



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 03:06 PM UTC

PDB ID : 6Z7R / pdb_00006z7r
Title : Structure of [NiFeSe] hydrogenase from *Desulfovibrio vulgaris hildenborough* pressurized with Krypton gas - structure wtKr1
Authors : Zacarias, S.; Temporao, A.; Carpentier, P.; van der Linden, P.; Pereira, I.A.C.; Matias, P.M.
Deposited on : 2020-06-01
Resolution : 1.77 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

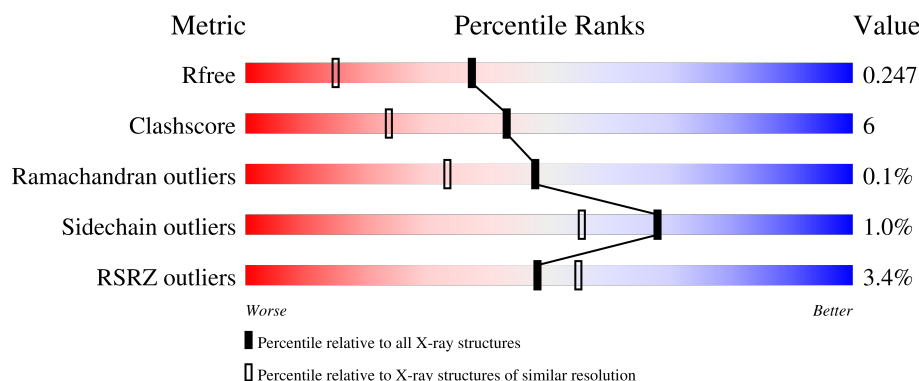
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.77 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	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1365 (1.78-1.78)
Clashscore	190562	1395 (1.78-1.78)
Ramachandran outliers	187476	1382 (1.78-1.78)
Sidechain outliers	187428	1382 (1.78-1.78)
RSRZ outliers	180081	1365 (1.78-1.78)

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 $\leq 5\%$. 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	283	5% 83% 16%
1	C	283	2% 88% 11%
2	B	484	3% 88% 11%
2	D	484	4% 86% 13%

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
5	KR	A	313	-	-	X	-
5	KR	B	507[B]	-	-	X	-
5	KR	B	508[B]	-	-	X	-
5	KR	B	510	-	-	X	-
5	KR	B	513	-	-	X	-
5	KR	C	314	-	-	X	-
5	KR	C	317	-	-	X	-
5	KR	D	506[B]	-	-	X	-
5	KR	D	508	-	-	X	-
5	KR	D	511	-	-	X	-
6	FCO	D	501	-	-	X	-

2 Entry composition [i](#)

There are 11 unique types of molecules in this entry. The entry contains 23815 atoms, of which 11678 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.

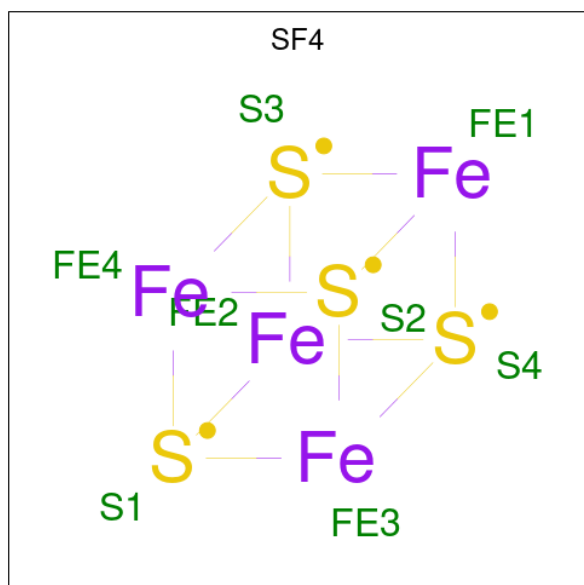
- Molecule 1 is a protein called Periplasmic [NiFeSe] hydrogenase, small subunit.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	279	Total	C	H	N	O	S	0	4	0
			4164	1346	2052	351	395	20			
1	C	279	Total	C	H	N	O	S	0	4	0
			4163	1346	2051	351	395	20			

- Molecule 2 is a protein called Periplasmic [NiFeSe] hydrogenase, large subunit, selenocysteine-containing.

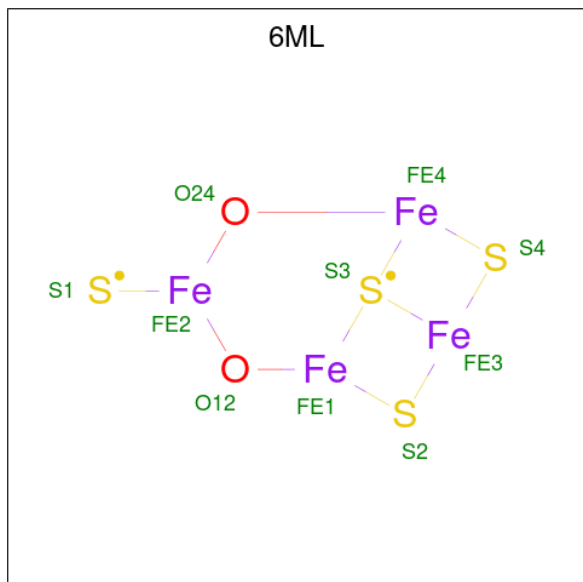
Mol	Chain	Residues	Atoms							ZeroOcc	AltConf	Trace
2	B	482	Total	C	H	N	O	S	Se	0	6	0
			7556	2404	3788	655	687	19	3			
2	D	481	Total	C	H	N	O	S	Se	0	7	0
			7553	2403	3787	655	686	19	3			

- Molecule 3 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe₄S₄).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	Fe	S	0	0
			8	4	4		
3	A	1	Total	Fe	S	0	0
			8	4	4		
3	A	1	Total	Fe	S	0	1
			8	4	4		
3	C	1	Total	Fe	S	0	0
			8	4	4		
3	C	1	Total	Fe	S	0	0
			8	4	4		
3	C	1	Total	Fe	S	0	1
			8	4	4		

- Molecule 4 is oxygen-damaged SF₄ (CCD ID: 6ML) (formula: Fe₄O₂S₄).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	Fe	O	S	0	1
			10	4	2	4		
4	C	1	Total	Fe	O	S	0	1
			10	4	2	4		

- Molecule 5 is KRYPTON (CCD ID: KR) (formula: Kr) (labeled as "Ligand of Interest" by depositor).

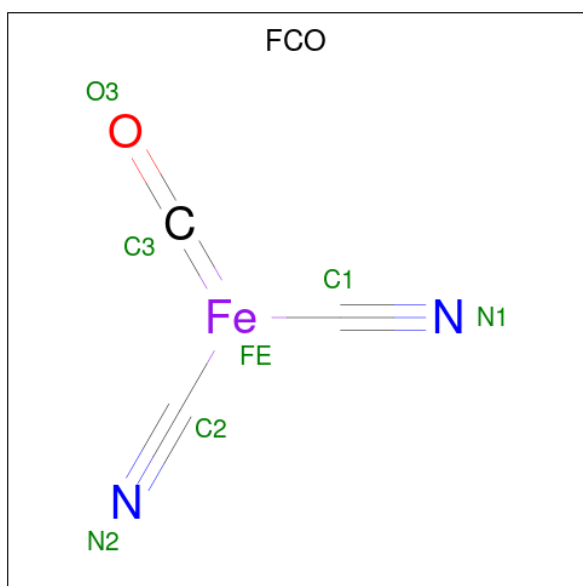
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	11	Total	Kr	0	2
			11	11		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	B	8	Total	Kr	0	4
			10	10		
5	C	13	Total	Kr	0	3
			13	13		
5	D	7	Total	Kr	0	1
			8	8		

- Molecule 6 is CARBONMONOXIDE-(DICYANO) IRON (CCD ID: FCO) (formula: C_3FeN_2O).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
6	B	1	Total	C	Fe	N	O	0	0
			7	3	1	2	1		
6	D	1	Total	C	Fe	N	O	0	0
			7	3	1	2	1		

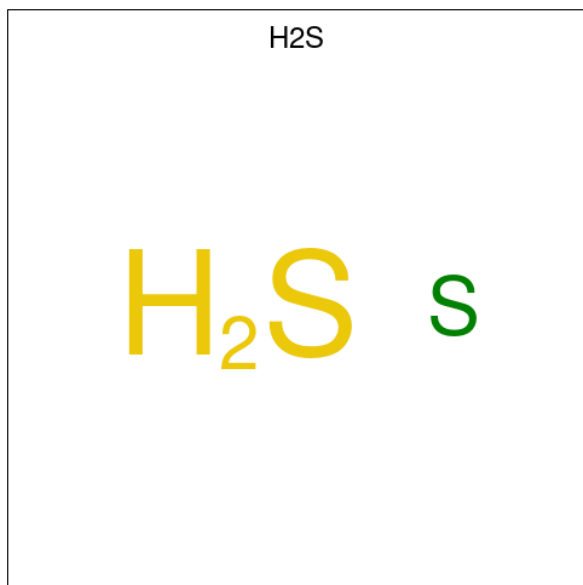
- Molecule 7 is NICKEL (II) ION (CCD ID: NI) (formula: Ni).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	1	Total	Ni	0	0
			1	1		
7	D	1	Total	Ni	0	0
			1	1		

- Molecule 8 is FE (II) ION (CCD ID: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	B	1	Total Fe 1 1	0	0
8	D	1	Total Fe 1 1	0	0

- Molecule 9 is HYDROSULFURIC ACID (CCD ID: H2S) (formula: H₂S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total S 1 1	0	0
9	D	1	Total S 1 1	0	0

- Molecule 10 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	B	1	Total Cl 1 1	0	0
10	D	1	Total Cl 1 1	0	0

- Molecule 11 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	A	42	Total O 42 42	0	0

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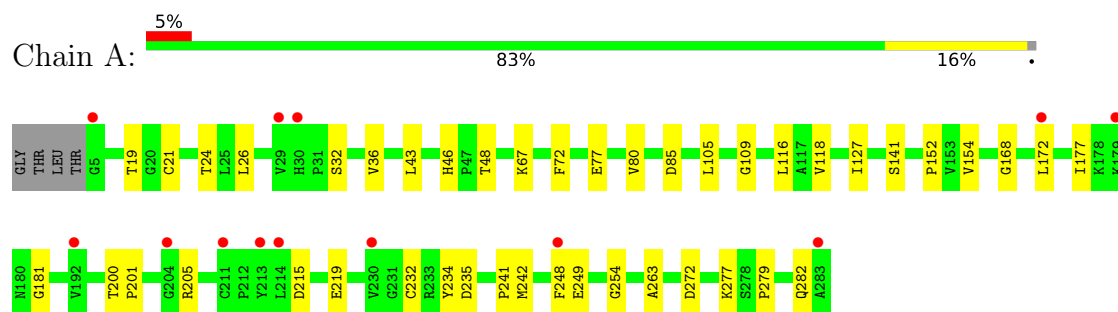
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	B	79	Total 80	O 80	0	1
11	C	45	Total 45	O 45	0	0
11	D	80	Total 80	O 80	0	0

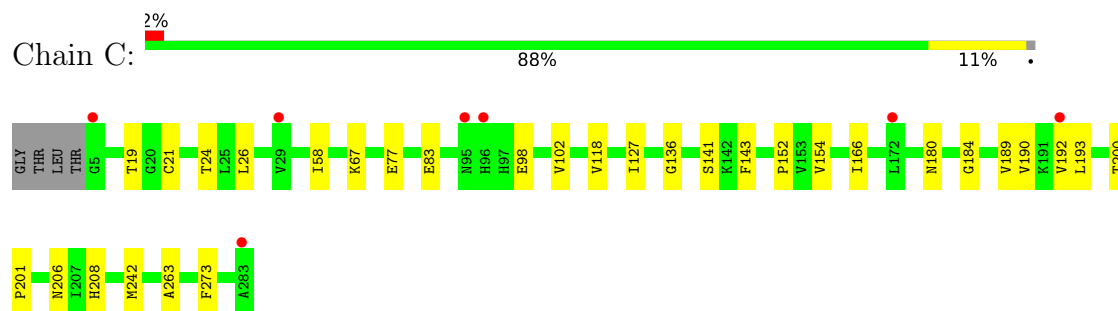
3 Residue-property plots [i](#)

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.

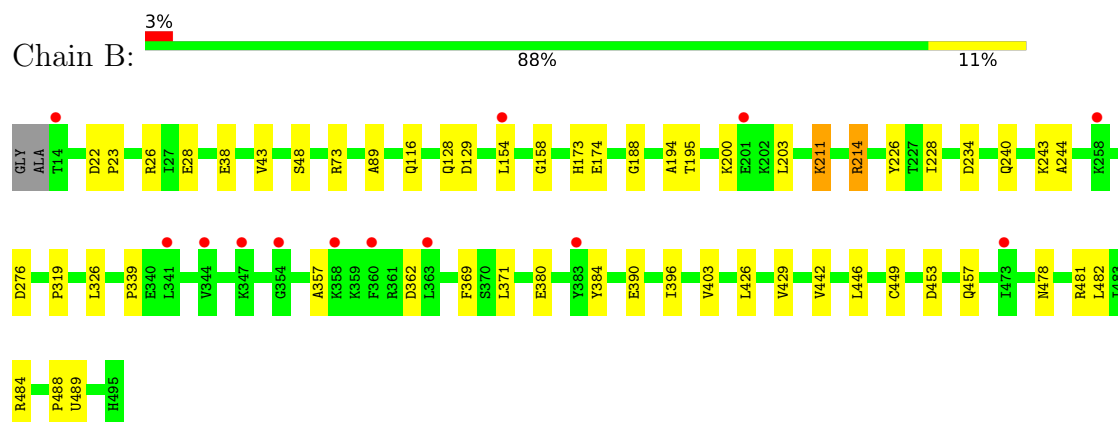
- Molecule 1: Periplasmic [NiFeSe] hydrogenase, small subunit



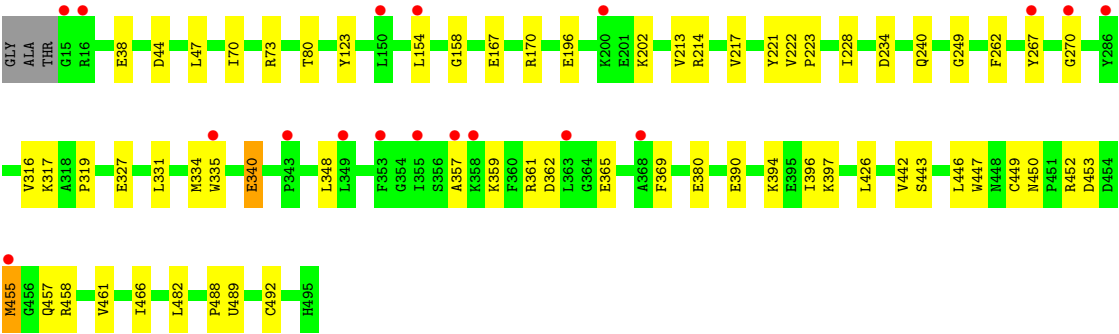
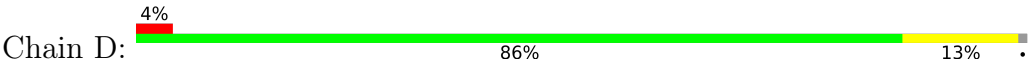
- Molecule 1: Periplasmic [NiFeSe] hydrogenase, small subunit



- Molecule 2: Periplasmic [NiFeSe] hydrogenase, large subunit, selenocysteine-containing



- Molecule 2: Periplasmic [NiFeSe] hydrogenase, large subunit, selenocysteine-containing



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	75.12Å 93.69Å 98.43Å 90.00° 93.26° 90.00°	Depositor
Resolution (Å)	58.05 – 1.77 58.05 – 1.77	Depositor EDS
% Data completeness (in resolution range)	75.7 (58.05-1.77) 76.3 (58.05-1.77)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.13 (at 1.76Å)	Xtriage
Refinement program	PHENIX 1.18.2_3874	Depositor
R, R_{free}	0.188 , 0.242 0.197 , 0.247	Depositor DCC
R_{free} test set	4804 reflections (3.60%)	wwPDB-VP
Wilson B-factor (Å ²)	21.8	Xtriage
Anisotropy	0.048	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.43 , 45.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	23815	wwPDB-VP
Average B, all atoms (Å ²)	32.0	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 33.15 % 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 8.3760e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: H2S, SEC, NI, FCO, 6ML, CL, CSD, SF4, FE2, KR

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	0.58	0/2179	0.72	1/2960 (0.0%)
1	C	0.60	0/2179	0.75	0/2960
2	B	0.57	0/3853	0.72	0/5209
2	D	0.57	0/3854	0.73	0/5210
All	All	0.58	0/12065	0.73	1/16339 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	109	GLY	O-C-N	-5.14	119.22	121.07

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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	2112	2052	2045	29	0
1	C	2112	2051	2045	24	0
2	B	3768	3788	3763	45	0
2	D	3766	3787	3762	47	0
3	A	24	0	0	0	0
3	C	24	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	10	0	0	2	0
4	C	10	0	0	1	0
5	A	11	0	0	5	0
5	B	10	0	0	12	0
5	C	13	0	0	10	0
5	D	8	0	0	10	0
6	B	7	0	0	1	0
6	D	7	0	0	2	0
7	B	1	0	0	0	0
7	D	1	0	0	0	0
8	B	1	0	0	0	0
8	D	1	0	0	0	0
9	B	1	0	0	0	0
9	D	1	0	0	0	0
10	B	1	0	0	0	0
10	D	1	0	0	0	0
11	A	42	0	0	2	0
11	B	80	0	0	3	0
11	C	45	0	0	2	0
11	D	80	0	0	0	0
All	All	12137	11678	11615	145	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 6.

All (145) 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)
5:B:508[B]:KR:KR	5:B:509[B]:KR:KR	3.04	0.97
2:B:228:ILE:CD1	5:B:507[B]:KR:KR	2.89	0.82
2:B:384:TYR:CE2	5:B:513:KR:KR	2.99	0.76
1:C:98:GLU:OE2	11:C:401:HOH:O	2.10	0.70
2:B:384:TYR:CZ	5:B:513:KR:KR	3.08	0.68
1:C:180:ASN:O	11:C:402:HOH:O	2.11	0.68
2:B:228:ILE:HD11	5:B:507[B]:KR:KR	2.55	0.67
2:D:489[A]:SEC:SE	6:D:501:FCO:C1	2.93	0.67
2:D:158:GLY:HA2	5:D:506[B]:KR:KR	2.56	0.66
2:B:48[A]:SER:OG	11:B:601[A]:HOH:O	2.14	0.66
2:D:154:LEU:CD1	5:D:511:KR:KR	3.05	0.65
1:A:152:PRO:HB2	5:A:313:KR:KR	2.57	0.65
1:A:235:ASP:N	11:A:403:HOH:O	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:44:ASP:OD1	2:D:458:ARG:NH1	2.33	0.62
2:D:154:LEU:HD12	5:D:511:KR:KR	2.62	0.61
1:C:127:ILE:HD11	5:C:317:KR:KR	2.62	0.60
2:B:154:LEU:CD1	5:B:510:KR:KR	3.11	0.59
2:B:154:LEU:HD12	5:B:510:KR:KR	2.63	0.59
2:D:447:TRP:HE1	5:D:508:KR:KR	2.46	0.59
2:B:489[A]:SEC:SE	6:B:501:FCO:C1	3.00	0.59
2:D:228:ILE:HD11	5:D:511:KR:KR	2.63	0.58
5:C:317:KR:KR	2:D:70:ILE:HD13	2.64	0.58
1:A:154:VAL:CG2	5:A:313:KR:KR	3.13	0.58
2:B:228:ILE:HD12	5:B:507[B]:KR:KR	2.66	0.57
2:B:482:LEU:C	2:B:482:LEU:HD13	2.29	0.57
1:A:116:LEU:HD21	5:A:311:KR:KR	2.66	0.56
2:D:167:GLU:OE1	2:D:170:ARG:NH2	2.35	0.56
1:C:26:LEU:HD11	5:C:309:KR:KR	2.66	0.55
2:D:455:MET:N	2:D:455:MET:HE3	2.22	0.54
2:B:453:ASP:OD2	2:B:457:GLN:HB3	2.07	0.54
1:C:273:PHE:HZ	5:C:317:KR:KR	2.51	0.54
2:B:234:ASP:N	2:B:234:ASP:OD1	2.42	0.53
2:D:482:LEU:C	2:D:482:LEU:HD13	2.33	0.53
2:D:453:ASP:OD1	2:D:455:MET:HG2	2.08	0.53
2:B:243:LYS:HA	2:B:369:PHE:CD2	2.43	0.53
2:B:28:GLU:HB3	2:B:489[A]:SEC:CB	2.39	0.53
1:C:127:ILE:HD12	2:D:73:ARG:HG2	1.91	0.52
2:B:200:LYS:NZ	11:B:604:HOH:O	2.38	0.52
2:D:357:ALA:HB1	2:D:362:ASP:HB2	1.92	0.52
4:A:304[B]:6ML:S1	4:A:304[B]:6ML:S4	3.09	0.51
2:B:116:GLN:HG3	2:B:173:HIS:CD2	2.46	0.51
1:C:19:THR:HG22	1:C:19:THR:O	2.11	0.51
1:C:102:VAL:HG13	1:C:143:PHE:CZ	2.46	0.50
1:A:127:ILE:HD12	2:B:73:ARG:HG2	1.92	0.50
1:C:273:PHE:CZ	5:C:317:KR:KR	3.26	0.50
2:D:426:LEU:HD23	5:D:508:KR:KR	2.73	0.50
1:A:85:ASP:OD1	11:A:401:HOH:O	2.19	0.50
2:B:158:GLY:HA2	5:B:506[A]:KR:KR	2.73	0.50
2:B:228:ILE:HD11	5:B:510:KR:KR	2.73	0.50
2:D:154:LEU:O	5:D:511:KR:KR	2.91	0.49
1:C:21[B]:CYS:SG	1:C:118:VAL:HG12	2.52	0.49
2:B:38:GLU:HG2	2:B:43:VAL:HG11	1.94	0.49
2:B:203:LEU:HD21	2:B:396:ILE:HG21	1.94	0.49
2:B:319:PRO:HG3	2:B:446:LEU:HG	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:48:THR:O	2:B:26:ARG:HA	2.12	0.48
1:C:83:GLU:HG2	1:C:136:GLY:HA3	1.95	0.48
2:D:452:ARG:NH2	2:D:458:ARG:HD3	2.28	0.48
1:C:180:ASN:HB3	1:C:184:GLY:HA3	1.95	0.48
2:D:234:ASP:OD1	2:D:234:ASP:N	2.43	0.48
2:B:357:ALA:HB1	2:B:362:ASP:HB2	1.96	0.48
2:D:443:SER:O	2:D:446:LEU:HB3	2.14	0.48
1:C:166:ILE:HG23	5:C:312[C]:KR:KR	2.74	0.48
2:D:214:ARG:NH2	2:D:390:GLU:OE1	2.33	0.48
2:B:240:GLN:HA	2:B:369:PHE:O	2.12	0.48
2:D:196:GLU:OE2	2:D:202:LYS:NZ	2.45	0.48
2:D:213:VAL:O	2:D:217:VAL:HG23	2.15	0.47
2:D:267:TYR:OH	2:D:270:GLY:HA2	2.12	0.47
4:A:304[B]:6ML:S1	4:A:304[B]:6ML:S2	3.12	0.47
1:C:154:VAL:CG2	5:C:314:KR:KR	3.23	0.47
2:D:335:TRP:CZ3	2:D:361:ARG:HA	2.48	0.47
1:A:200:THR:N	1:A:201:PRO:CD	2.78	0.47
1:C:200:THR:N	1:C:201:PRO:CD	2.78	0.47
2:D:327:GLU:OE2	2:D:331:LEU:HD23	2.15	0.47
1:A:279:PRO:HB2	1:A:282:GLN:HG2	1.96	0.47
2:D:453:ASP:OD2	2:D:457:GLN:HB3	2.13	0.46
2:B:371:LEU:C	2:B:371:LEU:HD23	2.40	0.46
1:C:206:ASN:OD1	1:C:208:HIS:HB3	2.16	0.46
2:D:123:TYR:CE1	5:D:506[B]:KR:KR	3.30	0.46
2:D:123:TYR:OH	2:D:221:TYR:HA	2.14	0.46
1:A:26:LEU:HD11	5:A:312:KR:KR	2.77	0.46
2:D:158:GLY:CA	5:D:506[B]:KR:KR	3.24	0.46
1:A:19:THR:HG22	1:A:19:THR:O	2.14	0.46
1:A:254:GLY:HA3	2:B:174:GLU:OE2	2.16	0.45
1:C:21[B]:CYS:O	1:C:24:THR:HG22	2.16	0.45
2:D:334:MET:HE2	2:D:380:GLU:HB3	1.97	0.45
1:A:154:VAL:HG23	5:A:313:KR:KR	2.78	0.45
1:A:21[B]:CYS:SG	1:A:118:VAL:HG12	2.57	0.45
2:D:222:VAL:N	2:D:223:PRO:CD	2.80	0.45
2:D:154:LEU:HD11	5:D:511:KR:KR	2.78	0.45
2:D:492:CYS:CB	6:D:501:FCO:C1	2.94	0.45
1:A:177:ILE:HA	1:A:181:GLY:O	2.17	0.45
2:B:339:PRO:HG3	5:B:513:KR:KR	2.78	0.45
2:D:319:PRO:HG3	2:D:446:LEU:HG	1.97	0.45
2:B:28:GLU:HB3	2:B:489[B]:SEC:SE	2.68	0.44
1:A:80:VAL:HG21	1:A:105:LEU:CD2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:152:PRO:HB2	5:C:314:KR:KR	2.79	0.44
1:A:168:GLY:O	1:A:172:LEU:HG	2.17	0.44
2:D:449:CYS:SG	2:D:488:PRO:HB3	2.57	0.44
2:B:478:ASN:HA	2:B:481:ARG:HB2	1.99	0.44
2:D:47:LEU:HD11	2:D:461:VAL:CG1	2.47	0.44
1:A:232:CYS:SG	1:A:234:TYR:HB2	2.57	0.44
5:C:317:KR:KR	2:D:73:ARG:HD3	2.78	0.44
2:D:447:TRP:O	2:D:450:ASN:ND2	2.51	0.43
2:B:226:TYR:OH	2:B:380:GLU:OE2	2.28	0.43
2:B:129:ASP:OD1	2:B:484:ARG:NH1	2.51	0.43
2:B:188:GLY:HA2	2:B:195:THR:OG1	2.18	0.43
2:D:267:TYR:OH	2:D:365:GLU:OE2	2.30	0.43
1:C:189:VAL:O	1:C:192:VAL:HG22	2.18	0.43
1:A:21[B]:CYS:O	1:A:24:THR:HG22	2.19	0.43
1:C:58:ILE:HD13	5:C:316:KR:KR	2.80	0.43
2:D:249:GLY:HA2	2:D:262:PHE:O	2.19	0.43
1:C:242[A]:MET:HA	1:C:242[A]:MET:HE2	2.00	0.42
1:A:205:ARG:HH22	1:A:249:GLU:CD	2.27	0.42
4:C:304[B]:6ML:S1	4:C:304[B]:6ML:S4	3.16	0.42
1:A:116:LEU:HD23	1:A:154:VAL:HB	2.01	0.42
2:B:446:LEU:HD13	11:B:644:HOH:O	2.18	0.42
1:A:32:SER:O	1:A:36:VAL:HG23	2.19	0.42
2:B:194:ALA:O	2:B:403:VAL:HB	2.20	0.42
1:A:21[B]:CYS:HB2	1:A:77:GLU:CD	2.44	0.42
2:B:276:ASP:OD1	2:B:276:ASP:C	2.63	0.42
2:B:426:LEU:HG	2:B:442:VAL:HB	2.01	0.42
2:B:449:CYS:SG	2:B:488:PRO:HB3	2.59	0.42
1:C:190:VAL:HA	1:C:193:LEU:HG	2.02	0.42
2:D:340:GLU:OE1	2:D:359:LYS:HE3	2.20	0.42
2:D:396:ILE:HG13	2:D:397:LYS:N	2.34	0.42
1:A:272:ASP:OD1	1:A:277:LYS:NZ	2.41	0.41
2:D:442:VAL:HG13	2:D:446:LEU:HD23	2.02	0.41
2:D:316:VAL:HG12	2:D:317:LYS:O	2.20	0.41
2:B:211:LYS:HD2	2:B:211:LYS:O	2.20	0.41
2:D:240:GLN:HA	2:D:369:PHE:O	2.21	0.41
1:A:72:PHE:CD1	1:A:72:PHE:C	2.98	0.41
2:B:128:GLN:HG2	5:B:508[B]:KR:KR	2.81	0.41
1:A:241:PRO:HB2	1:A:242[B]:MET:HE3	2.02	0.41
2:D:458:ARG:NH2	2:D:466:ILE:HG13	2.36	0.41
2:D:240:GLN:HG3	2:D:369:PHE:O	2.21	0.41
1:A:215:ASP:O	1:A:219:GLU:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:214:ARG:HD2	2:B:390:GLU:OE2	2.21	0.41
1:C:21[B]:CYS:HB2	1:C:77:GLU:CD	2.45	0.41
2:B:240:GLN:HG3	2:B:369:PHE:O	2.20	0.41
2:B:22:ASP:HA	2:B:23:PRO:HA	1.96	0.41
1:C:200:THR:O	1:C:201:PRO:C	2.63	0.41
1:A:43:LEU:HD21	1:A:46:HIS:HB2	2.03	0.40
2:B:89:ALA:HB1	2:B:429:VAL:HG12	2.02	0.40
1:A:248:PHE:CD1	1:A:249:GLU:N	2.89	0.40
2:B:244:ALA:HB1	2:B:326:LEU:HD23	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	281/283 (99%)	267 (95%)	13 (5%)	1 (0%)	30	16
1	C	281/283 (99%)	271 (96%)	9 (3%)	1 (0%)	30	16
2	B	483/484 (100%)	472 (98%)	11 (2%)	0	100	100
2	D	483/484 (100%)	470 (97%)	13 (3%)	0	100	100
All	All	1528/1534 (100%)	1480 (97%)	46 (3%)	2 (0%)	48	33

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	263	ALA
1	A	263	ALA

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	227/226 (100%)	225 (99%)	2 (1%)	70	59
1	C	227/226 (100%)	225 (99%)	2 (1%)	70	59
2	B	396/391 (101%)	394 (100%)	2 (0%)	81	73
2	D	396/391 (101%)	390 (98%)	6 (2%)	57	41
All	All	1246/1234 (101%)	1234 (99%)	12 (1%)	68	55

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	67	LYS
1	A	141	SER
2	B	211	LYS
2	B	214	ARG
1	C	67	LYS
1	C	141	SER
2	D	38	GLU
2	D	80	THR
2	D	340	GLU
2	D	348	LEU
2	D	394	LYS
2	D	455	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	96	HIS
1	A	111	ASN
1	A	180	ASN
1	A	282	GLN
2	B	39	ASN
2	B	457	GLN
1	C	16	GLN

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Mol	Chain	Res	Type
1	C	180	ASN
2	D	260	HIS
2	D	474	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues are modelled in this entry.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 60 ligands modelled in this entry, 48 are monoatomic and 2 are modelled with single atom - leaving 10 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	SF4	A	303[A]	1	0,12,12	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	SF4	C	302	1	0,12,12	-	-	-		
6	FCO	D	501	2	0,6,6	-	-	-		
3	SF4	A	302	1	0,12,12	-	-	-		
3	SF4	C	301	1	0,12,12	-	-	-		
3	SF4	C	303[A]	1	0,12,12	-	-	-		
4	6ML	A	304[B]	1	0,12,12	-	-	-		
4	6ML	C	304[B]	1	0,12,12	-	-	-		
3	SF4	A	301	1	0,12,12	-	-	-		
6	FCO	B	501	2	0,6,6	-	-	-		

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	SF4	A	303[A]	1	-	-	0/6/5/5
3	SF4	C	302	1	-	-	0/6/5/5
3	SF4	A	302	1	-	-	0/6/5/5
3	SF4	C	301	1	-	-	0/6/5/5
3	SF4	C	303[A]	1	-	-	0/6/5/5
4	6ML	A	304[B]	1	-	-	0/2/3/3
4	6ML	C	304[B]	1	-	-	0/2/3/3
3	SF4	A	301	1	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

4 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	D	501	FCO	2	0
4	A	304[B]	6ML	2	0
4	C	304[B]	6ML	1	0
6	B	501	FCO	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å ²)	Q<0.9
1	A	279/283 (98%)	0.39	13 (4%)	36 42	10, 29, 50, 82	4 (1%)
1	C	279/283 (98%)	0.22	7 (2%)	58 66	10, 29, 52, 84	3 (1%)
2	B	480/484 (99%)	0.23	13 (2%)	56 63	12, 29, 50, 76	4 (0%)
2	D	479/484 (98%)	0.33	18 (3%)	44 50	9, 32, 56, 90	6 (1%)
All	All	1517/1534 (98%)	0.29	51 (3%)	48 55	9, 30, 53, 90	17 (1%)

All (51) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	5	GLY	3.9
1	C	172	LEU	3.3
2	D	154	LEU	3.1
1	C	29	VAL	3.1
1	A	172	LEU	3.1
2	B	344	VAL	3.0
2	D	363	LEU	3.0
2	D	368	ALA	2.9
2	D	358	LYS	2.9
2	D	355	ILE	2.7
2	B	201	GLU	2.6
2	D	335	TRP	2.6
2	D	455	MET	2.5
1	A	283	ALA	2.5
2	D	357	ALA	2.5
2	D	200	LYS	2.5
1	A	30	HIS	2.5
1	A	230	VAL	2.5
2	B	14	THR	2.4
1	A	192	VAL	2.4
2	D	150	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	5	GLY	2.3
1	A	211	CYS	2.3
1	A	214	LEU	2.3
2	D	16	ARG	2.3
2	B	363	LEU	2.3
2	D	286	TYR	2.3
1	A	204	GLY	2.3
1	A	29	VAL	2.3
2	D	349	LEU	2.2
1	A	248	PHE	2.2
2	B	383	TYR	2.2
1	C	95	ASN	2.2
2	B	341	LEU	2.2
2	B	354	GLY	2.2
2	D	15	GLY	2.2
2	B	473	ILE	2.2
1	C	283	ALA	2.1
2	D	343	PRO	2.1
2	D	270	GLY	2.1
1	A	179	LYS	2.1
2	B	154	LEU	2.1
1	A	213	TYR	2.1
2	B	358	LYS	2.1
2	B	360	PHE	2.1
1	C	96	HIS	2.0
2	B	258	LYS	2.0
2	D	267	TYR	2.0
2	D	353	PHE	2.0
1	C	192	VAL	2.0
2	B	347	LYS	2.0

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

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	CSD	B	75[B]	7/9	0.98	0.04	7,16,22,22	1
2	CSD	B	75[A]	7/9	0.98	0.04	7,16,22,22	2
2	CSD	D	75[B]	7/9	0.98	0.05	10,13,19,19	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	CSD	D	75[A]	7/9	0.98	0.05	10,12,19,19	2

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

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($\text{\AA}^2$)	Q<0.9
5	KR	A	314	1/1	0.87	0.15	53,53,53,53	1
5	KR	B	513	1/1	0.89	0.12	56,56,56,56	1
5	KR	C	311[B]	1/1	0.90	0.10	43,43,43,43	1
5	KR	C	316	1/1	0.90	0.11	45,45,45,45	1
5	KR	D	511	1/1	0.91	0.10	42,42,42,42	1
5	KR	D	508	1/1	0.92	0.10	41,41,41,41	1
5	KR	D	510	1/1	0.92	0.11	46,46,46,46	1
5	KR	A	309[B]	1/1	0.92	0.10	51,51,51,51	1
5	KR	B	512	1/1	0.93	0.10	49,49,49,49	1
5	KR	D	507	1/1	0.94	0.08	49,49,49,49	0
5	KR	C	315	1/1	0.94	0.09	48,48,48,48	1
5	KR	B	510	1/1	0.95	0.08	42,42,42,42	1
5	KR	D	512	1/1	0.95	0.08	48,48,48,48	1
5	KR	C	317	1/1	0.96	0.06	12,12,12,12	1
5	KR	C	309	1/1	0.97	0.05	31,31,31,31	1
5	KR	A	313	1/1	0.97	0.06	50,50,50,50	1
5	KR	C	314	1/1	0.97	0.06	57,57,57,57	1
5	KR	A	306	1/1	0.97	0.06	23,23,23,23	1
5	KR	A	315	1/1	0.97	0.06	36,36,36,36	1
5	KR	B	509[A]	1/1	0.97	0.06	36,36,36,36	1
5	KR	B	509[B]	1/1	0.97	0.06	43,43,43,43	1
5	KR	A	308[A]	1/1	0.97	0.04	30,30,30,30	1
5	KR	D	509	1/1	0.97	0.04	39,39,39,39	1
3	SF4	A	301	8/8	0.97	0.06	29,35,38,48	0
5	KR	A	312	1/1	0.97	0.05	29,29,29,29	1
5	KR	C	308	1/1	0.97	0.06	38,38,38,38	1
5	KR	C	307	1/1	0.98	0.05	30,30,30,30	1

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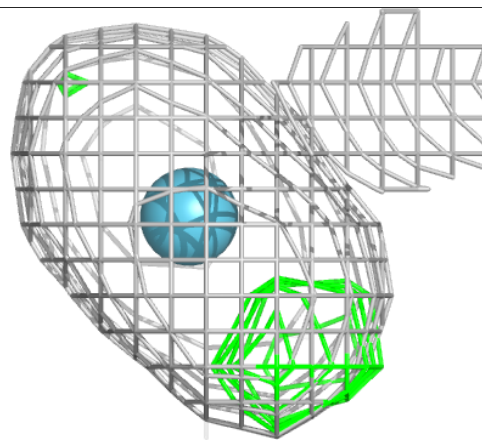
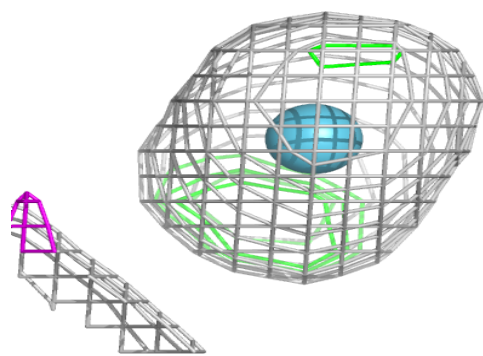
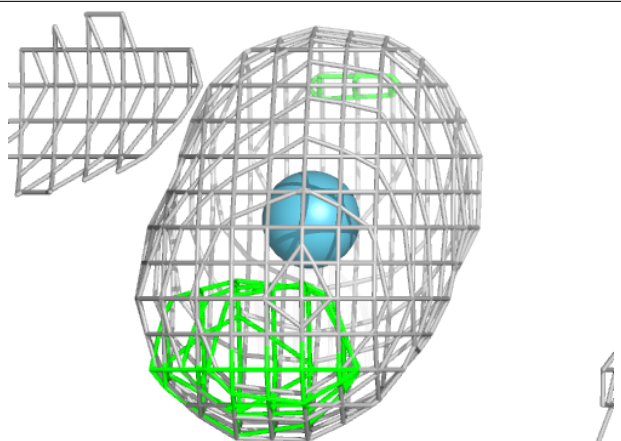
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	KR	B	511	1/1	0.98	0.04	31,31,31,31	1
5	KR	D	506[A]	1/1	0.98	0.04	28,28,28,28	1
5	KR	D	506[B]	1/1	0.98	0.04	31,31,31,31	1
5	KR	A	310	1/1	0.98	0.05	40,40,40,40	0
5	KR	C	310[A]	1/1	0.98	0.06	39,39,39,39	1
3	SF4	C	301	8/8	0.98	0.04	22,25,32,33	0
5	KR	C	312[C]	1/1	0.98	0.06	24,24,24,24	1
5	KR	C	305	1/1	0.98	0.04	49,49,49,49	0
5	KR	C	306	1/1	0.98	0.06	28,28,28,28	1
8	FE2	D	503	1/1	0.98	0.03	29,29,29,29	0
5	KR	C	313	1/1	0.99	0.05	42,42,42,42	0
3	SF4	A	302	8/8	0.99	0.03	19,23,26,27	0
3	SF4	C	302	8/8	0.99	0.03	13,18,19,21	0
3	SF4	C	303[A]	8/8	0.99	0.03	13,15,17,17	8
5	KR	A	311	1/1	0.99	0.06	32,32,32,32	1
4	6ML	A	304[B]	10/10	0.99	0.05	15,16,19,22	10
4	6ML	C	304[B]	10/10	0.99	0.05	11,15,19,20	10
5	KR	A	305	1/1	0.99	0.04	34,34,34,34	1
3	SF4	A	303[A]	8/8	0.99	0.04	15,16,16,17	8
5	KR	B	506[A]	1/1	0.99	0.05	18,18,18,18	1
5	KR	B	507[B]	1/1	0.99	0.05	14,14,14,14	1
5	KR	B	508[A]	1/1	0.99	0.03	21,21,21,21	1
5	KR	B	508[B]	1/1	0.99	0.03	46,46,46,46	1
6	FCO	D	501	7/7	0.99	0.04	14,17,20,27	0
7	NI	B	502	1/1	0.99	0.02	18,18,18,18	1
7	NI	D	502	1/1	0.99	0.02	21,21,21,21	0
8	FE2	B	503	1/1	0.99	0.02	21,21,21,21	0
5	KR	A	307	1/1	0.99	0.03	30,30,30,30	1
9	H2S	B	504	1/1	0.99	0.03	13,13,13,13	1
9	H2S	D	504	1/1	0.99	0.02	15,15,15,15	1
10	CL	D	505	1/1	0.99	0.03	15,15,15,15	0
10	CL	B	505	1/1	1.00	0.03	17,17,17,17	0
6	FCO	B	501	7/7	1.00	0.04	11,17,22,22	0

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

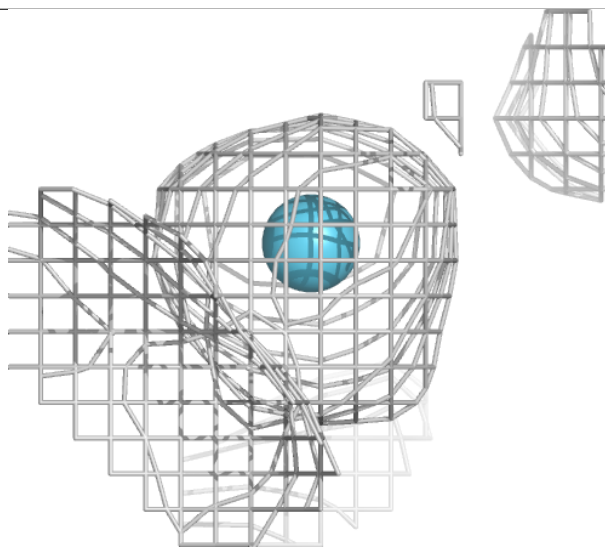
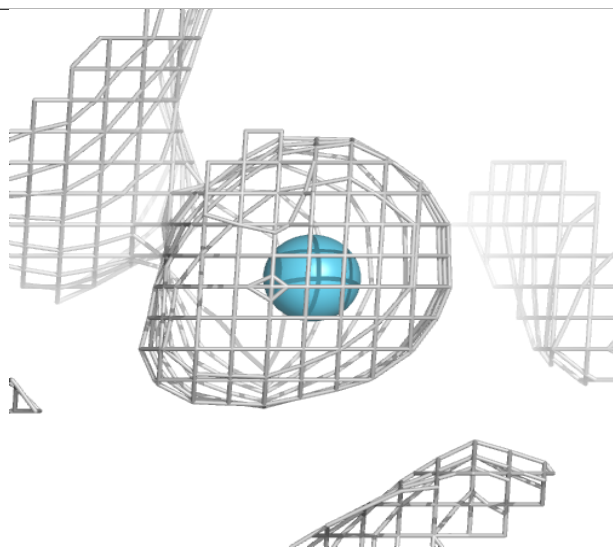
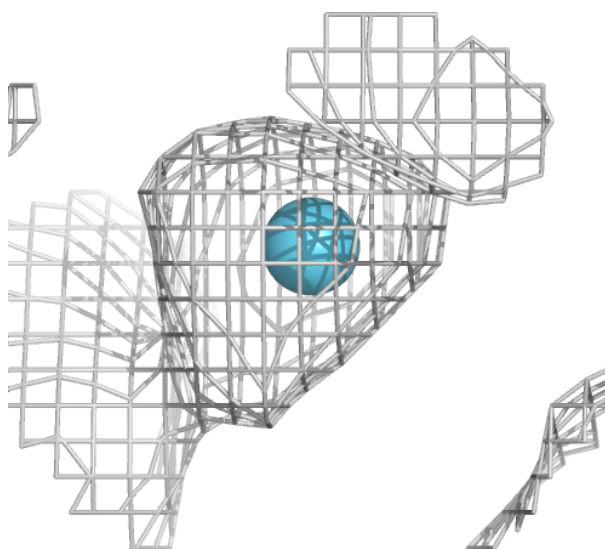
Electron density around KR A 314:

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



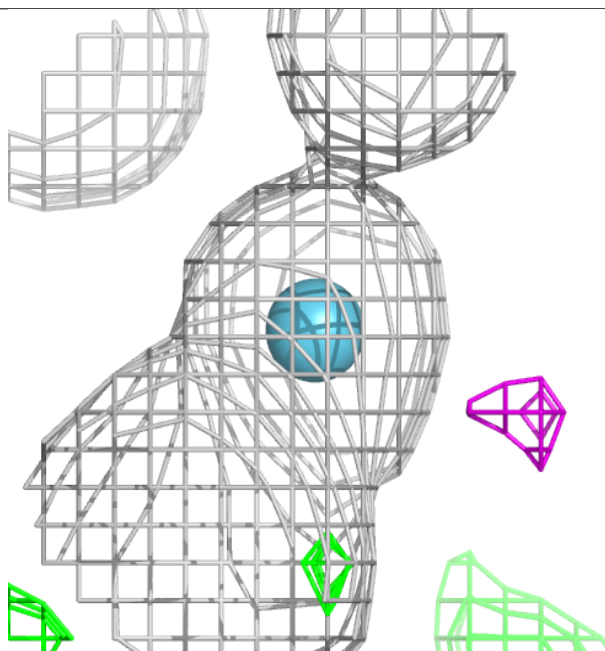
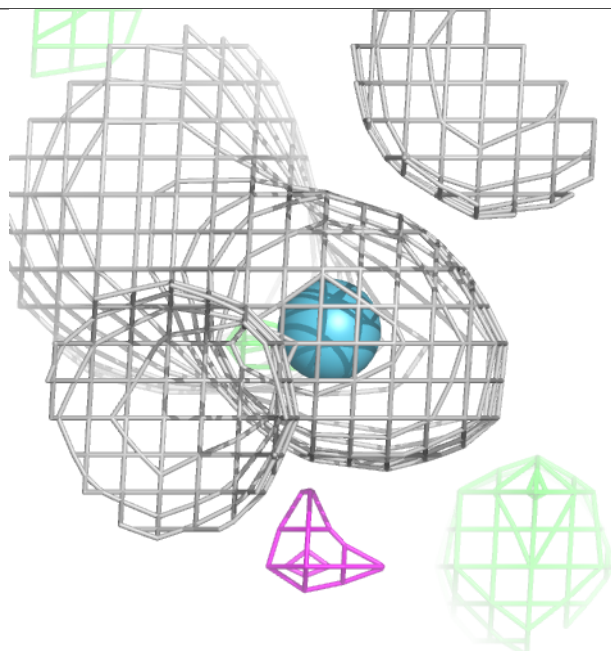
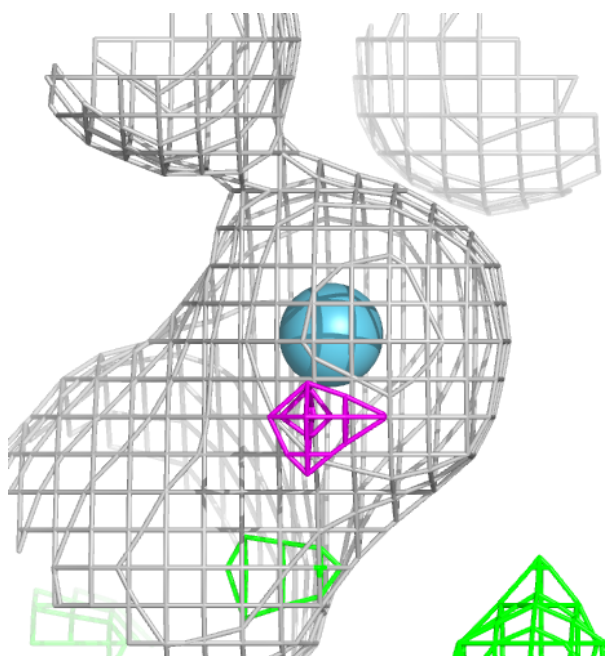
Electron density around KR B 513:

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



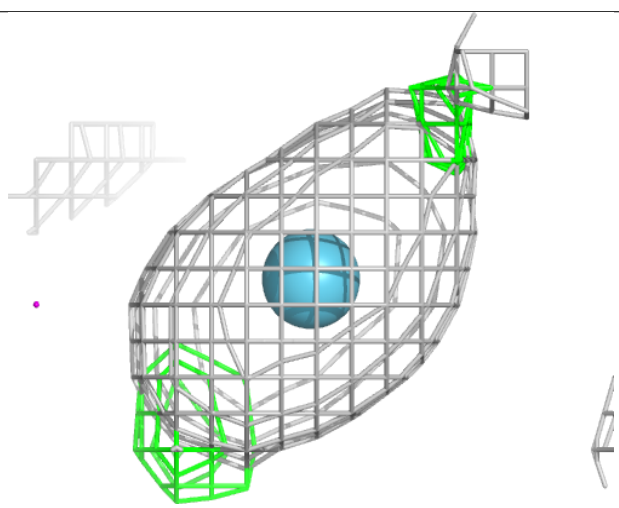
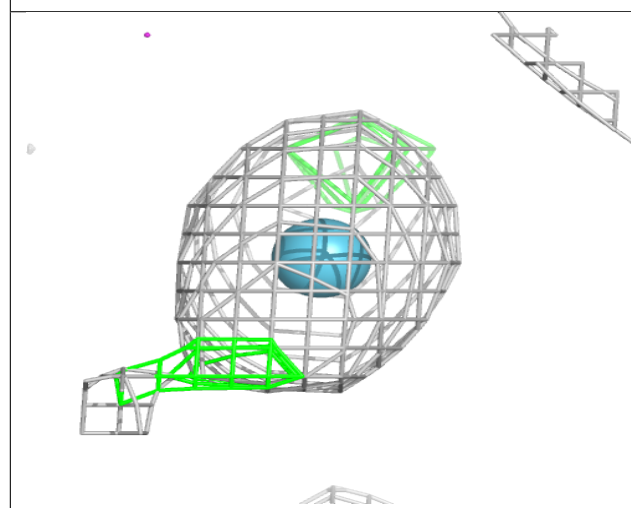
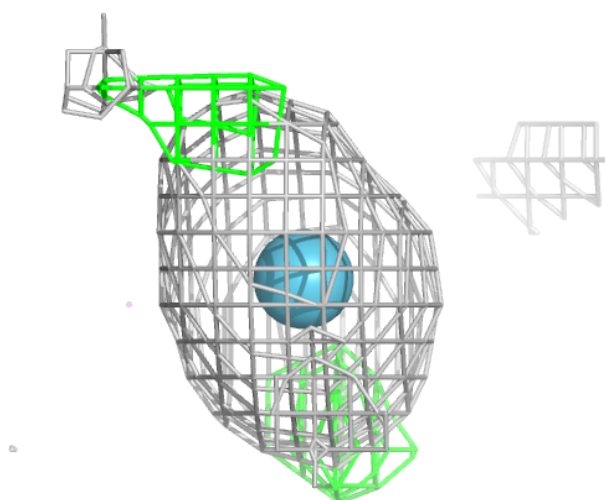
Electron density around KR C 311 (B):

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



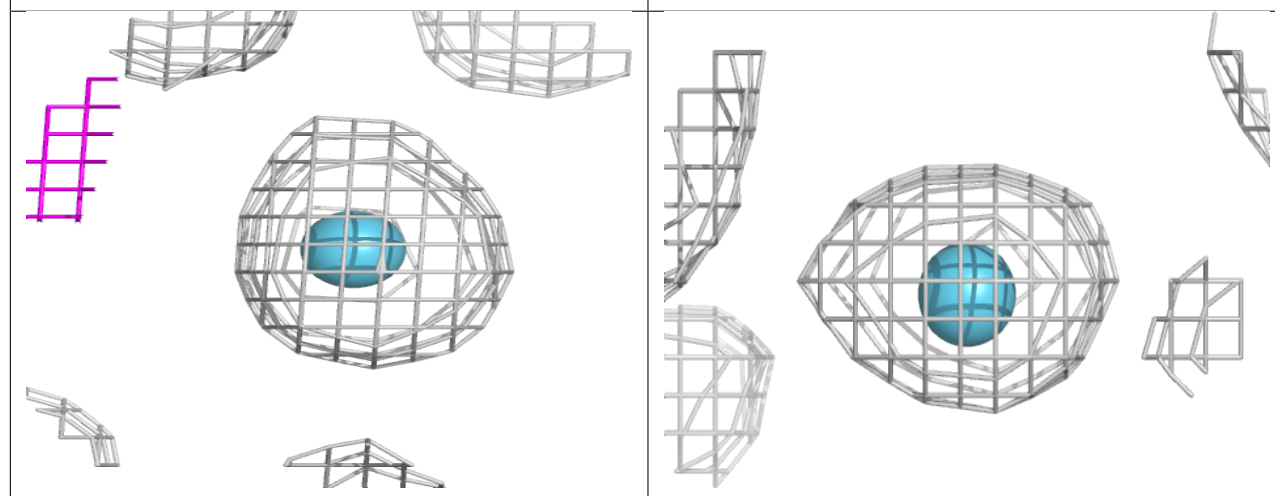
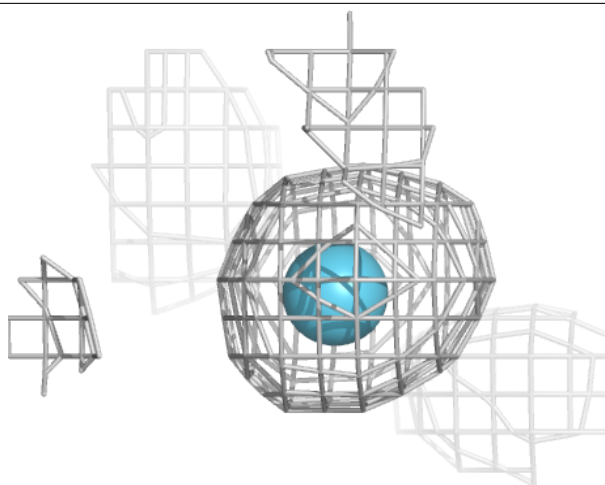
Electron density around KR C 316:

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



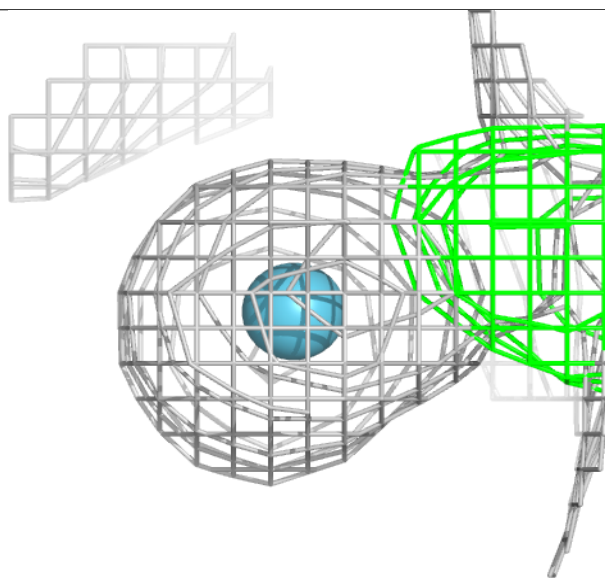
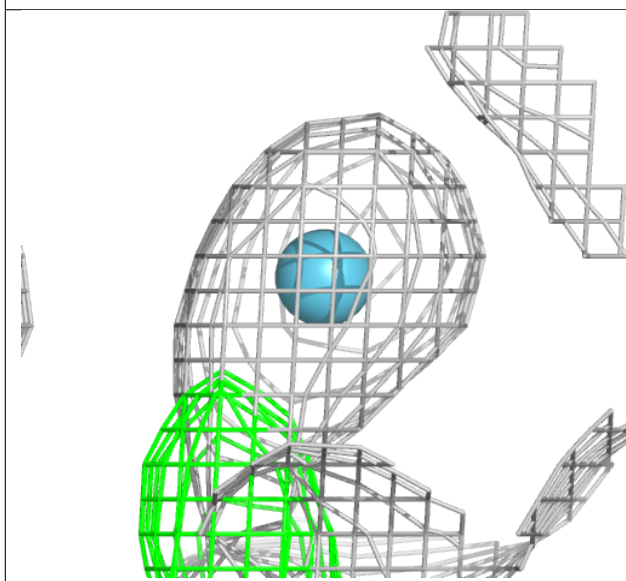
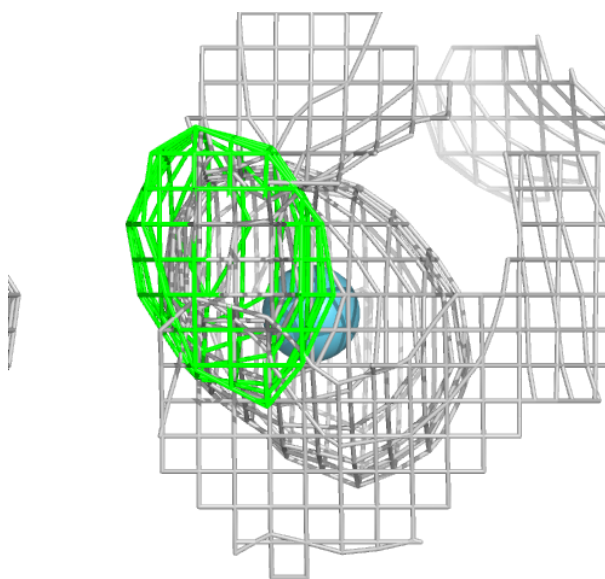
Electron density around KR D 511:

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



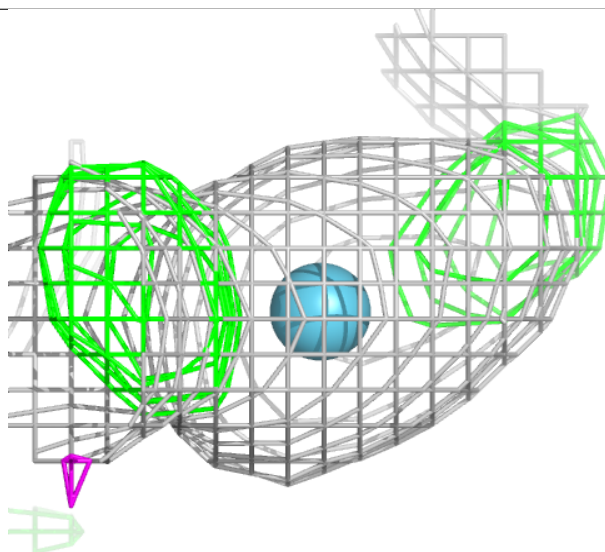
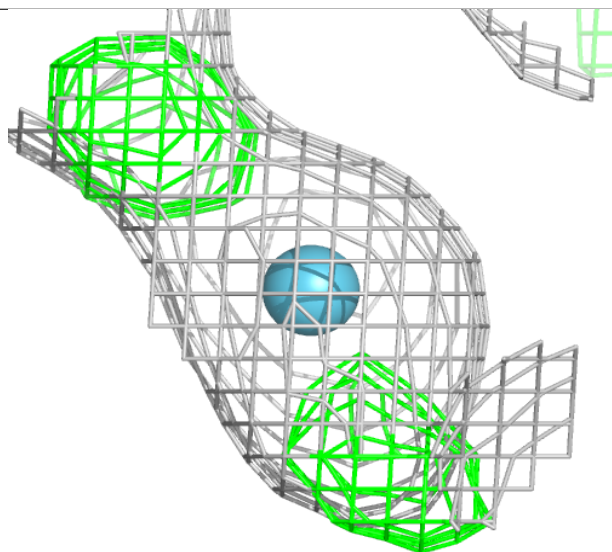
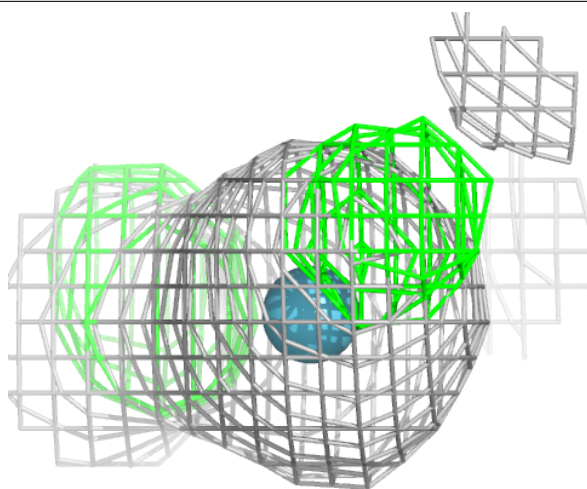
Electron density around KR D 508:

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



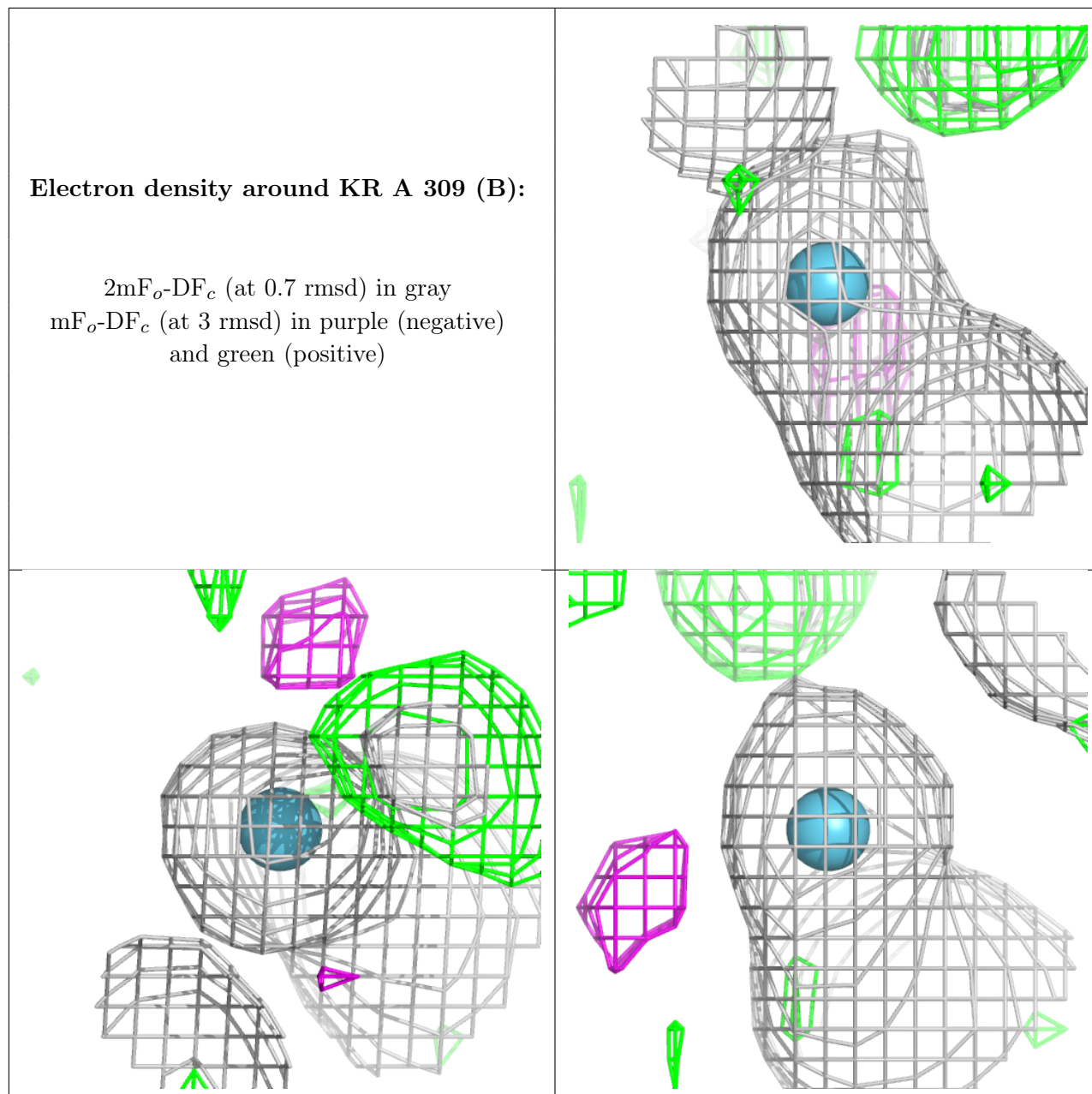
Electron density around KR D 510:

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



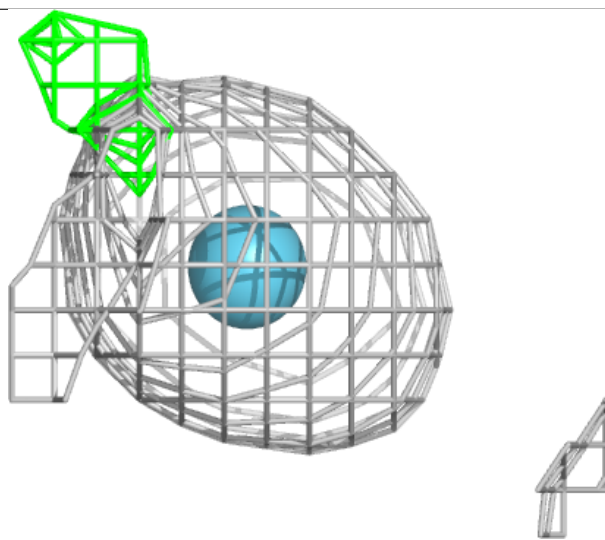
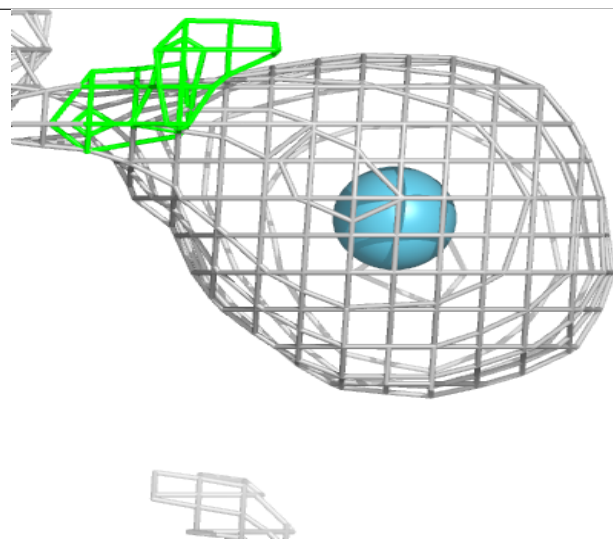
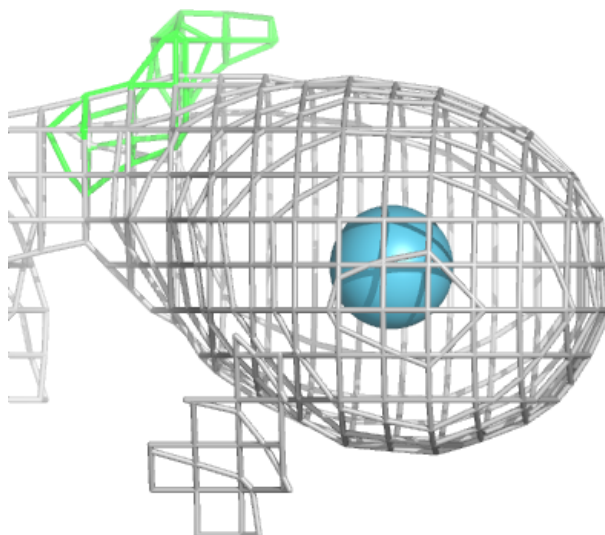
Electron density around KR A 309 (B):

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



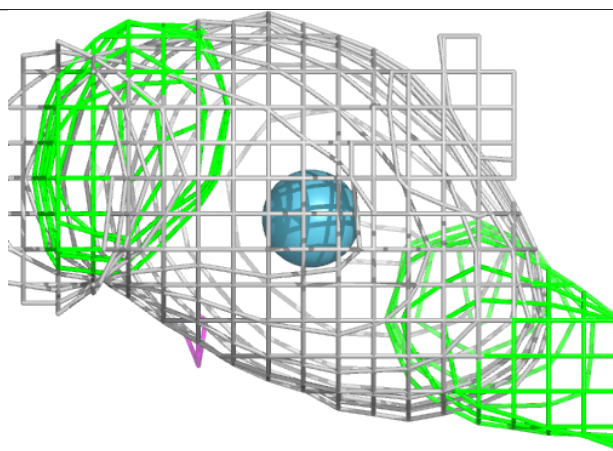
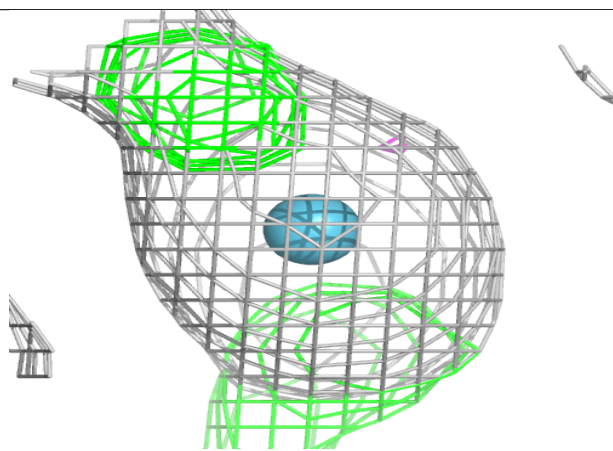
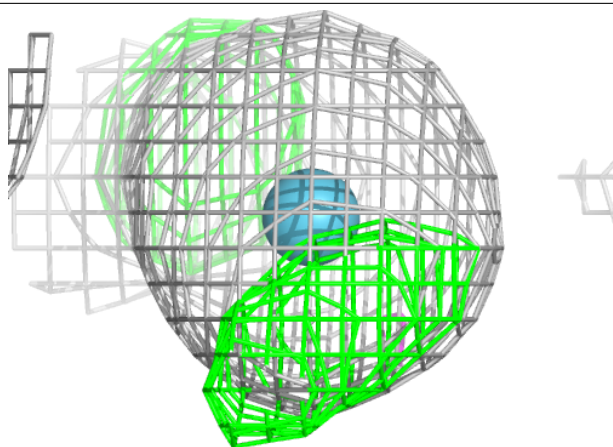
Electron density around KR B 512:

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



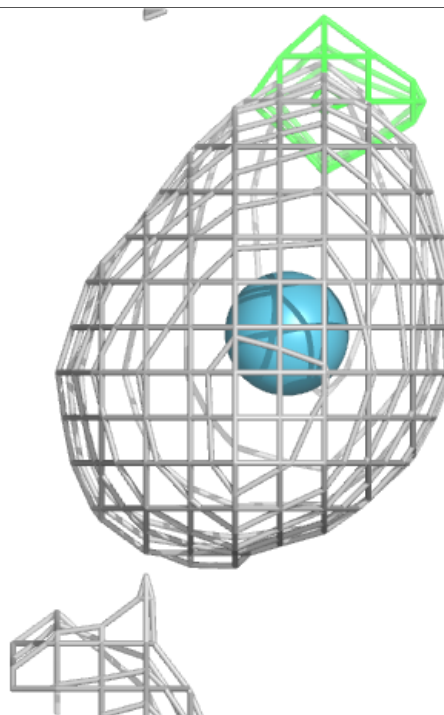
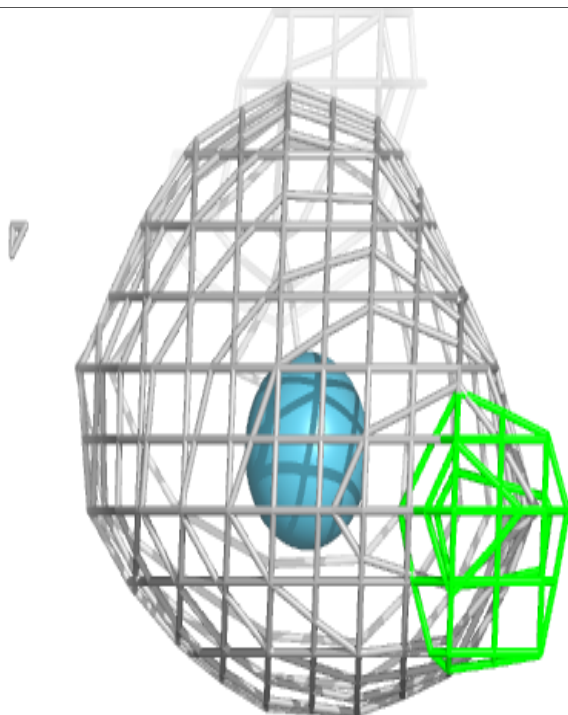
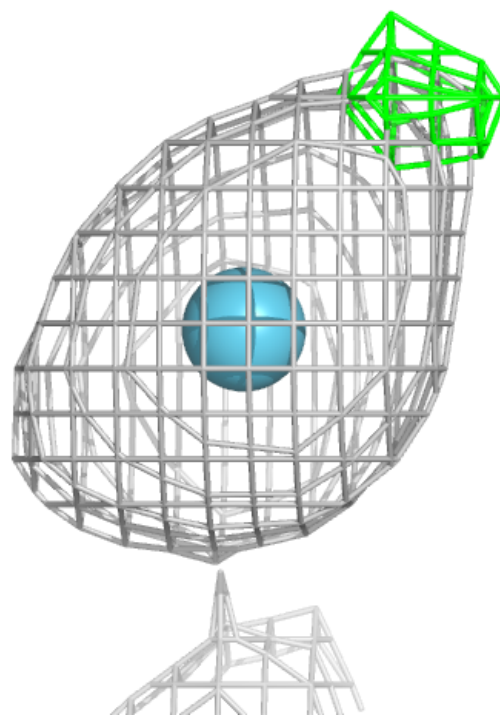
Electron density around KR D 507:

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



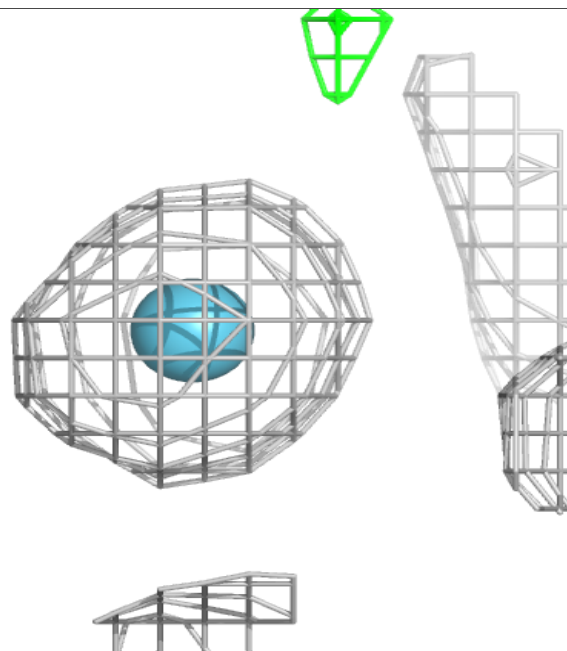
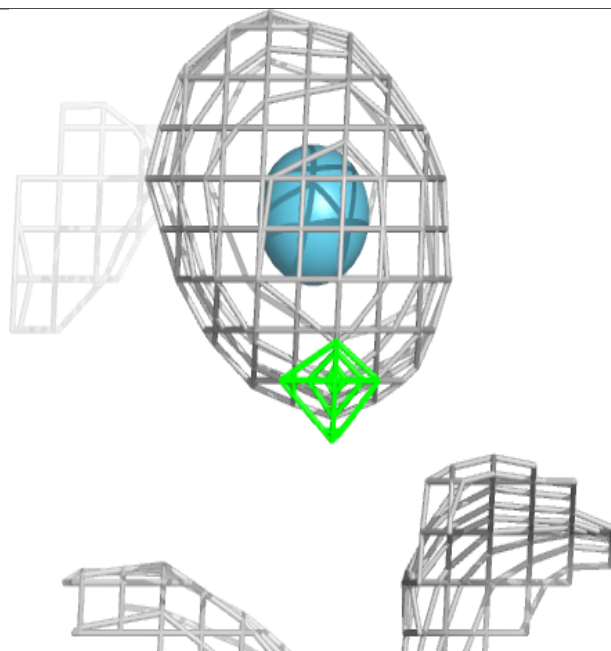
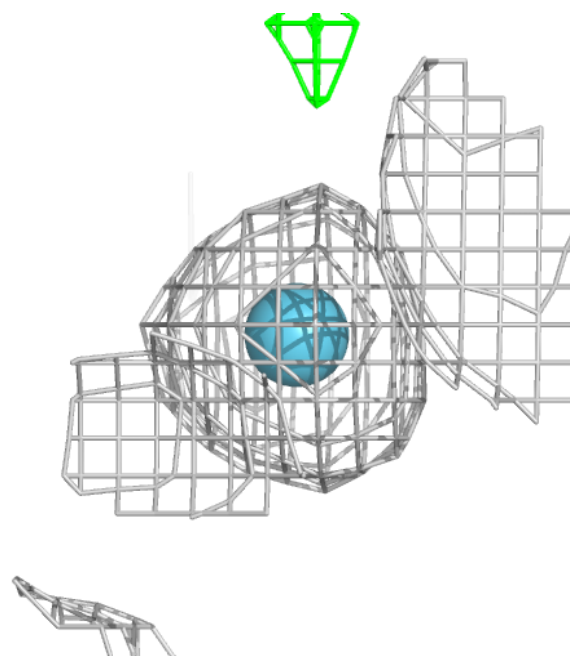
Electron density around KR C 315:

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



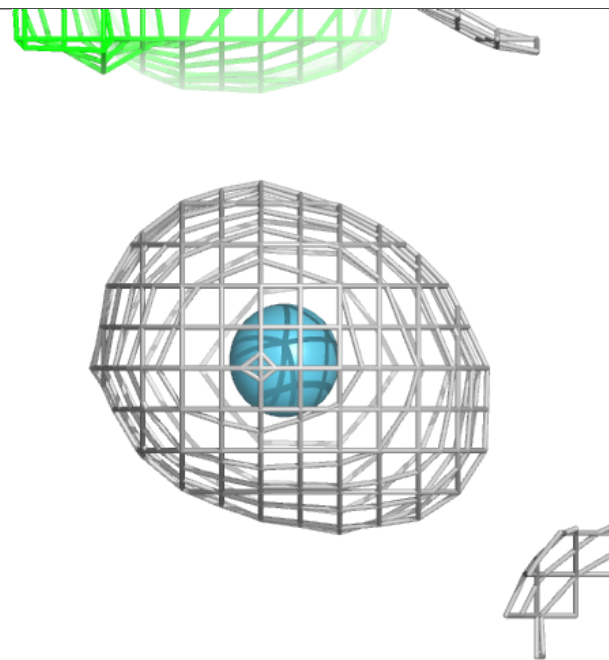
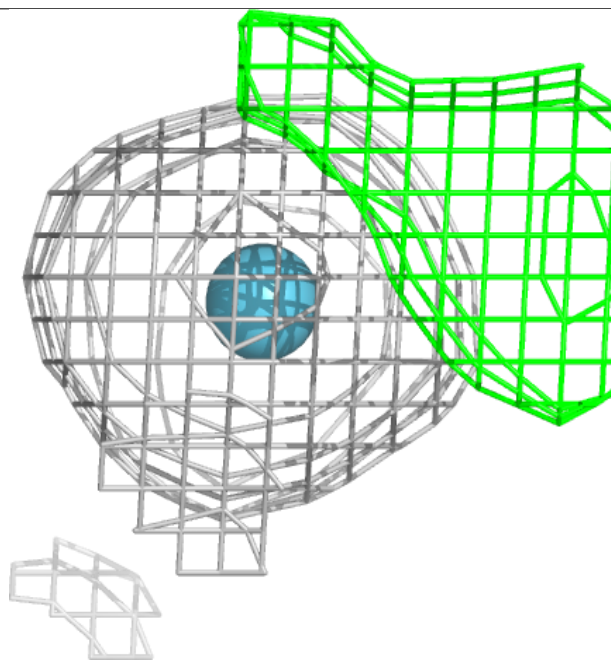
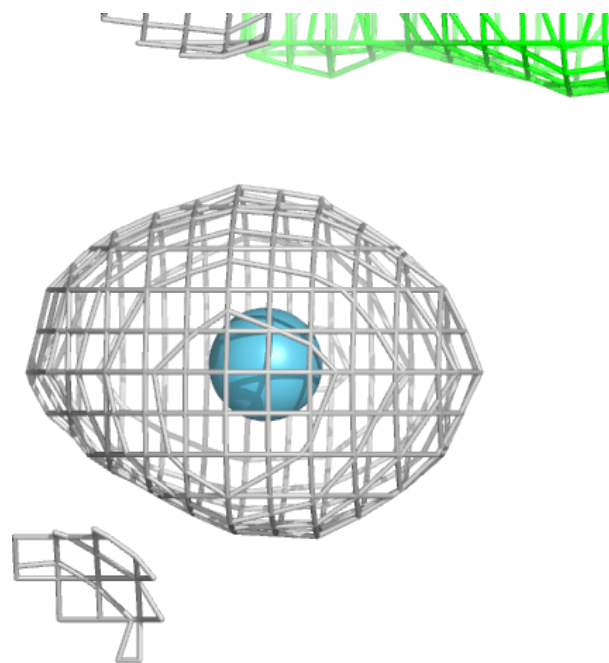
Electron density around KR B 510:

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



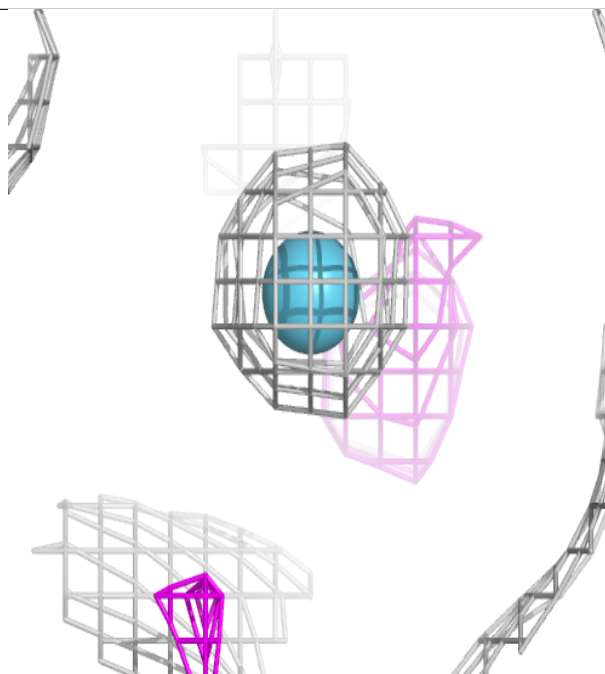
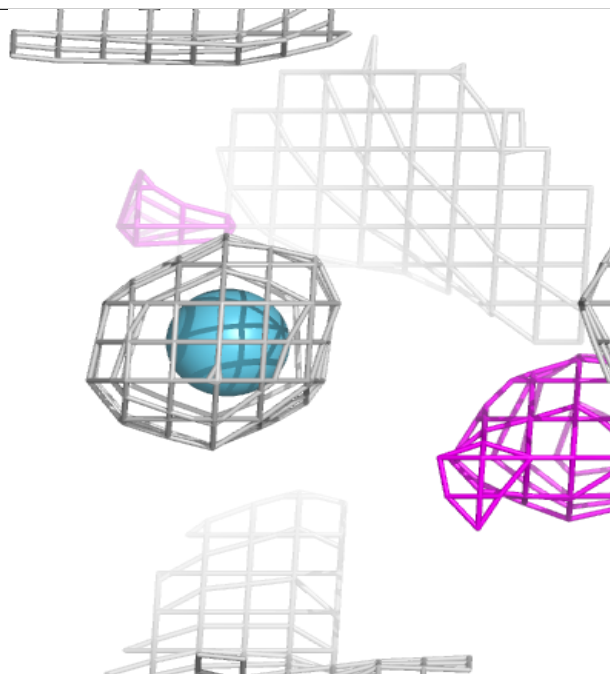
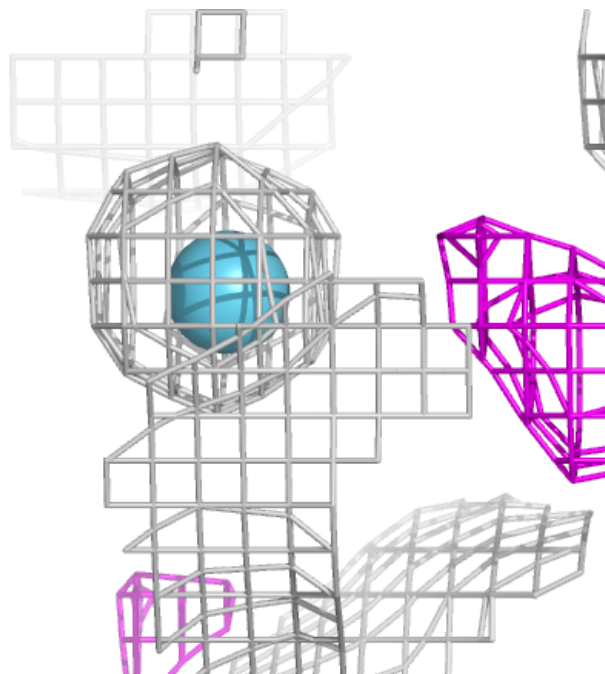
Electron density around KR D 512:

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



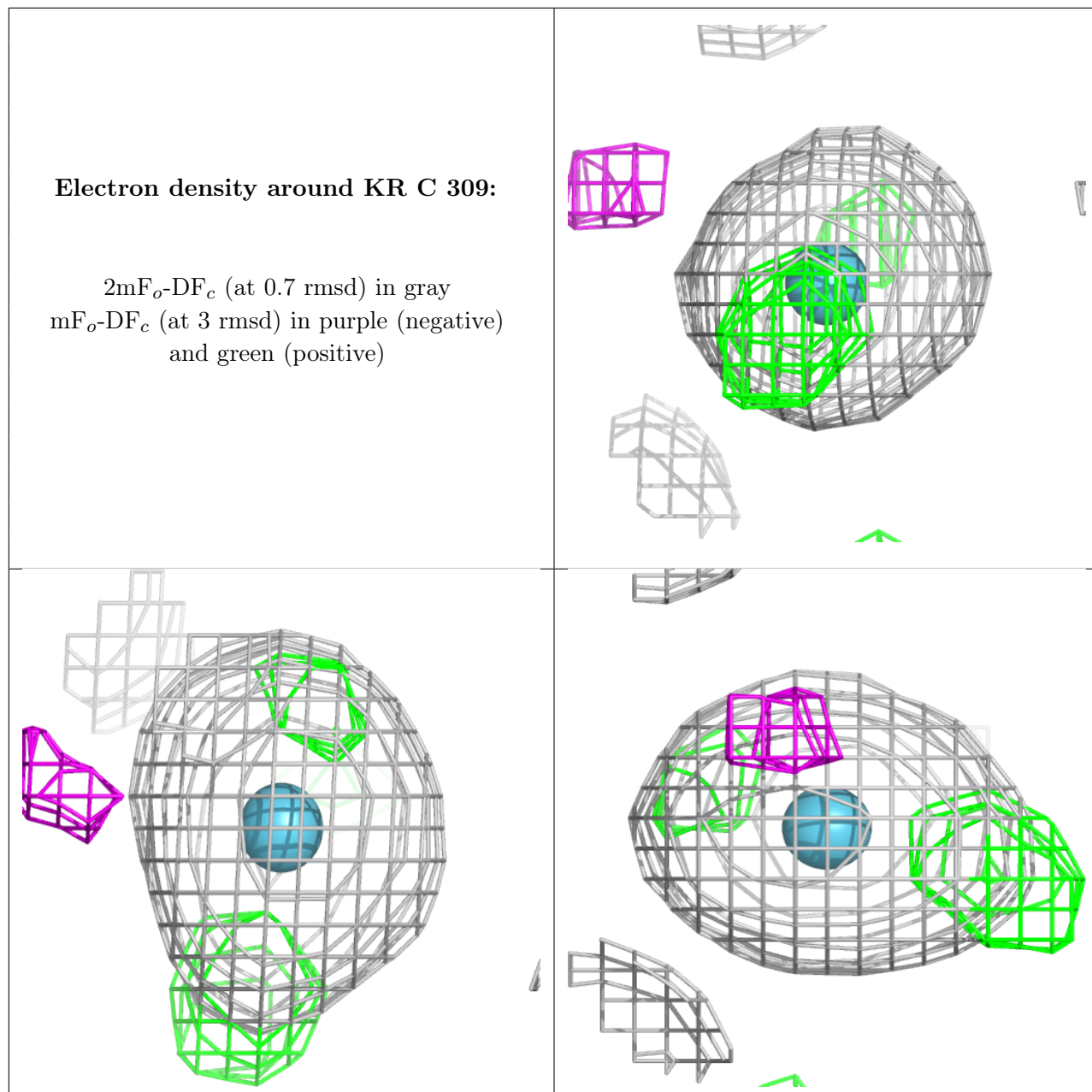
Electron density around KR C 317:

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



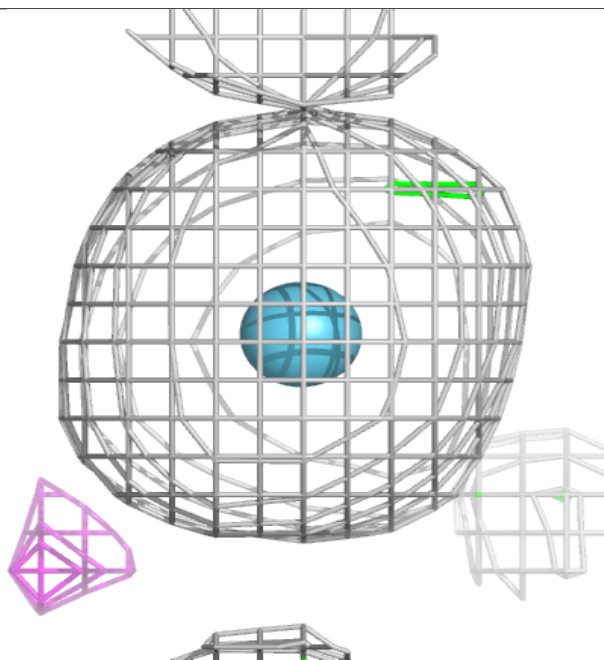
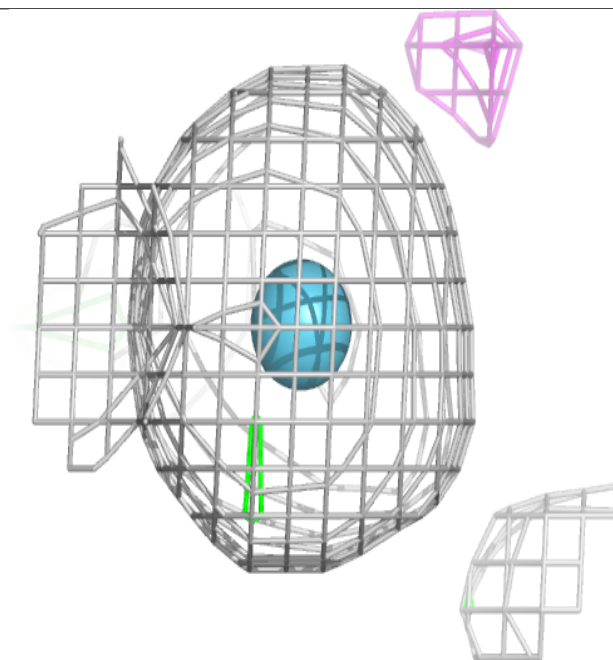
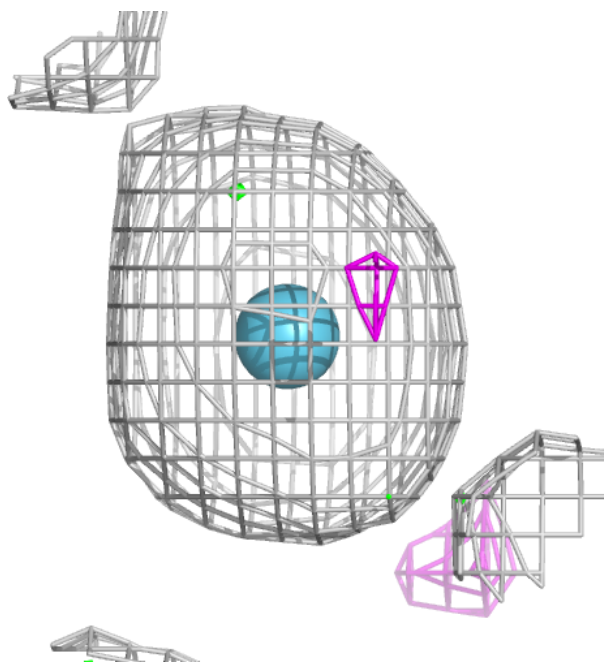
Electron density around KR C 309:

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



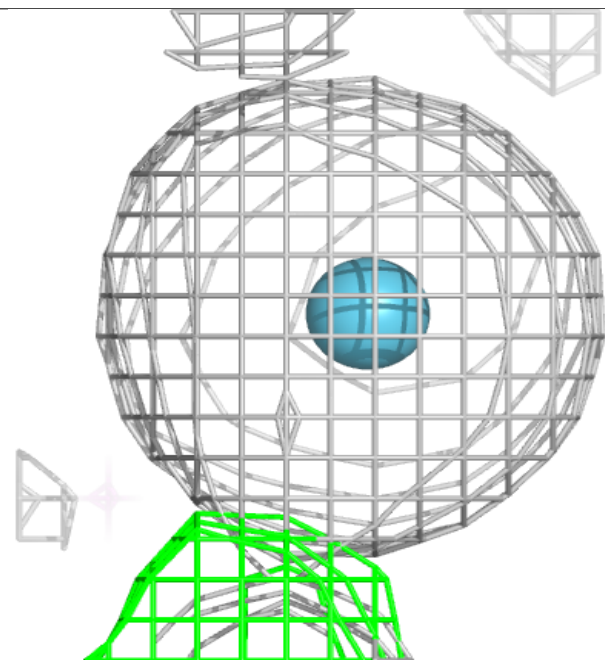
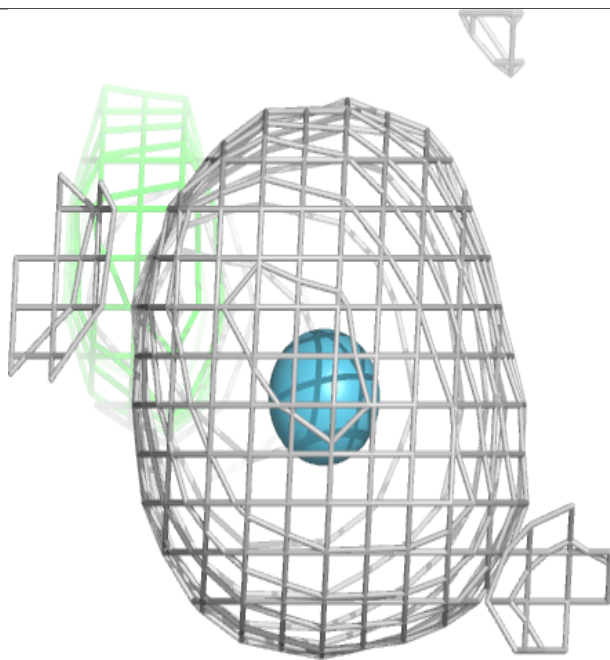
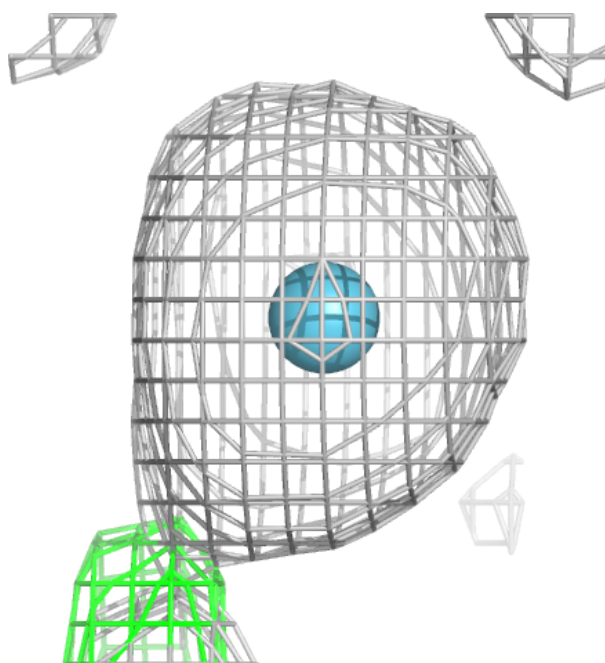
Electron density around KR A 313:

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



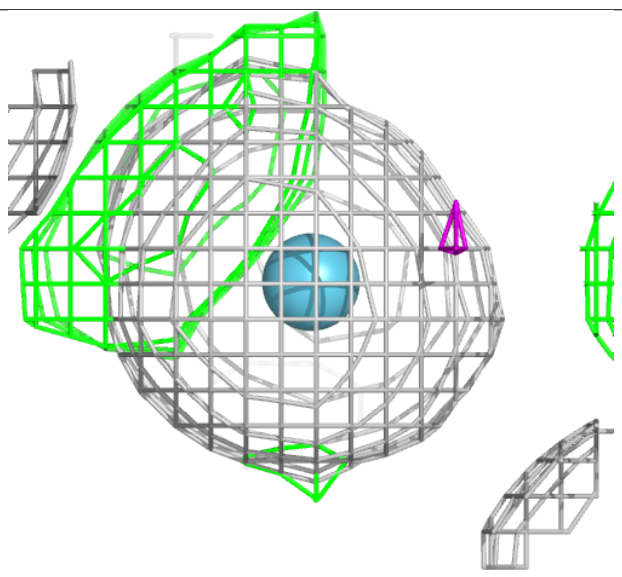
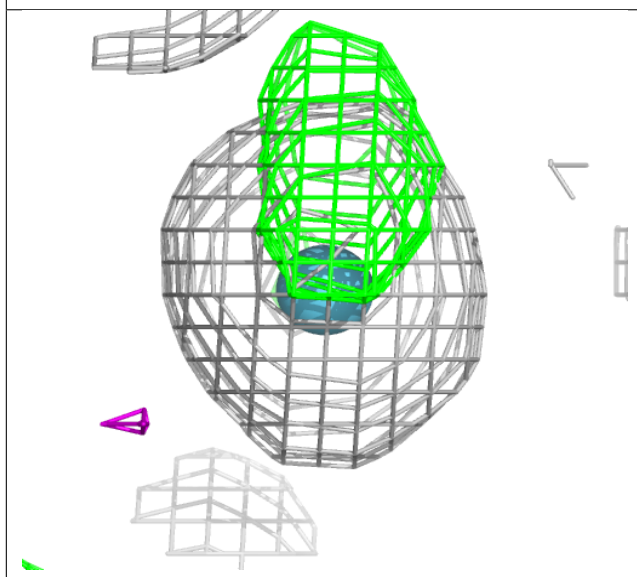
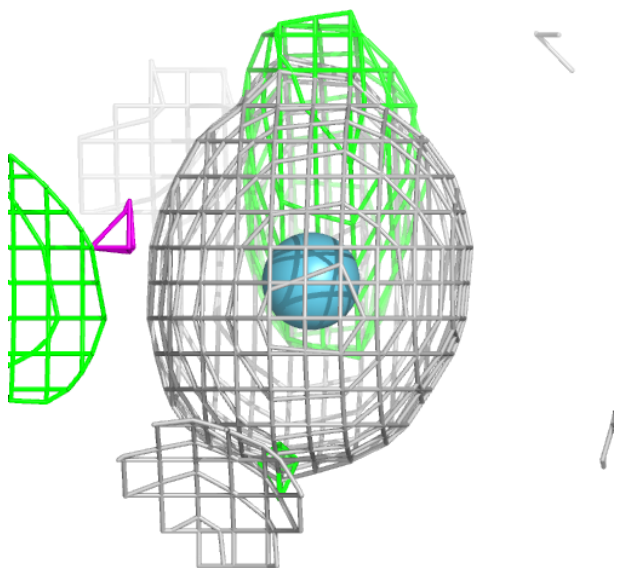
Electron density around KR C 314:

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



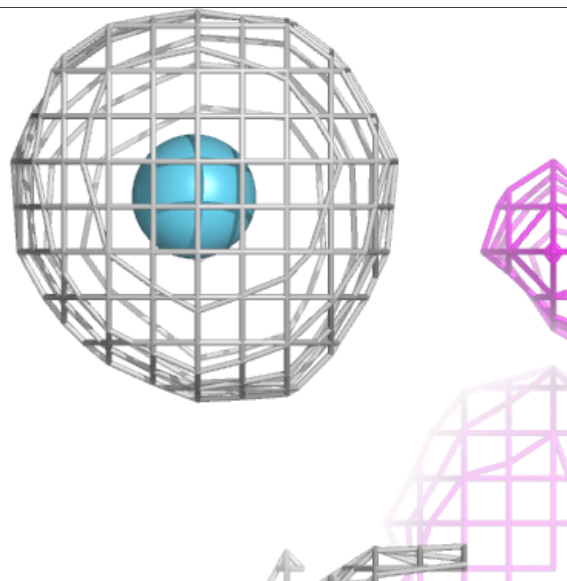
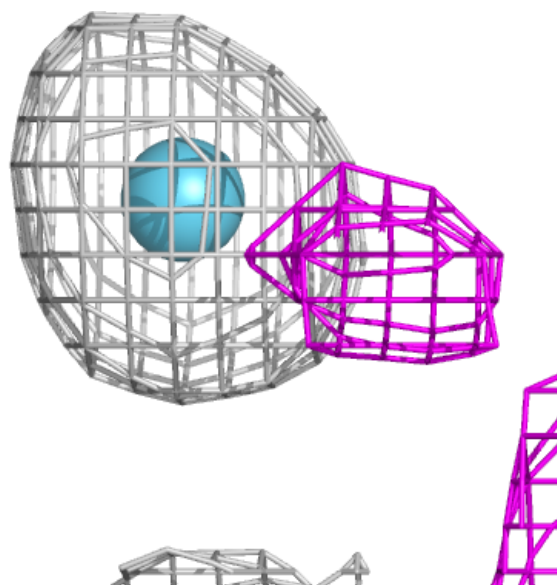
Electron density around KR A 306:

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



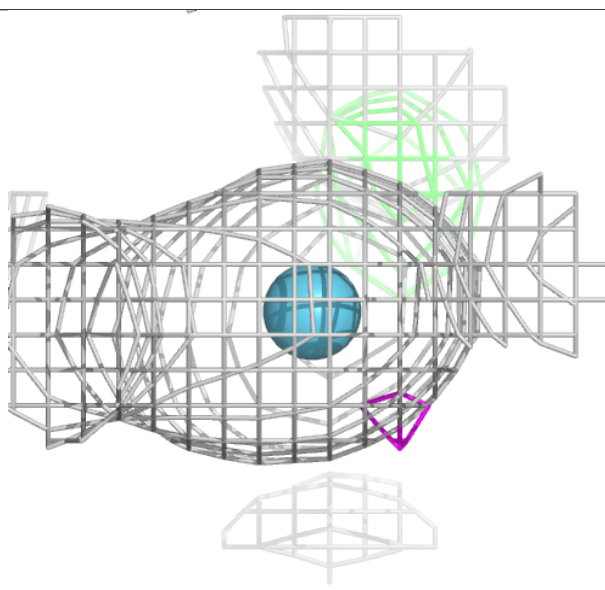
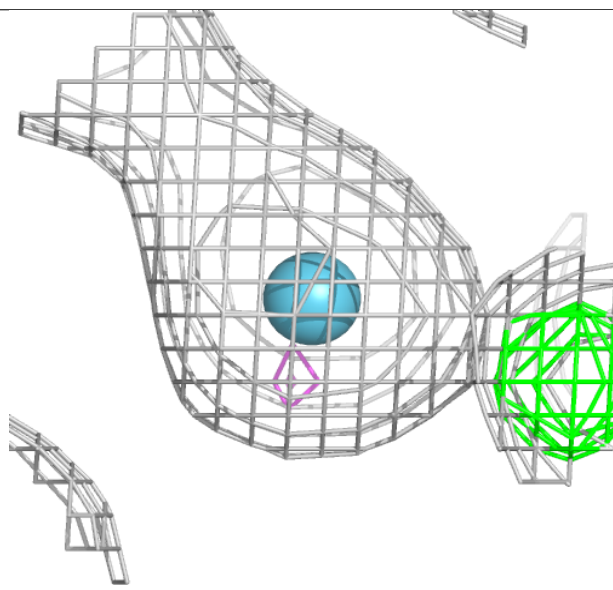
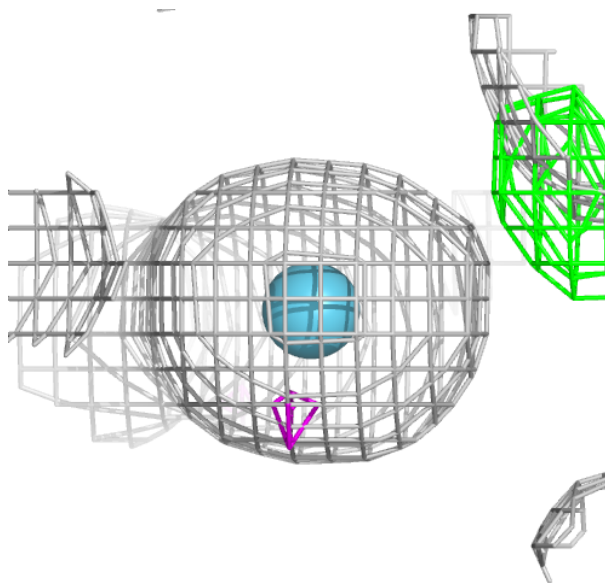
Electron density around KR A 315:

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



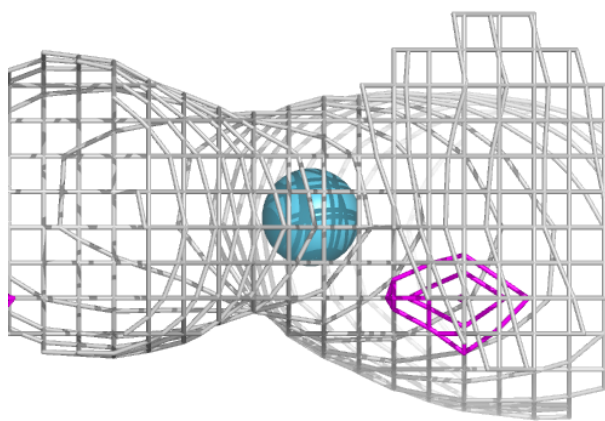
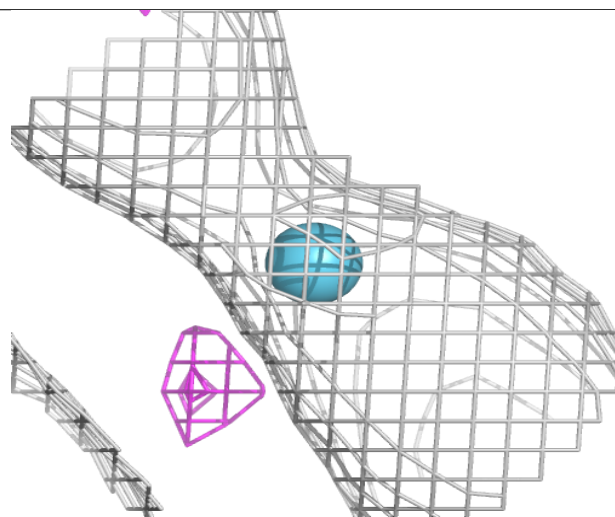
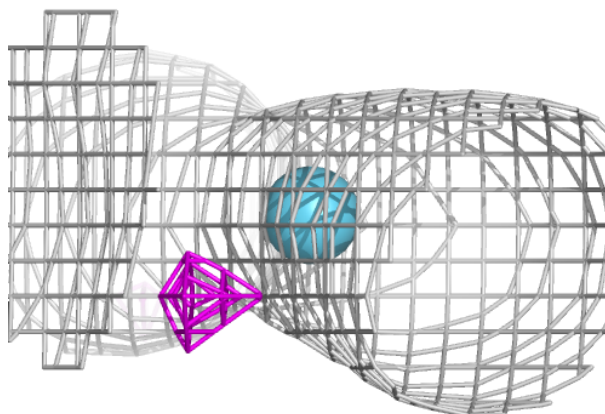
Electron density around KR B 509 (A):

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



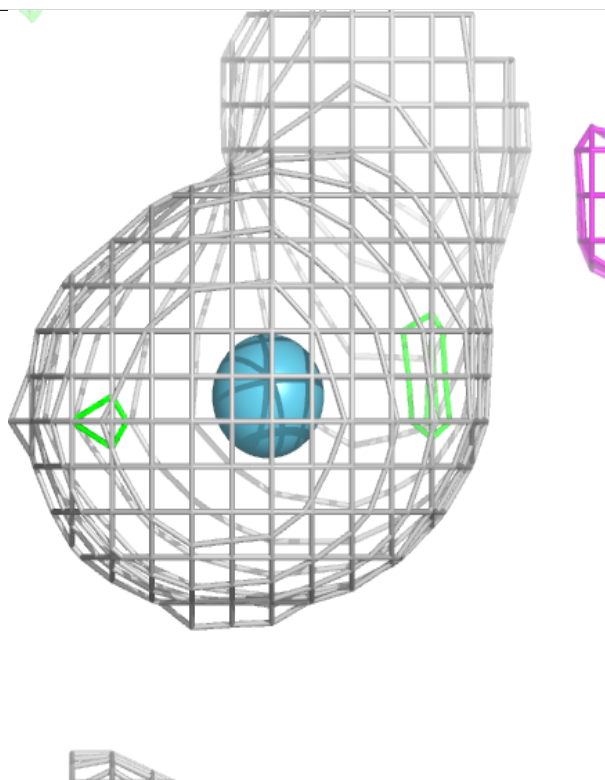
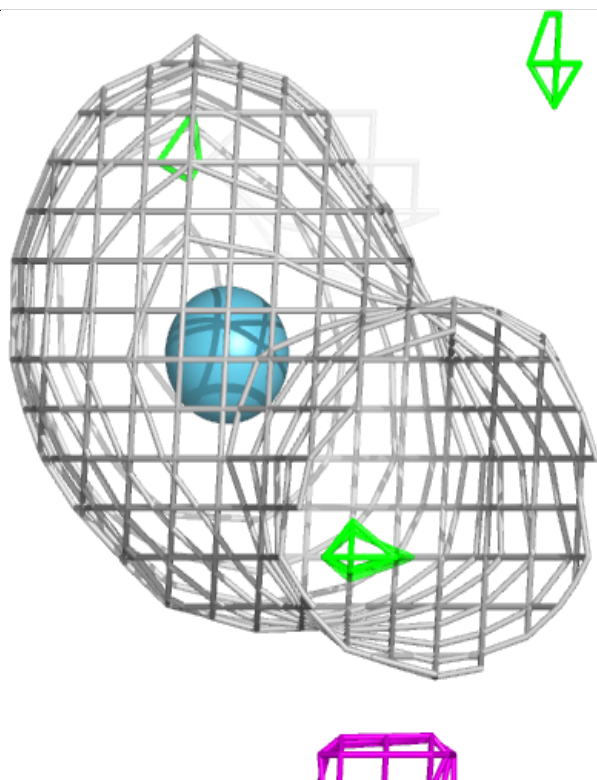
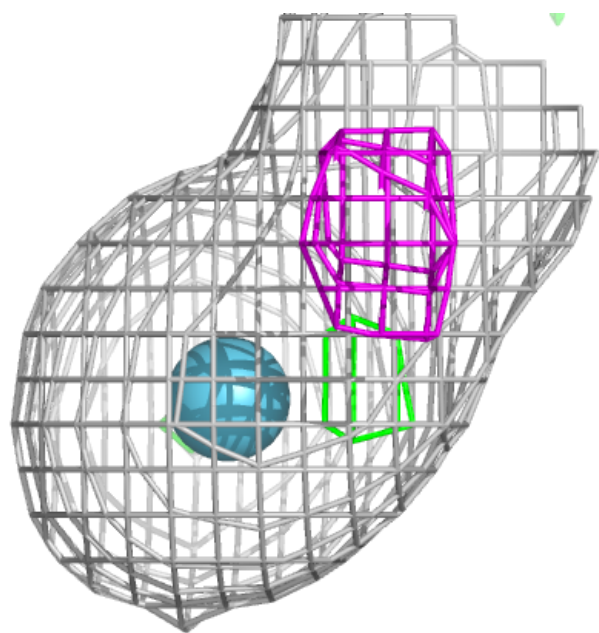
Electron density around KR B 509 (B):

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



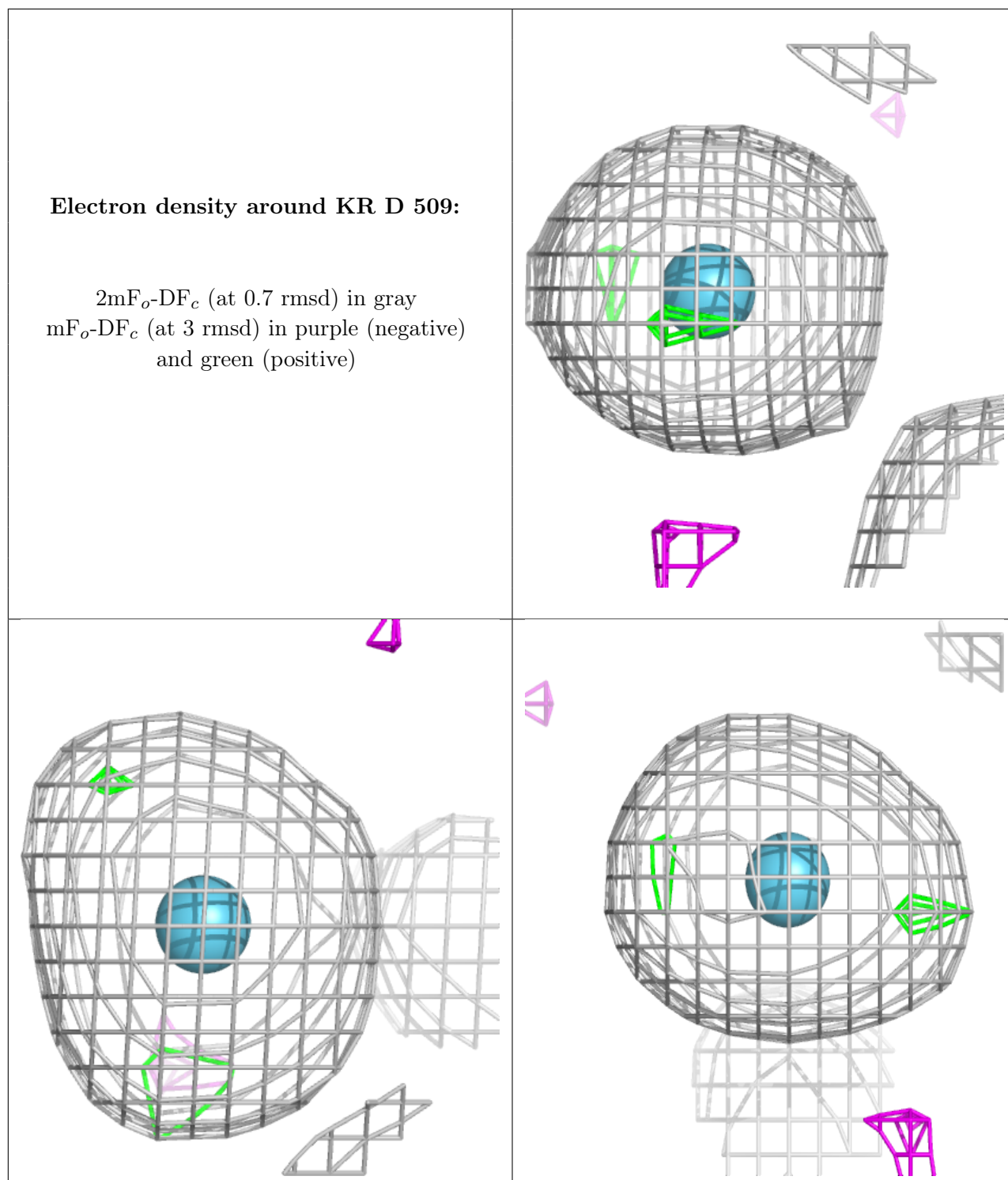
Electron density around KR A 308 (A):

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



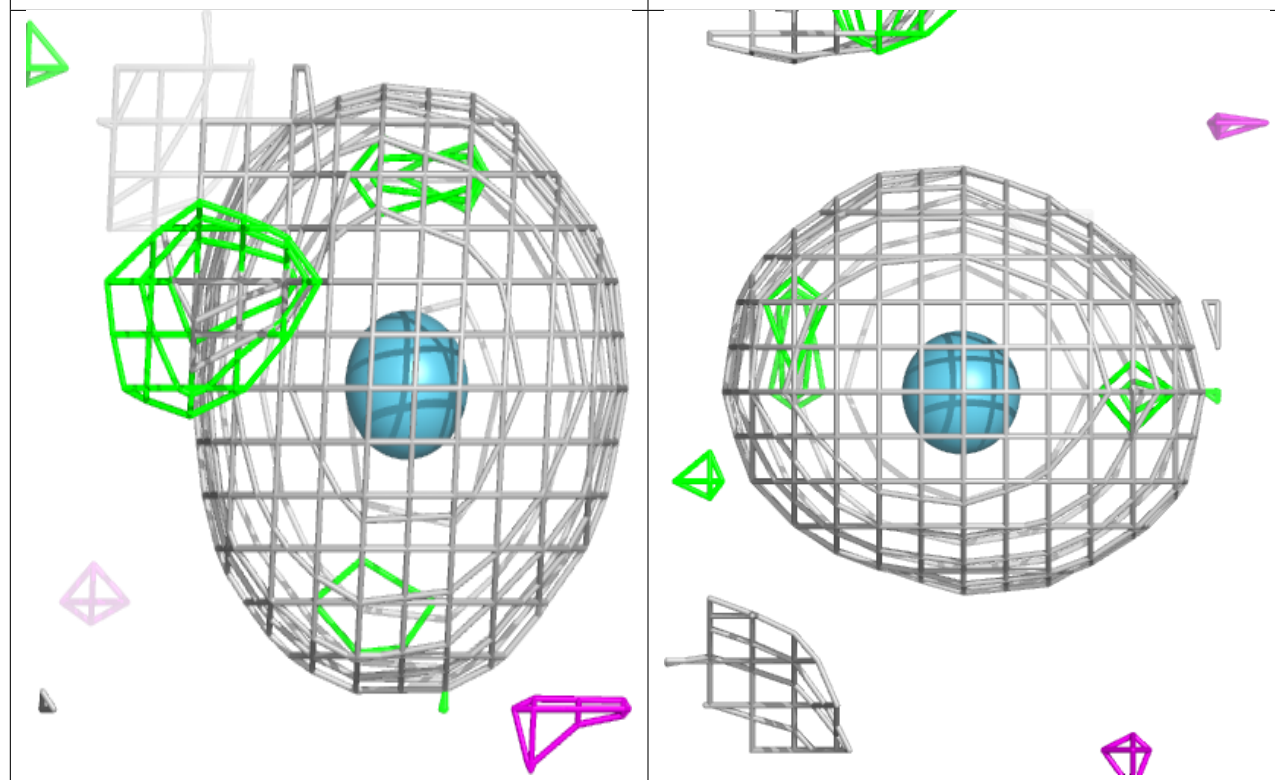
Electron density around KR D 509:

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



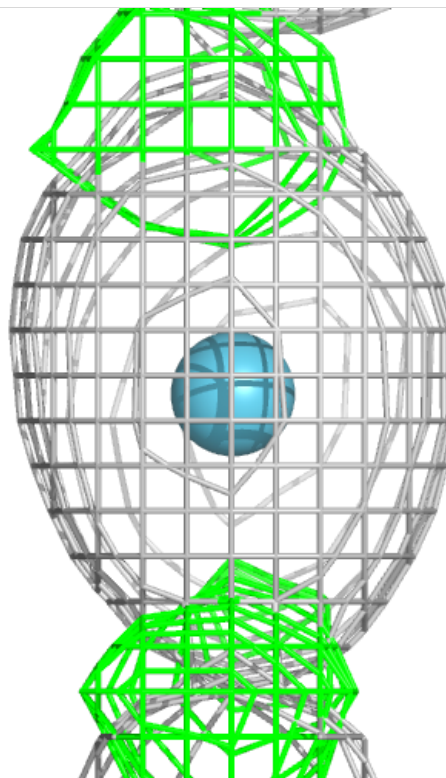
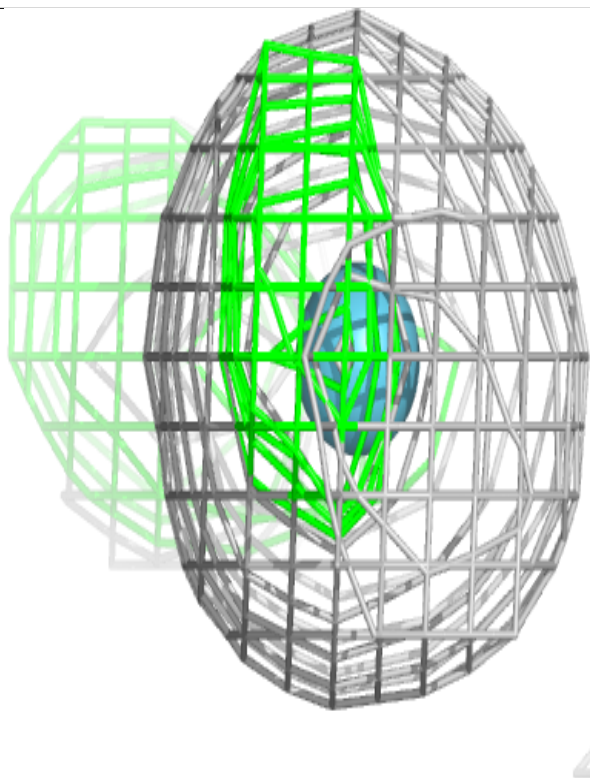
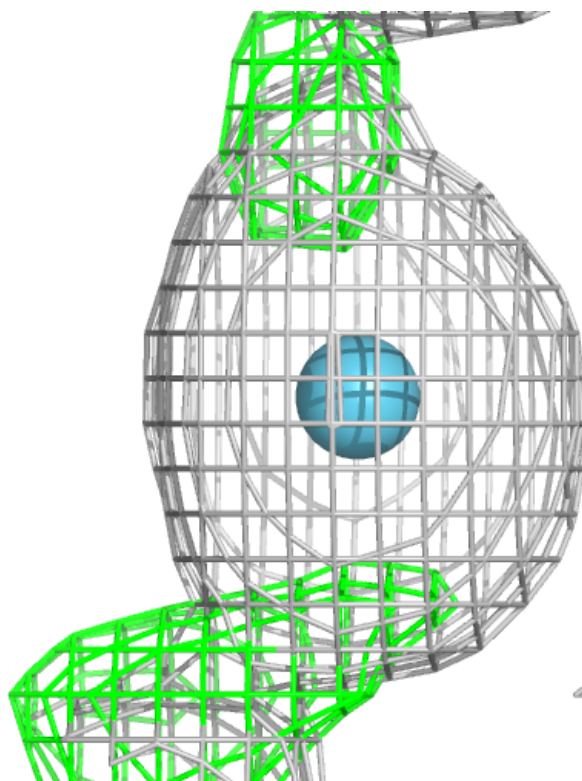
Electron density around KR A 312:

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



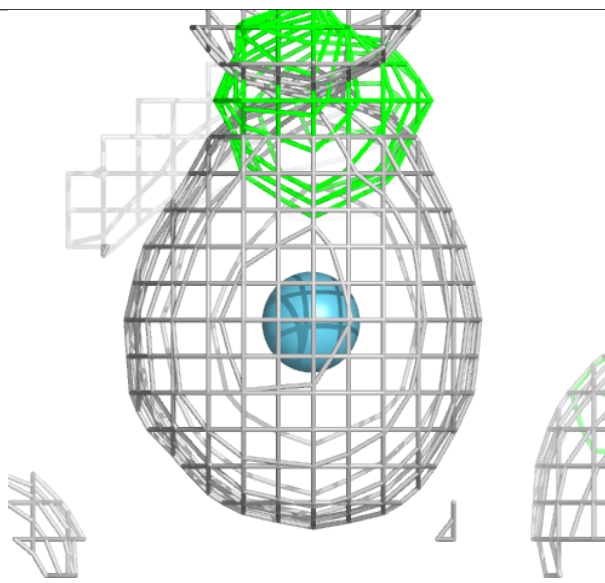
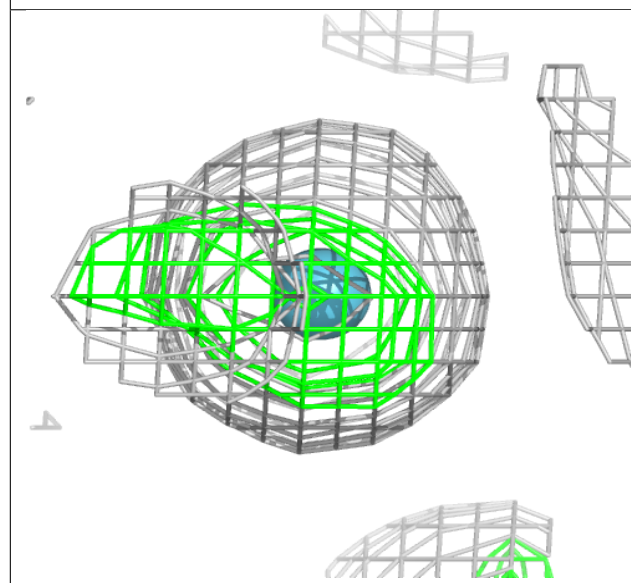
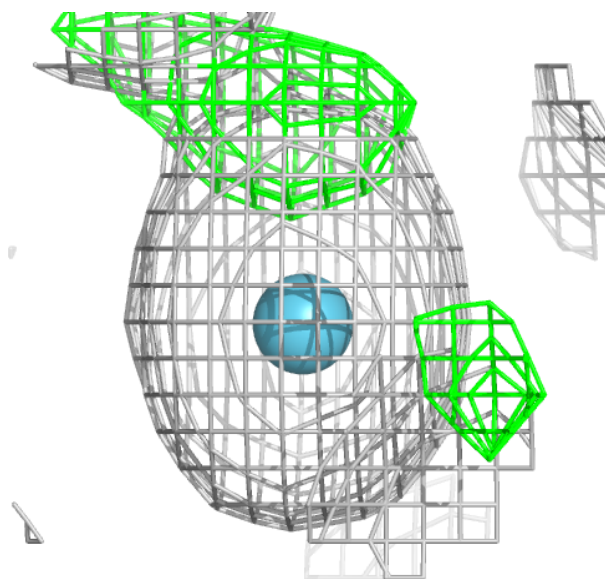
Electron density around KR C 308:

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



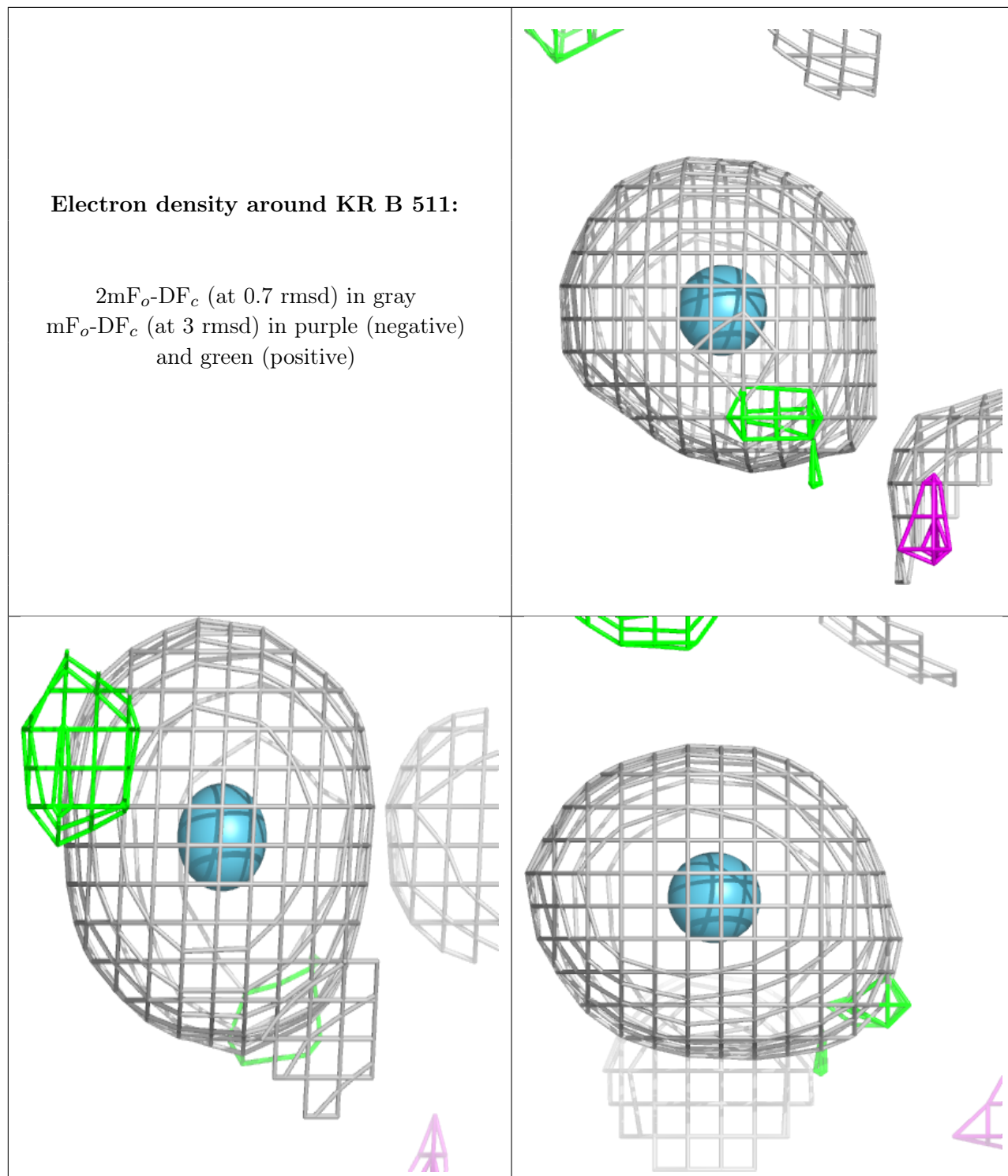
Electron density around KR C 307:

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



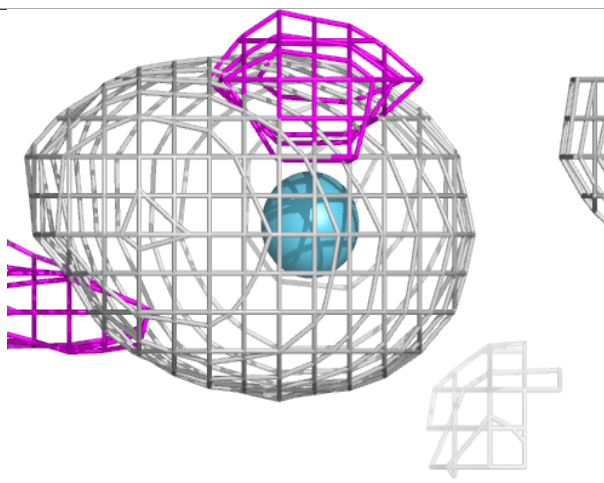
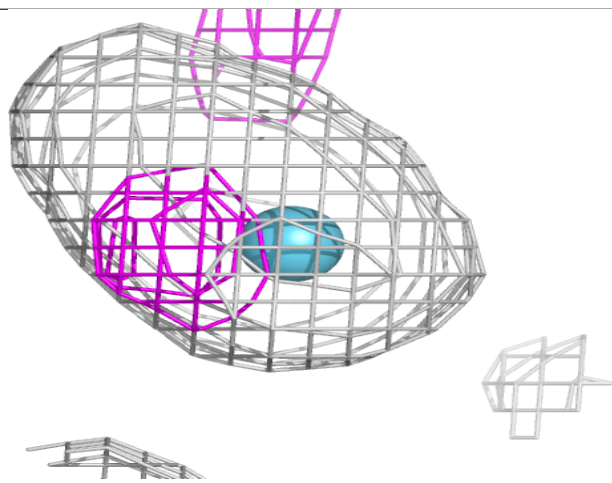
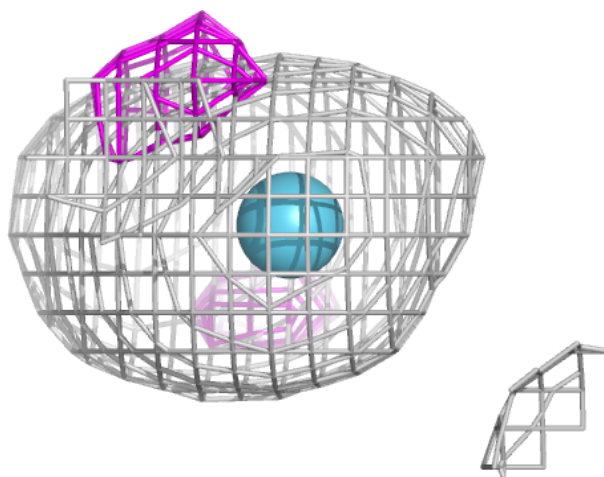
Electron density around KR B 511:

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



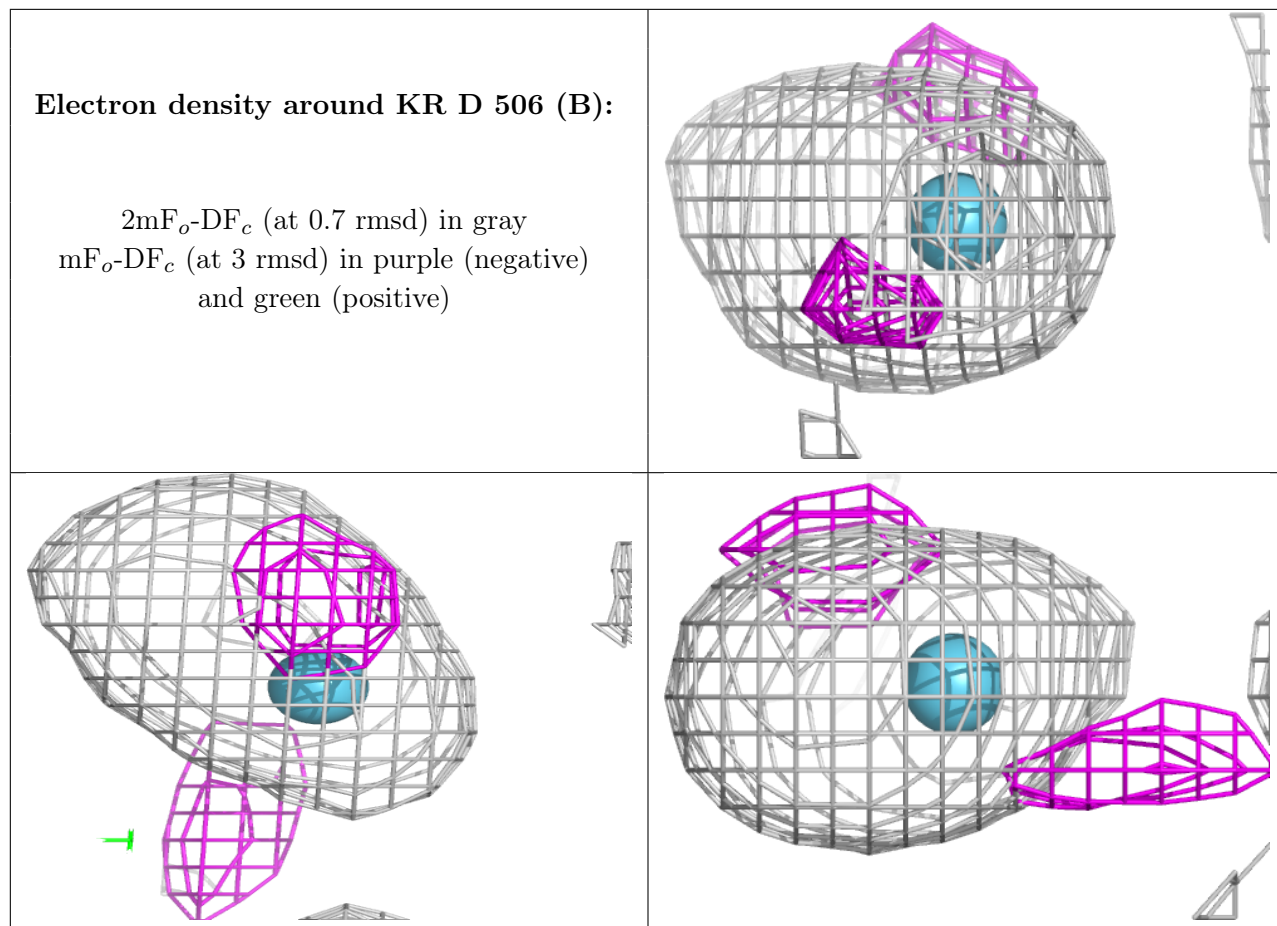
Electron density around KR D 506 (A):

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



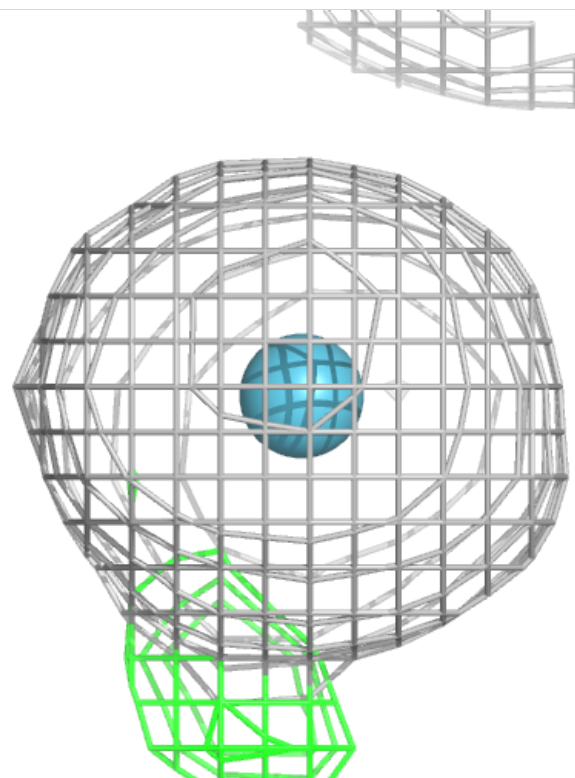
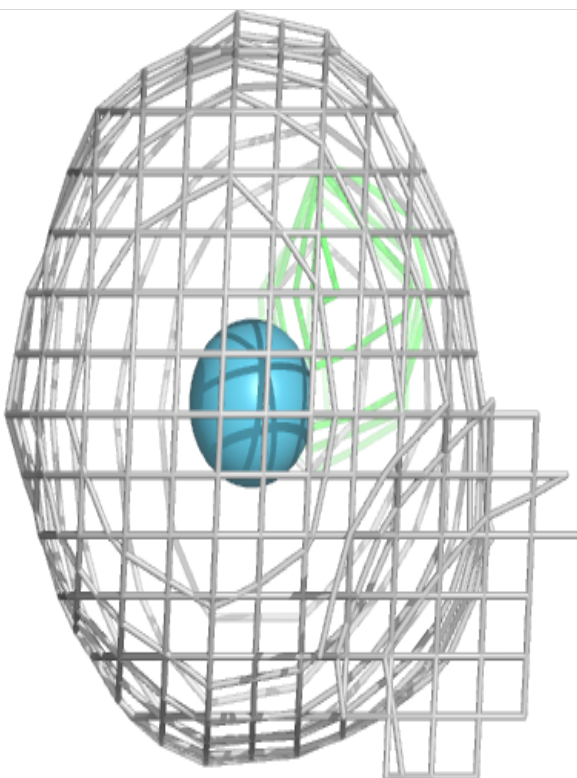
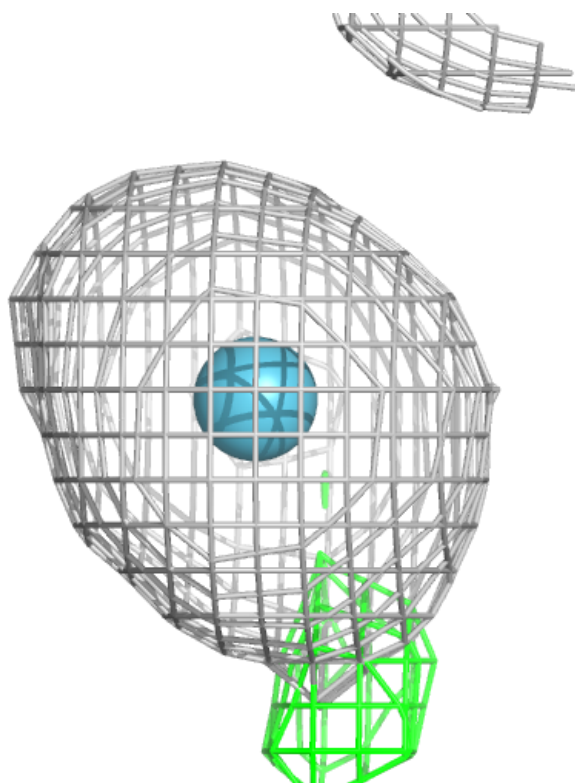
Electron density around KR D 506 (B):

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



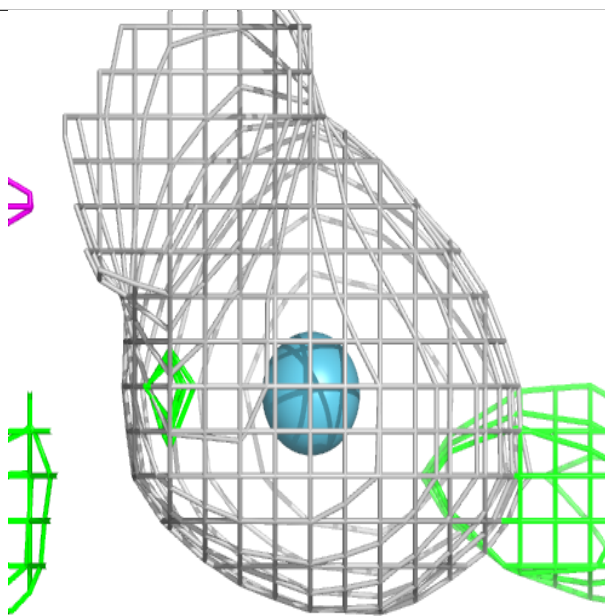
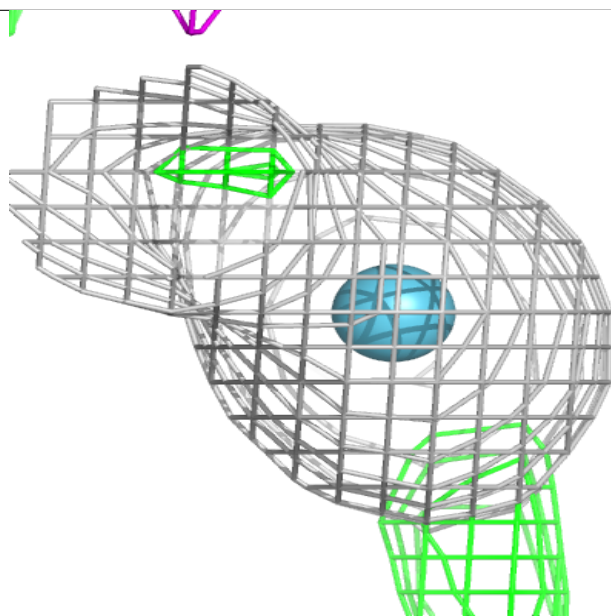
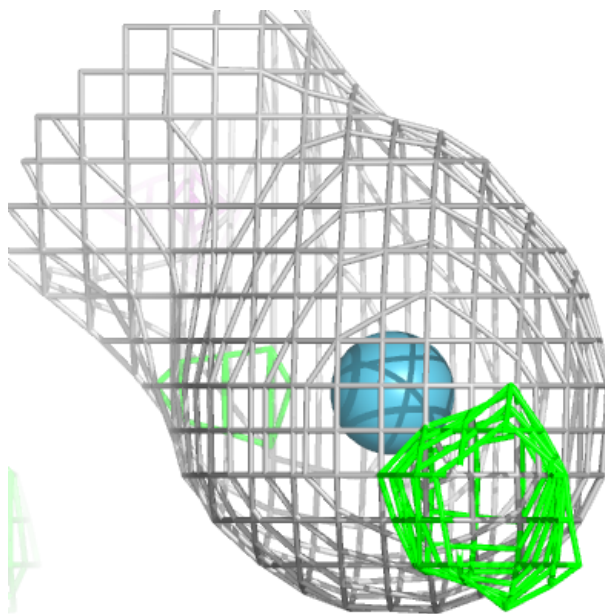
Electron density around KR A 310:

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



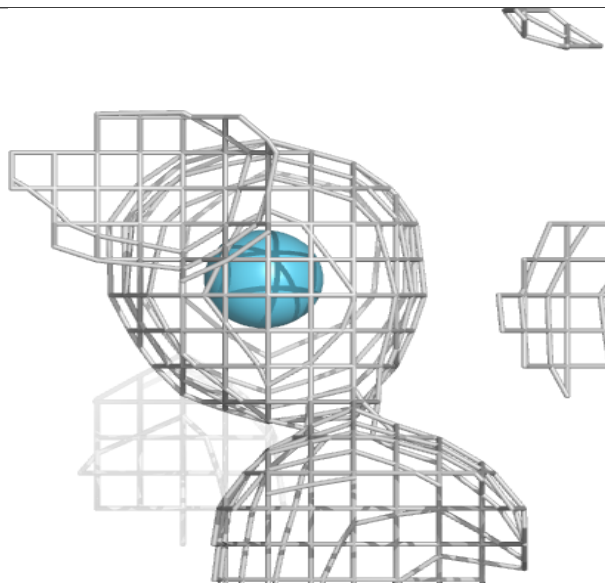
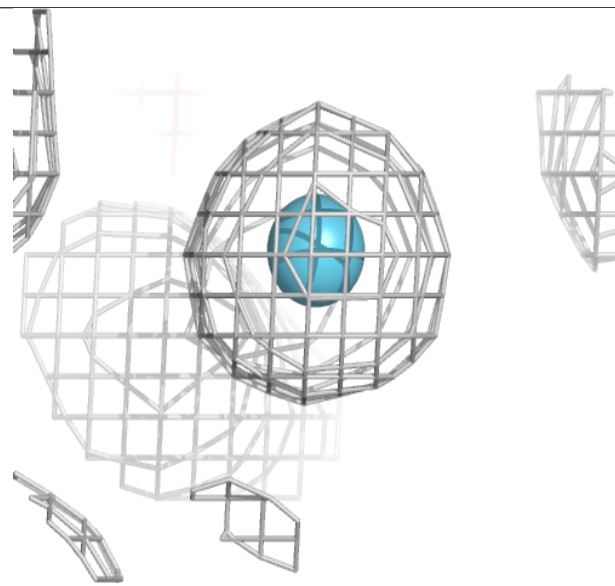
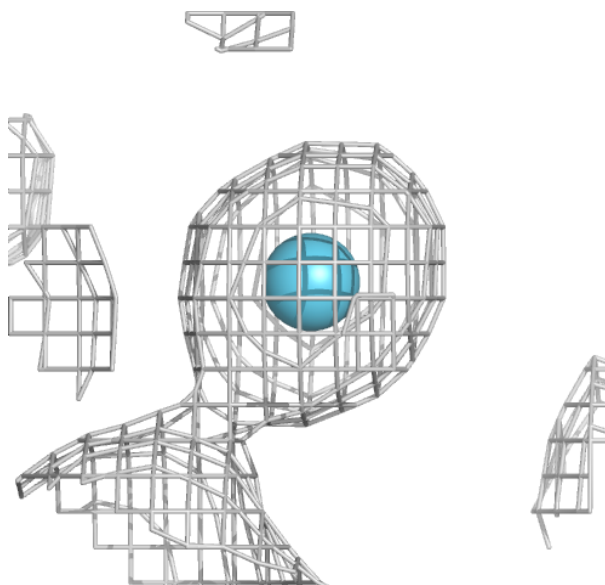
Electron density around KR C 310 (A):

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



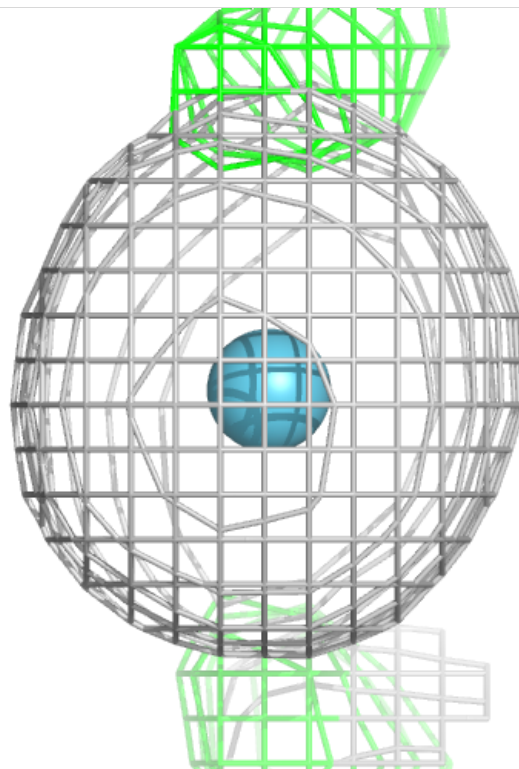
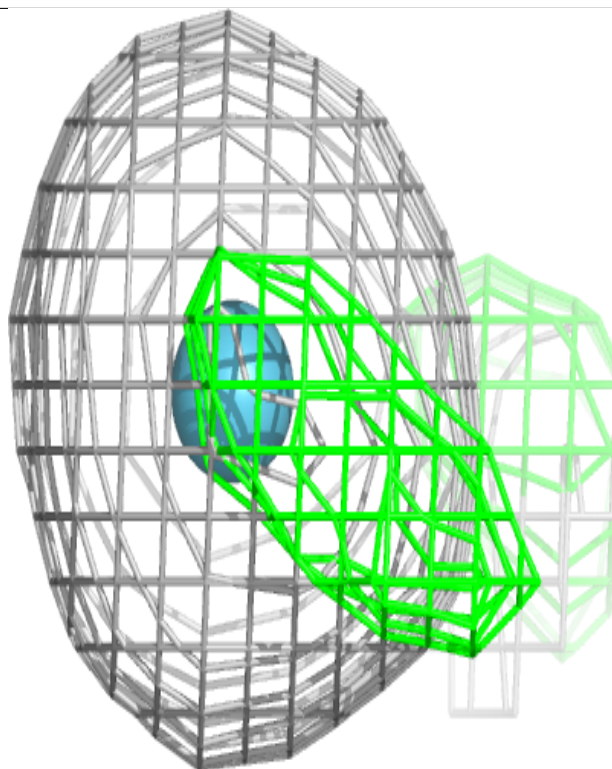
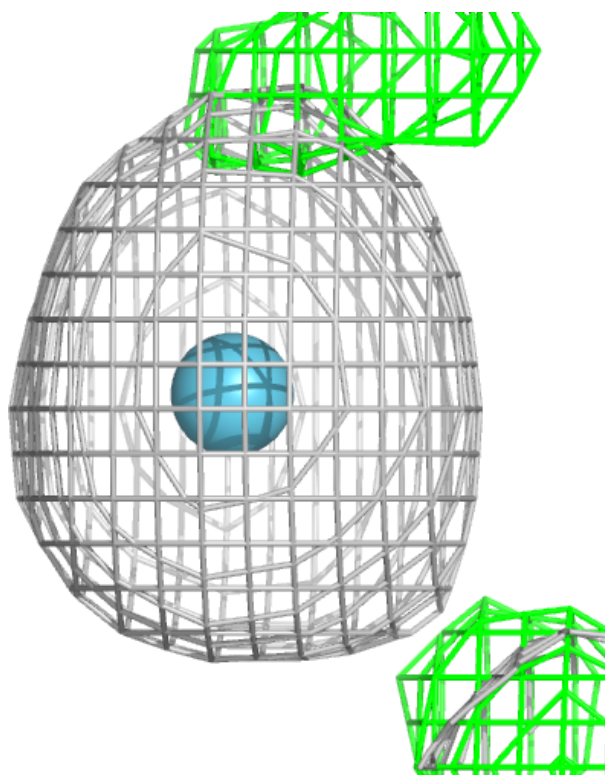
Electron density around KR C 312 (C):

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



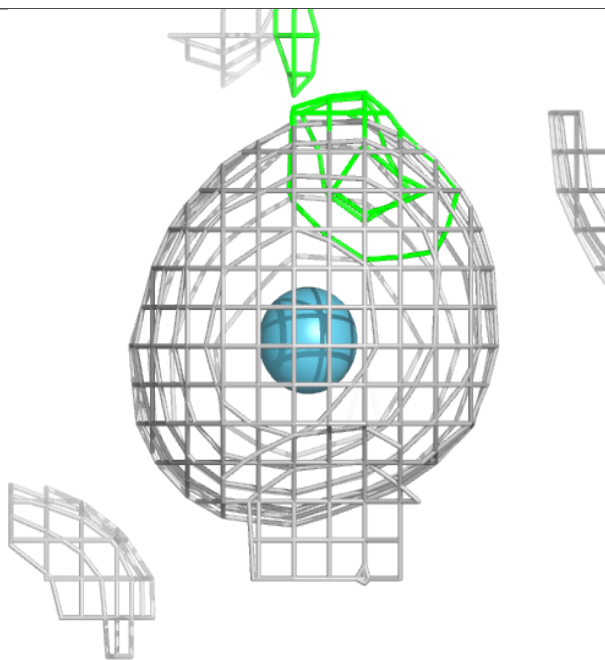
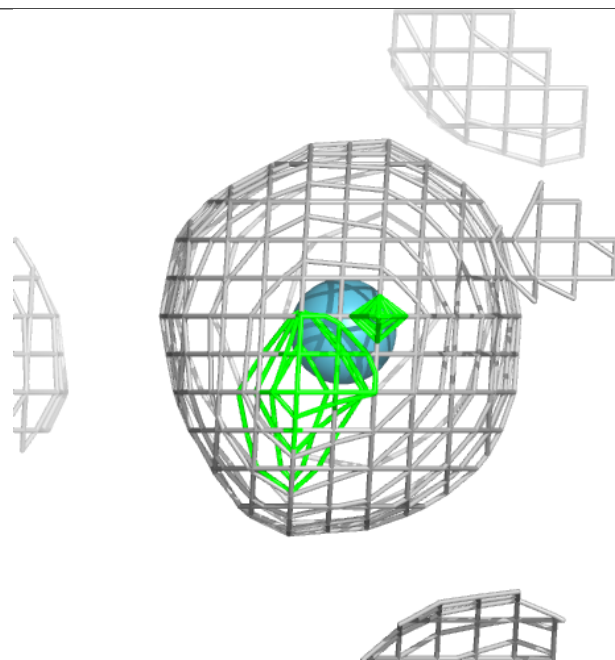
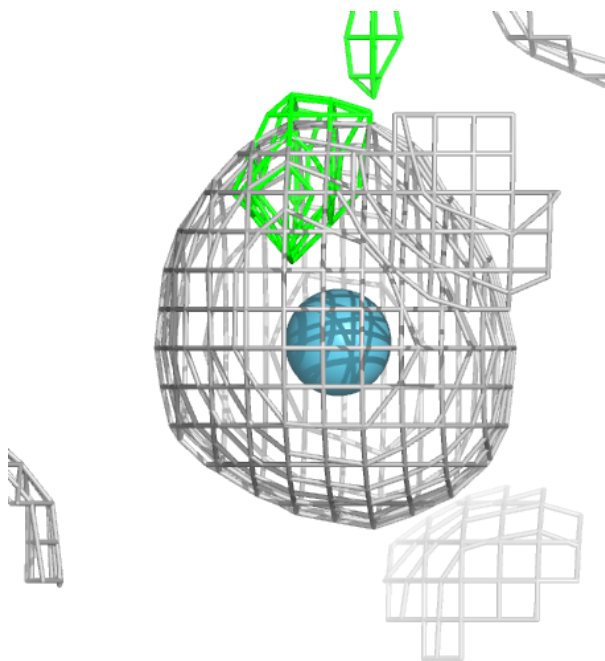
Electron density around KR C 305:

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



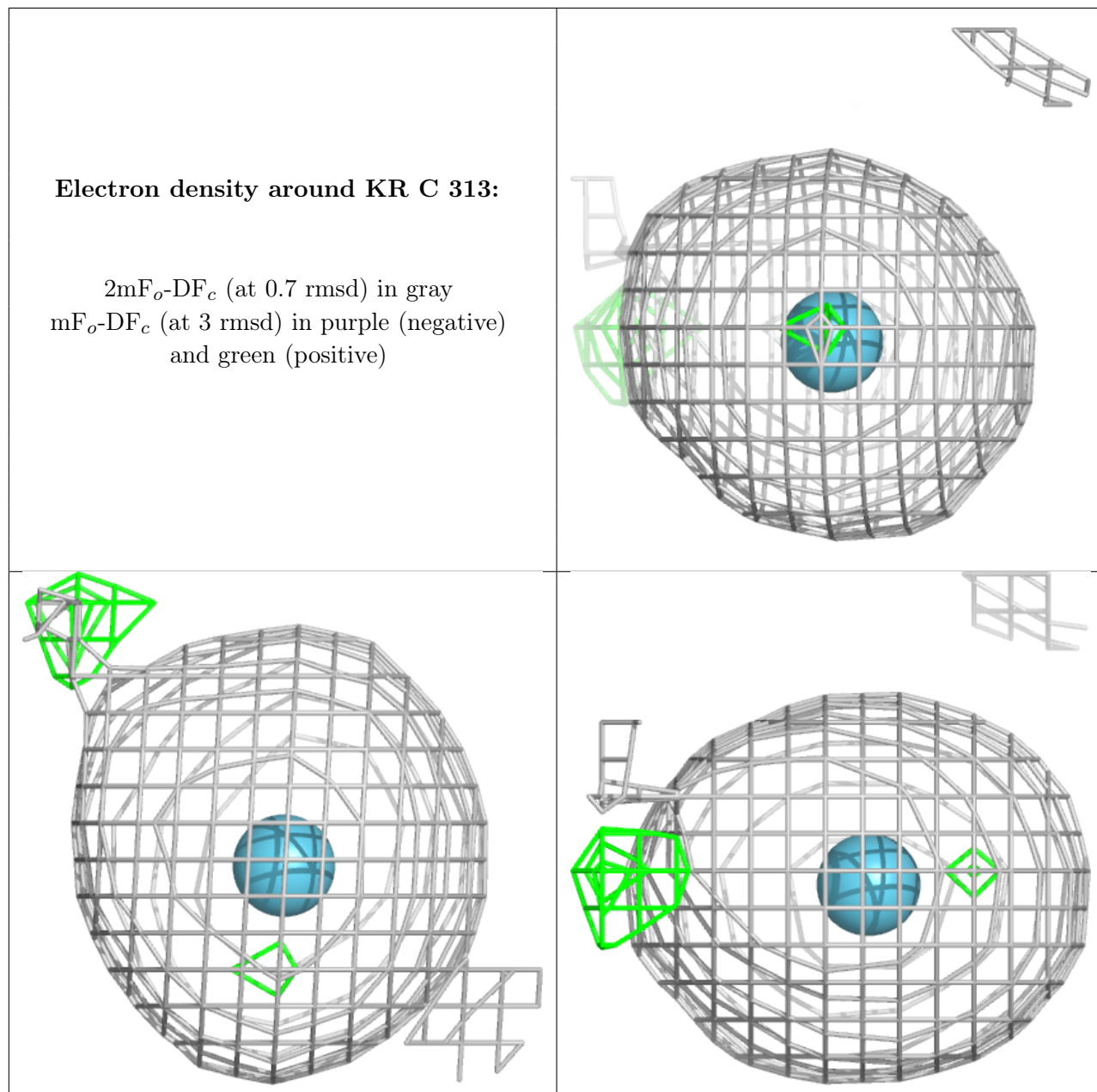
Electron density around KR C 306:

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



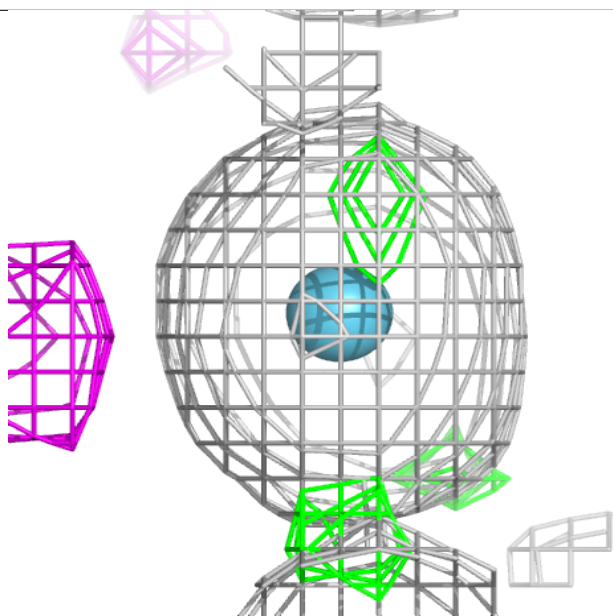
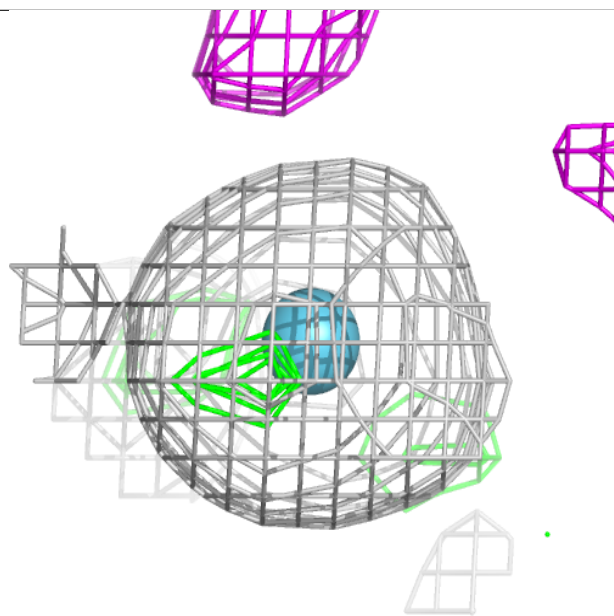
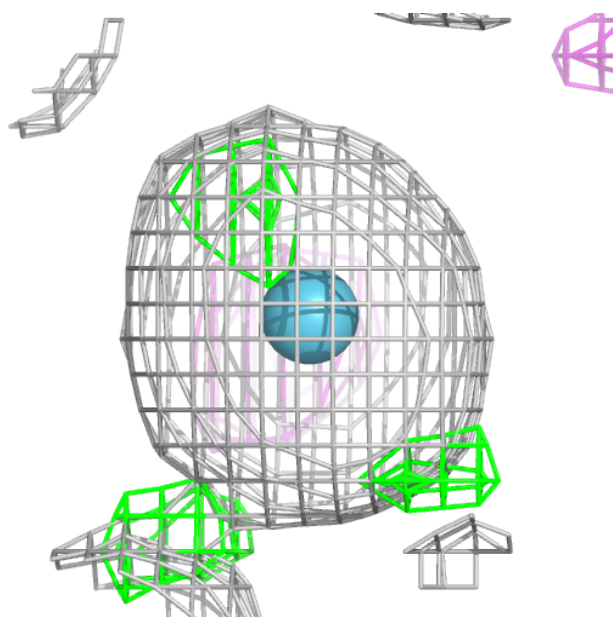
Electron density around KR C 313:

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



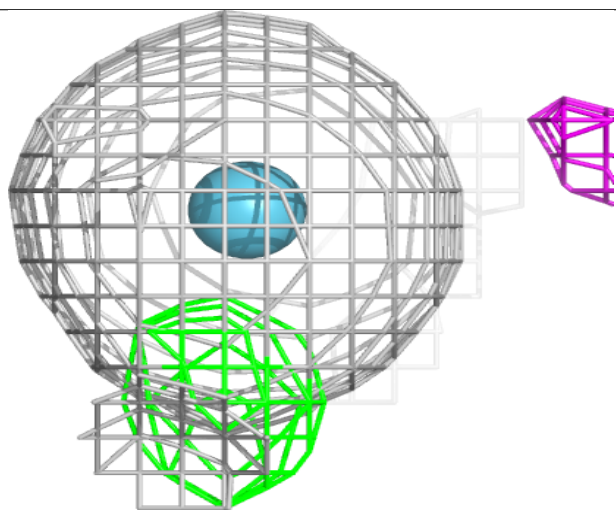
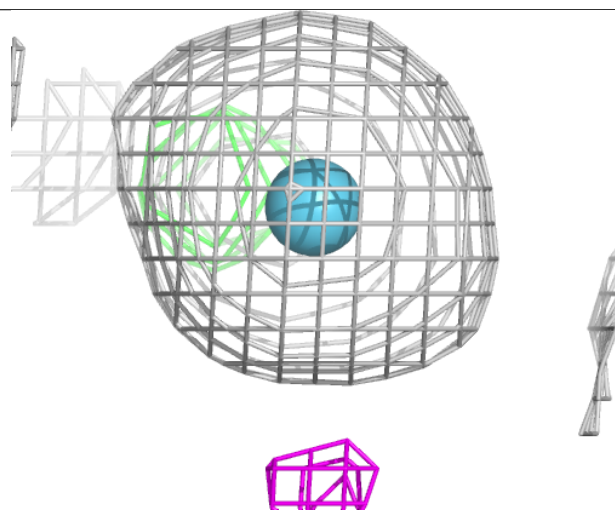
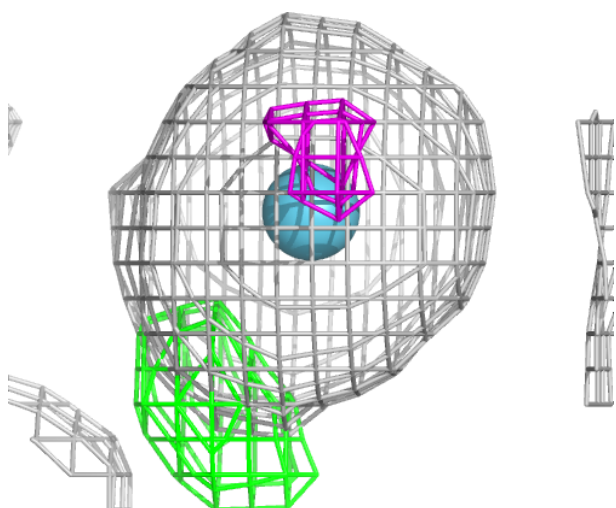
Electron density around KR A 311:

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



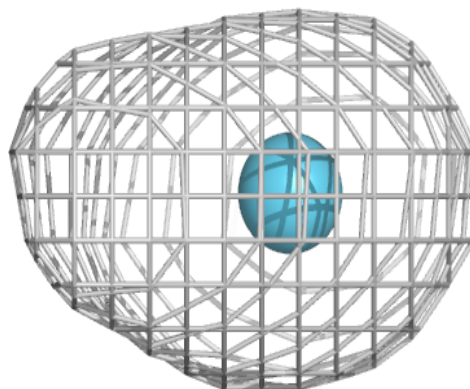
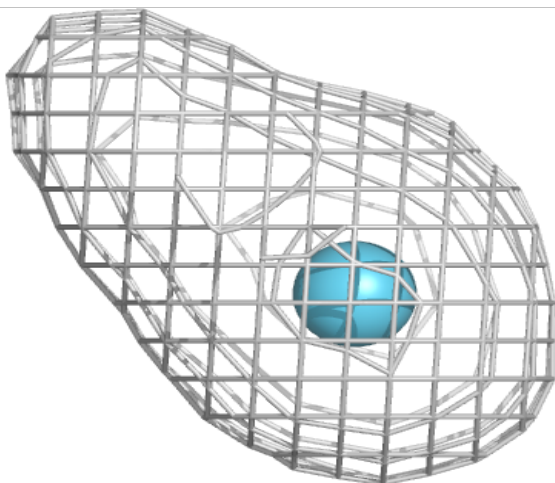
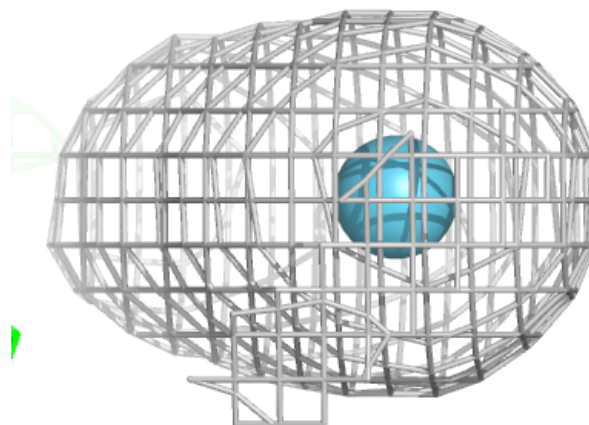
Electron density around KR A 305:

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



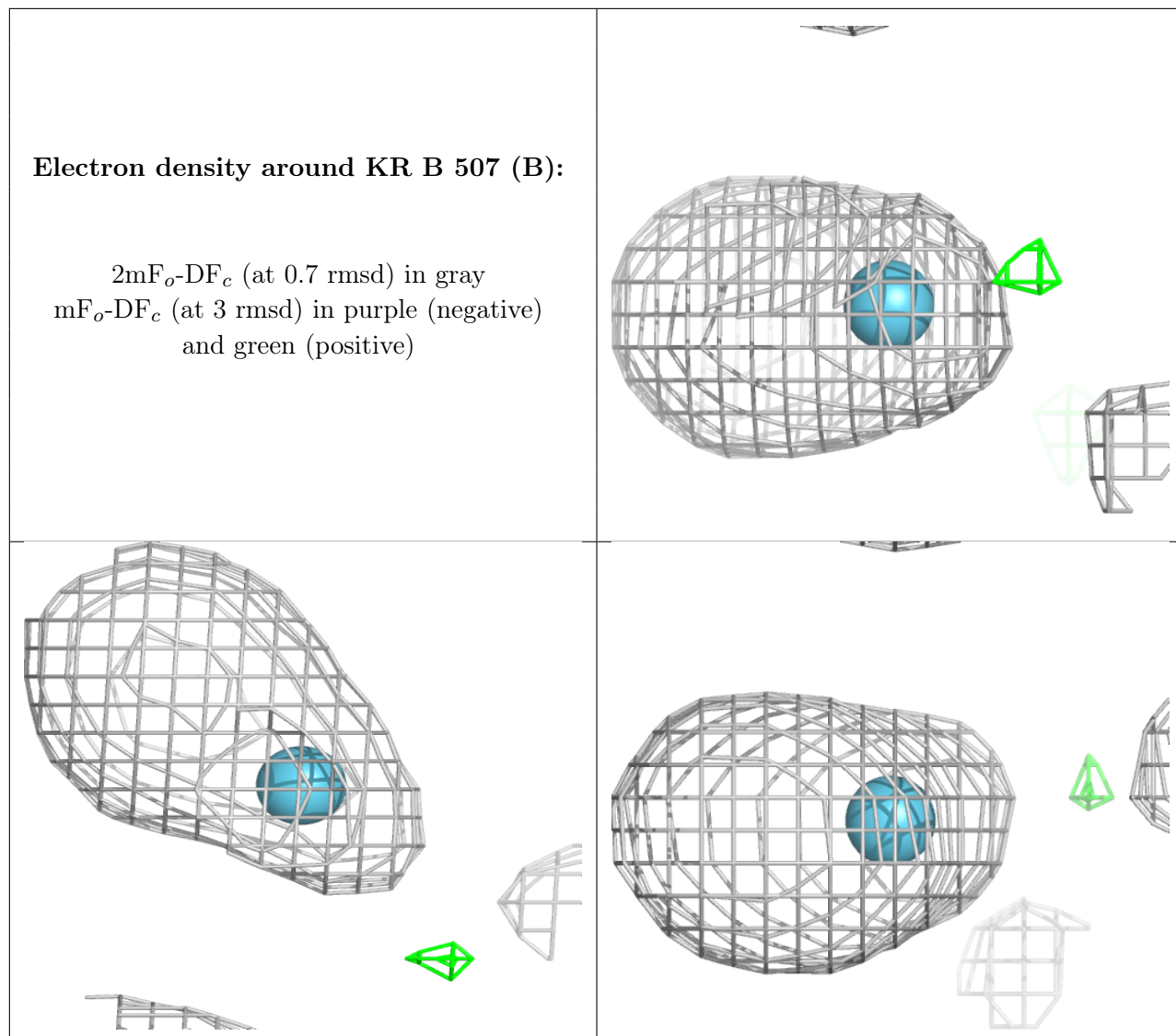
Electron density around KR B 506 (A):

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



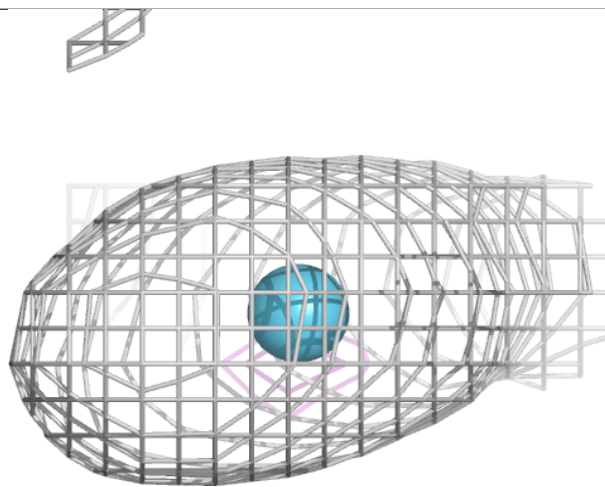
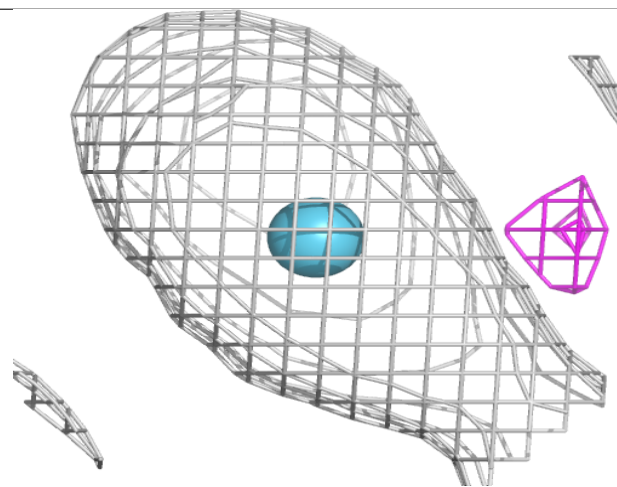
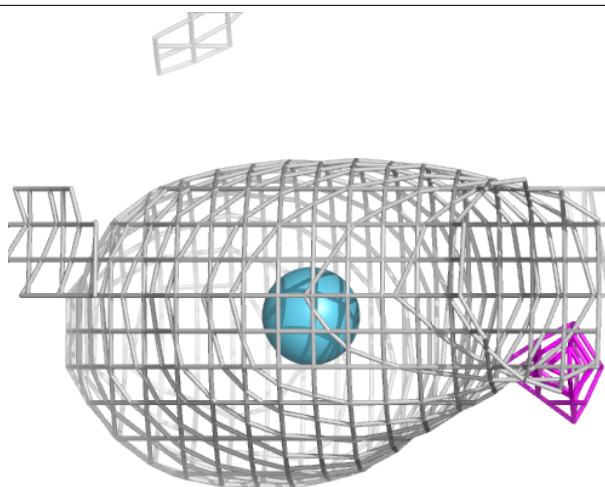
Electron density around KR B 507 (B):

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



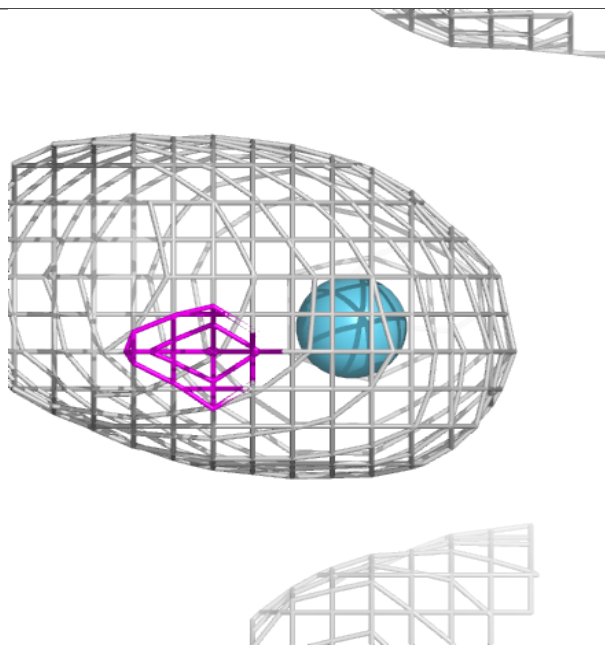
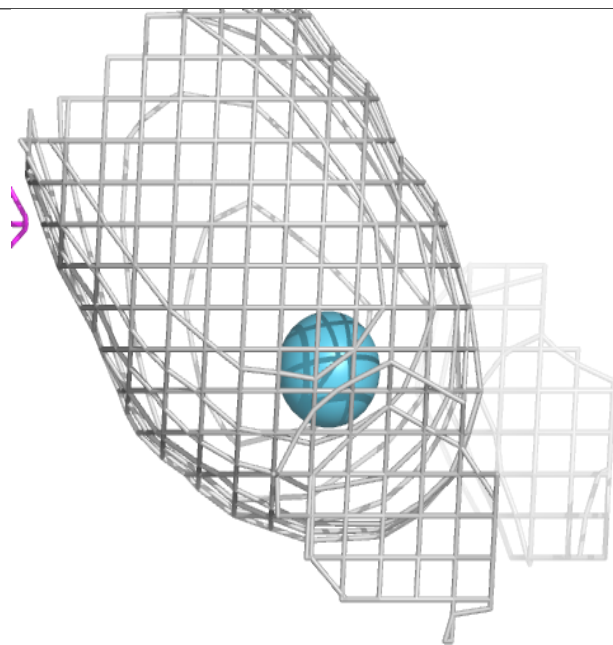
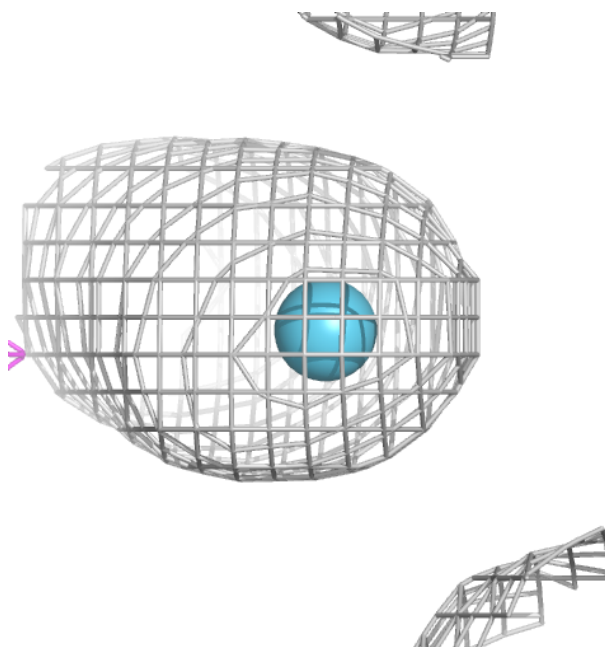
Electron density around KR B 508 (A):

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



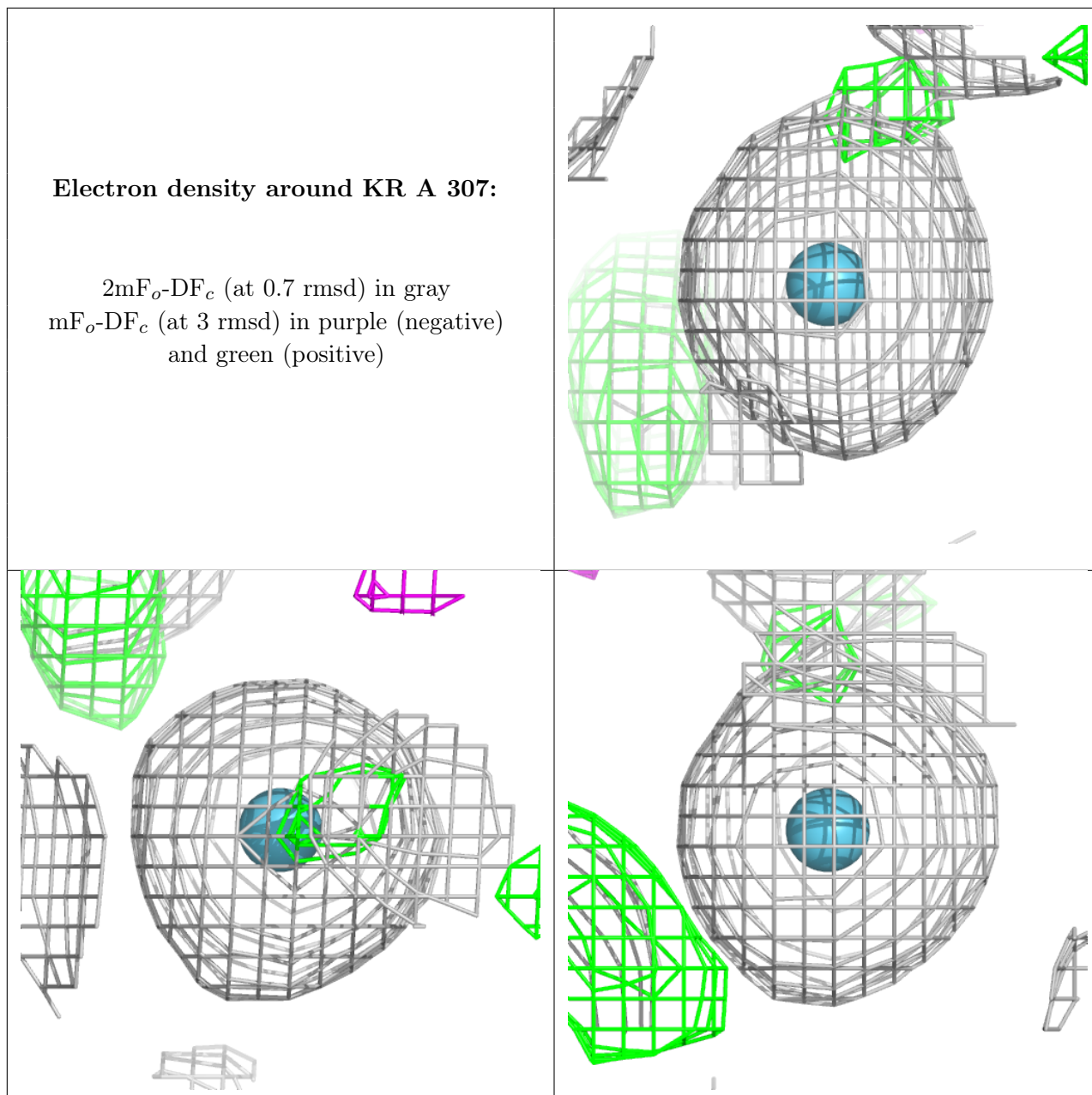
Electron density around KR B 508 (B):

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



Electron density around KR 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)



6.5 Other polymers ⓘ

There are no such residues in this entry.