



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 10, 2026 – 10:17 pm BST

PDB ID : 9TPY / pdb_00009tpy
Title : HomA ectodomain (EDC-HomA)
Authors : Rodriguez-Banqueri, A.; Goulas, T.; Eckhard, U.; Gomis-Ruth, F.X.
Deposited on : 2025-12-19
Resolution : 2.85 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.50

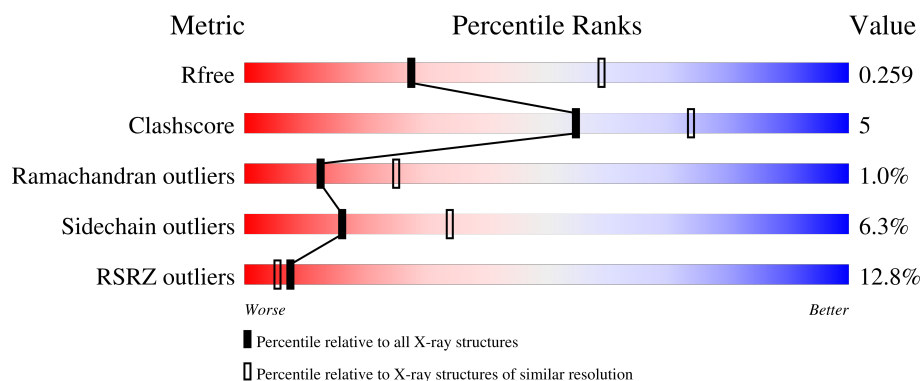
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.85 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1407 (2.88-2.84)
Clashscore	190562	1446 (2.88-2.84)
Ramachandran outliers	187476	1406 (2.88-2.84)
Sidechain outliers	187428	1407 (2.88-2.84)
RSRZ outliers	180081	1408 (2.88-2.84)

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

Mol	Chain	Length	Quality of chain
1	A	487	8% 70% 12% • 16%
1	B	487	15% 70% 11% • 17%
1	C	487	9% 70% 12% • 17%
1	D	487	10% 69% 12% • 17%
1	E	487	9% 69% 10% • 19%

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Mol	Chain	Length	Quality of chain
1	F	487	
1	G	487	
1	H	487	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	IOD	C	507	-	-	X	-
6	PGE	D	503	-	-	X	-

2 Entry composition

There are 8 unique types of molecules in this entry. The entry contains 24235 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 HomA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	409	Total	C	N	O	S	0	0	0
			3059	1923	519	608	9			
1	B	405	Total	C	N	O	S	0	0	0
			3064	1930	512	613	9			
1	C	405	Total	C	N	O	S	0	0	0
			3066	1929	517	611	9			
1	D	406	Total	C	N	O	S	0	0	0
			3086	1932	526	619	9			
1	E	395	Total	C	N	O	S	0	0	0
			2984	1880	500	595	9			
1	F	396	Total	C	N	O	S	0	0	0
			2990	1879	502	600	9			
1	G	393	Total	C	N	O	S	0	0	0
			2819	1760	480	570	9			
1	H	396	Total	C	N	O	S	0	0	0
			2911	1826	492	585	8			

There are 160 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	MET	-	initiating methionine	UNP O25414
A	-1	HIS	-	expression tag	UNP O25414
A	0	HIS	-	expression tag	UNP O25414
A	1	HIS	-	expression tag	UNP O25414
A	2	HIS	-	expression tag	UNP O25414
A	3	HIS	-	expression tag	UNP O25414
A	4	HIS	-	expression tag	UNP O25414
A	5	SER	-	expression tag	UNP O25414
A	6	SER	-	expression tag	UNP O25414
A	7	GLY	-	expression tag	UNP O25414
A	8	GLU	-	expression tag	UNP O25414
A	9	VAL	-	expression tag	UNP O25414
A	10	LEU	-	expression tag	UNP O25414

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Chain	Residue	Modelled	Actual	Comment	Reference
A	11	PHE	-	expression tag	UNP O25414
A	12	GLN	-	expression tag	UNP O25414
A	13	GLY	-	expression tag	UNP O25414
A	14	MET	-	expression tag	UNP O25414
A	15	GLY	-	expression tag	UNP O25414
A	16	ASN	-	expression tag	UNP O25414
A	481	SER	-	insertion	UNP O25414
B	-2	MET	-	initiating methionine	UNP O25414
B	-1	HIS	-	expression tag	UNP O25414
B	0	HIS	-	expression tag	UNP O25414
B	1	HIS	-	expression tag	UNP O25414
B	2	HIS	-	expression tag	UNP O25414
B	3	HIS	-	expression tag	UNP O25414
B	4	HIS	-	expression tag	UNP O25414
B	5	SER	-	expression tag	UNP O25414
B	6	SER	-	expression tag	UNP O25414
B	7	GLY	-	expression tag	UNP O25414
B	8	GLU	-	expression tag	UNP O25414
B	9	VAL	-	expression tag	UNP O25414
B	10	LEU	-	expression tag	UNP O25414
B	11	PHE	-	expression tag	UNP O25414
B	12	GLN	-	expression tag	UNP O25414
B	13	GLY	-	expression tag	UNP O25414
B	14	MET	-	expression tag	UNP O25414
B	15	GLY	-	expression tag	UNP O25414
B	16	ASN	-	expression tag	UNP O25414
B	481	SER	-	insertion	UNP O25414
C	-2	MET	-	initiating methionine	UNP O25414
C	-1	HIS	-	expression tag	UNP O25414
C	0	HIS	-	expression tag	UNP O25414
C	1	HIS	-	expression tag	UNP O25414
C	2	HIS	-	expression tag	UNP O25414
C	3	HIS	-	expression tag	UNP O25414
C	4	HIS	-	expression tag	UNP O25414
C	5	SER	-	expression tag	UNP O25414
C	6	SER	-	expression tag	UNP O25414
C	7	GLY	-	expression tag	UNP O25414
C	8	GLU	-	expression tag	UNP O25414
C	9	VAL	-	expression tag	UNP O25414
C	10	LEU	-	expression tag	UNP O25414
C	11	PHE	-	expression tag	UNP O25414
C	12	GLN	-	expression tag	UNP O25414

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Chain	Residue	Modelled	Actual	Comment	Reference
C	13	GLY	-	expression tag	UNP O25414
C	14	MET	-	expression tag	UNP O25414
C	15	GLY	-	expression tag	UNP O25414
C	16	ASN	-	expression tag	UNP O25414
C	481	SER	-	insertion	UNP O25414
D	-2	MET	-	initiating methionine	UNP O25414
D	-1	HIS	-	expression tag	UNP O25414
D	0	HIS	-	expression tag	UNP O25414
D	1	HIS	-	expression tag	UNP O25414
D	2	HIS	-	expression tag	UNP O25414
D	3	HIS	-	expression tag	UNP O25414
D	4	HIS	-	expression tag	UNP O25414
D	5	SER	-	expression tag	UNP O25414
D	6	SER	-	expression tag	UNP O25414
D	7	GLY	-	expression tag	UNP O25414
D	8	GLU	-	expression tag	UNP O25414
D	9	VAL	-	expression tag	UNP O25414
D	10	LEU	-	expression tag	UNP O25414
D	11	PHE	-	expression tag	UNP O25414
D	12	GLN	-	expression tag	UNP O25414
D	13	GLY	-	expression tag	UNP O25414
D	14	MET	-	expression tag	UNP O25414
D	15	GLY	-	expression tag	UNP O25414
D	16	ASN	-	expression tag	UNP O25414
D	481	SER	-	insertion	UNP O25414
E	-2	MET	-	initiating methionine	UNP O25414
E	-1	HIS	-	expression tag	UNP O25414
E	0	HIS	-	expression tag	UNP O25414
E	1	HIS	-	expression tag	UNP O25414
E	2	HIS	-	expression tag	UNP O25414
E	3	HIS	-	expression tag	UNP O25414
E	4	HIS	-	expression tag	UNP O25414
E	5	SER	-	expression tag	UNP O25414
E	6	SER	-	expression tag	UNP O25414
E	7	GLY	-	expression tag	UNP O25414
E	8	GLU	-	expression tag	UNP O25414
E	9	VAL	-	expression tag	UNP O25414
E	10	LEU	-	expression tag	UNP O25414
E	11	PHE	-	expression tag	UNP O25414
E	12	GLN	-	expression tag	UNP O25414
E	13	GLY	-	expression tag	UNP O25414
E	14	MET	-	expression tag	UNP O25414

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Chain	Residue	Modelled	Actual	Comment	Reference
E	15	GLY	-	expression tag	UNP O25414
E	16	ASN	-	expression tag	UNP O25414
E	481	SER	-	insertion	UNP O25414
F	-2	MET	-	initiating methionine	UNP O25414
F	-1	HIS	-	expression tag	UNP O25414
F	0	HIS	-	expression tag	UNP O25414
F	1	HIS	-	expression tag	UNP O25414
F	2	HIS	-	expression tag	UNP O25414
F	3	HIS	-	expression tag	UNP O25414
F	4	HIS	-	expression tag	UNP O25414
F	5	SER	-	expression tag	UNP O25414
F	6	SER	-	expression tag	UNP O25414
F	7	GLY	-	expression tag	UNP O25414
F	8	GLU	-	expression tag	UNP O25414
F	9	VAL	-	expression tag	UNP O25414
F	10	LEU	-	expression tag	UNP O25414
F	11	PHE	-	expression tag	UNP O25414
F	12	GLN	-	expression tag	UNP O25414
F	13	GLY	-	expression tag	UNP O25414
F	14	MET	-	expression tag	UNP O25414
F	15	GLY	-	expression tag	UNP O25414
F	16	ASN	-	expression tag	UNP O25414
F	481	SER	-	insertion	UNP O25414
G	-2	MET	-	initiating methionine	UNP O25414
G	-1	HIS	-	expression tag	UNP O25414
G	0	HIS	-	expression tag	UNP O25414
G	1	HIS	-	expression tag	UNP O25414
G	2	HIS	-	expression tag	UNP O25414
G	3	HIS	-	expression tag	UNP O25414
G	4	HIS	-	expression tag	UNP O25414
G	5	SER	-	expression tag	UNP O25414
G	6	SER	-	expression tag	UNP O25414
G	7	GLY	-	expression tag	UNP O25414
G	8	GLU	-	expression tag	UNP O25414
G	9	VAL	-	expression tag	UNP O25414
G	10	LEU	-	expression tag	UNP O25414
G	11	PHE	-	expression tag	UNP O25414
G	12	GLN	-	expression tag	UNP O25414
G	13	GLY	-	expression tag	UNP O25414
G	14	MET	-	expression tag	UNP O25414
G	15	GLY	-	expression tag	UNP O25414
G	16	ASN	-	expression tag	UNP O25414

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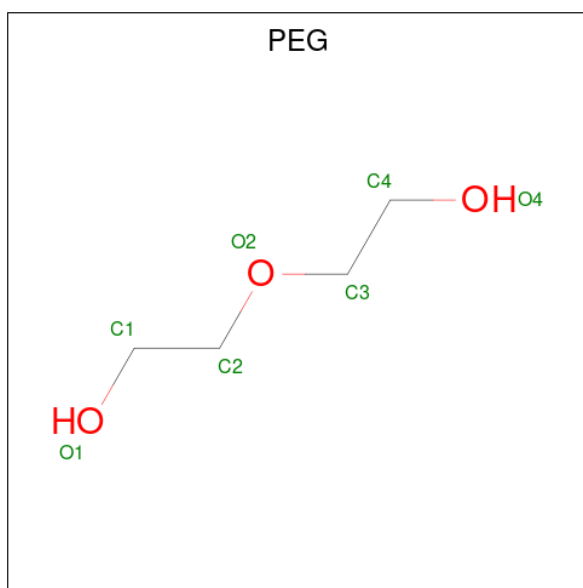
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Chain	Residue	Modelled	Actual	Comment	Reference
G	481	SER	-	insertion	UNP O25414
H	-2	MET	-	initiating methionine	UNP O25414
H	-1	HIS	-	expression tag	UNP O25414
H	0	HIS	-	expression tag	UNP O25414
H	1	HIS	-	expression tag	UNP O25414
H	2	HIS	-	expression tag	UNP O25414
H	3	HIS	-	expression tag	UNP O25414
H	4	HIS	-	expression tag	UNP O25414
H	5	SER	-	expression tag	UNP O25414
H	6	SER	-	expression tag	UNP O25414
H	7	GLY	-	expression tag	UNP O25414
H	8	GLU	-	expression tag	UNP O25414
H	9	VAL	-	expression tag	UNP O25414
H	10	LEU	-	expression tag	UNP O25414
H	11	PHE	-	expression tag	UNP O25414
H	12	GLN	-	expression tag	UNP O25414
H	13	GLY	-	expression tag	UNP O25414
H	14	MET	-	expression tag	UNP O25414
H	15	GLY	-	expression tag	UNP O25414
H	16	ASN	-	expression tag	UNP O25414
H	481	SER	-	insertion	UNP O25414

- Molecule 2 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Zn 1 1	0	0
2	B	1	Total Zn 1 1	0	0
2	C	1	Total Zn 1 1	0	0
2	D	1	Total Zn 1 1	0	0
2	E	1	Total Zn 1 1	0	0
2	F	1	Total Zn 1 1	0	0
2	G	1	Total Zn 1 1	0	0
2	H	1	Total Zn 1 1	0	0

- Molecule 3 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).

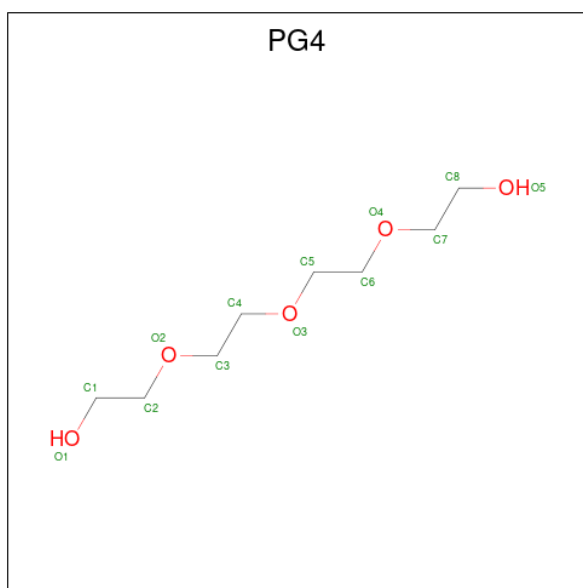


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			7	4	3		
3	C	1	Total	C	O	0	0
			7	4	3		
3	E	1	Total	C	O	0	0
			7	4	3		

- Molecule 4 is IODIDE ION (CCD ID: IOD) (formula: I).

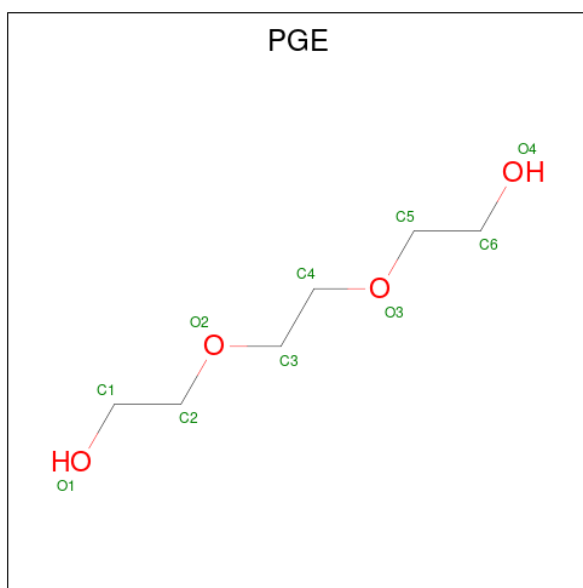
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	5	Total	I	0	0
			5	5		
4	B	5	Total	I	0	0
			5	5		
4	C	5	Total	I	0	0
			5	5		
4	D	5	Total	I	0	0
			5	5		
4	E	4	Total	I	0	0
			4	4		
4	F	4	Total	I	0	0
			4	4		
4	G	4	Total	I	0	0
			4	4		
4	H	4	Total	I	0	0
			4	4		

- Molecule 5 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: $C_8H_{18}O_5$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	C	O	0	0
			13	8	5		

- Molecule 6 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).



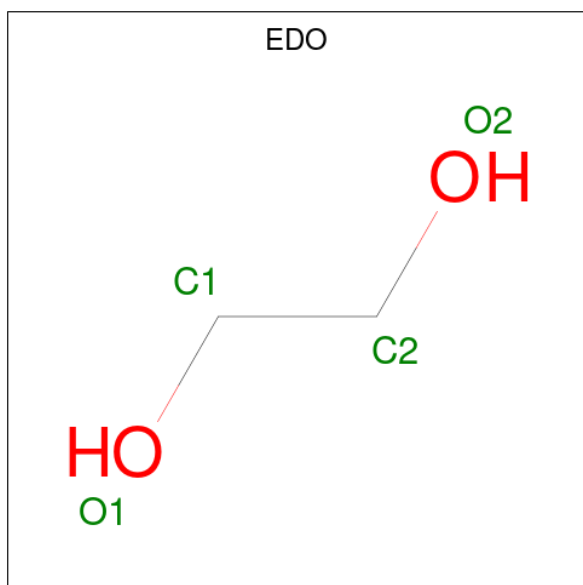
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	D	1	Total	C	O	0	0
			10	6	4		
6	D	1	Total	C	O	0	0
			10	6	4		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	F	1	Total	C	O	0	0
			10	6	4		
6	H	1	Total	C	O	0	0
			10	6	4		

- Molecule 7 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: C₂H₆O₂).



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

- Molecule 8 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	19	Total	O	0	0
			19	19		
8	B	23	Total	O	0	0
			23	23		
8	C	20	Total	O	0	0
			20	20		
8	D	20	Total	O	0	0
			20	20		
8	E	10	Total	O	0	0
			10	10		
8	F	16	Total	O	0	0
			16	16		

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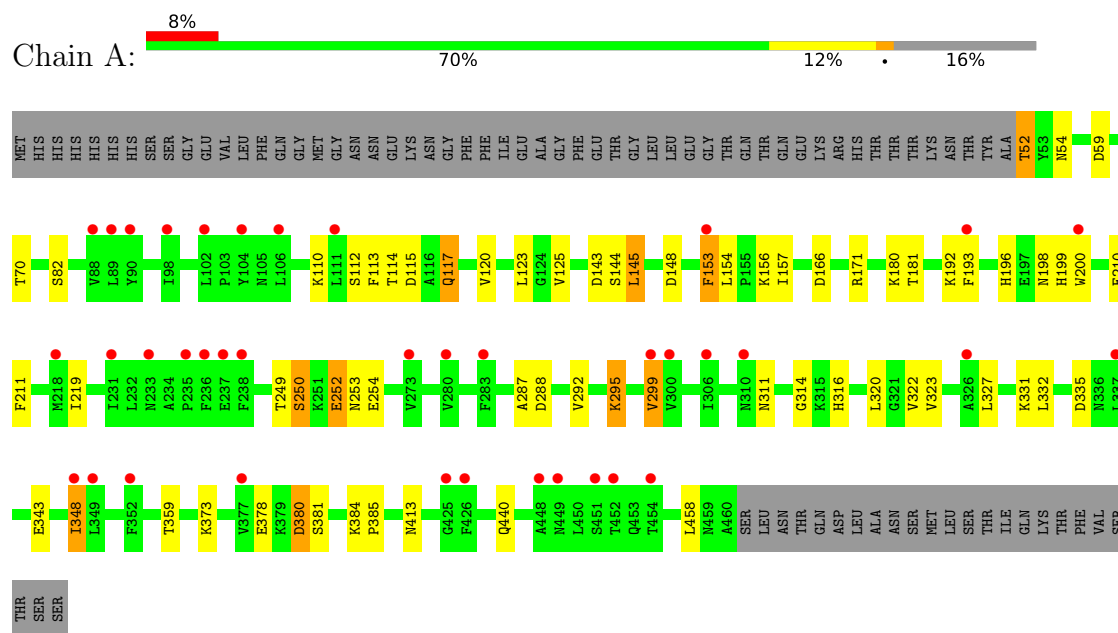
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	G	9	Total	O	0	0
			9	9		
8	H	17	Total	O	0	0
			17	17		

3 Residue-property plots

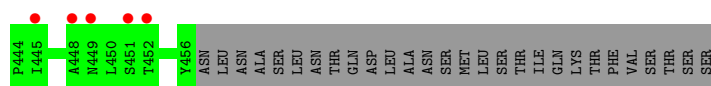
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: HomA

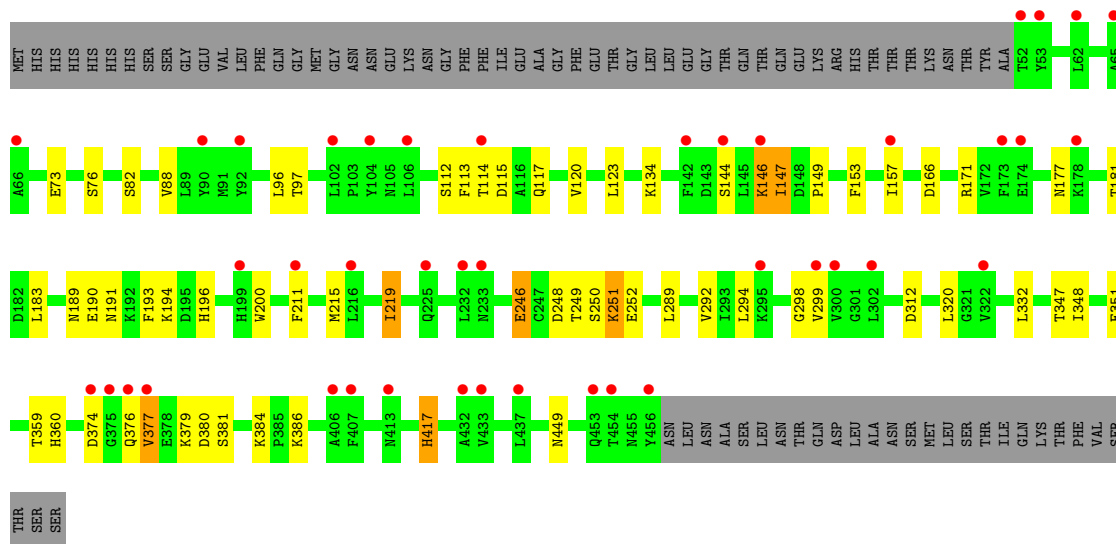


• Molecule 1: HomA

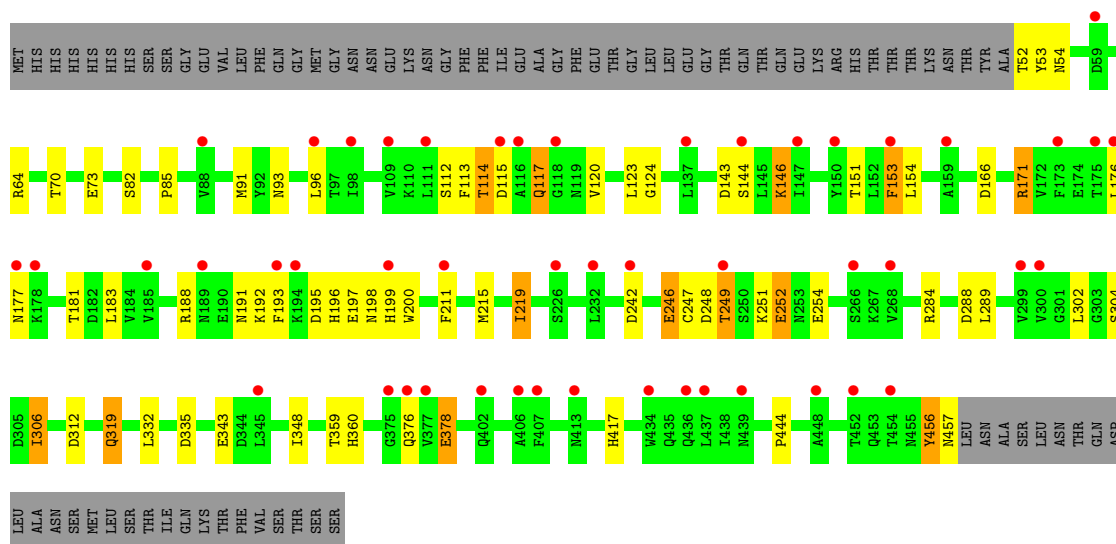




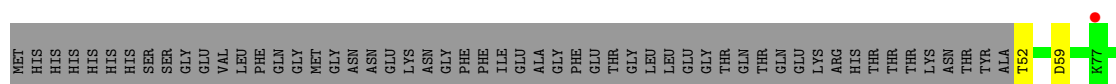
- Molecule 1: HomA

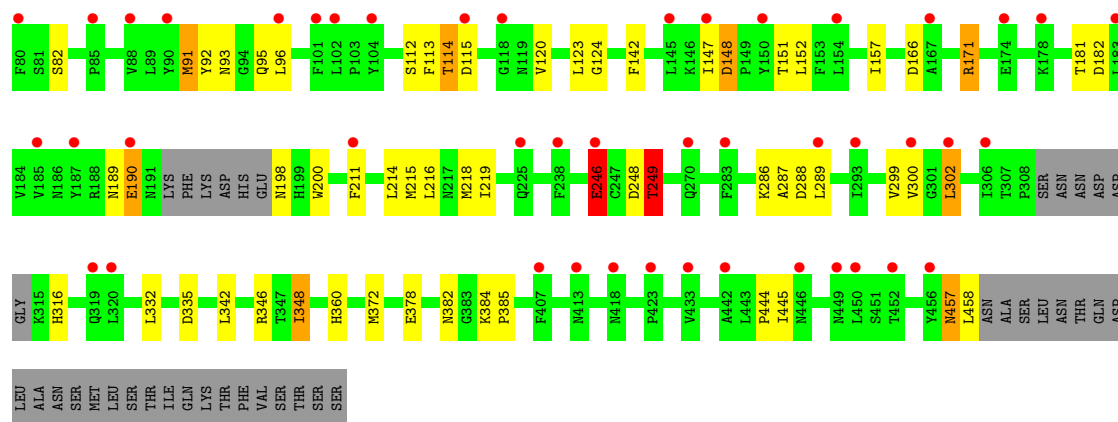


- Molecule 1: HomA

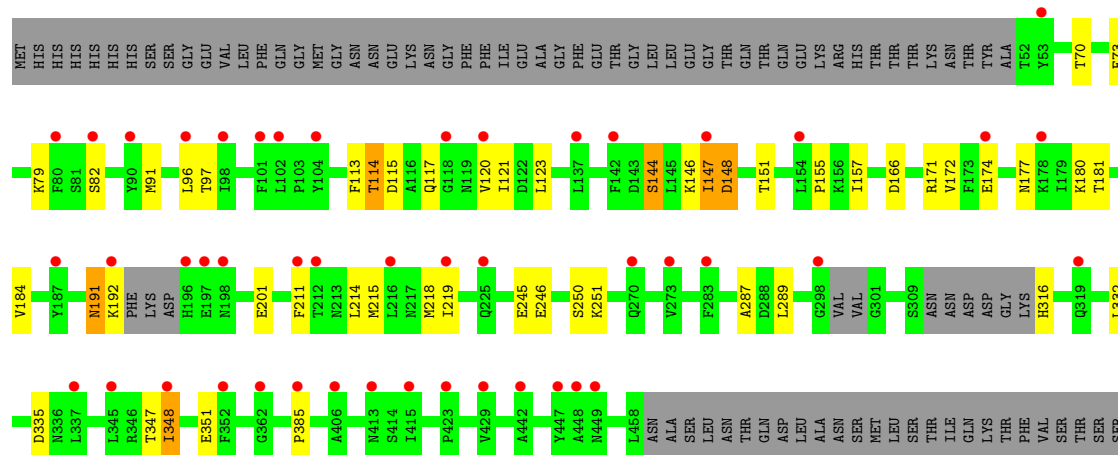


- Molecule 1: HomA

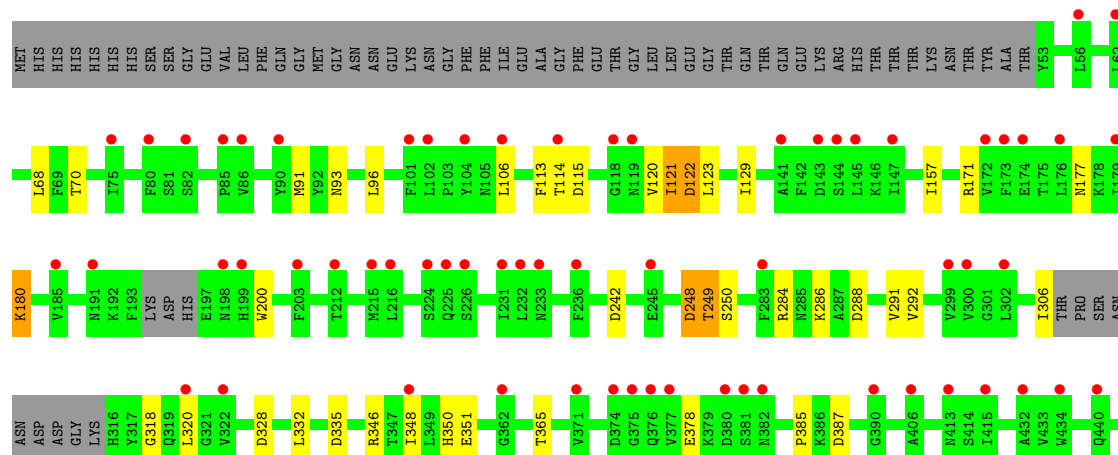
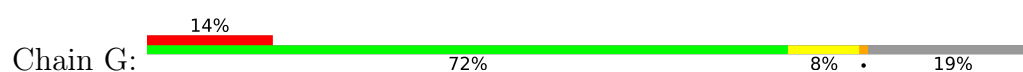


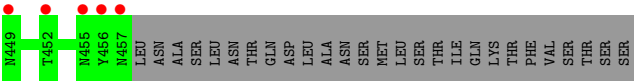


• Molecule 1: HomA

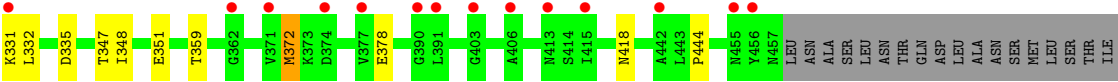
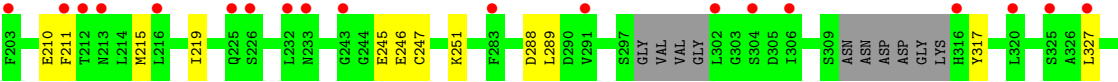
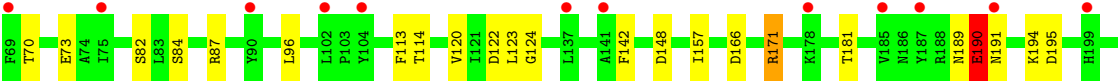
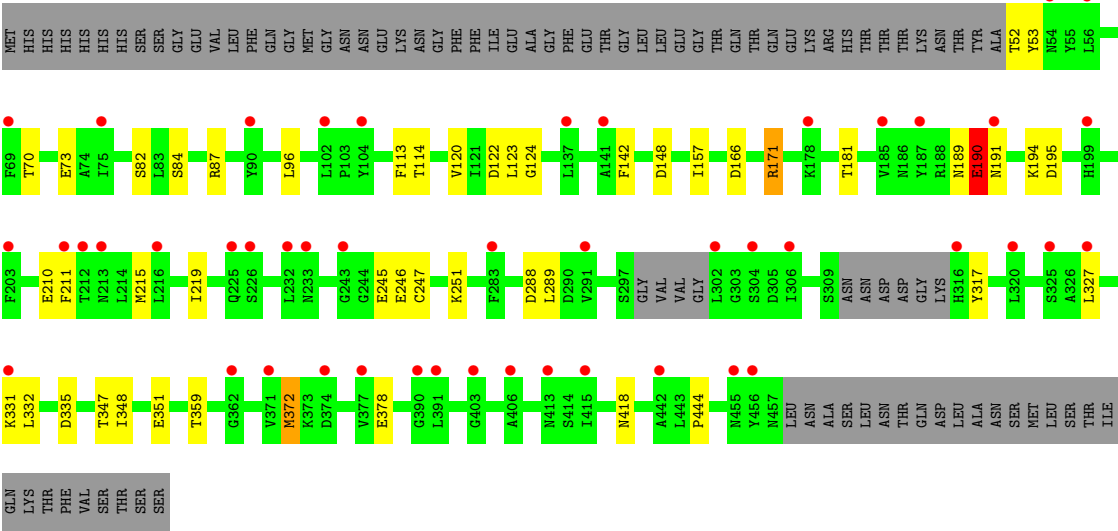


• Molecule 1: HomA





● Molecule 1: HomA



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	60.90Å 126.60Å 155.10Å 84.50° 84.40° 83.50°	Depositor
Resolution (Å)	93.31 – 2.85 93.31 – 2.85	Depositor EDS
% Data completeness (in resolution range)	98.1 (93.31-2.85) 98.1 (93.31-2.85)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.15 (at 2.86Å)	Xtriage
Refinement program	BUSTER 2.10.4 (24-FEB-2021)	Depositor
R, R_{free}	0.241 , 0.266 0.241 , 0.259	Depositor DCC
R_{free} test set	949 reflections (0.89%)	wwPDB-VP
Wilson B-factor (Å ²)	105.4	Xtriage
Anisotropy	0.145	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 105.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.35$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	24235	wwPDB-VP
Average B, all atoms (Å ²)	131.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 35.80 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 5.5154e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: PEG, PG4, ZN, PGE, EDO, IOD

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	0.76	1/3120 (0.0%)	1.07	10/4264 (0.2%)
1	B	0.75	1/3128 (0.0%)	1.03	3/4273 (0.1%)
1	C	0.77	1/3127 (0.0%)	1.06	10/4267 (0.2%)
1	D	0.80	1/3148 (0.0%)	1.08	13/4296 (0.3%)
1	E	0.73	1/3043 (0.0%)	1.05	10/4159 (0.2%)
1	F	0.73	1/3048 (0.0%)	1.01	2/4158 (0.0%)
1	G	0.72	1/2867 (0.0%)	0.99	2/3928 (0.1%)
1	H	0.76	1/2966 (0.0%)	1.04	8/4061 (0.2%)
All	All	0.75	8/24447 (0.0%)	1.04	58/33406 (0.2%)

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	70	THR	CA-C	11.99	1.58	1.52
1	D	70	THR	CA-C	9.68	1.58	1.52
1	G	70	THR	CA-C	8.96	1.57	1.52
1	F	70	THR	CA-C	8.92	1.57	1.52
1	H	70	THR	CA-C	8.49	1.57	1.52
1	A	70	THR	CA-C	8.21	1.57	1.52
1	E	457	ASN	CA-C	5.69	1.60	1.52
1	C	251	LYS	CA-C	5.03	1.59	1.52

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	153	PHE	CA-CB-CG	9.03	122.83	113.80
1	B	193	PHE	CA-CB-CG	8.60	122.40	113.80
1	A	199	HIS	CA-C-N	8.15	134.69	122.95
1	A	199	HIS	C-N-CA	8.15	134.69	122.95
1	E	91	MET	CA-C-N	8.01	132.07	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	91	MET	C-N-CA	8.01	132.07	120.38
1	A	153	PHE	CA-CB-CG	6.84	120.64	113.80
1	C	384	LYS	N-CA-C	6.67	118.30	109.83
1	D	249	THR	CA-C-N	6.54	129.93	120.38
1	D	249	THR	C-N-CA	6.54	129.93	120.38
1	C	449	ASN	CA-CB-CG	6.51	119.11	112.60
1	D	53	TYR	CA-C-N	6.36	132.19	122.77
1	D	53	TYR	C-N-CA	6.36	132.19	122.77
1	H	148	ASP	CA-CB-CG	6.24	118.84	112.60
1	C	149	PRO	CA-C-N	6.00	129.12	120.79
1	C	149	PRO	C-N-CA	6.00	129.12	120.79
1	D	312	ASP	CA-C-N	5.99	129.34	120.90
1	D	312	ASP	C-N-CA	5.99	129.34	120.90
1	A	193	PHE	N-CA-C	5.98	117.79	111.28
1	G	328	ASP	CA-CB-CG	5.92	118.52	112.60
1	A	192	LYS	CA-C-N	5.89	128.17	120.28
1	A	192	LYS	C-N-CA	5.89	128.17	120.28
1	H	142	PHE	CA-C-N	5.87	128.46	120.54
1	H	142	PHE	C-N-CA	5.87	128.46	120.54
1	E	189	ASN	CA-C-N	5.82	129.54	120.75
1	E	189	ASN	C-N-CA	5.82	129.54	120.75
1	E	246	GLU	CA-C-N	5.77	129.47	120.75
1	E	246	GLU	C-N-CA	5.77	129.47	120.75
1	H	166	ASP	CA-CB-CG	5.64	118.24	112.60
1	H	194	LYS	CA-C-N	5.64	132.31	121.54
1	H	194	LYS	C-N-CA	5.64	132.31	121.54
1	A	54	ASN	CA-CB-CG	5.63	118.23	112.60
1	D	246	GLU	CB-CG-CD	5.58	122.09	112.60
1	E	142	PHE	CA-C-N	5.57	128.06	120.54
1	E	142	PHE	C-N-CA	5.57	128.06	120.54
1	C	146	LYS	CA-C-N	5.57	132.00	121.97
1	C	146	LYS	C-N-CA	5.57	132.00	121.97
1	F	191	ASN	CA-CB-CG	5.54	118.14	112.60
1	A	380	ASP	CA-C-N	5.46	131.80	123.23
1	A	380	ASP	C-N-CA	5.46	131.80	123.23
1	D	154	LEU	N-CA-CB	5.43	118.36	109.90
1	D	456	TYR	CA-C-N	5.41	131.44	121.70
1	D	456	TYR	C-N-CA	5.41	131.44	121.70
1	C	380	ASP	CA-CB-CG	5.41	118.00	112.60
1	G	351	GLU	CB-CG-CD	5.36	121.71	112.60
1	C	246	GLU	CA-C-N	5.32	129.29	120.94
1	C	246	GLU	C-N-CA	5.32	129.29	120.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	166	ASP	CA-CB-CG	5.30	117.91	112.60
1	E	91	MET	N-CA-C	5.29	117.15	110.33
1	A	166	ASP	CA-CB-CG	5.26	117.86	112.60
1	D	193	PHE	N-CA-C	5.25	117.29	107.99
1	B	247	CYS	CA-C-N	5.05	127.81	120.79
1	B	247	CYS	C-N-CA	5.05	127.81	120.79
1	F	166	ASP	CA-CB-CG	5.04	117.64	112.60
1	H	331	LYS	CA-C-N	5.03	127.03	120.28
1	H	331	LYS	C-N-CA	5.03	127.03	120.28
1	E	166	ASP	CA-CB-CG	5.03	117.63	112.60
1	D	166	ASP	CA-CB-CG	5.01	117.61	112.60

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3059	0	2876	30	0
1	B	3064	0	2873	33	0
1	C	3066	0	2911	28	0
1	D	3086	0	2914	35	0
1	E	2984	0	2820	30	0
1	F	2990	0	2806	33	0
1	G	2819	0	2557	18	0
1	H	2911	0	2667	22	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	1	0	0	0	0
3	A	7	0	10	2	0
3	C	7	0	10	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	E	7	0	10	2	0
4	A	5	0	0	1	0
4	B	5	0	0	1	0
4	C	5	0	0	3	0
4	D	5	0	0	1	0
4	E	4	0	0	0	0
4	F	4	0	0	0	0
4	G	4	0	0	2	0
4	H	4	0	0	0	0
5	B	13	0	18	0	0
6	D	20	0	28	7	0
6	F	10	0	14	1	0
6	H	10	0	14	5	0
7	E	4	0	6	0	0
8	A	19	0	0	0	0
8	B	23	0	0	0	0
8	C	20	0	0	0	0
8	D	20	0	0	0	0
8	E	10	0	0	0	0
8	F	16	0	0	0	0
8	G	9	0	0	1	0
8	H	17	0	0	0	0
All	All	24235	0	22534	222	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 5.

All (222) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:SER:HA	1:F:251:LYS:HB3	1.41	0.98
1:B:250:SER:HA	1:B:385:PRO:HD2	1.49	0.94
1:F:148:ASP:HB2	1:F:151:THR:HG23	1.52	0.90
1:D:246:GLU:HA	6:D:503:PGE:H6	1.60	0.81
1:B:373:LYS:HB2	1:B:379:LYS:NZ	1.96	0.81
1:A:381:SER:HA	1:F:251:LYS:CB	2.12	0.78
1:A:381:SER:CA	1:F:251:LYS:HB3	2.12	0.77
1:H:372:MET:HG2	1:H:378:GLU:HA	1.67	0.76
1:E:52:THR:HA	1:E:124:GLY:HA2	1.66	0.76
1:F:246:GLU:HA	6:F:502:PGE:H22	1.68	0.75
1:E:218:MET:HE2	1:E:348:ILE:HD11	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:91:MET:HE2	1:G:93:ASN:HD21	1.54	0.73
1:B:200:TRP:CD1	1:B:292:VAL:HG21	2.25	0.72
1:B:199:HIS:ND1	1:B:300:VAL:HG21	2.05	0.71
1:B:199:HIS:CG	1:B:300:VAL:HG21	2.26	0.71
1:B:373:LYS:HB2	1:B:379:LYS:HZ2	1.53	0.71
1:E:190:GLU:CD	1:E:190:GLU:H	1.98	0.70
1:C:114:THR:HG22	1:C:120:VAL:HG22	1.73	0.70
1:H:114:THR:HG22	1:H:120:VAL:HG22	1.74	0.70
1:H:246:GLU:HA	6:H:502:PGE:H5	1.72	0.70
1:C:379:LYS:HD2	1:C:386:LYS:HZ3	1.57	0.69
4:G:503:IOD:I	8:G:601:HOH:O	2.81	0.69
1:F:250:SER:HA	1:F:385:PRO:HD2	1.74	0.69
1:A:114:THR:HG22	1:A:120:VAL:HG22	1.75	0.69
1:B:114:THR:HG22	1:B:120:VAL:HG22	1.75	0.69
1:F:218:MET:HE2	1:F:348:ILE:HD11	1.73	0.69
1:B:378:GLU:HG2	1:B:385:PRO:HB3	1.74	0.68
1:D:52:THR:HA	1:D:124:GLY:HA2	1.75	0.68
1:D:196:HIS:CD2	1:D:199:HIS:HE2	2.12	0.67
1:A:359:THR:HB	3:A:502:PEG:H42	1.77	0.66
1:D:306:ILE:HD11	1:D:319:GLN:HB2	1.78	0.66
1:C:417:HIS:CE1	4:C:507:IOD:I	3.19	0.65
1:G:114:THR:HG22	1:G:120:VAL:HG22	1.77	0.65
1:B:200:TRP:NE1	1:B:292:VAL:HG21	2.13	0.62
1:H:359:THR:HB	6:H:502:PGE:C3	2.29	0.62
1:H:359:THR:HB	6:H:502:PGE:H32	1.82	0.62
1:A:200:TRP:HD1	1:A:292:VAL:HG21	1.65	0.62
1:D:252:GLU:HB2	1:D:254:GLU:HG3	1.81	0.62
1:F:287:ALA:HA	1:F:316:HIS:HD2	1.64	0.62
1:F:147:ILE:HG21	1:F:155:PRO:HD3	1.82	0.61
1:A:52:THR:HA	1:A:125:VAL:HG23	1.83	0.59
1:C:123:LEU:HD22	1:C:144:SER:HB3	1.83	0.59
1:E:342:LEU:O	1:E:346:ARG:HG3	2.02	0.58
1:E:372:MET:HA	1:E:378:GLU:HA	1.86	0.58
1:C:417:HIS:NE2	4:C:507:IOD:I	3.06	0.57
1:D:188:ARG:NH1	1:D:200:TRP:HZ3	2.02	0.57
1:E:246:GLU:HG2	3:E:502:PEG:H22	1.86	0.57
1:G:346:ARG:NH1	4:G:505:IOD:I	3.07	0.57
1:G:249:THR:HG23	1:G:385:PRO:HD2	1.87	0.57
1:B:250:SER:HB3	1:B:251:LYS:NZ	2.19	0.56
1:E:148:ASP:HB3	1:E:151:THR:HG23	1.87	0.56
1:D:196:HIS:NE2	1:D:199:HIS:NE2	2.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:115:ASP:HB2	1:C:147:ILE:HD11	1.88	0.55
1:G:121:ILE:O	1:G:122:ASP:HB2	2.07	0.55
1:C:113:PHE:HB3	1:C:157:ILE:HD13	1.89	0.54
1:C:359:THR:HB	3:C:502:PEG:H32	1.90	0.54
1:D:247:CYS:H	6:D:503:PGE:H6	1.71	0.54
1:E:249:THR:HG23	1:E:385:PRO:HD2	1.88	0.54
1:F:123:LEU:HD11	1:F:157:ILE:HD12	1.89	0.54
1:B:92:TYR:H	1:B:92:TYR:HD1	1.56	0.54
1:C:82:SER:OG	1:C:181:THR:O	2.25	0.54
1:B:350:HIS:CE1	1:B:365:THR:HB	2.43	0.53
1:D:376:GLN:HG3	1:H:418:ASN:ND2	2.23	0.53
1:E:114:THR:HG23	1:E:120:VAL:HG22	1.89	0.53
1:B:373:LYS:HB2	1:B:379:LYS:HZ3	1.74	0.53
1:B:248:ASP:O	1:B:249:THR:HG22	2.09	0.53
1:D:246:GLU:CD	6:D:503:PGE:H52	2.34	0.53
1:E:123:LEU:HD11	1:E:157:ILE:HD12	1.91	0.53
1:H:247:CYS:SG	6:H:502:PGE:O4	2.67	0.53
1:F:147:ILE:O	1:F:148:ASP:O	2.27	0.52
1:B:199:HIS:CE1	1:B:300:VAL:HG21	2.43	0.52
1:E:91:MET:HB2	1:E:95:GLN:O	2.10	0.52
1:D:114:THR:HG23	1:D:120:VAL:HG22	1.90	0.52
1:A:380:ASP:O	1:F:251:LYS:O	2.28	0.52
1:A:413:ASN:ND2	1:A:440:GLN:HE22	2.07	0.52
1:G:113:PHE:HB3	1:G:157:ILE:HD13	1.92	0.52
1:A:322:VAL:HG11	1:A:348:ILE:HG22	1.92	0.52
1:G:250:SER:HA	1:G:385:PRO:HD3	1.92	0.52
1:H:246:GLU:HA	6:H:502:PGE:C5	2.40	0.51
1:E:216:LEU:HD23	1:E:445:ILE:HD11	1.93	0.51
1:A:252:GLU:HB2	1:A:254:GLU:HG3	1.92	0.51
1:B:199:HIS:ND1	1:B:300:VAL:CG2	2.74	0.51
1:B:182:ASP:HB3	1:B:286:LYS:HD2	1.92	0.51
1:B:250:SER:HB3	1:B:251:LYS:HZ2	1.76	0.51
1:E:287:ALA:HA	1:E:316:HIS:HA	1.93	0.51
1:F:123:LEU:HD22	1:F:144:SER:HB3	1.92	0.51
1:F:287:ALA:HA	1:F:316:HIS:CD2	2.44	0.51
1:G:200:TRP:CE3	1:G:292:VAL:HG21	2.46	0.51
1:C:123:LEU:HD11	1:C:157:ILE:HD12	1.93	0.51
1:G:350:HIS:ND1	1:G:365:THR:HB	2.25	0.50
1:H:52:THR:CB	1:H:122:ASP:HB3	2.42	0.50
1:H:288:ASP:HB2	1:H:317:TYR:CD1	2.46	0.49
1:A:113:PHE:HB3	1:A:157:ILE:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:200:TRP:CD1	1:C:292:VAL:HG21	2.47	0.49
1:F:114:THR:HG23	1:F:120:VAL:HG22	1.93	0.49
1:F:147:ILE:O	1:F:147:ILE:HG23	2.12	0.49
1:G:250:SER:HA	1:G:385:PRO:CD	2.42	0.49
1:A:115:ASP:OD2	1:A:117:GLN:NE2	2.45	0.49
1:C:76:SER:HB3	1:C:189:ASN:HB3	1.94	0.49
1:D:359:THR:HB	6:D:503:PGE:H4	1.94	0.49
1:G:200:TRP:CD2	1:G:292:VAL:HG21	2.48	0.49
1:A:295:LYS:H	1:A:323:VAL:HA	1.77	0.48
1:B:199:HIS:CE1	1:B:300:VAL:CG2	2.97	0.48
1:B:350:HIS:HD2	1:B:351:GLU:OE2	1.97	0.48
1:B:250:SER:HA	1:B:385:PRO:CD	2.33	0.48
1:H:372:MET:HG2	1:H:378:GLU:CA	2.40	0.48
1:D:188:ARG:NH1	1:D:200:TRP:CZ3	2.82	0.47
1:B:92:TYR:CD1	1:B:92:TYR:N	2.82	0.47
1:B:278:ASP:HB3	4:B:505:IOD:I	2.84	0.47
1:H:215:MET:HE2	1:H:289:LEU:HD23	1.95	0.47
1:F:250:SER:HA	1:F:385:PRO:CD	2.43	0.47
1:F:113:PHE:HB3	1:F:157:ILE:HD13	1.95	0.47
1:B:188:ARG:O	1:B:292:VAL:HG23	2.15	0.47
1:E:113:PHE:HB3	1:E:157:ILE:HD13	1.97	0.47
1:E:215:MET:HE2	1:E:289:LEU:HD23	1.97	0.47
1:D:91:MET:HE3	1:D:93:ASN:OD1	2.15	0.47
1:D:215:MET:HE2	1:D:289:LEU:HD23	1.97	0.47
1:H:189:ASN:O	1:H:190:GLU:O	2.32	0.47
1:B:168:ASN:HA	1:B:171:ARG:HG2	1.96	0.46
1:B:239:THR:HG22	1:B:273:VAL:HA	1.97	0.46
1:F:147:ILE:CG2	1:F:155:PRO:HD3	2.44	0.46
1:D:360:HIS:HB2	6:D:503:PGE:H5	1.97	0.46
1:A:123:LEU:HD11	1:A:157:ILE:HD12	1.97	0.46
1:D:191:ASN:HD21	1:D:195:ASP:HA	1.80	0.46
1:F:115:ASP:OD2	1:F:117:GLN:OE1	2.34	0.46
1:A:250:SER:HB2	1:A:384:LYS:HD2	1.97	0.46
1:D:417:HIS:NE2	4:D:508:IOD:I	3.03	0.46
1:G:115:ASP:HB3	1:G:121:ILE:HD11	1.97	0.46
1:B:215:MET:HE2	1:B:289:LEU:HD23	1.98	0.46
1:F:251:LYS:HZ2	1:F:385:PRO:HD3	1.81	0.45
1:C:360:HIS:H	3:C:502:PEG:H32	1.82	0.45
1:A:287:ALA:HA	1:A:316:HIS:HB2	1.98	0.45
1:D:183:LEU:HD22	1:D:219:ILE:HD13	1.98	0.45
1:E:200:TRP:HE1	1:E:302:LEU:HD13	1.83	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:52:THR:C	1:D:54:ASN:H	2.25	0.44
1:C:215:MET:HE2	1:C:289:LEU:HD23	1.98	0.44
1:E:91:MET:HE3	1:E:92:TYR:HB2	1.99	0.44
1:F:215:MET:HE2	1:F:289:LEU:HD23	2.00	0.44
1:A:156:LYS:HD3	1:E:152:LEU:HD11	1.98	0.44
1:B:113:PHE:HB3	1:B:157:ILE:HD13	1.98	0.44
1:C:320:LEU:HD12	1:C:351:GLU:HB2	1.99	0.44
1:F:245:GLU:HA	1:F:245:GLU:OE1	2.17	0.44
1:D:197:GLU:HB3	1:D:199:HIS:CE1	2.53	0.44
1:D:359:THR:HB	6:D:503:PGE:C4	2.47	0.44
1:C:374:ASP:HB2	1:C:377:VAL:HG22	1.99	0.44
1:D:115:ASP:OD2	1:D:117:GLN:NE2	2.51	0.44
1:A:198:ASN:C	1:A:200:TRP:H	2.26	0.44
1:E:182:ASP:HB3	1:E:286:LYS:HG3	2.00	0.44
1:B:103:PRO:HA	1:B:132:HIS:CE1	2.53	0.43
1:E:248:ASP:HB2	1:E:384:LYS:NZ	2.33	0.43
1:G:291:VAL:HG12	1:G:320:LEU:HD23	1.98	0.43
1:H:82:SER:OG	1:H:181:THR:O	2.36	0.43
1:C:248:ASP:O	1:C:249:THR:HG22	2.18	0.43
1:H:113:PHE:HB3	1:H:157:ILE:HD13	1.99	0.43
1:H:52:THR:CB	1:H:124:GLY:CA	2.97	0.43
1:H:210:GLU:HB3	1:H:327:LEU:HB3	2.01	0.43
1:C:97:THR:HG21	1:C:134:LYS:HE3	2.00	0.43
1:C:115:ASP:OD2	1:C:117:GLN:OE1	2.36	0.43
1:E:82:SER:OG	1:E:181:THR:O	2.36	0.43
1:A:250:SER:HA	1:A:385:PRO:CD	2.49	0.43
1:C:250:SER:O	1:C:252:GLU:O	2.37	0.43
1:D:302:LEU:HD21	1:D:319:GLN:HG2	2.01	0.43
1:F:191:ASN:O	1:F:192:LYS:HD2	2.19	0.43
1:A:210:GLU:HB3	1:A:327:LEU:HB3	1.99	0.43
1:F:147:ILE:O	1:F:151:THR:OG1	2.33	0.43
1:H:84:SER:O	1:H:87:ARG:HG3	2.19	0.43
1:A:123:LEU:HD23	1:A:144:SER:HB2	2.01	0.43
1:D:171:ARG:NH2	1:D:444:PRO:O	2.51	0.43
1:D:143:ASP:O	1:D:143:ASP:OD2	2.36	0.43
1:F:79:LYS:HG3	1:F:184:VAL:HG13	2.00	0.43
1:F:91:MET:SD	1:F:97:THR:OG1	2.76	0.43
1:D:82:SER:OG	1:D:181:THR:O	2.37	0.42
1:F:82:SER:OG	1:F:181:THR:O	2.37	0.42
1:F:347:THR:O	1:F:351:GLU:HG2	2.18	0.42
1:F:113:PHE:CD1	1:F:123:LEU:HD21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:350:HIS:CE1	1:G:365:THR:HB	2.54	0.42
1:H:347:THR:O	1:H:351:GLU:HG2	2.18	0.42
1:C:113:PHE:CD2	1:C:123:LEU:HD21	2.55	0.42
1:C:417:HIS:HE1	4:C:507:IOD:I	2.71	0.42
1:D:284:ARG:O	6:D:502:PGE:H22	2.19	0.42
1:E:91:MET:HE3	1:E:92:TYR:H	1.84	0.42
1:F:214:LEU:HD21	1:F:348:ILE:HD13	2.00	0.42
1:A:82:SER:OG	1:A:181:THR:O	2.38	0.42
1:C:147:ILE:H	1:C:147:ILE:HG13	1.68	0.42
1:B:350:HIS:ND1	1:B:365:THR:HB	2.34	0.42
1:C:88:VAL:HB	1:C:157:ILE:HB	2.01	0.42
1:G:106:LEU:HB2	1:G:129:ILE:HB	2.02	0.42
1:A:250:SER:HA	1:A:385:PRO:HD2	2.01	0.42
1:D:376:GLN:HG3	1:H:418:ASN:HD22	1.83	0.42
1:E:214:LEU:HD21	1:E:348:ILE:HD13	2.02	0.42
1:A:154:LEU:HB2	1:E:152:LEU:O	2.20	0.42
1:B:82:SER:OG	1:B:181:THR:O	2.38	0.41
1:C:191:ASN:OD1	1:C:193:PHE:O	2.38	0.41
1:E:52:THR:HA	1:E:124:GLY:CA	2.42	0.41
1:F:115:ASP:HB3	1:F:121:ILE:HD12	2.02	0.41
1:C:347:THR:O	1:C:351:GLU:HG2	2.20	0.41
1:E:360:HIS:H	3:E:502:PEG:H21	1.85	0.41
1:H:113:PHE:CD2	1:H:123:LEU:HD21	2.55	0.41
1:A:378:GLU:CD	1:A:378:GLU:H	2.28	0.41
1:D:113:PHE:CD1	1:D:123:LEU:HD21	2.55	0.41
1:D:144:SER:C	1:D:146:LYS:H	2.27	0.41
1:D:378:GLU:CD	1:D:378:GLU:H	2.28	0.41
1:E:171:ARG:NH2	1:E:444:PRO:O	2.53	0.41
1:F:148:ASP:O	1:F:151:THR:OG1	2.37	0.41
1:A:52:THR:HB	1:A:110:LYS:HE2	2.01	0.41
1:D:456:TYR:O	1:D:457:ASN:HB2	2.20	0.41
1:E:115:ASP:HA	1:E:147:ILE:HG13	2.02	0.41
1:E:113:PHE:CD1	1:E:123:LEU:HD21	2.55	0.41
1:B:198:ASN:OD1	1:B:200:TRP:HB2	2.21	0.41
1:D:196:HIS:CD2	1:D:199:HIS:NE2	2.86	0.41
1:H:171:ARG:NH2	1:H:444:PRO:O	2.53	0.41
1:E:148:ASP:CB	1:E:151:THR:HG23	2.50	0.41
1:D:85:PRO:HG2	1:D:176:LEU:HD22	2.02	0.40
1:G:180:LYS:HE2	1:G:284:ARG:HD3	2.02	0.40
1:G:248:ASP:O	1:G:249:THR:HG22	2.21	0.40
1:G:306:ILE:H	1:G:318:GLY:HA2	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:171:ARG:HD3	4:A:505:IOD:I	2.91	0.40
1:A:359:THR:CB	3:A:502:PEG:H42	2.48	0.40
1:B:196:HIS:O	1:B:197:GLU:HB2	2.22	0.40
1:A:154:LEU:HD23	1:A:154:LEU:HA	1.93	0.40
1:C:123:LEU:HD22	1:C:144:SER:CB	2.51	0.40
1:C:183:LEU:HD22	1:C:219:ILE:HD13	2.02	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	407/487 (84%)	380 (93%)	21 (5%)	6 (2%)	8	18
1	B	403/487 (83%)	377 (94%)	22 (6%)	4 (1%)	12	25
1	C	403/487 (83%)	374 (93%)	23 (6%)	6 (2%)	8	18
1	D	404/487 (83%)	373 (92%)	28 (7%)	3 (1%)	18	35
1	E	389/487 (80%)	364 (94%)	23 (6%)	2 (0%)	24	42
1	F	388/487 (80%)	365 (94%)	19 (5%)	4 (1%)	12	25
1	G	387/487 (80%)	365 (94%)	21 (5%)	1 (0%)	36	54
1	H	390/487 (80%)	362 (93%)	23 (6%)	5 (1%)	9	21
All	All	3171/3896 (81%)	2960 (93%)	180 (6%)	31 (1%)	12	25

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	299	VAL
1	C	196	HIS
1	C	251	LYS
1	C	312	ASP

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Mol	Chain	Res	Type
1	F	146	LYS
1	F	147	ILE
1	F	148	ASP
1	H	190	GLU
1	H	195	ASP
1	A	295	LYS
1	A	311	ASN
1	B	250	SER
1	C	147	ILE
1	D	249	THR
1	D	251	LYS
1	F	144	SER
1	G	122	ASP
1	A	250	SER
1	C	298	GLY
1	E	457	ASN
1	H	251	LYS
1	B	316	HIS
1	B	373	LYS
1	D	248	ASP
1	H	191	ASN
1	A	145	LEU
1	E	249	THR
1	H	372	MET
1	B	383	GLY
1	C	381	SER
1	A	314	GLY

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	326/427 (76%)	301 (92%)	25 (8%)	12	25
1	B	329/427 (77%)	301 (92%)	28 (8%)	10	22
1	C	332/427 (78%)	313 (94%)	19 (6%)	18	39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	336/427 (79%)	310 (92%)	26 (8%)	12	25
1	E	324/427 (76%)	302 (93%)	22 (7%)	14	30
1	F	322/427 (75%)	308 (96%)	14 (4%)	26	50
1	G	284/427 (66%)	267 (94%)	17 (6%)	17	36
1	H	302/427 (71%)	291 (96%)	11 (4%)	31	56
All	All	2555/3416 (75%)	2393 (94%)	162 (6%)	16	34

All (162) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	52	THR
1	A	59	ASP
1	A	112	SER
1	A	117	GLN
1	A	143	ASP
1	A	145	LEU
1	A	148	ASP
1	A	153	PHE
1	A	180	LYS
1	A	196	HIS
1	A	211	PHE
1	A	219	ILE
1	A	249	THR
1	A	252	GLU
1	A	253	ASN
1	A	288	ASP
1	A	299	VAL
1	A	320	LEU
1	A	331	LYS
1	A	332	LEU
1	A	335	ASP
1	A	343	GLU
1	A	348	ILE
1	A	373	LYS
1	A	458	LEU
1	B	92	TYR
1	B	93	ASN
1	B	95	GLN
1	B	96	LEU
1	B	112	SER

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Mol	Chain	Res	Type
1	B	117	GLN
1	B	144	SER
1	B	147	ILE
1	B	153	PHE
1	B	171	ARG
1	B	177	ASN
1	B	193	PHE
1	B	211	PHE
1	B	219	ILE
1	B	242	ASP
1	B	249	THR
1	B	273	VAL
1	B	288	ASP
1	B	294	LEU
1	B	300	VAL
1	B	332	LEU
1	B	335	ASP
1	B	344	ASP
1	B	348	ILE
1	B	376	GLN
1	B	379	LYS
1	B	381	SER
1	B	417	HIS
1	C	73	GLU
1	C	96	LEU
1	C	112	SER
1	C	146	LYS
1	C	153	PHE
1	C	171	ARG
1	C	177	ASN
1	C	190	GLU
1	C	194	LYS
1	C	211	PHE
1	C	219	ILE
1	C	246	GLU
1	C	294	LEU
1	C	299	VAL
1	C	332	LEU
1	C	348	ILE
1	C	376	GLN
1	C	377	VAL
1	C	417	HIS

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Mol	Chain	Res	Type
1	D	64	ARG
1	D	73	GLU
1	D	96	LEU
1	D	112	SER
1	D	114	THR
1	D	117	GLN
1	D	146	LYS
1	D	151	THR
1	D	153	PHE
1	D	171	ARG
1	D	177	ASN
1	D	192	LYS
1	D	198	ASN
1	D	211	PHE
1	D	219	ILE
1	D	242	ASP
1	D	252	GLU
1	D	288	ASP
1	D	304	SER
1	D	306	ILE
1	D	319	GLN
1	D	332	LEU
1	D	335	ASP
1	D	343	GLU
1	D	348	ILE
1	D	378	GLU
1	E	59	ASP
1	E	93	ASN
1	E	96	LEU
1	E	112	SER
1	E	114	THR
1	E	148	ASP
1	E	171	ARG
1	E	190	GLU
1	E	198	ASN
1	E	211	PHE
1	E	219	ILE
1	E	246	GLU
1	E	249	THR
1	E	288	ASP
1	E	299	VAL
1	E	300	VAL

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Mol	Chain	Res	Type
1	E	302	LEU
1	E	332	LEU
1	E	335	ASP
1	E	348	ILE
1	E	382	ASN
1	E	458	LEU
1	F	73	GLU
1	F	96	LEU
1	F	114	THR
1	F	171	ARG
1	F	172	VAL
1	F	174	GLU
1	F	177	ASN
1	F	180	LYS
1	F	201	GLU
1	F	211	PHE
1	F	219	ILE
1	F	332	LEU
1	F	335	ASP
1	F	348	ILE
1	G	68	LEU
1	G	96	LEU
1	G	121	ILE
1	G	123	LEU
1	G	171	ARG
1	G	177	ASN
1	G	180	LYS
1	G	242	ASP
1	G	248	ASP
1	G	249	THR
1	G	286	LYS
1	G	288	ASP
1	G	332	LEU
1	G	335	ASP
1	G	348	ILE
1	G	378	GLU
1	G	387	ASP
1	H	53	TYR
1	H	73	GLU
1	H	96	LEU
1	H	171	ARG
1	H	190	GLU

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Mol	Chain	Res	Type
1	H	211	PHE
1	H	219	ILE
1	H	245	GLU
1	H	332	LEU
1	H	335	ASP
1	H	348	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	117	GLN
1	A	177	ASN
1	A	213	ASN
1	A	367	GLN
1	A	376	GLN
1	A	382	ASN
1	A	413	ASN
1	A	449	ASN
1	B	93	ASN
1	B	108	ASN
1	B	191	ASN
1	B	455	ASN
1	C	54	ASN
1	C	108	ASN
1	C	191	ASN
1	D	95	GLN
1	D	108	ASN
1	D	117	GLN
1	D	177	ASN
1	D	455	ASN
1	E	446	ASN
1	F	71	ASN
1	F	95	GLN
1	F	108	ASN
1	F	177	ASN
1	F	189	ASN
1	F	316	HIS
1	G	93	ASN
1	G	95	GLN
1	G	108	ASN
1	G	410	ASN
1	G	417	HIS

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Mol	Chain	Res	Type
1	G	418	ASN
1	H	418	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 53 ligands modelled in this entry, 44 are monoatomic - leaving 9 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	PEG	C	502	-	6,6,6	0.47	0	5,5,5	0.20	0
6	PGE	D	502	-	9,9,9	0.30	0	8,8,8	0.23	0
7	EDO	E	503	-	3,3,3	0.70	0	2,2,2	0.20	0
3	PEG	E	502	-	6,6,6	0.19	0	5,5,5	0.17	0
6	PGE	H	502	-	9,9,9	0.27	0	8,8,8	0.24	0
6	PGE	D	503	-	9,9,9	0.37	0	8,8,8	0.22	0
3	PEG	A	502	-	6,6,6	0.55	0	5,5,5	0.35	0
6	PGE	F	502	-	9,9,9	0.26	0	8,8,8	0.36	0
5	PG4	B	502	-	12,12,12	0.15	0	11,11,11	0.09	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the

Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.
'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PEG	C	502	-	-	2/4/4/4	-
6	PGE	D	502	-	-	3/7/7/7	-
7	EDO	E	503	-	-	0/1/1/1	-
3	PEG	E	502	-	-	1/4/4/4	-
6	PGE	H	502	-	-	3/7/7/7	-
6	PGE	D	503	-	-	3/7/7/7	-
3	PEG	A	502	-	-	1/4/4/4	-
6	PGE	F	502	-	-	1/7/7/7	-
5	PG4	B	502	-	-	5/10/10/10	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (19) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	D	503	PGE	O2-C3-C4-O3
3	A	502	PEG	O1-C1-C2-O2
3	C	502	PEG	O2-C3-C4-O4
6	H	502	PGE	C1-C2-O2-C3
6	D	503	PGE	C1-C2-O2-C3
5	B	502	PG4	C4-C3-O2-C2
5	B	502	PG4	C1-C2-O2-C3
6	H	502	PGE	C3-C4-O3-C5
6	F	502	PGE	O3-C5-C6-O4
6	H	502	PGE	C4-C3-O2-C2
3	C	502	PEG	C4-C3-O2-C2
6	D	502	PGE	C1-C2-O2-C3
3	E	502	PEG	O2-C3-C4-O4
6	D	502	PGE	O2-C3-C4-O3
5	B	502	PG4	O2-C3-C4-O3
6	D	502	PGE	O1-C1-C2-O2
5	B	502	PG4	C5-C6-O4-C7
5	B	502	PG4	O3-C5-C6-O4
6	D	503	PGE	C6-C5-O3-C4

There are no ring outliers.

7 monomers are involved in 19 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	502	PEG	2	0
6	D	502	PGE	1	0
3	E	502	PEG	2	0
6	H	502	PGE	5	0
6	D	503	PGE	6	0
3	A	502	PEG	2	0
6	F	502	PGE	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2	OWAB(Å ²)	Q < 0.9
1	A	409/487 (83%)	0.66	38 (9%) 14 11	83, 124, 183, 201	0
1	B	405/487 (83%)	1.00	72 (17%) 4 3	90, 144, 197, 212	0
1	C	405/487 (83%)	0.66	42 (10%) 11 9	84, 116, 176, 188	0
1	D	406/487 (83%)	0.71	49 (12%) 8 6	83, 116, 175, 191	0
1	E	395/487 (81%)	0.71	46 (11%) 9 7	86, 128, 175, 199	0
1	F	396/487 (81%)	0.73	47 (11%) 9 7	82, 124, 178, 193	0
1	G	393/487 (80%)	0.98	69 (17%) 4 3	92, 151, 191, 217	0
1	H	396/487 (81%)	0.72	47 (11%) 9 7	85, 128, 176, 205	0
All	All	3205/3896 (82%)	0.77	410 (12%) 7 5	82, 129, 184, 217	0

All (410) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	376	GLN	7.0
1	A	452	THR	6.8
1	G	390	GLY	6.0
1	G	226	SER	5.9
1	G	102	LEU	5.9
1	D	144	SER	5.7
1	C	456	TYR	5.7
1	F	225	GLN	5.6
1	B	451	SER	5.5
1	B	283	PHE	5.5
1	B	104	TYR	5.3
1	B	172	VAL	5.3
1	G	374	ASP	5.2
1	B	164	VAL	5.2
1	G	415	ILE	5.1
1	G	413	ASN	5.1

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Mol	Chain	Res	Type	RSRZ
1	A	448	ALA	5.0
1	B	238	PHE	5.0
1	H	211	PHE	5.0
1	C	92	TYR	5.0
1	D	437	LEU	4.9
1	F	147	ILE	4.9
1	F	90	TYR	4.8
1	B	242	ASP	4.8
1	H	216	LEU	4.8
1	G	145	LEU	4.6
1	D	377	VAL	4.6
1	D	300	VAL	4.6
1	B	442	ALA	4.5
1	B	102	LEU	4.5
1	D	375	GLY	4.3
1	B	274	LEU	4.3
1	B	273	VAL	4.3
1	F	448	ALA	4.3
1	G	104	TYR	4.2
1	G	174	GLU	4.2
1	B	452	THR	4.1
1	B	448	ALA	4.1
1	B	147	ILE	4.1
1	B	96	LEU	4.1
1	C	406	ALA	4.1
1	C	199	HIS	4.0
1	E	449	ASN	4.0
1	C	375	GLY	4.0
1	C	232	LEU	4.0
1	B	106	LEU	4.0
1	G	225	GLN	4.0
1	A	235	PRO	4.0
1	G	212	THR	4.0
1	B	300	VAL	3.9
1	B	431	ALA	3.9
1	D	147	ILE	3.9
1	H	413	ASN	3.9
1	A	451	SER	3.9
1	H	233	ASN	3.8
1	H	406	ALA	3.8
1	E	102	LEU	3.8
1	E	174	GLU	3.8

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Mol	Chain	Res	Type	RSRZ
1	C	62	LEU	3.8
1	B	357	GLY	3.8
1	A	377	VAL	3.8
1	C	413	ASN	3.8
1	H	226	SER	3.7
1	H	232	LEU	3.7
1	G	382	ASN	3.7
1	E	147	ILE	3.7
1	F	211	PHE	3.7
1	B	216	LEU	3.6
1	A	236	PHE	3.6
1	C	433	VAL	3.6
1	D	153	PHE	3.6
1	C	374	ASP	3.6
1	F	423	PRO	3.6
1	A	283	PHE	3.5
1	E	145	LEU	3.5
1	F	102	LEU	3.5
1	G	232	LEU	3.5
1	B	272	TYR	3.5
1	B	358	TYR	3.5
1	H	390	GLY	3.5
1	A	300	VAL	3.5
1	B	426	PHE	3.5
1	G	80	PHE	3.5
1	H	185	VAL	3.5
1	B	90	TYR	3.5
1	E	300	VAL	3.5
1	G	299	VAL	3.5
1	A	237	GLU	3.5
1	H	56	LEU	3.5
1	F	442	ALA	3.5
1	F	142	PHE	3.4
1	G	119	ASN	3.4
1	G	172	VAL	3.4
1	F	283	PHE	3.4
1	G	141	ALA	3.4
1	G	216	LEU	3.3
1	B	240	ASN	3.3
1	B	406	ALA	3.3
1	C	146	LYS	3.3
1	D	116	ALA	3.3

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Mol	Chain	Res	Type	RSRZ
1	E	211	PHE	3.3
1	C	454	THR	3.3
1	G	106	LEU	3.3
1	G	300	VAL	3.3
1	B	349	LEU	3.3
1	F	270	GLN	3.3
1	F	118	GLY	3.3
1	B	295	LYS	3.2
1	E	104	TYR	3.2
1	F	187	TYR	3.2
1	D	413	ASN	3.2
1	H	199	HIS	3.2
1	H	212	THR	3.2
1	F	198	ASN	3.2
1	E	96	LEU	3.2
1	E	450	LEU	3.2
1	A	426	PHE	3.2
1	H	455	ASN	3.2
1	H	141	ALA	3.2
1	A	89	LEU	3.1
1	G	56	LEU	3.1
1	F	449	ASN	3.1
1	F	178	LYS	3.1
1	B	168	ASN	3.1
1	G	320	LEU	3.1
1	G	455	ASN	3.1
1	D	178	LYS	3.1
1	C	173	PHE	3.0
1	G	233	ASN	3.0
1	A	238	PHE	3.0
1	A	90	TYR	3.0
1	A	98	ILE	3.0
1	C	102	LEU	3.0
1	E	442	ALA	3.0
1	C	377	VAL	3.0
1	F	219	ILE	3.0
1	E	185	VAL	3.0
1	F	192	LYS	3.0
1	G	176	LEU	3.0
1	G	144	SER	3.0
1	C	432	ALA	3.0
1	G	406	ALA	3.0

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Mol	Chain	Res	Type	RSRZ
1	H	415	ILE	2.9
1	H	104	TYR	2.9
1	D	454	THR	2.9
1	D	98	ILE	2.9
1	E	306	ILE	2.9
1	B	145	LEU	2.9
1	D	111	LEU	2.9
1	F	104	TYR	2.9
1	B	449	ASN	2.9
1	A	231	ILE	2.9
1	B	279	ILE	2.9
1	H	213	ASN	2.9
1	G	283	PHE	2.9
1	C	216	LEU	2.9
1	D	232	LEU	2.9
1	E	187	TYR	2.8
1	F	197	GLU	2.8
1	A	88	VAL	2.8
1	F	196	HIS	2.8
1	C	52	THR	2.8
1	B	150	TYR	2.8
1	A	104	TYR	2.8
1	E	88	VAL	2.8
1	E	150	TYR	2.8
1	B	80	PHE	2.8
1	F	101	PHE	2.8
1	E	183	LEU	2.8
1	E	302	LEU	2.8
1	F	96	LEU	2.8
1	E	423	PRO	2.8
1	B	173	PHE	2.8
1	A	111	LEU	2.8
1	H	178	LYS	2.8
1	B	163	SER	2.8
1	D	345	LEU	2.7
1	A	454	THR	2.7
1	A	273	VAL	2.7
1	B	432	ALA	2.7
1	A	218	MET	2.7
1	D	189	ASN	2.7
1	E	225	GLN	2.7
1	D	96	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	173	PHE	2.7
1	E	80	PHE	2.7
1	F	80	PHE	2.7
1	G	231	ILE	2.7
1	G	118	GLY	2.7
1	F	273	VAL	2.7
1	H	69	PHE	2.7
1	E	90	TYR	2.7
1	E	190	GLU	2.7
1	E	320	LEU	2.7
1	H	302	LEU	2.7
1	F	385	PRO	2.6
1	G	191	ASN	2.6
1	C	322	VAL	2.6
1	A	299	VAL	2.6
1	B	256	VAL	2.6
1	B	345	LEU	2.6
1	C	233	ASN	2.6
1	C	302	LEU	2.6
1	D	439	ASN	2.6
1	H	102	LEU	2.6
1	A	352	PHE	2.6
1	G	203	PHE	2.6
1	H	304	SER	2.6
1	B	368	ARG	2.6
1	A	425	GLY	2.6
1	E	118	GLY	2.6
1	G	371	VAL	2.6
1	H	327	LEU	2.6
1	G	457	ASN	2.6
1	B	211	PHE	2.6
1	H	203	PHE	2.6
1	D	242	ASP	2.6
1	D	226	SER	2.6
1	D	376	GLN	2.6
1	H	225	GLN	2.6
1	C	211	PHE	2.6
1	H	283	PHE	2.6
1	B	149	PRO	2.5
1	A	106	LEU	2.5
1	C	104	TYR	2.5
1	F	137	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	306	ILE	2.5
1	H	316	HIS	2.5
1	B	232	LEU	2.5
1	G	456	TYR	2.5
1	H	187	TYR	2.5
1	E	283	PHE	2.5
1	D	159	ALA	2.5
1	F	406	ALA	2.5
1	B	413	ASN	2.5
1	C	178	LYS	2.5
1	B	364	MET	2.5
1	F	337	LEU	2.5
1	G	173	PHE	2.5
1	B	192	LYS	2.5
1	E	178	LYS	2.5
1	D	59	ASP	2.5
1	G	82	SER	2.5
1	C	106	LEU	2.4
1	F	154	LEU	2.4
1	C	144	SER	2.4
1	F	82	SER	2.4
1	C	174	GLU	2.4
1	G	90	TYR	2.4
1	H	456	TYR	2.4
1	E	452	THR	2.4
1	D	137	LEU	2.4
1	F	362	GLY	2.4
1	G	375	GLY	2.4
1	A	200	TRP	2.4
1	F	352	PHE	2.4
1	B	132	HIS	2.4
1	B	137	LEU	2.4
1	F	345	LEU	2.4
1	A	348	ILE	2.4
1	D	118	GLY	2.4
1	D	299	VAL	2.4
1	B	174	GLU	2.4
1	G	215	MET	2.4
1	E	289	LEU	2.4
1	G	198	ASN	2.4
1	H	377	VAL	2.4
1	B	356	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	H	331	LYS	2.4
1	A	193	PHE	2.4
1	B	101	PHE	2.4
1	C	66	ALA	2.4
1	B	200	TRP	2.4
1	G	452	THR	2.4
1	A	349	LEU	2.4
1	G	62	LEU	2.4
1	B	348	ILE	2.4
1	F	98	ILE	2.4
1	G	449	ASN	2.3
1	A	326	ALA	2.3
1	C	376	GLN	2.3
1	A	337	LEU	2.3
1	D	150	TYR	2.3
1	H	391	LEU	2.3
1	F	120	VAL	2.3
1	G	377	VAL	2.3
1	H	243	GLY	2.3
1	G	224	SER	2.3
1	G	199	HIS	2.3
1	B	445	ILE	2.3
1	B	299	VAL	2.3
1	G	185	VAL	2.3
1	G	322	VAL	2.3
1	G	362	GLY	2.3
1	F	174	GLU	2.3
1	G	302	LEU	2.3
1	G	440	GLN	2.3
1	C	157	ILE	2.3
1	C	299	VAL	2.3
1	D	448	ALA	2.3
1	E	167	ALA	2.3
1	H	442	ALA	2.3
1	C	300	VAL	2.3
1	D	268	VAL	2.3
1	H	403	GLY	2.3
1	B	218	MET	2.2
1	A	233	ASN	2.2
1	F	413	ASN	2.2
1	G	432	ALA	2.2
1	B	427	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	320	LEU	2.2
1	E	115	ASP	2.2
1	F	53	TYR	2.2
1	H	90	TYR	2.2
1	H	325	SER	2.2
1	F	298	GLY	2.2
1	B	352	PHE	2.2
1	G	101	PHE	2.2
1	E	246	GLU	2.2
1	B	331	LYS	2.2
1	E	418	ASN	2.2
1	E	270	GLN	2.2
1	F	348	ILE	2.2
1	F	415	ILE	2.2
1	G	348	ILE	2.2
1	F	447	TYR	2.2
1	A	153	PHE	2.2
1	B	443	LEU	2.2
1	A	449	ASN	2.2
1	C	225	GLN	2.2
1	E	319	GLN	2.2
1	F	429	VAL	2.2
1	D	434	TRP	2.2
1	C	53	TYR	2.2
1	A	102	LEU	2.2
1	F	216	LEU	2.2
1	B	67	ASN	2.2
1	H	54	ASN	2.2
1	E	433	VAL	2.2
1	E	101	PHE	2.2
1	D	177	ASN	2.1
1	D	199	HIS	2.1
1	D	185	VAL	2.1
1	G	380	ASP	2.1
1	E	77	LYS	2.1
1	C	437	LEU	2.1
1	B	405	SER	2.1
1	D	406	ALA	2.1
1	D	436	GLN	2.1
1	E	446	ASN	2.1
1	B	86	VAL	2.1
1	G	85	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	H	291	VAL	2.1
1	C	114	THR	2.1
1	B	214	LEU	2.1
1	B	437	LEU	2.1
1	B	171	ARG	2.1
1	E	293	ILE	2.1
1	G	381	SER	2.1
1	D	402	GLN	2.1
1	C	295	LYS	2.1
1	H	362	GLY	2.1
1	B	175	THR	2.1
1	B	307	THR	2.1
1	D	407	PHE	2.1
1	E	238	PHE	2.1
1	G	114	THR	2.1
1	C	90	TYR	2.1
1	G	75	ILE	2.1
1	G	147	ILE	2.1
1	H	306	ILE	2.1
1	D	266	SER	2.1
1	C	453	GLN	2.1
1	D	109	VAL	2.1
1	A	310	ASN	2.1
1	D	176	LEU	2.1
1	E	154	LEU	2.1
1	H	137	LEU	2.1
1	D	211	PHE	2.1
1	D	175	THR	2.1
1	D	452	THR	2.1
1	E	456	TYR	2.1
1	F	319	GLN	2.0
1	A	280	VAL	2.0
1	G	86	VAL	2.0
1	E	85	PRO	2.0
1	B	302	LEU	2.0
1	B	327	LEU	2.0
1	E	413	ASN	2.0
1	C	142	PHE	2.0
1	E	407	PHE	2.0
1	D	249	THR	2.0
1	F	212	THR	2.0
1	D	115	ASP	2.0

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Mol	Chain	Res	Type	RSRZ
1	H	75	ILE	2.0
1	D	194	LYS	2.0
1	B	144	SER	2.0
1	H	371	VAL	2.0
1	H	191	ASN	2.0
1	C	407	PHE	2.0
1	D	193	PHE	2.0
1	G	236	PHE	2.0
1	G	179	ILE	2.0
1	B	114	THR	2.0
1	C	65	ALA	2.0
1	G	143	ASP	2.0
1	G	245	GLU	2.0
1	H	374	ASP	2.0
1	G	434	TRP	2.0
1	D	88	VAL	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	PEG	E	502	7/7	0.70	0.15	132,132,134,134	0
3	PEG	A	502	7/7	0.73	0.19	103,105,107,107	0
6	PGE	F	502	10/10	0.75	0.14	99,101,102,102	0
6	PGE	H	502	10/10	0.80	0.14	109,113,114,114	0
7	EDO	E	503	4/4	0.81	0.14	115,115,115,115	0
6	PGE	D	503	10/10	0.86	0.13	90,98,100,101	0
5	PG4	B	502	13/13	0.87	0.15	147,147,148,148	0

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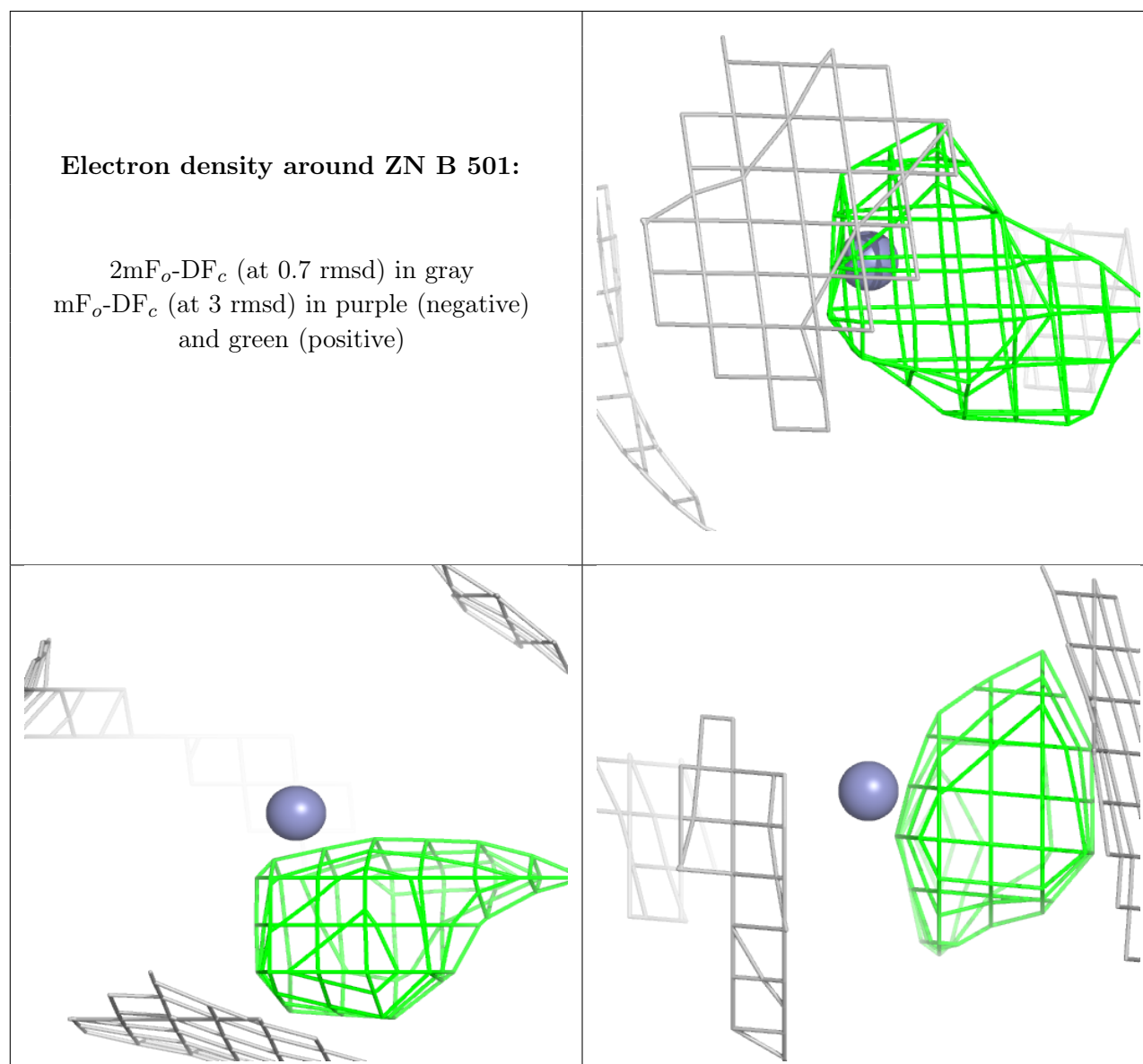
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
6	PGE	D	502	10/10	0.88	0.10	97,101,104,104	0
3	PEG	C	502	7/7	0.90	0.12	99,100,101,102	0
4	IOD	G	505	1/1	0.91	0.10	106,106,106,106	1
4	IOD	B	505	1/1	0.93	0.09	134,134,134,134	1
4	IOD	B	503	1/1	0.95	0.11	136,136,136,136	1
4	IOD	H	506	1/1	0.95	0.08	118,118,118,118	1
2	ZN	B	501	1/1	0.95	0.13	175,175,175,175	0
4	IOD	G	504	1/1	0.95	0.07	140,140,140,140	1
4	IOD	H	504	1/1	0.96	0.06	99,99,99,99	1
4	IOD	B	506	1/1	0.96	0.06	121,121,121,121	1
4	IOD	E	506	1/1	0.97	0.06	88,88,88,88	1
4	IOD	F	504	1/1	0.97	0.06	99,99,99,99	1
4	IOD	G	503	1/1	0.97	0.06	130,130,130,130	1
4	IOD	A	503	1/1	0.97	0.07	108,108,108,108	1
4	IOD	A	505	1/1	0.97	0.05	97,97,97,97	1
4	IOD	H	503	1/1	0.97	0.05	101,101,101,101	1
4	IOD	A	506	1/1	0.97	0.05	116,116,116,116	1
2	ZN	F	501	1/1	0.97	0.13	126,126,126,126	0
2	ZN	G	501	1/1	0.97	0.11	171,171,171,171	0
2	ZN	H	501	1/1	0.97	0.13	143,143,143,143	0
4	IOD	B	507	1/1	0.97	0.05	87,87,87,87	1
4	IOD	C	503	1/1	0.97	0.06	109,109,109,109	1
4	IOD	C	507	1/1	0.97	0.06	84,84,84,84	1
4	IOD	E	504	1/1	0.97	0.05	117,117,117,117	1
4	IOD	G	502	1/1	0.98	0.05	111,111,111,111	1
4	IOD	C	505	1/1	0.98	0.04	104,104,104,104	1
2	ZN	D	501	1/1	0.98	0.14	116,116,116,116	0
4	IOD	D	504	1/1	0.98	0.05	107,107,107,107	1
4	IOD	D	507	1/1	0.98	0.04	102,102,102,102	1
4	IOD	D	508	1/1	0.98	0.05	84,84,84,84	1
4	IOD	H	505	1/1	0.98	0.04	102,102,102,102	1
2	ZN	A	501	1/1	0.98	0.12	133,133,133,133	0
4	IOD	E	505	1/1	0.98	0.04	105,105,105,105	1
4	IOD	A	504	1/1	0.98	0.06	115,115,115,115	1
4	IOD	F	503	1/1	0.98	0.05	109,109,109,109	1
4	IOD	B	504	1/1	0.98	0.05	94,94,94,94	1
4	IOD	F	505	1/1	0.98	0.04	114,114,114,114	1
4	IOD	F	506	1/1	0.98	0.05	90,90,90,90	1
4	IOD	A	507	1/1	0.99	0.03	88,88,88,88	1
4	IOD	D	505	1/1	0.99	0.05	105,105,105,105	1
4	IOD	E	507	1/1	0.99	0.03	90,90,90,90	1
4	IOD	D	506	1/1	0.99	0.03	96,96,96,96	1

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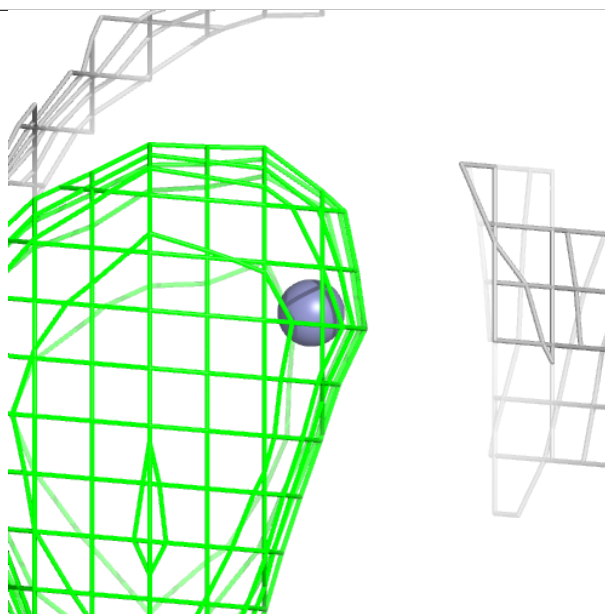
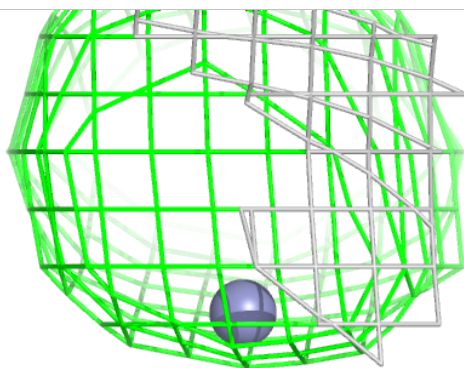
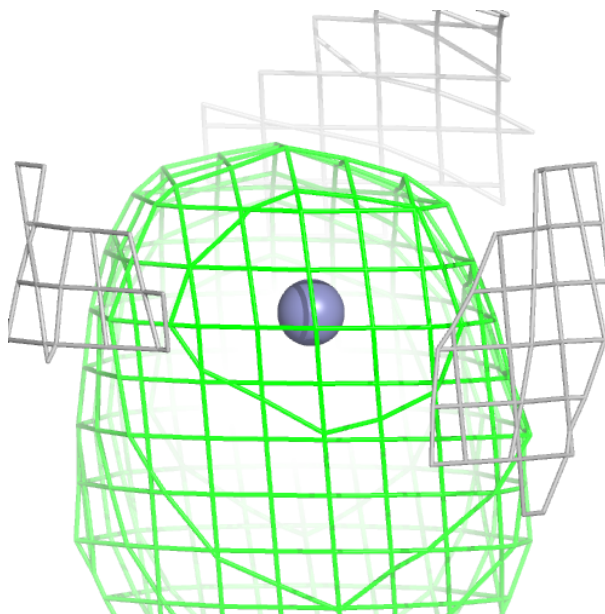
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	ZN	C	501	1/1	0.99	0.11	114,114,114,114	0
4	IOD	C	506	1/1	0.99	0.03	86,86,86,86	1
2	ZN	E	501	1/1	0.99	0.13	141,141,141,141	0
4	IOD	C	504	1/1	1.00	0.09	101,101,101,101	1

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



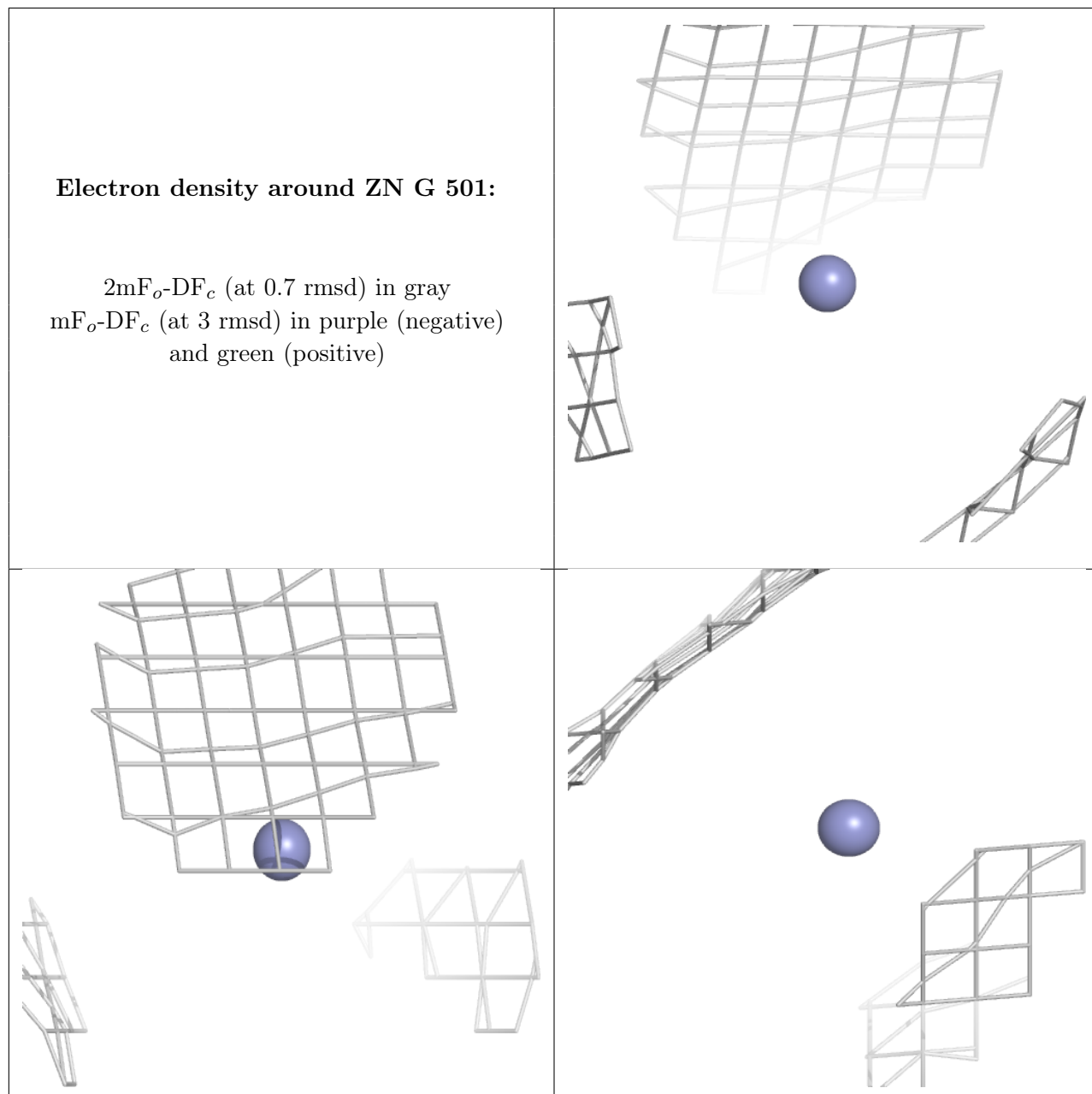
Electron density around ZN F 501:

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



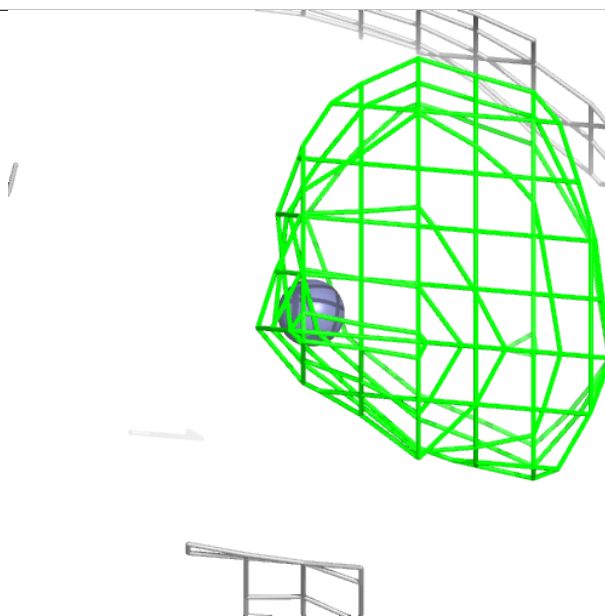
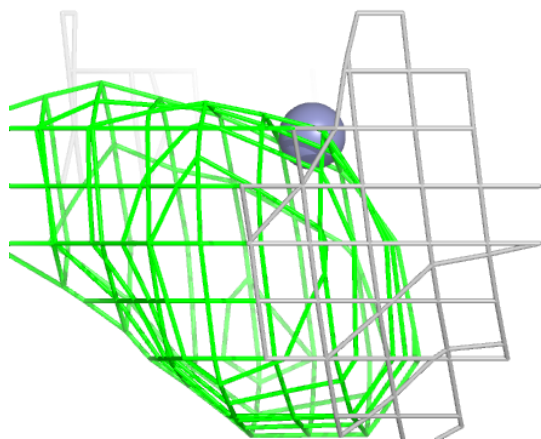
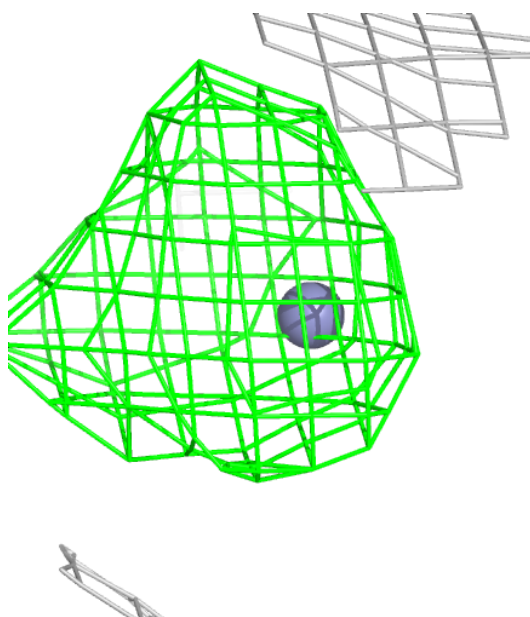
Electron density around ZN G 501:

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



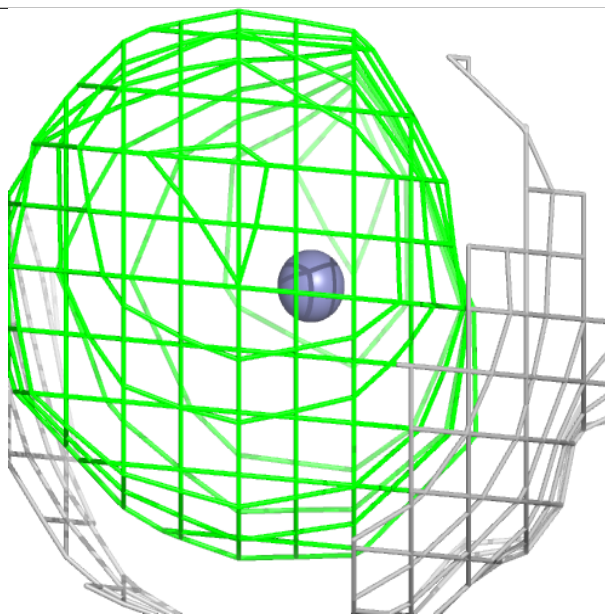
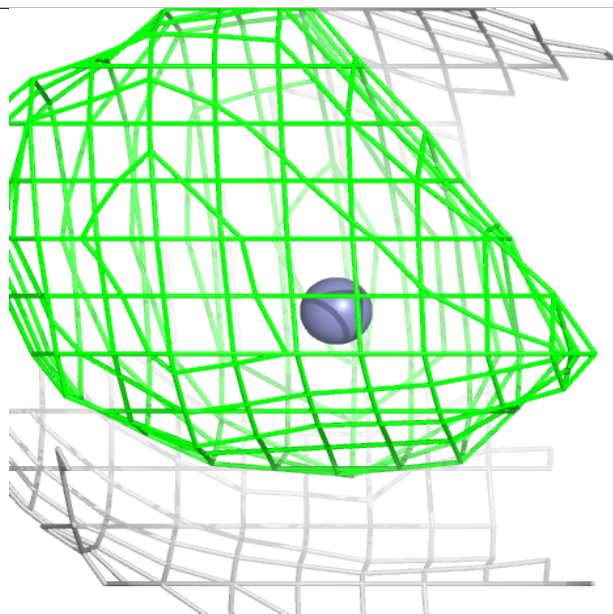
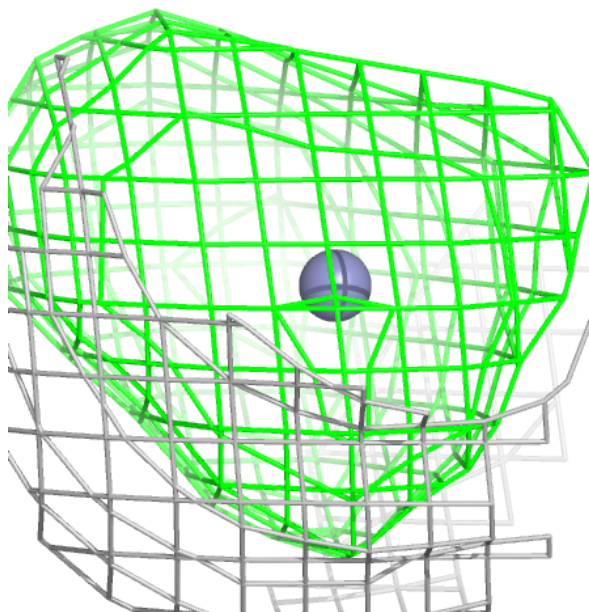
Electron density around ZN H 501:

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



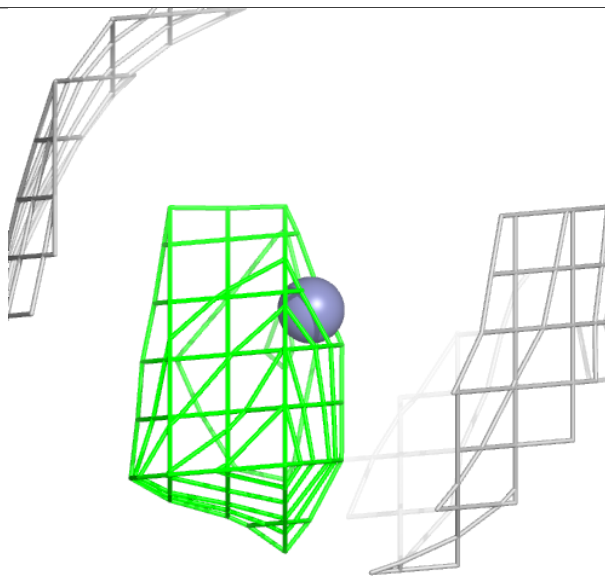
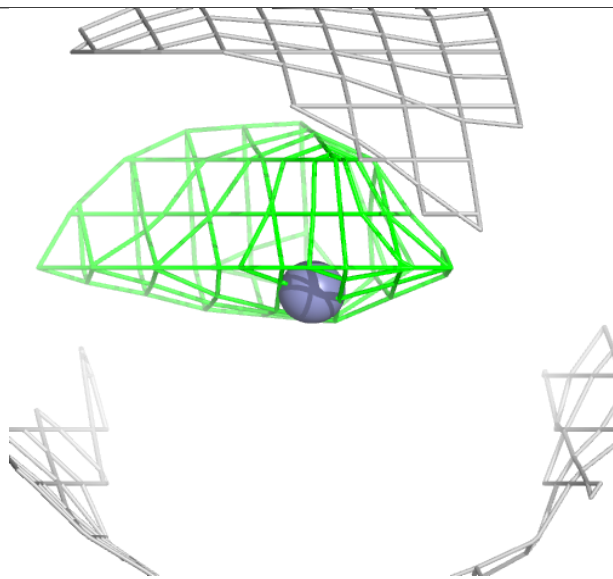
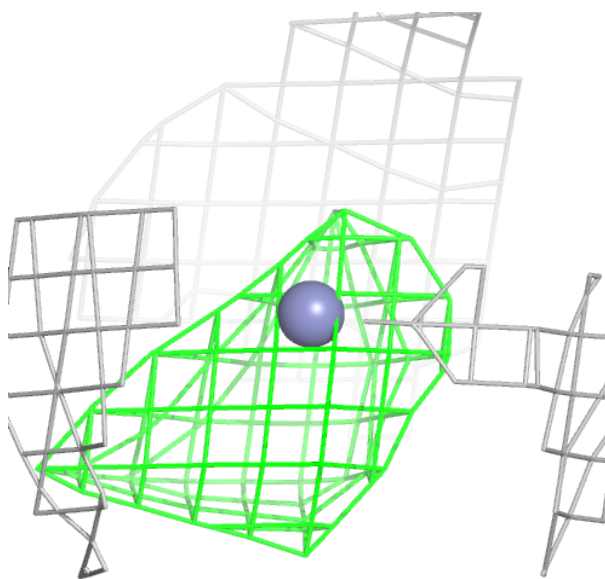
Electron density around ZN D 501:

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



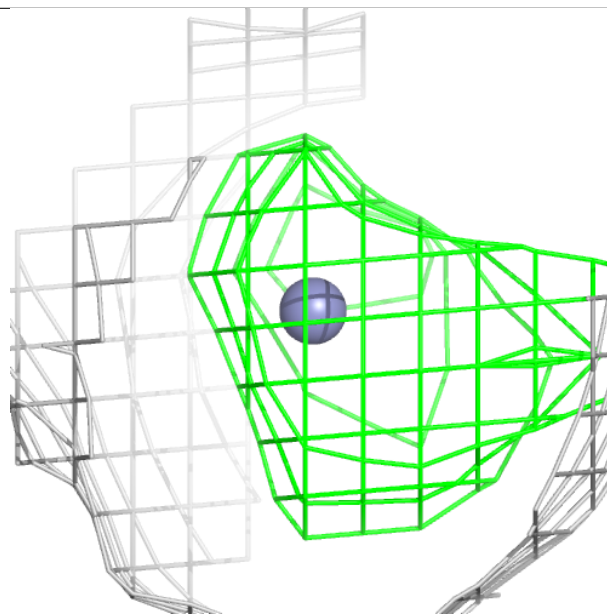
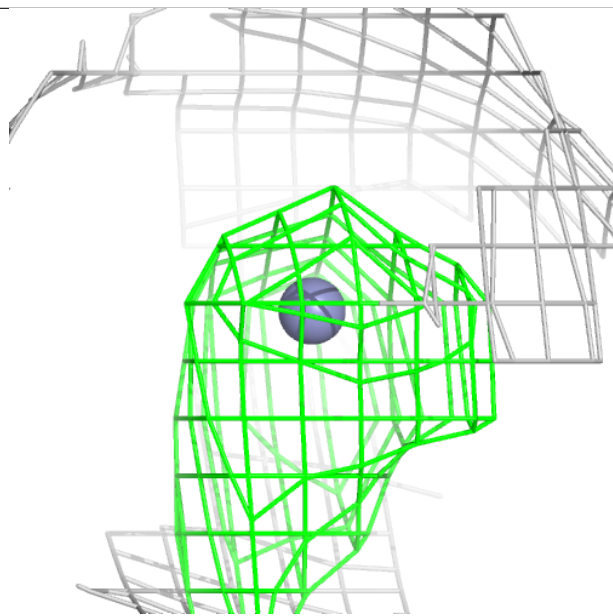
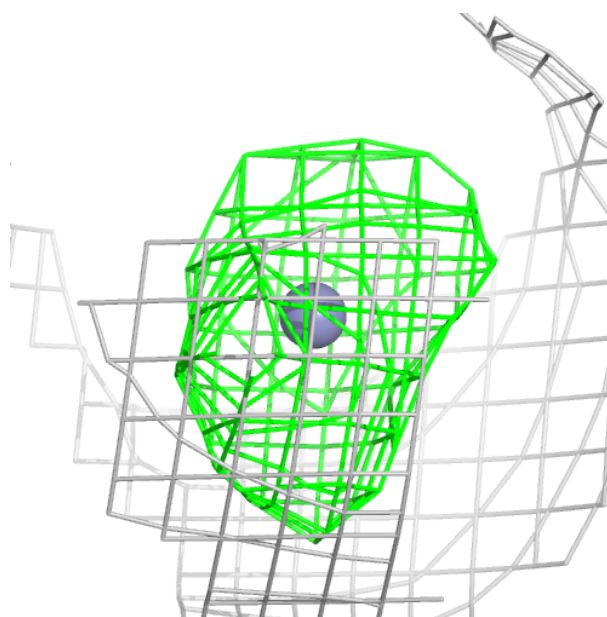
Electron density around ZN A 501:

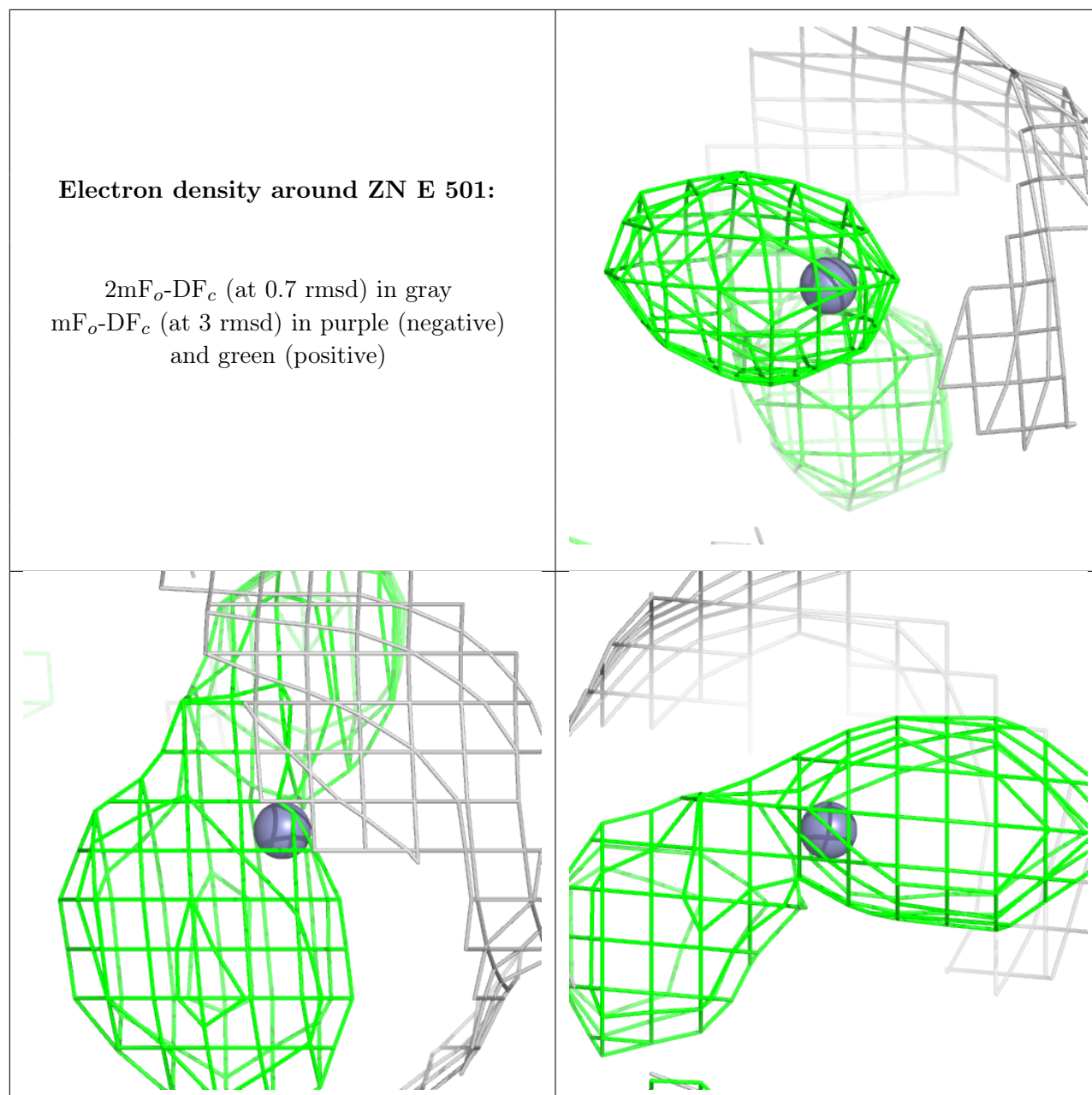
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around ZN C 501:

$2mF_o-DF_c$ (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.