W O R L D W I D E
wwPDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 9, 2023 – 02:18 PM EDT

PDB ID	:	6XB9
Title	:	Crystal structure of Azotobacter vinelandii 3-mercaptopropionic acid dioxygenase in complex with 3-hydroxypropionic acid
Authors	:	Kiser, P.D.; Khadka, N.; Shi, W.; Pierce, B.S.
Deposited on	:	2020-06-05
Resolution	:	2.25 Å(reported)

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

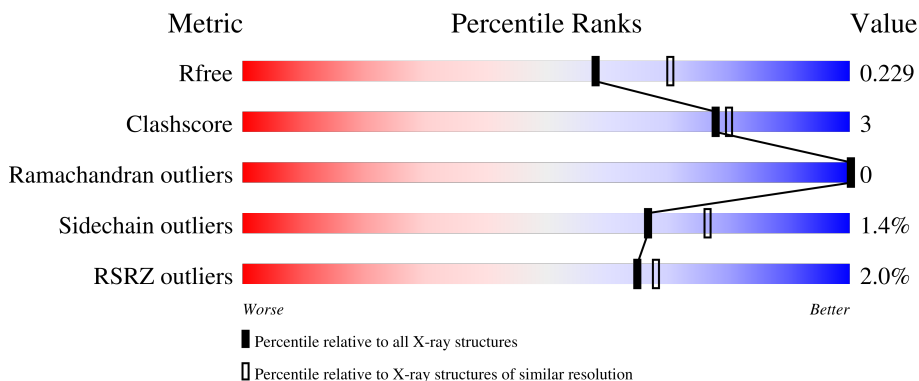|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.25 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.
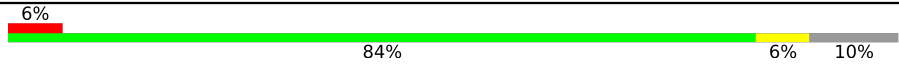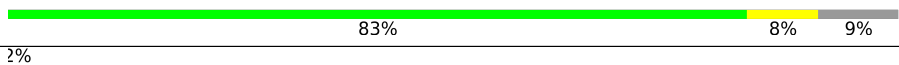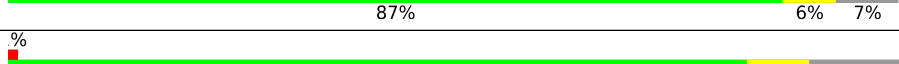
Metric	Percentile Ranks	Value
Rfree		0.229
Clashscore		3
Ramachandran outliers		0
Sidechain outliers		1.4%
RSRZ outliers		2.0%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
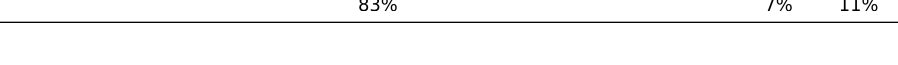
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1377 (2.26-2.26)
Clashscore	141614	1487 (2.26-2.26)
Ramachandran outliers	138981	1449 (2.26-2.26)
Sidechain outliers	138945	1450 (2.26-2.26)
RSRZ outliers	127900	1356 (2.26-2.26)

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	208	% 87% 7% 7%
1	B	208	2% 86% 7% 7%
1	C	208	% 88% · 7%
1	D	208	2% 85% 8% 7%
1	E	208	% 85% 8% 7%

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Mol	Chain	Length	Quality of chain
1	F	208	6% 84% 6% 10%
1	G	208	2% 88% 6% 7%
1	H	208	88% 6% 7%
1	I	208	83% 8% 9%
1	J	208	2% 87% 5% 7%
1	K	208	2% 87% 6% 7%
1	L	208	% 83% 7% 11%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	3OH	C	302	-	X	-	-
3	3OH	E	302	-	X	-	-
3	3OH	G	302	-	X	-	-

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 18870 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 Cysteine dioxygenase type I protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	194	Total	C	N	O	S	0	0	0
			1544	974	282	287	1			
1	B	193	Total	C	N	O	S	0	0	0
			1541	971	281	288	1			
1	C	193	Total	C	N	O	S	0	0	0
			1530	965	277	287	1			
1	D	193	Total	C	N	O	S	0	1	0
			1552	977	285	289	1			
1	E	193	Total	C	N	O	S	0	0	0
			1541	971	281	288	1			
1	F	187	Total	C	N	O	S	0	0	0
			1492	944	272	275	1			
1	G	194	Total	C	N	O	S	0	0	0
			1548	976	282	289	1			
1	H	194	Total	C	N	O	S	0	0	0
			1544	973	281	289	1			
1	I	189	Total	C	N	O	S	0	0	0
			1508	952	275	280	1			
1	J	194	Total	C	N	O	S	0	0	0
			1548	976	282	289	1			
1	K	193	Total	C	N	O	S	0	0	0
			1535	968	278	288	1			
1	L	186	Total	C	N	O	S	0	0	0
			1491	941	272	277	1			

There are 72 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	203	VAL	-	expression tag	UNP C1DN94
A	204	ASP	-	expression tag	UNP C1DN94
A	205	LEU	-	expression tag	UNP C1DN94
A	206	VAL	-	expression tag	UNP C1DN94
A	207	PRO	-	expression tag	UNP C1DN94

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Chain	Residue	Modelled	Actual	Comment	Reference
A	208	ARG	-	expression tag	UNP C1DN94
B	203	VAL	-	expression tag	UNP C1DN94
B	204	ASP	-	expression tag	UNP C1DN94
B	205	LEU	-	expression tag	UNP C1DN94
B	206	VAL	-	expression tag	UNP C1DN94
B	207	PRO	-	expression tag	UNP C1DN94
B	208	ARG	-	expression tag	UNP C1DN94
C	203	VAL	-	expression tag	UNP C1DN94
C	204	ASP	-	expression tag	UNP C1DN94
C	205	LEU	-	expression tag	UNP C1DN94
C	206	VAL	-	expression tag	UNP C1DN94
C	207	PRO	-	expression tag	UNP C1DN94
C	208	ARG	-	expression tag	UNP C1DN94
D	203	VAL	-	expression tag	UNP C1DN94
D	204	ASP	-	expression tag	UNP C1DN94
D	205	LEU	-	expression tag	UNP C1DN94
D	206	VAL	-	expression tag	UNP C1DN94
D	207	PRO	-	expression tag	UNP C1DN94
D	208	ARG	-	expression tag	UNP C1DN94
E	203	VAL	-	expression tag	UNP C1DN94
E	204	ASP	-	expression tag	UNP C1DN94
E	205	LEU	-	expression tag	UNP C1DN94
E	206	VAL	-	expression tag	UNP C1DN94
E	207	PRO	-	expression tag	UNP C1DN94
E	208	ARG	-	expression tag	UNP C1DN94
F	203	VAL	-	expression tag	UNP C1DN94
F	204	ASP	-	expression tag	UNP C1DN94
F	205	LEU	-	expression tag	UNP C1DN94
F	206	VAL	-	expression tag	UNP C1DN94
F	207	PRO	-	expression tag	UNP C1DN94
F	208	ARG	-	expression tag	UNP C1DN94
G	203	VAL	-	expression tag	UNP C1DN94
G	204	ASP	-	expression tag	UNP C1DN94
G	205	LEU	-	expression tag	UNP C1DN94
G	206	VAL	-	expression tag	UNP C1DN94
G	207	PRO	-	expression tag	UNP C1DN94
G	208	ARG	-	expression tag	UNP C1DN94
H	203	VAL	-	expression tag	UNP C1DN94
H	204	ASP	-	expression tag	UNP C1DN94
H	205	LEU	-	expression tag	UNP C1DN94
H	206	VAL	-	expression tag	UNP C1DN94
H	207	PRO	-	expression tag	UNP C1DN94

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Chain	Residue	Modelled	Actual	Comment	Reference
H	208	ARG	-	expression tag	UNP C1DN94
I	203	VAL	-	expression tag	UNP C1DN94
I	204	ASP	-	expression tag	UNP C1DN94
I	205	LEU	-	expression tag	UNP C1DN94
I	206	VAL	-	expression tag	UNP C1DN94
I	207	PRO	-	expression tag	UNP C1DN94
I	208	ARG	-	expression tag	UNP C1DN94
J	203	VAL	-	expression tag	UNP C1DN94
J	204	ASP	-	expression tag	UNP C1DN94
J	205	LEU	-	expression tag	UNP C1DN94
J	206	VAL	-	expression tag	UNP C1DN94
J	207	PRO	-	expression tag	UNP C1DN94
J	208	ARG	-	expression tag	UNP C1DN94
K	203	VAL	-	expression tag	UNP C1DN94
K	204	ASP	-	expression tag	UNP C1DN94
K	205	LEU	-	expression tag	UNP C1DN94
K	206	VAL	-	expression tag	UNP C1DN94
K	207	PRO	-	expression tag	UNP C1DN94
K	208	ARG	-	expression tag	UNP C1DN94
L	203	VAL	-	expression tag	UNP C1DN94
L	204	ASP	-	expression tag	UNP C1DN94
L	205	LEU	-	expression tag	UNP C1DN94
L	206	VAL	-	expression tag	UNP C1DN94
L	207	PRO	-	expression tag	UNP C1DN94
L	208	ARG	-	expression tag	UNP C1DN94

- Molecule 2 is FE (III) ION (three-letter code: FE) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

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

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	G	1	Total 1	Fe 1	0	0
2	H	1	Total 1	Fe 1	0	0
2	I	1	Total 1	Fe 1	0	0
2	J	1	Total 1	Fe 1	0	0
2	K	1	Total 1	Fe 1	0	0
2	L	1	Total 1	Fe 1	0	0

- Molecule 3 is 3-HYDROXY-PROPANOIC ACID (three-letter code: 3OH) (formula: $C_3H_6O_3$) (labeled as "Ligand of Interest" by depositor).
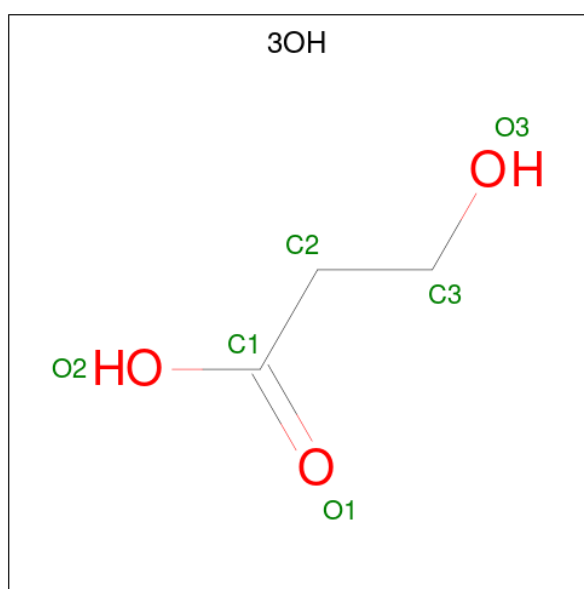
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 6	C 3	O 3	0	0
3	B	1	Total 6	C 3	O 3	0	0
3	C	1	Total 6	C 3	O 3	0	0
3	D	1	Total 6	C 3	O 3	0	0
3	E	1	Total 6	C 3	O 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	F	1	Total 6	C 3	O 3	0	0
3	G	1	Total 6	C 3	O 3	0	0
3	H	1	Total 6	C 3	O 3	0	0
3	I	1	Total 6	C 3	O 3	0	0
3	J	1	Total 6	C 3	O 3	0	0
3	K	1	Total 6	C 3	O 3	0	0
3	L	1	Total 6	C 3	O 3	0	0

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total 1	Cl 1	0	0
4	B	1	Total 1	Cl 1	0	0
4	C	1	Total 1	Cl 1	0	0
4	D	1	Total 1	Cl 1	0	0
4	E	1	Total 1	Cl 1	0	0
4	F	1	Total 1	Cl 1	0	0
4	G	1	Total 1	Cl 1	0	0
4	H	2	Total 2	Cl 2	0	0
4	I	1	Total 1	Cl 1	0	0
4	J	1	Total 1	Cl 1	0	0
4	K	1	Total 1	Cl 1	0	0
4	L	1	Total 1	Cl 1	0	0

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total 1	Mg 1	0	0
5	C	1	Total 1	Mg 1	0	0
5	H	1	Total 1	Mg 1	0	0
5	J	1	Total 1	Mg 1	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	46	Total 46	O 46	0	0
6	B	35	Total 35	O 35	0	0
6	C	38	Total 38	O 38	0	0
6	D	54	Total 54	O 54	0	0
6	E	37	Total 37	O 37	0	0
6	F	27	Total 27	O 27	0	0
6	G	24	Total 24	O 24	0	0
6	H	40	Total 40	O 40	0	0
6	I	26	Total 26	O 26	0	0
6	J	17	Total 17	O 17	0	0
6	K	20	Total 20	O 20	0	0
6	L	31	Total 31	O 31	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: Cysteine dioxygenase type I protein

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- Molecule 1: Cysteine dioxygenase type I protein

- Molecule 1: Cysteine dioxygenase type I protein

Chain F:

Chain F residue bar: MET SER GLU PRO L6 L18 L21 L22 D23 R24 E52 P58 P83 I98 L112 G113 ALA GLU G116 L117 R118 P119 I120 Q130 V131 S135 P136 R137 H142 P149 V158 R167 Y171 L172 PRO ASP GLY SER E177 K178 Q195 E198 SER

ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain G:

Chain G residue bar: MET SER GLU SER P5 L18 D23 R71 I98 E111 L117 R118 P119 I120 V131 S135 H142 F145 P149 D150 V158 A165 E198 SER ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain H:

Chain H residue bar: MET SER GLU SER P5 L18 R60 G84 I98 E111 E115 I120 V131 S135 H142 P149 V158 V166 E198 SER ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain I:

Chain I residue bar: MET SER GLU SER PRO L6 L18 D23 Q85 T86 I98 G99 M100 E105 E111 A114 I120 V131 S135 H142 F145 N146 V158 Y159 K178 D194 GLN SER LYS GLU SER ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain J:

Chain J residue bar: MET SER GLU SER P5 L18 D23 E51 E59 D69 S70 R71 Q72 R73 I98 A107 E111 I120 V131 S135 H142 V158 Q195 S196 K197 E198 SER ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain K:

Chain K residue bar: MET SER GLU SER PRO L6 L18 D27 D57 P58 E59 R71 I98 E111 L117 R118 P119 I120 V131 S135 H142 P149 V158 V170 E198 SER ALA ARG PRO VAL ASP LEU VAL PRO ARG

• Molecule 1: Cysteine dioxygenase type I protein

Chain L:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, α, β, γ	178.22Å 178.22Å 75.92Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	46.26 – 2.25 46.26 – 2.25	Depositor EDS
% Data completeness (in resolution range)	99.8 (46.26-2.25) 99.8 (46.26-2.25)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.23 (at 2.24Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.196 , 0.226 0.201 , 0.229	Depositor DCC
R_{free} test set	6243 reflections (4.88%)	wwPDB-VP
Wilson B-factor (Å^2)	49.3	Xtriage
Anisotropy	0.364	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 24.5	EDS
L-test for twinning[2]	$< |L| > = 0.47$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	0.107 for -h,-k,l 0.357 for h,-h-k,-l 0.099 for -k,-h,-l	Xtriage
Reported twinning fraction	0.663 for H, K, L 0.337 for K, H, -L	Depositor
Outliers	0 of 127953 reflections	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	18870	wwPDB-VP
Average B, all atoms (Å^2)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.95% 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: MG, 3OH, CL, FE

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	0.64	0/1587	0.75	0/2158
1	B	0.64	0/1583	0.77	0/2152
1	C	0.64	0/1573	0.76	0/2142
1	D	0.64	0/1594	0.75	0/2166
1	E	0.63	0/1583	0.77	0/2152
1	F	0.64	0/1531	0.75	0/2079
1	G	0.62	0/1591	0.75	0/2163
1	H	0.64	0/1587	0.77	0/2159
1	I	0.64	0/1550	0.75	0/2109
1	J	0.62	0/1591	0.77	2/2163 (0.1%)
1	K	0.63	0/1577	0.75	0/2145
1	L	0.62	0/1532	0.75	0/2083
All	All	0.63	0/18879	0.76	2/25671 (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	J	5	PRO	CA-N-CD	-5.71	103.51	111.50
1	J	73	ARG	CG-CD-NE	5.19	122.69	111.80

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	1544	0	1485	13	0
1	B	1541	0	1481	10	0
1	C	1530	0	1463	5	0
1	D	1552	0	1493	16	0
1	E	1541	0	1481	11	0
1	F	1492	0	1434	12	0
1	G	1548	0	1489	8	0
1	H	1544	0	1478	9	0
1	I	1508	0	1449	14	0
1	J	1548	0	1489	8	0
1	K	1535	0	1470	10	0
1	L	1491	0	1429	13	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
2	G	1	0	0	0	0
2	H	1	0	0	0	0
2	I	1	0	0	0	0
2	J	1	0	0	0	0
2	K	1	0	0	0	0
2	L	1	0	0	0	0
3	A	6	0	4	0	0
3	B	6	0	4	0	0
3	C	6	0	4	1	0
3	D	6	0	4	0	0
3	E	6	0	4	0	0
3	F	6	0	4	0	0
3	G	6	0	4	0	0
3	H	6	0	4	0	0
3	I	6	0	4	0	0
3	J	6	0	4	0	0
3	K	6	0	4	0	0
3	L	6	0	4	2	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	F	1	0	0	0	0
4	G	1	0	0	0	0
4	H	2	0	0	0	0
4	I	1	0	0	1	0
4	J	1	0	0	0	0
4	K	1	0	0	0	0
4	L	1	0	0	0	0
5	A	1	0	0	0	0
5	C	1	0	0	0	0
5	H	1	0	0	0	0
5	J	1	0	0	0	0
6	A	46	0	0	1	0
6	B	35	0	0	1	0
6	C	38	0	0	0	0
6	D	54	0	0	2	0
6	E	37	0	0	2	0
6	F	27	0	0	4	0
6	G	24	0	0	2	0
6	H	40	0	0	1	0
6	I	26	0	0	2	0
6	J	17	0	0	1	0
6	K	20	0	0	4	0
6	L	31	0	0	1	0
All	All	18870	0	17689	103	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 3.

All (103) 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:H:149:PRO:HB3	1:L:172:LEU:HD23	1.46	0.96
1:H:149:PRO:HB3	1:L:172:LEU:CD2	2.09	0.82
1:A:111:GLU:HG2	1:A:118:ARG:HG3	1.64	0.79
1:A:111:GLU:CG	1:A:118:ARG:HG3	2.14	0.77
1:D:71[A]:ARG:NH1	1:E:23:ASP:OD2	2.26	0.68
1:I:159:TYR:OH	4:I:303:CL:CL	2.43	0.68
1:K:27:ASP:HB2	6:K:409:HOH:O	1.96	0.65
1:D:195:GLN:NE2	6:D:405:HOH:O	2.34	0.60
1:F:58:PRO:O	1:I:145:PHE:CE2	2.55	0.59
1:K:111:GLU:OE1	1:K:118:ARG:NH1	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:111:GLU:HB3	1:D:120:ILE:HD11	1.85	0.58
1:K:57:ASP:OD1	1:K:59:GLU:HG2	2.04	0.58
1:A:111:GLU:HB3	1:A:120:ILE:HD11	1.86	0.57
1:K:120:ILE:HD12	6:K:420:HOH:O	2.03	0.57
1:E:176:SER:HA	6:E:431:HOH:O	2.04	0.57
1:L:111:GLU:HB3	1:L:120:ILE:HD11	1.86	0.57
1:K:111:GLU:HB2	1:K:120:ILE:HD11	1.86	0.57
1:E:198:GLU:HA	6:E:406:HOH:O	2.05	0.56
1:D:71[A]:ARG:NH1	1:E:20:GLU:HA	2.21	0.56
1:A:151:GLN:HG3	1:D:150:ASP:OD1	2.06	0.55
1:F:130:GLN:HG3	6:F:405:HOH:O	2.06	0.55
1:G:111:GLU:HB2	1:G:120:ILE:HD11	1.87	0.55
1:F:58:PRO:CB	1:I:146:ASN:O	2.56	0.54
1:L:79:PHE:CE1	3:L:302:3OH:H22	2.44	0.53
1:L:40:GLY:HA3	6:L:419:HOH:O	2.07	0.53
1:H:111:GLU:HB2	1:H:120:ILE:HD11	1.90	0.52
1:J:111:GLU:HB2	1:J:120:ILE:HD11	1.91	0.51
1:B:111:GLU:HB2	1:B:120:ILE:HD11	1.92	0.51
1:D:71[A]:ARG:O	1:D:71[A]:ARG:HG3	2.10	0.51
1:E:111:GLU:HB2	1:E:120:ILE:HD11	1.93	0.51
1:E:59:GLU:O	1:E:60:ARG:HG3	2.11	0.51
1:J:23:ASP:OD2	1:L:71:ARG:NE	2.44	0.50
1:L:79:PHE:CZ	3:L:302:3OH:H22	2.46	0.49
1:H:18:LEU:HD21	1:H:158:VAL:HG11	1.95	0.49
1:H:149:PRO:CB	1:L:172:LEU:CD2	2.88	0.49
1:H:166:VAL:O	6:H:401:HOH:O	2.20	0.49
1:I:85:GLN:HA	6:I:406:HOH:O	2.11	0.49
1:G:71:ARG:NE	6:G:405:HOH:O	2.45	0.48
1:J:23:ASP:OD2	1:L:71:ARG:NH2	2.47	0.48
1:K:27:ASP:CB	6:K:409:HOH:O	2.59	0.48
1:F:52:GLU:HA	6:F:421:HOH:O	2.14	0.47
1:F:24:ARG:HG3	6:F:418:HOH:O	2.14	0.47
1:F:58:PRO:HB3	1:I:146:ASN:O	2.14	0.47
1:A:149:PRO:CD	1:D:149:PRO:HD3	2.44	0.47
1:K:27:ASP:CG	6:K:409:HOH:O	2.53	0.46
1:G:119:PRO:HB2	6:G:408:HOH:O	2.15	0.46
1:F:83:PRO:HB2	1:I:86:THR:HG21	1.98	0.46
1:A:149:PRO:CD	1:D:149:PRO:CD	2.94	0.46
1:J:71:ARG:NH1	1:L:23:ASP:OD1	2.49	0.46
1:I:111:GLU:HB2	1:I:120:ILE:HD11	1.97	0.46
1:D:18:LEU:HD21	1:D:158:VAL:HG11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:18:LEU:HD21	1:G:158:VAL:HG11	1.98	0.45
1:J:69:ASP:OD2	1:J:73:ARG:HD3	2.16	0.45
1:B:71:ARG:NH2	1:G:23:ASP:OD2	2.42	0.45
1:I:100:MET:SD	1:I:105:GLU:HG2	2.57	0.45
1:B:56:PRO:HA	6:B:406:HOH:O	2.16	0.44
1:F:18:LEU:HD21	1:F:158:VAL:HG11	1.99	0.44
1:J:18:LEU:HD21	1:J:158:VAL:HG11	1.99	0.44
1:B:195:GLN:HG3	1:G:165:ALA:HB2	2.00	0.43
1:D:71[B]:ARG:NH1	1:E:23:ASP:OD1	2.51	0.43
1:F:58:PRO:HB2	1:I:146:ASN:O	2.17	0.43
1:I:23:ASP:OD1	1:K:71:ARG:NH1	2.51	0.43
1:K:18:LEU:HD21	1:K:158:VAL:HG11	2.01	0.43
1:J:98:ILE:O	1:J:131:VAL:HA	2.19	0.43
1:A:111:GLU:CG	1:A:118:ARG:CG	2.92	0.43
1:C:98:ILE:O	1:C:131:VAL:HA	2.19	0.43
1:A:18:LEU:HD21	1:A:158:VAL:HG11	2.00	0.43
1:D:98:ILE:O	1:D:131:VAL:HA	2.19	0.43
1:F:98:ILE:O	1:F:131:VAL:HA	2.19	0.43
1:L:98:ILE:O	1:L:131:VAL:HA	2.19	0.43
1:I:98:ILE:O	1:I:131:VAL:HA	2.19	0.42
1:C:100:MET:SD	1:C:105:GLU:HG2	2.60	0.42
1:A:100:MET:SD	1:A:105:GLU:HG2	2.60	0.42
1:K:98:ILE:O	1:K:131:VAL:HA	2.19	0.42
1:B:18:LEU:HD21	1:B:158:VAL:HG11	2.00	0.42
1:E:100:MET:SD	1:E:105:GLU:HG2	2.60	0.42
1:A:98:ILE:O	1:A:131:VAL:HA	2.19	0.42
1:A:149:PRO:HD2	1:D:149:PRO:HD2	2.01	0.42
1:B:100:MET:SD	1:B:105:GLU:HG2	2.60	0.42
1:B:18:LEU:CD2	1:B:158:VAL:HG11	2.50	0.42
1:E:98:ILE:O	1:E:131:VAL:HA	2.20	0.42
1:G:98:ILE:O	1:G:131:VAL:HA	2.19	0.41
1:D:166:VAL:O	6:D:401:HOH:O	2.21	0.41
1:B:98:ILE:O	1:B:131:VAL:HA	2.19	0.41
1:D:100:MET:SD	1:D:105:GLU:HG2	2.61	0.41
1:E:18:LEU:CD2	1:E:158:VAL:HG11	2.50	0.41
1:H:98:ILE:O	1:H:131:VAL:HA	2.19	0.41
1:A:44:ARG:HG3	6:A:431:HOH:O	2.21	0.41
1:F:167:ARG:NH2	6:F:407:HOH:O	2.53	0.41
1:I:178:LYS:HD2	6:I:422:HOH:O	2.20	0.41
1:B:88:PRO:HA	1:D:59:GLU:CD	2.41	0.41
1:J:142:HIS:HB3	6:J:415:HOH:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:18:LEU:HD21	1:C:158:VAL:HG11	2.02	0.41
1:H:84:GLY:O	1:L:173:PRO:HG3	2.20	0.41
1:A:149:PRO:HD2	1:D:149:PRO:CD	2.51	0.40
1:B:23:ASP:OD2	1:G:71:ARG:NH1	2.55	0.40
1:C:79:PHE:CE1	3:C:302:3OH:H22	2.56	0.40
1:L:18:LEU:HD21	1:L:158:VAL:HG11	2.03	0.40
1:E:18:LEU:HD21	1:E:158:VAL:HG11	2.01	0.40
1:F:58:PRO:O	1:I:145:PHE:CD2	2.74	0.40
1:I:18:LEU:CD2	1:I:158:VAL:HG11	2.52	0.40
1:C:18:LEU:CD2	1:C:158:VAL:HG11	2.51	0.40
1:H:18:LEU:HD21	1:H:158:VAL:CG1	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	192/208 (92%)	186 (97%)	6 (3%)	0	100	100
1	B	191/208 (92%)	185 (97%)	6 (3%)	0	100	100
1	C	191/208 (92%)	183 (96%)	8 (4%)	0	100	100
1	D	192/208 (92%)	185 (96%)	7 (4%)	0	100	100
1	E	191/208 (92%)	185 (97%)	6 (3%)	0	100	100
1	F	181/208 (87%)	174 (96%)	7 (4%)	0	100	100
1	G	192/208 (92%)	185 (96%)	7 (4%)	0	100	100
1	H	192/208 (92%)	185 (96%)	7 (4%)	0	100	100
1	I	187/208 (90%)	181 (97%)	6 (3%)	0	100	100
1	J	192/208 (92%)	185 (96%)	7 (4%)	0	100	100
1	K	191/208 (92%)	183 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	L	182/208 (88%)	176 (97%)	6 (3%)	0	100 100
All	All	2274/2496 (91%)	2193 (96%)	81 (4%)	0	100 100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	165/179 (92%)	163 (99%)	2 (1%)	71 80
1	B	165/179 (92%)	163 (99%)	2 (1%)	71 80
1	C	164/179 (92%)	162 (99%)	2 (1%)	71 80
1	D	166/179 (93%)	164 (99%)	2 (1%)	71 80
1	E	165/179 (92%)	163 (99%)	2 (1%)	71 80
1	F	159/179 (89%)	157 (99%)	2 (1%)	69 79
1	G	166/179 (93%)	164 (99%)	2 (1%)	71 80
1	H	165/179 (92%)	162 (98%)	3 (2%)	59 68
1	I	161/179 (90%)	158 (98%)	3 (2%)	57 66
1	J	166/179 (93%)	164 (99%)	2 (1%)	71 80
1	K	164/179 (92%)	161 (98%)	3 (2%)	59 68
1	L	160/179 (89%)	158 (99%)	2 (1%)	69 79
All	All	1966/2148 (92%)	1939 (99%)	27 (1%)	67 76

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

Mol	Chain	Res	Type
1	A	135	SER
1	A	142	HIS
1	B	135	SER
1	B	142	HIS
1	C	135	SER

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W O R L D W I D E
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PROTEIN DATA BANK

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Mol	Chain	Res	Type
1	C	142	HIS
1	D	135	SER
1	D	142	HIS
1	E	135	SER
1	E	142	HIS
1	F	135	SER
1	F	142	HIS
1	G	135	SER
1	G	142	HIS
1	H	60	ARG
1	H	135	SER
1	H	142	HIS
1	I	111	GLU
1	I	135	SER
1	I	142	HIS
1	J	135	SER
1	J	142	HIS
1	K	118	ARG
1	K	135	SER
1	K	142	HIS
1	L	135	SER
1	L	142	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 41 ligands modelled in this entry, 29 are monoatomic - leaving 12 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	3OH	I	302	2	5,5,5	1.82	2 (40%)	4,5,5	1.93	2 (50%)
3	3OH	F	302	2	5,5,5	0.20	0	4,5,5	0.53	0
3	3OH	B	302	2	5,5,5	0.41	0	4,5,5	0.19	0
3	3OH	E	302	2	5,5,5	1.43	2 (40%)	4,5,5	2.61	2 (50%)
3	3OH	K	302	2	5,5,5	0.41	0	4,5,5	0.13	0
3	3OH	L	302	2	5,5,5	1.68	2 (40%)	4,5,5	2.21	2 (50%)
3	3OH	A	302	2	5,5,5	1.72	2 (40%)	4,5,5	2.22	2 (50%)
3	3OH	D	302	2	5,5,5	0.33	0	4,5,5	0.09	0
3	3OH	C	302	2	5,5,5	1.55	2 (40%)	4,5,5	2.50	2 (50%)
3	3OH	J	302	2	5,5,5	0.20	0	4,5,5	0.48	0
3	3OH	G	302	2	5,5,5	1.55	2 (40%)	4,5,5	2.40	2 (50%)
3	3OH	H	302	2	5,5,5	0.42	0	4,5,5	0.48	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	3OH	I	302	2	-	0/3/3/3	-
3	3OH	F	302	2	-	1/3/3/3	-
3	3OH	B	302	2	-	0/3/3/3	-
3	3OH	E	302	2	-	2/3/3/3	-
3	3OH	K	302	2	-	0/3/3/3	-
3	3OH	L	302	2	-	1/3/3/3	-
3	3OH	A	302	2	-	0/3/3/3	-
3	3OH	D	302	2	-	0/3/3/3	-
3	3OH	C	302	2	-	2/3/3/3	-
3	3OH	J	302	2	-	1/3/3/3	-
3	3OH	G	302	2	-	2/3/3/3	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	3OH	H	302	2	-	0/3/3/3	-

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	I	302	3OH	O2-C1	-3.27	1.19	1.30
3	A	302	3OH	O2-C1	-2.86	1.21	1.30
3	L	302	3OH	O1-C1	2.81	1.31	1.22
3	G	302	3OH	O1-C1	2.68	1.31	1.22
3	C	302	3OH	O1-C1	2.59	1.30	1.22
3	A	302	3OH	O1-C1	2.51	1.30	1.22
3	L	302	3OH	O2-C1	-2.41	1.22	1.30
3	I	302	3OH	O1-C1	2.41	1.30	1.22
3	C	302	3OH	O2-C1	-2.25	1.23	1.30
3	E	302	3OH	O2-C1	-2.24	1.23	1.30
3	E	302	3OH	O1-C1	2.22	1.29	1.22
3	G	302	3OH	O2-C1	-2.19	1.23	1.30

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	E	302	3OH	O1-C1-C2	-3.82	110.81	123.08
3	C	302	3OH	O1-C1-C2	-3.60	111.51	123.08
3	E	302	3OH	O2-C1-C2	3.56	125.48	114.03
3	G	302	3OH	O1-C1-C2	-3.32	112.40	123.08
3	L	302	3OH	O1-C1-C2	-3.30	112.47	123.08
3	G	302	3OH	O2-C1-C2	3.24	124.45	114.03
3	C	302	3OH	O2-C1-C2	3.16	124.18	114.03
3	A	302	3OH	O2-C1-C2	3.15	124.14	114.03
3	A	302	3OH	O1-C1-C2	-3.09	113.15	123.08
3	L	302	3OH	O2-C1-C2	2.84	123.16	114.03
3	I	302	3OH	O2-C1-C2	2.74	122.83	114.03
3	I	302	3OH	O1-C1-C2	-2.70	114.42	123.08

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	F	302	3OH	C1-C2-C3-O3
3	E	302	3OH	O2-C1-C2-C3
3	C	302	3OH	O1-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
3	C	302	3OH	O2-C1-C2-C3
3	G	302	3OH	O1-C1-C2-C3
3	E	302	3OH	O1-C1-C2-C3
3	G	302	3OH	O2-C1-C2-C3
3	L	302	3OH	O2-C1-C2-C3
3	J	302	3OH	C1-C2-C3-O3

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L	302	3OH	2	0
3	C	302	3OH	1	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 3OH I 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH F 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH B 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH E 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH K 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH L 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH A 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH D 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH C 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH J 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH G 302

Bond lengths

Bond angles

Torsions

Rings

Ligand 3OH H 302

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	194/208 (93%)	-0.05	2 (1%)	82	84	40, 51, 73, 97	0
1	B	193/208 (92%)	-0.00	4 (2%)	63	66	41, 54, 84, 102	0
1	C	193/208 (92%)	0.00	2 (1%)	82	84	38, 53, 81, 116	0
1	D	193/208 (92%)	-0.02	4 (2%)	63	66	37, 48, 71, 95	0
1	E	193/208 (92%)	-0.05	2 (1%)	82	84	36, 50, 77, 100	0
1	F	187/208 (89%)	0.46	13 (6%)	16	17	40, 64, 96, 115	0
1	G	194/208 (93%)	0.20	4 (2%)	63	66	43, 61, 92, 125	0
1	H	194/208 (93%)	-0.10	1 (0%)	91	91	38, 51, 71, 111	0
1	I	189/208 (90%)	-0.18	1 (0%)	91	91	41, 52, 74, 92	0
1	J	194/208 (93%)	-0.15	5 (2%)	56	59	42, 52, 75, 99	0
1	K	193/208 (92%)	0.01	4 (2%)	63	66	41, 53, 79, 101	0
1	L	186/208 (89%)	-0.08	3 (1%)	72	74	42, 56, 79, 99	0
All	All	2303/2496 (92%)	0.00	45 (1%)	65	68	36, 53, 83, 125	0

All (45) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	L	147	ALA	5.5
1	F	172	LEU	5.0
1	G	149	PRO	4.9
1	F	18	LEU	4.1
1	F	178	LYS	3.7
1	G	117	LEU	3.6
1	B	115	GLU	3.5
1	F	171	TYR	3.1
1	B	149	PRO	3.1
1	F	120	ILE	2.9
1	B	196	SER	2.8

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Mol	Chain	Res	Type	RSRZ
1	K	117	LEU	2.8
1	C	115	GLU	2.8
1	D	198	GLU	2.8
1	J	51	GLU	2.7
1	F	112	LEU	2.6
1	K	170	VAL	2.5
1	I	114	ALA	2.5
1	B	195	GLN	2.5
1	F	119	PRO	2.4
1	F	21	LEU	2.4
1	K	149	PRO	2.3
1	E	60	ARG	2.3
1	L	51	GLU	2.3
1	H	115	GLU	2.3
1	D	196	SER	2.3
1	J	197	LYS	2.3
1	E	197	LYS	2.2
1	K	6	LEU	2.2
1	L	150	ASP	2.2
1	J	195	GLN	2.2
1	A	198	GLU	2.2
1	F	195	GLN	2.2
1	F	149	PRO	2.2
1	C	118	ARG	2.2
1	D	18	LEU	2.1
1	F	137	ARG	2.1
1	F	117	LEU	2.1
1	J	107	ALA	2.1
1	D	120	ILE	2.0
1	A	18	LEU	2.0
1	J	59	GLU	2.0
1	G	150	ASP	2.0
1	G	145	PHE	2.0
1	F	22	LEU	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
5	MG	A	304	1/1	0.89	0.07	52,52,52,52	0
3	3OH	G	302	6/6	0.92	0.12	51,57,61,65	0
5	MG	J	304	1/1	0.92	0.05	51,51,51,51	0
4	CL	I	303	1/1	0.93	0.09	60,60,60,60	0
3	3OH	H	302	6/6	0.93	0.11	44,45,47,55	0
4	CL	D	303	1/1	0.93	0.07	68,68,68,68	0
5	MG	H	305	1/1	0.94	0.06	51,51,51,51	0
5	MG	C	304	1/1	0.94	0.05	49,49,49,49	0
3	3OH	J	302	6/6	0.95	0.13	40,51,57,59	0
4	CL	L	303	1/1	0.95	0.08	71,71,71,71	0
3	3OH	L	302	6/6	0.96	0.12	42,52,53,56	0
3	3OH	E	302	6/6	0.96	0.13	48,54,57,57	0
3	3OH	A	302	6/6	0.96	0.14	47,53,53,57	0
3	3OH	K	302	6/6	0.96	0.09	50,54,58,59	0
2	FE	L	301	1/1	0.97	0.15	54,54,54,54	0
4	CL	H	304	1/1	0.97	0.12	62,62,62,62	0
4	CL	A	303	1/1	0.97	0.09	54,54,54,54	0
4	CL	C	303	1/1	0.97	0.12	60,60,60,60	0
4	CL	G	303	1/1	0.98	0.08	69,69,69,69	0
4	CL	H	303	1/1	0.98	0.05	72,72,72,72	0
2	FE	F	301	1/1	0.98	0.13	60,60,60,60	0
3	3OH	B	302	6/6	0.98	0.14	43,47,48,48	0
4	CL	K	303	1/1	0.98	0.05	66,66,66,66	0
2	FE	G	301	1/1	0.98	0.13	58,58,58,58	0
3	3OH	F	302	6/6	0.98	0.14	63,67,68,71	0
4	CL	B	303	1/1	0.98	0.07	54,54,54,54	0
2	FE	K	301	1/1	0.98	0.12	56,56,56,56	0
2	FE	A	301	1/1	0.98	0.11	48,48,48,48	0
3	3OH	D	302	6/6	0.99	0.10	38,51,53,54	0
2	FE	D	301	1/1	0.99	0.16	47,47,47,47	0
2	FE	E	301	1/1	0.99	0.15	49,49,49,49	0
4	CL	J	303	1/1	0.99	0.07	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	FE	H	301	1/1	0.99	0.13	52,52,52,52	0
2	FE	J	301	1/1	0.99	0.12	53,53,53,53	0
3	3OH	I	302	6/6	0.99	0.10	44,48,52,55	0
4	CL	E	303	1/1	0.99	0.10	62,62,62,62	0
4	CL	F	303	1/1	0.99	0.06	59,59,59,59	0
3	3OH	C	302	6/6	0.99	0.11	45,50,52,53	0
2	FE	I	301	1/1	1.00	0.13	51,51,51,51	0
2	FE	C	301	1/1	1.00	0.15	48,48,48,48	0
2	FE	B	301	1/1	1.00	0.16	44,44,44,44	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.

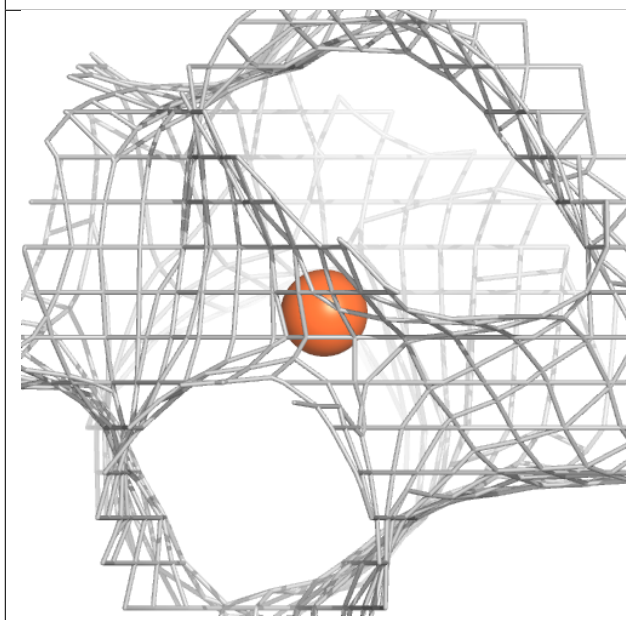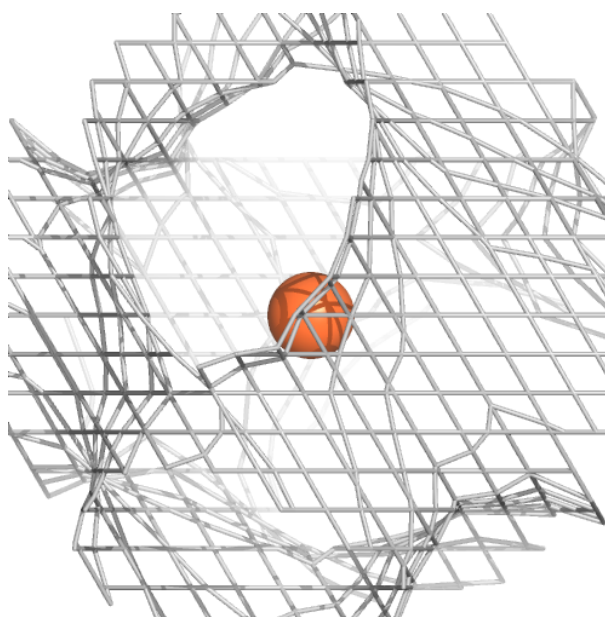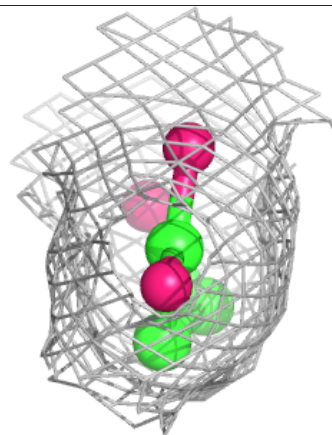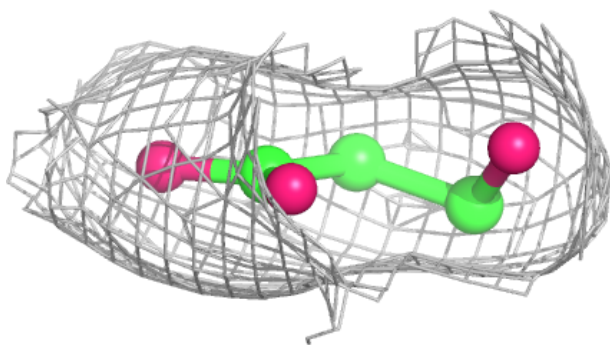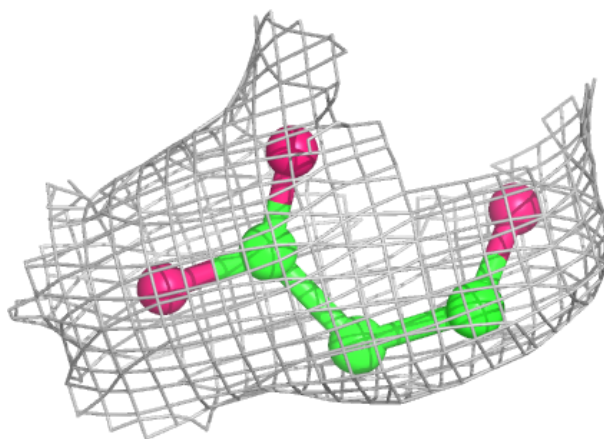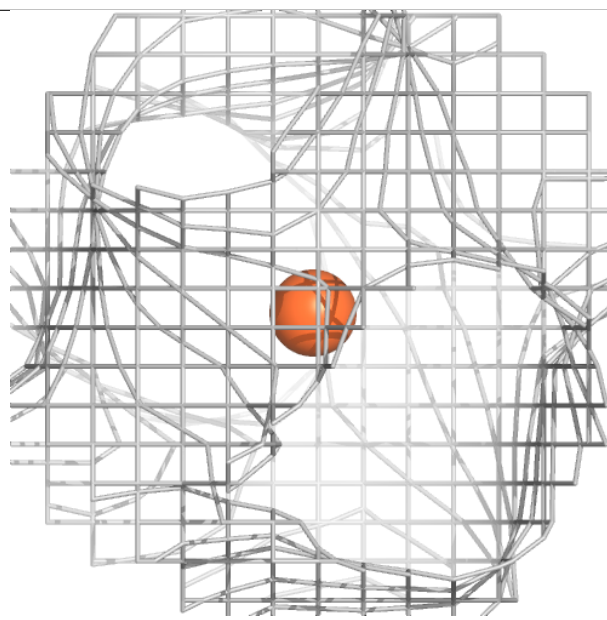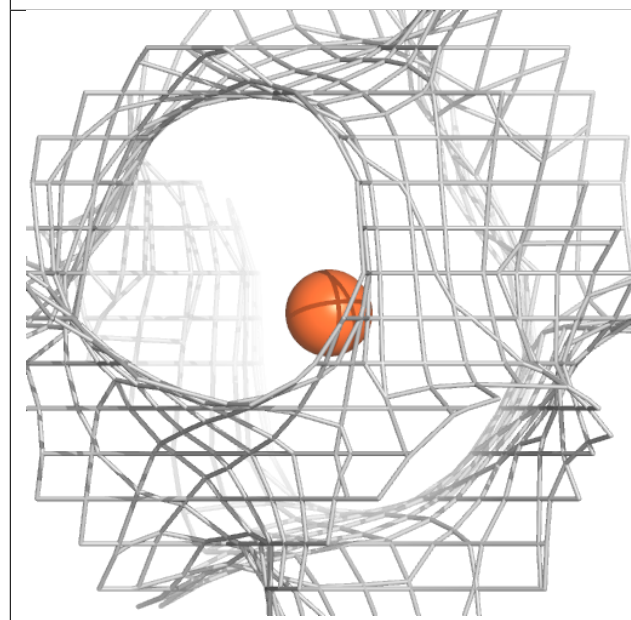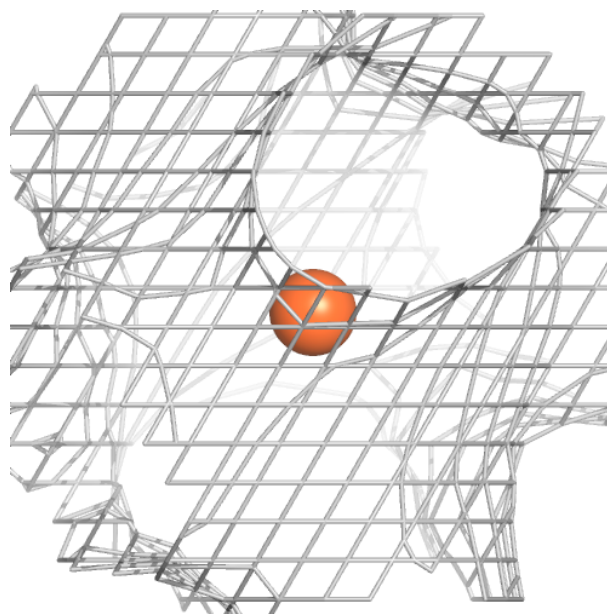

Electron density around 3OH G 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
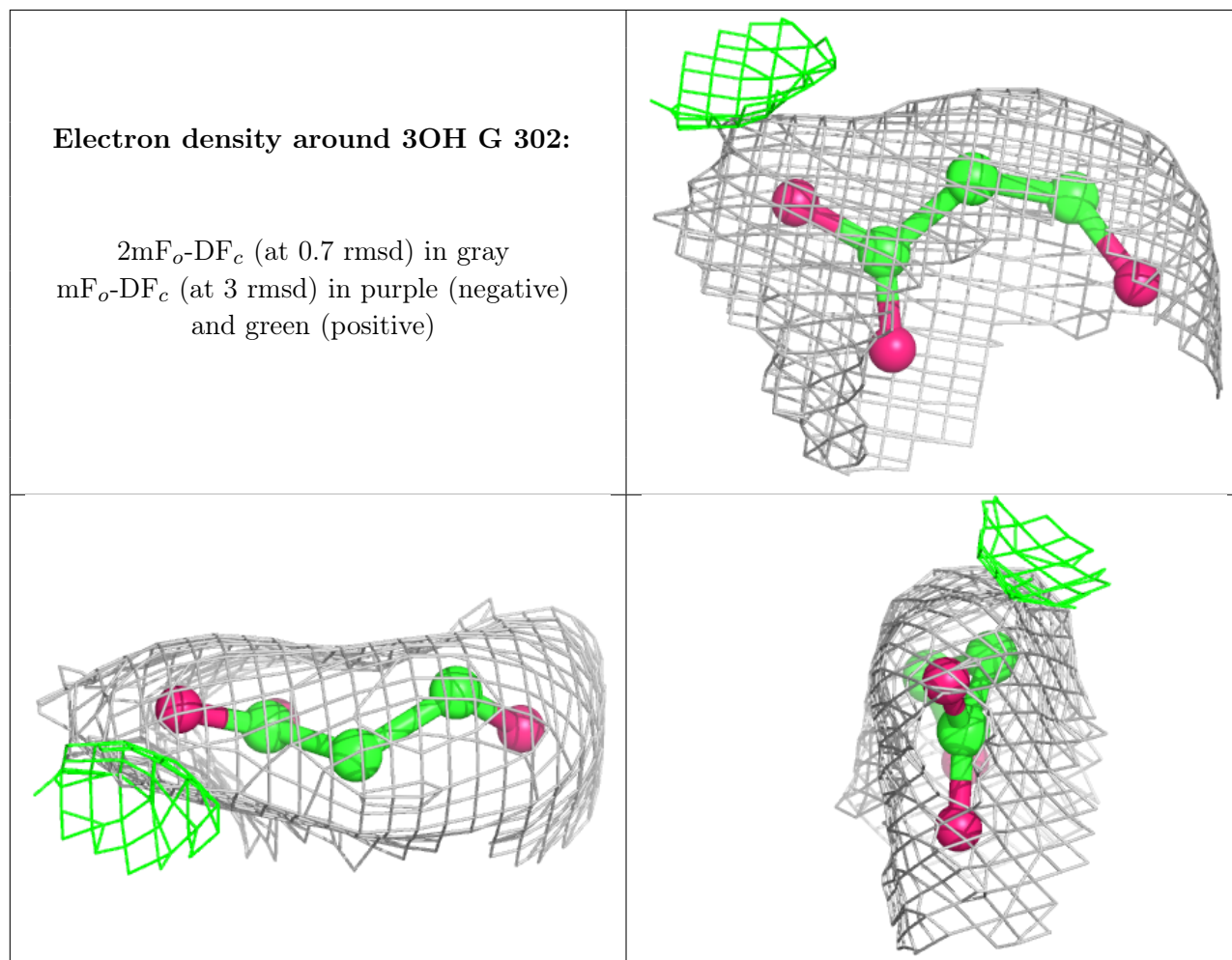
Electron density around CL I 303:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
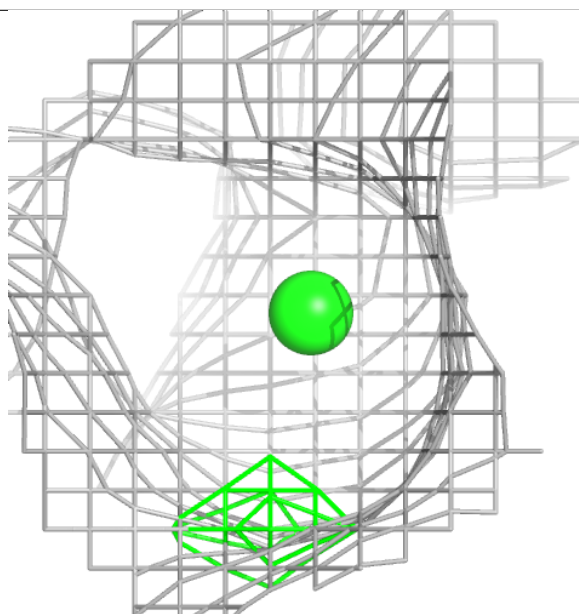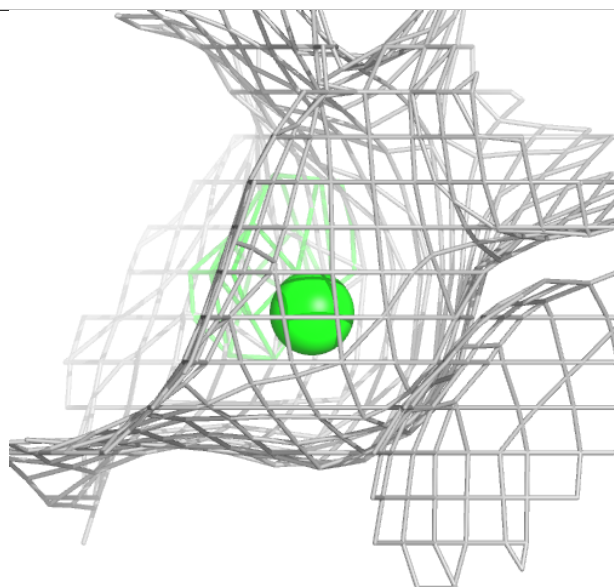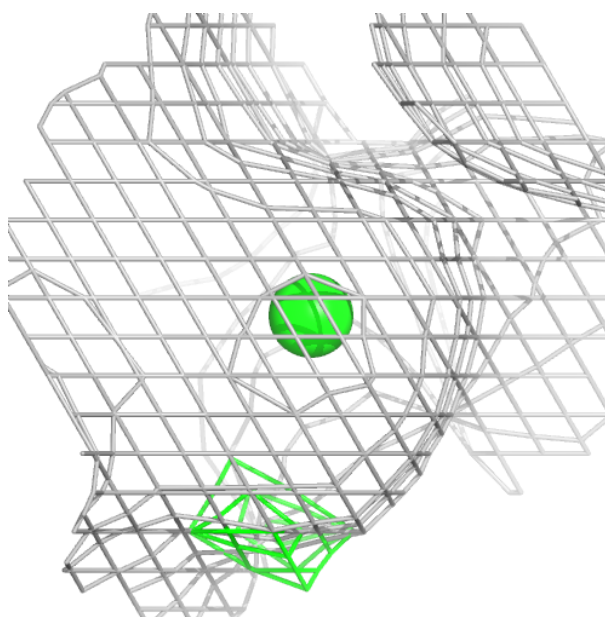
Electron density around 3OH H 302:

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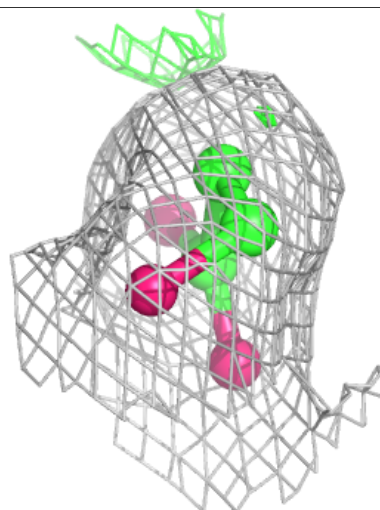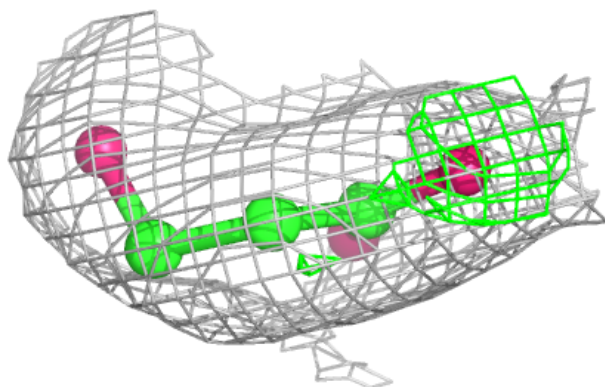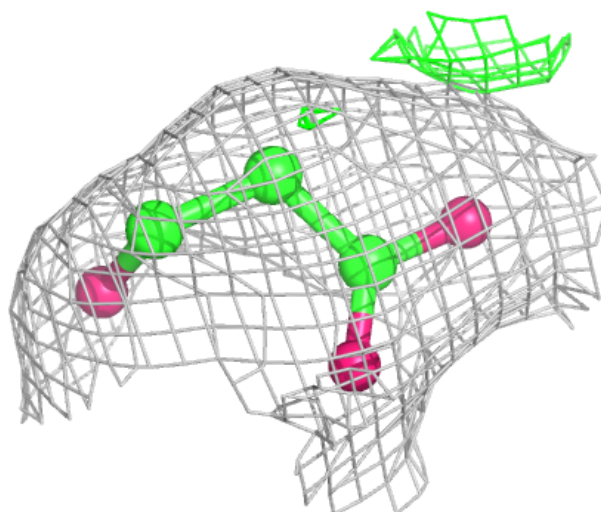
Electron density around CL D 303:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
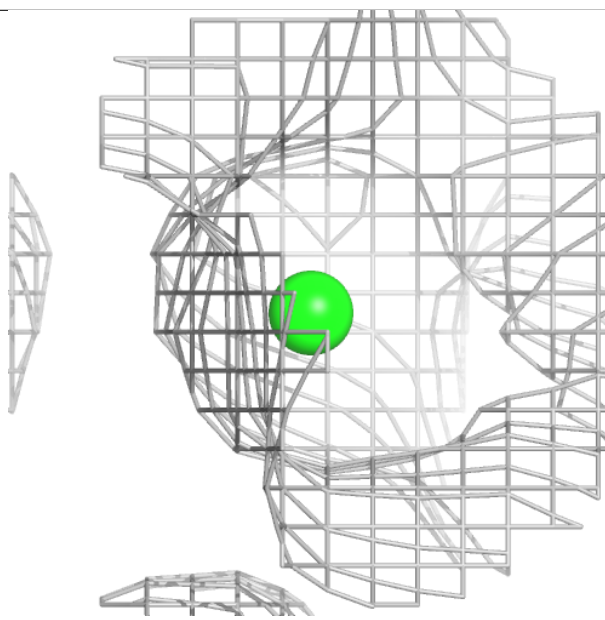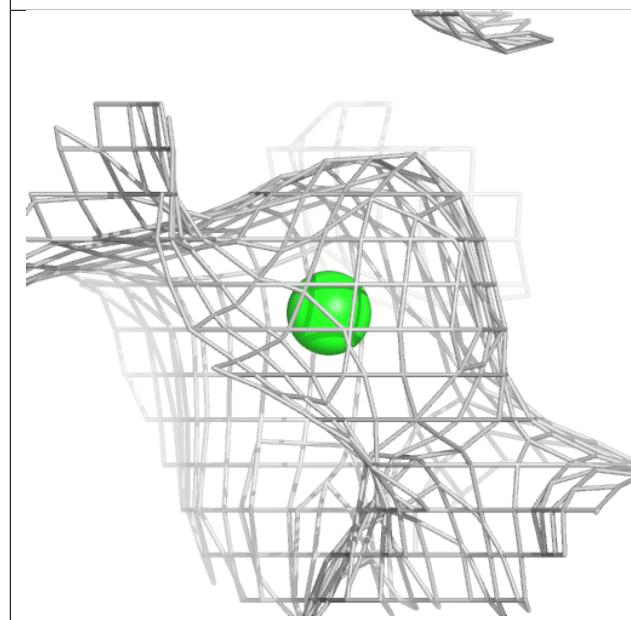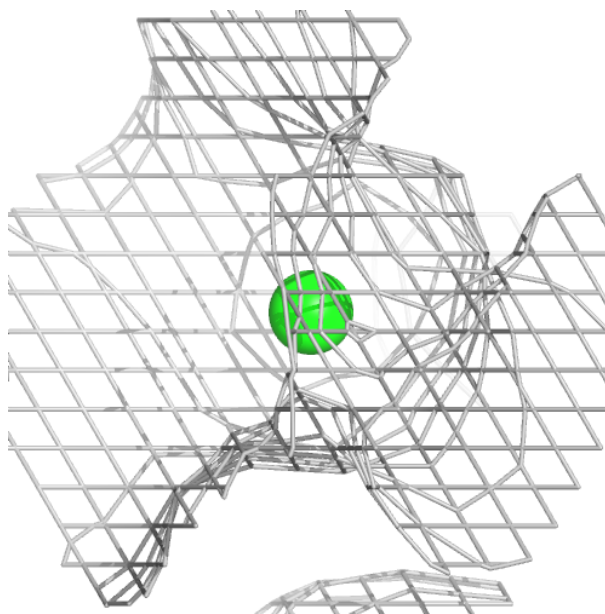
Electron density around 3OH J 302:

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

Electron density around CL L 303:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
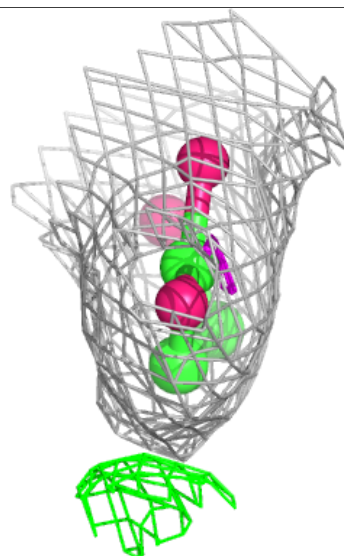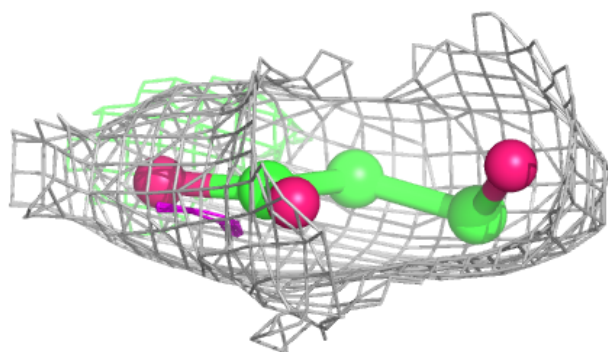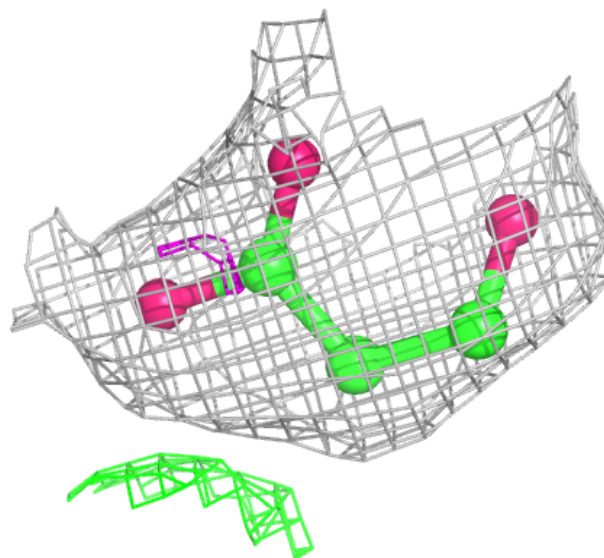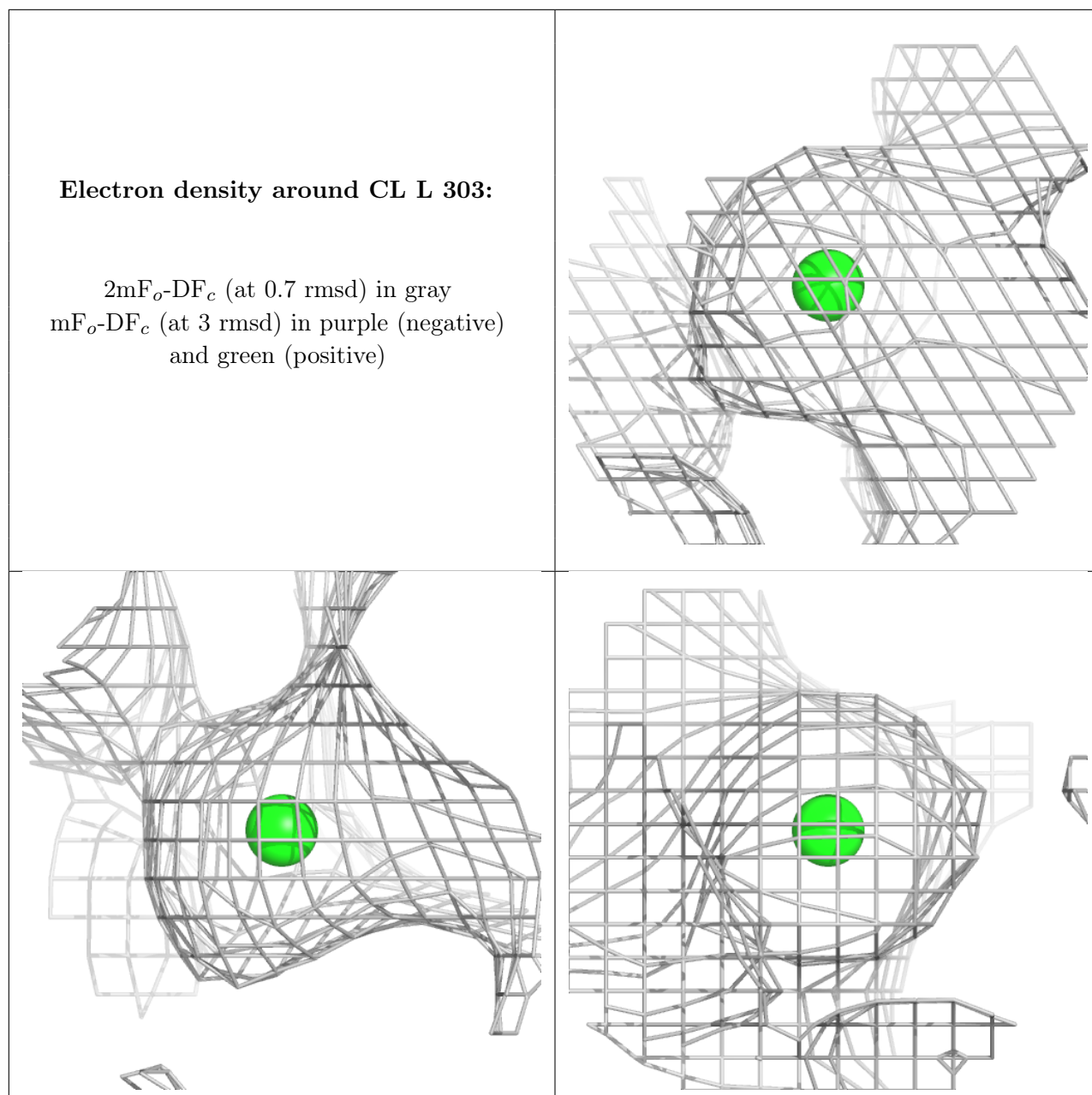
Electron density around 3OH L 302:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
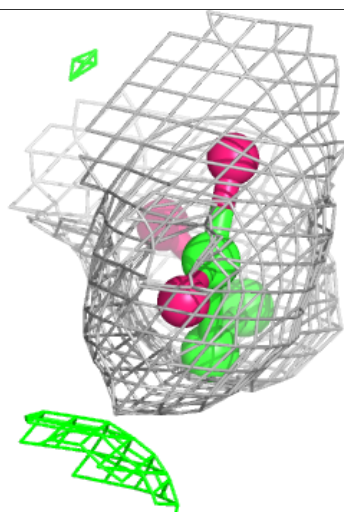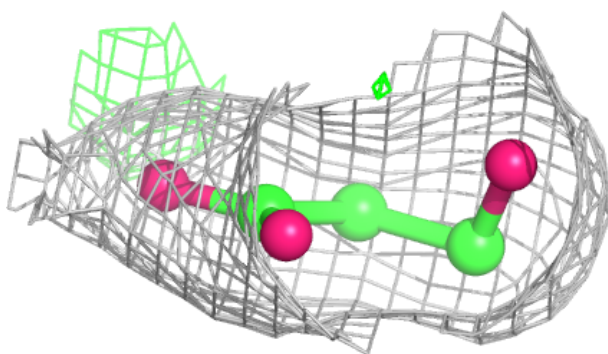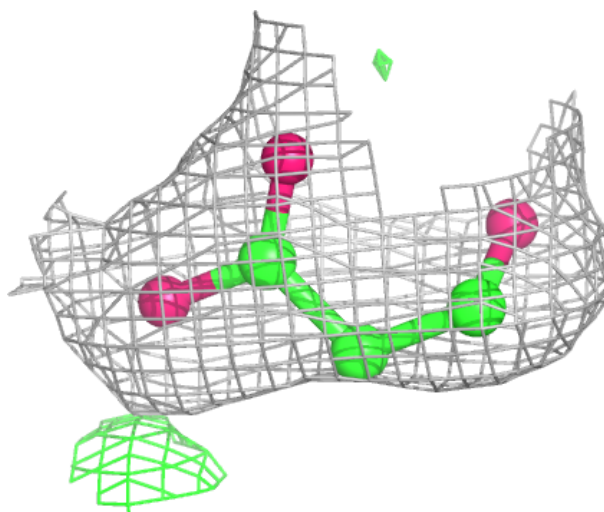
Electron density around 3OH E 302:

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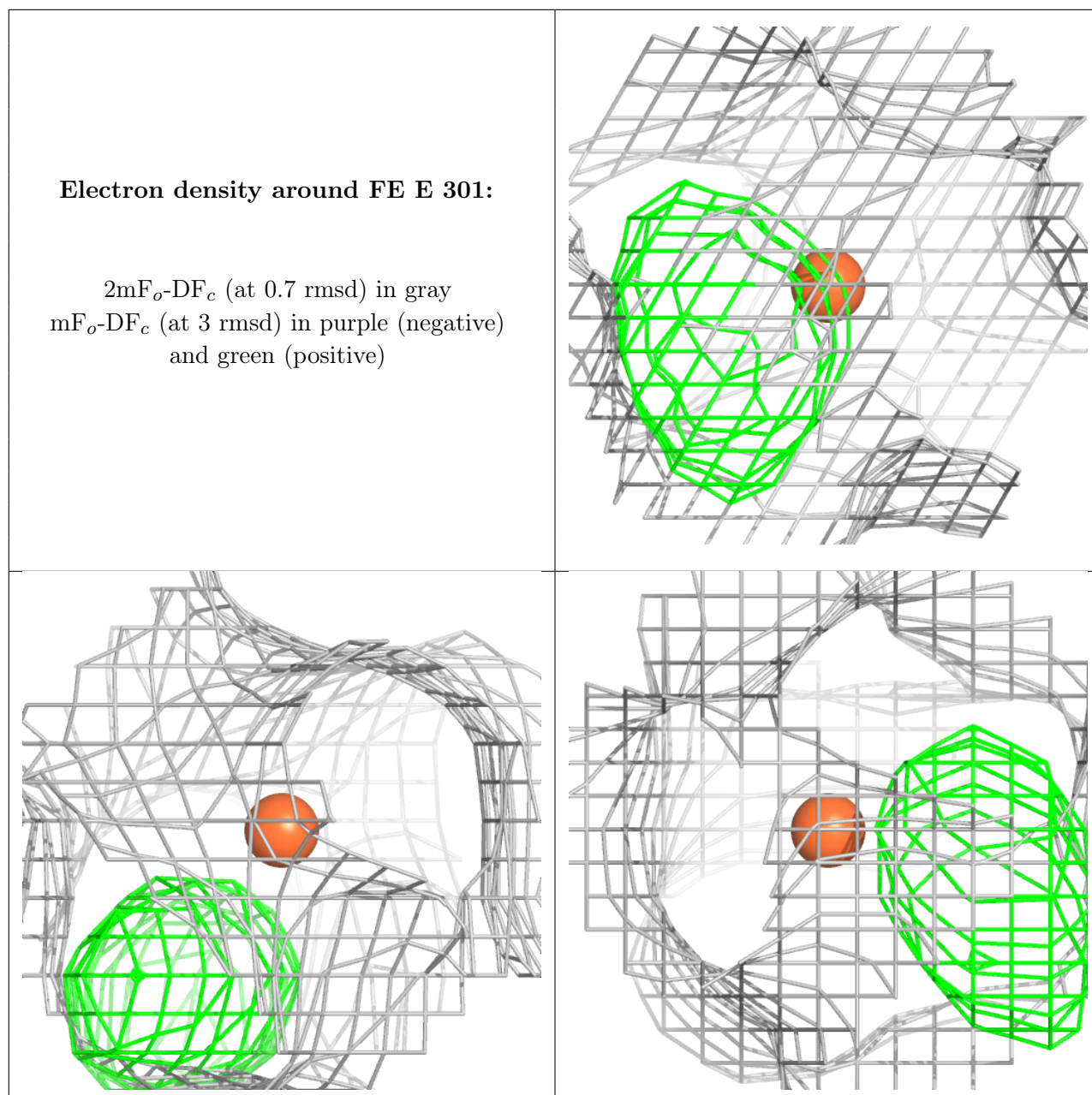mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
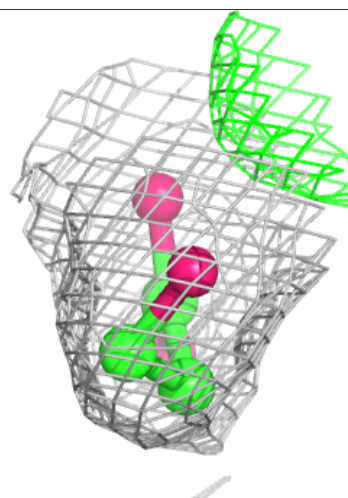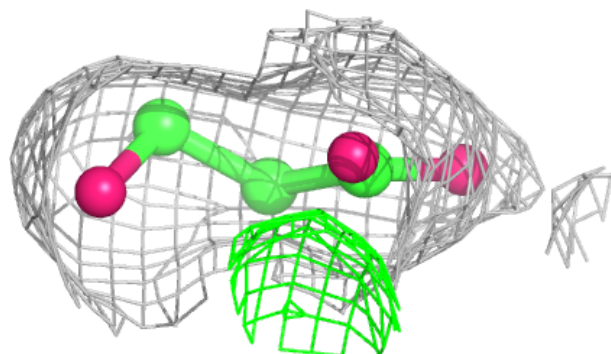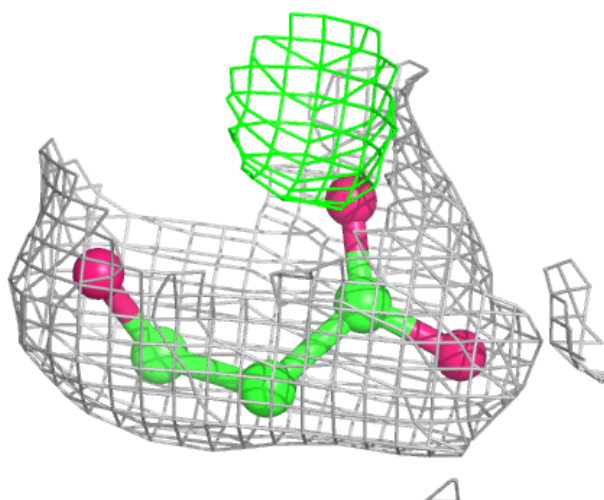
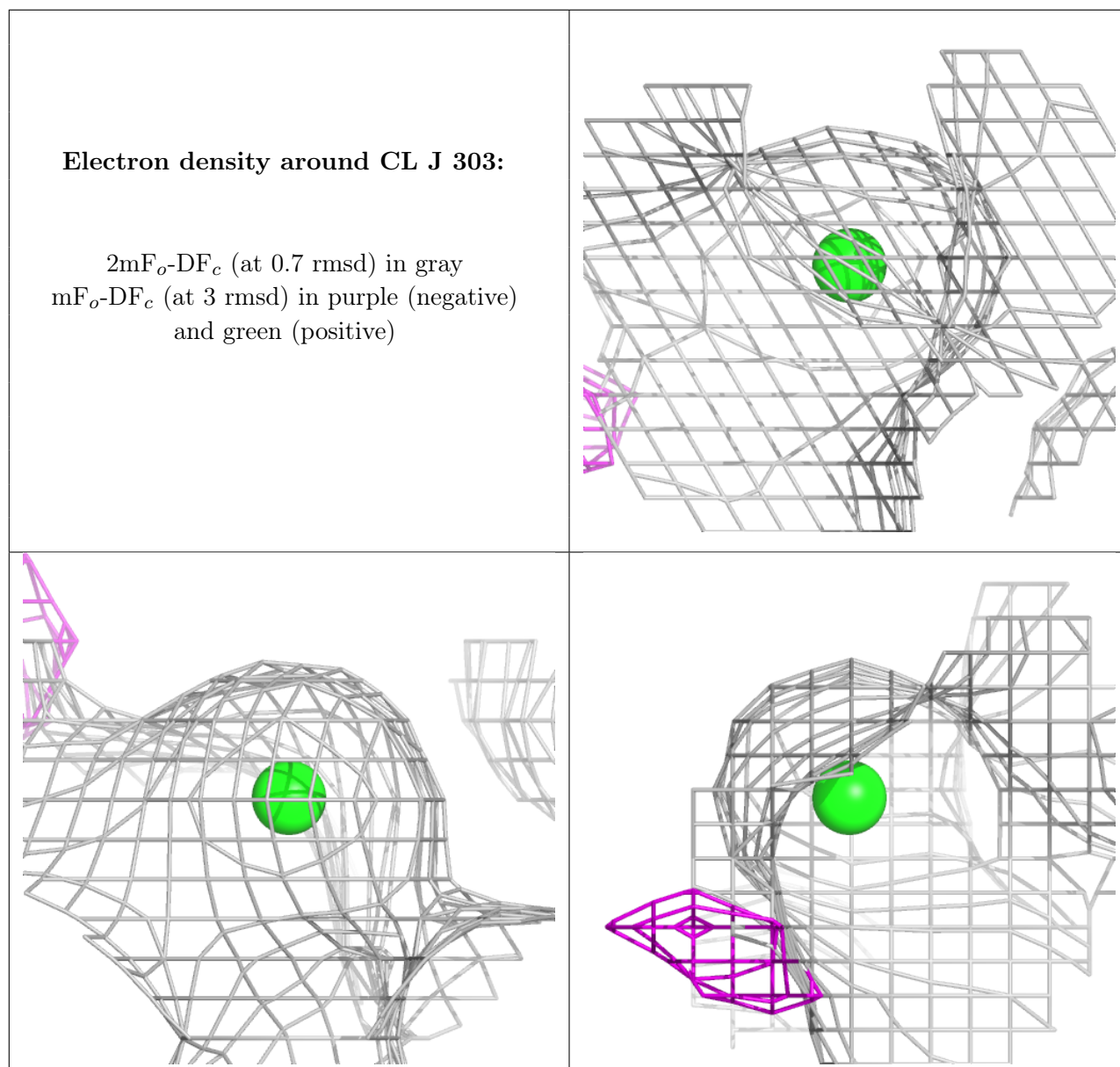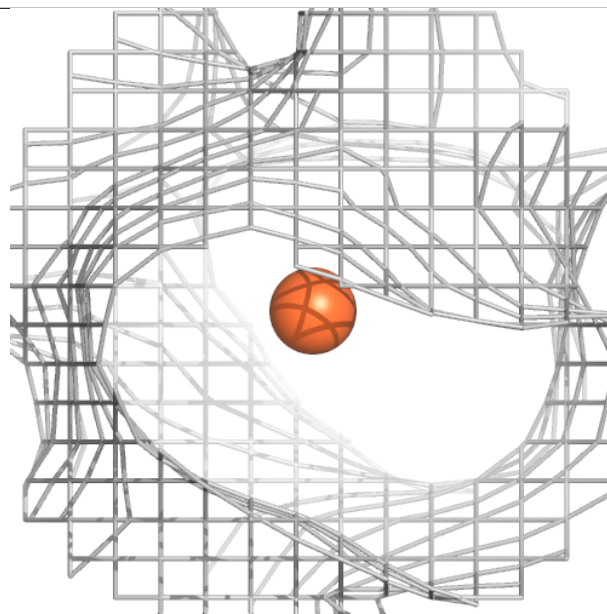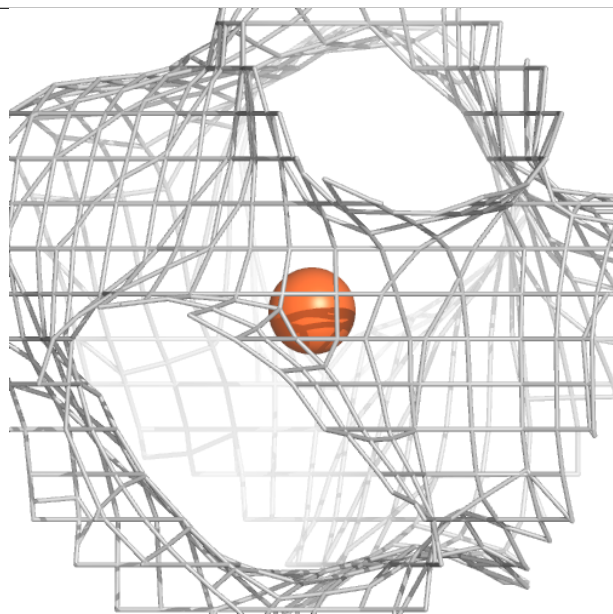**Electron density around 3OH A 302:**

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
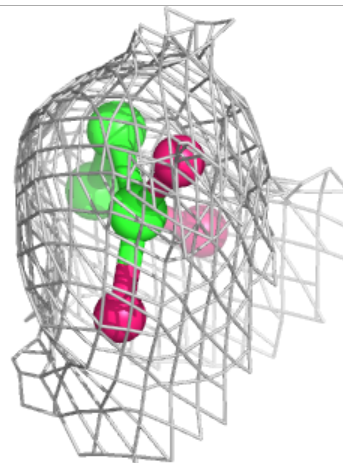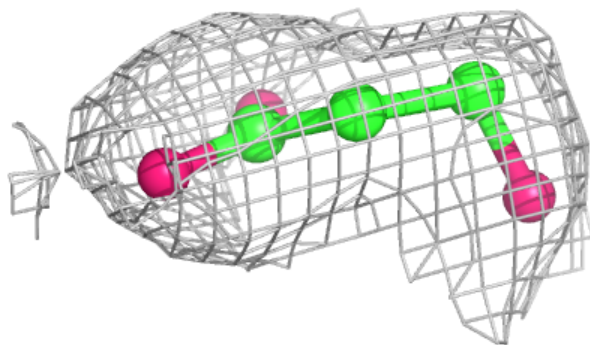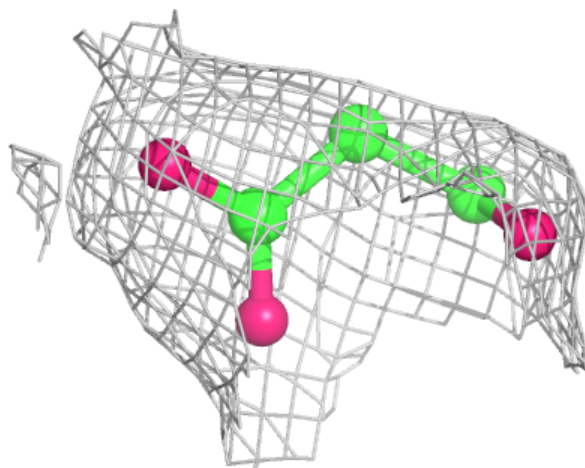
Electron density around 3OH K 302:

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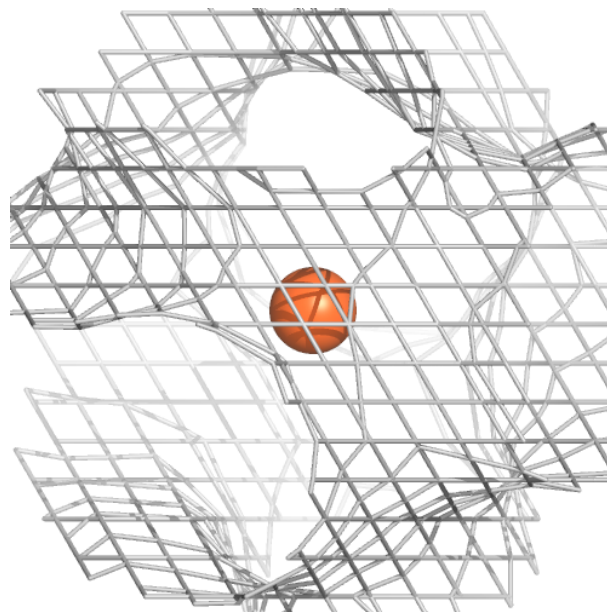mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around FE L 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
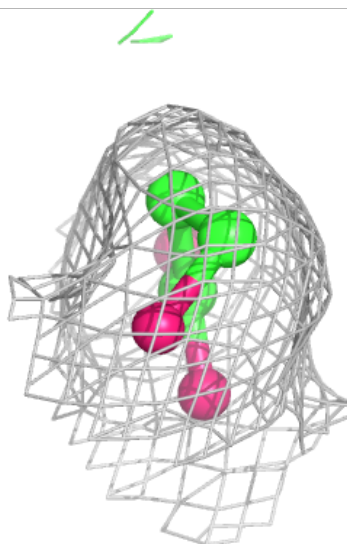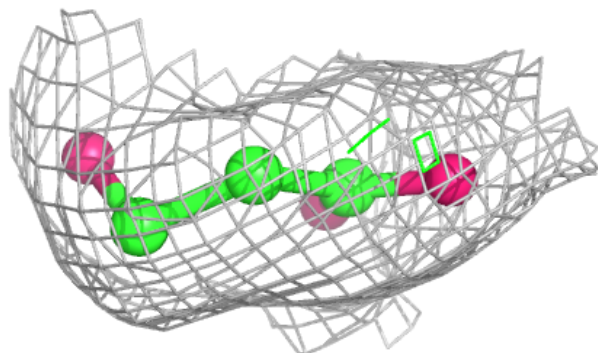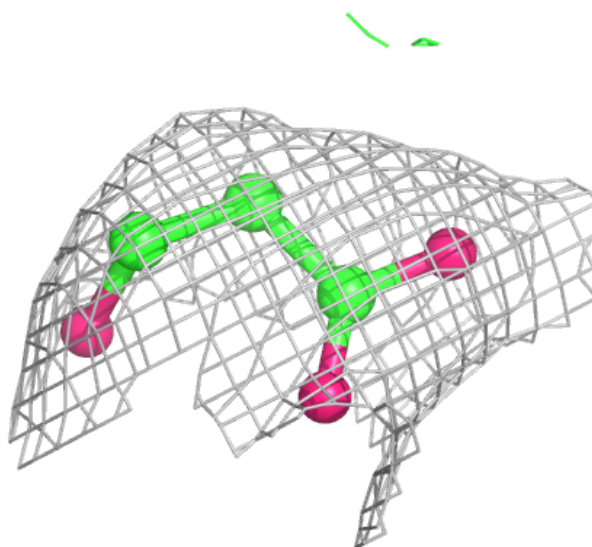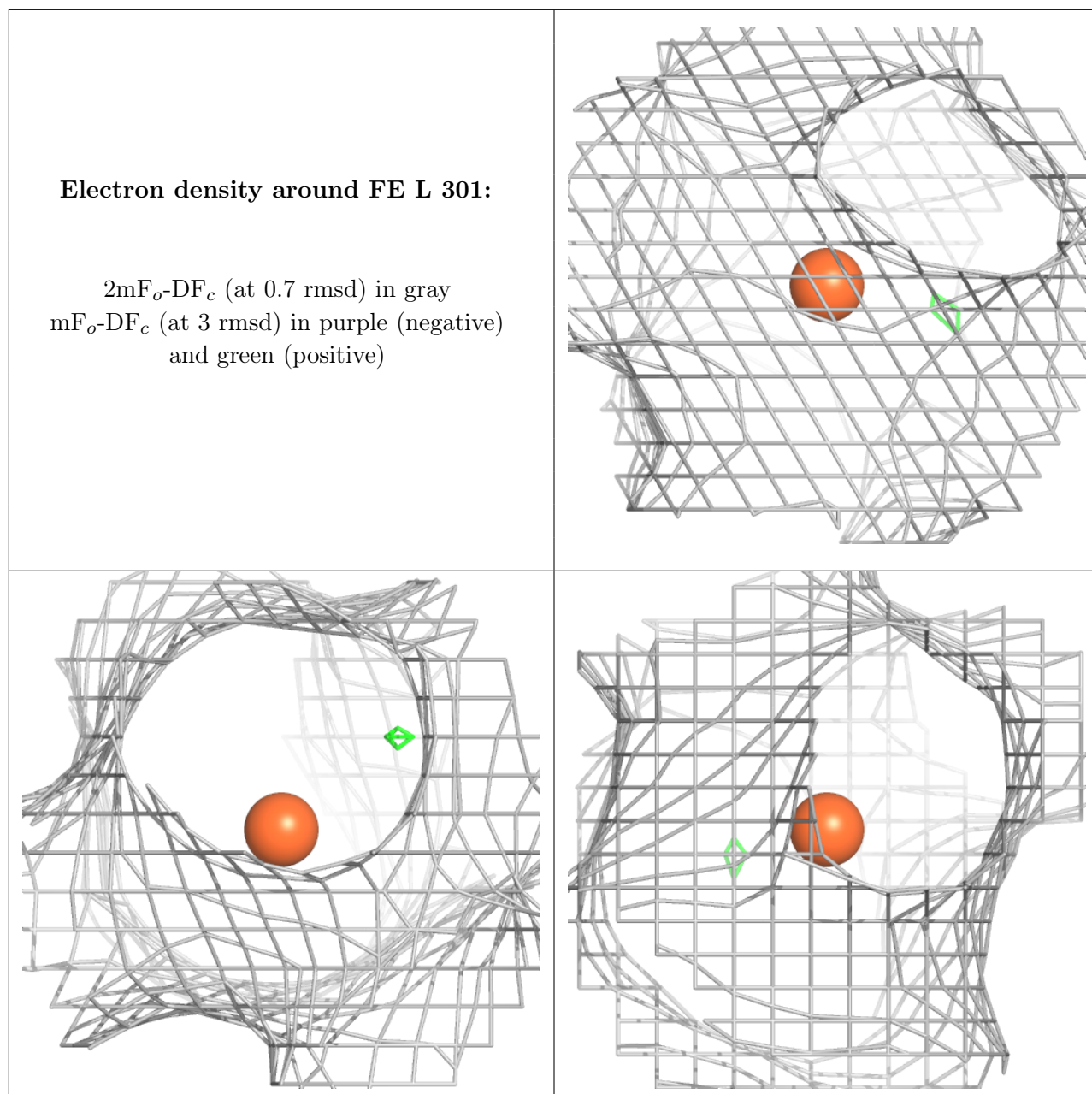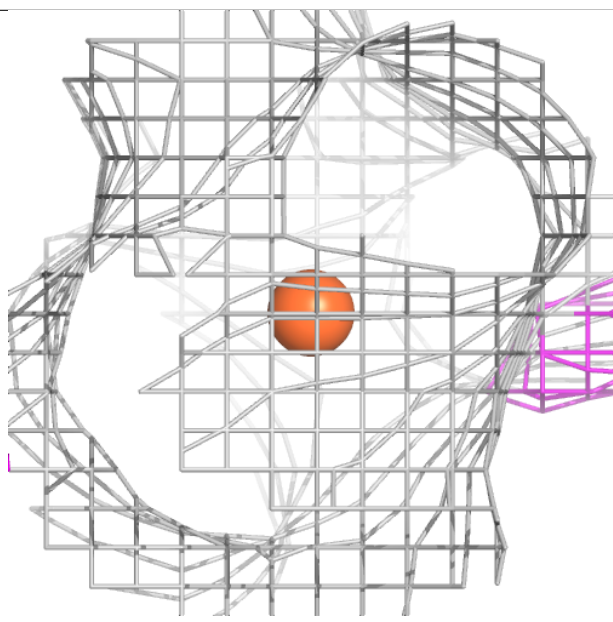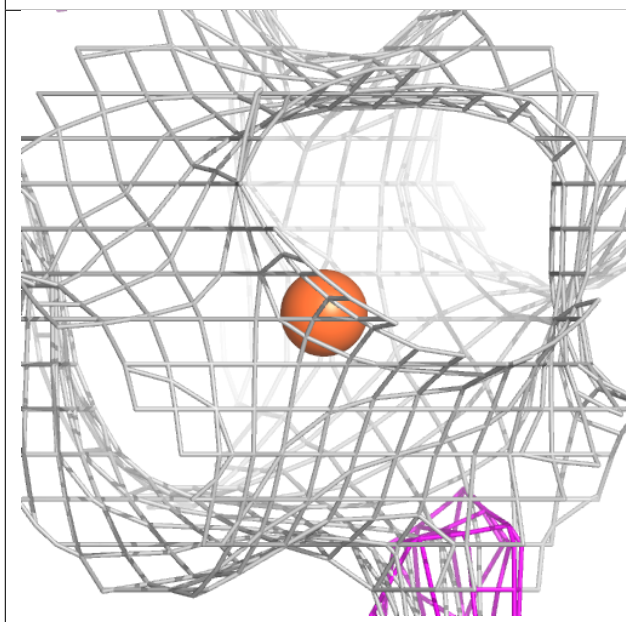
Electron density around CL H 304:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
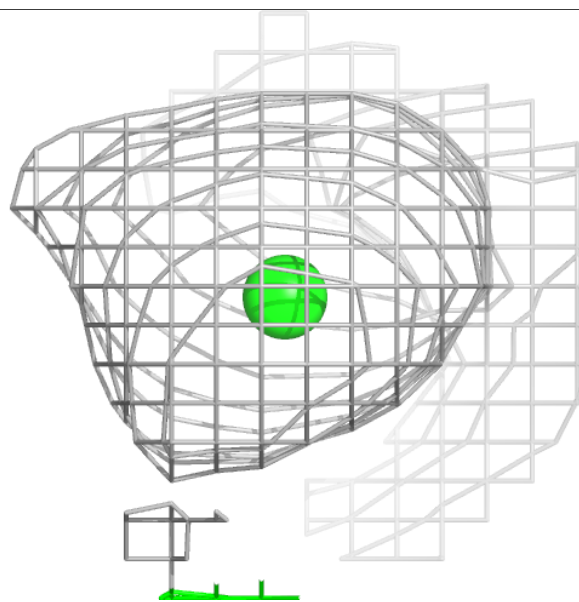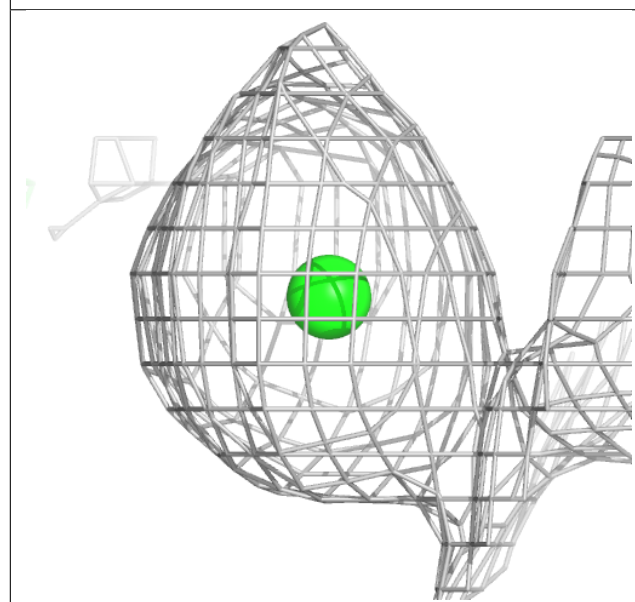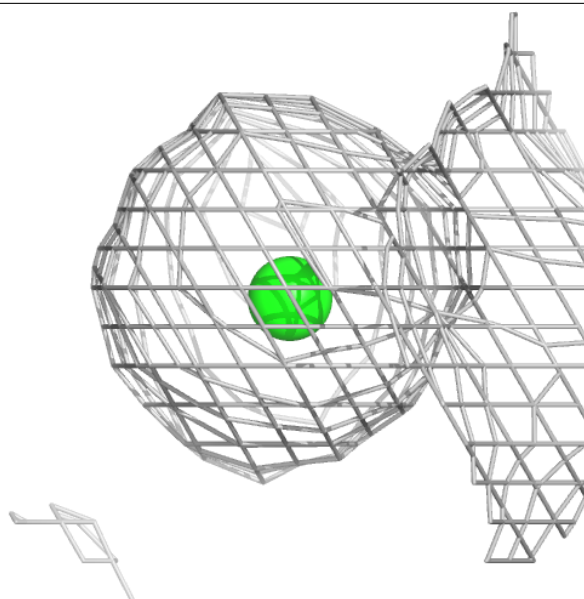
Electron density around CL A 303:

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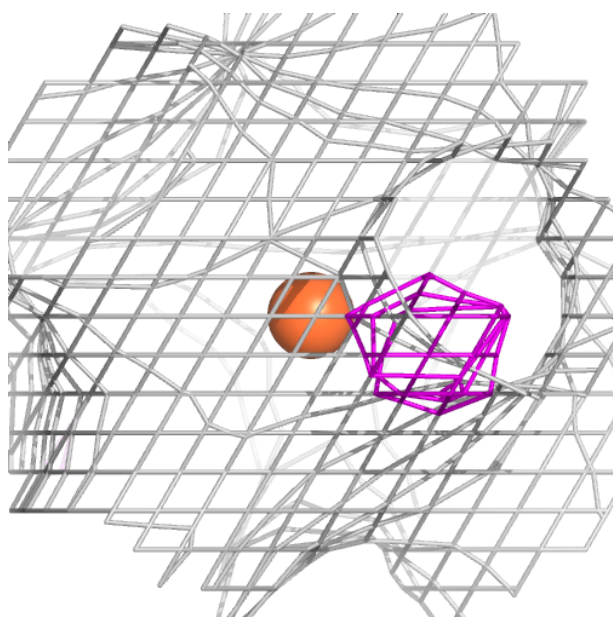and green (positive)
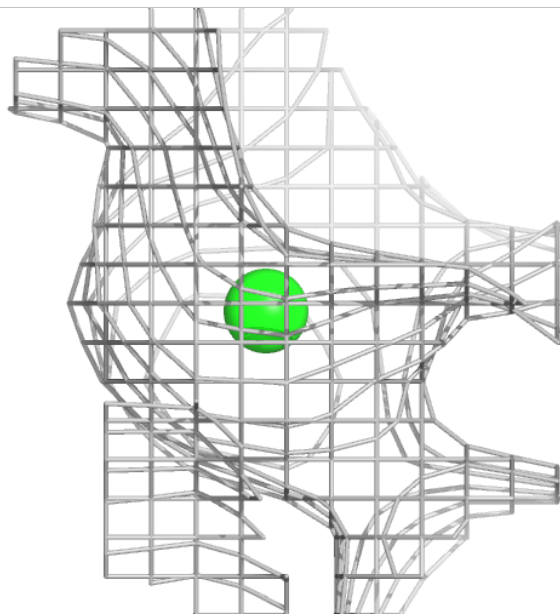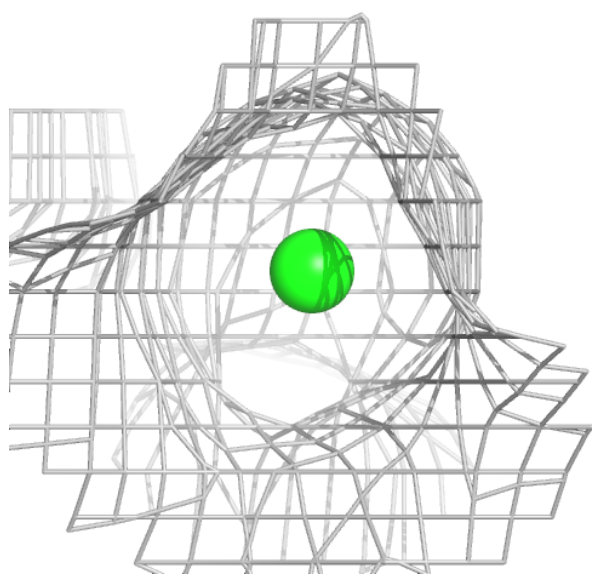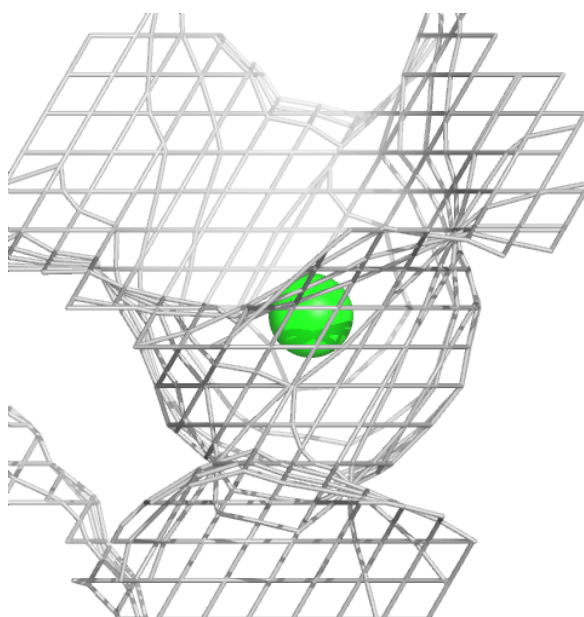
Electron density around CL C 303:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
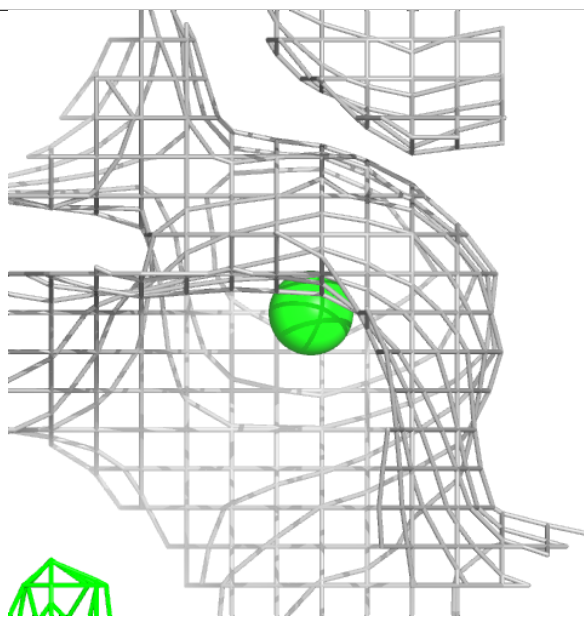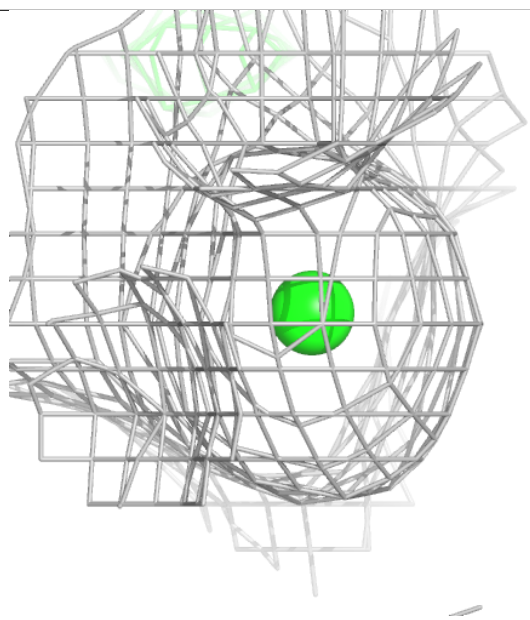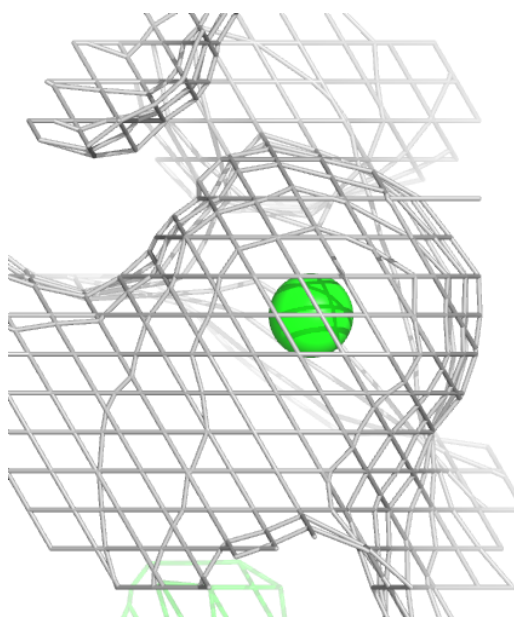
Electron density around CL G 303:

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mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
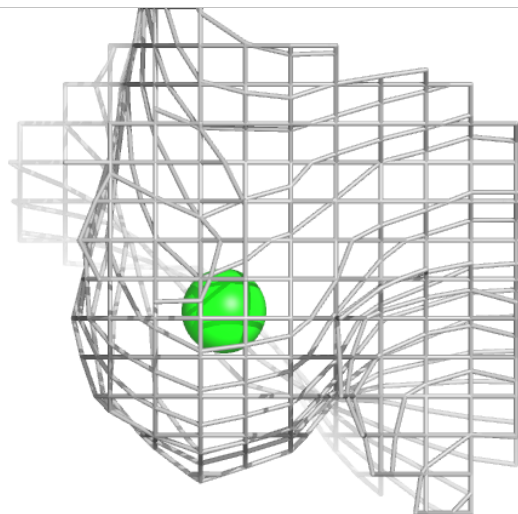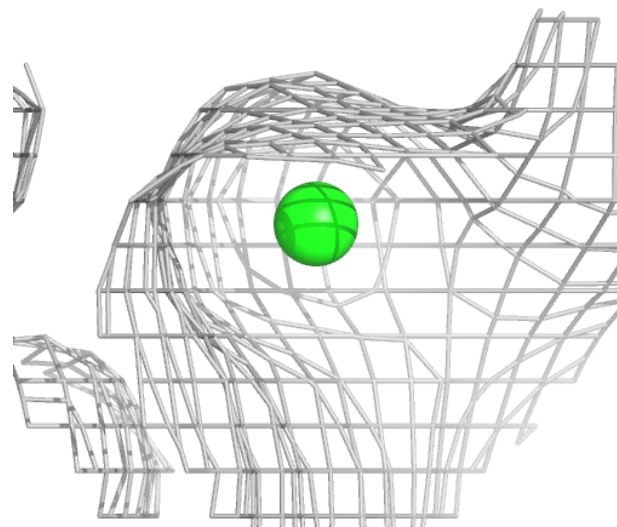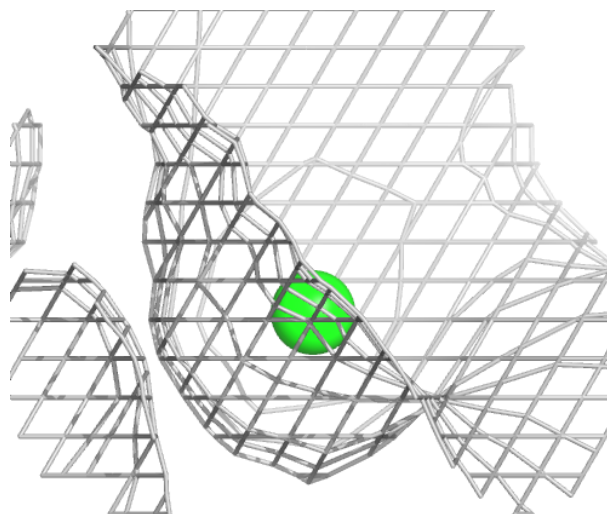
Electron density around CL H 303:

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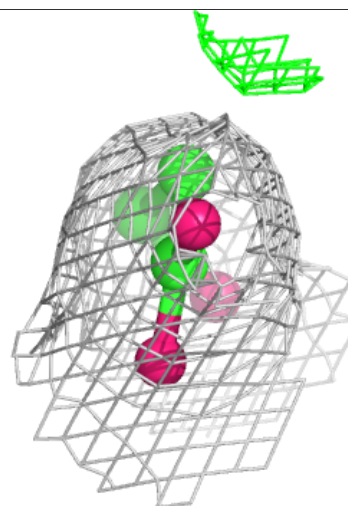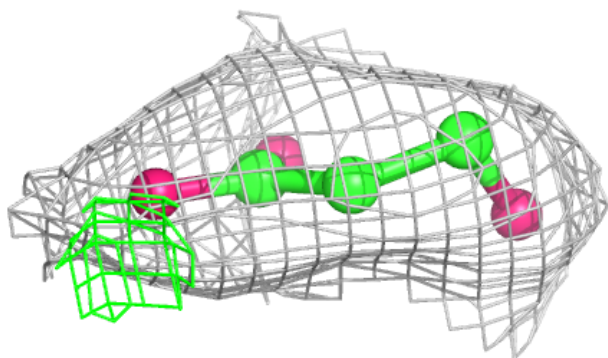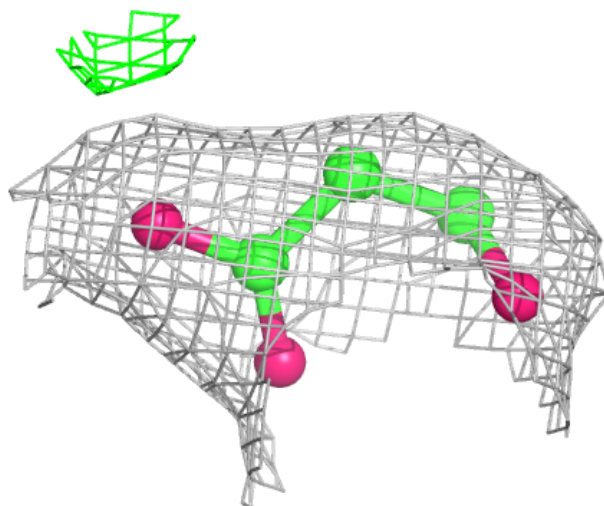and green (positive)

Electron density around FE F 301:

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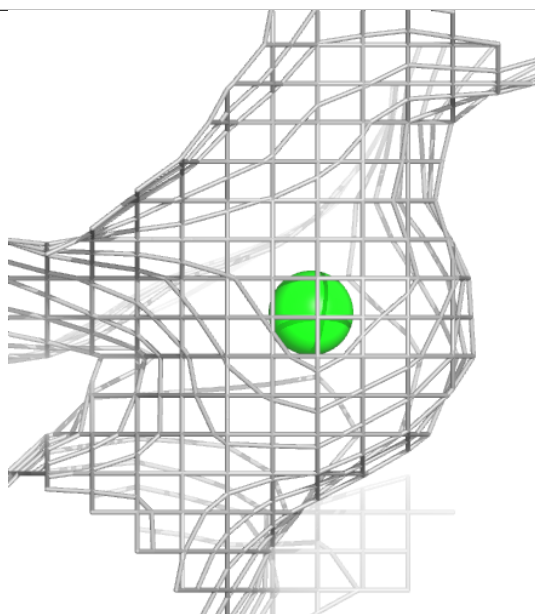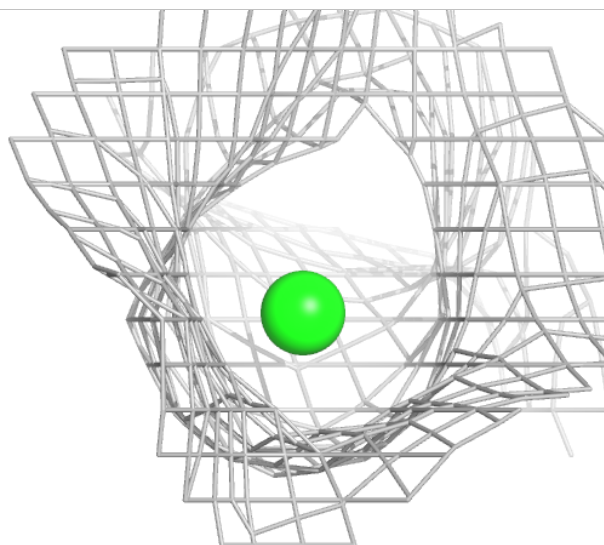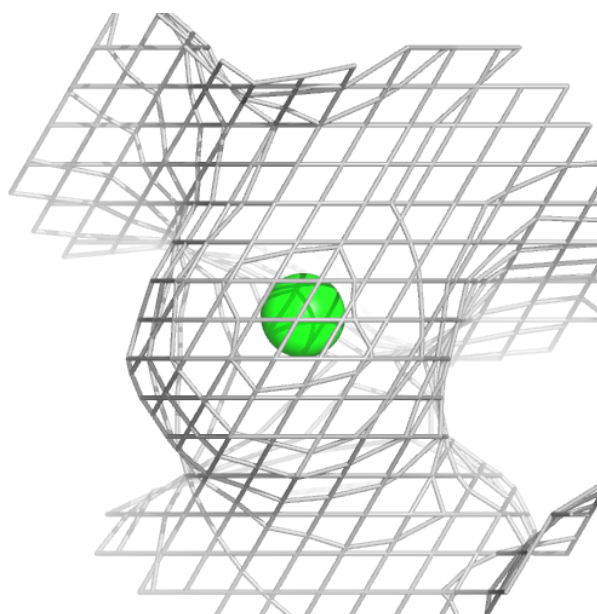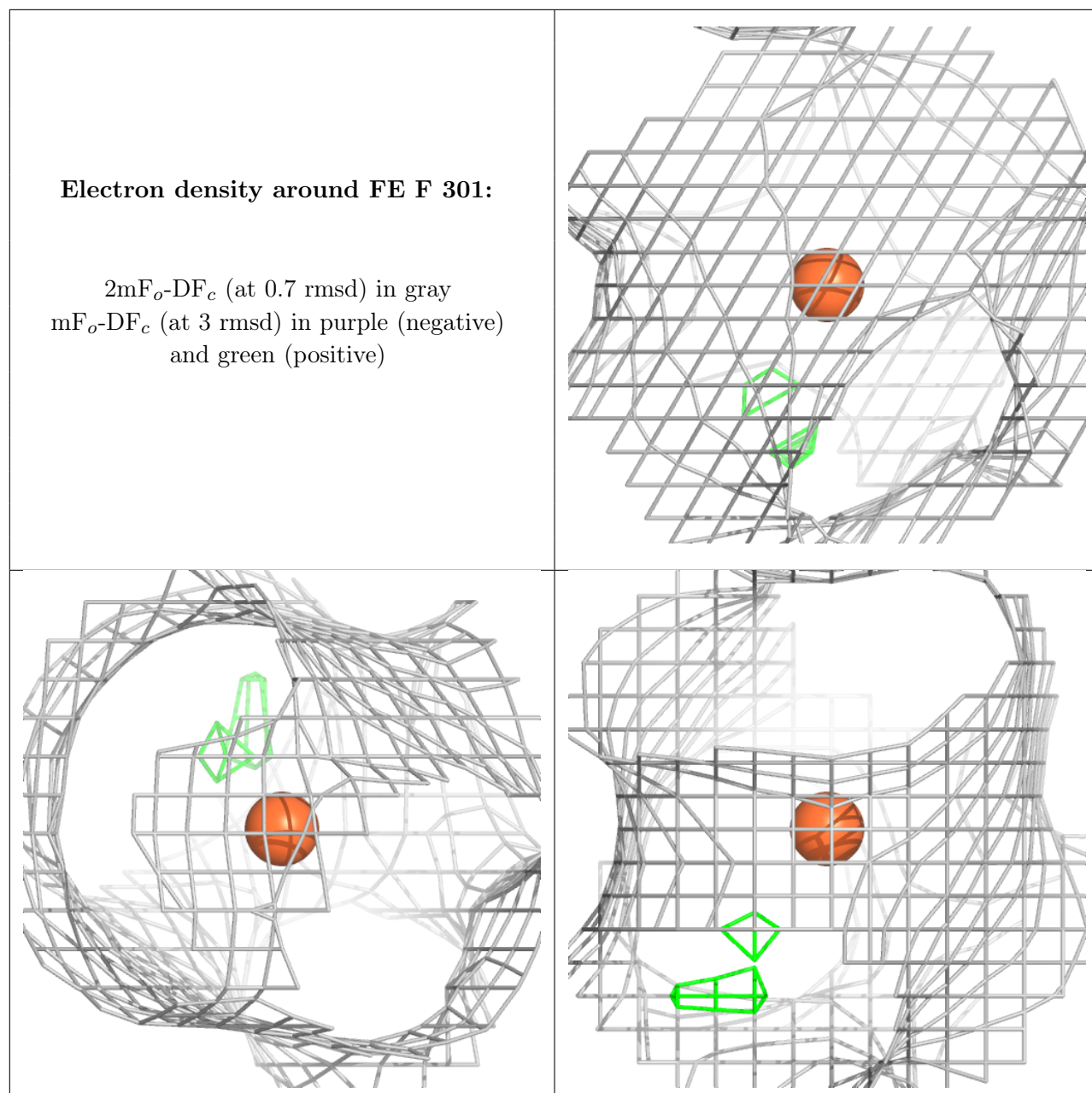
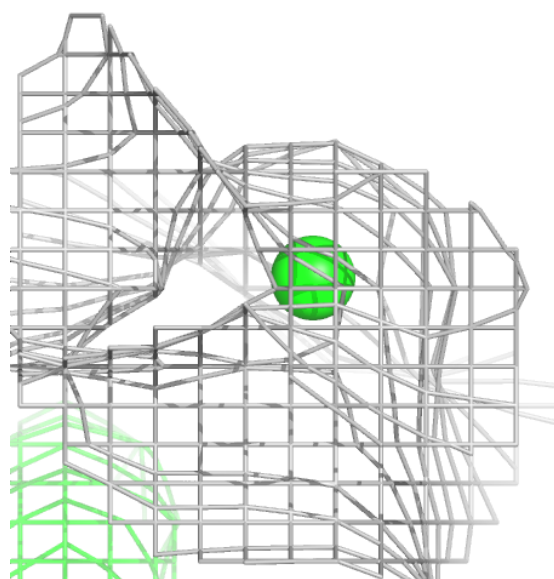**Electron density around 3OH B 302:**

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
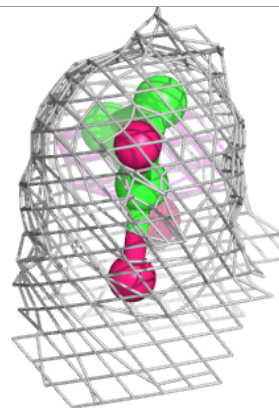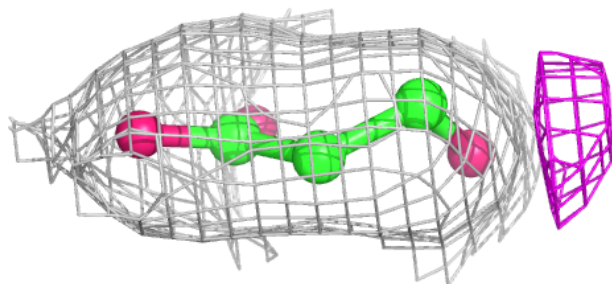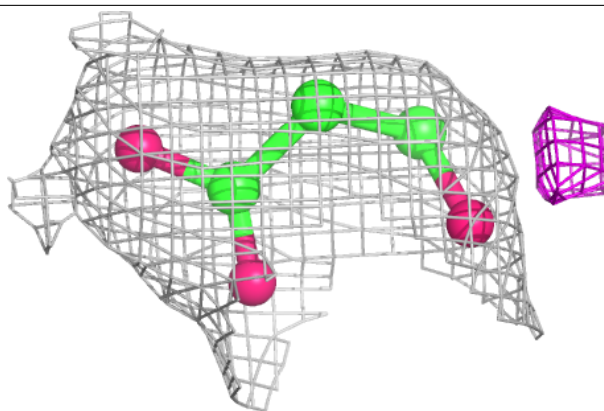
Electron density around CL K 303:

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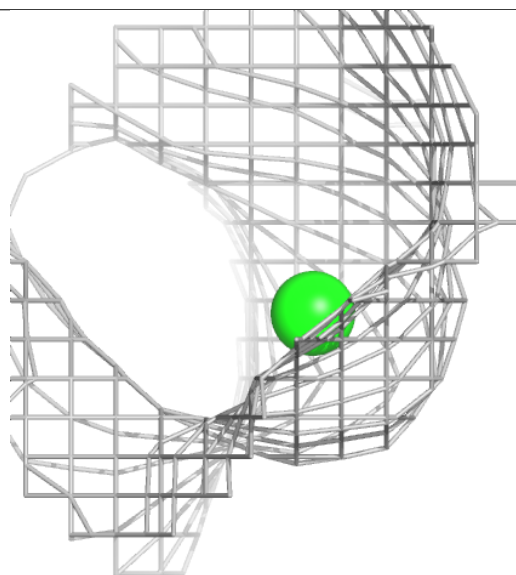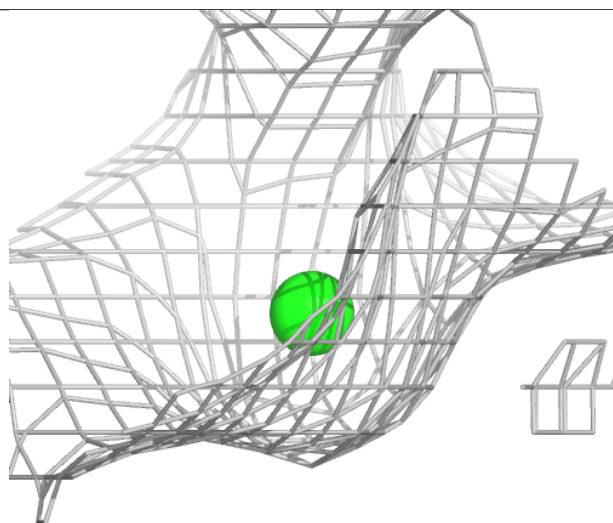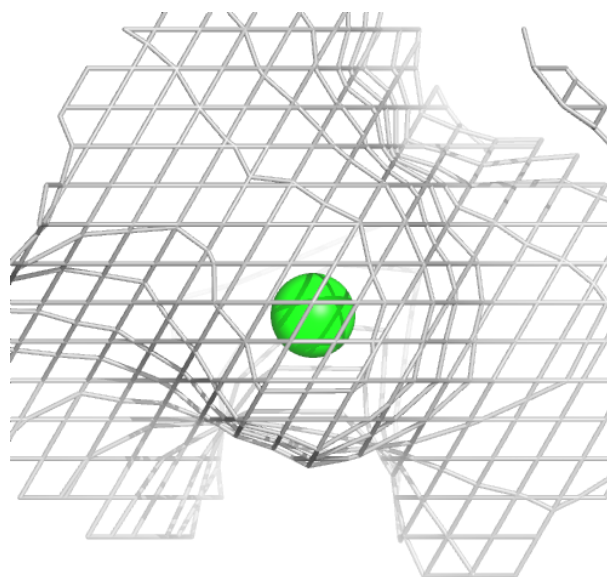
Electron density around FE G 301:

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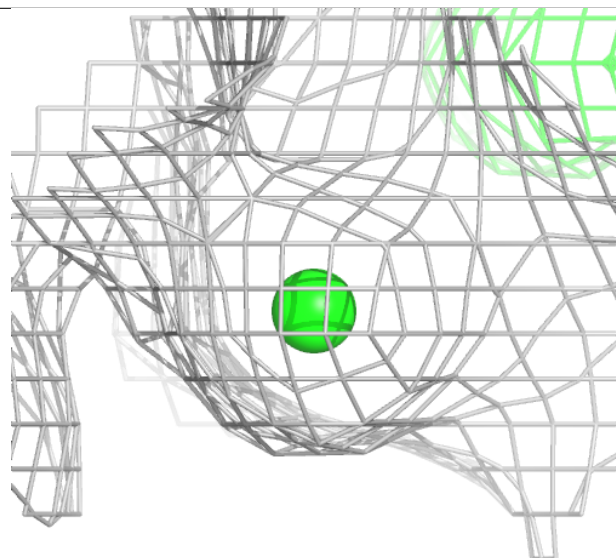and green (positive)
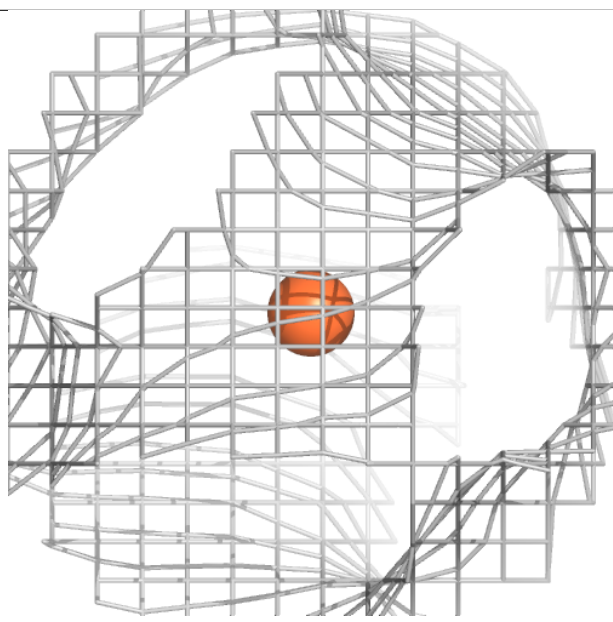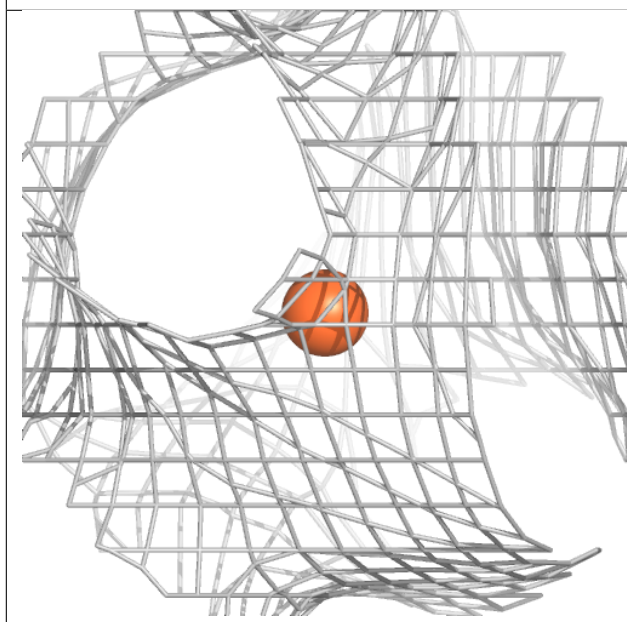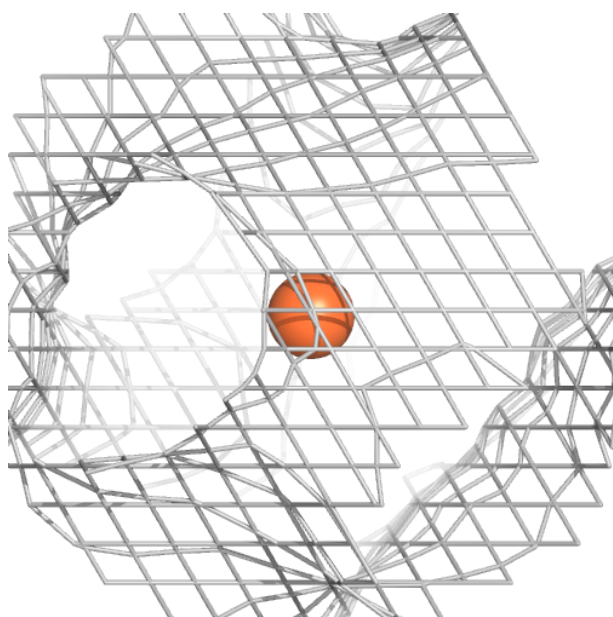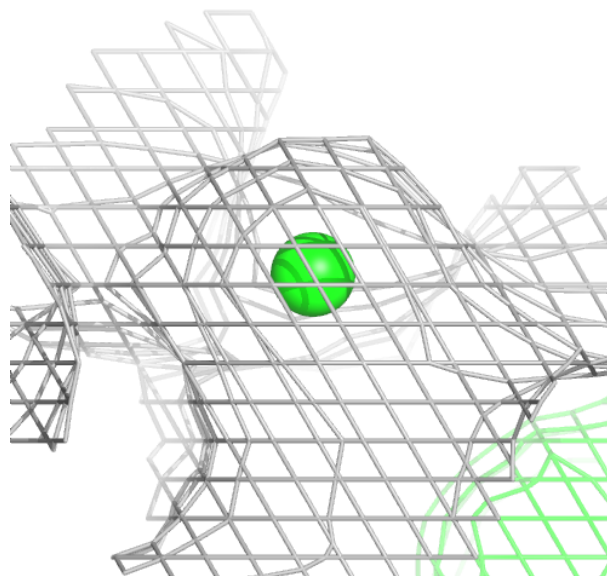
Electron density around 3OH F 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
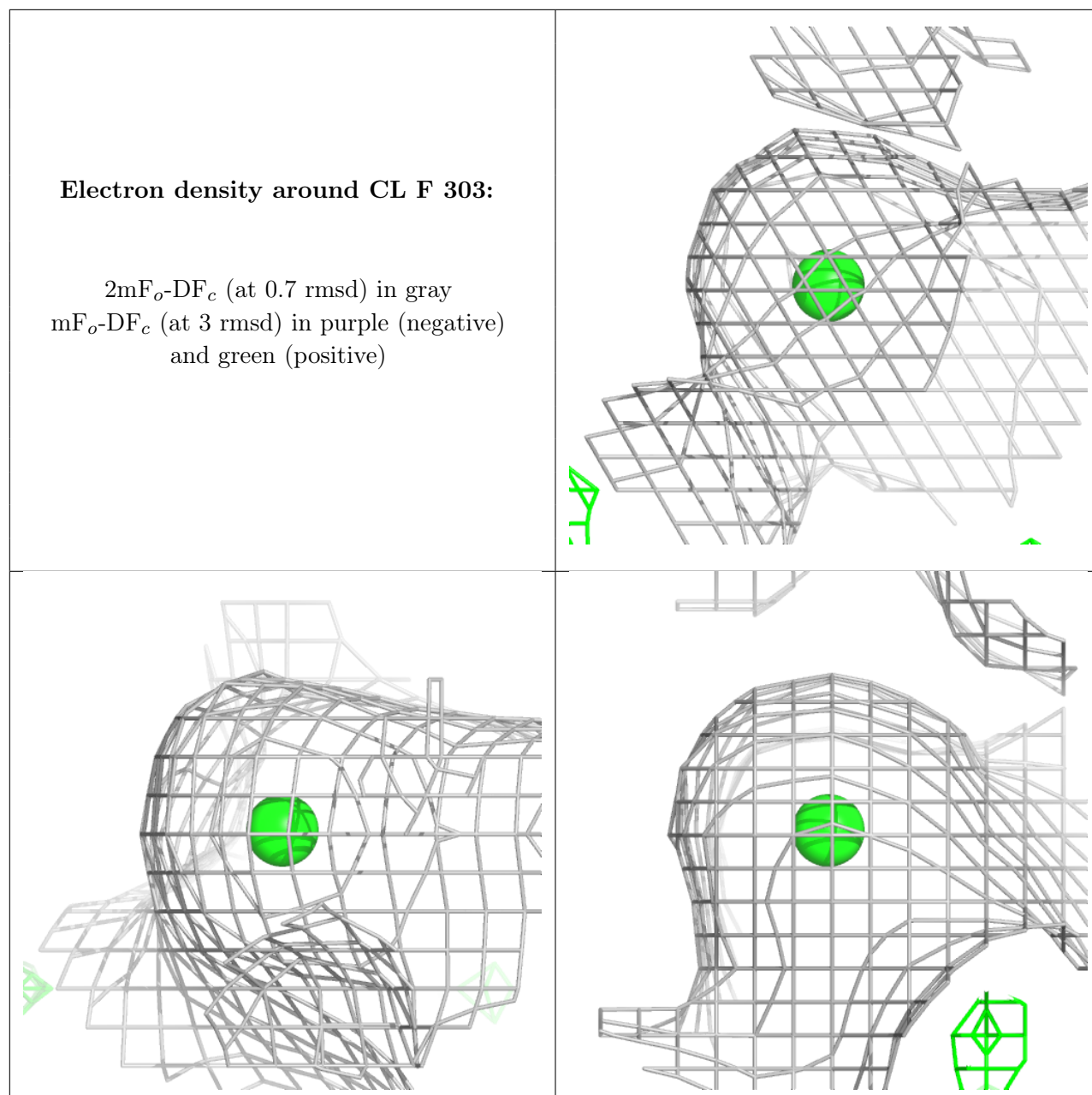mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
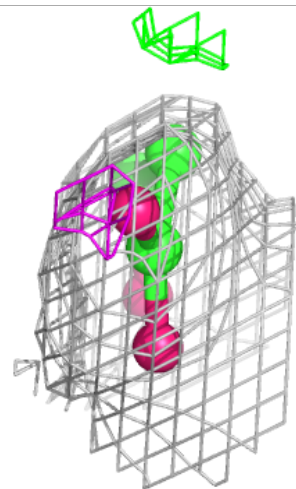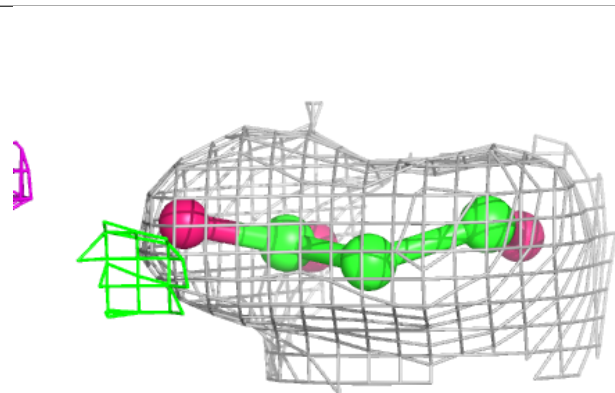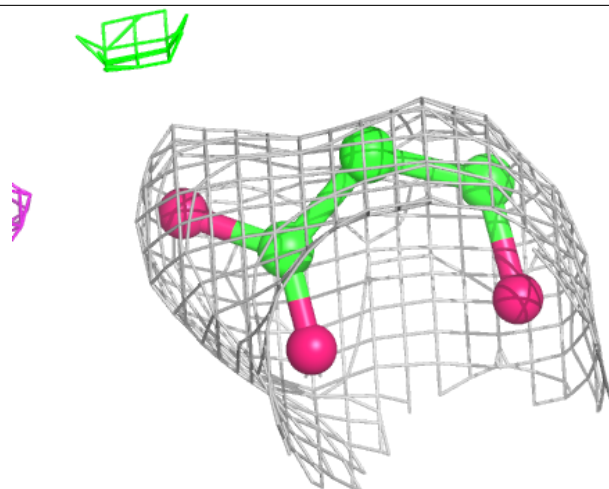
Electron density around CL B 303:

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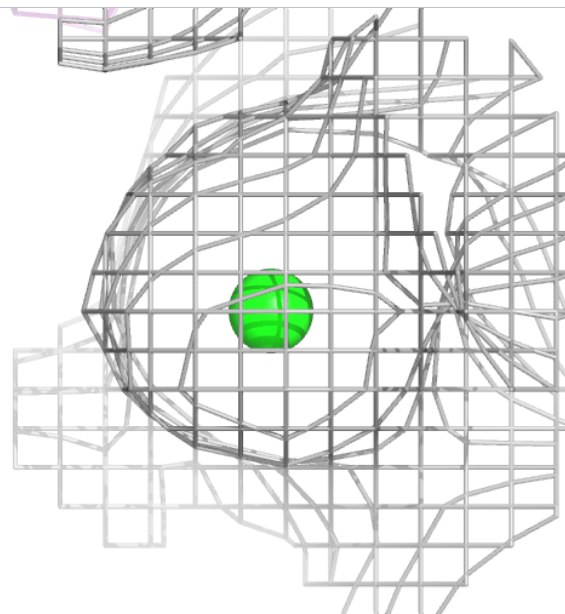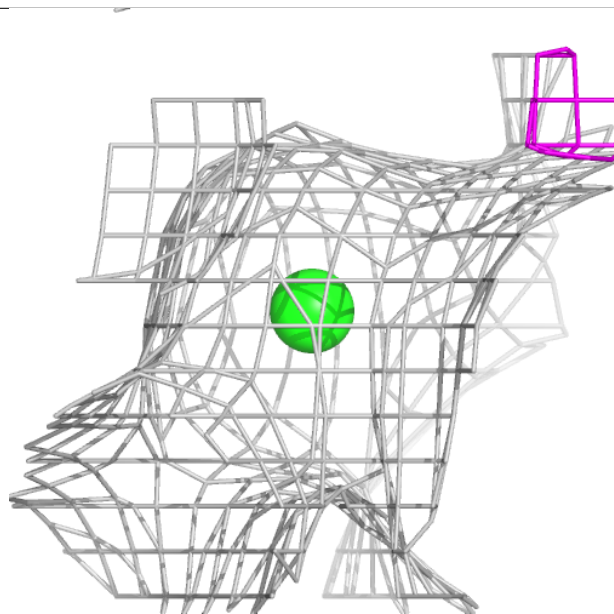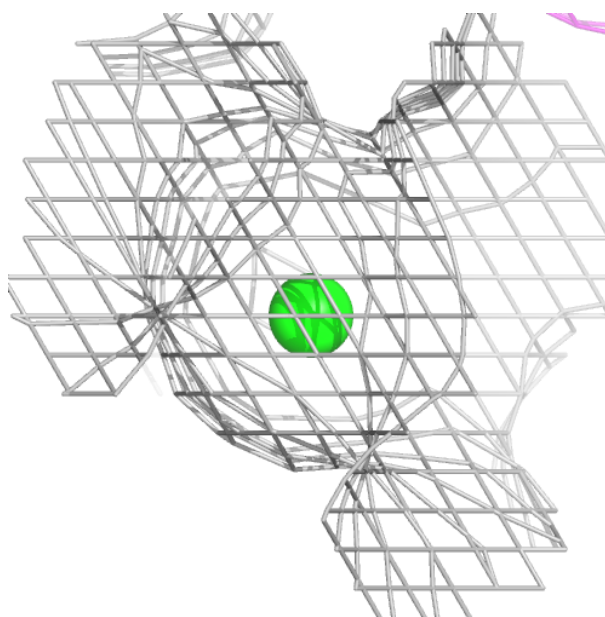
Electron density around FE K 301:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
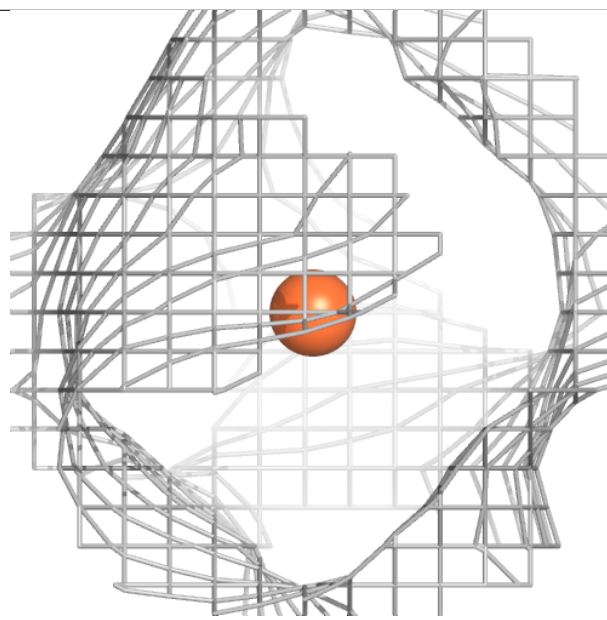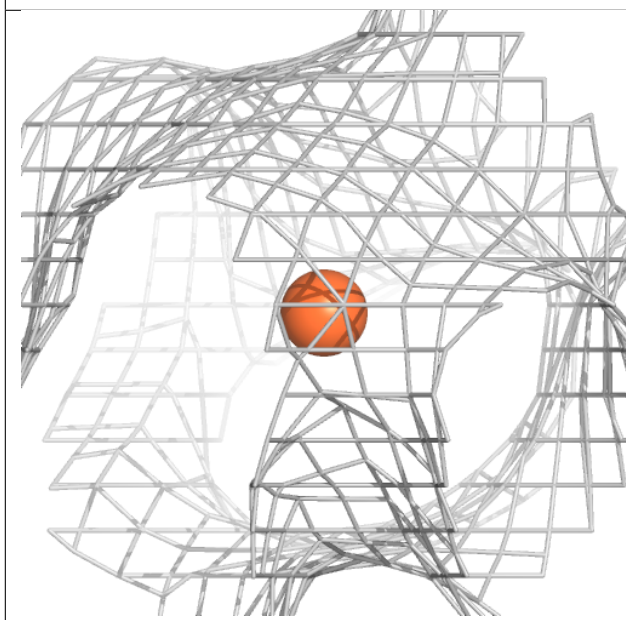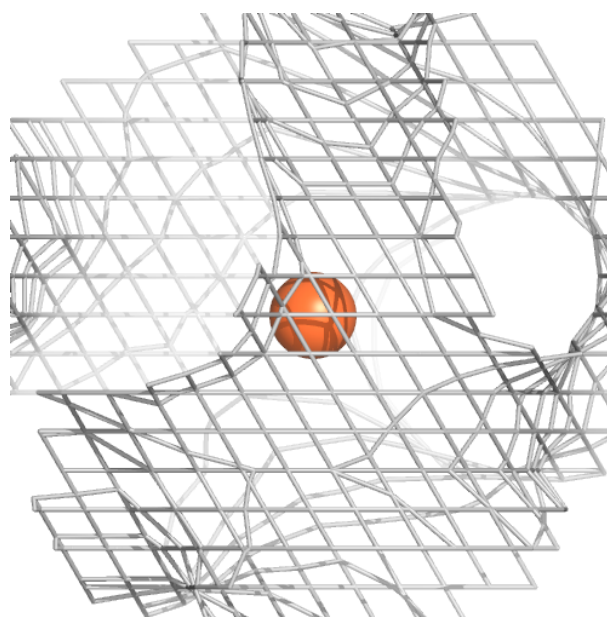
Electron density around FE A 301:
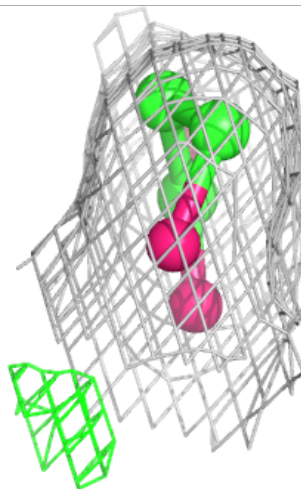
$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
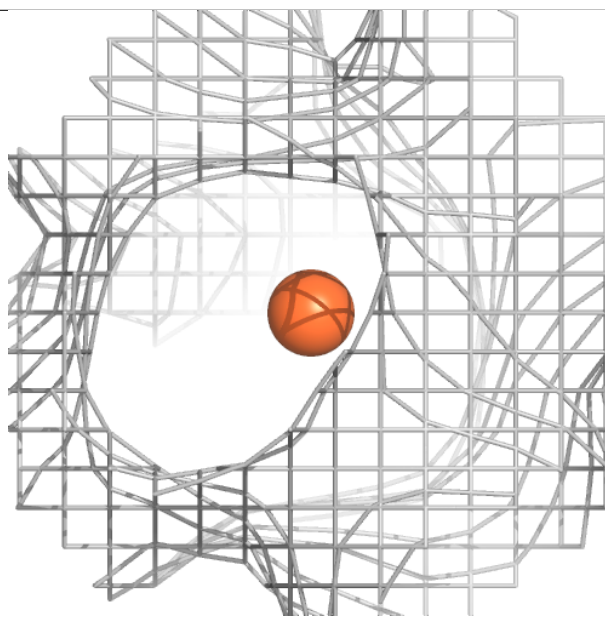
Electron density around 3OH D 302:

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

Electron density around FE 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 FE 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 CL J 303:

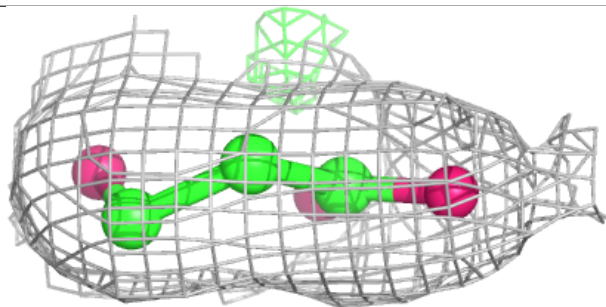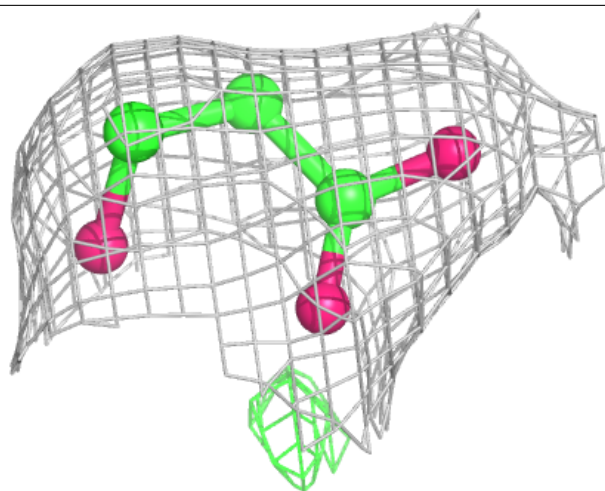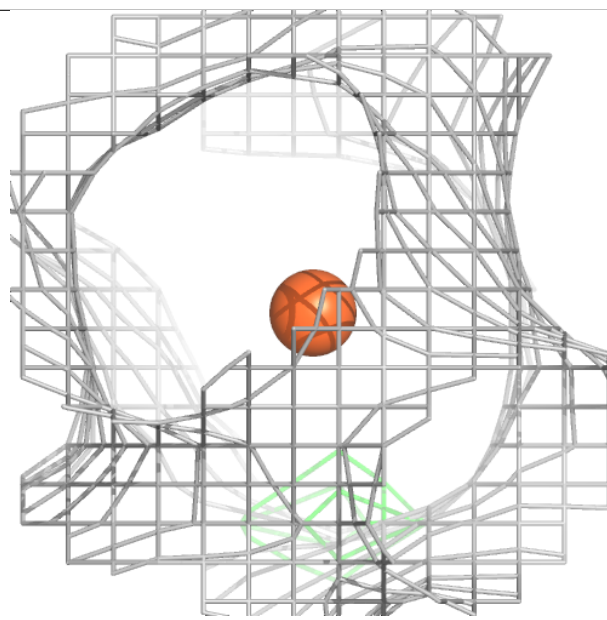$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around FE H 301:

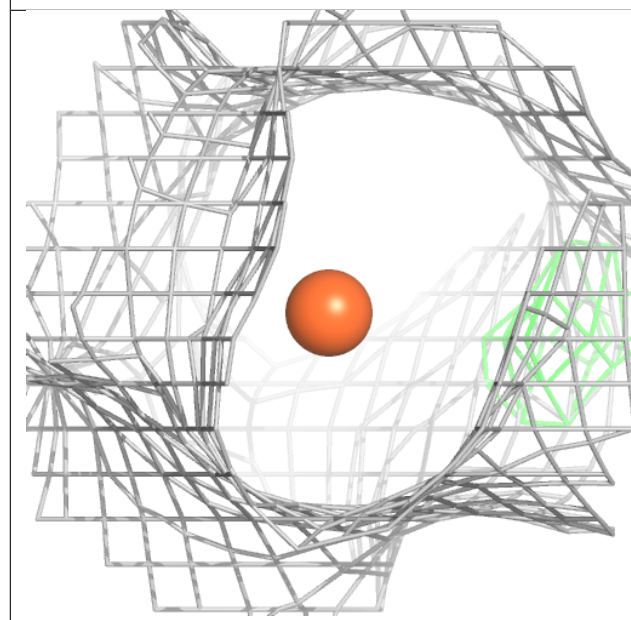$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around FE J 301:

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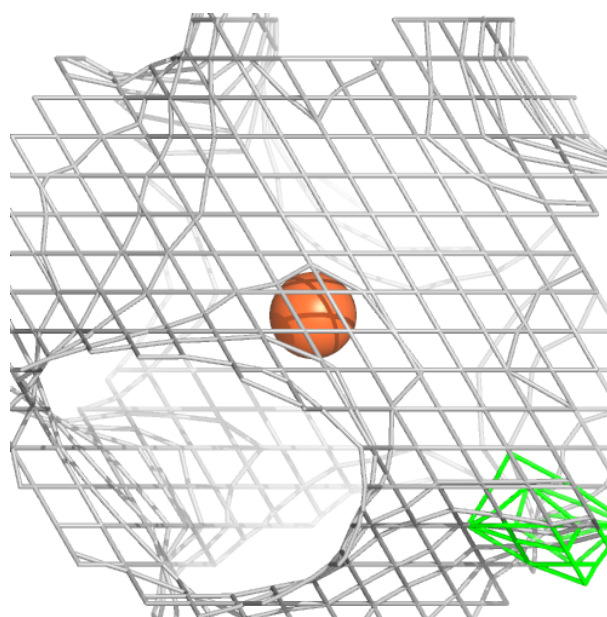and green (positive)

Electron density around 3OH I 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 CL 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 CL F 303:

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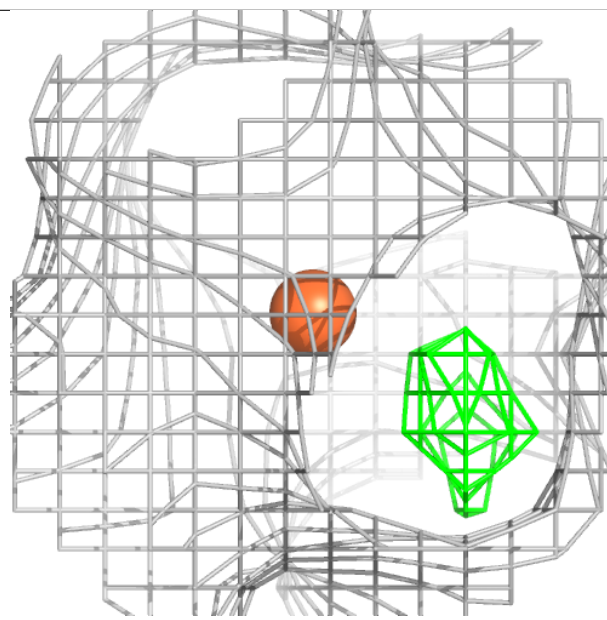$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
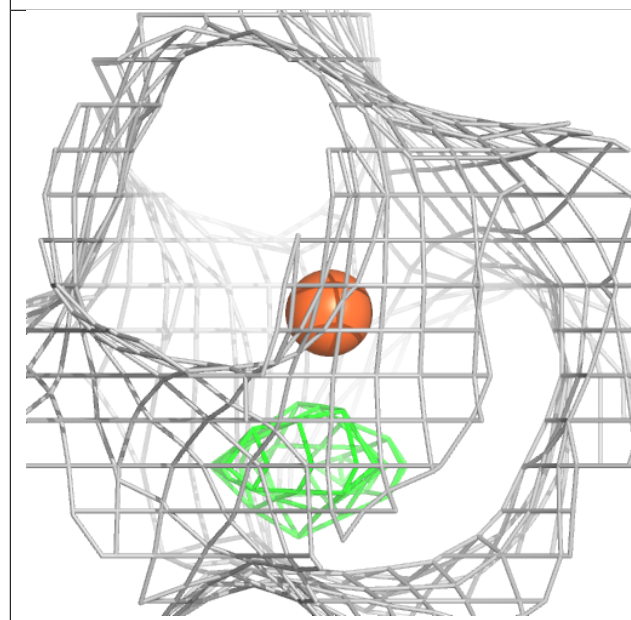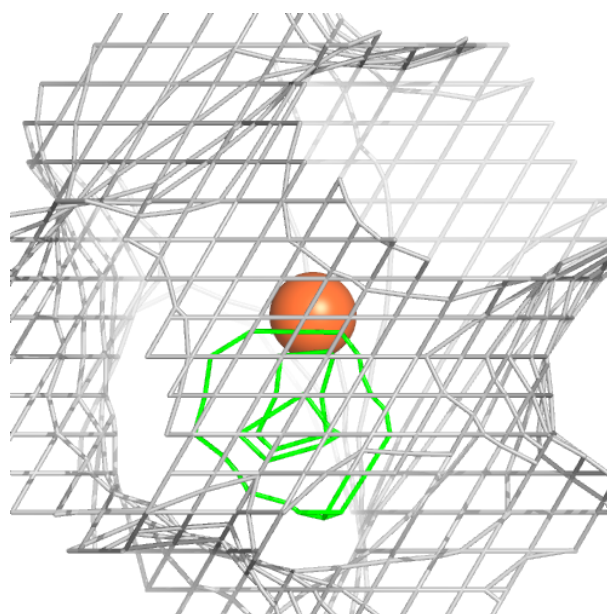and green (positive)

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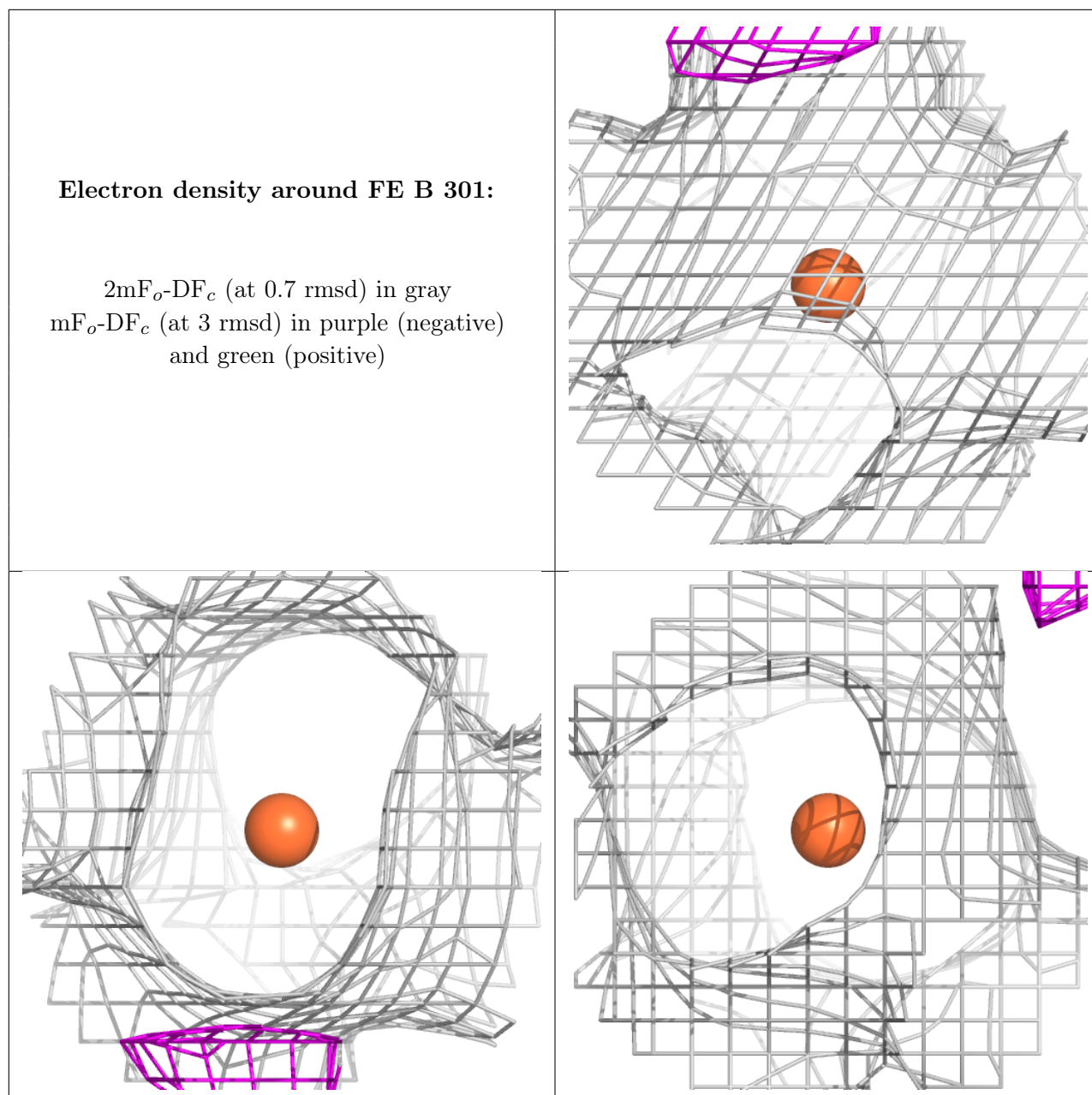
$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around FE B 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)

6.5 Other polymers ⓘ

There are no such residues in this entry.