Full wwPDB X-ray Structure Validation Report (i)

Jun 15, 2026 – 07:29 PM EDT

PDB ID	:	9OSA / pdb_00009osa
Title	:	Crystal Strucutre of SwnH1
Authors	:	Xi, W.; Hai, Y.
Deposited on	:	2025-05-23
Resolution	:	2.81 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 (i) 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 (i)) were used in the production of this report:

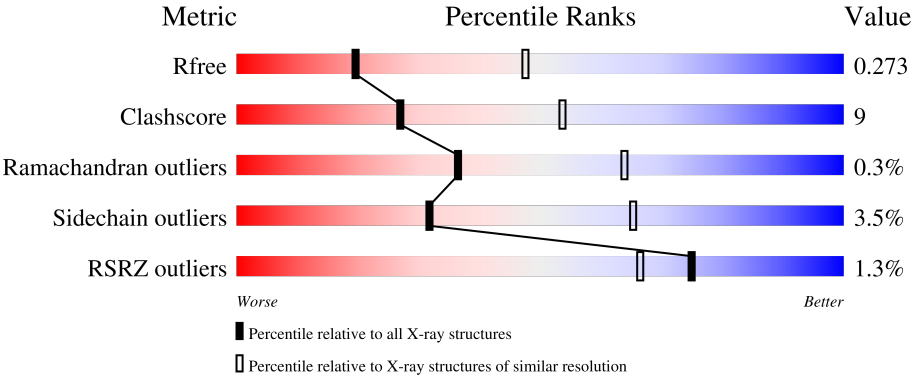
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 (i)

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

The reported resolution of this entry is 2.81 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	4591 (2.84-2.80)
Clashscore	190562	5010 (2.84-2.80)
Ramachandran outliers	187476	4916 (2.84-2.80)
Sidechain outliers	187428	4918 (2.84-2.80)
RSRZ outliers	180081	4594 (2.84-2.80)

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	307	76% 20%
1	B	307	76% 19% 5%
1	C	307	77% 19%
1	D	307	76% 19%
1	E	307	76% 19% 5%

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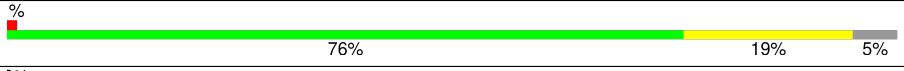
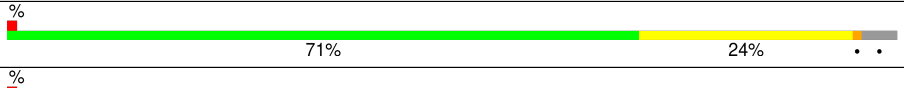
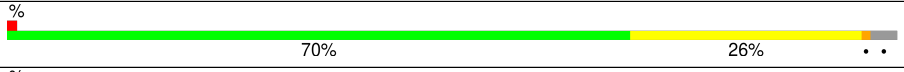
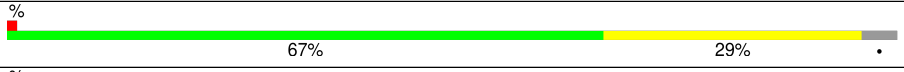
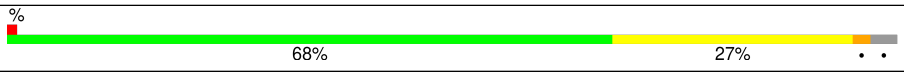
Mol	Chain	Length	Quality of chain
1	F	307	
1	G	307	
1	H	307	
1	I	307	
1	J	307	
1	K	307	
1	L	307	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	CAC	A	402	-	X	-	-
3	CAC	E	401	-	X	-	-

2 Entry composition (i)

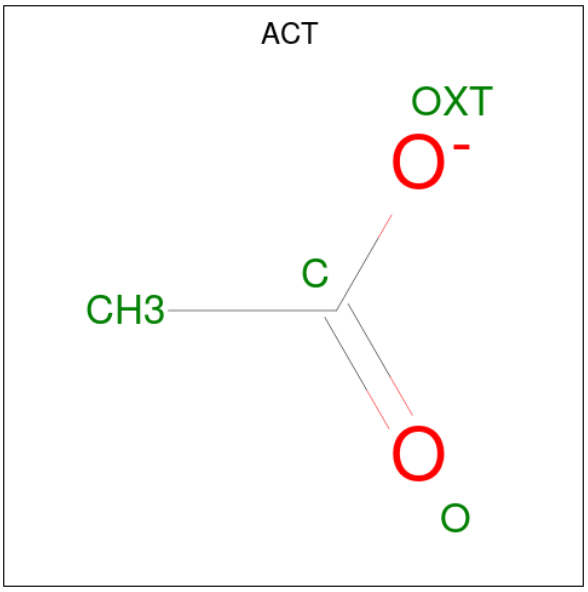
There are 6 unique types of molecules in this entry. The entry contains 27663 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Dioxygenase swnH1.

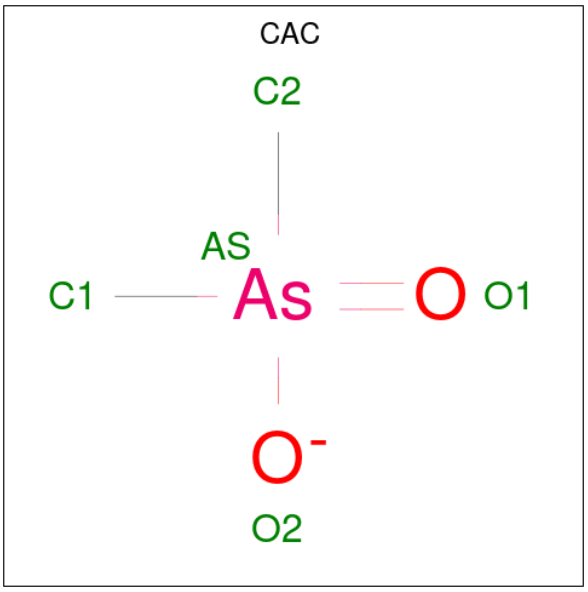
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	296	Total	C	N	O	S	0	0	0
			2283	1443	399	428	13			
1	B	293	Total	C	N	O	S	0	0	0
			2260	1429	395	423	13			
1	C	295	Total	C	N	O	S	0	0	0
			2274	1438	398	425	13			
1	D	296	Total	C	N	O	S	0	0	0
			2283	1443	399	428	13			
1	E	293	Total	C	N	O	S	0	0	0
			2258	1425	395	425	13			
1	F	295	Total	C	N	O	S	0	0	0
			2278	1440	398	427	13			
1	G	293	Total	C	N	O	S	0	0	0
			2258	1426	396	423	13			
1	H	296	Total	C	N	O	S	0	0	0
			2283	1443	399	428	13			
1	I	296	Total	C	N	O	S	0	0	0
			2283	1443	399	428	13			
1	J	298	Total	C	N	O	S	0	0	0
			2299	1452	403	431	13			
1	K	295	Total	C	N	O	S	0	0	0
			2273	1434	398	428	13			
1	L	297	Total	C	N	O	S	0	0	0
			2290	1445	402	430	13			

- Molecule 2 is ACETATE ION (CCD ID: ACT) (formula: $C_2H_3O_2$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 3 is CACODYLATE ION (CCD ID: CAC) (formula: $C_2H_6AsO_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total As C O 5 1 2 2	0	0

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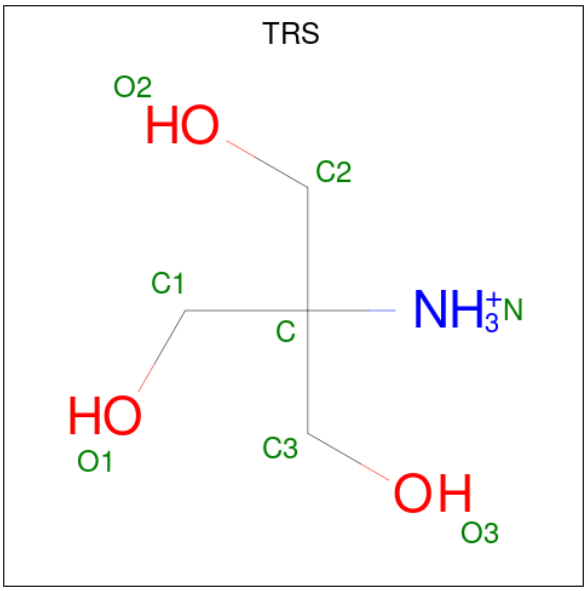
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	E	1	Total As C O 5 1 2 2	0	0

- Molecule 4 is FE (III) ION (CCD ID: FE) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 5 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (CCD ID: TRS) (formula: $C_4H_{12}NO_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	L	1	Total C N O 8 4 1 3	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	39	Total O 39 39	0	0
6	B	27	Total O 27 27	0	0
6	C	31	Total O 31 31	0	0
6	D	33	Total O 33 33	0	0
6	E	30	Total O 30 30	0	0
6	F	19	Total O 19 19	0	0
6	G	23	Total O 23 23	0	0
6	H	17	Total O 17 17	0	0
6	I	17	Total O 17 17	0	0
6	J	15	Total O 15 15	0	0
6	K	32	Total O 32 32	0	0

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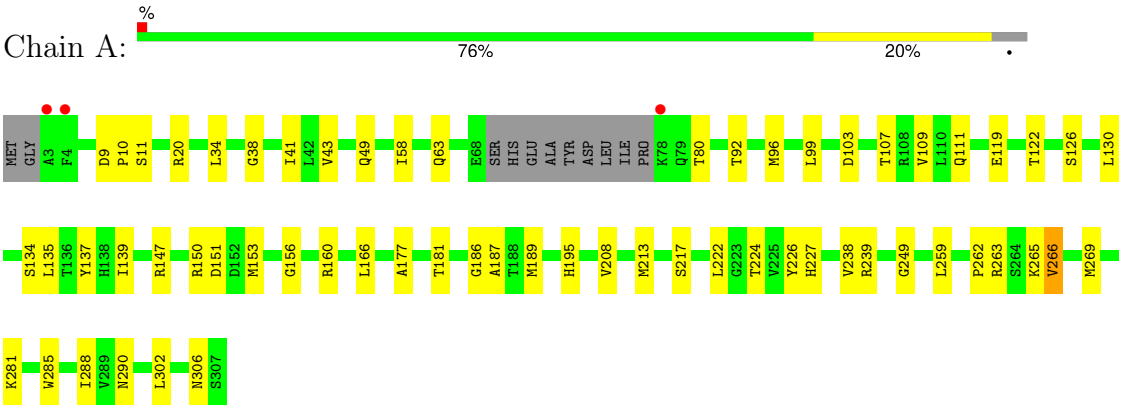
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	L	20	Total	O	0	0
			20	20		

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.

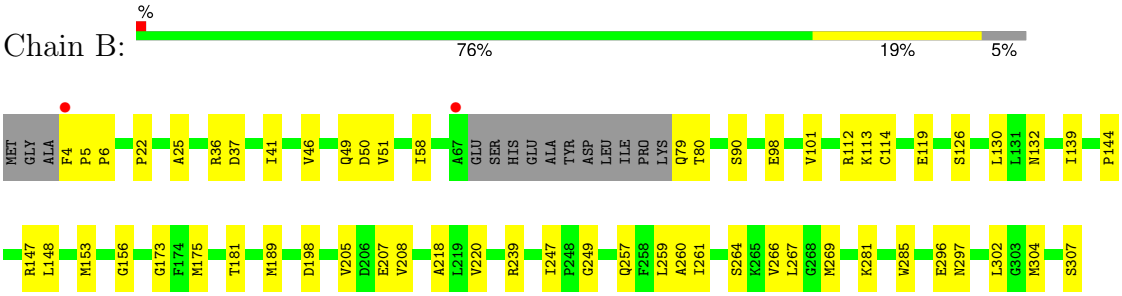
• Molecule 1: Dioxygenase swnH1

Chain A:



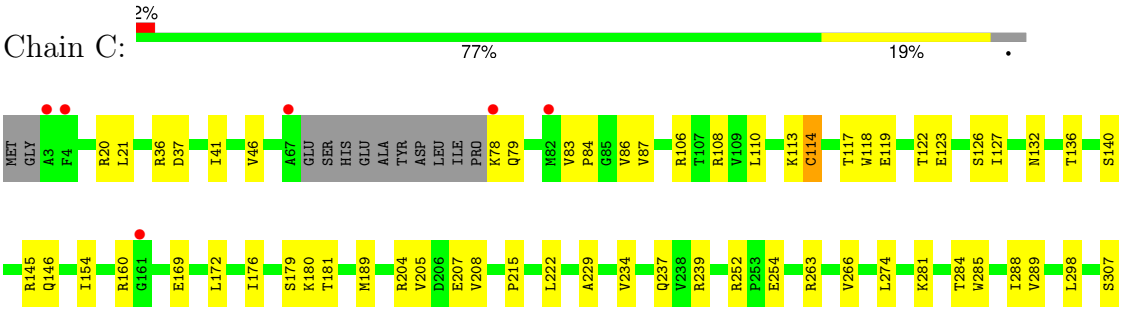
• Molecule 1: Dioxygenase swnH1

Chain B:



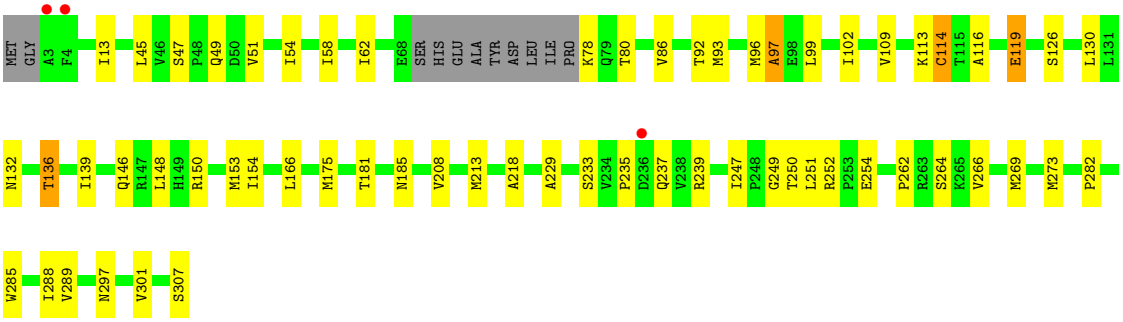
• Molecule 1: Dioxygenase swnH1

Chain C:

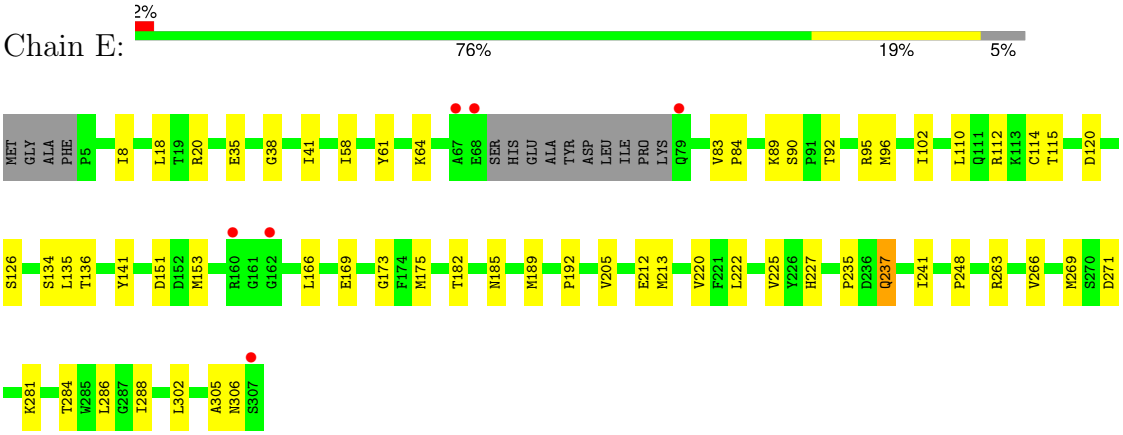


• Molecule 1: Dioxygenase swnH1

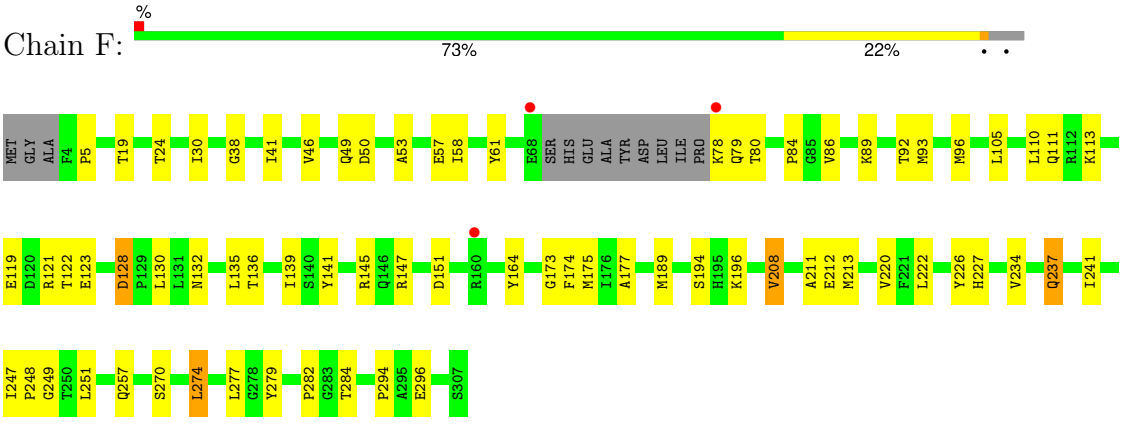
Chain D:



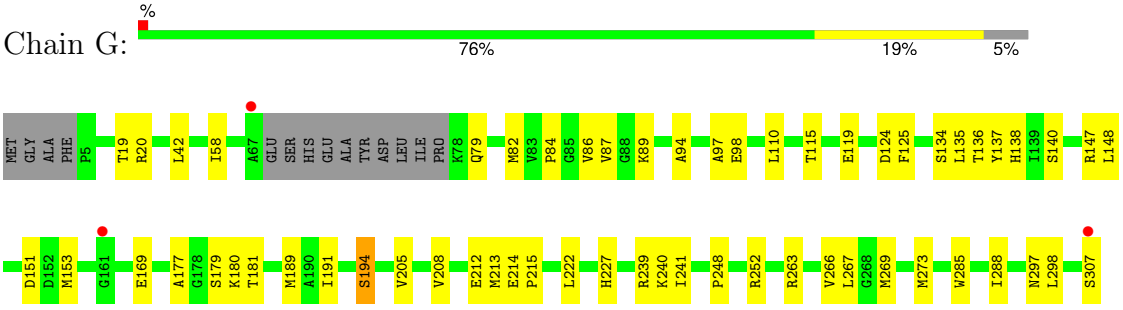
• Molecule 1: Dioxygenase swnH1



• Molecule 1: Dioxygenase swnH1

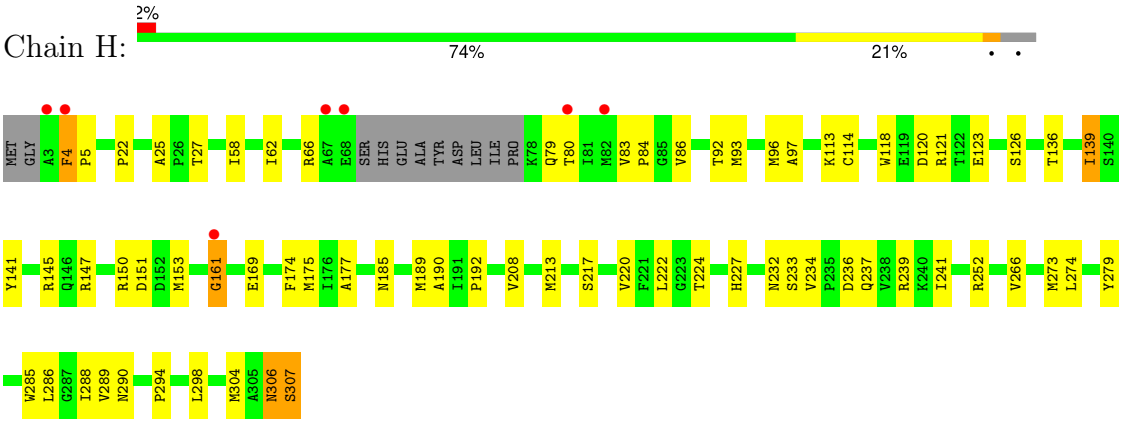


• Molecule 1: Dioxygenase swnH1



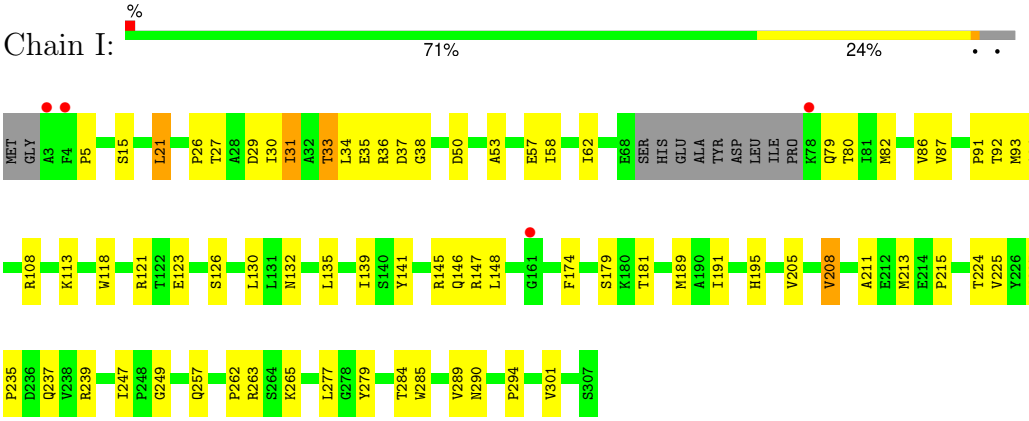
• Molecule 1: Dioxygenase swnH1

Chain H:



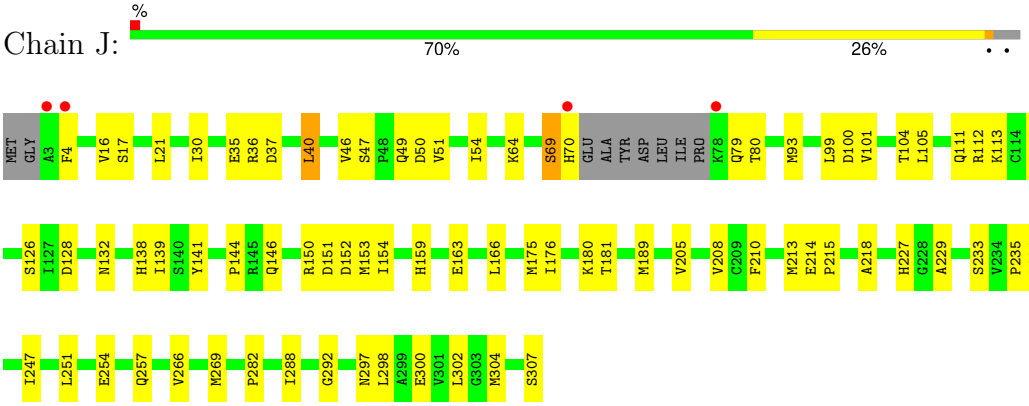
• Molecule 1: Dioxygenase swnH1

Chain I:



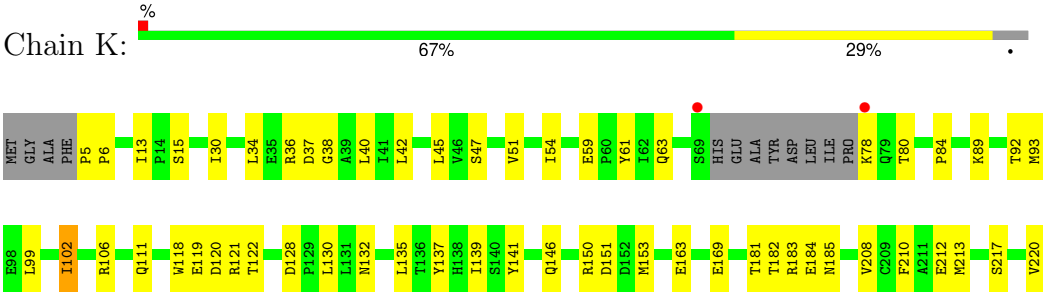
• Molecule 1: Dioxygenase swnH1

Chain J:



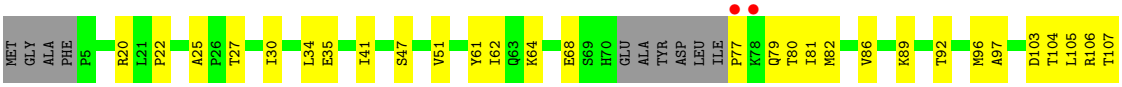
• Molecule 1: Dioxygenase swnH1

Chain K:



• Molecule 1: Dioxygenase swnH1

Chain L:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	265.54Å 151.28Å 187.63Å 90.00° 134.17° 90.00°	Depositor
Resolution (Å)	32.73 – 2.81 32.73 – 2.81	Depositor EDS
% Data completeness (in resolution range)	96.9 (32.73-2.81) 97.9 (32.73-2.81)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.71 (at 2.81Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.221 , 0.267 0.231 , 0.273	Depositor DCC
R_{free} test set	6618 reflections (5.09%)	wwPDB-VP
Wilson B-factor (Å^2)	33.6	Xtriage
Anisotropy	0.592	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 42.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.44$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	0.018 for h+2*l,k,-h-l 0.018 for h,-k,-h-l 0.023 for -h-2*l,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	27663	wwPDB-VP
Average B, all atoms (Å^2)	41.0	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 63.54 % 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 9.5165e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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: TRS, CAC, ACT, FE

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.43	0/2334	0.64	0/3171
1	B	0.41	0/2311	0.60	0/3141
1	C	0.41	0/2325	0.58	0/3159
1	D	0.39	0/2334	0.59	0/3171
1	E	0.36	0/2308	0.57	0/3136
1	F	0.39	0/2329	0.59	0/3164
1	G	0.38	0/2308	0.56	0/3135
1	H	0.36	0/2334	0.55	2/3171 (0.1%)
1	I	0.36	0/2334	0.57	0/3171
1	J	0.35	0/2351	0.57	0/3194
1	K	0.38	0/2323	0.55	0/3155
1	L	0.44	1/2342 (0.0%)	0.60	1/3181 (0.0%)
All	All	0.39	1/27933 (0.0%)	0.58	3/37949 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L	212	GLU	CB-CG	6.77	1.72	1.52

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	212	GLU	CA-CB-CG	7.32	128.74	114.10
1	H	161	GLY	CA-C-N	5.50	132.18	121.41
1	H	161	GLY	C-N-CA	5.50	132.18	121.41

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	2283	0	2282	35	0
1	B	2260	0	2258	38	0
1	C	2274	0	2276	37	0
1	D	2283	0	2282	40	0
1	E	2258	0	2256	37	0
1	F	2278	0	2277	39	1
1	G	2258	0	2263	41	1
1	H	2283	0	2282	52	0
1	I	2283	0	2282	48	0
1	J	2299	0	2294	52	1
1	K	2273	0	2274	61	0
1	L	2290	0	2289	66	1
2	A	4	0	3	0	0
2	C	4	0	3	0	0
3	A	5	0	0	0	0
3	E	5	0	0	0	1
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
4	G	1	0	0	0	0
4	H	1	0	0	0	0
4	I	1	0	0	0	0
4	J	1	0	0	0	0
4	K	1	0	0	0	0
4	L	1	0	0	0	0
5	L	8	0	12	2	0
6	A	39	0	0	0	0
6	B	27	0	0	4	0
6	C	31	0	0	2	0
6	D	33	0	0	1	0
6	E	30	0	0	4	0
6	F	19	0	0	2	0
6	G	23	0	0	1	0
6	H	17	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	I	17	0	0	0	0
6	J	15	0	0	1	0
6	K	32	0	0	3	0
6	L	20	0	0	1	0
All	All	27663	0	27333	504	3

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 9.

All (504) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:95:ARG:NH1	6:E:501:HOH:O	2.02	0.93
1:H:147:ARG:HD3	1:K:119:GLU:HG2	1.53	0.88
1:A:266:VAL:HA	1:A:269:MET:HG3	1.57	0.85
1:C:145:ARG:HD2	1:C:189:MET:HE1	1.63	0.80
1:I:5:PRO:HB3	1:I:147:ARG:HE	1.51	0.75
1:F:189:MET:HE2	1:F:208:VAL:HG21	1.71	0.72
1:L:182:THR:HA	1:L:212:GLU:HG2	1.69	0.72
1:C:146:GLN:HG3	1:C:229:ALA:HB3	1.72	0.71
1:I:189:MET:HE2	1:I:208:VAL:HG21	1.72	0.70
1:E:306:ASN:OD1	6:E:502:HOH:O	2.09	0.70
1:H:147:ARG:HD3	1:K:119:GLU:CG	2.21	0.70
1:G:266:VAL:HG12	1:G:298:LEU:HD21	1.73	0.69
1:A:80:THR:HG23	1:A:139:ILE:HG13	1.75	0.69
1:I:80:THR:HG23	1:I:139:ILE:HG13	1.73	0.69
1:A:20:ARG:HG2	1:A:41:ILE:HB	1.75	0.69
1:A:290:ASN:HA	1:C:84:PRO:HG3	1.74	0.68
1:J:46:VAL:HG21	1:J:176:ILE:HD13	1.75	0.68
1:I:113:LYS:HD3	1:I:126:SER:HB3	1.75	0.67
1:J:266:VAL:HG12	1:J:298:LEU:HD21	1.77	0.67
1:A:103:ASP:O	1:A:107:THR:HG23	1.96	0.66
1:F:248:PRO:HG2	1:F:251:LEU:HG	1.78	0.66
1:G:148:LEU:HD21	1:G:189:MET:HE3	1.78	0.66
1:K:267:LEU:HD23	1:K:298:LEU:HD23	1.78	0.66
1:D:185:ASN:HD22	1:D:237:GLN:HE21	1.42	0.65
1:G:177:ALA:HB2	1:G:213:MET:HE3	1.79	0.65
1:I:234:VAL:HG13	1:I:237:GLN:HB3	1.77	0.65
1:K:297:ASN:OD1	6:K:501:HOH:O	2.15	0.65
1:J:152:ASP:OD2	1:J:159:HIS:NE2	2.22	0.65
1:L:130:LEU:HG	1:L:249:GLY:HA2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:304:MET:HE2	1:D:262:PRO:HG3	1.78	0.65
1:C:113:LYS:NZ	1:C:126:SER:OG	2.28	0.65
1:H:185:ASN:HA	1:H:232:ASN:ND2	2.12	0.65
1:F:110:LEU:HD22	1:F:248:PRO:HD3	1.78	0.64
1:K:78:LYS:O	1:K:78:LYS:NZ	2.22	0.64
1:K:130:LEU:HG	1:K:249:GLY:HA2	1.78	0.64
1:B:148:LEU:HD21	1:B:189:MET:HE3	1.79	0.64
1:L:148:LEU:HD23	1:L:203:PRO:HB2	1.78	0.64
1:D:80:THR:HG23	1:D:139:ILE:HG13	1.79	0.64
1:A:306:ASN:ND2	1:C:263:ARG:HD3	2.12	0.64
1:B:80:THR:HG23	1:B:139:ILE:HG13	1.80	0.63
1:I:79:GLN:OE1	1:I:79:GLN:N	2.31	0.63
1:L:77:PRO:HB3	1:L:144:PRO:HD2	1.79	0.63
1:F:121:ARG:NH1	1:F:123:GLU:OE1	2.30	0.63
1:G:110:LEU:HD22	1:G:248:PRO:HD3	1.80	0.63
1:F:78:LYS:O	6:F:501:HOH:O	2.15	0.63
1:K:111:GLN:NE2	1:K:128:ASP:OD1	2.31	0.63
1:H:145:ARG:HD2	1:H:189:MET:HE1	1.81	0.62
1:H:80:THR:HG23	1:H:139:ILE:HG13	1.81	0.62
1:L:108:ARG:HB2	1:L:108:ARG:HH11	1.64	0.62
1:C:79:GLN:N	1:C:79:GLN:OE1	2.31	0.62
1:H:113:LYS:HD3	1:H:126:SER:HB3	1.81	0.62
1:K:95:ARG:NH1	6:K:502:HOH:O	2.18	0.62
1:E:64:LYS:NZ	6:E:503:HOH:O	2.24	0.62
1:J:99:LEU:HD22	1:J:101:VAL:HG12	1.81	0.61
1:C:36:ARG:NH1	1:C:37:ASP:OD2	2.32	0.61
1:L:289:VAL:HG23	1:L:294:PRO:HG3	1.82	0.61
1:F:128:ASP:OD1	1:F:128:ASP:N	2.29	0.61
1:B:79:GLN:N	6:B:501:HOH:O	2.34	0.61
1:J:138:HIS:CE1	1:J:240:LYS:HD2	2.36	0.61
1:B:113:LYS:HD2	1:I:26:PRO:HB3	1.83	0.60
1:C:274:LEU:HD11	1:C:298:LEU:HD22	1.83	0.60
1:I:36:ARG:NH1	1:I:37:ASP:OD2	2.35	0.60
1:A:137:TYR:HB3	1:A:139:ILE:HD11	1.83	0.60
1:L:121:ARG:NH1	1:L:123:GLU:OE2	2.25	0.60
1:G:191:ILE:O	1:G:194:SER:OG	2.19	0.60
1:J:181:THR:HG22	1:J:239:ARG:HG3	1.84	0.60
1:E:182:THR:HA	1:E:212:GLU:HG2	1.84	0.60
1:G:20:ARG:NH1	1:G:212:GLU:O	2.29	0.60
1:K:266:VAL:HA	1:K:269:MET:HG3	1.84	0.60
1:I:29:ASP:O	1:I:33:THR:OG1	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:21:LEU:HD23	1:I:30:ILE:HG12	1.84	0.59
1:L:80:THR:HG23	1:L:139:ILE:HG13	1.84	0.59
1:L:108:ARG:HB2	1:L:108:ARG:NH1	2.18	0.59
1:H:97:ALA:HB3	1:H:273:MET:HE1	1.84	0.59
1:F:80:THR:HG23	1:F:139:ILE:HG13	1.84	0.58
1:J:247:ILE:HD12	1:J:251:LEU:HB2	1.85	0.58
1:J:300:GLU:HG2	1:J:304:MET:HE2	1.83	0.58
1:D:154:ILE:HD12	1:D:254:GLU:HB3	1.85	0.58
1:I:5:PRO:HB3	1:I:147:ARG:NE	2.17	0.58
1:F:111:GLN:HE21	1:F:113:LYS:HG3	1.68	0.58
1:I:121:ARG:NE	1:I:123:GLU:OE1	2.36	0.58
1:K:38:GLY:HA2	1:K:222:LEU:HD12	1.85	0.58
1:H:175:MET:HE2	1:H:241:ILE:HG21	1.84	0.58
1:H:147:ARG:HD2	1:K:120:ASP:CG	2.29	0.57
1:H:169:GLU:HG3	1:H:222:LEU:HD22	1.85	0.57
1:B:266:VAL:HA	1:B:269:MET:HG3	1.87	0.57
1:E:35:GLU:HG3	1:E:166:LEU:HD22	1.85	0.57
1:G:177:ALA:HB2	1:G:213:MET:CE	2.35	0.57
1:H:307:SER:HB3	1:K:263:ARG:NH1	2.19	0.57
1:G:97:ALA:HB3	1:G:273:MET:HE1	1.86	0.57
1:I:57:GLU:OE2	1:I:92:THR:OG1	2.23	0.57
1:C:83:VAL:HB	1:C:136:THR:CG2	2.34	0.57
1:H:286:LEU:HB3	1:K:252:ARG:HD3	1.87	0.57
1:J:80:THR:HG23	1:J:139:ILE:HG13	1.86	0.57
1:K:150:ARG:HG3	1:K:226:TYR:CE1	2.39	0.57
1:D:45:LEU:HD21	1:D:102:ILE:HD11	1.86	0.57
1:D:132:ASN:HB2	1:D:247:ILE:HG23	1.87	0.57
1:L:27:THR:HG21	1:L:104:THR:HG21	1.85	0.57
1:L:195:HIS:HB3	1:L:225:VAL:HG12	1.85	0.57
1:G:84:PRO:O	1:G:89:LYS:HE2	2.04	0.57
1:H:289:VAL:HG21	1:K:259:LEU:HB2	1.87	0.57
1:E:185:ASN:HD22	1:E:237:GLN:NE2	2.03	0.56
1:G:263:ARG:HD3	1:L:306:ASN:OD1	2.05	0.56
1:D:113:LYS:HD3	1:D:126:SER:HB3	1.87	0.56
1:F:84:PRO:HA	1:F:135:LEU:HD23	1.88	0.56
1:K:93:MET:HE3	1:K:96:MET:HG3	1.87	0.56
1:B:113:LYS:HD3	1:B:126:SER:OG	2.06	0.56
1:I:262:PRO:HB2	1:I:265:LYS:HG3	1.88	0.56
1:D:150:ARG:O	1:D:153:MET:HG2	2.06	0.56
1:E:153:MET:HE1	1:I:118:TRP:CZ2	2.41	0.56
1:G:84:PRO:HG3	1:L:290:ASN:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:46:VAL:HG13	1:B:50:ASP:HB2	1.87	0.56
1:H:121:ARG:NE	1:H:123:GLU:OE2	2.38	0.55
1:H:304:MET:C	1:H:306:ASN:H	2.13	0.55
1:E:185:ASN:HD22	1:E:237:GLN:HE21	1.54	0.55
1:K:182:THR:HA	1:K:212:GLU:HG2	1.88	0.55
1:B:261:ILE:HG22	1:B:266:VAL:HG23	1.89	0.55
1:E:263:ARG:HG3	6:E:504:HOH:O	2.06	0.55
1:J:112:ARG:NH1	6:J:502:HOH:O	2.40	0.55
1:K:92:THR:O	1:K:96:MET:HG2	2.07	0.55
1:A:130:LEU:HG	1:A:249:GLY:HA2	1.89	0.55
1:E:141:TYR:CG	1:E:235:PRO:HA	2.42	0.55
1:A:92:THR:O	1:A:96:MET:HG2	2.07	0.55
1:D:86:VAL:HG21	1:D:136:THR:HG23	1.88	0.55
1:H:232:ASN:ND2	1:H:234:VAL:H	2.04	0.55
1:K:146:GLN:HG3	1:K:229:ALA:HB3	1.88	0.54
1:C:132:ASN:ND2	1:C:254:GLU:HG2	2.22	0.54
1:J:113:LYS:NZ	1:J:126:SER:HB3	2.22	0.54
1:H:62:ILE:O	1:H:66:ARG:HG3	2.07	0.54
1:I:132:ASN:HB2	1:I:247:ILE:HG23	1.87	0.54
1:J:189:MET:HG2	1:J:210:PHE:CE2	2.42	0.54
1:D:289:VAL:HG11	1:D:301:VAL:HG13	1.88	0.54
1:L:30:ILE:HG21	1:L:105:LEU:HD21	1.89	0.54
1:B:36:ARG:NH2	1:B:37:ASP:OD2	2.35	0.54
1:B:113:LYS:NZ	1:I:26:PRO:HA	2.23	0.54
1:I:181:THR:HG22	1:I:239:ARG:HG3	1.90	0.54
1:L:86:VAL:HG22	1:L:134:SER:HB2	1.90	0.54
1:K:141:TYR:CG	1:K:235:PRO:HA	2.44	0.53
1:E:302:LEU:O	1:E:306:ASN:ND2	2.42	0.53
1:F:58:ILE:HG12	1:F:136:THR:HG21	1.90	0.53
1:G:269:MET:SD	1:G:273:MET:HG2	2.48	0.53
1:G:285:TRP:CE2	1:G:288:ILE:HG12	2.44	0.53
1:K:181:THR:HG22	1:K:239:ARG:HD2	1.90	0.53
1:L:195:HIS:HA	1:L:224:THR:O	2.09	0.53
1:C:181:THR:HG22	1:C:239:ARG:HG3	1.90	0.53
1:J:69:SER:O	1:J:70:HIS:HB2	2.09	0.53
1:L:35:GLU:HG2	1:L:166:LEU:HD13	1.91	0.53
1:C:179:SER:C	1:C:215:PRO:HG3	2.33	0.53
1:A:9:ASP:OD1	1:A:10:PRO:HD2	2.08	0.53
1:A:306:ASN:HA	1:C:263:ARG:HG2	1.91	0.53
1:C:234:VAL:HG11	1:C:237:GLN:OE1	2.09	0.53
1:H:307:SER:OG	1:K:306:ASN:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:153:MET:HE1	1:C:118:TRP:CZ2	2.43	0.53
1:C:154:ILE:HD12	1:C:254:GLU:HB3	1.90	0.52
1:D:49:GLN:H	1:D:49:GLN:CD	2.15	0.52
1:A:259:LEU:HB2	1:C:289:VAL:HG21	1.90	0.52
1:C:281:LYS:HD2	1:C:288:ILE:HD11	1.91	0.52
1:G:180:LYS:HD2	1:G:214:GLU:OE1	2.10	0.52
1:J:49:GLN:OE1	1:J:49:GLN:N	2.33	0.52
1:F:46:VAL:HG13	1:F:50:ASP:HB2	1.92	0.52
1:I:179:SER:C	1:I:215:PRO:HG3	2.35	0.52
1:I:289:VAL:HG11	1:I:301:VAL:HG13	1.91	0.52
1:B:304:MET:O	1:B:307:SER:HB3	2.09	0.52
1:J:132:ASN:HB2	1:J:247:ILE:HG23	1.92	0.52
1:H:151:ASP:CG	1:H:227:HIS:CE1	2.88	0.51
1:H:307:SER:HB2	1:K:263:ARG:HD2	1.92	0.51
1:G:79:GLN:N	1:G:79:GLN:OE1	2.42	0.51
1:L:47:SER:O	1:L:51:VAL:HG23	2.11	0.51
1:H:177:ALA:HB2	1:H:213:MET:HE3	1.91	0.51
1:E:84:PRO:O	1:E:89:LYS:HE2	2.11	0.51
1:A:181:THR:HG22	1:A:239:ARG:HG3	1.92	0.51
1:C:132:ASN:HD21	1:C:254:GLU:HG2	1.75	0.51
1:K:59:GLU:O	1:K:63:GLN:HG3	2.11	0.51
1:G:19:THR:HA	1:I:15:SER:HB3	1.92	0.51
1:K:97:ALA:HB3	1:K:273:MET:HE1	1.93	0.51
1:B:189:MET:HB3	1:B:208:VAL:HB	1.93	0.51
1:H:83:VAL:HB	1:H:136:THR:CG2	2.41	0.51
1:F:61:TYR:CE2	1:F:89:LYS:HB3	2.46	0.51
1:E:83:VAL:HB	1:E:136:THR:HG22	1.93	0.50
1:F:279:TYR:O	1:F:294:PRO:HG2	2.11	0.50
1:I:257:GLN:HB3	1:I:277:LEU:HD22	1.93	0.50
1:C:169:GLU:HG3	1:C:222:LEU:HD22	1.93	0.50
1:B:153:MET:HE2	1:D:116:ALA:HB1	1.94	0.50
1:H:86:VAL:HG12	1:H:93:MET:HG3	1.93	0.50
1:I:31:ILE:O	1:I:35:GLU:HG3	2.12	0.50
1:J:181:THR:OG1	1:J:213:MET:HG2	2.12	0.50
1:F:130:LEU:HG	1:F:249:GLY:HA2	1.93	0.50
1:F:174:PHE:CD2	1:F:220:VAL:HG22	2.47	0.50
1:J:154:ILE:HD13	1:J:254:GLU:HB3	1.93	0.50
1:K:185:ASN:O	1:K:239:ARG:HD3	2.12	0.49
1:L:77:PRO:CB	1:L:144:PRO:HD2	2.42	0.49
1:F:86:VAL:HG12	1:F:93:MET:HG2	1.93	0.49
1:G:263:ARG:NH1	1:L:306:ASN:O	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:62:ILE:HG23	1:L:81:ILE:HG21	1.93	0.49
1:G:181:THR:HG22	1:G:239:ARG:HG3	1.94	0.49
1:I:148:LEU:HD13	1:I:191:ILE:HD11	1.93	0.49
1:K:45:LEU:HD21	1:K:102:ILE:HD11	1.94	0.49
1:F:92:THR:O	1:F:96:MET:HG2	2.12	0.49
1:G:82:MET:HE3	1:G:137:TYR:HE2	1.76	0.49
1:G:135:LEU:HD12	1:G:137:TYR:OH	2.13	0.49
1:I:130:LEU:HG	1:I:249:GLY:HA2	1.94	0.49
1:C:205:VAL:HG13	6:C:517:HOH:O	2.13	0.49
1:D:13:ILE:O	6:D:501:HOH:O	2.19	0.49
1:F:177:ALA:HB2	1:F:213:MET:HE3	1.93	0.49
1:J:138:HIS:NE2	1:J:240:LYS:HD2	2.28	0.49
1:A:109:VAL:HG22	1:A:166:LEU:HD21	1.95	0.49
1:G:86:VAL:HG21	1:G:136:THR:HG23	1.93	0.49
1:L:61:TYR:CD2	1:L:89:LYS:HD3	2.48	0.49
1:A:147:ARG:HD2	1:C:119:GLU:HG2	1.95	0.49
1:G:153:MET:HE1	1:L:118:TRP:CZ2	2.48	0.49
1:J:93:MET:HE3	1:J:93:MET:HA	1.95	0.49
1:A:160:ARG:O	1:A:160:ARG:HD3	2.13	0.48
1:F:164:TYR:CD2	1:F:196:LYS:HG2	2.48	0.48
1:E:8:ILE:HD13	1:E:189:MET:HE1	1.95	0.48
1:F:19:THR:HA	1:K:15:SER:HB3	1.94	0.48
1:H:139:ILE:HD12	1:H:239:ARG:O	2.13	0.48
1:L:79:GLN:N	1:L:79:GLN:OE1	2.41	0.48
1:D:146:GLN:HG3	1:D:229:ALA:HB3	1.94	0.48
1:H:5:PRO:HB3	1:H:147:ARG:CZ	2.44	0.48
1:F:175:MET:HE2	1:F:241:ILE:HG21	1.94	0.48
1:G:87:VAL:HG11	1:G:273:MET:SD	2.54	0.48
1:J:79:GLN:HG2	1:J:141:TYR:O	2.12	0.48
1:D:285:TRP:CE2	1:D:288:ILE:HG13	2.48	0.48
1:I:26:PRO:HB2	1:I:29:ASP:OD2	2.13	0.48
1:K:213:MET:HE1	1:K:217:SER:C	2.39	0.48
1:L:103:ASP:O	1:L:107:THR:HG23	2.13	0.48
1:F:212:GLU:O	1:K:13:ILE:HD13	2.13	0.48
1:G:119:GLU:HB3	1:L:148:LEU:HB2	1.96	0.48
1:B:22:PRO:HG2	1:B:25:ALA:HB2	1.95	0.48
1:K:30:ILE:HG23	1:K:40:LEU:HD11	1.95	0.48
1:E:151:ASP:CG	1:E:227:HIS:HE1	2.22	0.48
1:L:250:THR:OG1	5:L:401:TRS:N	2.41	0.48
1:C:113:LYS:HZ2	1:C:126:SER:HG	1.55	0.47
1:L:64:LYS:HE3	1:L:68:GLU:OE2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:97:ALA:O	1:L:106:ARG:NH2	2.46	0.47
1:J:163:GLU:CD	1:J:163:GLU:H	2.23	0.47
1:L:121:ARG:HD2	1:L:123:GLU:OE2	2.14	0.47
1:L:266:VAL:HA	1:L:269:MET:HG3	1.97	0.47
1:E:305:ALA:O	1:I:263:ARG:HD3	2.14	0.47
1:B:132:ASN:HB2	1:B:247:ILE:HG23	1.96	0.47
1:E:134:SER:C	1:E:135:LEU:HD23	2.38	0.47
1:J:99:LEU:HD23	1:J:100:ASP:N	2.29	0.47
1:L:82:MET:SD	1:L:135:LEU:HD13	2.54	0.47
1:B:113:LYS:HD3	1:B:126:SER:HG	1.80	0.47
1:E:92:THR:O	1:E:96:MET:HG2	2.14	0.47
1:E:110:LEU:HD22	1:E:248:PRO:HD3	1.96	0.47
1:J:132:ASN:ND2	1:J:254:GLU:HG2	2.28	0.47
1:K:300:GLU:O	1:K:304:MET:HG3	2.15	0.47
1:A:34:LEU:HD23	1:A:34:LEU:HA	1.64	0.47
1:E:263:ARG:HA	1:E:266:VAL:HG22	1.97	0.47
1:H:86:VAL:CG1	1:H:93:MET:HG3	2.45	0.47
1:L:64:LYS:O	1:L:68:GLU:HG3	2.14	0.47
1:L:111:GLN:OE1	1:L:128:ASP:HA	2.15	0.47
1:L:150:ARG:HG3	1:L:226:TYR:CE1	2.50	0.47
1:L:201:ARG:HA	6:L:506:HOH:O	2.15	0.47
1:E:41:ILE:HD13	1:E:213:MET:HG3	1.97	0.47
1:F:234:VAL:HG12	1:F:237:GLN:HB2	1.96	0.47
1:K:80:THR:HG23	1:K:139:ILE:HG13	1.96	0.47
1:K:120:ASP:O	1:K:121:ARG:HB3	2.14	0.47
1:B:281:LYS:HE3	1:B:285:TRP:CE3	2.50	0.47
1:K:297:ASN:ND2	1:K:300:GLU:OE1	2.47	0.47
1:H:266:VAL:HG12	1:H:298:LEU:HD21	1.95	0.47
1:H:279:TYR:O	1:H:294:PRO:HG2	2.14	0.47
1:B:156:GLY:HA3	1:D:114:CYS:SG	2.55	0.46
1:G:179:SER:C	1:G:215:PRO:HG3	2.41	0.46
1:K:137:TYR:HB3	1:K:139:ILE:HD11	1.97	0.46
1:L:109:VAL:HG22	1:L:166:LEU:HD21	1.97	0.46
1:B:49:GLN:H	1:B:49:GLN:CD	2.21	0.46
1:C:160:ARG:H	1:C:160:ARG:HG2	1.56	0.46
1:D:132:ASN:ND2	1:D:254:GLU:HG2	2.31	0.46
1:D:185:ASN:HD22	1:D:237:GLN:NE2	2.12	0.46
1:J:4:PHE:CZ	1:J:144:PRO:HG3	2.50	0.46
1:J:132:ASN:HD21	1:J:254:GLU:HG2	1.81	0.46
1:D:109:VAL:HG22	1:D:166:LEU:HD21	1.96	0.46
1:F:234:VAL:HG11	1:F:237:GLN:NE2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:290:ASN:HA	1:K:84:PRO:HG3	1.97	0.46
1:B:173:GLY:O	1:B:220:VAL:HA	2.15	0.46
1:D:92:THR:O	1:D:96:MET:HG2	2.15	0.46
1:F:79:GLN:HG2	1:F:141:TYR:O	2.16	0.46
1:J:297:ASN:O	1:J:297:ASN:ND2	2.46	0.46
1:L:251:LEU:HD21	5:L:401:TRS:H12	1.98	0.46
1:B:4:PHE:CE1	1:B:144:PRO:HG3	2.51	0.46
1:C:127:ILE:HG12	1:C:284:THR:HG22	1.98	0.46
1:L:150:ARG:O	1:L:153:MET:HE2	2.15	0.46
1:B:6:PRO:HG3	1:K:6:PRO:HD3	1.98	0.46
1:H:83:VAL:HB	1:H:136:THR:HG23	1.97	0.46
1:L:20:ARG:HG3	1:L:41:ILE:HB	1.98	0.46
1:L:149:HIS:HB2	1:L:153:MET:HE1	1.97	0.46
1:L:295:ALA:HA	1:L:298:LEU:HD13	1.96	0.46
1:B:130:LEU:HG	1:B:249:GLY:HA2	1.98	0.46
1:G:20:ARG:HH22	1:G:213:MET:HA	1.81	0.46
1:D:266:VAL:HA	1:D:269:MET:HG3	1.98	0.46
1:I:145:ARG:NH1	1:I:146:GLN:O	2.49	0.46
1:K:118:TRP:HB2	1:K:121:ARG:O	2.15	0.46
1:C:20:ARG:HG2	1:C:41:ILE:HB	1.99	0.45
1:D:130:LEU:HG	1:D:249:GLY:HA2	1.97	0.45
1:D:54:ILE:HD13	1:D:93:MET:SD	2.55	0.45
1:E:151:ASP:CG	1:E:227:HIS:CE1	2.94	0.45
1:H:232:ASN:HD22	1:H:233:SER:N	2.15	0.45
1:E:18:LEU:HD23	1:E:192:PRO:HG3	1.97	0.45
1:I:31:ILE:HD13	1:I:108:ARG:CZ	2.46	0.45
1:I:211:ALA:O	1:I:213:MET:HE2	2.17	0.45
1:J:50:ASP:O	1:J:54:ILE:HG12	2.15	0.45
1:K:163:GLU:O	1:K:163:GLU:HG3	2.15	0.45
1:A:213:MET:HB2	1:A:213:MET:HE3	1.80	0.45
1:D:247:ILE:HD12	1:D:251:LEU:HB2	1.98	0.45
1:H:236:ASP:OD1	1:H:236:ASP:C	2.59	0.45
1:C:285:TRP:CE2	1:C:288:ILE:HG13	2.52	0.45
1:F:111:GLN:NE2	1:F:113:LYS:HG3	2.29	0.45
1:H:120:ASP:OD1	1:H:121:ARG:HD3	2.15	0.45
1:H:185:ASN:HA	1:H:232:ASN:HD22	1.82	0.45
1:J:180:LYS:HG3	1:J:214:GLU:OE1	2.16	0.45
1:L:110:LEU:HD22	1:L:248:PRO:HD3	1.99	0.45
1:L:262:PRO:HG2	1:L:265:LYS:HE3	1.98	0.45
1:B:205:VAL:HG22	6:B:519:HOH:O	2.16	0.45
1:E:173:GLY:O	1:E:220:VAL:HA	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:99:LEU:HD23	1:J:100:ASP:H	1.81	0.45
1:D:97:ALA:HB3	1:D:273:MET:HE1	1.97	0.45
1:I:86:VAL:HG11	1:I:93:MET:HG3	1.98	0.45
1:J:150:ARG:O	1:J:153:MET:HG2	2.17	0.45
1:L:189:MET:HG2	1:L:210:PHE:CE2	2.52	0.45
1:A:38:GLY:HA2	1:A:222:LEU:HD12	1.99	0.44
1:A:177:ALA:HB2	1:A:213:MET:HE3	1.99	0.44
1:D:181:THR:HG22	1:D:239:ARG:HG2	1.99	0.44
1:I:50:ASP:O	1:I:53:ALA:HB3	2.18	0.44
1:C:252:ARG:HD2	6:C:514:HOH:O	2.16	0.44
1:E:61:TYR:CE1	1:E:89:LYS:HD3	2.52	0.44
1:E:169:GLU:HG3	1:E:222:LEU:HD22	1.99	0.44
1:L:272:LYS:HA	1:L:272:LYS:HD3	1.77	0.44
1:B:207:GLU:HB3	6:B:513:HOH:O	2.16	0.44
1:D:49:GLN:OE1	1:D:49:GLN:N	2.21	0.44
1:H:4:PHE:HD1	1:H:4:PHE:HA	1.76	0.44
1:H:58:ILE:HG12	1:H:136:THR:HG21	1.99	0.44
1:A:195:HIS:HA	1:A:224:THR:O	2.18	0.44
1:B:259:LEU:HB2	1:D:289:VAL:HG21	2.00	0.44
1:C:46:VAL:HG21	1:C:176:ILE:HD13	2.00	0.44
1:E:141:TYR:CD1	1:E:235:PRO:HA	2.51	0.44
1:H:22:PRO:HG2	1:H:25:ALA:HB2	1.99	0.44
1:J:93:MET:HE1	1:J:176:ILE:HD12	1.98	0.44
1:J:141:TYR:HB2	1:J:235:PRO:HA	1.99	0.44
1:K:102:ILE:O	1:K:106:ARG:HG2	2.18	0.44
1:J:189:MET:HE3	1:J:189:MET:HB2	1.75	0.44
1:K:151:ASP:CG	1:K:227:HIS:HE1	2.26	0.44
1:B:267:LEU:HD21	1:B:302:LEU:HD12	2.00	0.44
1:H:4:PHE:CG	1:H:5:PRO:HD2	2.53	0.44
1:H:190:ALA:O	1:H:192:PRO:HD3	2.17	0.44
1:J:146:GLN:HG3	1:J:229:ALA:HB3	2.00	0.43
1:J:151:ASP:OD1	1:J:227:HIS:HE1	2.01	0.43
1:K:263:ARG:O	1:K:266:VAL:HG22	2.18	0.43
1:J:175:MET:O	1:J:218:ALA:HA	2.19	0.43
1:J:233:SER:O	1:J:235:PRO:HD3	2.18	0.43
1:K:5:PRO:N	6:K:512:HOH:O	2.51	0.43
1:A:189:MET:HB3	1:A:208:VAL:CG1	2.48	0.43
1:B:46:VAL:HG12	1:B:51:VAL:HG23	2.00	0.43
1:F:257:GLN:HB3	1:F:277:LEU:HD22	1.99	0.43
1:J:189:MET:HB3	1:J:208:VAL:HB	1.98	0.43
1:J:288:ILE:CG2	1:J:292:GLY:H	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:175:MET:HE2	1:E:241:ILE:HG21	2.00	0.43
1:G:42:LEU:HD23	1:G:42:LEU:HA	1.79	0.43
1:J:113:LYS:HZ1	1:J:126:SER:HB3	1.83	0.43
1:K:40:LEU:HD23	1:K:220:VAL:HB	2.01	0.43
1:K:47:SER:O	1:K:51:VAL:HG23	2.18	0.43
1:J:36:ARG:HD2	1:J:37:ASP:OD1	2.19	0.43
1:L:97:ALA:HB3	1:L:273:MET:HE1	1.99	0.43
1:L:189:MET:HB2	1:L:189:MET:HE3	1.74	0.43
1:B:175:MET:O	1:B:218:ALA:HA	2.18	0.43
1:F:38:GLY:HA2	1:F:222:LEU:HD12	2.01	0.43
1:F:111:GLN:HG3	6:F:516:HOH:O	2.17	0.43
1:G:115:THR:HG22	1:G:124:ASP:OD1	2.18	0.43
1:G:252:ARG:HD2	6:G:506:HOH:O	2.17	0.43
1:H:236:ASP:O	1:H:237:GLN:HB2	2.19	0.43
1:L:34:LEU:HD23	1:L:34:LEU:HA	1.92	0.43
1:L:298:LEU:O	1:L:302:LEU:HG	2.18	0.43
1:H:174:PHE:CD2	1:H:220:VAL:HG22	2.53	0.43
1:I:146:GLN:HG3	1:I:229:ALA:H	1.84	0.43
1:C:180:LYS:N	1:C:215:PRO:HG3	2.34	0.43
1:G:87:VAL:HG13	1:G:94:ALA:HA	2.01	0.43
1:L:77:PRO:HG3	1:L:144:PRO:HD2	2.00	0.43
1:B:113:LYS:HZ2	1:I:26:PRO:HA	1.84	0.43
1:F:49:GLN:N	1:F:49:GLN:CD	2.77	0.43
1:H:213:MET:HB3	1:H:217:SER:HB2	2.00	0.43
1:I:58:ILE:HG22	1:I:62:ILE:HG12	2.00	0.43
1:J:298:LEU:HG	1:J:302:LEU:HD11	2.01	0.43
1:B:112:ARG:HD3	1:B:112:ARG:HA	1.90	0.42
1:D:285:TRP:NE1	1:D:288:ILE:HG13	2.34	0.42
1:E:281:LYS:HD2	1:E:288:ILE:HD11	2.01	0.42
1:F:30:ILE:HG21	1:F:105:LEU:HD11	2.01	0.42
1:F:53:ALA:O	1:F:57:GLU:HG3	2.19	0.42
1:F:151:ASP:CG	1:F:227:HIS:CE1	2.97	0.42
1:F:194:SER:HB2	1:F:226:TYR:HD2	1.83	0.42
1:G:267:LEU:HD23	1:G:298:LEU:HD23	2.00	0.42
1:H:274:LEU:HD11	1:H:298:LEU:HD22	2.01	0.42
1:I:31:ILE:HD13	1:I:108:ARG:NH1	2.33	0.42
1:A:189:MET:HB3	1:A:208:VAL:HG11	2.01	0.42
1:D:250:THR:C	1:D:251:LEU:HD23	2.44	0.42
1:K:183:ARG:HD2	1:K:210:PHE:CE1	2.53	0.42
1:K:285:TRP:CE2	1:K:288:ILE:HG13	2.54	0.42
1:K:293:ASP:HB3	1:K:296:GLU:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:266:VAL:HG12	1:C:298:LEU:HD21	2.00	0.42
1:G:147:ARG:HD2	1:L:119:GLU:HG2	2.00	0.42
1:H:139:ILE:HD12	1:H:139:ILE:H	1.83	0.42
1:I:38:GLY:O	1:I:225:VAL:HG21	2.19	0.42
1:J:115:THR:HA	1:J:123:GLU:O	2.19	0.42
1:K:151:ASP:CG	1:K:227:HIS:CE1	2.98	0.42
1:L:137:TYR:HB3	1:L:139:ILE:HD11	2.02	0.42
1:I:141:TYR:HB2	1:I:235:PRO:HA	2.00	0.42
1:A:151:ASP:CG	1:A:227:HIS:CE1	2.97	0.42
1:A:263:ARG:HB3	1:A:302:LEU:HD13	2.01	0.42
1:G:134:SER:C	1:G:135:LEU:HD23	2.45	0.42
1:B:257:GLN:N	6:B:502:HOH:O	2.39	0.42
1:E:112:ARG:O	1:E:126:SER:HA	2.19	0.42
1:H:150:ARG:HG2	1:H:224:THR:HA	2.02	0.42
1:H:285:TRP:CE2	1:H:288:ILE:HG13	2.54	0.42
1:L:22:PRO:HG2	1:L:25:ALA:HB2	2.01	0.42
1:A:96:MET:O	1:A:99:LEU:HG	2.20	0.42
1:B:4:PHE:HA	1:B:5:PRO:HD3	1.75	0.42
1:E:120:ASP:OD1	1:I:147:ARG:HD2	2.20	0.42
1:F:173:GLY:O	1:F:220:VAL:HA	2.20	0.42
1:H:118:TRP:HZ2	1:K:153:MET:HE1	1.85	0.42
1:K:132:ASN:HB2	1:K:247:ILE:HG23	2.01	0.42
1:A:49:GLN:H	1:A:49:GLN:CD	2.28	0.42
1:D:58:ILE:HG22	1:D:62:ILE:HG12	2.02	0.42
1:E:20:ARG:CZ	1:E:41:ILE:HD12	2.50	0.42
1:G:138:HIS:NE2	1:G:240:LYS:HE2	2.34	0.42
1:H:84:PRO:HG3	1:K:290:ASN:HA	2.02	0.42
1:I:279:TYR:O	1:I:294:PRO:HG2	2.20	0.42
1:J:180:LYS:HA	1:J:215:PRO:HD3	2.01	0.42
1:K:99:LEU:HB2	1:K:102:ILE:HG13	2.02	0.42
1:G:169:GLU:HG3	1:G:222:LEU:HD22	2.02	0.42
1:J:16:VAL:HG22	1:J:17:SER:H	1.85	0.42
1:H:304:MET:C	1:H:306:ASN:N	2.78	0.41
1:L:92:THR:O	1:L:96:MET:HG2	2.20	0.41
1:L:261:ILE:HG22	1:L:266:VAL:HG23	2.02	0.41
1:H:92:THR:HG22	1:H:96:MET:HE3	2.01	0.41
1:I:148:LEU:HA	1:I:227:HIS:O	2.20	0.41
1:A:134:SER:C	1:A:135:LEU:HD23	2.46	0.41
1:B:119:GLU:HB3	1:D:148:LEU:HB2	2.03	0.41
1:D:233:SER:O	1:D:235:PRO:HD3	2.20	0.41
1:E:83:VAL:HB	1:E:136:THR:CG2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:79:GLN:HG2	1:H:141:TYR:O	2.20	0.41
1:I:91:PRO:O	1:I:94:ALA:HB3	2.21	0.41
1:K:184:GLU:OE1	1:K:184:GLU:N	2.53	0.41
1:L:41:ILE:HD12	1:L:213:MET:HG2	2.02	0.41
1:I:195:HIS:HA	1:I:224:THR:O	2.20	0.41
1:J:35:GLU:HG3	1:J:166:LEU:HD22	2.03	0.41
1:K:61:TYR:CE2	1:K:89:LYS:HB3	2.55	0.41
1:C:122:THR:HG22	1:C:123:GLU:H	1.86	0.41
1:G:58:ILE:HD13	1:G:58:ILE:HA	1.94	0.41
1:I:102:ILE:HG23	1:I:174:PHE:CE2	2.55	0.41
1:L:137:TYR:HB3	1:L:139:ILE:CD1	2.51	0.41
1:A:43:VAL:HA	1:A:217:SER:OG	2.21	0.41
1:C:110:LEU:HD11	1:C:172:LEU:HB3	2.03	0.41
1:C:204:ARG:HB2	1:C:207:GLU:HG3	2.02	0.41
1:D:213:MET:HE3	1:D:213:MET:HB2	1.94	0.41
1:F:5:PRO:HB3	1:F:147:ARG:NE	2.36	0.41
1:F:132:ASN:HB2	1:F:247:ILE:HG23	2.02	0.41
1:I:284:THR:OG1	1:I:285:TRP:N	2.52	0.41
1:K:36:ARG:HD2	1:K:37:ASP:OD1	2.20	0.41
1:D:99:LEU:HB2	1:D:102:ILE:HG12	2.01	0.41
1:F:270:SER:O	1:F:274:LEU:HD22	2.21	0.41
1:G:240:LYS:O	1:G:241:ILE:HD13	2.20	0.41
1:J:213:MET:HE1	1:J:218:ALA:C	2.46	0.41
1:L:134:SER:C	1:L:135:LEU:HD23	2.45	0.41
1:B:260:ALA:C	1:B:261:ILE:HD12	2.45	0.41
1:C:78:LYS:HA	1:C:78:LYS:HD2	1.95	0.41
1:K:42:LEU:HD23	1:K:42:LEU:HA	1.87	0.41
1:A:186:GLY:O	1:A:187:ALA:C	2.62	0.41
1:A:262:PRO:HG2	1:A:265:LYS:HE3	2.02	0.41
1:C:20:ARG:CZ	1:C:41:ILE:HD12	2.51	0.41
1:E:120:ASP:CG	1:I:147:ARG:HD2	2.46	0.41
1:G:82:MET:HE3	1:G:137:TYR:CE2	2.54	0.41
1:G:266:VAL:HA	1:G:269:MET:HG3	2.02	0.41
1:I:34:LEU:HD23	1:I:34:LEU:HA	1.89	0.41
1:J:30:ILE:HG23	1:J:40:LEU:HD11	2.02	0.41
1:L:35:GLU:CG	1:L:166:LEU:HD13	2.51	0.41
1:L:151:ASP:CG	1:L:227:HIS:CE1	2.98	0.41
1:A:150:ARG:HG3	1:A:226:TYR:CE1	2.56	0.41
1:A:285:TRP:CD1	1:A:288:ILE:HG13	2.56	0.41
1:B:147:ARG:HD2	1:D:119:GLU:HG2	2.01	0.41
1:E:266:VAL:HA	1:E:269:MET:HG2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:169:GLU:HG3	1:K:222:LEU:HD22	2.02	0.41
1:L:285:TRP:CD1	1:L:288:ILE:HG12	2.55	0.41
1:L:288:ILE:H	1:L:288:ILE:HG13	1.67	0.41
1:A:156:GLY:HA3	1:C:114:CYS:SG	2.61	0.40
1:B:181:THR:HG22	1:B:239:ARG:HG3	2.03	0.40
1:F:282:PRO:HG2	1:F:284:THR:HG22	2.03	0.40
1:G:151:ASP:CG	1:G:227:HIS:CE1	2.99	0.40
1:D:130:LEU:HD23	1:D:130:LEU:HA	1.82	0.40
1:H:153:MET:HE1	1:K:118:TRP:CZ2	2.56	0.40
1:J:266:VAL:HA	1:J:269:MET:HG3	2.03	0.40
1:D:175:MET:O	1:D:218:ALA:HA	2.21	0.40
1:E:38:GLY:O	1:E:225:VAL:HG21	2.21	0.40
1:I:82:MET:SD	1:I:135:LEU:HG	2.61	0.40
1:L:262:PRO:HD2	1:L:265:LYS:HD2	2.02	0.40
1:L:263:ARG:HG2	1:L:302:LEU:HD22	2.03	0.40
1:D:47:SER:O	1:D:51:VAL:HG23	2.22	0.40
1:E:284:THR:HG23	1:E:286:LEU:HG	2.03	0.40
1:J:21:LEU:HD23	1:J:21:LEU:HA	1.85	0.40
1:K:36:ARG:NH1	1:K:37:ASP:OD2	2.54	0.40
1:L:175:MET:HE2	1:L:221:PHE:CE1	2.57	0.40
1:D:132:ASN:HD21	1:D:254:GLU:HG2	1.87	0.40
1:G:125:PHE:CD2	1:G:125:PHE:N	2.89	0.40
1:J:47:SER:O	1:J:51:VAL:HG23	2.22	0.40
1:J:111:GLN:NE2	1:J:128:ASP:OD2	2.51	0.40

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:212:GLU:OE2	3:E:401:CAC:C1[4_546]	1.34	0.86
1:G:307:SER:OG	1:G:307:SER:OG[2_656]	2.00	0.20
1:F:145:ARG:NH1	1:J:119:GLU:OE2[4_546]	2.19	0.01

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	292/307 (95%)	282 (97%)	10 (3%)	0	100	100
1	B	289/307 (94%)	281 (97%)	7 (2%)	1 (0%)	36	64
1	C	291/307 (95%)	280 (96%)	11 (4%)	0	100	100
1	D	292/307 (95%)	286 (98%)	4 (1%)	2 (1%)	18	45
1	E	289/307 (94%)	277 (96%)	12 (4%)	0	100	100
1	F	291/307 (95%)	281 (97%)	9 (3%)	1 (0%)	36	64
1	G	289/307 (94%)	276 (96%)	13 (4%)	0	100	100
1	H	292/307 (95%)	278 (95%)	12 (4%)	2 (1%)	18	45
1	I	292/307 (95%)	280 (96%)	12 (4%)	0	100	100
1	J	294/307 (96%)	284 (97%)	9 (3%)	1 (0%)	36	64
1	K	291/307 (95%)	281 (97%)	9 (3%)	1 (0%)	36	64
1	L	293/307 (95%)	282 (96%)	10 (3%)	1 (0%)	36	64
All	All	3495/3684 (95%)	3368 (96%)	118 (3%)	9 (0%)	36	64

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	211	ALA
1	D	97	ALA
1	L	297	ASN
1	B	198	ASP
1	H	306	ASN
1	H	161	GLY
1	D	282	PRO
1	J	282	PRO
1	K	282	PRO

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	247/256 (96%)	237 (96%)	10 (4%)	28	61
1	B	245/256 (96%)	236 (96%)	9 (4%)	30	63
1	C	246/256 (96%)	236 (96%)	10 (4%)	27	60
1	D	247/256 (96%)	238 (96%)	9 (4%)	31	64
1	E	245/256 (96%)	237 (97%)	8 (3%)	33	67
1	F	247/256 (96%)	238 (96%)	9 (4%)	31	64
1	G	245/256 (96%)	239 (98%)	6 (2%)	43	75
1	H	247/256 (96%)	240 (97%)	7 (3%)	38	71
1	I	247/256 (96%)	238 (96%)	9 (4%)	31	64
1	J	249/256 (97%)	239 (96%)	10 (4%)	28	61
1	K	247/256 (96%)	238 (96%)	9 (4%)	31	64
1	L	249/256 (97%)	242 (97%)	7 (3%)	38	71
All	All	2961/3072 (96%)	2858 (96%)	103 (4%)	32	65

All (103) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	SER
1	A	58	ILE
1	A	63	GLN
1	A	111	GLN
1	A	119	GLU
1	A	122	THR
1	A	126	SER
1	A	238	VAL
1	A	266	VAL
1	A	281	LYS
1	B	41	ILE
1	B	58	ILE
1	B	90	SER
1	B	98	GLU
1	B	101	VAL
1	B	114	CYS
1	B	264	SER
1	B	296	GLU
1	B	297	ASN
1	C	21	LEU
1	C	86	VAL
1	C	87	VAL

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Mol	Chain	Res	Type
1	C	106	ARG
1	C	108	ARG
1	C	114	CYS
1	C	117	THR
1	C	140	SER
1	C	208	VAL
1	C	307	SER
1	D	78	LYS
1	D	114	CYS
1	D	119	GLU
1	D	136	THR
1	D	208	VAL
1	D	252	ARG
1	D	264	SER
1	D	297	ASN
1	D	307	SER
1	E	58	ILE
1	E	90	SER
1	E	102	ILE
1	E	114	CYS
1	E	115	THR
1	E	205	VAL
1	E	237	GLN
1	E	271	ASP
1	F	24	THR
1	F	41	ILE
1	F	119	GLU
1	F	122	THR
1	F	128	ASP
1	F	208	VAL
1	F	237	GLN
1	F	274	LEU
1	F	296	GLU
1	G	98	GLU
1	G	140	SER
1	G	194	SER
1	G	205	VAL
1	G	208	VAL
1	G	297	ASN
1	H	4	PHE
1	H	27	THR
1	H	114	CYS

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Mol	Chain	Res	Type
1	H	139	ILE
1	H	208	VAL
1	H	252	ARG
1	H	307	SER
1	I	21	LEU
1	I	27	THR
1	I	31	ILE
1	I	33	THR
1	I	87	VAL
1	I	100	ASP
1	I	205	VAL
1	I	208	VAL
1	I	290	ASN
1	J	40	LEU
1	J	64	LYS
1	J	69	SER
1	J	104	THR
1	J	105	LEU
1	J	205	VAL
1	J	236	ASP
1	J	238	VAL
1	J	257	GLN
1	J	307	SER
1	K	34	LEU
1	K	54	ILE
1	K	102	ILE
1	K	122	THR
1	K	135	LEU
1	K	208	VAL
1	K	264	SER
1	K	272	LYS
1	K	275	SER
1	L	108	ARG
1	L	114	CYS
1	L	119	GLU
1	L	121	ARG
1	L	208	VAL
1	L	250	THR
1	L	261	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	306	ASN
1	B	231	HIS
1	B	297	ASN
1	C	111	GLN
1	D	237	GLN
1	E	237	GLN
1	E	290	ASN
1	E	297	ASN
1	F	63	GLN
1	F	111	GLN
1	F	138	HIS
1	G	231	HIS
1	H	232	ASN
1	H	290	ASN
1	H	291	ASN
1	H	297	ASN
1	J	132	ASN
1	J	138	HIS
1	J	291	ASN
1	L	297	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 17 ligands modelled in this entry, 12 are monoatomic - leaving 5 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	CAC	A	402	-	2,4,4	2.63	1 (50%)	4,6,6	2.96	3 (75%)
3	CAC	E	401	-	2,4,4	4.71	1 (50%)	4,6,6	13.02	4 (100%)
2	ACT	C	401	-	3,3,3	1.31	0	3,3,3	1.57	1 (33%)
5	TRS	L	401	-	7,7,7	0.32	0	9,9,9	0.94	0
2	ACT	A	401	-	3,3,3	1.26	0	3,3,3	1.17	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
5	TRS	L	401	-	-	5/9/9/9	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	401	CAC	AS-C1	6.42	2.05	1.90
3	A	402	CAC	AS-C1	3.51	1.98	1.90

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	401	CAC	O1-AS-C1	-20.45	86.07	111.50
3	E	401	CAC	O2-AS-C1	-13.40	73.39	105.84
3	E	401	CAC	O2-AS-C2	8.48	126.39	105.84
3	A	402	CAC	O1-AS-C1	4.11	116.61	111.50
3	A	402	CAC	O1-AS-C2	-3.53	107.11	111.50
3	E	401	CAC	O1-AS-C2	-2.85	107.96	111.50
3	A	402	CAC	O2-AS-C1	2.36	111.55	105.84
2	C	401	ACT	O-C-CH3	-2.15	113.69	122.53

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	L	401	TRS	N-C-C1-O1

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Mol	Chain	Res	Type	Atoms
5	L	401	TRS	C3-C-C2-O2
5	L	401	TRS	N-C-C2-O2
5	L	401	TRS	C1-C-C2-O2
5	L	401	TRS	C2-C-C3-O3

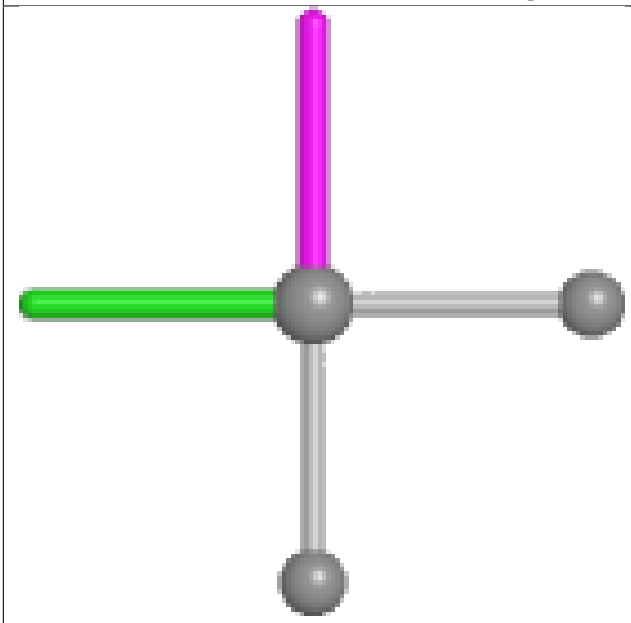
There are no ring outliers.

2 monomers are involved in 3 short contacts:

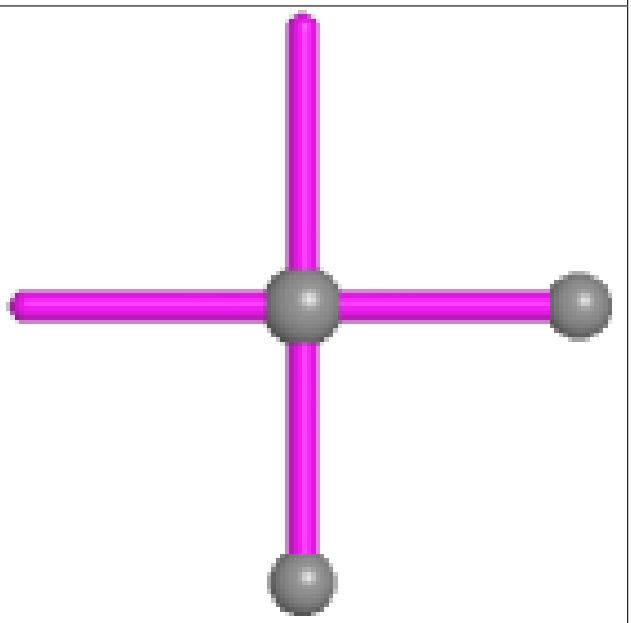
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	401	CAC	0	1
5	L	401	TRS	2	0

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.

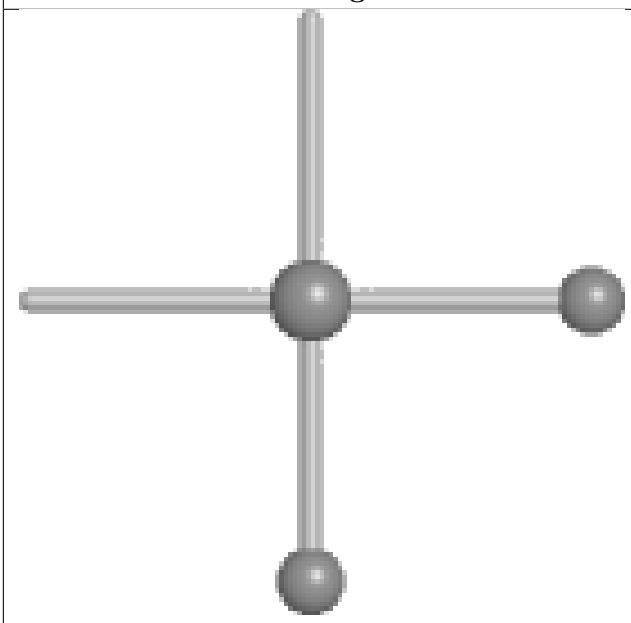
Ligand CAC A 402



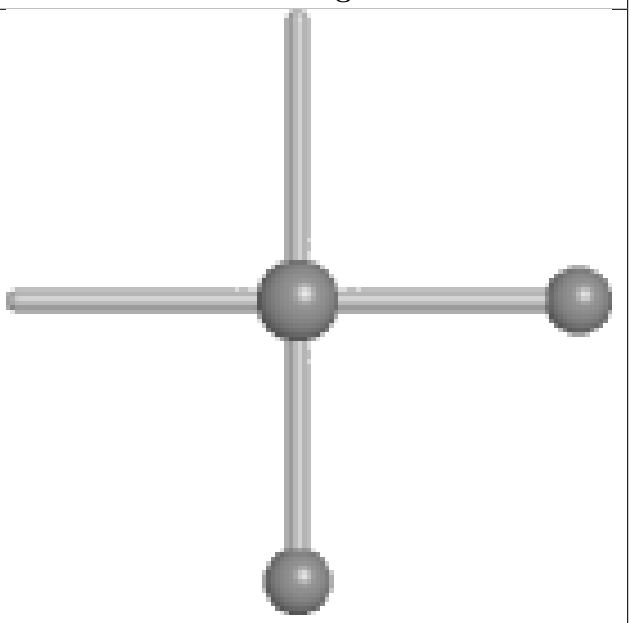
Bond lengths



Bond angles

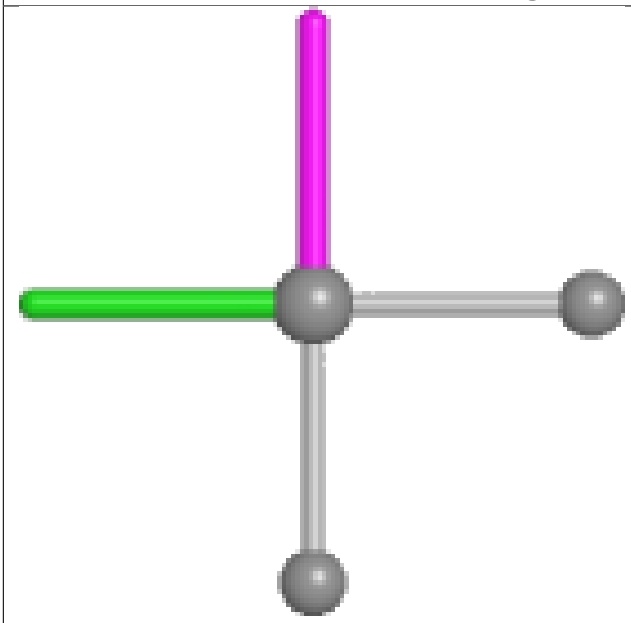


Torsions

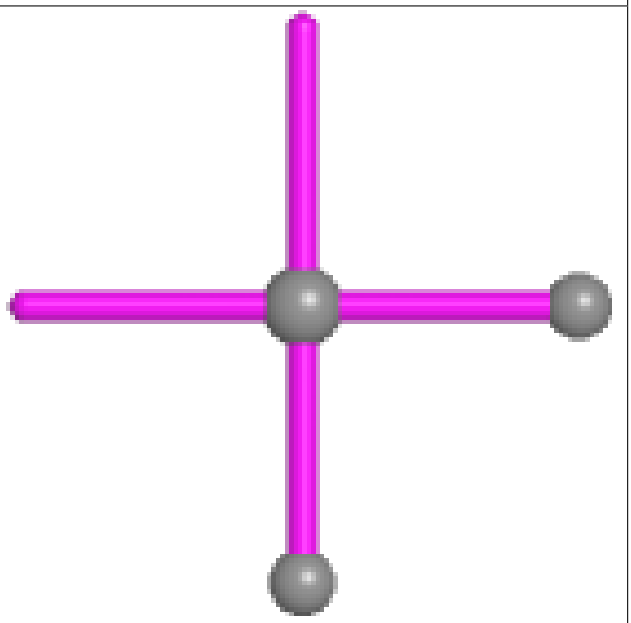


Rings

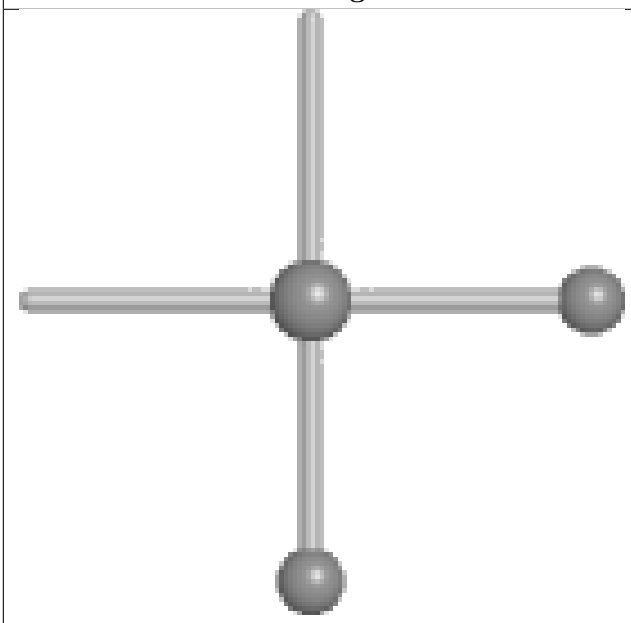
Ligand CAC E 401



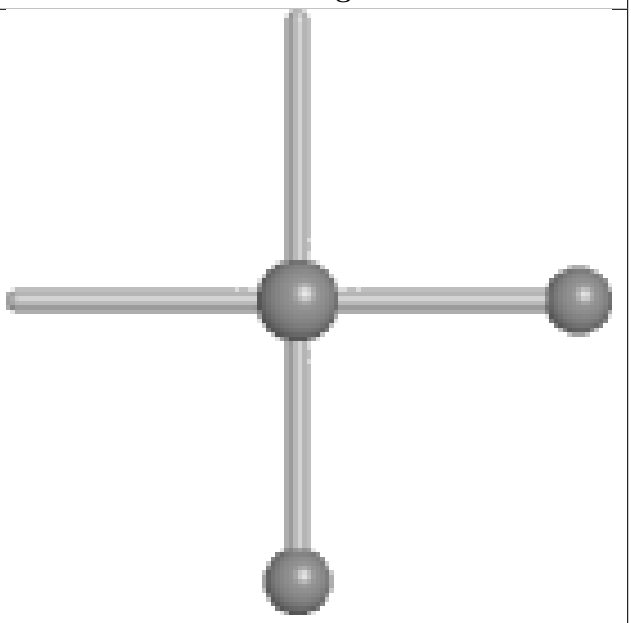
Bond lengths



Bond angles

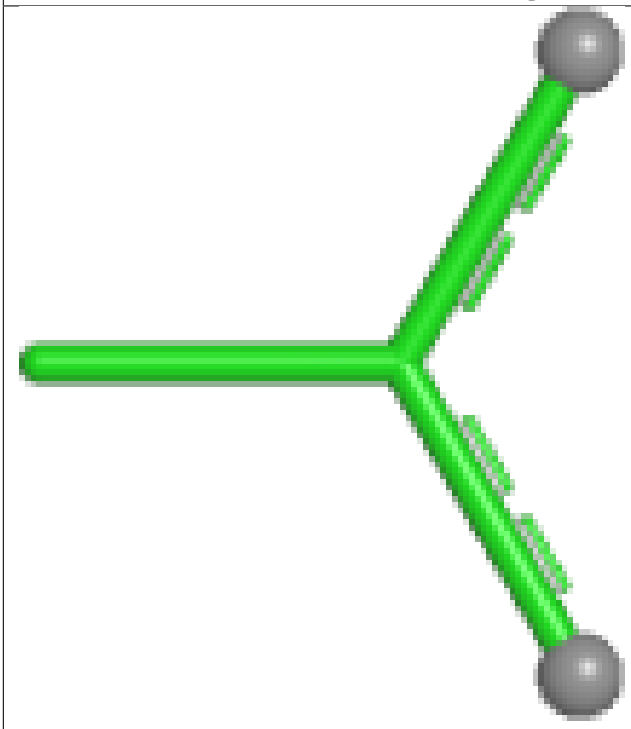


Torsions

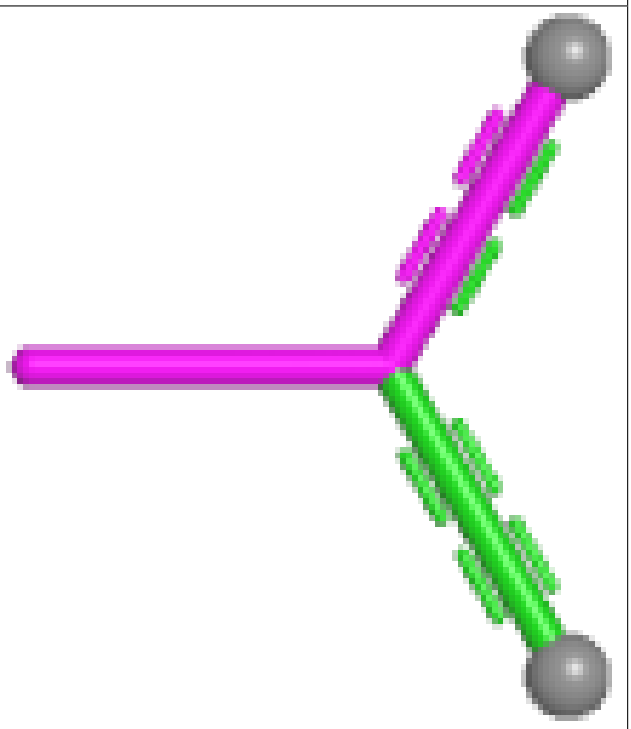


Rings

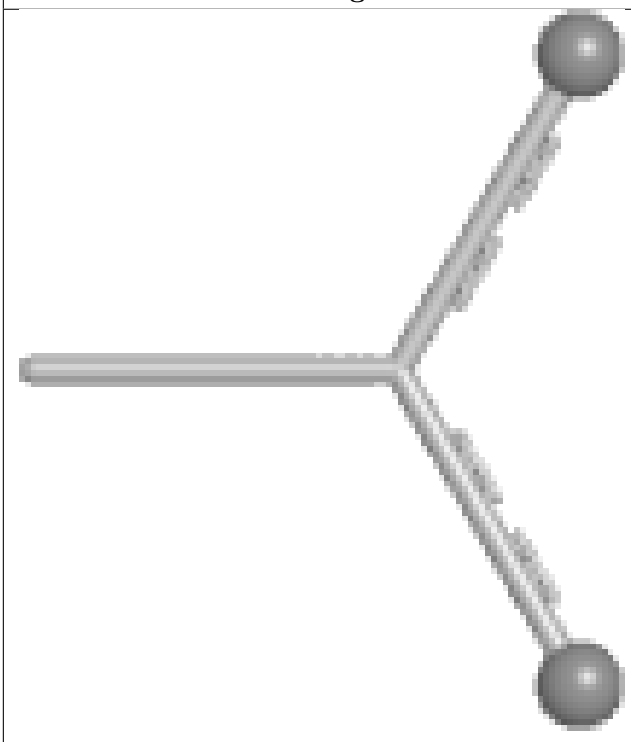
Ligand ACT C 401



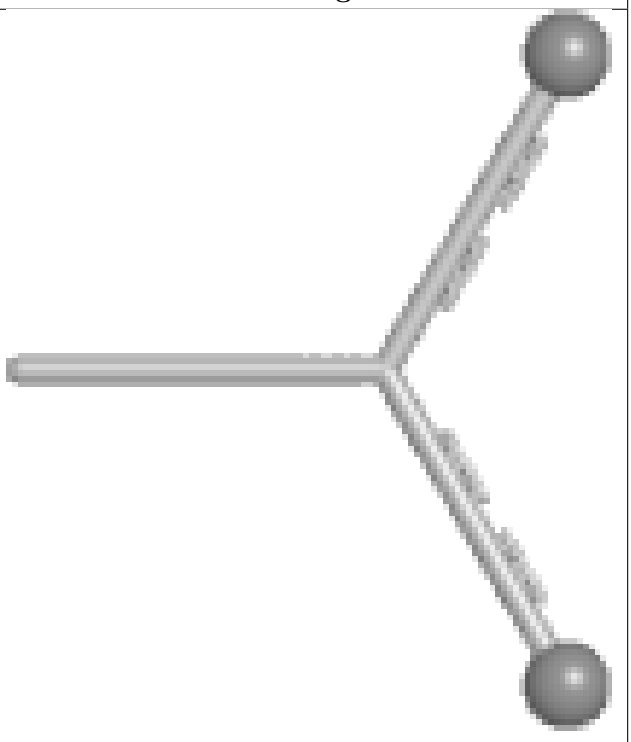
Bond lengths



Bond angles

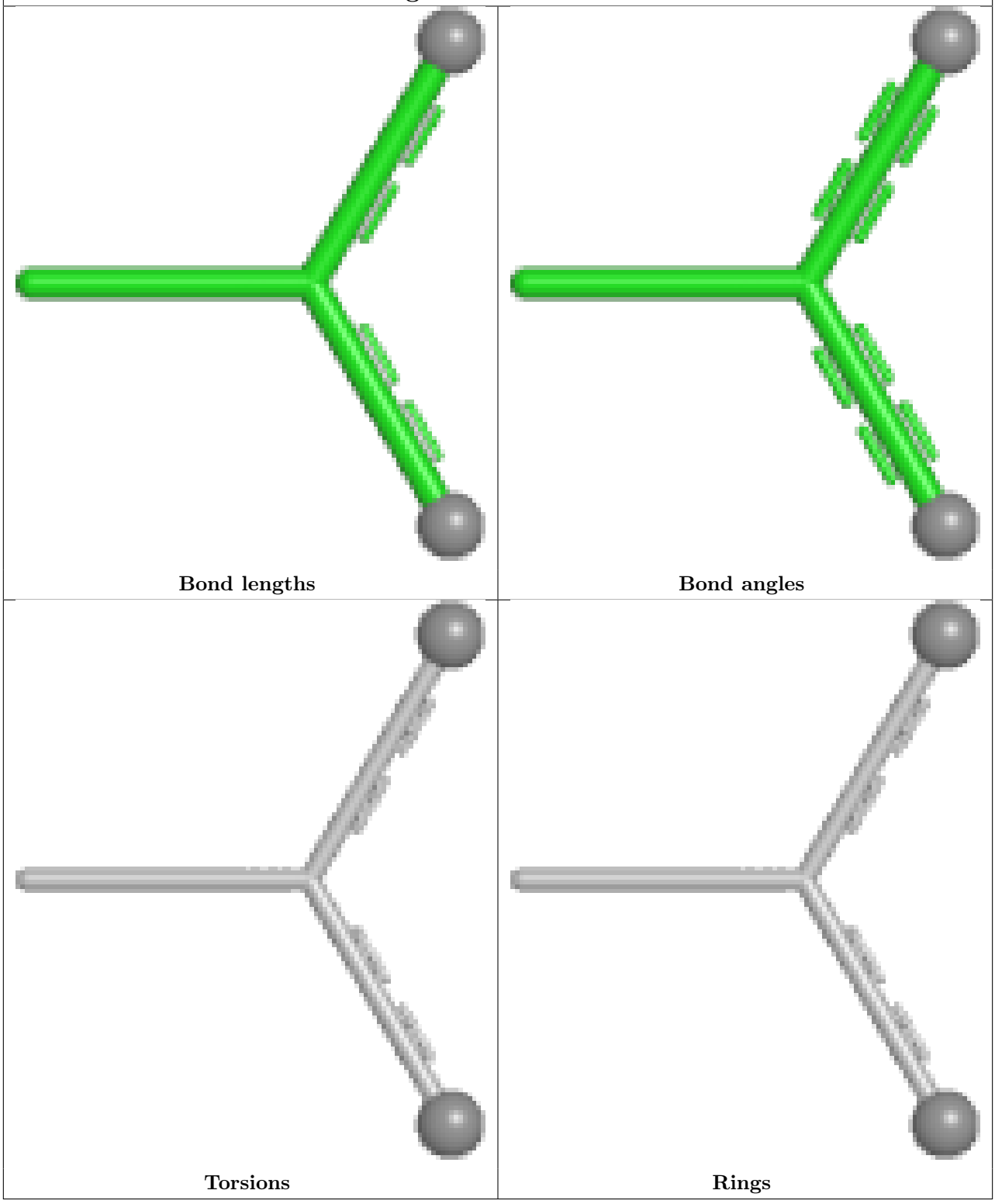


Torsions



Rings

Ligand ACT A 401



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, 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	296/307 (96%)	-0.35	3 (1%)	79	72	22, 31, 48, 66	0
1	B	293/307 (95%)	-0.31	2 (0%)	84	78	20, 34, 52, 62	0
1	C	295/307 (96%)	-0.18	6 (2%)	65	55	23, 37, 59, 76	0
1	D	296/307 (96%)	-0.20	3 (1%)	79	72	25, 38, 52, 72	0
1	E	293/307 (95%)	-0.09	6 (2%)	65	55	29, 40, 57, 82	0
1	F	295/307 (96%)	-0.07	3 (1%)	79	72	30, 41, 58, 79	0
1	G	293/307 (95%)	0.03	3 (1%)	79	72	28, 43, 61, 78	0
1	H	296/307 (96%)	0.06	7 (2%)	59	49	30, 44, 70, 97	0
1	I	296/307 (96%)	0.12	4 (1%)	73	64	33, 46, 63, 84	0
1	J	298/307 (97%)	0.02	4 (1%)	75	66	31, 45, 58, 74	0
1	K	295/307 (96%)	-0.17	2 (0%)	84	78	26, 38, 54, 68	0
1	L	297/307 (96%)	-0.13	4 (1%)	75	66	28, 38, 55, 80	0
All	All	3543/3684 (96%)	-0.11	47 (1%)	75	66	20, 40, 59, 97	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	307	SER	6.0
1	H	4	PHE	5.0
1	A	3	ALA	4.6
1	L	77	PRO	4.6
1	J	3	ALA	4.0
1	C	67	ALA	3.9
1	D	3	ALA	3.9
1	G	67	ALA	3.6
1	C	4	PHE	3.5
1	I	3	ALA	3.5
1	H	161	GLY	3.4

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Mol	Chain	Res	Type	RSRZ
1	G	307	SER	3.3
1	E	68	GLU	3.2
1	C	3	ALA	3.2
1	F	68	GLU	3.1
1	H	3	ALA	3.1
1	C	161	GLY	3.1
1	L	78	LYS	3.0
1	C	78	LYS	2.9
1	E	67	ALA	2.8
1	J	4	PHE	2.8
1	I	4	PHE	2.8
1	H	67	ALA	2.6
1	E	79	GLN	2.6
1	B	67	ALA	2.6
1	I	78	LYS	2.5
1	D	236	ASP	2.5
1	H	68	GLU	2.5
1	A	78	LYS	2.5
1	K	78	LYS	2.5
1	K	69	SER	2.5
1	D	4	PHE	2.5
1	G	161	GLY	2.4
1	J	78	LYS	2.4
1	I	161	GLY	2.4
1	L	290	ASN	2.3
1	J	70	HIS	2.3
1	E	160	ARG	2.3
1	B	4	PHE	2.2
1	L	291	ASN	2.2
1	F	160	ARG	2.2
1	A	4	PHE	2.2
1	H	82	MET	2.1
1	H	80	THR	2.1
1	C	82	MET	2.0
1	E	162	GLY	2.0
1	F	78	LYS	2.0

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

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

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

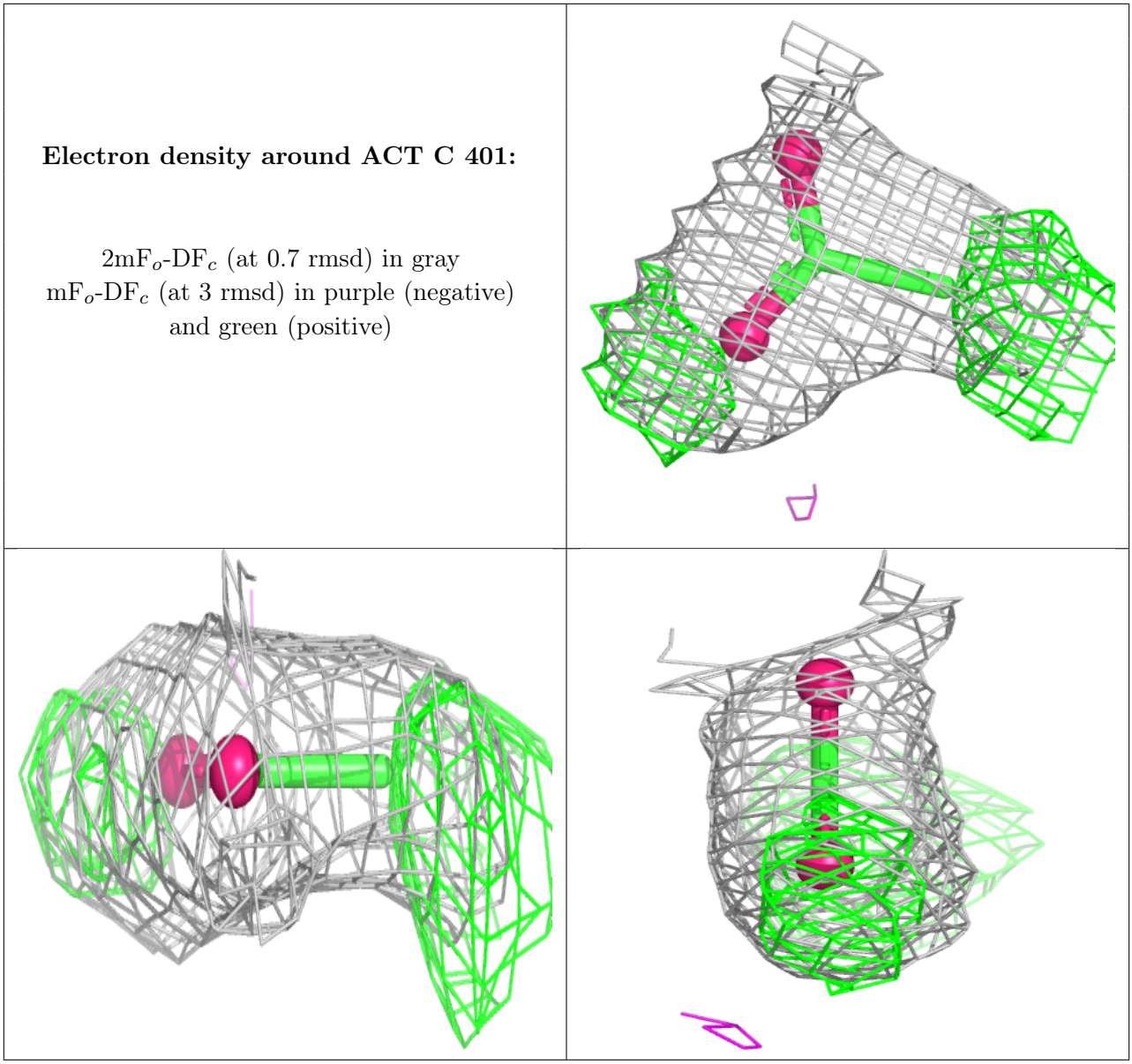
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
2	ACT	C	401	4/4	0.70	0.18	17,26,30,35	0
2	ACT	A	401	4/4	0.85	0.14	22,28,32,34	0
3	CAC	E	401	5/5	0.85	0.16	67,79,90,110	0
3	CAC	A	402	5/5	0.93	0.12	60,67,75,101	0
5	TRS	L	401	8/8	0.94	0.16	29,38,43,43	0
4	FE	G	401	1/1	0.98	0.07	33,33,33,33	0
4	FE	J	401	1/1	0.98	0.09	38,38,38,38	0
4	FE	L	402	1/1	0.98	0.09	31,31,31,31	0
4	FE	A	403	1/1	0.98	0.11	30,30,30,30	0
4	FE	H	401	1/1	0.99	0.07	35,35,35,35	0
4	FE	I	401	1/1	0.99	0.07	35,35,35,35	0
4	FE	D	401	1/1	0.99	0.07	30,30,30,30	0
4	FE	K	401	1/1	0.99	0.07	31,31,31,31	0
4	FE	E	402	1/1	0.99	0.06	31,31,31,31	0
4	FE	C	402	1/1	0.99	0.06	28,28,28,28	0
4	FE	F	401	1/1	1.00	0.07	28,28,28,28	0
4	FE	B	401	1/1	1.00	0.06	25,25,25,25	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.

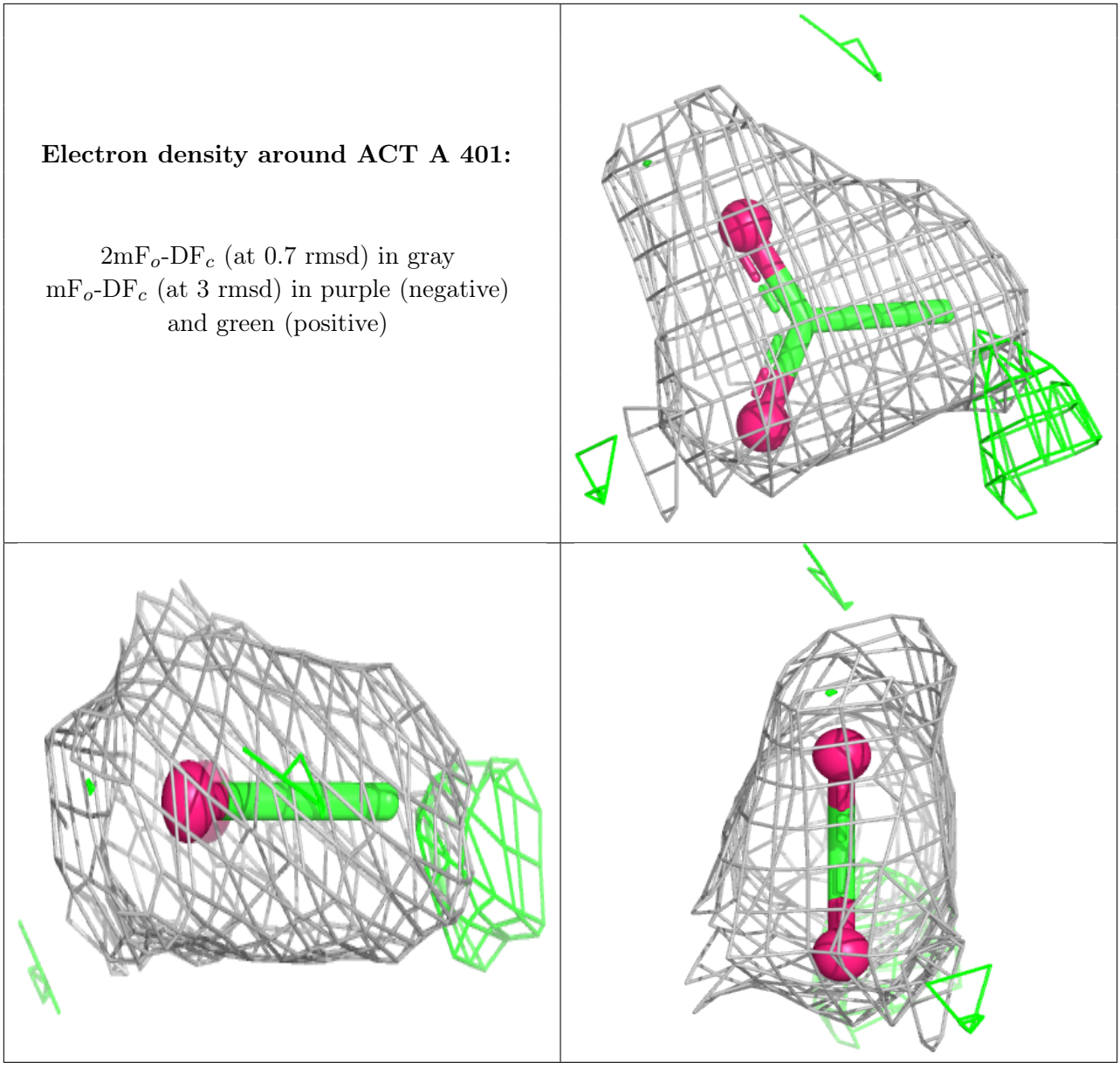
Electron density around ACT C 401:

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



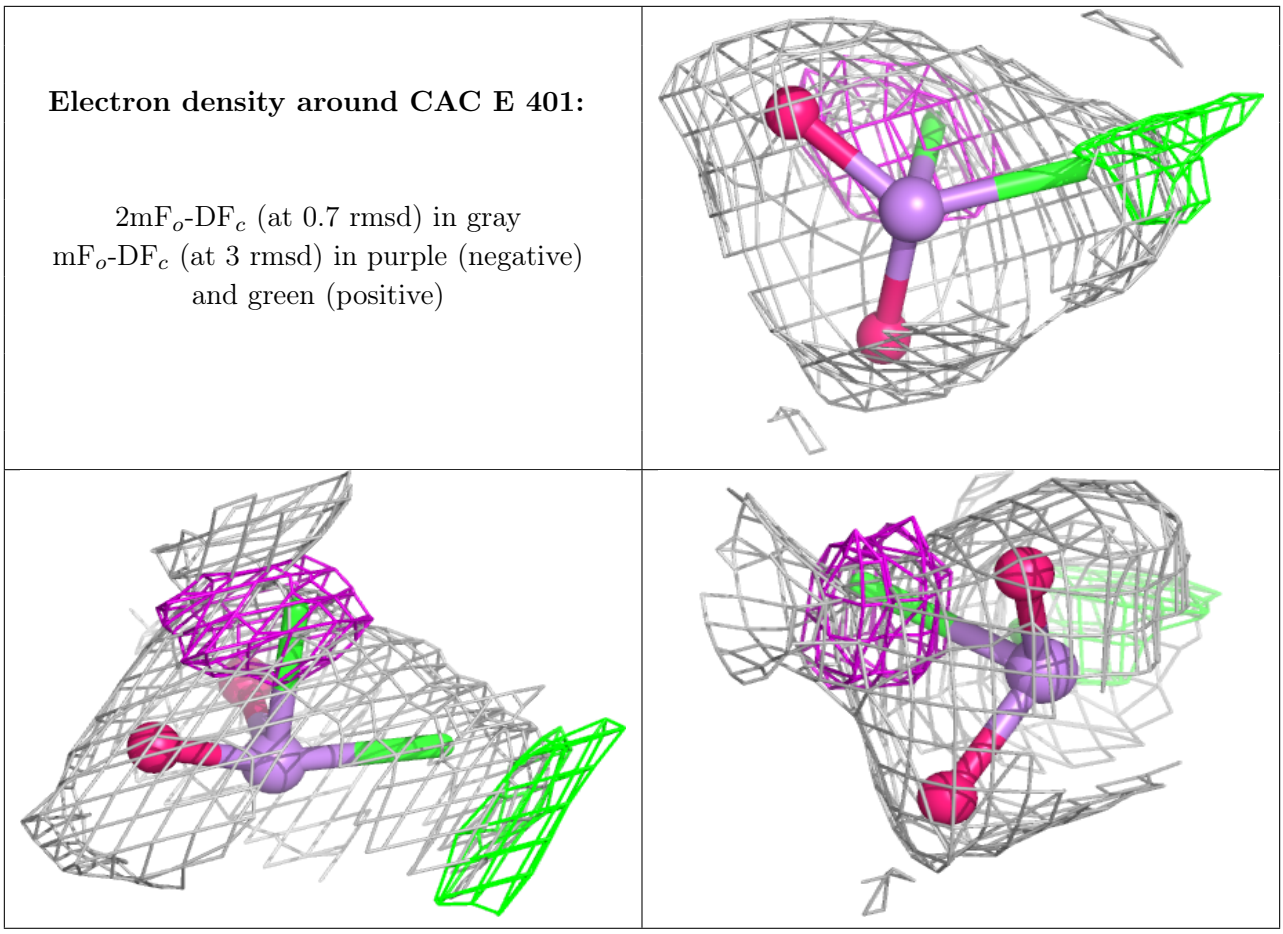
Electron density around ACT A 401:

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



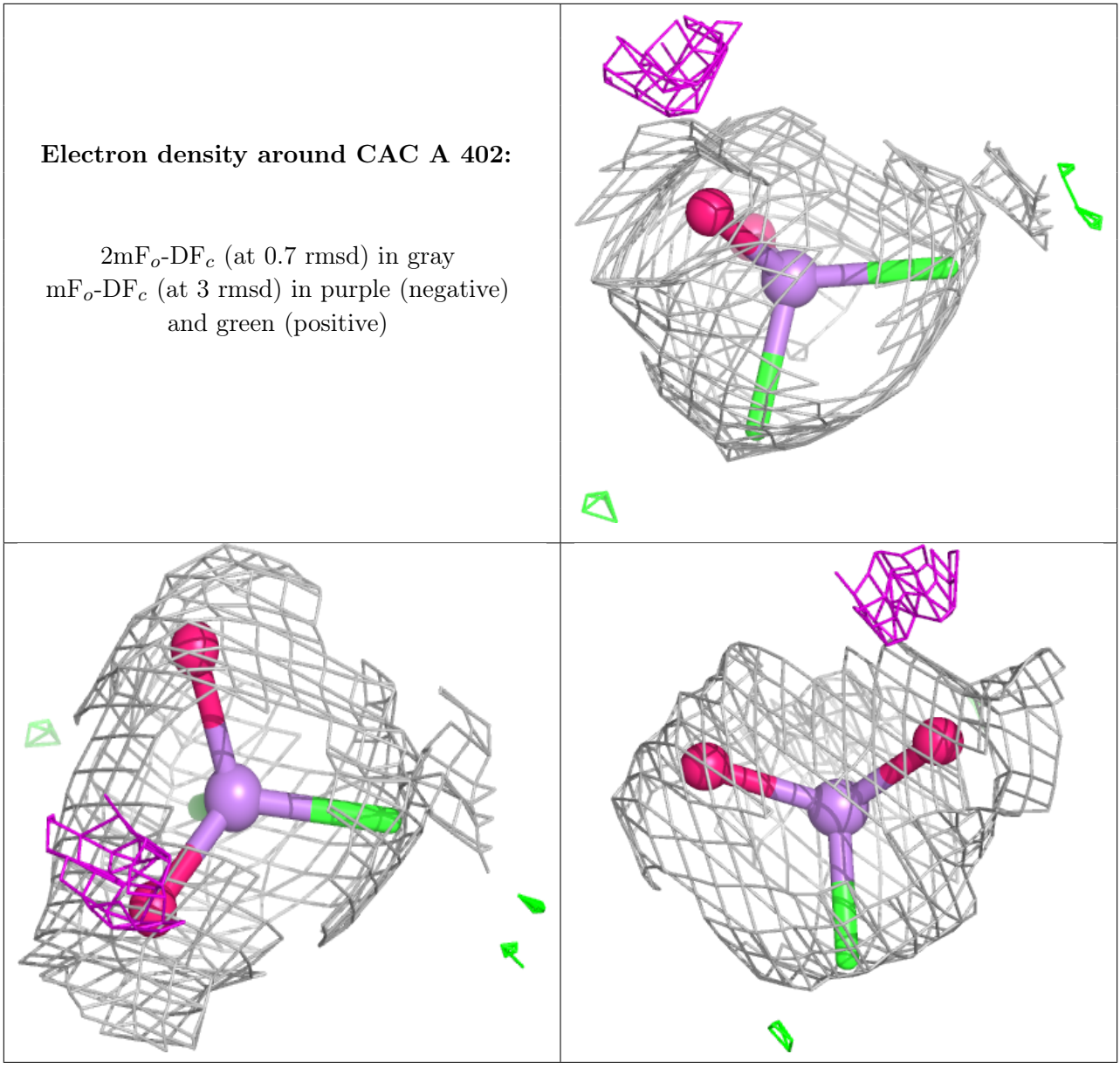
Electron density around CAC E 401:

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



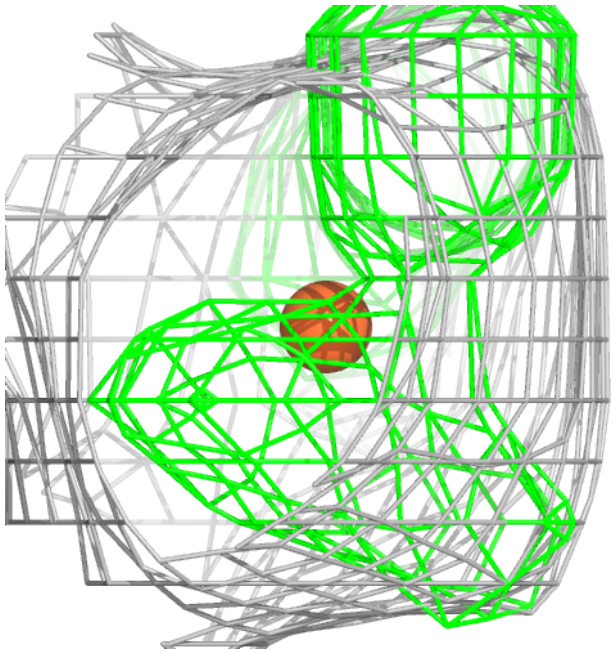
Electron density around CAC A 402:

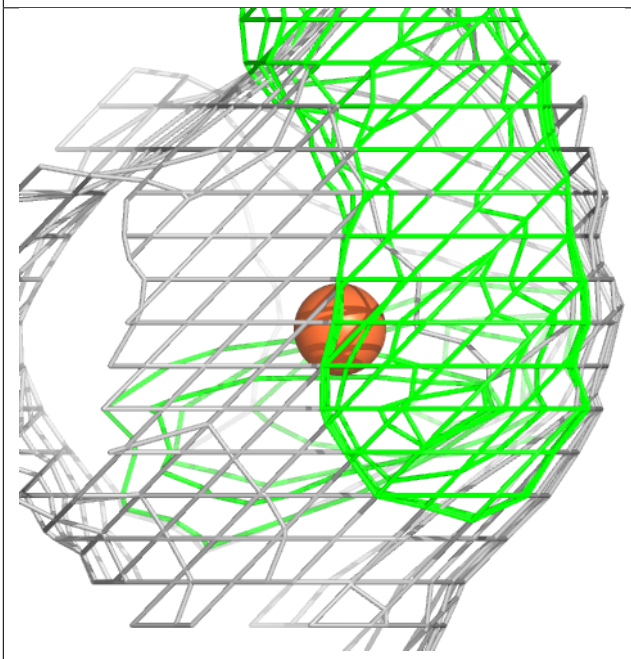
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

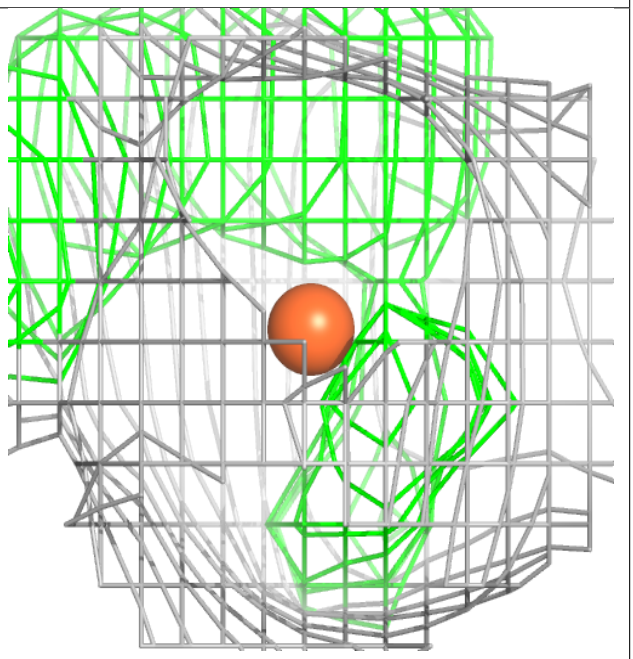


Electron density around FE G 401:

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

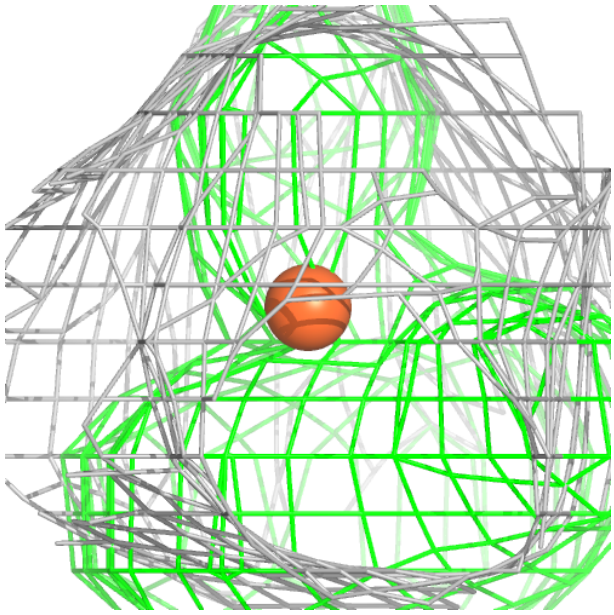


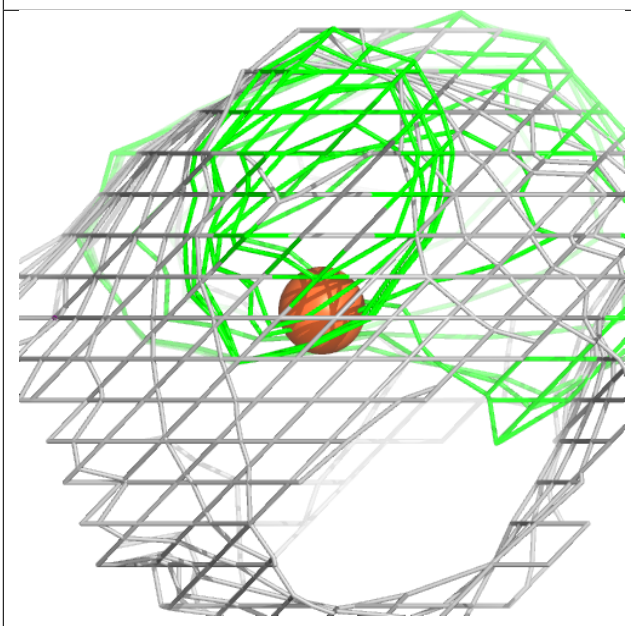


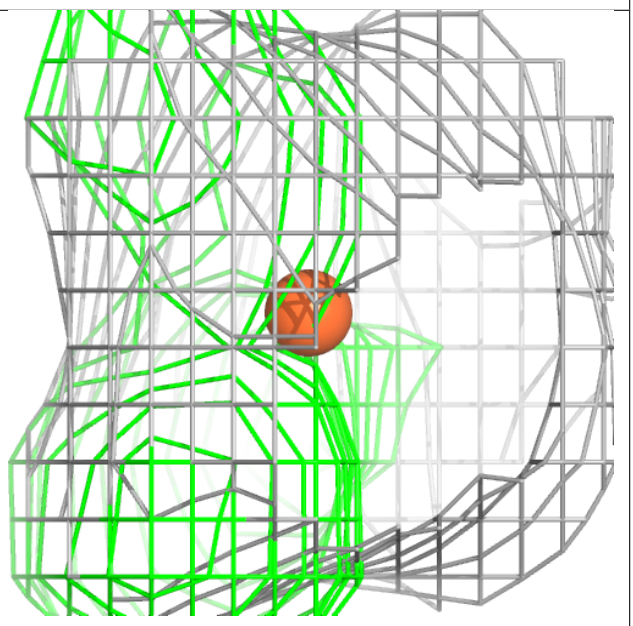


Electron density around FE J 401:

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

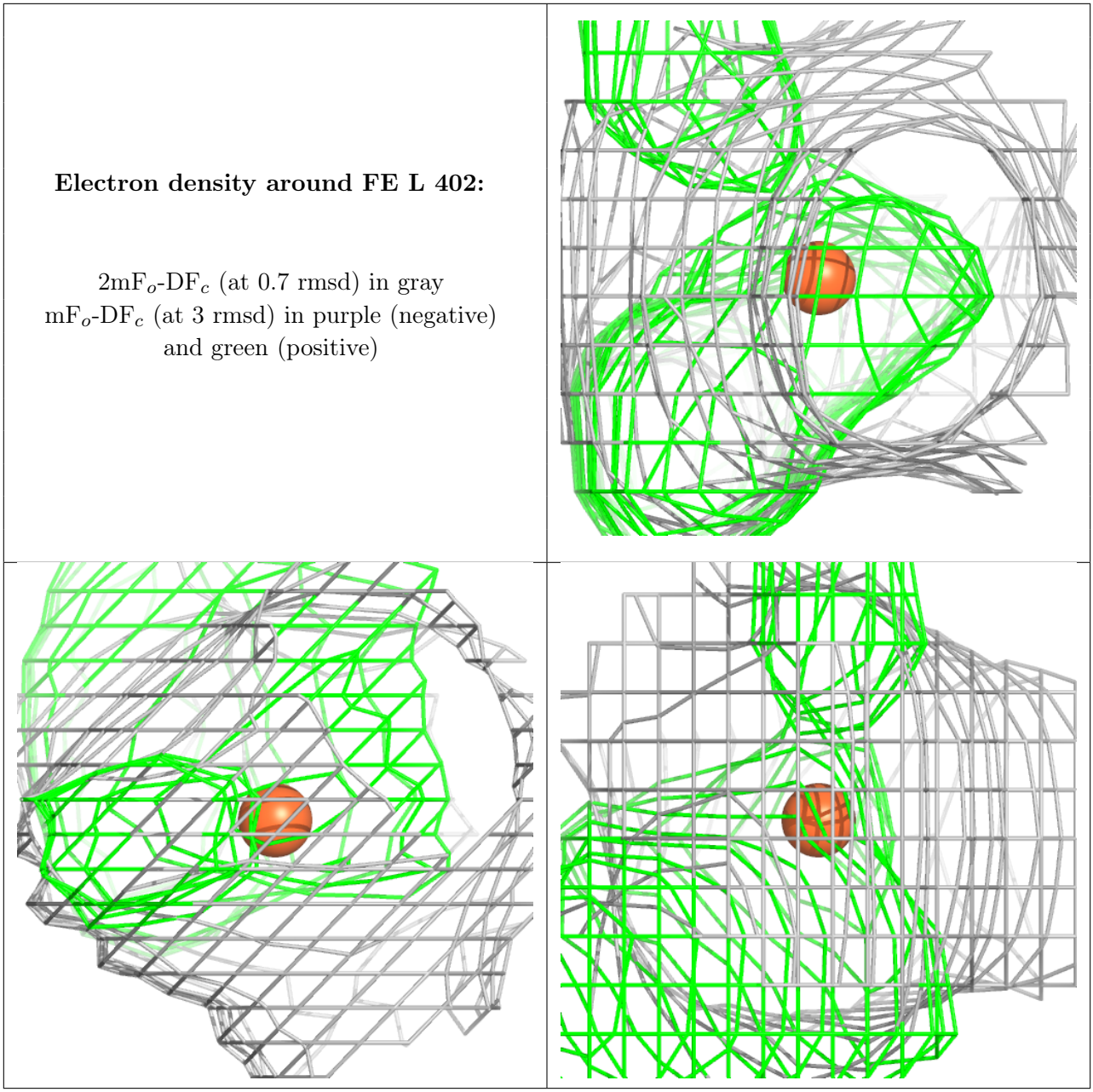






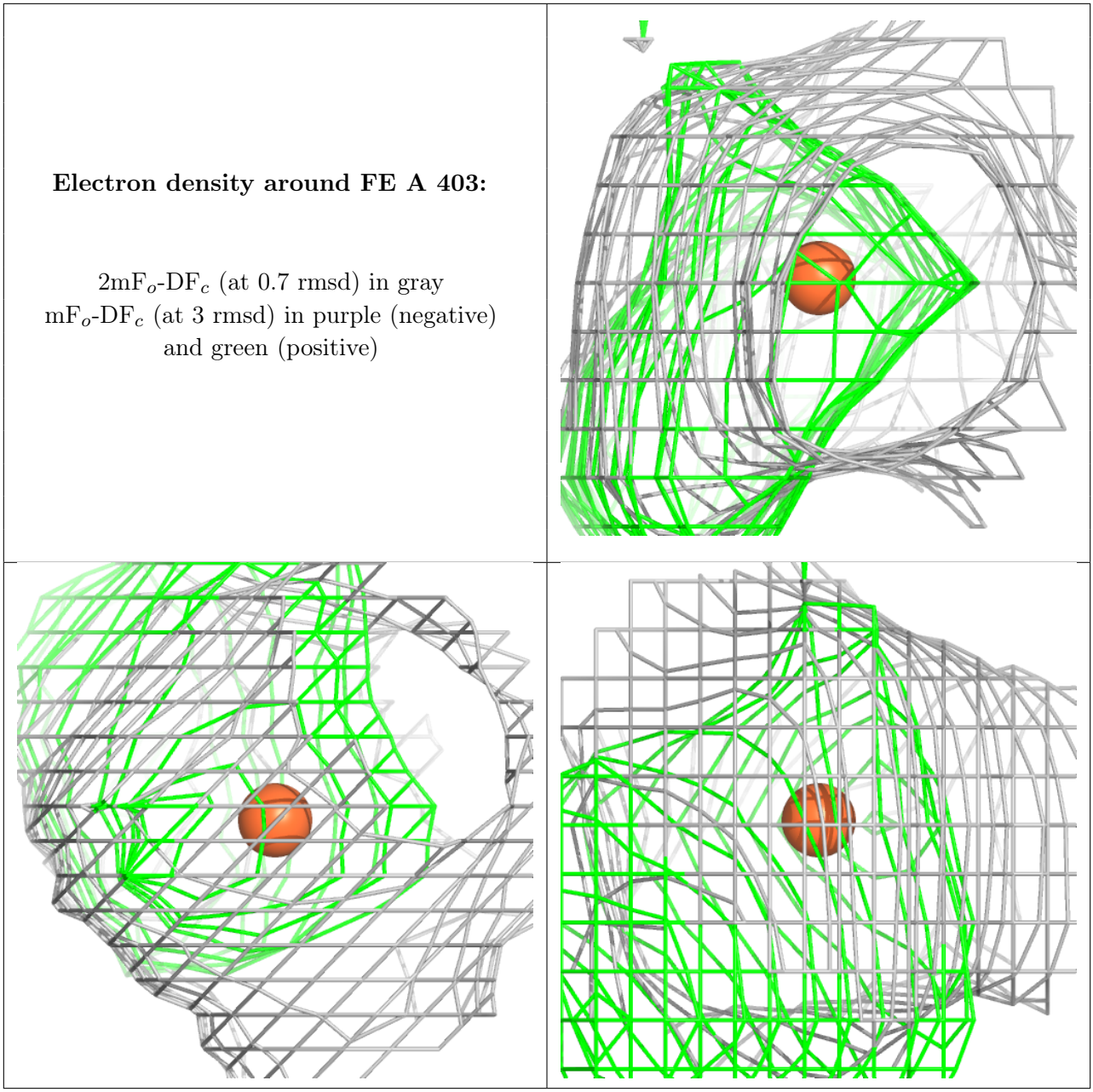
Electron density around FE L 402:

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



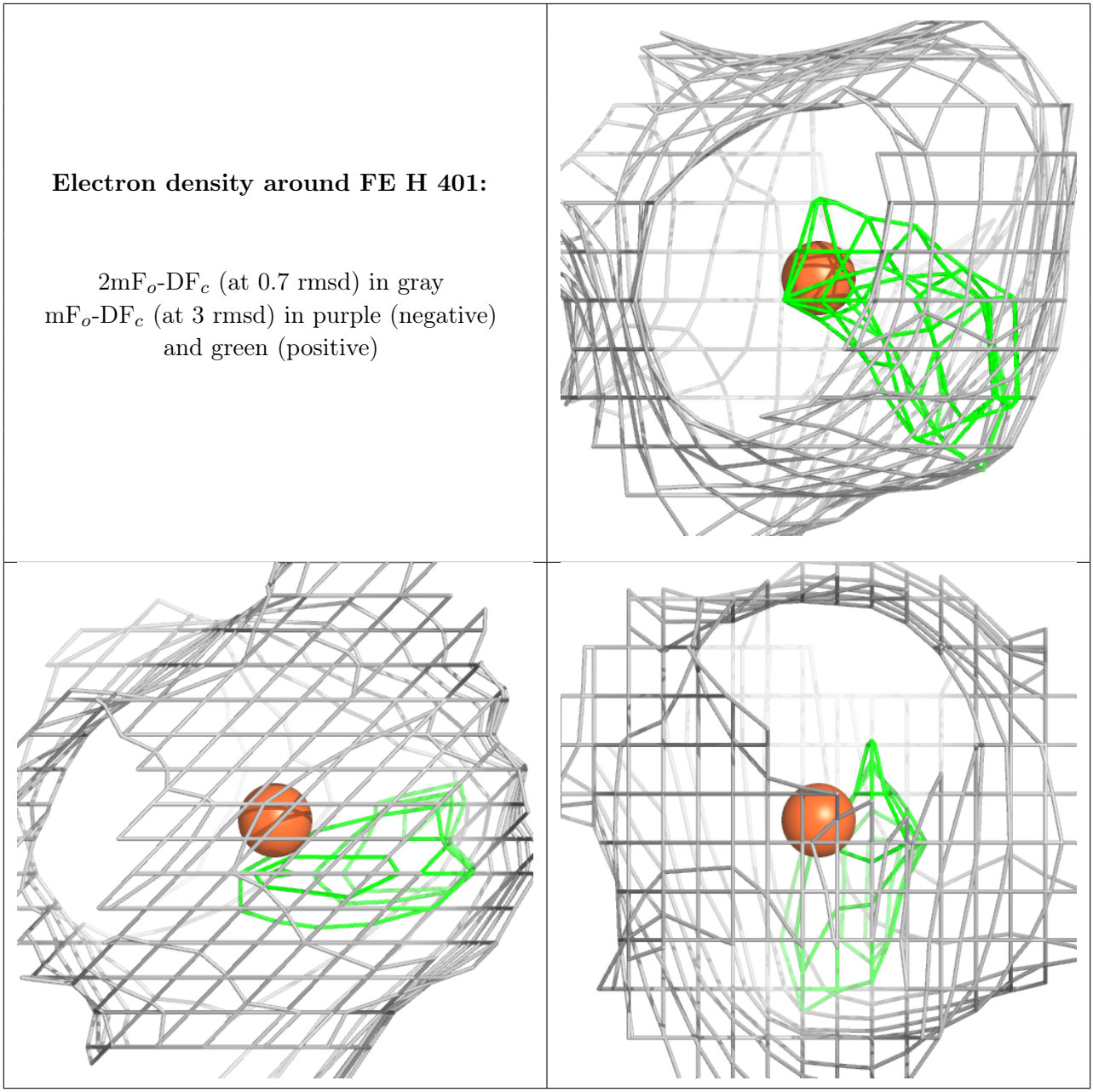
Electron density around FE A 403:

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



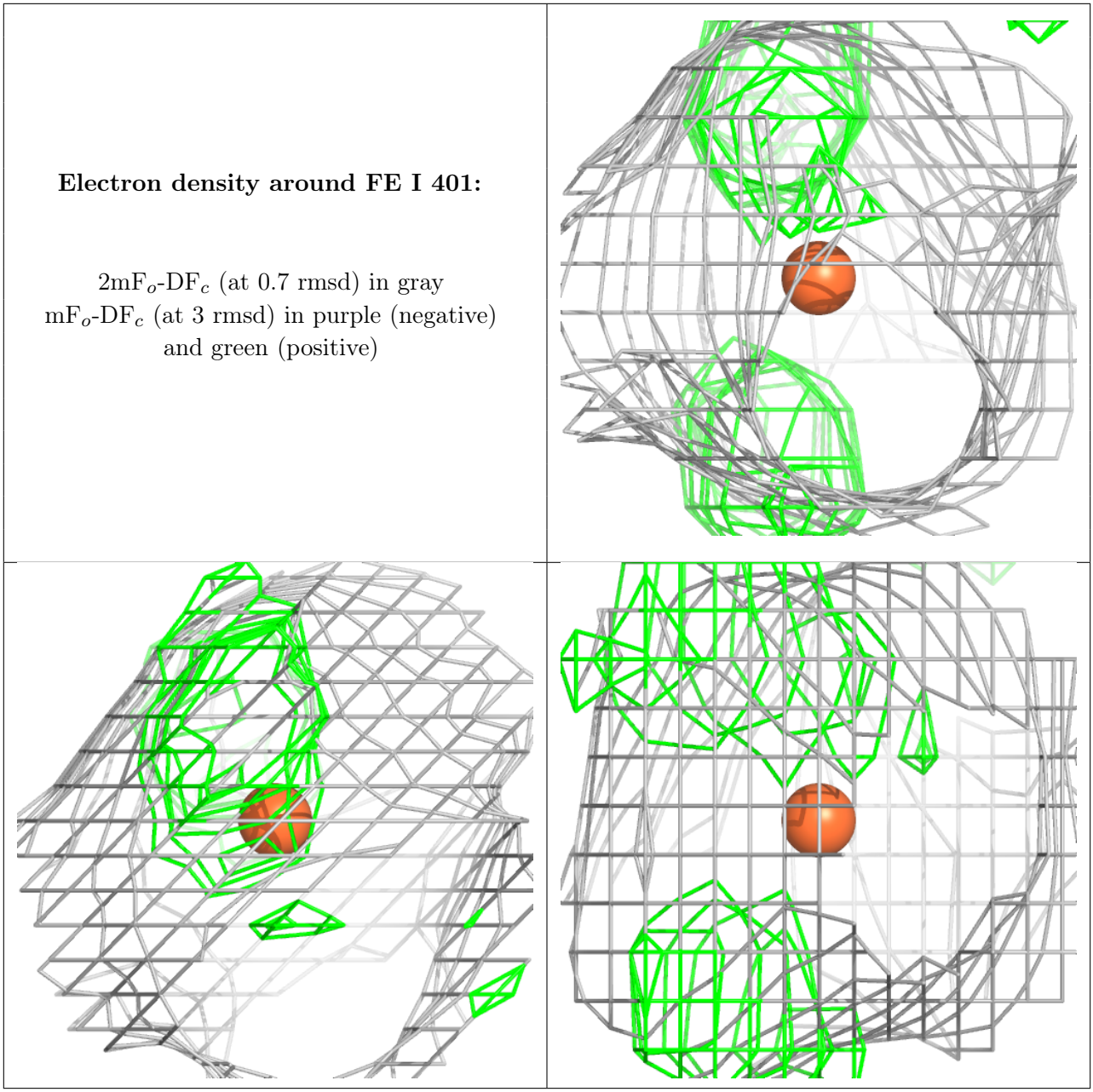
Electron density around FE H 401:

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



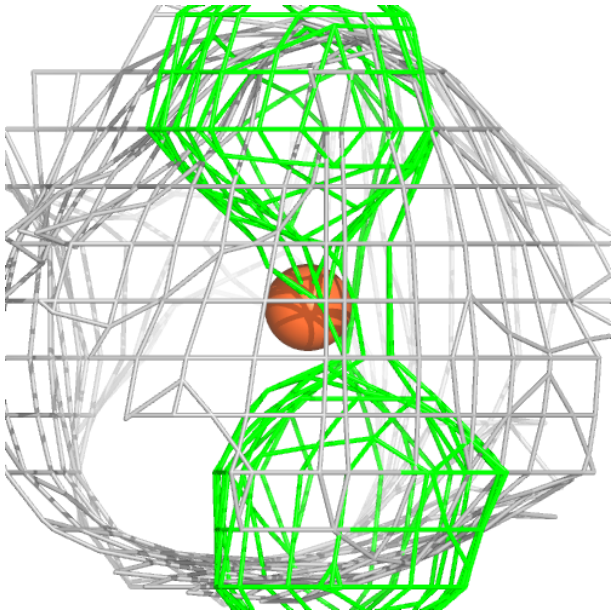
Electron density around FE I 401:

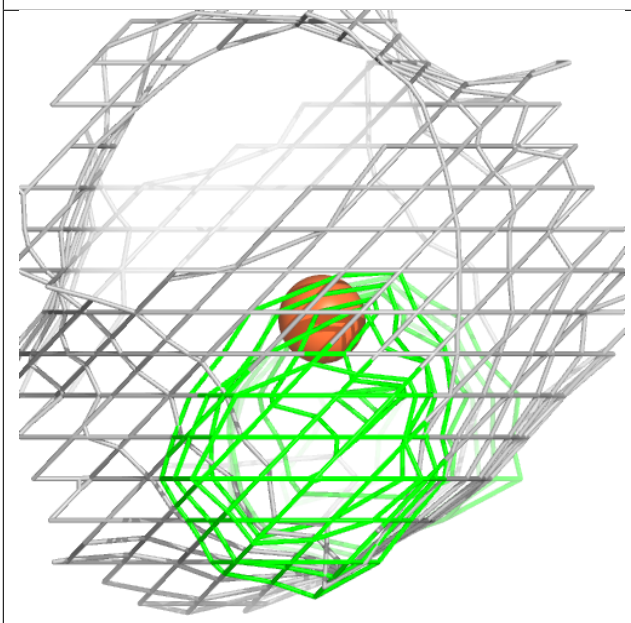
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

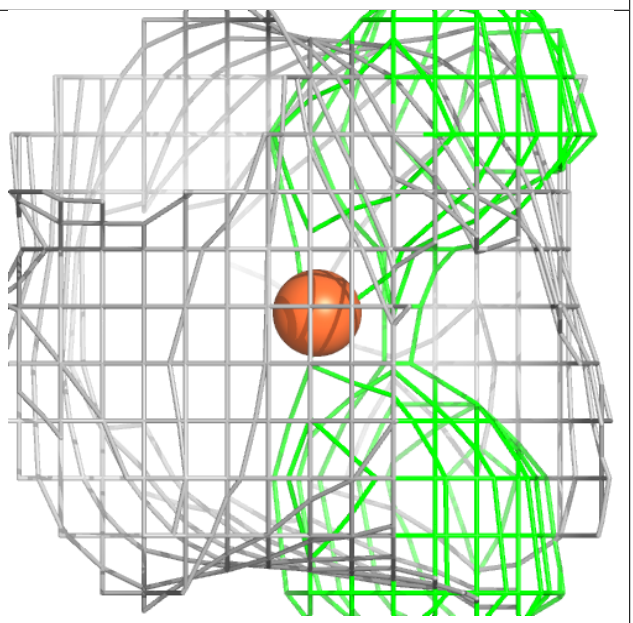


Electron density around FE D 401:

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

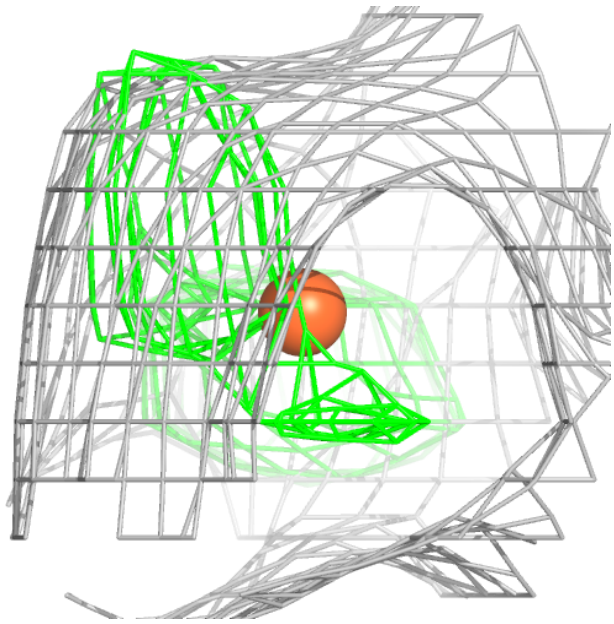


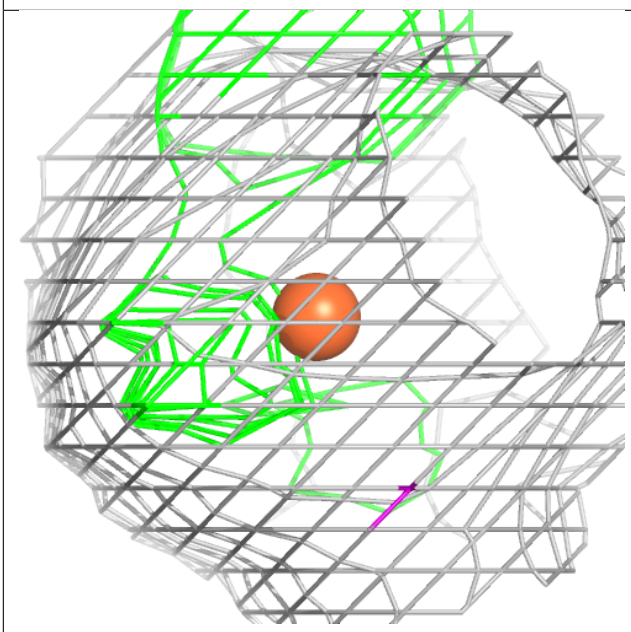


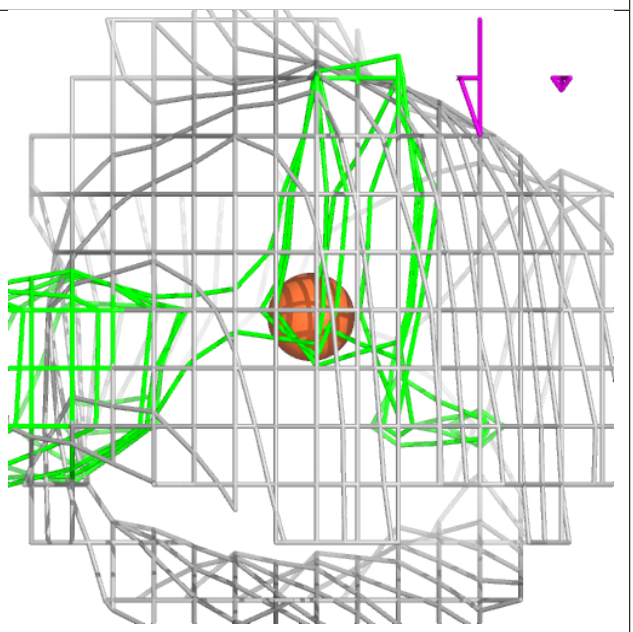


Electron density around FE K 401:

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

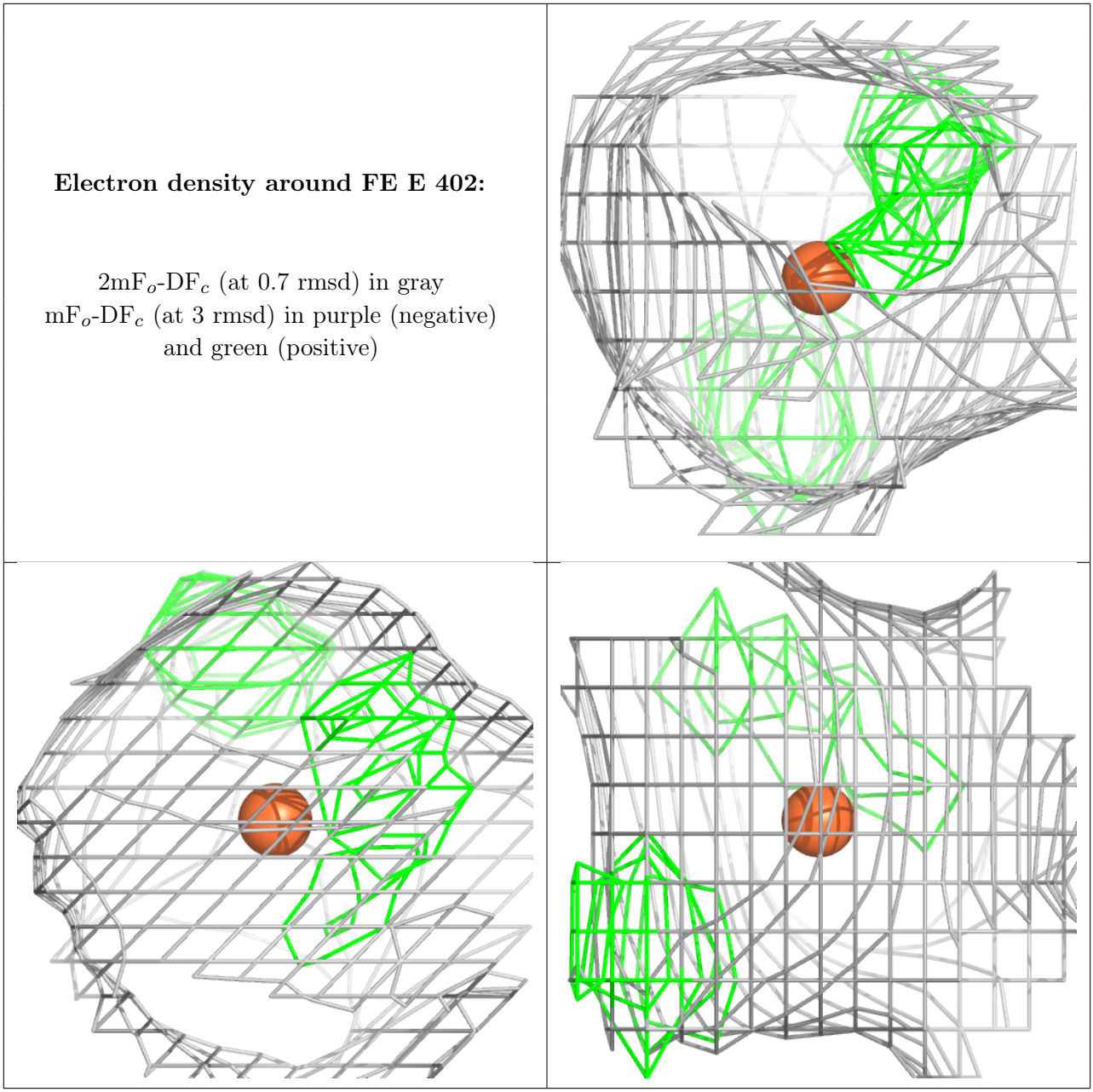






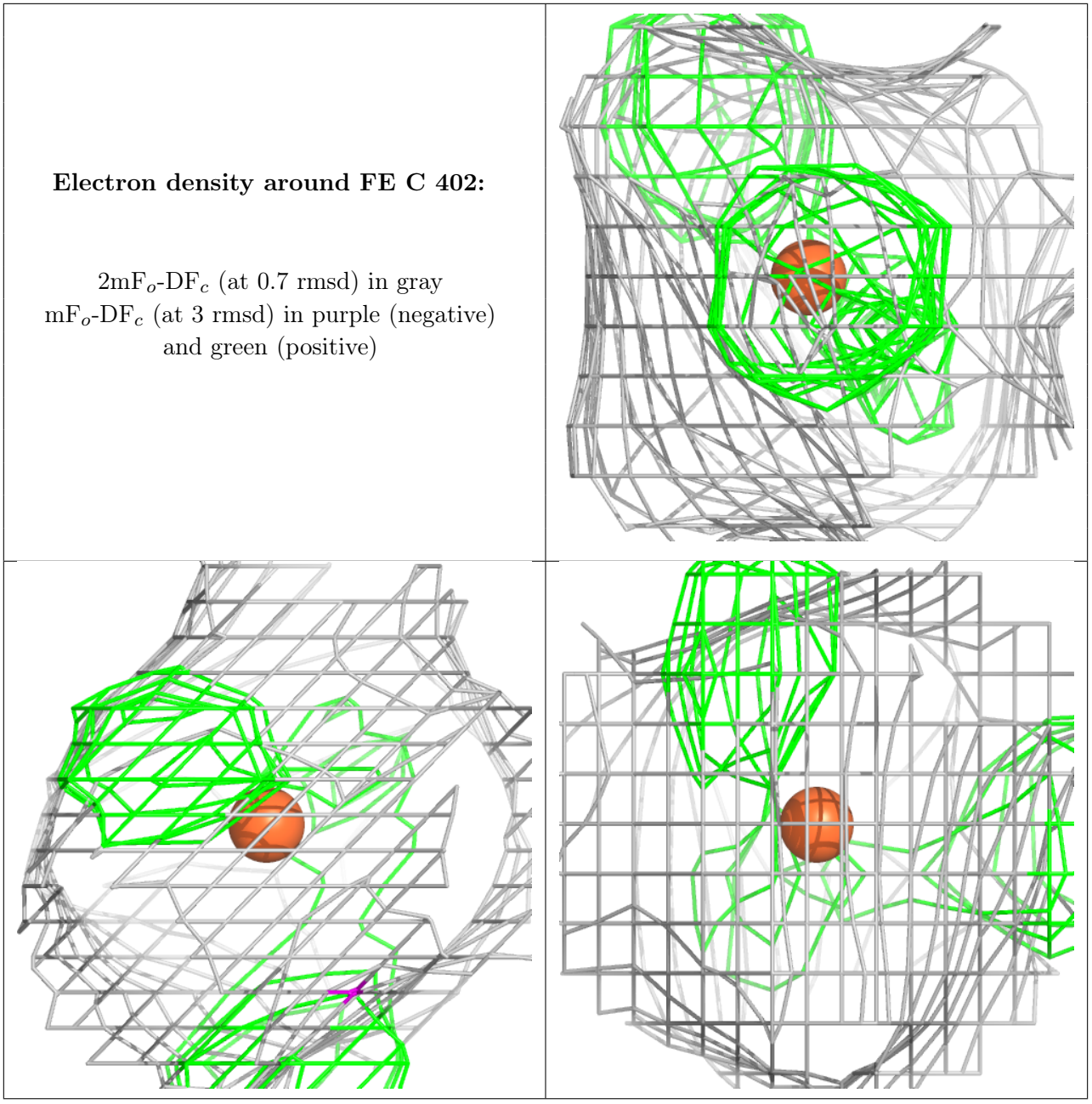
Electron density around FE E 402:

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



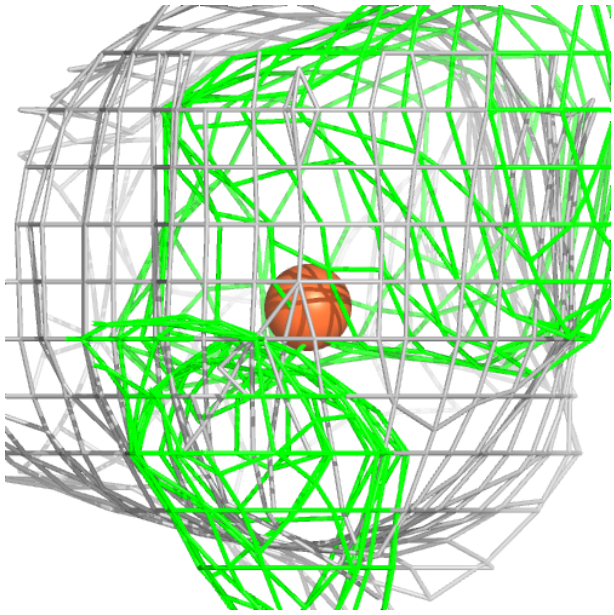
Electron density around FE C 402:

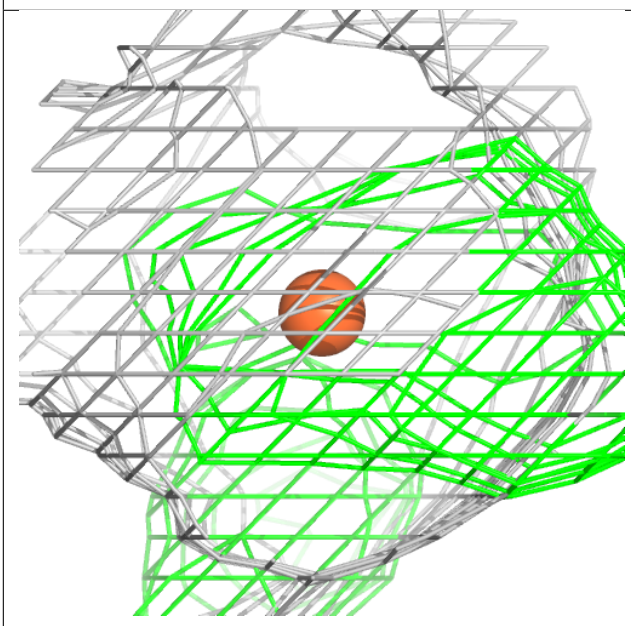
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

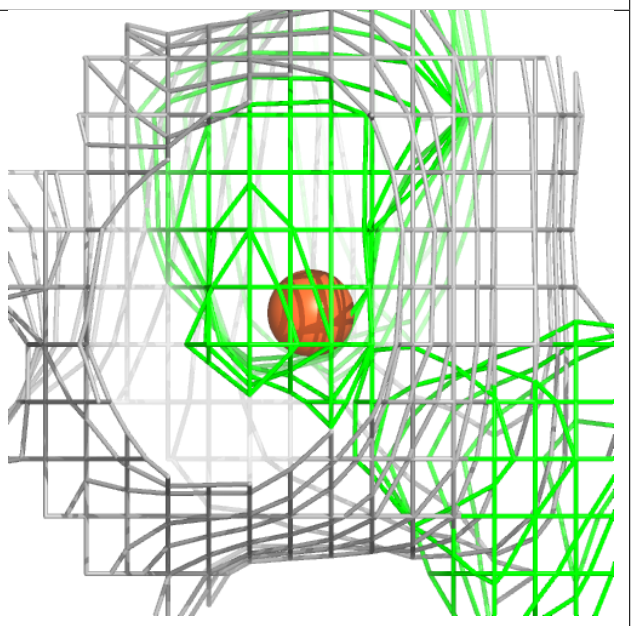


Electron density around FE F 401:

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

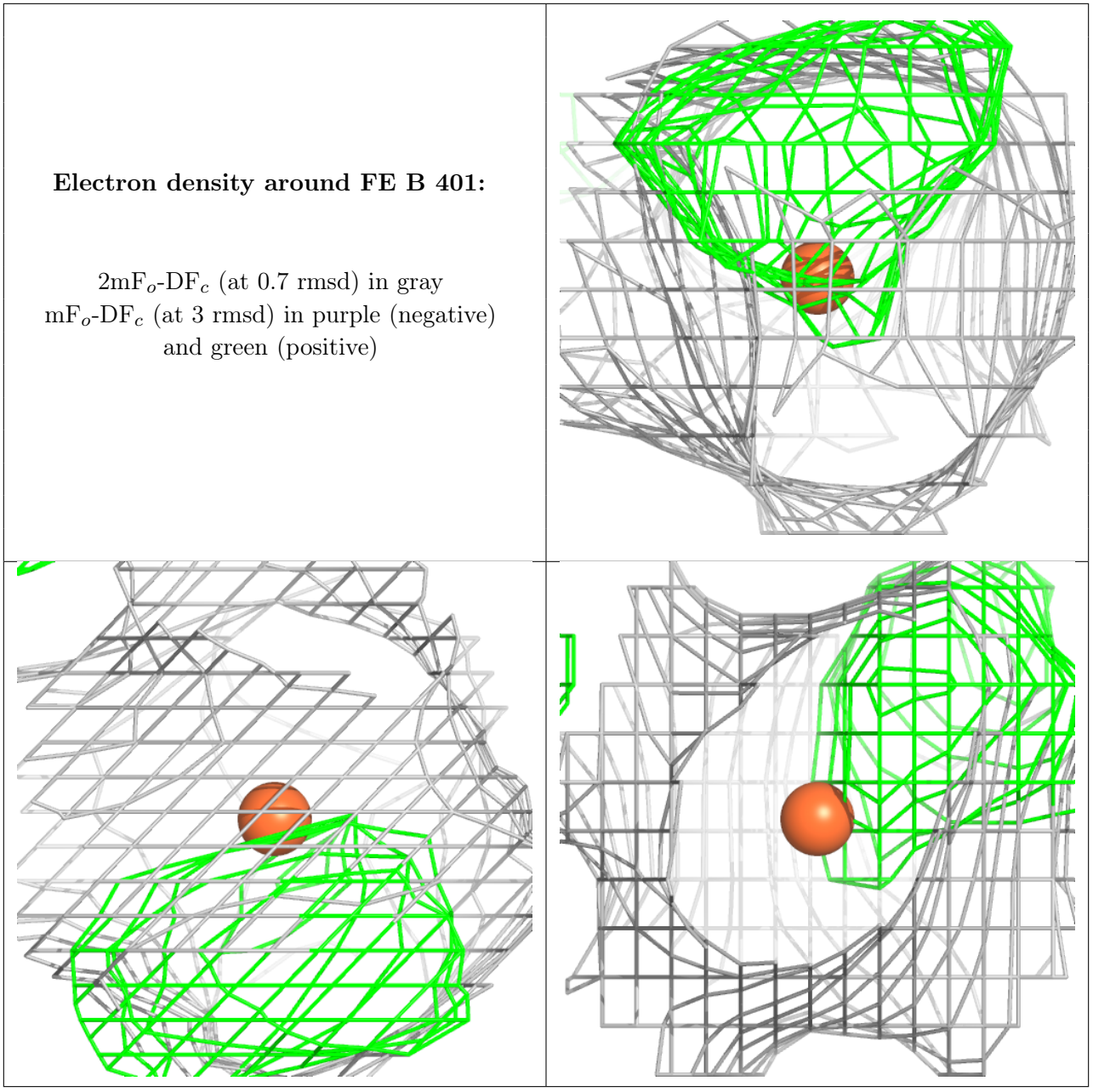






Electron density around FE B 401:

$2mF_o$-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 (i)

There are no such residues in this entry.