WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 12, 2021 – 10:04 am BST

PDB ID	:	7AJ0
Title	:	Crystal structure of PsFucS1 sulfatase from Pseudoalteromonas sp.
Authors	:	Roret, T.; Mikkelsen, M.D.; Czjzek, M.; Meyer, A.S.
Deposited on	:	2020-09-28
Resolution	:	2.50 Å(reported)

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

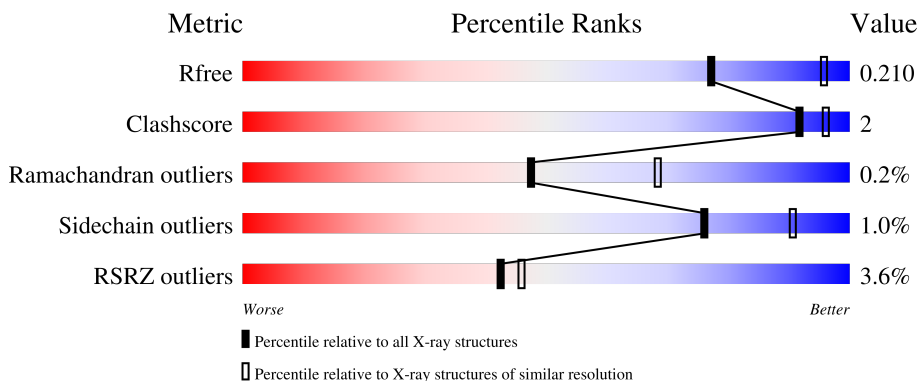|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

1   Overall quality at a glance ⓘ

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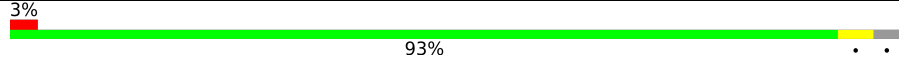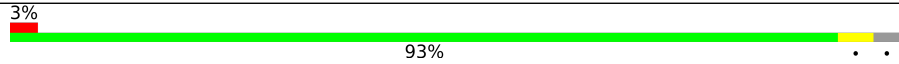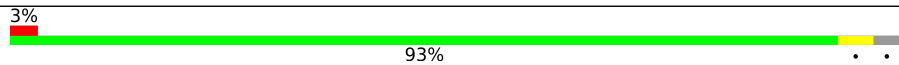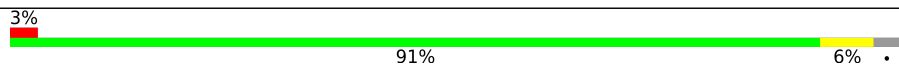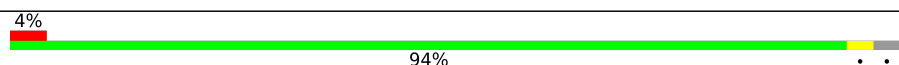*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 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.
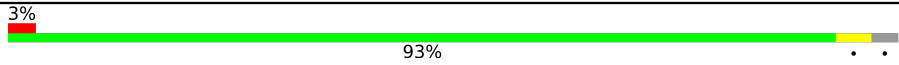
Metric	Percentile Ranks	Value
Rfree		0.210
Clashscore		2
Ramachandran outliers		0.2%
Sidechain outliers		1.0%
RSRZ outliers		3.6%

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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	515	3% / 93% · ·
1	B	515	3% / 93% · ·
1	C	515	3% / 93% · ·
1	D	515	3% / 91% 6% ·
1	E	515	4% / 94% · ·

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Mol	Chain	Length	Quality of chain
1	F	515	3% / 93%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 48247 atoms, of which 23325 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 Arylsulfatase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	501	Total	C	H	N	O	S	0	0	0
			7824	2505	3893	669	738	19			
1	B	501	Total	C	H	N	O	S	0	0	0
			7794	2499	3871	667	738	19			
1	C	501	Total	C	H	N	O	S	0	0	0
			7824	2505	3893	669	738	19			
1	D	501	Total	C	H	N	O	S	0	0	0
			7824	2505	3893	669	738	19			
1	E	501	Total	C	H	N	O	S	0	0	0
			7824	2505	3893	669	738	19			
1	F	501	Total	C	H	N	O	S	0	0	0
			7809	2502	3882	668	738	19			

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Ca	0	0
			1	1		
2	B	1	Total	Ca	0	0
			1	1		
2	C	1	Total	Ca	0	0
			1	1		
2	D	1	Total	Ca	0	0
			1	1		
2	E	1	Total	Ca	0	0
			1	1		
2	F	1	Total	Ca	0	0
			1	1		

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	2	Total 2	Cl 2	0	0
3	B	2	Total 2	Cl 2	0	0
3	C	2	Total 2	Cl 2	0	0
3	D	2	Total 2	Cl 2	0	0
3	E	2	Total 2	Cl 2	0	0
3	F	2	Total 2	Cl 2	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	240	Total 240	O 240	0	0
4	B	220	Total 220	O 220	0	0
4	C	212	Total 212	O 212	0	0
4	D	246	Total 246	O 246	0	0
4	E	187	Total 187	O 187	0	0
4	F	225	Total 225	O 225	0	0

W O R L D W I D E
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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 g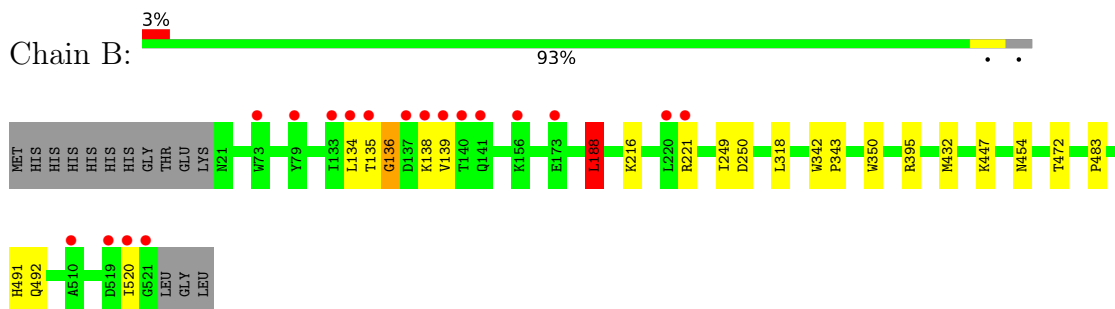raphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a 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: Arylsulfatase

Chain A:

• Molecule 1: Arylsulfatase

Chain B:

• Molecule 1: Arylsulfatase

Chain C:

• Molecule 1: Arylsulfatase

Chain D:

MET HIS HIS HIS HIS HIS GLY THR GLU LYS N21 D25 E29 I37 E41 K44 V45 N52 Y79 M105 R122 T135 G136 D137 K138 V139 T140 V157 K166 L188 V191 Q192 V265 R301 M304 Q323 N335 N338

W342 P343 D344 S345 S348 P349 T357 I364 M373 M384 R395 V399 I400 D401 Q428 M432 T439 K447 R459 M481 M498 P499 K513 G521 LEU GLY LEU

• Molecule 1: Arylsulfatase

Chain E:

4%

94%

MET HIS HIS HIS HIS HIS GLY THR GLU LYS N21 V22 P31 I37 G80 T135 G136 D137 K138 V139 T140 Q141 K156 E173 L188 K211 L220 E223 R229 K230 G231 G232 K233 V236 N241 I249 D250 N262 N282 E320 E325

N335 T357 R395 Q428 T439 D519 I520 G521 LEU GLY LEU

• Molecule 1: Arylsulfatase

Chain F:

3%

93%

MET HIS HIS HIS HIS HIS GLY THR GLU LYS N21 V22 V28 G81 S107 R122 T135 G136 D137 K138 V139 T140 Q141 L188 K211 E212 L213 I249 D250 R254 K269 K291 E313 E320 E325 N335 S345 I364 R395 M432

K447 I509 K513 D519 I520 G521 LEU GLY LEU

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	86.20Å 182.34Å 209.85Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.66 – 2.50 46.66 – 2.50	Depositor EDS
% Data completeness (in resolution range)	99.9 (46.66-2.50) 99.9 (46.66-2.50)	Depositor EDS
R_{merge}	0.38	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.29 (at 2.51Å)	Xtriage
Refinement program	PHENIX 1.16_3549	Depositor
R, R_{free}	0.172 , 0.210 0.172 , 0.210	Depositor DCC
R_{free} test set	5742 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	28.8	Xtriage
Anisotropy	0.207	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	48247	wwPDB-VP
Average B, all atoms (Å^2)	32.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 15.00% of the height of the origin peak. No significant pseudotranslation is detected.*

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.26	0/4027	0.45	0/5460
1	B	0.27	0/4019	0.47	2/5452 (0.0%)
1	C	0.27	0/4027	0.45	0/5460
1	D	0.27	0/4027	0.46	0/5460
1	E	0.26	0/4027	0.44	0/5460
1	F	0.26	0/4023	0.45	0/5456
All	All	0.27	0/24150	0.45	2/32748 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	188	LEU	CB-CG-CD2	7.67	124.03	111.00
1	B	188	LEU	CA-CB-CG	5.55	128.07	115.30

There are no chirality outliers.

There are no planarity outliers.

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	3931	3893	3892	15	0
1	B	3923	3871	3870	12	0
1	C	3931	3893	3892	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	3931	3893	3892	22	0
1	E	3931	3893	3892	9	0
1	F	3927	3882	3881	10	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
3	C	2	0	0	0	0
3	D	2	0	0	0	0
3	E	2	0	0	0	0
3	F	2	0	0	0	0
4	A	240	0	0	1	0
4	B	220	0	0	2	0
4	C	212	0	0	1	0
4	D	246	0	0	4	0
4	E	187	0	0	2	0
4	F	225	0	0	3	0
All	All	24922	23325	23319	74	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 2.

All (74) 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:D:21:ASN:N	4:D:701:HOH:O	2.07	0.87
1:D:373:MET:SD	4:D:936:HOH:O	2.32	0.86
1:A:94:LYS:NZ	1:A:98:GLU:OE2	2.15	0.78
1:B:454:ASN:OD1	4:B:701:HOH:O	2.11	0.68
1:A:421:ASP:O	4:A:701:HOH:O	2.12	0.66
1:C:498:MET:SD	4:C:881:HOH:O	2.52	0.66
1:D:157:VAL:HG11	1:D:399:VAL:HG12	1.78	0.66
1:D:41:GLU:OE2	4:D:702:HOH:O	2.14	0.65
1:F:21:ASN:ND2	4:F:702:HOH:O	2.32	0.62
1:D:166:LYS:HE3	1:D:191:VAL:HG23	1.81	0.61
1:E:37:ILE:HD11	1:E:428:GLN:CG	2.29	0.61
1:A:25:ASP:OD2	1:B:216:LYS:NZ	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:37:ILE:HD11	1:D:428:GLN:HG3	1.85	0.58
1:D:122:ARG:NH2	4:D:708:HOH:O	2.37	0.57
1:F:140:THR:HG22	1:F:520:ILE:O	2.04	0.57
1:D:395:ARG:HB2	1:D:400:ILE:HD11	1.87	0.56
1:E:37:ILE:HD11	1:E:428:GLN:HG2	1.88	0.56
1:B:492:GLN:OE1	1:C:460:ARG:NH2	2.34	0.54
1:F:122:ARG:NH2	4:F:709:HOH:O	2.40	0.52
1:E:37:ILE:HD11	1:E:428:GLN:HG3	1.90	0.51
1:A:301:ARG:HG3	1:D:481:MET:HE3	1.95	0.49
1:E:229:ARG:NH1	4:E:712:HOH:O	2.46	0.49
1:B:139:VAL:CG2	1:B:520:ILE:HB	2.43	0.48
1:D:37:ILE:HD11	1:D:428:GLN:CG	2.43	0.48
1:F:254:ARG:NH1	1:F:313:GLU:OE1	2.43	0.47
1:D:188:LEU:HD12	1:D:188:LEU:N	2.29	0.47
1:A:481:MET:HE3	1:D:301:ARG:HG3	1.96	0.47
1:C:71:LEU:HD13	1:C:304:MET:HE1	1.98	0.46
1:A:133:ILE:HD12	1:A:175:MET:HE3	1.96	0.46
1:B:134:LEU:O	1:B:136:GLY:N	2.49	0.46
1:F:291:LYS:NZ	4:F:706:HOH:O	2.40	0.46
1:B:472:THR:O	1:C:435:ARG:NH1	2.50	0.45
1:C:432:MET:SD	1:C:447:LYS:HE3	2.57	0.44
1:F:107:SER:HB3	1:F:364:ILE:HD13	2.00	0.44
1:B:221:ARG:NE	4:B:719:HOH:O	2.51	0.44
1:B:249:ILE:HG23	1:B:250:ASP:N	2.33	0.44
1:C:188:LEU:HD12	1:C:188:LEU:N	2.32	0.44
1:F:188:LEU:HD12	1:F:188:LEU:N	2.33	0.43
1:B:188:LEU:HD23	1:B:188:LEU:H	1.83	0.43
1:C:249:ILE:HG23	1:C:250:ASP:N	2.33	0.43
1:C:403:LEU:HD22	1:C:409:PHE:CE2	2.54	0.43
1:E:139:VAL:HG23	1:E:520:ILE:HB	2.01	0.42
1:A:98:GLU:HA	1:A:376:ALA:HB1	2.00	0.42
1:A:105:MET:CE	1:A:389:ILE:HD11	2.50	0.42
1:A:188:LEU:HD12	1:A:188:LEU:N	2.34	0.42
1:B:432:MET:SD	1:B:447:LYS:HE3	2.59	0.42
1:A:403:LEU:HD22	1:A:409:PHE:CZ	2.55	0.41
1:E:31:PRO:O	4:E:701:HOH:O	2.21	0.41
1:E:357:THR:HG21	1:E:439:THR:OG1	2.20	0.41
1:C:129:LEU:HD21	1:C:143:PRO:HG2	2.01	0.41
1:D:265:VAL:HG22	1:D:323:GLN:HG3	2.01	0.41
1:D:157:VAL:HG11	1:D:399:VAL:CG1	2.49	0.41
1:D:342:TRP:CG	1:D:343:PRO:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:133:ILE:HB	1:A:175:MET:HE1	2.03	0.41
1:D:105:MET:SD	1:D:384:MET:HG2	2.60	0.41
1:D:338:ASN:O	1:D:345:SER:HB3	2.21	0.41
1:A:176:LEU:HD12	1:A:234:ARG:NE	2.35	0.41
1:F:249:ILE:HG23	1:F:250:ASP:N	2.36	0.41
1:A:342:TRP:CG	1:A:343:PRO:HA	2.55	0.41
1:A:487:ALA:HB3	1:D:459:ARG:NH1	2.36	0.41
1:C:364:ILE:HB	1:C:365:PRO:HD2	2.03	0.41
1:D:191:VAL:HG22	1:D:192:GLN:N	2.36	0.41
1:D:432:MET:SD	1:D:447:LYS:HE3	2.61	0.41
1:D:498:MET:N	1:D:499:PRO:HD2	2.36	0.41
1:E:188:LEU:H	1:E:188:LEU:HD12	1.86	0.41
1:B:342:TRP:CG	1:B:343:PRO:HA	2.56	0.41
1:E:249:ILE:HG23	1:E:250:ASP:N	2.36	0.41
1:B:350:TRP:CZ3	1:B:483:PRO:HB2	2.55	0.40
1:C:74:GLY:O	1:C:81:GLY:HA3	2.21	0.40
1:F:432:MET:SD	1:F:447:LYS:HE3	2.61	0.40
1:C:98:GLU:HA	1:C:376:ALA:HB1	2.02	0.40
1:D:357:THR:HG21	1:D:439:THR:OG1	2.21	0.40
1:F:139:VAL:CG2	1:F:520:ILE:HB	2.52	0.40
1:A:390:TYR:CE1	1:A:394:LEU:HD11	2.57	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	499/515 (97%)	483 (97%)	16 (3%)	0	100	100
1	B	499/515 (97%)	481 (96%)	15 (3%)	3 (1%)	25	43
1	C	499/515 (97%)	485 (97%)	14 (3%)	0	100	100
1	D	499/515 (97%)	475 (95%)	24 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	E	499/515 (97%)	479 (96%)	19 (4%)	1 (0%)	47	68
1	F	499/515 (97%)	478 (96%)	20 (4%)	1 (0%)	47	68
All	All	2994/3090 (97%)	2881 (96%)	108 (4%)	5 (0%)	47	68

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	135	THR
1	B	138	LYS
1	F	138	LYS
1	B	136	GLY
1	E	136	GLY

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	421/433 (97%)	419 (100%)	2 (0%)	88	96
1	B	419/433 (97%)	415 (99%)	4 (1%)	76	90
1	C	421/433 (97%)	418 (99%)	3 (1%)	84	94
1	D	421/433 (97%)	416 (99%)	5 (1%)	71	88
1	E	421/433 (97%)	415 (99%)	6 (1%)	67	86
1	F	420/433 (97%)	414 (99%)	6 (1%)	67	86
All	All	2523/2598 (97%)	2497 (99%)	26 (1%)	76	90

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	335	ASN
1	A	395	ARG
1	B	188	LEU
1	B	318	LEU
1	B	395	ARG

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Mol	Chain	Res	Type
1	B	491	HIS
1	C	123	LEU
1	C	335	ASN
1	C	395	ARG
1	D	138	LYS
1	D	335	ASN
1	D	345	SER
1	D	364	ILE
1	D	395	ARG
1	E	156	LYS
1	E	262	ASN
1	E	282	ASN
1	E	325	GLU
1	E	335	ASN
1	E	395	ARG
1	F	135	THR
1	F	213	LEU
1	F	325	GLU
1	F	335	ASN
1	F	345	SER
1	F	395	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	454	ASN
1	C	263	GLN
1	C	378	GLN
1	F	491	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 (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 18 ligands modelled in this entry, 18 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 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	501/515 (97%)	0.14	14 (2%)	53	56	21, 27, 38, 51	0
1	B	501/515 (97%)	0.18	18 (3%)	42	46	23, 29, 40, 52	0
1	C	501/515 (97%)	0.17	18 (3%)	42	46	22, 29, 41, 55	0
1	D	501/515 (97%)	0.16	18 (3%)	42	46	21, 27, 39, 48	0
1	E	501/515 (97%)	0.15	22 (4%)	34	37	23, 29, 41, 50	0
1	F	501/515 (97%)	0.18	18 (3%)	42	46	23, 28, 39, 50	0
All	All	3006/3090 (97%)	0.16	108 (3%)	42	46	21, 28, 40, 55	0

All (108) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	138	LYS	5.2
1	B	140	THR	4.9
1	D	137	ASP	4.3
1	B	139	VAL	4.3
1	E	135	THR	4.2
1	B	141	GLN	4.2
1	A	135	THR	4.2
1	E	139	VAL	4.0
1	A	137	ASP	3.9
1	E	520	ILE	3.8
1	B	135	THR	3.8
1	D	138	LYS	3.7
1	E	140	THR	3.7
1	F	139	VAL	3.7
1	A	136	GLY	3.7
1	C	138	LYS	3.7
1	B	519	ASP	3.6
1	E	141	GLN	3.6
1	B	138	LYS	3.6

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Mol	Chain	Res	Type	RSRZ
1	C	55	ALA	3.5
1	B	137	ASP	3.4
1	A	140	THR	3.4
1	B	133	ILE	3.3
1	F	521	GLY	3.3
1	E	137	ASP	3.1
1	F	141	GLN	3.1
1	B	520	ILE	3.1
1	A	521	GLY	3.1
1	E	138	LYS	3.0
1	E	236	VAL	2.8
1	E	241	ASN	2.8
1	E	233	LYS	2.7
1	E	521	GLY	2.7
1	C	135	THR	2.7
1	F	211	LYS	2.7
1	D	29	GLU	2.7
1	E	320	GLU	2.7
1	B	134	LEU	2.7
1	B	156	LYS	2.7
1	A	139	VAL	2.7
1	F	135	THR	2.6
1	D	401	ASP	2.6
1	C	401	ASP	2.6
1	D	45	VAL	2.6
1	C	215	THR	2.6
1	F	137	ASP	2.6
1	F	140	THR	2.6
1	C	156	LYS	2.6
1	F	320	GLU	2.6
1	F	520	ILE	2.6
1	C	520	ILE	2.5
1	E	220	LEU	2.5
1	A	513	LYS	2.5
1	F	269	LYS	2.5
1	F	136	GLY	2.5
1	D	140	THR	2.5
1	E	80	GLY	2.5
1	A	73	TRP	2.4
1	E	136	GLY	2.4
1	A	244	GLU	2.4
1	D	25	ASP	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	135	THR	2.4
1	B	521	GLY	2.4
1	C	56	LYS	2.3
1	C	141	GLN	2.3
1	B	79	TYR	2.3
1	C	211	LYS	2.3
1	E	211	LYS	2.3
1	B	510	ALA	2.3
1	D	44	LYS	2.3
1	D	52	ASN	2.3
1	E	519	ASP	2.3
1	C	214	TYR	2.3
1	C	269	LYS	2.2
1	F	513	LYS	2.2
1	C	521	GLY	2.2
1	F	509	ILE	2.2
1	F	22	VAL	2.2
1	D	400	ILE	2.2
1	C	21	ASN	2.2
1	C	140	THR	2.2
1	E	22	VAL	2.2
1	E	173	GLU	2.2
1	A	29	GLU	2.1
1	D	79	TYR	2.1
1	E	223	GLU	2.1
1	E	231	GLY	2.1
1	B	221	ARG	2.1
1	B	220	LEU	2.1
1	B	173	GLU	2.1
1	A	211	LYS	2.1
1	A	134	LEU	2.1
1	F	519	ASP	2.1
1	C	136	GLY	2.1
1	B	73	TRP	2.1
1	D	304	MET	2.1
1	A	40	PRO	2.1
1	D	136	GLY	2.1
1	D	139	VAL	2.0
1	F	28	VAL	2.0
1	F	81	GLY	2.0
1	D	513	LYS	2.0
1	D	349	PRO	2.0

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Mol	Chain	Res	Type	RSRZ
1	C	52	ASN	2.0
1	D	348	SER	2.0
1	F	138	LYS	2.0
1	C	79	TYR	2.0
1	E	229	ARG	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 ⓘ

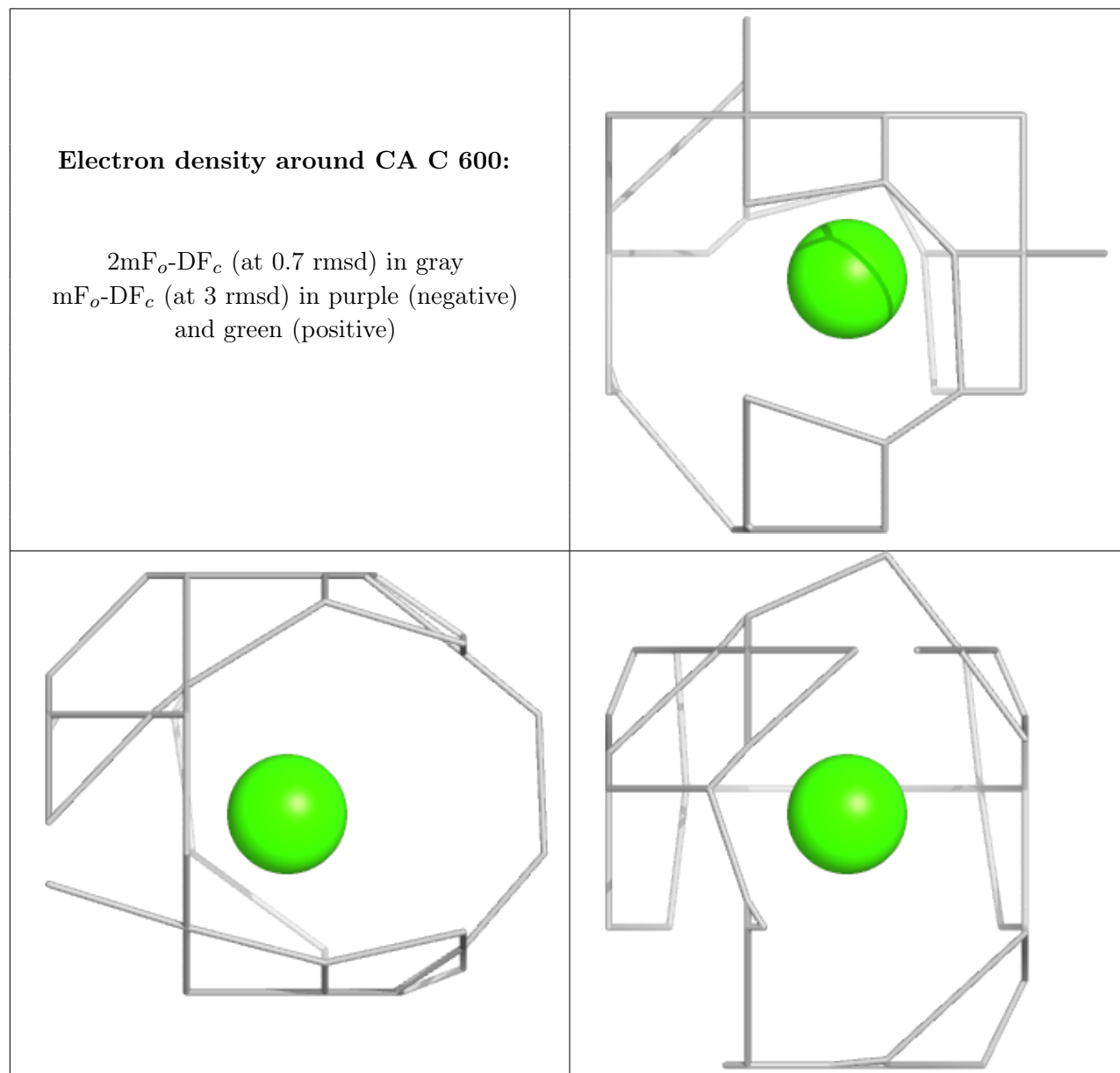There are no monosaccharides in this entry.

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.
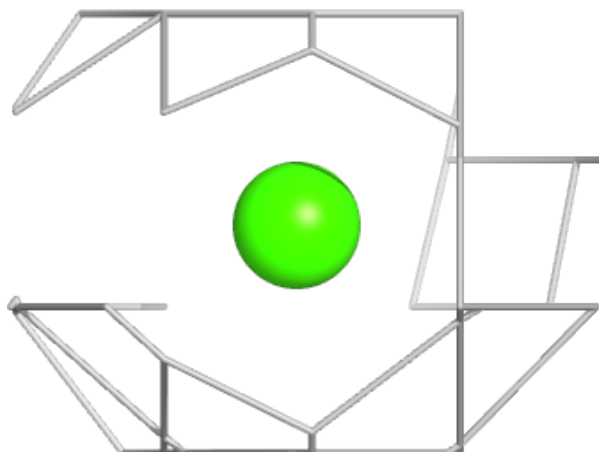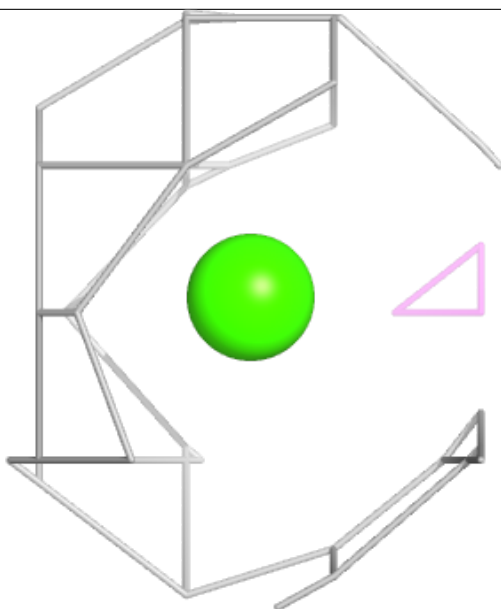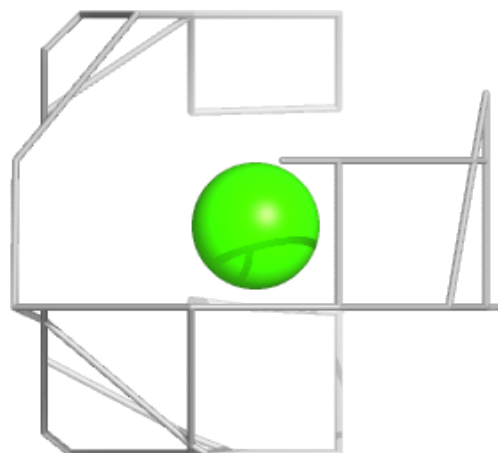
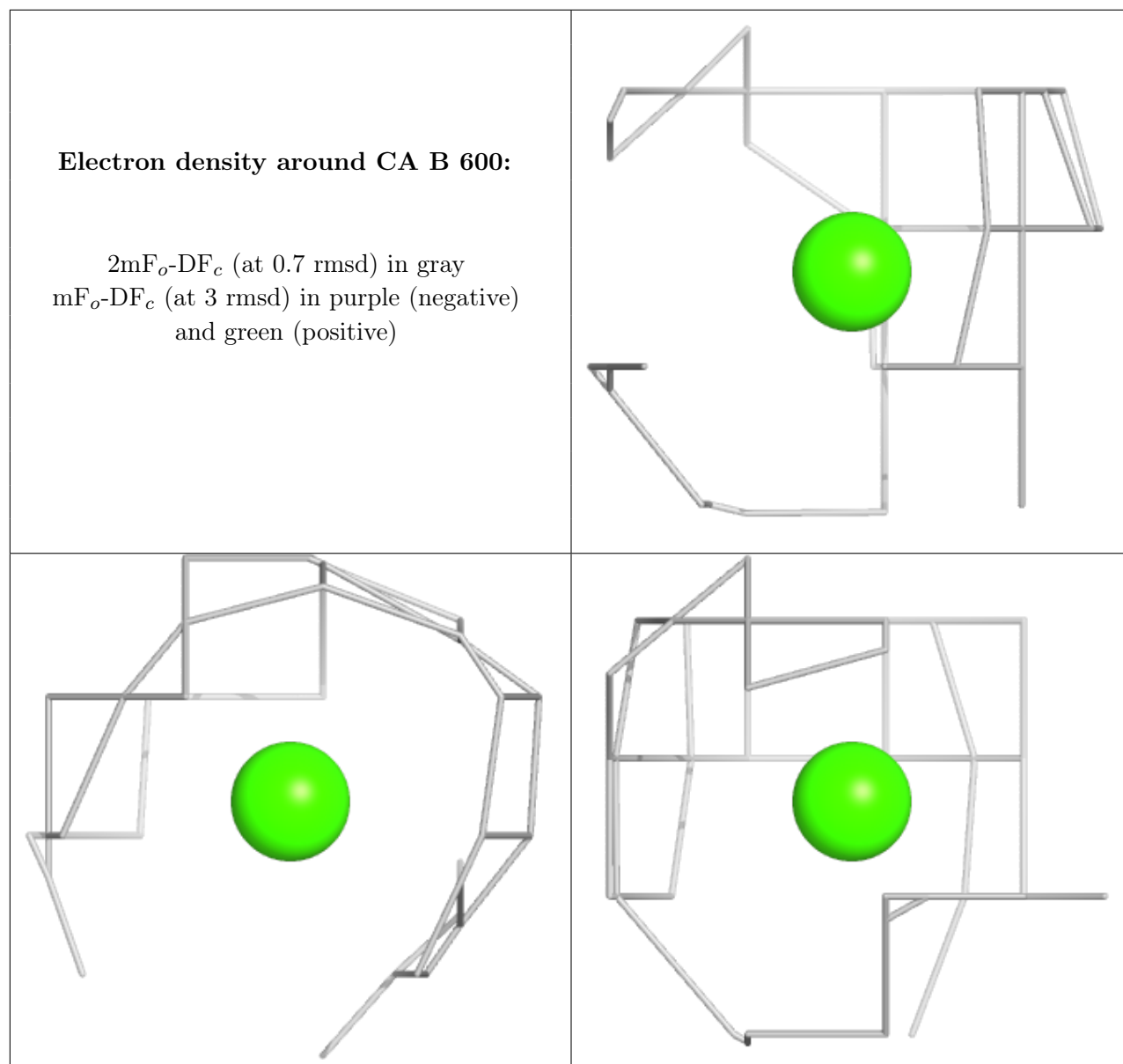| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	CL	C	602	1/1	0.92	0.15	53,53,53,53	0
3	CL	A	602	1/1	0.93	0.09	35,35,35,35	0
3	CL	E	602	1/1	0.94	0.10	43,43,43,43	0
3	CL	B	602	1/1	0.95	0.07	44,44,44,44	0
3	CL	C	601	1/1	0.96	0.07	26,26,26,26	0
3	CL	D	602	1/1	0.97	0.09	42,42,42,42	0
3	CL	F	602	1/1	0.97	0.10	44,44,44,44	0
3	CL	D	603	1/1	0.98	0.24	24,24,24,24	0
2	CA	C	600	1/1	0.98	0.06	31,31,31,31	0
3	CL	F	601	1/1	0.98	0.15	24,24,24,24	0
3	CL	B	601	1/1	0.98	0.11	25,25,25,25	0
2	CA	F	600	1/1	0.99	0.04	22,22,22,22	0
3	CL	A	601	1/1	0.99	0.13	26,26,26,26	0
2	CA	B	600	1/1	0.99	0.06	22,22,22,22	0
3	CL	E	601	1/1	0.99	0.15	28,28,28,28	0
2	CA	A	600	1/1	0.99	0.09	22,22,22,22	0
2	CA	D	601	1/1	0.99	0.08	22,22,22,22	0
2	CA	E	600	1/1	0.99	0.04	22,22,22,22	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.
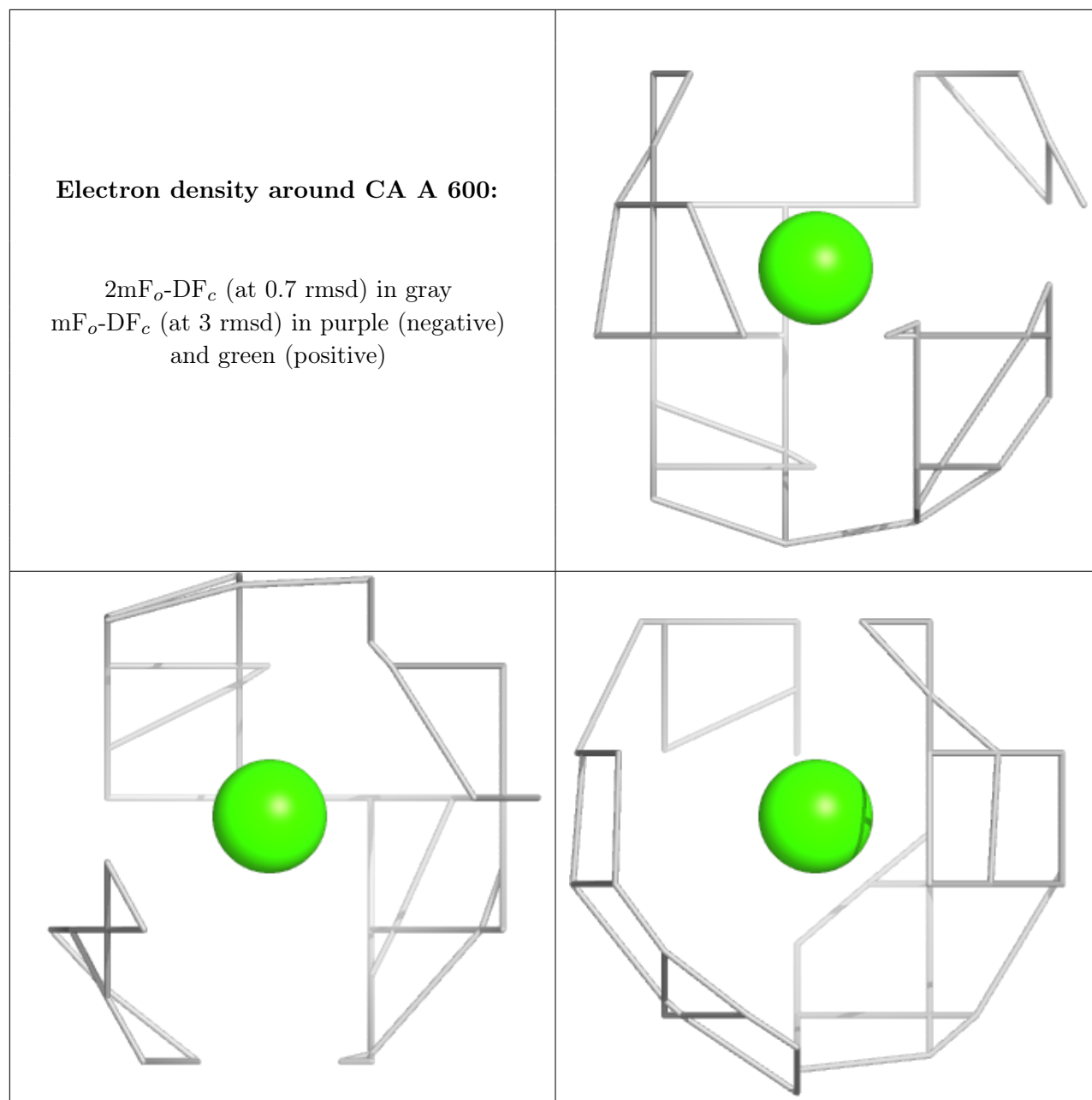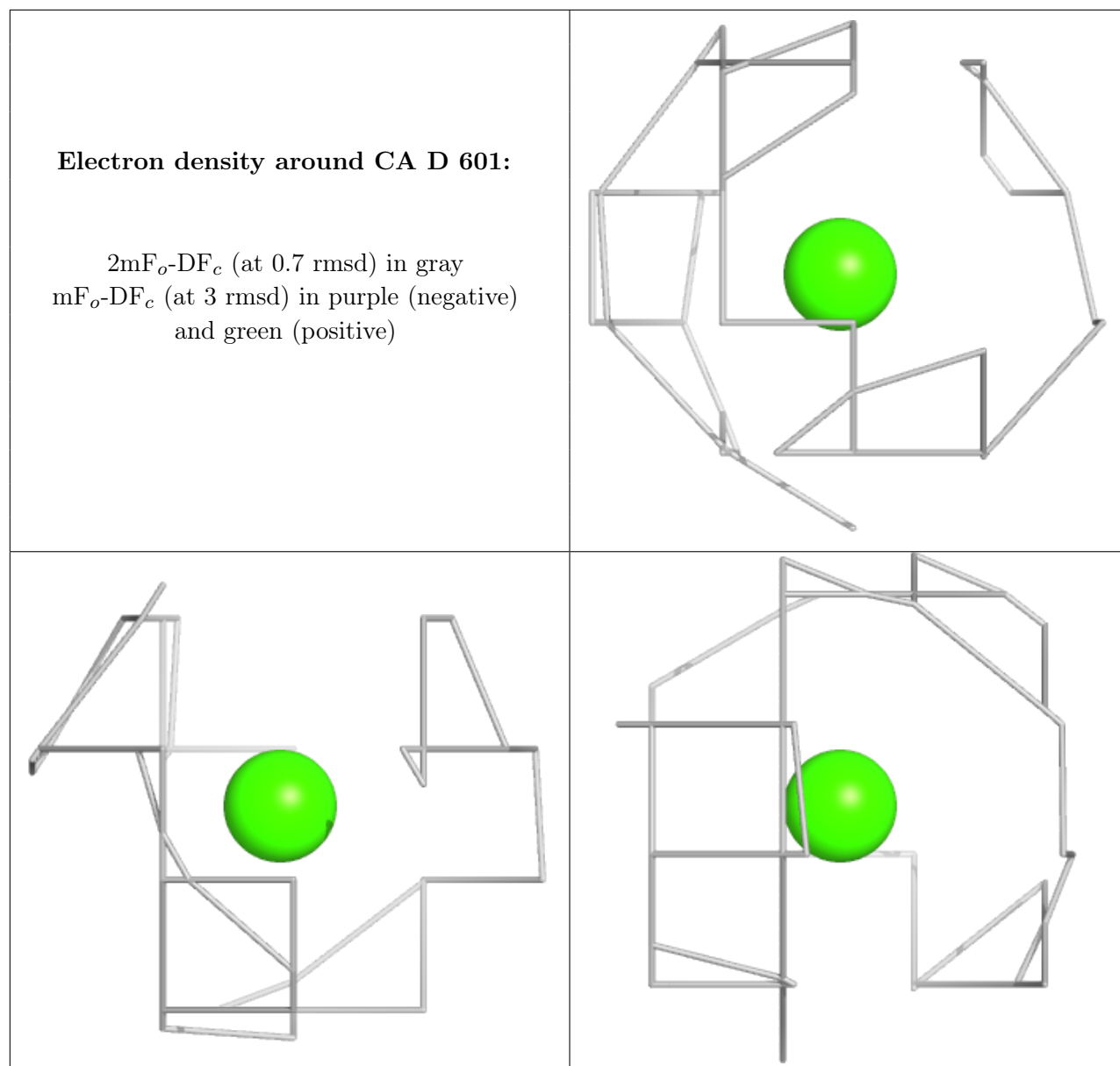
Electron density around CA C 600:

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 CA F 600:

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

Electron density around CA B 600:

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

Electron density around CA A 600:

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

Electron density around CA D 601:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
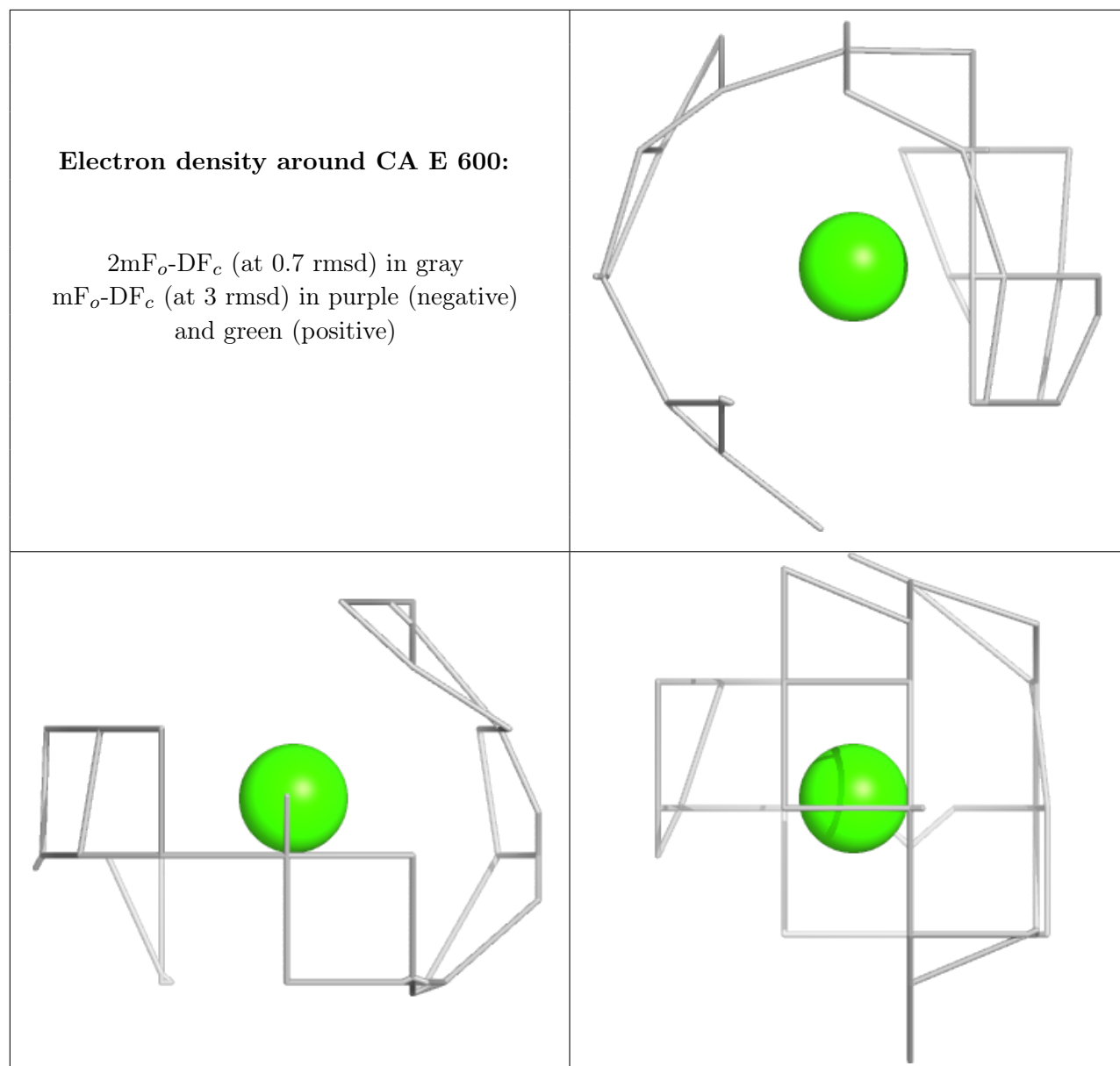
Electron density around CA E 600:

$2mF_o$-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 ⓘ

There are no such residues in this entry.