Full wwPDB X-ray Structure Validation Report ⓘ

Apr 20, 2022 – 07:06 pm BST

PDB ID	:	7Q35
Title	:	Crystal structure of the mutant bacteriorhodopsin pressurized with krypton
Authors	:	Melnikov, I.; Rulev, M.; Astashkin, R.; Kovalev, K.; Carpentier, P.; Gordeliy, V.; Popov, A.
Deposited on	:	2021-10-27
Resolution	:	2.00 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 following versions of software and data (see references ⓘ) were used in the production of this report:

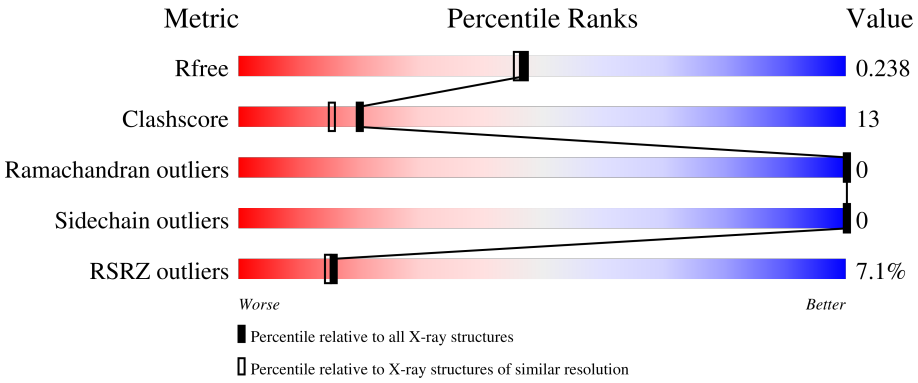
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.27
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.27

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	269	6% 74% 10% 16%

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
7	KR	A	328	-	-	X	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
7	KR	A	335	-	-	X	-
7	KR	A	342	-	-	X	-
7	KR	A	343	-	-	X	-
7	KR	A	344	-	-	X	-
7	KR	A	345	-	-	-	X
7	KR	A	354	-	-	X	-

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 2095 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.

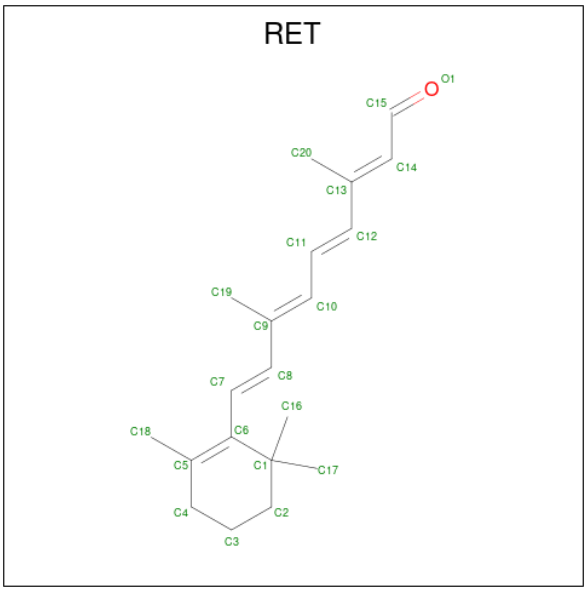
- Molecule 1 is a protein called Bacteriorhodopsin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	225	Total	C	N	O	S	0	3	0
			1723	1169	260	285	9			

There are 23 discrepancies between the modelled and reference sequences:

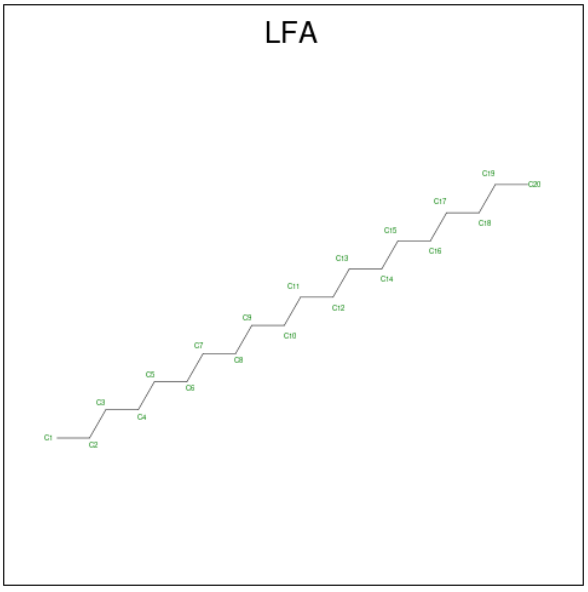
Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP P02945
A	17	ALA	THR	engineered mutation	UNP P02945
A	24	ALA	THR	engineered mutation	UNP P02945
A	47	ALA	THR	engineered mutation	UNP P02945
A	250	GLY	-	expression tag	UNP P02945
A	251	SER	-	expression tag	UNP P02945
A	252	GLY	-	expression tag	UNP P02945
A	253	ILE	-	expression tag	UNP P02945
A	254	GLU	-	expression tag	UNP P02945
A	255	GLY	-	expression tag	UNP P02945
A	256	ARG	-	expression tag	UNP P02945
A	257	SER	-	expression tag	UNP P02945
A	258	GLY	-	expression tag	UNP P02945
A	259	ALA	-	expression tag	UNP P02945
A	260	PRO	-	expression tag	UNP P02945
A	261	HIS	-	expression tag	UNP P02945
A	262	HIS	-	expression tag	UNP P02945
A	263	HIS	-	expression tag	UNP P02945
A	264	HIS	-	expression tag	UNP P02945
A	265	HIS	-	expression tag	UNP P02945
A	266	HIS	-	expression tag	UNP P02945
A	267	HIS	-	expression tag	UNP P02945
A	268	HIS	-	expression tag	UNP P02945

- Molecule 2 is RETINAL (three-letter code: RET) (formula: $C_{20}H_{28}O$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C 20 20	0	0

- Molecule 3 is EICOSANE (three-letter code: LFA) (formula: $C_{20}H_{42}$).



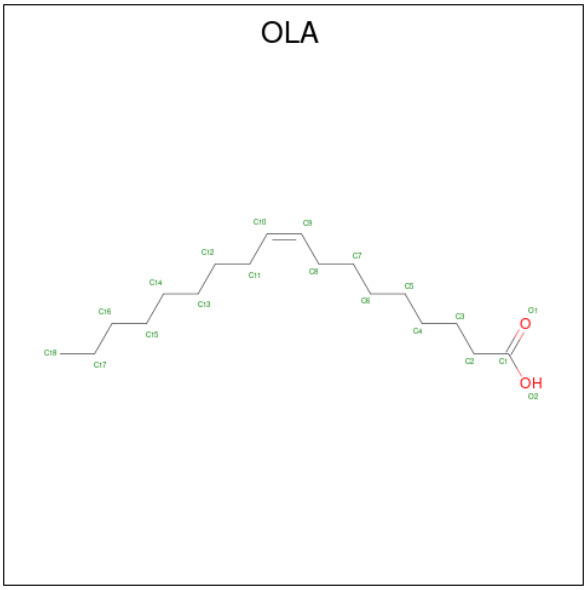
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C 18 18	0	0
3	A	1	Total C 13 13	0	0
3	A	1	Total C 13 13	0	0

Continued on next page...

Continued from previous page...

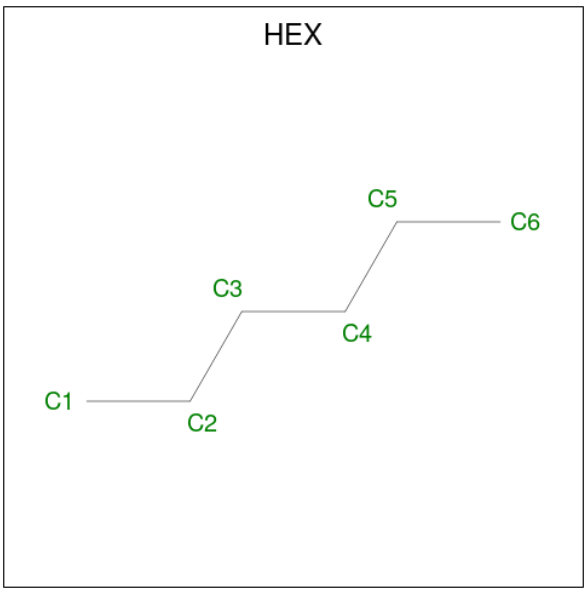
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C 7 7	0	0
3	A	1	Total C 13 13	0	0
3	A	1	Total C 12 12	0	0
3	A	1	Total C 19 19	0	0
3	A	1	Total C 18 18	0	0
3	A	1	Total C 14 14	0	0
3	A	1	Total C 5 5	0	0
3	A	1	Total C 11 11	0	0

- Molecule 4 is OLEIC ACID (three-letter code: OLA) (formula: $C_{18}H_{34}O_2$).



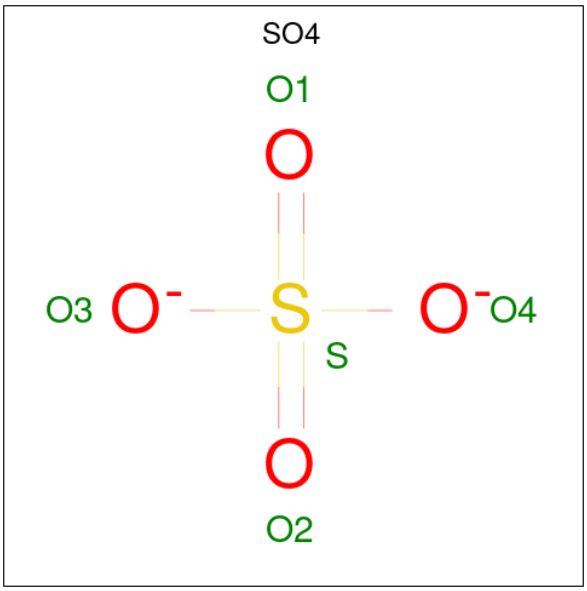
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 9 7 2	0	0
4	A	1	Total C O 17 15 2	0	0

- Molecule 5 is HEXANE (three-letter code: HEX) (formula: C_6H_{14}).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C 5 5	0	0
5	A	1	Total C 6 6	0	0
5	A	1	Total C 6 6	0	0

- Molecule 6 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total O S 5 4 1	0	0

- Molecule 7 is KRYPTON (three-letter code: KR) (formula: Kr) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	35	Total Kr 35 35	0	0

- Molecule 8 is water.

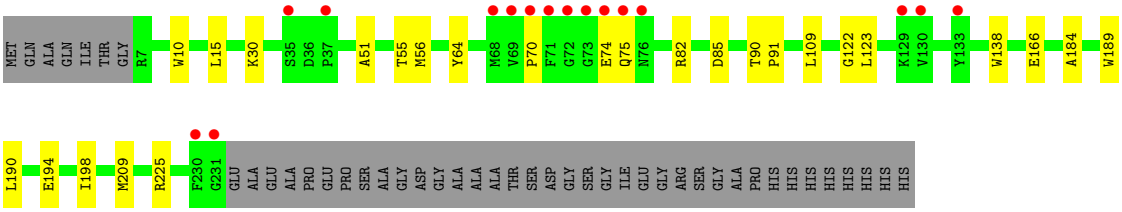
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	106	Total O 106 106	0	0

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: Bacteriorhodopsin

Chain A:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	115.33Å 119.99Å 36.46Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	41.61 – 2.00 41.57 – 2.00	Depositor EDS
% Data completeness (in resolution range)	99.8 (41.61-2.00) 99.8 (41.57-2.00)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.80 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.169 , 0.232 0.184 , 0.238	Depositor DCC
R_{free} test set	838 reflections (4.76%)	wwPDB-VP
Wilson B-factor (Å^2)	26.3	Xtriage
Anisotropy	0.316	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.000 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	2095	wwPDB-VP
Average B, all atoms (Å^2)	31.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 12.75% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: LFA, HEX, KR, SO4, OLA, RET

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	0.67	0/1780	0.73	0/2433

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1723	0	1773	38	0
2	A	20	0	27	2	0
3	A	143	0	255	18	0
4	A	46	0	67	2	0
5	A	17	0	37	1	0
6	A	5	0	0	0	0
7	A	35	0	0	25	0
8	A	106	0	0	5	0
All	All	2095	0	2159	52	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 13.

All (52) 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)
3:A:311:LFA:C4	7:A:354:KR:KR	2.42	1.27
1:A:109:LEU:HG	7:A:328:KR:KR	2.16	1.05
1:A:82[A]:ARG:NH1	8:A:401:HOH:O	1.96	0.98
3:A:311:LFA:H52	7:A:354:KR:KR	1.77	0.97
3:A:307:LFA:H72	7:A:344:KR:KR	2.25	0.97
3:A:311:LFA:C5	7:A:354:KR:KR	1.24	0.93
3:A:307:LFA:C7	7:A:344:KR:KR	2.77	0.93
1:A:189:TRP:CZ2	7:A:343:KR:KR	2.84	0.92
1:A:109:LEU:CG	7:A:328:KR:KR	2.78	0.91
3:A:311:LFA:H51	7:A:354:KR:KR	1.72	0.91
1:A:198:ILE:CD1	7:A:342:KR:KR	2.84	0.86
1:A:109:LEU:HD23	7:A:328:KR:KR	2.39	0.84
1:A:51:ALA:HB1	3:A:302:LFA:H12	1.60	0.81
1:A:198:ILE:HD11	7:A:342:KR:KR	2.43	0.80
1:A:109:LEU:CD2	7:A:328:KR:KR	2.92	0.79
3:A:307:LFA:H71	7:A:344:KR:KR	2.43	0.78
1:A:51:ALA:HB1	3:A:302:LFA:C1	2.14	0.78
3:A:311:LFA:C3	7:A:354:KR:KR	2.95	0.76
1:A:82[A]:ARG:HH11	1:A:82[A]:ARG:HG3	1.55	0.70
1:A:225:ARG:HH11	4:A:314:OLA:H22	1.56	0.70
4:A:314:OLA:C7	7:A:325:KR:KR	3.00	0.70
1:A:198:ILE:HD12	7:A:342:KR:KR	2.52	0.69
3:A:306:LFA:C13	7:A:335:KR:KR	3.05	0.65
1:A:51:ALA:O	1:A:55:THR:HG23	1.98	0.63
3:A:311:LFA:C6	7:A:354:KR:KR	0.37	0.62
1:A:82[A]:ARG:NH1	1:A:82[A]:ARG:HG3	2.14	0.61
1:A:91:PRO:HG3	7:A:335:KR:KR	2.65	0.57
1:A:194:GLU:HB2	8:A:433:HOH:O	2.10	0.50
1:A:184:ALA:HB2	3:A:309:LFA:H172	1.93	0.50
3:A:307:LFA:H92	7:A:344:KR:KR	2.73	0.49
1:A:51:ALA:HB1	3:A:302:LFA:H13	1.95	0.49
1:A:109:LEU:CB	7:A:328:KR:KR	3.23	0.48
1:A:30[A]:LYS:NZ	8:A:405:HOH:O	2.46	0.48
1:A:122:GLY:HA2	7:A:343:KR:KR	2.75	0.47
1:A:166:GLU:CG	8:A:445:HOH:O	2.63	0.47
2:A:301:RET:H8	2:A:301:RET:H171	1.96	0.47
1:A:70:PRO:HA	1:A:74:GLU:O	2.15	0.46
1:A:70:PRO:HB3	1:A:75:GLN:OE1	2.17	0.44
1:A:90:THR:N	1:A:91:PRO:HD2	2.33	0.44
1:A:10:TRP:CH2	3:A:310:LFA:H112	2.52	0.44
1:A:123:LEU:HD21	5:A:317:HEX:H41	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:TRP:CH2	7:A:343:KR:KR	3.31	0.44
1:A:51:ALA:CB	3:A:312:LFA:H41	2.48	0.43
1:A:56:MET:HG3	1:A:85:ASP:HB2	2.00	0.43
1:A:90:THR:N	1:A:91:PRO:CD	2.81	0.43
1:A:225:ARG:NE	8:A:406:HOH:O	2.47	0.43
1:A:51:ALA:CB	3:A:302:LFA:H12	2.41	0.42
1:A:15:LEU:HB3	1:A:209:MET:HE2	2.02	0.42
1:A:138:TRP:CZ2	1:A:190:LEU:HD11	2.55	0.41
1:A:64:TYR:CD2	7:A:331:KR:KR	3.35	0.41
1:A:30[A]:LYS:HA	1:A:30[A]:LYS:HD2	1.87	0.41
2:A:301:RET:H171	2:A:301:RET:C8	2.51	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	226/269 (84%)	225 (100%)	1 (0%)	0	100 100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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	171/207 (83%)	171 (100%)	0	100 100

There are no protein residues with a non-rotameric sidechain to report.

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

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 54 ligands modelled in this entry, 35 are monoatomic - leaving 19 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	LFA	A	303	-	11,11,19	0.20	0	9,9,18	0.20	0
3	LFA	A	306	-	12,12,19	0.13	0	11,11,18	0.16	0
3	LFA	A	310	-	13,13,19	0.16	0	12,12,18	0.15	0
5	HEX	A	318	-	5,5,5	0.17	0	4,4,4	0.05	0
4	OLA	A	313	-	16,19,19	0.40	0	15,19,19	0.27	0
3	LFA	A	304	-	12,12,19	0.12	0	11,11,18	0.13	0
3	LFA	A	309	-	17,17,19	0.16	0	16,16,18	0.12	0
5	HEX	A	317	-	5,5,5	0.17	0	4,4,4	0.19	0
2	RET	A	301	1	20,20,21	2.74	7 (35%)	27,27,28	1.40	5 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	LFA	A	305	-	6,6,19	0.17	0	5,5,18	0.11	0
3	LFA	A	302	-	17,17,19	0.23	0	16,16,18	0.20	0
5	HEX	A	316	-	4,4,5	0.14	0	3,3,4	0.40	0
3	LFA	A	307	-	11,11,19	0.16	0	10,10,18	0.11	0
6	SO4	A	319	-	4,4,4	0.66	0	6,6,6	0.30	0
3	LFA	A	311	-	4,4,19	0.15	0	3,3,18	0.27	0
3	LFA	A	312	-	10,10,19	0.26	0	9,9,18	0.30	0
4	OLA	A	314	-	5,8,19	0.31	0	4,8,19	0.19	0
4	OLA	A	315	-	13,16,19	0.27	0	12,16,19	0.36	0
3	LFA	A	308	-	18,18,19	0.23	0	17,17,18	0.21	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	LFA	A	309	-	-	12/15/15/17	-
3	LFA	A	311	-	-	1/2/2/17	-
3	LFA	A	312	-	-	4/8/8/17	-
5	HEX	A	317	-	-	2/3/3/3	-
2	RET	A	301	1	-	2/13/30/31	0/1/1/1
3	LFA	A	303	-	-	4/7/7/17	-
3	LFA	A	305	-	-	2/4/4/17	-
5	HEX	A	318	-	-	1/3/3/3	-
4	OLA	A	314	-	-	2/4/6/17	-
3	LFA	A	306	-	-	3/10/10/17	-
3	LFA	A	302	-	-	8/15/15/17	-
4	OLA	A	313	-	-	4/15/17/17	-
3	LFA	A	308	-	-	8/16/16/17	-
3	LFA	A	310	-	-	7/11/11/17	-
4	OLA	A	315	-	-	7/12/14/17	-
3	LFA	A	307	-	-	5/9/9/17	-
3	LFA	A	304	-	-	5/10/10/17	-
5	HEX	A	316	-	-	1/2/2/3	-

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	301	RET	C14-C13	9.62	1.41	1.33
2	A	301	RET	C8-C9	-3.66	1.38	1.45
2	A	301	RET	C10-C9	3.56	1.40	1.35
2	A	301	RET	C11-C10	-2.62	1.35	1.43
2	A	301	RET	C12-C13	-2.53	1.40	1.45
2	A	301	RET	C15-C14	-2.45	1.40	1.49
2	A	301	RET	C2-C3	-2.28	1.46	1.52

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	301	RET	C2-C1-C6	3.96	116.58	110.48
2	A	301	RET	C1-C6-C7	2.53	122.93	115.78
2	A	301	RET	C19-C9-C10	-2.29	119.71	122.92
2	A	301	RET	C1-C6-C5	-2.17	119.56	122.61
2	A	301	RET	C19-C9-C8	2.08	121.36	118.08

There are no chirality outliers.

All (78) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	301	RET	C20-C13-C14-C15
4	A	315	OLA	C1-C2-C3-C4
3	A	312	LFA	C7-C8-C9-C10
3	A	302	LFA	C12-C13-C14-C15
4	A	315	OLA	C11-C12-C13-C14
3	A	305	LFA	C4-C5-C6-C7
3	A	308	LFA	C4-C5-C6-C7
4	A	313	OLA	C2-C3-C4-C5
3	A	310	LFA	C11-C10-C9-C8
4	A	313	OLA	C5-C6-C7-C8
3	A	304	LFA	C12-C13-C14-C15
3	A	309	LFA	C3-C4-C5-C6
3	A	309	LFA	C13-C14-C15-C16
3	A	302	LFA	C11-C12-C13-C14
3	A	308	LFA	C6-C7-C8-C9
3	A	305	LFA	C5-C6-C7-C8
3	A	312	LFA	C5-C6-C7-C8
5	A	317	HEX	C2-C3-C4-C5
3	A	309	LFA	C14-C15-C16-C17
4	A	314	OLA	C2-C3-C4-C5
5	A	318	HEX	C2-C3-C4-C5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
3	A	309	LFA	C2-C3-C4-C5
3	A	306	LFA	C5-C6-C7-C8
3	A	308	LFA	C7-C8-C9-C10
3	A	310	LFA	C5-C6-C7-C8
4	A	314	OLA	C3-C4-C5-C6
4	A	315	OLA	C3-C4-C5-C6
3	A	302	LFA	C10-C11-C12-C13
3	A	303	LFA	C15-C16-C17-C18
4	A	315	OLA	C5-C6-C7-C8
3	A	307	LFA	C5-C6-C7-C8
3	A	309	LFA	C12-C13-C14-C15
3	A	309	LFA	C4-C5-C6-C7
3	A	302	LFA	C11-C10-C9-C8
3	A	302	LFA	C4-C5-C6-C7
3	A	307	LFA	C2-C3-C4-C5
3	A	304	LFA	C14-C15-C16-C17
3	A	304	LFA	C16-C17-C18-C19
3	A	310	LFA	C7-C8-C9-C10
3	A	308	LFA	C11-C10-C9-C8
3	A	307	LFA	C7-C8-C9-C10
3	A	309	LFA	C11-C12-C13-C14
3	A	309	LFA	C5-C6-C7-C8
3	A	311	LFA	C3-C4-C5-C6
3	A	303	LFA	C2-C3-C4-C5
3	A	310	LFA	C10-C11-C12-C13
4	A	313	OLA	C3-C4-C5-C6
3	A	310	LFA	C11-C12-C13-C14
4	A	315	OLA	C12-C13-C14-C15
4	A	315	OLA	C10-C11-C12-C13
3	A	302	LFA	C1-C2-C3-C4
2	A	301	RET	C12-C13-C14-C15
3	A	312	LFA	C9-C10-C11-C12
3	A	308	LFA	C15-C16-C17-C18
3	A	303	LFA	C16-C17-C18-C19
3	A	308	LFA	C11-C12-C13-C14
3	A	312	LFA	C2-C3-C4-C5
3	A	306	LFA	C3-C4-C5-C6
3	A	307	LFA	C4-C5-C6-C7
3	A	309	LFA	C9-C10-C11-C12
3	A	310	LFA	C9-C10-C11-C12
3	A	308	LFA	C5-C6-C7-C8
3	A	309	LFA	C7-C8-C9-C10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
3	A	310	LFA	C6-C7-C8-C9
4	A	315	OLA	C4-C5-C6-C7
5	A	316	HEX	C2-C3-C4-C5
3	A	302	LFA	C9-C10-C11-C12
3	A	308	LFA	C2-C3-C4-C5
4	A	313	OLA	C13-C14-C15-C16
3	A	303	LFA	C17-C18-C19-C20
3	A	307	LFA	C3-C4-C5-C6
3	A	302	LFA	C2-C3-C4-C5
5	A	317	HEX	C3-C4-C5-C6
3	A	304	LFA	C11-C12-C13-C14
3	A	309	LFA	C10-C11-C12-C13
3	A	309	LFA	C6-C7-C8-C9
3	A	304	LFA	C13-C14-C15-C16
3	A	306	LFA	C10-C11-C12-C13

There are no ring outliers.

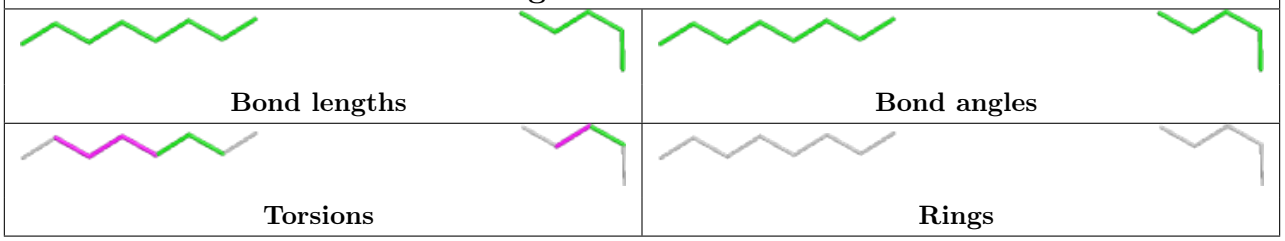
10 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	306	LFA	1	0
3	A	310	LFA	1	0
3	A	309	LFA	1	0
5	A	317	HEX	1	0
2	A	301	RET	2	0
3	A	302	LFA	4	0
3	A	307	LFA	4	0
3	A	311	LFA	6	0
3	A	312	LFA	1	0
4	A	314	OLA	2	0

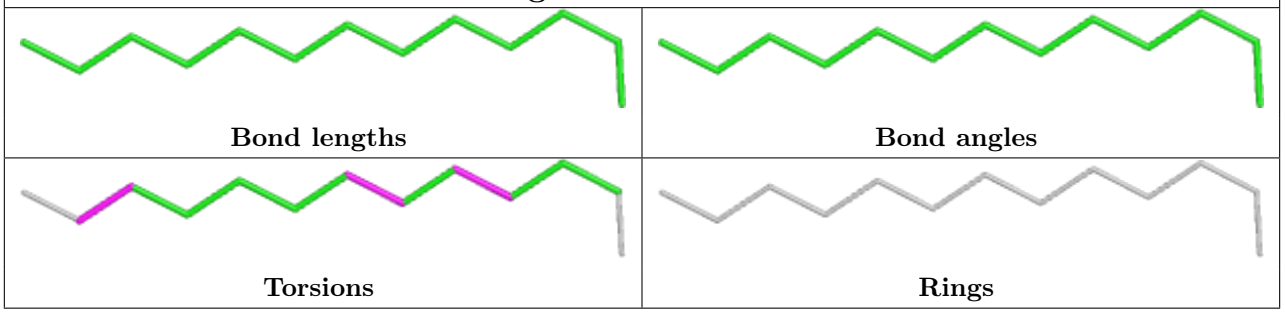
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

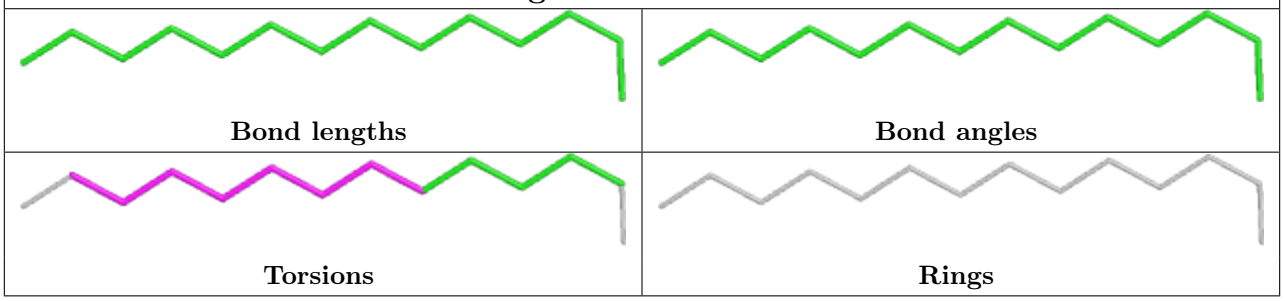
Ligand LFA A 303



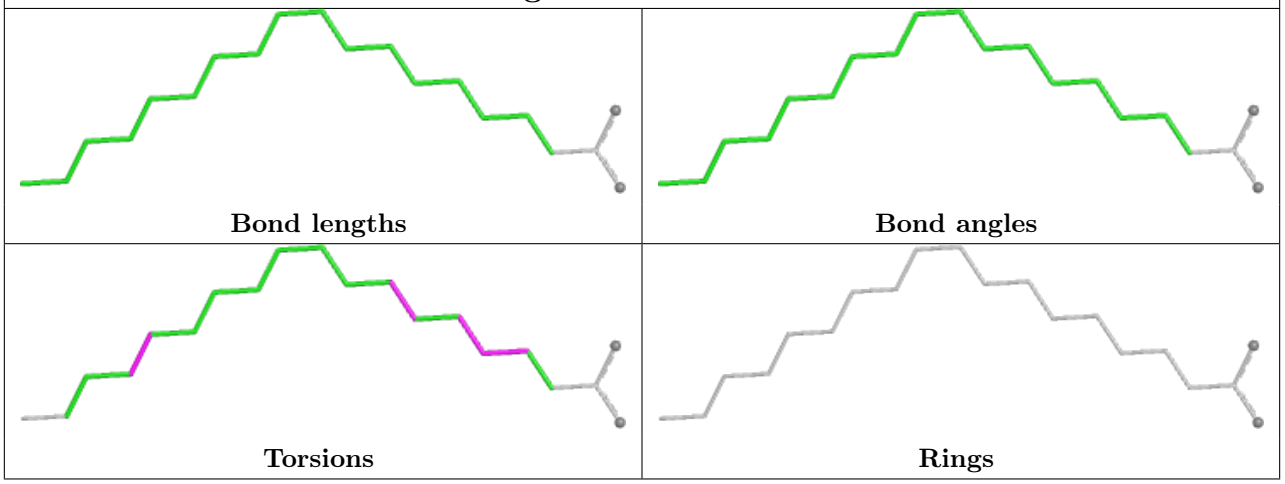
Ligand LFA A 306



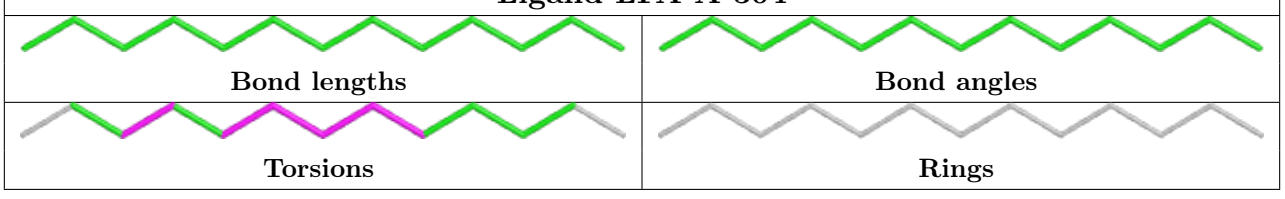
Ligand LFA A 310



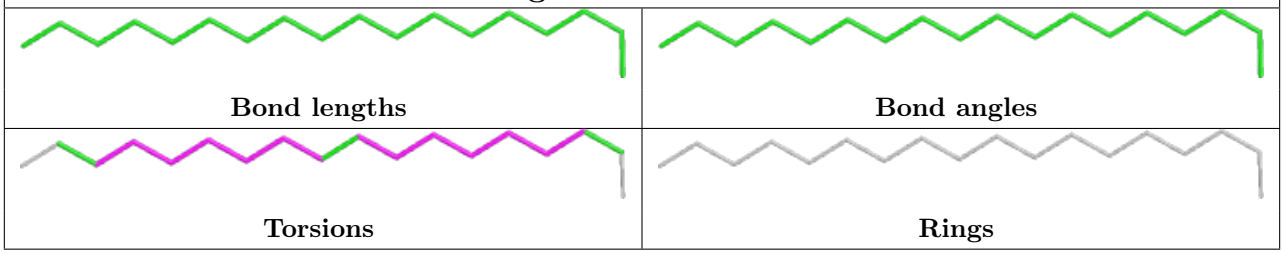
Ligand OLA A 313



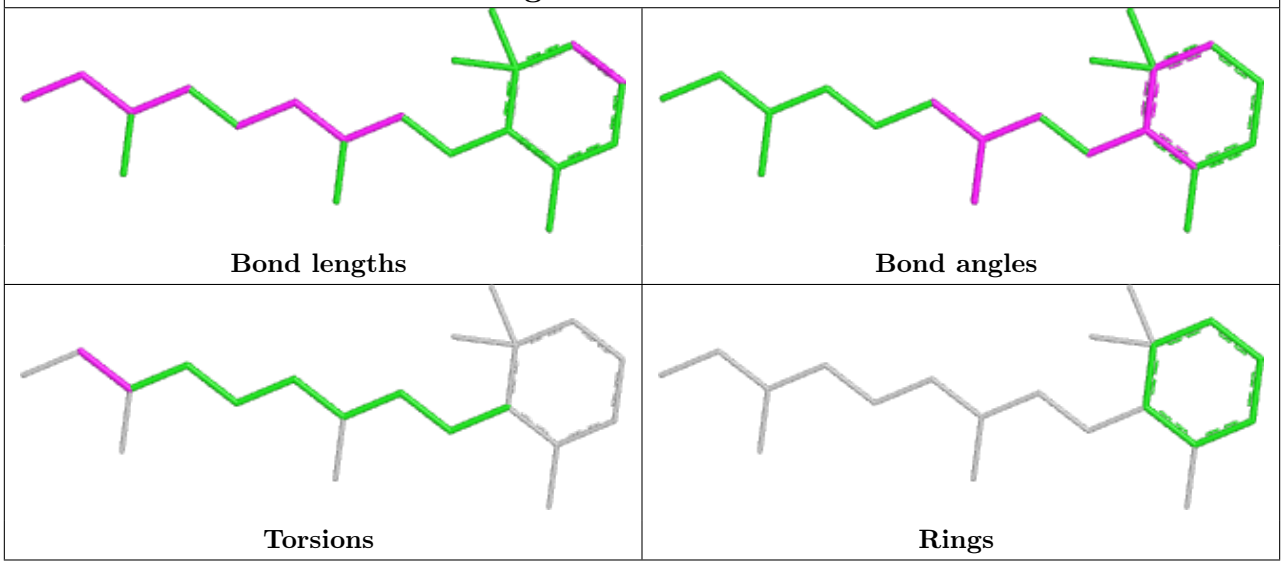
Ligand LFA A 304



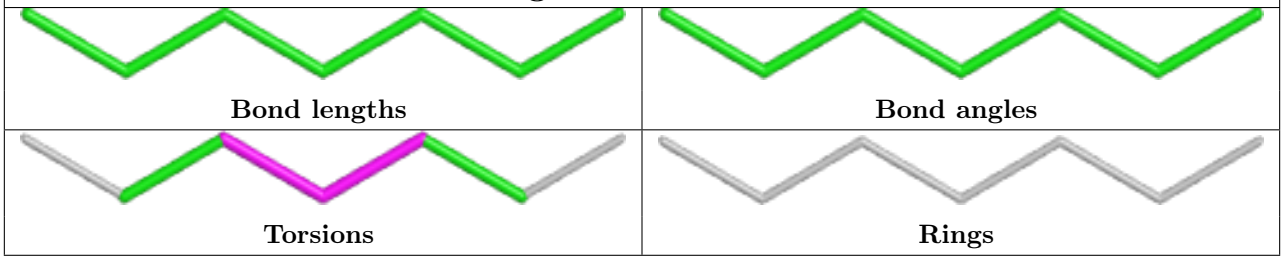
Ligand LFA A 309



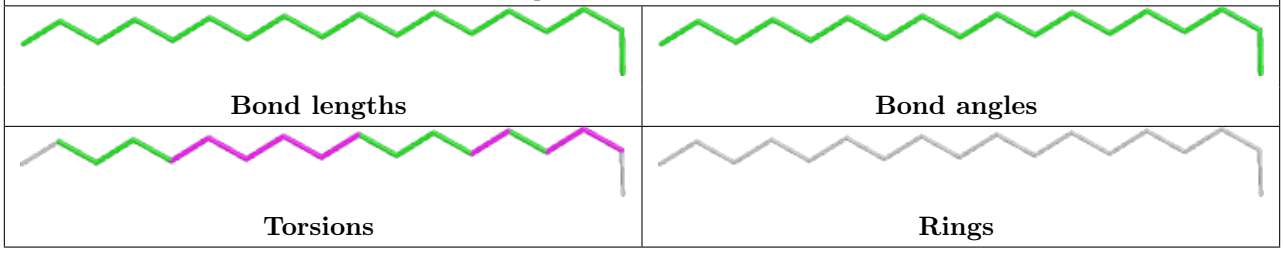
Ligand RET A 301



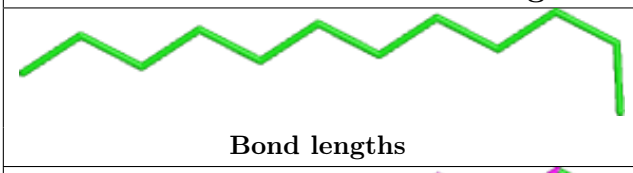
Ligand LFA A 305

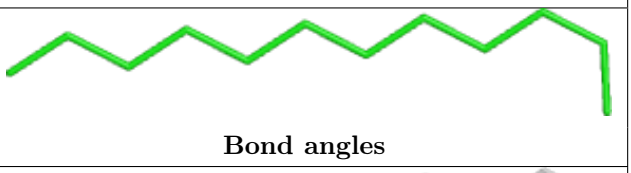


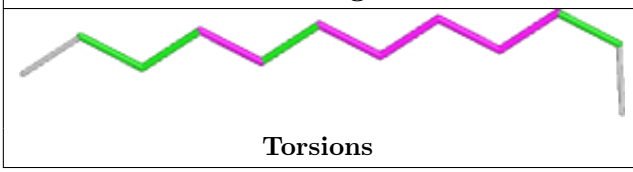
Ligand LFA A 302

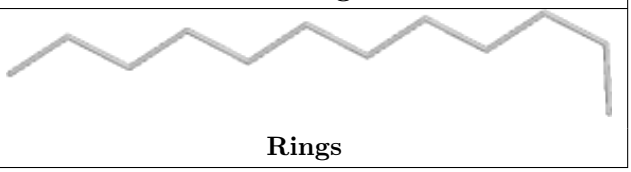


Ligand LFA A 307

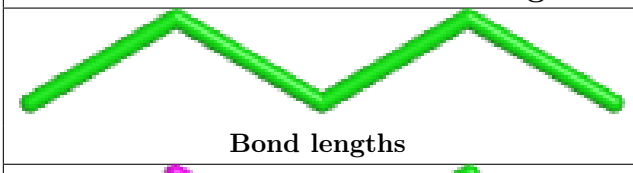

Bond lengths

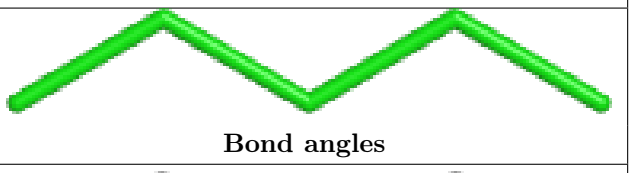

Bond angles

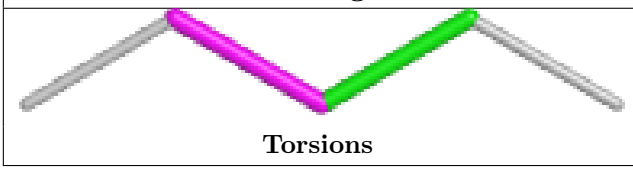

Torsions

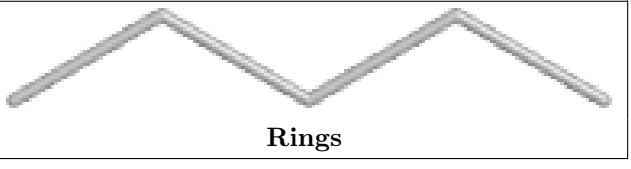

Rings

Ligand LFA A 311

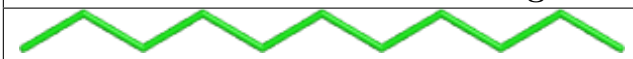

Bond lengths

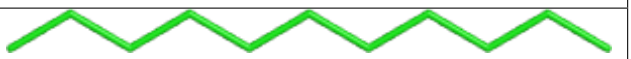

Bond angles

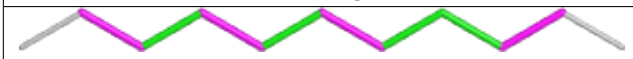

Torsions


Rings

Ligand LFA A 312

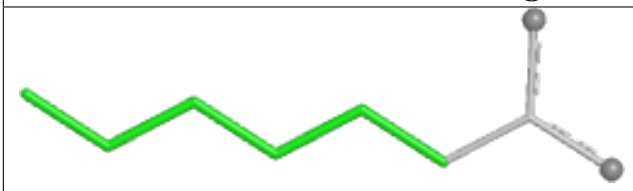

Bond lengths

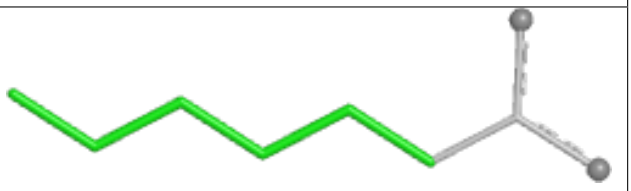

Bond angles

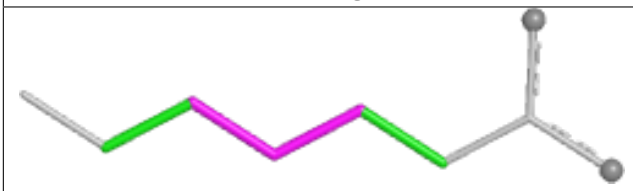

Torsions

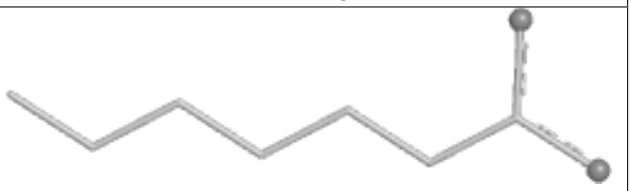

Rings

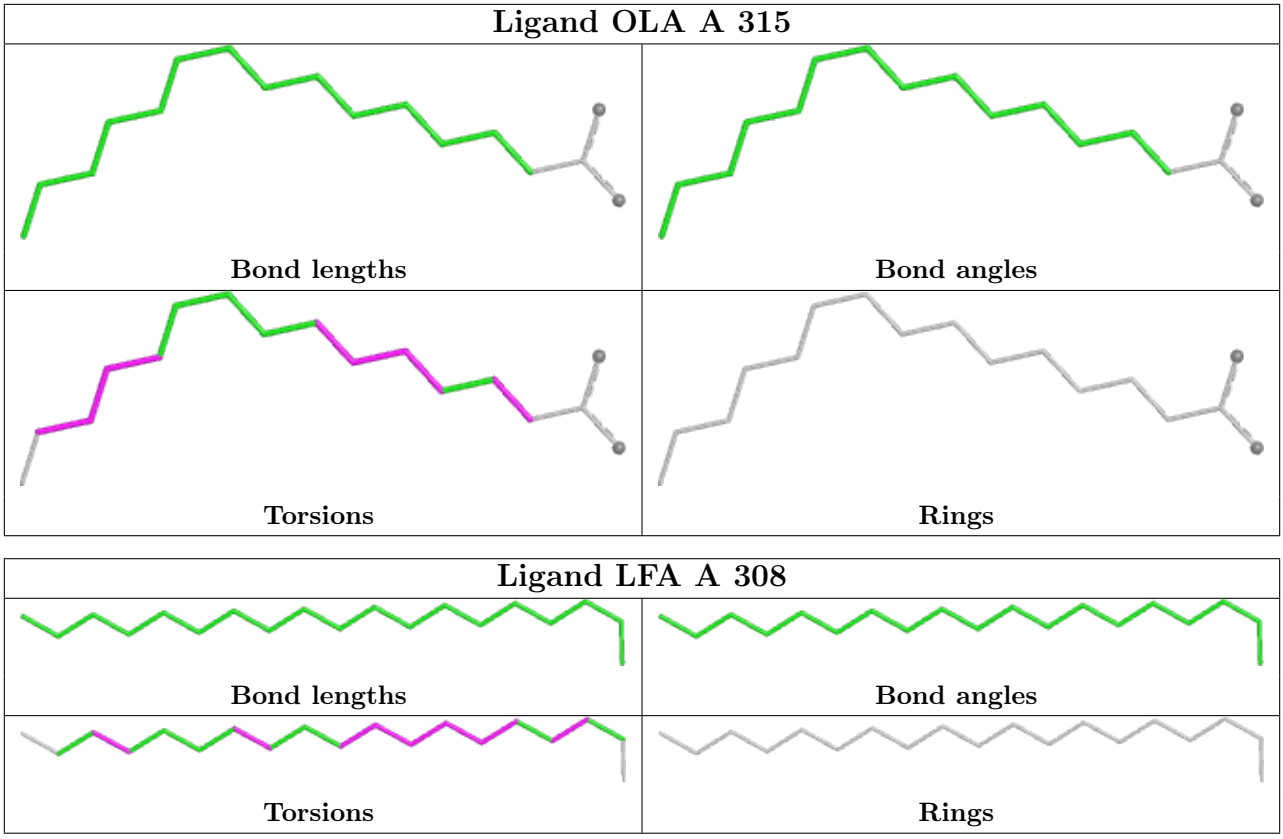
Ligand OLA A 314


Bond lengths


Bond angles


Torsions


Rings



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	225/269 (83%)	0.02	16 (7%)	16	15	18, 25, 45, 65	0

All (16) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	70	PRO	5.4
1	A	73	GLY	4.4
1	A	72	GLY	4.2
1	A	69	VAL	4.0
1	A	74	GLU	4.0
1	A	231	GLY	4.0
1	A	71	PHE	3.5
1	A	75	GLN	3.5
1	A	129	LYS	2.7
1	A	68	MET	2.5
1	A	37	PRO	2.4
1	A	35	SER	2.4
1	A	230	PHE	2.3
1	A	76	ASN	2.3
1	A	130	VAL	2.2
1	A	133	TYR	2.1

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 (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, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	LFA	A	304	13/20	0.62	0.25	49,67,73,73	0
4	OLA	A	314	9/20	0.64	0.25	53,58,81,89	0
3	LFA	A	306	13/20	0.72	0.26	55,67,76,77	0
7	KR	A	345	1/1	0.72	0.73	23,23,23,23	1
5	HEX	A	317	6/6	0.73	0.20	53,55,57,57	0
3	LFA	A	310	14/20	0.73	0.28	40,46,50,50	14
3	LFA	A	302	18/20	0.76	0.37	46,52,56,56	18
3	LFA	A	303	13/20	0.76	0.25	45,53,78,79	0
7	KR	A	351	1/1	0.77	0.13	44,44,44,44	1
4	OLA	A	315	17/20	0.79	0.23	53,61,74,75	0
3	LFA	A	309	18/20	0.80	0.29	29,40,72,74	18
7	KR	A	328	1/1	0.82	0.23	30,30,30,30	1
3	LFA	A	308	19/20	0.82	0.22	38,48,55,56	0
3	LFA	A	307	12/20	0.82	0.20	43,54,58,58	0
5	HEX	A	318	6/6	0.83	0.29	59,61,65,66	0
7	KR	A	348	1/1	0.83	0.44	27,27,27,27	1
7	KR	A	349	1/1	0.83	0.66	31,31,31,31	1
7	KR	A	343	1/1	0.83	0.63	24,24,24,24	1
7	KR	A	338	1/1	0.84	0.24	30,30,30,30	1
5	HEX	A	316	5/6	0.84	0.25	43,44,45,51	0
7	KR	A	353	1/1	0.84	0.38	23,23,23,23	1
7	KR	A	347	1/1	0.86	0.15	29,29,29,29	1
7	KR	A	341	1/1	0.87	0.45	25,25,25,25	1
3	LFA	A	305	7/20	0.87	0.13	51,53,55,57	0
4	OLA	A	313	20/20	0.88	0.19	27,41,56,57	0
7	KR	A	352	1/1	0.88	0.27	34,34,34,34	1
3	LFA	A	312	11/20	0.88	0.21	20,24,30,31	11
7	KR	A	327	1/1	0.89	0.30	25,25,25,25	1
7	KR	A	333	1/1	0.91	0.38	22,22,22,22	1
7	KR	A	344	1/1	0.91	0.21	25,25,25,25	1
7	KR	A	350	1/1	0.91	0.35	38,38,38,38	1
7	KR	A	330	1/1	0.92	0.17	33,33,33,33	1
3	LFA	A	311	5/20	0.92	0.27	18,19,20,20	5
7	KR	A	325	1/1	0.93	0.13	23,23,23,23	1
7	KR	A	346	1/1	0.94	0.56	25,25,25,25	1
7	KR	A	334	1/1	0.95	0.49	22,22,22,22	1
2	RET	A	301	20/21	0.95	0.14	21,23,26,28	0

Continued on next page...

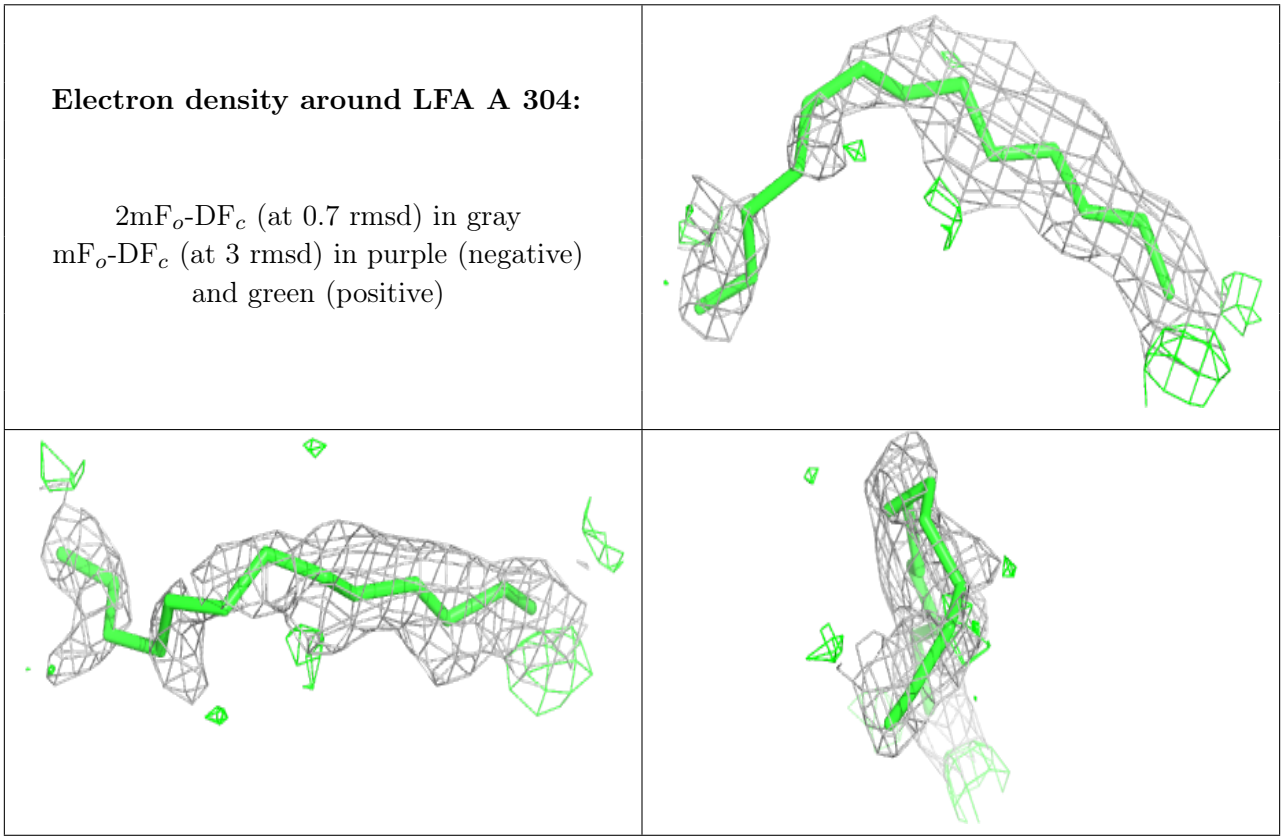
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
7	KR	A	339	1/1	0.95	0.87	22,22,22,22	1
6	SO4	A	319	5/5	0.96	0.13	24,25,29,31	5
7	KR	A	335	1/1	0.96	0.27	25,25,25,25	1
7	KR	A	326	1/1	0.96	0.21	23,23,23,23	1
7	KR	A	323	1/1	0.96	0.09	24,24,24,24	1
7	KR	A	324	1/1	0.97	0.07	25,25,25,25	1
7	KR	A	340	1/1	0.97	0.14	24,24,24,24	1
7	KR	A	322	1/1	0.98	0.05	25,25,25,25	1
7	KR	A	329	1/1	0.98	0.17	27,27,27,27	1
7	KR	A	342	1/1	0.98	0.26	27,27,27,27	1
7	KR	A	321	1/1	0.98	0.14	23,23,23,23	1
7	KR	A	336	1/1	0.98	0.06	29,29,29,29	1
7	KR	A	331	1/1	0.98	0.28	28,28,28,28	1
7	KR	A	332	1/1	0.98	0.11	25,25,25,25	1
7	KR	A	354	1/1	0.98	0.35	20,20,20,20	1
7	KR	A	337	1/1	0.99	0.11	26,26,26,26	1
7	KR	A	320	1/1	0.99	0.21	23,23,23,23	1

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

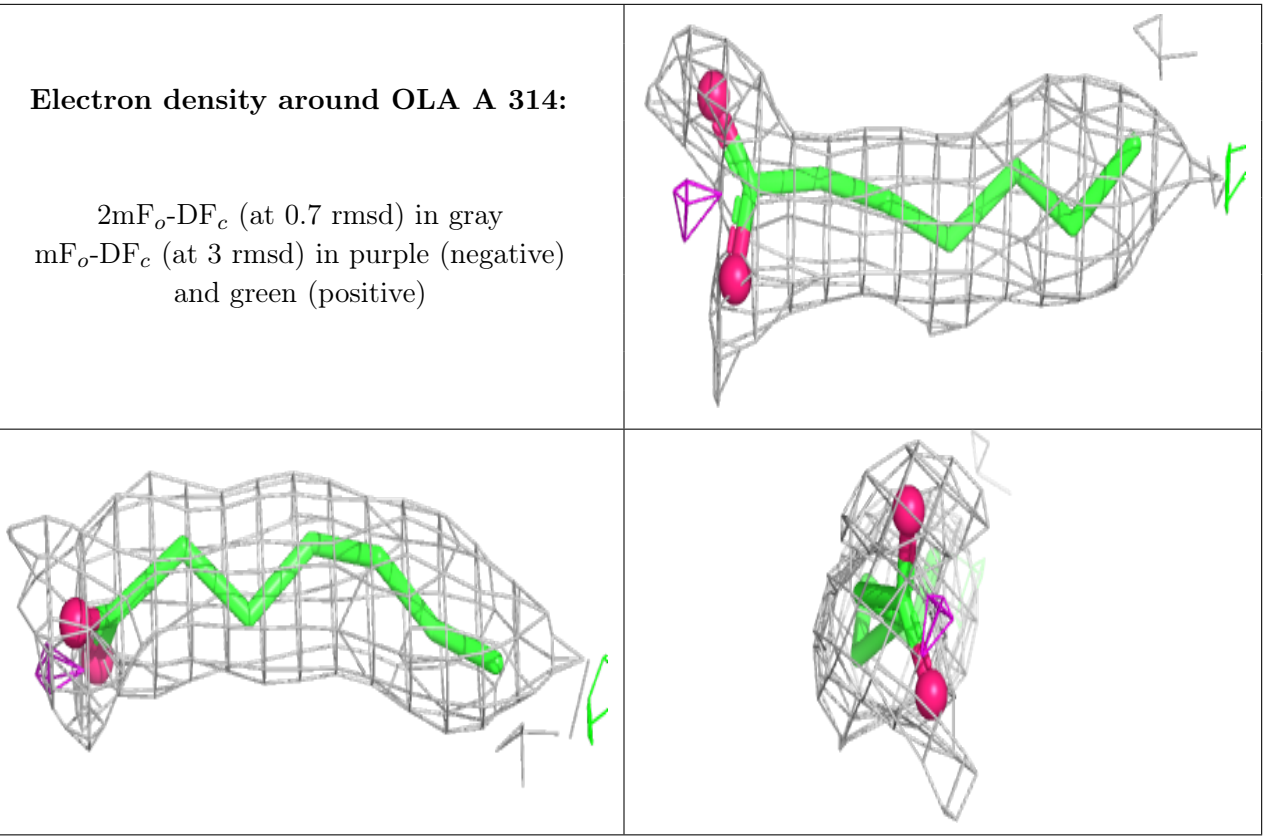
Electron density around LFA A 304:

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



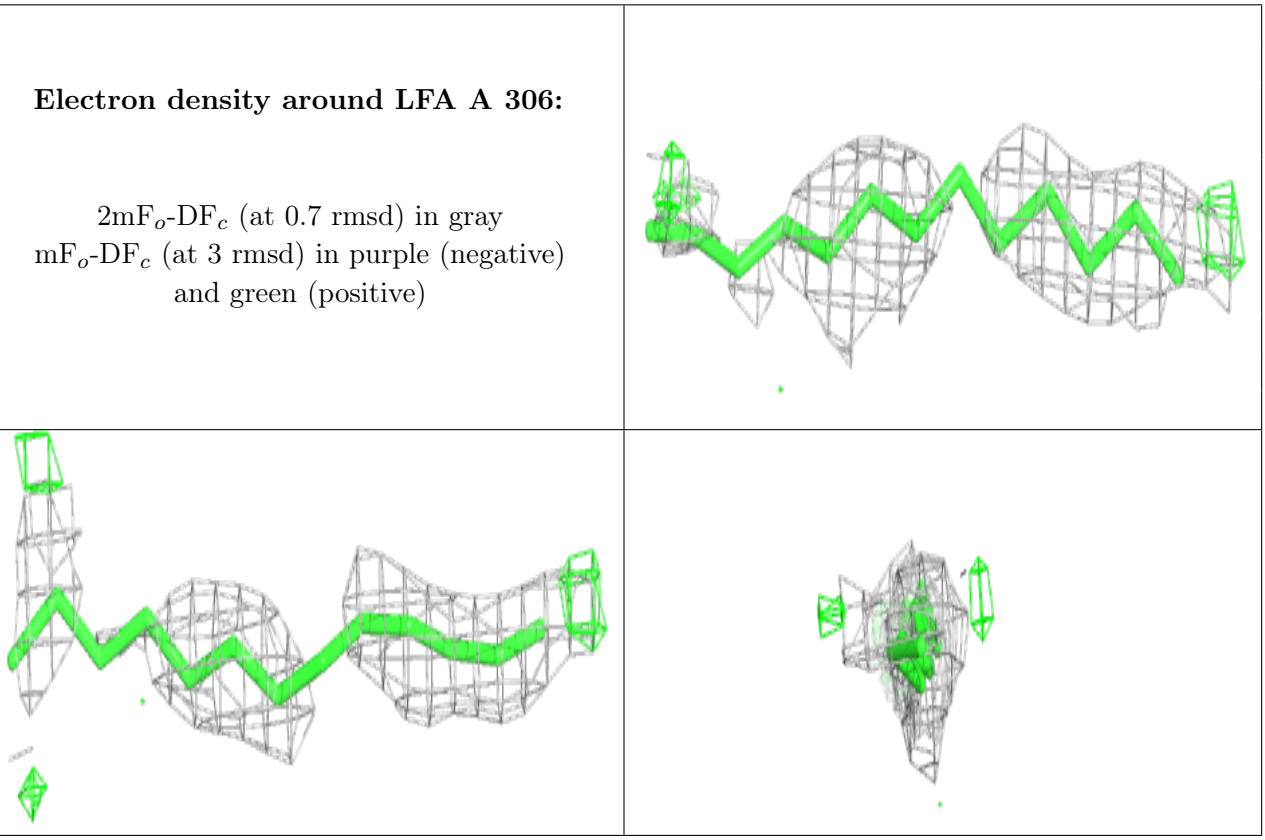
Electron density around OLA A 314:

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



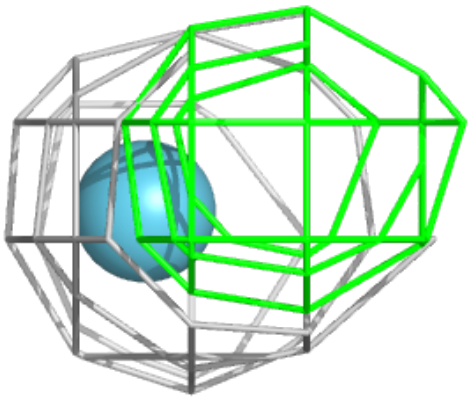
Electron density around LFA A 306:

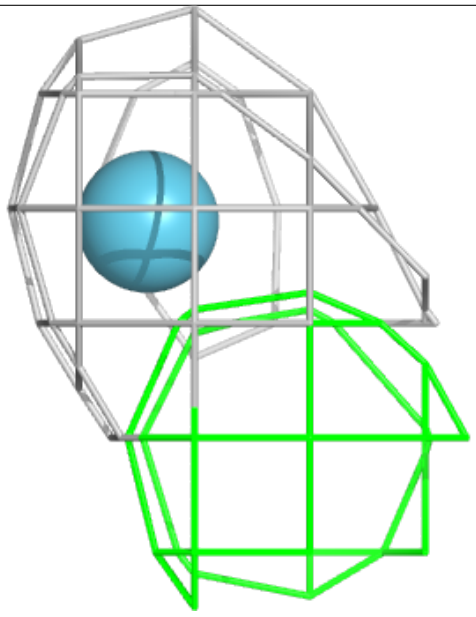
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

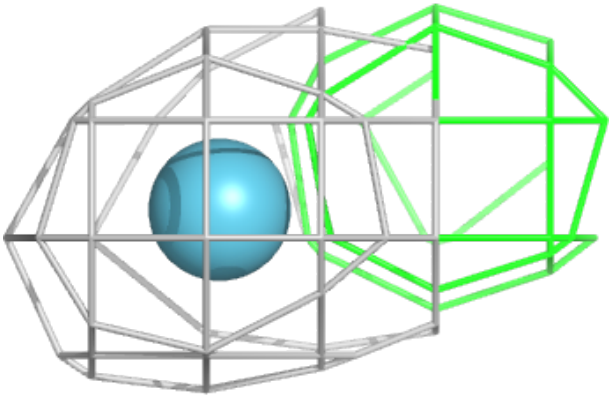


Electron density around KR A 345:

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

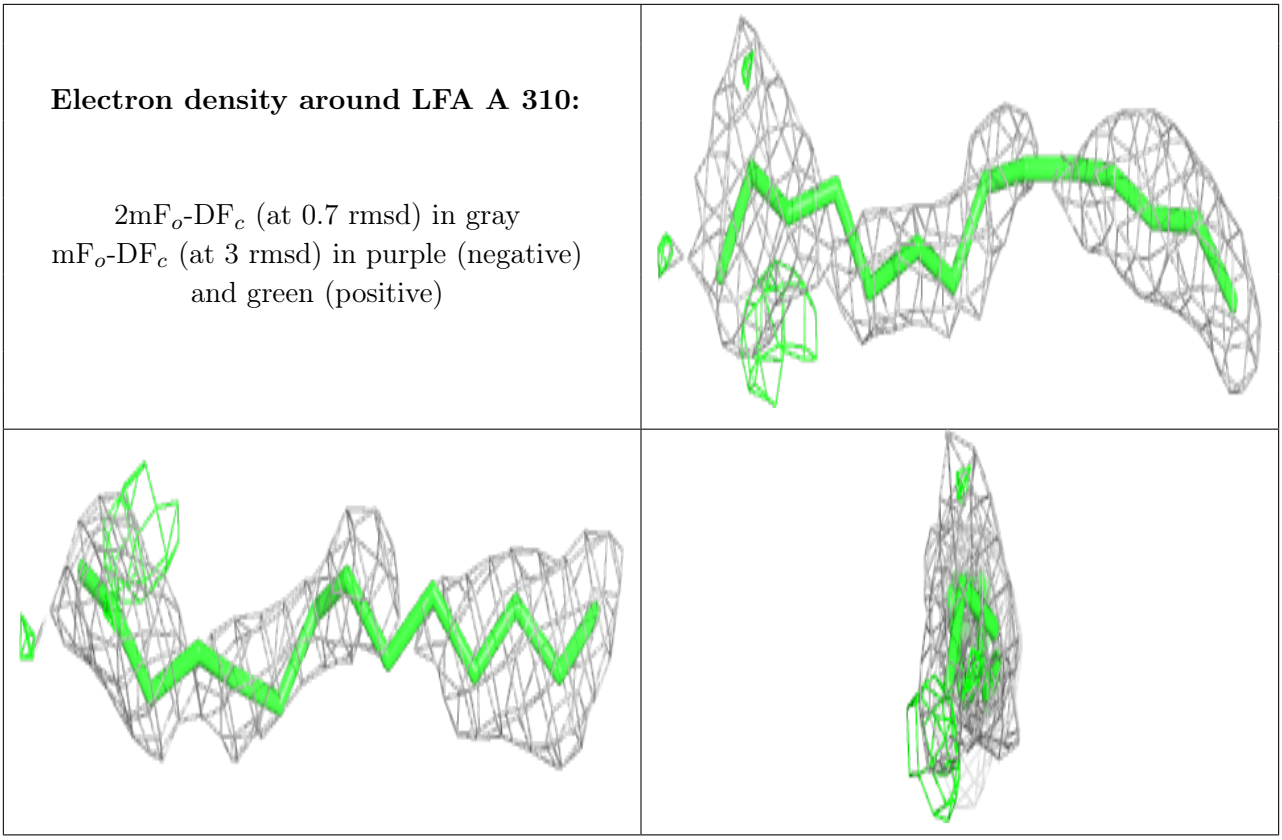






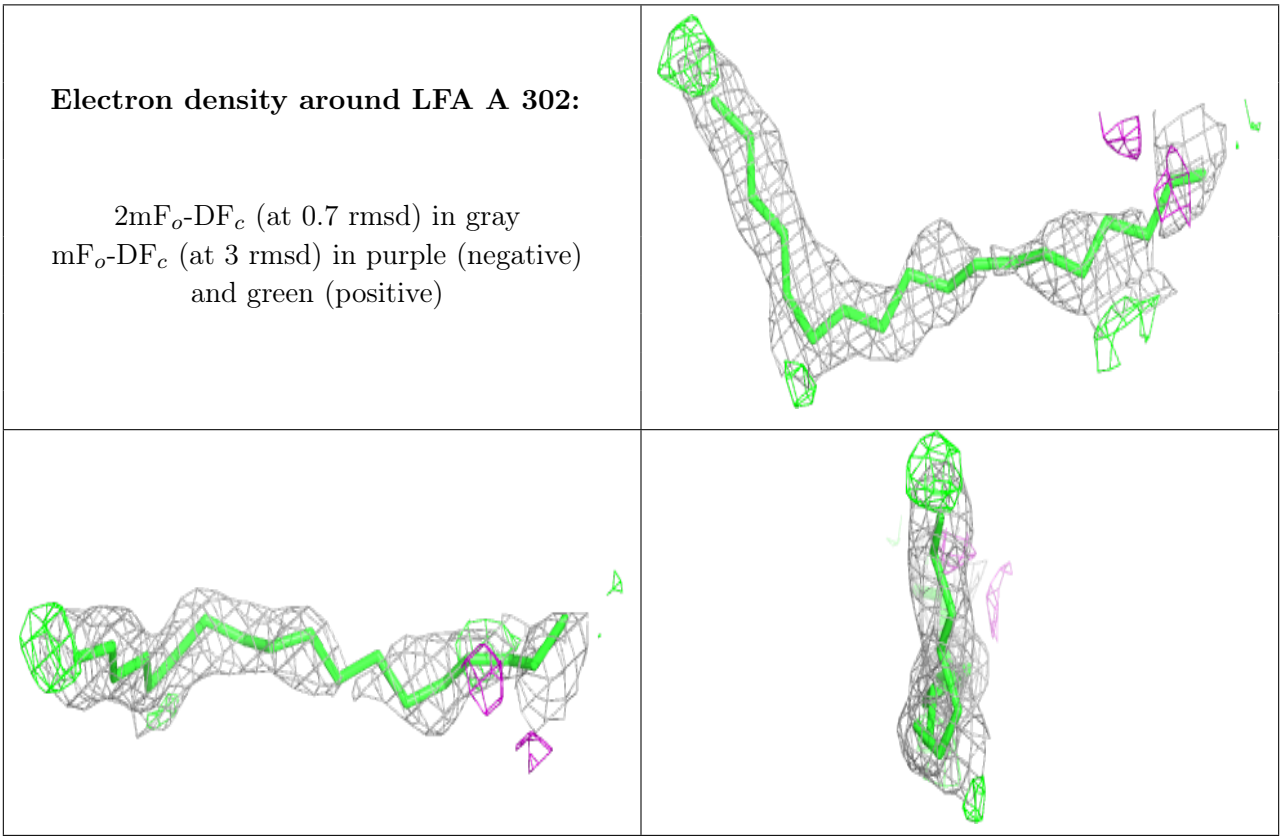
Electron density around LFA A 310:

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



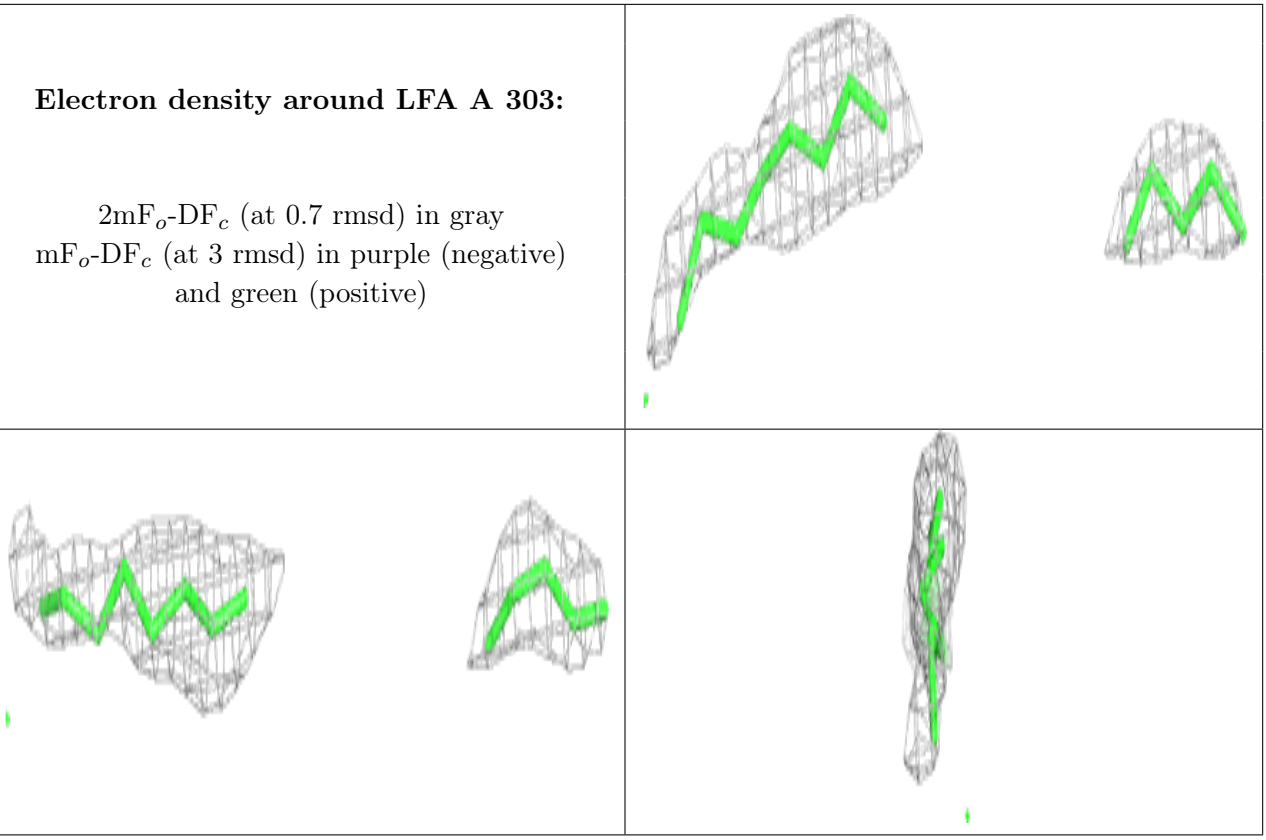
Electron density around LFA A 302:

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



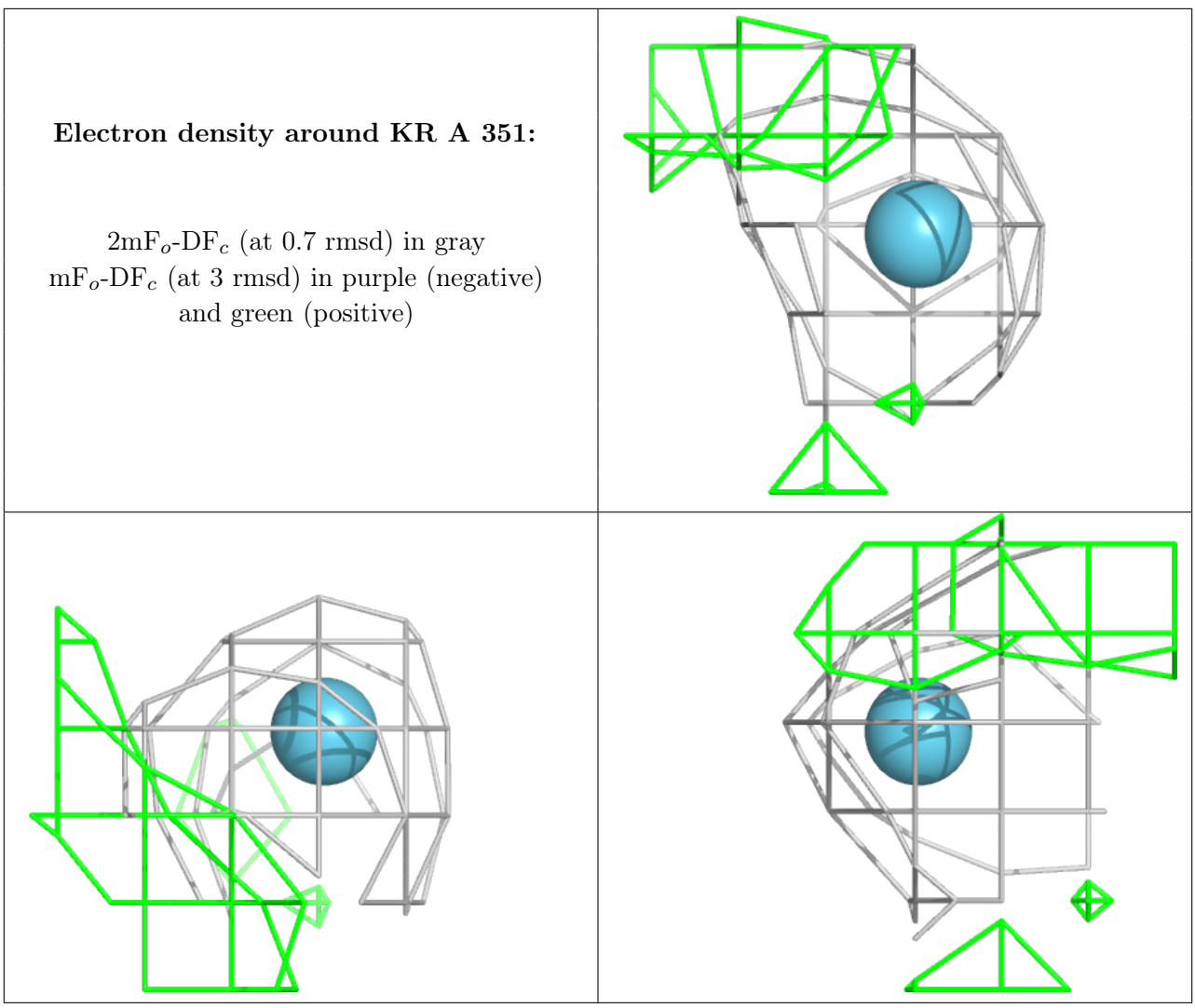
Electron density around LFA A 303:

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



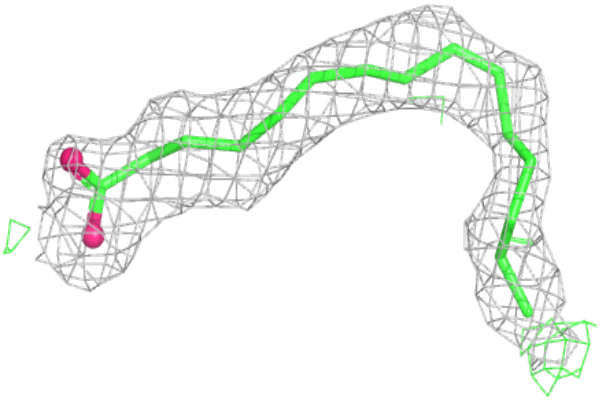
Electron density around KR A 351:

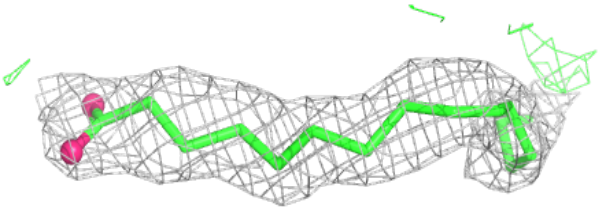
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

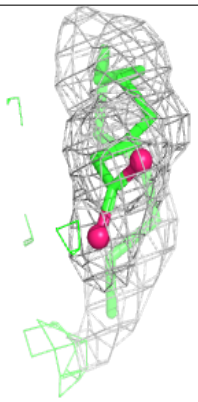


Electron density around OLA A 315:

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

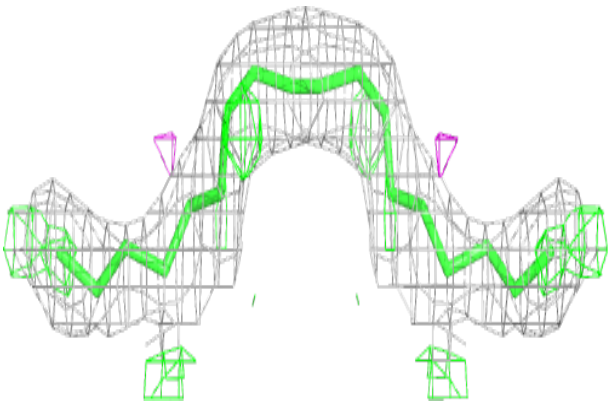


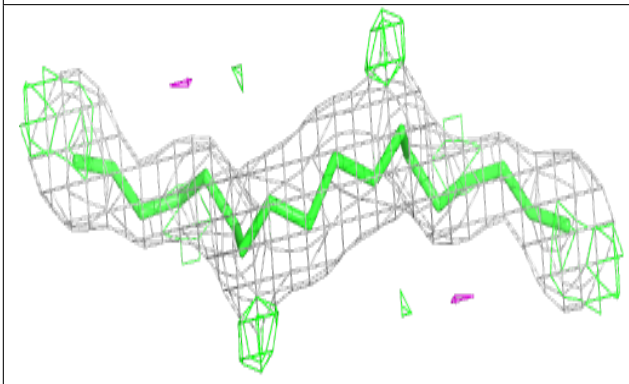


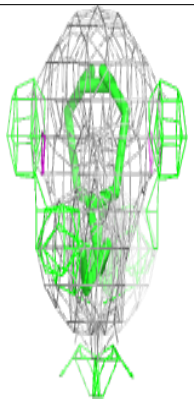


Electron density around LFA A 309:

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

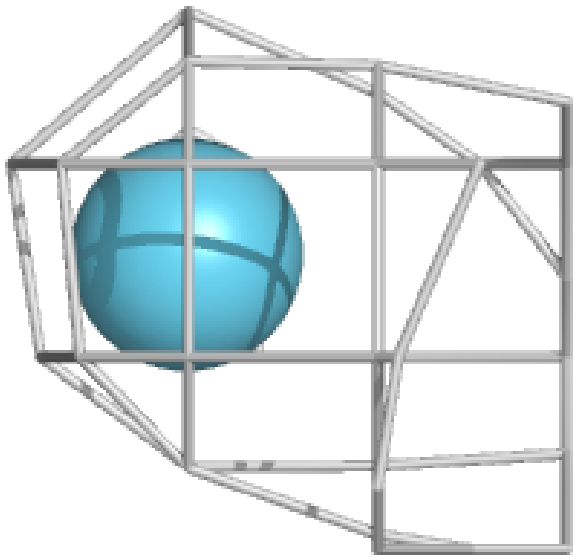


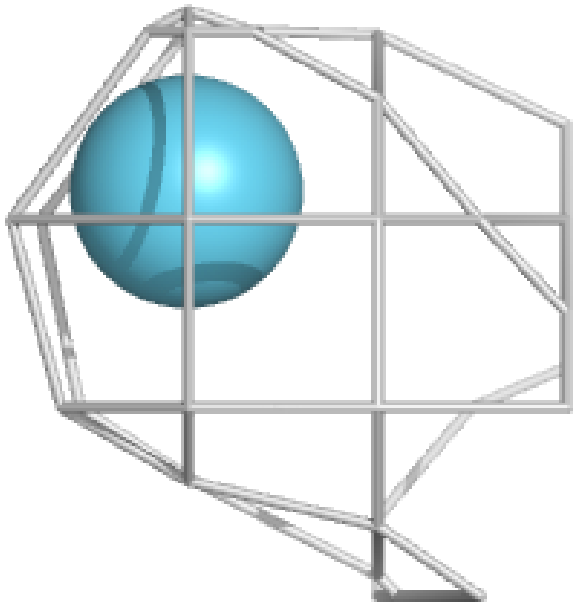


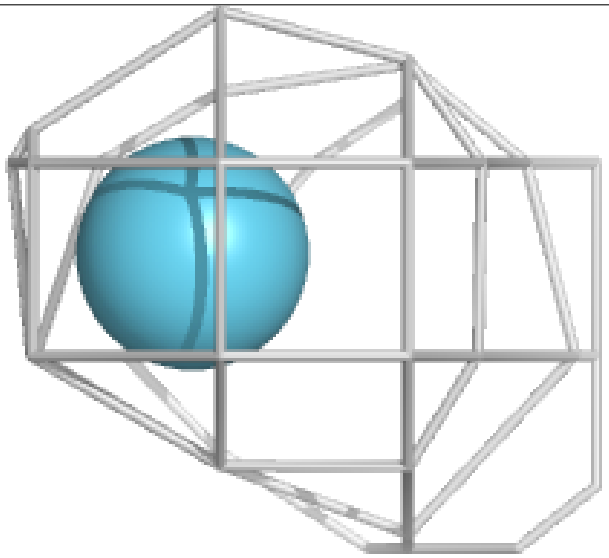


Electron density around KR A 328:

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

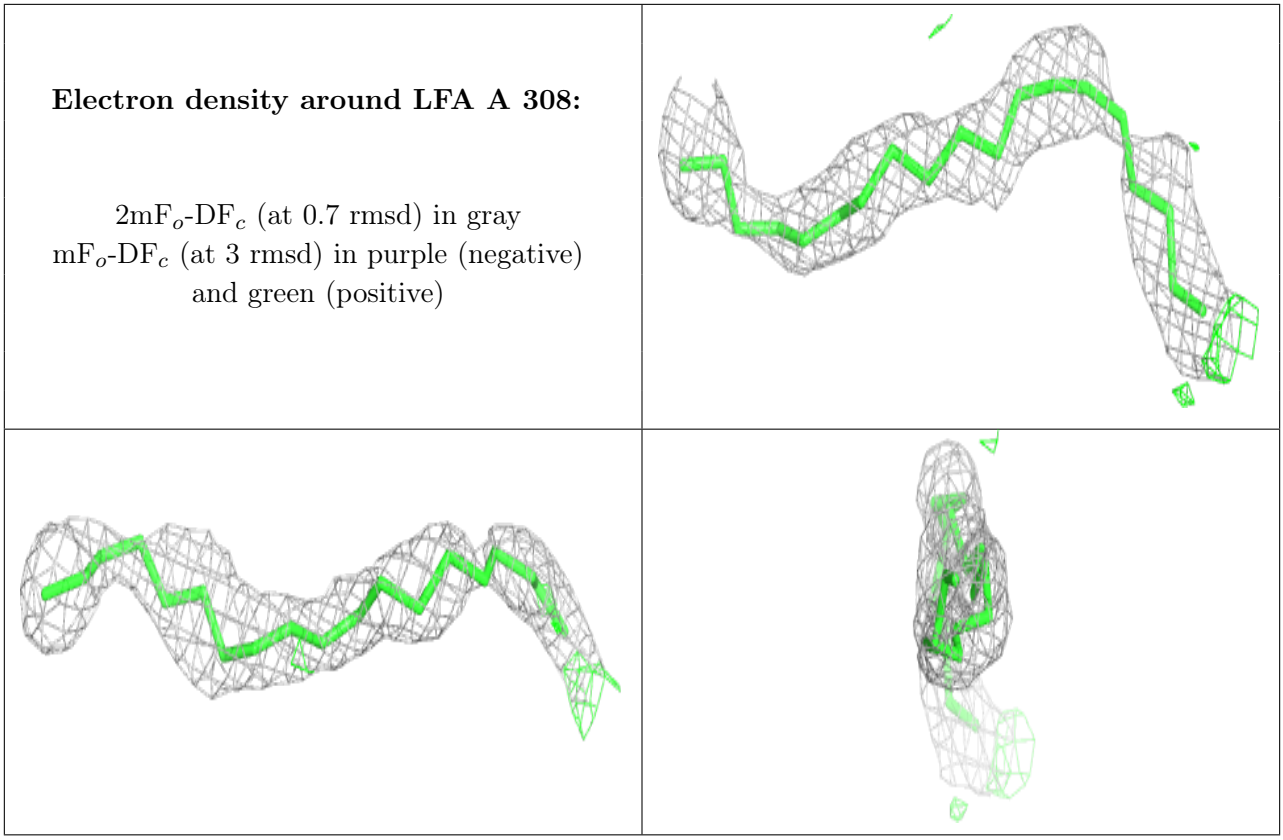






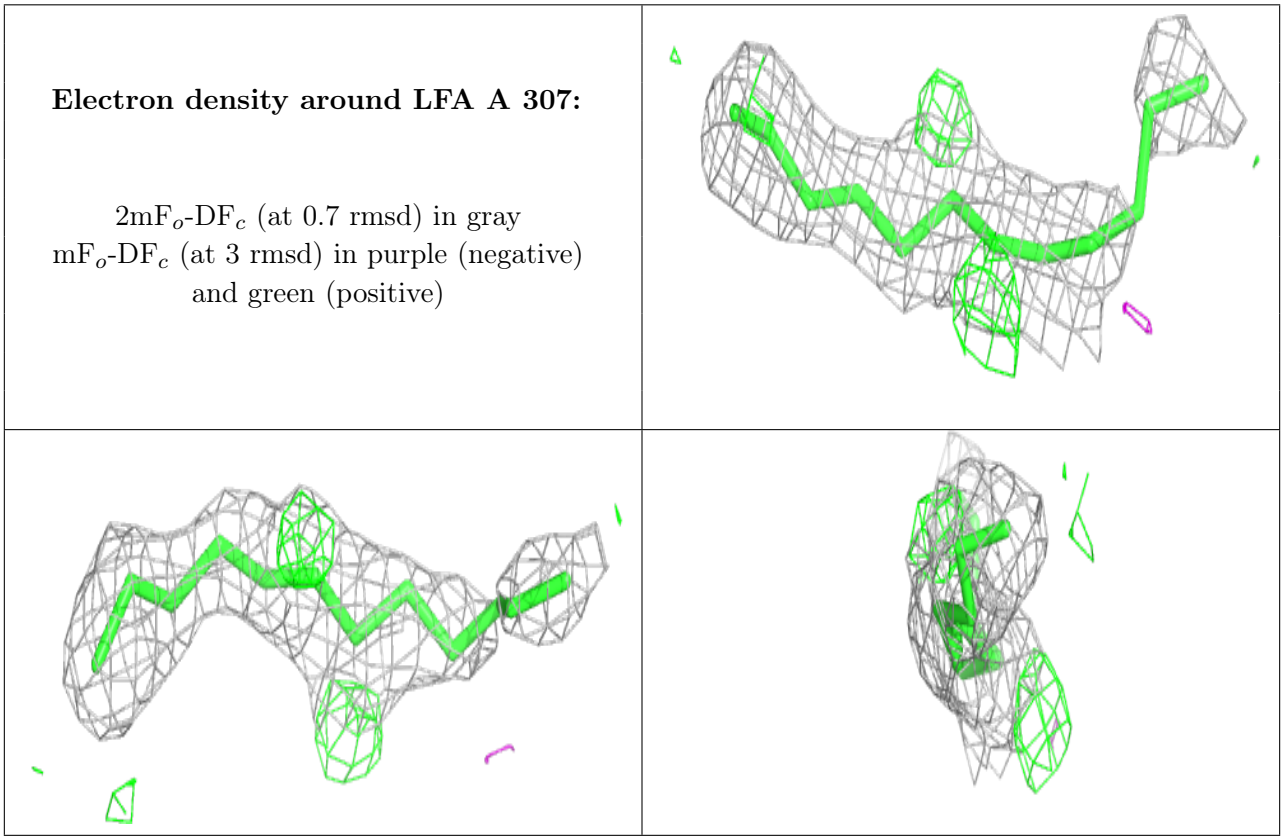
Electron density around LFA A 308:

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



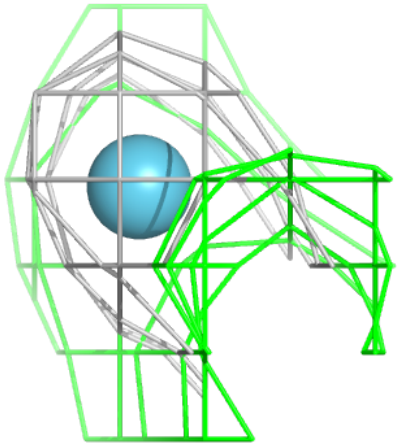
Electron density around LFA A 307:

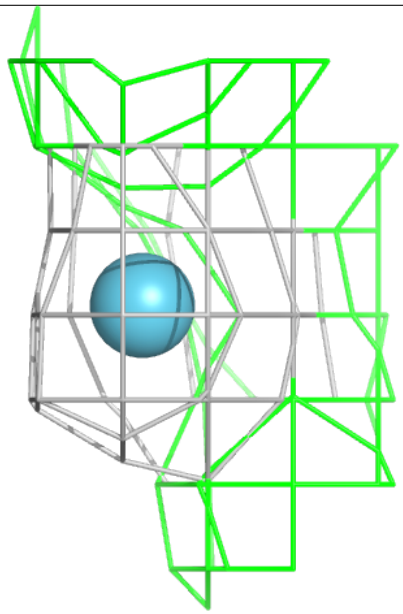
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

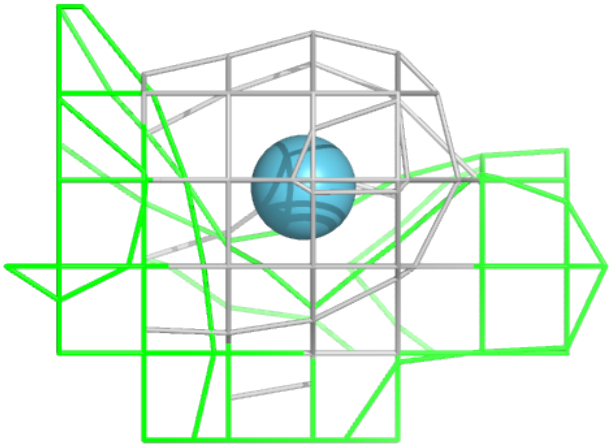


Electron density around KR A 348:

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

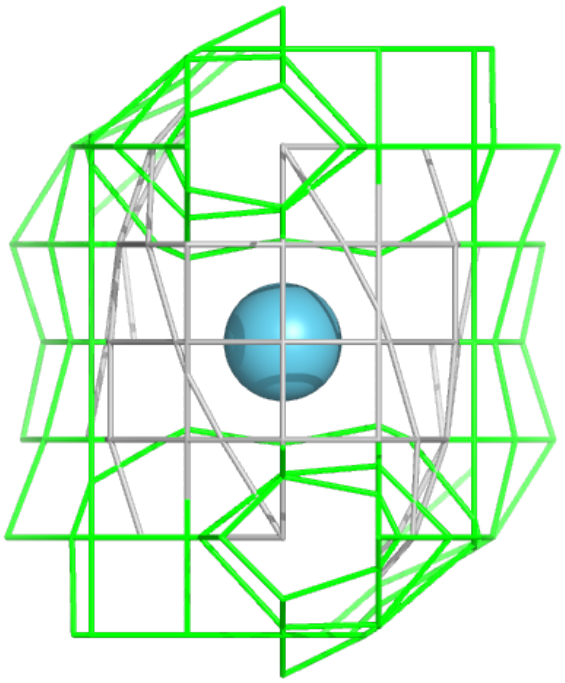


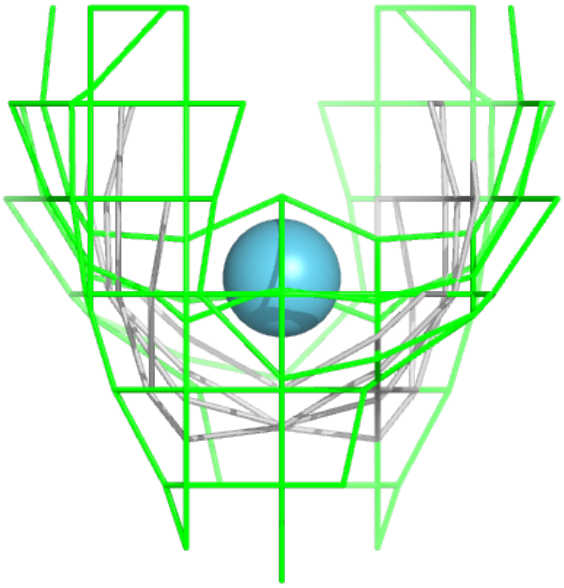


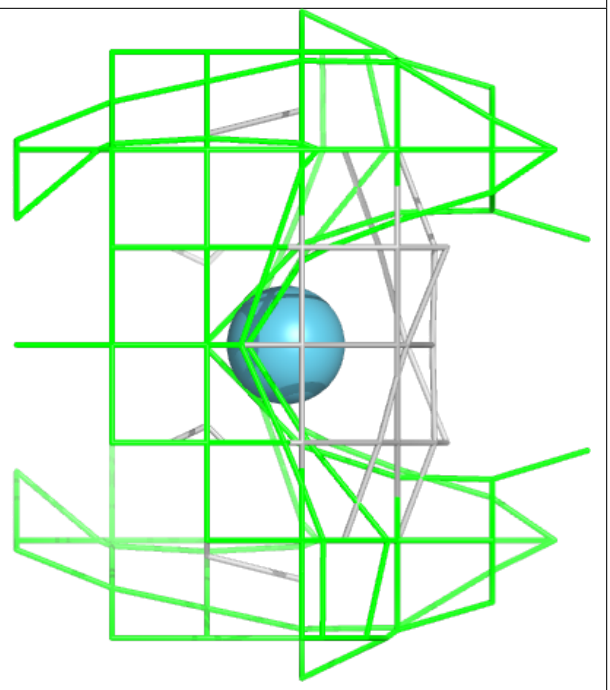


Electron density around KR A 349:

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

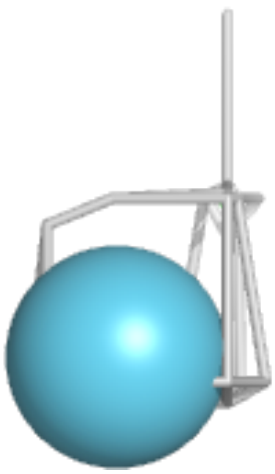


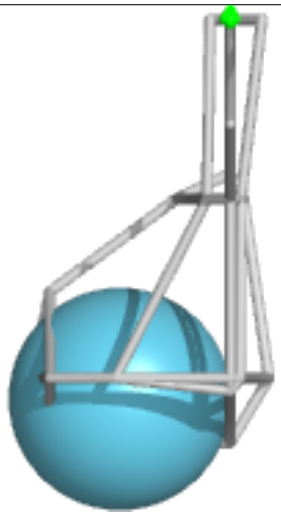


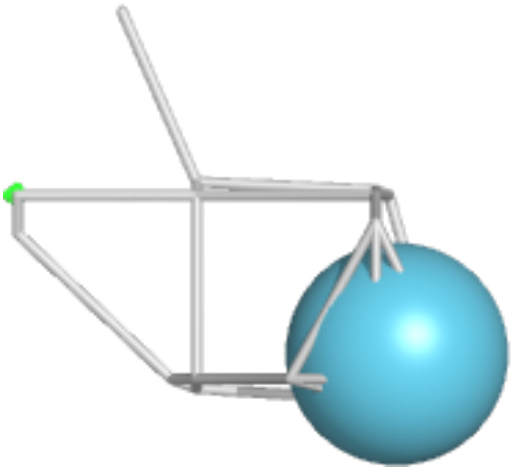


Electron density around KR A 343:

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

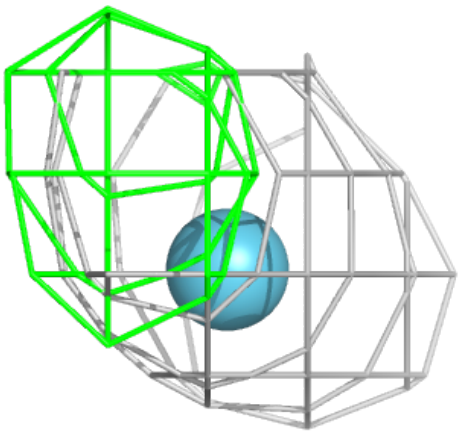


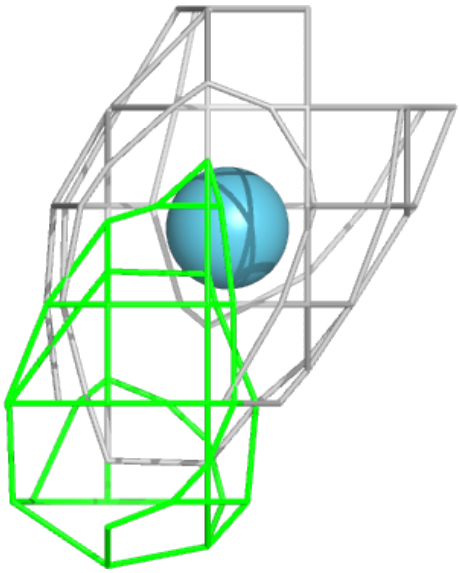


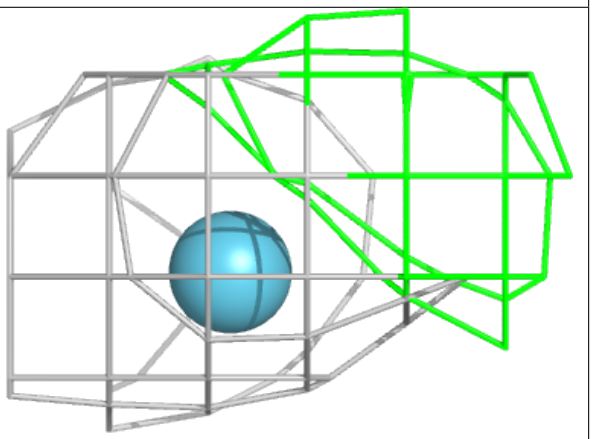


Electron density around KR A 338:

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

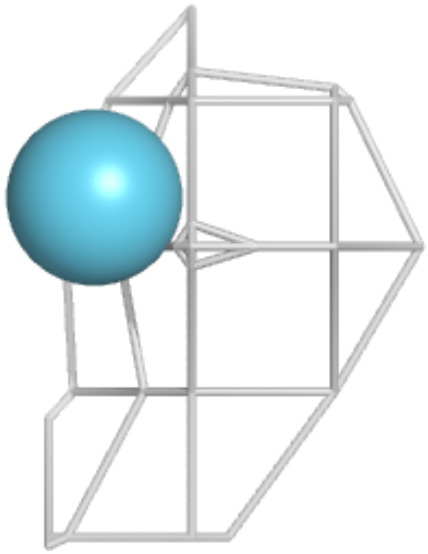


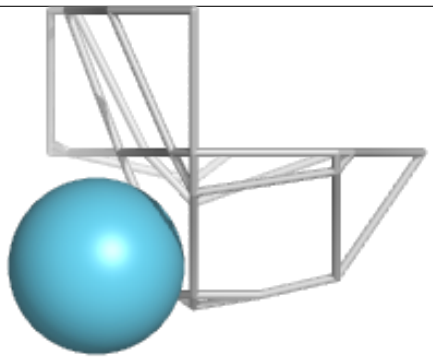


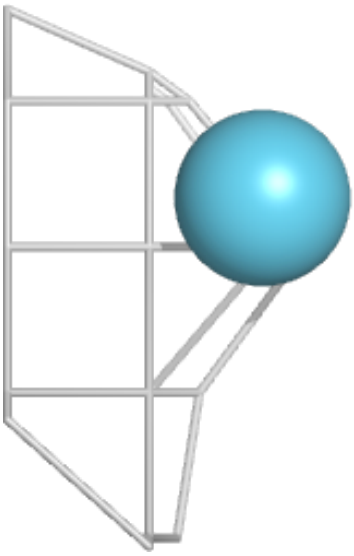


Electron density around KR A 353:

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

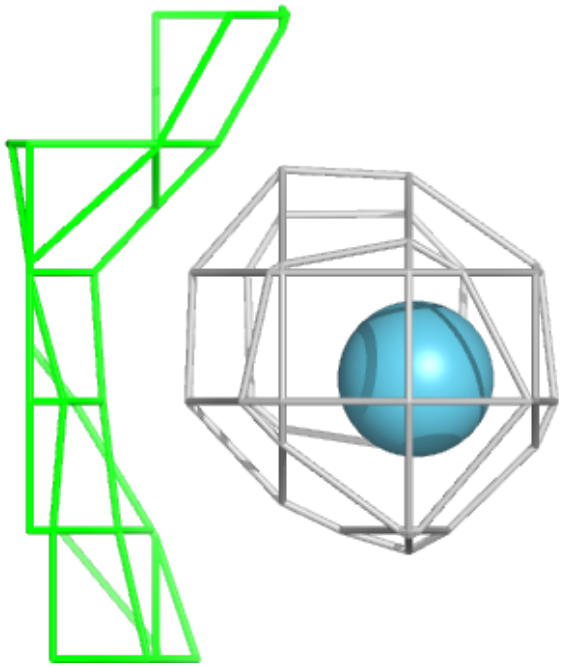


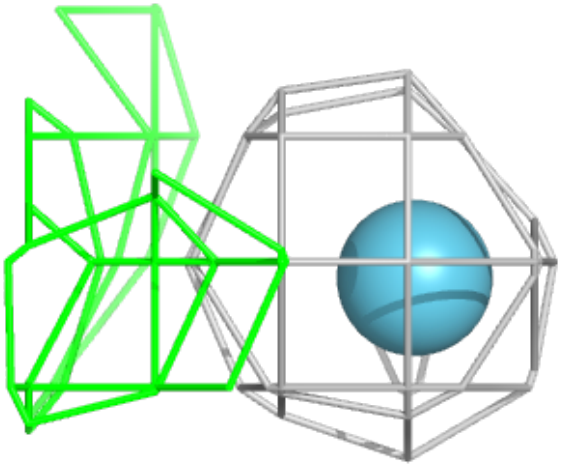


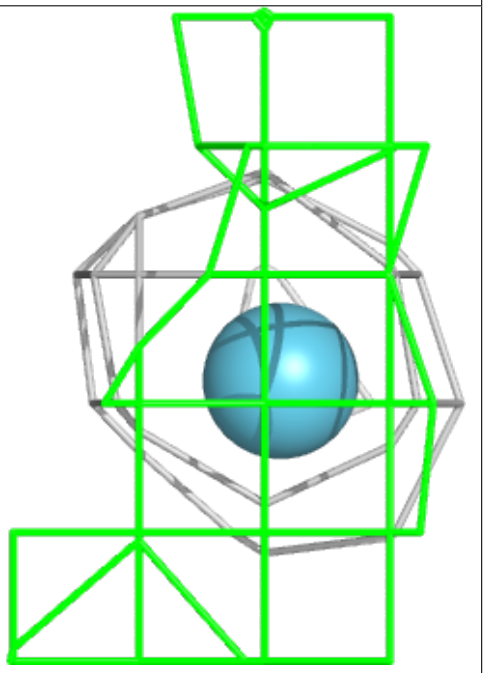


Electron density around KR A 347:

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

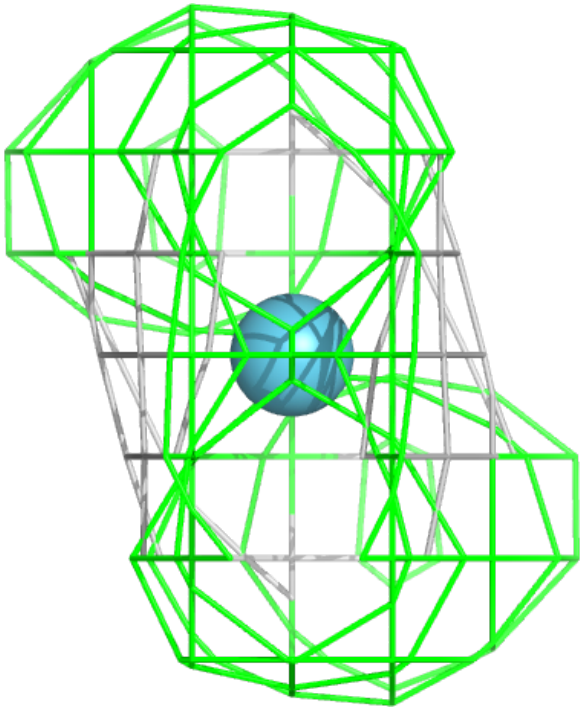


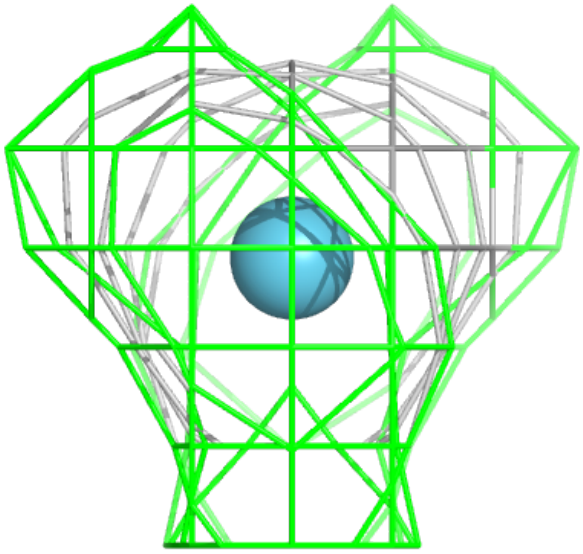


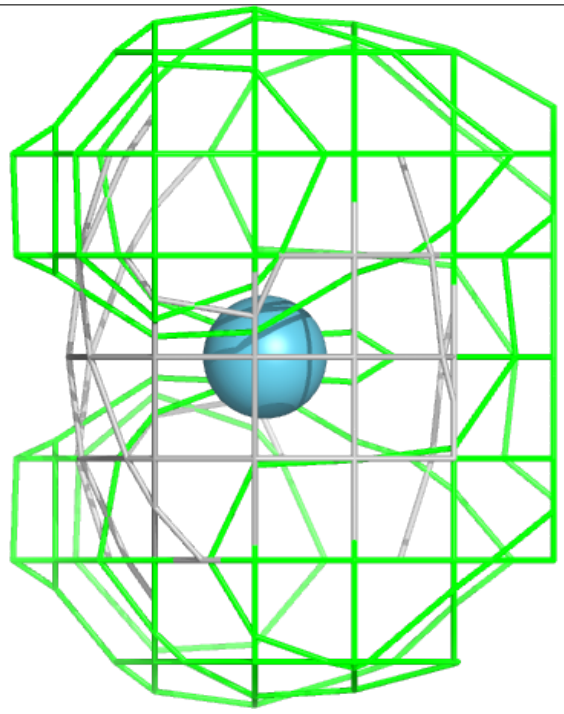


Electron density around KR A 341:

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

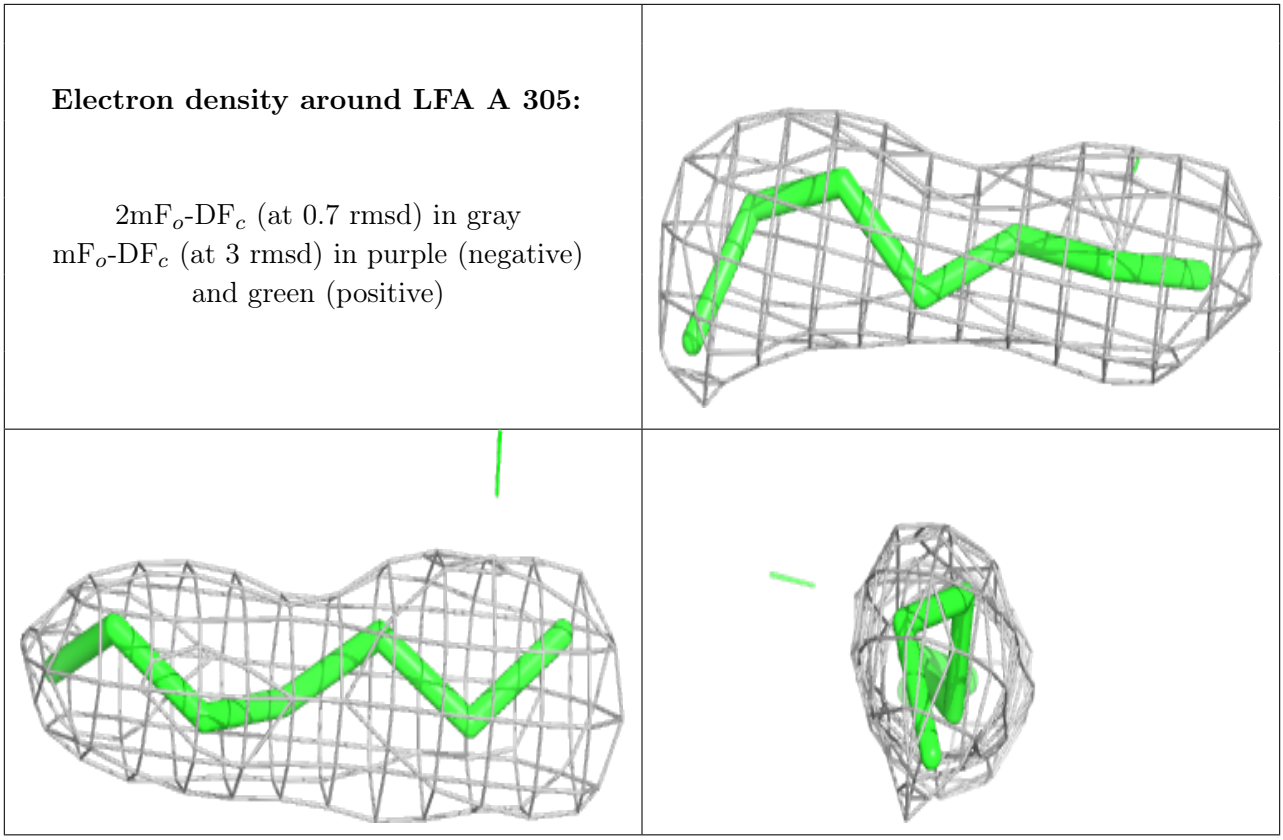






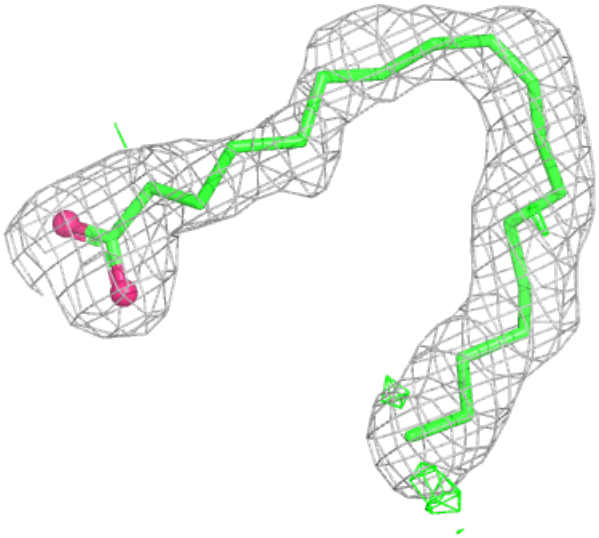
Electron density around LFA A 305:

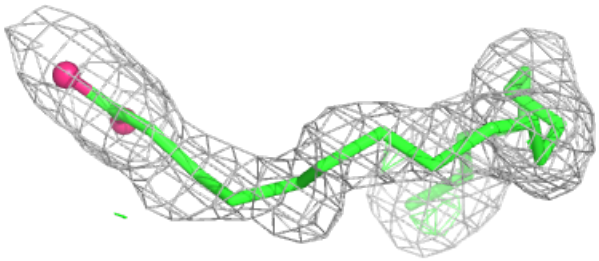
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

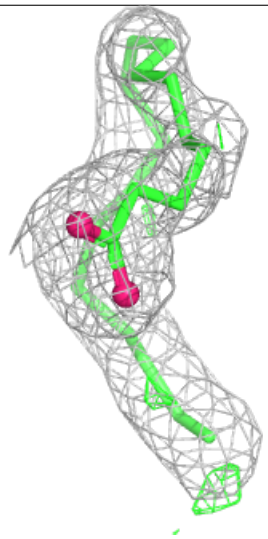


Electron density around OLA A 313:

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

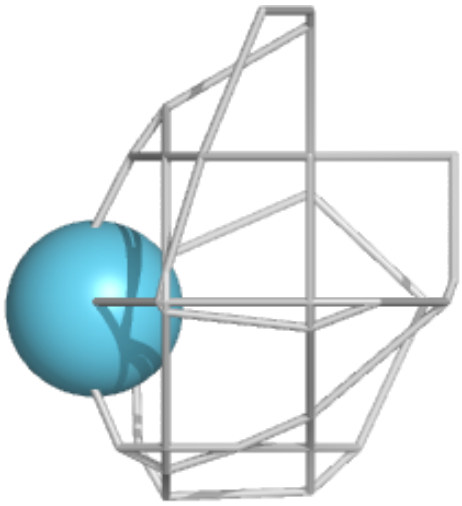


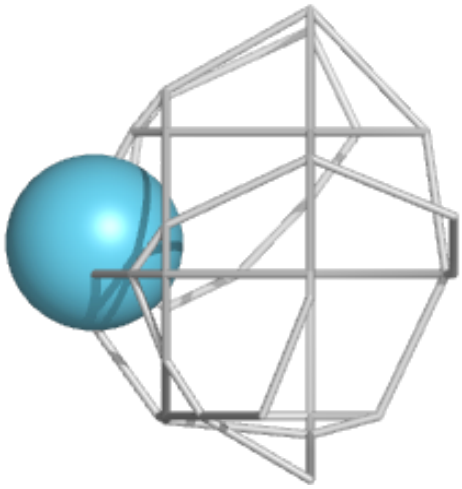


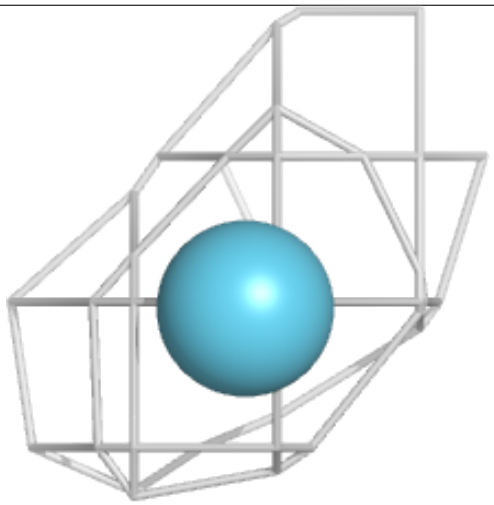


Electron density around KR A 352:

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

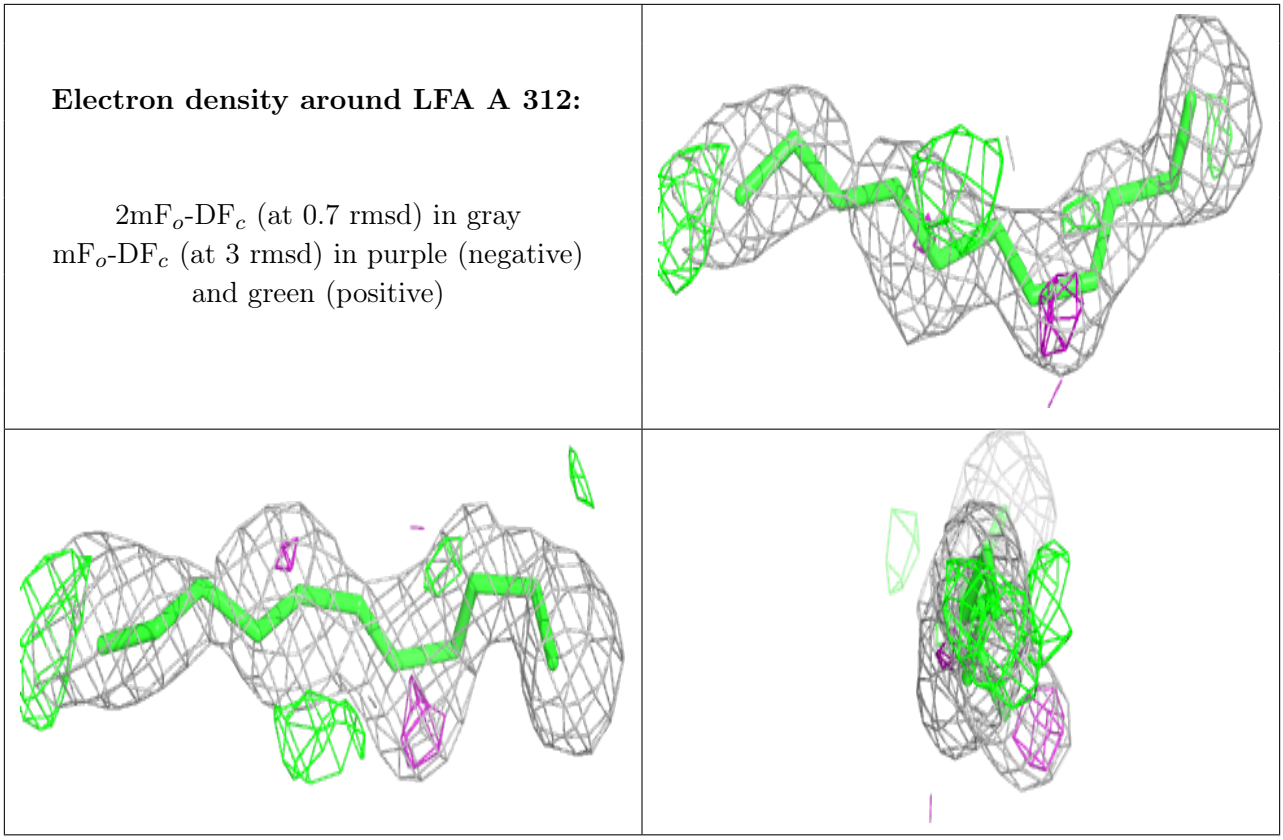






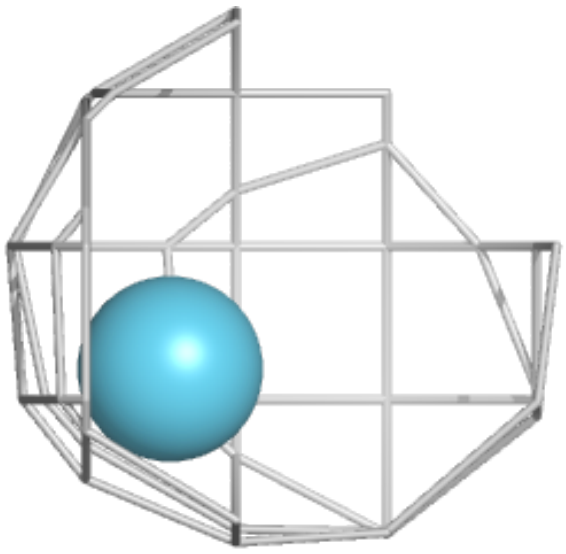
Electron density around LFA A 312:

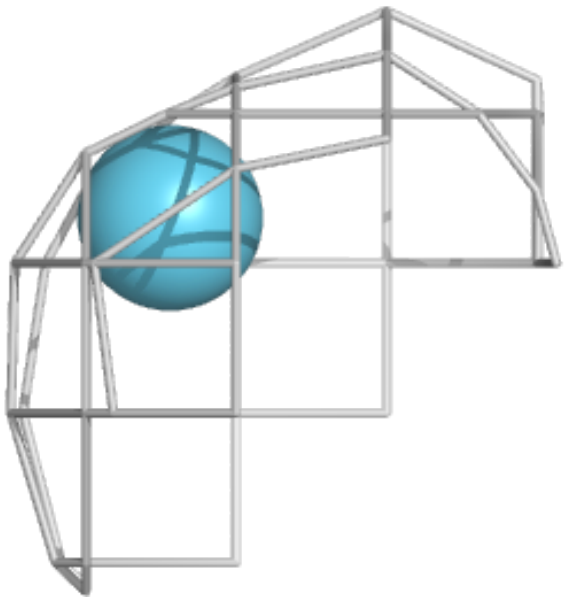
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

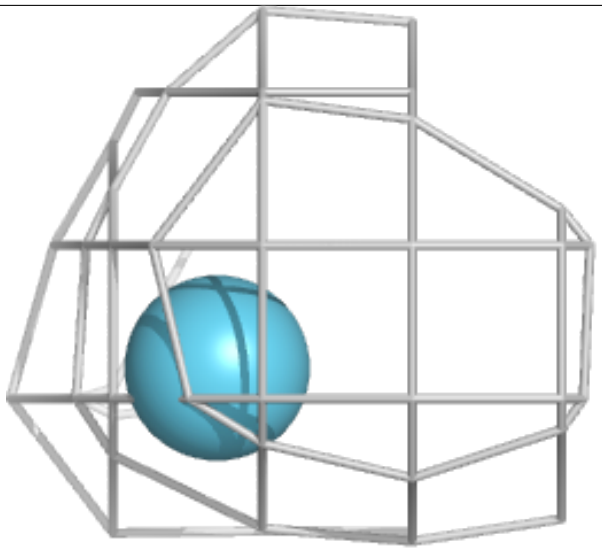


Electron density around KR A 327:

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

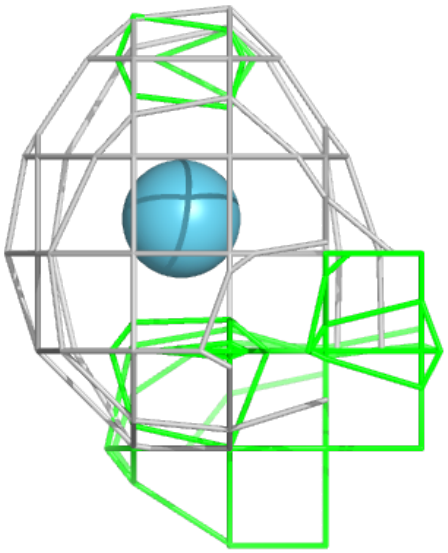


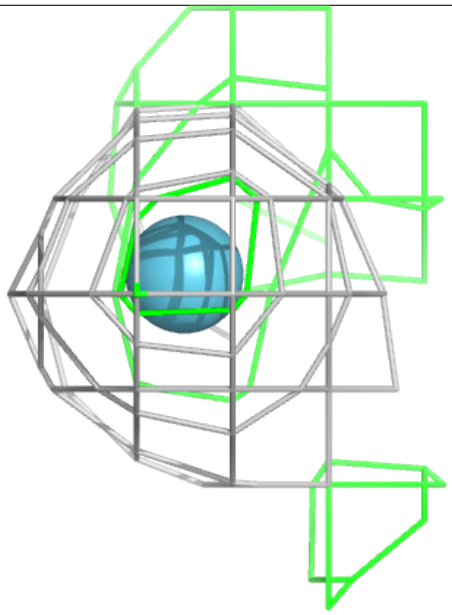


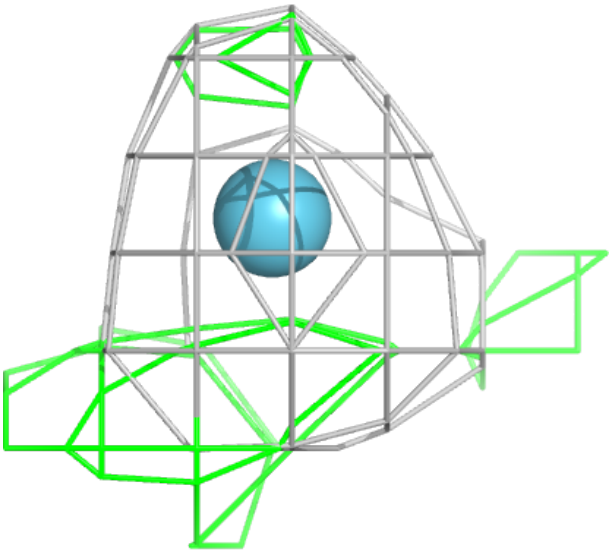


Electron density around KR A 333:

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

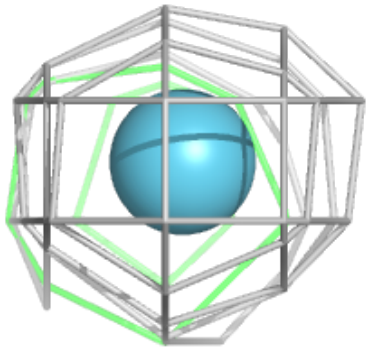


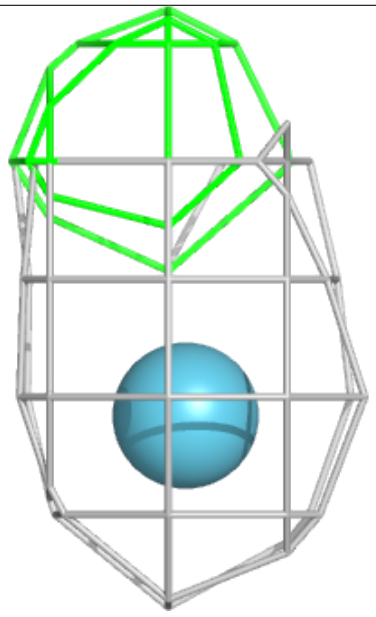


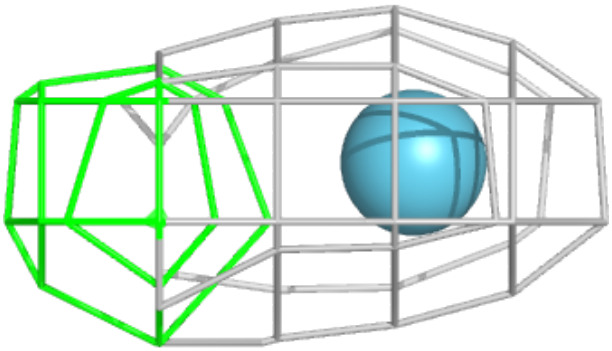


Electron density around KR A 344:

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

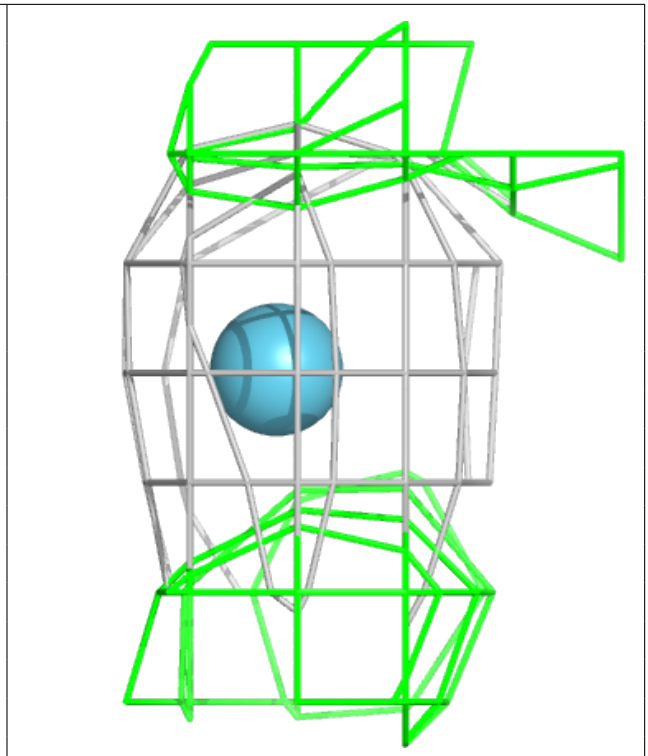


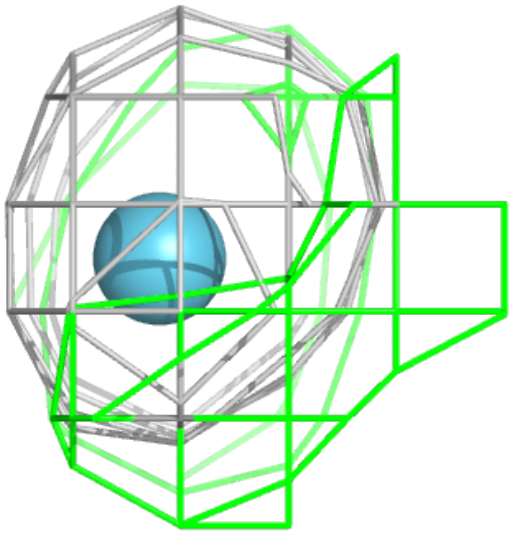


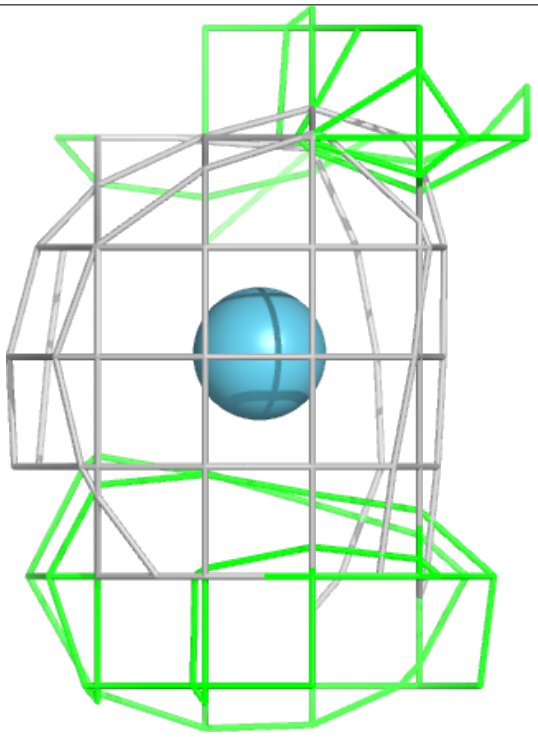


Electron density around KR A 350:

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

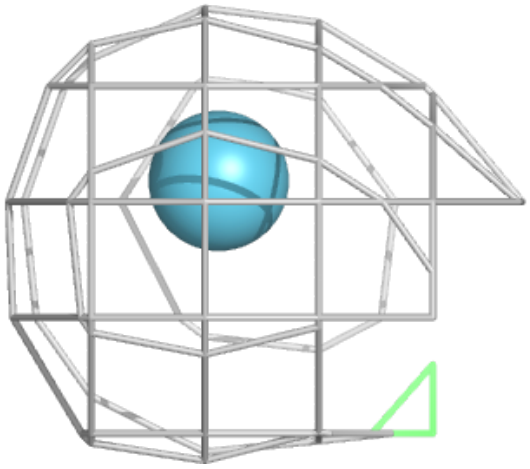


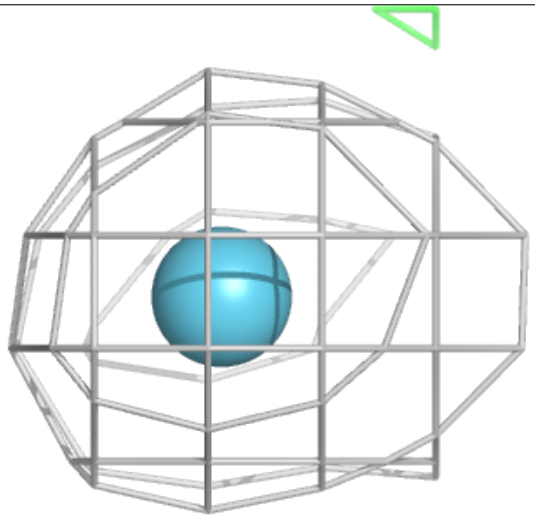


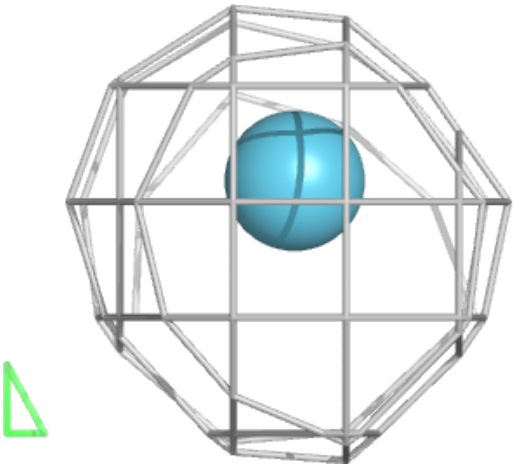


Electron density around KR A 330:

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

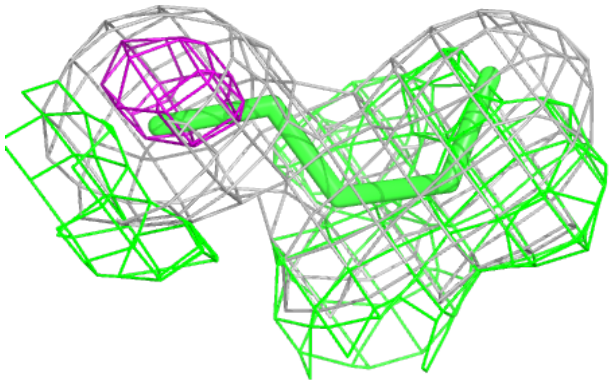


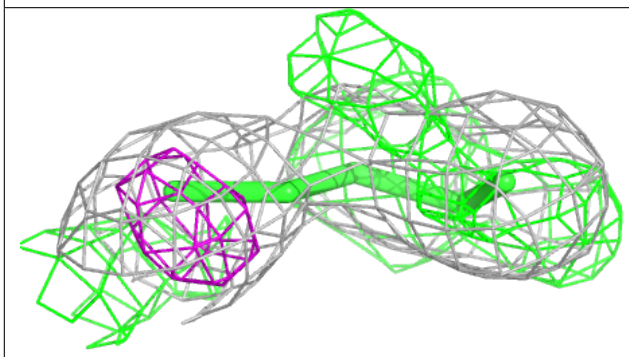


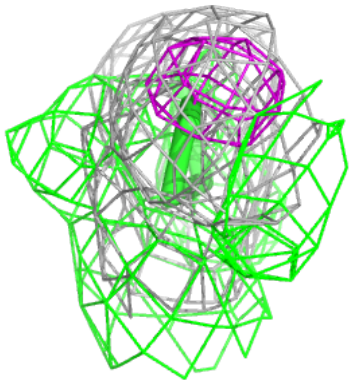


Electron density around LFA A 311:

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

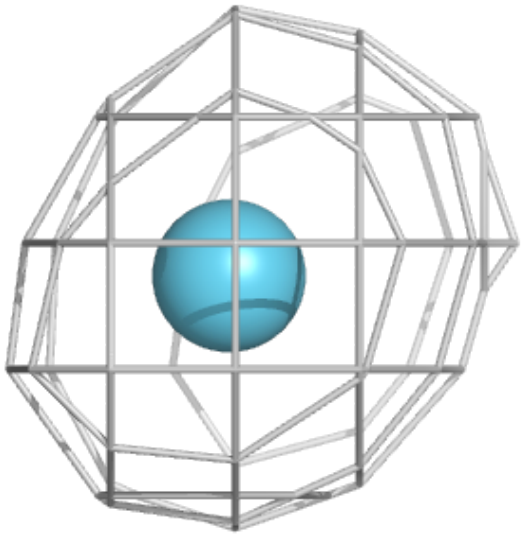


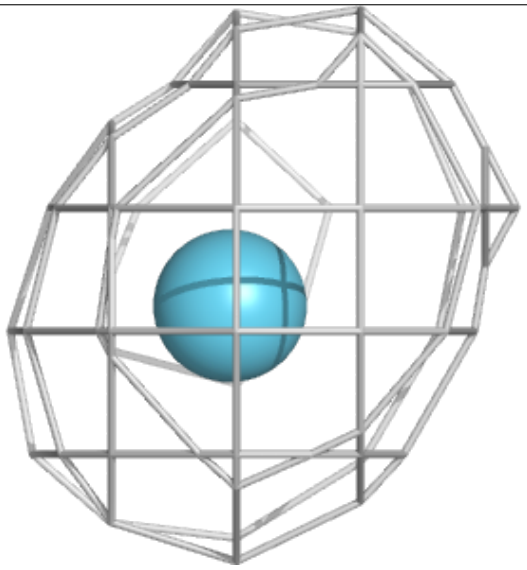


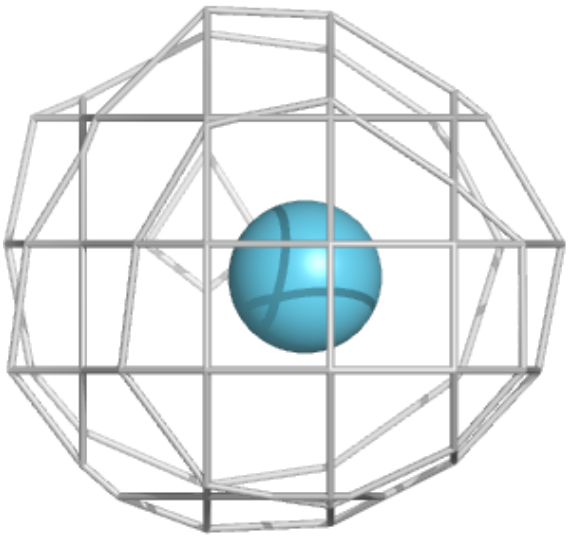


Electron density around KR A 325:

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

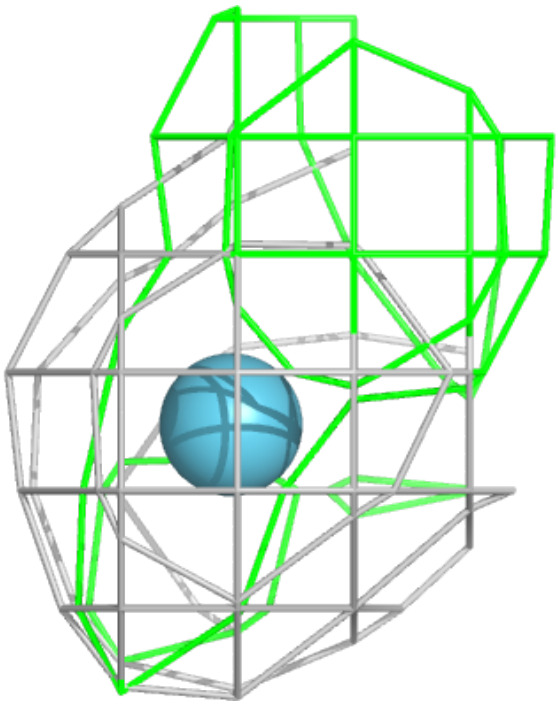


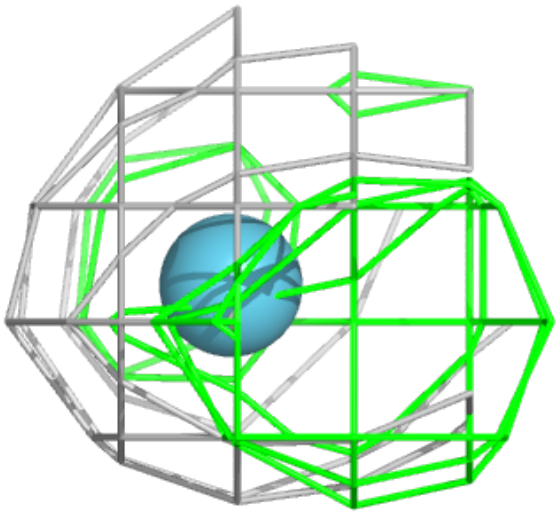


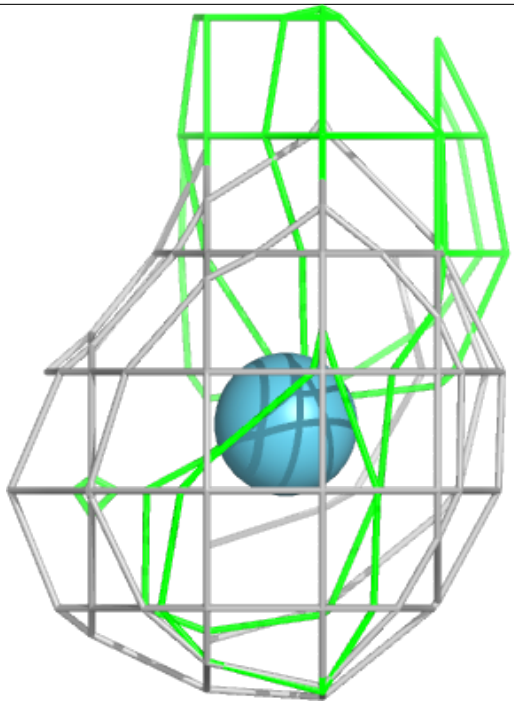


Electron density around KR A 346:

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

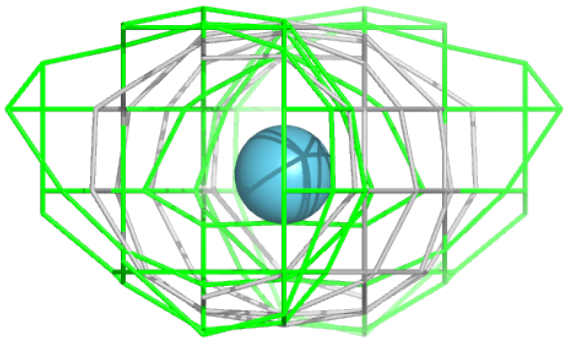


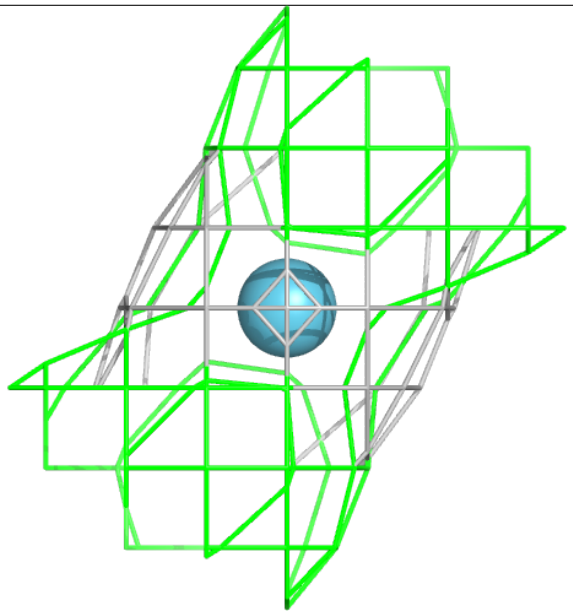


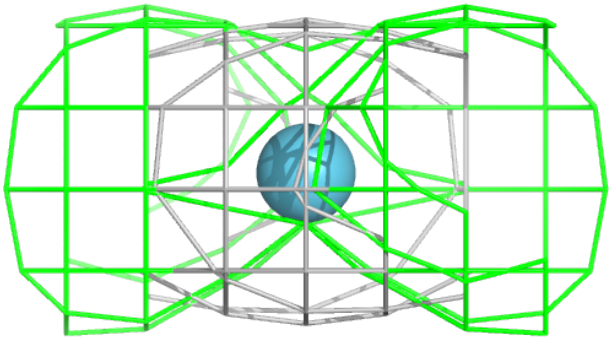


Electron density around KR A 334:

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

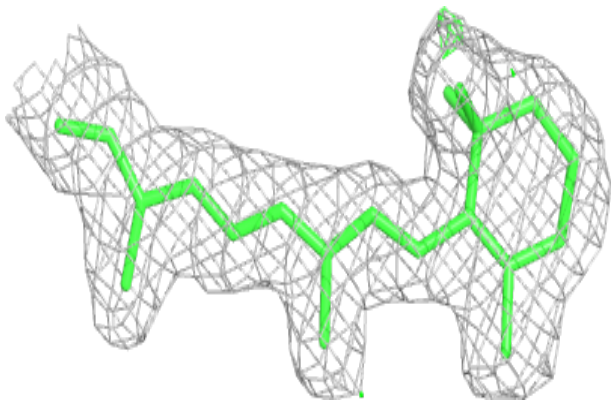


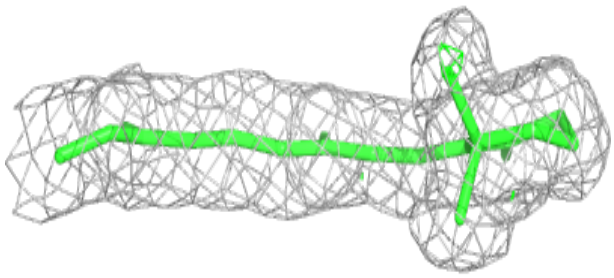


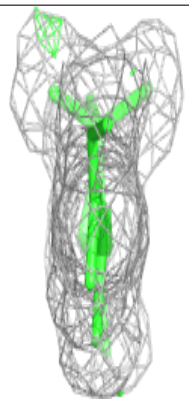


Electron density around RET A 301:

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

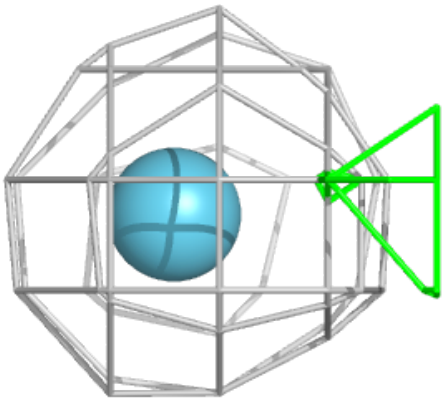


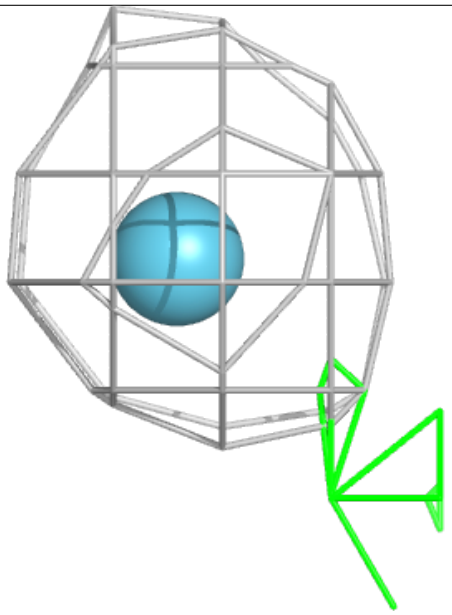


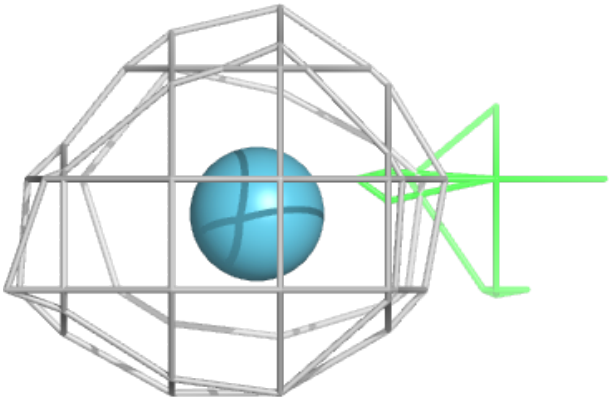


Electron density around KR A 339:

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

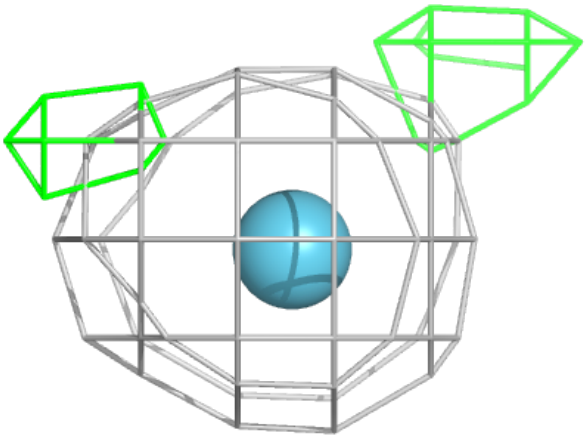


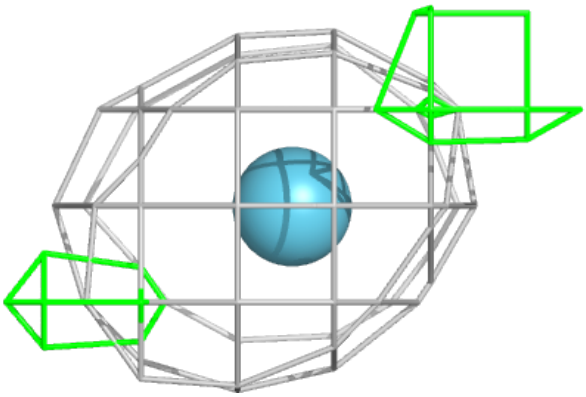


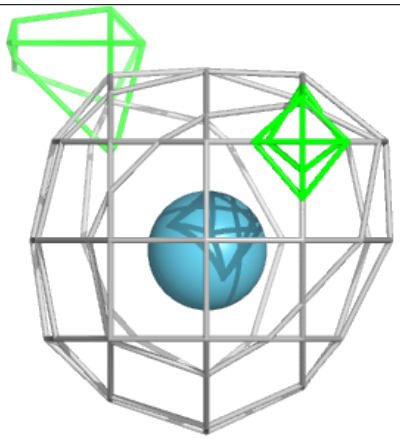


Electron density around KR A 335:

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

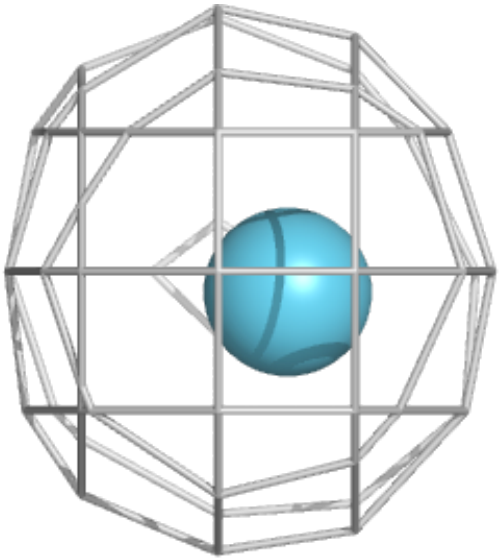


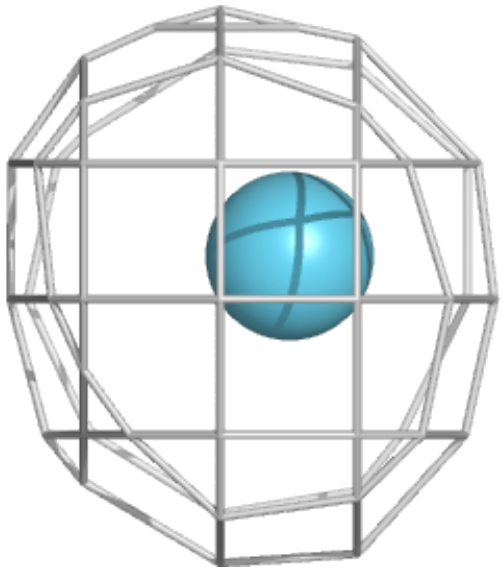


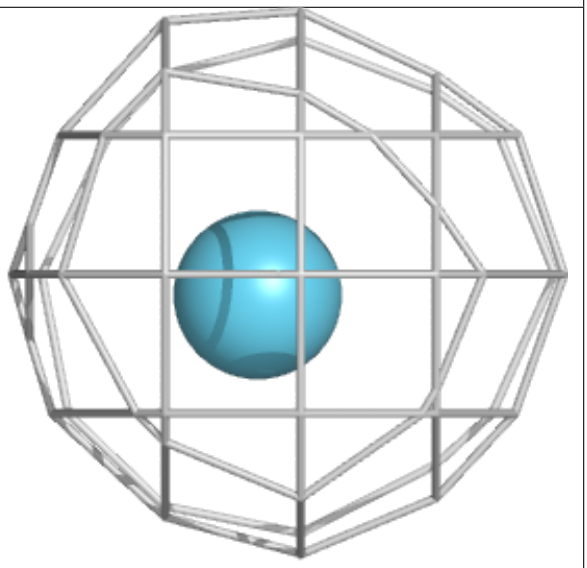


Electron density around KR A 326:

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

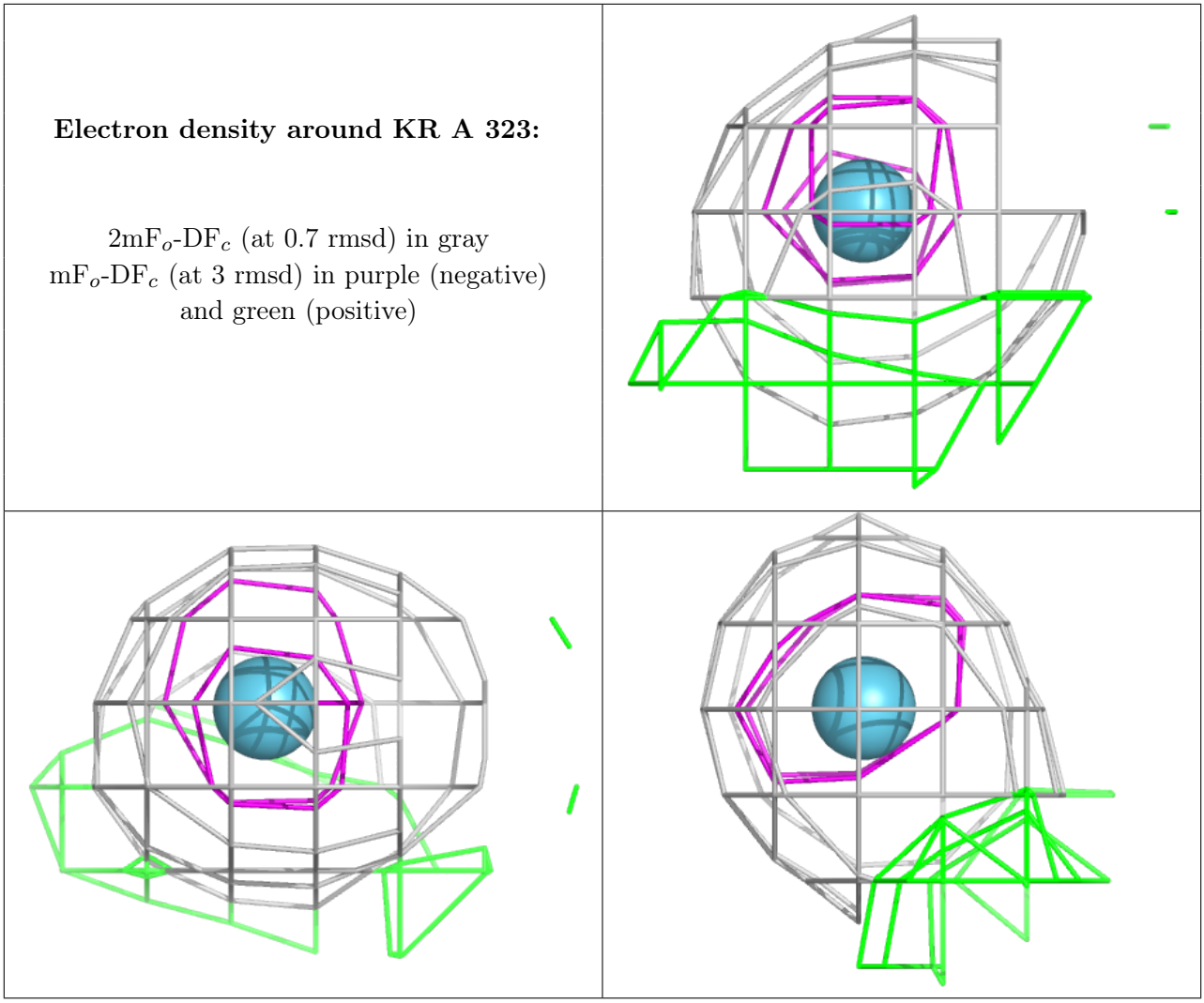






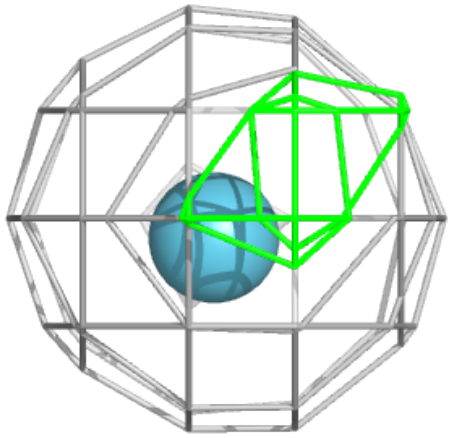
Electron density around KR A 323:

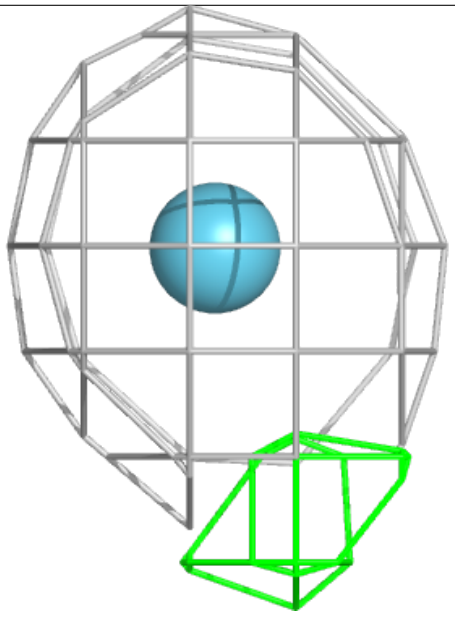
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

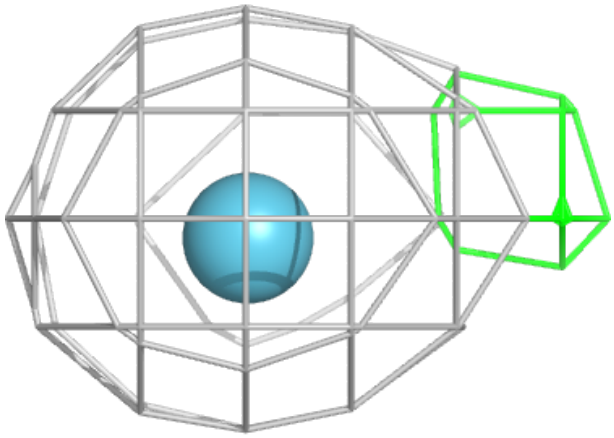


Electron density around KR A 324:

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

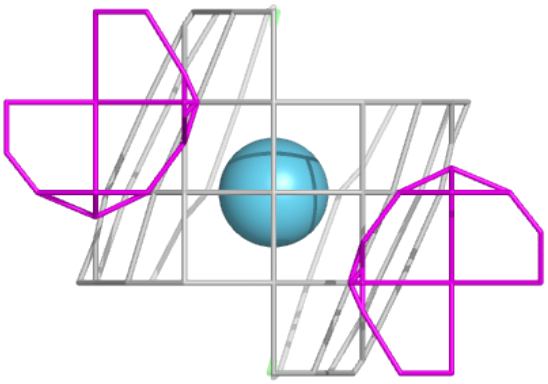


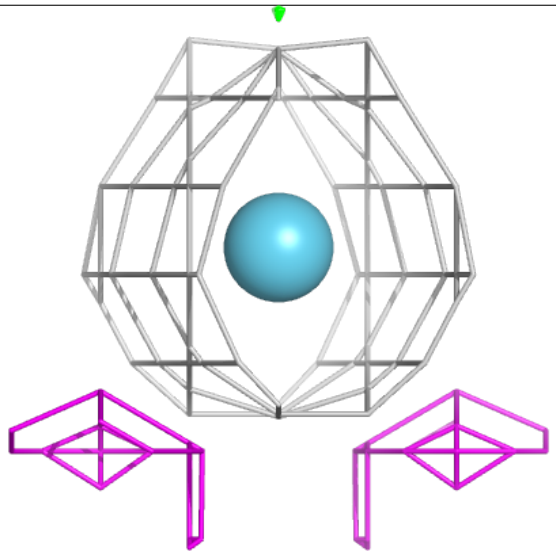


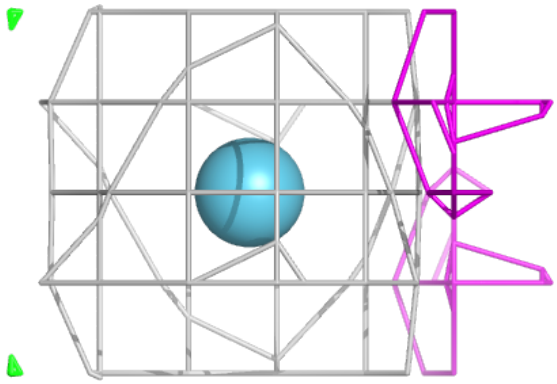


Electron density around KR A 340:

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

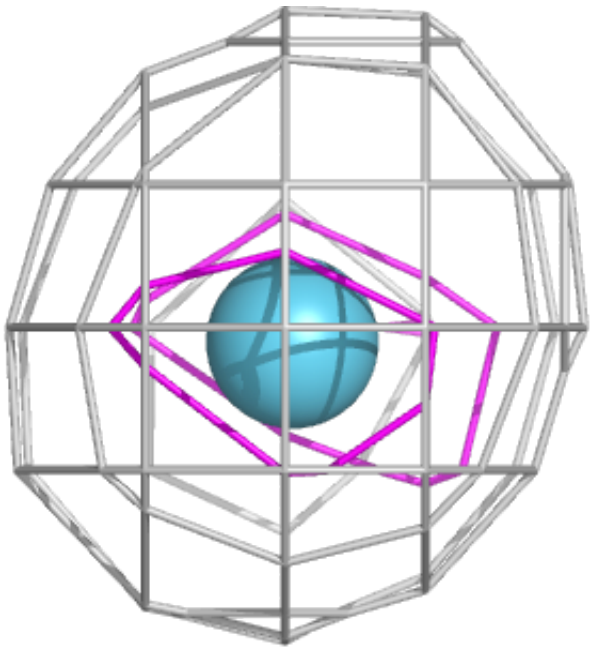


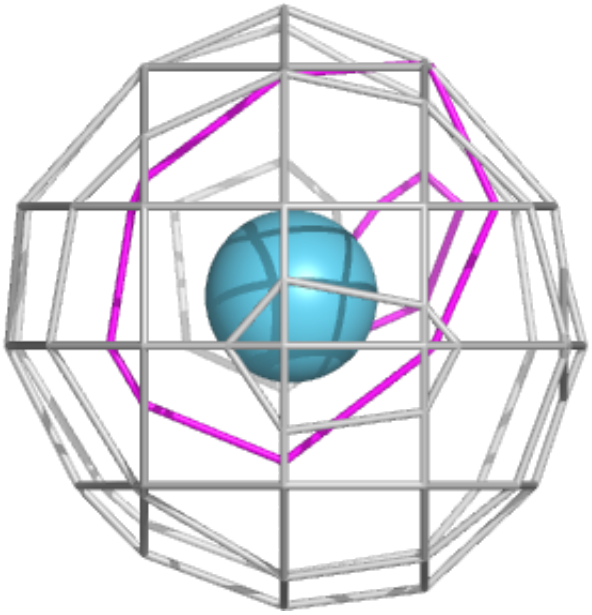


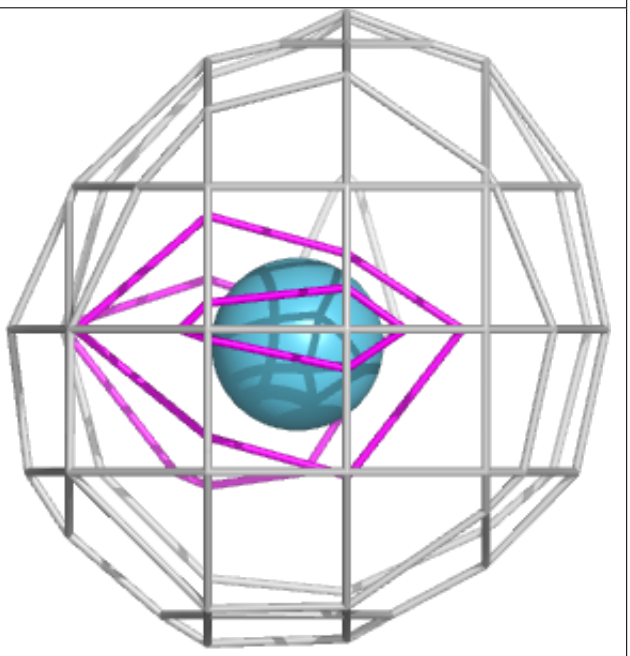


Electron density around KR A 322:

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

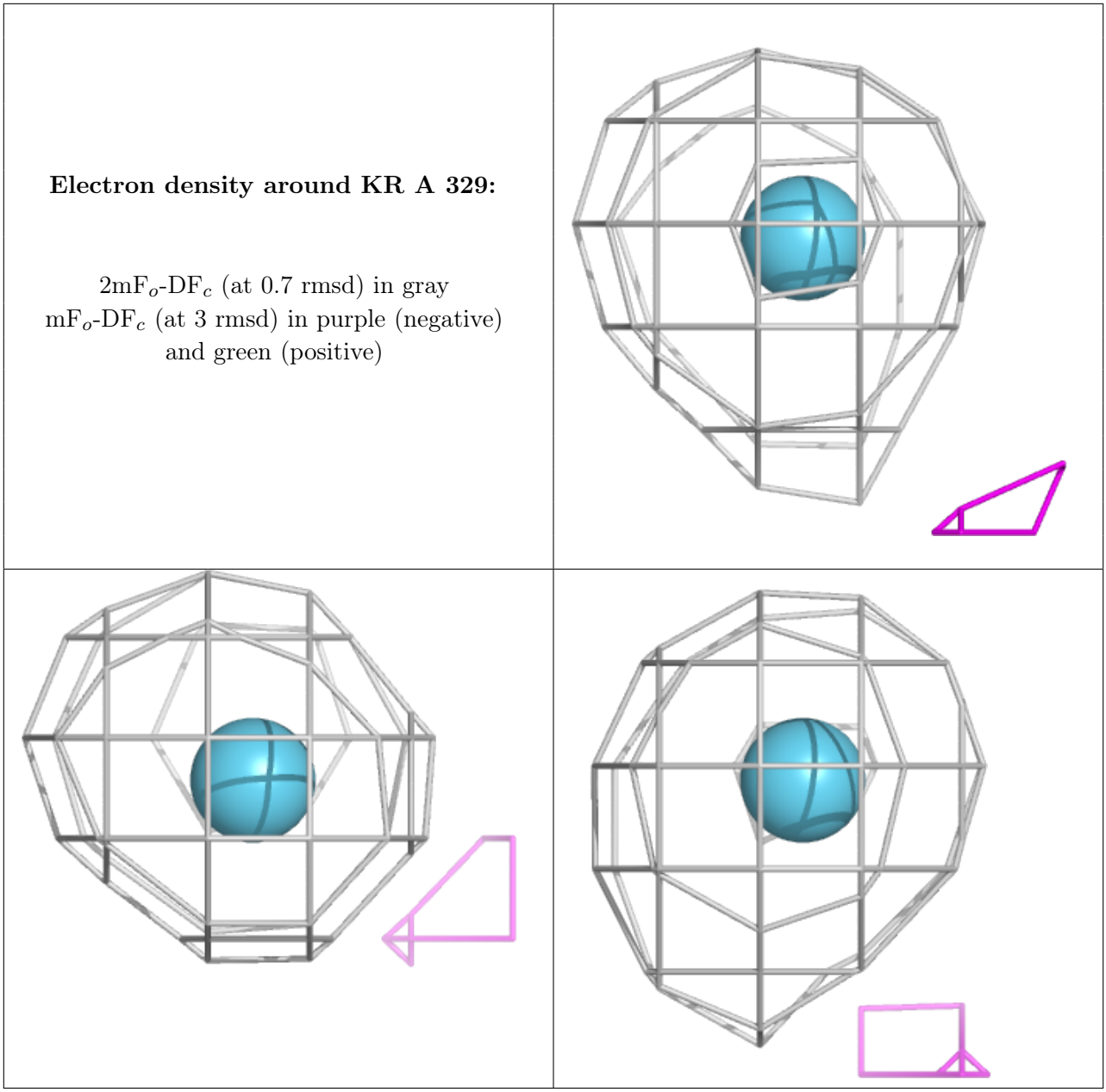






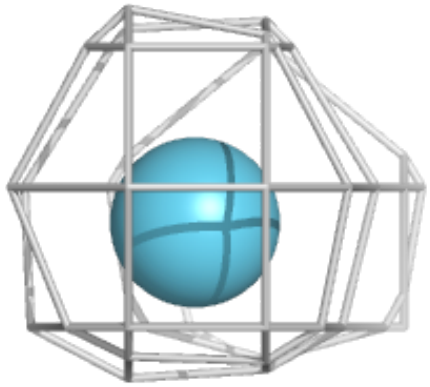
Electron density around KR A 329:

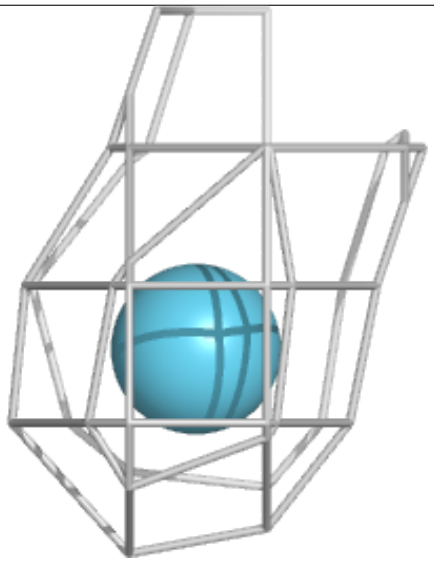
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

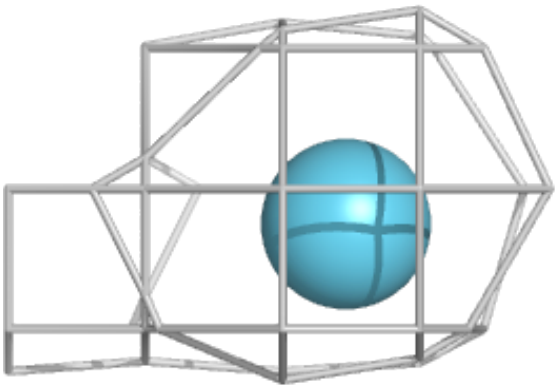


Electron density around KR A 342:

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

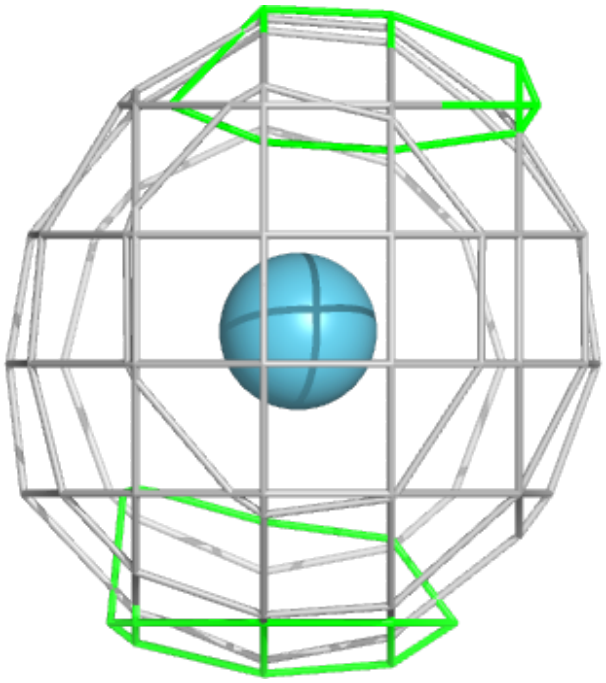


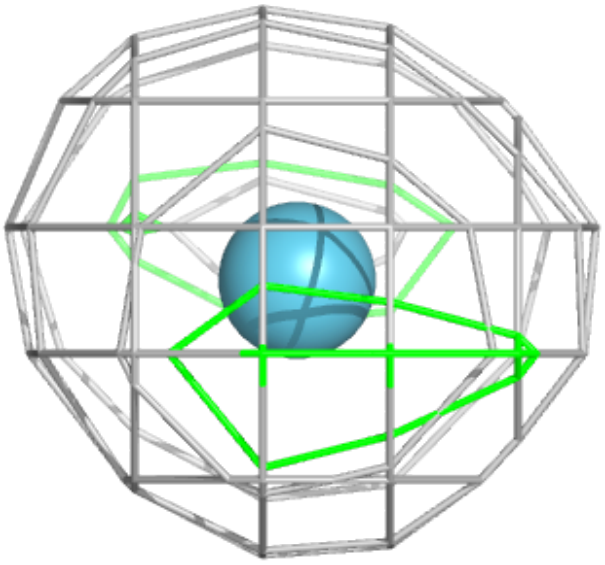


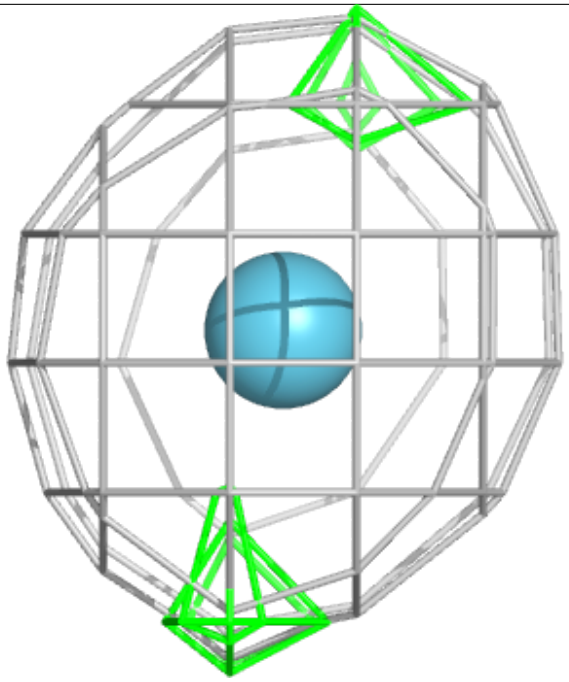


Electron density around KR A 321:

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

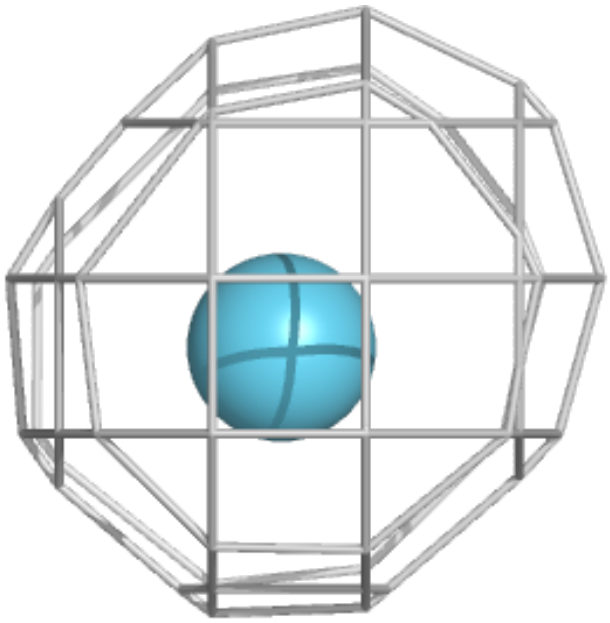


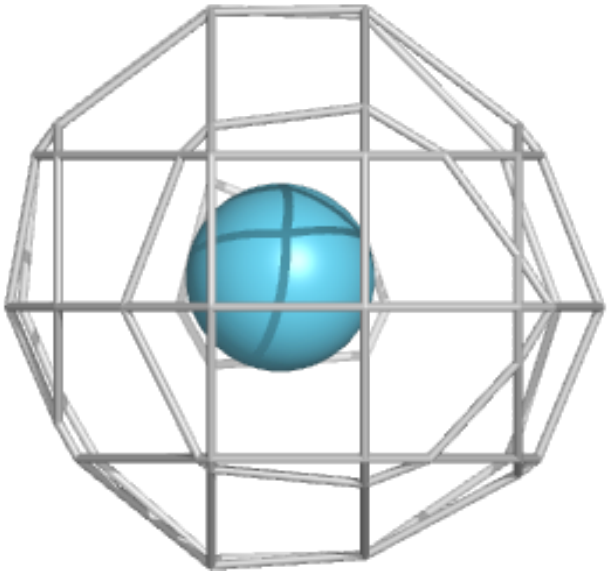


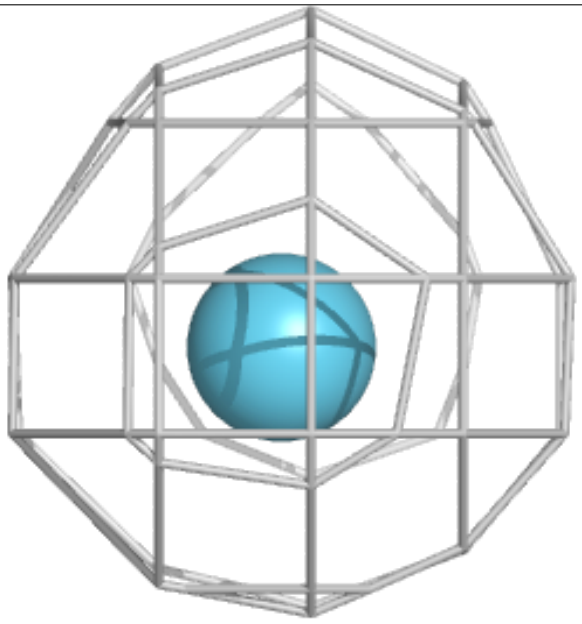


Electron density around KR A 336:

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

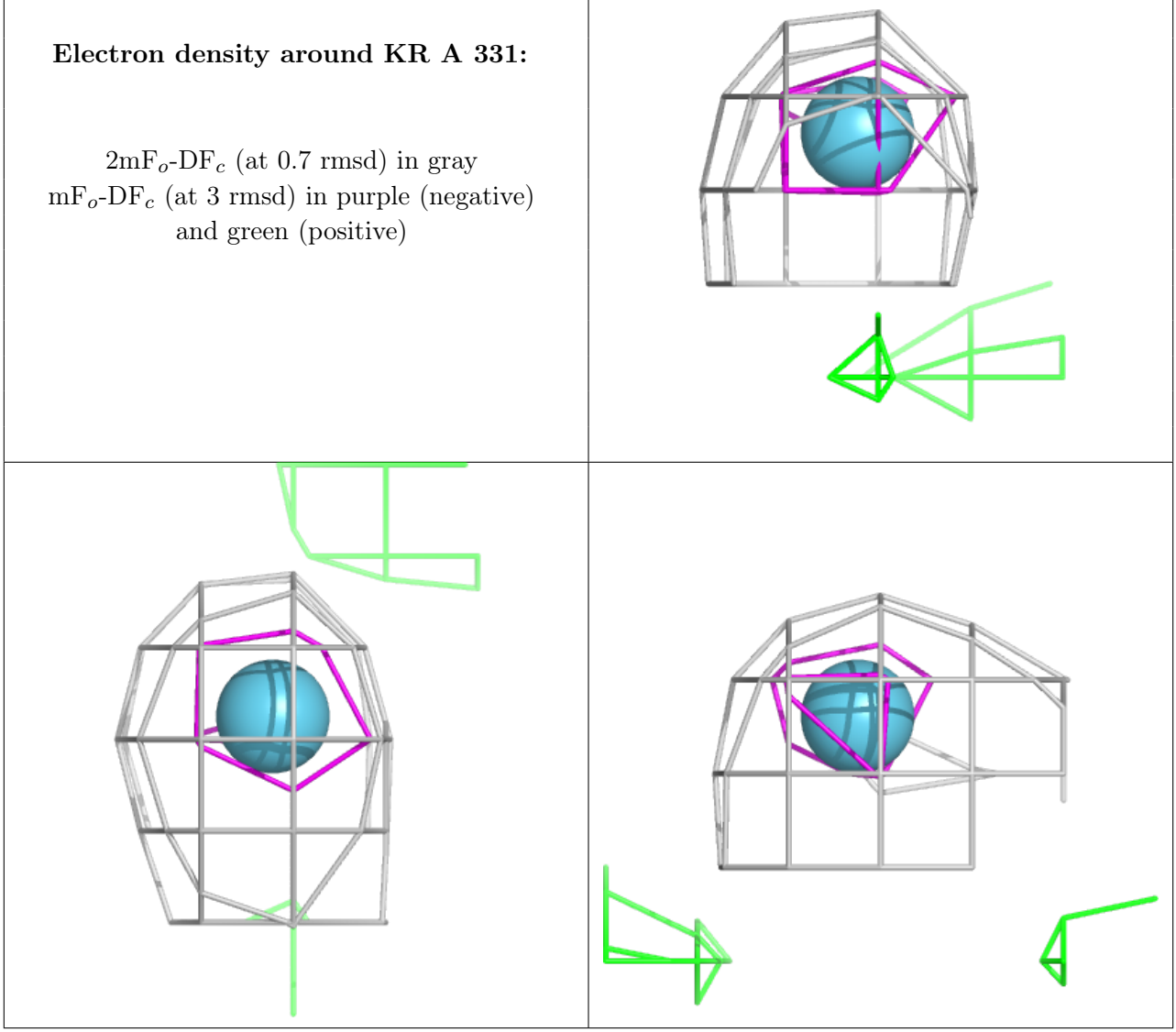






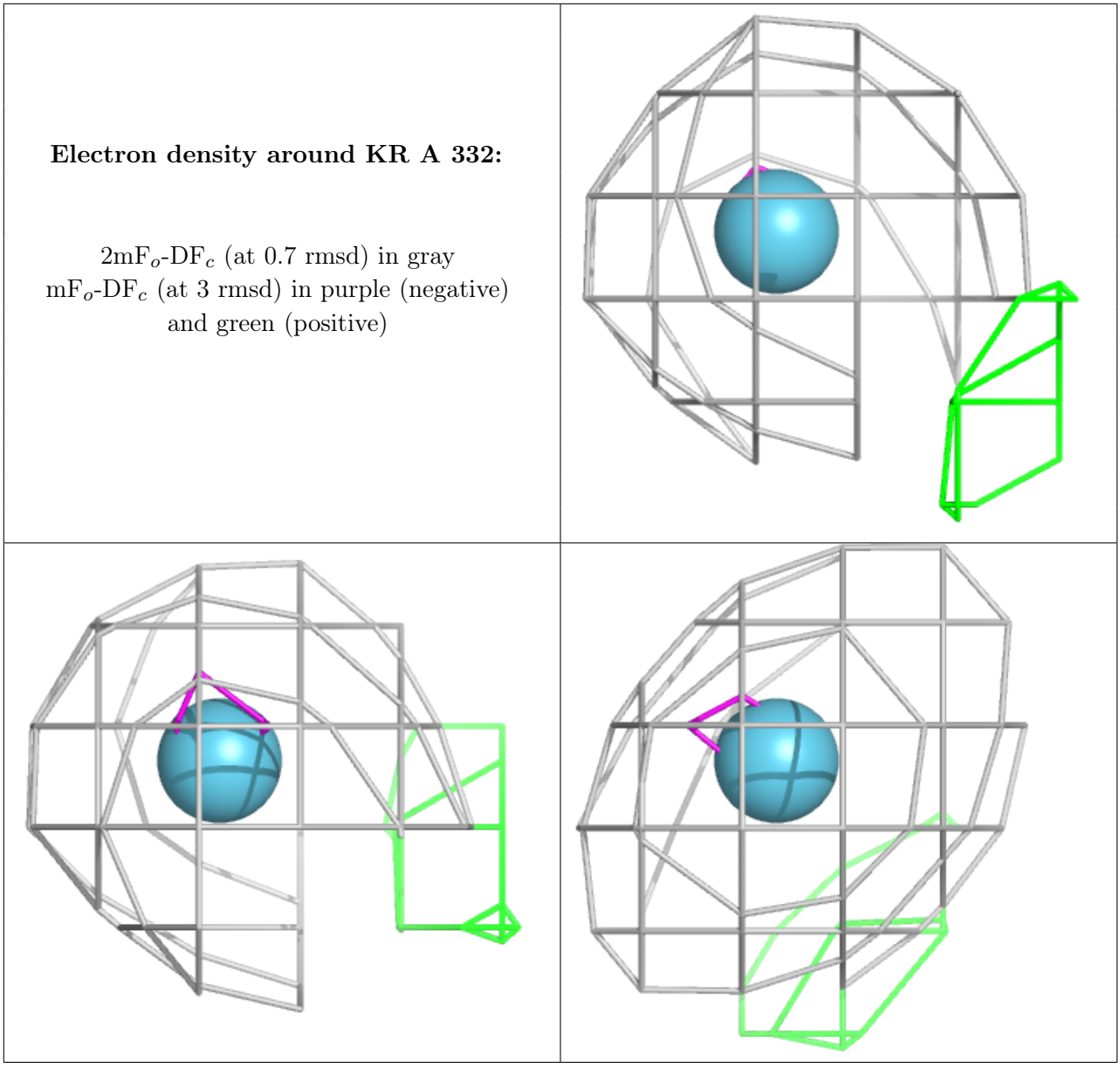
Electron density around KR A 331:

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



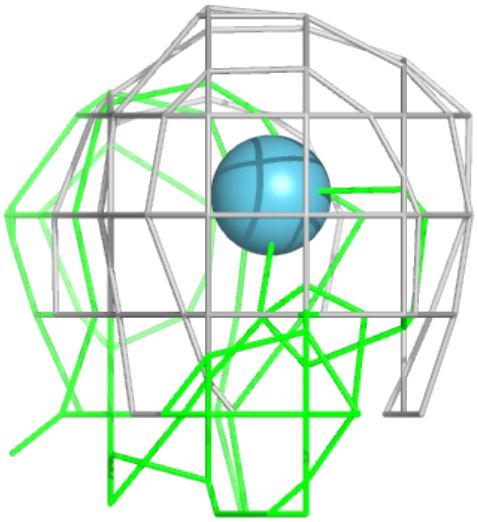
Electron density around KR A 332:

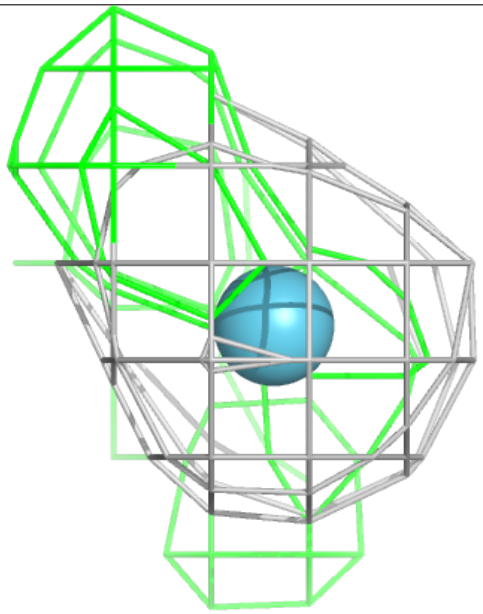
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

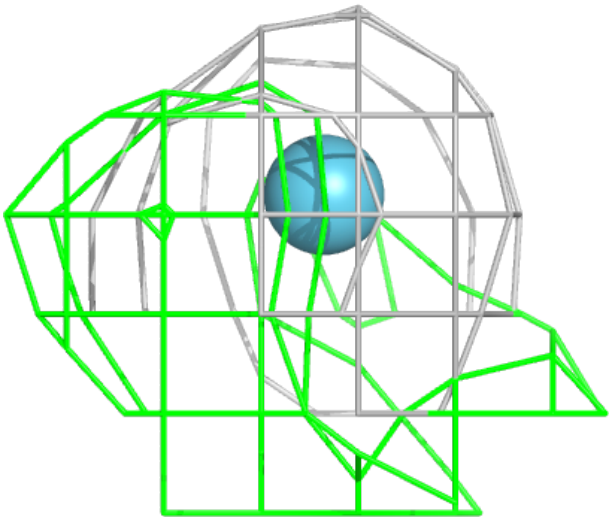


Electron density around KR A 354:

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

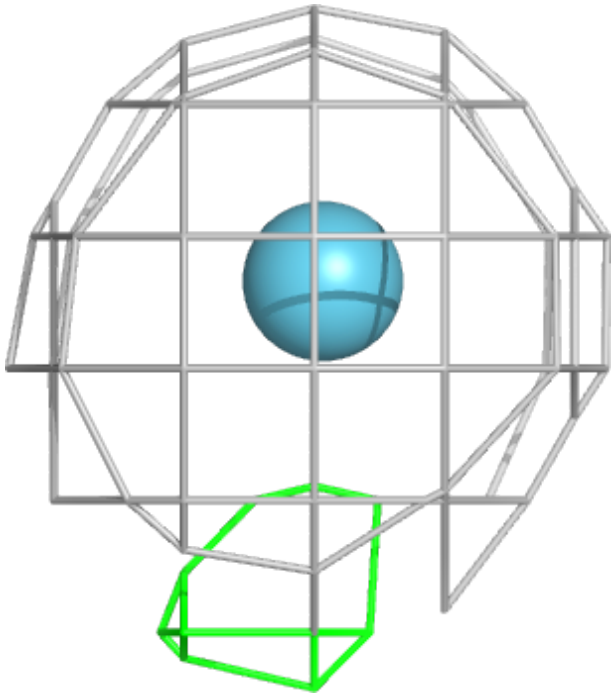


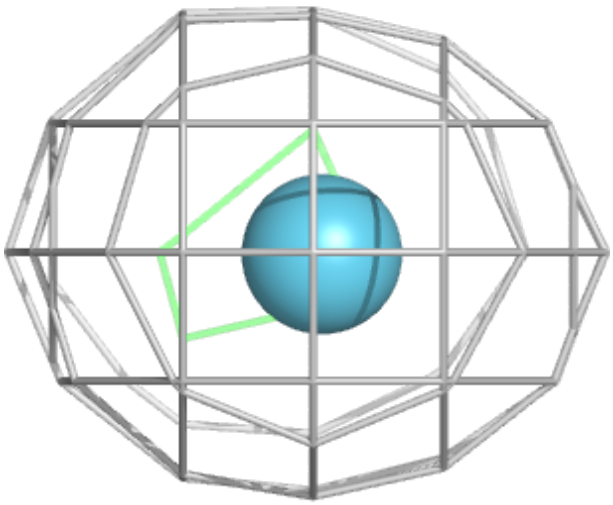


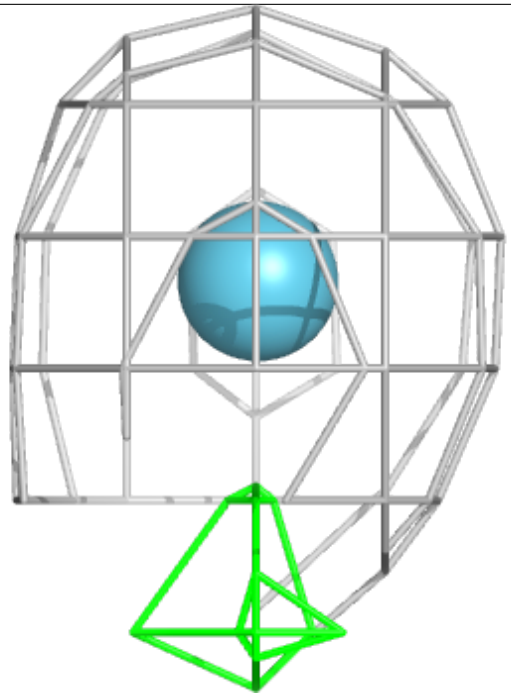


Electron density around KR A 337:

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

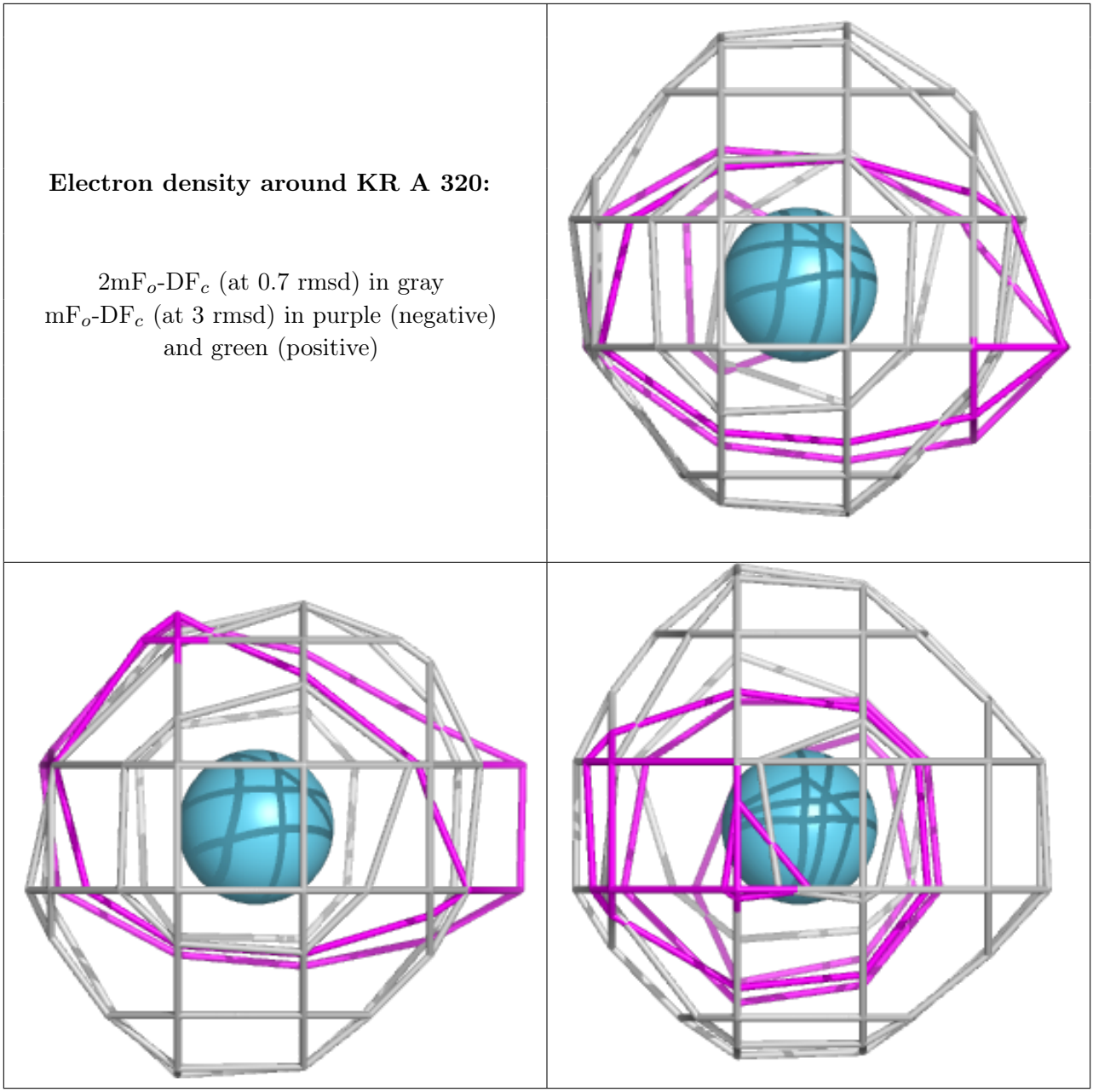






Electron density around KR A 320:

$2mF_o$-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.