Full wwPDB X-ray Structure Validation Report ⓘ

Jan 14, 2026 – 03:21 pm GMT

PDB ID	:	6I96 / pdb_00006i96
Title	:	Structure of the ferrioxamine B transporter FoxA from Pseudomonas aeruginosa in complex with ferrioxamine B
Authors	:	Josts, I.; Tidow, H.
Deposited on	:	2018-11-22
Resolution	:	1.85 Å(reported)

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

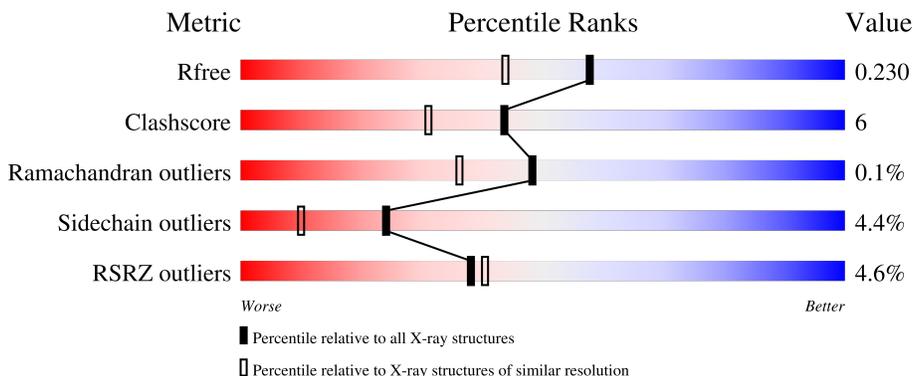|		
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

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 1.85 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	Percentile Ranks	Value
Rfree		0.230
Clashscore		6
Ramachandran outliers		0.1%
Sidechain outliers		4.4%
RSRZ outliers		4.6%

Worse / *Better*

■ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	3097 (1.86-1.86)
Clashscore	180529	3359 (1.86-1.86)
Ramachandran outliers	177936	3335 (1.86-1.86)
Sidechain outliers	177891	3335 (1.86-1.86)
RSRZ outliers	164620	3097 (1.86-1.86)

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

Mol	Chain	Length	Quality of chain
1	A	677	5% / 80% 17% ••

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
2	0UE	A	901	X	-	-	-

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 5945 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.

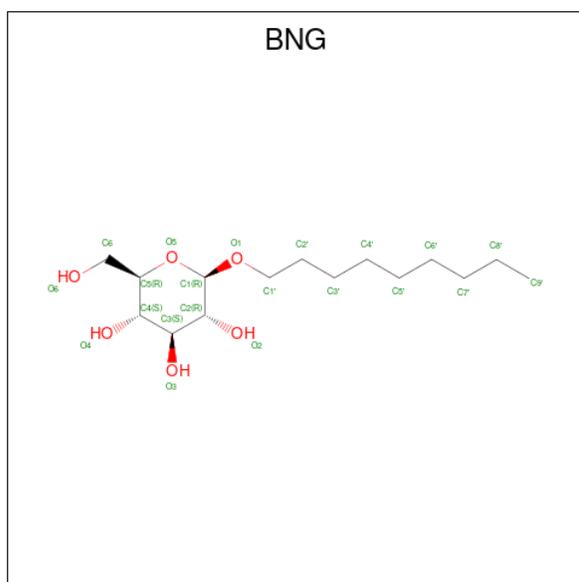- Molecule 1 is a protein called Metal-pseudopaline receptor CntO.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	677	5325	3345	910	1059	11	0	0	0

- Molecule 2 is Ferrioxamine B (CCD ID: 0UE) (formula: $C_{25}H_{45}FeN_6O_8$).
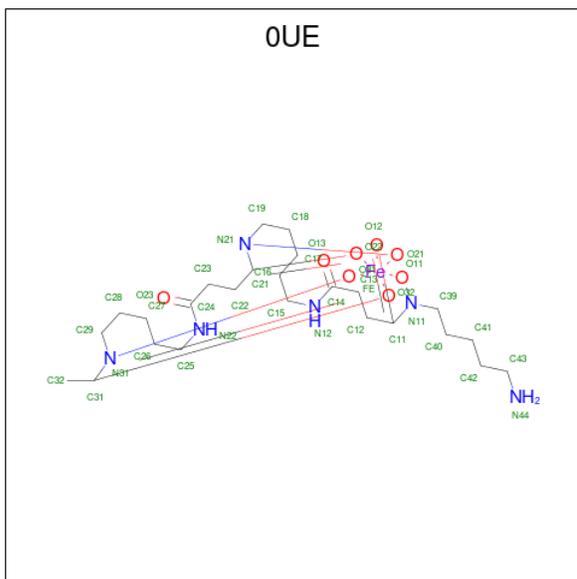
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	Fe	N	O		
2	A	1	40	25	1	6	8	0	0

- Molecule 3 is nonyl beta-D-glucopyranoside (CCD ID: BNG) (formula: $C_{15}H_{30}O_6$).

BNG

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 12	C 10	O 2	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 10	C 9	O 1	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0
3	A	1	Total 21	C 15	O 6	0	0

- Molecule 4 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).

GOL
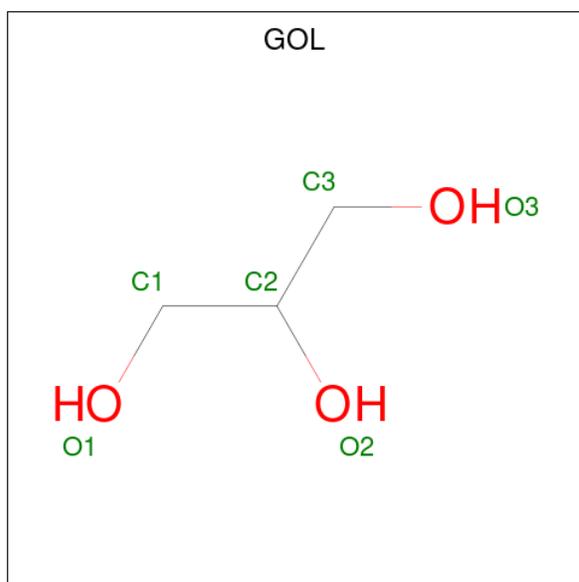
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0
4	A	1	Total 6	C 3	O 3	0	0

- Molecule 5 is SULFATE ION (CCD ID: SO4) (formula: O_4S).

SO4

O1

O3 O⁻ — S — O⁻ O4
        S

O2
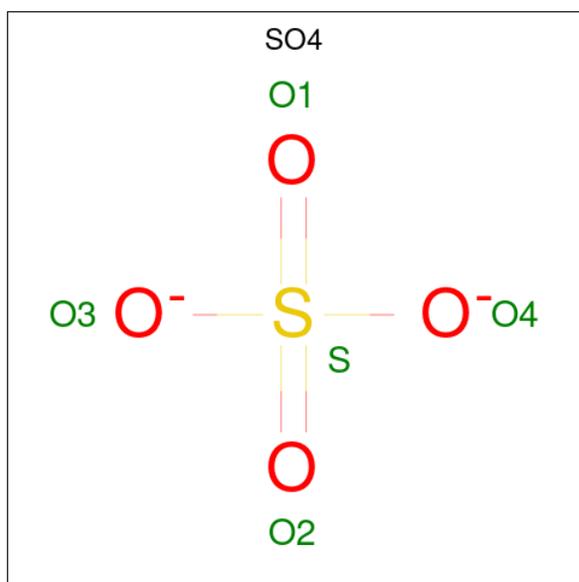
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 5	O 4	S 1	0	0
5	A	1	Total 5	O 4	S 1	0	0
5	A	1	Total 5	O 4	S 1	0	0
5	A	1	Total 5	O 4	S 1	0	0

- Molecule 6 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	2	Total 2	Na 2	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	257	Total 257	O 257	0	0

W O R L D W I D E
wwPDB
PROTEIN DATA BANK

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: Metal-pseudopaline receptor CntO

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α, β, γ	94.89Å 94.89Å 177.61Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	82.18 – 1.85 82.18 – 1.85	Depositor EDS
% Data completeness (in resolution range)	99.2 (82.18-1.85) 99.2 (82.18-1.85)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.87 (at 1.84Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.181 , 0.219 0.191 , 0.230	Depositor DCC
R_{free} test set	3949 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	29.6	Xtriage
Anisotropy	0.665	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 45.2	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.026 for -h,-k,l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	5945	wwPDB-VP
Average B, all atoms (Å^2)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.39% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NA, GOL, SO4, BNG, 0UE

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	1.72	59/5451 (1.1%)	1.33	31/7397 (0.4%)

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	3

All (59) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	333	THR	N-CA	12.19	1.61	1.46
1	A	354	SER	C-O	11.07	1.33	1.24
1	A	417	GLU	N-CA	8.11	1.55	1.46
1	A	462	ALA	N-CA	8.08	1.55	1.46
1	A	611	TYR	CA-C	-7.65	1.43	1.52
1	A	671	ARG	CZ-NH1	7.53	1.43	1.32
1	A	421	ASP	CB-CG	-7.50	1.33	1.52
1	A	421	ASP	CA-CB	7.49	1.67	1.53
1	A	748	THR	CB-CG2	-7.00	1.29	1.52
1	A	587	GLY	N-CA	6.80	1.52	1.45
1	A	145	PHE	C-O	-6.71	1.15	1.24
1	A	363	GLY	N-CA	6.64	1.52	1.45
1	A	498	ARG	CZ-NH2	6.58	1.42	1.33
1	A	673	GLN	N-CA	-6.57	1.37	1.45
1	A	497	ARG	CA-C	6.56	1.60	1.52
1	A	695	TYR	N-CA	-6.50	1.38	1.46
1	A	620	ALA	CA-C	6.41	1.60	1.53
1	A	798	CYS	C-O	-6.33	1.16	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	332	ASP	CA-C	-6.32	1.44	1.53
1	A	515	ASN	N-CA	6.28	1.54	1.46
1	A	498	ARG	C-O	6.10	1.30	1.24
1	A	524	SER	CA-C	-5.97	1.45	1.52
1	A	159	ALA	C-O	-5.88	1.17	1.23
1	A	421	ASP	N-CA	5.87	1.53	1.45
1	A	579	TRP	CA-C	5.86	1.59	1.52
1	A	219	VAL	C-O	-5.76	1.17	1.24
1	A	529	ASP	CA-C	5.75	1.59	1.53
1	A	666	SER	N-CA	5.72	1.53	1.46
1	A	653	ASN	CG-ND2	-5.70	1.21	1.33
1	A	587	GLY	CA-C	5.70	1.56	1.51
1	A	644	ALA	CA-C	-5.62	1.45	1.52
1	A	803	PHE	C-O	5.62	1.30	1.24
1	A	437	VAL	N-CA	5.58	1.52	1.46
1	A	591	LEU	C-O	-5.57	1.17	1.23
1	A	233	TYR	CA-C	5.53	1.59	1.52
1	A	644	ALA	N-CA	-5.52	1.39	1.46
1	A	573	SER	CA-C	5.52	1.60	1.53
1	A	498	ARG	CD-NE	-5.49	1.38	1.46
1	A	646	LEU	CB-CG	-5.48	1.42	1.53
1	A	244	GLY	C-O	-5.45	1.18	1.24
1	A	690	LEU	CA-C	-5.44	1.45	1.52
1	A	382	THR	CA-CB	5.43	1.62	1.53
1	A	171	PRO	CA-CB	5.38	1.60	1.53
1	A	383	LEU	C-O	-5.36	1.17	1.24
1	A	183	THR	CB-CG2	-5.30	1.35	1.52
1	A	782	VAL	C-O	-5.28	1.18	1.24
1	A	617	THR	CA-C	5.26	1.59	1.52
1	A	281	LEU	CA-C	-5.25	1.46	1.52
1	A	347	PRO	C-O	5.22	1.28	1.23
1	A	560	ASP	C-O	-5.22	1.17	1.24
1	A	446	GLY	N-CA	5.20	1.50	1.45
1	A	600	VAL	C-O	5.14	1.29	1.24
1	A	665	THR	CA-C	5.12	1.58	1.52
1	A	796	ALA	N-CA	5.11	1.52	1.46
1	A	618	PRO	C-O	-5.10	1.17	1.23
1	A	432	TYR	CA-CB	5.07	1.62	1.53
1	A	561	TRP	C-O	5.05	1.30	1.24
1	A	481	THR	CA-CB	5.04	1.60	1.52
1	A	429	ASN	CA-C	5.02	1.58	1.52

All (31) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	332	ASP	CA-C-N	-11.00	100.52	121.54
1	A	332	ASP	C-N-CA	-11.00	100.52	121.54
1	A	421	ASP	CB-CG-OD1	-10.66	93.87	118.40
1	A	332	ASP	N-CA-C	-9.19	97.27	110.59
1	A	421	ASP	CB-CG-OD2	7.71	136.13	118.40
1	A	199	MET	CG-SD-CE	-7.58	84.23	100.90
1	A	332	ASP	O-C-N	-7.30	114.14	122.68
1	A	419	ARG	NE-CZ-NH2	6.94	125.45	119.20
1	A	507	SER	CA-CB-OG	-6.89	97.31	111.10
1	A	748	THR	N-CA-CB	-6.74	99.11	111.37
1	A	515	ASN	CA-C-N	-6.63	113.47	120.03
1	A	515	ASN	C-N-CA	-6.63	113.47	120.03
1	A	183	THR	N-CA-CB	-6.35	100.30	110.46
1	A	419	ARG	CD-NE-CZ	6.27	133.17	124.40
1	A	420	ILE	CA-C-N	6.10	131.88	121.87
1	A	420	ILE	C-N-CA	6.10	131.88	121.87
1	A	421	ASP	CA-CB-CG	-6.01	106.59	112.60
1	A	183	THR	OG1-CB-CG2	5.89	121.09	109.30
1	A	466	LEU	CD1-CG-CD2	-5.89	97.84	110.80
1	A	671	ARG	NE-CZ-NH2	-5.86	113.93	119.20
1	A	577	ASP	CA-CB-CG	-5.78	106.82	112.60
1	A	410	ARG	NE-CZ-NH1	5.75	127.25	121.50
1	A	810	ARG	NE-CZ-NH2	-5.71	114.06	119.20
1	A	638	SER	N-CA-C	5.67	118.01	110.53
1	A	687	LEU	N-CA-C	5.66	118.00	107.99
1	A	333	THR	N-CA-C	-5.55	98.98	110.80
1	A	381	GLY	N-CA-C	5.35	125.85	113.18
1	A	292	ARG	NE-CZ-NH2	5.34	124.01	119.20
1	A	200	ARG	NE-CZ-NH1	-5.34	116.16	121.50
1	A	549	ASP	CB-CA-C	-5.20	110.60	116.63
1	A	802	ASP	N-CA-C	5.10	119.21	112.89

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	144	VAL	Peptide
1	A	145	PHE	Mainchain
1	A	637	GLY	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	5325	0	5038	58	0
2	A	40	0	41	10	0
3	A	253	0	368	7	0
4	A	48	0	64	2	0
5	A	20	0	0	0	0
6	A	2	0	0	0	0
7	A	257	0	0	6	0
All	All	5945	0	5511	67	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 6.

All (67) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:901:0UE:N31	2:A:901:0UE:C31	1.70	1.51
2:A:901:0UE:C21	2:A:901:0UE:N21	1.81	1.44
2:A:901:0UE:N11	2:A:901:0UE:C11	1.85	1.39
1:A:757:ARG:HH22	3:A:913:BNG:H2	1.39	0.86
2:A:901:0UE:C21	2:A:901:0UE:C19	2.52	0.85
1:A:301:MET:HE3	1:A:809:LYS:HG2	1.66	0.77
1:A:301:MET:HE2	1:A:334:GLN:N	2.02	0.75
1:A:183:THR:HG22	1:A:186:GLN:H	1.52	0.74
1:A:301:MET:CE	1:A:334:GLN:HB3	2.19	0.72
2:A:901:0UE:C21	2:A:901:0UE:O21	2.37	0.71
1:A:157:TYR:H	1:A:682:GLN:HE22	1.37	0.71
2:A:901:0UE:C11	2:A:901:0UE:C39	2.61	0.69
1:A:421:ASP:HB3	1:A:423:VAL:H	1.58	0.67
1:A:197:GLN:O	1:A:200:ARG:NE	2.29	0.65
1:A:736:LEU:HD11	1:A:768:ILE:HD11	1.79	0.65
1:A:218:TYR:HE1	2:A:901:0UE:H8	1.62	0.64
1:A:301:MET:HE2	1:A:334:GLN:CA	2.28	0.63
3:A:911:BNG:HO6	3:A:911:BNG:HO3	1.46	0.63
1:A:485:ARG:NH2	7:A:1003:HOH:O	2.31	0.62
1:A:534:ARG:NH1	3:A:906:BNG:O2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:301:MET:HE2	1:A:334:GLN:HB3	1.83	0.59
1:A:156:GLY:O	1:A:183:THR:HG21	2.04	0.58
1:A:301:MET:HE3	1:A:809:LYS:CG	2.34	0.57
1:A:757:ARG:NH2	3:A:913:BNG:H2	2.14	0.56
1:A:183:THR:HB	7:A:1073:HOH:O	2.05	0.55
1:A:443:TYR:CE2	2:A:901:0UE:H29	2.42	0.55
1:A:734:SER:HB3	1:A:774:LYS:HE2	1.90	0.54
1:A:576:ASP:C	1:A:577:ASP:OD1	2.52	0.52
1:A:218:TYR:OH	1:A:374:HIS:HE1	1.93	0.52
1:A:736:LEU:CD1	1:A:768:ILE:HD11	2.39	0.50
1:A:421:ASP:HB2	1:A:424:TRP:H	1.77	0.49
1:A:419:ARG:NH2	7:A:1010:HOH:O	2.46	0.49
1:A:646:LEU:HD13	1:A:675:LEU:HD13	1.94	0.49
1:A:576:ASP:C	1:A:577:ASP:CG	2.77	0.49
1:A:615:SER:HB2	1:A:617:THR:HG22	1.95	0.49
1:A:772:LEU:HB3	1:A:777:LEU:HD11	1.95	0.49
1:A:301:MET:HE2	1:A:334:GLN:CB	2.43	0.48
1:A:426:ALA:HB1	3:A:904:BNG:H1	1.94	0.48
1:A:419:ARG:HH21	1:A:419:ARG:HG3	1.79	0.47
1:A:498:ARG:HD2	3:A:906:BNG:H1	1.97	0.47
1:A:648:HIS:HD2	7:A:1232:HOH:O	1.98	0.47
1:A:532:THR:OG1	4:A:920:GOL:H31	2.14	0.47
1:A:794:TYR:CZ	1:A:807:GLY:HA3	2.50	0.47
1:A:192:SER:OG	1:A:200:ARG:NH1	2.47	0.46
1:A:748:THR:CG2	7:A:1180:HOH:O	2.63	0.46
1:A:463:ARG:HD2	7:A:1096:HOH:O	2.16	0.46
1:A:512:ASP:OD1	1:A:514:PHE:O	2.34	0.46
1:A:233:TYR:CZ	1:A:238:LYS:HD3	2.51	0.46
2:A:901:0UE:C31	2:A:901:0UE:C29	2.82	0.46
1:A:305:GLU:OE1	1:A:327:LEU:HD13	2.15	0.46
1:A:218:TYR:OH	1:A:374:HIS:CE1	2.70	0.45
2:A:901:0UE:N21	2:A:901:0UE:C22	2.64	0.44
1:A:536:GLU:CD	4:A:919:GOL:O2	2.61	0.44
1:A:183:THR:HG23	1:A:185:GLU:H	1.83	0.43
1:A:190:THR:CB	1:A:200:ARG:HH12	2.31	0.43
1:A:578:ASP:HB3	3:A:905:BNG:H3	2.00	0.43
1:A:713:ASN:ND2	1:A:799:TYR:O	2.52	0.43
1:A:288:TYR:O	1:A:318:LYS:HE3	2.18	0.43
1:A:267:SER:HB2	1:A:605:SER:HA	2.01	0.43
1:A:511:LEU:HD11	1:A:516:PRO:HB2	2.01	0.43
1:A:210:VAL:HG12	1:A:210:VAL:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:319:ARG:HH12	1:A:354:SER:HA	1.83	0.42
1:A:748:THR:HG22	1:A:758:VAL:HB	2.01	0.42
1:A:157:TYR:CB	1:A:690:LEU:HD21	2.49	0.42
1:A:301:MET:CE	1:A:809:LYS:HG2	2.45	0.41
1:A:319:ARG:HH22	1:A:354:SER:C	2.29	0.41
1:A:768:ILE:HG23	1:A:784:LEU:HB3	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	675/677 (100%)	652 (97%)	22 (3%)	1 (0%)	48	36

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	145	PHE

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	566/566 (100%)	541 (96%)	25 (4%)	24	10

All (25) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	144	VAL
1	A	183	THR
1	A	193	LYS
1	A	269	LEU
1	A	304	LYS
1	A	327	LEU
1	A	354	SER
1	A	393	ARG
1	A	419	ARG
1	A	463	ARG
1	A	499	THR
1	A	577	ASP
1	A	612	SER
1	A	615	SER
1	A	617	THR
1	A	625	LYS
1	A	646	LEU
1	A	683	LEU
1	A	685	ASP
1	A	689	LEU
1	A	690	LEU
1	A	748	THR
1	A	768	ILE
1	A	777	LEU
1	A	819	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	293	GLN
1	A	374	HIS
1	A	543	GLN
1	A	651	GLN
1	A	653	ASN
1	A	673	GLN
1	A	682	GLN

5.3.3 RNA (i)

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 28 ligands modelled in this entry, 2 are monoatomic - leaving 26 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	#$|Z| > 2$
5	SO4	A	923	-	4,4,4	0.59	0	6,6,6	0.48	0
5	SO4	A	924	-	4,4,4	1.31	1 (25%)	6,6,6	0.68	0
5	SO4	A	926	-	4,4,4	0.43	0	6,6,6	0.38	0
4	GOL	A	916	-	5,5,5	0.64	0	5,5,5	1.51	0
3	BNG	A	906	-	21,21,21	0.76	1 (4%)	26,26,26	1.51	4 (15%)
4	GOL	A	922	-	5,5,5	0.73	0	5,5,5	0.85	0
2	0UE	A	901	-	44,44,44	10.11	26 (59%)	44,66,66	8.69	27 (61%)
3	BNG	A	909	-	21,21,21	0.86	1 (4%)	26,26,26	1.30	3 (11%)
4	GOL	A	920	-	5,5,5	1.05	0	5,5,5	0.88	0
3	BNG	A	902	-	11,11,21	0.57	0	9,10,26	0.21	0
3	BNG	A	912	-	21,21,21	0.86	1 (4%)	26,26,26	1.36	4 (15%)
3	BNG	A	907	-	21,21,21	0.71	1 (4%)	26,26,26	1.48	4 (15%)
3	BNG	A	908	-	21,21,21	0.62	0	26,26,26	0.99	2 (7%)
3	BNG	A	913	-	21,21,21	1.45	3 (14%)	26,26,26	3.24	7 (26%)
3	BNG	A	905	-	21,21,21	0.98	1 (4%)	26,26,26	1.81	6 (23%)
3	BNG	A	904	-	21,21,21	0.67	0	26,26,26	1.11	1 (3%)
4	GOL	A	918	-	5,5,5	0.36	0	5,5,5	0.74	0
4	GOL	A	921	-	5,5,5	0.85	0	5,5,5	1.62	2 (40%)
4	GOL	A	915	-	5,5,5	0.39	0	5,5,5	0.81	0
3	BNG	A	910	-	9,9,21	0.28	0	8,8,26	0.73	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
3	BNG	A	911	-	21,21,21	1.12	1 (4%)	26,26,26	1.44	3 (11%)
4	GOL	A	919	-	5,5,5	0.27	0	5,5,5	0.55	0
3	BNG	A	914	-	21,21,21	0.54	0	26,26,26	1.20	3 (11%)
4	GOL	A	917	-	5,5,5	0.24	0	5,5,5	0.65	0
5	SO4	A	925	-	4,4,4	0.59	0	6,6,6	0.34	0
3	BNG	A	903	-	21,21,21	0.98	1 (4%)	26,26,26	1.62	3 (11%)

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
4	GOL	A	916	-	-	3/4/4/4	-
3	BNG	A	906	-	-	11/12/32/32	0/1/1/1
4	GOL	A	922	-	-	0/4/4/4	-
2	0UE	A	901	-	1/1/9/11	12/34/88/88	0/3/5/5
3	BNG	A	909	-	-	6/12/32/32	0/1/1/1
4	GOL	A	920	-	-	4/4/4/4	-
3	BNG	A	902	-	-	3/8/9/32	-
3	BNG	A	912	-	-	9/12/32/32	0/1/1/1
3	BNG	A	907	-	-	3/12/32/32	0/1/1/1
3	BNG	A	908	-	-	9/12/32/32	0/1/1/1
3	BNG	A	913	-	-	4/12/32/32	0/1/1/1
3	BNG	A	905	-	-	7/12/32/32	0/1/1/1
3	BNG	A	904	-	-	8/12/32/32	0/1/1/1
4	GOL	A	918	-	-	2/4/4/4	-
4	GOL	A	921	-	-	0/4/4/4	-
4	GOL	A	915	-	-	0/4/4/4	-
3	BNG	A	910	-	-	3/7/7/32	-
3	BNG	A	911	-	-	2/12/32/32	0/1/1/1
4	GOL	A	919	-	-	0/4/4/4	-
3	BNG	A	914	-	-	5/12/32/32	0/1/1/1
4	GOL	A	917	-	-	2/4/4/4	-
3	BNG	A	903	-	-	5/12/32/32	0/1/1/1

All (37) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	901	0UE	C11-N11	34.07	1.85	1.31
2	A	901	0UE	C21-N21	31.59	1.81	1.31
2	A	901	0UE	C39-N11	-25.61	1.02	1.47
2	A	901	0UE	C19-N21	-23.93	1.05	1.47
2	A	901	0UE	O22-C21	14.53	1.52	1.28
2	A	901	0UE	C31-N31	13.01	1.70	1.31
2	A	901	0UE	O32-C31	11.95	1.52	1.28
2	A	901	0UE	O31-N31	9.19	1.53	1.38
2	A	901	0UE	O11-N11	8.16	1.52	1.38
2	A	901	0UE	O12-C11	8.13	1.41	1.28
2	A	901	0UE	C12-C11	-7.74	1.29	1.51
2	A	901	0UE	C22-C21	-7.08	1.31	1.51
2	A	901	0UE	C24-N22	5.58	1.46	1.33
2	A	901	0UE	O21-FE	-5.54	1.86	1.99
2	A	901	0UE	O21-N21	5.44	1.47	1.38
2	A	901	0UE	O12-FE	-5.13	1.90	2.04
2	A	901	0UE	C23-C24	4.13	1.59	1.51
3	A	911	BNG	O1-C1	3.99	1.47	1.40
2	A	901	0UE	O22-FE	-3.96	1.93	2.04
2	A	901	0UE	C18-C19	3.85	1.67	1.51
3	A	913	BNG	O1-C1	3.79	1.46	1.40
3	A	913	BNG	C4-C3	-3.68	1.42	1.52
3	A	903	BNG	O1-C1	3.49	1.46	1.40
2	A	901	0UE	C15-N12	3.48	1.54	1.46
2	A	901	0UE	O32-FE	-3.27	1.95	2.04
2	A	901	0UE	C14-N12	3.25	1.40	1.33
3	A	905	BNG	O1-C1	3.17	1.45	1.40
3	A	912	BNG	O1-C1	3.04	1.45	1.40
2	A	901	0UE	O11-FE	-2.64	1.93	1.99
2	A	901	0UE	C17-C16	2.60	1.66	1.51
3	A	909	BNG	O1-C1	2.49	1.44	1.40
2	A	901	0UE	O23-C24	2.43	1.28	1.23
2	A	901	0UE	C17-C18	2.37	1.64	1.51
3	A	907	BNG	O1-C1	2.30	1.44	1.40
5	A	924	SO4	O2-S	2.16	1.57	1.46
3	A	913	BNG	C3-C2	-2.15	1.46	1.52
3	A	906	BNG	O1-C1	2.02	1.43	1.40

All (69) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	901	0UE	O21-N21-C21	-37.33	92.03	116.42
2	A	901	0UE	O11-N11-C11	-21.34	102.48	116.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	901	0UE	O22-C21-N21	-19.23	103.71	118.38
2	A	901	0UE	O22-C21-C22	16.72	137.74	120.13
2	A	901	0UE	O12-C11-N11	-13.95	107.73	118.38
3	A	913	BNG	O3-C3-C4	-9.40	88.63	110.35
3	A	913	BNG	O4-C4-C3	-8.77	90.06	110.35
2	A	901	0UE	O21-N21-C19	8.51	128.35	114.13
2	A	901	0UE	O11-N11-C39	7.79	127.15	114.13
2	A	901	0UE	C12-C11-N11	7.26	130.15	121.07
2	A	901	0UE	C13-C12-C11	6.45	118.51	112.27
3	A	913	BNG	O1-C1-C2	6.16	117.93	108.30
2	A	901	0UE	O32-C31-N31	-6.06	108.34	118.42
2	A	901	0UE	C19-N21-C21	-6.05	121.73	128.89
2	A	901	0UE	O31-N31-C29	5.64	123.56	114.13
2	A	901	0UE	C18-C19-N21	5.61	122.43	110.88
2	A	901	0UE	O32-C31-C32	5.60	130.29	119.49
2	A	901	0UE	C15-N12-C14	-5.55	112.53	122.84
2	A	901	0UE	C12-C13-C14	5.49	122.18	112.56
3	A	913	BNG	C1'-O1-C1	-5.40	104.88	113.84
2	A	901	0UE	C28-C29-N31	-5.09	100.39	110.88
3	A	903	BNG	O1-C1-C2	5.05	116.18	108.30
2	A	901	0UE	C22-C21-N21	-4.85	115.00	121.07
2	A	901	0UE	C23-C22-C21	-4.76	107.67	112.27
2	A	901	0UE	C22-C23-C24	-4.62	104.46	112.56
3	A	911	BNG	O1-C1-C2	4.57	115.44	108.30
3	A	906	BNG	O1-C1-C2	4.48	115.30	108.30
3	A	905	BNG	C1'-O1-C1	4.41	121.15	113.84
3	A	903	BNG	C1'-O1-C1	4.24	120.87	113.84
3	A	905	BNG	O1-C1-C2	4.02	114.58	108.30
3	A	907	BNG	C3-C4-C5	3.85	117.10	110.24
2	A	901	0UE	O31-N31-C31	-3.80	110.56	116.68
3	A	912	BNG	C3-C4-C5	3.59	116.65	110.24
3	A	905	BNG	O5-C5-C6	3.58	115.33	106.44
3	A	905	BNG	C1-C2-C3	3.52	117.32	110.00
3	A	904	BNG	C1-O5-C5	3.43	120.43	113.69
3	A	913	BNG	O3-C3-C2	3.40	118.22	110.35
2	A	901	0UE	C26-C25-N22	-3.40	102.50	112.21
2	A	901	0UE	C28-C27-C26	-3.38	97.27	114.42
3	A	906	BNG	C1'-O1-C1	3.36	119.42	113.84
3	A	907	BNG	O5-C5-C4	3.22	115.54	109.69
3	A	909	BNG	O1-C1-C2	3.12	113.17	108.30
3	A	908	BNG	O1-C1-C2	2.98	112.95	108.30
3	A	912	BNG	C1-O5-C5	2.97	119.52	113.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	907	BNG	C6-C5-C4	-2.84	106.34	113.00
3	A	914	BNG	O3-C3-C2	2.83	116.90	110.35
3	A	912	BNG	C4-C3-C2	2.82	115.75	110.82
3	A	905	BNG	O5-C5-C4	-2.72	104.76	109.69
2	A	901	0UE	C25-N22-C24	-2.69	117.85	122.84
3	A	906	BNG	O2-C2-C3	-2.68	104.15	110.35
2	A	901	0UE	C13-C14-N12	2.62	120.82	116.42
3	A	903	BNG	O5-C5-C6	2.57	112.82	106.44
3	A	911	BNG	O5-C1-C2	-2.54	104.97	110.35
2	A	901	0UE	C27-C28-C29	2.50	124.71	113.21
4	A	921	GOL	O2-C2-C3	-2.48	98.20	109.12
3	A	914	BNG	C4-C3-C2	-2.39	106.65	110.82
3	A	913	BNG	C4-C3-C2	-2.36	106.70	110.82
3	A	909	BNG	C1-O5-C5	2.32	118.23	113.69
3	A	914	BNG	O5-C5-C6	2.29	112.12	106.44
3	A	913	BNG	O6-C6-C5	-2.23	103.64	111.29
4	A	921	GOL	O1-C1-C2	2.23	120.89	110.20
3	A	912	BNG	O5-C5-C4	2.21	113.72	109.69
3	A	905	BNG	C4-C3-C2	2.16	114.60	110.82
3	A	906	BNG	C3-C4-C5	2.14	114.06	110.24
3	A	911	BNG	O1-C1'-C2'	2.10	116.94	109.56
3	A	907	BNG	O5-C5-C6	2.09	111.62	106.44
3	A	908	BNG	C4-C3-C2	-2.06	107.23	110.82
3	A	909	BNG	O5-C5-C4	2.06	113.43	109.69
2	A	901	0UE	O13-C14-N12	-2.04	119.17	123.01

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	A	901	0UE	N31

All (98) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	901	0UE	O12-C11-C12-C13
2	A	901	0UE	N11-C11-C12-C13
2	A	901	0UE	C17-C18-C19-N21
2	A	901	0UE	C18-C19-N21-C21
2	A	901	0UE	N11-C39-C40-C41
3	A	904	BNG	O5-C1-O1-C1'
3	A	905	BNG	C2-C1-O1-C1'
3	A	906	BNG	O5-C1-O1-C1'

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Mol	Chain	Res	Type	Atoms
4	A	917	GOL	O1-C1-C2-O2
4	A	917	GOL	O1-C1-C2-C3
4	A	918	GOL	C1-C2-C3-O3
4	A	920	GOL	O1-C1-C2-C3
4	A	920	GOL	C1-C2-C3-O3
4	A	920	GOL	O2-C2-C3-O3
3	A	906	BNG	O5-C5-C6-O6
3	A	904	BNG	O5-C5-C6-O6
3	A	908	BNG	O5-C5-C6-O6
3	A	905	BNG	O5-C5-C6-O6
3	A	909	BNG	O5-C1-O1-C1'
2	A	901	0UE	N12-C15-C16-C17
3	A	905	BNG	C4-C5-C6-O6
3	A	904	BNG	C4-C5-C6-O6
3	A	903	BNG	C2-C1-O1-C1'
3	A	908	BNG	C4-C5-C6-O6
2	A	901	0UE	C11-C12-C13-C14
3	A	909	BNG	O5-C5-C6-O6
2	A	901	0UE	N22-C25-C26-C27
3	A	906	BNG	C3'-C4'-C5'-C6'
3	A	907	BNG	O1-C1'-C2'-C3'
3	A	906	BNG	C4-C5-C6-O6
2	A	901	0UE	C12-C13-C14-N12
2	A	901	0UE	C12-C13-C14-O13
3	A	912	BNG	C2-C1-O1-C1'
3	A	909	BNG	O1-C1'-C2'-C3'
3	A	913	BNG	C3'-C4'-C5'-C6'
3	A	912	BNG	C4'-C5'-C6'-C7'
3	A	914	BNG	C4'-C5'-C6'-C7'
3	A	907	BNG	C3'-C4'-C5'-C6'
3	A	905	BNG	O5-C1-O1-C1'
3	A	903	BNG	C4'-C5'-C6'-C7'
3	A	909	BNG	C5'-C6'-C7'-C8'
3	A	913	BNG	C2'-C3'-C4'-C5'
3	A	912	BNG	O1-C1'-C2'-C3'
4	A	918	GOL	O2-C2-C3-O3
4	A	920	GOL	O1-C1-C2-O2
2	A	901	0UE	C26-C27-C28-C29
3	A	908	BNG	C2'-C3'-C4'-C5'
3	A	905	BNG	C3'-C4'-C5'-C6'
3	A	905	BNG	O1-C1'-C2'-C3'
3	A	904	BNG	C1'-C2'-C3'-C4'

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Mol	Chain	Res	Type	Atoms
3	A	908	BNG	O1-C1'-C2'-C3'
3	A	910	BNG	C1'-C2'-C3'-C4'
3	A	903	BNG	O1-C1'-C2'-C3'
3	A	912	BNG	O5-C1-O1-C1'
3	A	906	BNG	C1'-C2'-C3'-C4'
3	A	902	BNG	C5'-C6'-C7'-C8'
3	A	908	BNG	C1'-C2'-C3'-C4'
3	A	909	BNG	C3'-C4'-C5'-C6'
3	A	914	BNG	C2'-C3'-C4'-C5'
3	A	906	BNG	C5'-C6'-C7'-C8'
3	A	912	BNG	O5-C5-C6-O6
2	A	901	0UE	C16-C17-C18-C19
3	A	902	BNG	C2'-C3'-C4'-C5'
3	A	908	BNG	C3'-C4'-C5'-C6'
3	A	906	BNG	C2-C1-O1-C1'
3	A	910	BNG	C6'-C7'-C8'-C9'
3	A	908	BNG	C4'-C5'-C6'-C7'
3	A	904	BNG	C2'-C1'-O1-C1
3	A	907	BNG	C2'-C1'-O1-C1
3	A	912	BNG	C2'-C1'-O1-C1
3	A	910	BNG	C2'-C3'-C4'-C5'
3	A	911	BNG	C3'-C4'-C5'-C6'
3	A	913	BNG	O1-C1'-C2'-C3'
3	A	906	BNG	C6'-C7'-C8'-C9'
3	A	905	BNG	C2'-C3'-C4'-C5'
3	A	904	BNG	C6'-C7'-C8'-C9'
3	A	911	BNG	C5'-C6'-C7'-C8'
4	A	916	GOL	O1-C1-C2-O2
3	A	903	BNG	O5-C1-O1-C1'
3	A	909	BNG	C4-C5-C6-O6
3	A	904	BNG	C4'-C5'-C6'-C7'
4	A	916	GOL	C1-C2-C3-O3
3	A	914	BNG	C3'-C4'-C5'-C6'
3	A	902	BNG	C2'-C1'-O1-C1
3	A	904	BNG	C5'-C6'-C7'-C8'
3	A	914	BNG	O1-C1'-C2'-C3'
3	A	906	BNG	C2'-C3'-C4'-C5'
3	A	903	BNG	C2'-C3'-C4'-C5'
4	A	916	GOL	O1-C1-C2-C3
3	A	912	BNG	C6'-C7'-C8'-C9'
3	A	908	BNG	C6'-C7'-C8'-C9'
3	A	906	BNG	C4'-C5'-C6'-C7'

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Mol	Chain	Res	Type	Atoms
3	A	912	BNG	C3'-C4'-C5'-C6'
3	A	914	BNG	C5'-C6'-C7'-C8'
3	A	913	BNG	C6'-C7'-C8'-C9'
3	A	906	BNG	C2'-C1'-O1-C1
3	A	908	BNG	O5-C1-O1-C1'
3	A	912	BNG	C5'-C6'-C7'-C8'

There are no ring outliers.

8 monomers are involved in 19 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	906	BNG	2	0
2	A	901	0UE	10	0
4	A	920	GOL	1	0
3	A	913	BNG	2	0
3	A	905	BNG	1	0
3	A	904	BNG	1	0
3	A	911	BNG	1	0
4	A	919	GOL	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand BNG A 906

Bond lengths

Bond angles

Torsions

Rings

Ligand 0UE A 901

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 909

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 902

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 912

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 907

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 908

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 913

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 905

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 904

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 910

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 911

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 914

Bond lengths

Bond angles

Torsions

Rings

Ligand BNG A 903

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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(Å²)	Q<0.9
1	A	677/677 (100%)	0.17	31 (4%)	38	40	29, 45, 78, 112	0

All (31) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	683	LEU	6.0
1	A	144	VAL	5.9
1	A	614	ALA	4.8
1	A	777	LEU	3.7
1	A	663	PHE	3.5
1	A	610	ALA	3.2
1	A	611	TYR	3.2
1	A	820	PHE	2.9
1	A	732	PRO	2.9
1	A	298	ILE	2.8
1	A	449	ALA	2.7
1	A	617	THR	2.7
1	A	576	ASP	2.7
1	A	463	ARG	2.5
1	A	690	LEU	2.5
1	A	306	MET	2.5
1	A	582	PHE	2.5
1	A	733	LEU	2.4
1	A	200	ARG	2.4
1	A	637	GLY	2.3
1	A	577	ASP	2.3
1	A	579	TRP	2.2
1	A	730	ALA	2.2
1	A	557	LEU	2.2
1	A	687	LEU	2.2
1	A	452	PRO	2.2
1	A	636	PRO	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	659	PRO	2.2
1	A	412	PHE	2.1
1	A	772	LEU	2.1
1	A	776	GLY	2.1

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

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

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
5	SO4	A	925	5/5	0.51	0.18	104,105,118,118	0
5	SO4	A	926	5/5	0.59	0.11	99,113,117,120	0
5	SO4	A	923	5/5	0.72	0.13	77,95,110,113	0
3	BNG	A	905	21/21	0.74	0.24	61,102,119,131	0
3	BNG	A	913	21/21	0.76	0.23	51,77,88,99	0
4	GOL	A	916	6/6	0.77	0.20	54,64,73,99	0
4	GOL	A	917	6/6	0.78	0.16	77,87,98,102	0
3	BNG	A	904	21/21	0.79	0.25	53,76,98,104	0
3	BNG	A	906	21/21	0.79	0.21	61,78,121,127	0
4	GOL	A	922	6/6	0.80	0.17	72,84,86,89	0
3	BNG	A	908	21/21	0.80	0.24	61,87,98,102	0
3	BNG	A	911	21/21	0.82	0.23	55,77,96,103	0
3	BNG	A	909	21/21	0.83	0.20	64,89,115,118	0
3	BNG	A	912	21/21	0.83	0.18	67,107,133,135	0
3	BNG	A	910	10/21	0.83	0.26	72,78,90,93	0
3	BNG	A	903	21/21	0.84	0.17	64,80,100,111	0
3	BNG	A	902	12/21	0.84	0.27	70,81,105,106	0
3	BNG	A	914	21/21	0.84	0.15	65,83,99,102	0
3	BNG	A	907	21/21	0.85	0.15	60,109,127,129	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	GOL	A	919	6/6	0.85	0.14	45,79,89,92	0
4	GOL	A	920	6/6	0.87	0.15	57,61,66,70	0
6	NA	A	928	1/1	0.89	0.40	76,76,76,76	0
4	GOL	A	921	6/6	0.91	0.14	47,56,66,68	0
5	SO4	A	924	5/5	0.93	0.09	42,46,56,59	0
4	GOL	A	918	6/6	0.94	0.09	43,49,51,54	0
2	0UE	A	901	40/40	0.94	0.14	37,47,66,68	0
6	NA	A	927	1/1	0.95	0.08	42,42,42,42	0
4	GOL	A	915	6/6	0.97	0.06	31,34,36,38	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 BNG A 905:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
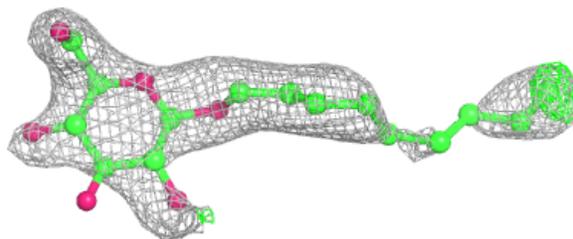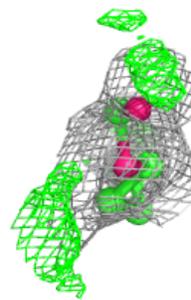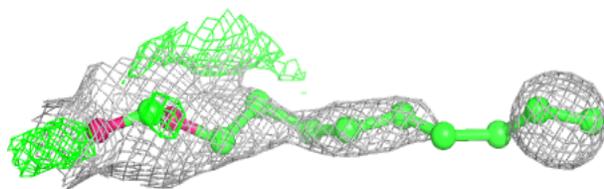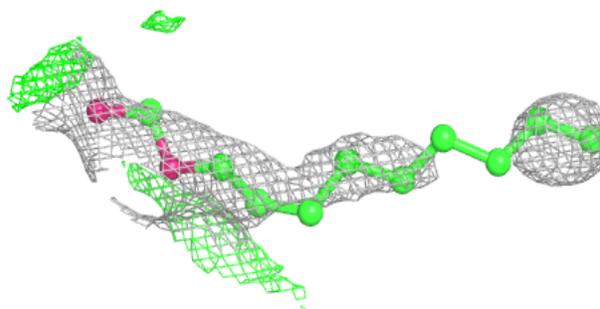$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative) and green (positive)
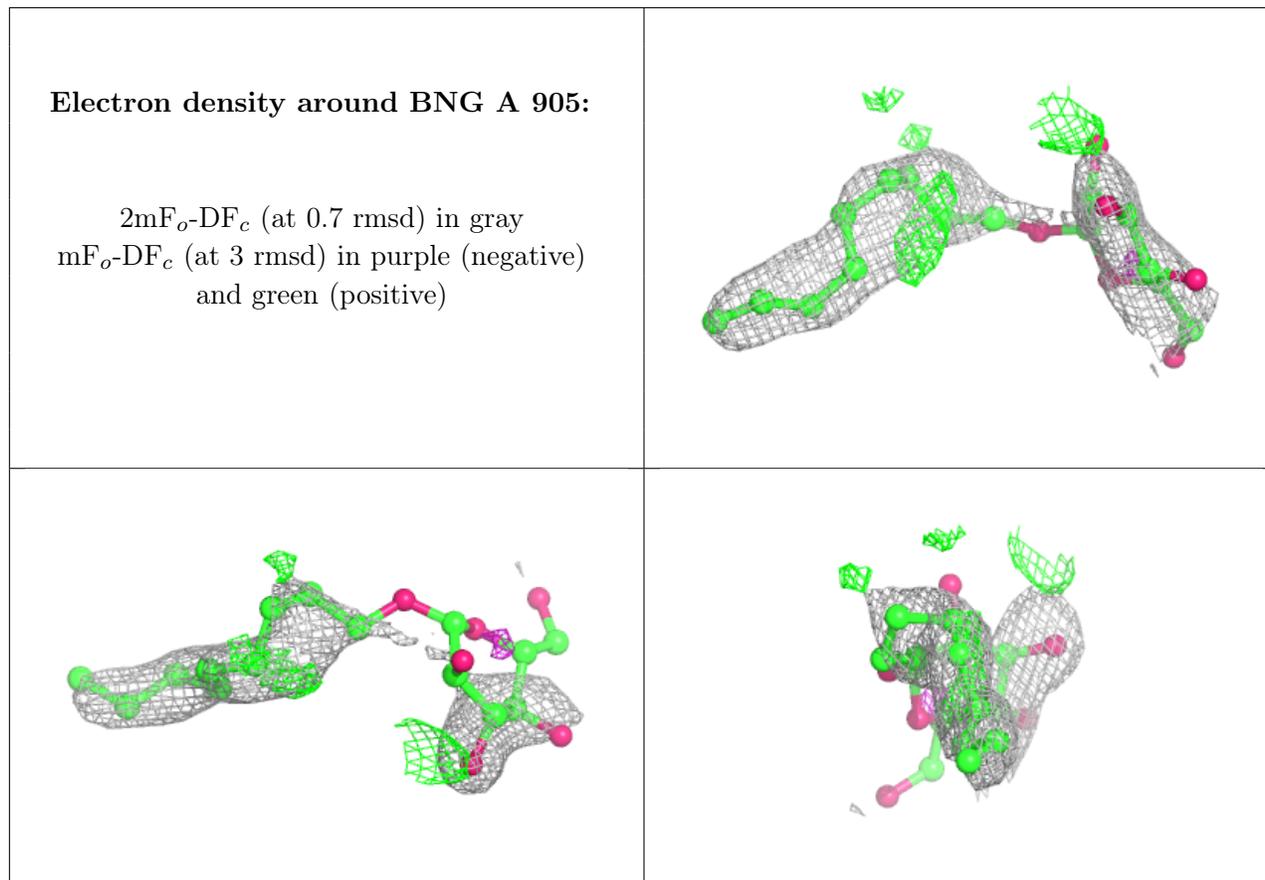
Electron density around BNG A 913:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
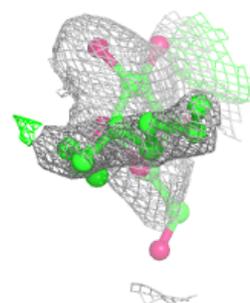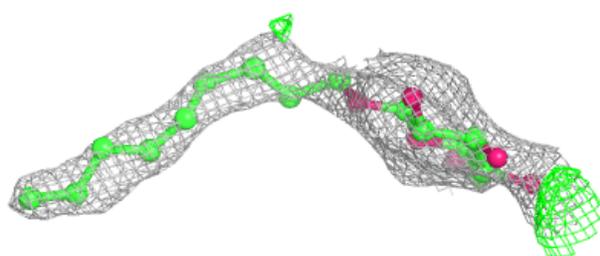and green (positive)
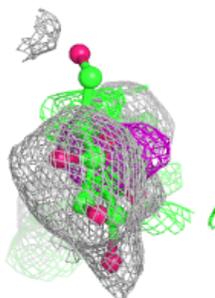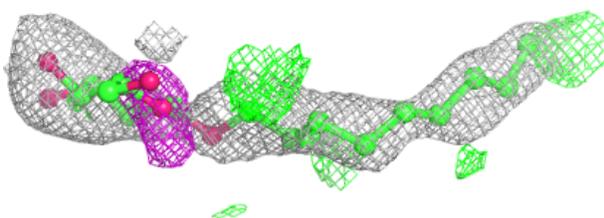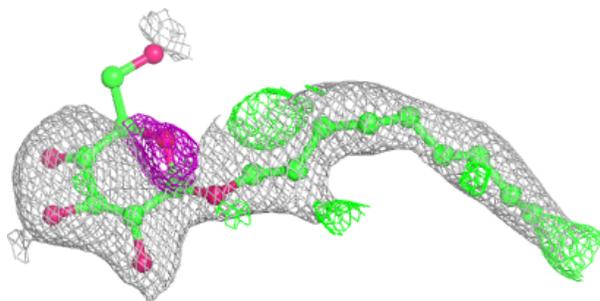
Electron density around BNG A 904:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
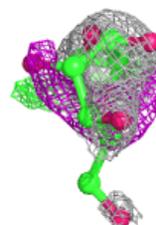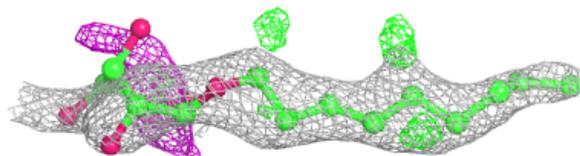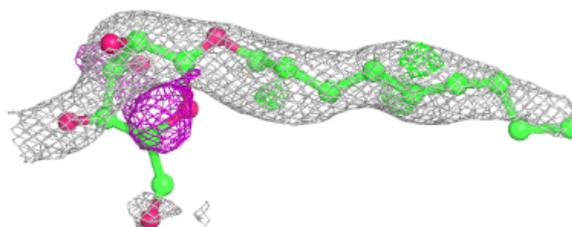
Electron density around BNG A 906:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
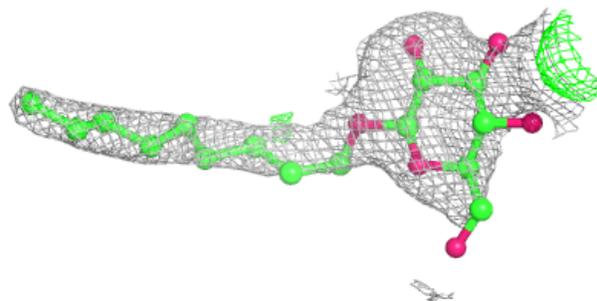and green (positive)
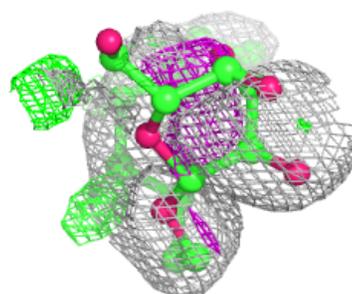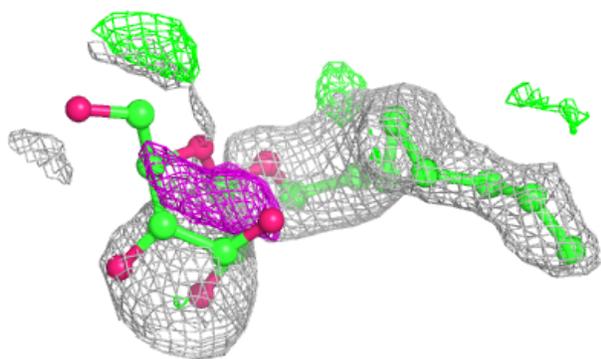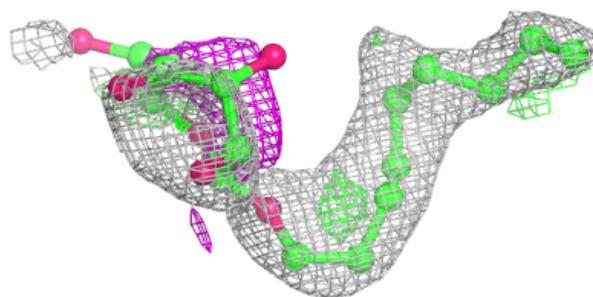
Electron density around BNG A 908:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
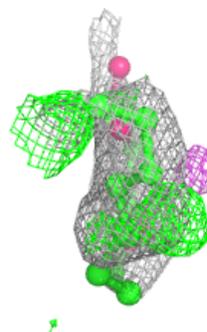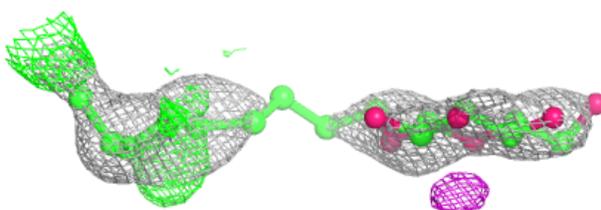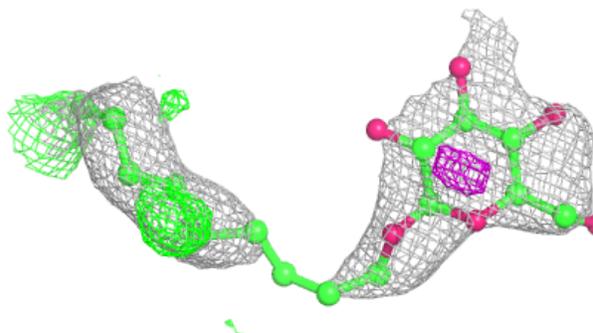
Electron density around BNG A 911:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
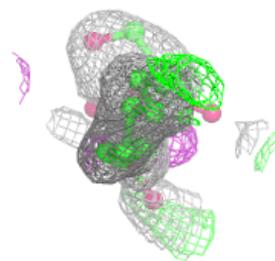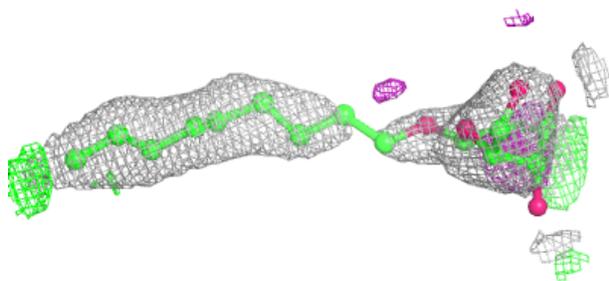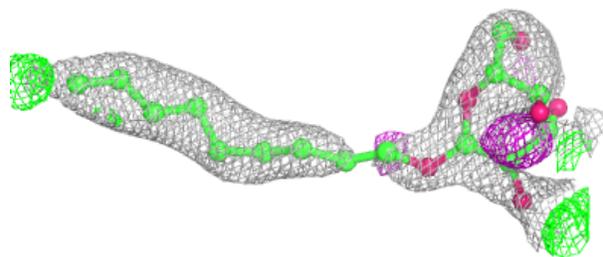
Electron density around BNG A 909:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
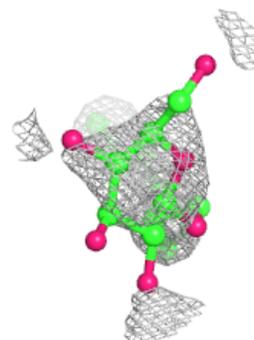and green (positive)
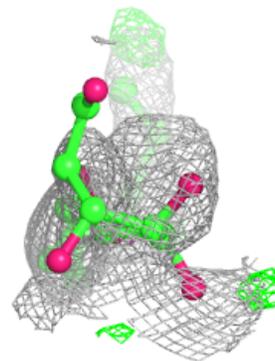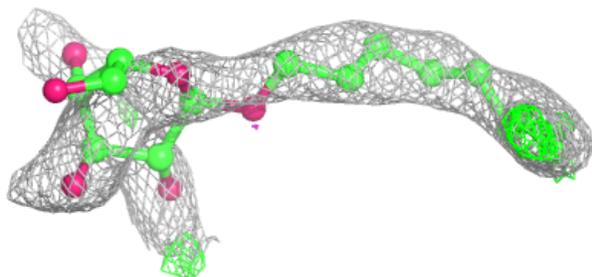
Electron density around BNG A 912:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
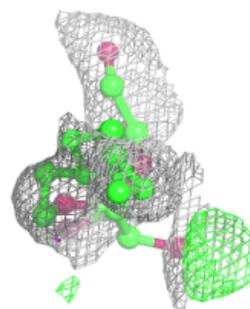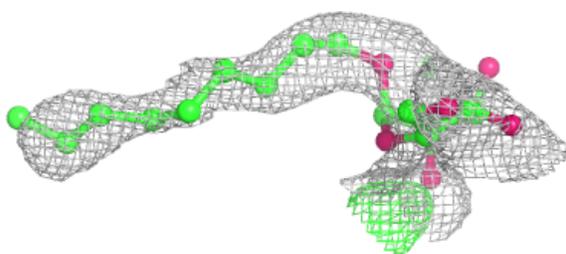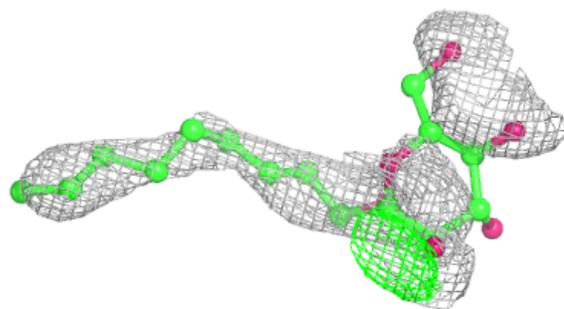
Electron density around BNG A 910:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
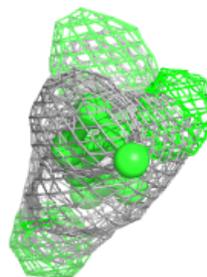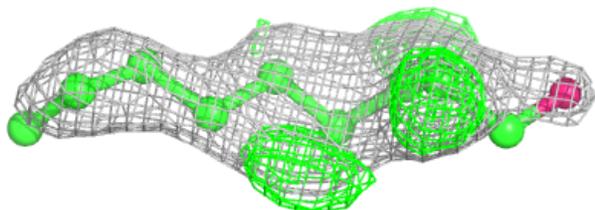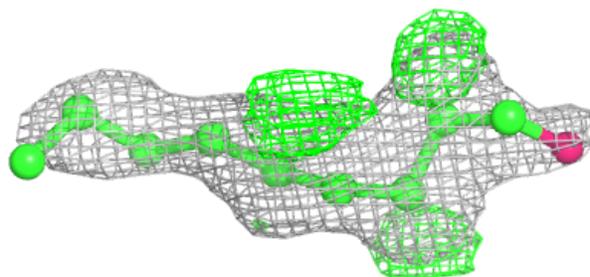
Electron density around BNG A 903:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
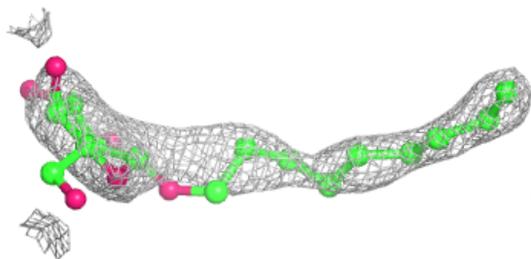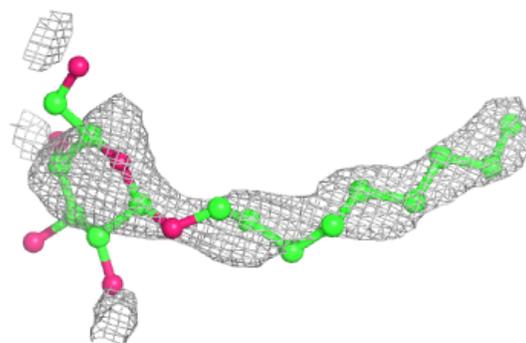and green (positive)
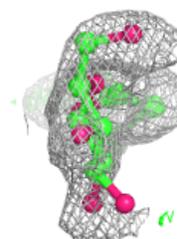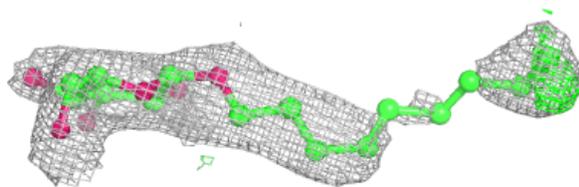
Electron density around BNG A 902:

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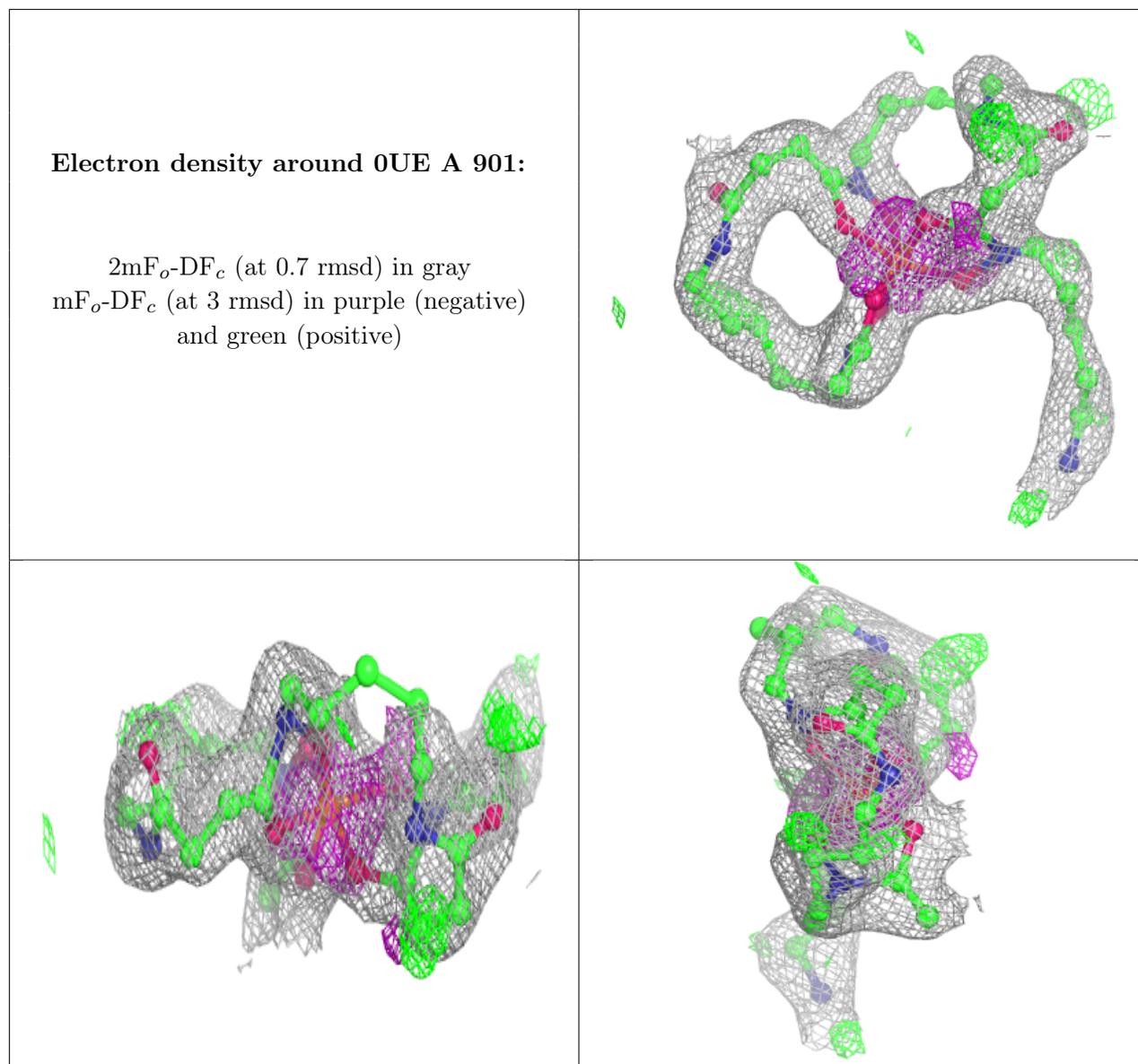and green (positive)

Electron density around BNG A 914:

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 BNG A 907:

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 0UE A 901:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.