WORLDWIDE PDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Apr 30, 2024 – 02:36 PM JST

PDB ID	:	8Z77
Title	:	The structure of thiocyanate dehydrogenase from Pelomicrobium methylotrophicum (pmTcDH), activated by crystals soaking with 1 mM CuCl2 and Na ascorbate during 12 hours
Authors	:	Varfolomeeva, L.A.; Solovieva, A.Y.; Shipkov, N.S.; Dergousova, N.I.; Minyaev, M.E.; Boyko, K.M.; Tikhonova, T.V.; Popov, V.O.
Deposited on	:	2024-04-19
Resolution	:	2.00 Å(reported)

The following versions of software and data (see references ①) were used in the production of this report:

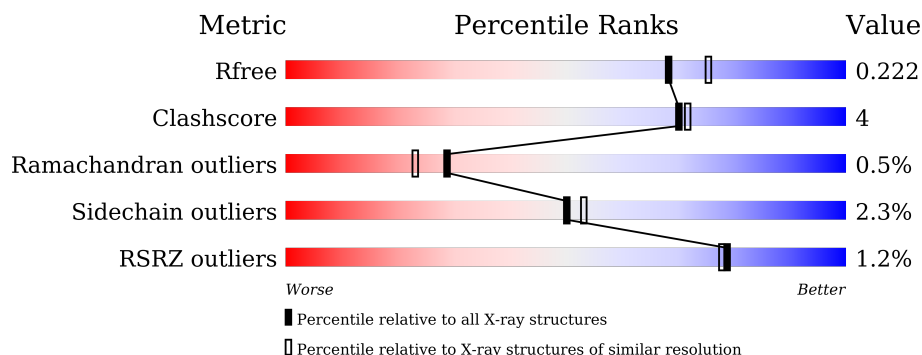|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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 2.00 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		0.222
Clashscore		4
Ramachandran outliers		0.5%
Sidechain outliers		2.3%
RSRZ outliers		1.2%

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	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	489	83% 10% · 5%
1	B	489	82% 12% 5%
1	C	489	82% 11% · 5%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 11532 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 Twin-arginine translocation signal domain-containing protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	464	Total 3618	C 2325	N 611	O 668	S 14	17	4	0
1	B	464	Total 3626	C 2328	N 614	O 670	S 14	3	6	0
1	C	463	Total 3617	C 2324	N 614	O 665	S 14	15	5	0

There are 63 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	25	MET	-	initiating methionine	UNP A0A5C7ETD9
A	26	GLY	-	expression tag	UNP A0A5C7ETD9
A	27	SER	-	expression tag	UNP A0A5C7ETD9
A	28	ASP	-	expression tag	UNP A0A5C7ETD9
A	29	LYS	-	expression tag	UNP A0A5C7ETD9
A	30	ILE	-	expression tag	UNP A0A5C7ETD9
A	31	HIS	-	expression tag	UNP A0A5C7ETD9
A	32	HIS	-	expression tag	UNP A0A5C7ETD9
A	33	HIS	-	expression tag	UNP A0A5C7ETD9
A	34	HIS	-	expression tag	UNP A0A5C7ETD9
A	35	HIS	-	expression tag	UNP A0A5C7ETD9
A	36	HIS	-	expression tag	UNP A0A5C7ETD9
A	37	GLU	-	expression tag	UNP A0A5C7ETD9
A	38	ASN	-	expression tag	UNP A0A5C7ETD9
A	39	LEU	-	expression tag	UNP A0A5C7ETD9
A	40	TYR	-	expression tag	UNP A0A5C7ETD9
A	41	PHE	-	expression tag	UNP A0A5C7ETD9
A	42	GLN	-	expression tag	UNP A0A5C7ETD9
A	43	GLY	-	expression tag	UNP A0A5C7ETD9
A	44	HIS	-	expression tag	UNP A0A5C7ETD9
A	45	MET	-	expression tag	UNP A0A5C7ETD9
B	25	MET	-	initiating methionine	UNP A0A5C7ETD9
B	26	GLY	-	expression tag	UNP A0A5C7ETD9

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Chain	Residue	Modelled	Actual	Comment	Reference
B	27	SER	-	expression tag	UNP A0A5C7ETD9
B	28	ASP	-	expression tag	UNP A0A5C7ETD9
B	29	LYS	-	expression tag	UNP A0A5C7ETD9
B	30	ILE	-	expression tag	UNP A0A5C7ETD9
B	31	HIS	-	expression tag	UNP A0A5C7ETD9
B	32	HIS	-	expression tag	UNP A0A5C7ETD9
B	33	HIS	-	expression tag	UNP A0A5C7ETD9
B	34	HIS	-	expression tag	UNP A0A5C7ETD9
B	35	HIS	-	expression tag	UNP A0A5C7ETD9
B	36	HIS	-	expression tag	UNP A0A5C7ETD9
B	37	GLU	-	expression tag	UNP A0A5C7ETD9
B	38	ASN	-	expression tag	UNP A0A5C7ETD9
B	39	LEU	-	expression tag	UNP A0A5C7ETD9
B	40	TYR	-	expression tag	UNP A0A5C7ETD9
B	41	PHE	-	expression tag	UNP A0A5C7ETD9
B	42	GLN	-	expression tag	UNP A0A5C7ETD9
B	43	GLY	-	expression tag	UNP A0A5C7ETD9
B	44	HIS	-	expression tag	UNP A0A5C7ETD9
B	45	MET	-	expression tag	UNP A0A5C7ETD9
C	25	MET	-	initiating methionine	UNP A0A5C7ETD9
C	26	GLY	-	expression tag	UNP A0A5C7ETD9
C	27	SER	-	expression tag	UNP A0A5C7ETD9
C	28	ASP	-	expression tag	UNP A0A5C7ETD9
C	29	LYS	-	expression tag	UNP A0A5C7ETD9
C	30	ILE	-	expression tag	UNP A0A5C7ETD9
C	31	HIS	-	expression tag	UNP A0A5C7ETD9
C	32	HIS	-	expression tag	UNP A0A5C7ETD9
C	33	HIS	-	expression tag	UNP A0A5C7ETD9
C	34	HIS	-	expression tag	UNP A0A5C7ETD9
C	35	HIS	-	expression tag	UNP A0A5C7ETD9
C	36	HIS	-	expression tag	UNP A0A5C7ETD9
C	37	GLU	-	expression tag	UNP A0A5C7ETD9
C	38	ASN	-	expression tag	UNP A0A5C7ETD9
C	39	LEU	-	expression tag	UNP A0A5C7ETD9
C	40	TYR	-	expression tag	UNP A0A5C7ETD9
C	41	PHE	-	expression tag	UNP A0A5C7ETD9
C	42	GLN	-	expression tag	UNP A0A5C7ETD9
C	43	GLY	-	expression tag	UNP A0A5C7ETD9
C	44	HIS	-	expression tag	UNP A0A5C7ETD9
C	45	MET	-	expression tag	UNP A0A5C7ETD9

- Molecule 2 is COPPER (II) ION (three-letter code: CU) (formula: Cu) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	3	Total Cu 4　　4		0	1
2	B	3	Total Cu 3　　3		0	0
2	C	3	Total Cu 4　　4		0	1

- Molecule 3 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).
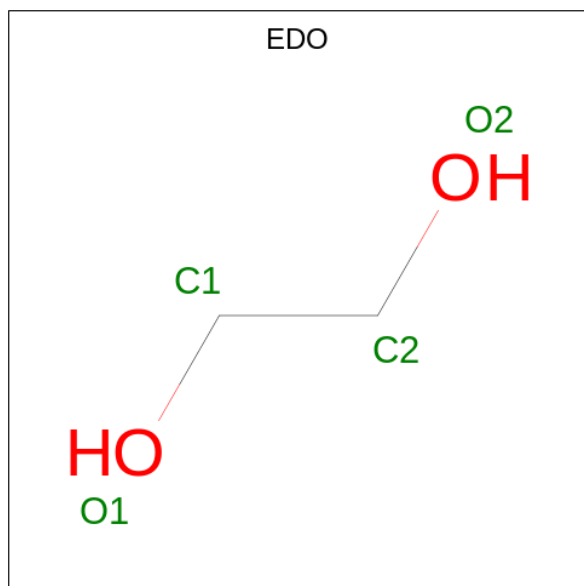
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total C O 4　　2　2			0	0
3	C	1	Total C O 4　　2　2			0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	223	Total O 223　223		0	0
4	B	229	Total O 229　229		0	0
4	C	200	Total O 200　200		0	0

3 Residue-property plots ⓘ

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

- Molecule 1: Twin-arginine translocation signal domain-containing protein
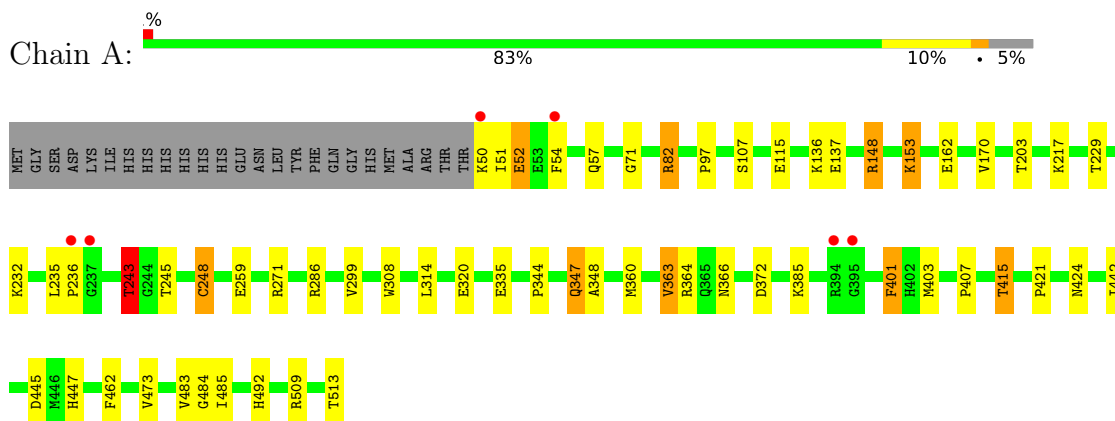
- Molecule 1: Twin-arginine translocation signal domain-containing protein
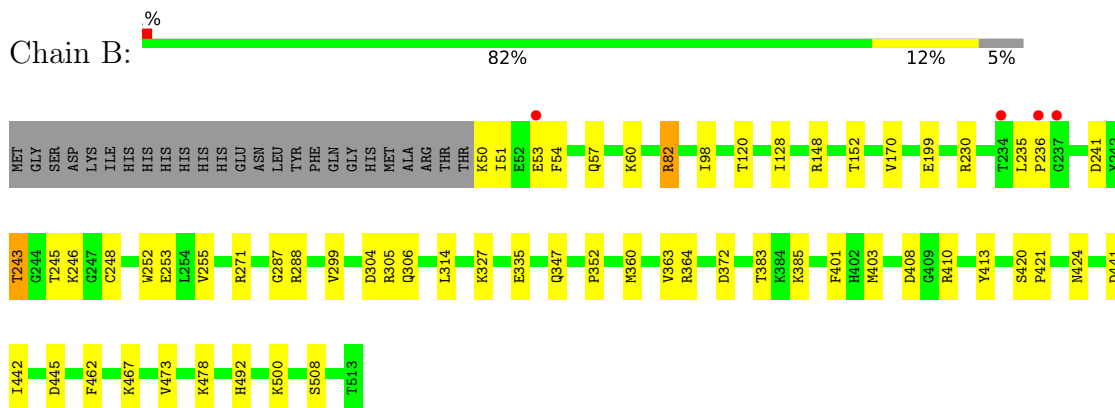
- Molecule 1: Twin-arginine translocation signal domain-containing protein
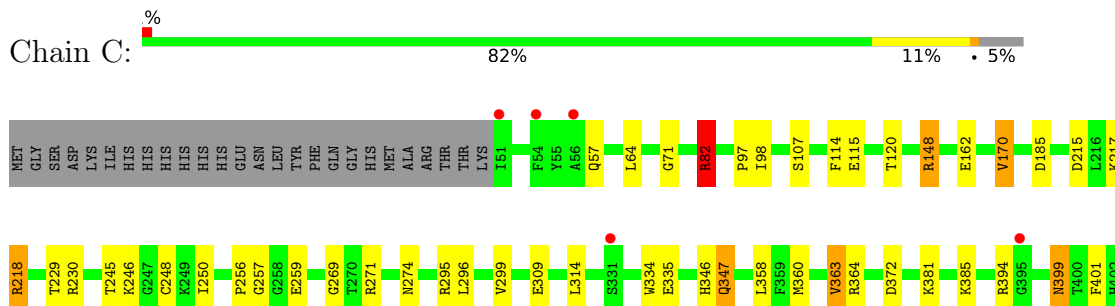
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	98.09Å 101.99Å 276.80Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	23.71 – 2.00 23.71 – 2.00	Depositor EDS
% Data completeness (in resolution range)	99.5 (23.71-2.00) 99.5 (23.71-2.00)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.42 (at 1.99Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.175 , 0.222 0.175 , 0.222	Depositor DCC
R_{free} test set	4635 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å^2)	16.6	Xtriage
Anisotropy	0.426	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 53.8	EDS
L-test for twinning[2]	$< |L| > = 0.42, < L^2 > = 0.25$	Xtriage
Estimated twinning fraction	0.056 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	11532	wwPDB-VP
Average B, all atoms (Å^2)	18.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.13% 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: CU, EDO

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	0.88	8/3740 (0.2%)	1.22	24/5092 (0.5%)
1	B	0.86	5/3760 (0.1%)	1.21	20/5118 (0.4%)
1	C	0.81	1/3745 (0.0%)	1.21	17/5098 (0.3%)
All	All	0.85	14/11245 (0.1%)	1.21	61/15308 (0.4%)

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
1	B	0	1
1	C	0	3
All	All	0	5

The worst 5 of 14 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	232	LYS	CD-CE	8.20	1.71	1.51
1	A	335	GLU	CD-OE2	-8.19	1.16	1.25
1	B	508	SER	CB-OG	7.01	1.51	1.42
1	A	137	GLU	CB-CG	-6.96	1.39	1.52
1	B	253	GLU	CD-OE1	6.94	1.33	1.25

The worst 5 of 61 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	82[A]	ARG	NE-CZ-NH2	-12.40	114.10	120.30
1	B	82[B]	ARG	NE-CZ-NH2	-12.40	114.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	218	ARG	CG-CD-NE	11.72	136.42	111.80
1	B	271	ARG	NE-CZ-NH2	9.41	125.01	120.30
1	B	364	ARG	NE-CZ-NH2	-8.61	116.00	120.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	462	PHE	Peptide
1	B	462	PHE	Peptide
1	C	399[A]	ASN	Peptide
1	C	399[B]	ASN	Peptide
1	C	462	PHE	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3618	0	3558	28	0
1	B	3626	0	3557	32	0
1	C	3617	0	3560	29	0
2	A	4	0	0	0	0
2	B	3	0	0	0	0
2	C	4	0	0	0	0
3	B	4	0	6	0	0
3	C	4	0	6	0	0
4	A	223	0	0	2	0
4	B	229	0	0	5	0
4	C	200	0	0	3	0
All	All	11532	0	10687	78	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 4.

The worst 5 of 78 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:B:60:LYS:HE3	4:B:856:HOH:O	1.35	1.25
1:A:415:THR:HG21	1:A:447:HIS:O	1.73	0.87
1:C:245:THR:O	1:C:248[A]:CYS:SG	2.33	0.87
1:A:245:THR:O	1:A:248[A]:CYS:SG	2.34	0.86
1:B:245:THR:O	1:B:248[A]:CYS:SG	2.34	0.84

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 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	466/489 (95%)	442 (95%)	21 (4%)	3 (1%)	25	19
1	B	468/489 (96%)	444 (95%)	22 (5%)	2 (0%)	34	30
1	C	466/489 (95%)	439 (94%)	25 (5%)	2 (0%)	34	30
All	All	1400/1467 (95%)	1325 (95%)	68 (5%)	7 (0%)	29	23

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	52	GLU
1	B	170	VAL
1	C	170	VAL
1	A	170	VAL
1	A	363	VAL

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	388/406 (96%)	377 (97%)	11 (3%)	43	44
1	B	390/406 (96%)	384 (98%)	6 (2%)	65	69
1	C	388/406 (96%)	377 (97%)	11 (3%)	43	44
All	All	1166/1218 (96%)	1138 (98%)	28 (2%)	50	51

5 of 28 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	467	LYS
1	C	492	HIS
1	C	57	GLN
1	C	421	PRO
1	B	492	HIS

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

Mol	Chain	Res	Type
1	C	272	GLN
1	C	274	ASN
1	B	91	ASN
1	B	272	GLN
1	B	274	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 ⓘ

Of 13 ligands modelled in this entry, 11 are monoatomic - leaving 2 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	#$|Z| > 2$
3	EDO	B	601	-	3,3,3	1.35	0	2,2,2	1.11	0
3	EDO	C	601	-	3,3,3	0.58	0	2,2,2	0.28	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	EDO	B	601	-	-	1/1/1/1	-
3	EDO	C	601	-	-	0/1/1/1	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	601	EDO	O1-C1-C2-O2

There are no ring outliers.

No monomer is involved in short contacts.

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	464/489 (94%)	-0.33	6 (1%)	77	76	7, 16, 30, 63	5 (1%)
1	B	464/489 (94%)	-0.30	4 (0%)	84	83	8, 16, 33, 66	1 (0%)
1	C	463/489 (94%)	-0.21	6 (1%)	77	76	7, 18, 34, 57	4 (0%)
All	All	1391/1467 (94%)	-0.28	16 (1%)	79	78	7, 16, 33, 66	10 (0%)

The worst 5 of 16 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	394	ARG	3.1
1	A	236	PRO	2.9
1	C	54	PHE	2.9
1	C	331	SER	2.8
1	C	51	ILE	2.6

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	EDO	B	601	4/4	0.96	0.09	12,12,13,15	0
3	EDO	C	601	4/4	0.97	0.11	18,19,20,20	0
2	CU	C	603[B]	1/1	0.98	0.05	9,9,9,9	1
2	CU	B	603	1/1	0.98	0.05	19,19,19,19	0
2	CU	C	603[A]	1/1	0.98	0.05	12,12,12,12	1
2	CU	A	602[B]	1/1	0.99	0.04	8,8,8,8	1
2	CU	C	604	1/1	0.99	0.02	20,20,20,20	0
2	CU	A	601	1/1	0.99	0.03	15,15,15,15	0
2	CU	A	602[A]	1/1	0.99	0.04	9,9,9,9	1
2	CU	A	603	1/1	1.00	0.03	20,20,20,20	0
2	CU	B	604	1/1	1.00	0.02	16,16,16,16	0
2	CU	C	602	1/1	1.00	0.04	15,15,15,15	0
2	CU	B	602	1/1	1.00	0.01	14,14,14,14	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 CU C 603 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
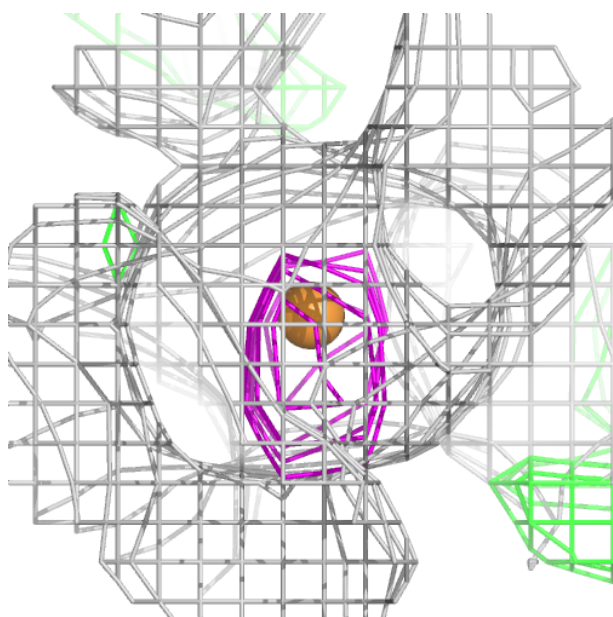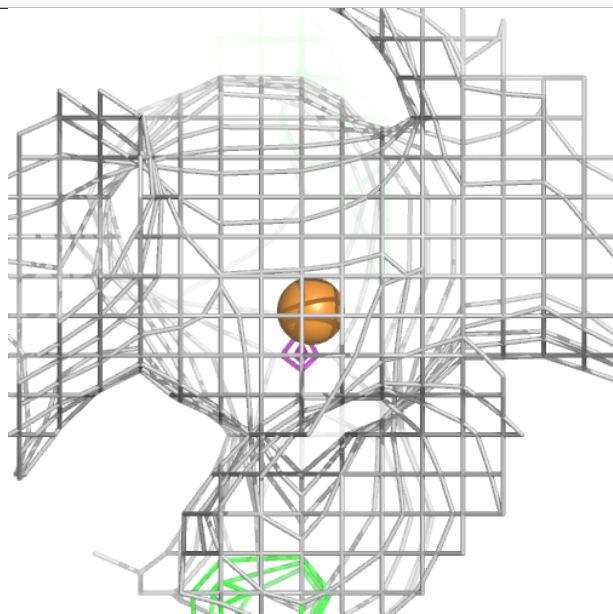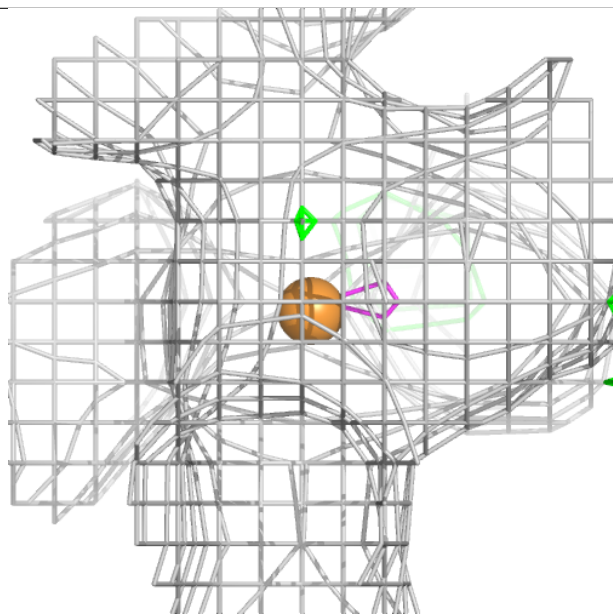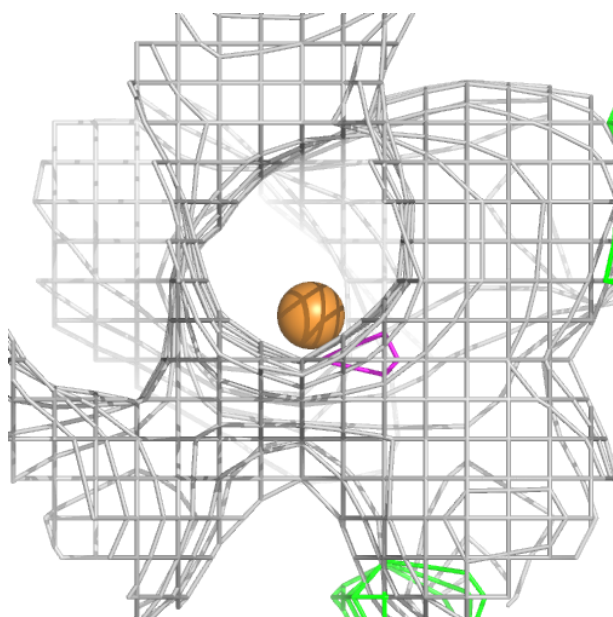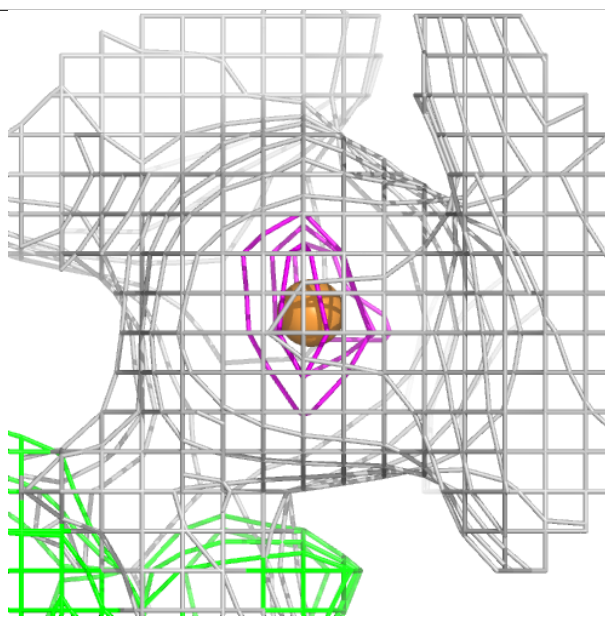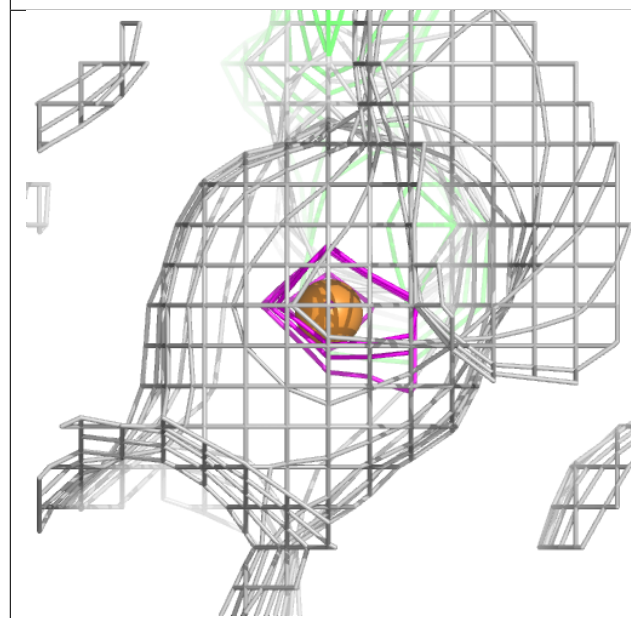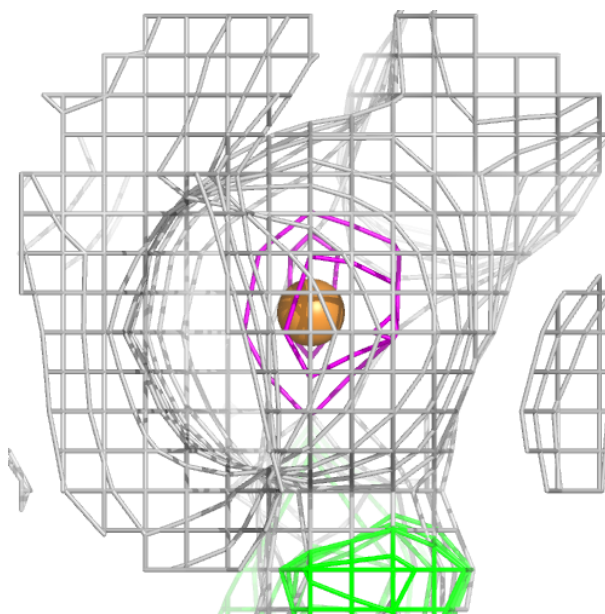and green (positive)
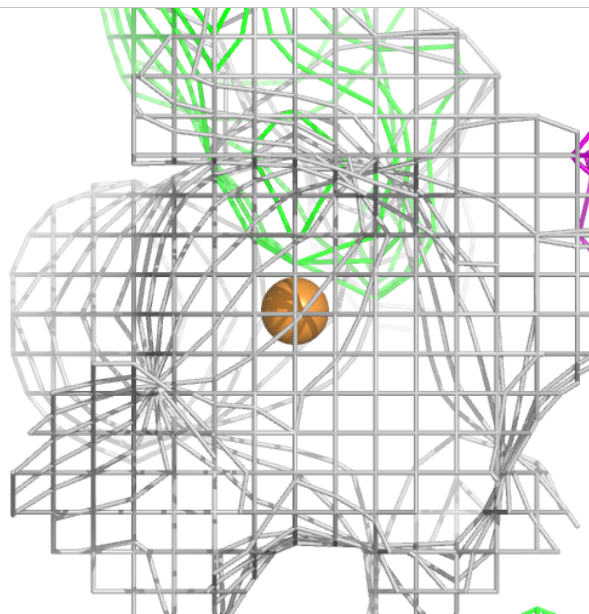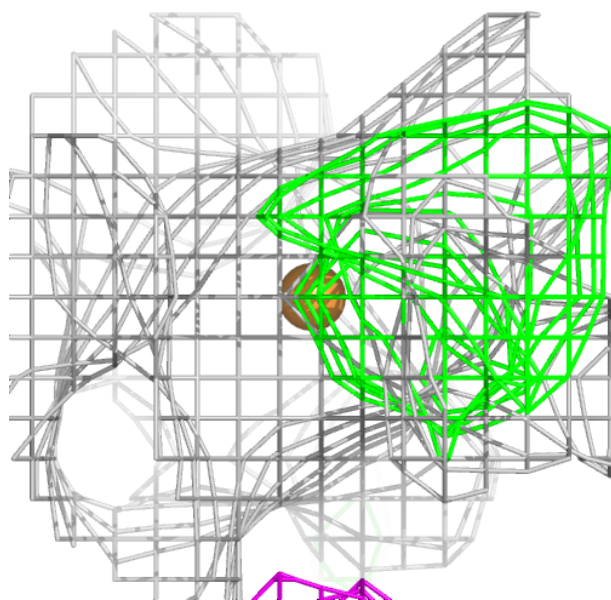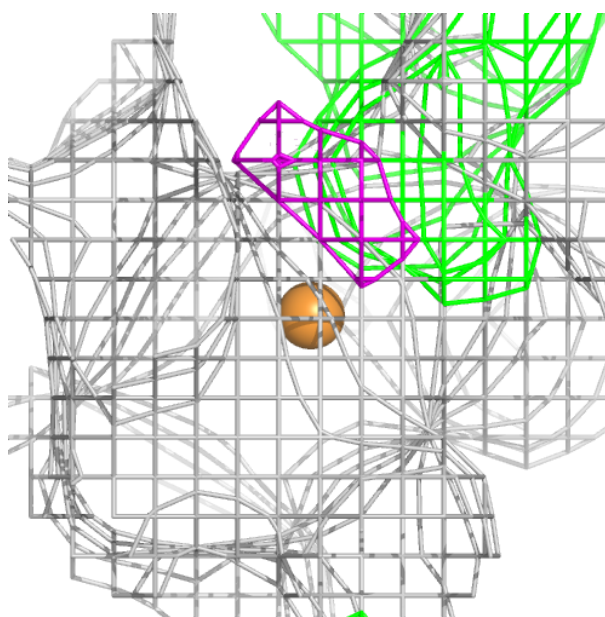
Electron density around CU B 603:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
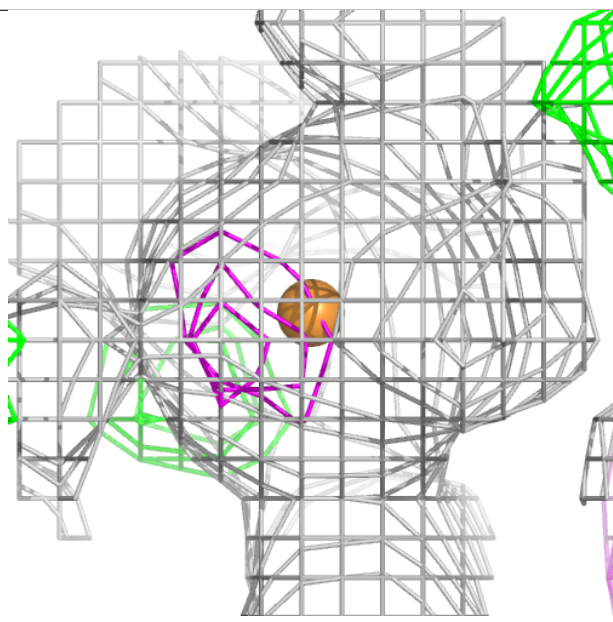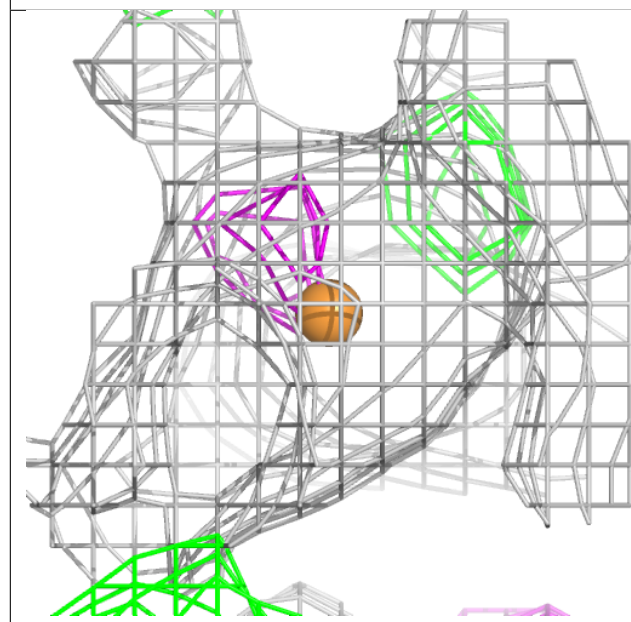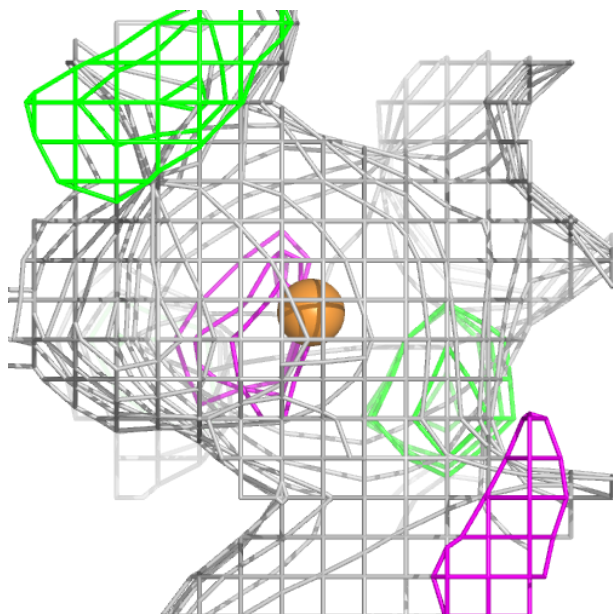
Electron density around CU C 603 (A):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
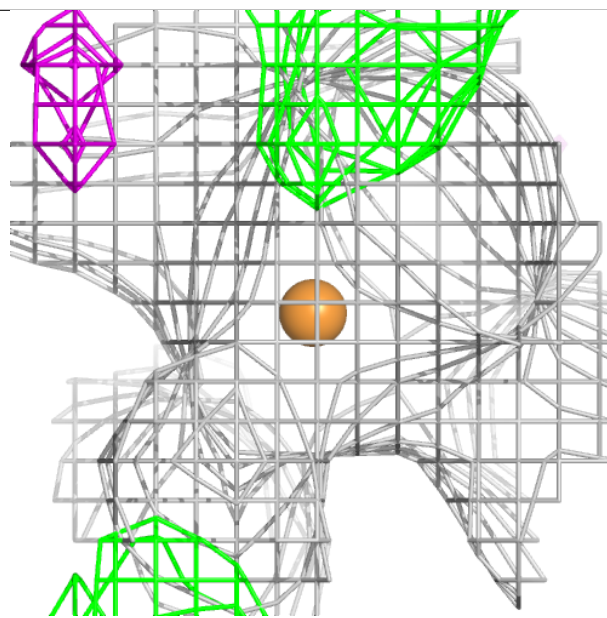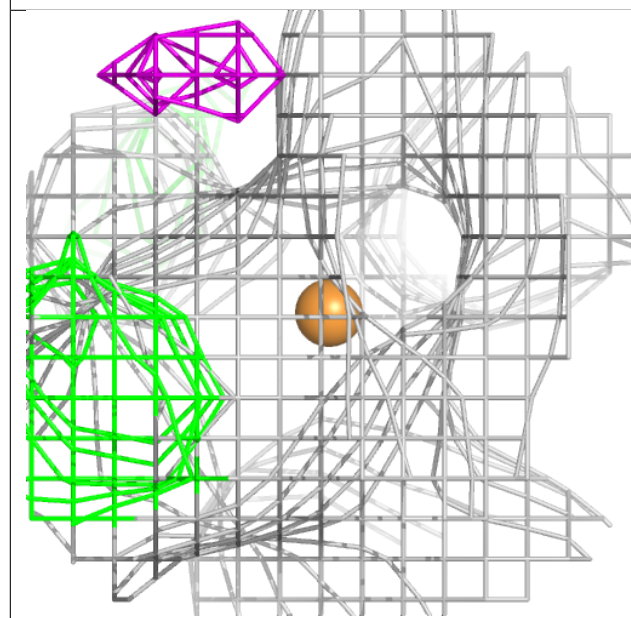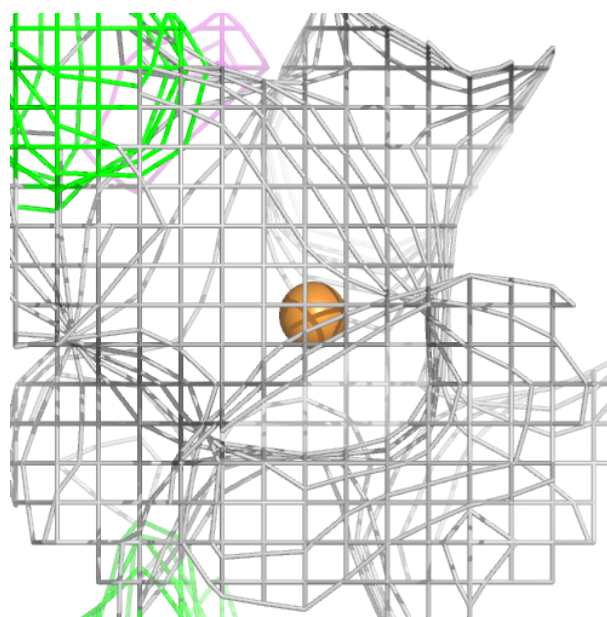
Electron density around CU A 602 (B):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
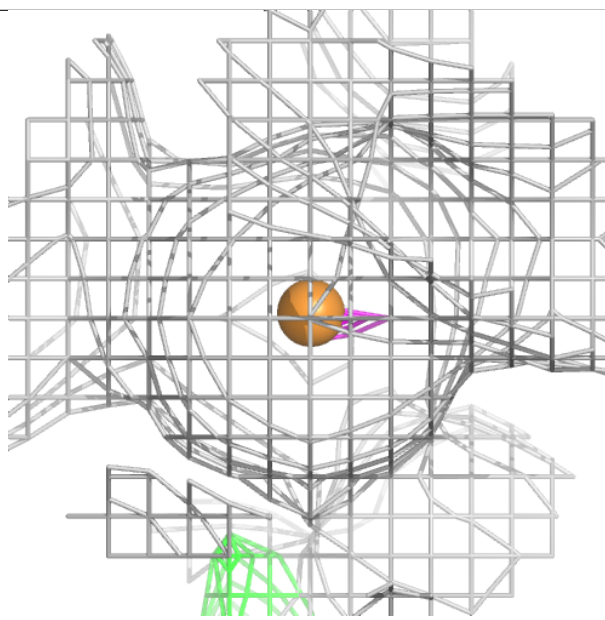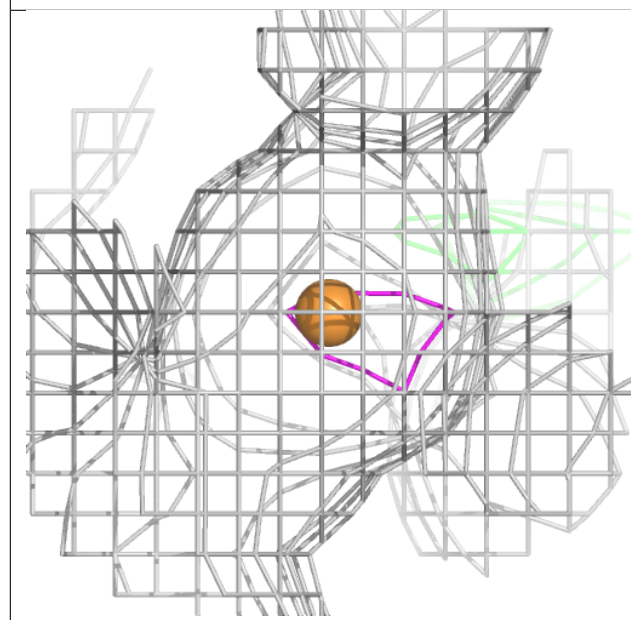and green (positive)
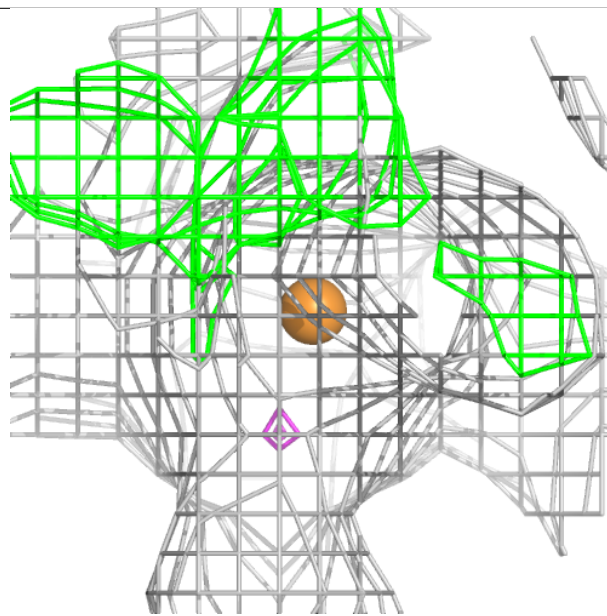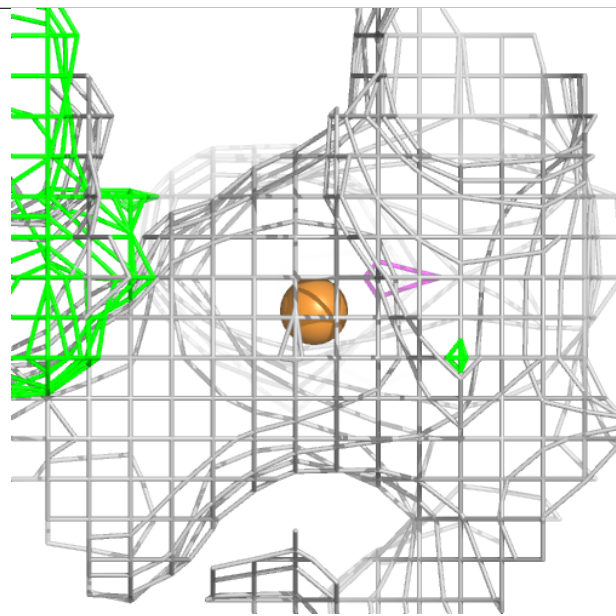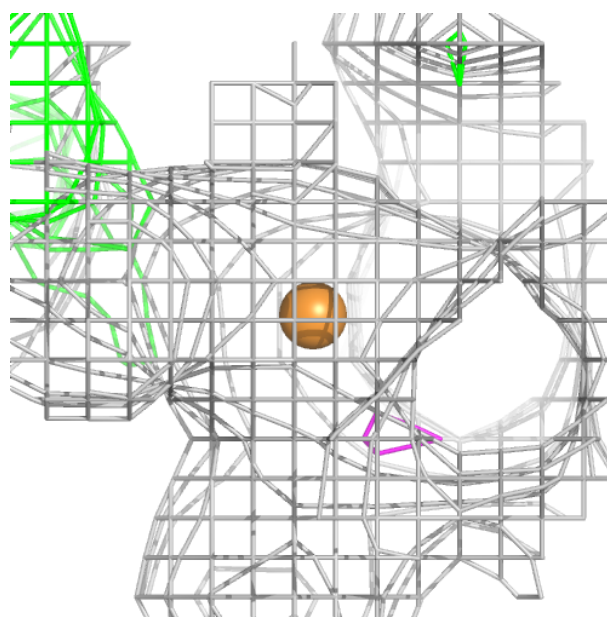
Electron density around CU C 604:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
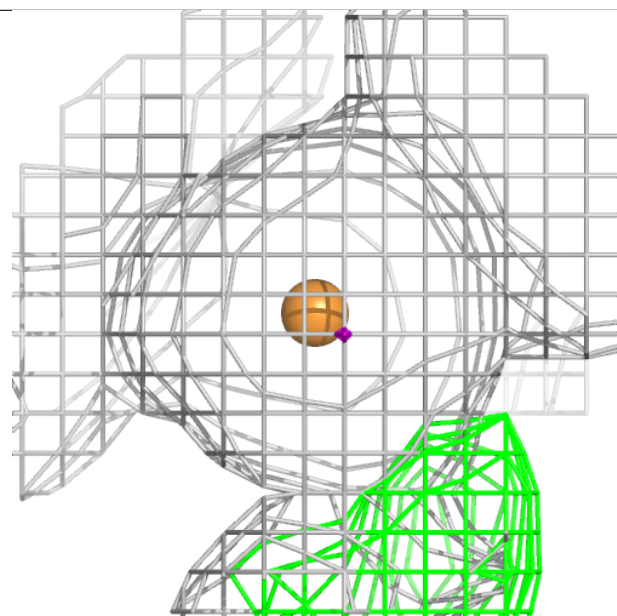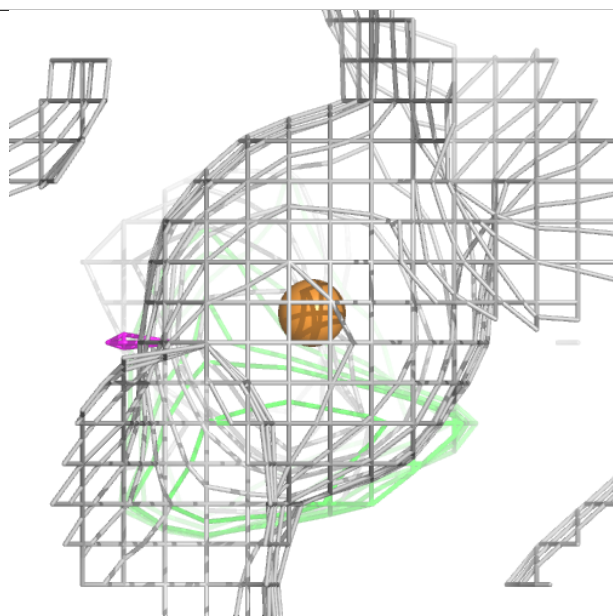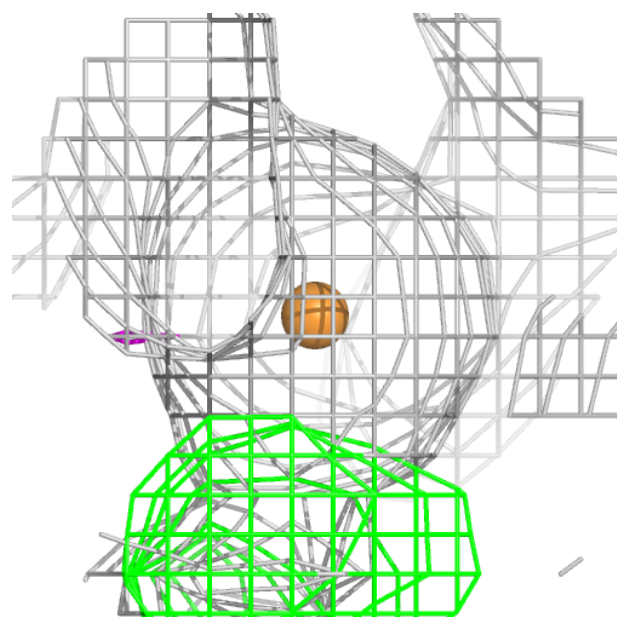
Electron density around CU A 601:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
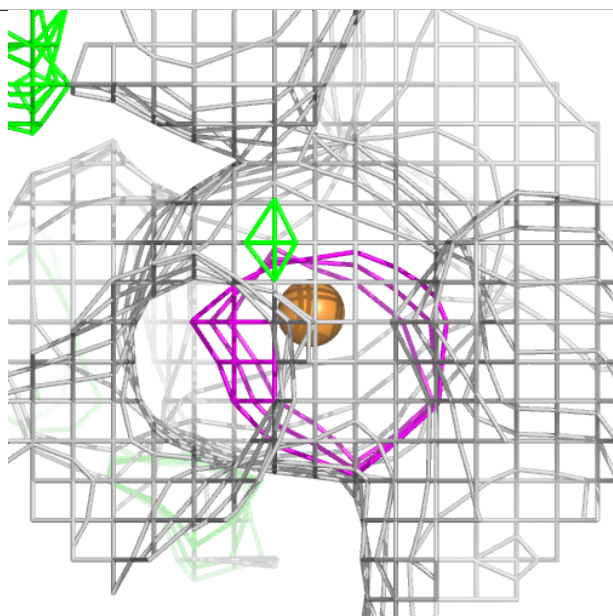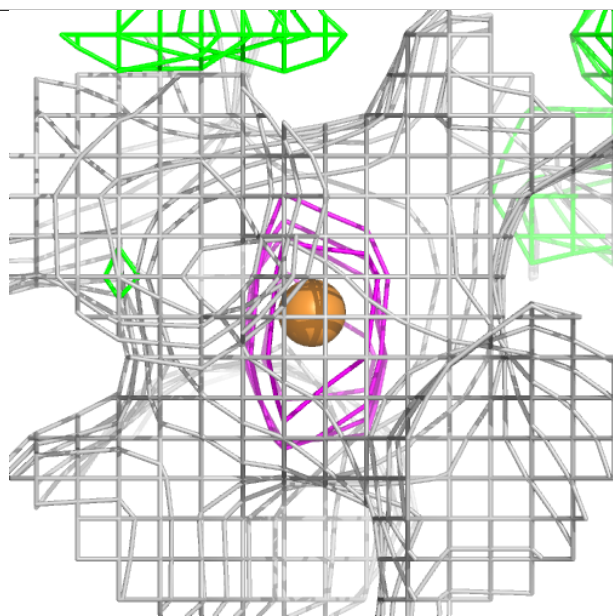
Electron density around CU A 602 (A):

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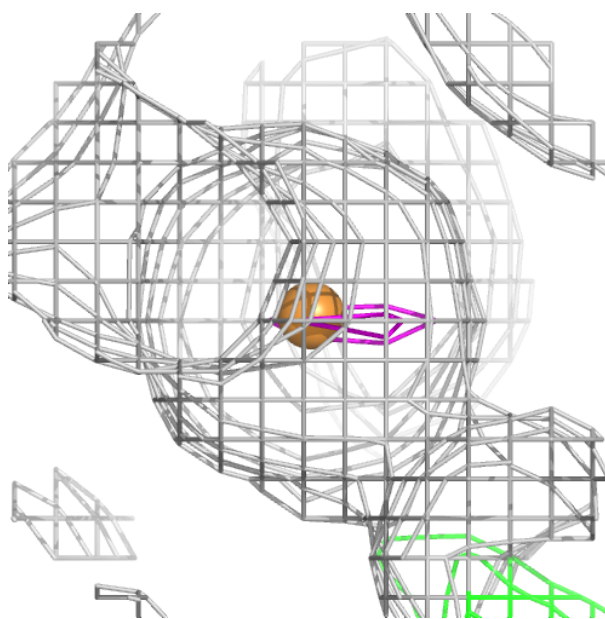mF_o-DF_c (at 3 rmsd) in purple (negative)
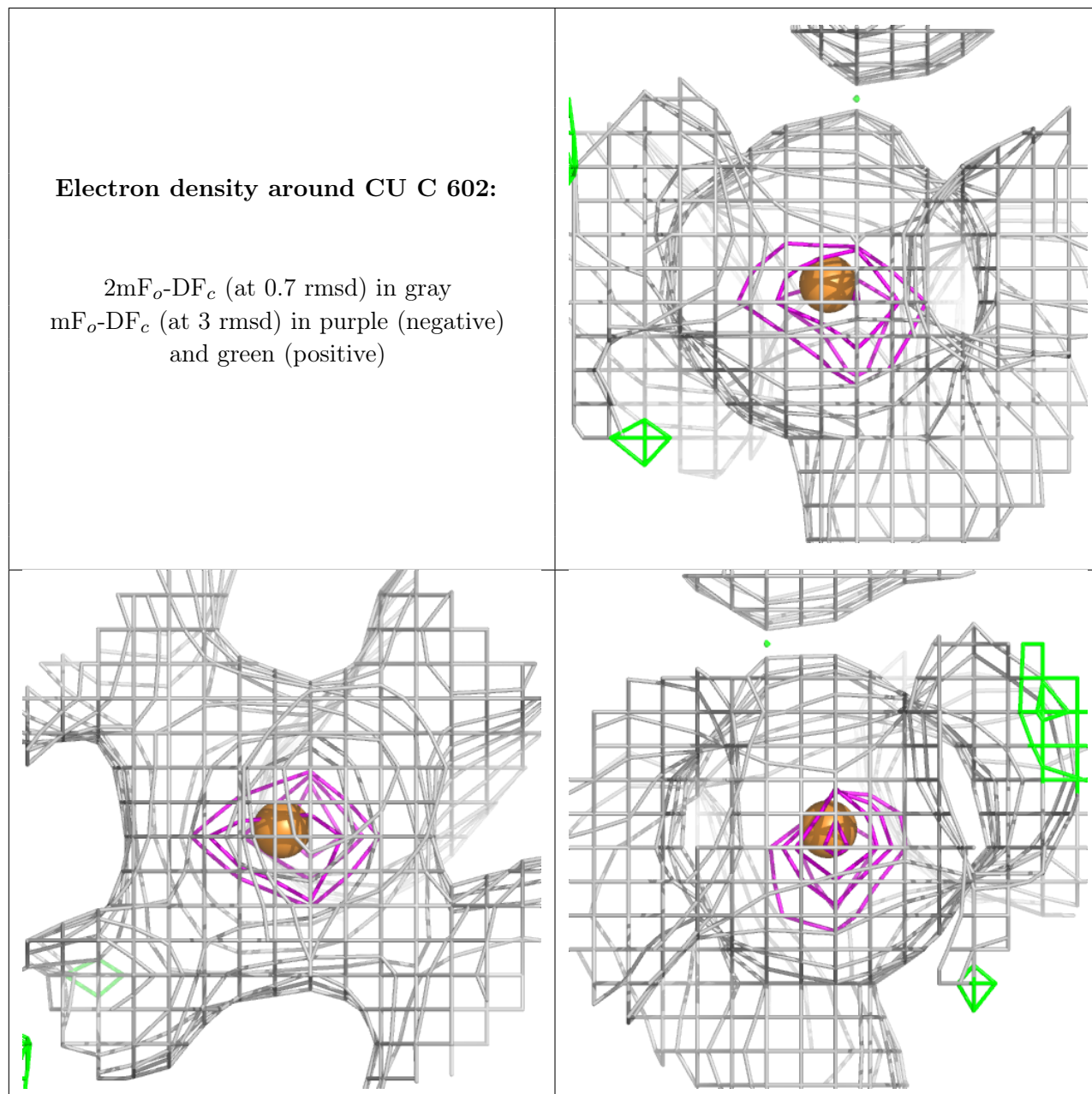and green (positive)

Electron density around CU A 603:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
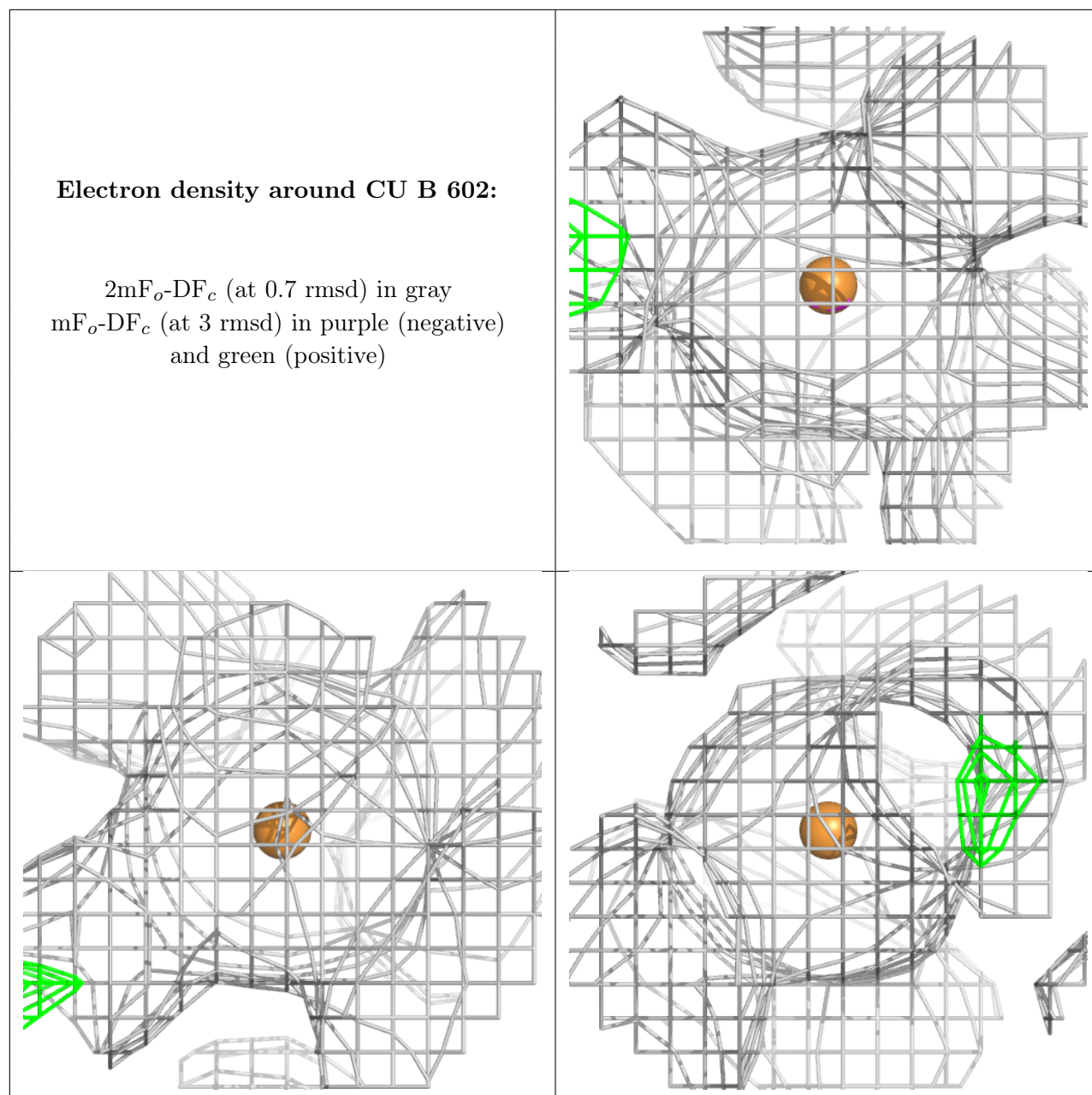
Electron density around CU B 604:

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

Electron density around CU C 602:

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

Electron density around CU B 602:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.