



# Full wwPDB X-ray Structure Validation Report ⓘ

Nov 21, 2023 – 02:22 AM JST

PDB ID : 7EGR  
Title : Co-crystal structure of Ac-AChBPP in complex with RgIA  
Authors : Wang, X.Q.; Pan, S.; Fan, Y.X.; Xue, Y.; Zhu, X.P.; Luo, S.L.  
Deposited on : 2021-03-26  
Resolution : 2.50 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 : 4.02b-467  
Xtriage (Phenix) : 1.13  
EDS : 2.36  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

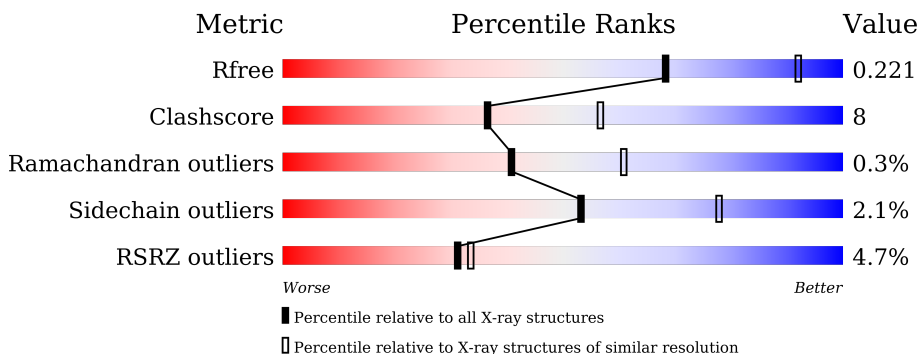
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 Å.

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





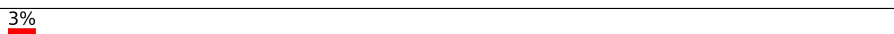
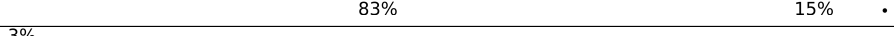


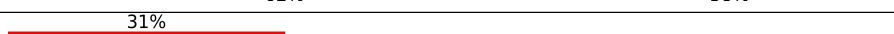



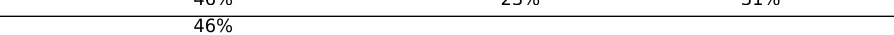

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	206	 4% 85% 14%
1	D	206	 3% 91% 9%
1	G	206	 4% 73% 25%
1	H	206	 4% 90% 9%
1	I	206	 3% 81% 18%
1	J	206	 2% 85% 14%

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Mol	Chain	Length	Quality of chain
2	B	204	
2	C	204	
3	E	205	
3	F	205	
4	K	13	
4	L	13	
4	M	13	
4	N	13	
4	O	13	
4	P	13	
4	Q	13	
4	R	13	

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 17680 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 Soluble acetylcholine receptor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	206	1638	1035	267	327	9	0	0	0
1	D	206	1638	1035	267	327	9	0	0	0
1	G	206	1638	1035	267	327	9	0	0	0
1	H	206	1638	1035	267	327	9	0	0	0
1	I	206	1638	1035	267	327	9	0	0	0
1	J	206	1638	1035	267	327	9	0	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	60	VAL	ALA	conflict	UNP Q8WSF8
A	155	VAL	ALA	conflict	UNP Q8WSF8
D	60	VAL	ALA	conflict	UNP Q8WSF8
D	155	VAL	ALA	conflict	UNP Q8WSF8
G	60	VAL	ALA	conflict	UNP Q8WSF8
G	155	VAL	ALA	conflict	UNP Q8WSF8
H	60	VAL	ALA	conflict	UNP Q8WSF8
H	155	VAL	ALA	conflict	UNP Q8WSF8
I	60	VAL	ALA	conflict	UNP Q8WSF8
I	155	VAL	ALA	conflict	UNP Q8WSF8
J	60	VAL	ALA	conflict	UNP Q8WSF8
J	155	VAL	ALA	conflict	UNP Q8WSF8

- Molecule 2 is a protein called Soluble acetylcholine receptor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	204	1621	1026	262	324	9	0	0	0
2	C	204	1621	1026	262	324	9	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	60	VAL	ALA	conflict	UNP Q8WSF8
B	155	VAL	ALA	conflict	UNP Q8WSF8
C	60	VAL	ALA	conflict	UNP Q8WSF8
C	155	VAL	ALA	conflict	UNP Q8WSF8

- Molecule 3 is a protein called Soluble acetylcholine receptor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	E	205	1627	1029	263	326	9	0	0	0
3	F	205	1627	1029	263	326	9	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	60	VAL	ALA	conflict	UNP Q8WSF8
E	155	VAL	ALA	conflict	UNP Q8WSF8
F	60	VAL	ALA	conflict	UNP Q8WSF8
F	155	VAL	ALA	conflict	UNP Q8WSF8

- Molecule 4 is a protein called RgIA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	K	13	105	59	25	17	4	0	0	0
4	L	13	105	59	25	17	4	0	0	0
4	M	13	105	59	25	17	4	0	0	0
4	N	13	105	59	25	17	4	0	0	0
4	O	13	105	59	25	17	4	0	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
4	P	13	Total	C	N	O	S	0	0	0
			105	59	25	17	4			
4	R	13	Total	C	N	O	S	0	0	0
			105	59	25	17	4			
4	Q	13	Total	C	N	O	S	0	0	0
			105	59	25	17	4			

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total	Mg	0	0
			1	1		
5	B	1	Total	Mg	0	0
			1	1		
5	C	1	Total	Mg	0	0
			1	1		
5	D	1	Total	Mg	0	0
			1	1		
5	E	1	Total	Mg	0	0
			1	1		
5	H	1	Total	Mg	0	0
			1	1		
5	J	1	Total	Mg	0	0
			1	1		
5	N	1	Total	Mg	0	0
			1	1		
5	O	1	Total	Mg	0	0
			1	1		
5	R	1	Total	Mg	0	0
			1	1		

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	47	Total	O	0	0
			47	47		
6	B	71	Total	O	0	0
			71	71		
6	C	50	Total	O	0	0
			50	50		
6	D	45	Total	O	0	0
			45	45		

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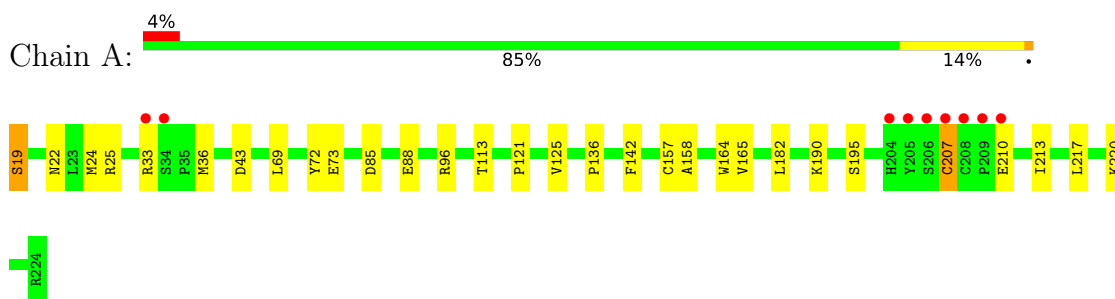
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>	<b>ZeroOcc</b>	<b>AltConf</b>
6	E	59	Total O 59 59	0	0
6	F	47	Total O 47 47	0	0
6	G	38	Total O 38 38	0	0
6	H	46	Total O 46 46	0	0
6	I	56	Total O 56 56	0	0
6	J	44	Total O 44 44	0	0
6	K	1	Total O 1 1	0	0
6	P	1	Total O 1 1	0	0
6	Q	1	Total O 1 1	0	0

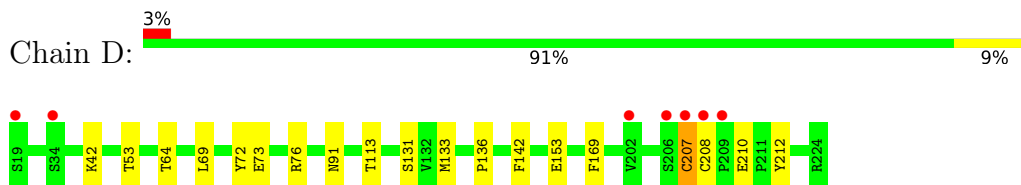
### 3 Residue-property plots [i](#)

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.

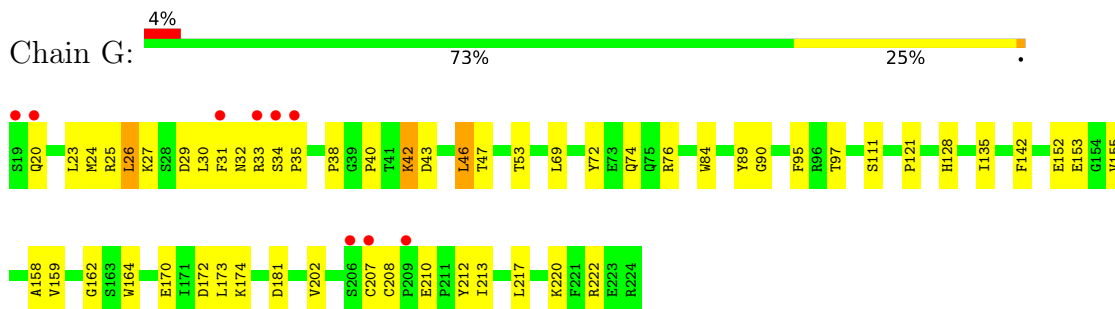
- Molecule 1: Soluble acetylcholine receptor



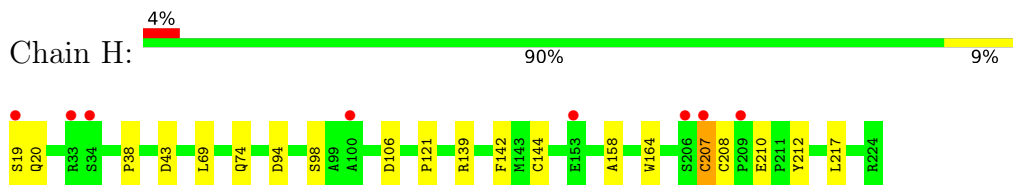
- Molecule 1: Soluble acetylcholine receptor



- Molecule 1: Soluble acetylcholine receptor

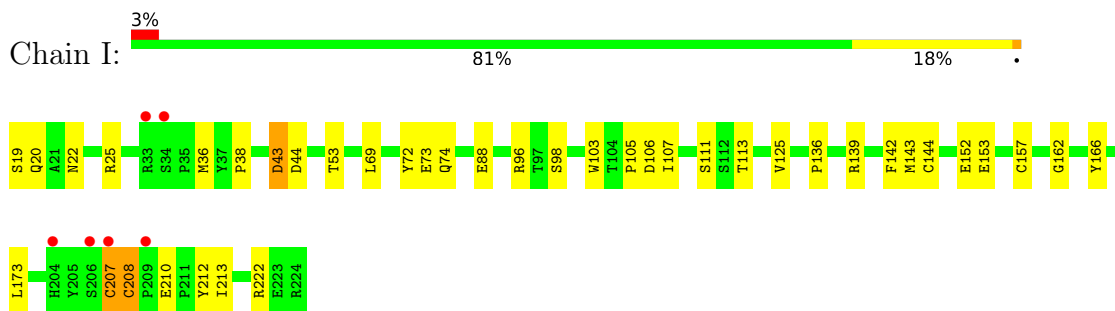


- Molecule 1: Soluble acetylcholine receptor

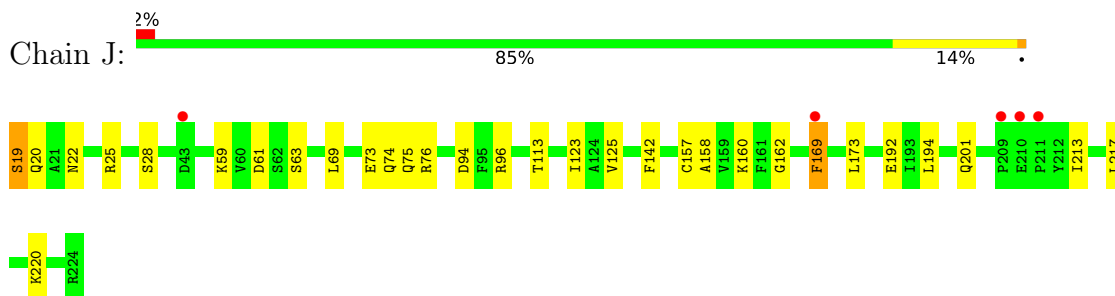


- Molecule 1: Soluble acetylcholine receptor

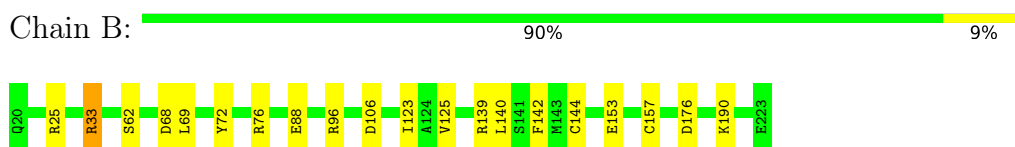




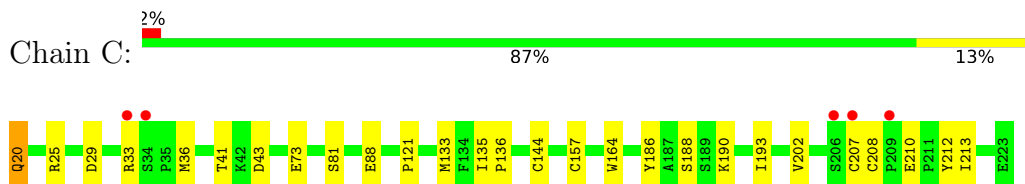
- Molecule 1: Soluble acetylcholine receptor



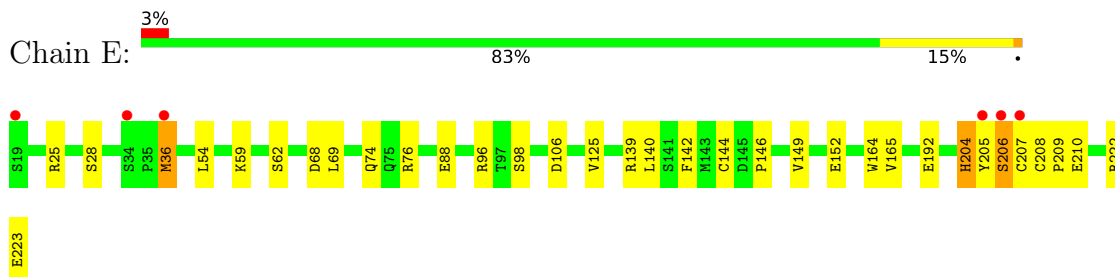
- Molecule 2: Soluble acetylcholine receptor



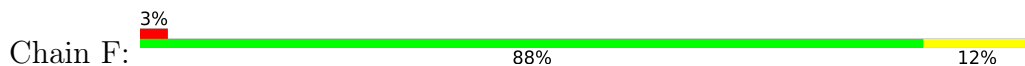
- Molecule 2: Soluble acetylcholine receptor

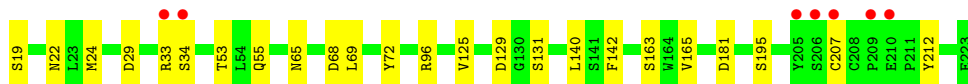


- Molecule 3: Soluble acetylcholine receptor



- Molecule 3: Soluble acetylcholine receptor

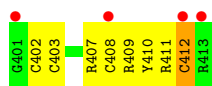




● Molecule 4: RgIA



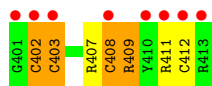
● Molecule 4: RgIA



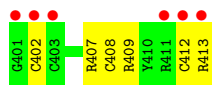
● Molecule 4: RgIA



● Molecule 4: RgIA



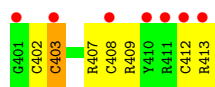
● Molecule 4: RgIA



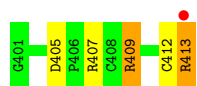
● Molecule 4: RgIA



● Molecule 4: RgIA



● Molecule 4: RgIA



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	206.27Å 135.96Å 132.07Å 90.00° 101.16° 90.00°	Depositor
Resolution (Å)	35.40 – 2.50 35.40 – 2.50	Depositor EDS
% Data completeness (in resolution range)	98.4 (35.40-2.50) 98.4 (35.40-2.50)	Depositor EDS
$R_{merge}$	0.11	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.26 (at 2.51Å)	Xtrriage
Refinement program	PHENIX 1.15_3459	Depositor
R, $R_{free}$	0.172 , 0.221 0.173 , 0.221	Depositor DCC
$R_{free}$ test set	5894 reflections (4.87%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	35.0	Xtrriage
Anisotropy	0.415	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 44.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	17680	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	41.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.86% 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 i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: MG

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	0.44	0/1678	0.62	1/2289 (0.0%)
1	D	0.42	0/1678	0.60	0/2289
1	G	0.46	0/1678	0.66	1/2289 (0.0%)
1	H	0.42	0/1678	0.61	1/2289 (0.0%)
1	I	0.44	0/1678	0.65	3/2289 (0.1%)
1	J	0.41	0/1678	0.59	1/2289 (0.0%)
2	B	0.46	0/1661	0.63	1/2267 (0.0%)
2	C	0.47	0/1661	0.65	2/2267 (0.1%)
3	E	0.44	0/1667	0.60	0/2275
3	F	0.41	0/1667	0.60	0/2275
4	K	0.90	1/106 (0.9%)	0.76	0/139
4	L	0.47	0/106	0.79	0/139
4	M	0.65	0/106	0.78	0/139
4	N	0.89	1/106 (0.9%)	1.03	0/139
4	O	0.58	0/106	0.80	0/139
4	P	0.70	0/106	1.09	1/139 (0.7%)
4	Q	0.55	0/106	0.98	1/139 (0.7%)
4	R	0.58	0/106	0.80	0/139
All	All	0.45	2/17572 (0.0%)	0.64	12/23930 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	I	0	1
3	E	0	1
3	F	0	1
All	All	0	4

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	N	408	CYS	CB-SG	-6.15	1.71	1.82
4	K	403	CYS	CB-SG	5.46	1.91	1.82

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	26	LEU	CA-CB-CG	7.26	132.01	115.30
1	A	157	CYS	CA-CB-SG	-7.21	101.02	114.00
1	I	208	CYS	CA-CB-SG	7.18	126.93	114.00
4	P	412	CYS	CA-CB-SG	6.71	126.08	114.00
4	Q	413	ARG	NE-CZ-NH1	6.65	123.62	120.30
2	C	157	CYS	CA-CB-SG	-6.06	103.10	114.00
1	I	207	CYS	CA-CB-SG	6.04	124.86	114.00
2	B	157	CYS	CA-CB-SG	-5.64	103.84	114.00
1	H	207	CYS	C-N-CA	5.46	135.36	121.70
1	J	157	CYS	CA-CB-SG	-5.35	104.37	114.00
2	C	20	GLN	N-CA-C	5.23	125.11	111.00
1	I	157	CYS	CA-CB-SG	-5.08	104.86	114.00

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	207	CYS	Peptide
3	E	204	HIS	Peptide
3	F	207	CYS	Peptide
1	I	207	CYS	Peptide

## 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	1638	0	1560	22	0
1	D	1638	0	1560	20	0
1	G	1638	0	1560	53	0
1	H	1638	0	1562	22	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	I	1638	0	1560	40	0
1	J	1638	0	1560	20	0
2	B	1621	0	1544	18	0
2	C	1621	0	1544	21	0
3	E	1627	0	1549	26	0
3	F	1627	0	1547	18	0
4	K	105	0	94	9	0
4	L	105	0	96	8	0
4	M	105	0	96	11	0
4	N	105	0	98	12	0
4	O	105	0	97	5	0
4	P	105	0	94	7	0
4	Q	105	0	95	10	0
4	R	105	0	96	13	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	D	1	0	0	0	0
5	E	1	0	0	0	0
5	H	1	0	0	0	0
5	J	1	0	0	0	0
5	N	1	0	0	0	0
5	O	1	0	0	0	0
5	R	1	0	0	0	0
6	A	47	0	0	1	0
6	B	71	0	0	2	0
6	C	50	0	0	3	0
6	D	45	0	0	1	0
6	E	59	0	0	2	0
6	F	47	0	0	1	0
6	G	38	0	0	0	0
6	H	46	0	0	0	0
6	I	56	0	0	1	0
6	J	44	0	0	1	0
6	K	1	0	0	0	0
6	P	1	0	0	0	0
6	Q	1	0	0	0	0
All	All	17680	0	16312	256	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 8.

All (256) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:96:ARG:HD2	3:F:125:VAL:HG22	1.26	1.15
1:H:74:GLN:OE1	4:R:409:ARG:HD3	1.61	1.00
1:G:202:VAL:HG22	1:G:213:ILE:HD12	1.42	1.00
3:E:208:CYS:HB3	3:E:210:GLU:OE1	1.62	0.98
1:J:160:LYS:HE2	1:J:201:GLN:HE22	1.28	0.97
1:H:74:GLN:OE1	4:R:409:ARG:CD	2.13	0.95
1:G:24:MET:SD	1:H:38:PRO:HB2	2.10	0.92
2:C:41:THR:HG22	2:C:43:ASP:H	1.35	0.89
3:F:96:ARG:CD	3:F:125:VAL:HG22	2.04	0.87
1:D:207:CYS:SG	1:D:208:CYS:N	2.49	0.85
1:H:20:GLN:HE21	1:I:38:PRO:HD2	1.45	0.80
1:J:22:ASN:HD22	1:J:25:ARG:HH21	1.28	0.80
1:H:20:GLN:NE2	1:I:38:PRO:HD2	1.98	0.79
1:J:19:SER:N	6:J:401:HOH:O	2.14	0.79
1:D:210:GLU:OE1	4:M:411:ARG:NE	2.16	0.79
4:N:402:CYS:HG	4:N:408:CYS:HG	1.08	0.77
3:E:59:LYS:NZ	6:E:402:HOH:O	2.16	0.77
1:D:210:GLU:OE1	4:M:411:ARG:CZ	2.34	0.75
1:H:20:GLN:HE21	1:I:38:PRO:CD	1.98	0.75
1:A:19:SER:HA	1:A:22:ASN:HD22	1.50	0.74
1:G:135:ILE:HD13	4:P:409:ARG:HD2	1.67	0.74
1:I:74:GLN:HE22	4:Q:409:ARG:HD2	1.52	0.74
3:F:19:SER:HA	3:F:22:ASN:HD22	1.53	0.73
1:H:74:GLN:OE1	4:R:409:ARG:HD2	1.89	0.73
1:A:195:SER:OG	1:A:220:LYS:HD2	1.89	0.73
1:G:40:PRO:HB3	1:G:46:LEU:HD22	1.71	0.73
1:J:96:ARG:HD2	1:J:125:VAL:HG22	1.71	0.73
1:G:202:VAL:HG22	1:G:213:ILE:CD1	2.19	0.72
1:A:22:ASN:OD1	1:A:25:ARG:NH2	2.23	0.72
1:G:20:GLN:HG2	1:H:43:ASP:HB2	1.73	0.70
1:J:74:GLN:HG2	4:N:409:ARG:HD3	1.72	0.70
1:G:74:GLN:HE21	4:P:409:ARG:HD3	1.58	0.69
2:C:207:CYS:SG	6:C:403:HOH:O	2.50	0.69
1:G:181:ASP:OD2	4:P:404:SER:HB3	1.93	0.68
1:I:69:LEU:HG	1:I:142:PHE:HE1	1.59	0.67
1:J:69:LEU:HD13	1:J:142:PHE:HE1	1.60	0.66
4:Q:409:ARG:HD3	4:Q:412:CYS:HB2	1.79	0.65
3:F:19:SER:N	6:F:301:HOH:O	2.29	0.65
3:F:29:ASP:OD1	3:F:33:ARG:NH1	2.30	0.64
2:B:176:ASP:OD2	4:K:413:ARG:NH1	2.30	0.64
1:A:19:SER:N	6:A:401:HOH:O	2.31	0.62
2:B:69:LEU:HG	2:B:142:PHE:HE1	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:74:GLN:NE2	4:Q:409:ARG:HD2	2.13	0.62
4:Q:413:ARG:NH1	4:Q:413:ARG:HG2	2.14	0.62
3:E:209:PRO:HD2	3:E:210:GLU:OE2	1.99	0.62
1:J:22:ASN:ND2	1:J:25:ARG:HH21	1.97	0.62
1:J:160:LYS:HE2	1:J:201:GLN:NE2	2.10	0.62
3:E:223:GLU:O	6:E:401:HOH:O	2.16	0.62
2:C:210:GLU:OE1	2:C:212:TYR:OH	2.18	0.61
1:A:19:SER:HA	1:A:22:ASN:ND2	2.14	0.61
1:I:96:ARG:HG3	1:I:125:VAL:HG22	1.82	0.61
1:D:153:GLU:OE1	1:I:153:GLU:HG3	2.01	0.60
3:E:25:ARG:NH2	3:E:88:GLU:O	2.30	0.60
6:B:420:HOH:O	2:C:20:GLN:HG3	2.00	0.60
1:G:142:PHE:CD2	1:G:159:VAL:HG22	2.36	0.60
1:G:135:ILE:CD1	4:P:409:ARG:HD2	2.32	0.59
4:P:405:ASP:O	4:P:409:ARG:HG3	2.03	0.59
4:K:409:ARG:HH22	4:K:413:ARG:HH12	1.50	0.58
1:G:69:LEU:HG	1:G:142:PHE:HE1	1.67	0.57
1:H:20:GLN:HE21	1:I:38:PRO:CG	2.18	0.57
1:H:210:GLU:OE1	1:H:212:TYR:OH	2.14	0.57
1:G:155:VAL:O	1:G:220:LYS:HG2	2.04	0.57
1:A:210:GLU:OE2	4:K:411:ARG:NE	2.36	0.56
3:E:96:ARG:HD2	3:E:125:VAL:HG22	1.87	0.56
1:G:74:GLN:NE2	4:P:409:ARG:HD3	2.19	0.56
1:G:207:CYS:SG	1:G:208:CYS:N	2.79	0.56
1:I:19:SER:HA	1:I:22:ASN:HD22	1.70	0.56
1:I:44:ASP:OD1	6:I:301:HOH:O	2.18	0.56
4:N:403:CYS:HG	4:N:412:CYS:CB	2.16	0.56
2:C:25:ARG:NH2	2:C:88:GLU:O	2.39	0.56
4:N:402:CYS:HB2	4:N:408:CYS:SG	2.45	0.56
1:D:42:LYS:HG3	1:D:169:PHE:HB3	1.88	0.56
4:N:403:CYS:CB	4:N:412:CYS:HG	2.18	0.55
4:R:403:CYS:HB3	4:R:412:CYS:SG	2.47	0.55
4:R:403:CYS:HG	4:R:412:CYS:HG	0.56	0.55
1:J:194:LEU:HD12	1:J:220:LYS:HG2	1.89	0.54
1:I:25:ARG:NH2	1:I:88:GLU:O	2.40	0.54
1:D:212:TYR:HE2	4:M:407:ARG:HB2	1.73	0.54
1:H:20:GLN:NE2	1:I:38:PRO:HG2	2.23	0.54
1:D:133:MET:HE3	4:L:410:TYR:HA	1.90	0.54
1:I:19:SER:HA	1:I:22:ASN:ND2	2.22	0.54
4:N:403:CYS:CB	4:N:412:CYS:SG	2.96	0.53
1:G:47:THR:HG21	1:G:174:LYS:HD3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:69:LEU:HG	1:H:142:PHE:HE1	1.73	0.53
4:N:402:CYS:CB	4:N:408:CYS:SG	2.96	0.53
1:D:212:TYR:CE2	4:M:407:ARG:HB2	2.44	0.53
2:B:153:GLU:OE2	1:G:153:GLU:HG2	2.09	0.53
1:D:210:GLU:CD	4:M:411:ARG:NE	2.62	0.52
1:A:72:TYR:CE1	3:E:164:TRP:HH2	2.27	0.52
3:F:19:SER:HA	3:F:22:ASN:ND2	2.22	0.52
1:J:73:GLU:OE2	1:J:75:GLN:NE2	2.41	0.52
1:D:64:THR:HG22	3:E:59:LYS:HB3	1.91	0.52
1:I:210:GLU:HG3	1:I:212:TYR:CE1	2.44	0.52
4:O:402:CYS:HG	4:O:408:CYS:HG	0.54	0.52
3:F:55:GLN:HE22	1:G:111:SER:HA	1.75	0.52
2:B:96:ARG:HG3	2:B:125:VAL:HG22	1.92	0.52
1:G:24:MET:SD	1:H:38:PRO:CB	2.92	0.52
1:I:111:SER:HB2	1:I:143:MET:HE2	1.91	0.52
3:E:204:HIS:N	3:E:205:TYR:HD1	2.08	0.51
3:F:69:LEU:HG	3:F:142:PHE:HE1	1.76	0.51
1:I:210:GLU:HG3	1:I:212:TYR:HE1	1.75	0.51
4:Q:409:ARG:HD3	4:Q:409:ARG:O	2.10	0.51
4:O:402:CYS:CB	4:O:408:CYS:HG	2.19	0.51
2:B:76:ARG:HD2	4:K:413:ARG:NE	2.25	0.51
1:G:26:LEU:O	1:G:30:LEU:HG	2.11	0.51
1:I:74:GLN:HE22	4:Q:409:ARG:CD	2.20	0.51
1:G:23:LEU:HD13	1:G:90:GLY:CA	2.41	0.51
3:E:204:HIS:N	3:E:205:TYR:CD1	2.79	0.51
4:Q:413:ARG:HG2	4:Q:413:ARG:HH11	1.74	0.51
1:D:210:GLU:CD	4:M:411:ARG:HE	2.14	0.51
4:N:402:CYS:O	4:N:408:CYS:HB3	2.11	0.51
1:G:208:CYS:SG	4:O:402:CYS:SG	3.09	0.50
3:E:69:LEU:HG	3:E:142:PHE:HE1	1.77	0.50
1:I:69:LEU:HG	1:I:142:PHE:CE1	2.45	0.50
3:F:53:THR:HA	3:F:181:ASP:HB3	1.93	0.50
1:A:213:ILE:O	4:K:407:ARG:NH1	2.45	0.50
1:G:23:LEU:HD23	1:G:26:LEU:HD12	1.94	0.49
4:R:402:CYS:O	4:R:408:CYS:HB3	2.11	0.49
1:D:69:LEU:HG	1:D:142:PHE:HE1	1.77	0.49
1:G:42:LYS:HE2	1:G:170:GLU:OE2	2.12	0.49
2:B:76:ARG:CZ	4:K:413:ARG:HG2	2.43	0.49
4:R:403:CYS:CB	4:R:412:CYS:SG	3.01	0.49
1:H:20:GLN:NE2	1:I:38:PRO:CG	2.76	0.48
1:I:173:LEU:HB2	1:I:213:ILE:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:153:GLU:CD	1:G:153:GLU:HG2	2.32	0.48
4:N:408:CYS:SG	4:N:408:CYS:O	2.71	0.48
1:J:69:LEU:HD13	1:J:142:PHE:CE1	2.46	0.48
1:A:113:THR:O	2:B:139:ARG:HD2	2.14	0.48
4:M:409:ARG:HH12	4:M:413:ARG:HB2	1.78	0.48
3:E:74:GLN:CD	4:M:409:ARG:HE	2.17	0.48
1:G:152:GLU:OE2	1:G:222:ARG:NH1	2.45	0.48
3:E:208:CYS:CB	3:E:210:GLU:OE1	2.48	0.47
2:B:153:GLU:OE1	1:G:153:GLU:HG2	2.15	0.47
1:I:166:TYR:O	4:R:407:ARG:HD2	2.14	0.47
1:I:36:MET:HE1	1:I:103:TRP:HB2	1.97	0.47
3:E:192:GLU:OE2	3:E:222:ARG:NE	2.36	0.47
3:F:72:TYR:CE1	1:G:164:TRP:HH2	2.33	0.47
1:I:210:GLU:H	1:I:210:GLU:HG2	1.43	0.47
1:A:69:LEU:HG	1:A:142:PHE:HE1	1.80	0.47
1:A:24:MET:HE2	3:E:36:MET:O	2.15	0.47
2:B:76:ARG:HD2	4:K:413:ARG:HE	1.79	0.46
3:F:24:MET:HG3	1:G:38:PRO:HG3	1.97	0.46
2:C:133:MET:HE3	2:C:135:ILE:HD11	1.97	0.46
1:G:162:GLY:HA2	1:G:173:LEU:HD11	1.97	0.46
4:R:403:CYS:HA	4:R:409:ARG:HG2	1.96	0.46
2:B:190:LYS:NZ	6:B:403:HOH:O	2.48	0.46
4:L:403:CYS:HG	4:L:412:CYS:CB	2.27	0.46
1:G:42:LYS:H	1:G:42:LYS:HD2	1.81	0.46
1:G:29:ASP:O	1:G:33:ARG:HG2	2.16	0.46
1:G:47:THR:CG2	1:G:174:LYS:HD3	2.46	0.46
1:J:61:ASP:OD1	1:J:63:SER:OG	2.32	0.46
4:L:402:CYS:O	4:L:408:CYS:HB3	2.16	0.46
4:N:409:ARG:C	4:N:411:ARG:H	2.18	0.46
1:D:42:LYS:HE2	1:D:169:PHE:CD2	2.51	0.46
1:D:113:THR:O	3:E:139:ARG:HD2	2.16	0.46
1:G:27:LYS:HB2	1:G:89:TYR:CD1	2.51	0.46
1:A:158:ALA:HA	1:A:217:LEU:O	2.16	0.45
3:E:152:GLU:O	3:E:222:ARG:NH1	2.49	0.45
1:I:53:THR:HB	1:I:72:TYR:HB2	1.97	0.45
1:G:34:SER:HB3	1:G:35:PRO:HD2	1.99	0.45
1:A:73:GLU:O	1:A:136:PRO:HD2	2.17	0.45
1:I:105:PRO:HB2	1:I:107:ILE:HG12	1.98	0.45
1:G:32:ASN:C	1:G:33:ARG:HD3	2.37	0.45
1:H:158:ALA:HA	1:H:217:LEU:O	2.16	0.45
1:I:74:GLN:HE22	4:Q:409:ARG:CZ	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:165:VAL:HG21	2:B:123:ILE:HG21	1.97	0.45
1:G:158:ALA:HA	1:G:217:LEU:O	2.17	0.45
2:B:106:ASP:HB2	2:C:121:PRO:HG2	1.99	0.45
2:C:212:TYR:HE2	4:L:407:ARG:HB2	1.82	0.45
3:F:165:VAL:HG21	1:J:123:ILE:HG21	1.99	0.45
1:A:96:ARG:HG3	1:A:125:VAL:HG22	2.00	0.44
2:C:36:MET:HE1	6:C:450:HOH:O	2.17	0.44
2:C:81:SER:OG	6:C:402:HOH:O	2.21	0.44
1:G:84:TRP:CZ3	1:G:128:HIS:HA	2.53	0.44
2:C:29:ASP:HA	2:C:33:ARG:HG3	1.98	0.44
3:F:212:TYR:HB3	4:N:407:ARG:NH2	2.33	0.44
1:H:19:SER:HB3	1:I:43:ASP:HB3	2.00	0.44
2:B:25:ARG:NH2	2:B:88:GLU:O	2.41	0.44
1:I:162:GLY:HA2	1:I:173:LEU:HD11	2.00	0.44
1:D:76:ARG:NH2	1:D:131:SER:OG	2.50	0.43
1:G:33:ARG:HD3	1:G:33:ARG:N	2.32	0.43
1:G:121:PRO:HG3	1:H:106:ASP:HB2	2.00	0.43
1:A:33:ARG:HA	1:A:33:ARG:HD2	1.51	0.43
1:A:85:ASP:HB3	1:A:88:GLU:HG3	1.98	0.43
1:G:95:PHE:CE1	1:G:97:THR:HB	2.54	0.43
3:F:68:ASP:HA	3:F:140:LEU:O	2.18	0.43
2:C:210:GLU:OE2	4:L:411:ARG:NE	2.51	0.43
1:G:27:LYS:NZ	1:G:27:LYS:HB3	2.32	0.43
4:M:402:CYS:CB	4:M:408:CYS:SG	3.05	0.43
4:K:413:ARG:NH1	4:K:413:ARG:HB2	2.34	0.43
4:R:409:ARG:HH21	4:R:413:ARG:HG2	1.83	0.43
1:D:73:GLU:O	1:D:136:PRO:HD2	2.19	0.43
1:D:91:ASN:ND2	6:D:401:HOH:O	2.17	0.43
1:G:210:GLU:HG2	1:G:212:TYR:CE1	2.53	0.43
3:F:129:ASP:OD1	3:F:131:SER:OG	2.34	0.43
1:G:172:ASP:OD2	1:G:174:LYS:HD2	2.19	0.42
1:H:210:GLU:OE2	4:P:411:ARG:NH1	2.52	0.42
1:A:195:SER:OG	1:A:220:LYS:CD	2.62	0.42
2:C:133:MET:CE	2:C:135:ILE:HD11	2.49	0.42
1:A:190:LYS:HE3	3:E:62:SER:O	2.19	0.42
1:I:212:TYR:HB3	4:R:407:ARG:NH2	2.35	0.42
1:I:139:ARG:HD2	1:J:113:THR:O	2.20	0.42
1:J:158:ALA:HA	1:J:217:LEU:O	2.20	0.42
4:O:409:ARG:HH11	4:O:412:CYS:HB2	1.84	0.42
2:C:164:TRP:HH2	1:D:72:TYR:CE1	2.37	0.42
1:G:53:THR:HB	1:G:72:TYR:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:139:ARG:HD2	1:I:113:THR:O	2.18	0.42
1:I:152:GLU:HG2	1:I:222:ARG:NH1	2.34	0.42
3:E:146:PRO:O	3:E:149:VAL:HG22	2.20	0.42
2:C:207:CYS:HB2	2:C:208:CYS:SG	2.60	0.42
3:E:205:TYR:HD1	3:E:205:TYR:N	2.18	0.42
3:E:205:TYR:CD1	3:E:205:TYR:N	2.88	0.42
1:G:95:PHE:HE1	1:G:97:THR:HB	1.83	0.42
1:I:173:LEU:HB2	1:I:213:ILE:CG2	2.48	0.42
2:C:73:GLU:O	2:C:136:PRO:HD2	2.20	0.42
4:K:413:ARG:HB2	4:K:413:ARG:HH11	1.85	0.42
1:G:27:LYS:HE2	1:G:84:TRP:CE2	2.54	0.42
1:J:213:ILE:O	4:Q:407:ARG:NH1	2.53	0.42
3:E:76:ARG:HD3	4:M:413:ARG:HD3	2.02	0.41
1:G:27:LYS:HB3	1:G:27:LYS:HZ1	1.85	0.41
2:C:186:TYR:CZ	2:C:188:SER:HB2	2.55	0.41
1:G:84:TRP:CE3	1:G:128:HIS:HA	2.55	0.41
1:I:74:GLN:HE22	4:Q:409:ARG:NH1	2.18	0.41
3:F:65:ASN:HD22	3:F:65:ASN:HA	1.71	0.41
1:I:73:GLU:O	1:I:136:PRO:HD2	2.21	0.41
1:H:121:PRO:HG3	1:I:106:ASP:HB2	2.03	0.41
1:I:212:TYR:HE2	4:R:407:ARG:HB2	1.85	0.41
1:J:169:PHE:HD1	1:J:169:PHE:HA	1.75	0.41
1:J:173:LEU:HB2	1:J:213:ILE:HG22	2.02	0.41
3:F:19:SER:O	3:F:19:SER:OG	2.37	0.41
3:E:68:ASP:HA	3:E:140:LEU:O	2.20	0.41
1:J:162:GLY:HA2	1:J:173:LEU:HD11	2.01	0.41
2:C:193:ILE:HD12	2:C:193:ILE:HG23	1.84	0.41
1:G:25:ARG:HH11	1:H:38:PRO:HD3	1.86	0.41
1:G:212:TYR:CE2	4:O:407:ARG:HB2	2.56	0.41
1:J:20:GLN:H	1:J:20:GLN:HG3	1.58	0.41
2:B:62:SER:O	2:C:190:LYS:HE3	2.21	0.41
3:E:54:LEU:HD23	3:E:54:LEU:HA	1.78	0.41
1:G:72:TYR:CE1	1:H:164:TRP:HH2	2.38	0.41
2:B:33:ARG:HD2	2:B:33:ARG:HA	1.82	0.40
1:D:53:THR:HB	1:D:72:TYR:HB2	2.02	0.40
3:F:163:SER:O	4:N:407:ARG:HD3	2.21	0.40
1:G:40:PRO:CB	1:G:46:LEU:HD22	2.45	0.40
1:A:121:PRO:HG3	3:E:106:ASP:HB2	2.03	0.40
1:A:164:TRP:HH2	2:B:72:TYR:CE1	2.40	0.40
2:B:68:ASP:HA	2:B:140:LEU:O	2.21	0.40
2:C:212:TYR:CE2	4:L:407:ARG:HB2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:210:GLU:OE1	4:M:411:ARG:NH2	2.54	0.40
3:E:106:ASP:OD2	3:E:165:VAL:HG22	2.22	0.40
1:I:36:MET:CE	1:I:103:TRP:HB2	2.50	0.40
2:C:202:VAL:HG22	2:C:213:ILE:HD12	2.02	0.40
1:I:212:TYR:CE2	4:R:407:ARG:HB2	2.57	0.40
4:L:409:ARG:HH11	4:L:412:CYS:HB2	1.86	0.40
1:A:182:LEU:HD23	1:A:182:LEU:HA	1.84	0.40
1:G:30:LEU:HD12	1:G:89:TYR:CE1	2.57	0.40
4:L:409:ARG:NH1	4:L:412:CYS:HB2	2.37	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	204/206 (99%)	200 (98%)	4 (2%)	0	100	100
1	D	204/206 (99%)	199 (98%)	4 (2%)	1 (0%)	29	48
1	G	204/206 (99%)	199 (98%)	5 (2%)	0	100	100
1	H	204/206 (99%)	199 (98%)	4 (2%)	1 (0%)	29	48
1	I	204/206 (99%)	194 (95%)	9 (4%)	1 (0%)	29	48
1	J	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
2	B	202/204 (99%)	198 (98%)	4 (2%)	0	100	100
2	C	202/204 (99%)	196 (97%)	6 (3%)	0	100	100
3	E	203/205 (99%)	196 (97%)	6 (3%)	1 (0%)	29	48
3	F	203/205 (99%)	196 (97%)	6 (3%)	1 (0%)	29	48
4	K	11/13 (85%)	11 (100%)	0	0	100	100
4	L	11/13 (85%)	10 (91%)	0	1 (9%)	1	0
4	M	11/13 (85%)	8 (73%)	3 (27%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	N	11/13 (85%)	8 (73%)	3 (27%)	0	100	100
4	O	11/13 (85%)	8 (73%)	3 (27%)	0	100	100
4	P	11/13 (85%)	7 (64%)	4 (36%)	0	100	100
4	Q	11/13 (85%)	10 (91%)	1 (9%)	0	100	100
4	R	11/13 (85%)	10 (91%)	1 (9%)	0	100	100
All	All	2122/2158 (98%)	2046 (96%)	70 (3%)	6 (0%)	41	61

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	E	206	SER
1	H	207	CYS
4	L	412	CYS
1	D	207	CYS
1	I	208	CYS
3	F	34	SER

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	187/189 (99%)	183 (98%)	4 (2%)	53	78
1	D	187/189 (99%)	187 (100%)	0	100	100
1	G	187/189 (99%)	182 (97%)	5 (3%)	44	71
1	H	187/189 (99%)	183 (98%)	4 (2%)	53	78
1	I	187/189 (99%)	183 (98%)	4 (2%)	53	78
1	J	187/189 (99%)	180 (96%)	7 (4%)	34	60
2	B	185/187 (99%)	183 (99%)	2 (1%)	73	89
2	C	185/187 (99%)	184 (100%)	1 (0%)	88	96
3	E	186/188 (99%)	180 (97%)	6 (3%)	39	65
3	F	186/188 (99%)	185 (100%)	1 (0%)	88	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	K	12/12 (100%)	12 (100%)	0	100	100
4	L	12/12 (100%)	12 (100%)	0	100	100
4	M	12/12 (100%)	12 (100%)	0	100	100
4	N	12/12 (100%)	9 (75%)	3 (25%)	0	1
4	O	12/12 (100%)	11 (92%)	1 (8%)	11	22
4	P	12/12 (100%)	11 (92%)	1 (8%)	11	22
4	Q	12/12 (100%)	10 (83%)	2 (17%)	2	4
4	R	12/12 (100%)	11 (92%)	1 (8%)	11	22
All	All	1960/1980 (99%)	1918 (98%)	42 (2%)	53	78

All (42) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	SER
1	A	36	MET
1	A	43	ASP
1	A	207	CYS
2	B	33	ARG
2	B	144	CYS
2	C	144	CYS
3	E	28	SER
3	E	36	MET
3	E	98	SER
3	E	144	CYS
3	E	206	SER
3	E	207	CYS
3	F	195	SER
1	G	31	PHE
1	G	42	LYS
1	G	43	ASP
1	G	46	LEU
1	G	76	ARG
1	H	94	ASP
1	H	98	SER
1	H	144	CYS
1	H	208	CYS
1	I	20	GLN
1	I	43	ASP
1	I	98	SER

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Mol	Chain	Res	Type
1	I	144	CYS
1	J	19	SER
1	J	28	SER
1	J	59	LYS
1	J	76	ARG
1	J	94	ASP
1	J	169	PHE
1	J	192	GLU
4	N	402	CYS
4	N	403	CYS
4	N	409	ARG
4	O	413	ARG
4	P	412	CYS
4	R	403	CYS
4	Q	405	ASP
4	Q	409	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	20	GLN
2	C	20	GLN
1	D	203	GLN
3	F	74	GLN
1	G	74	GLN
1	H	20	GLN
1	I	74	GLN
1	J	22	ASN
1	J	201	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 10 ligands modelled in this entry, 10 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 [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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	206/206 (100%)	-0.23	9 (4%) 34 37	21, 33, 71, 98	0
1	D	206/206 (100%)	-0.18	7 (3%) 45 48	22, 34, 70, 106	0
1	G	206/206 (100%)	-0.16	9 (4%) 34 37	23, 38, 76, 109	0
1	H	206/206 (100%)	-0.21	8 (3%) 39 42	24, 37, 70, 117	0
1	I	206/206 (100%)	-0.22	6 (2%) 51 55	22, 35, 71, 130	0
1	J	206/206 (100%)	-0.31	5 (2%) 59 62	23, 37, 69, 94	0
2	B	204/204 (100%)	-0.54	0 100 100	21, 30, 54, 86	0
2	C	204/204 (100%)	-0.39	5 (2%) 57 61	20, 32, 71, 94	0
3	E	205/205 (100%)	-0.30	6 (2%) 51 55	21, 32, 82, 136	0
3	F	205/205 (100%)	-0.21	7 (3%) 45 48	25, 37, 74, 111	0
4	K	13/13 (100%)	1.75	6 (46%) 0 0	58, 74, 110, 116	0
4	L	13/13 (100%)	1.94	4 (30%) 0 0	55, 83, 108, 122	0
4	M	13/13 (100%)	1.47	3 (23%) 0 0	58, 90, 104, 119	0
4	N	13/13 (100%)	3.00	8 (61%) 0 0	62, 96, 123, 124	0
4	O	13/13 (100%)	1.77	6 (46%) 0 0	60, 91, 115, 129	0
4	P	13/13 (100%)	1.57	4 (30%) 0 0	63, 81, 113, 115	0
4	Q	13/13 (100%)	0.89	1 (7%) 13 13	64, 74, 99, 121	0
4	R	13/13 (100%)	2.50	7 (53%) 0 0	72, 100, 128, 143	0
All	All	2158/2158 (100%)	-0.17	101 (4%) 31 33	20, 35, 86, 143	0

All (101) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	L	413	ARG	7.4
4	N	412	CYS	7.1
4	R	413	ARG	7.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
4	N	413	ARG	6.5
4	R	412	CYS	6.0
3	F	207	CYS	5.6
1	D	206	SER	5.5
1	A	206	SER	5.2
1	A	207	CYS	5.1
4	N	402	CYS	4.9
1	H	207	CYS	4.8
4	N	403	CYS	4.7
1	I	206	SER	4.7
4	K	408	CYS	4.6
4	K	412	CYS	4.6
4	P	413	ARG	4.4
1	H	209	PRO	4.4
4	O	401	GLY	4.3
4	R	408	CYS	4.3
1	J	169	PHE	4.3
1	D	209	PRO	4.2
4	L	412	CYS	4.2
1	D	207	CYS	4.1
1	G	207	CYS	4.0
4	M	412	CYS	3.9
1	I	207	CYS	3.8
4	R	401	GLY	3.8
3	F	34	SER	3.8
3	F	206	SER	3.8
3	F	209	PRO	3.7
4	N	410	TYR	3.7
1	I	209	PRO	3.6
2	C	207	CYS	3.6
1	D	19	SER	3.6
3	E	207	CYS	3.6
3	E	36	MET	3.5
3	E	206	SER	3.5
4	R	411	ARG	3.4
3	E	205	TYR	3.4
1	G	206	SER	3.4
3	E	34	SER	3.4
4	O	402	CYS	3.3
4	K	413	ARG	3.2
2	C	206	SER	3.2
4	P	403	CYS	3.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
4	K	402	CYS	3.2
1	J	209	PRO	3.1
4	N	401	GLY	3.1
1	A	209	PRO	3.1
4	O	413	ARG	3.1
1	A	204	HIS	3.1
4	N	408	CYS	3.0
4	R	403	CYS	3.0
1	G	209	PRO	2.9
4	L	401	GLY	2.9
1	A	205	TYR	2.9
1	I	204	HIS	2.8
4	O	403	CYS	2.8
1	A	208	CYS	2.8
1	I	34	SER	2.7
4	O	412	CYS	2.7
2	C	33	ARG	2.7
1	H	33	ARG	2.7
4	M	402	CYS	2.7
4	P	401	GLY	2.6
4	Q	413	ARG	2.6
1	H	153	GLU	2.6
1	H	19	SER	2.6
1	D	208	CYS	2.5
4	R	410	TYR	2.5
2	C	209	PRO	2.5
1	H	206	SER	2.5
1	D	34	SER	2.5
1	G	34	SER	2.5
1	G	20	GLN	2.4
3	F	205	TYR	2.4
4	M	401	GLY	2.4
4	N	411	ARG	2.4
1	I	33	ARG	2.4
1	J	43	ASP	2.3
3	F	33	ARG	2.3
4	P	412	CYS	2.3
1	A	34	SER	2.2
1	G	31	PHE	2.2
3	E	19	SER	2.2
4	O	411	ARG	2.2
1	G	35	PRO	2.2

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Mol	Chain	Res	Type	RSRZ
1	G	33	ARG	2.2
1	H	100	ALA	2.2
4	K	403	CYS	2.2
1	J	211	PRO	2.1
1	D	202	VAL	2.1
1	G	19	SER	2.1
1	J	210	GLU	2.1
2	C	34	SER	2.1
1	A	210	GLU	2.1
4	L	408	CYS	2.0
3	F	210	GLU	2.0
4	K	401	GLY	2.0
1	A	33	ARG	2.0
1	H	34	SER	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 monosaccharides in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<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.

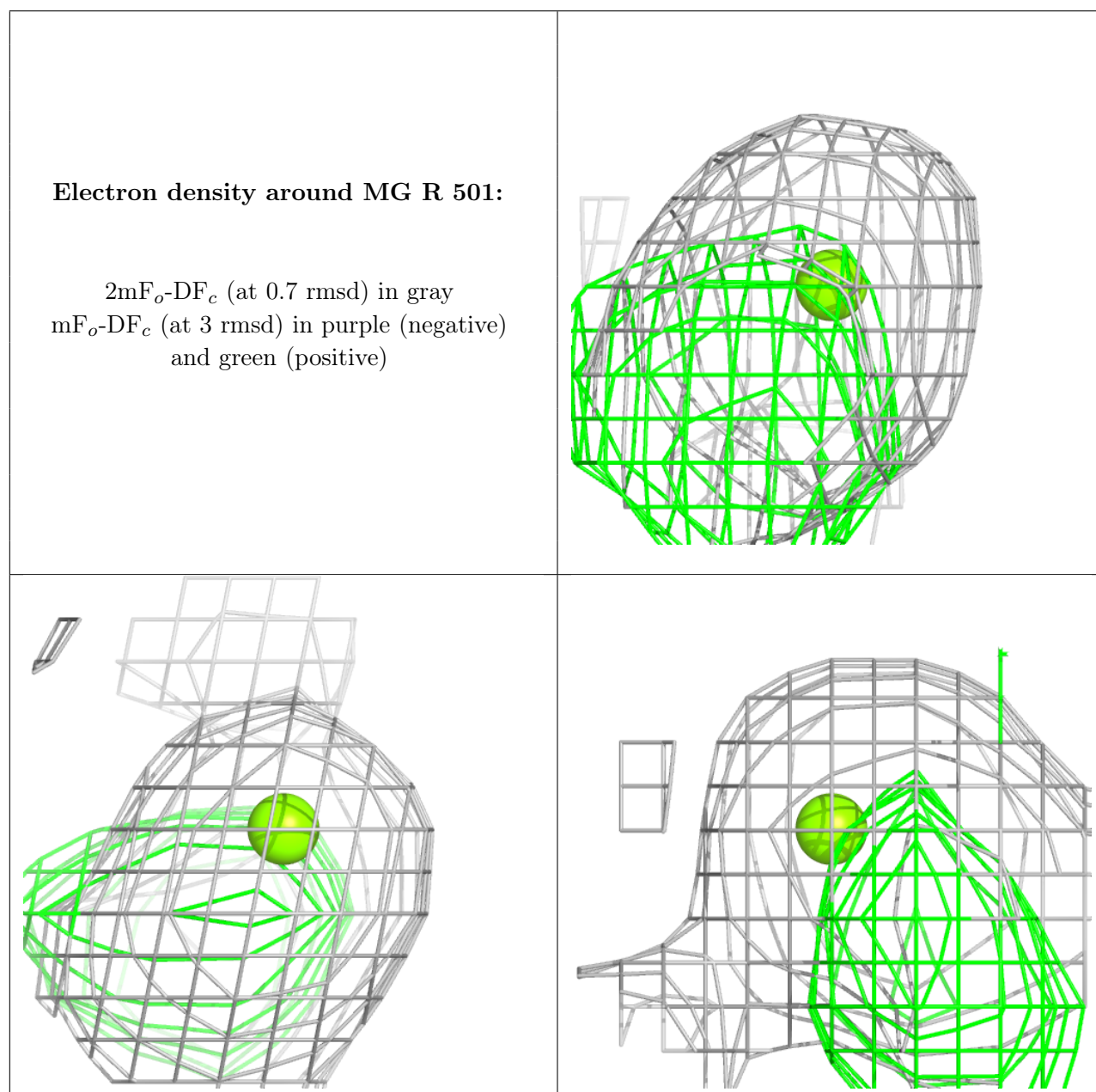
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
5	MG	R	501	1/1	0.92	0.20	55,55,55,55	0
5	MG	N	501	1/1	0.93	0.30	58,58,58,58	0
5	MG	J	301	1/1	0.93	0.20	56,56,56,56	0
5	MG	E	301	1/1	0.96	0.27	30,30,30,30	0
5	MG	D	301	1/1	0.96	0.28	40,40,40,40	0
5	MG	H	301	1/1	0.97	0.22	43,43,43,43	0
5	MG	O	501	1/1	0.97	0.30	39,39,39,39	0
5	MG	C	301	1/1	0.97	0.35	44,44,44,44	0
5	MG	A	301	1/1	0.98	0.20	36,36,36,36	0

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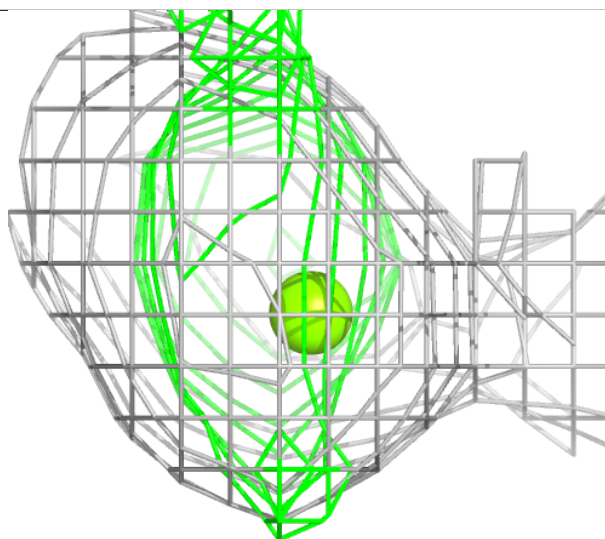
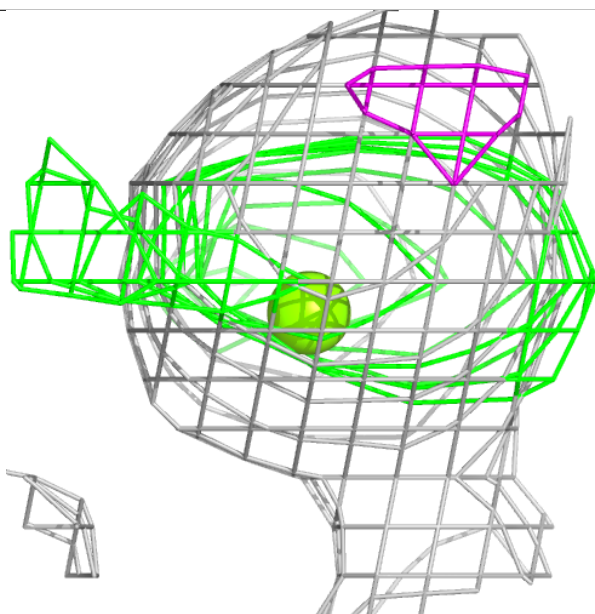
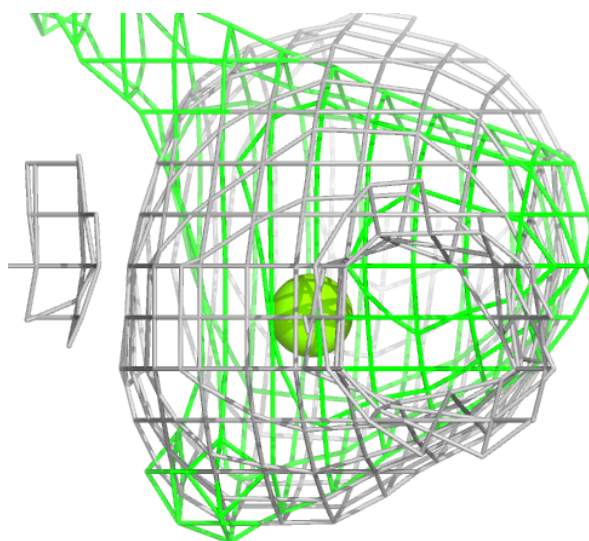
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	MG	B	301	1/1	1.00	0.40	23,23,23,23	0

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 MG N 501:**

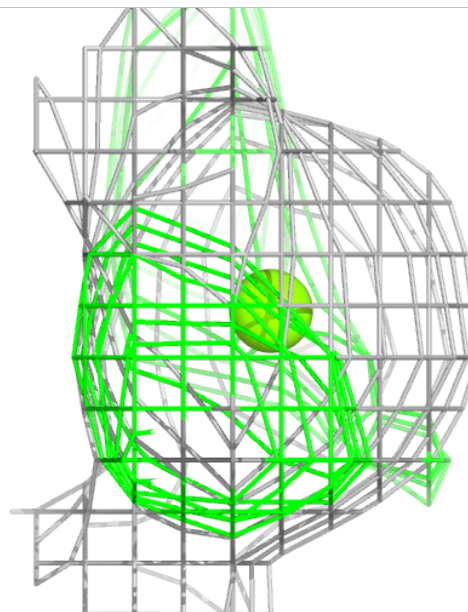
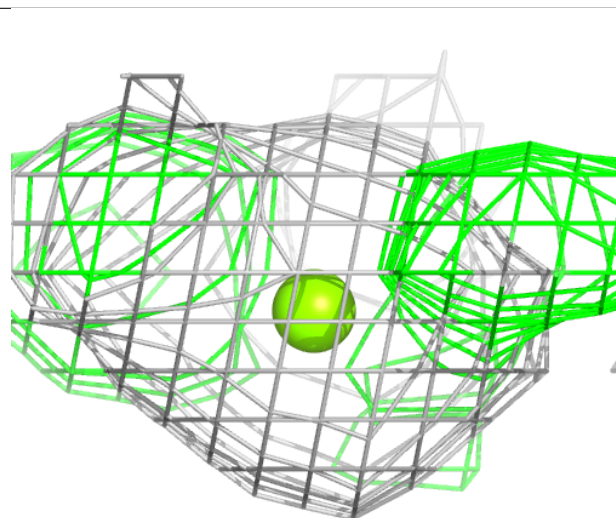
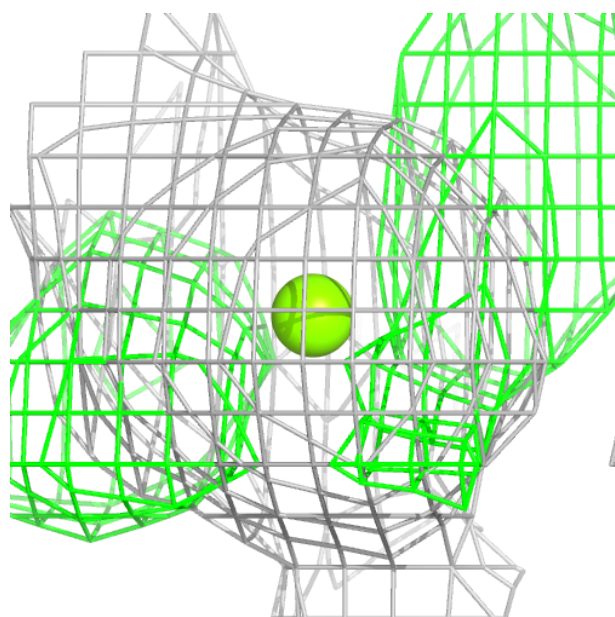
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





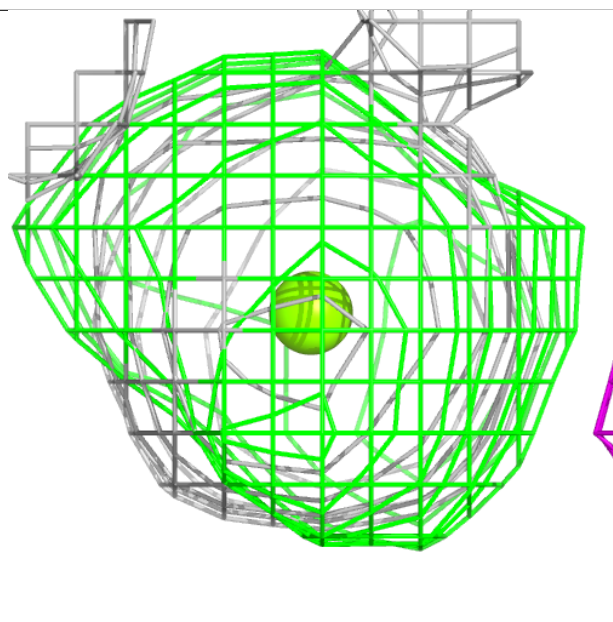
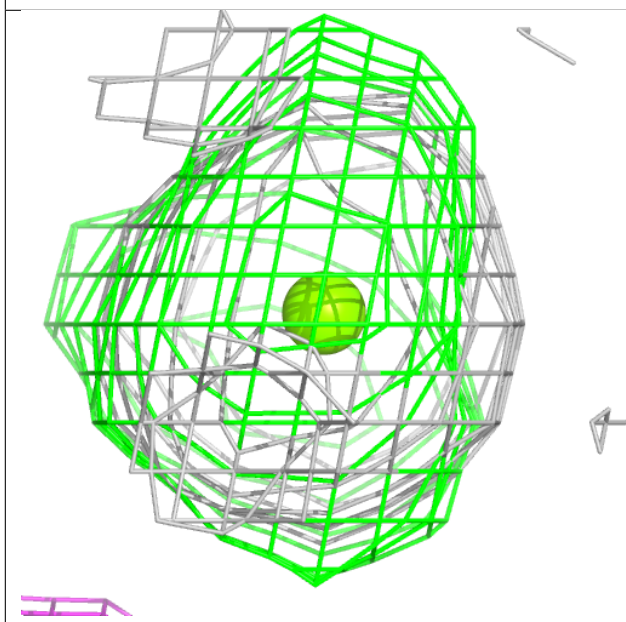
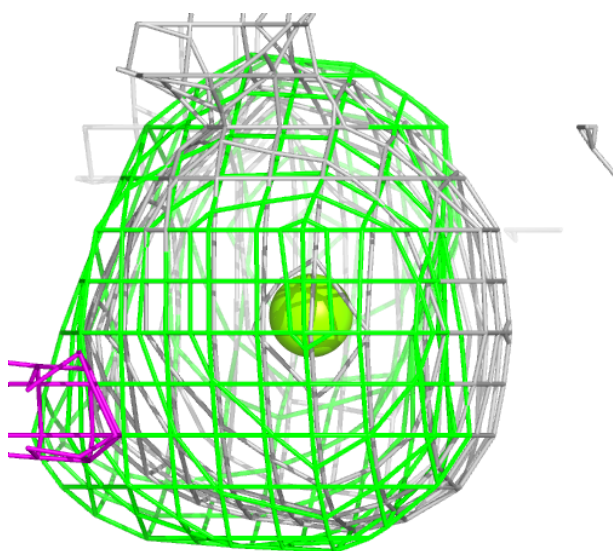
**Electron density around MG J 301:**

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



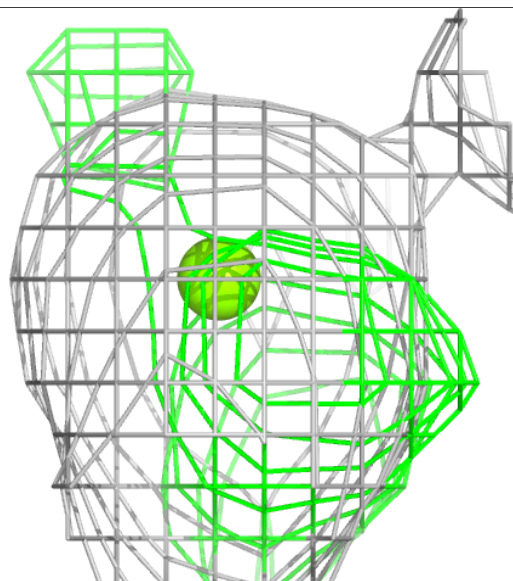
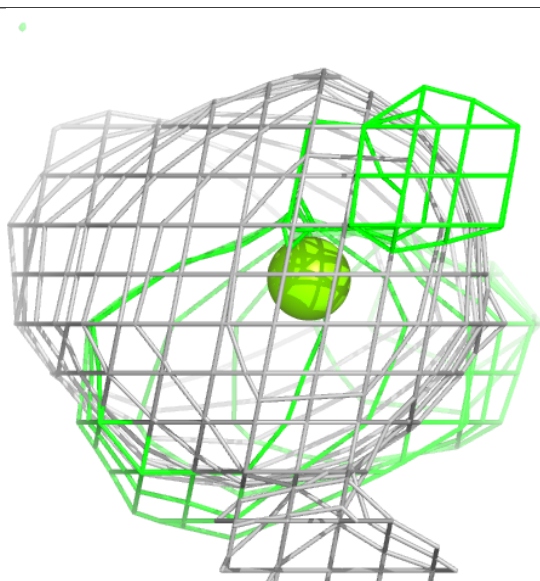
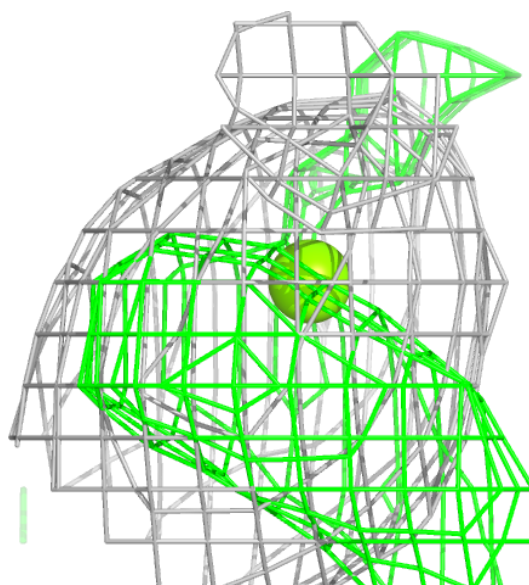
**Electron density around MG E 301:**

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



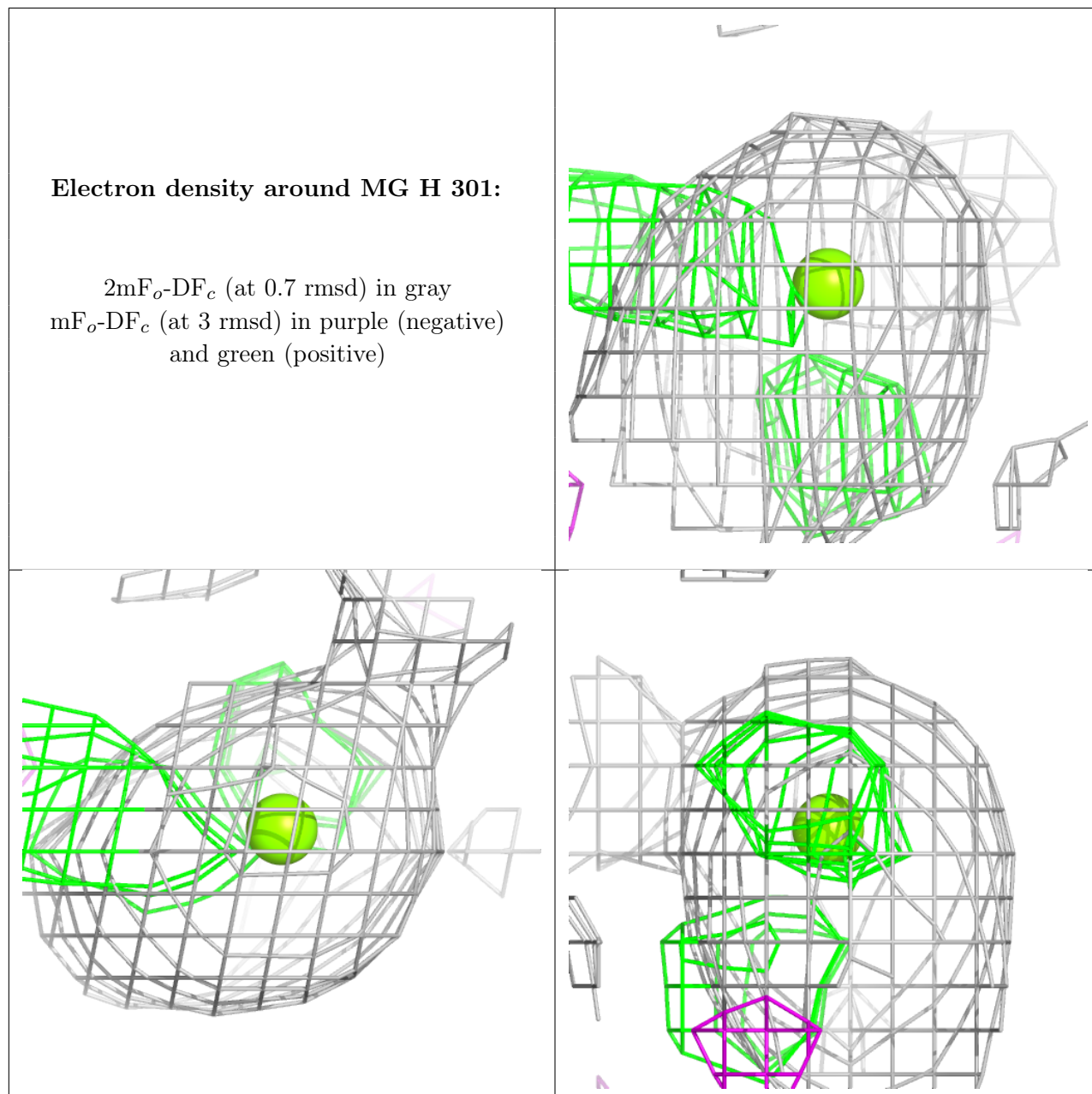
**Electron density around MG D 301:**

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



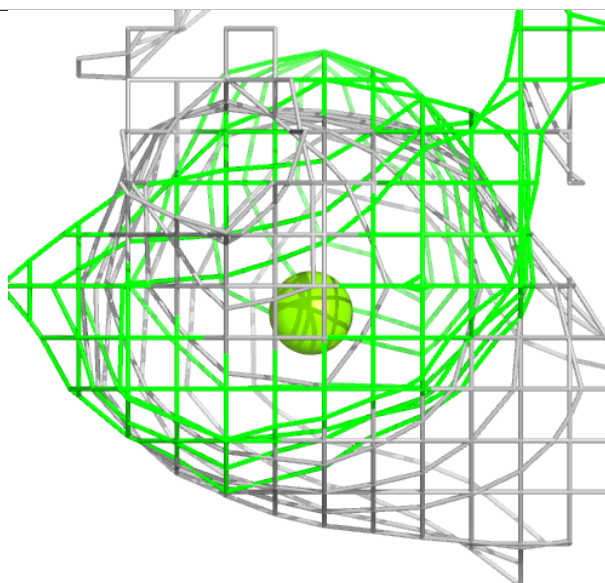
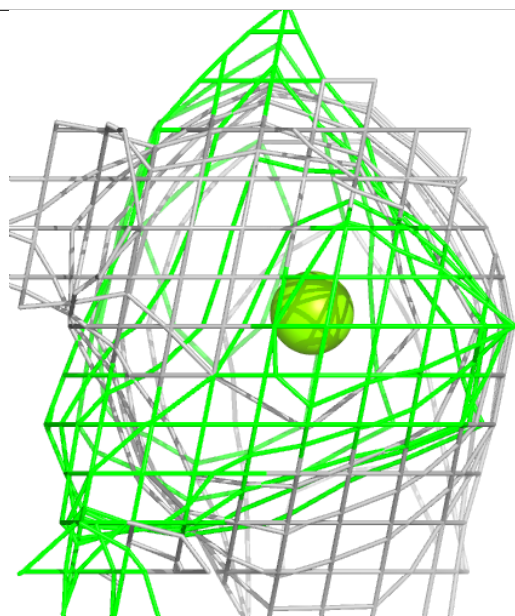
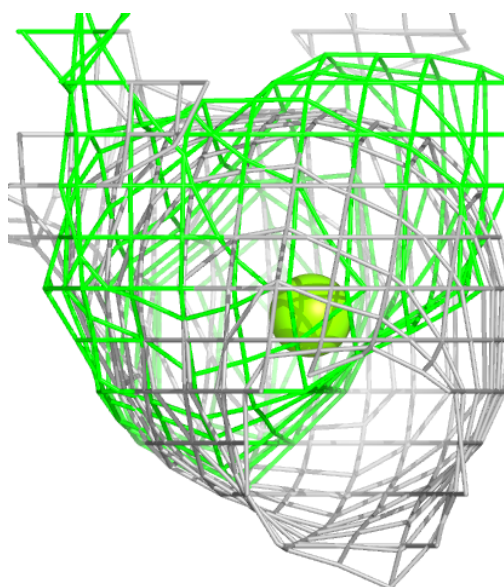
**Electron density around MG H 301:**

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



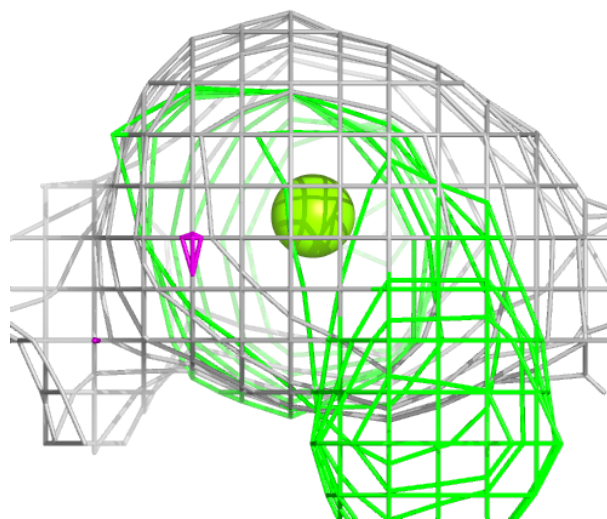
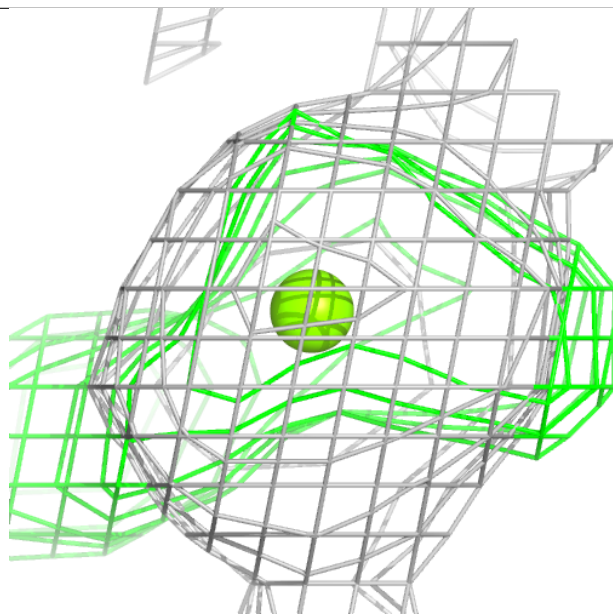
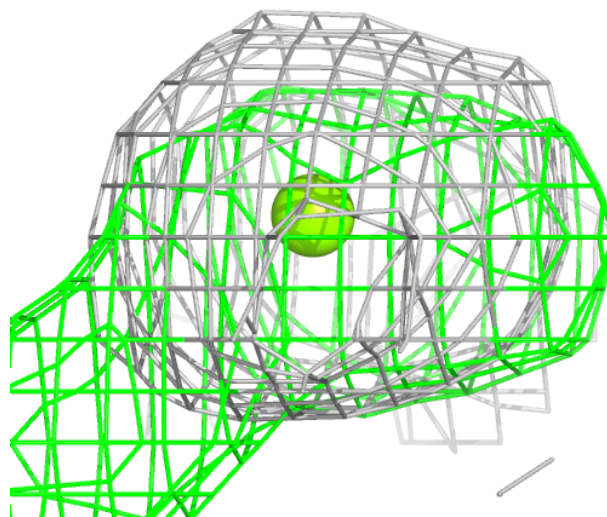
**Electron density around MG O 501:**

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



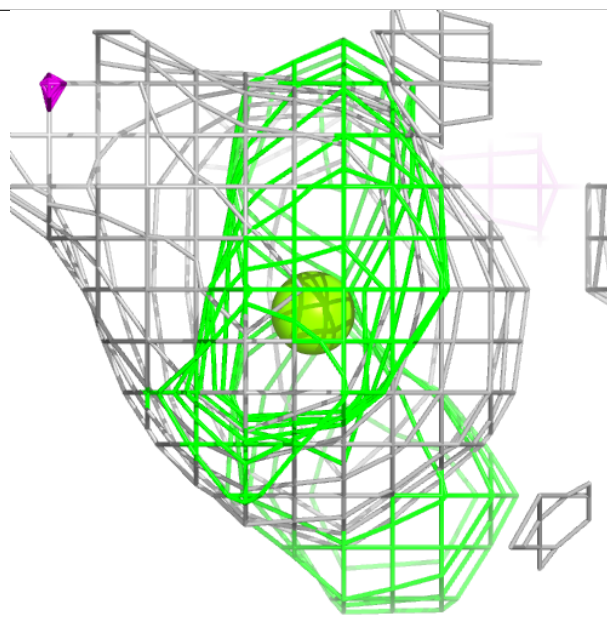
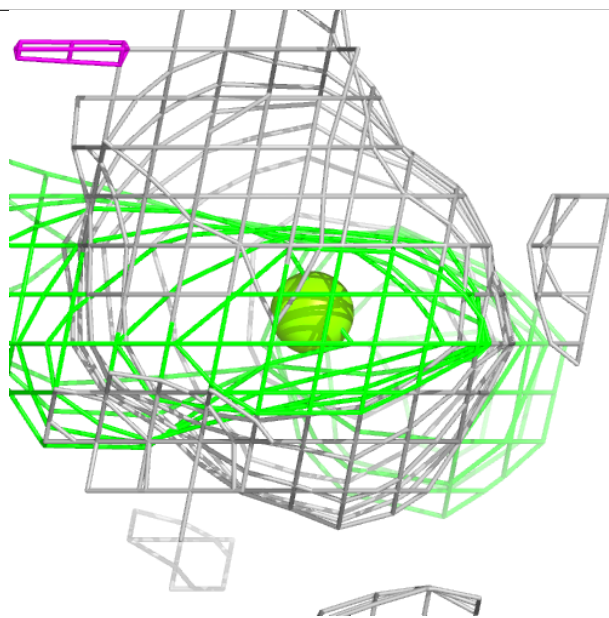
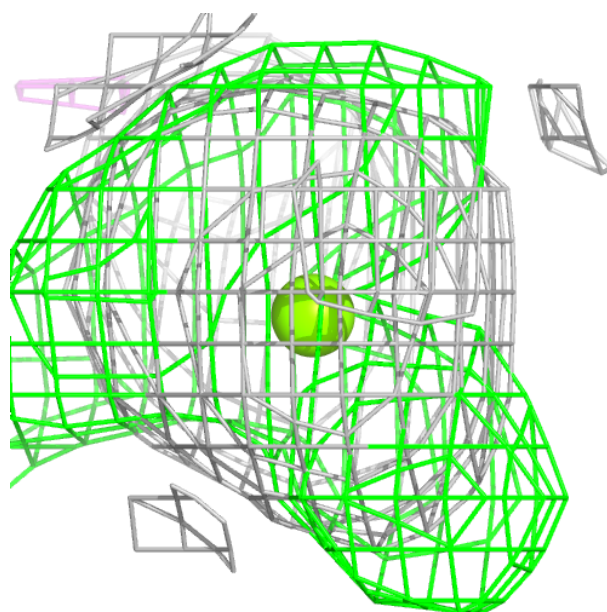
**Electron density around MG C 301:**

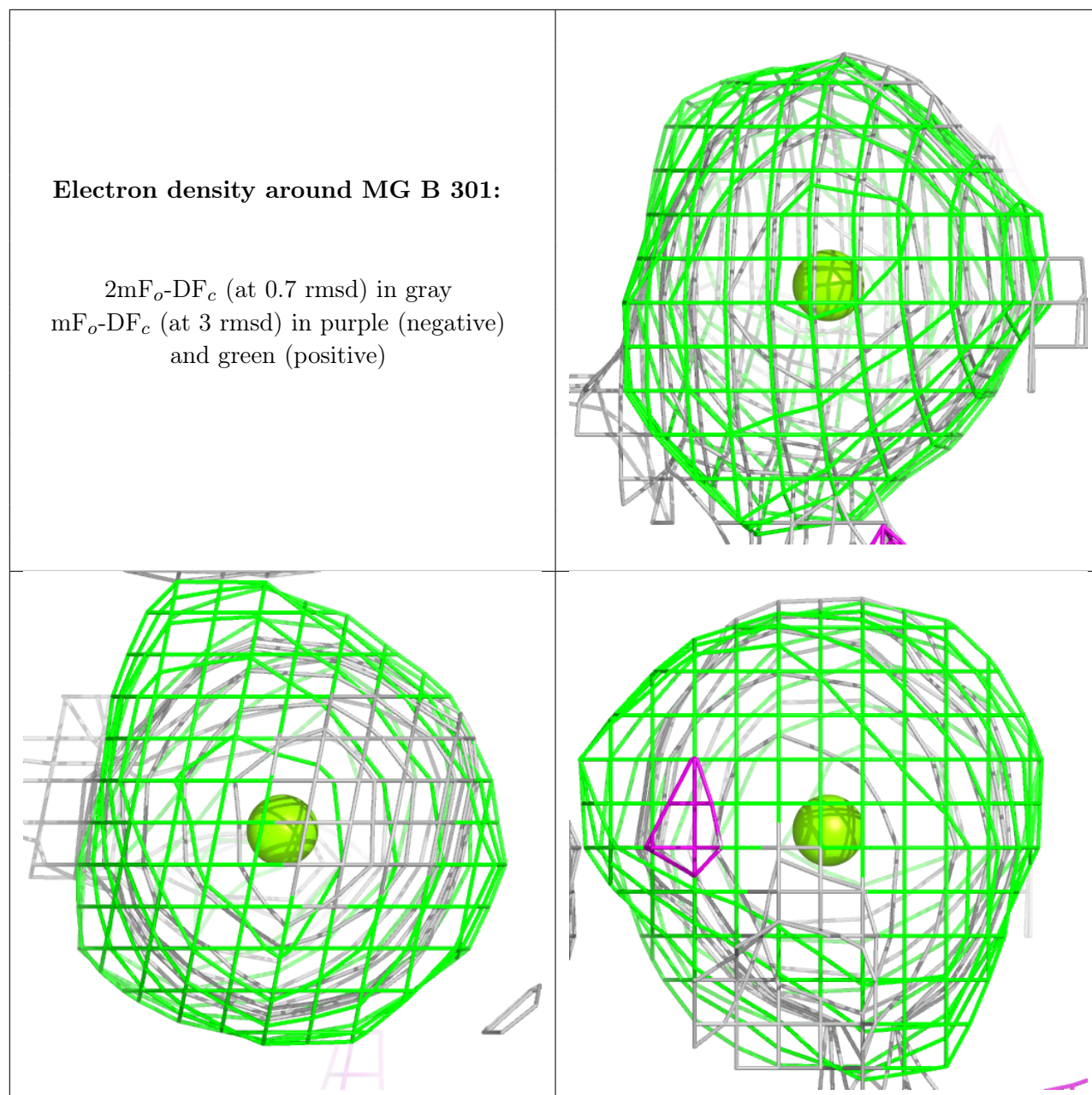
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around MG A 301:**

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





## 6.5 Other polymers ⓘ

There are no such residues in this entry.