Full wwPDB X-ray Structure Validation Report ⓘ

Dec 2, 2025 – 01:26 am GMT

PDB ID	:	8BIH / pdb_00008bih
Title	:	O-Methyltransferase Plu4890 in complex with SAH and AQ-284b
Authors	:	Huber, E.M.; Groll, M.
Deposited on	:	2022-11-02
Resolution	:	2.40 Å(reported)

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

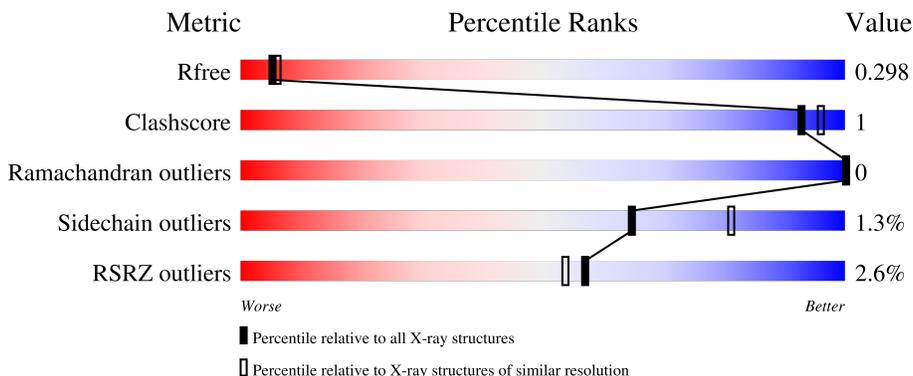|		
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 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.
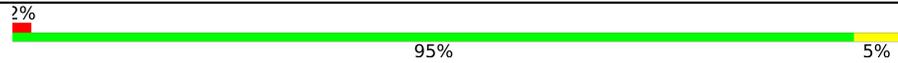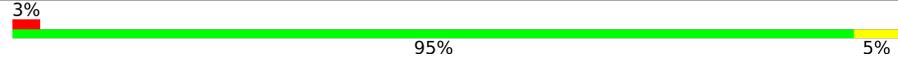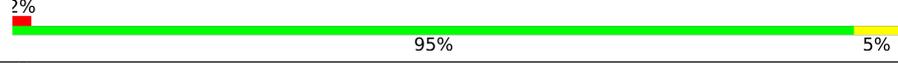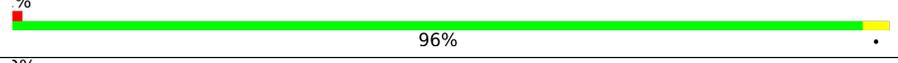
Metric	Percentile Ranks	Value
Rfree		0.298
Clashscore		1
Ramachandran outliers		0
Sidechain outliers		1.3%
RSRZ outliers		2.6%

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	4642 (2.40-2.40)
Clashscore	180529	5218 (2.40-2.40)
Ramachandran outliers	177936	5158 (2.40-2.40)
Sidechain outliers	177891	5159 (2.40-2.40)
RSRZ outliers	164620	4642 (2.40-2.40)

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	319	2% / 96% / •
1	B	319	2% / 94% / 6%
1	C	319	2% / 96% / •
1	D	319	3% / 97% / •
1	E	319	2% / 95% / 5%

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Mol	Chain	Length	Quality of chain
1	F	319	2% 95% 5%
1	G	319	3% 95% 5%
1	H	319	2% 95% 5%
1	I	319	% 96% .
1	J	319	2% 96% .
1	K	319	4% 95% 5%
1	L	319	6% 97% .
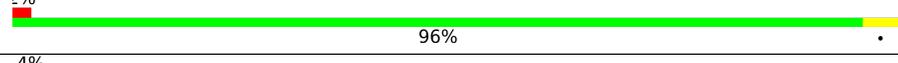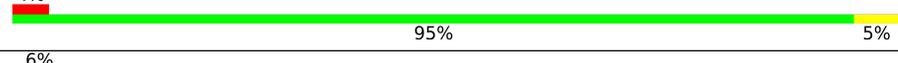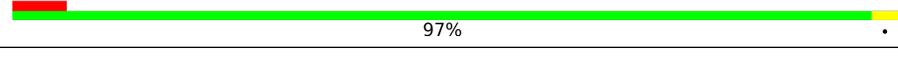
2 Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 31601 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 Methyltransferase Plu4890.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	B	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	C	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	D	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	E	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	F	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	G	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	H	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	I	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	J	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	K	319	Total	C	N	O	S	0	0	0
			2574	1650	425	487	12			
1	L	319	Total	C	N	O	S	0	1	0
			2585	1656	429	488	12			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	SER	-	expression tag	UNP A0A6L9JR93
B	0	SER	-	expression tag	UNP A0A6L9JR93
C	0	SER	-	expression tag	UNP A0A6L9JR93
D	0	SER	-	expression tag	UNP A0A6L9JR93
E	0	SER	-	expression tag	UNP A0A6L9JR93

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

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Chain	Residue	Modelled	Actual	Comment	Reference
F	0	SER	-	expression tag	UNP A0A6L9JR93
G	0	SER	-	expression tag	UNP A0A6L9JR93
H	0	SER	-	expression tag	UNP A0A6L9JR93
I	0	SER	-	expression tag	UNP A0A6L9JR93
J	0	SER	-	expression tag	UNP A0A6L9JR93
K	0	SER	-	expression tag	UNP A0A6L9JR93
L	0	SER	-	expression tag	UNP A0A6L9JR93

- Molecule 2 is S-ADENOSYL-L-HOMOCYSTEINE (CCD ID: SAH) (formula: $C_{14}H_{20}N_6O_5S$).
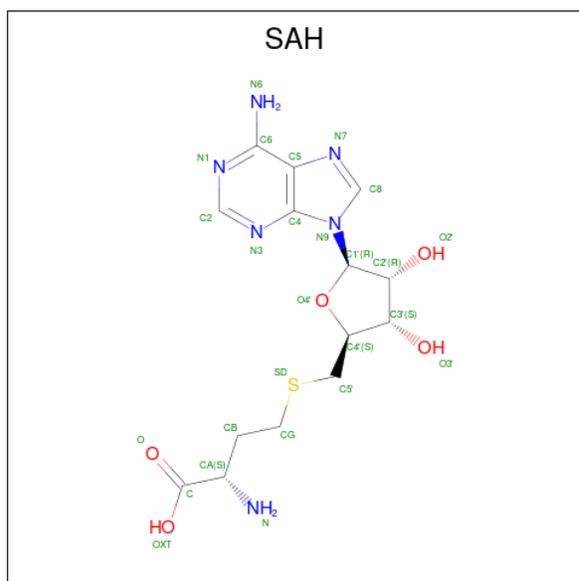
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	B	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	C	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	D	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	E	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	F	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	G	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	H	1	Total	C	N	O	S	0	0
			26	14	6	5	1		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	I	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	J	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	K	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
2	L	1	Total	C	N	O	S	0	0
			26	14	6	5	1		

- Molecule 3 is 3,8-dimethoxy-1-oxidanyl-anthracene-9,10-dione (CCD ID: QOT) (formula: $C_{16}H_{12}O_5$) (labeled as "Ligand of Interest" by depositor).
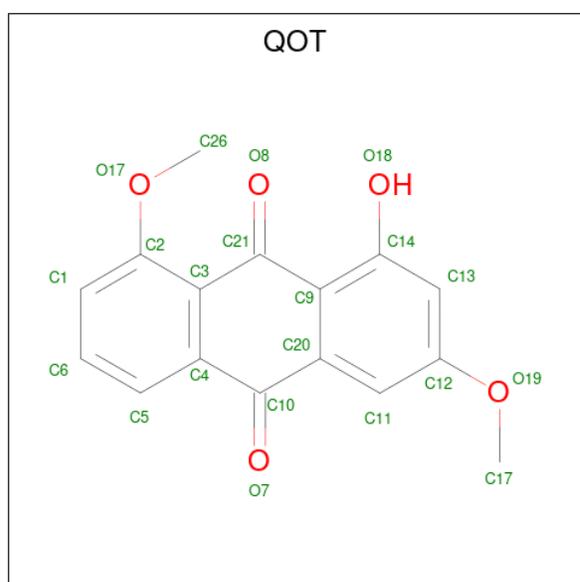
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			21	16	5		
3	B	1	Total	C	O	0	0
			21	16	5		
3	C	1	Total	C	O	0	0
			21	16	5		
3	D	1	Total	C	O	0	0
			21	16	5		
3	E	1	Total	C	O	0	0
			21	16	5		
3	F	1	Total	C	O	0	0
			21	16	5		
3	G	1	Total	C	O	0	0
			21	16	5		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	H	1	Total 21	C 16	O 5	0	0
3	I	1	Total 21	C 16	O 5	0	0

- Molecule 4 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total 1	Cl 1	0	0
4	C	3	Total 3	Cl 3	0	0

- Molecule 5 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).
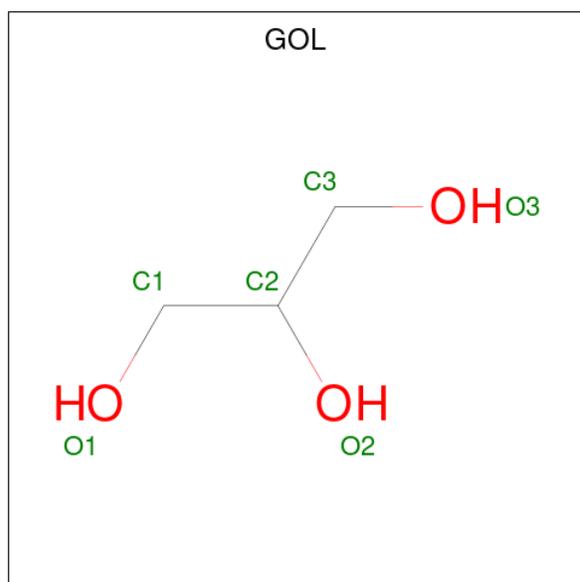
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	C	1	Total 6	C 3	O 3	0	0
5	D	1	Total 6	C 3	O 3	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	H	1	Total 1	Na 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	K	1	Total 1	Na 1	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	20	Total 20	O 20	0	0
7	B	9	Total 9	O 9	0	0
7	C	12	Total 12	O 12	0	0
7	D	27	Total 27	O 27	0	0
7	E	14	Total 14	O 14	0	0
7	F	11	Total 11	O 11	0	0
7	G	15	Total 15	O 15	0	0
7	H	15	Total 15	O 15	0	0
7	I	24	Total 24	O 24	0	0
7	J	16	Total 16	O 16	0	0
7	K	12	Total 12	O 12	0	0
7	L	8	Total 8	O 8	0	0

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: Methyltransferase Plu4890

Chain A:

- Molecule 1: Methyltransferase Plu4890

Chain B:

- Molecule 1: Methyltransferase Plu4890

Chain C:

- Molecule 1: Methyltransferase Plu4890

Chain D:

- Molecule 1: Methyltransferase Plu4890

Chain E:

- Molecule 1: Methyltransferase Plu4890

Chain F:

• Molecule 1: Methyltransferase Plu4890

Chain G:

• Molecule 1: Methyltransferase Plu4890

Chain H:

• Molecule 1: Methyltransferase Plu4890

Chain I:

• Molecule 1: Methyltransferase Plu4890

Chain J:

• Molecule 1: Methyltransferase Plu4890

Chain K:

• Molecule 1: Methyltransferase Plu4890

Chain L:

4   Data and refinement statistics   ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	91.00Å 91.13Å 150.41Å 89.96° 106.18° 119.97°	Depositor
Resolution (Å)	30.00 – 2.40 30.00 – 2.40	Depositor EDS
% Data completeness (in resolution range)	92.4 (30.00-2.40) 92.4 (30.00-2.40)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.81 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.267 , 0.296 0.271 , 0.298	Depositor DCC
R_{free} test set	7166 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	41.6	Xtriage
Anisotropy	0.666	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 29.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.44$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	0.139 for k,-h-k,h+l 0.139 for -h-k,h,h+k+l 0.047 for h,-h-k,-h-l 0.038 for k,h,-h-k-l 0.044 for -h-k,k,-l	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	31601	wwPDB-VP
Average B, all atoms (Å^2)	58.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 15.20% 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: CL, SAH, GOL, QOT, NA

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	1.01	0/2628	1.45	0/3538
1	B	1.00	0/2628	1.45	0/3538
1	C	1.02	0/2628	1.48	0/3538
1	D	1.01	0/2628	1.45	0/3538
1	E	1.01	0/2628	1.46	0/3538
1	F	1.02	0/2628	1.45	0/3538
1	G	1.01	0/2628	1.46	0/3538
1	H	1.01	0/2628	1.47	0/3538
1	I	1.01	0/2628	1.44	0/3538
1	J	1.02	0/2628	1.45	0/3538
1	K	1.01	0/2628	1.47	0/3538
1	L	1.01	0/2639	1.47	0/3552
All	All	1.01	0/31547	1.46	0/42470

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2574	0	2531	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2574	0	2531	9	0
1	C	2574	0	2531	6	0
1	D	2574	0	2531	4	0
1	E	2574	0	2531	8	0
1	F	2574	0	2531	7	0
1	G	2574	0	2531	8	0
1	H	2574	0	2531	9	0
1	I	2574	0	2531	7	0
1	J	2574	0	2531	4	0
1	K	2574	0	2530	6	0
1	L	2585	0	2543	18	0
2	A	26	0	19	0	0
2	B	26	0	19	1	0
2	C	26	0	19	0	0
2	D	26	0	19	0	0
2	E	26	0	19	0	0
2	F	26	0	19	0	0
2	G	26	0	19	0	0
2	H	26	0	19	1	0
2	I	26	0	19	1	0
2	J	26	0	19	0	0
2	K	26	0	19	0	0
2	L	26	0	19	0	0
3	A	21	0	0	0	0
3	B	21	0	0	0	0
3	C	21	0	0	1	0
3	D	21	0	0	0	0
3	E	21	0	0	0	0
3	F	21	0	0	0	0
3	G	21	0	0	1	0
3	H	21	0	0	1	0
3	I	21	0	0	3	0
4	A	1	0	0	1	0
4	C	3	0	0	0	0
5	C	6	0	8	0	0
5	D	6	0	8	0	0
6	H	1	0	0	0	0
6	K	1	0	0	0	0
7	A	20	0	0	0	0
7	B	9	0	0	0	0
7	C	12	0	0	0	0
7	D	27	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	E	14	0	0	1	0
7	F	11	0	0	0	0
7	G	15	0	0	0	0
7	H	15	0	0	0	0
7	I	24	0	0	0	0
7	J	16	0	0	0	0
7	K	12	0	0	0	0
7	L	8	0	0	0	0
All	All	31601	0	30627	85	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 1.

All (85) 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:L:165[A]:ARG:HH21	1:L:165[A]:ARG:HG3	1.11	1.15
1:L:165[B]:ARG:HH21	1:L:165[B]:ARG:HG2	1.07	1.12
1:L:165[A]:ARG:HH21	1:L:165[A]:ARG:CG	1.70	1.03
1:L:165[B]:ARG:HH21	1:L:165[B]:ARG:CG	1.75	0.98
1:L:165[B]:ARG:HG2	1:L:165[B]:ARG:NH2	1.90	0.80
1:L:165[A]:ARG:HG3	1:L:165[A]:ARG:NH2	1.91	0.75
1:L:165[A]:ARG:NH2	1:L:165[A]:ARG:HB2	2.02	0.74
1:C:225:LYS:HA	1:C:256:ILE:O	1.93	0.69
1:L:165[A]:ARG:HH21	1:L:165[A]:ARG:CB	2.06	0.69
1:L:165[A]:ARG:CG	1:L:165[A]:ARG:NH2	2.41	0.68
1:L:165[A]:ARG:NH2	1:L:165[A]:ARG:CB	2.59	0.66
1:A:225:LYS:HA	1:A:256:ILE:O	1.97	0.63
1:L:165[B]:ARG:NH2	1:L:165[B]:ARG:HB3	2.15	0.61
1:L:165[B]:ARG:CG	1:L:165[B]:ARG:NH2	2.44	0.60
1:F:78:PHE:CE1	1:F:89:ILE:HD11	2.38	0.59
1:F:258:MET:HE1	1:F:268:PHE:CZ	2.37	0.58
1:E:258:MET:HE1	1:E:268:PHE:CZ	2.39	0.58
1:G:78:PHE:CE1	1:G:89:ILE:HD11	2.40	0.56
1:I:13:ALA:HB1	1:J:101:TRP:CE3	2.40	0.56
1:D:225:LYS:HA	1:D:256:ILE:O	2.06	0.55
1:L:165[B]:ARG:NH2	1:L:165[B]:ARG:CB	2.70	0.55
1:H:225:LYS:HA	1:H:256:ILE:O	2.06	0.55
1:J:106:LYS:NZ	1:L:130:ASP:O	2.39	0.55
1:E:78:PHE:CE1	1:E:89:ILE:HD11	2.42	0.54
1:I:210:ASN:OD1	2:I:401:SAH:N6	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:37:GLU:HA	1:D:40:ARG:HD2	1.89	0.53
1:H:296:VAL:HG13	1:H:318:LYS:HG2	1.90	0.53
1:J:225:LYS:HA	1:J:256:ILE:O	2.08	0.52
1:D:78:PHE:CE1	1:D:89:ILE:HD11	2.45	0.51
1:A:258:MET:HE1	1:A:268:PHE:CZ	2.46	0.51
1:L:225:LYS:HA	1:L:256:ILE:O	2.11	0.51
1:A:78:PHE:CE1	1:A:89:ILE:HD11	2.45	0.51
1:B:13:ALA:HB1	1:E:101:TRP:CE3	2.45	0.51
1:G:143:MET:SD	3:G:402:QOT:C26	2.99	0.51
1:B:2:LEU:HD11	1:E:78:PHE:CZ	2.46	0.50
1:C:130:ASP:O	1:E:106:LYS:NZ	2.39	0.50
1:B:22:GLY:O	1:B:25:THR:OG1	2.27	0.50
1:G:225:LYS:HA	1:G:256:ILE:O	2.12	0.49
1:J:56:LEU:HA	1:J:59:MET:HE3	1.95	0.48
1:H:78:PHE:CE1	1:H:89:ILE:HD11	2.48	0.47
1:G:258:MET:HE1	1:G:268:PHE:CZ	2.50	0.47
1:G:56:LEU:HA	1:G:59:MET:HE3	1.97	0.47
1:K:254:LEU:HD22	1:K:312:PHE:CZ	2.50	0.47
1:F:141:ALA:O	1:F:145:ARG:HG2	2.14	0.46
1:F:296:VAL:HG13	1:F:318:LYS:HG2	1.97	0.46
1:K:258:MET:HE1	1:K:268:PHE:CZ	2.51	0.46
1:E:225:LYS:HA	1:E:256:ILE:O	2.16	0.46
1:C:56:LEU:HA	1:C:59:MET:HE3	1.98	0.46
1:I:32:TYR:CE1	1:I:65:ASN:HB2	2.51	0.46
1:B:78:PHE:CE1	1:B:89:ILE:HD11	2.51	0.46
1:B:221:LEU:HD11	1:B:254:LEU:HG	1.98	0.46
1:I:225:LYS:HA	1:I:256:ILE:O	2.16	0.45
1:K:266:ARG:NE	1:K:280:GLU:OE1	2.44	0.45
1:A:193:ASP:HB3	1:A:195:TYR:CZ	2.51	0.45
1:F:93:ILE:O	1:H:102:LEU:HD21	2.18	0.44
1:H:258:MET:HE1	1:H:268:PHE:CZ	2.52	0.44
1:K:78:PHE:CE1	1:K:89:ILE:HD11	2.52	0.44
1:F:147:SER:O	1:F:151:VAL:HG23	2.18	0.44
1:F:225:LYS:HA	1:F:256:ILE:O	2.17	0.44
1:E:249:LYS:NZ	7:E:501:HOH:O	2.50	0.43
1:L:165[B]:ARG:HB3	1:L:165[B]:ARG:CZ	2.47	0.43
1:A:13:ALA:HB1	1:L:101:TRP:CE3	2.54	0.43
1:B:101:TRP:CE3	1:E:13:ALA:HB1	2.53	0.43
1:H:126:PHE:CD2	2:H:401:SAH:H8	2.54	0.42
1:K:147:SER:O	1:K:151:VAL:HG23	2.18	0.42
1:B:61:VAL:HA	1:B:75:CYS:SG	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:229:HIS:HE2	3:I:402:QOT:C26	2.32	0.42
1:H:193:ASP:HB3	1:H:195:TYR:CZ	2.55	0.42
1:G:16:HIS:HA	1:G:89:ILE:CG2	2.50	0.42
1:K:225:LYS:HA	1:K:256:ILE:O	2.19	0.42
1:H:141:ALA:O	1:H:145:ARG:HG2	2.19	0.41
1:C:78:PHE:CZ	1:G:2:LEU:HD11	2.54	0.41
3:C:402:QOT:O18	3:C:402:QOT:O8	2.38	0.41
1:G:296:VAL:HG13	1:G:318:LYS:HG2	2.02	0.41
1:H:152:GLU:OE1	1:H:152:GLU:N	2.40	0.41
1:A:78:PHE:CZ	1:L:2:LEU:HD11	2.55	0.41
1:I:230:ASN:O	1:I:276:PHE:HB3	2.21	0.41
4:A:403:CL:CL	1:C:36:SER:OG	2.76	0.41
1:B:170:GLY:O	2:B:401:SAH:N	2.54	0.41
1:D:36:SER:O	1:D:40:ARG:HG3	2.21	0.41
3:H:402:QOT:O8	3:H:402:QOT:O18	2.37	0.41
1:I:229:HIS:NE2	3:I:402:QOT:C26	2.84	0.40
1:B:56:LEU:HA	1:B:59:MET:HE3	2.03	0.40
1:C:147:SER:O	1:C:151:VAL:HG23	2.21	0.40
3:I:402:QOT:O18	3:I:402:QOT:O8	2.36	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	317/319 (99%)	307 (97%)	10 (3%)	0	100	100
1	B	317/319 (99%)	307 (97%)	10 (3%)	0	100	100
1	C	317/319 (99%)	312 (98%)	5 (2%)	0	100	100
1	D	317/319 (99%)	311 (98%)	6 (2%)	0	100	100
1	E	317/319 (99%)	311 (98%)	6 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	F	317/319 (99%)	308 (97%)	9 (3%)	0	100	100
1	G	317/319 (99%)	308 (97%)	9 (3%)	0	100	100
1	H	317/319 (99%)	304 (96%)	13 (4%)	0	100	100
1	I	317/319 (99%)	305 (96%)	12 (4%)	0	100	100
1	J	317/319 (99%)	311 (98%)	6 (2%)	0	100	100
1	K	317/319 (99%)	308 (97%)	9 (3%)	0	100	100
1	L	318/319 (100%)	310 (98%)	8 (2%)	0	100	100
All	All	3805/3828 (99%)	3702 (97%)	103 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	287/287 (100%)	284 (99%)	3 (1%)	73	86
1	B	287/287 (100%)	283 (99%)	4 (1%)	62	79
1	C	287/287 (100%)	284 (99%)	3 (1%)	73	86
1	D	287/287 (100%)	284 (99%)	3 (1%)	73	86
1	E	287/287 (100%)	282 (98%)	5 (2%)	56	75
1	F	287/287 (100%)	283 (99%)	4 (1%)	62	79
1	G	287/287 (100%)	283 (99%)	4 (1%)	62	79
1	H	287/287 (100%)	285 (99%)	2 (1%)	81	91
1	I	287/287 (100%)	283 (99%)	4 (1%)	62	79
1	J	287/287 (100%)	281 (98%)	6 (2%)	48	69
1	K	287/287 (100%)	284 (99%)	3 (1%)	73	86
1	L	288/287 (100%)	283 (98%)	5 (2%)	56	75
All	All	3445/3444 (100%)	3399 (99%)	46 (1%)	65	81

All (46) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	185	LYS
1	A	211	PHE
1	A	229	HIS
1	B	185	LYS
1	B	211	PHE
1	B	220	ASP
1	B	229	HIS
1	C	82	GLU
1	C	198	LEU
1	C	229	HIS
1	D	185	LYS
1	D	211	PHE
1	D	229	HIS
1	E	198	LEU
1	E	211	PHE
1	E	229	HIS
1	E	257	ASN
1	E	318	LYS
1	F	106	LYS
1	F	200	VAL
1	F	229	HIS
1	F	296	VAL
1	G	67	ASN
1	G	133	LYS
1	G	211	PHE
1	G	229	HIS
1	H	211	PHE
1	H	229	HIS
1	I	67	ASN
1	I	142	LEU
1	I	211	PHE
1	I	229	HIS
1	J	198	LEU
1	J	211	PHE
1	J	257	ASN
1	J	261	GLU
1	J	279	LYS
1	J	296	VAL
1	K	40	ARG
1	K	185	LYS
1	K	220	ASP
1	L	165[A]	ARG

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Mol	Chain	Res	Type
1	L	165[B]	ARG
1	L	198	LEU
1	L	229	HIS
1	L	257	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	67	ASN
1	A	316	GLN
1	B	292	GLN
1	C	148	ASN
1	C	213	ASN
1	C	230	ASN
1	C	298	GLN
1	C	316	GLN
1	D	203	ASN
1	E	138	ASN
1	E	298	GLN
1	E	316	GLN
1	F	148	ASN
1	F	213	ASN
1	F	226	ASN
1	F	292	GLN
1	F	316	GLN
1	G	213	ASN
1	G	316	GLN
1	H	148	ASN
1	H	161	ASN
1	H	164	ASN
1	I	138	ASN
1	I	188	HIS
1	J	80	ASN
1	J	213	ASN
1	K	148	ASN
1	K	161	ASN
1	K	203	ASN
1	K	316	GLN
1	L	298	GLN
1	L	316	GLN

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 29 ligands modelled in this entry, 6 are monoatomic - leaving 23 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	QOT	E	402	-	23,23,23	1.50	4 (17%)	34,34,34	1.18	2 (5%)
3	QOT	C	402	-	23,23,23	1.50	4 (17%)	34,34,34	1.03	3 (8%)
2	SAH	F	401	-	24,28,28	0.69	1 (4%)	25,40,40	0.99	3 (12%)
2	SAH	C	401	-	24,28,28	0.70	1 (4%)	25,40,40	0.95	3 (12%)
3	QOT	D	402	-	23,23,23	1.53	4 (17%)	34,34,34	0.92	2 (5%)
3	QOT	B	402	-	23,23,23	1.52	4 (17%)	34,34,34	1.11	2 (5%)
3	QOT	H	402	-	23,23,23	1.59	4 (17%)	34,34,34	0.75	1 (2%)
3	QOT	A	402	-	23,23,23	1.56	4 (17%)	34,34,34	1.00	4 (11%)
2	SAH	K	401	-	24,28,28	0.70	1 (4%)	25,40,40	1.02	3 (12%)
2	SAH	A	401	-	24,28,28	0.71	1 (4%)	25,40,40	0.97	3 (12%)
2	SAH	G	401	-	24,28,28	0.71	1 (4%)	25,40,40	0.96	3 (12%)
3	QOT	I	402	-	23,23,23	1.54	4 (17%)	34,34,34	0.89	1 (2%)
2	SAH	E	401	-	24,28,28	0.71	1 (4%)	25,40,40	0.96	3 (12%)
3	QOT	F	402	-	23,23,23	1.47	4 (17%)	34,34,34	0.82	2 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$\|Z\|$ > 2	Counts	RMSZ	#$\|Z\|$ > 2
3	QOT	G	402	-	23,23,23	1.52	4 (17%)	34,34,34	1.11	2 (5%)
2	SAH	B	401	-	24,28,28	0.71	1 (4%)	25,40,40	0.91	3 (12%)
5	GOL	C	403	-	5,5,5	0.08	0	5,5,5	0.23	0
2	SAH	H	401	-	24,28,28	0.70	1 (4%)	25,40,40	0.96	3 (12%)
5	GOL	D	403	-	5,5,5	0.09	0	5,5,5	0.26	0
2	SAH	D	401	-	24,28,28	0.71	1 (4%)	25,40,40	1.03	3 (12%)
2	SAH	L	900	-	24,28,28	0.71	1 (4%)	25,40,40	0.95	3 (12%)
2	SAH	I	401	-	24,28,28	0.69	0	25,40,40	0.98	3 (12%)
2	SAH	J	900	-	24,28,28	0.71	1 (4%)	25,40,40	0.96	3 (12%)

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	QOT	E	402	-	-	4/4/20/20	0/3/3/3
3	QOT	C	402	-	-	4/4/20/20	0/3/3/3
2	SAH	F	401	-	-	1/11/31/31	0/3/3/3
2	SAH	C	401	-	-	0/11/31/31	0/3/3/3
3	QOT	D	402	-	-	4/4/20/20	0/3/3/3
3	QOT	B	402	-	-	4/4/20/20	0/3/3/3
3	QOT	H	402	-	-	4/4/20/20	0/3/3/3
3	QOT	A	402	-	-	4/4/20/20	0/3/3/3
2	SAH	K	401	-	-	0/11/31/31	0/3/3/3
2	SAH	A	401	-	-	0/11/31/31	0/3/3/3
2	SAH	G	401	-	-	0/11/31/31	0/3/3/3
3	QOT	I	402	-	-	4/4/20/20	0/3/3/3
2	SAH	E	401	-	-	4/11/31/31	0/3/3/3
3	QOT	F	402	-	-	4/4/20/20	0/3/3/3
3	QOT	G	402	-	-	4/4/20/20	0/3/3/3
2	SAH	B	401	-	-	0/11/31/31	0/3/3/3
5	GOL	C	403	-	-	0/4/4/4	-
2	SAH	H	401	-	-	0/11/31/31	0/3/3/3
5	GOL	D	403	-	-	0/4/4/4	-
2	SAH	D	401	-	-	4/11/31/31	0/3/3/3
2	SAH	L	900	-	-	0/11/31/31	0/3/3/3
2	SAH	I	401	-	-	0/11/31/31	0/3/3/3
2	SAH	J	900	-	-	0/11/31/31	0/3/3/3

All (47) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	402	QOT	C4-C10	-4.37	1.39	1.48
3	A	402	QOT	C20-C10	-4.35	1.39	1.48
3	B	402	QOT	C4-C10	-4.23	1.39	1.48
3	A	402	QOT	C4-C10	-4.11	1.39	1.48
3	I	402	QOT	C4-C10	-4.11	1.39	1.48
3	G	402	QOT	C4-C10	-4.11	1.39	1.48
3	H	402	QOT	C20-C10	-4.08	1.39	1.48
3	C	402	QOT	C4-C10	-4.06	1.39	1.48
3	B	402	QOT	C20-C10	-4.04	1.39	1.48
3	D	402	QOT	C20-C10	-4.02	1.40	1.48
3	E	402	QOT	C4-C10	-4.02	1.40	1.48
3	G	402	QOT	C20-C10	-3.96	1.40	1.48
3	D	402	QOT	C4-C10	-3.95	1.40	1.48
3	F	402	QOT	C4-C10	-3.90	1.40	1.48
3	I	402	QOT	C20-C10	-3.90	1.40	1.48
3	C	402	QOT	C20-C10	-3.90	1.40	1.48
3	E	402	QOT	C20-C10	-3.89	1.40	1.48
3	F	402	QOT	C20-C10	-3.87	1.40	1.48
3	I	402	QOT	C9-C21	-3.36	1.39	1.47
3	H	402	QOT	C9-C21	-3.31	1.39	1.47
3	D	402	QOT	C9-C21	-3.30	1.39	1.47
3	C	402	QOT	C9-C21	-3.25	1.39	1.47
3	A	402	QOT	C9-C21	-3.22	1.40	1.47
3	E	402	QOT	C9-C21	-3.18	1.40	1.47
3	G	402	QOT	C9-C21	-3.17	1.40	1.47
3	F	402	QOT	C9-C21	-3.12	1.40	1.47
3	B	402	QOT	C9-C21	-3.00	1.40	1.47
3	G	402	QOT	C3-C21	-2.95	1.40	1.47
3	I	402	QOT	C3-C21	-2.92	1.40	1.47
3	D	402	QOT	C3-C21	-2.85	1.40	1.47
3	H	402	QOT	C3-C21	-2.84	1.40	1.47
3	E	402	QOT	C3-C21	-2.80	1.41	1.47
3	F	402	QOT	C3-C21	-2.79	1.41	1.47
3	C	402	QOT	C3-C21	-2.66	1.41	1.47
3	B	402	QOT	C3-C21	-2.66	1.41	1.47
3	A	402	QOT	C3-C21	-2.64	1.41	1.47
2	E	401	SAH	OXT-C	-2.18	1.23	1.30
2	J	900	SAH	OXT-C	-2.14	1.23	1.30
2	B	401	SAH	OXT-C	-2.13	1.23	1.30
2	C	401	SAH	OXT-C	-2.12	1.23	1.30
2	G	401	SAH	OXT-C	-2.12	1.23	1.30
2	F	401	SAH	OXT-C	-2.10	1.23	1.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	401	SAH	OXT-C	-2.10	1.23	1.30
2	L	900	SAH	OXT-C	-2.09	1.23	1.30
2	K	401	SAH	OXT-C	-2.09	1.23	1.30
2	D	401	SAH	OXT-C	-2.07	1.23	1.30
2	A	401	SAH	OXT-C	-2.06	1.23	1.30

All (55) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	402	QOT	C26-O17-C2	-4.97	110.03	117.53
3	G	402	QOT	C26-O17-C2	-4.65	110.51	117.53
3	B	402	QOT	C26-O17-C2	-4.56	110.65	117.53
3	C	402	QOT	C26-O17-C2	-3.14	112.78	117.53
3	D	402	QOT	C17-O19-C12	-2.84	111.34	117.51
3	C	402	QOT	C17-O19-C12	-2.80	111.43	117.51
3	A	402	QOT	C26-O17-C2	-2.79	113.32	117.53
2	K	401	SAH	OXT-C-O	-2.77	117.79	124.09
2	L	900	SAH	OXT-C-O	-2.73	117.89	124.09
2	D	401	SAH	OXT-C-O	-2.70	117.96	124.09
2	G	401	SAH	OXT-C-O	-2.63	118.13	124.09
3	B	402	QOT	O17-C2-C1	-2.62	119.88	124.37
3	A	402	QOT	C17-O19-C12	-2.51	112.06	117.51
2	I	401	SAH	OXT-C-O	-2.50	118.41	124.09
2	C	401	SAH	OXT-C-O	-2.47	118.47	124.09
2	B	401	SAH	OXT-C-O	-2.46	118.50	124.09
2	A	401	SAH	OXT-C-O	-2.45	118.52	124.09
2	F	401	SAH	OXT-C-O	-2.44	118.56	124.09
2	J	900	SAH	OXT-C-O	-2.43	118.56	124.09
2	D	401	SAH	OXT-C-CA	2.41	121.61	113.38
2	F	401	SAH	OXT-C-CA	2.41	121.58	113.38
2	K	401	SAH	OXT-C-CA	2.39	121.54	113.38
2	I	401	SAH	OXT-C-CA	2.39	121.53	113.38
3	I	402	QOT	C17-O19-C12	-2.38	112.34	117.51
3	A	402	QOT	O17-C2-C1	-2.37	120.30	124.37
3	H	402	QOT	C26-O17-C2	-2.36	113.97	117.53
2	L	900	SAH	OXT-C-CA	2.35	121.40	113.38
2	A	401	SAH	OXT-C-CA	2.28	121.14	113.38
2	E	401	SAH	OXT-C-O	-2.27	118.93	124.09
2	H	401	SAH	OXT-C-CA	2.27	121.12	113.38
3	E	402	QOT	O17-C2-C1	-2.25	120.51	124.37
3	G	402	QOT	O17-C2-C1	-2.24	120.53	124.37
2	J	900	SAH	OXT-C-CA	2.22	120.95	113.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	401	SAH	OXT-C-O	-2.22	119.04	124.09
2	G	401	SAH	OXT-C-CA	2.21	120.93	113.38
2	E	401	SAH	C5-C6-N6	2.21	123.70	120.35
2	F	401	SAH	C5-C6-N6	2.20	123.70	120.35
2	I	401	SAH	C5-C6-N6	2.19	123.68	120.35
2	B	401	SAH	C5-C6-N6	2.19	123.68	120.35
3	C	402	QOT	O17-C2-C1	-2.19	120.62	124.37
2	H	401	SAH	C5-C6-N6	2.18	123.67	120.35
2	C	401	SAH	OXT-C-CA	2.17	120.79	113.38
2	J	900	SAH	C5-C6-N6	2.15	123.62	120.35
2	A	401	SAH	C5-C6-N6	2.15	123.61	120.35
2	L	900	SAH	C5-C6-N6	2.14	123.60	120.35
2	G	401	SAH	C5-C6-N6	2.14	123.60	120.35
2	C	401	SAH	C5-C6-N6	2.13	123.59	120.35
2	K	401	SAH	C5-C6-N6	2.13	123.59	120.35
2	B	401	SAH	OXT-C-CA	2.12	120.59	113.38
2	D	401	SAH	C5-C6-N6	2.12	123.57	120.35
3	F	402	QOT	O17-C2-C1	-2.12	120.74	124.37
2	E	401	SAH	OXT-C-CA	2.09	120.51	113.38
3	D	402	QOT	C26-O17-C2	-2.07	114.41	117.53
3	F	402	QOT	C26-O17-C2	-2.04	114.44	117.53
3	A	402	QOT	O18-C14-C9	-2.00	117.40	121.14

There are no chirality outliers.

All (45) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	402	QOT	C13-C12-O19-C17
3	C	402	QOT	C11-C12-O19-C17
3	D	402	QOT	C13-C12-O19-C17
3	D	402	QOT	C11-C12-O19-C17
3	I	402	QOT	C13-C12-O19-C17
3	I	402	QOT	C11-C12-O19-C17
3	A	402	QOT	C13-C12-O19-C17
3	A	402	QOT	C11-C12-O19-C17
3	E	402	QOT	C13-C12-O19-C17
3	E	402	QOT	C11-C12-O19-C17
3	H	402	QOT	C13-C12-O19-C17
3	G	402	QOT	C13-C12-O19-C17
3	H	402	QOT	C11-C12-O19-C17
3	G	402	QOT	C11-C12-O19-C17
3	F	402	QOT	C13-C12-O19-C17

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Mol	Chain	Res	Type	Atoms
3	F	402	QOT	C11-C12-O19-C17
3	B	402	QOT	C11-C12-O19-C17
3	G	402	QOT	C3-C2-O17-C26
3	B	402	QOT	C13-C12-O19-C17
3	B	402	QOT	C3-C2-O17-C26
3	C	402	QOT	C3-C2-O17-C26
3	D	402	QOT	C3-C2-O17-C26
3	I	402	QOT	C3-C2-O17-C26
3	A	402	QOT	C3-C2-O17-C26
3	E	402	QOT	C3-C2-O17-C26
3	F	402	QOT	C1-C2-O17-C26
3	G	402	QOT	C1-C2-O17-C26
3	B	402	QOT	C1-C2-O17-C26
3	D	402	QOT	C1-C2-O17-C26
3	E	402	QOT	C1-C2-O17-C26
3	C	402	QOT	C1-C2-O17-C26
3	F	402	QOT	C3-C2-O17-C26
3	A	402	QOT	C1-C2-O17-C26
3	I	402	QOT	C1-C2-O17-C26
3	H	402	QOT	C1-C2-O17-C26
3	H	402	QOT	C3-C2-O17-C26
2	D	401	SAH	C-CA-CB-CG
2	E	401	SAH	C-CA-CB-CG
2	D	401	SAH	O-C-CA-N
2	E	401	SAH	O-C-CA-N
2	D	401	SAH	N-CA-CB-CG
2	E	401	SAH	N-CA-CB-CG
2	D	401	SAH	OXT-C-CA-N
2	E	401	SAH	OXT-C-CA-N
2	F	401	SAH	C-CA-CB-CG

There are no ring outliers.

7 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	402	QOT	1	0
3	H	402	QOT	1	0
3	I	402	QOT	3	0
3	G	402	QOT	1	0
2	B	401	SAH	1	0
2	H	401	SAH	1	0
2	I	401	SAH	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 QOT E 402

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT C 402

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH F 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH C 401

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT D 402

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT B 402

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT H 402

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT A 402

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH K 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH A 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH G 401

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT I 402

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH E 401

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT F 402

Bond lengths

Bond angles

Torsions

Rings

Ligand QOT G 402

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH B 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH H 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH D 401

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH L 900

Bond lengths

Bond angles

Torsions

Rings

Ligand SAH I 401

Ligand SAH J 900

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(Å^2)	Q<0.9
1	A	319/319 (100%)	0.47	5 (1%)	70	67	39, 52, 69, 86	0
1	B	319/319 (100%)	0.53	7 (2%)	62	59	39, 54, 70, 80	0
1	C	319/319 (100%)	0.65	7 (2%)	62	59	42, 61, 78, 90	0
1	D	319/319 (100%)	0.56	10 (3%)	51	48	42, 53, 68, 96	0
1	E	319/319 (100%)	0.47	7 (2%)	62	59	39, 53, 71, 100	0
1	F	319/319 (100%)	0.56	6 (1%)	66	62	35, 57, 80, 90	0
1	G	319/319 (100%)	0.57	8 (2%)	58	55	42, 56, 70, 83	0
1	H	319/319 (100%)	0.58	5 (1%)	70	67	37, 56, 76, 87	0
1	I	319/319 (100%)	0.47	4 (1%)	74	71	39, 53, 66, 74	0
1	J	319/319 (100%)	0.67	7 (2%)	62	59	38, 58, 80, 90	0
1	K	319/319 (100%)	0.71	14 (4%)	39	37	41, 63, 86, 101	0
1	L	319/319 (100%)	0.76	19 (5%)	29	26	40, 66, 101, 113	1 (0%)
All	All	3828/3828 (100%)	0.58	99 (2%)	57	54	35, 56, 80, 113	1 (0%)

All (99) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	J	200	VAL	3.9
1	B	0	SER	3.8
1	K	200	VAL	3.6
1	G	31	ILE	3.4
1	K	172	GLY	3.3
1	D	42	SER	3.2
1	L	306	SER	3.2
1	B	42	SER	3.1
1	L	89	ILE	3.0
1	H	166	ILE	2.9
1	I	37	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
1	F	22	GLY	2.9
1	L	207	ILE	2.8
1	G	52	LEU	2.8
1	K	33	VAL	2.8
1	D	23	LEU	2.7
1	C	31	ILE	2.6
1	L	1	MET	2.6
1	L	204	ILE	2.6
1	E	198	LEU	2.6
1	K	290	ALA	2.6
1	K	23	LEU	2.5
1	G	95	SER	2.5
1	F	1	MET	2.5
1	L	200	VAL	2.5
1	L	215	ILE	2.5
1	H	293	ALA	2.5
1	D	218	GLY	2.5
1	F	198	LEU	2.4
1	E	199	PRO	2.4
1	C	89	ILE	2.4
1	E	0	SER	2.4
1	C	160	PHE	2.3
1	B	89	ILE	2.3
1	J	246	ALA	2.3
1	K	218	GLY	2.3
1	E	111	ASP	2.3
1	A	40	ARG	2.3
1	K	166	ILE	2.3
1	B	160	PHE	2.3
1	J	31	ILE	2.3
1	K	204	ILE	2.3
1	B	76	HIS	2.3
1	H	216	PRO	2.3
1	C	227	VAL	2.3
1	B	142	LEU	2.2
1	L	240	LEU	2.2
1	L	286	PHE	2.2
1	E	174	GLY	2.2
1	G	218	GLY	2.2
1	H	22	GLY	2.2
1	L	172	GLY	2.2
1	D	123	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	2	LEU	2.2
1	I	23	LEU	2.2
1	H	89	ILE	2.2
1	F	200	VAL	2.2
1	B	221	LEU	2.1
1	C	264	PHE	2.1
1	I	95	SER	2.1
1	L	308	SER	2.1
1	K	89	ILE	2.1
1	L	191	VAL	2.1
1	G	1	MET	2.1
1	J	160	PHE	2.1
1	A	53	CYS	2.1
1	E	318	LYS	2.1
1	D	93	ILE	2.1
1	K	93	ILE	2.1
1	C	200	VAL	2.1
1	D	47	ALA	2.1
1	F	154	LEU	2.1
1	K	43	GLY	2.1
1	L	189	TYR	2.1
1	A	283	PHE	2.1
1	D	16	HIS	2.1
1	J	207	ILE	2.1
1	L	166	ILE	2.1
1	D	1	MET	2.1
1	D	38	LEU	2.1
1	K	289	LEU	2.1
1	D	189	TYR	2.1
1	I	0	SER	2.1
1	L	95	SER	2.1
1	E	204	ILE	2.1
1	C	289	LEU	2.0
1	G	135	LEU	2.0
1	J	23	LEU	2.0
1	G	156	GLY	2.0
1	A	42	SER	2.0
1	F	230	ASN	2.0
1	K	228	LEU	2.0
1	L	212	LEU	2.0
1	K	280	GLU	2.0
1	L	117	PHE	2.0

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Mol	Chain	Res	Type	RSRZ
1	L	196	SER	2.0
1	L	311	SER	2.0
1	J	89	ILE	2.0
1	G	165	ARG	2.0

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
6	NA	H	403	1/1	0.69	0.21	66,66,66,66	0
4	CL	C	404	1/1	0.76	0.14	69,69,69,69	0
3	QOT	H	402	21/21	0.77	0.17	65,67,69,70	0
5	GOL	D	403	6/6	0.79	0.13	65,66,66,67	0
3	QOT	F	402	21/21	0.79	0.17	94,95,96,97	0
3	QOT	D	402	21/21	0.80	0.18	82,83,84,86	0
6	NA	K	402	1/1	0.80	0.20	59,59,59,59	0
3	QOT	I	402	21/21	0.81	0.15	69,70,71,71	0
3	QOT	B	402	21/21	0.82	0.16	76,77,78,80	0
3	QOT	E	402	21/21	0.82	0.15	79,80,80,81	0
3	QOT	C	402	21/21	0.82	0.17	82,83,84,84	0
3	QOT	A	402	21/21	0.83	0.17	69,69,70,71	0
2	SAH	L	900	26/26	0.83	0.14	74,77,82,82	0
5	GOL	C	403	6/6	0.84	0.13	51,51,51,51	0
2	SAH	C	401	26/26	0.85	0.12	66,68,69,69	0
4	CL	C	405	1/1	0.85	0.08	77,77,77,77	0
4	CL	A	403	1/1	0.87	0.17	98,98,98,98	0
4	CL	C	406	1/1	0.87	0.10	69,69,69,69	0
2	SAH	J	900	26/26	0.87	0.10	53,55,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
2	SAH	F	401	26/26	0.88	0.09	53,54,56,56	0
3	QOT	G	402	21/21	0.88	0.14	82,82,83,84	0
2	SAH	K	401	26/26	0.88	0.10	62,63,65,65	0
2	SAH	E	401	26/26	0.89	0.10	46,46,47,48	0
2	SAH	H	401	26/26	0.90	0.10	49,50,51,52	0
2	SAH	I	401	26/26	0.90	0.10	46,47,48,48	0
2	SAH	B	401	26/26	0.91	0.08	49,50,52,52	0
2	SAH	A	401	26/26	0.91	0.09	42,43,46,46	0
2	SAH	D	401	26/26	0.91	0.08	43,44,45,45	0
2	SAH	G	401	26/26	0.92	0.09	48,49,53,53	0

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

Electron density around QOT H 402:

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

Electron density around QOT F 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
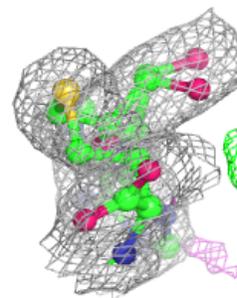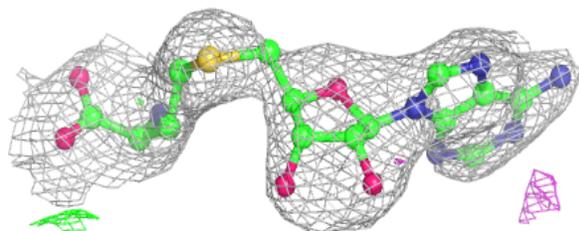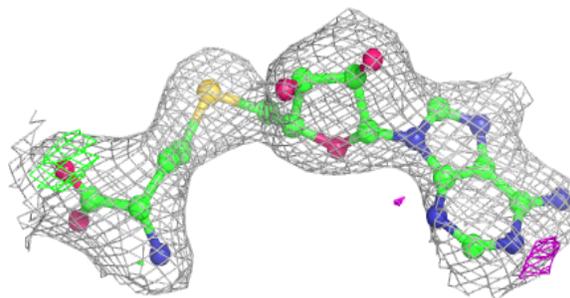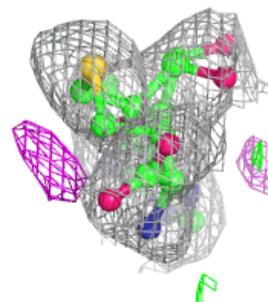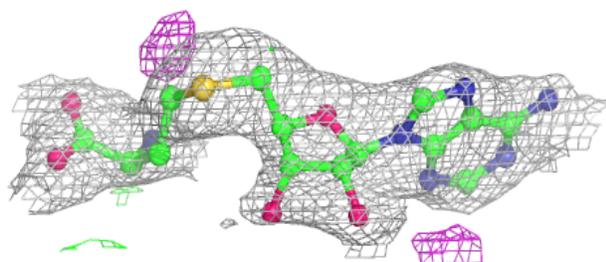and green (positive)
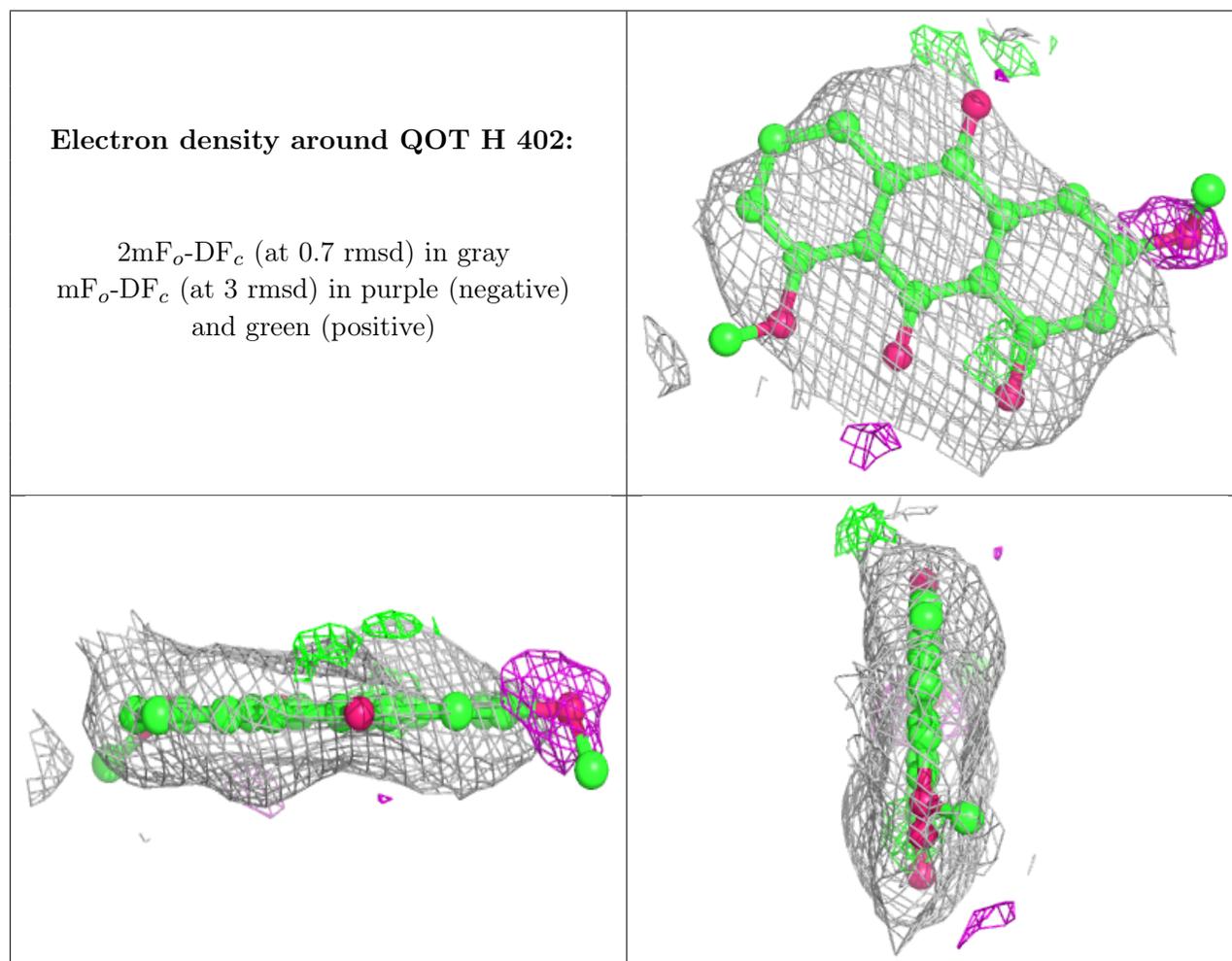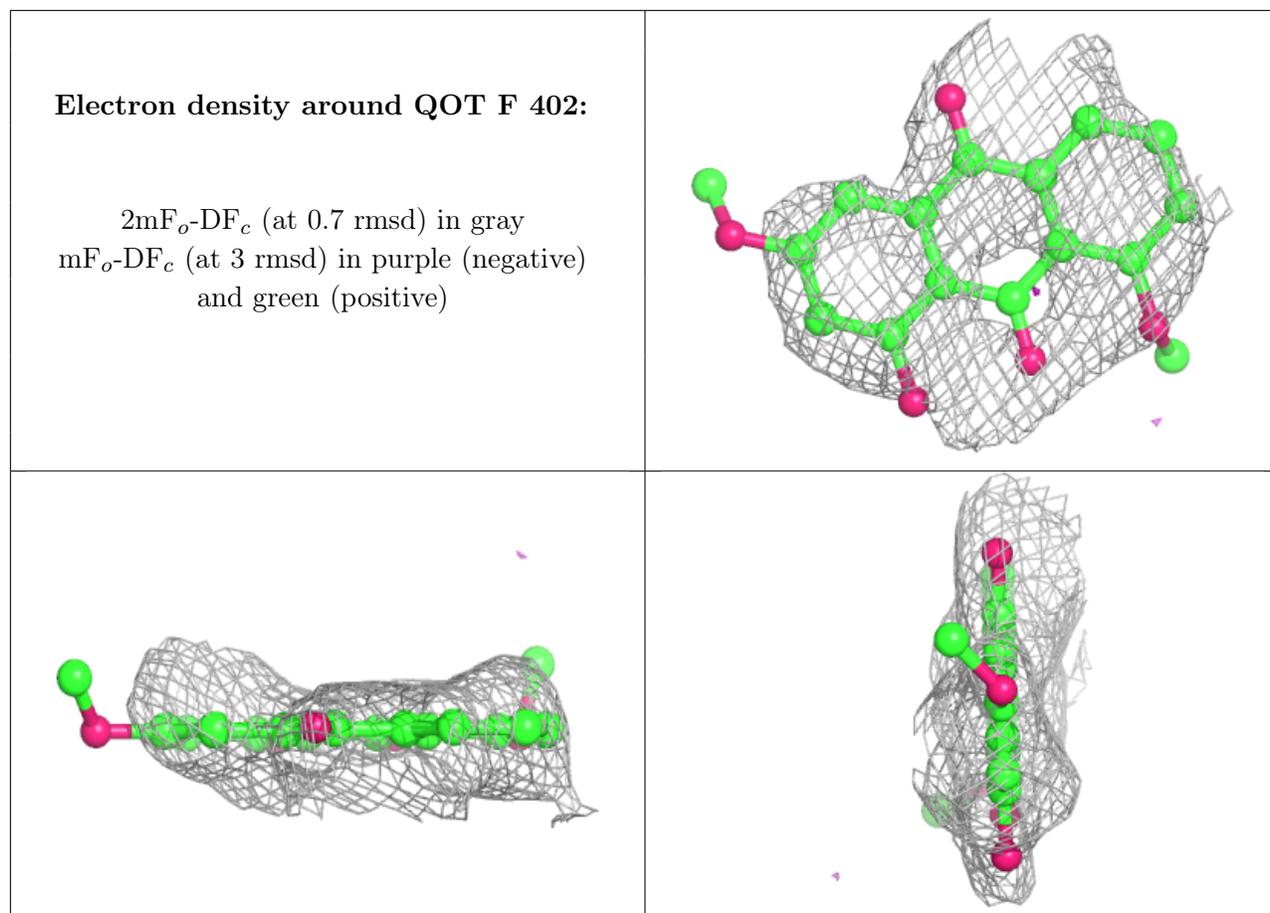
Electron density around QOT D 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
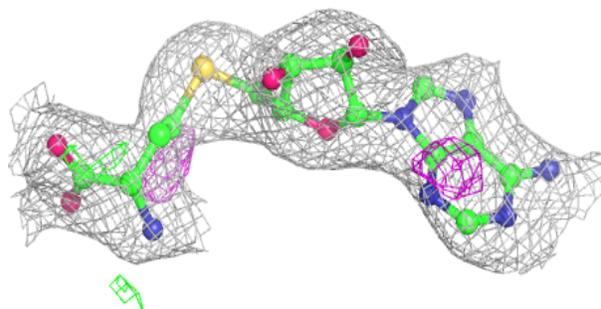mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
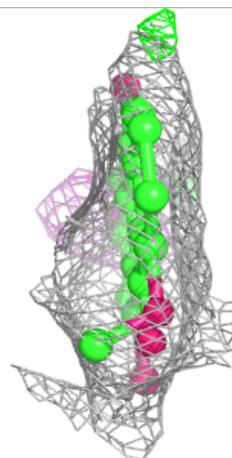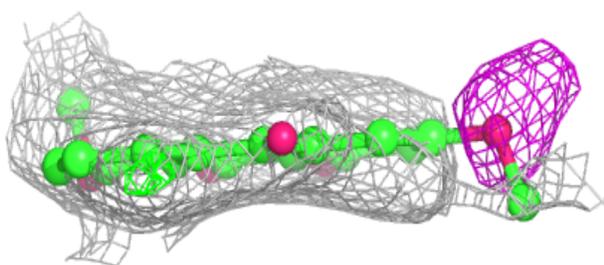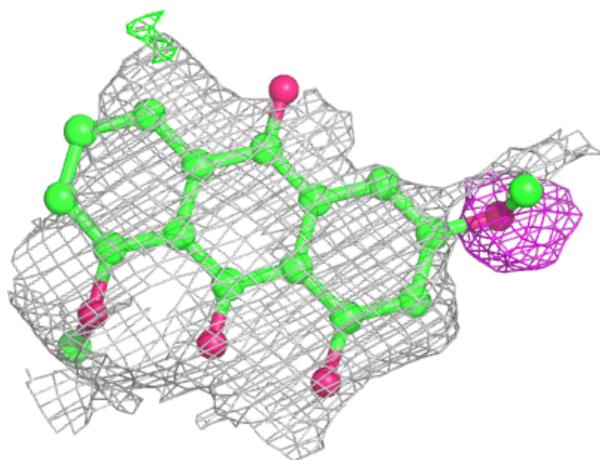
Electron density around QOT I 402:

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

Electron density around QOT B 402:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
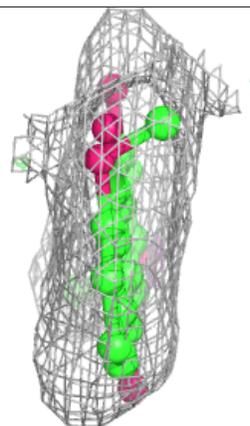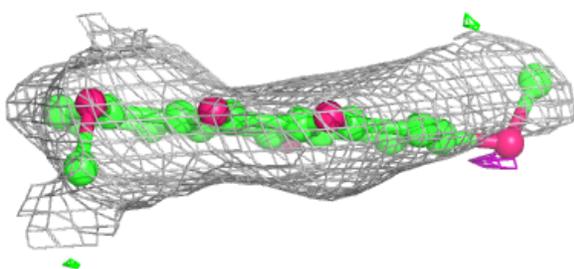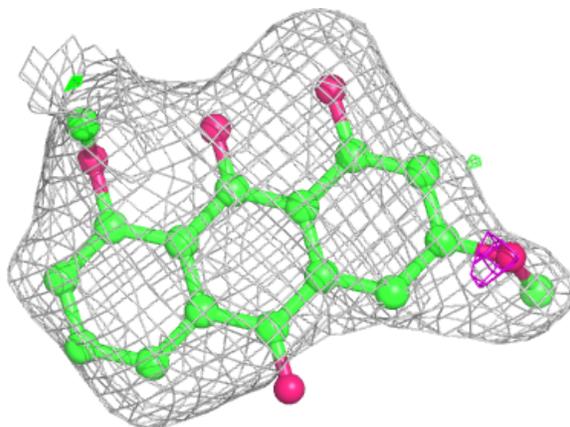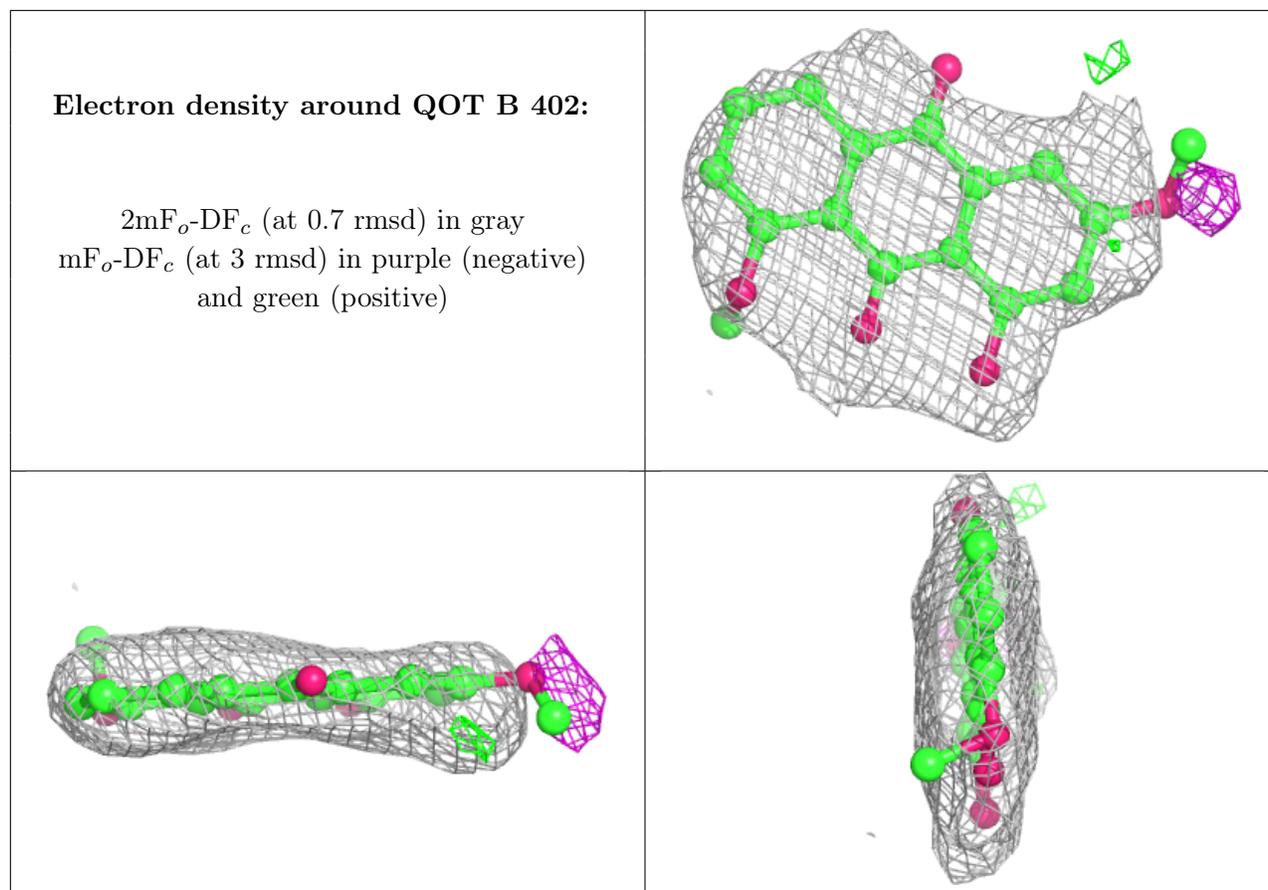
Electron density around QOT E 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
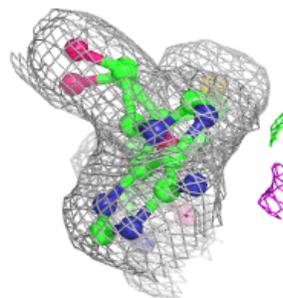mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
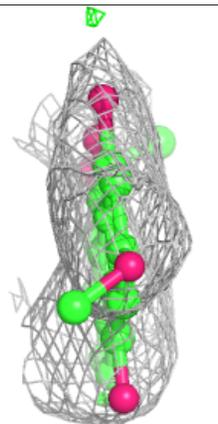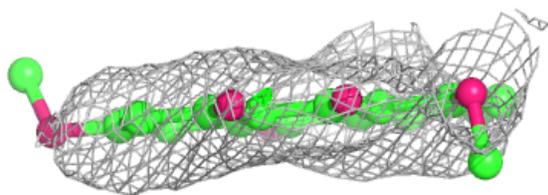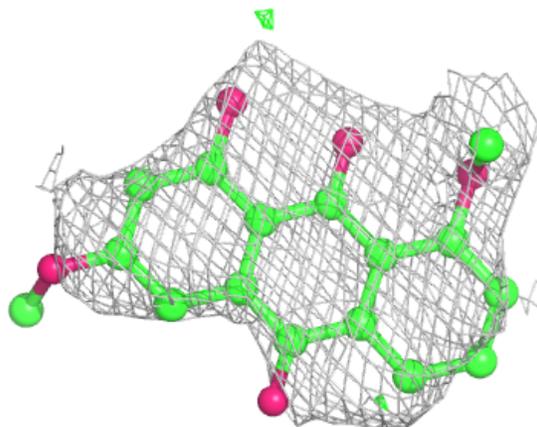
Electron density around QOT C 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
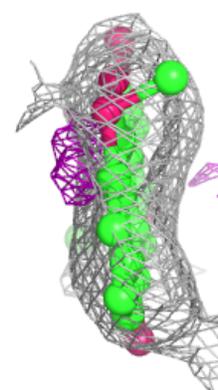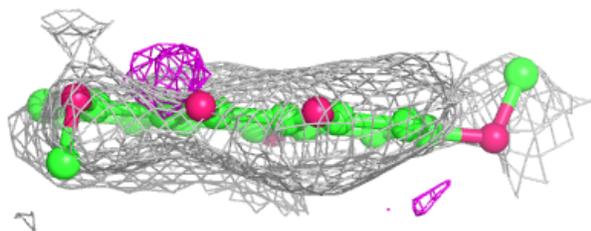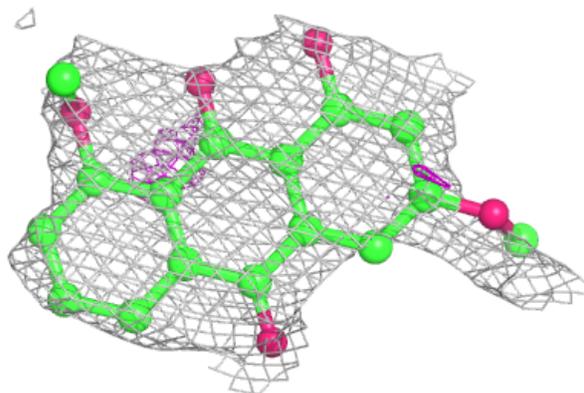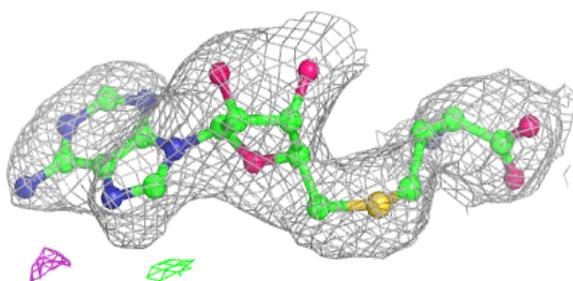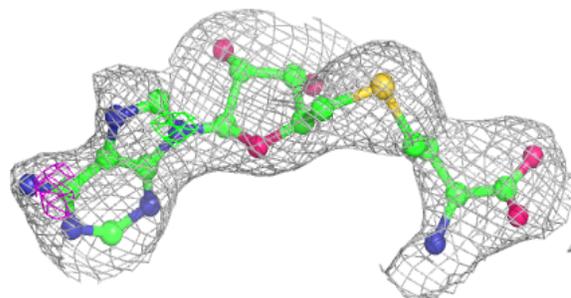
Electron density around QOT A 402:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
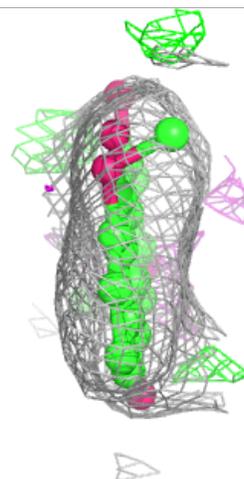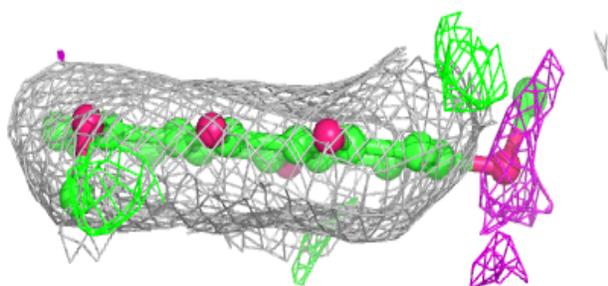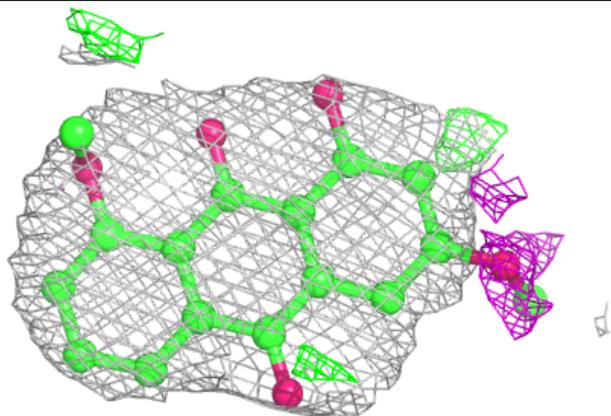
Electron density around SAH L 900:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
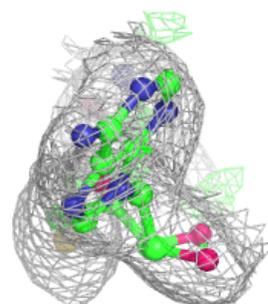and green (positive)
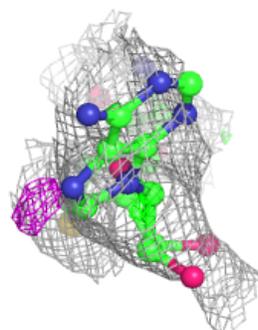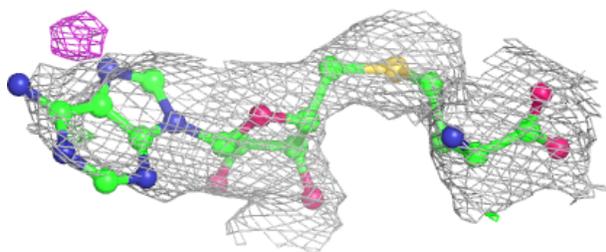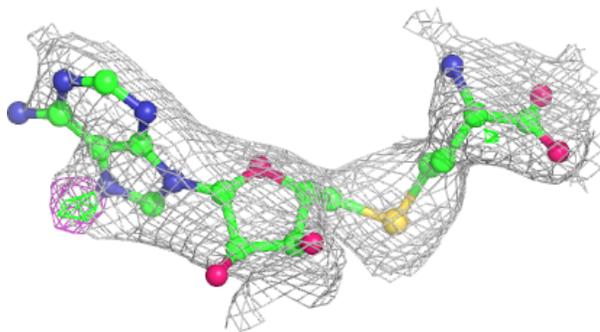
Electron density around SAH C 401:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
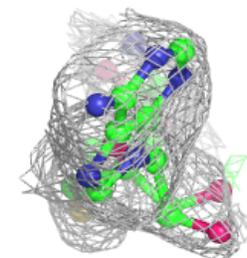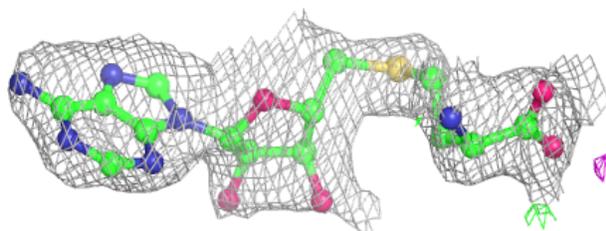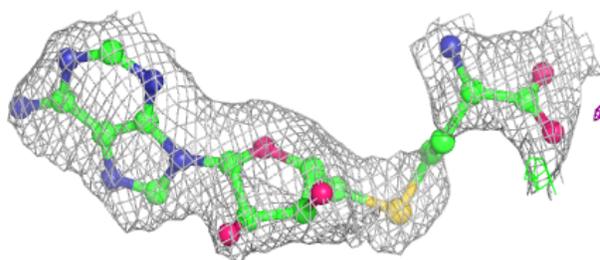
Electron density around SAH J 900:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
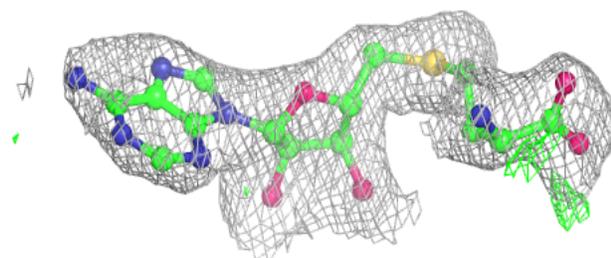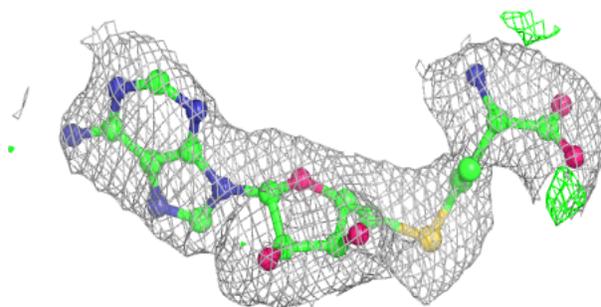and green (positive)
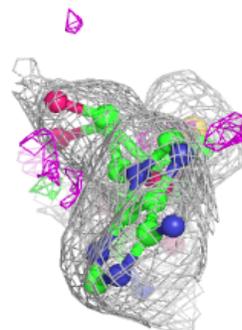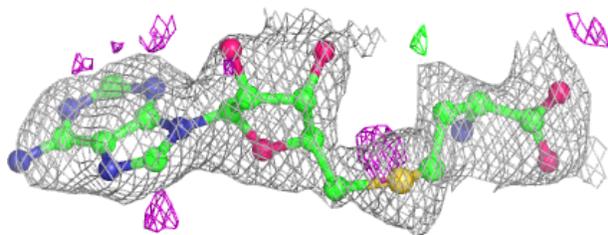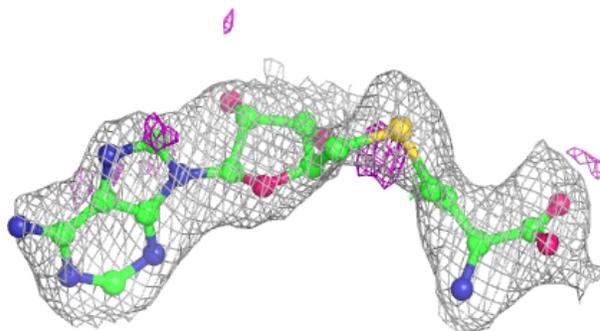
Electron density around SAH F 401:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
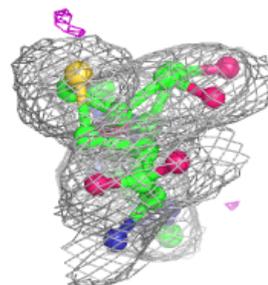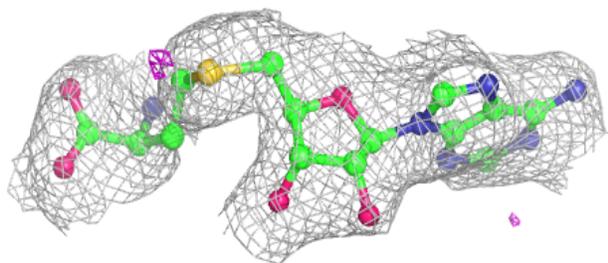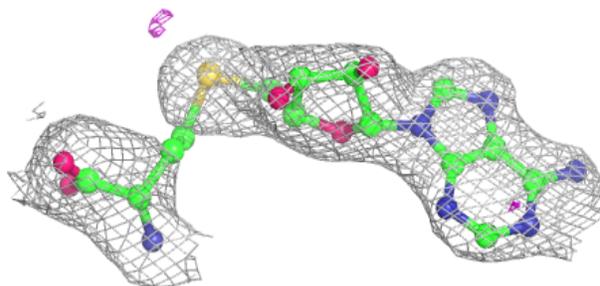
Electron density around QOT G 402:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
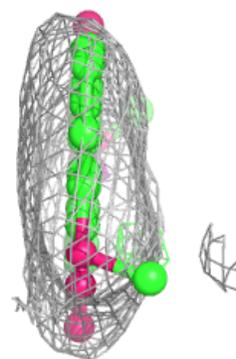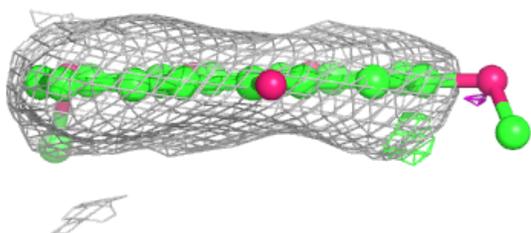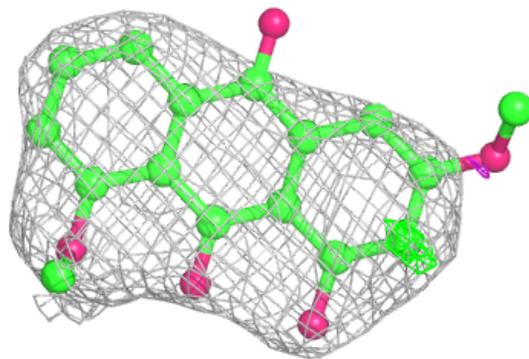
Electron density around SAH K 401:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
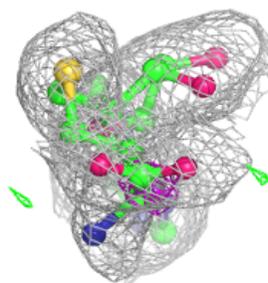$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
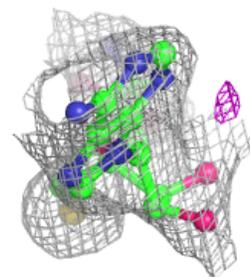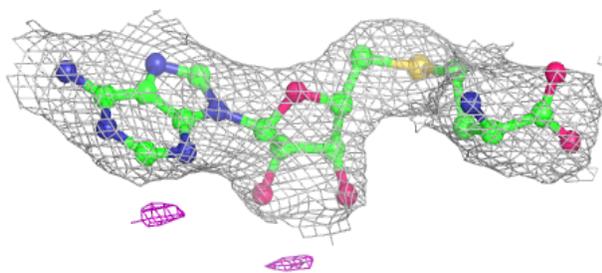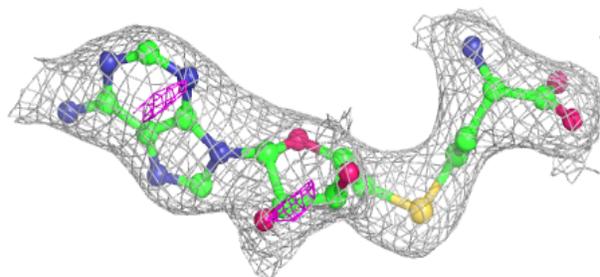
Electron density around SAH E 401:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
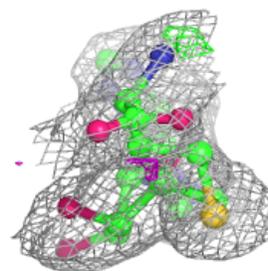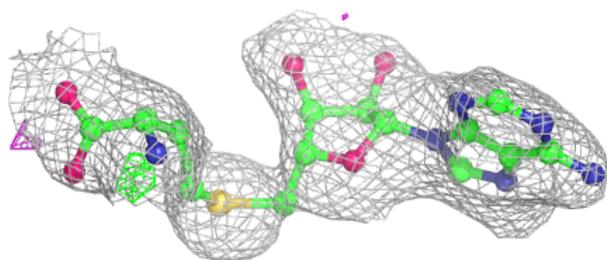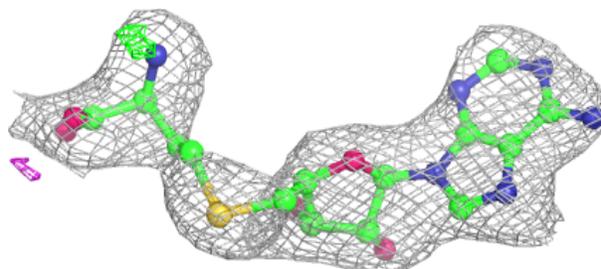
Electron density around SAH H 401:

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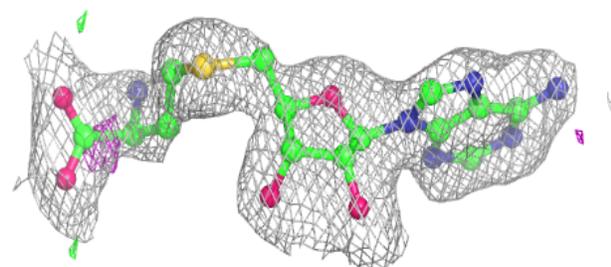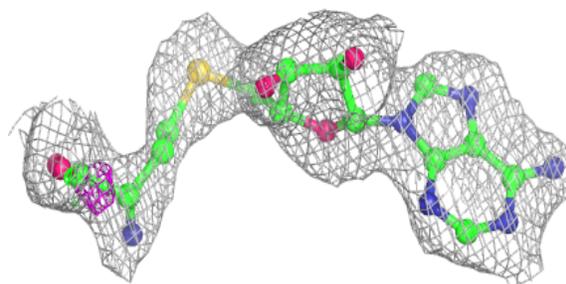and green (positive)

Electron density around SAH I 401:

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

Electron density around SAH B 401:

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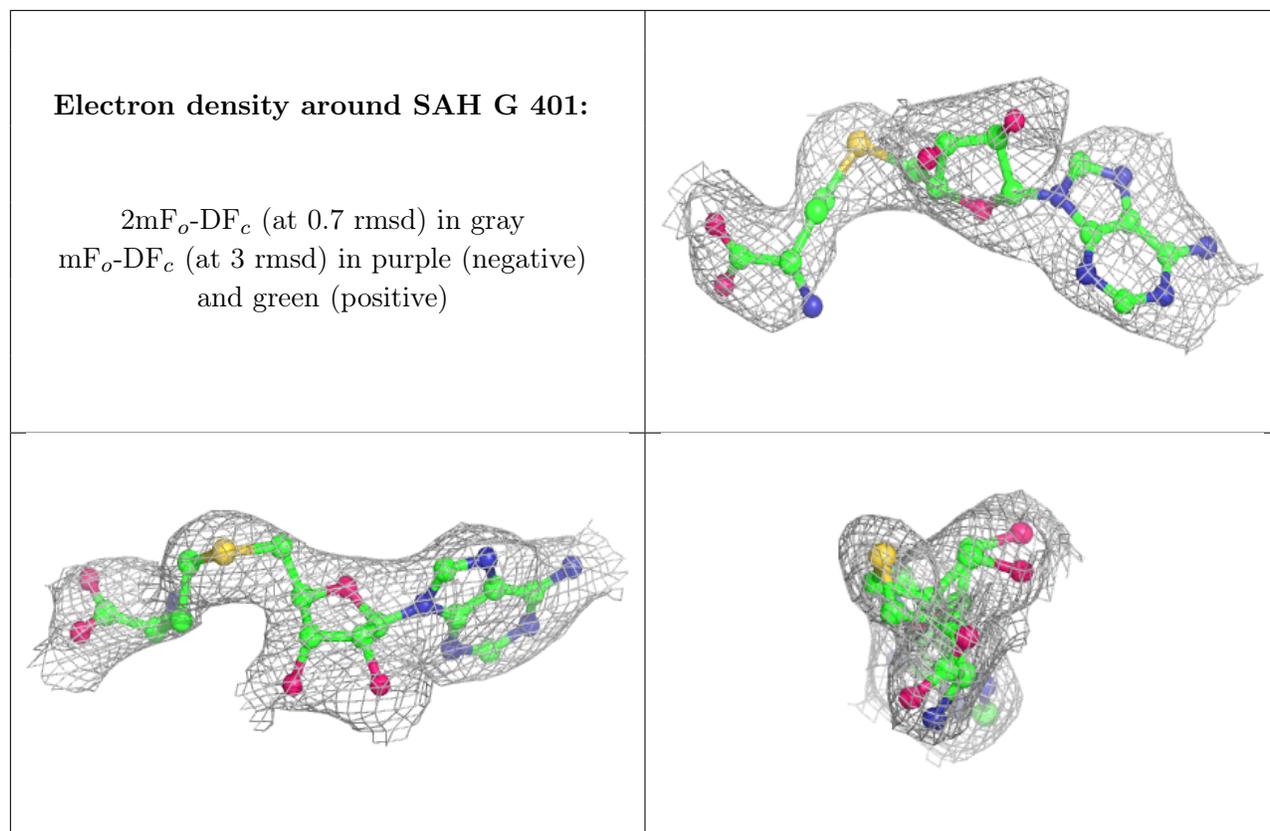and green (positive)

Electron density around SAH A 401:

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

Electron density around SAH D 401:

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

Electron density around SAH G 401:

$2mF_o\text{-}DF_c$ (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.