



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 11:15 PM UTC

PDB ID : 5ZL1 / pdb_00005zl1
Title : Hexameric structure of copper-containing nitrite reductase of an anammox organism KSU-1
Authors : Hira, D.; Matsumura, M.; Kitamura, R.; Fujii, T.
Deposited on : 2018-03-26
Resolution : 3.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

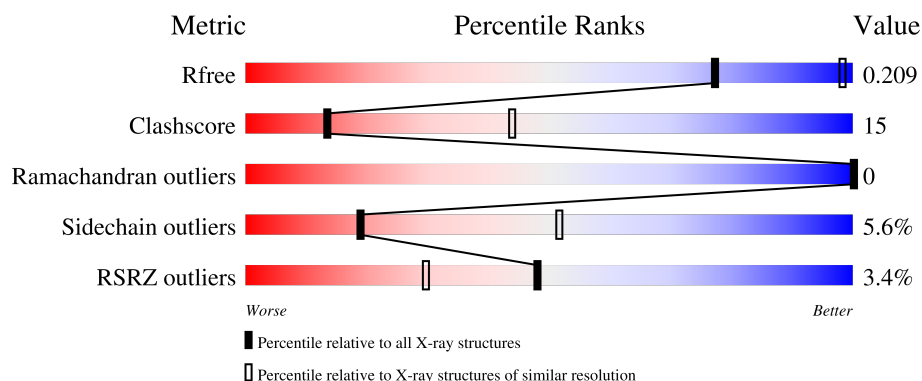
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)

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

Mol	Chain	Length	Quality of chain
1	A	326	
1	B	326	
1	C	326	
1	D	326	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 9615 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 Putative copper-type nitrite reductase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	306	Total	C	N	O	S	0	0	0
			2387	1537	403	437	10			
1	B	306	Total	C	N	O	S	0	0	0
			2387	1537	403	437	10			
1	C	306	Total	C	N	O	S	0	0	0
			2387	1537	403	437	10			
1	D	306	Total	C	N	O	S	0	0	0
			2387	1537	403	437	10			

There are 84 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	expression tag	UNP I3IR93
A	2	GLY	-	expression tag	UNP I3IR93
A	3	SER	-	expression tag	UNP I3IR93
A	4	SER	-	expression tag	UNP I3IR93
A	5	HIS	-	expression tag	UNP I3IR93
A	6	HIS	-	expression tag	UNP I3IR93
A	7	HIS	-	expression tag	UNP I3IR93
A	8	HIS	-	expression tag	UNP I3IR93
A	9	HIS	-	expression tag	UNP I3IR93
A	10	HIS	-	expression tag	UNP I3IR93
A	11	SER	-	expression tag	UNP I3IR93
A	12	SER	-	expression tag	UNP I3IR93
A	13	GLY	-	expression tag	UNP I3IR93
A	14	LEU	-	expression tag	UNP I3IR93
A	15	VAL	-	expression tag	UNP I3IR93
A	16	PRO	-	expression tag	UNP I3IR93
A	17	ARG	-	expression tag	UNP I3IR93
A	18	GLY	-	expression tag	UNP I3IR93
A	19	SER	-	expression tag	UNP I3IR93
A	20	HIS	-	expression tag	UNP I3IR93
A	21	MET	-	expression tag	UNP I3IR93

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1	MET	-	expression tag	UNP I3IR93
B	2	GLY	-	expression tag	UNP I3IR93
B	3	SER	-	expression tag	UNP I3IR93
B	4	SER	-	expression tag	UNP I3IR93
B	5	HIS	-	expression tag	UNP I3IR93
B	6	HIS	-	expression tag	UNP I3IR93
B	7	HIS	-	expression tag	UNP I3IR93
B	8	HIS	-	expression tag	UNP I3IR93
B	9	HIS	-	expression tag	UNP I3IR93
B	10	HIS	-	expression tag	UNP I3IR93
B	11	SER	-	expression tag	UNP I3IR93
B	12	SER	-	expression tag	UNP I3IR93
B	13	GLY	-	expression tag	UNP I3IR93
B	14	LEU	-	expression tag	UNP I3IR93
B	15	VAL	-	expression tag	UNP I3IR93
B	16	PRO	-	expression tag	UNP I3IR93
B	17	ARG	-	expression tag	UNP I3IR93
B	18	GLY	-	expression tag	UNP I3IR93
B	19	SER	-	expression tag	UNP I3IR93
B	20	HIS	-	expression tag	UNP I3IR93
B	21	MET	-	expression tag	UNP I3IR93
C	1	MET	-	expression tag	UNP I3IR93
C	2	GLY	-	expression tag	UNP I3IR93
C	3	SER	-	expression tag	UNP I3IR93
C	4	SER	-	expression tag	UNP I3IR93
C	5	HIS	-	expression tag	UNP I3IR93
C	6	HIS	-	expression tag	UNP I3IR93
C	7	HIS	-	expression tag	UNP I3IR93
C	8	HIS	-	expression tag	UNP I3IR93
C	9	HIS	-	expression tag	UNP I3IR93
C	10	HIS	-	expression tag	UNP I3IR93
C	11	SER	-	expression tag	UNP I3IR93
C	12	SER	-	expression tag	UNP I3IR93
C	13	GLY	-	expression tag	UNP I3IR93
C	14	LEU	-	expression tag	UNP I3IR93
C	15	VAL	-	expression tag	UNP I3IR93
C	16	PRO	-	expression tag	UNP I3IR93
C	17	ARG	-	expression tag	UNP I3IR93
C	18	GLY	-	expression tag	UNP I3IR93
C	19	SER	-	expression tag	UNP I3IR93
C	20	HIS	-	expression tag	UNP I3IR93
C	21	MET	-	expression tag	UNP I3IR93

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Chain	Residue	Modelled	Actual	Comment	Reference
D	1	MET	-	expression tag	UNP I3IR93
D	2	GLY	-	expression tag	UNP I3IR93
D	3	SER	-	expression tag	UNP I3IR93
D	4	SER	-	expression tag	UNP I3IR93
D	5	HIS	-	expression tag	UNP I3IR93
D	6	HIS	-	expression tag	UNP I3IR93
D	7	HIS	-	expression tag	UNP I3IR93
D	8	HIS	-	expression tag	UNP I3IR93
D	9	HIS	-	expression tag	UNP I3IR93
D	10	HIS	-	expression tag	UNP I3IR93
D	11	SER	-	expression tag	UNP I3IR93
D	12	SER	-	expression tag	UNP I3IR93
D	13	GLY	-	expression tag	UNP I3IR93
D	14	LEU	-	expression tag	UNP I3IR93
D	15	VAL	-	expression tag	UNP I3IR93
D	16	PRO	-	expression tag	UNP I3IR93
D	17	ARG	-	expression tag	UNP I3IR93
D	18	GLY	-	expression tag	UNP I3IR93
D	19	SER	-	expression tag	UNP I3IR93
D	20	HIS	-	expression tag	UNP I3IR93
D	21	MET	-	expression tag	UNP I3IR93

- Molecule 2 is COPPER (II) ION (CCD ID: CU) (formula: Cu) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Cu 2 2	0	0
2	B	3	Total Cu 3 3	0	0
2	C	2	Total Cu 2 2	0	0
2	D	2	Total Cu 2 2	0	0

- Molecule 3 is CALCIUM ION (CCD ID: CA) (formula: Ca).

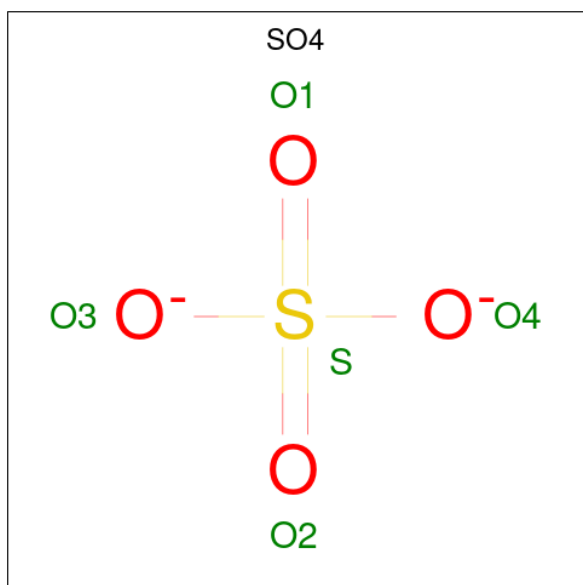
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Ca 1 1	0	0
3	B	1	Total Ca 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total Ca 1 1	0	0
3	D	1	Total Ca 1 1	0	0

- Molecule 4 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total O S 5 4 1	0	0
4	B	1	Total O S 5 4 1	0	0
4	C	1	Total O S 5 4 1	0	0
4	D	1	Total O S 5 4 1	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	14	Total O 14 14	0	0
5	B	6	Total O 6 6	0	0
5	C	9	Total O 9 9	0	0

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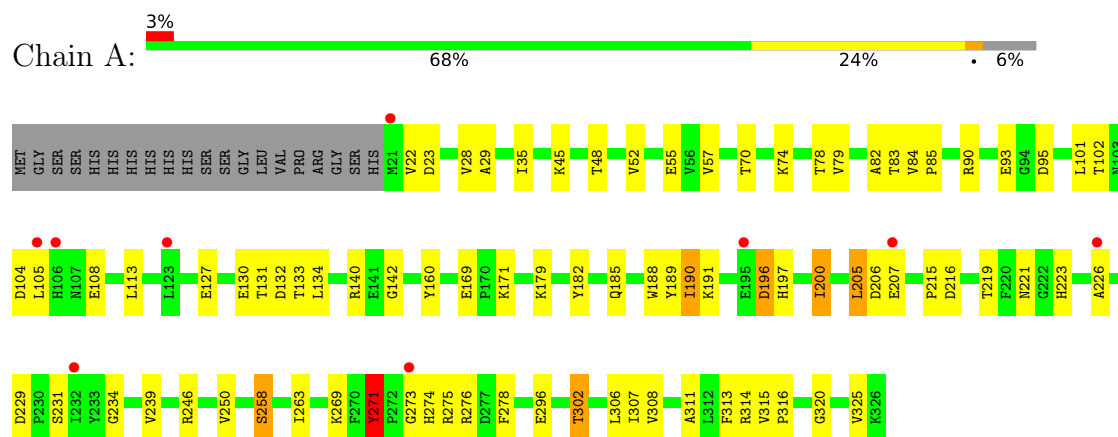
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	D	5	Total	O	0	0
			5	5		

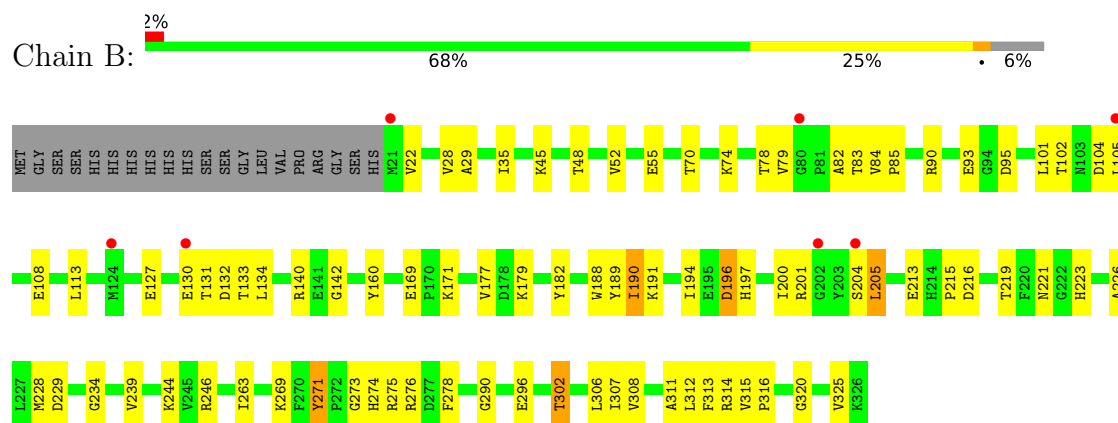
3 Residue-property plots [i](#)

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.

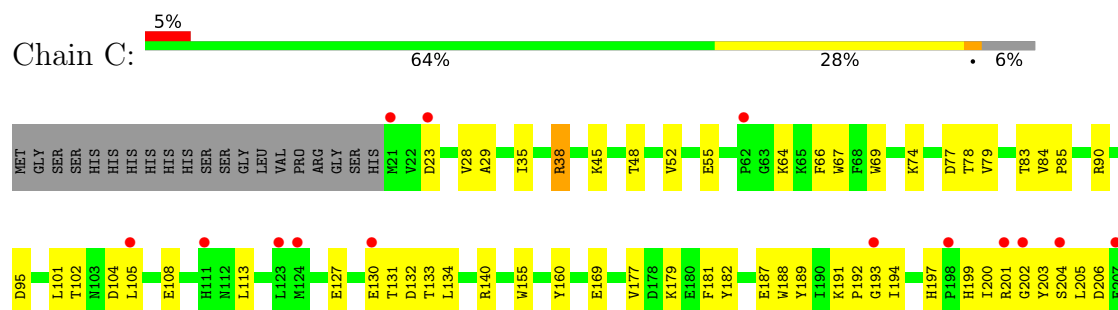
- Molecule 1: Putative copper-type nitrite reductase

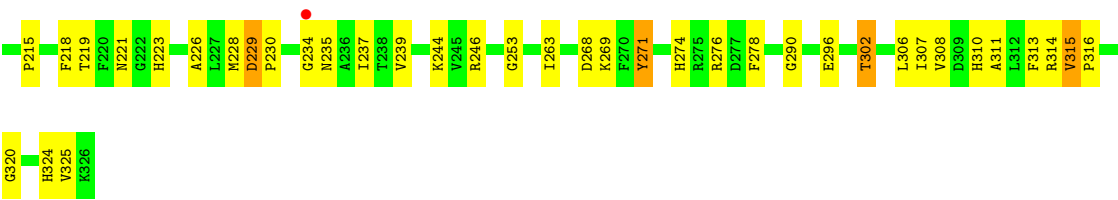


- Molecule 1: Putative copper-type nitrite reductase

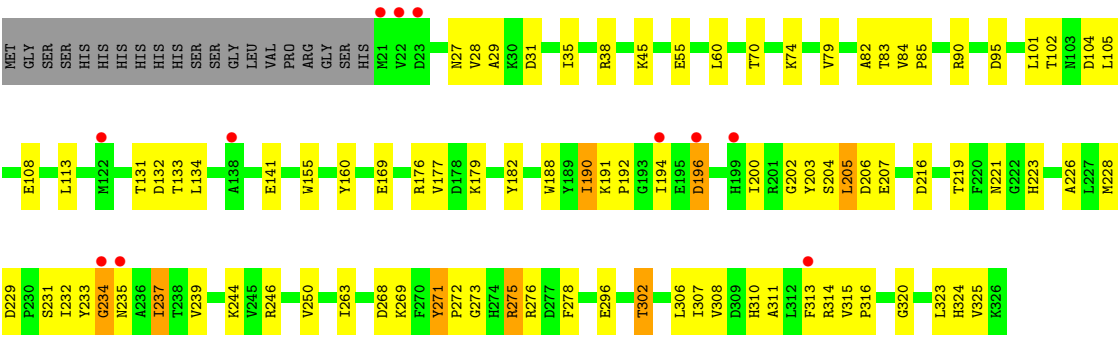


- Molecule 1: Putative copper-type nitrite reductase





● Molecule 1: Putative copper-type nitrite reductase



4 Data and refinement statistics

Property	Value	Source
Space group	H 3 2	Depositor
Cell constants a, b, c, α , β , γ	270.22Å 270.22Å 128.91Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	40.00 – 3.20 40.00 – 3.20	Depositor EDS
% Data completeness (in resolution range)	99.9 (40.00-3.20) 99.9 (40.00-3.20)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	5.20 (at 3.18Å)	Xtriage
Refinement program	REFMAC 5.8.0135	Depositor
R, R_{free}	0.240 , 0.254 (Not available) , 0.209	Depositor DCC
R_{free} test set	1507 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å ²)	60.0	Xtriage
Anisotropy	0.024	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 35.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	9615	wwPDB-VP
Average B, all atoms (Å ²)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.33% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CU, SO4, CA

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	0.55	0/2457	0.84	2/3335 (0.1%)
1	B	0.56	0/2457	0.85	1/3335 (0.0%)
1	C	0.63	0/2457	0.87	4/3335 (0.1%)
1	D	0.57	0/2457	0.87	4/3335 (0.1%)
All	All	0.58	0/9828	0.86	11/13340 (0.1%)

There are no bond length outliers.

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	200	ILE	N-CA-C	9.22	120.02	110.62
1	D	234	GLY	N-CA-C	-7.12	100.46	111.64
1	D	200	ILE	N-CA-C	6.97	117.73	110.62
1	C	315	VAL	CB-CA-C	-6.09	107.90	114.35
1	C	229	ASP	CA-C-N	-5.33	113.14	119.05
1	C	229	ASP	C-N-CA	-5.33	113.14	119.05
1	C	69	TRP	N-CA-C	-5.21	99.92	108.41
1	D	276	ARG	N-CA-C	5.19	117.84	111.82
1	D	237	ILE	CB-CA-C	-5.17	105.21	111.88
1	A	271	TYR	CA-C-N	-5.15	113.24	118.85
1	A	271	TYR	C-N-CA	-5.15	113.24	118.85

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	2387	0	2312	55	0
1	B	2387	0	2312	60	0
1	C	2387	0	2312	88	0
1	D	2387	0	2312	81	0
2	A	2	0	0	0	0
2	B	3	0	0	0	0
2	C	2	0	0	0	0
2	D	2	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	5	0	0	1	0
4	B	5	0	0	1	0
4	C	5	0	0	1	0
4	D	5	0	0	0	0
5	A	14	0	0	0	0
5	B	6	0	0	0	0
5	C	9	0	0	0	0
5	D	5	0	0	0	0
All	All	9615	0	9248	277	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 15.

All (277) 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:C:235:ASN:HB3	1:C:324:HIS:NE2	1.66	1.10
1:C:234:GLY:O	1:C:235:ASN:ND2	1.95	1.00
1:A:269:LYS:HE2	1:A:278:PHE:CZ	2.00	0.97
1:B:269:LYS:HE2	1:B:278:PHE:CZ	2.04	0.91
1:C:235:ASN:CB	1:C:324:HIS:NE2	2.36	0.89
1:C:235:ASN:CB	1:C:324:HIS:CD2	2.57	0.87
1:D:228:MET:HE1	1:D:306:LEU:CD1	2.05	0.86
1:C:228:MET:HE1	1:C:306:LEU:CD1	2.06	0.86
1:C:223:HIS:HB3	1:C:226:ALA:HB2	1.59	0.82
1:D:27:ASN:HD22	1:D:232:ILE:HD13	1.45	0.81
1:C:230:PRO:HA	1:C:234:GLY:HA3	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:228:MET:HE1	1:D:306:LEU:HD11	1.64	0.79
1:A:185:GLN:OE1	1:A:258:SER:HB2	1.81	0.79
1:A:223:HIS:HB3	1:A:226:ALA:HB2	1.66	0.78
1:C:228:MET:HE1	1:C:306:LEU:HD11	1.64	0.78
1:D:229:ASP:C	1:D:234:GLY:HA3	2.08	0.78
1:D:223:HIS:HB3	1:D:226:ALA:HB2	1.65	0.77
1:B:223:HIS:HB3	1:B:226:ALA:HB2	1.65	0.77
1:C:269:LYS:HE2	1:C:278:PHE:CZ	2.22	0.76
1:D:229:ASP:O	1:D:234:GLY:N	2.19	0.75
1:D:269:LYS:HE2	1:D:278:PHE:CZ	2.21	0.74
1:D:228:MET:CE	1:D:306:LEU:HD11	2.17	0.74
1:C:235:ASN:HB2	1:C:324:HIS:CD2	2.23	0.73
1:C:228:MET:CE	1:C:306:LEU:HD11	2.19	0.72
1:B:190:ILE:HD13	1:B:216:ASP:OD2	1.93	0.69
1:D:176:ARG:NH1	1:D:177:VAL:O	2.27	0.68
1:C:235:ASN:HA	1:C:324:HIS:CD2	2.29	0.67
1:A:190:ILE:HD13	1:A:216:ASP:OD2	1.94	0.67
1:C:313:PHE:C	1:C:316:PRO:HD2	2.20	0.67
1:D:188:TRP:CD1	1:D:219:THR:HG23	2.30	0.67
1:B:22:VAL:HB	1:B:197:HIS:CD2	2.29	0.67
1:D:190:ILE:HD13	1:D:216:ASP:OD2	1.96	0.66
1:D:235:ASN:HA	1:D:324:HIS:CD2	2.31	0.66
1:D:229:ASP:O	1:D:234:GLY:CA	2.44	0.66
1:A:274:HIS:CE1	1:A:276:ARG:HB2	2.32	0.64
1:C:235:ASN:C	1:C:235:ASN:HD22	2.05	0.64
1:C:193:GLY:HA2	1:C:202:GLY:O	1.96	0.64
1:C:191:LYS:HD2	1:C:206:ASP:HA	1.78	0.64
1:D:229:ASP:O	1:D:234:GLY:HA3	1.98	0.63
1:A:313:PHE:C	1:A:316:PRO:HD2	2.23	0.62
1:B:313:PHE:C	1:B:316:PRO:HD2	2.24	0.62
1:A:269:LYS:HE2	1:A:278:PHE:CE2	2.35	0.62
1:C:201:ARG:O	1:C:201:ARG:HG3	2.00	0.61
1:A:179:LYS:HG3	1:A:239:VAL:HG13	1.83	0.61
1:D:313:PHE:C	1:D:316:PRO:HD2	2.25	0.61
1:D:272:PRO:N	1:D:273:GLY:HA3	2.16	0.61
1:C:179:LYS:HG3	1:C:239:VAL:HG13	1.83	0.61
1:B:191:LYS:HE3	1:B:205:LEU:O	2.01	0.61
1:D:132:ASP:OD1	1:D:133:THR:N	2.35	0.60
1:A:132:ASP:OD1	1:A:133:THR:N	2.35	0.60
1:B:132:ASP:OD1	1:B:133:THR:N	2.35	0.60
1:B:190:ILE:CD1	1:B:216:ASP:OD2	2.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:132:ASP:OD1	1:C:133:THR:N	2.35	0.59
1:C:235:ASN:HB3	1:C:324:HIS:CE1	2.36	0.59
1:C:84:VAL:O	1:C:221:ASN:C	2.46	0.59
1:B:179:LYS:HG3	1:B:239:VAL:HG13	1.85	0.59
1:A:190:ILE:CD1	1:A:216:ASP:OD2	2.51	0.58
1:C:230:PRO:HA	1:C:234:GLY:CA	2.33	0.58
1:D:228:MET:CE	1:D:306:LEU:CD1	2.78	0.58
1:D:176:ARG:HD3	1:D:177:VAL:H	1.68	0.58
1:B:228:MET:CE	1:B:306:LEU:HD11	2.34	0.58
1:B:229:ASP:O	1:B:234:GLY:N	2.37	0.58
1:C:313:PHE:O	1:C:316:PRO:HD2	2.03	0.58
1:D:84:VAL:O	1:D:221:ASN:C	2.46	0.58
1:D:179:LYS:HG3	1:D:239:VAL:HG13	1.86	0.58
1:C:160:TYR:CZ	1:C:205:LEU:HB2	2.38	0.58
1:B:213:GLU:CD	1:C:314:ARG:HH21	2.11	0.58
1:D:190:ILE:CD1	1:D:216:ASP:OD2	2.53	0.57
1:D:235:ASN:HA	1:D:324:HIS:NE2	2.19	0.57
1:A:313:PHE:O	1:A:316:PRO:HD2	2.06	0.56
1:B:313:PHE:O	1:B:316:PRO:HD2	2.06	0.56
1:C:194:ILE:HA	1:C:204:SER:HB2	1.85	0.56
1:A:57:VAL:HG21	1:A:200:ILE:HD12	1.88	0.55
1:D:313:PHE:O	1:D:316:PRO:HD2	2.06	0.55
1:D:27:ASN:ND2	1:D:232:ILE:HD13	2.18	0.55
1:D:188:TRP:NE1	1:D:219:THR:HG23	2.21	0.54
1:A:84:VAL:O	1:A:221:ASN:C	2.50	0.54
1:D:229:ASP:OD2	1:D:231:SER:OG	2.24	0.54
1:D:205:LEU:HD23	1:D:206:ASP:H	1.73	0.54
1:A:160:TYR:CZ	1:A:205:LEU:HB2	2.42	0.54
1:C:229:ASP:O	1:C:234:GLY:N	2.41	0.54
1:A:274:HIS:ND1	1:A:276:ARG:HB2	2.23	0.54
1:C:38:ARG:HD2	1:C:38:ARG:N	2.22	0.54
1:C:235:ASN:CA	1:C:324:HIS:CD2	2.91	0.53
1:D:141:GLU:OE2	1:D:275:ARG:NH1	2.41	0.53
1:D:27:ASN:HD22	1:D:232:ILE:CD1	2.19	0.53
1:D:90:ARG:NH2	1:D:169:GLU:OE2	2.42	0.53
1:B:274:HIS:CE1	1:B:276:ARG:HB2	2.44	0.53
1:B:84:VAL:O	1:B:221:ASN:C	2.52	0.53
1:B:228:MET:HE1	1:B:306:LEU:HD11	1.92	0.52
1:D:205:LEU:HD23	1:D:206:ASP:N	2.24	0.52
1:D:234:GLY:O	1:D:235:ASN:HB3	2.09	0.52
1:B:140:ARG:NH1	1:C:268:ASP:OD1	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:90:ARG:NH2	1:B:169:GLU:OE2	2.41	0.52
1:C:188:TRP:CD1	1:C:219:THR:HG23	2.45	0.52
1:D:194:ILE:HA	1:D:204:SER:HB2	1.92	0.52
1:A:205:LEU:HD23	1:A:206:ASP:N	2.24	0.51
1:C:90:ARG:NH2	1:C:169:GLU:OE2	2.43	0.51
1:A:90:ARG:NH2	1:A:169:GLU:OE2	2.42	0.51
1:C:140:ARG:NH1	1:D:268:ASP:OD1	2.42	0.51
1:A:45:LYS:N	1:A:95:ASP:OD1	2.43	0.51
1:B:201:ARG:HA	1:B:201:ARG:NE	2.25	0.51
1:B:275:ARG:O	1:B:278:PHE:HD2	1.93	0.51
1:D:188:TRP:NE1	1:D:219:THR:CG2	2.74	0.51
1:D:45:LYS:N	1:D:95:ASP:OD1	2.43	0.51
1:A:229:ASP:O	1:A:234:GLY:N	2.43	0.51
1:C:189:TYR:CD1	1:C:215:PRO:HA	2.46	0.50
1:D:160:TYR:CZ	1:D:205:LEU:HB2	2.46	0.50
1:C:64:LYS:HG3	1:C:203:TYR:CE1	2.46	0.50
1:C:101:LEU:HD22	1:C:113:LEU:HG	1.93	0.50
1:D:38:ARG:HG2	1:D:176:ARG:CZ	2.41	0.50
1:D:29:ALA:HA	1:D:221:ASN:O	2.12	0.50
1:D:269:LYS:HE2	1:D:278:PHE:CE2	2.46	0.50
1:B:45:LYS:N	1:B:95:ASP:OD1	2.43	0.50
1:C:140:ARG:NH2	4:C:404:SO4:S	2.85	0.50
1:B:104:ASP:OD1	1:B:105:LEU:N	2.45	0.50
1:C:311:ALA:O	1:C:314:ARG:CB	2.60	0.49
1:D:196:ASP:N	1:D:196:ASP:OD1	2.45	0.49
1:C:228:MET:HE1	1:C:306:LEU:HD12	1.90	0.49
1:A:29:ALA:HA	1:A:221:ASN:O	2.12	0.49
1:A:104:ASP:OD1	1:A:105:LEU:N	2.45	0.49
1:B:29:ALA:HA	1:B:221:ASN:O	2.12	0.49
1:B:228:MET:HE1	1:B:306:LEU:CD1	2.42	0.49
1:D:192:PRO:O	1:D:202:GLY:O	2.29	0.49
1:B:271:TYR:N	1:B:271:TYR:CD1	2.80	0.49
1:C:199:HIS:NE2	1:C:200:ILE:HG12	2.27	0.49
1:C:228:MET:CE	1:C:306:LEU:CD1	2.80	0.49
1:D:176:ARG:HD3	1:D:177:VAL:N	2.27	0.49
1:A:278:PHE:CD1	1:A:278:PHE:C	2.91	0.49
1:C:104:ASP:OD1	1:C:105:LEU:N	2.45	0.49
1:D:104:ASP:OD1	1:D:105:LEU:N	2.45	0.49
1:D:192:PRO:HA	1:D:203:TYR:CD2	2.47	0.49
1:A:188:TRP:CD1	1:A:219:THR:HG23	2.47	0.49
1:A:205:LEU:HD23	1:A:206:ASP:H	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:311:ALA:O	1:B:314:ARG:HB2	2.13	0.49
1:C:311:ALA:O	1:C:314:ARG:HB2	2.13	0.49
1:D:311:ALA:O	1:D:314:ARG:HB2	2.13	0.49
1:C:29:ALA:HA	1:C:221:ASN:O	2.13	0.48
1:C:66:PHE:CE2	1:C:67:TRP:O	2.66	0.48
1:D:35:ILE:HD11	1:D:182:TYR:HB3	1.95	0.48
1:A:22:VAL:HB	1:A:197:HIS:CD2	2.49	0.48
1:D:228:MET:HE1	1:D:306:LEU:HD12	1.89	0.48
1:A:302:THR:HG22	1:A:325:VAL:O	2.14	0.48
1:C:218:PHE:CE1	1:C:314:ARG:HG3	2.48	0.48
1:D:302:THR:HG22	1:D:325:VAL:O	2.14	0.48
1:B:74:LYS:CG	1:B:79:VAL:HG12	2.43	0.48
1:D:191:LYS:HE3	1:D:205:LEU:O	2.14	0.48
1:B:278:PHE:CD1	1:B:278:PHE:C	2.92	0.48
1:C:290:GLY:HA3	1:D:310:HIS:ND1	2.29	0.48
1:C:302:THR:HG22	1:C:325:VAL:O	2.13	0.48
1:B:302:THR:HG22	1:B:325:VAL:O	2.14	0.48
1:C:35:ILE:HD11	1:C:182:TYR:HB3	1.95	0.48
1:A:35:ILE:HD11	1:A:182:TYR:HB3	1.95	0.47
1:A:55:GLU:CD	1:A:108:GLU:H	2.23	0.47
1:B:188:TRP:CD1	1:B:219:THR:HG23	2.49	0.47
1:B:290:GLY:HA3	1:C:310:HIS:ND1	2.29	0.47
1:A:191:LYS:HE3	1:A:205:LEU:O	2.14	0.47
1:C:66:PHE:CD2	1:C:67:TRP:O	2.67	0.47
1:D:205:LEU:CD2	1:D:206:ASP:N	2.77	0.47
1:A:101:LEU:HD22	1:A:113:LEU:HG	1.96	0.47
1:A:311:ALA:O	1:A:314:ARG:HB2	2.14	0.47
1:B:35:ILE:HD11	1:B:182:TYR:HB3	1.95	0.47
1:C:45:LYS:N	1:C:95:ASP:OD1	2.42	0.47
1:C:308:VAL:HB	1:C:315:VAL:HG22	1.97	0.47
1:D:38:ARG:HG2	1:D:176:ARG:NE	2.30	0.47
1:D:101:LEU:HD22	1:D:113:LEU:HG	1.96	0.47
1:B:101:LEU:HD22	1:B:113:LEU:HG	1.96	0.47
1:A:185:GLN:CD	1:A:258:SER:HB2	2.39	0.47
1:B:312:LEU:HB3	1:D:155:TRP:HB3	1.97	0.47
1:C:74:LYS:CG	1:C:79:VAL:HG12	2.45	0.47
1:A:142:GLY:HA3	1:A:273:GLY:O	2.15	0.47
1:A:263:ILE:HD12	1:A:306:LEU:HB3	1.97	0.47
1:C:55:GLU:CD	1:C:108:GLU:H	2.22	0.47
1:C:187:GLU:OE1	1:C:253:GLY:O	2.33	0.47
1:D:74:LYS:CG	1:D:79:VAL:HG12	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:263:ILE:HD12	1:B:306:LEU:HB3	1.97	0.46
1:C:85:PRO:CD	1:C:221:ASN:HA	2.45	0.46
1:D:55:GLU:CD	1:D:108:GLU:H	2.22	0.46
1:D:60:LEU:HD11	1:D:219:THR:HG21	1.97	0.46
1:B:55:GLU:CD	1:B:108:GLU:H	2.23	0.46
1:B:229:ASP:C	1:B:234:GLY:HA3	2.41	0.46
1:A:271:TYR:CD1	1:A:271:TYR:N	2.84	0.46
1:D:308:VAL:HB	1:D:315:VAL:HG22	1.97	0.46
1:C:223:HIS:HB3	1:C:226:ALA:CB	2.40	0.46
1:C:269:LYS:HD3	1:C:278:PHE:CD1	2.51	0.46
1:D:263:ILE:HD12	1:D:306:LEU:HB3	1.98	0.46
1:C:308:VAL:HG12	1:C:320:GLY:HA2	1.97	0.46
1:A:205:LEU:CD2	1:A:206:ASP:N	2.79	0.46
1:B:308:VAL:HB	1:B:315:VAL:HG22	1.98	0.45
1:C:187:GLU:OE1	1:C:253:GLY:C	2.59	0.45
1:B:308:VAL:HG12	1:B:320:GLY:HA2	1.97	0.45
1:A:308:VAL:HG12	1:A:320:GLY:HA2	1.98	0.45
1:C:263:ILE:HD12	1:C:306:LEU:HB3	1.97	0.45
1:C:179:LYS:CG	1:C:239:VAL:HG13	2.47	0.45
1:A:142:GLY:CA	1:A:273:GLY:O	2.64	0.45
1:D:278:PHE:CD1	1:D:278:PHE:C	2.95	0.45
1:A:275:ARG:O	1:A:278:PHE:HD2	2.00	0.45
1:C:181:PHE:CE2	1:C:237:ILE:HG13	2.52	0.45
1:D:271:TYR:CD1	1:D:271:TYR:N	2.85	0.45
1:A:308:VAL:HB	1:A:315:VAL:HG22	1.98	0.44
1:C:155:TRP:CE2	1:D:316:PRO:HG3	2.52	0.44
1:C:230:PRO:CA	1:C:234:GLY:HA3	2.40	0.44
1:B:177:VAL:CG1	1:B:244:LYS:O	2.65	0.44
1:D:177:VAL:CG1	1:D:244:LYS:O	2.65	0.44
1:D:308:VAL:HG12	1:D:320:GLY:HA2	1.98	0.44
1:B:196:ASP:OD1	1:B:196:ASP:N	2.50	0.44
1:B:239:VAL:O	1:B:325:VAL:HA	2.18	0.44
1:D:235:ASN:OD1	1:D:324:HIS:CD2	2.70	0.44
1:A:239:VAL:O	1:A:325:VAL:HA	2.18	0.44
1:A:74:LYS:CG	1:A:79:VAL:HG12	2.47	0.43
1:B:28:VAL:O	1:B:83:THR:HA	2.18	0.43
1:A:246:ARG:NH1	1:A:296:GLU:OE2	2.51	0.43
1:A:22:VAL:CG1	1:A:200:ILE:HD11	2.48	0.43
1:D:85:PRO:CD	1:D:221:ASN:HA	2.48	0.43
1:D:246:ARG:NH1	1:D:296:GLU:OE2	2.51	0.43
1:A:196:ASP:OD1	1:A:196:ASP:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:189:TYR:CD1	1:B:215:PRO:HA	2.52	0.43
1:C:28:VAL:O	1:C:83:THR:HA	2.18	0.43
1:C:246:ARG:NH1	1:C:296:GLU:OE2	2.51	0.43
1:B:246:ARG:NH1	1:B:296:GLU:OE2	2.51	0.43
1:C:205:LEU:HD23	1:C:206:ASP:H	1.84	0.43
1:B:229:ASP:O	1:B:234:GLY:CA	2.66	0.43
1:C:191:LYS:O	1:C:204:SER:N	2.50	0.43
1:C:205:LEU:HD23	1:C:206:ASP:N	2.34	0.43
1:A:28:VAL:O	1:A:83:THR:HA	2.19	0.42
1:A:189:TYR:CD1	1:A:215:PRO:HA	2.54	0.42
1:A:85:PRO:CD	1:A:221:ASN:HA	2.50	0.42
1:A:102:THR:HG23	1:A:131:THR:OG1	2.20	0.42
1:B:102:THR:HG23	1:B:131:THR:OG1	2.20	0.42
1:B:179:LYS:CG	1:B:239:VAL:HG13	2.50	0.42
1:C:229:ASP:O	1:C:234:GLY:CA	2.67	0.42
1:C:269:LYS:HE2	1:C:278:PHE:CE1	2.53	0.42
1:D:102:THR:HG23	1:D:131:THR:OG1	2.20	0.42
1:D:28:VAL:O	1:D:83:THR:HA	2.19	0.42
1:C:102:THR:HG23	1:C:131:THR:OG1	2.20	0.42
1:C:239:VAL:O	1:C:325:VAL:HA	2.18	0.42
1:B:229:ASP:O	1:B:234:GLY:HA3	2.20	0.42
1:B:269:LYS:HE2	1:B:278:PHE:CE2	2.50	0.42
1:D:70:THR:OG1	1:D:82:ALA:HB1	2.20	0.42
1:A:70:THR:OG1	1:A:82:ALA:HB1	2.20	0.42
1:A:93:GLU:O	1:A:171:LYS:HE2	2.20	0.42
1:A:179:LYS:CG	1:A:239:VAL:HG13	2.48	0.42
1:C:307:ILE:C	1:C:308:VAL:HG13	2.45	0.42
1:D:275:ARG:HG2	1:D:275:ARG:HH11	1.84	0.42
1:A:90:ARG:NE	1:A:169:GLU:OE2	2.53	0.41
1:C:77:ASP:OD1	1:C:77:ASP:N	2.50	0.41
1:B:140:ARG:NH2	4:B:405:SO4:S	2.92	0.41
1:D:179:LYS:CG	1:D:239:VAL:HG13	2.50	0.41
1:B:93:GLU:O	1:B:171:LYS:HE2	2.20	0.41
1:B:160:TYR:CZ	1:B:205:LEU:HB2	2.56	0.41
1:C:271:TYR:OH	1:C:296:GLU:OE2	2.38	0.41
1:B:142:GLY:CA	1:B:273:GLY:O	2.69	0.41
1:C:192:PRO:HA	1:C:193:GLY:HA2	1.82	0.41
1:C:271:TYR:CD1	1:C:271:TYR:N	2.88	0.41
1:A:140:ARG:NH2	4:A:404:SO4:S	2.94	0.41
1:C:177:VAL:CG1	1:C:244:LYS:O	2.69	0.41
1:C:229:ASP:C	1:C:234:GLY:HA3	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:269:LYS:HB2	1:C:296:GLU:HB2	2.03	0.41
1:D:237:ILE:HG22	1:D:323:LEU:HD12	2.02	0.41
1:B:70:THR:OG1	1:B:82:ALA:HB1	2.20	0.41
1:C:90:ARG:NE	1:C:169:GLU:OE2	2.54	0.41
1:C:235:ASN:CA	1:C:324:HIS:NE2	2.84	0.41
1:B:90:ARG:NE	1:B:169:GLU:OE2	2.54	0.40
1:C:199:HIS:CD2	1:C:200:ILE:HG12	2.56	0.40
1:D:31:ASP:HB2	1:D:233:TYR:CE2	2.57	0.40
1:D:90:ARG:NE	1:D:169:GLU:OE2	2.54	0.40
1:A:307:ILE:C	1:A:308:VAL:HG13	2.46	0.40
1:C:74:LYS:HG3	1:C:79:VAL:HG12	2.03	0.40
1:C:274:HIS:CE1	1:C:276:ARG:HB2	2.57	0.40
1:D:177:VAL:HG13	1:D:244:LYS:C	2.46	0.40
1:B:85:PRO:CD	1:B:221:ASN:HA	2.51	0.40
1:B:307:ILE:C	1:B:308:VAL:HG13	2.46	0.40
1:B:269:LYS:HB2	1:B:296:GLU:HB2	2.03	0.40
1:D:223:HIS:HB3	1:D:226:ALA:CB	2.42	0.40
1:D:307:ILE:C	1:D:308:VAL:HG13	2.46	0.40
1:B:194:ILE:HA	1:B:204:SER:HB2	2.02	0.40
1:D:35:ILE:HD11	1:D:182:TYR:CB	2.52	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	304/326 (93%)	292 (96%)	12 (4%)	0	100	100
1	B	304/326 (93%)	290 (95%)	14 (5%)	0	100	100
1	C	304/326 (93%)	291 (96%)	13 (4%)	0	100	100
1	D	304/326 (93%)	293 (96%)	11 (4%)	0	100	100
All	All	1216/1304 (93%)	1166 (96%)	50 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	248/265 (94%)	231 (93%)	17 (7%)	14	45
1	B	248/265 (94%)	237 (96%)	11 (4%)	25	59
1	C	194/265 (73%)	183 (94%)	11 (6%)	18	51
1	D	169/265 (64%)	160 (95%)	9 (5%)	20	53
All	All	859/1060 (81%)	811 (94%)	48 (6%)	19	52

All (48) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	23	ASP
1	A	48	THR
1	A	52	VAL
1	A	78	THR
1	A	127	GLU
1	A	130	GLU
1	A	134	LEU
1	A	190	ILE
1	A	196	ASP
1	A	200	ILE
1	A	205	LEU
1	A	207	GLU
1	A	231	SER
1	A	250	VAL
1	A	258	SER
1	A	271	TYR
1	A	302	THR
1	B	48	THR
1	B	52	VAL
1	B	78	THR
1	B	127	GLU
1	B	130	GLU

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Mol	Chain	Res	Type
1	B	134	LEU
1	B	190	ILE
1	B	196	ASP
1	B	205	LEU
1	B	271	TYR
1	B	302	THR
1	C	23	ASP
1	C	38	ARG
1	C	48	THR
1	C	52	VAL
1	C	78	THR
1	C	127	GLU
1	C	130	GLU
1	C	134	LEU
1	C	197	HIS
1	C	271	TYR
1	C	302	THR
1	D	134	LEU
1	D	190	ILE
1	D	196	ASP
1	D	205	LEU
1	D	207	GLU
1	D	250	VAL
1	D	271	TYR
1	D	275	ARG
1	D	302	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	225	GLN
1	A	265	GLN
1	D	265	GLN
1	D	324	HIS

5.3.3 RNA ⓘ

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 17 ligands modelled in this entry, 13 are monoatomic - leaving 4 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	$\# Z > 2$
4	SO4	B	405	-	4,4,4	0.43	0	6,6,6	0.10	0
4	SO4	C	404	-	4,4,4	0.44	0	6,6,6	0.08	0
4	SO4	D	404	-	4,4,4	0.44	0	6,6,6	0.10	0
4	SO4	A	404	-	4,4,4	0.44	0	6,6,6	0.12	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	405	SO4	1	0
4	C	404	SO4	1	0
4	A	404	SO4	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	306/326 (93%)	0.28	9 (2%) 53 35	30, 42, 61, 77	0
1	B	306/326 (93%)	0.37	7 (2%) 61 41	37, 50, 72, 90	0
1	C	306/326 (93%)	0.68	15 (4%) 35 22	42, 62, 90, 107	0
1	D	306/326 (93%)	0.51	11 (3%) 46 28	45, 63, 90, 119	0
All	All	1224/1304 (93%)	0.46	42 (3%) 48 30	30, 54, 83, 119	0

All (42) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	22	VAL	4.8
1	D	23	ASP	3.7
1	C	105	LEU	3.5
1	B	105	LEU	3.4
1	D	235	ASN	3.4
1	B	21	MET	3.4
1	C	21	MET	3.3
1	A	273	GLY	3.1
1	A	21	MET	3.1
1	A	207	GLU	2.8
1	C	123	LEU	2.7
1	C	130	GLU	2.7
1	C	207	GLU	2.7
1	B	80	GLY	2.7
1	D	21	MET	2.7
1	C	202	GLY	2.7
1	C	62	PRO	2.6
1	A	226	ALA	2.5
1	C	201	ARG	2.5
1	C	124	MET	2.4
1	D	234	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	313	PHE	2.4
1	A	105	LEU	2.4
1	D	122	MET	2.4
1	B	204	SER	2.4
1	B	202	GLY	2.3
1	B	124	MET	2.3
1	D	194	ILE	2.3
1	C	204	SER	2.3
1	A	232	ILE	2.3
1	D	199	HIS	2.2
1	B	130	GLU	2.2
1	A	123	LEU	2.2
1	A	106	HIS	2.2
1	A	195	GLU	2.1
1	C	193	GLY	2.1
1	C	234	GLY	2.1
1	D	196	ASP	2.1
1	C	23	ASP	2.0
1	C	198	PRO	2.0
1	C	111	HIS	2.0
1	D	138	ALA	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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	SO4	C	404	5/5	0.73	0.21	81,81,82,85	0
4	SO4	D	404	5/5	0.74	0.15	90,90,92,93	0

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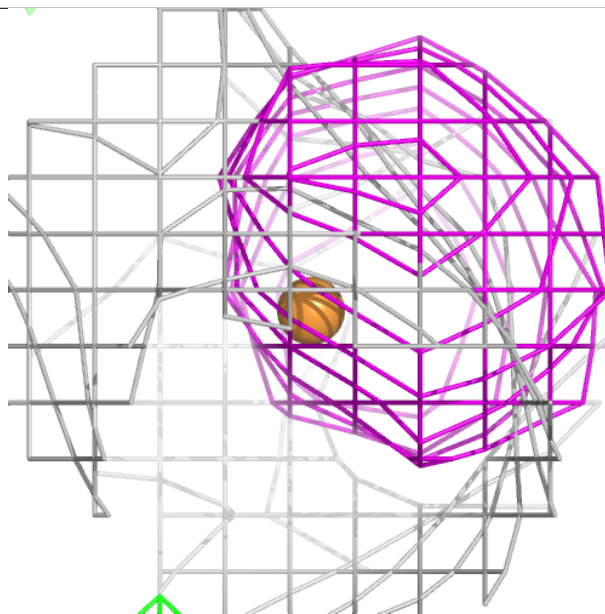
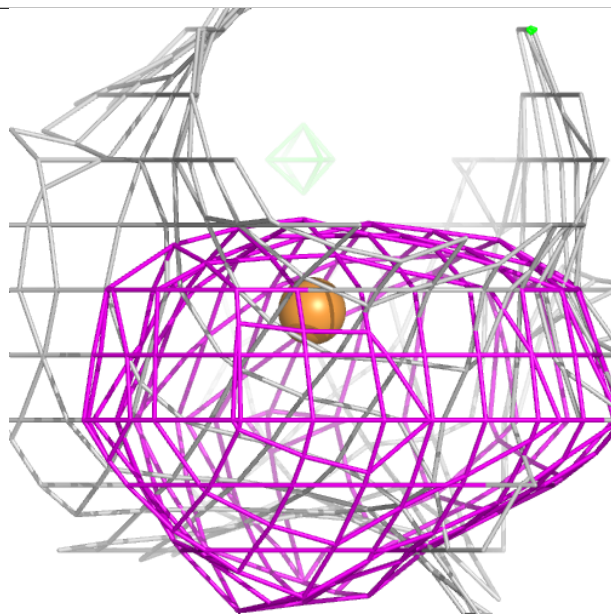
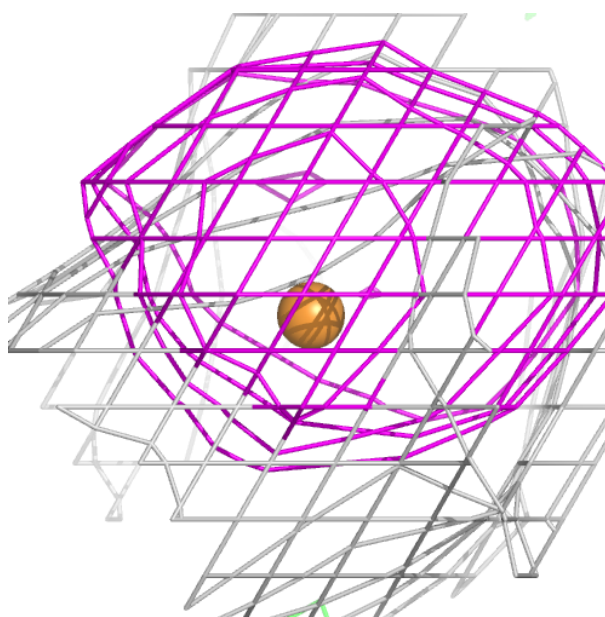
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
4	SO4	A	404	5/5	0.81	0.16	68,69,69,70	0
2	CU	C	401	1/1	0.82	0.16	72,72,72,72	0
4	SO4	B	405	5/5	0.83	0.14	74,75,76,77	0
3	CA	C	403	1/1	0.83	0.13	56,56,56,56	0
2	CU	D	401	1/1	0.83	0.16	71,71,71,71	0
2	CU	A	401	1/1	0.88	0.15	49,49,49,49	0
3	CA	A	403	1/1	0.91	0.11	42,42,42,42	0
2	CU	A	402	1/1	0.91	0.12	57,57,57,57	0
2	CU	B	401	1/1	0.91	0.13	60,60,60,60	0
2	CU	C	402	1/1	0.92	0.15	72,72,72,72	0
2	CU	D	402	1/1	0.92	0.14	62,62,62,62	0
2	CU	B	402	1/1	0.95	0.10	59,59,59,59	0
2	CU	B	403	1/1	0.95	0.05	60,60,60,60	0
3	CA	B	404	1/1	0.96	0.18	49,49,49,49	0
3	CA	D	403	1/1	0.98	0.08	53,53,53,53	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.

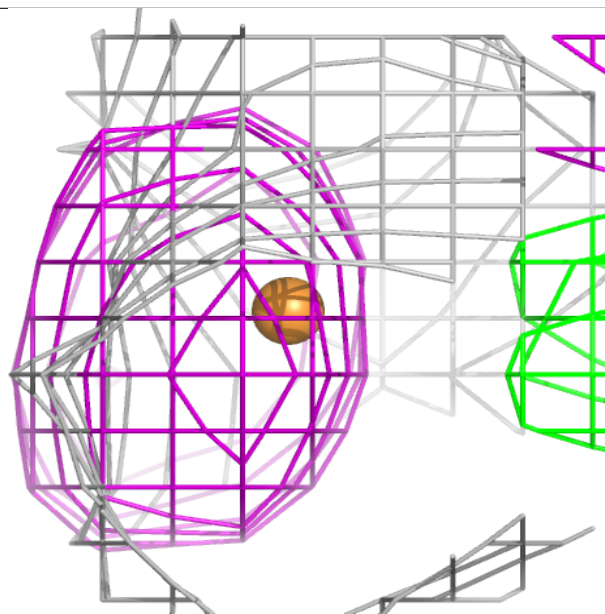
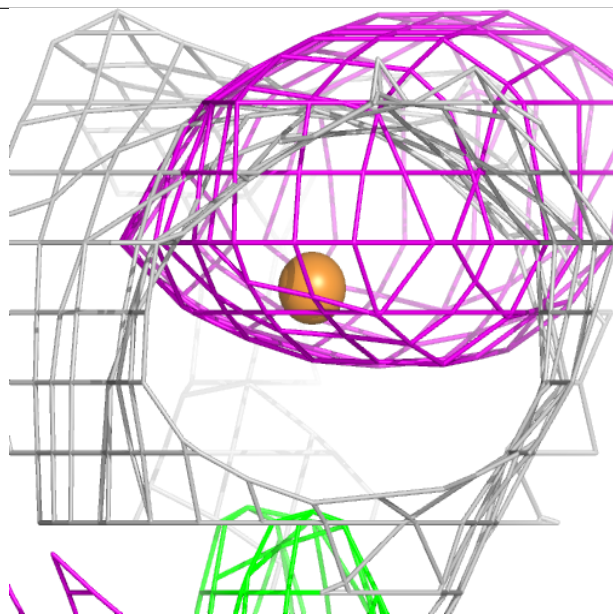
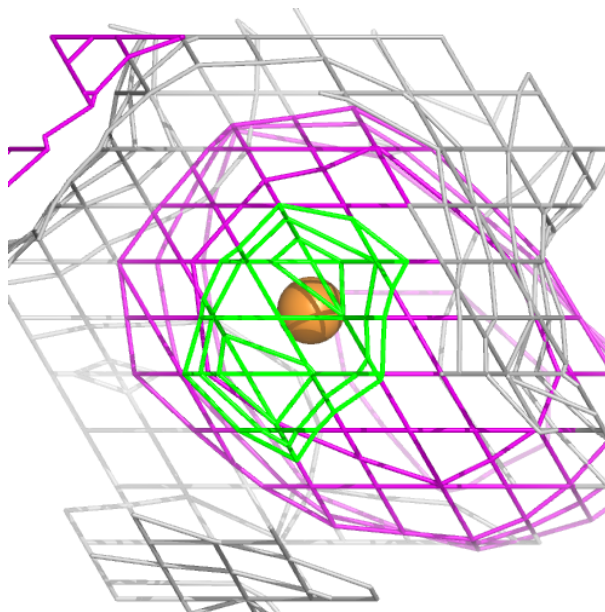
Electron density around CU C 401:

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



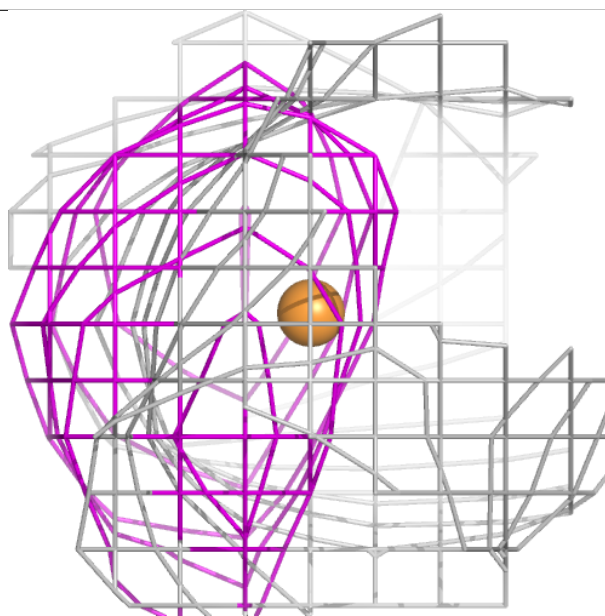
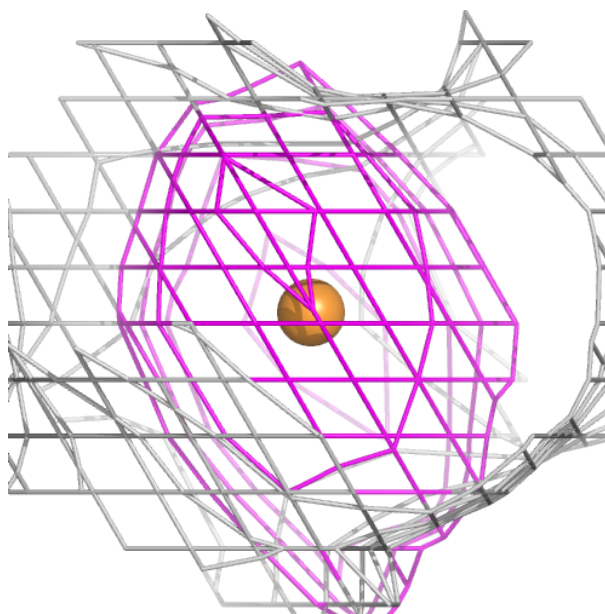
Electron density around CU D 401:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



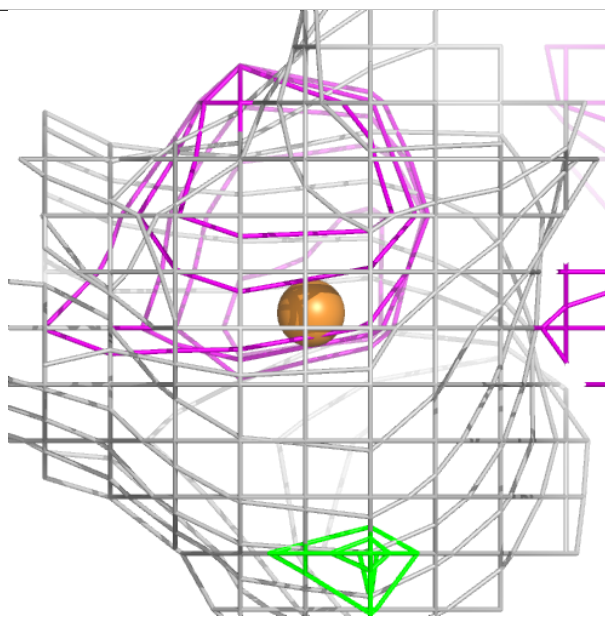
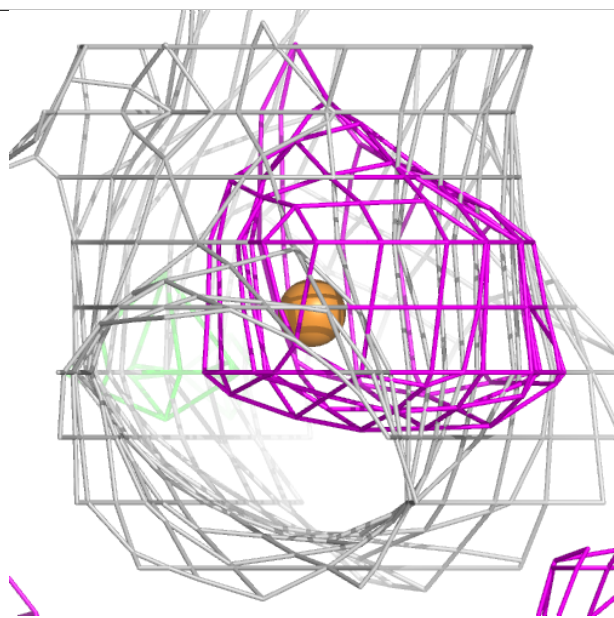
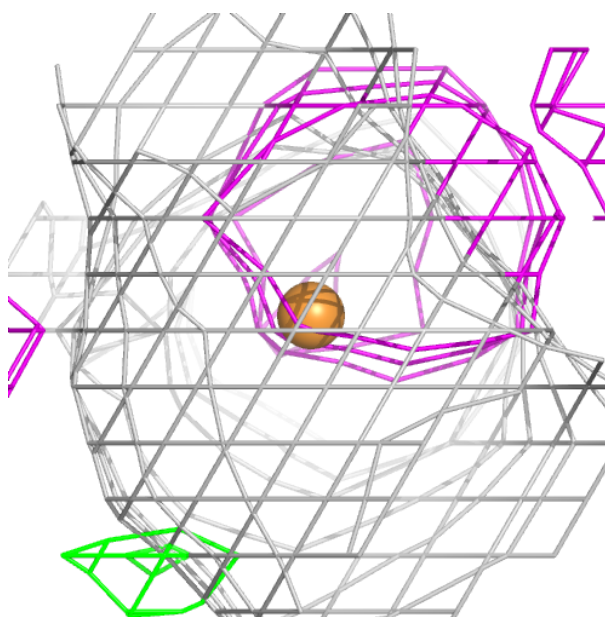
Electron density around CU A 401:

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and green (positive)



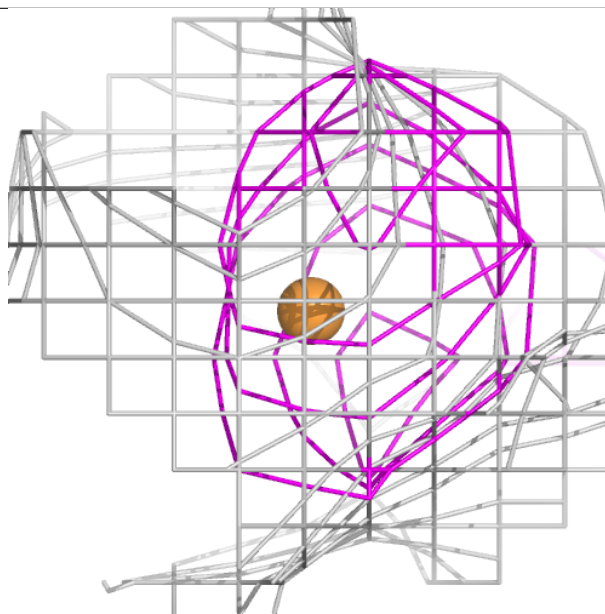
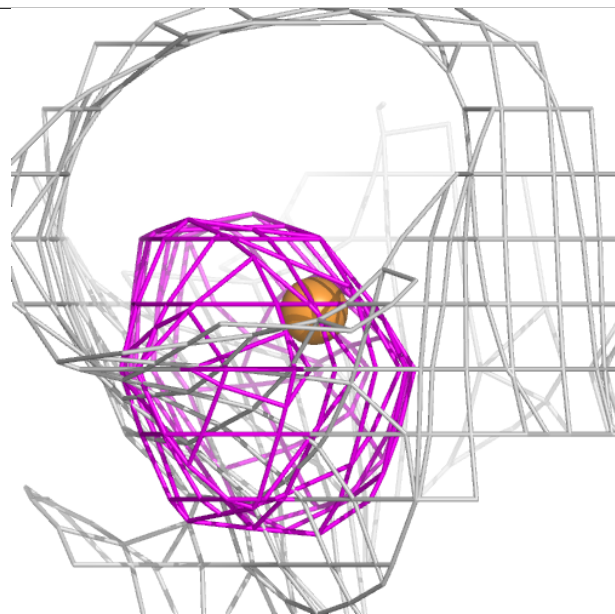
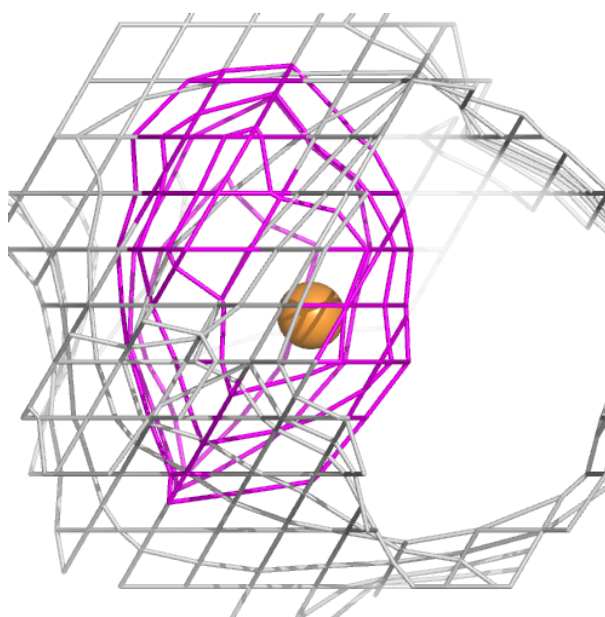
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and green (positive)



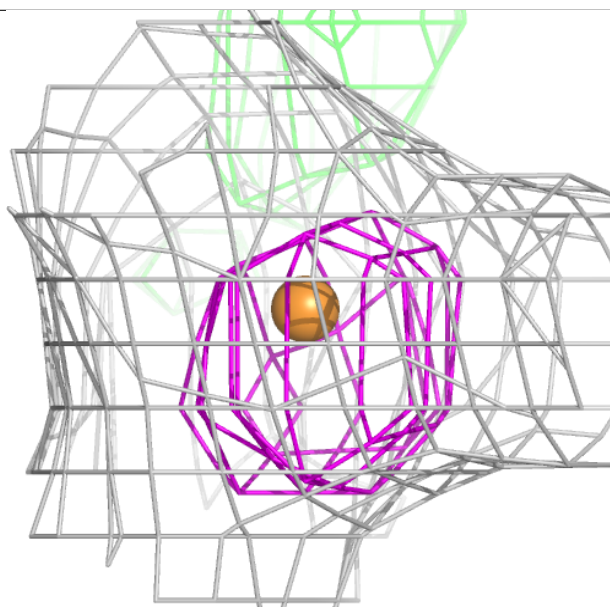
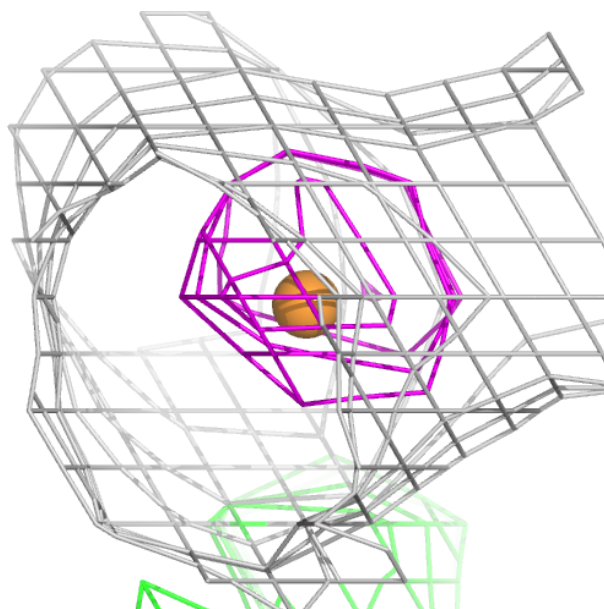
Electron density around CU B 401:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



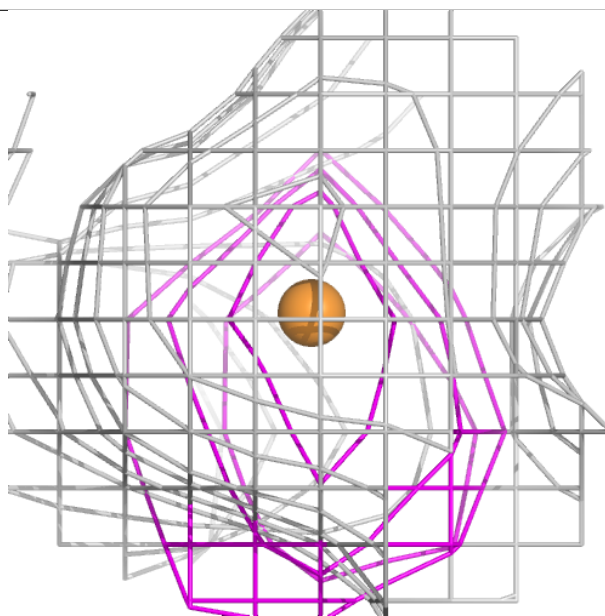
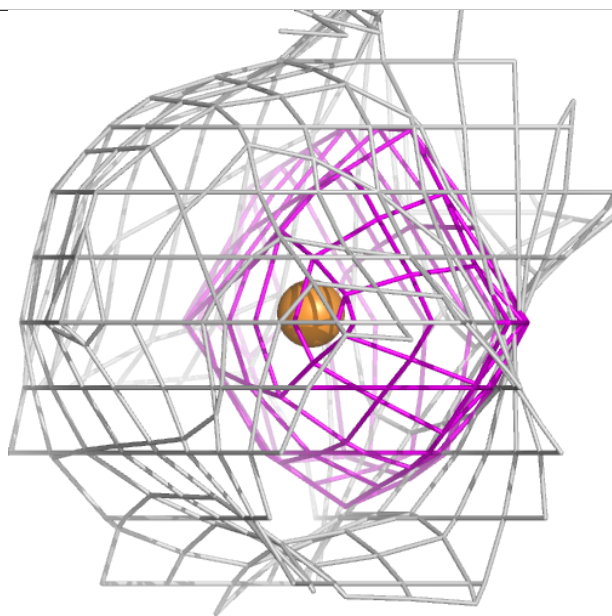
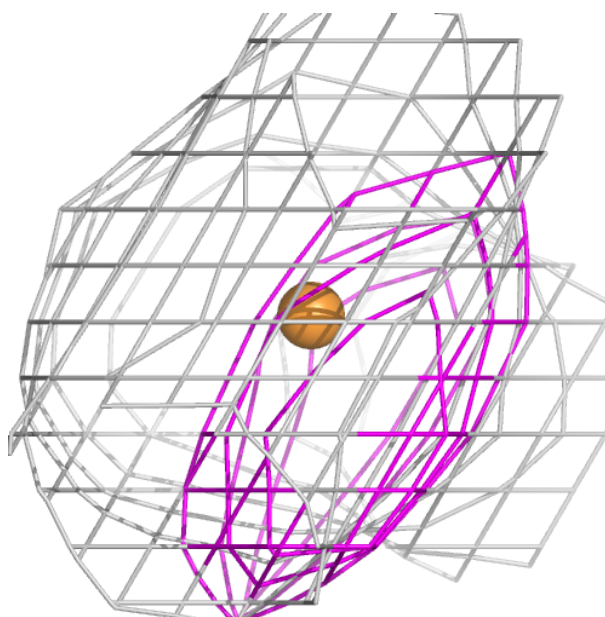
Electron density around CU C 402:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



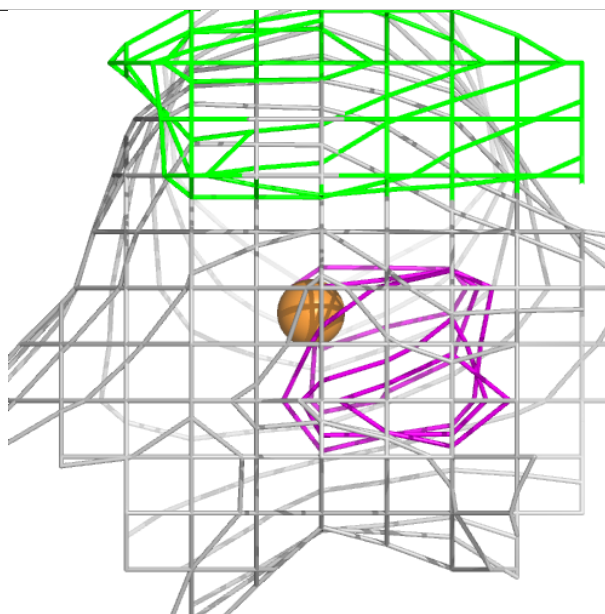
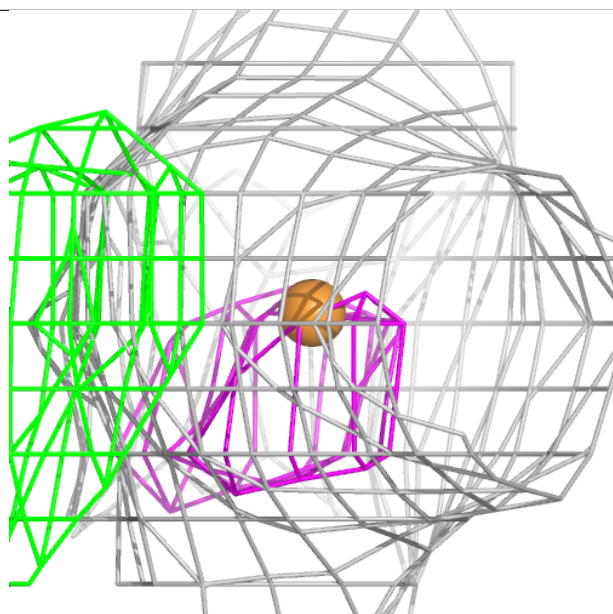
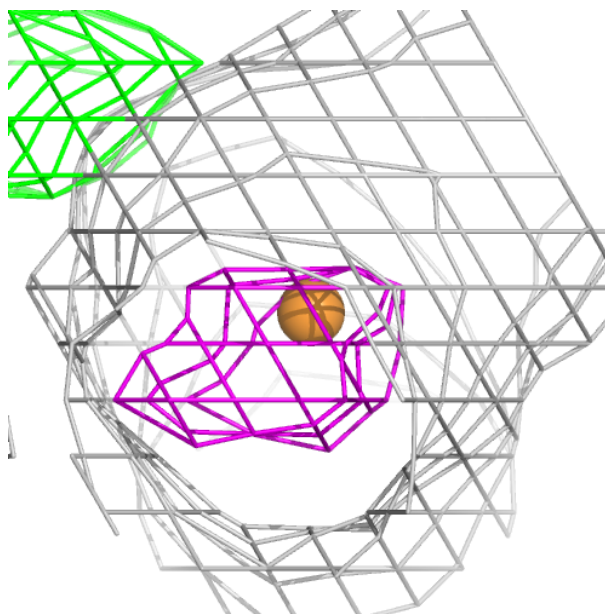
Electron density around CU D 402:

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and green (positive)



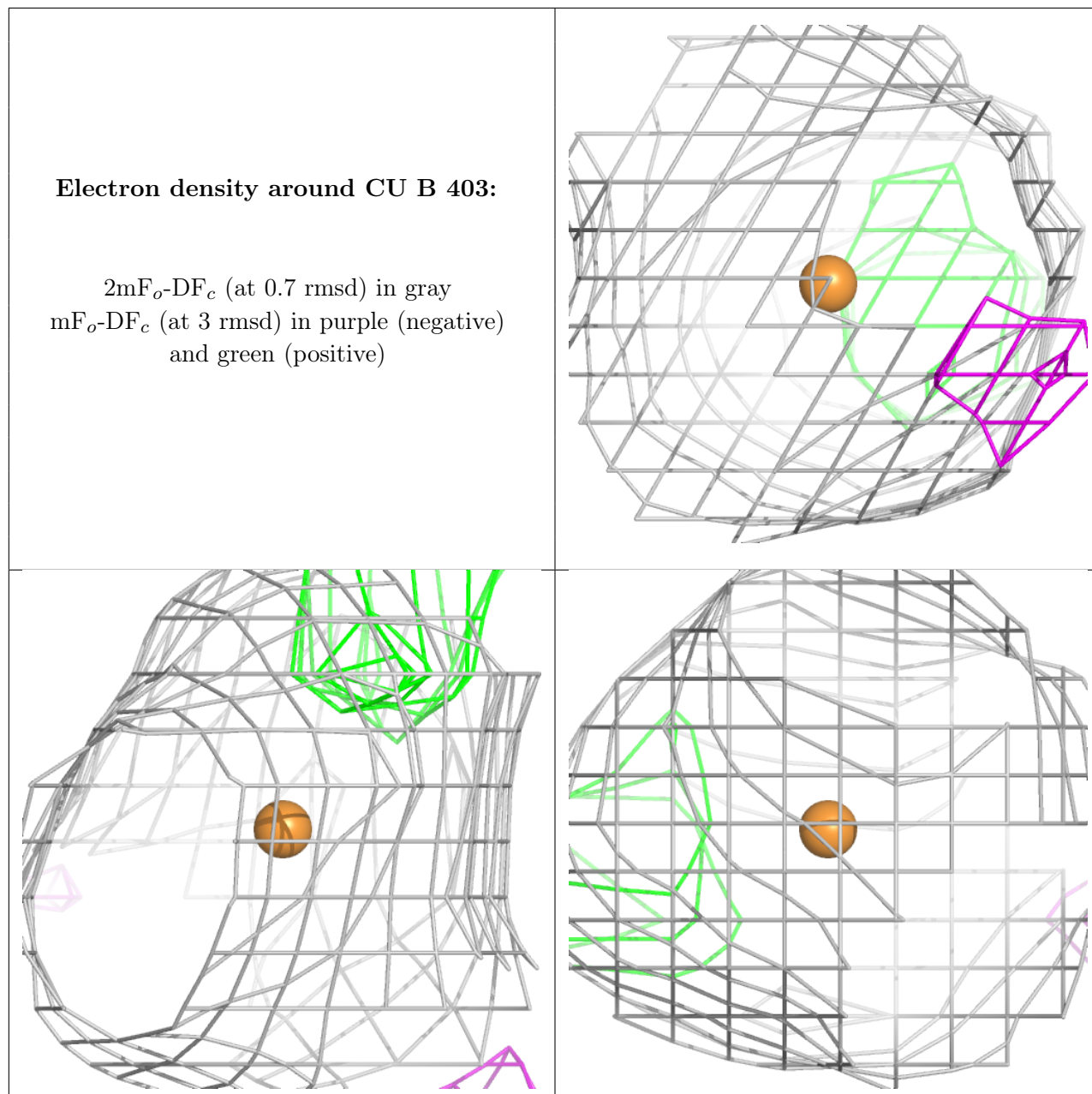
Electron density around CU B 402:

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



Electron density around CU B 403:

$2mF_o-DF_c$ (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.