Full wwPDB X-ray Structure Validation Report (i)

Nov 6, 2023 – 06:54 PM JST

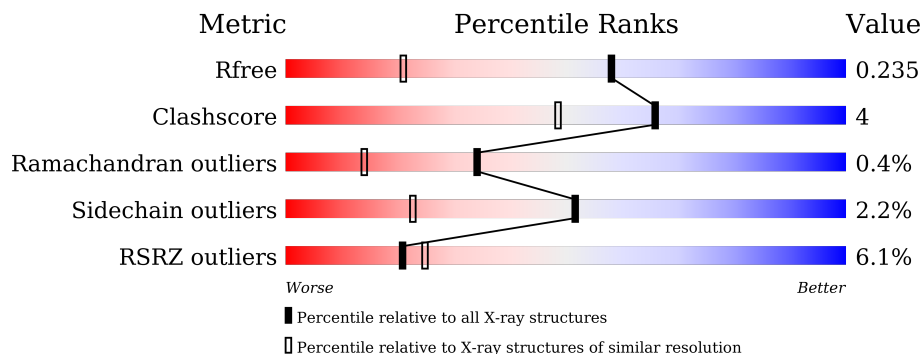|		
PDB ID	:	7E3W
Title	:	Metallo beta-lactamase fold protein (cAMP bound)
Authors	:	Lee, K.-Y.; Kim, D.-G.; Lee, B.-J.
Deposited on	:	2021-02-09
Resolution	:	1.55 Å(reported)

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 1.55 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.

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	1483 (1.56-1.56)
Clashscore	141614	1529 (1.56-1.56)
Ramachandran outliers	138981	1498 (1.56-1.56)
Sidechain outliers	138945	1495 (1.56-1.56)
RSRZ outliers	127900	1465 (1.56-1.56)

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	246	4% / 92% · · ·
1	B	246	6% / 89% 7% · ·
1	C	246	7% / 87% 6% · 7%
1	D	246	4% / 86% 7% · 6%
1	E	246	5% / 88% 5% 6%
1	F	246	8% / 85% 7% · 6%

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
2	CMP	B	301	-	-	-	X
2	CMP	C	301	-	-	-	X
2	CMP	D	301	-	-	-	X
2	CMP	F	301	-	-	-	X

2 Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 11785 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 UPF0173 metal-dependent hydrolase C7P97_11315.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	238	Total	C	N	O	S	0	0	0
			1845	1184	302	349	10			
1	B	239	Total	C	N	O	S	0	0	0
			1851	1187	303	351	10			
1	C	230	Total	C	N	O	S	0	0	0
			1788	1149	289	340	10			
1	D	232	Total	C	N	O	S	0	0	0
			1804	1158	293	343	10			
1	E	231	Total	C	N	O	S	0	0	0
			1798	1155	292	341	10			
1	F	231	Total	C	N	O	S	0	0	0
			1798	1155	292	341	10			

There are 102 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-16	HIS	-	expression tag	UNP W8UA39
A	-15	HIS	-	expression tag	UNP W8UA39
A	-14	HIS	-	expression tag	UNP W8UA39
A	-13	HIS	-	expression tag	UNP W8UA39
A	-12	HIS	-	expression tag	UNP W8UA39
A	-11	HIS	-	expression tag	UNP W8UA39
A	-10	SER	-	expression tag	UNP W8UA39
A	-9	SER	-	expression tag	UNP W8UA39
A	-8	GLY	-	expression tag	UNP W8UA39
A	-7	LEU	-	expression tag	UNP W8UA39
A	-6	VAL	-	expression tag	UNP W8UA39
A	-5	PRO	-	expression tag	UNP W8UA39
A	-4	ARG	-	expression tag	UNP W8UA39
A	-3	GLY	-	expression tag	UNP W8UA39
A	-2	SER	-	expression tag	UNP W8UA39
A	-1	HIS	-	expression tag	UNP W8UA39
A	0	MET	-	expression tag	UNP W8UA39

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-16	HIS	-	expression tag	UNP W8UA39
B	-15	HIS	-	expression tag	UNP W8UA39
B	-14	HIS	-	expression tag	UNP W8UA39
B	-13	HIS	-	expression tag	UNP W8UA39
B	-12	HIS	-	expression tag	UNP W8UA39
B	-11	HIS	-	expression tag	UNP W8UA39
B	-10	SER	-	expression tag	UNP W8UA39
B	-9	SER	-	expression tag	UNP W8UA39
B	-8	GLY	-	expression tag	UNP W8UA39
B	-7	LEU	-	expression tag	UNP W8UA39
B	-6	VAL	-	expression tag	UNP W8UA39
B	-5	PRO	-	expression tag	UNP W8UA39
B	-4	ARG	-	expression tag	UNP W8UA39
B	-3	GLY	-	expression tag	UNP W8UA39
B	-2	SER	-	expression tag	UNP W8UA39
B	-1	HIS	-	expression tag	UNP W8UA39
B	0	MET	-	expression tag	UNP W8UA39
C	-16	HIS	-	expression tag	UNP W8UA39
C	-15	HIS	-	expression tag	UNP W8UA39
C	-14	HIS	-	expression tag	UNP W8UA39
C	-13	HIS	-	expression tag	UNP W8UA39
C	-12	HIS	-	expression tag	UNP W8UA39
C	-11	HIS	-	expression tag	UNP W8UA39
C	-10	SER	-	expression tag	UNP W8UA39
C	-9	SER	-	expression tag	UNP W8UA39
C	-8	GLY	-	expression tag	UNP W8UA39
C	-7	LEU	-	expression tag	UNP W8UA39
C	-6	VAL	-	expression tag	UNP W8UA39
C	-5	PRO	-	expression tag	UNP W8UA39
C	-4	ARG	-	expression tag	UNP W8UA39
C	-3	GLY	-	expression tag	UNP W8UA39
C	-2	SER	-	expression tag	UNP W8UA39
C	-1	HIS	-	expression tag	UNP W8UA39
C	0	MET	-	expression tag	UNP W8UA39
D	-16	HIS	-	expression tag	UNP W8UA39
D	-15	HIS	-	expression tag	UNP W8UA39
D	-14	HIS	-	expression tag	UNP W8UA39
D	-13	HIS	-	expression tag	UNP W8UA39
D	-12	HIS	-	expression tag	UNP W8UA39
D	-11	HIS	-	expression tag	UNP W8UA39
D	-10	SER	-	expression tag	UNP W8UA39
D	-9	SER	-	expression tag	UNP W8UA39

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-8	GLY	-	expression tag	UNP W8UA39
D	-7	LEU	-	expression tag	UNP W8UA39
D	-6	VAL	-	expression tag	UNP W8UA39
D	-5	PRO	-	expression tag	UNP W8UA39
D	-4	ARG	-	expression tag	UNP W8UA39
D	-3	GLY	-	expression tag	UNP W8UA39
D	-2	SER	-	expression tag	UNP W8UA39
D	-1	HIS	-	expression tag	UNP W8UA39
D	0	MET	-	expression tag	UNP W8UA39
E	-16	HIS	-	expression tag	UNP W8UA39
E	-15	HIS	-	expression tag	UNP W8UA39
E	-14	HIS	-	expression tag	UNP W8UA39
E	-13	HIS	-	expression tag	UNP W8UA39
E	-12	HIS	-	expression tag	UNP W8UA39
E	-11	HIS	-	expression tag	UNP W8UA39
E	-10	SER	-	expression tag	UNP W8UA39
E	-9	SER	-	expression tag	UNP W8UA39
E	-8	GLY	-	expression tag	UNP W8UA39
E	-7	LEU	-	expression tag	UNP W8UA39
E	-6	VAL	-	expression tag	UNP W8UA39
E	-5	PRO	-	expression tag	UNP W8UA39
E	-4	ARG	-	expression tag	UNP W8UA39
E	-3	GLY	-	expression tag	UNP W8UA39
E	-2	SER	-	expression tag	UNP W8UA39
E	-1	HIS	-	expression tag	UNP W8UA39
E	0	MET	-	expression tag	UNP W8UA39
F	-16	HIS	-	expression tag	UNP W8UA39
F	-15	HIS	-	expression tag	UNP W8UA39
F	-14	HIS	-	expression tag	UNP W8UA39
F	-13	HIS	-	expression tag	UNP W8UA39
F	-12	HIS	-	expression tag	UNP W8UA39
F	-11	HIS	-	expression tag	UNP W8UA39
F	-10	SER	-	expression tag	UNP W8UA39
F	-9	SER	-	expression tag	UNP W8UA39
F	-8	GLY	-	expression tag	UNP W8UA39
F	-7	LEU	-	expression tag	UNP W8UA39
F	-6	VAL	-	expression tag	UNP W8UA39
F	-5	PRO	-	expression tag	UNP W8UA39
F	-4	ARG	-	expression tag	UNP W8UA39
F	-3	GLY	-	expression tag	UNP W8UA39
F	-2	SER	-	expression tag	UNP W8UA39
F	-1	HIS	-	expression tag	UNP W8UA39

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Chain	Residue	Modelled	Actual	Comment	Reference
F	0	MET	-	expression tag	UNP W8UA39

- Molecule 2 is ADENOSINE-3',5'-CYCLIC-MONOPHOSPHATE (three-letter code: CMP) (formula: $C_{10}H_{12}N_5O_6P$) (labeled as "Ligand of Interest" by depositor).
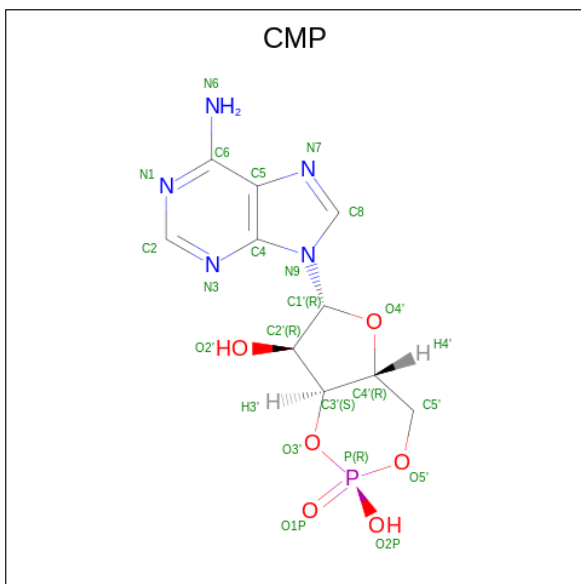
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			22	10	5	6	1		
2	B	1	Total	C	N	O	P	0	0
			22	10	5	6	1		
2	C	1	Total	C	N	O	P	0	0
			22	10	5	6	1		
2	D	1	Total	C	N	O	P	0	0
			22	10	5	6	1		
2	E	1	Total	C	N	O	P	0	0
			22	10	5	6	1		
2	F	1	Total	C	N	O	P	0	0
			22	10	5	6	1		

- Molecule 3 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code: TRS) (formula: $C_4H_{12}NO_3$).
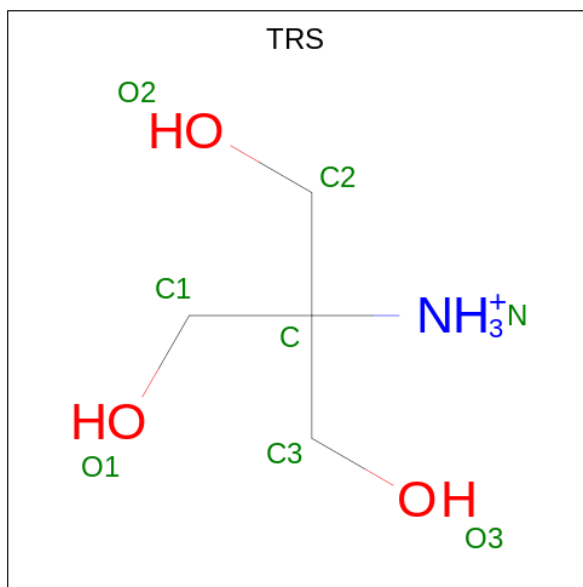
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total 8	C 4	N 1	O 3	0	0
3	D	1	Total 8	C 4	N 1	O 3	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total 1	Cl 1	0	0
4	D	1	Total 1	Cl 1	0	0

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	2	Total 2	Zn 2	0	0
5	B	2	Total 2	Zn 2	0	0
5	C	2	Total 2	Zn 2	0	0
5	D	2	Total 2	Zn 2	0	0
5	E	2	Total 2	Zn 2	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	F	2	Total 2	Zn 2	0	0

- Molecule 6 is NICKEL (II) ION (three-letter code: NI) (formula: Ni) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	2	Total 2	Ni 2	0	0
6	B	2	Total 2	Ni 2	0	0
6	C	2	Total 2	Ni 2	0	0
6	D	2	Total 2	Ni 2	0	0
6	E	2	Total 2	Ni 2	0	0
6	F	2	Total 2	Ni 2	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	134	Total 134	O 134	0	0
7	B	133	Total 133	O 133	0	0
7	C	88	Total 88	O 88	0	0
7	D	138	Total 138	O 138	0	0
7	E	122	Total 122	O 122	0	0
7	F	112	Total 112	O 112	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: UPF0173 metal-dependent hydrolase C7P97_11315
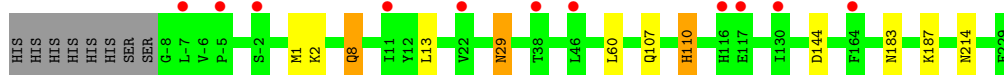
• Molecule 1: UPF0173 metal-dependent hydrolase C7P97_11315
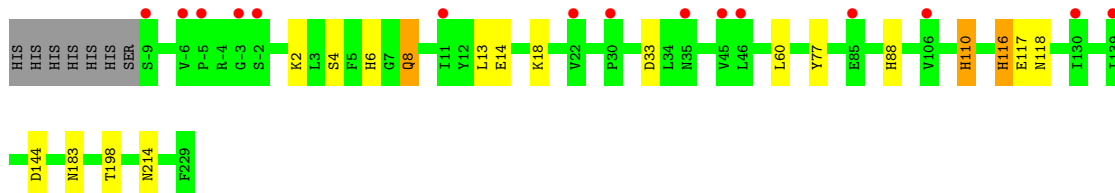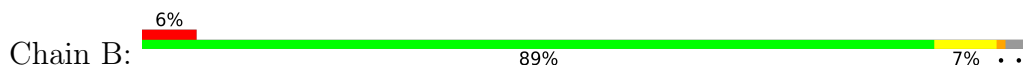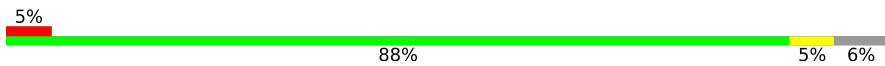
• Molecule 1: UPF0173 metal-dependent hydrolase C7P97_11315
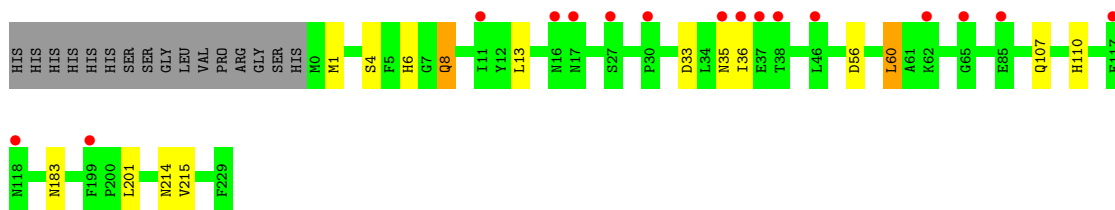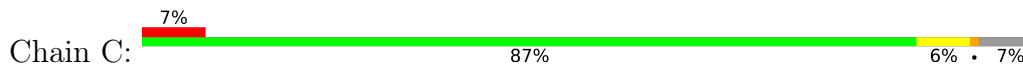
• Molecule 1: UPF0173 metal-dependent hydrolase C7P97_11315
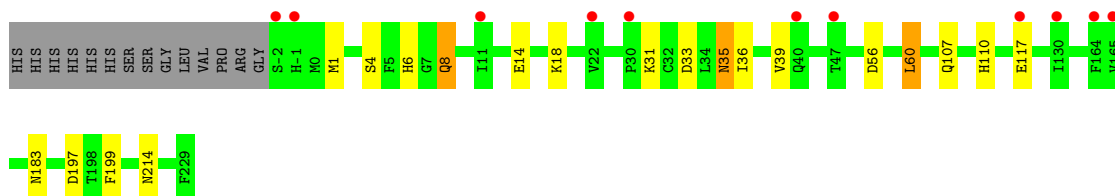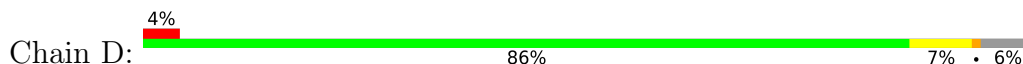
• Molecule 1: UPF0173 metal-dependent hydrolase C7P97_11315

Chain E:
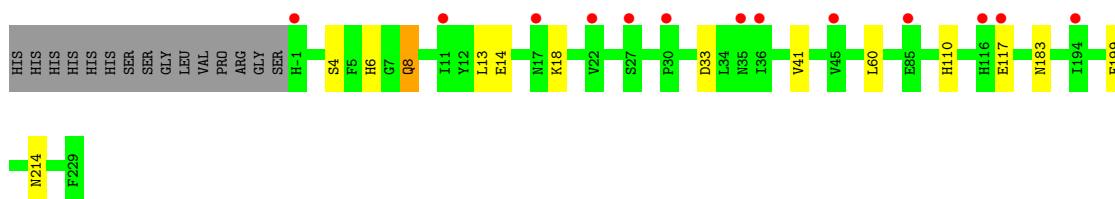
• Molecule 1: UPF0173 metal-dependent hydrolase C7P97_11315

Chain F:
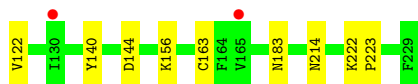
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	70.73Å 121.50Å 187.25Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.85 – 1.55 29.83 – 1.55	Depositor EDS
% Data completeness (in resolution range)	96.2 (29.85-1.55) 96.3 (29.83-1.55)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.50 (at 1.55Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.199 , 0.228 0.209 , 0.235	Depositor DCC
R_{free} test set	11159 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	23.9	Xtriage
Anisotropy	0.066	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 41.7	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	11785	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 23.95 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.2133e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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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: CL, ZN, CMP, NI, TRS

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	0.73	0/1893	0.84	0/2566
1	B	0.74	0/1899	0.85	0/2574
1	C	0.73	0/1834	0.84	0/2486
1	D	0.72	0/1851	0.87	0/2509
1	E	0.74	0/1845	0.85	0/2501
1	F	0.76	0/1845	0.84	0/2501
All	All	0.74	0/11167	0.85	0/15137

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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	1845	0	1788	9	0
1	B	1851	0	1793	14	0
1	C	1788	0	1730	12	0
1	D	1804	0	1742	15	0
1	E	1798	0	1737	12	0
1	F	1798	0	1737	17	0
2	A	22	0	11	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	22	0	11	1	0
2	C	22	0	11	1	0
2	D	22	0	11	3	0
2	E	22	0	11	2	0
2	F	22	0	11	1	0
3	A	8	0	12	1	0
3	D	8	0	12	1	0
4	A	1	0	0	1	0
4	D	1	0	0	1	0
5	A	2	0	0	0	0
5	B	2	0	0	0	0
5	C	2	0	0	0	0
5	D	2	0	0	0	0
5	E	2	0	0	0	0
5	F	2	0	0	0	0
6	A	2	0	0	0	0
6	B	2	0	0	0	0
6	C	2	0	0	0	0
6	D	2	0	0	0	0
6	E	2	0	0	0	0
6	F	2	0	0	0	0
7	A	134	0	0	1	0
7	B	133	0	0	0	0
7	C	88	0	0	1	0
7	D	138	0	0	1	0
7	E	122	0	0	0	0
7	F	112	0	0	2	0
All	All	11785	0	10617	86	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.

All (86) 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)
2:F:301:CMP:H2	2:F:301:CMP:C2	0.97	1.50
2:A:301:CMP:H2	2:A:301:CMP:C2	0.97	1.49
2:B:301:CMP:H2	2:B:301:CMP:C2	0.97	1.49
2:D:301:CMP:C2	2:D:301:CMP:H2	0.97	1.48
2:E:301:CMP:H2	2:E:301:CMP:C2	0.97	1.48
2:C:301:CMP:H2	2:C:301:CMP:C2	0.97	1.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:8:GLN:HE21	1:D:8:GLN:HA	1.35	0.92
1:D:183:ASN:HD21	1:D:214:ASN:H	1.17	0.91
1:F:183:ASN:HD21	1:F:214:ASN:H	1.19	0.90
1:B:8:GLN:HE21	1:B:8:GLN:HA	1.35	0.90
1:F:107:GLN:HE21	1:F:107:GLN:H	1.22	0.87
1:A:8:GLN:HE21	1:A:8:GLN:HA	1.38	0.87
1:E:8:GLN:HA	1:E:8:GLN:HE21	1.37	0.86
1:B:183:ASN:HD21	1:B:214:ASN:H	1.21	0.84
1:C:8:GLN:HE21	1:C:8:GLN:HA	1.42	0.84
1:F:8:GLN:HE21	1:F:8:GLN:HA	1.44	0.82
1:A:183:ASN:HD21	1:A:214:ASN:H	1.26	0.81
1:C:183:ASN:HD21	1:C:214:ASN:H	1.28	0.81
1:E:183:ASN:HD21	1:E:214:ASN:H	1.29	0.77
1:C:107:GLN:HG2	7:C:446:HOH:O	1.85	0.76
3:A:302:TRS:N	4:A:303:CL:CL	2.59	0.72
1:F:183:ASN:ND2	1:F:214:ASN:H	1.92	0.67
1:B:183:ASN:ND2	1:B:214:ASN:H	1.94	0.65
1:F:27:SER:HB3	1:F:36:ILE:HD13	1.79	0.65
1:D:8:GLN:HA	1:D:8:GLN:NE2	2.09	0.64
1:E:183:ASN:ND2	1:E:214:ASN:H	1.96	0.64
1:F:4:SER:OG	1:F:6:HIS:HE1	1.81	0.64
1:B:8:GLN:HA	1:B:8:GLN:NE2	2.11	0.63
3:D:302:TRS:N	4:D:303:CL:CL	2.69	0.62
1:C:183:ASN:ND2	1:C:214:ASN:H	1.98	0.59
1:E:60:LEU:HD23	1:E:60:LEU:O	2.03	0.59
1:D:183:ASN:ND2	1:D:214:ASN:H	1.93	0.59
1:C:8:GLN:HA	1:C:8:GLN:NE2	2.18	0.57
1:E:199:PHE:CD2	2:E:301:CMP:H5'2	2.39	0.57
1:C:4:SER:OG	1:C:6:HIS:HE1	1.87	0.57
1:A:8:GLN:HA	1:A:8:GLN:NE2	2.15	0.56
1:A:183:ASN:ND2	1:A:214:ASN:H	2.01	0.56
1:B:117:GLU:H	1:B:117:GLU:CD	2.09	0.56
1:A:107:GLN:HG2	7:A:453:HOH:O	2.05	0.55
1:D:6:HIS:HD2	1:D:33:ASP:OD1	1.91	0.54
1:D:36:ILE:CD1	1:D:60:LEU:HG	2.38	0.54
1:F:4:SER:OG	1:F:6:HIS:CE1	2.61	0.53
1:D:4:SER:OG	1:D:6:HIS:HE1	1.93	0.52
1:F:6:HIS:HD2	1:F:33:ASP:OD1	1.93	0.51
1:F:222:LYS:HE3	1:F:223:PRO:HD2	1.93	0.50
1:B:88:HIS:HE1	1:C:201:LEU:HD21	1.75	0.50
1:B:77:TYR:OH	1:B:116:HIS:HE1	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:36:ILE:HD12	7:F:489:HOH:O	2.12	0.49
1:A:13:LEU:C	1:A:13:LEU:HD12	2.34	0.48
1:B:13:LEU:C	1:B:13:LEU:HD12	2.34	0.48
1:E:8:GLN:HA	1:E:8:GLN:NE2	2.15	0.48
1:D:199:PHE:CE2	2:D:301:CMP:H5'2	2.48	0.47
1:F:8:GLN:HA	1:F:8:GLN:NE2	2.20	0.47
1:F:26:ILE:HB	1:F:36:ILE:HD11	1.97	0.47
1:B:4:SER:OG	1:B:6:HIS:HE1	1.97	0.47
1:C:6:HIS:HD2	1:C:33:ASP:OD1	1.97	0.47
1:D:35:ASN:O	1:D:39:VAL:HG23	2.15	0.47
1:F:183:ASN:HD21	1:F:214:ASN:N	2.00	0.46
1:E:41:VAL:HG22	1:E:60:LEU:HD21	1.98	0.46
1:D:31:LYS:HE3	1:D:197:ASP:O	2.16	0.45
1:E:4:SER:OG	1:E:6:HIS:HE1	2.00	0.44
1:D:14:GLU:HA	1:D:18:LYS:O	2.17	0.44
1:B:8:GLN:NE2	1:B:198:THR:OG1	2.51	0.44
1:B:110:HIS:CE1	1:B:144:ASP:HB3	2.52	0.44
1:C:36:ILE:HD11	1:C:56:ASP:HB2	2.00	0.44
1:A:29:ASN:HD22	1:A:29:ASN:C	2.20	0.44
1:C:13:LEU:C	1:C:13:LEU:HD12	2.38	0.44
1:D:4:SER:OG	1:D:6:HIS:CE1	2.70	0.44
1:A:110:HIS:CE1	1:A:144:ASP:HB3	2.53	0.43
1:C:183:ASN:HD22	1:C:215:VAL:HG12	1.83	0.43
1:D:199:PHE:CD2	2:D:301:CMP:H5'2	2.54	0.43
1:F:110:HIS:CE1	1:F:144:ASP:HB3	2.54	0.43
1:D:36:ILE:HD11	1:D:56:ASP:HB2	2.00	0.43
1:E:13:LEU:C	1:E:13:LEU:HD12	2.40	0.43
1:E:14:GLU:HA	1:E:18:LYS:O	2.19	0.43
1:E:41:VAL:CG2	1:E:60:LEU:HD21	2.49	0.42
1:E:6:HIS:HD2	1:E:33:ASP:OD1	2.01	0.42
1:B:14:GLU:HA	1:B:18:LYS:O	2.19	0.42
1:B:4:SER:OG	1:B:6:HIS:CE1	2.73	0.42
1:F:113:SER:HA	1:F:122:VAL:O	2.19	0.42
1:F:140:TYR:O	1:F:163:CYS:HA	2.20	0.42
1:A:187:LYS:CE	7:F:402:HOH:O	2.68	0.41
1:F:118:ASN:ND2	1:F:118:ASN:H	2.18	0.41
1:D:107:GLN:OE1	7:D:401:HOH:O	2.21	0.41
1:B:6:HIS:HD2	1:B:33:ASP:OD1	2.04	0.41
1:C:60:LEU:HD23	1:C:60:LEU:HA	1.96	0.41

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	236/246 (96%)	227 (96%)	8 (3%)	1 (0%)	34	14
1	B	237/246 (96%)	229 (97%)	7 (3%)	1 (0%)	34	14
1	C	228/246 (93%)	219 (96%)	8 (4%)	1 (0%)	34	14
1	D	230/246 (94%)	222 (96%)	7 (3%)	1 (0%)	34	14
1	E	229/246 (93%)	221 (96%)	7 (3%)	1 (0%)	34	14
1	F	229/246 (93%)	221 (96%)	7 (3%)	1 (0%)	34	14
All	All	1389/1476 (94%)	1339 (96%)	44 (3%)	6 (0%)	34	14

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	110	HIS
1	B	110	HIS
1	C	110	HIS
1	D	110	HIS
1	E	110	HIS
1	F	110	HIS

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	205/213 (96%)	200 (98%)	5 (2%)	49	20
1	B	206/213 (97%)	201 (98%)	5 (2%)	49	20

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	199/213 (93%)	195 (98%)	4 (2%)	55	26
1	D	201/213 (94%)	196 (98%)	5 (2%)	47	18
1	E	200/213 (94%)	198 (99%)	2 (1%)	76	57
1	F	200/213 (94%)	194 (97%)	6 (3%)	41	12
All	All	1211/1278 (95%)	1184 (98%)	27 (2%)	52	23

All (27) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	2	LYS
1	A	8	GLN
1	A	29	ASN
1	A	60	LEU
1	B	2	LYS
1	B	8	GLN
1	B	60	LEU
1	B	116	HIS
1	B	118	ASN
1	C	1	MET
1	C	8	GLN
1	C	35	ASN
1	C	60	LEU
1	D	1	MET
1	D	8	GLN
1	D	35	ASN
1	D	60	LEU
1	D	117	GLU
1	E	8	GLN
1	E	117	GLU
1	F	8	GLN
1	F	37	GLU
1	F	62	LYS
1	F	107	GLN
1	F	118	ASN
1	F	156	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (52) such sidechains are listed below:

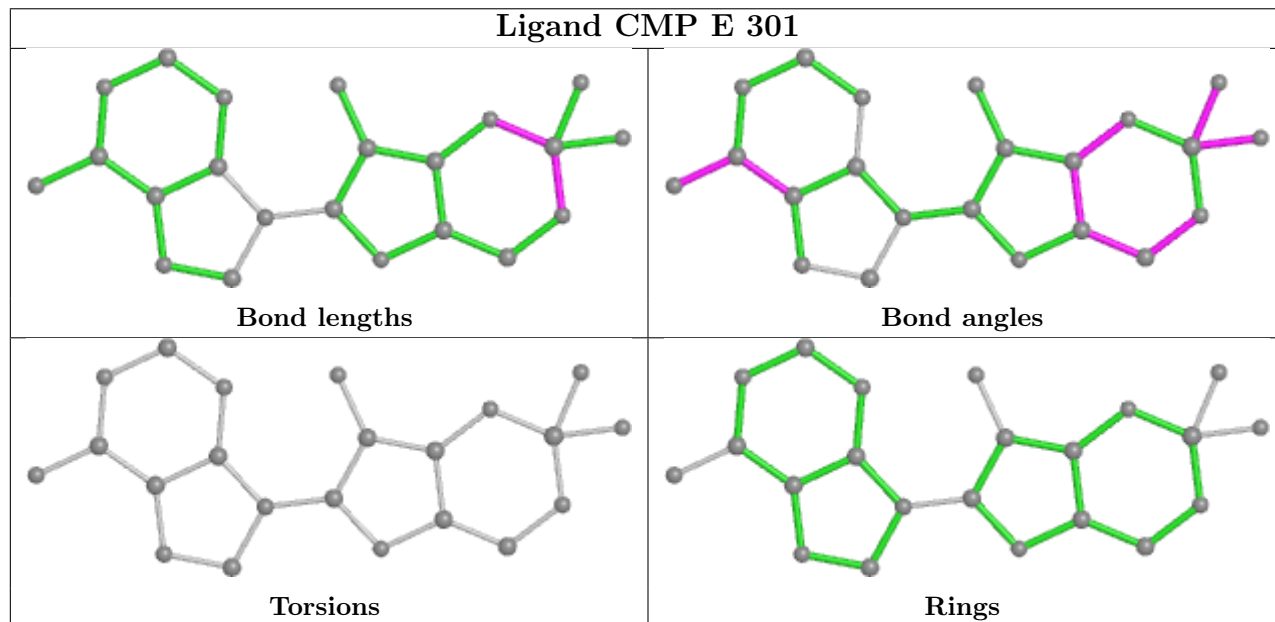| Mol	Chain	Res	Type
1	A	8	GLN
1	A	29	ASN
1	A	107	GLN
1	A	183	ASN
1	A	204	GLN
1	B	6	HIS
1	B	8	GLN
1	B	16	ASN
1	B	17	ASN
1	B	40	GLN
1	B	107	GLN
1	B	116	HIS
1	B	118	ASN
1	B	183	ASN
1	B	204	GLN
1	B	207	GLN
1	C	6	HIS
1	C	8	GLN
1	C	16	ASN
1	C	17	ASN
1	C	35	ASN
1	C	40	GLN
1	C	118	ASN
1	C	183	ASN
1	C	204	GLN
1	C	207	GLN
1	D	6	HIS
1	D	8	GLN
1	D	16	ASN
1	D	35	ASN
1	D	107	GLN
1	D	183	ASN
1	D	204	GLN
1	E	6	HIS
1	E	8	GLN
1	E	16	ASN
1	E	17	ASN
1	E	40	GLN
1	E	82	HIS
1	E	116	HIS
1	E	183	ASN
1	E	195	HIS
1	E	204	GLN

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Mol	Chain	Res	Type
1	E	207	GLN
1	F	6	HIS
1	F	8	GLN
1	F	16	ASN
1	F	107	GLN
1	F	118	ASN
1	F	170	ASN
1	F	183	ASN
1	F	204	GLN

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 34 ligands modelled in this entry, 26 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
2	CMP	B	301	-	22,25,25	1.15	2 (9%)	24,39,39	1.49	5 (20%)
2	CMP	C	301	-	22,25,25	1.21	2 (9%)	24,39,39	1.55	5 (20%)
3	TRS	D	302	-	7,7,7	0.19	0	9,9,9	0.33	0
2	CMP	E	301	-	22,25,25	1.34	2 (9%)	24,39,39	1.28	4 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
2	CMP	F	301	-	22,25,25	1.25	2 (9%)	24,39,39	1.53	5 (20%)
2	CMP	A	301	-	22,25,25	1.25	2 (9%)	24,39,39	1.48	5 (20%)
3	TRS	A	302	-	7,7,7	0.24	0	9,9,9	0.32	0
2	CMP	D	301	-	22,25,25	1.03	2 (9%)	24,39,39	1.55	6 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CMP	B	301	-	-	0/0/31/31	0/4/4/4
2	CMP	C	301	-	-	0/0/31/31	0/4/4/4
3	TRS	D	302	-	-	0/9/9/9	-
2	CMP	E	301	-	-	0/0/31/31	0/4/4/4
2	CMP	F	301	-	-	0/0/31/31	0/4/4/4
2	CMP	A	301	-	-	0/0/31/31	0/4/4/4
3	TRS	A	302	-	-	0/9/9/9	-
2	CMP	D	301	-	-	0/0/31/31	0/4/4/4

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	301	CMP	P-O5'	4.79	1.63	1.57
2	F	301	CMP	P-O5'	4.32	1.62	1.57
2	A	301	CMP	P-O5'	4.15	1.62	1.57
2	C	301	CMP	P-O5'	3.71	1.61	1.57
2	B	301	CMP	P-O5'	3.58	1.61	1.57
2	C	301	CMP	P-O3'	2.72	1.62	1.57
2	A	301	CMP	P-O3'	2.63	1.62	1.57
2	D	301	CMP	P-O3'	2.58	1.62	1.57
2	B	301	CMP	P-O3'	2.52	1.62	1.57
2	D	301	CMP	P-O5'	2.47	1.60	1.57
2	E	301	CMP	P-O3'	2.45	1.61	1.57
2	F	301	CMP	P-O3'	2.33	1.61	1.57

All (30) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	301	CMP	O3'-C3'-C4'	-3.94	107.74	110.71
2	A	301	CMP	O3'-C3'-C4'	-3.87	107.79	110.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	301	CMP	O3'-C3'-C4'	-3.40	108.15	110.71
2	F	301	CMP	O3'-C3'-C4'	-3.39	108.15	110.71
2	D	301	CMP	O2P-P-O1P	3.35	119.23	108.73
2	D	301	CMP	O3'-C3'-C2'	3.26	118.80	115.61
2	B	301	CMP	O2P-P-O1P	3.23	118.85	108.73
2	F	301	CMP	O2P-P-O1P	3.21	118.78	108.73
2	A	301	CMP	O2P-P-O1P	3.19	118.72	108.73
2	C	301	CMP	O2P-P-O1P	3.18	118.68	108.73
2	D	301	CMP	O3'-C3'-C4'	-3.16	108.33	110.71
2	F	301	CMP	O3'-C3'-C2'	3.07	118.61	115.61
2	E	301	CMP	O2P-P-O1P	3.01	118.17	108.73
2	E	301	CMP	O3'-C3'-C4'	-3.00	108.44	110.71
2	C	301	CMP	O3'-C3'-C2'	2.84	118.39	115.61
2	F	301	CMP	C5'-C4'-C3'	-2.51	107.40	112.49
2	A	301	CMP	O3'-C3'-C2'	2.43	117.99	115.61
2	A	301	CMP	C5'-C4'-C3'	-2.42	107.59	112.49
2	F	301	CMP	C5-C6-N6	2.39	123.99	120.35
2	C	301	CMP	C5'-C4'-C3'	-2.38	107.66	112.49
2	D	301	CMP	C5-C6-N6	2.28	123.82	120.35
2	B	301	CMP	C5-C6-N6	2.22	123.73	120.35
2	E	301	CMP	C5-C6-N6	2.18	123.67	120.35
2	B	301	CMP	O3'-C3'-C2'	2.12	117.68	115.61
2	B	301	CMP	O5'-P-O3'	-2.10	102.78	105.68
2	C	301	CMP	C5-C6-N6	2.09	123.53	120.35
2	D	301	CMP	C2'-C3'-C4'	-2.07	99.56	103.22
2	E	301	CMP	O5'-C5'-C4'	2.03	110.44	105.71
2	D	301	CMP	O5'-P-O3'	-2.01	102.91	105.68
2	A	301	CMP	C5-C6-N6	2.01	123.40	120.35

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

8 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	301	CMP	1	0
2	C	301	CMP	1	0
3	D	302	TRS	1	0
2	E	301	CMP	2	0
2	F	301	CMP	1	0
2	A	301	CMP	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	302	TRS	1	0
2	D	301	CMP	3	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 CMP B 301

Ligand CMP C 301

Bond lengths

Bond angles

Torsions

Rings

Ligand CMP E 301

Bond lengths

Bond angles

Torsions

Rings

Ligand CMP F 301

Bond lengths

Bond angles

Torsions

Rings

Ligand CMP A 301

Bond lengths

Bond angles

Torsions

Rings

Ligand CMP D 301

Bond lengths

Bond angles

Torsions

Rings
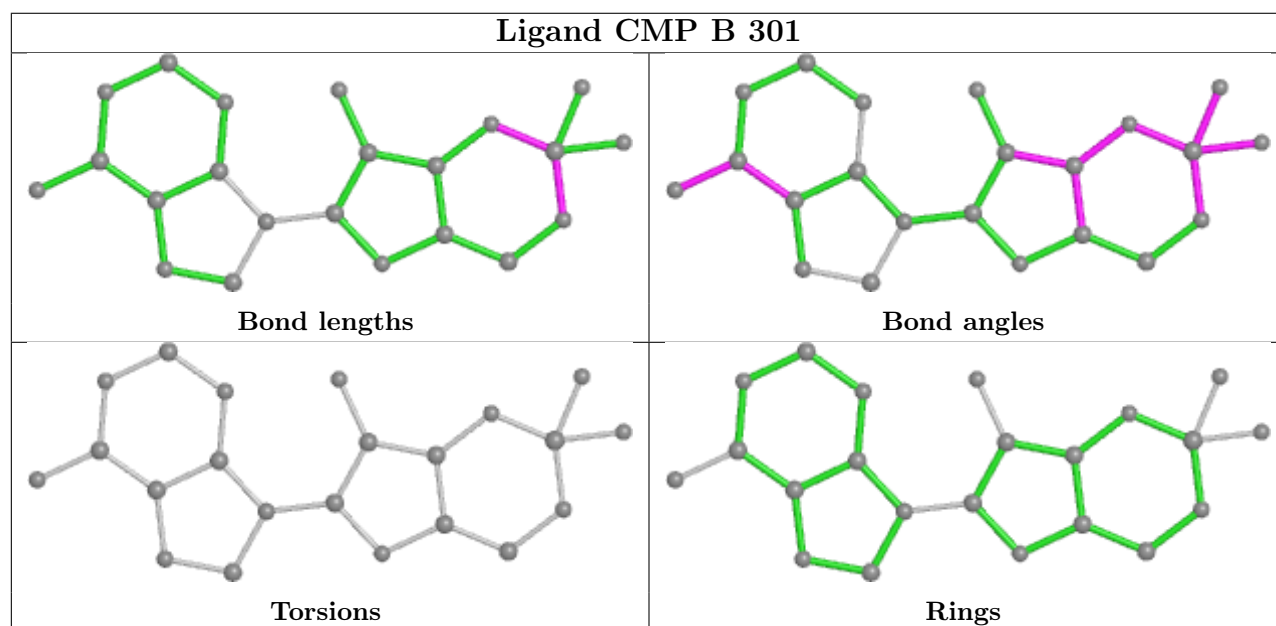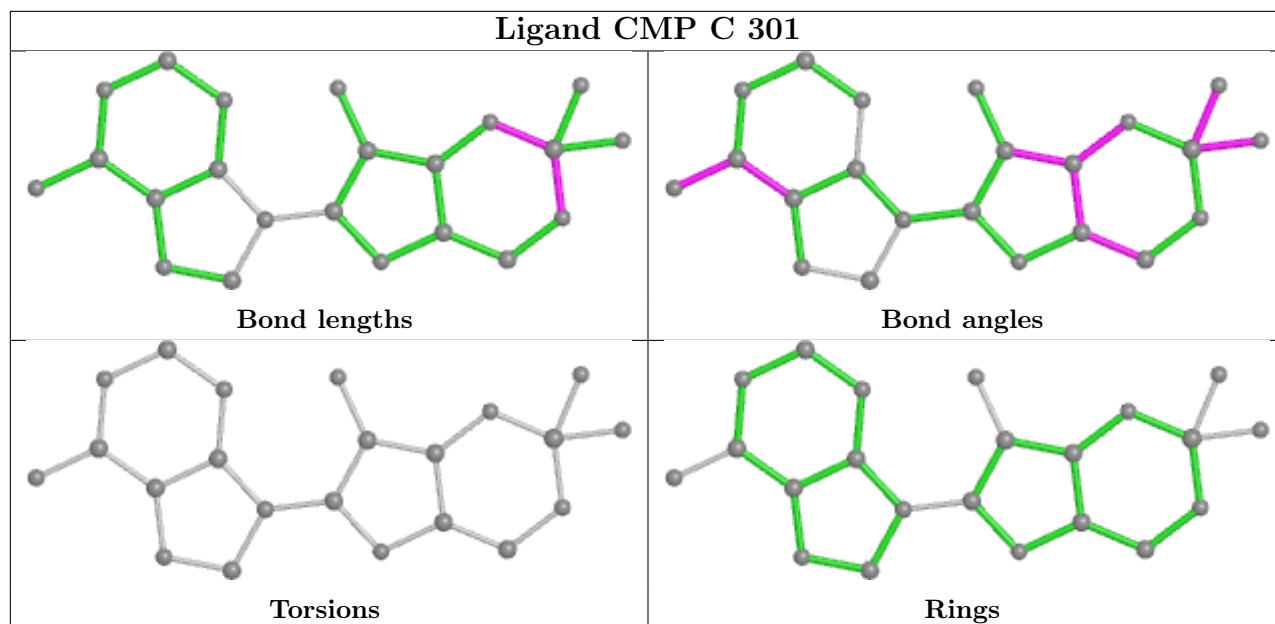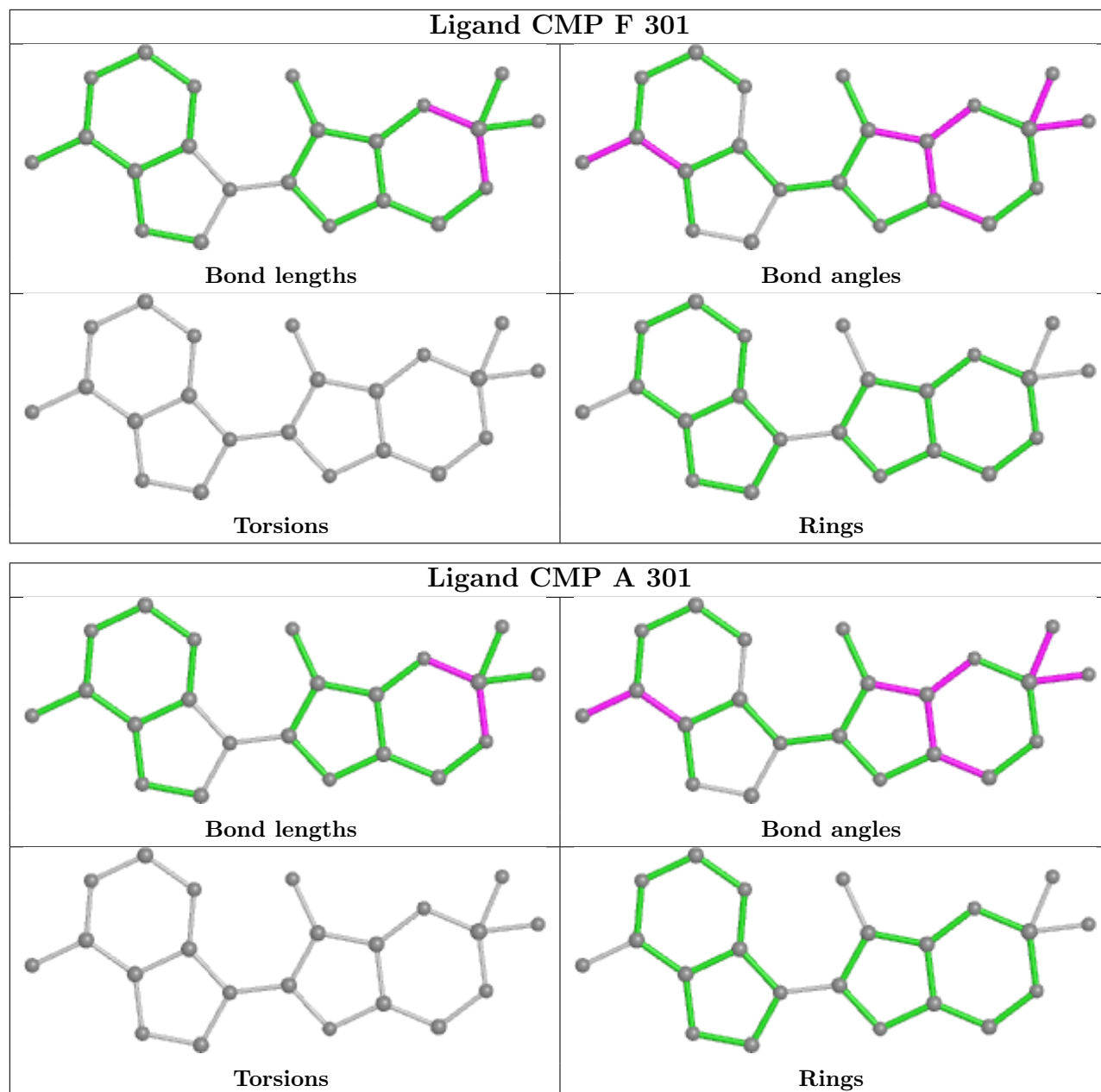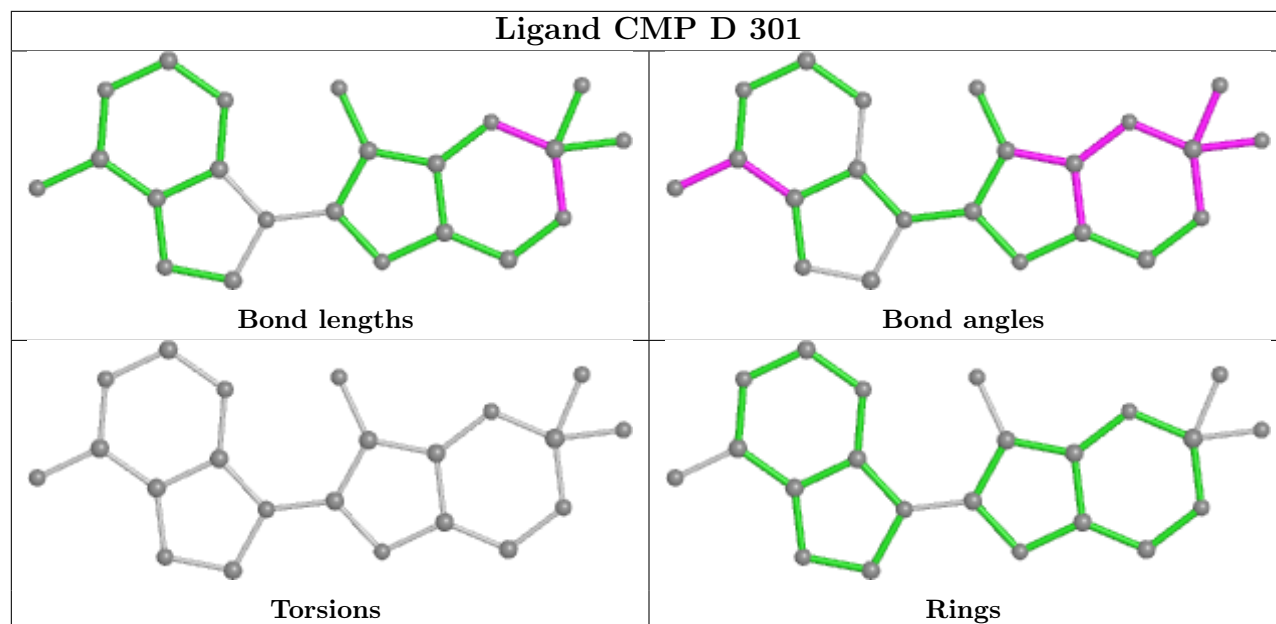
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	238/246 (96%)	0.26	11 (4%)	32	37	19, 27, 44, 68	0
1	B	239/246 (97%)	0.12	15 (6%)	20	23	19, 25, 39, 56	0
1	C	230/246 (93%)	0.31	16 (6%)	16	19	20, 29, 47, 71	0
1	D	232/246 (94%)	0.06	11 (4%)	31	36	19, 25, 40, 65	0
1	E	231/246 (93%)	0.18	13 (5%)	24	28	19, 26, 42, 76	0
1	F	231/246 (93%)	0.30	19 (8%)	11	13	19, 27, 45, 69	0
All	All	1401/1476 (94%)	0.20	85 (6%)	21	25	19, 27, 44, 76	0

All (85) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	117	GLU	5.2
1	F	117	GLU	5.2
1	A	117	GLU	5.2
1	D	-1	HIS	4.5
1	F	22	VAL	4.4
1	A	-5	PRO	4.0
1	C	85	GLU	3.9
1	E	85	GLU	3.8
1	A	-2	SER	3.7
1	B	-2	SER	3.6
1	F	46	LEU	3.5
1	F	45	VAL	3.4
1	F	11	ILE	3.4
1	D	117	GLU	3.3
1	B	11	ILE	3.3
1	E	22	VAL	3.3
1	E	11	ILE	3.2
1	D	11	ILE	3.2
1	D	130	ILE	3.2

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Mol	Chain	Res	Type	RSRZ
1	D	-2	SER	3.2
1	B	-9	SER	3.2
1	A	38	THR	3.1
1	E	-1	HIS	3.1
1	C	17	ASN	3.1
1	C	30	PRO	3.1
1	B	-5	PRO	3.0
1	C	38	THR	3.0
1	F	116	HIS	3.0
1	D	164	PHE	3.0
1	B	22	VAL	2.9
1	A	11	ILE	2.9
1	F	38	THR	2.9
1	C	62	LYS	2.8
1	A	-7	LEU	2.8
1	C	35	ASN	2.8
1	C	37	GLU	2.8
1	E	30	PRO	2.7
1	E	36	ILE	2.7
1	E	194	ILE	2.7
1	C	117	GLU	2.7
1	A	46	LEU	2.7
1	D	30	PRO	2.6
1	A	130	ILE	2.6
1	A	164	PHE	2.5
1	F	-1	HIS	2.5
1	F	17	ASN	2.5
1	A	116	HIS	2.5
1	D	22	VAL	2.5
1	E	17	ASN	2.4
1	B	-3	GLY	2.4
1	E	45	VAL	2.4
1	F	36	ILE	2.4
1	C	27	SER	2.3
1	A	22	VAL	2.3
1	F	37	GLU	2.3
1	C	11	ILE	2.3
1	D	40	GLN	2.3
1	C	46	LEU	2.3
1	F	165	VAL	2.3
1	C	36	ILE	2.3
1	B	35	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
1	F	44	ILE	2.2
1	B	106	VAL	2.2
1	B	130	ILE	2.2
1	B	-6	VAL	2.2
1	D	165	VAL	2.2
1	E	27	SER	2.1
1	C	65	GLY	2.1
1	F	10	THR	2.1
1	E	35	ASN	2.1
1	F	40	GLN	2.1
1	B	46	LEU	2.1
1	B	45	VAL	2.1
1	C	199	PHE	2.1
1	C	118	ASN	2.1
1	D	47	THR	2.1
1	B	30	PRO	2.0
1	E	116	HIS	2.0
1	B	139	ILE	2.0
1	F	47	THR	2.0
1	B	85	GLU	2.0
1	F	118	ASN	2.0
1	F	130	ILE	2.0
1	C	16	ASN	2.0
1	F	99	ASP	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
2	CMP	C	301	22/22	0.41	0.41	90,116,141,147	0
2	CMP	B	301	22/22	0.46	0.44	97,116,142,151	0
2	CMP	D	301	22/22	0.46	0.54	110,131,169,176	0
2	CMP	F	301	22/22	0.51	0.44	83,111,122,126	0
2	CMP	A	301	22/22	0.61	0.40	80,123,146,148	0
2	CMP	E	301	22/22	0.64	0.36	79,89,111,119	0
3	TRS	D	302	8/8	0.95	0.09	22,25,26,27	0
3	TRS	A	302	8/8	0.96	0.10	25,27,29,30	0
4	CL	D	303	1/1	0.97	0.06	35,35,35,35	0
4	CL	A	303	1/1	0.99	0.08	36,36,36,36	0
5	ZN	A	305	1/1	0.99	0.02	27,27,27,27	1
5	ZN	B	302	1/1	0.99	0.02	26,26,26,26	1
5	ZN	C	303	1/1	0.99	0.02	30,30,30,30	1
5	ZN	D	304	1/1	0.99	0.02	27,27,27,27	1
5	ZN	E	302	1/1	0.99	0.03	27,27,27,27	1
5	ZN	F	302	1/1	0.99	0.04	28,28,28,28	1
5	ZN	F	303	1/1	0.99	0.02	25,25,25,25	1
6	NI	A	307	1/1	0.99	0.02	27,27,27,27	1
6	NI	B	304	1/1	0.99	0.02	26,26,26,26	1
6	NI	C	305	1/1	0.99	0.02	30,30,30,30	1
6	NI	D	306	1/1	0.99	0.02	26,26,26,26	1
6	NI	E	304	1/1	0.99	0.03	27,27,27,27	1
6	NI	F	304	1/1	0.99	0.04	29,29,29,29	1
6	NI	F	305	1/1	0.99	0.02	28,28,28,28	1
5	ZN	C	302	1/1	1.00	0.05	30,30,30,30	1
6	NI	B	305	1/1	1.00	0.02	26,26,26,26	1
6	NI	C	304	1/1	1.00	0.05	30,30,30,30	1
5	ZN	E	303	1/1	1.00	0.01	27,27,27,27	1
5	ZN	A	304	1/1	1.00	0.02	28,28,28,28	1
6	NI	D	307	1/1	1.00	0.02	26,26,26,26	1
5	ZN	B	303	1/1	1.00	0.01	26,26,26,26	1
6	NI	E	305	1/1	1.00	0.01	26,26,26,26	1
6	NI	A	306	1/1	1.00	0.02	28,28,28,28	1
5	ZN	D	305	1/1	1.00	0.02	26,26,26,26	1

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.
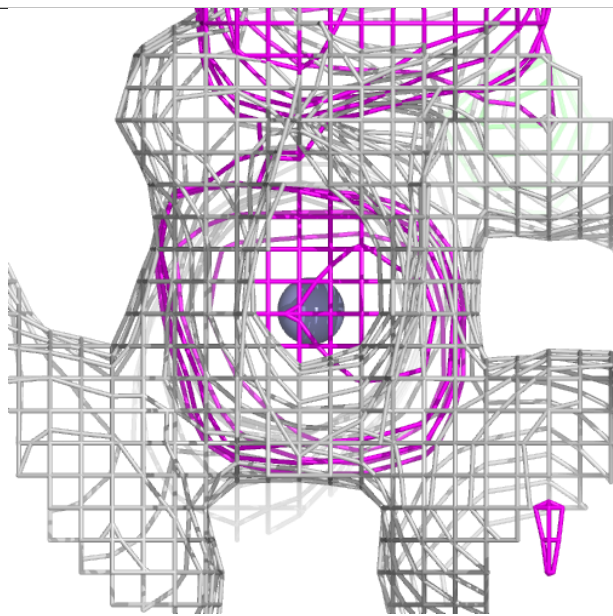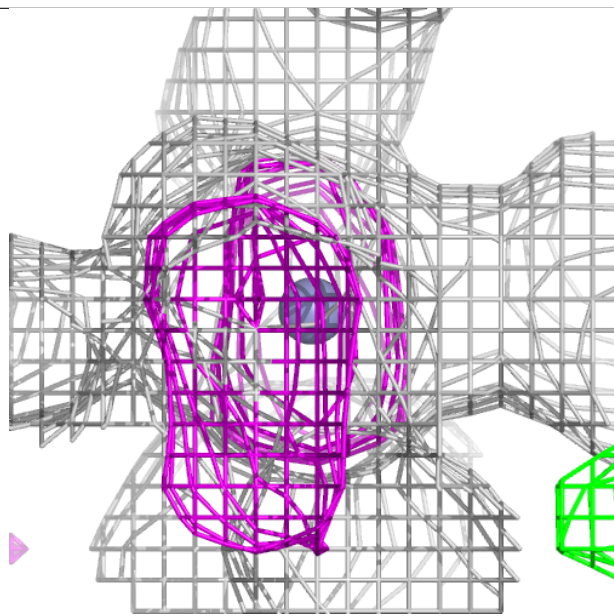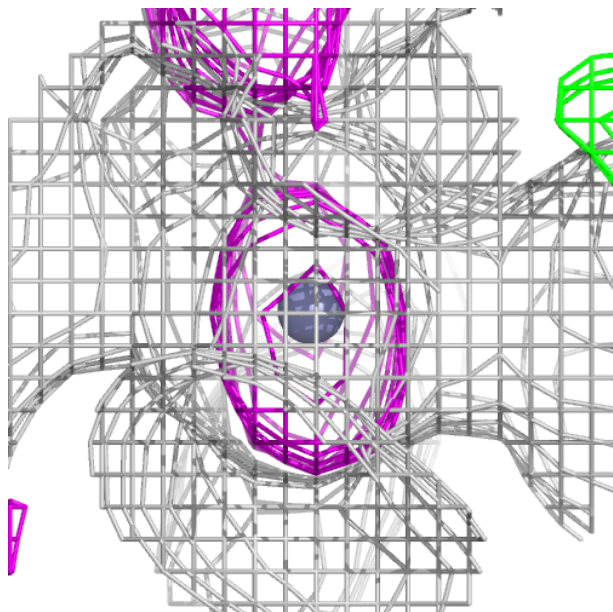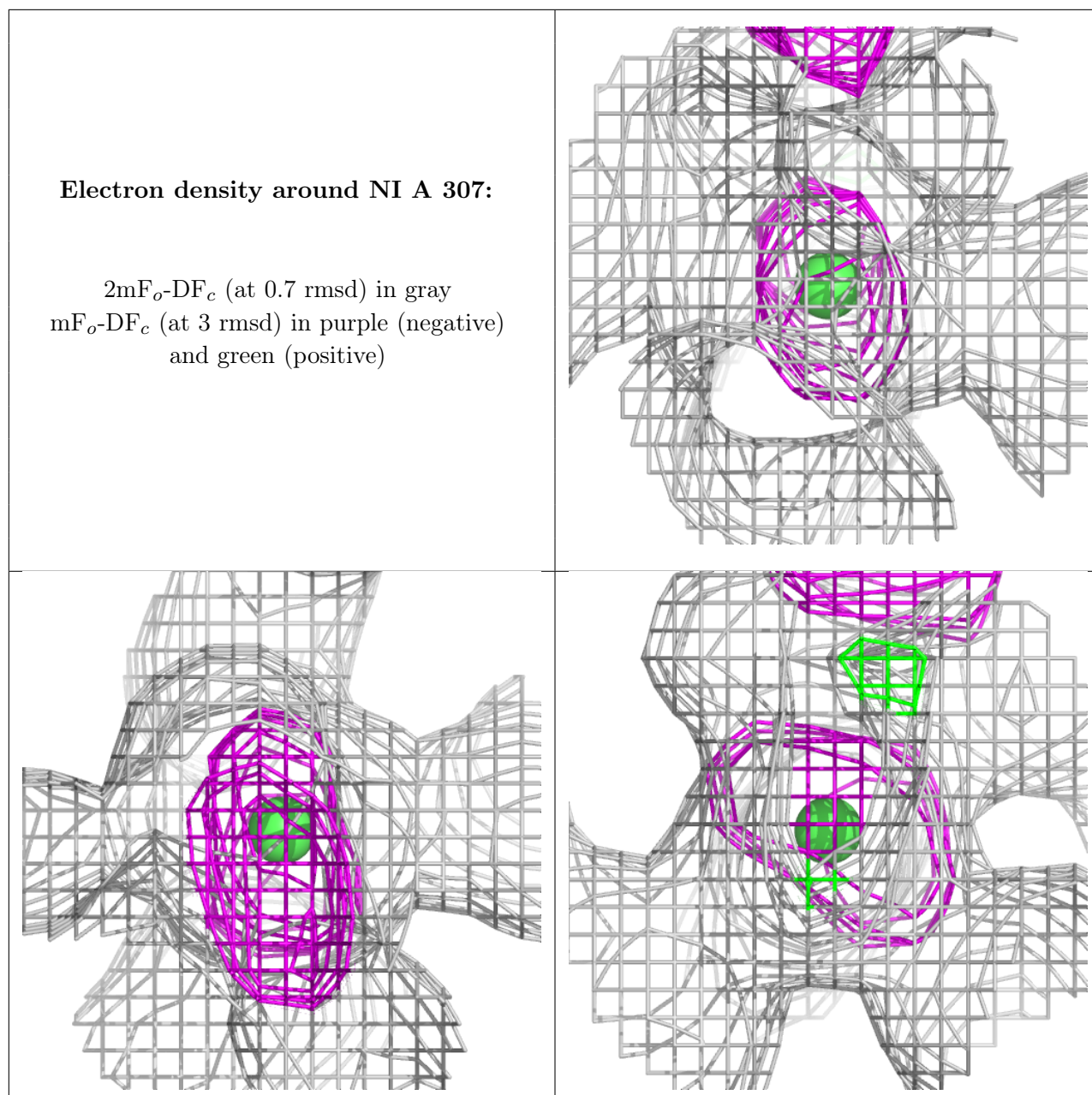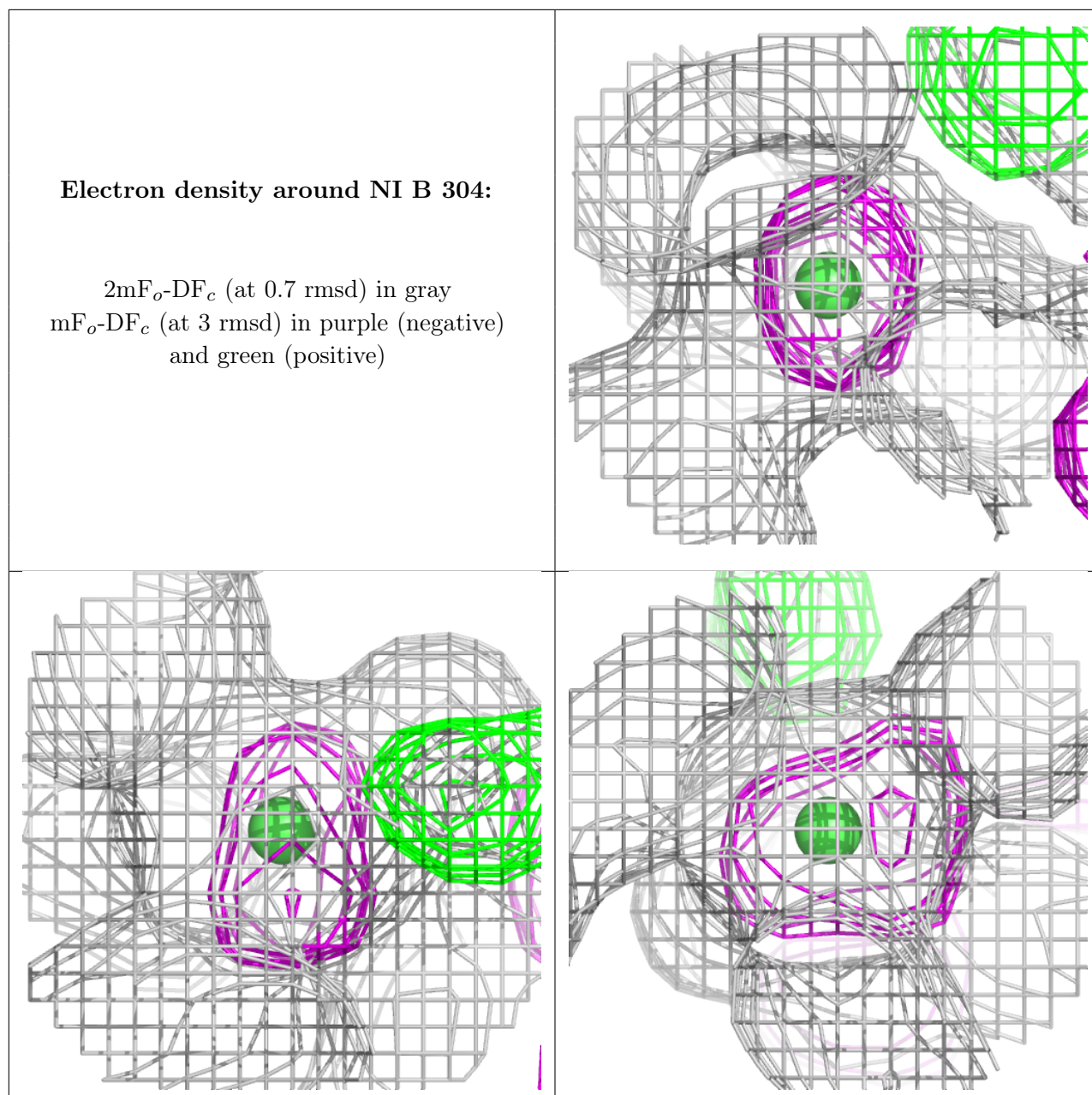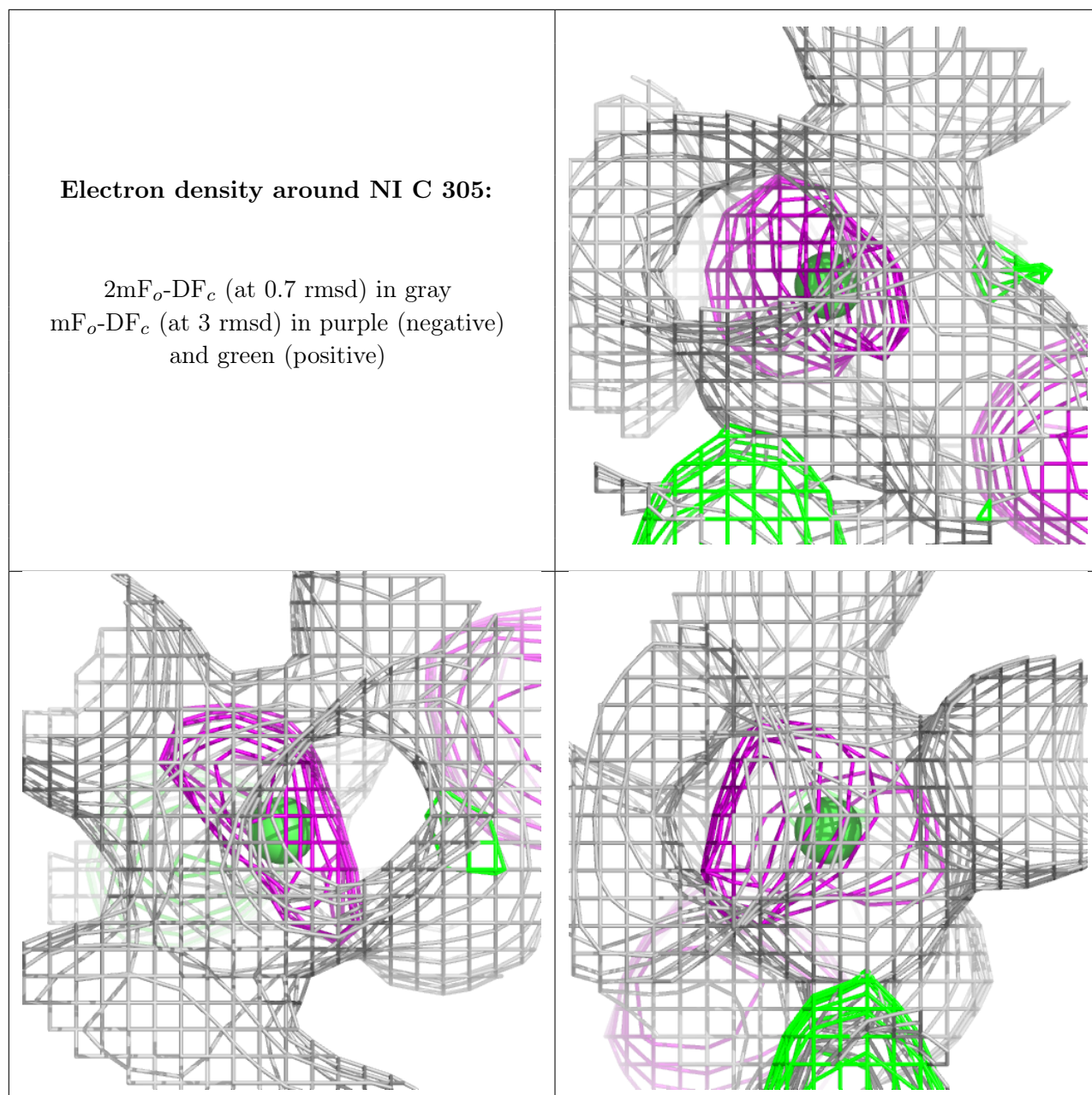
Electron density around CMP C 301:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
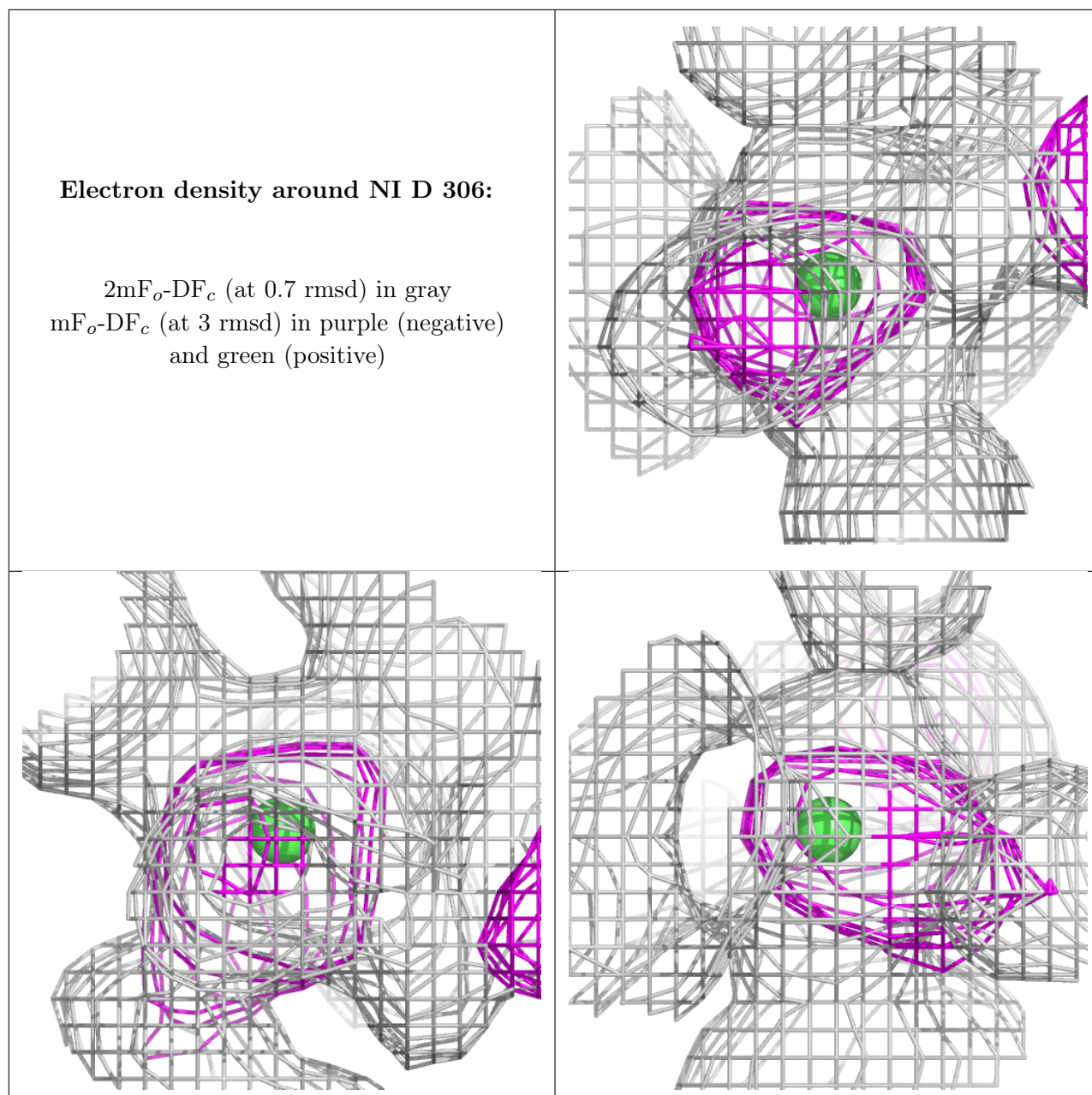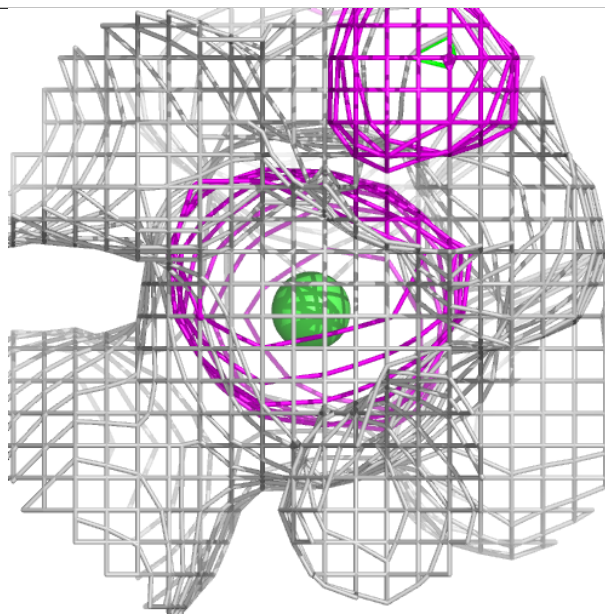mF_o-DF_c (at 3 rmsd) in purple (negative)
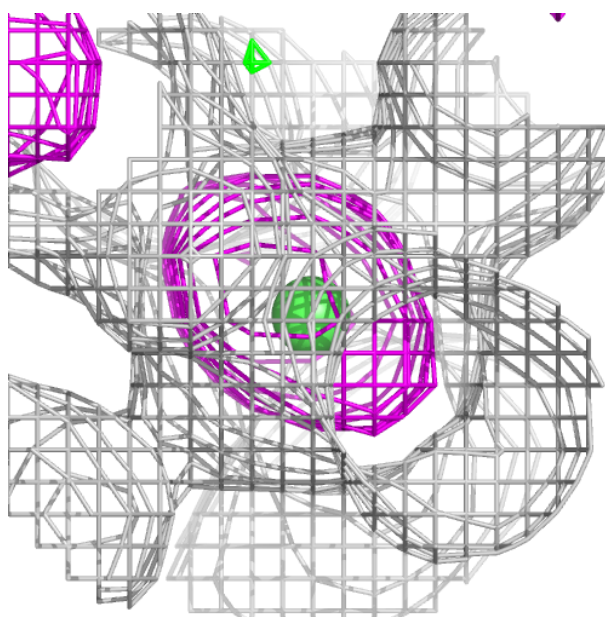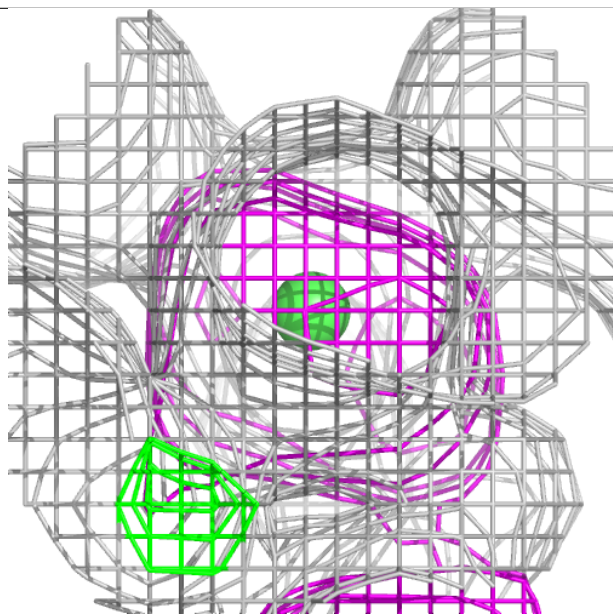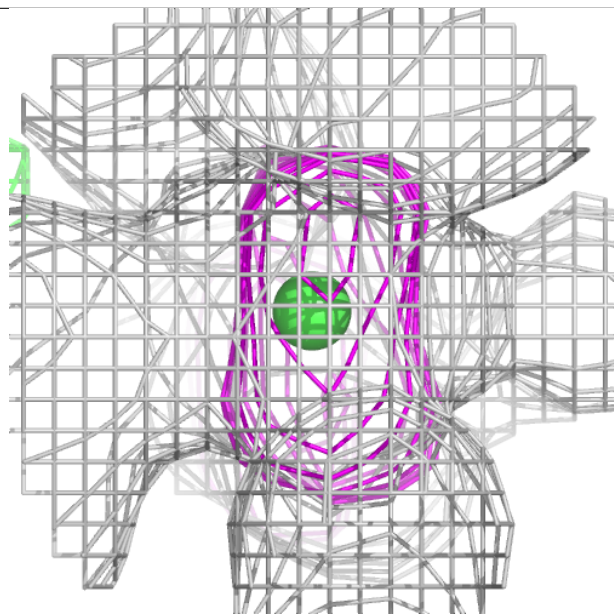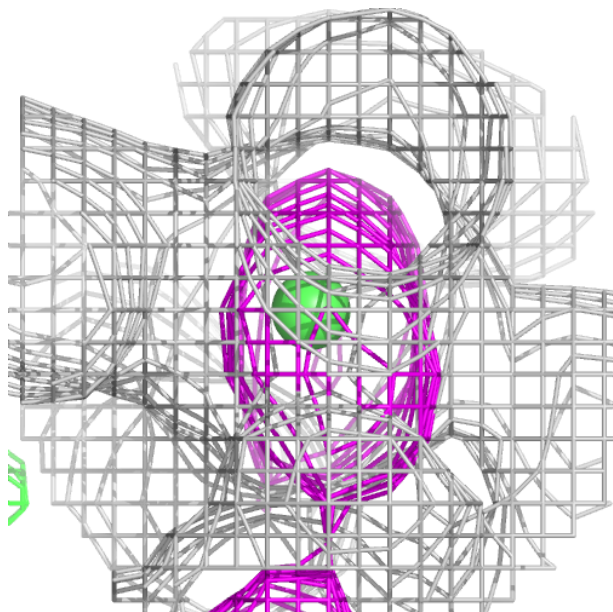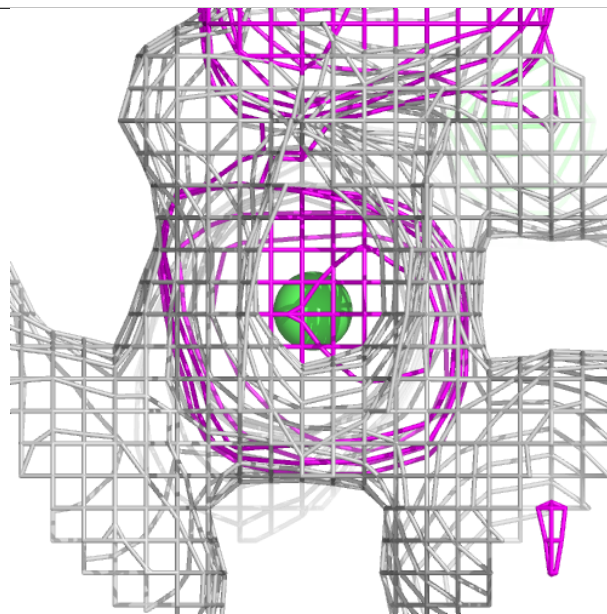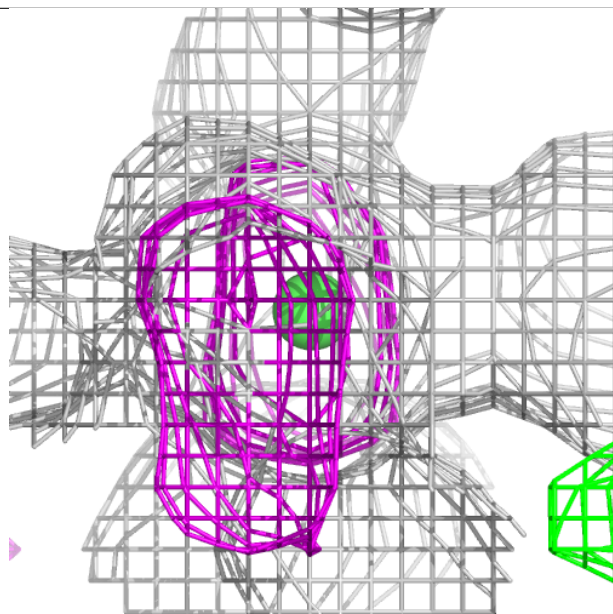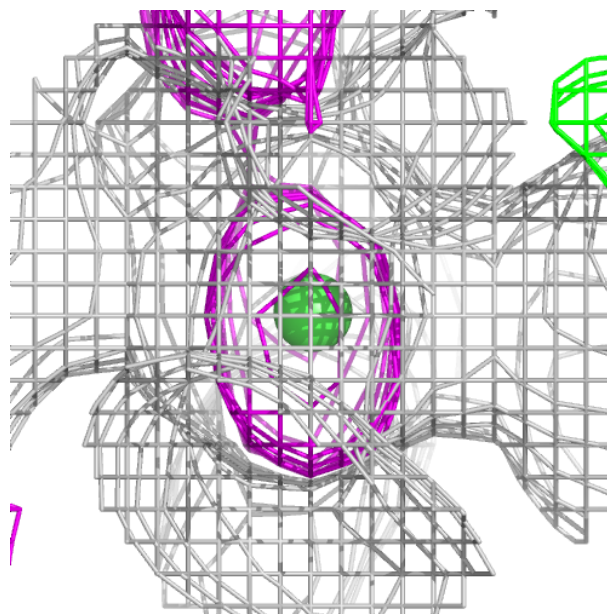and green (positive)
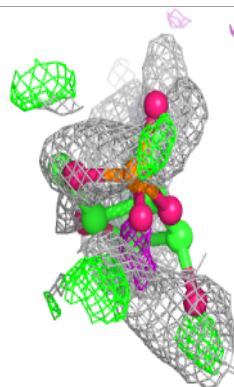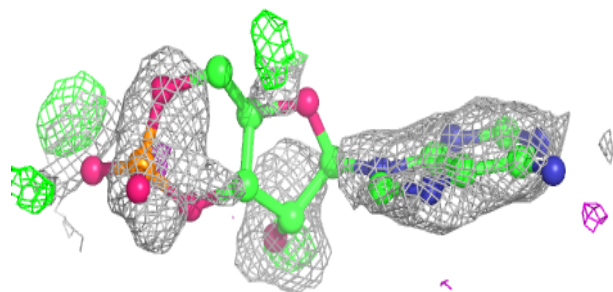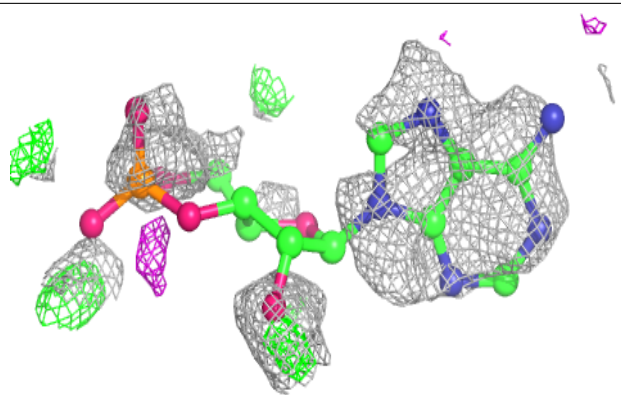
Electron density around CMP B 301:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
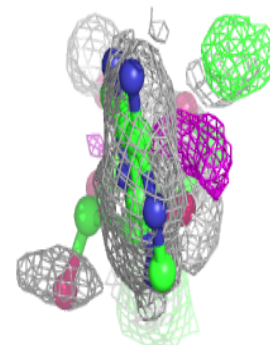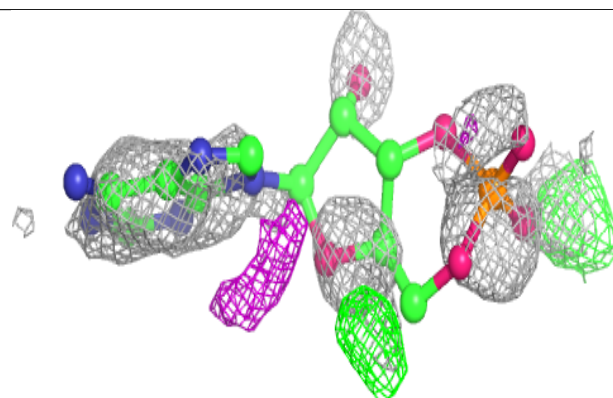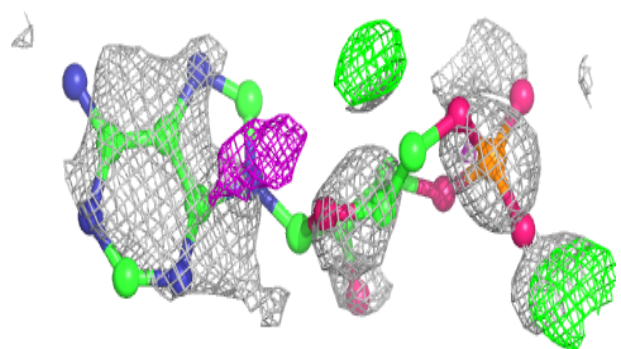
Electron density around CMP D 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
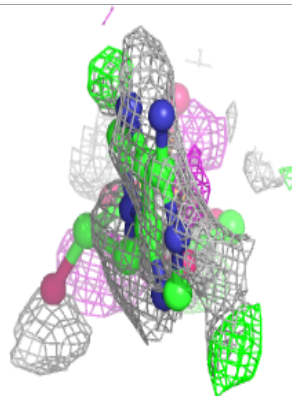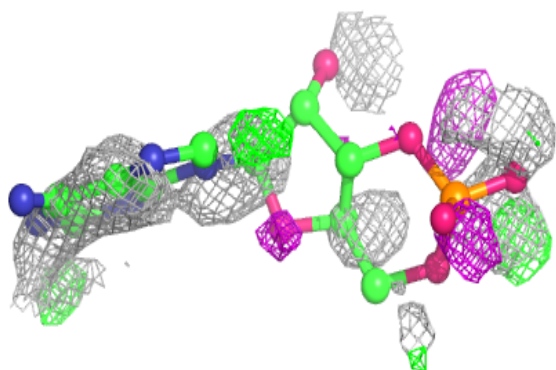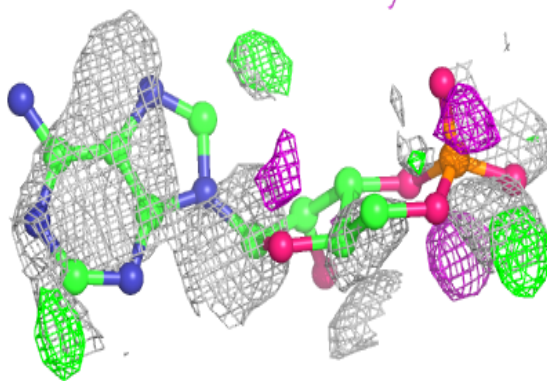
Electron density around CMP F 301:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
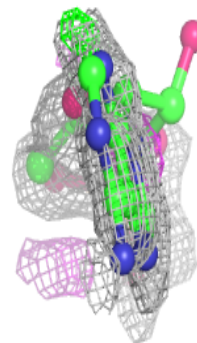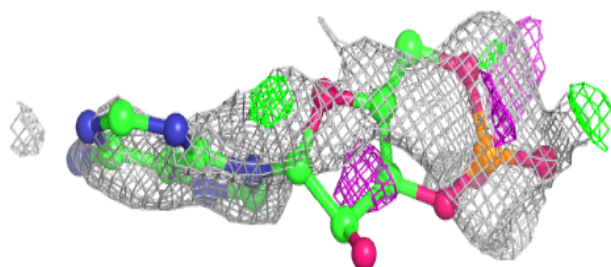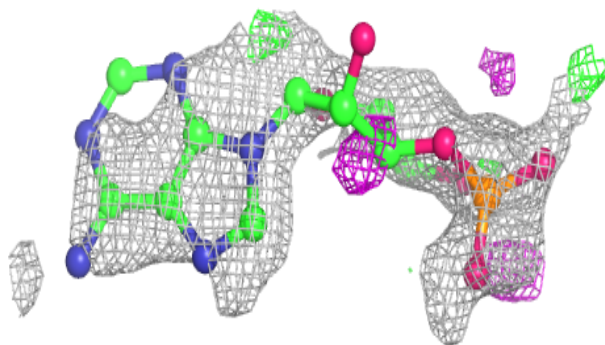
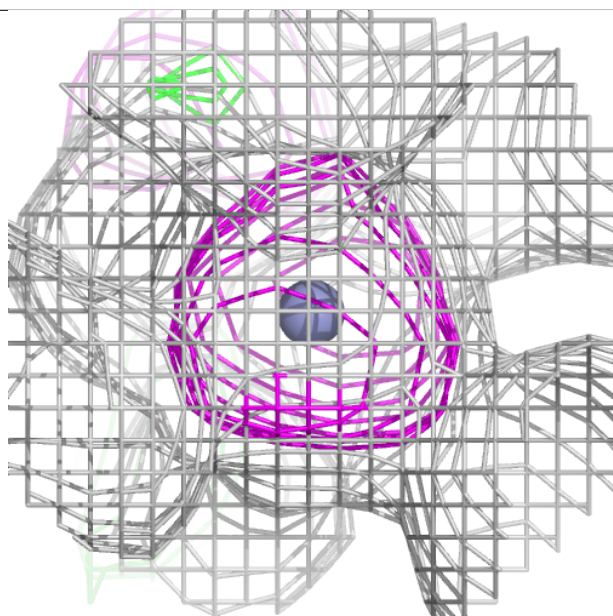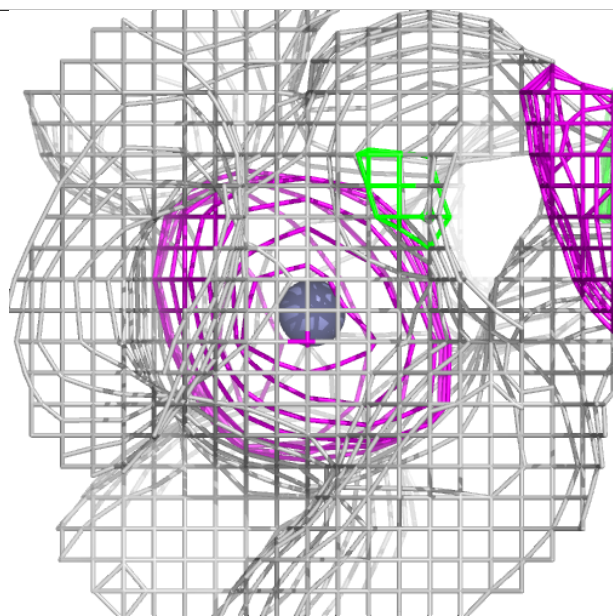**Electron density around CMP A 301:**

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
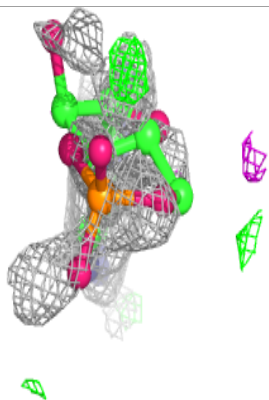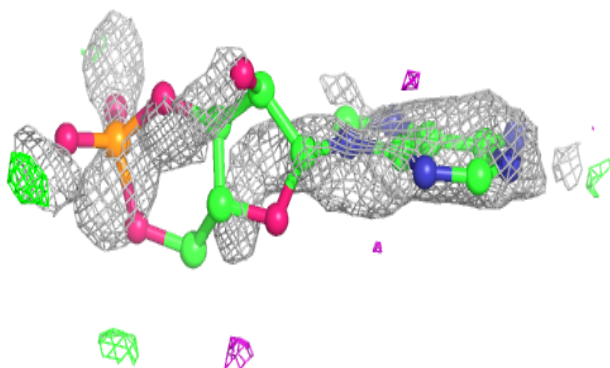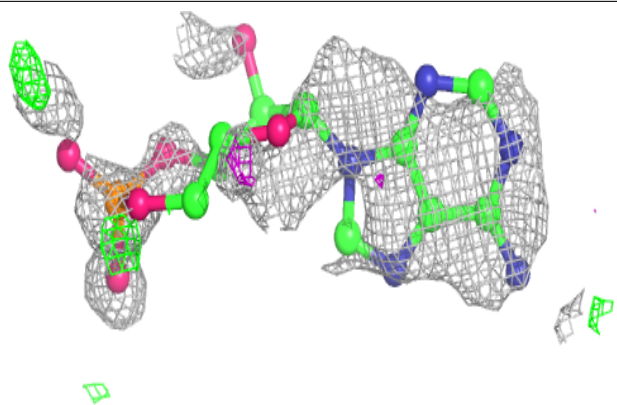
Electron density around CMP E 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
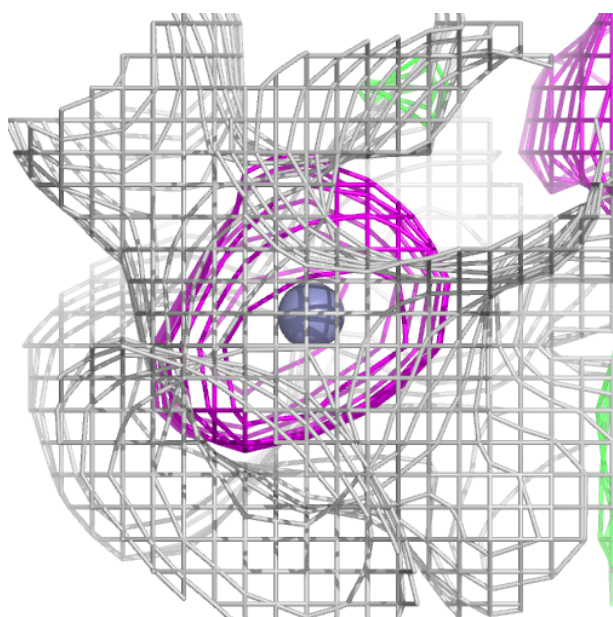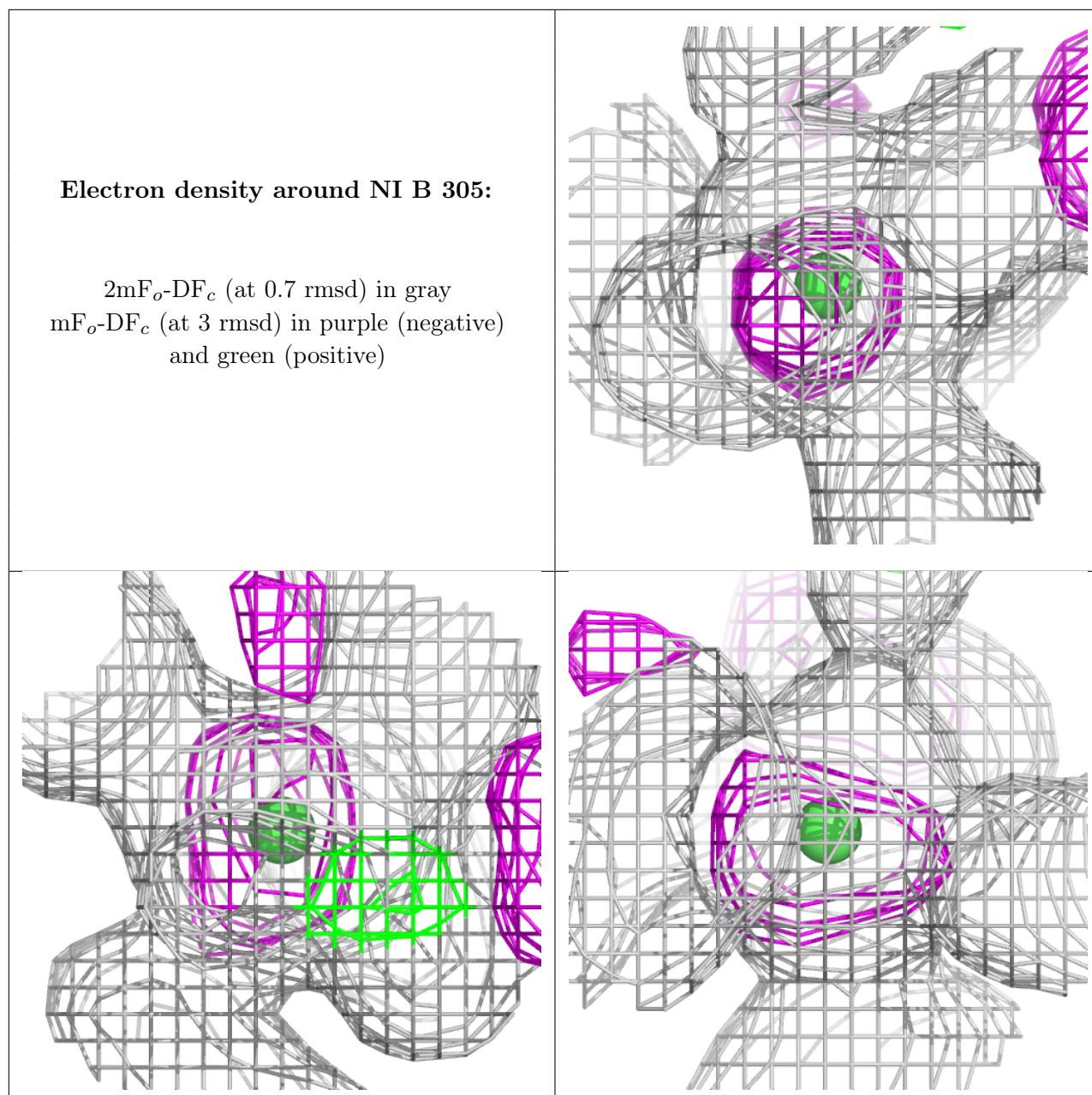and green (positive)
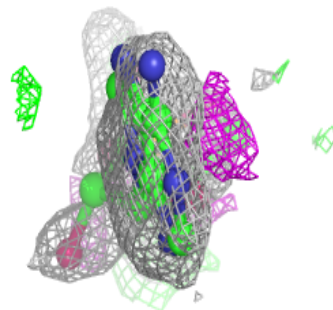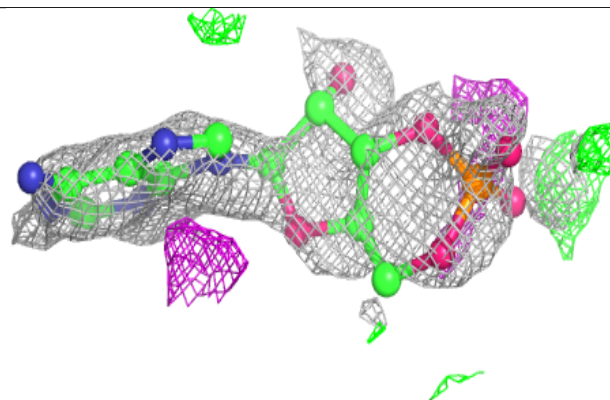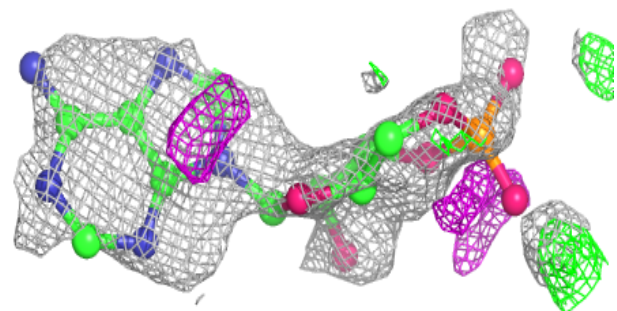
Electron density around ZN A 305:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
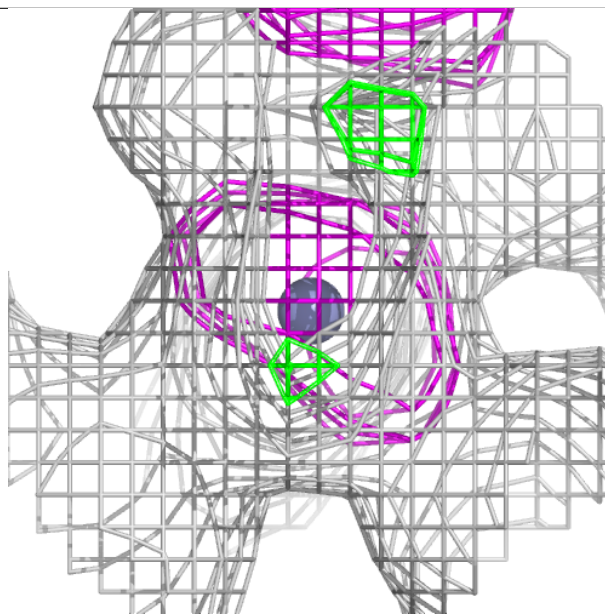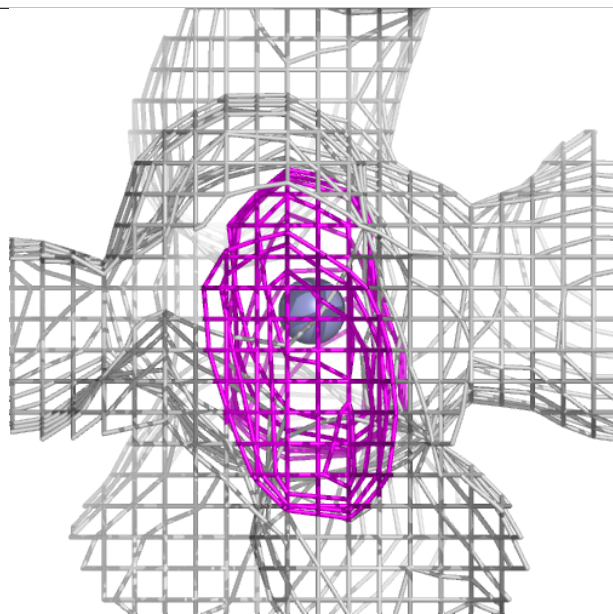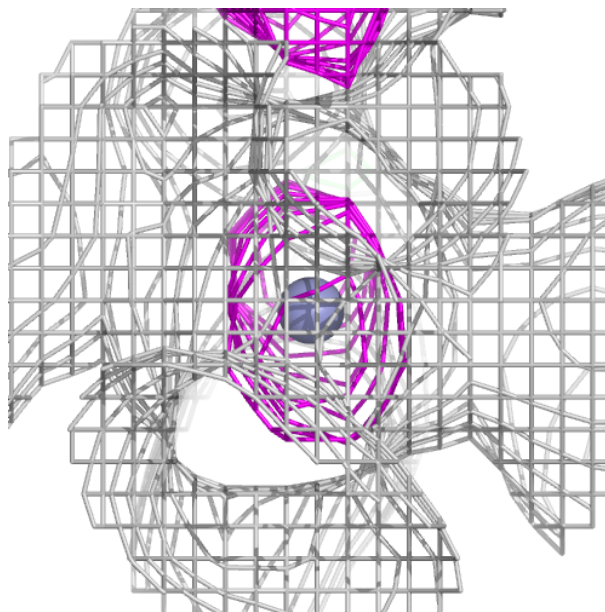
Electron density around ZN B 302:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
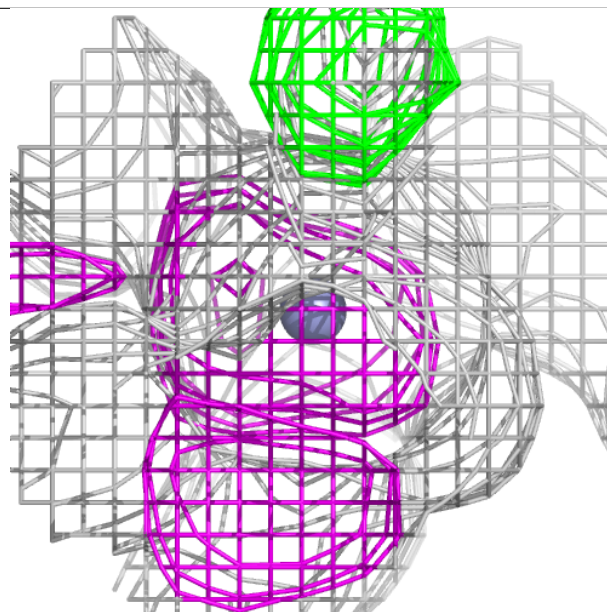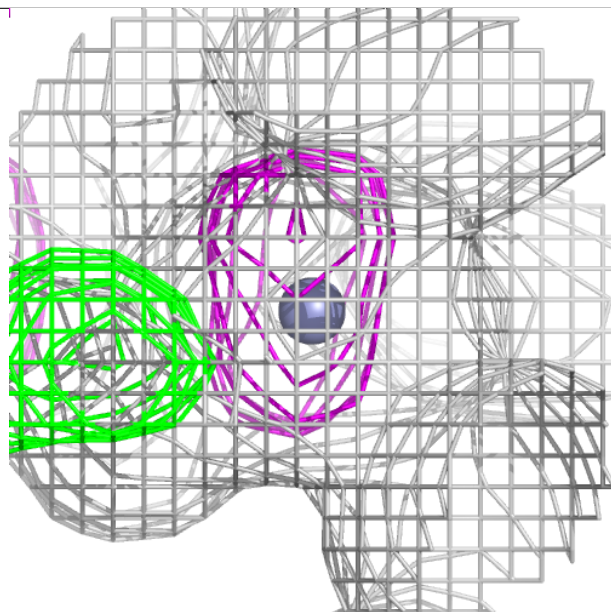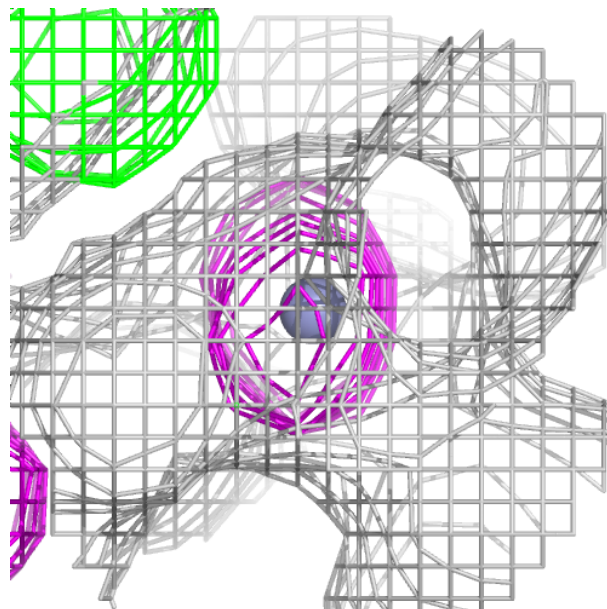
Electron density around ZN C 303:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
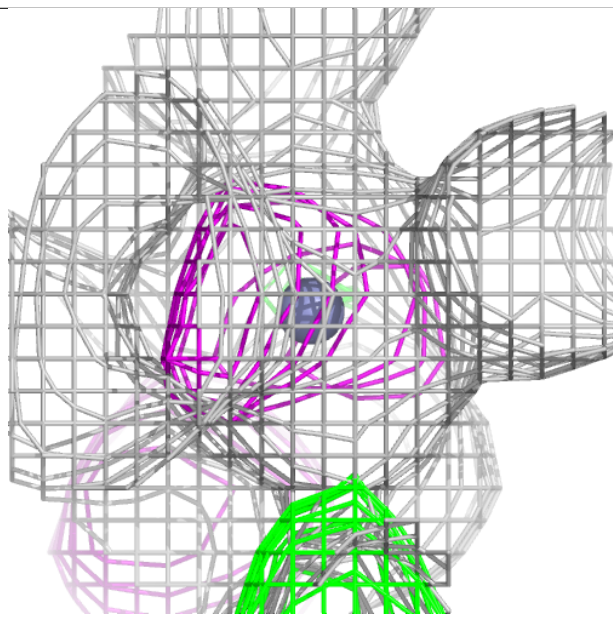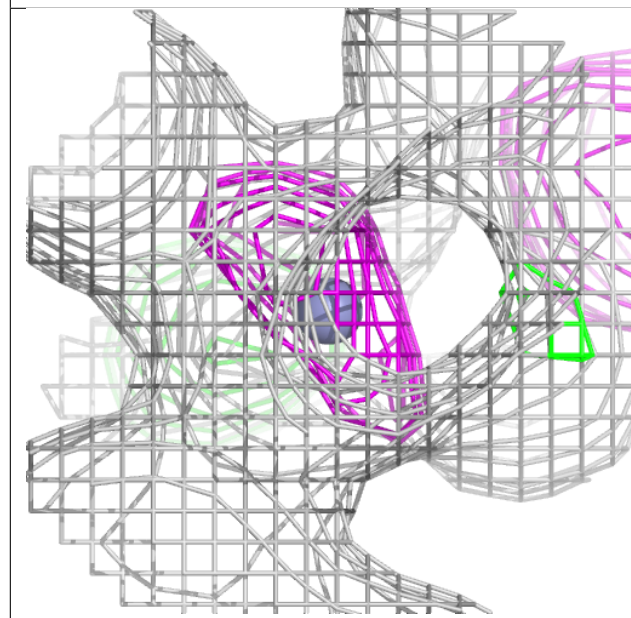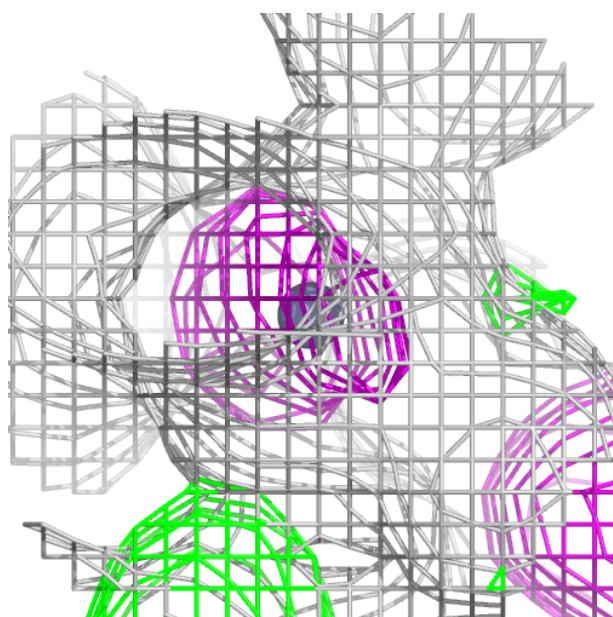
Electron density around ZN D 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
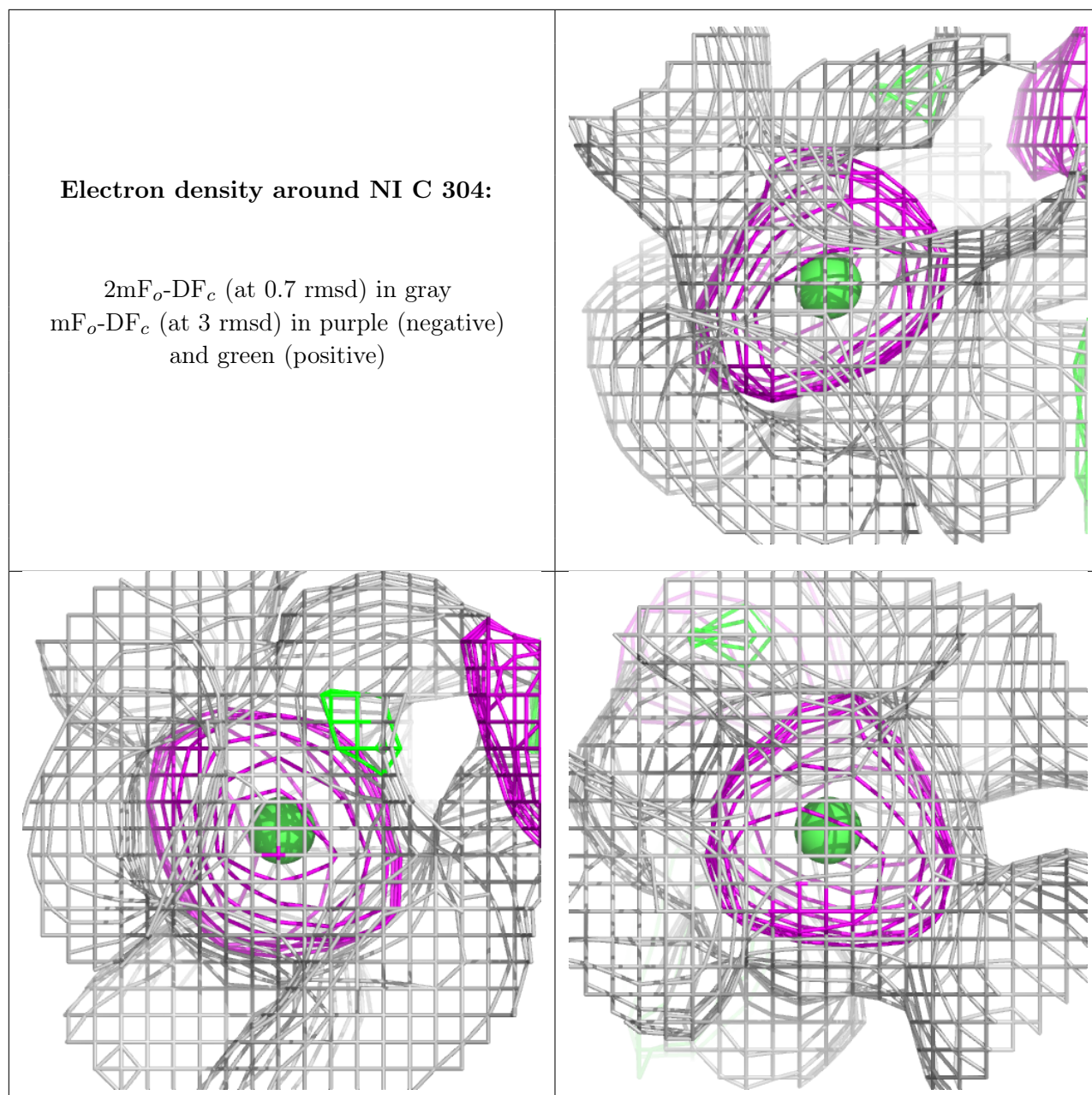and green (positive)
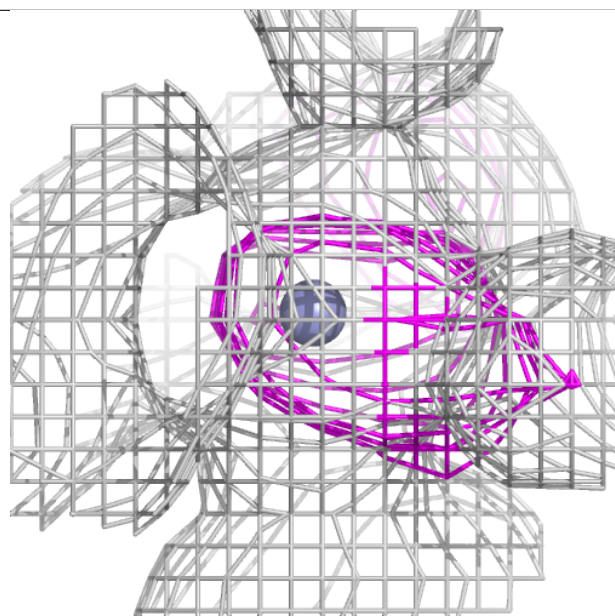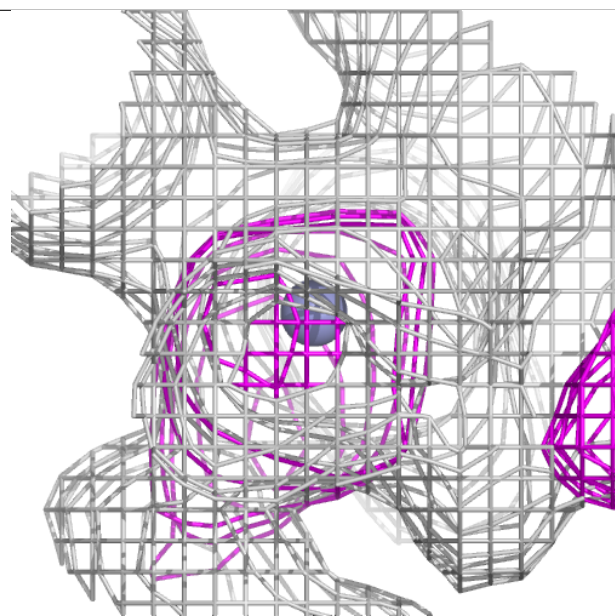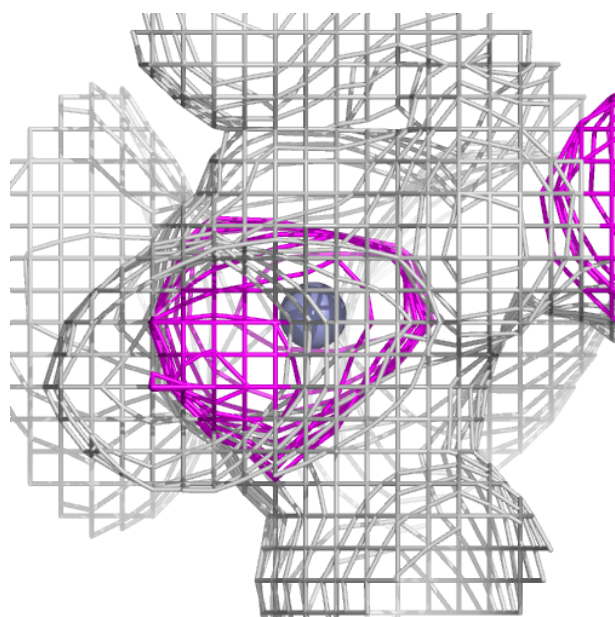
Electron density around ZN E 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
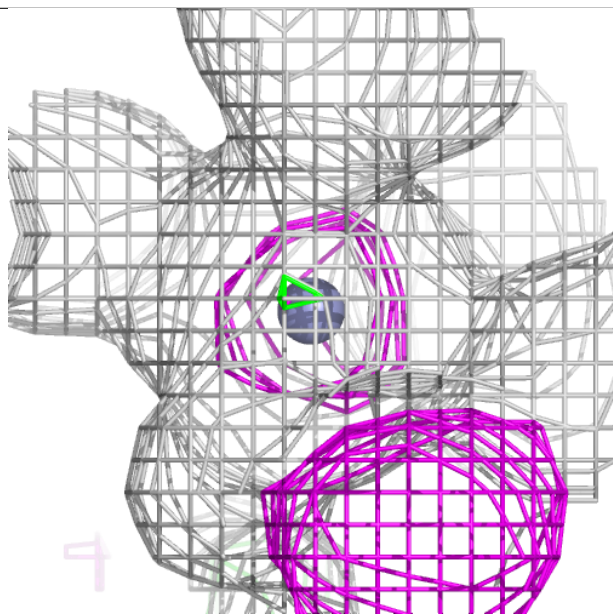mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
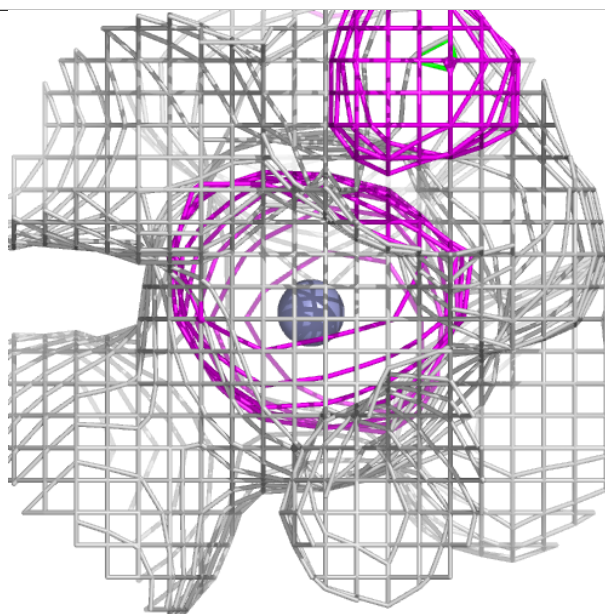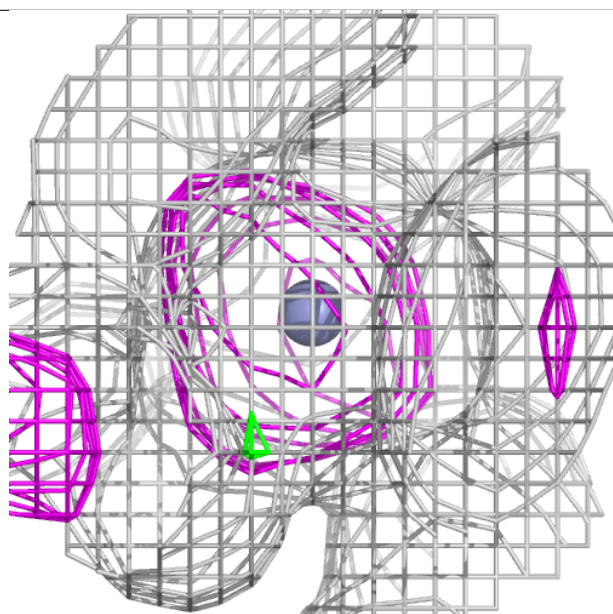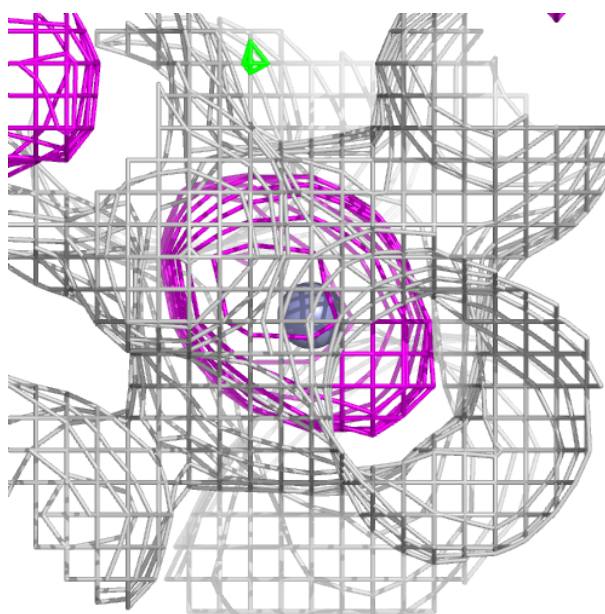
Electron density around ZN F 302:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
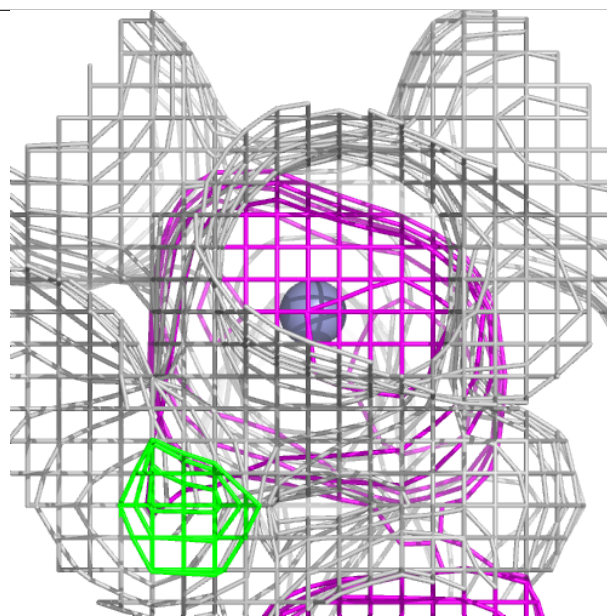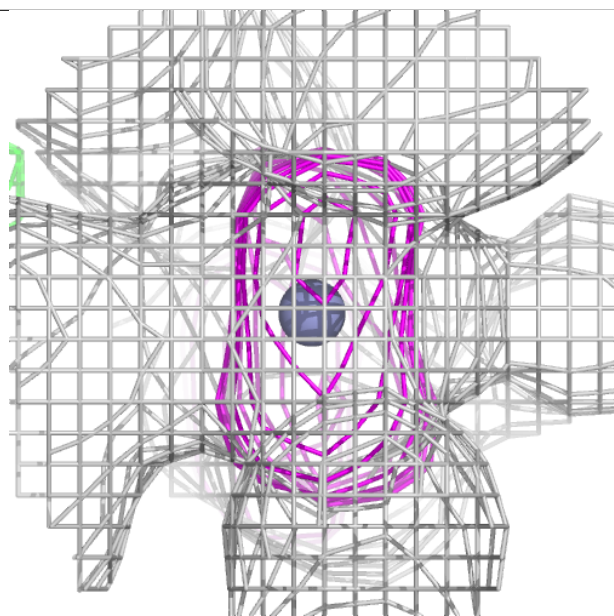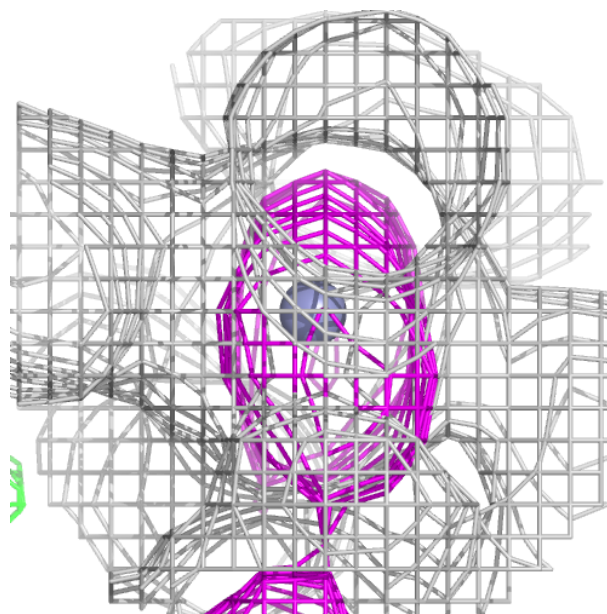
Electron density around ZN F 303:

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

Electron density around NI A 307:

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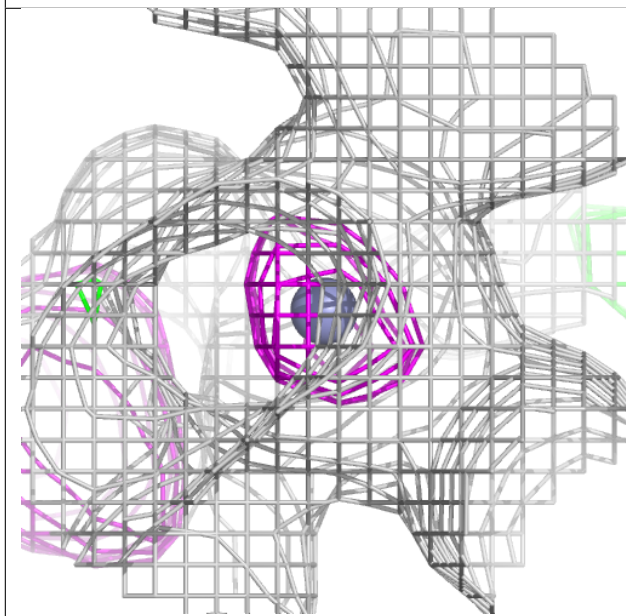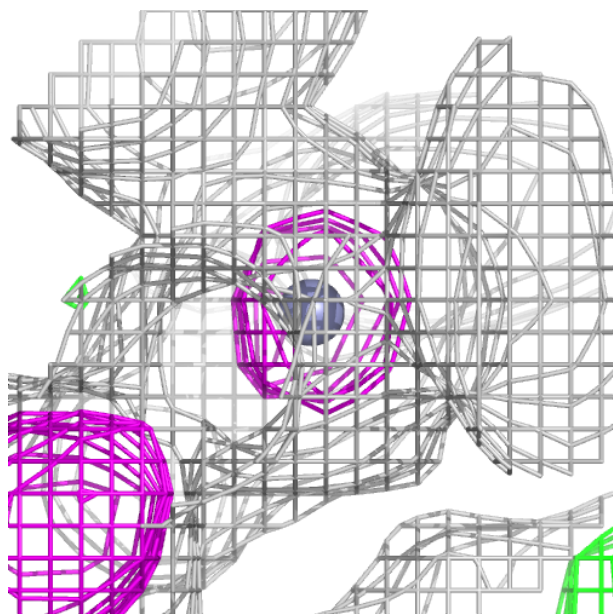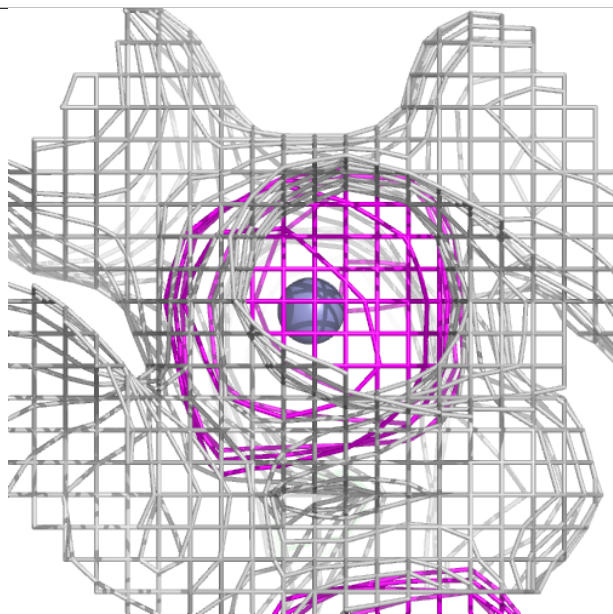mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around NI B 304:

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

Electron density around NI C 305:

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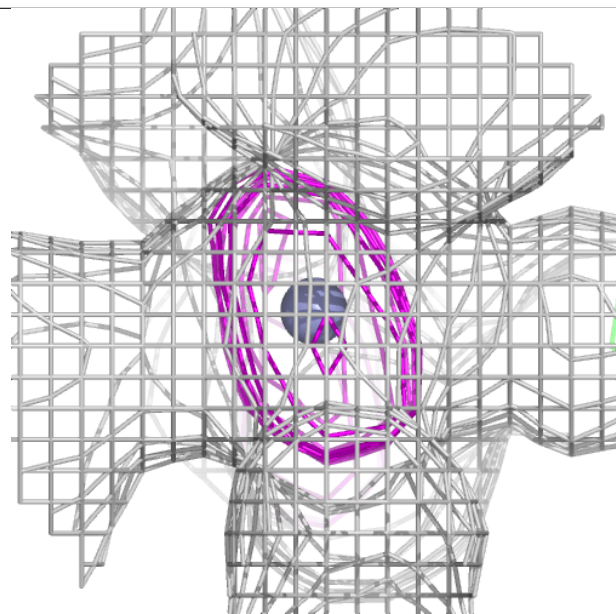$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
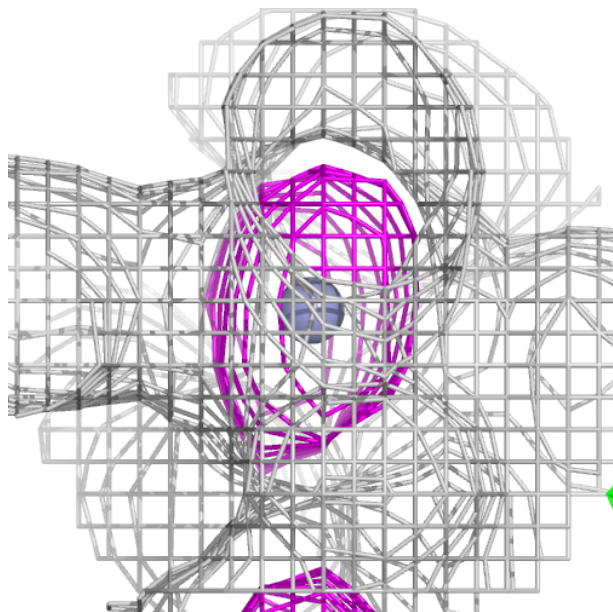and green (positive)

Electron density around NI D 306:

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 NI E 304:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
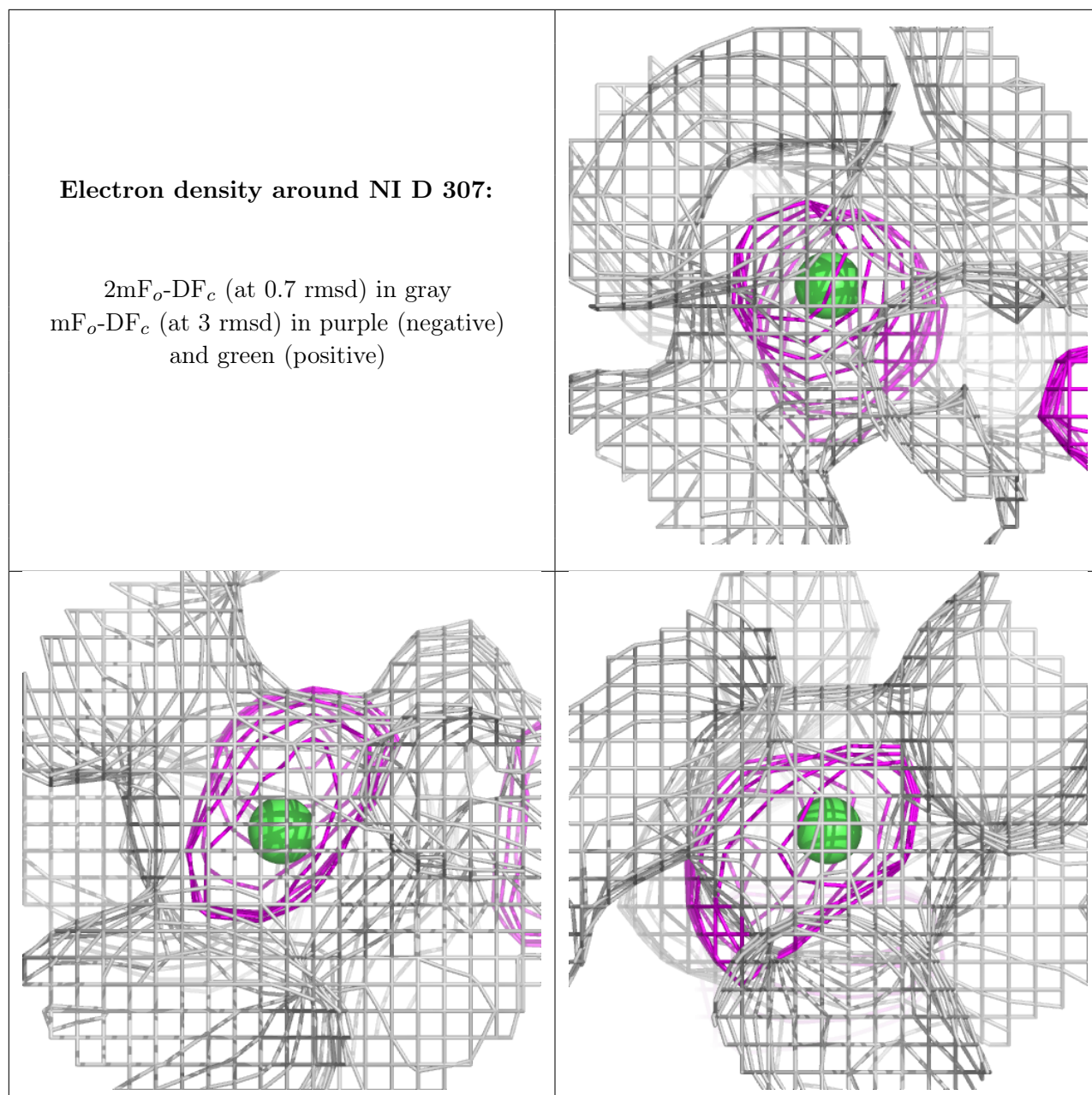and green (positive)
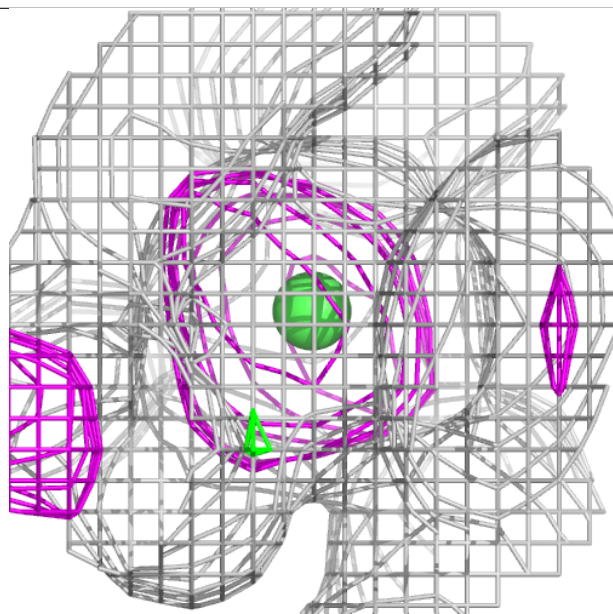
Electron density around NI F 304:

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 NI F 305:

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

Electron density around ZN C 302:

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

Electron density around NI B 305:

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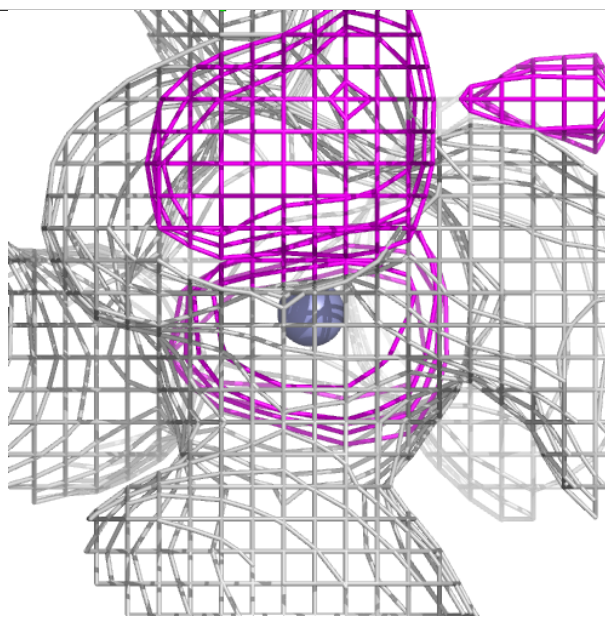and green (positive)

Electron density around NI C 304:

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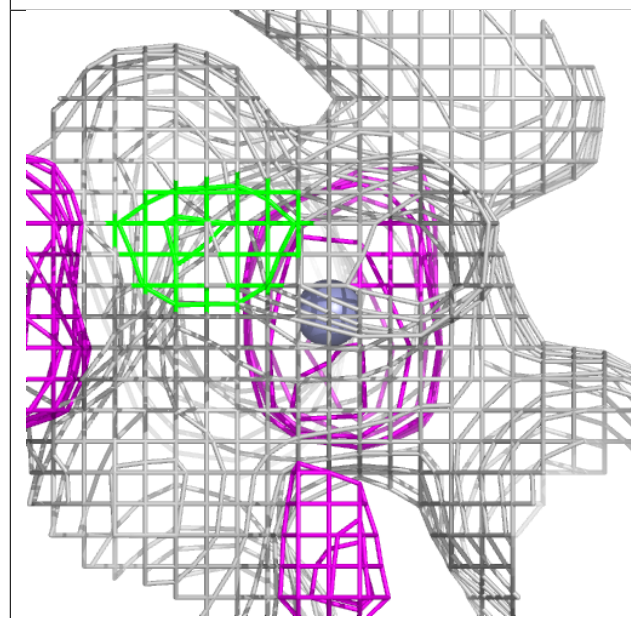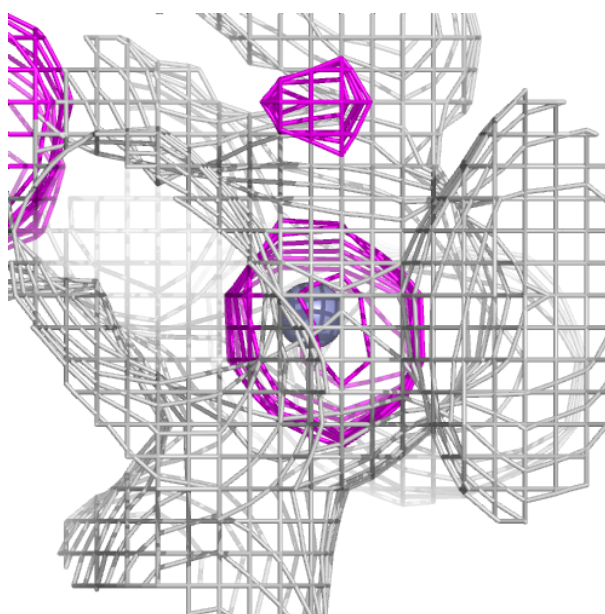mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around ZN E 303:

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

Electron density around ZN A 304:

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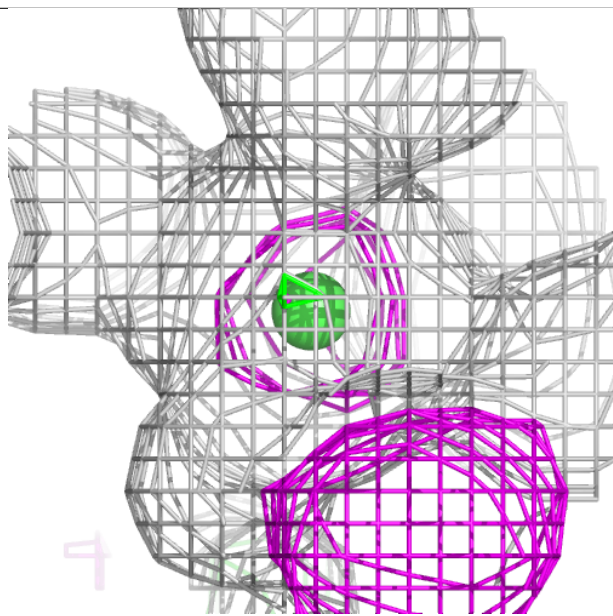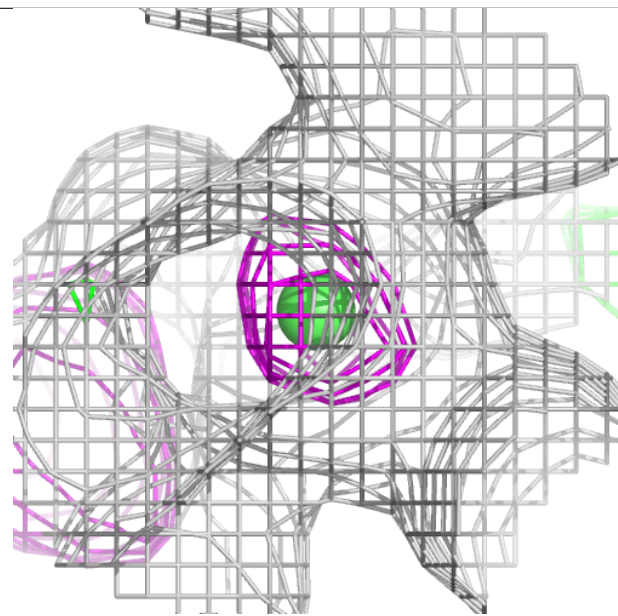and green (positive)

Electron density around NI D 307:

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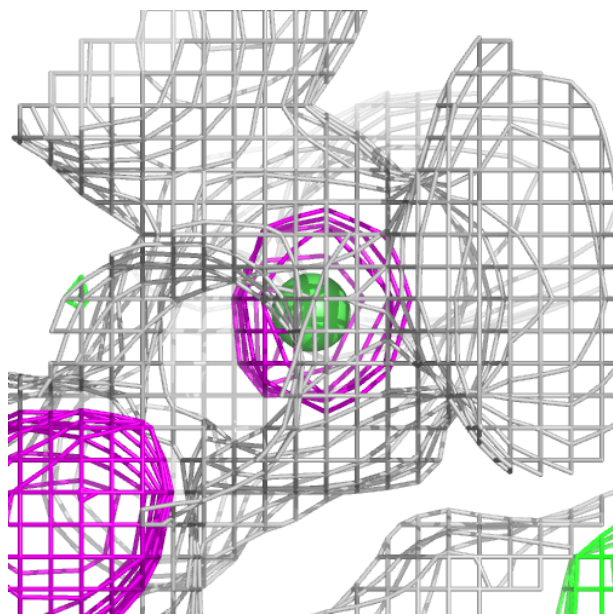and green (positive)

Electron density around ZN B 303:

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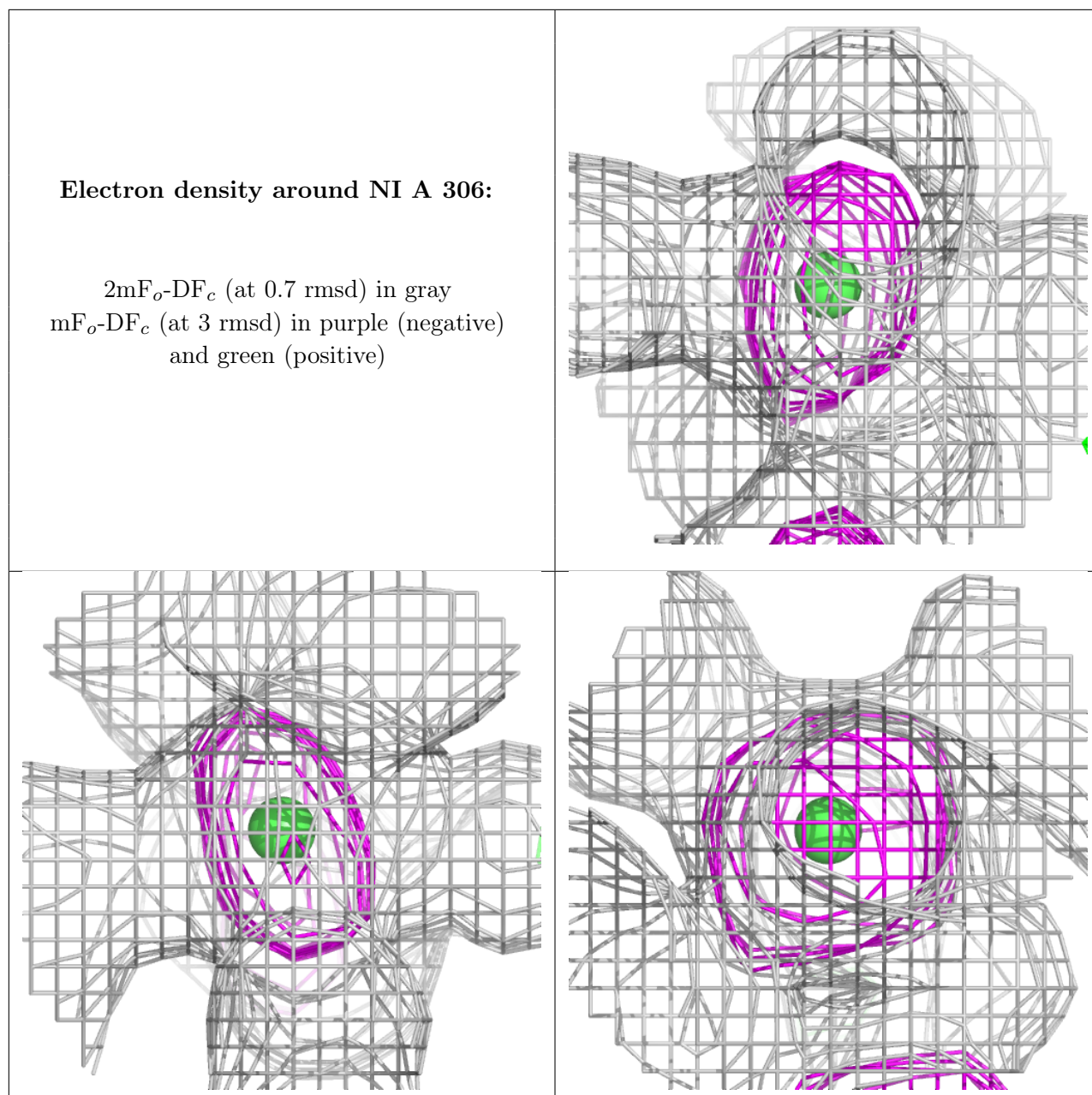mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around NI E 305:

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

Electron density around NI A 306:

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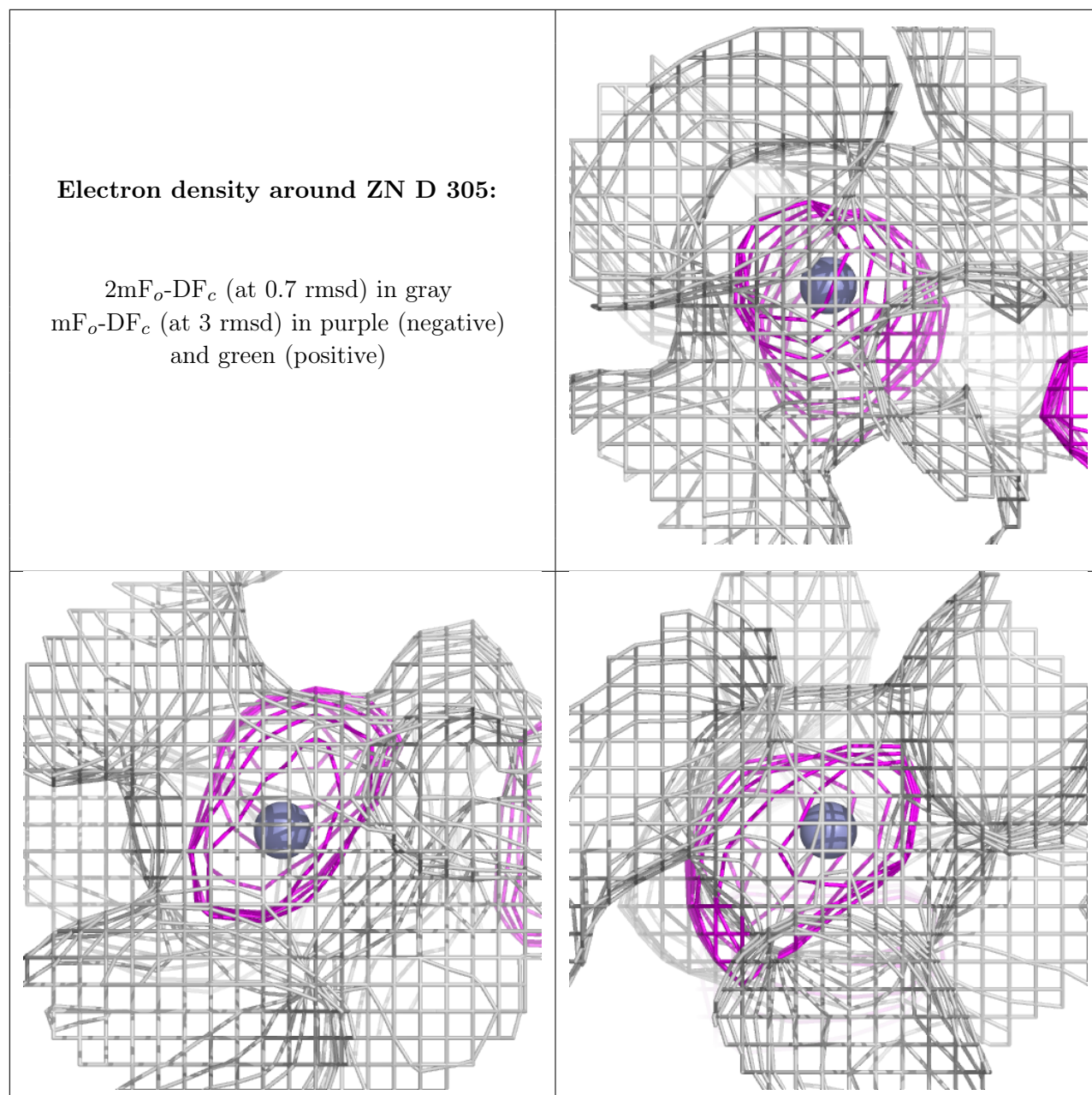and green (positive)

Electron density around ZN D 305:

$2mF_o$-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.