



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 08:39 AM UTC

PDB ID : 5W4U / pdb\_00005w4u  
Title : Pol II elongation complex with an N6-methyladenine-containing template  
Authors : Wang, W.; Wang, D.  
Deposited on : 2017-06-13  
Resolution : 3.60 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](mailto: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>.

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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

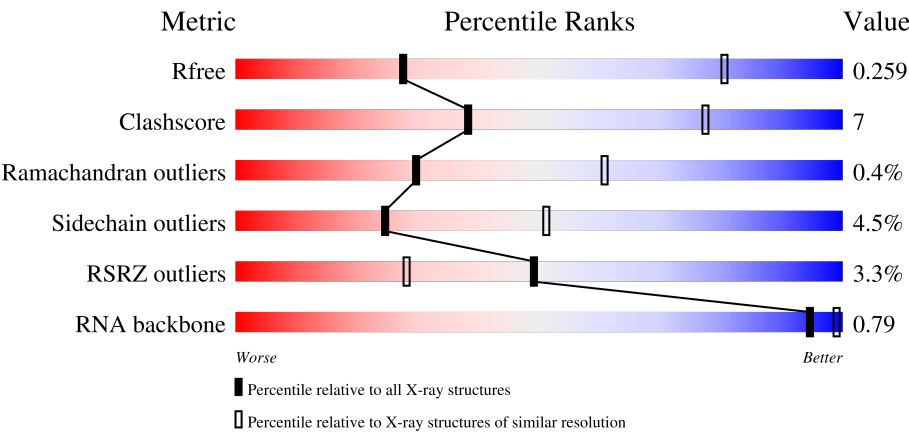
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.60 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.



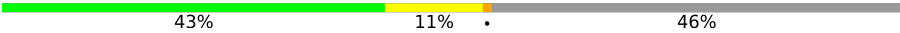


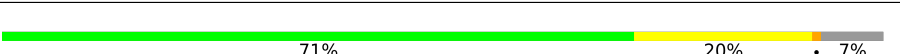
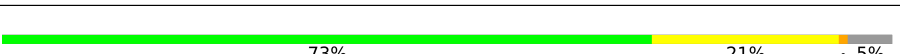
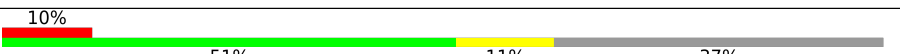
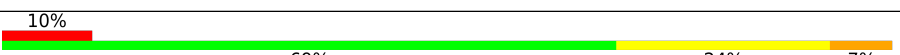
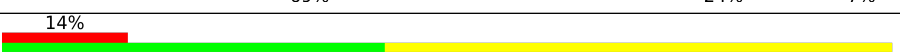
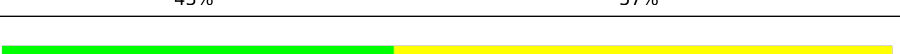
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R <sub>free</sub>	180053	1747 (3.70-3.50)
Clashscore	190562	1827 (3.70-3.50)
Ramachandran outliers	187476	1773 (3.70-3.50)
Sidechain outliers	187428	1772 (3.70-3.50)
RSRZ outliers	180081	1745 (3.70-3.50)
RNA backbone	3983	1014 (4.14-3.06)

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  $\geq 3$ , 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	1733	<div><div>2%</div><div>62%16%•21%</div></div>
2	B	1224	<div><div>3%</div><div>68%19%•11%</div></div>
3	C	318	<div><div>%</div><div>67%16%•16%</div></div>
4	E	215	<div><div>6%</div><div>87%12%••</div></div>

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Mol	Chain	Length	Quality of chain
5	F	155	
6	H	146	
7	I	122	
8	J	70	
9	K	120	
10	L	70	
11	T	29	
12	N	14	
13	R	9	

## 2 Entry composition [i](#)

There are 15 unique types of molecules in this entry. The entry contains 28821 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 DNA-directed RNA polymerase II subunit RPB1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1371	Total	C	N	O	S	0	0	0
			10787	6806	1886	2034	61			

- Molecule 2 is a protein called DNA-directed RNA polymerase II subunit RPB2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	1089	Total	C	N	O	S	0	0	0
			8657	5485	1517	1601	54			

- Molecule 3 is a protein called DNA-directed RNA polymerase II subunit RPB3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	266	Total	C	N	O	S	0	0	0
			2095	1317	348	417	13			

- Molecule 4 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	213	Total	C	N	O	S	0	0	0
			1744	1107	308	318	11			

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	84	Total	C	N	O	S	0	0	0
			679	434	115	127	3			

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	H	130	Total	C	N	O	S	0	0	0
			1043	660	173	206	4			

- Molecule 7 is a protein called DNA-directed RNA polymerase II subunit RPB9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	I	115	Total	C	N	O	S	0	0	0
			935	575	170	180	10			

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	J	65	Total	C	N	O	S	0	0	0
			532	339	93	94	6			

- Molecule 9 is a protein called DNA-directed RNA polymerase II subunit RPB11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	K	114	Total	C	N	O	S	0	0	0
			919	590	156	171	2			

- Molecule 10 is a protein called DNA-directed RNA polymerases I, II, and III subunit RPABC4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	L	44	Total	C	N	O	S	0	0	0
			351	217	70	60	4			

- Molecule 11 is a DNA chain called 29mer template DNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	T	29	Total	C	N	O	P	0	0	0
			588	283	107	170	28			

- Molecule 12 is a DNA chain called 14mer non-template DNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	N	14	Total	C	N	O	P	0	0	0
			284	137	49	85	13			

- Molecule 13 is a RNA chain called 9mer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	R	9	Total	C	N	O	P	0	0	0
			198	89	42	59	8			

- Molecule 14 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	A	2	Total 2	Zn 2	0	0
14	B	1	Total 1	Zn 1	0	0
14	C	1	Total 1	Zn 1	0	0
14	I	2	Total 2	Zn 2	0	0
14	J	1	Total 1	Zn 1	0	0
14	L	1	Total 1	Zn 1	0	0

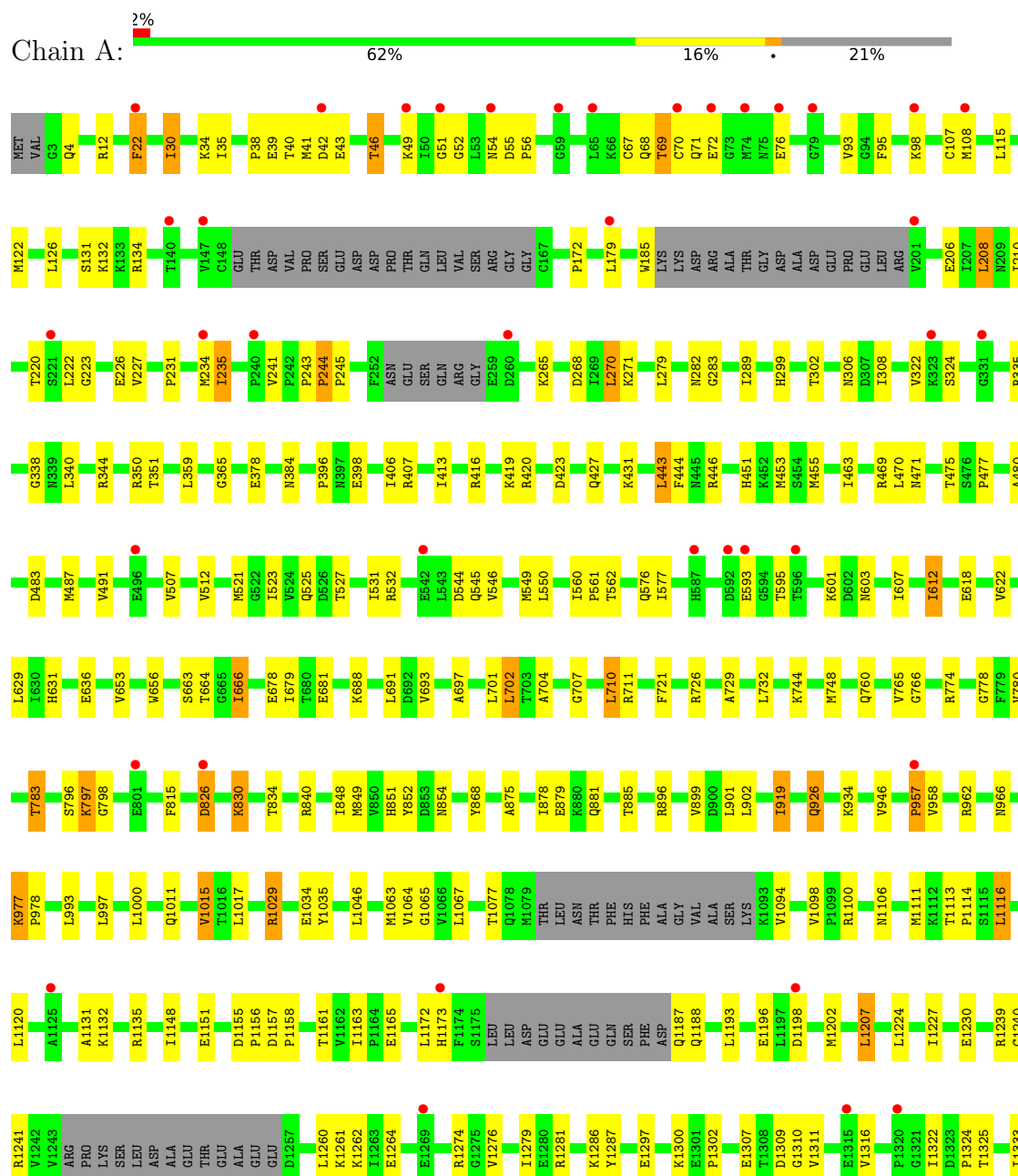
- Molecule 15 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total 1	Mg 1	0	0

### 3 Residue-property plots [i](#)

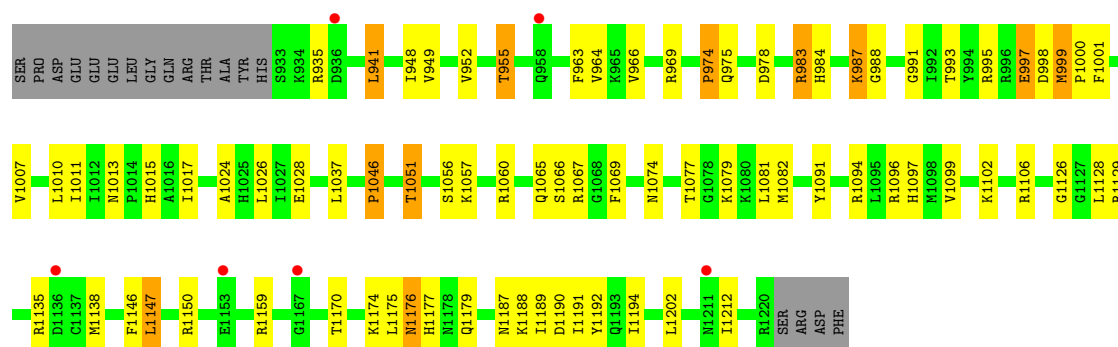
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: DNA-directed RNA polymerase II subunit RPB1

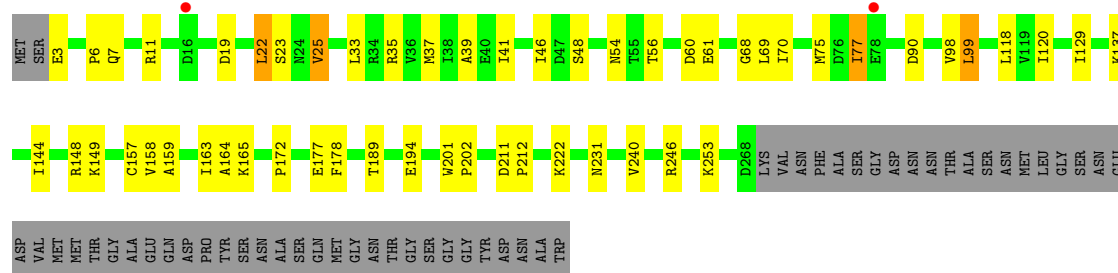




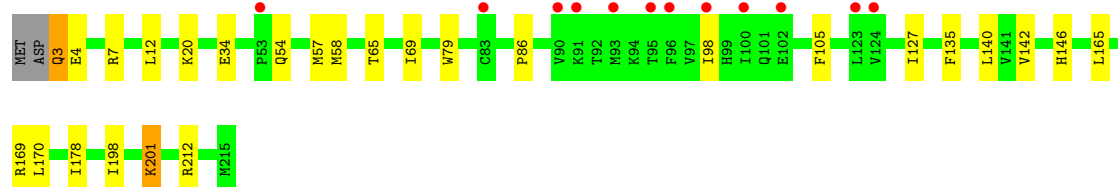
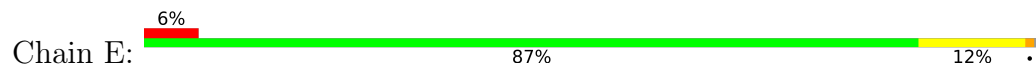




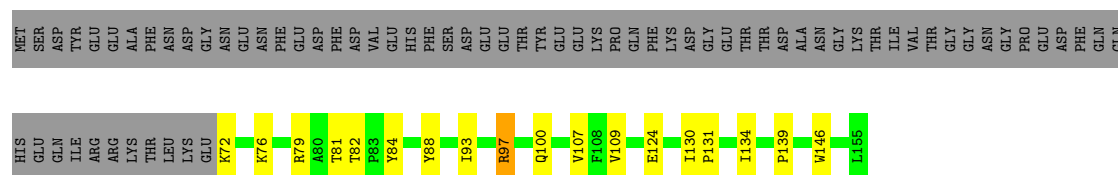
• Molecule 3: DNA-directed RNA polymerase II subunit RPB3



• Molecule 4: DNA-directed RNA polymerases I, II, and III subunit RPABC1

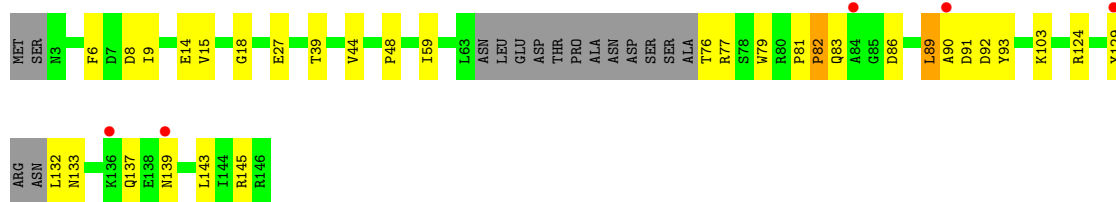


• Molecule 5: DNA-directed RNA polymerases I, II, and III subunit RPABC2

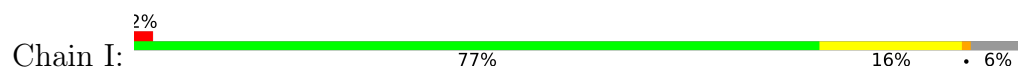


• Molecule 6: DNA-directed RNA polymerases I, II, and III subunit RPABC3





- Molecule 7: DNA-directed RNA polymerase II subunit RPB9



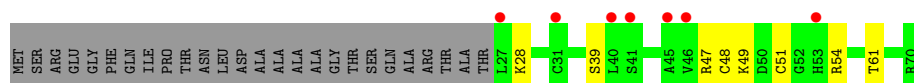
- Molecule 8: DNA-directed RNA polymerases I, II, and III subunit RPABC5



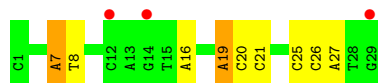
- Molecule 9: DNA-directed RNA polymerase II subunit RPB11



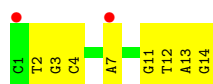
- Molecule 10: DNA-directed RNA polymerases I, II, and III subunit RPABC4



- Molecule 11: 29mer template DNA

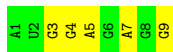


- Molecule 12: 14mer non-template DNA



- Molecule 13: 9mer RNA

Chain R:  44% 56%



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	167.21Å 221.99Å 192.70Å 90.00° 100.58° 90.00°	Depositor
Resolution (Å)	81.02 – 3.60 81.02 – 3.60	Depositor EDS
% Data completeness (in resolution range)	89.4 (81.02-3.60) 89.4 (81.02-3.60)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.39 (at 3.58Å)	Xtriage
Refinement program	PHENIX 1.8.4_1496	Depositor
R, $R_{free}$	0.227 , 0.259 0.230 , 0.259	Depositor DCC
$R_{free}$ test set	3546 reflections (4.44%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	63.3	Xtriage
Anisotropy	0.025	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 76.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.46$ , $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.86	EDS
Total number of atoms	28821	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.63% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: 6MA, MG, ZN

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	0.26	0/10979	0.71	5/14843 (0.0%)
2	B	0.25	0/8824	0.69	4/11898 (0.0%)
3	C	0.25	0/2133	0.69	0/2891
4	E	0.25	0/1780	0.70	0/2395
5	F	0.26	0/691	0.70	0/933
6	H	0.25	0/1060	0.67	0/1434
7	I	0.23	0/953	0.66	1/1284 (0.1%)
8	J	0.26	0/541	0.61	0/727
9	K	0.23	0/937	0.66	0/1265
10	L	0.23	0/353	0.56	0/468
11	T	0.13	0/580	0.27	0/884
12	N	0.13	0/317	0.30	0/488
13	R	0.04	0/223	0.08	0/348
All	All	0.25	0/29371	0.68	10/39858 (0.0%)

There are no bond length outliers.

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
1	A	525	GLN	CB-CA-C	-5.87	109.82	116.63
7	I	31	THR	N-CA-C	-5.85	107.95	114.62
1	A	1403	GLU	CB-CA-C	-5.46	109.81	117.23
1	A	593	GLU	CB-CA-C	-5.39	109.91	117.23
1	A	507	VAL	CB-CA-C	-5.21	108.83	114.35
2	B	570	VAL	CA-C-N	5.20	125.00	119.28
2	B	570	VAL	C-N-CA	5.20	125.00	119.28
1	A	244	PRO	N-CA-C	5.03	116.84	110.70
2	B	113	TYR	CA-C-N	5.01	125.04	119.32
2	B	113	TYR	C-N-CA	5.01	125.04	119.32

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	10787	0	10874	171	0
2	B	8657	0	8693	144	0
3	C	2095	0	2051	32	0
4	E	1744	0	1772	16	0
5	F	679	0	701	11	0
6	H	1043	0	1015	15	0
7	I	935	0	887	13	0
8	J	532	0	542	10	0
9	K	919	0	929	14	0
10	L	351	0	375	5	0
11	T	588	0	333	7	0
12	N	284	0	161	5	0
13	R	198	0	99	3	0
14	A	2	0	0	0	0
14	B	1	0	0	0	0
14	C	1	0	0	0	0
14	I	2	0	0	0	0
14	J	1	0	0	0	0
14	L	1	0	0	0	0
15	A	1	0	0	0	0
All	All	28821	0	28432	394	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 7.

All (394) 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)
2:B:29:ASP:HB3	2:B:658:ILE:HG12	1.65	0.79
1:A:1239:ARG:HH22	1:A:1241:ARG:HH21	1.31	0.78
1:A:42:ASP:HB3	1:A:46:THR:H	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:653:VAL:HG22	2:B:689:LEU:HB3	1.69	0.72
8:J:5:VAL:HG22	8:J:6:ARG:HG3	1.72	0.72
2:B:763:GLN:HG2	2:B:765:PRO:HD2	1.71	0.72
3:C:48:SER:HB3	3:C:158:VAL:HB	1.75	0.69
2:B:800:GLN:HB3	8:J:52:THR:HG22	1.74	0.69
2:B:287:ARG:NH1	2:B:324:ILE:O	2.27	0.68
7:I:92:ARG:HB3	7:I:95:THR:HG23	1.74	0.68
1:A:711:ARG:HG3	7:I:97:MET:HE3	1.75	0.68
2:B:911:ILE:HD11	2:B:941:LEU:HD23	1.76	0.67
1:A:1193:LEU:HB2	1:A:1260:LEU:HD21	1.77	0.66
1:A:35:ILE:HG13	1:A:241:VAL:HG21	1.77	0.66
2:B:1129:ARG:NH1	11:T:21:DC:OP1	2.29	0.66
3:C:41:ILE:HB	3:C:172:PRO:HG3	1.77	0.66
2:B:25:ILE:HD11	2:B:653:VAL:HB	1.78	0.66
5:F:97:ARG:NH1	5:F:100:GLN:OE1	2.29	0.66
8:J:8:PHE:H	8:J:49:MET:HE3	1.61	0.65
10:L:48:CYS:SG	10:L:49:LYS:N	2.70	0.65
3:C:6:PRO:HB2	9:K:101:LEU:HD23	1.77	0.65
1:A:666:ILE:HG23	2:B:1026:LEU:HB2	1.78	0.64
7:I:101:PHE:HE1	7:I:112:SER:HB3	1.61	0.64
1:A:726:ARG:HD3	1:A:766:GLY:HA3	1.79	0.64
2:B:998:ASP:OD1	3:C:35:ARG:NH2	2.29	0.64
2:B:778:MET:HE1	2:B:1094:ARG:HH11	1.63	0.64
1:A:338:GLY:HA2	2:B:1129:ARG:HH21	1.61	0.63
1:A:40:THR:HB	1:A:41:MET:HA	1.80	0.63
1:A:1132:LYS:HG3	1:A:1135:ARG:HH12	1.63	0.63
2:B:642:ASP:HB3	2:B:649:LYS:HG2	1.81	0.62
4:E:178:ILE:HB	4:E:212:ARG:HD3	1.81	0.62
1:A:601:LYS:HB2	1:A:603:ASN:HD22	1.64	0.62
2:B:468:GLU:HA	2:B:470:LYS:H	1.63	0.62
4:E:54:GLN:HG2	4:E:57:MET:HE3	1.79	0.62
2:B:635:ARG:NH1	2:B:742:GLU:OE2	2.28	0.62
2:B:857:ARG:NH2	11:T:25:DC:OP1	2.32	0.62
2:B:487:THR:OG1	2:B:777:ALA:O	2.17	0.62
1:A:67:CYS:H	1:A:71:GLN:HA	1.63	0.62
2:B:1175:LEU:O	2:B:1176:ASN:ND2	2.32	0.62
1:A:899:VAL:HG22	1:A:1029:ARG:HG2	1.81	0.62
1:A:350:ARG:HB2	2:B:1128:LEU:HD11	1.82	0.61
2:B:705:MET:HE2	2:B:745:PRO:HB3	1.82	0.61
2:B:839:MET:HE2	2:B:1010:LEU:HD21	1.82	0.61
3:C:35:ARG:NH1	9:K:41:THR:OG1	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1174:LYS:HB2	2:B:1179:GLN:HB2	1.83	0.60
1:A:49:LYS:HB2	1:A:56:PRO:HD3	1.83	0.60
2:B:60:GLN:NE2	2:B:64:CYS:SG	2.74	0.60
3:C:177:GLU:HB2	3:C:231:ASN:HB3	1.82	0.60
1:A:760:GLN:HG2	1:A:765:VAL:HA	1.83	0.60
1:A:1281:ARG:HG2	1:A:1309:ASP:HB2	1.84	0.60
2:B:400:HIS:NE2	2:B:699:GLU:OE1	2.32	0.59
5:F:82:THR:HG22	5:F:84:TYR:H	1.67	0.59
3:C:70:ILE:HD11	3:C:144:ILE:HD11	1.84	0.59
1:A:265:LYS:HZ1	1:A:302:THR:HG23	1.66	0.59
4:E:4:GLU:OE1	4:E:7:ARG:NH2	2.35	0.59
2:B:810:GLU:OE1	2:B:815:ARG:NH2	2.35	0.59
1:A:134:ARG:NH1	1:A:220:THR:O	2.35	0.59
2:B:205:ILE:HG13	2:B:461:LEU:HB3	1.83	0.59
2:B:287:ARG:NH1	2:B:321:GLY:O	2.36	0.59
1:A:1224:LEU:HD11	1:A:1240:CYS:HB3	1.85	0.59
1:A:693:VAL:HG21	1:A:721:PHE:HE2	1.68	0.58
1:A:993:LEU:HD22	1:A:1046:LEU:HG	1.84	0.58
2:B:613:VAL:HG22	2:B:628:THR:HG23	1.85	0.58
1:A:41:MET:HE2	1:A:43:GLU:HG2	1.84	0.58
1:A:1100:ARG:HH21	1:A:1351:GLU:HG2	1.68	0.58
2:B:287:ARG:HG2	2:B:292:ILE:HA	1.85	0.58
2:B:1077:THR:HG23	2:B:1079:LYS:H	1.68	0.58
6:H:129:TYR:O	6:H:132:LEU:N	2.36	0.58
2:B:63:ILE:O	2:B:67:SER:OG	2.18	0.58
2:B:118:ARG:NH2	2:B:194:GLU:OE1	2.33	0.58
1:A:365:GLY:HA3	1:A:469:ARG:HB2	1.85	0.58
1:A:477:PRO:HG3	1:A:521:MET:HE2	1.85	0.58
4:E:12:LEU:HD11	4:E:58:MET:HE1	1.86	0.58
8:J:14:VAL:HB	8:J:50:ILE:HD11	1.86	0.57
1:A:1342:GLU:OE2	4:E:212:ARG:NH1	2.38	0.57
2:B:1056:SER:HB3	2:B:1066:SER:HB2	1.85	0.57
1:A:562:THR:O	1:A:576:GLN:NE2	2.38	0.57
1:A:1348:LEU:HD23	1:A:1372:VAL:HG13	1.86	0.57
2:B:995:ARG:NH1	2:B:997:GLU:OE1	2.37	0.57
3:C:46:ILE:HB	3:C:68:GLY:HA2	1.86	0.57
3:C:46:ILE:HD13	3:C:159:ALA:HB2	1.87	0.57
1:A:1155:ASP:OD2	1:A:1241:ARG:NH2	2.38	0.57
1:A:378:GLU:OE2	1:A:384:ASN:ND2	2.37	0.57
2:B:165:VAL:HG21	2:B:448:ILE:HD12	1.87	0.57
1:A:704:ALA:HB2	1:A:710:LEU:HD12	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:834:ASN:HB3	2:B:840:ILE:HG13	1.85	0.56
3:C:69:LEU:HD12	8:J:6:ARG:HD3	1.88	0.56
2:B:902:GLY:HA3	10:L:61:THR:HG22	1.85	0.56
6:H:137:GLN:HG3	6:H:139:ASN:H	1.71	0.56
2:B:357:GLN:NE2	2:B:371:GLU:OE1	2.38	0.56
9:K:88:LYS:O	9:K:92:ASN:ND2	2.35	0.55
2:B:496:ARG:NH2	2:B:540:SER:O	2.33	0.55
2:B:680:THR:O	2:B:683:SER:OG	2.25	0.55
2:B:847:ASP:OD2	9:K:6:ARG:NH2	2.39	0.55
2:B:916:THR:HG23	2:B:935:ARG:HB2	1.89	0.55
7:I:32:CYS:SG	7:I:33:SER:N	2.80	0.55
5:F:76:LYS:O	5:F:79:ARG:NH1	2.37	0.55
1:A:1120:LEU:HD21	1:A:1131:ALA:HB2	1.89	0.55
3:C:163:ILE:HG22	3:C:165:LYS:H	1.72	0.55
1:A:243:PRO:HB2	1:A:245:PRO:HD2	1.89	0.54
12:N:3:DG:H2"	12:N:4:DC:H5"	1.88	0.54
1:A:875:ALA:HB2	1:A:1366:ARG:HD2	1.89	0.54
2:B:702:LEU:HD21	2:B:735:ALA:HB1	1.90	0.54
3:C:99:LEU:HD12	3:C:118:LEU:HB3	1.89	0.54
1:A:549:MET:HE1	1:A:656:TRP:HD1	1.72	0.54
1:A:1325:THR:OG1	4:E:146:HIS:O	2.26	0.54
1:A:469:ARG:NH2	2:B:991:GLY:O	2.35	0.53
1:A:881:GLN:NE2	1:A:958:VAL:O	2.36	0.53
6:H:89:LEU:H	6:H:89:LEU:HD13	1.74	0.53
2:B:301:ILE:HG13	2:B:379:GLY:HA2	1.90	0.53
2:B:521:LEU:HD22	2:B:633:VAL:HG12	1.89	0.53
1:A:830:LYS:HG3	1:A:1098:VAL:HG21	1.90	0.53
1:A:946:VAL:HG22	4:E:201:LYS:HD3	1.91	0.53
1:A:1438:THR:HA	5:F:88:TYR:HB3	1.91	0.53
1:A:406:ILE:HB	1:A:431:LYS:HB2	1.90	0.53
1:A:4:GLN:NE2	1:A:76:GLU:OE1	2.41	0.53
1:A:636:GLU:OE1	1:A:966:ASN:ND2	2.41	0.53
2:B:284:ILE:HG21	2:B:333:PHE:HD2	1.74	0.53
2:B:661:LEU:HD11	2:B:684:LEU:HD11	1.90	0.53
1:A:997:LEU:O	1:A:1011:GLN:NE2	2.42	0.53
1:A:39:GLU:HB3	1:A:41:MET:HB2	1.90	0.52
1:A:545:GLN:HG2	1:A:549:MET:HE3	1.92	0.52
1:A:595:THR:OG1	1:A:603:ASN:OD1	2.24	0.52
3:C:39:ALA:HA	3:C:164:ALA:HB3	1.92	0.52
1:A:826:ASP:O	1:A:830:LYS:HB2	2.09	0.52
1:A:34:LYS:H	1:A:34:LYS:HD3	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:744:LYS:HE2	1:A:748:MET:HE3	1.92	0.52
1:A:1116:LEU:HD23	1:A:1311:VAL:HA	1.91	0.52
3:C:7:GLN:HB2	3:C:23:SER:HB2	1.92	0.52
1:A:483:ASP:HA	2:B:988:GLY:HA2	1.91	0.51
2:B:840:ILE:HB	2:B:1011:ILE:HB	1.91	0.51
3:C:11:ARG:NH2	3:C:19:ASP:OD1	2.44	0.51
1:A:70:CYS:HA	2:B:1174:LYS:HG2	1.92	0.51
1:A:1094:VAL:HA	1:A:1113:THR:HG21	1.91	0.51
2:B:522:VAL:HG11	2:B:537:LYS:HD2	1.93	0.51
2:B:999:MET:HG3	2:B:1000:PRO:HD2	1.91	0.51
6:H:6:PHE:HB3	6:H:59:ILE:HB	1.93	0.51
1:A:1276:VAL:HG11	1:A:1316:VAL:HG22	1.93	0.51
1:A:302:THR:OG1	1:A:306:ASN:OD1	2.28	0.51
1:A:840:ARG:NH2	1:A:1106:ASN:OD1	2.41	0.51
1:A:1281:ARG:NE	1:A:1309:ASP:OD2	2.43	0.51
2:B:969:ARG:NH1	3:C:61:GLU:OE1	2.43	0.51
3:C:99:LEU:HB3	3:C:120:ILE:HD13	1.93	0.51
11:T:7:6MA:H61	12:N:7:DA:N6	2.09	0.51
1:A:115:LEU:HB2	1:A:122:MET:HE3	1.92	0.51
2:B:120:ARG:HG2	2:B:955:THR:HG21	1.93	0.51
3:C:46:ILE:HD12	3:C:157:CYS:HB3	1.91	0.51
1:A:279:LEU:HB3	1:A:289:ILE:HG22	1.91	0.50
1:A:1423:GLY:O	1:A:1427:ASN:ND2	2.40	0.50
8:J:10:CYS:SG	8:J:11:GLY:N	2.84	0.50
1:A:1410:PHE:HD2	2:B:1212:ILE:HD11	1.76	0.50
2:B:1097:HIS:HB3	2:B:1102:LYS:HZ1	1.76	0.50
8:J:64:ASN:N	8:J:65:PRO:HD2	2.27	0.50
1:A:396:PRO:HG3	1:A:416:ARG:HB3	1.93	0.50
1:A:475:THR:OG1	1:A:480:ALA:O	2.29	0.50
1:A:1353:TYR:HD2	1:A:1368:MET:HE1	1.76	0.50
2:B:103:ASN:OD1	2:B:169:ARG:NH2	2.38	0.50
2:B:294:ASP:HB2	7:I:12:ASN:HA	1.93	0.50
3:C:54:ASN:ND2	3:C:60:ASP:OD1	2.36	0.50
2:B:193:LYS:HE2	8:J:65:PRO:HG3	1.94	0.50
1:A:1364:ASN:OD1	1:A:1366:ARG:NH1	2.45	0.50
2:B:1187:ASN:ND2	2:B:1190:ASP:O	2.45	0.50
2:B:468:GLU:HG3	2:B:469:GLN:HA	1.93	0.50
2:B:620:ARG:HD2	7:I:68:LEU:HD11	1.94	0.50
1:A:1424:VAL:HG22	1:A:1436:ILE:HG21	1.94	0.49
6:H:8:ASP:OD1	6:H:9:ILE:N	2.44	0.49
6:H:91:ASP:OD1	6:H:92:ASP:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:33:LEU:HG	3:C:37:MET:HE2	1.93	0.49
1:A:446:ARG:HB2	1:A:487:MET:HG2	1.94	0.49
1:A:707:GLY:O	1:A:1281:ARG:NH1	2.42	0.49
11:T:7:6MA:H2'	11:T:8:DT:H5'	1.95	0.49
3:C:75:MET:O	3:C:246:ARG:NH2	2.46	0.49
1:A:1324:PRO:HB2	4:E:142:VAL:HG11	1.94	0.49
9:K:47:ARG:HD2	9:K:60:ALA:HA	1.94	0.49
2:B:1065:GLN:HG2	2:B:1069:PHE:HB2	1.94	0.49
1:A:42:ASP:H	1:A:43:GLU:HA	1.78	0.48
1:A:697:ALA:HA	1:A:702:LEU:HB2	1.95	0.48
6:H:44:VAL:HG13	6:H:48:PRO:HA	1.94	0.48
7:I:14:LEU:HD13	7:I:27:PHE:HB3	1.95	0.48
1:A:38:PRO:HA	1:A:270:LEU:HD13	1.95	0.48
1:A:407:ARG:HD2	1:A:413:ILE:HD11	1.94	0.48
2:B:776:GLN:NE2	13:R:7:A:O3'	2.46	0.48
5:F:107:VAL:HG12	5:F:109:VAL:H	1.78	0.48
4:E:20:LYS:NZ	4:E:34:GLU:O	2.45	0.48
1:A:98:LYS:HB3	1:A:234:MET:HE1	1.95	0.48
1:A:774:ARG:HG3	1:A:797:LYS:HZ2	1.79	0.48
1:A:1287:TYR:OH	1:A:1307:GLU:OE1	2.27	0.48
2:B:604:ARG:HE	2:B:615:MET:HE2	1.78	0.48
2:B:1001:PHE:HE2	3:C:178:PHE:HB3	1.79	0.48
10:L:28:LYS:HA	10:L:39:SER:HA	1.96	0.48
2:B:269:ILE:HD11	2:B:386:LEU:HD21	1.96	0.48
10:L:47:ARG:HG2	10:L:54:ARG:HG2	1.95	0.48
1:A:453:MET:HB3	1:A:477:PRO:HB2	1.96	0.48
2:B:273:LEU:HB2	2:B:276:ILE:HD12	1.95	0.48
2:B:487:THR:HG22	2:B:489:SER:H	1.79	0.48
1:A:1187:GLN:HG3	1:A:1188:GLN:HG3	1.96	0.48
1:A:1286:LYS:HE2	1:A:1302:PRO:HB2	1.95	0.48
2:B:639:ILE:HD11	2:B:691:GLU:HG3	1.95	0.48
2:B:466:TRP:HB2	2:B:479:VAL:HG21	1.95	0.47
9:K:1:MET:SD	9:K:2:ASN:ND2	2.86	0.47
9:K:63:VAL:HG22	9:K:71:PHE:HB3	1.95	0.47
1:A:1064:VAL:HA	1:A:1067:LEU:HB3	1.96	0.47
2:B:761:HIS:HB2	2:B:1024:ALA:HB2	1.96	0.47
2:B:620:ARG:NH2	7:I:89:GLN:OE1	2.46	0.47
2:B:1082:MET:HA	3:C:189:THR:HA	1.97	0.47
1:A:208:LEU:HD23	1:A:235:ILE:HD13	1.97	0.47
2:B:95:ILE:HD11	2:B:128:LEU:HB3	1.96	0.47
2:B:759:PRO:HD2	2:B:1046:PRO:HA	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:35:ILE:HG23	1:A:52:GLY:HA3	1.97	0.47
1:A:419:LYS:HG3	1:A:420:ARG:HG3	1.96	0.47
1:A:550:LEU:HD21	1:A:561:PRO:HD2	1.97	0.47
1:A:868:TYR:CE1	1:A:1064:VAL:HG21	2.50	0.47
2:B:1175:LEU:C	2:B:1177:HIS:H	2.23	0.47
9:K:58:PHE:HB3	9:K:76:GLN:HB3	1.95	0.47
11:T:19:6MA:H2"	11:T:20:DC:C6	2.49	0.47
1:A:226:GLU:HG3	1:A:227:VAL:HG13	1.97	0.47
1:A:902:LEU:HG	1:A:926:GLN:HG3	1.96	0.47
2:B:394:ASP:H	7:I:91:ARG:HG3	1.80	0.47
2:B:843:GLN:HB2	2:B:993:THR:HB	1.96	0.47
1:A:701:LEU:HA	7:I:115:LYS:HE3	1.97	0.46
2:B:114:PRO:HG2	2:B:181:LEU:HD11	1.96	0.46
1:A:72:GLU:OE2	2:B:1176:ASN:ND2	2.47	0.46
1:A:1373:ASP:HA	1:A:1376:THR:HG22	1.96	0.46
1:A:962:ARG:O	1:A:966:ASN:HB2	2.15	0.46
2:B:987:LYS:H	2:B:987:LYS:HD3	1.79	0.46
1:A:107:CYS:SG	1:A:108:MET:N	2.89	0.46
1:A:1148:ILE:HD13	7:I:49:ILE:HD12	1.97	0.46
1:A:1161:THR:HG22	1:A:1163:ILE:H	1.79	0.46
1:A:1227:ILE:HD12	1:A:1239:ARG:HH11	1.80	0.46
1:A:1345:ARG:HG3	1:A:1376:THR:HG21	1.97	0.46
1:A:95:PHE:HB3	1:A:234:MET:HE2	1.98	0.46
1:A:344:ARG:HA	2:B:1129:ARG:HA	1.96	0.46
1:A:1279:ILE:HA	1:A:1310:GLY:HA3	1.97	0.46
3:C:77:ILE:HG12	3:C:129:ILE:HD11	1.96	0.46
1:A:206:GLU:O	1:A:210:ILE:HG12	2.16	0.46
1:A:854:ASN:HB2	1:A:1000:LEU:HD21	1.97	0.46
2:B:1106:ARG:HH11	2:B:1126:GLY:HA2	1.81	0.46
4:E:79:TRP:HB2	4:E:105:PHE:HD2	1.80	0.46
1:A:544:ASP:OD1	1:A:545:GLN:N	2.44	0.46
2:B:861:ASP:OD1	2:B:914:LYS:NZ	2.46	0.46
9:K:21:ILE:HD13	9:K:84:LYS:HE2	1.97	0.46
1:A:1355:VAL:O	1:A:1358:SER:OG	2.30	0.46
2:B:170:LEU:HD12	2:B:171:PRO:HD2	1.97	0.46
2:B:468:GLU:CG	2:B:469:GLN:HA	2.46	0.46
1:A:423:ASP:OD1	1:A:423:ASP:N	2.48	0.46
2:B:806:THR:HG22	2:B:808:ALA:H	1.81	0.46
3:C:6:PRO:HB3	3:C:25:VAL:HG13	1.97	0.45
1:A:1261:LYS:HE3	1:A:1261:LYS:HB2	1.84	0.45
1:A:265:LYS:NZ	1:A:302:THR:HG23	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:491:VAL:O	2:B:1150:ARG:NH2	2.49	0.45
1:A:663:SER:OG	1:A:664:THR:N	2.47	0.45
6:H:83:GLN:HB3	6:H:86:ASP:HB3	1.98	0.45
1:A:783:THR:HG21	1:A:796:SER:O	2.16	0.45
1:A:1111:MET:HG3	1:A:1114:PRO:HG3	1.97	0.45
11:T:26:DC:H42	13:R:3:G:H1	1.62	0.45
2:B:210:LYS:HE3	2:B:462:ALA:HA	1.99	0.45
1:A:68:GLN:HA	1:A:69:THR:HA	1.46	0.45
1:A:1342:GLU:HG3	4:E:198:ILE:HG21	1.97	0.45
2:B:313:MET:HE3	2:B:386:LEU:HD22	1.98	0.45
3:C:3:GLU:N	9:K:104:ASN:HD21	2.15	0.45
1:A:1064:VAL:HG23	1:A:1067:LEU:HD23	1.99	0.45
1:A:523:ILE:HD13	1:A:622:VAL:HG22	1.99	0.45
2:B:25:ILE:HG23	2:B:29:ASP:HB2	1.99	0.45
1:A:51:GLY:HA2	1:A:52:GLY:HA2	1.52	0.45
1:A:282:ASN:OD1	1:A:283:GLY:N	2.42	0.45
1:A:340:LEU:HD13	1:A:1429:ILE:HG23	1.98	0.45
1:A:1011:GLN:O	1:A:1015:VAL:HG23	2.17	0.45
1:A:1163:ILE:HG22	1:A:1165:GLU:H	1.82	0.45
2:B:1013:ASN:OD1	2:B:1015:HIS:ND1	2.33	0.45
6:H:76:THR:OG1	6:H:77:ARG:N	2.50	0.45
2:B:307:ASP:OD1	2:B:392:ARG:NH1	2.44	0.44
1:A:901:LEU:HB2	1:A:926:GLN:HG2	2.00	0.44
2:B:69:LEU:HB3	2:B:432:MET:HE1	2.00	0.44
5:F:81:THR:OG1	5:F:146:TRP:NE1	2.50	0.44
1:A:977:LYS:HG3	1:A:978:PRO:HD2	1.99	0.44
1:A:12:ARG:HH11	2:B:1192:TYR:HE1	1.65	0.44
2:B:1067:ARG:NE	3:C:194:GLU:OE1	2.49	0.44
1:A:54:ASN:HD21	1:A:244:PRO:HB3	1.83	0.44
2:B:227:LYS:HG2	2:B:236:HIS:CD2	2.53	0.44
6:H:93:TYR:CD1	6:H:145:ARG:HB3	2.53	0.44
1:A:396:PRO:C	1:A:398:GLU:H	2.25	0.44
1:A:546:VAL:HG22	1:A:577:ILE:HG21	2.00	0.44
1:A:868:TYR:OH	1:A:1366:ARG:HD3	2.18	0.44
2:B:898:LEU:HD11	2:B:964:VAL:HG21	2.00	0.44
6:H:27:GLU:OE1	6:H:39:THR:OG1	2.31	0.44
9:K:47:ARG:HD3	9:K:61:TYR:HD1	1.83	0.44
1:A:631:HIS:CE1	1:A:879:GLU:HG2	2.53	0.43
2:B:428:ILE:HD11	2:B:448:ILE:HG23	2.00	0.43
1:A:1261:LYS:O	1:A:1264:GLU:HG3	2.19	0.43
4:E:135:PHE:HB3	4:E:140:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:56:VAL:HG22	9:K:77:THR:HG22	2.00	0.43
1:A:1395:GLY:HA3	1:A:1426:GLU:OE2	2.18	0.43
1:A:1148:ILE:N	1:A:1196:GLU:O	2.51	0.43
2:B:758:PHE:HB2	2:B:1024:ALA:HB1	2.00	0.43
1:A:834:THR:HG21	1:A:1077:THR:HA	1.99	0.43
1:A:1173:HIS:CG	1:A:1227:ILE:HG23	2.54	0.43
2:B:274:PRO:HG2	2:B:359:GLU:HB3	2.01	0.43
2:B:899:ILE:HG21	2:B:949:VAL:HG21	2.00	0.43
1:A:1151:GLU:OE2	7:I:45:ARG:NH1	2.46	0.43
1:A:531:ILE:HG21	1:A:622:VAL:HG11	2.01	0.43
2:B:796:LEU:HB3	2:B:799:PRO:HG3	2.01	0.43
2:B:726:ALA:HB1	2:B:1051:THR:HG21	2.01	0.42
2:B:916:THR:HA	2:B:917:PRO:HD3	1.86	0.42
3:C:211:ASP:HA	3:C:212:PRO:HD3	1.91	0.42
2:B:28:GLU:OE1	2:B:807:ARG:NH1	2.49	0.42
2:B:166:PHE:HZ	2:B:169:ARG:HG3	1.84	0.42
2:B:1060:ARG:HA	2:B:1060:ARG:HD2	1.94	0.42
2:B:1074:ASN:HB2	2:B:1081:LEU:HD21	2.01	0.42
2:B:118:ARG:HA	2:B:207:GLY:HA2	2.02	0.42
2:B:468:GLU:HA	2:B:470:LYS:N	2.32	0.42
2:B:302:CYS:SG	2:B:310:MET:HE3	2.59	0.42
2:B:757:PRO:HG2	2:B:984:HIS:NE2	2.35	0.42
1:A:172:PRO:HB3	1:A:185:TRP:CE2	2.54	0.42
2:B:579:ARG:HA	2:B:589:VAL:HA	2.02	0.42
1:A:1198:ASP:O	1:A:1202:MET:HG2	2.20	0.42
1:A:1371:LEU:O	1:A:1374:VAL:HG12	2.20	0.42
7:I:10:CYS:HB3	7:I:12:ASN:HD22	1.84	0.42
12:N:13:DA:H2''	12:N:14:DG:H5'	2.00	0.42
1:A:679:ILE:HG23	1:A:729:ALA:HB1	2.01	0.42
2:B:834:ASN:O	2:B:1013:ASN:HB2	2.19	0.42
2:B:1138:MET:HE2	2:B:1146:PHE:CD1	2.55	0.42
6:H:89:LEU:HD22	6:H:90:ALA:N	2.34	0.42
1:A:607:ILE:HA	1:A:612:ILE:HA	2.01	0.42
2:B:326:ASP:OD1	2:B:329:THR:OG1	2.24	0.42
3:C:98:VAL:HG22	3:C:158:VAL:HG22	2.01	0.42
3:C:201:TRP:HA	3:C:202:PRO:HD3	1.92	0.42
1:A:55:ASP:HB2	1:A:56:PRO:HD2	2.02	0.42
1:A:666:ILE:H	1:A:666:ILE:HG13	1.56	0.42
2:B:199:MET:SD	2:B:199:MET:N	2.81	0.42
2:B:483:LEU:HD21	2:B:491:THR:HG23	2.01	0.42
1:A:131:SER:HB3	1:A:223:GLY:HA2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:359:LEU:O	1:A:471:ASN:ND2	2.53	0.42
3:C:54:ASN:OD1	3:C:56:THR:HG22	2.20	0.42
5:F:93:ILE:HD11	5:F:134:ILE:HD11	2.02	0.42
1:A:72:GLU:HG3	2:B:1175:LEU:HB2	2.02	0.41
1:A:849:MET:HB3	1:A:1063:MET:SD	2.60	0.41
1:A:22:PHE:HZ	1:A:30:ILE:HD12	1.85	0.41
1:A:42:ASP:N	1:A:43:GLU:HA	2.33	0.41
1:A:443:LEU:HD13	1:A:455:MET:HE2	2.01	0.41
2:B:640:VAL:HG22	2:B:651:LEU:HD23	2.02	0.41
13:R:4:G:H2'	13:R:5:A:H8	1.84	0.41
1:A:560:ILE:HB	6:H:79:TRP:H	1.84	0.41
1:A:901:LEU:HD22	1:A:919:ILE:HG23	2.02	0.41
2:B:30:SER:O	2:B:34:ILE:HG13	2.19	0.41
2:B:519:TRP:HZ2	2:B:705:MET:HE1	1.84	0.41
2:B:975:GLN:N	2:B:978:ASP:OD2	2.51	0.41
8:J:23:ASN:O	8:J:27:GLU:HB3	2.20	0.41
12:N:11:DG:H2''	12:N:12:DT:C6	2.54	0.41
1:A:868:TYR:CZ	1:A:1064:VAL:HG21	2.56	0.41
2:B:258:LEU:HD13	2:B:269:ILE:HG12	2.03	0.41
2:B:952:VAL:HG22	2:B:966:VAL:HG13	2.03	0.41
2:B:1037:LEU:HD23	8:J:44:TYR:HB3	2.02	0.41
1:A:848:ILE:HB	1:A:1065:GLY:HA3	2.03	0.41
2:B:904:ARG:HG2	2:B:948:ILE:HG12	2.03	0.41
6:H:81:PRO:HA	6:H:82:PRO:HD3	1.96	0.41
1:A:527:THR:O	1:A:653:VAL:HG11	2.21	0.41
1:A:778:GLY:HA3	2:B:516:ASN:HB2	2.03	0.41
2:B:463:THR:HG22	11:T:27:DA:H2''	2.01	0.41
2:B:629:ASP:OD1	2:B:630:ALA:N	2.54	0.41
2:B:830:TYR:HB3	2:B:831:SER:H	1.65	0.41
5:F:130:ILE:HA	5:F:131:PRO:HD3	1.79	0.41
12:N:2:DT:H6	12:N:2:DT:H2'	1.70	0.41
1:A:852:TYR:HB3	5:F:81:THR:HG22	2.03	0.41
1:A:1207:LEU:HD23	1:A:1274:ARG:HD2	2.02	0.41
2:B:600:LEU:HB3	2:B:615:MET:SD	2.60	0.41
1:A:30:ILE:HG23	2:B:1170:THR:HG23	2.02	0.41
1:A:306:ASN:HB2	1:A:324:SER:HB3	2.02	0.41
1:A:678:GLU:HA	1:A:681:GLU:HG2	2.03	0.41
1:A:878:ILE:HG12	1:A:957:PRO:HA	2.02	0.41
1:A:1157:ASP:HA	1:A:1158:PRO:HD3	1.91	0.41
2:B:1135:ARG:HG3	2:B:1147:LEU:HD21	2.03	0.41
4:E:65:THR:O	4:E:69:ILE:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:165:LEU:HD13	4:E:170:LEU:HB2	2.03	0.41
1:A:798:GLY:HA2	1:A:815:PHE:CD2	2.56	0.41
1:A:1193:LEU:HD21	1:A:1264:GLU:HB3	2.03	0.41
2:B:30:SER:OG	2:B:743:ILE:O	2.33	0.41
2:B:861:ASP:OD1	2:B:862:GLN:N	2.54	0.41
10:L:48:CYS:HB3	10:L:51:CYS:HB3	2.02	0.41
1:A:1386:ARG:HB3	1:A:1403:GLU:HG3	2.02	0.40
2:B:120:ARG:HA	2:B:963:PHE:HZ	1.86	0.40
2:B:983:ARG:NH1	2:B:1091:TYR:HB3	2.36	0.40
1:A:231:PRO:HA	1:A:234:MET:HG3	2.04	0.40
1:A:268:ASP:HB3	1:A:299:HIS:CE1	2.56	0.40
1:A:851:HIS:CG	5:F:139:PRO:HG3	2.56	0.40
2:B:846:ILE:HG23	2:B:974:PRO:HG2	2.04	0.40
5:F:97:ARG:HE	5:F:124:GLU:CD	2.28	0.40
1:A:244:PRO:HG2	1:A:245:PRO:HD3	2.02	0.40
2:B:806:THR:HB	2:B:809:MET:HG3	2.03	0.40
3:C:22:LEU:HD21	9:K:101:LEU:HD21	2.03	0.40
4:E:79:TRP:HB2	4:E:105:PHE:CD2	2.56	0.40
2:B:500:THR:HA	2:B:501:PRO:HD3	1.93	0.40
4:E:3:GLN:HB2	4:E:4:GLU:H	1.64	0.40
6:H:14:GLU:HB3	6:H:27:GLU:HB3	2.03	0.40
9:K:49:GLU:HG3	9:K:94:ILE:HG12	2.04	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	1357/1733 (78%)	1252 (92%)	103 (8%)	2 (0%)	48 79
2	B	1067/1224 (87%)	996 (93%)	66 (6%)	5 (0%)	24 57
3	C	264/318 (83%)	243 (92%)	19 (7%)	2 (1%)	16 49

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	E	211/215 (98%)	201 (95%)	9 (4%)	1 (0%)	24	57
5	F	82/155 (53%)	78 (95%)	4 (5%)	0	100	100
6	H	124/146 (85%)	109 (88%)	13 (10%)	2 (2%)	7	36
7	I	113/122 (93%)	98 (87%)	15 (13%)	0	100	100
8	J	63/70 (90%)	59 (94%)	4 (6%)	0	100	100
9	K	112/120 (93%)	107 (96%)	4 (4%)	1 (1%)	14	46
10	L	42/70 (60%)	33 (79%)	9 (21%)	0	100	100
All	All	3435/4173 (82%)	3176 (92%)	246 (7%)	13 (0%)	30	61

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	1046	PRO
6	H	82	PRO
3	C	148	ARG
9	K	26	LYS
1	A	1156	PRO
2	B	974	PRO
4	E	86	PRO
2	B	367	LEU
2	B	1017	ILE
3	C	90	ASP
6	H	18	GLY
2	B	901	PRO
1	A	957	PRO

### 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	1198/1520 (79%)	1134 (95%)	64 (5%)	20	48
2	B	944/1061 (89%)	902 (96%)	42 (4%)	25	52

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	234/274 (85%)	225 (96%)	9 (4%)	29	55
4	E	195/197 (99%)	190 (97%)	5 (3%)	40	62
5	F	74/137 (54%)	72 (97%)	2 (3%)	39	61
6	H	114/128 (89%)	108 (95%)	6 (5%)	20	48
7	I	109/116 (94%)	105 (96%)	4 (4%)	30	56
8	J	60/65 (92%)	58 (97%)	2 (3%)	33	58
9	K	99/102 (97%)	94 (95%)	5 (5%)	21	49
10	L	39/57 (68%)	39 (100%)	0	100	100
All	All	3066/3657 (84%)	2927 (96%)	139 (4%)	24	51

All (139) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	PHE
1	A	30	ILE
1	A	46	THR
1	A	69	THR
1	A	93	VAL
1	A	126	LEU
1	A	132	LYS
1	A	179	LEU
1	A	208	LEU
1	A	222	LEU
1	A	235	ILE
1	A	270	LEU
1	A	271	LYS
1	A	308	ILE
1	A	322	VAL
1	A	335	ARG
1	A	351	THR
1	A	427	GLN
1	A	443	LEU
1	A	444	PHE
1	A	451	HIS
1	A	463	ILE
1	A	470	LEU
1	A	512	VAL
1	A	532	ARG
1	A	612	ILE

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Mol	Chain	Res	Type
1	A	618	GLU
1	A	629	LEU
1	A	666	ILE
1	A	688	LYS
1	A	691	LEU
1	A	702	LEU
1	A	710	LEU
1	A	732	LEU
1	A	780	VAL
1	A	783	THR
1	A	797	LYS
1	A	826	ASP
1	A	830	LYS
1	A	885	THR
1	A	896	ARG
1	A	919	ILE
1	A	926	GLN
1	A	934	LYS
1	A	977	LYS
1	A	1015	VAL
1	A	1017	LEU
1	A	1029	ARG
1	A	1034	GLU
1	A	1035	TYR
1	A	1116	LEU
1	A	1172	LEU
1	A	1207	LEU
1	A	1230	GLU
1	A	1262	LYS
1	A	1297	GLU
1	A	1300	LYS
1	A	1322	ILE
1	A	1333	ILE
1	A	1350	LYS
1	A	1374	VAL
1	A	1377	THR
1	A	1406	VAL
1	A	1407	GLU
2	B	46	GLN
2	B	109	THR
2	B	134	LYS
2	B	301	ILE

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Mol	Chain	Res	Type
2	B	319	GLU
2	B	331	LEU
2	B	364	ILE
2	B	365	THR
2	B	393	LYS
2	B	483	LEU
2	B	549	THR
2	B	552	MET
2	B	567	GLU
2	B	570	VAL
2	B	606	LYS
2	B	653	VAL
2	B	737	THR
2	B	751	VAL
2	B	791	THR
2	B	825	VAL
2	B	839	MET
2	B	916	THR
2	B	941	LEU
2	B	955	THR
2	B	983	ARG
2	B	987	LYS
2	B	997	GLU
2	B	999	MET
2	B	1007	VAL
2	B	1028	GLU
2	B	1051	THR
2	B	1057	LYS
2	B	1096	ARG
2	B	1099	VAL
2	B	1147	LEU
2	B	1159	ARG
2	B	1176	ASN
2	B	1188	LYS
2	B	1189	ILE
2	B	1191	ILE
2	B	1194	ILE
2	B	1202	LEU
3	C	22	LEU
3	C	25	VAL
3	C	77	ILE
3	C	99	LEU

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Mol	Chain	Res	Type
3	C	137	LYS
3	C	149	LYS
3	C	222	LYS
3	C	240	VAL
3	C	253	LYS
4	E	3	GLN
4	E	98	ILE
4	E	127	ILE
4	E	169	ARG
4	E	201	LYS
5	F	72	LYS
5	F	97	ARG
6	H	15	VAL
6	H	89	LEU
6	H	103	LYS
6	H	124	ARG
6	H	133	ASN
6	H	143	LEU
7	I	14	LEU
7	I	55	THR
7	I	59	VAL
7	I	111	THR
8	J	3	VAL
8	J	5	VAL
9	K	11	LEU
9	K	18	LYS
9	K	20	LYS
9	K	32	VAL
9	K	101	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	68	GLN
1	A	299	HIS
1	A	339	ASN
1	A	425	GLN
1	A	490	HIS
1	A	953	ASN
1	A	966	ASN
1	A	968	GLN
1	A	1078	GLN

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Mol	Chain	Res	Type
1	A	1140	HIS
2	B	115	GLN
2	B	325	GLN
2	B	449	ASN
2	B	587	HIS
2	B	770	GLN
2	B	794	ASN
2	B	843	GLN
2	B	984	HIS
2	B	986	GLN
2	B	1093	GLN
2	B	1097	HIS
2	B	1117	GLN
2	B	1176	ASN
2	B	1177	HIS
2	B	1205	GLN
6	H	35	GLN
6	H	128	ASN
7	I	12	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
13	R	8/9 (88%)	1 (12%)	0

All (1) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
13	R	9	G

There are no RNA pucker outliers to report.

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

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

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	$\# Z  > 2$
11	6MA	T	16	11	21,24,25	2.50	7 (33%)	27,34,37	2.13	6 (22%)
11	6MA	T	19	11	21,24,25	2.53	8 (38%)	27,34,37	2.19	6 (22%)
11	6MA	T	7	12,11	21,24,25	2.52	7 (33%)	27,34,37	2.07	4 (14%)

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
11	6MA	T	16	11	-	2/9/23/24	0/3/3/3
11	6MA	T	19	11	-	2/9/23/24	0/3/3/3
11	6MA	T	7	12,11	-	7/9/23/24	0/3/3/3

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	T	16	6MA	C6-N6	7.08	1.42	1.34
11	T	7	6MA	C6-N6	7.04	1.42	1.34
11	T	19	6MA	C6-N6	6.90	1.42	1.34
11	T	16	6MA	C5-N7	4.47	1.47	1.39
11	T	19	6MA	C5-N7	4.44	1.47	1.39
11	T	7	6MA	C5-N7	4.44	1.47	1.39
11	T	19	6MA	C1'-N9	-4.09	1.38	1.46
11	T	7	6MA	C1'-N9	-3.83	1.39	1.46
11	T	16	6MA	C1'-N9	-3.72	1.39	1.46
11	T	7	6MA	C8-N9	-3.58	1.31	1.37
11	T	19	6MA	C8-N9	-3.54	1.31	1.37
11	T	16	6MA	C8-N9	-3.45	1.31	1.37
11	T	19	6MA	C4-N9	-2.79	1.31	1.37
11	T	16	6MA	C4-N9	-2.64	1.32	1.37
11	T	7	6MA	C4-N9	-2.63	1.32	1.37
11	T	16	6MA	C8-N7	2.47	1.36	1.31
11	T	7	6MA	C8-N7	2.39	1.36	1.31
11	T	19	6MA	C8-N7	2.35	1.36	1.31
11	T	7	6MA	C5-C4	2.22	1.43	1.39
11	T	16	6MA	C5-C4	2.21	1.43	1.39
11	T	19	6MA	C5-C4	2.12	1.42	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	T	19	6MA	C3'-C4'	-2.04	1.47	1.53

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	T	19	6MA	C4-N9-C8	8.58	114.74	105.74
11	T	7	6MA	C4-N9-C8	8.31	114.46	105.74
11	T	16	6MA	C4-N9-C8	8.22	114.37	105.74
11	T	19	6MA	C1-N6-C6	-3.41	119.69	122.85
11	T	16	6MA	C1-N6-C6	-3.20	119.88	122.85
11	T	7	6MA	C1-N6-C6	-2.95	120.12	122.85
11	T	16	6MA	C2'-C3'-C4'	2.52	107.91	102.80
11	T	16	6MA	C6-C5-N7	2.50	135.15	132.43
11	T	19	6MA	C5-C4-N9	-2.46	103.13	105.81
11	T	19	6MA	C2'-C1'-N9	-2.38	109.03	114.63
11	T	19	6MA	C6-C5-N7	2.34	134.98	132.43
11	T	7	6MA	C6-C5-N7	2.31	134.95	132.43
11	T	7	6MA	C5-C4-N9	-2.28	103.33	105.81
11	T	16	6MA	C2'-C1'-N9	-2.11	109.67	114.63
11	T	16	6MA	C5-C4-N9	-2.10	103.53	105.81
11	T	19	6MA	C2'-C3'-C4'	2.06	106.98	102.80

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	T	7	6MA	C3'-C4'-C5'-O5'
11	T	7	6MA	C5-C6-N6-C1
11	T	7	6MA	N1-C6-N6-C1
11	T	16	6MA	C5-C6-N6-C1
11	T	16	6MA	N1-C6-N6-C1
11	T	7	6MA	O4'-C4'-C5'-O5'
11	T	19	6MA	O4'-C4'-C5'-O5'
11	T	19	6MA	C3'-C4'-C5'-O5'
11	T	7	6MA	C2'-C1'-N9-C4
11	T	7	6MA	C4'-C5'-O5'-P
11	T	7	6MA	O4'-C1'-N9-C4

There are no ring outliers.

2 monomers are involved in 3 short contacts:



Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	T	19	6MA	1	0
11	T	7	6MA	2	0

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 9 ligands modelled in this entry, 9 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 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<sup>th</sup> 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 <sup>2</sup> )	Q < 0.9
1	A	1371/1733 (79%)	0.47	42 (3%)	51	29	17, 78, 165, 231	0
2	B	1089/1224 (88%)	0.37	42 (3%)	43	24	18, 59, 129, 209	0
3	C	266/318 (83%)	0.21	2 (0%)	82	58	29, 60, 112, 161	0
4	E	213/215 (99%)	0.62	12 (5%)	30	18	53, 120, 200, 234	0
5	F	84/155 (54%)	0.22	0	100	100	39, 76, 119, 161	0
6	H	130/146 (89%)	0.63	5 (3%)	44	25	68, 102, 171, 206	0
7	I	115/122 (94%)	0.45	2 (1%)	69	41	37, 80, 130, 183	0
8	J	65/70 (92%)	0.10	0	100	100	25, 45, 113, 145	0
9	K	114/120 (95%)	-0.00	0	100	100	30, 63, 105, 124	0
10	L	44/70 (62%)	1.03	7 (15%)	5	5	49, 132, 197, 208	0
11	T	26/29 (89%)	1.21	3 (11%)	9	8	46, 241, 298, 321	0
12	N	14/14 (100%)	1.60	2 (14%)	6	6	209, 249, 297, 307	0
13	R	9/9 (100%)	0.27	0	100	100	37, 53, 102, 110	0
All	All	3540/4225 (83%)	0.42	117 (3%)	49	28	17, 73, 164, 321	0

All (117) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	54	ASN	5.0
12	N	1	DC	4.5
2	B	261	ARG	4.4
2	B	468	GLU	4.3
2	B	529	GLU	4.2
1	A	22	PHE	4.0
4	E	95	THR	3.9
1	A	801	GLU	3.9
2	B	530	GLY	3.9

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Mol	Chain	Res	Type	RSRZ
1	A	323	LYS	3.8
1	A	76	GLU	3.6
1	A	79	GLY	3.5
2	B	472	ALA	3.5
1	A	596	THR	3.4
2	B	229	ALA	3.4
6	H	139	ASN	3.3
2	B	70	ILE	3.2
1	A	98	LYS	3.2
2	B	883	LEU	3.2
1	A	65	LEU	3.1
2	B	266	ALA	3.1
4	E	83	CYS	3.0
2	B	267	ARG	2.9
1	A	1173	HIS	2.9
2	B	262	GLU	2.9
1	A	49	LYS	2.8
1	A	1393	ASN	2.8
10	L	46	VAL	2.8
1	A	179	LEU	2.8
7	I	74	GLU	2.8
4	E	102	GLU	2.7
10	L	45	ALA	2.7
1	A	140	THR	2.7
2	B	106	ASP	2.7
10	L	31	CYS	2.7
11	T	14	DG	2.7
2	B	648	HIS	2.7
1	A	72	GLU	2.7
6	H	84	ALA	2.6
2	B	90	ILE	2.6
1	A	1315	GLU	2.6
2	B	39	ARG	2.6
2	B	733	HIS	2.6
1	A	542	GLU	2.6
1	A	240	PRO	2.6
2	B	816	GLU	2.5
1	A	108	MET	2.5
1	A	826	ASP	2.5
1	A	957	PRO	2.5
6	H	136	LYS	2.5
2	B	275	TYR	2.5

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Mol	Chain	Res	Type	RSRZ
2	B	711	GLU	2.5
2	B	1211	ASN	2.5
1	A	592	ASP	2.5
2	B	509	ALA	2.5
1	A	221	SER	2.5
2	B	918	ILE	2.5
1	A	331	GLY	2.5
2	B	338	GLY	2.5
2	B	885	MET	2.4
2	B	646	LEU	2.4
10	L	53	HIS	2.4
10	L	41	SER	2.4
1	A	1403	GLU	2.4
4	E	53	PRO	2.4
2	B	643	ASP	2.4
2	B	936	ASP	2.4
1	A	74	MET	2.4
2	B	359	GLU	2.4
1	A	1378	GLN	2.3
4	E	100	ILE	2.3
1	A	201	VAL	2.3
3	C	16	ASP	2.3
4	E	96	PHE	2.3
1	A	147	VAL	2.3
4	E	90	VAL	2.3
4	E	91	LYS	2.3
2	B	66	ASP	2.3
2	B	903	VAL	2.3
4	E	123	LEU	2.3
2	B	668	ASP	2.3
7	I	94	ASP	2.2
1	A	260	ASP	2.2
11	T	29	DG	2.2
1	A	59	GLY	2.2
2	B	1167	GLY	2.2
1	A	70	CYS	2.2
2	B	866	TYR	2.2
1	A	1269	GLU	2.2
2	B	467	GLY	2.2
1	A	42	ASP	2.1
1	A	587	HIS	2.1
3	C	78	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	792	MET	2.1
1	A	1320	PRO	2.1
2	B	620	ARG	2.1
6	H	129	TYR	2.1
12	N	7	DA	2.1
11	T	12	DC	2.1
2	B	1136	ASP	2.1
1	A	593	GLU	2.1
4	E	98	ILE	2.1
2	B	887	HIS	2.1
1	A	496	GLU	2.1
10	L	27	LEU	2.1
10	L	40	LEU	2.0
1	A	1198	ASP	2.0
1	A	1125	ALA	2.0
2	B	958	GLN	2.0
1	A	234	MET	2.0
4	E	93	MET	2.0
1	A	51	GLY	2.0
2	B	231	PRO	2.0
2	B	459	TYR	2.0
2	B	1153	GLU	2.0
6	H	90	ALA	2.0
4	E	124	VAL	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains [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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
11	6MA	T	7	22/23	0.09	0.16	244,245,251,255	0
11	6MA	T	16	22/23	0.25	0.20	178,189,201,211	0
11	6MA	T	19	22/23	0.91	0.11	64,84,103,110	0

## 6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 6.4 Ligands

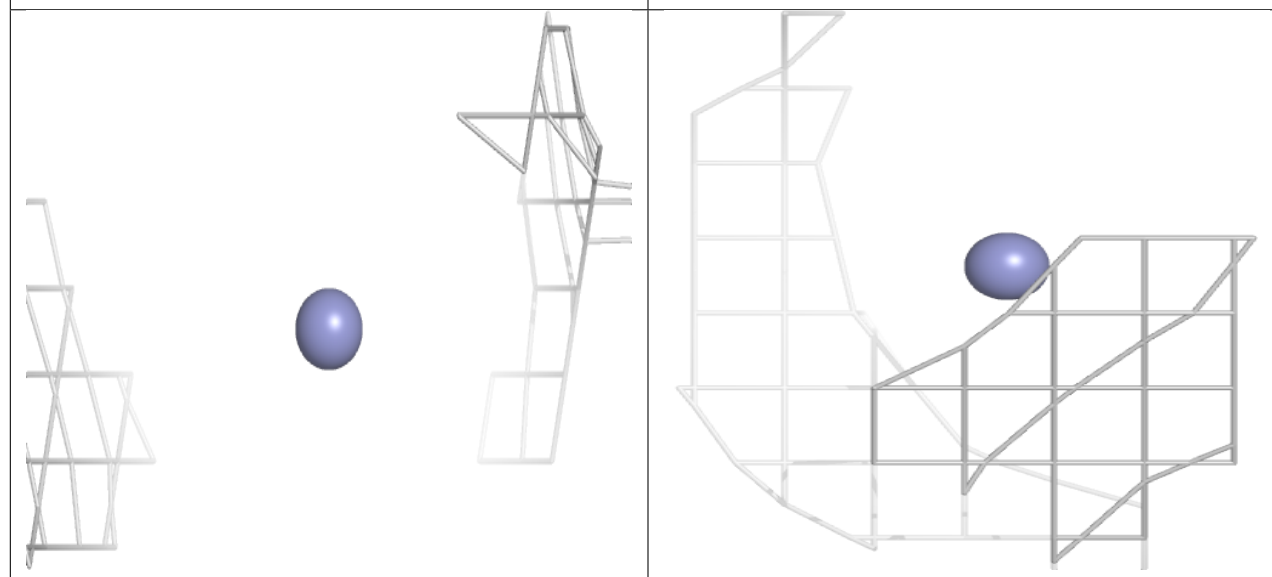
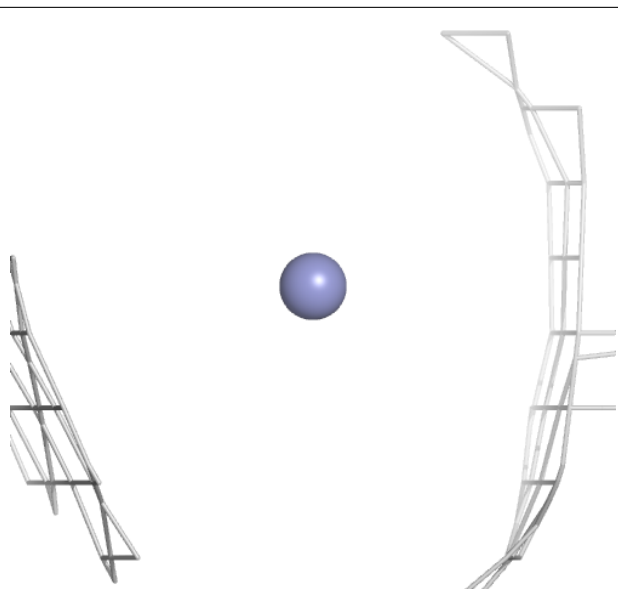
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 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
14	ZN	A	1801	1/1	0.89	0.08	198,198,198,198	0
14	ZN	A	1802	1/1	0.97	0.06	91,91,91,91	0
14	ZN	L	101	1/1	0.97	0.04	129,129,129,129	0
15	MG	A	1803	1/1	0.97	0.05	37,37,37,37	0
14	ZN	B	1301	1/1	0.98	0.05	117,117,117,117	0
14	ZN	I	201	1/1	0.99	0.05	71,71,71,71	0
14	ZN	J	101	1/1	1.00	0.02	32,32,32,32	0
14	ZN	C	401	1/1	1.00	0.02	52,52,52,52	0
14	ZN	I	202	1/1	1.00	0.02	50,50,50,50	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.

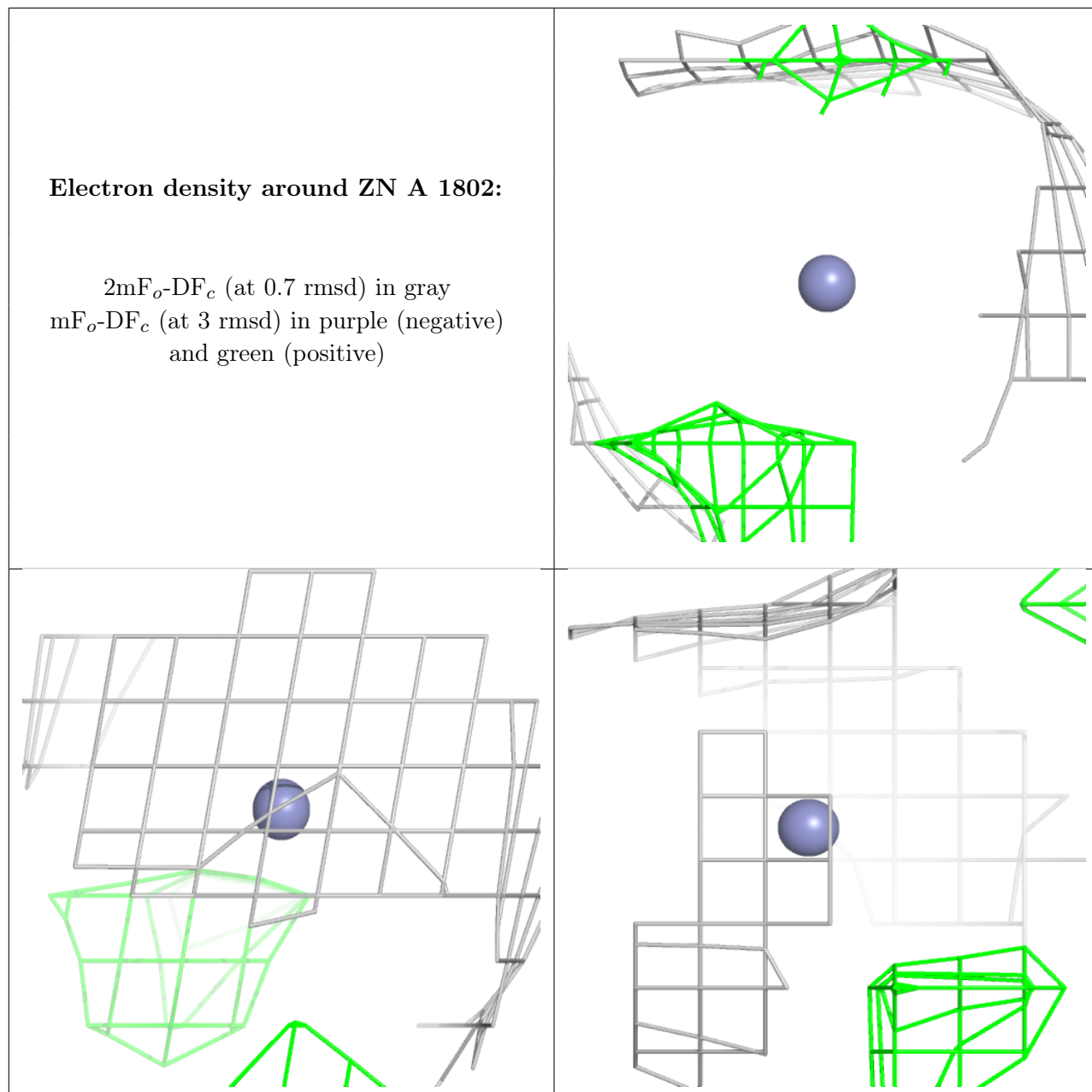
**Electron density around ZN A 1801:**

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



**Electron density around ZN A 1802:**

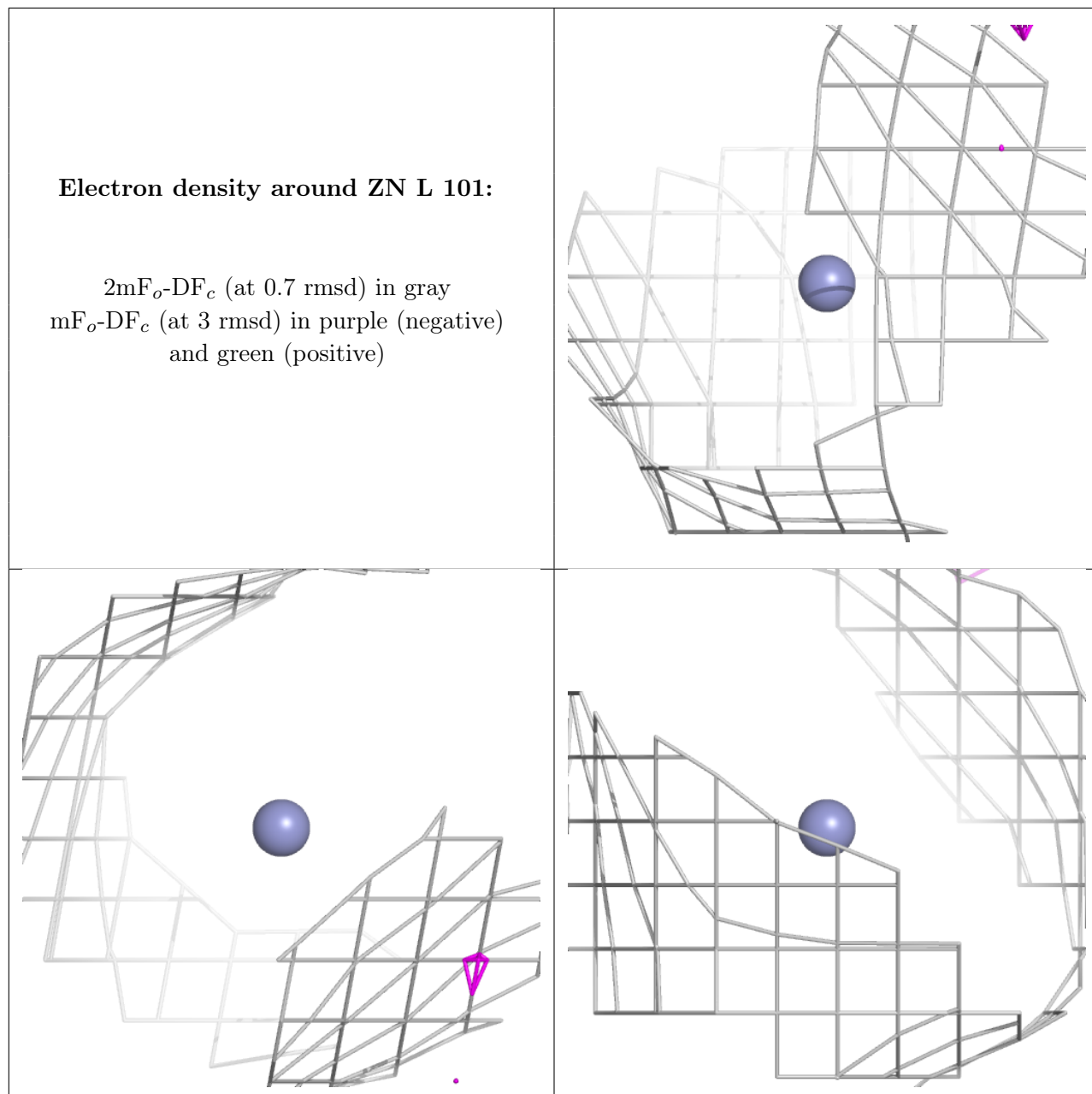
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





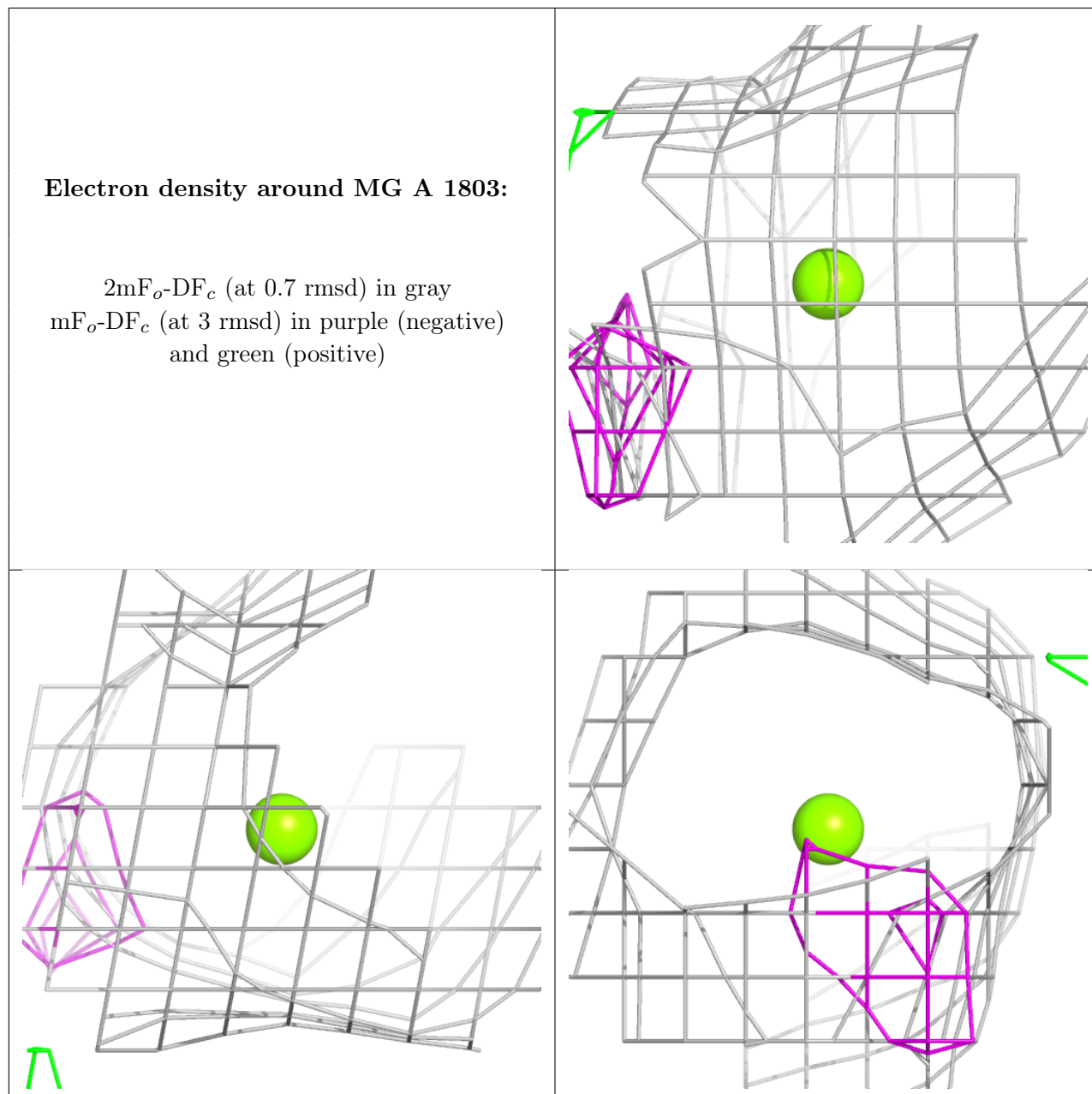
**Electron density around ZN L 101:**

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



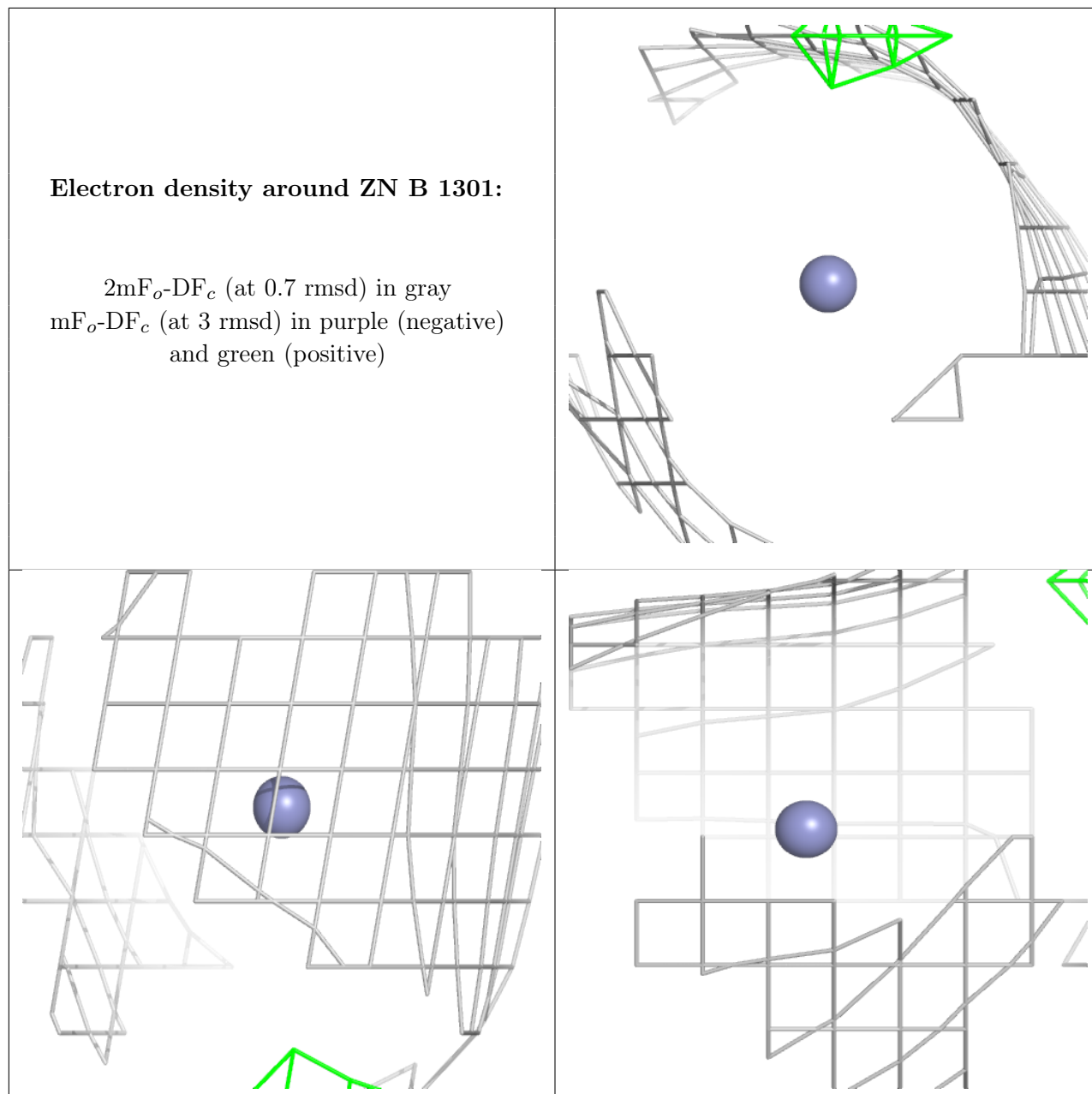
**Electron density around MG A 1803:**

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



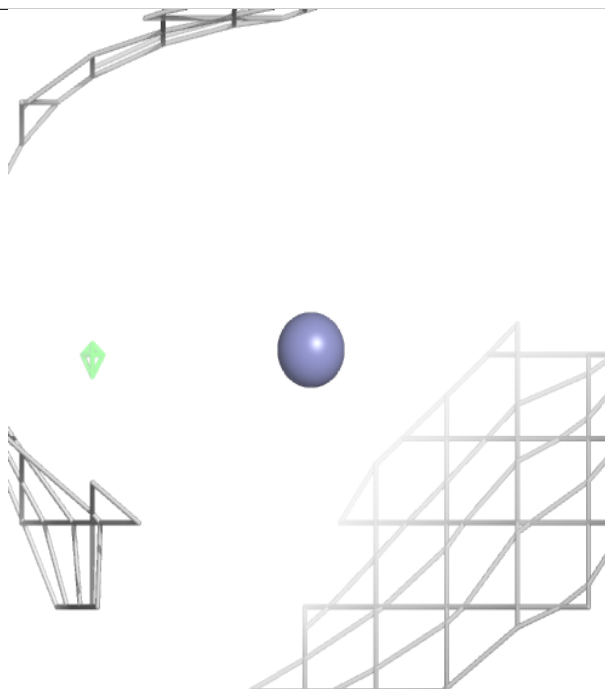
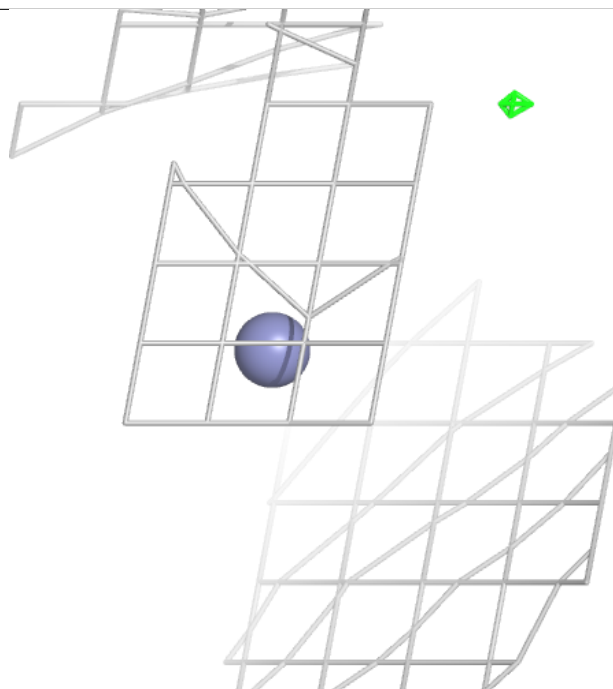
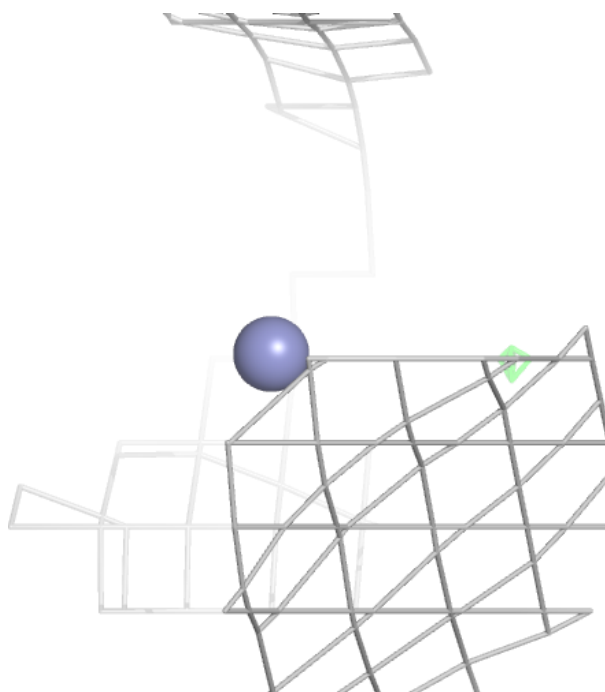
**Electron density around ZN B 1301:**

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



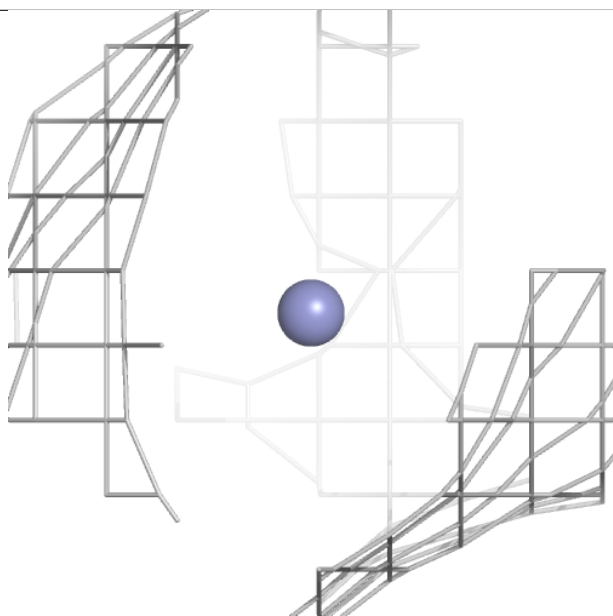
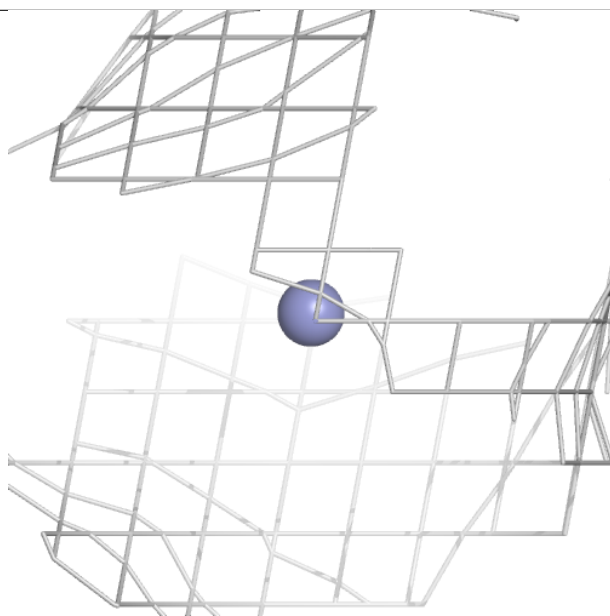
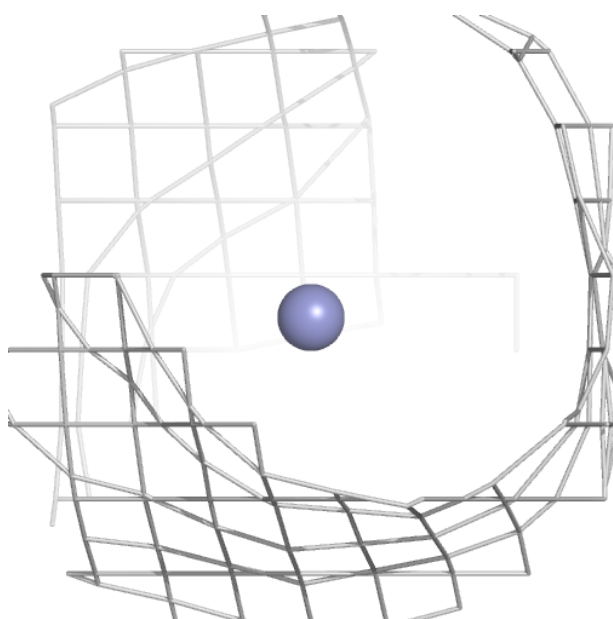
**Electron density around ZN I 201:**

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



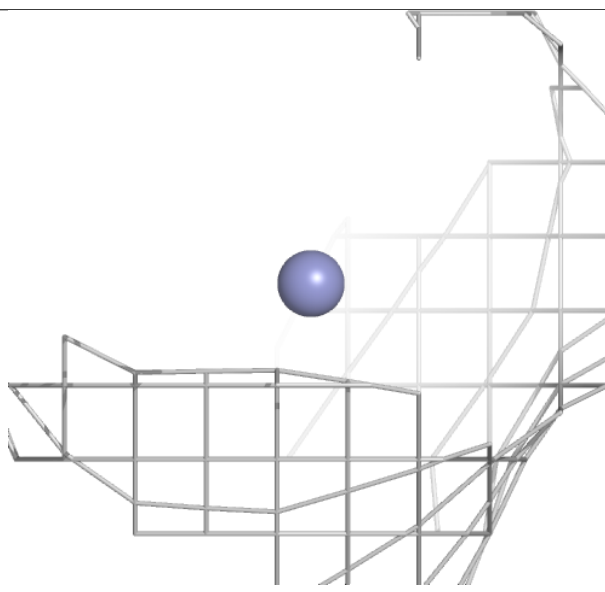
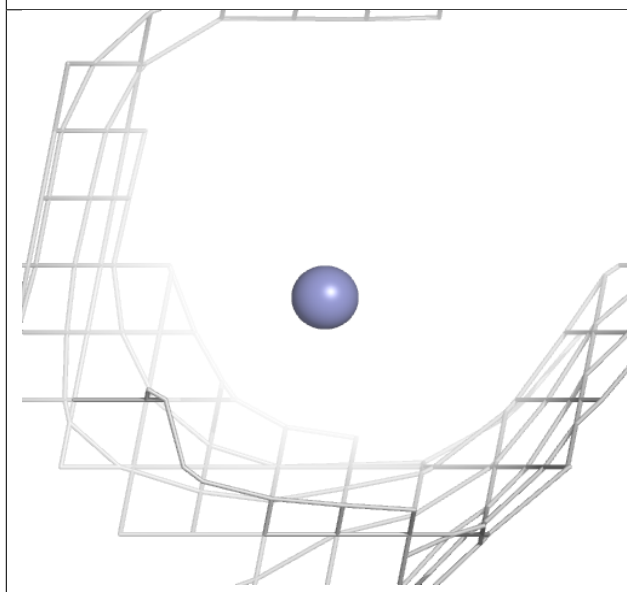
**Electron density around ZN J 101:**

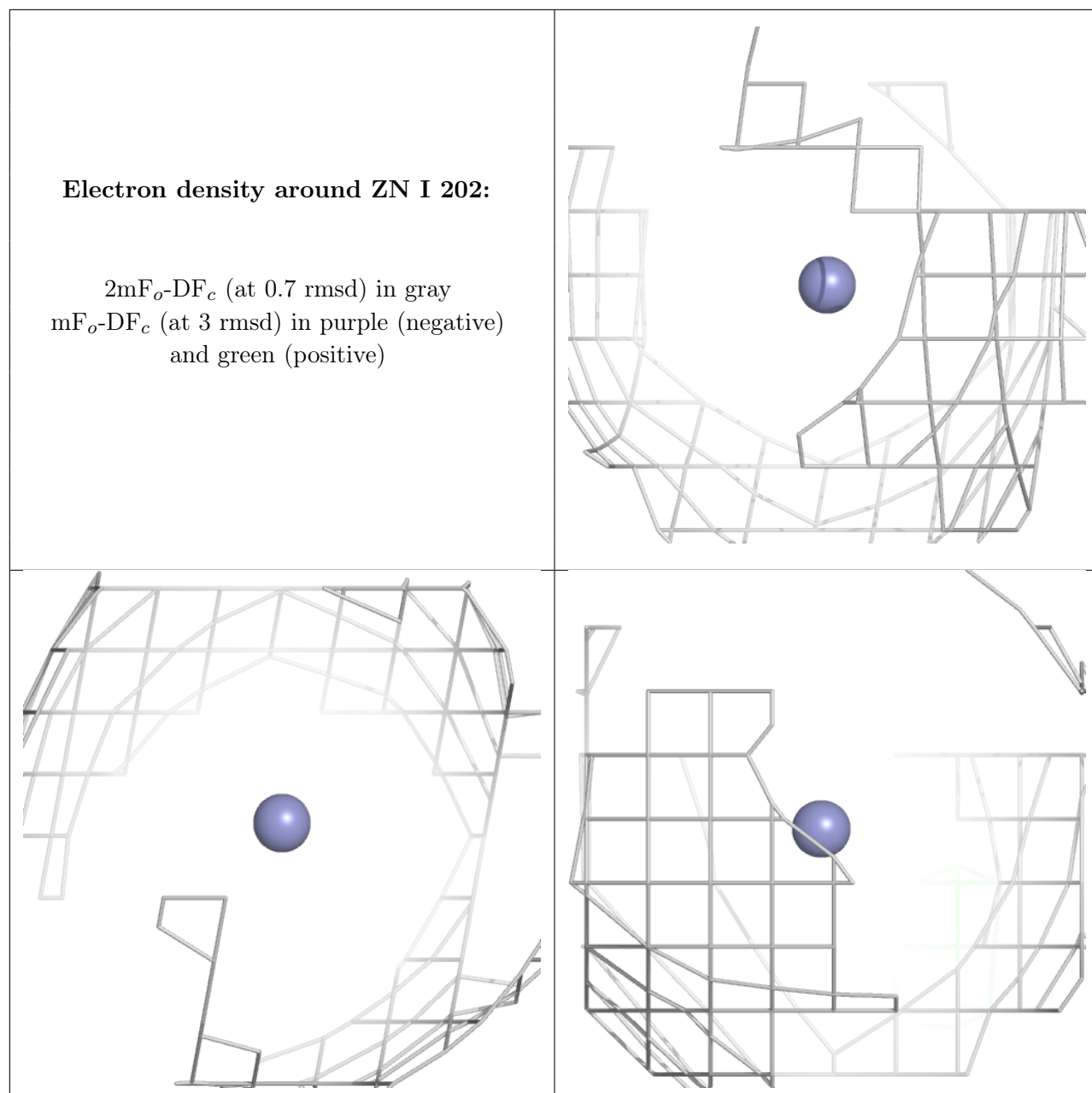
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around ZN 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)





## 6.5 Other polymers ⓘ

There are no such residues in this entry.