	1.87	0.40
3:A:702:LMT:H3'	3:A:702:LMT:H1B	1.72	0.40

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	577/660 (87%)	542 (94%)	32 (6%)	3 (0%)	29	52

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	542	ARG
1	A	554	ARG
1	A	593	ASP

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	456/510 (89%)	431 (94%)	25 (6%)	21	43

All (25) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	112	SER
1	A	120	ARG
1	A	164	GLN
1	A	167	TRP
1	A	207	ARG
1	A	267	ARG
1	A	270	PHE
1	A	327	LEU
1	A	328	SER
1	A	387	PHE
1	A	427	LEU
1	A	510	ARG
1	A	542	ARG
1	A	553	ASP
1	A	554	ARG
1	A	562	LEU
1	A	563	HIS
1	A	564	PHE
1	A	586	TYR
1	A	587	PHE
1	A	591	ASP
1	A	592	PHE
1	A	594	ARG
1	A	595	GLU
1	A	599	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	132	GLN
1	A	166	HIS
1	A	483	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

7 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	$\#|Z| > 2$
3	LMT	A	702	-	36,36,36	1.19	8 (22%)	47,47,47	1.68	11 (23%)
4	PTY	A	707	-	49,49,49	0.90	4 (8%)	52,54,54	1.08	2 (3%)
4	PTY	A	705	-	49,49,49	0.92	4 (8%)	52,54,54	0.98	2 (3%)
3	LMT	A	703	-	36,36,36	1.15	4 (11%)	47,47,47	1.40	7 (14%)
4	PTY	A	706	-	49,49,49	0.94	3 (6%)	52,54,54	1.15	2 (3%)
2	HEM	A	701	1	42,50,50	1.61	10 (23%)	46,82,82	1.99	11 (23%)
4	PTY	A	704	-	49,49,49	0.95	3 (6%)	52,54,54	1.09	2 (3%)

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
3	LMT	A	702	-	-	11/21/61/61	0/2/2/2
4	PTY	A	707	-	-	16/53/53/53	-
4	PTY	A	705	-	-	23/53/53/53	-
3	LMT	A	703	-	-	12/21/61/61	0/2/2/2
4	PTY	A	706	-	-	26/53/53/53	-
2	HEM	A	701	1	-	6/12/54/54	-
4	PTY	A	704	-	-	27/53/53/53	-

All (36) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	701	HEM	CBB-CAB	3.95	1.49	1.30
2	A	701	HEM	C4D-ND	-3.57	1.34	1.40
2	A	701	HEM	C1D-ND	-3.33	1.32	1.38
2	A	701	HEM	CBC-CAC	3.08	1.48	1.29
4	A	704	PTY	O7-C8	2.82	1.42	1.34
2	A	701	HEM	CHB-C1B	2.82	1.41	1.34
2	A	701	HEM	C1B-NB	-2.81	1.35	1.40
4	A	706	PTY	O4-C30	2.70	1.41	1.33
4	A	707	PTY	O7-C6	-2.60	1.40	1.46
3	A	703	LMT	O3'-C3'	-2.58	1.36	1.43
4	A	705	PTY	O7-C6	-2.50	1.40	1.46
4	A	704	PTY	O4-C30	2.48	1.40	1.33
4	A	705	PTY	O4-C30	2.44	1.40	1.33
4	A	707	PTY	O4-C30	2.42	1.40	1.33
4	A	706	PTY	O7-C6	-2.40	1.40	1.46
3	A	702	LMT	O3'-C3'	-2.40	1.37	1.43
3	A	703	LMT	O3B-C3B	-2.37	1.37	1.43
4	A	705	PTY	O7-C8	2.31	1.40	1.34
3	A	702	LMT	C3'-C4'	2.30	1.58	1.52
3	A	702	LMT	O3B-C3B	-2.30	1.37	1.43
3	A	702	LMT	O2B-C2B	-2.29	1.37	1.43
4	A	706	PTY	O7-C8	2.25	1.40	1.34
3	A	703	LMT	O2'-C2'	-2.25	1.37	1.43
2	A	701	HEM	FE-ND	2.21	2.10	1.98
3	A	702	LMT	C4'-C5'	2.21	1.58	1.52
3	A	702	LMT	O2'-C2'	-2.21	1.37	1.43
4	A	704	PTY	O4-C1	-2.20	1.40	1.45
3	A	703	LMT	O2B-C2B	-2.19	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	705	PTY	O4-C1	-2.19	1.40	1.45
4	A	707	PTY	O7-C8	2.18	1.40	1.34
4	A	707	PTY	O4-C1	-2.18	1.40	1.45
2	A	701	HEM	C4B-NB	-2.15	1.34	1.38
2	A	701	HEM	CHA-C4D	2.14	1.39	1.34
2	A	701	HEM	C4D-C3D	2.05	1.48	1.45
3	A	702	LMT	C3'-C2'	2.02	1.57	1.52
3	A	702	LMT	O4'-C4B	-2.01	1.38	1.43

All (37) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	701	HEM	CHC-C4B-NB	6.24	131.15	124.44
4	A	704	PTY	O7-C8-C11	4.84	121.94	111.48
2	A	701	HEM	C1B-NB-C4B	4.58	110.63	105.21
3	A	702	LMT	C1B-O5B-C5B	4.15	121.82	113.72
4	A	706	PTY	O7-C8-C11	4.03	120.20	111.48
2	A	701	HEM	C4D-ND-C1D	3.95	109.88	105.21
3	A	702	LMT	O5B-C5B-C4B	3.93	116.78	109.70
3	A	702	LMT	O5'-C5'-C4'	3.82	117.62	109.72
3	A	703	LMT	C3'-C4'-C5'	-3.75	102.61	110.93
4	A	705	PTY	O7-C8-C11	3.71	119.50	111.48
4	A	707	PTY	O7-C8-C11	3.65	119.37	111.48
2	A	701	HEM	CHB-C1B-NB	3.55	128.78	124.37
3	A	703	LMT	C1B-O5B-C5B	3.54	120.64	113.72
2	A	701	HEM	C3B-C4B-NB	-3.49	106.96	109.47
3	A	702	LMT	C3B-C4B-C5B	-3.34	104.18	110.23
4	A	706	PTY	O4-C30-C31	3.32	121.94	111.83
2	A	701	HEM	C2C-C3C-C4C	3.24	109.16	106.90
3	A	702	LMT	C2'-C3'-C4'	3.08	116.67	109.68
3	A	702	LMT	O1B-C4'-C3'	2.95	114.72	107.23
3	A	702	LMT	O1'-C1'-C2'	2.93	112.72	108.27
3	A	703	LMT	O5B-C1B-C2B	2.85	116.22	110.37
4	A	707	PTY	O4-C30-C31	2.80	120.36	111.83
4	A	705	PTY	O4-C30-C31	2.75	120.22	111.83
3	A	702	LMT	O5B-C1B-C2B	2.71	115.95	110.37
2	A	701	HEM	CBB-CAB-C3B	-2.61	114.49	127.53
3	A	703	LMT	O5B-C5B-C4B	2.60	114.38	109.70
4	A	704	PTY	O4-C30-C31	2.52	119.53	111.83
3	A	703	LMT	C3B-C4B-C5B	-2.45	105.80	110.23
3	A	703	LMT	C4B-C3B-C2B	2.39	115.03	110.83
2	A	701	HEM	C3C-C4C-NC	-2.38	106.44	110.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	702	LMT	C1B-O1B-C4'	2.37	123.59	117.98
2	A	701	HEM	C3B-C2B-C1B	2.31	108.15	106.41
3	A	702	LMT	C1'-O5'-C5'	2.31	118.23	113.72
2	A	701	HEM	CMA-C3A-C4A	-2.29	125.09	128.46
3	A	703	LMT	C1B-C2B-C3B	2.18	114.59	110.01
3	A	702	LMT	O5B-C5B-C6B	2.11	111.67	106.44
2	A	701	HEM	C4C-CHD-C1D	2.09	125.31	122.56

There are no chirality outliers.

All (121) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	HEM	C2B-C3B-CAB-CBB
2	A	701	HEM	C4B-C3B-CAB-CBB
3	A	703	LMT	C2'-C1'-O1'-C1
3	A	703	LMT	O5'-C1'-O1'-C1
4	A	704	PTY	N1-C2-C3-O11
4	A	704	PTY	C3-O11-P1-O14
4	A	704	PTY	C5-O14-P1-O11
4	A	704	PTY	C5-O14-P1-O12
4	A	705	PTY	C5-O14-P1-O11
4	A	705	PTY	C5-O14-P1-O12
4	A	705	PTY	C5-O14-P1-O13
4	A	706	PTY	N1-C2-C3-O11
4	A	707	PTY	O10-C8-O7-C6
3	A	702	LMT	C3'-C4'-O1B-C1B
4	A	704	PTY	O30-C30-O4-C1
4	A	707	PTY	C11-C8-O7-C6
4	A	704	PTY	C31-C30-O4-C1
3	A	702	LMT	C4'-C5'-C6'-O6'
4	A	706	PTY	C31-C30-O4-C1
3	A	702	LMT	O5'-C5'-C6'-O6'
4	A	706	PTY	C11-C8-O7-C6
4	A	706	PTY	O30-C30-O4-C1
4	A	706	PTY	O10-C8-O7-C6
4	A	705	PTY	C16-C17-C18-C19
3	A	702	LMT	O1'-C1-C2-C3
3	A	702	LMT	C1-C2-C3-C4
4	A	705	PTY	C11-C8-O7-C6
4	A	705	PTY	C15-C16-C17-C18
4	A	707	PTY	C19-C20-C21-C22
4	A	707	PTY	C13-C14-C15-C16

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Mol	Chain	Res	Type	Atoms
3	A	702	LMT	C11-C10-C9-C8
4	A	705	PTY	C21-C22-C23-C24
4	A	706	PTY	C11-C12-C13-C14
4	A	705	PTY	C40-C41-C42-C43
4	A	706	PTY	C31-C32-C33-C34
4	A	707	PTY	C24-C25-C26-C27
4	A	706	PTY	C35-C36-C37-C38
4	A	704	PTY	C37-C38-C39-C40
4	A	704	PTY	C23-C24-C25-C26
4	A	704	PTY	C35-C36-C37-C38
4	A	706	PTY	C39-C40-C41-C42
4	A	706	PTY	C34-C35-C36-C37
4	A	704	PTY	C14-C15-C16-C17
4	A	705	PTY	O10-C8-O7-C6
3	A	703	LMT	O1'-C1-C2-C3
4	A	707	PTY	C8-C11-C12-C13
4	A	707	PTY	C33-C34-C35-C36
3	A	703	LMT	C2B-C1B-O1B-C4'
4	A	706	PTY	C12-C13-C14-C15
3	A	702	LMT	O5B-C5B-C6B-O6B
3	A	703	LMT	C6-C7-C8-C9
4	A	705	PTY	C22-C23-C24-C25
4	A	705	PTY	C31-C32-C33-C34
4	A	707	PTY	C38-C39-C40-C41
3	A	703	LMT	O5B-C5B-C6B-O6B
3	A	702	LMT	C5-C6-C7-C8
4	A	704	PTY	C11-C12-C13-C14
4	A	704	PTY	C39-C40-C41-C42
3	A	702	LMT	C2-C3-C4-C5
4	A	704	PTY	C41-C42-C43-C44
4	A	704	PTY	C19-C20-C21-C22
4	A	705	PTY	C17-C18-C19-C20
4	A	706	PTY	C26-C27-C28-C29
4	A	706	PTY	C33-C34-C35-C36
4	A	707	PTY	C31-C30-O4-C1
3	A	703	LMT	C5-C6-C7-C8
4	A	707	PTY	C23-C24-C25-C26
4	A	705	PTY	C39-C40-C41-C42
4	A	704	PTY	O14-C5-C6-O7
4	A	704	PTY	C24-C25-C26-C27
4	A	705	PTY	C37-C38-C39-C40
3	A	702	LMT	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
3	A	703	LMT	C3-C4-C5-C6
3	A	702	LMT	C4-C5-C6-C7
4	A	706	PTY	C24-C25-C26-C27
4	A	707	PTY	O30-C30-O4-C1
4	A	706	PTY	O4-C1-C6-O7
4	A	704	PTY	O14-C5-C6-C1
4	A	704	PTY	C6-C5-O14-P1
4	A	706	PTY	C32-C33-C34-C35
4	A	704	PTY	C12-C13-C14-C15
4	A	707	PTY	C34-C35-C36-C37
4	A	704	PTY	C3-O11-P1-O13
4	A	704	PTY	C5-O14-P1-O13
4	A	705	PTY	C3-O11-P1-O13
4	A	706	PTY	C3-O11-P1-O13
4	A	706	PTY	C5-O14-P1-O12
4	A	705	PTY	C34-C35-C36-C37
4	A	705	PTY	C32-C33-C34-C35
3	A	703	LMT	O5B-C1B-O1B-C4'
4	A	704	PTY	C13-C14-C15-C16
4	A	706	PTY	O4-C1-C6-C5
4	A	707	PTY	O4-C30-C31-C32
4	A	706	PTY	C40-C41-C42-C43
3	A	703	LMT	C1-C2-C3-C4
4	A	704	PTY	C15-C16-C17-C18
2	A	701	HEM	CAD-CBD-CGD-O1D
2	A	701	HEM	CAA-CBA-CGA-O1A
4	A	704	PTY	C34-C35-C36-C37
4	A	705	PTY	C25-C26-C27-C28
4	A	704	PTY	C20-C21-C22-C23
3	A	703	LMT	C9-C10-C11-C12
4	A	704	PTY	C33-C34-C35-C36
4	A	705	PTY	C26-C27-C28-C29
2	A	701	HEM	CAD-CBD-CGD-O2D
4	A	706	PTY	C25-C26-C27-C28
3	A	703	LMT	C4-C5-C6-C7
4	A	705	PTY	C14-C15-C16-C17
4	A	706	PTY	C38-C39-C40-C41
2	A	701	HEM	CAA-CBA-CGA-O2A
4	A	704	PTY	C8-C11-C12-C13
4	A	706	PTY	C23-C24-C25-C26
4	A	707	PTY	C36-C37-C38-C39
4	A	705	PTY	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
4	A	705	PTY	C20-C21-C22-C23
4	A	706	PTY	C22-C23-C24-C25
4	A	705	PTY	C13-C14-C15-C16
4	A	707	PTY	C17-C18-C19-C20
4	A	706	PTY	C37-C38-C39-C40
4	A	706	PTY	C20-C21-C22-C23
4	A	707	PTY	C25-C26-C27-C28

There are no ring outliers.
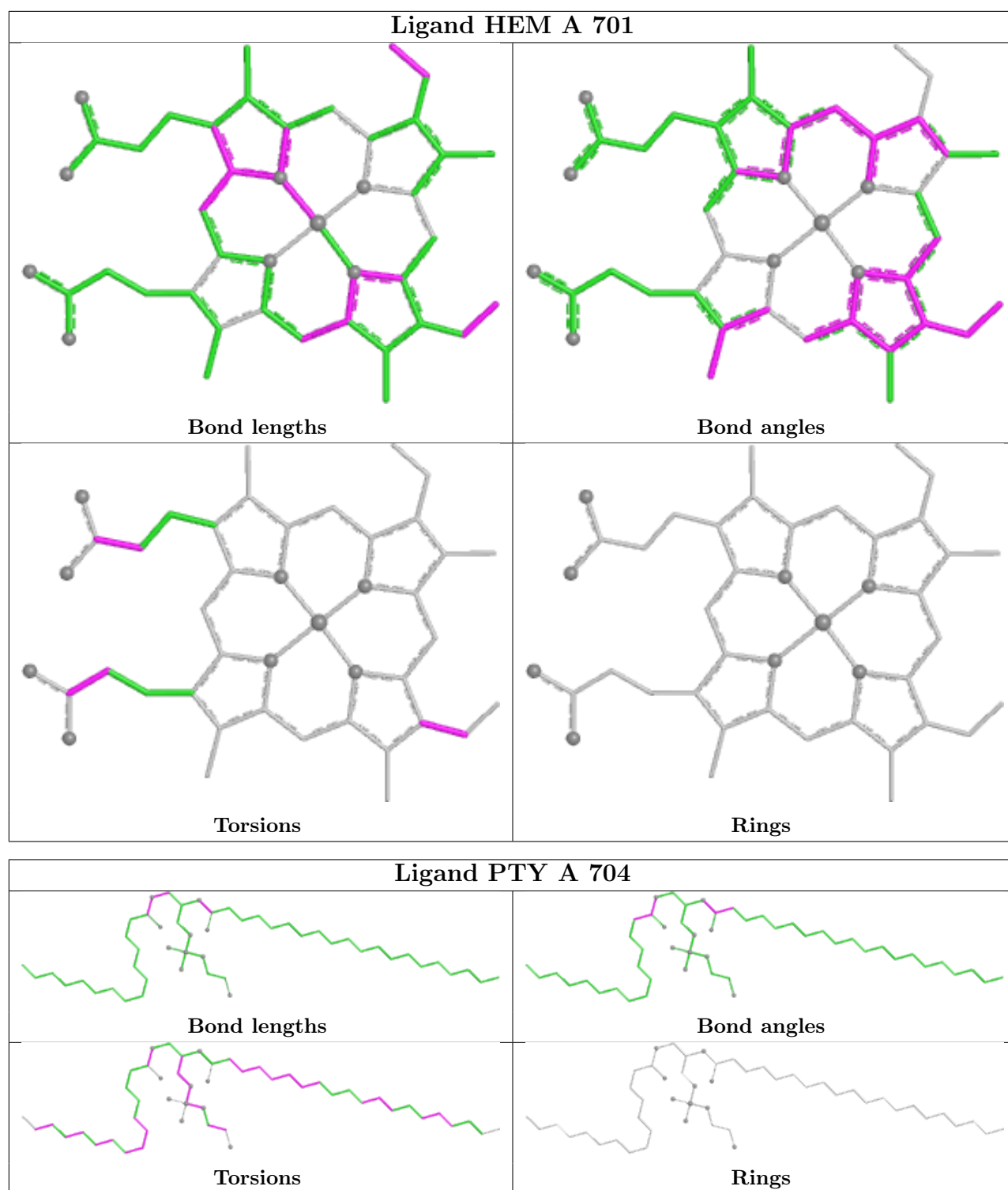
6 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	702	LMT	1	0
4	A	707	PTY	1	0
4	A	705	PTY	2	0
4	A	706	PTY	4	0
2	A	701	HEM	5	0
4	A	704	PTY	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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand LMT A 702

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY A 707

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY A 705

Bond lengths

Bond angles

Torsions

Rings

Ligand LMT A 703

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY A 706

Bond lengths

Bond angles

Torsions

Rings

Ligand HEM A 701	
Bond lengths	Bond angles
Torsions	Rings

Ligand PTY A 704	
Bond lengths	Bond angles
Torsions	Rings
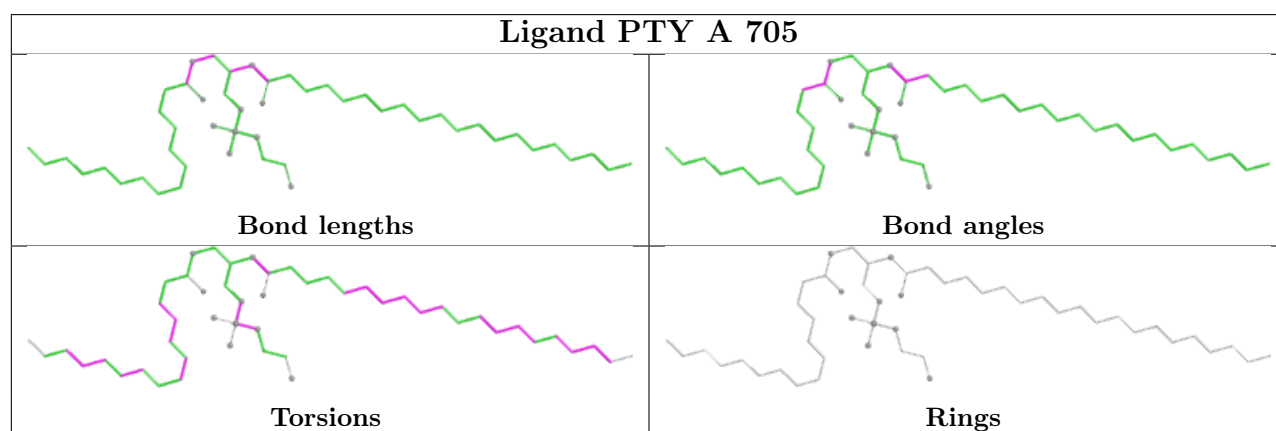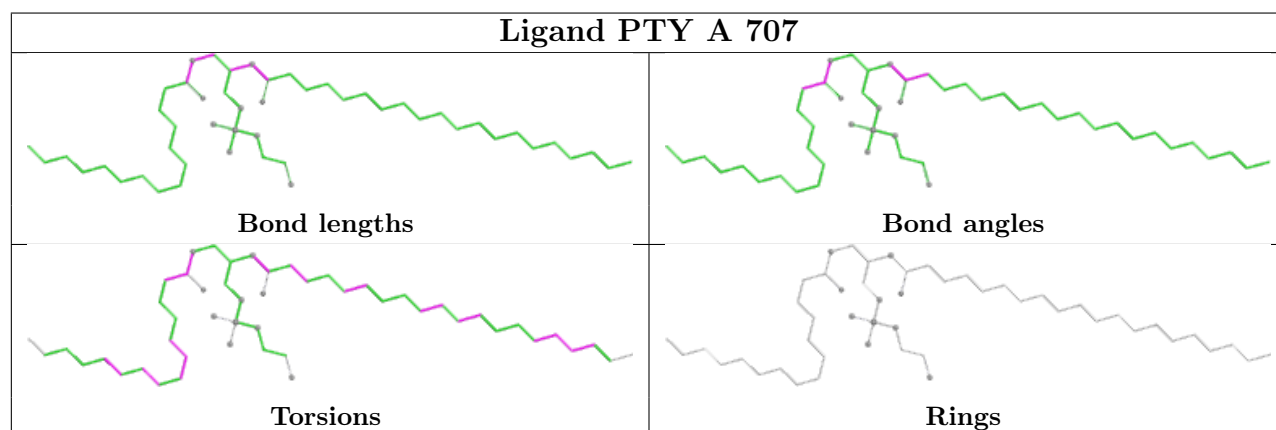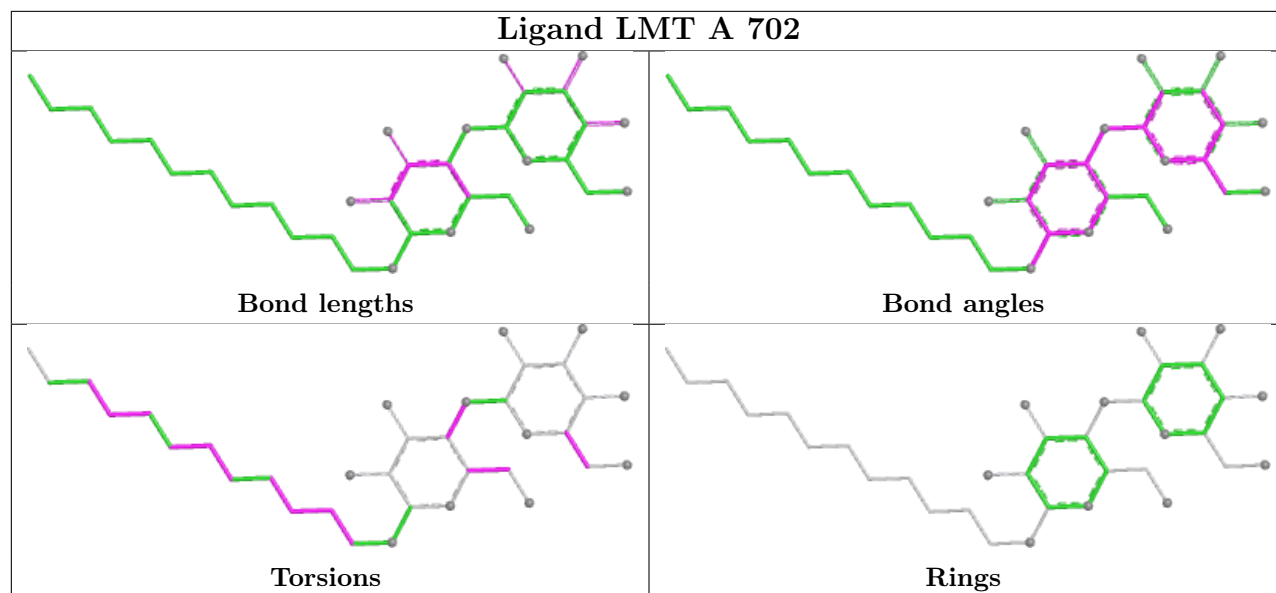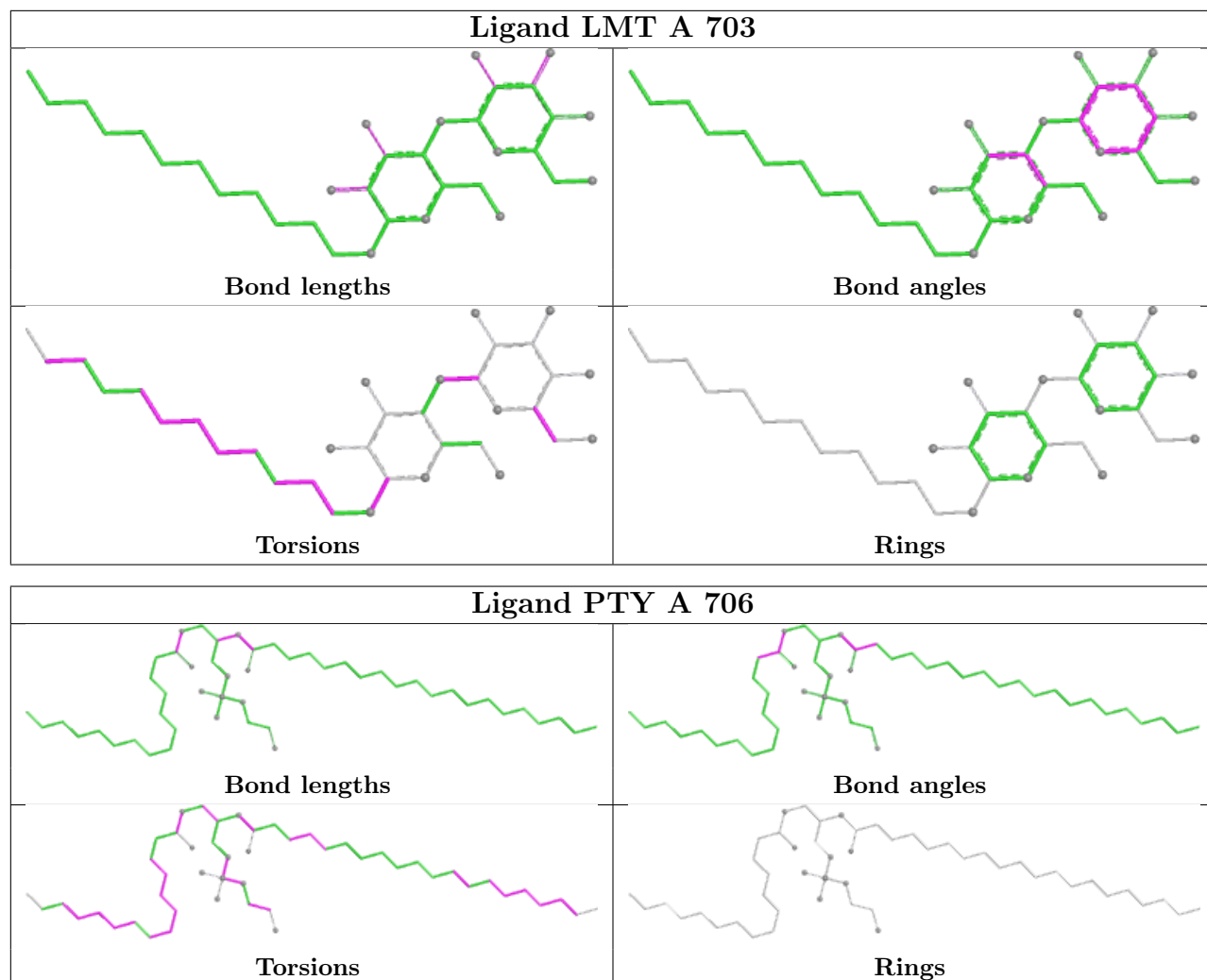
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	589/660 (89%)	0.96	101 (17%)	1	1	28, 55, 100, 138	0

All (101) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	618	GLY	18.1
1	A	615	VAL	10.3
1	A	619	LEU	9.2
1	A	612	TRP	8.1
1	A	498	LEU	7.9
1	A	-4	LEU	6.4
1	A	625	LEU	5.8
1	A	616	ALA	5.7
1	A	141	THR	5.4
1	A	579	TYR	5.4
1	A	622	LEU	5.3
1	A	414	ALA	5.3
1	A	64	VAL	5.3
1	A	584	ASP	5.1
1	A	511	LEU	5.0
1	A	629	TRP	5.0
1	A	554	ARG	4.9
1	A	613	MET	4.9
1	A	329	ARG	4.9
1	A	412	ARG	4.4
1	A	234	TRP	4.3
1	A	324	LEU	4.3
1	A	198	ARG	4.2
1	A	614	TRP	4.2
1	A	611	PHE	4.0
1	A	481	LEU	4.0
1	A	467	VAL	4.0

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Mol	Chain	Res	Type	RSRZ
1	A	599	TRP	4.0
1	A	470	ARG	4.0
1	A	518	TYR	3.9
1	A	413	ARG	3.9
1	A	170	ALA	3.9
1	A	621	ALA	3.8
1	A	417	GLU	3.8
1	A	617	GLY	3.6
1	A	320	THR	3.6
1	A	411	TRP	3.6
1	A	502	ALA	3.6
1	A	513	SER	3.6
1	A	357	ALA	3.5
1	A	327	LEU	3.4
1	A	322	LEU	3.2
1	A	196	THR	3.1
1	A	606	VAL	3.1
1	A	480	PHE	3.0
1	A	630	PRO	3.0
1	A	319	ALA	3.0
1	A	223	ALA	2.9
1	A	524	GLU	2.9
1	A	321	GLY	2.9
1	A	468	LEU	2.9
1	A	344	SER	2.8
1	A	605	ILE	2.8
1	A	222	VAL	2.8
1	A	410	PRO	2.8
1	A	204	GLU	2.7
1	A	200	GLN	2.7
1	A	495	ALA	2.7
1	A	317	LEU	2.7
1	A	171	VAL	2.7
1	A	173	PRO	2.6
1	A	219	ALA	2.6
1	A	364	VAL	2.6
1	A	218	THR	2.6
1	A	201	THR	2.6
1	A	224	GLY	2.5
1	A	582	GLY	2.5
1	A	-2	PHE	2.5
1	A	65	HIS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	418	VAL	2.4
1	A	175	LEU	2.4
1	A	49	LEU	2.4
1	A	318	PHE	2.4
1	A	326	LEU	2.3
1	A	482	ALA	2.3
1	A	564	PHE	2.3
1	A	534	GLY	2.3
1	A	92	ALA	2.3
1	A	270	PHE	2.3
1	A	268	GLY	2.2
1	A	558	VAL	2.2
1	A	514	GLU	2.2
1	A	361	LEU	2.2
1	A	362	VAL	2.2
1	A	583	ASN	2.2
1	A	62	LEU	2.2
1	A	350	LEU	2.2
1	A	-3	TYR	2.1
1	A	52	LEU	2.1
1	A	70	ALA	2.1
1	A	479	GLY	2.1
1	A	313	LEU	2.1
1	A	74	ARG	2.1
1	A	81	PRO	2.0
1	A	512	GLU	2.0
1	A	53	ALA	2.0
1	A	93	LEU	2.0
1	A	610	VAL	2.0
1	A	585	TYR	2.0
1	A	499	MET	2.0
1	A	174	VAL	2.0

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

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

6.3 Carbohydrates ⓘ

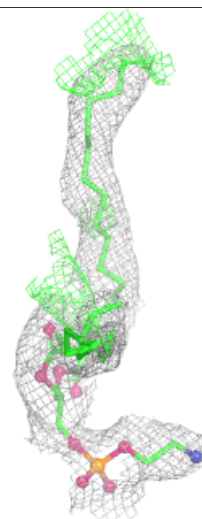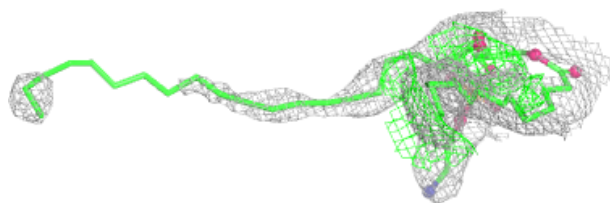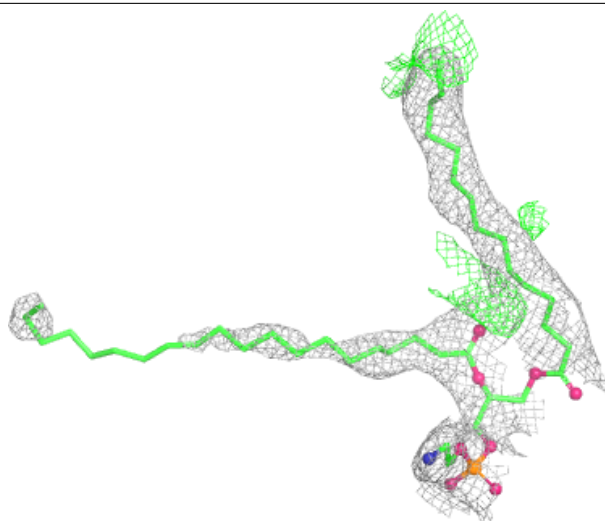There are no monosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.
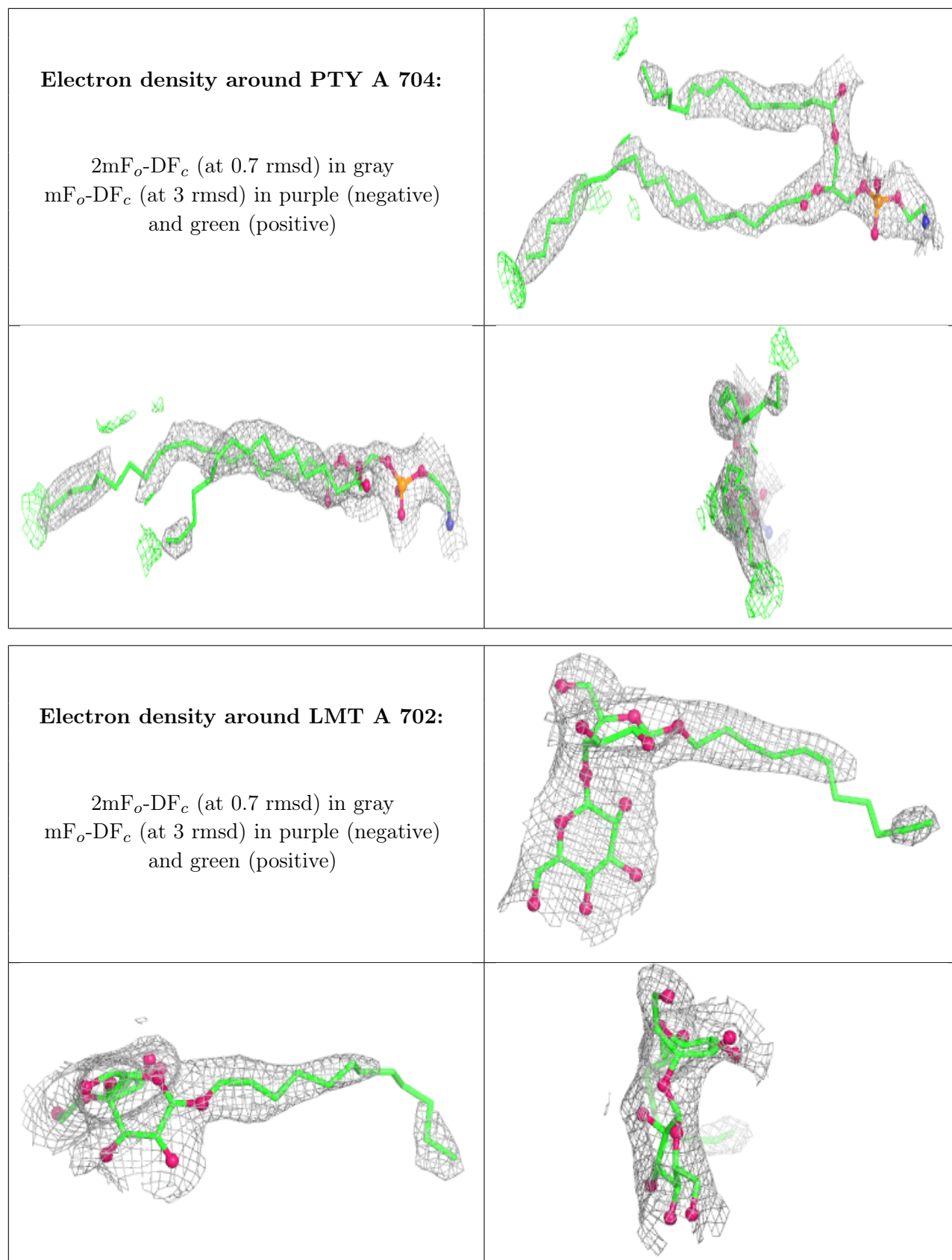
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PTY	A	707	50/50	0.70	0.35	33,65,103,112	1
4	PTY	A	704	50/50	0.73	0.45	29,68,109,116	1
3	LMT	A	702	35/35	0.76	0.28	44,77,96,98	35
4	PTY	A	706	50/50	0.78	0.74	30,64,107,130	0
3	LMT	A	703	35/35	0.82	0.23	25,88,125,129	0
4	PTY	A	705	50/50	0.90	0.44	26,48,76,87	0
2	HEM	A	701	43/43	0.96	0.22	20,45,63,78	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.
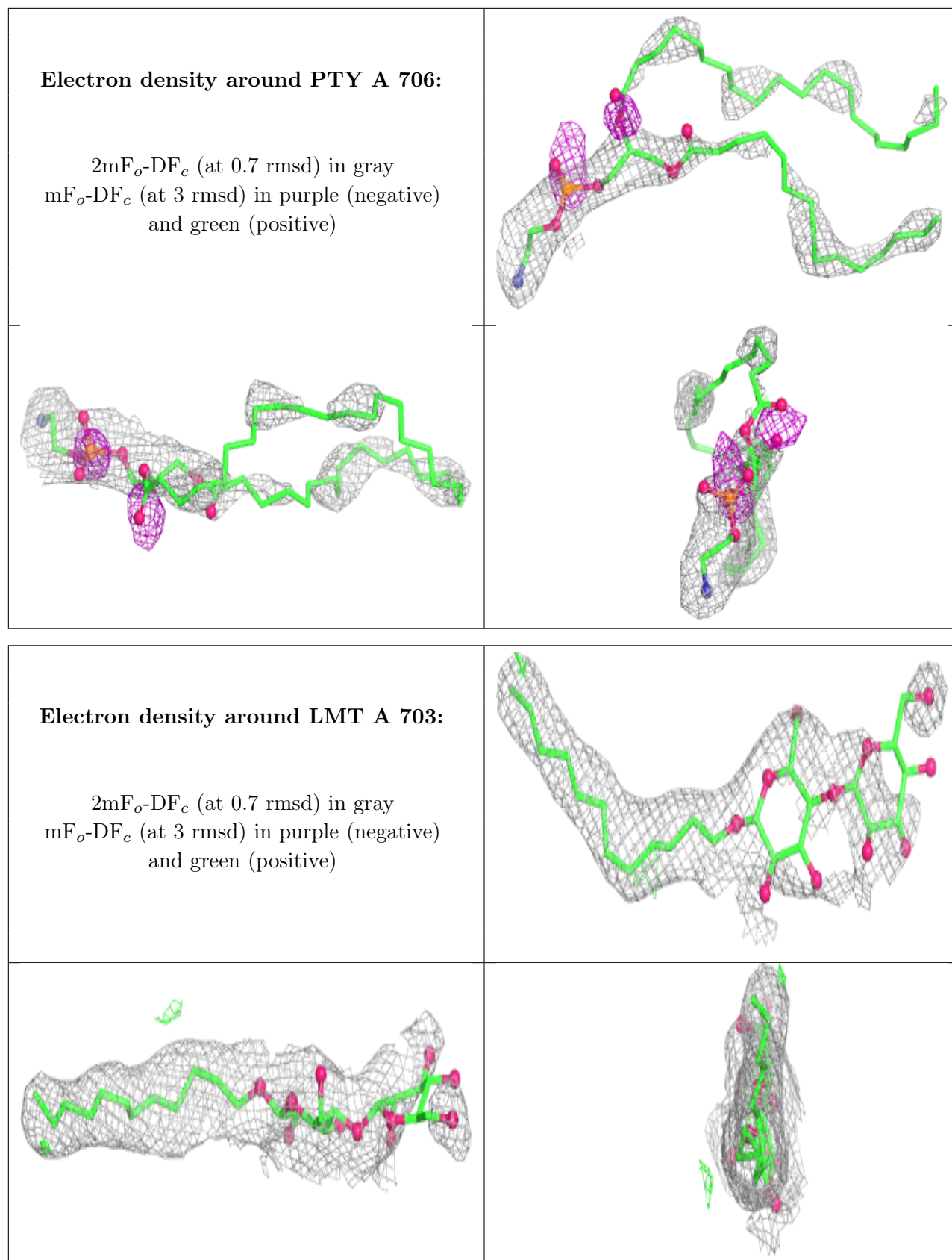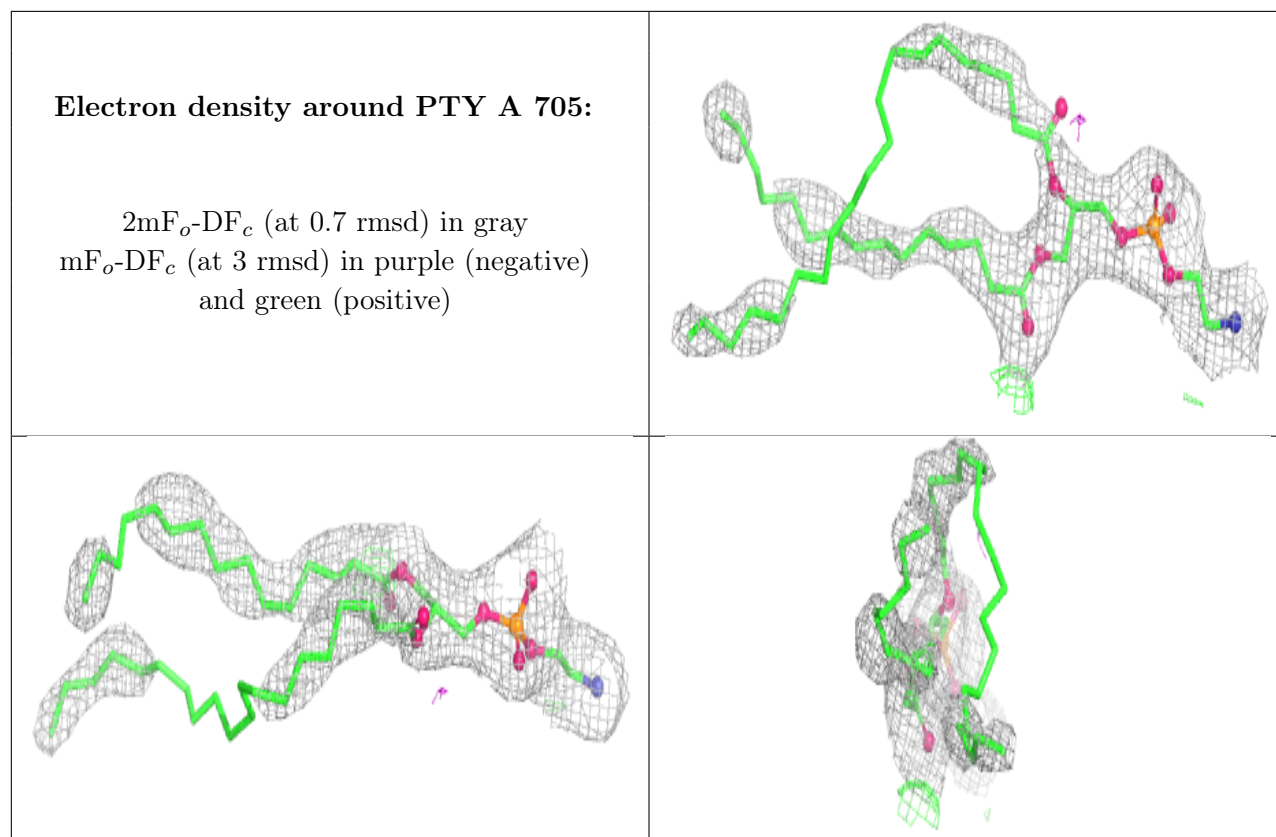
Electron density around PTY A 707:

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

Electron density around PTY A 704:

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

Electron density around LMT A 702:

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

Electron density around PTY A 706:

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

Electron density around LMT A 703:

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

Electron density around PTY A 705:

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

Electron density around HEM A 701:

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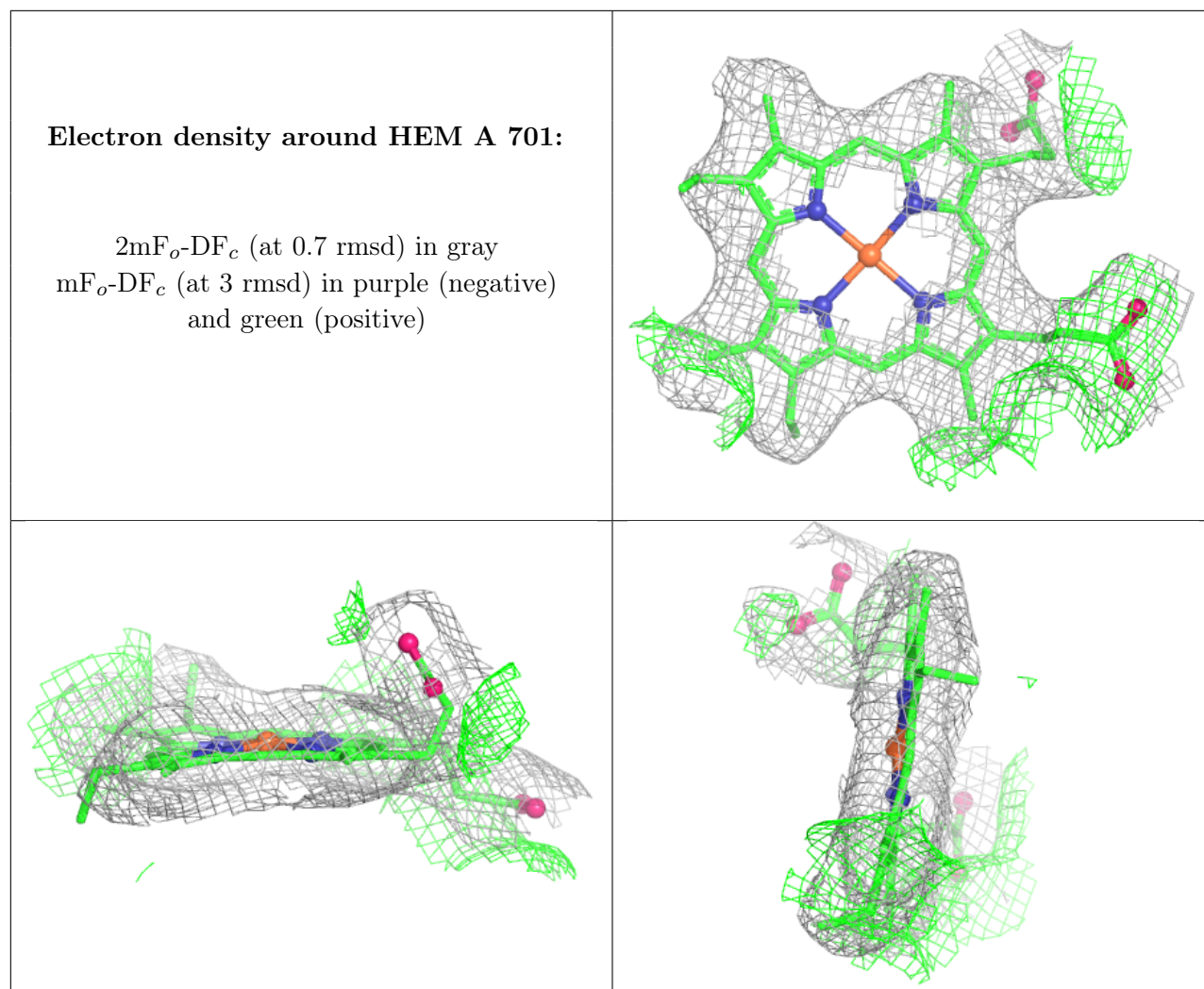and green (positive)

6.5 Other polymers (i)

There are no such residues in this entry.