WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Apr 30, 2024 – 11:29 pm BST

PDB ID	:	5A1S
Title	:	Crystal structure of the sodium-dependent citrate symporter SeCitS form Salmonella enterica.
Authors	:	Woehlert, D.; Groetzinger, M.J.; Kuhlbrandt, W.; Yildiz, O.
Deposited on	:	2015-05-05
Resolution	:	2.50 Å(reported)

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

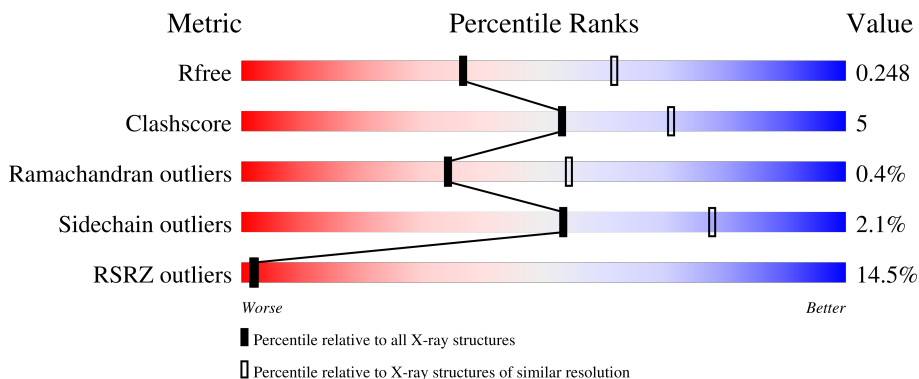|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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 2.50 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.248
Clashscore		5
Ramachandran outliers		0.4%
Sidechain outliers		2.1%
RSRZ outliers		14.5%

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$_{free}$	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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	448	10% / 85% 12% ·
1	B	448	18% / 80% 15% 5%
1	C	448	13% / 79% 16% · ·
1	D	448	15% / 82% 14% · ·

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
3	FLC	B	1449	-	-	-	X
4	BOG	A	1456	-	-	-	X
4	BOG	C	1448	-	-	-	X
4	BOG	D	1454	-	-	-	X
7	PTY	A	1455	-	-	-	X

2 Entry composition ⓘ

There are 9 unique types of molecules in this entry. The entry contains 13270 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 CITRATE-SODIUM SYMPORTER.

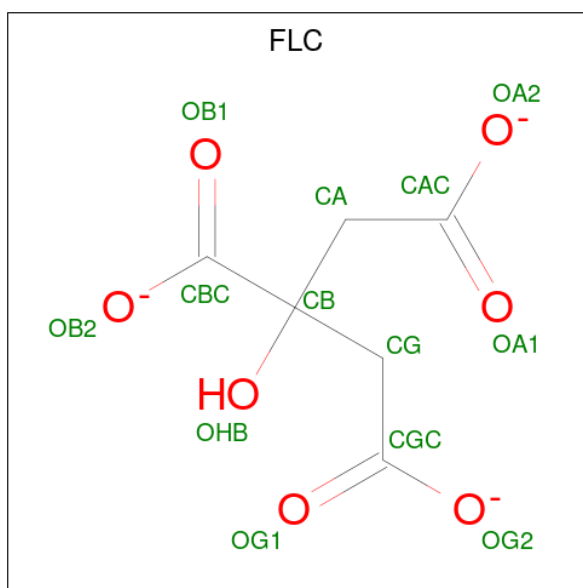| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	433	Total	C	N	O	S	0	0	0
			3256	2151	516	567	22			
1	B	426	Total	C	N	O	S	0	0	0
			3201	2117	508	554	22			
1	C	428	Total	C	N	O	S	0	0	0
			3206	2118	511	555	22			
1	D	434	Total	C	N	O	S	0	0	0
			3253	2147	517	567	22			

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	447	LEU	-	expression tag	UNP G4BX92
A	448	GLU	-	expression tag	UNP G4BX92
B	447	LEU	-	expression tag	UNP G4BX92
B	448	GLU	-	expression tag	UNP G4BX92
C	447	LEU	-	expression tag	UNP G4BX92
C	448	GLU	-	expression tag	UNP G4BX92
D	447	LEU	-	expression tag	UNP G4BX92
D	448	GLU	-	expression tag	UNP G4BX92

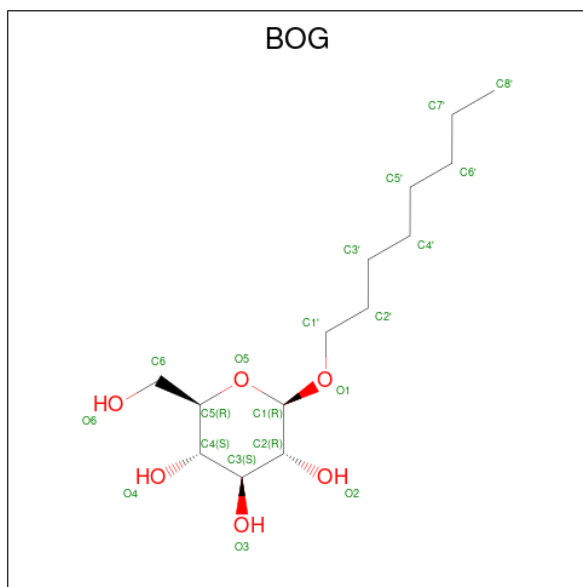- Molecule 2 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	2	Total	Na	0	0
			2	2		
2	B	1	Total	Na	0	0
			1	1		
2	C	2	Total	Na	0	0
			2	2		
2	D	2	Total	Na	0	0
			2	2		

- Molecule 3 is CITRATE ANION (three-letter code: FLC) (formula: $C_6H_5O_7$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			13	6	7		
3	A	1	Total	C	O	0	0
			13	6	7		
3	A	1	Total	C	O	0	0
			13	6	7		
3	B	1	Total	C	O	0	0
			13	6	7		
3	B	1	Total	C	O	0	0
			13	6	7		
3	C	1	Total	C	O	0	0
			13	6	7		
3	D	1	Total	C	O	0	0
			13	6	7		

- Molecule 4 is octyl beta-D-glucopyranoside (three-letter code: BOG) (formula: $C_{14}H_{28}O_6$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total 20	C 14	O 6	0	0
4	A	1	Total 20	C 14	O 6	0	0
4	C	1	Total 20	C 14	O 6	0	0
4	C	1	Total 20	C 14	O 6	0	0
4	D	1	Total 20	C 14	O 6	0	0

- Molecule 5 is UNDECANE (three-letter code: UND) (formula: $C_{11}H_{24}$).
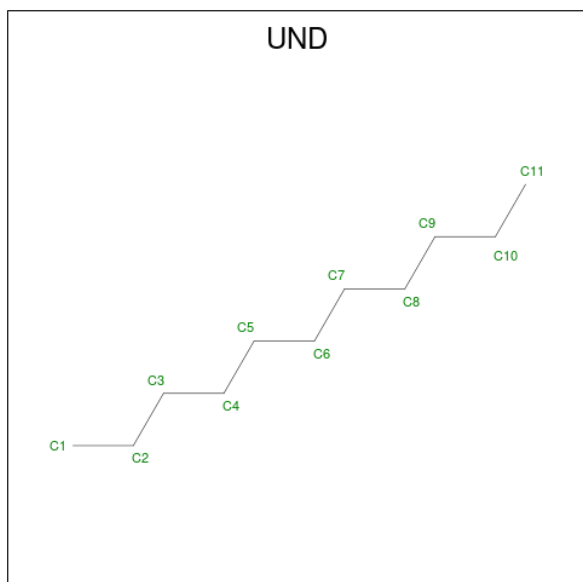
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total C 11 11		0	0
5	D	1	Total C 11 11		0	0

- Molecule 6 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1	Total Cl 1 1		0	0
6	D	2	Total Cl 2 2		0	0

- Molecule 7 is PHOSPHATIDYLETHANOLAMINE (three-letter code: PTY) (formula: $C_{40}H_{80}NO_8P$).
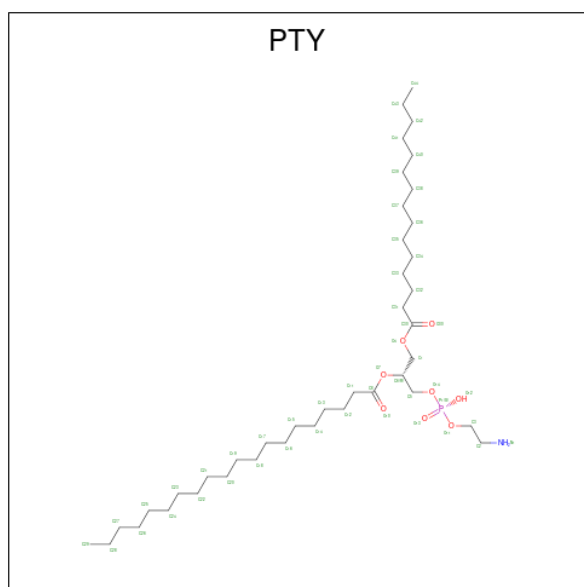
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
7	A	1	50	40	1	8	1	0	0

- Molecule 8 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: $C_6H_{13}NO_4S$).

MES

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
8	D	1	Total	C	N	O	S	0	0
			12	6	1	4	1		

• Molecule 9 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	A	24	Total	O	0	0
			24	24		
9	B	14	Total	O	0	0
			14	14		
9	C	13	Total	O	0	0
			13	13		
9	D	18	Total	O	0	0
			18	18		

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.
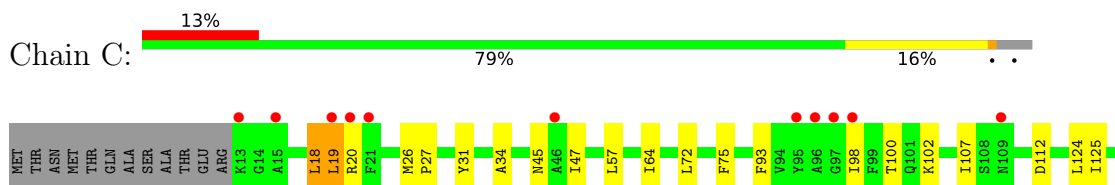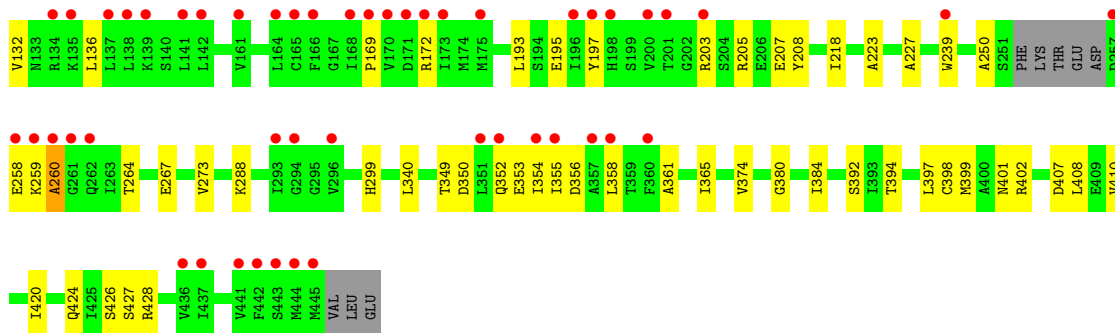
• Molecule 1: CITRATE-SODIUM SYMPORTER
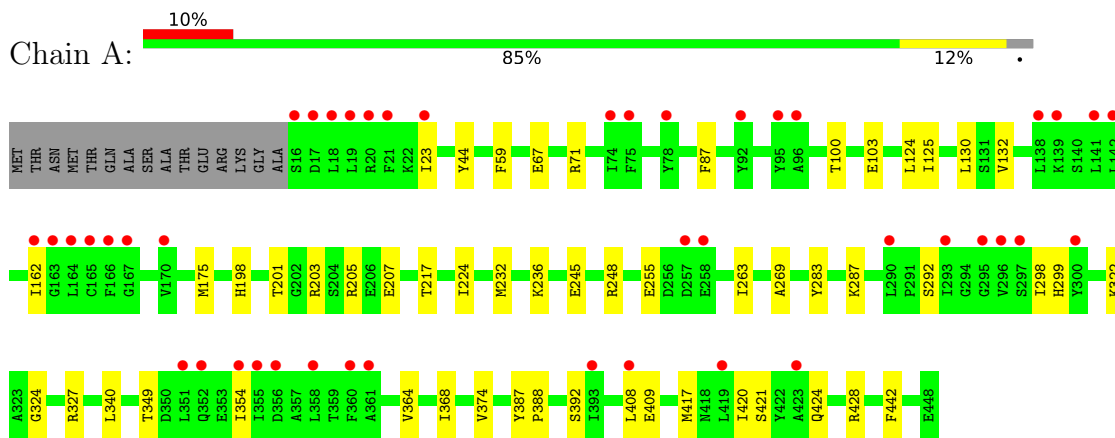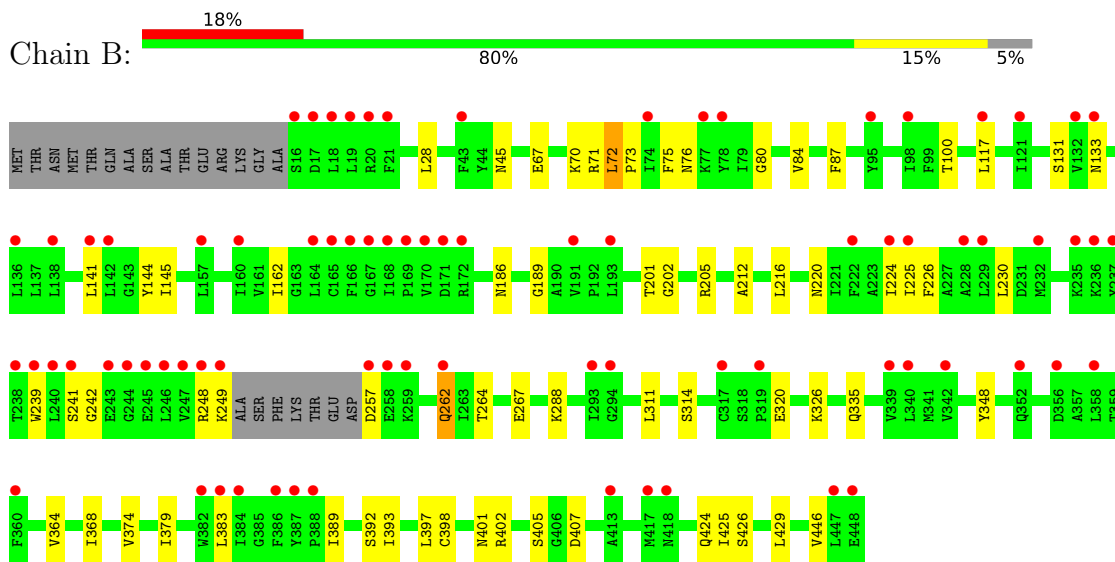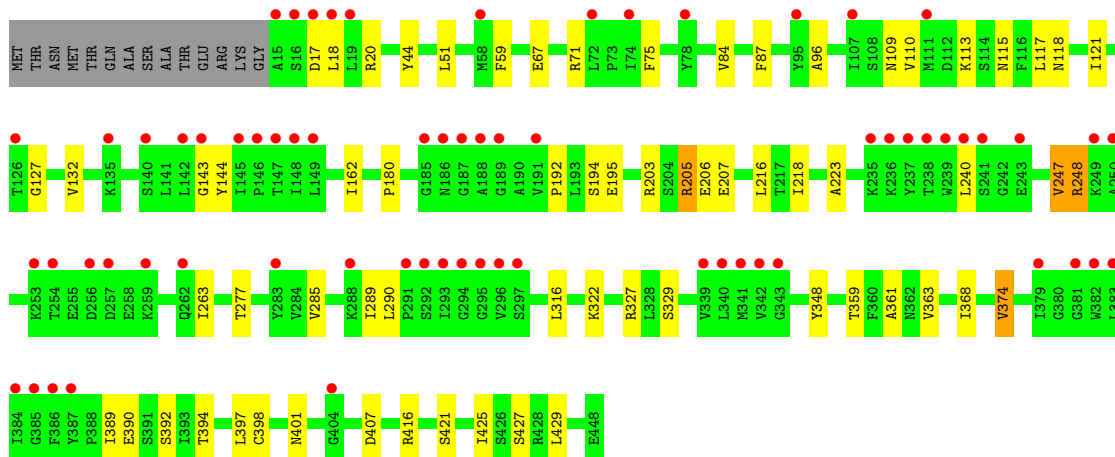

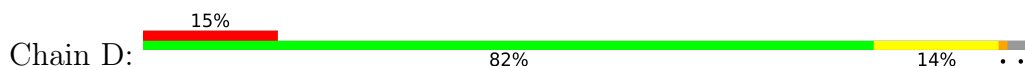• Molecule 1: CITRATE-SODIUM SYMPORTER

• Molecule 1: CITRATE-SODIUM SYMPORTER

• Molecule 1: CITRATE-SODIUM SYMPORTER

Chain D:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	86.38Å 89.94Å 91.84Å 90.44° 113.79° 99.55°	Depositor
Resolution (Å)	47.98 – 2.50 47.98 – 2.50	Depositor EDS
% Data completeness (in resolution range)	98.6 (47.98-2.50) 98.7 (47.98-2.50)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.76 (at 2.51Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.208 , 0.246 0.209 , 0.248	Depositor DCC
R_{free} test set	4200 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	62.4	Xtriage
Anisotropy	0.118	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 64.0	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	13270	wwPDB-VP
Average B, all atoms (Å^2)	69.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.92% 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: PTY, BOG, NA, UND, MES, CL, FLC

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$>5	RMSZ	#$|Z|$>5
1	A	0.23	0/3320	0.40	0/4503
1	B	0.23	0/3263	0.41	0/4425
1	C	0.23	0/3268	0.41	0/4430
1	D	0.23	0/3316	0.40	0/4498
All	All	0.23	0/13167	0.40	0/17856

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	3256	0	3414	34	0
1	B	3201	0	3365	36	0
1	C	3206	0	3369	39	0
1	D	3253	0	3407	34	0
2	A	2	0	0	0	0
2	B	1	0	0	0	0
2	C	2	0	0	0	0
2	D	2	0	0	0	0
3	A	39	0	15	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	26	0	10	2	0
3	C	13	0	5	0	0
3	D	13	0	5	1	0
4	A	40	0	56	2	0
4	C	40	0	56	0	0
4	D	20	0	28	1	0
5	A	11	0	24	0	0
5	D	11	0	24	0	0
6	A	1	0	0	0	0
6	D	2	0	0	0	0
7	A	50	0	79	4	0
8	D	12	0	13	2	0
9	A	24	0	0	3	0
9	B	14	0	0	0	0
9	C	13	0	0	0	0
9	D	18	0	0	0	0
All	All	13270	0	13870	145	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (145) 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:C:136:LEU:HD21	1:C:250:ALA:HB1	1.65	0.78
1:A:340:LEU:HD21	1:A:408:LEU:HD13	1.66	0.77
1:C:340:LEU:HD21	1:C:408:LEU:HD13	1.71	0.73
1:A:67:GLU:HB3	1:A:71:ARG:HH21	1.55	0.72
1:C:288:LYS:NZ	1:D:44:TYR:O	2.26	0.69
1:B:424:GLN:OE1	3:B:1450:FLC:OHB	2.12	0.68
1:D:285:VAL:HA	1:D:289:ILE:HB	1.76	0.68
1:B:241:SER:HB2	1:B:389:ILE:HD12	1.77	0.65
1:C:124:LEU:HB3	1:C:420:ILE:HG21	1.80	0.64
1:C:72:LEU:HB3	1:C:75:PHE:HB3	1.81	0.63
1:B:401:ASN:ND2	1:B:407:ASP:OD1	2.32	0.63
1:C:18:LEU:HD13	1:C:18:LEU:H	1.63	0.63
1:A:236:LYS:NZ	9:A:2017:HOH:O	2.30	0.63
1:A:205:ARG:NH1	9:A:2013:HOH:O	2.33	0.62
1:C:352:GLN:NE2	1:C:356:ASP:OD1	2.30	0.61
1:B:262:GLN:O	1:B:262:GLN:NE2	2.33	0.61
1:A:67:GLU:OE1	1:A:71:ARG:NH2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:203:ARG:NH1	1:D:207:GLU:OE1	2.33	0.61
1:C:195:GLU:OE1	1:C:205:ARG:NH1	2.35	0.59
1:A:125:ILE:HD11	1:A:424:GLN:HG3	1.84	0.59
1:A:263:ILE:HD11	1:A:324:GLY:HA2	1.85	0.59
1:D:194:SER:HB3	1:D:205:ARG:HB2	1.85	0.58
3:D:1449:FLC:OA1	3:D:1449:FLC:OHB	2.21	0.57
1:D:359:THR:HG22	1:D:361:ALA:H	1.68	0.57
1:A:162:ILE:HD12	1:A:368:ILE:HG13	1.86	0.56
1:D:206:GLU:HG2	8:D:1453:MES:H22	1.87	0.56
1:D:127:GLY:HA3	1:D:329:SER:HB2	1.86	0.55
1:A:299:HIS:HB3	1:A:428:ARG:HB3	1.89	0.55
1:C:125:ILE:HD11	1:C:424:GLN:HG3	1.89	0.55
1:B:141:LEU:HD23	1:B:145:ILE:HD12	1.88	0.55
1:C:399:MET:HG2	1:C:426:SER:HB3	1.90	0.54
1:B:425:ILE:HG23	1:B:429:LEU:HD12	1.90	0.54
1:A:203:ARG:NH2	9:A:2012:HOH:O	2.36	0.53
1:D:109:ASN:HA	1:D:113:LYS:HB3	1.91	0.53
1:C:361:ALA:O	1:C:365:ILE:HG12	2.09	0.53
1:B:67:GLU:O	1:B:71:ARG:HG2	2.09	0.53
1:C:218:ILE:HG12	1:C:354:ILE:HG23	1.91	0.53
1:A:245:GLU:OE2	4:A:1450:BOG:O4	2.16	0.52
1:D:425:ILE:HG23	1:D:429:LEU:HD12	1.91	0.52
1:C:374:VAL:HG13	1:C:392:SER:HB2	1.91	0.52
1:D:195:GLU:OE2	1:D:348:TYR:OH	2.17	0.52
1:D:374:VAL:HB	1:D:392:SER:HB2	1.92	0.51
1:A:87:PHE:CZ	1:A:349:THR:HG21	2.45	0.51
1:B:374:VAL:HG13	1:B:392:SER:HB3	1.91	0.51
1:C:169:PRO:HG2	1:C:172:ARG:HG3	1.93	0.51
1:A:374:VAL:HG13	1:A:392:SER:HB3	1.93	0.50
1:C:34:ALA:HA	1:D:277:THR:HG21	1.92	0.50
1:B:70:LYS:O	1:B:76:ASN:ND2	2.37	0.50
1:B:248:ARG:HG3	1:B:249:LYS:HG2	1.94	0.49
1:B:162:ILE:HG12	1:B:368:ILE:HG13	1.95	0.49
1:A:203:ARG:NH1	1:A:207:GLU:OE1	2.45	0.49
1:D:51:LEU:HD23	1:D:110:VAL:HG22	1.95	0.49
1:B:267:GLU:HG2	1:B:320:GLU:HB3	1.94	0.49
1:C:57:LEU:HD22	1:C:107:ILE:HD11	1.94	0.49
1:B:84:VAL:HA	1:B:87:PHE:CE2	2.48	0.49
1:B:241:SER:OG	1:B:242:GLY:O	2.27	0.48
1:A:292:SER:HA	1:A:298:ILE:HG12	1.95	0.48
1:A:23:ILE:HG23	1:A:67:GLU:HG3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:144:TYR:OH	1:D:394:THR:OG1	2.21	0.48
1:D:115:ASN:ND2	1:D:118:ASN:OD1	2.48	0.47
1:A:248:ARG:HG2	1:A:387:TYR:CZ	2.50	0.47
1:B:398:CYS:HA	1:B:401:ASN:ND2	2.29	0.47
7:A:1455:PTY:H201	7:A:1455:PTY:H231	1.75	0.47
1:B:144:TYR:OH	1:B:426:SER:OG	2.28	0.47
1:B:212:ALA:O	1:B:216:LEU:HB2	2.14	0.47
1:D:162:ILE:HG12	1:D:368:ILE:HD12	1.97	0.47
1:D:240:LEU:HB3	1:D:389:ILE:HG12	1.96	0.47
1:C:197:TYR:OH	1:C:207:GLU:OE2	2.21	0.47
1:A:263:ILE:HD13	1:A:327:ARG:HD2	1.97	0.46
1:B:364:VAL:O	1:B:368:ILE:HG12	2.15	0.46
1:D:180:PRO:O	1:D:216:LEU:HD21	2.15	0.46
1:D:390:GLU:O	1:D:394:THR:HG22	2.15	0.46
1:A:255:GLU:OE1	1:A:255:GLU:N	2.39	0.46
1:B:402:ARG:NH1	1:B:405:SER:OG	2.48	0.46
1:C:47:ILE:HG22	1:C:102:LYS:HG3	1.98	0.45
1:D:247:VAL:HG12	1:D:248:ARG:H	1.81	0.45
7:A:1455:PTY:H351	7:A:1455:PTY:H381	1.55	0.45
1:B:389:ILE:O	1:B:393:ILE:HG12	2.17	0.45
1:C:193:LEU:HB3	1:C:208:TYR:CE1	2.52	0.45
1:D:223:ALA:HA	1:D:397:LEU:HD22	1.98	0.45
1:A:175:MET:HG2	1:A:442:PHE:CE1	2.52	0.45
1:B:72:LEU:HB3	1:B:75:PHE:HB3	1.98	0.45
1:C:380:GLY:O	1:C:384:ILE:HG12	2.16	0.45
1:C:193:LEU:HB3	1:C:208:TYR:HE1	1.82	0.45
1:C:355:ILE:HA	1:C:358:LEU:HB2	1.99	0.45
1:C:398:CYS:HA	1:C:401:ASN:ND2	2.32	0.45
1:D:84:VAL:HA	1:D:87:PHE:CE2	2.52	0.45
1:C:299:HIS:HB3	1:C:428:ARG:HB3	1.99	0.45
1:C:407:ASP:OD2	1:C:427:SER:OG	2.34	0.45
3:B:1449:FLC:OG1	3:B:1449:FLC:OHB	2.33	0.45
1:C:264:THR:OG1	1:C:267:GLU:OE2	2.34	0.44
1:B:379:ILE:O	1:B:383:LEU:HG	2.17	0.44
1:D:390:GLU:OE2	1:D:416:ARG:NE	2.41	0.44
1:A:283:TYR:O	1:A:287:LYS:HB2	2.17	0.44
1:A:87:PHE:HZ	1:A:349:THR:HG21	1.82	0.44
1:C:203:ARG:NH1	1:C:207:GLU:OE1	2.51	0.44
1:A:44:TYR:HB3	1:B:288:LYS:HG3	1.98	0.44
1:B:311:LEU:O	1:B:314:SER:OG	2.26	0.44
1:C:349:THR:OG1	1:C:350:ASP:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:201:THR:OG1	1:B:202:GLY:N	2.51	0.43
1:A:217:THR:HG22	1:A:354:ILE:HD11	1.99	0.43
1:D:218:ILE:HG21	1:D:363:VAL:HA	1.99	0.43
1:C:223:ALA:HA	1:C:397:LEU:HD22	2.00	0.43
1:A:364:VAL:O	1:A:368:ILE:HG12	2.19	0.43
1:A:100:THR:HG23	1:A:103:GLU:H	1.83	0.43
1:A:130:LEU:O	1:A:322:LYS:HE3	2.19	0.43
1:A:387:TYR:HA	1:A:388:PRO:HD3	1.90	0.43
1:C:273:VAL:HG22	1:D:59:PHE:CG	2.54	0.43
1:B:133:ASN:HD21	1:B:257:ASP:HB3	1.84	0.43
1:C:258:GLU:O	1:C:260:ALA:N	2.53	0.42
1:A:201:THR:HG22	1:A:203:ARG:HG3	1.99	0.42
1:C:93:PHE:CD1	1:C:98:ILE:HD12	2.53	0.42
8:D:1453:MES:H82	8:D:1453:MES:H31	1.81	0.42
1:B:220:ASN:O	1:B:224:ILE:HG23	2.19	0.42
1:C:26:MET:HA	1:C:27:PRO:HD2	1.91	0.42
1:A:124:LEU:HB3	1:A:420:ILE:HG21	2.02	0.42
1:D:203:ARG:HD3	1:D:207:GLU:OE2	2.20	0.42
7:A:1455:PTY:H352	7:A:1455:PTY:H322	1.68	0.42
1:B:224:ILE:HG13	1:B:225:ILE:N	2.34	0.42
1:C:227:ALA:HB2	1:C:410:VAL:HG13	2.02	0.42
1:D:398:CYS:HA	1:D:401:ASN:ND2	2.34	0.42
1:C:19:LEU:HD23	1:C:20:ARG:H	1.84	0.41
1:B:162:ILE:HG12	1:B:368:ILE:HG21	2.03	0.41
1:B:201:THR:HG22	1:B:446:VAL:HG21	2.03	0.41
1:D:407:ASP:OD2	1:D:427:SER:OG	2.39	0.41
1:D:121:ILE:HD13	1:D:192:PRO:HB3	2.02	0.41
1:A:224:ILE:HD11	1:A:409:GLU:OE1	2.21	0.41
1:D:17:ASP:OD1	1:D:20:ARG:NH2	2.54	0.41
1:D:67:GLU:HG3	1:D:71:ARG:HH21	1.86	0.41
1:D:96:ALA:HA	4:D:1454:BOG:H61	2.03	0.41
1:A:198:HIS:ND1	1:A:203:ARG:O	2.54	0.41
1:A:269:ALA:HB2	1:B:335:GLN:HB3	2.03	0.41
1:B:45:ASN:OD1	1:B:100:THR:HG21	2.21	0.41
7:A:1455:PTY:H251	7:A:1455:PTY:H222	1.78	0.40
1:B:205:ARG:HD2	1:B:348:TYR:CE2	2.56	0.40
1:D:132:VAL:O	1:D:322:LYS:NZ	2.55	0.40
1:B:131:SER:HB3	1:B:326:LYS:HD3	2.03	0.40
1:B:226:PHE:O	1:B:230:LEU:HG	2.22	0.40
1:C:31:TYR:OH	1:C:64:ILE:HB	2.21	0.40
1:C:45:ASN:OD1	1:C:100:THR:HG21	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:394:THR:O	1:C:398:CYS:HB2	2.21	0.40
1:D:421:SER:O	1:D:425:ILE:HG12	2.22	0.40
1:A:132:VAL:HG11	4:A:1450:BOG:H1	2.04	0.40
1:B:80:GLY:HA2	1:B:402:ARG:CZ	2.51	0.40
1:C:424:GLN:O	1:C:428:ARG:HG2	2.22	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	431/448 (96%)	412 (96%)	19 (4%)	0	100	100
1	B	422/448 (94%)	395 (94%)	24 (6%)	3 (1%)	22	39
1	C	424/448 (95%)	402 (95%)	20 (5%)	2 (0%)	29	48
1	D	432/448 (96%)	409 (95%)	22 (5%)	1 (0%)	47	68
All	All	1709/1792 (95%)	1618 (95%)	85 (5%)	6 (0%)	34	54

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	259	LYS
1	B	73	PRO
1	D	143	GLY
1	B	186	ASN
1	C	260	ALA
1	B	189	GLY

5.3.2   Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	343/354 (97%)	339 (99%)	4 (1%)	71	88
1	B	337/354 (95%)	330 (98%)	7 (2%)	53	78
1	C	336/354 (95%)	329 (98%)	7 (2%)	53	78
1	D	341/354 (96%)	330 (97%)	11 (3%)	39	65
All	All	1357/1416 (96%)	1328 (98%)	29 (2%)	53	78

All (29) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	PHE
1	A	232	MET
1	A	417	MET
1	A	421	SER
1	B	28	LEU
1	B	72	LEU
1	B	117	LEU
1	B	239	TRP
1	B	262	GLN
1	B	264	THR
1	B	397	LEU
1	C	18	LEU
1	C	19	LEU
1	C	112	ASP
1	C	132	VAL
1	C	239	TRP
1	C	353	GLU
1	C	402	ARG
1	D	18	LEU
1	D	75	PHE
1	D	117	LEU
1	D	205	ARG
1	D	247	VAL
1	D	248	ARG

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Mol	Chain	Res	Type
1	D	263	ILE
1	D	290	LEU
1	D	316	LEU
1	D	327	ARG
1	D	374	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	262	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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 26 ligands modelled in this entry, 10 are monoatomic - leaving 16 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	FLC	C	1446	-	12,12,12	1.25	0	17,17,17	1.42	1 (5%)
4	BOG	C	1447	-	20,20,20	0.53	0	25,25,25	0.87	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
4	BOG	A	1450	-	20,20,20	0.57	0	25,25,25	0.99	1 (4%)
3	FLC	B	1450	-	12,12,12	1.21	0	17,17,17	1.45	1 (5%)
3	FLC	B	1449	-	12,12,12	1.20	0	17,17,17	1.45	2 (11%)
3	FLC	A	1449	-	12,12,12	1.26	0	17,17,17	1.38	1 (5%)
3	FLC	A	1454	-	12,12,12	1.26	0	17,17,17	1.49	1 (5%)
3	FLC	A	1453	-	12,12,12	1.18	0	17,17,17	1.44	1 (5%)
3	FLC	D	1449	-	12,12,12	1.24	0	17,17,17	1.50	1 (5%)
4	BOG	A	1456	-	20,20,20	0.47	0	25,25,25	1.02	1 (4%)
5	UND	A	1451	-	10,10,10	0.10	0	9,9,9	0.80	0
4	BOG	C	1448	-	20,20,20	0.50	0	25,25,25	0.87	1 (4%)
4	BOG	D	1454	-	20,20,20	0.42	0	25,25,25	1.37	2 (8%)
7	PTY	A	1455	-	49,49,49	1.02	3 (6%)	52,54,54	1.09	3 (5%)
5	UND	D	1450	-	10,10,10	0.10	0	9,9,9	0.81	0
8	MES	D	1453	-	12,12,12	1.28	2 (16%)	14,16,16	2.04	4 (28%)

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	FLC	C	1446	-	-	0/16/16/16	-
4	BOG	C	1447	-	-	4/11/31/31	0/1/1/1
4	BOG	A	1450	-	-	5/11/31/31	0/1/1/1
3	FLC	B	1450	-	-	6/16/16/16	-
3	FLC	B	1449	-	-	8/16/16/16	-
3	FLC	A	1449	-	-	0/16/16/16	-
3	FLC	A	1454	-	-	5/16/16/16	-
3	FLC	A	1453	-	-	8/16/16/16	-
3	FLC	D	1449	-	-	7/16/16/16	-
4	BOG	A	1456	-	-	7/11/31/31	0/1/1/1
5	UND	A	1451	-	-	0/8/8/8	-
4	BOG	C	1448	-	-	3/11/31/31	0/1/1/1
4	BOG	D	1454	-	-	2/11/31/31	0/1/1/1
7	PTY	A	1455	-	-	23/53/53/53	-
5	UND	D	1450	-	-	2/8/8/8	-
8	MES	D	1453	-	-	3/6/14/14	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	1455	PTY	O4-C30	3.60	1.43	1.33
7	A	1455	PTY	O7-C8	3.21	1.43	1.34
8	D	1453	MES	O2S-S	2.40	1.52	1.45
7	A	1455	PTY	O7-C6	-2.22	1.41	1.46
8	D	1453	MES	O1S-S	2.03	1.51	1.45

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	D	1453	MES	O3S-S-O2S	-4.32	100.72	111.27
4	D	1454	BOG	O5-C5-C4	4.29	117.49	109.69
3	D	1449	FLC	OB2-CBC-CB	4.21	120.35	113.05
7	A	1455	PTY	O7-C8-C11	4.16	120.46	111.50
3	C	1446	FLC	OB2-CBC-CB	3.96	119.93	113.05
3	B	1450	FLC	OB2-CBC-CB	3.96	119.93	113.05
3	A	1454	FLC	OB2-CBC-CB	3.93	119.88	113.05
3	A	1449	FLC	OB2-CBC-CB	3.91	119.84	113.05
3	A	1453	FLC	OB2-CBC-CB	3.89	119.80	113.05
8	D	1453	MES	O2S-S-C8	3.88	111.58	106.92
3	B	1449	FLC	OB2-CBC-CB	3.72	119.52	113.05
4	D	1454	BOG	C3-C4-C5	3.48	116.44	110.24
4	A	1450	BOG	C1-O5-C5	-3.38	107.05	113.69
8	D	1453	MES	O1S-S-C8	3.38	110.98	106.92
4	A	1456	BOG	C1-O5-C5	-3.21	107.39	113.69
8	D	1453	MES	O3S-S-C8	2.95	110.53	105.77
4	C	1448	BOG	C1-O5-C5	-2.94	107.93	113.69
4	C	1447	BOG	C1-O5-C5	-2.88	108.03	113.69
7	A	1455	PTY	O4-C30-O30	-2.38	117.59	123.59
3	B	1449	FLC	OA2-CAC-CA	2.21	121.46	114.35
7	A	1455	PTY	O4-C30-C31	2.13	118.60	111.91

There are no chirality outliers.

All (83) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1453	FLC	CAC-CA-CB-CBC
3	A	1453	FLC	CAC-CA-CB-CG
3	A	1454	FLC	CAC-CA-CB-CBC
3	A	1454	FLC	CAC-CA-CB-CG
3	A	1454	FLC	CAC-CA-CB-OHB
3	B	1449	FLC	CG-CB-CBC-OB1

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Mol	Chain	Res	Type	Atoms
3	B	1449	FLC	CG-CB-CBC-OB2
3	B	1449	FLC	OHB-CB-CBC-OB1
3	B	1449	FLC	OHB-CB-CBC-OB2
3	B	1450	FLC	CG-CB-CBC-OB1
3	B	1450	FLC	CG-CB-CBC-OB2
3	B	1450	FLC	OHB-CB-CBC-OB1
3	B	1450	FLC	OHB-CB-CBC-OB2
3	D	1449	FLC	CAC-CA-CB-CBC
3	D	1449	FLC	CAC-CA-CB-CG
4	A	1456	BOG	C2-C1-O1-C1'
4	A	1456	BOG	O5-C1-O1-C1'
4	C	1448	BOG	O5-C1-O1-C1'
7	A	1455	PTY	C11-C8-O7-C6
8	D	1453	MES	C7-C8-S-O2S
7	A	1455	PTY	O30-C30-O4-C1
7	A	1455	PTY	O10-C8-O7-C6
4	C	1447	BOG	O5-C5-C6-O6
7	A	1455	PTY	C31-C30-O4-C1
4	A	1456	BOG	O5-C5-C6-O6
4	C	1447	BOG	C4-C5-C6-O6
4	A	1456	BOG	O1-C1'-C2'-C3'
7	A	1455	PTY	C38-C39-C40-C41
7	A	1455	PTY	C19-C20-C21-C22
3	A	1453	FLC	CAC-CA-CB-OHB
7	A	1455	PTY	C40-C41-C42-C43
4	A	1450	BOG	C2'-C3'-C4'-C5'
7	A	1455	PTY	C25-C26-C27-C28
4	A	1456	BOG	C4-C5-C6-O6
3	A	1453	FLC	CA-CB-CBC-OB2
4	A	1450	BOG	C1'-C2'-C3'-C4'
7	A	1455	PTY	C18-C19-C20-C21
3	D	1449	FLC	CAC-CA-CB-OHB
3	D	1449	FLC	CA-CB-CG-CGC
3	D	1449	FLC	OHB-CB-CG-CGC
7	A	1455	PTY	C34-C35-C36-C37
5	D	1450	UND	C2-C3-C4-C5
7	A	1455	PTY	C15-C16-C17-C18
8	D	1453	MES	C7-C8-S-O3S
7	A	1455	PTY	C23-C24-C25-C26
4	C	1448	BOG	C2-C1-O1-C1'
4	D	1454	BOG	C2-C1-O1-C1'
4	A	1450	BOG	C2'-C1'-O1-C1

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Mol	Chain	Res	Type	Atoms
4	C	1447	BOG	C2'-C1'-O1-C1
7	A	1455	PTY	C20-C21-C22-C23
3	B	1450	FLC	CA-CB-CBC-OB1
3	B	1450	FLC	CA-CB-CBC-OB2
7	A	1455	PTY	C32-C33-C34-C35
3	B	1449	FLC	CA-CB-CG-CGC
3	B	1449	FLC	CBC-CB-CG-CGC
5	D	1450	UND	C1-C2-C3-C4
7	A	1455	PTY	C35-C36-C37-C38
7	A	1455	PTY	C5-O14-P1-O11
7	A	1455	PTY	C6-C5-O14-P1
7	A	1455	PTY	C3-O11-P1-O12
7	A	1455	PTY	C5-O14-P1-O13
8	D	1453	MES	C7-C8-S-O1S
3	A	1453	FLC	CG-CB-CBC-OB2
3	D	1449	FLC	CA-CB-CBC-OB2
3	D	1449	FLC	CG-CB-CBC-OB2
4	A	1456	BOG	C1'-C2'-C3'-C4'
4	A	1450	BOG	C2-C1-O1-C1'
7	A	1455	PTY	C16-C17-C18-C19
7	A	1455	PTY	C37-C38-C39-C40
3	A	1453	FLC	OHB-CB-CBC-OB2
4	A	1456	BOG	C2'-C3'-C4'-C5'
3	A	1453	FLC	CA-CB-CBC-OB1
3	A	1453	FLC	CG-CB-CBC-OB1
4	A	1450	BOG	O5-C1-O1-C1'
4	D	1454	BOG	C1'-C2'-C3'-C4'
3	B	1449	FLC	CB-CA-CAC-OA1
4	C	1447	BOG	C5'-C6'-C7'-C8'
3	A	1454	FLC	CB-CG-CGC-OG1
3	A	1454	FLC	CB-CG-CGC-OG2
3	B	1449	FLC	CB-CA-CAC-OA2
7	A	1455	PTY	C36-C37-C38-C39
7	A	1455	PTY	O14-C5-C6-O7
4	C	1448	BOG	C2'-C3'-C4'-C5'

There are no ring outliers.

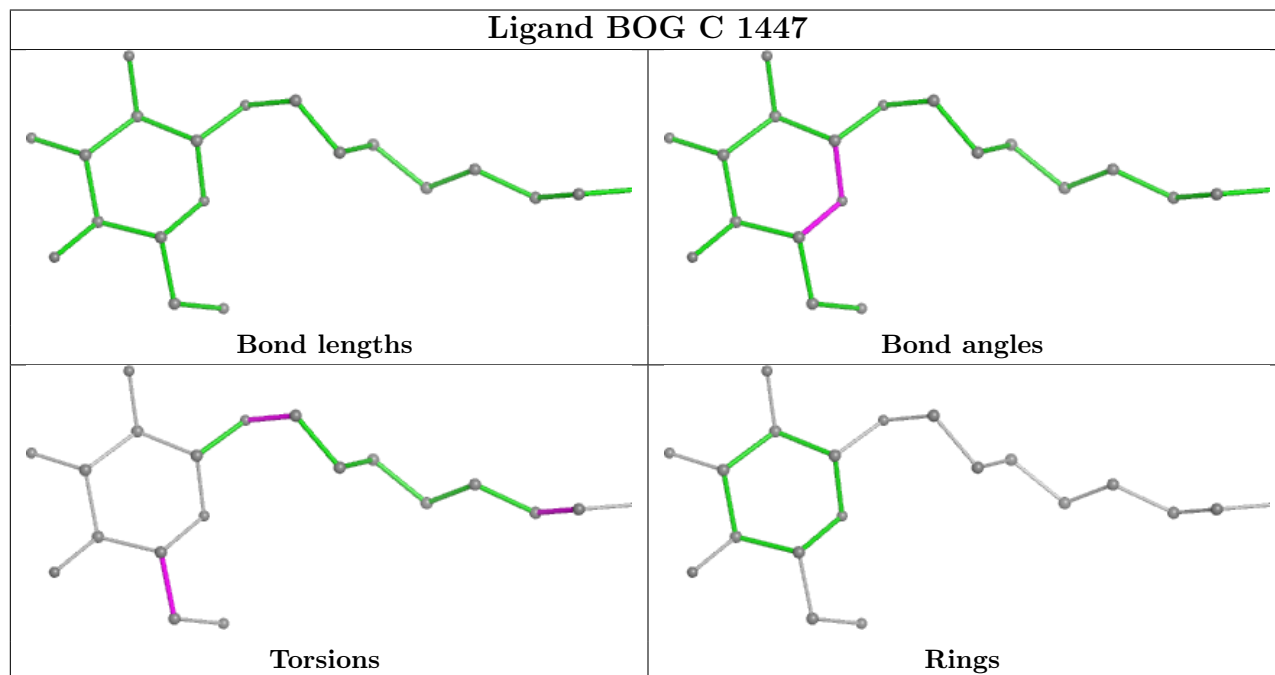7 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1450	BOG	2	0
3	B	1450	FLC	1	0

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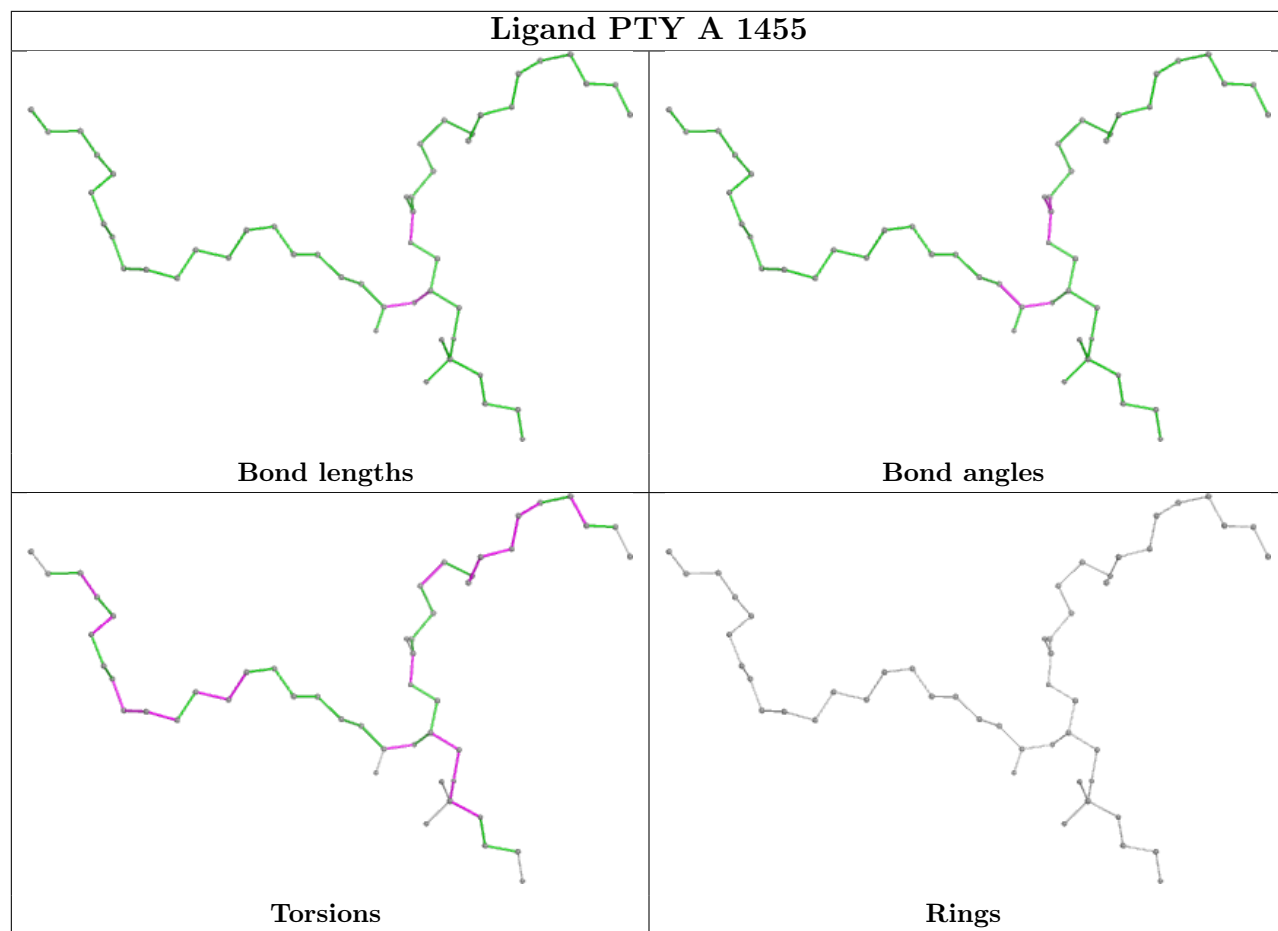| Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1449	FLC	1	0
3	D	1449	FLC	1	0
4	D	1454	BOG	1	0
7	A	1455	PTY	4	0
8	D	1453	MES	2	0

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 BOG C 1447

Bond lengths

Bond angles

Torsions

Rings

Ligand BOG A 1450

Bond lengths

Bond angles

Torsions

Rings

Ligand BOG A 1456

Bond lengths

Bond angles

Torsions

Rings

Ligand BOG C 1448

Bond lengths

Bond angles

Torsions

Rings

Ligand BOG D 1454

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY A 1455

Bond lengths

Bond angles

Torsions

Rings
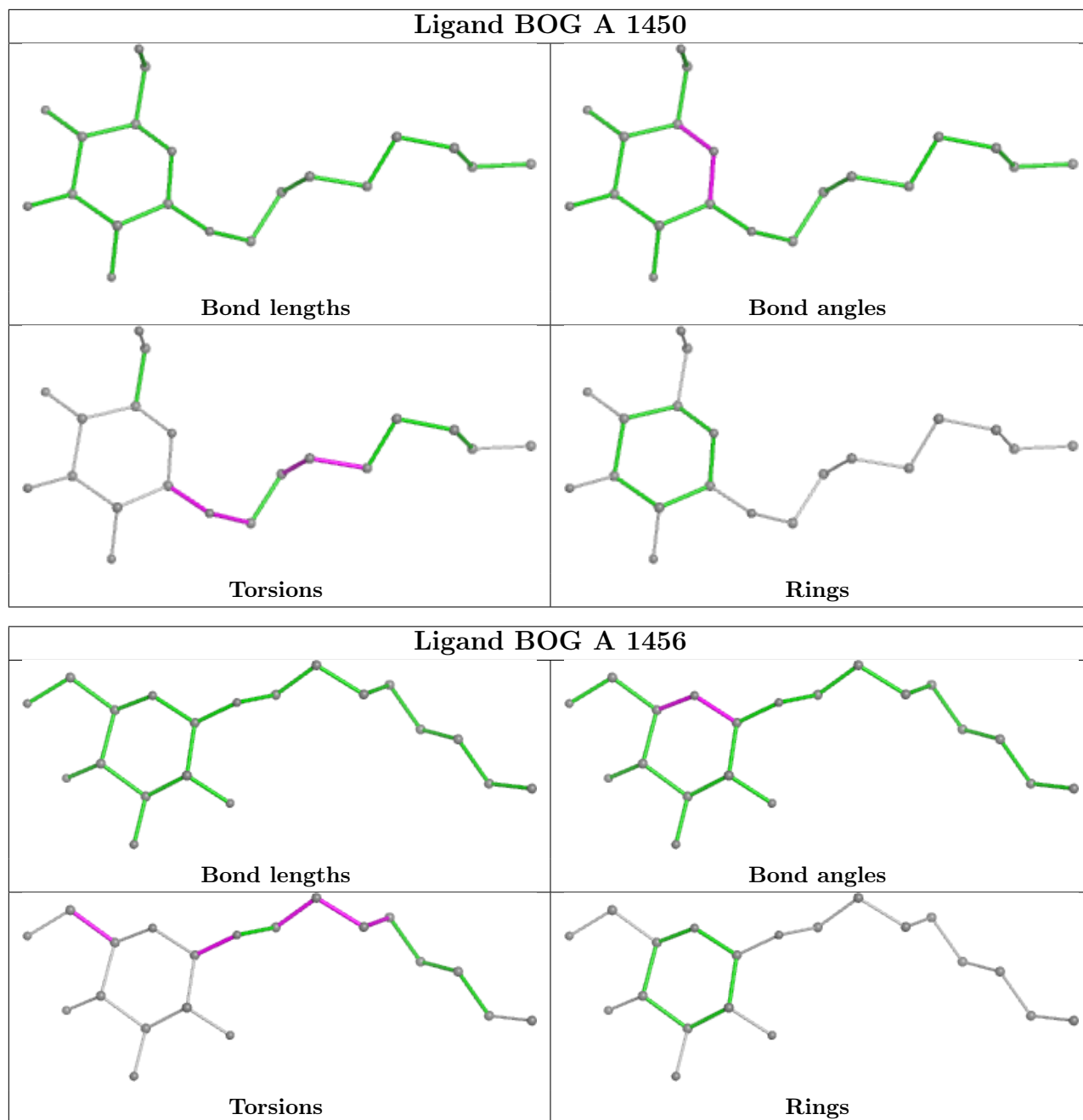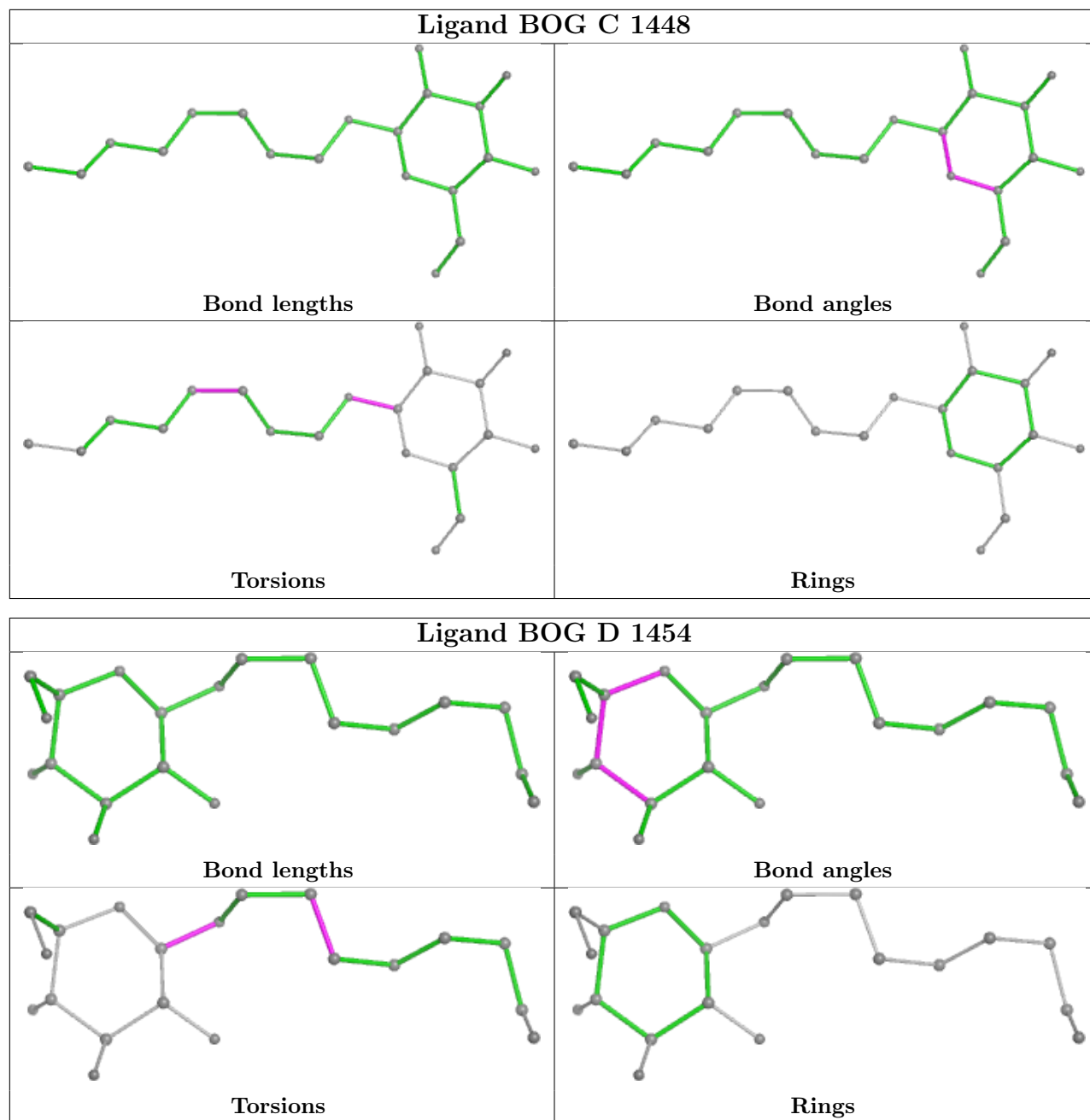
5.7 Other polymers ⓘ

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	433/448 (96%)	0.50	44 (10%)	6	6	34, 56, 99, 136	0
1	B	426/448 (95%)	0.87	79 (18%)	1	1	46, 80, 120, 132	0
1	C	428/448 (95%)	0.62	59 (13%)	2	2	38, 62, 109, 143	0
1	D	434/448 (96%)	0.74	67 (15%)	2	1	38, 59, 101, 142	0
All	All	1721/1792 (96%)	0.68	249 (14%)	2	2	34, 63, 110, 143	0

All (249) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	16	SER	9.6
1	A	360	PHE	9.1
1	B	17	ASP	8.5
1	B	166	PHE	7.8
1	B	244	GLY	7.8
1	D	237	TYR	7.5
1	D	239	TRP	7.4
1	A	296	VAL	7.3
1	B	18	LEU	7.3
1	B	167	GLY	7.2
1	A	21	PHE	7.2
1	C	355	ILE	7.0
1	B	240	LEU	6.9
1	C	442	PHE	6.9
1	B	171	ASP	6.9
1	D	236	LYS	6.8
1	C	296	VAL	6.8
1	C	260	ALA	6.7
1	B	74	ILE	6.6
1	B	78	TYR	6.5
1	C	261	GLY	6.3

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Mol	Chain	Res	Type	RSRZ
1	D	18	LEU	6.2
1	C	358	LEU	6.1
1	D	384	ILE	5.8
1	C	138	LEU	5.8
1	C	441	VAL	5.8
1	C	259	LYS	5.7
1	B	164	LEU	5.6
1	B	259	LYS	5.6
1	C	168	ILE	5.4
1	B	258	GLU	5.4
1	A	358	LEU	5.4
1	A	354	ILE	5.3
1	C	262	GLN	5.3
1	A	18	LEU	5.2
1	B	239	TRP	5.1
1	B	387	TYR	5.1
1	C	95	TYR	5.0
1	C	352	GLN	5.0
1	B	165	CYS	5.0
1	B	236	LYS	5.0
1	D	149	LEU	4.8
1	D	256	ASP	4.8
1	A	293	ILE	4.7
1	D	74	ILE	4.7
1	C	142	LEU	4.7
1	C	444	MET	4.6
1	C	170	VAL	4.6
1	B	247	VAL	4.5
1	D	382	TRP	4.5
1	C	201	THR	4.5
1	C	257	ASP	4.4
1	B	237	TYR	4.4
1	A	16	SER	4.4
1	B	168	ILE	4.3
1	C	96	ALA	4.3
1	A	165	CYS	4.3
1	A	138	LEU	4.3
1	D	295	GLY	4.2
1	B	382	TRP	4.2
1	A	166	PHE	4.2
1	B	386	PHE	4.2
1	C	200	VAL	4.1

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Mol	Chain	Res	Type	RSRZ
1	C	139	LYS	4.0
1	B	232	MET	4.0
1	C	351	LEU	4.0
1	D	142	LEU	4.0
1	B	142	LEU	3.9
1	D	135	LYS	3.9
1	D	16	SER	3.9
1	B	257	ASP	3.9
1	A	20	ARG	3.9
1	B	241	SER	3.8
1	C	258	GLU	3.8
1	D	240	LEU	3.8
1	D	17	ASP	3.8
1	B	77	LYS	3.8
1	A	95	TYR	3.8
1	D	296	VAL	3.7
1	C	172	ARG	3.7
1	C	141	LEU	3.7
1	B	249	LYS	3.7
1	C	360	PHE	3.7
1	A	355	ILE	3.7
1	D	383	LEU	3.7
1	C	137	LEU	3.6
1	B	417	MET	3.6
1	A	139	LYS	3.6
1	B	169	PRO	3.6
1	C	294	GLY	3.6
1	B	170	VAL	3.6
1	C	135	LYS	3.6
1	C	197	TYR	3.5
1	D	15	ALA	3.5
1	D	238	THR	3.5
1	A	352	GLN	3.5
1	C	97	GLY	3.5
1	A	23	ILE	3.5
1	C	357	ALA	3.4
1	D	241	SER	3.4
1	D	292	SER	3.4
1	A	257	ASP	3.4
1	A	295	GLY	3.4
1	B	358	LEU	3.4
1	C	171	ASP	3.4

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Mol	Chain	Res	Type	RSRZ
1	B	19	LEU	3.4
1	B	138	LEU	3.4
1	C	445	MET	3.3
1	B	136	LEU	3.3
1	C	15	ALA	3.3
1	B	157	LEU	3.2
1	C	134	ARG	3.2
1	C	239	TRP	3.2
1	C	98	ILE	3.2
1	A	92	TYR	3.2
1	C	443	SER	3.2
1	B	20	ARG	3.1
1	B	383	LEU	3.1
1	D	78	TYR	3.1
1	D	385	GLY	3.1
1	D	235	LYS	3.1
1	A	142	LEU	3.1
1	B	133	ASN	3.1
1	D	250	ALA	3.1
1	C	293	ILE	3.0
1	C	164	LEU	3.0
1	B	360	PHE	3.0
1	C	354	ILE	3.0
1	D	146	PRO	3.0
1	B	245	GLU	3.0
1	D	253	LYS	3.0
1	B	229	LEU	3.0
1	B	248	ARG	3.0
1	B	238	THR	3.0
1	D	291	PRO	3.0
1	C	196	ILE	2.9
1	D	147	THR	2.9
1	D	294	GLY	2.9
1	D	143	GLY	2.9
1	A	74	ILE	2.9
1	B	294	GLY	2.8
1	C	198	HIS	2.8
1	A	17	ASP	2.8
1	D	140	SER	2.8
1	C	166	PHE	2.8
1	A	164	LEU	2.8
1	B	246	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
1	C	169	PRO	2.8
1	B	317	CYS	2.7
1	D	381	GLY	2.7
1	C	21	PHE	2.7
1	B	228	ALA	2.7
1	A	162	ILE	2.7
1	B	384	ILE	2.7
1	C	13	LYS	2.6
1	D	297	SER	2.6
1	B	95	TYR	2.6
1	A	361	ALA	2.6
1	B	243	GLU	2.6
1	D	340	LEU	2.6
1	B	388	PRO	2.6
1	D	148	ILE	2.6
1	D	262	GLN	2.6
1	D	126	THR	2.6
1	C	19	LEU	2.6
1	A	78	TYR	2.6
1	D	339	VAL	2.5
1	B	235	LYS	2.5
1	D	387	TYR	2.5
1	B	222	PHE	2.5
1	D	58	MET	2.5
1	D	191	VAL	2.5
1	B	43	PHE	2.5
1	C	175	MET	2.5
1	D	341	MET	2.5
1	B	121	ILE	2.5
1	B	340	LEU	2.5
1	C	20	ARG	2.5
1	B	447	LEU	2.4
1	B	356	ASP	2.4
1	A	141	LEU	2.4
1	C	161	VAL	2.4
1	D	243	GLU	2.4
1	B	98	ILE	2.4
1	D	186	ASN	2.4
1	A	96	ALA	2.4
1	D	283	TYR	2.4
1	C	46	ALA	2.4
1	A	167	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	249	LYS	2.3
1	D	259	LYS	2.3
1	B	191	VAL	2.3
1	A	356	ASP	2.3
1	D	404	GLY	2.3
1	B	141	LEU	2.3
1	D	288	LYS	2.3
1	C	436	VAL	2.3
1	B	132	VAL	2.3
1	D	145	ILE	2.3
1	D	293	ILE	2.3
1	D	343	GLY	2.3
1	B	339	VAL	2.3
1	B	342	VAL	2.3
1	D	107	ILE	2.3
1	B	448	GLU	2.3
1	B	418	ASN	2.2
1	C	109	ASN	2.2
1	B	293	ILE	2.2
1	A	408	LEU	2.2
1	D	72	LEU	2.2
1	D	257	ASP	2.2
1	A	19	LEU	2.2
1	A	163	GLY	2.2
1	D	342	VAL	2.2
1	B	160	ILE	2.2
1	B	224	ILE	2.2
1	B	225	ILE	2.2
1	C	437	ILE	2.2
1	D	379	ILE	2.2
1	A	351	LEU	2.2
1	A	419	LEU	2.2
1	B	319	PRO	2.2
1	B	172	ARG	2.2
1	C	165	CYS	2.2
1	B	352	GLN	2.2
1	C	203	ARG	2.2
1	D	187	GLY	2.2
1	A	290	LEU	2.2
1	A	300	TYR	2.1
1	A	393	ILE	2.1
1	C	173	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	21	PHE	2.1
1	A	75	PHE	2.1
1	D	19	LEU	2.1
1	A	297	SER	2.1
1	B	117	LEU	2.1
1	D	111	MET	2.1
1	A	258	GLU	2.1
1	A	423	ALA	2.1
1	D	188	ALA	2.1
1	D	386	PHE	2.1
1	B	413	ALA	2.0
1	D	254	THR	2.0
1	D	95	TYR	2.0
1	B	262	GLN	2.0
1	A	170	VAL	2.0
1	B	193	LEU	2.0
1	D	185	GLY	2.0
1	D	189	GLY	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 monosaccharides 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
3	FLC	B	1449	13/13	0.52	0.48	76,87,98,105	0
3	FLC	A	1453	13/13	0.56	0.25	79,108,121,121	0
7	PTY	A	1455	50/50	0.60	0.65	66,90,101,110	50
4	BOG	A	1456	20/20	0.64	0.56	71,113,125,131	0
3	FLC	A	1454	13/13	0.64	0.40	98,120,125,128	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
8	MES	D	1453	12/12	0.68	0.23	75,103,106,113	0
4	BOG	C	1448	20/20	0.69	0.42	80,99,115,118	0
4	BOG	D	1454	20/20	0.71	0.41	84,105,112,113	0
3	FLC	B	1450	13/13	0.79	0.24	98,108,114,116	0
5	UND	D	1450	11/11	0.80	0.35	55,61,81,83	0
3	FLC	D	1449	13/13	0.87	0.29	68,82,91,93	0
6	CL	A	1452	1/1	0.89	0.07	108,108,108,108	0
5	UND	A	1451	11/11	0.90	0.26	55,62,68,75	0
2	NA	D	502	1/1	0.91	0.21	50,50,50,50	0
2	NA	C	501	1/1	0.92	0.23	54,54,54,54	0
4	BOG	A	1450	20/20	0.92	0.22	44,57,70,77	0
2	NA	B	502	1/1	0.93	0.14	72,72,72,72	0
2	NA	A	501	1/1	0.94	0.11	39,39,39,39	0
2	NA	C	502	1/1	0.95	0.12	56,56,56,56	0
6	CL	D	1451	1/1	0.95	0.14	62,62,62,62	0
4	BOG	C	1447	20/20	0.95	0.17	57,63,76,76	0
3	FLC	C	1446	13/13	0.95	0.20	44,57,65,66	0
2	NA	D	501	1/1	0.96	0.19	54,54,54,54	0
2	NA	A	502	1/1	0.97	0.06	42,42,42,42	0
3	FLC	A	1449	13/13	0.98	0.10	38,43,52,54	0
6	CL	D	1452	1/1	0.98	0.07	56,56,56,56	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.
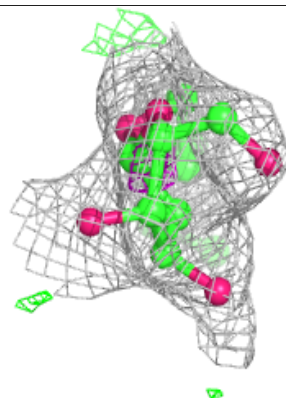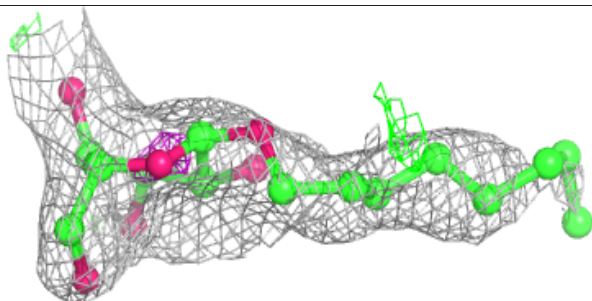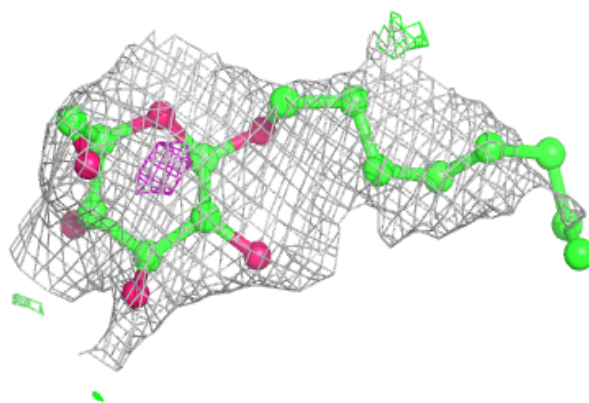
Electron density around PTY A 1455:

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 BOG A 1456:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
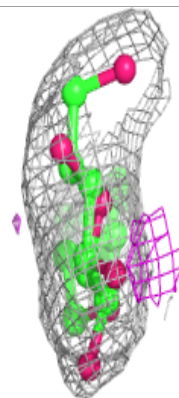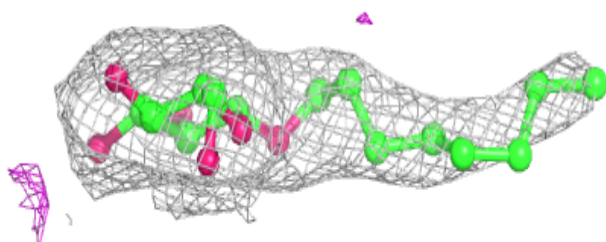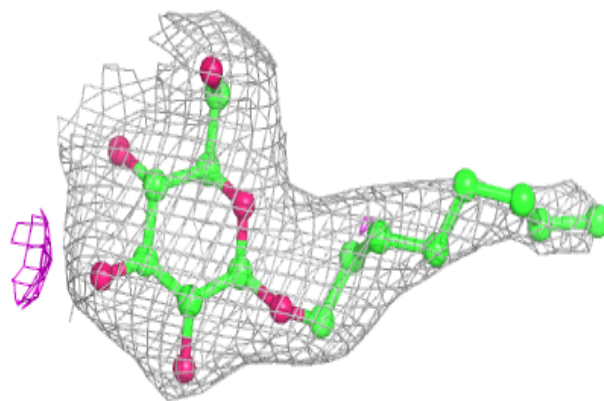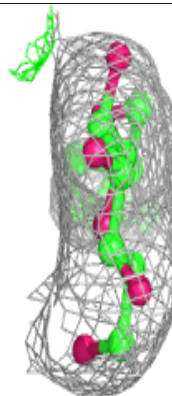mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
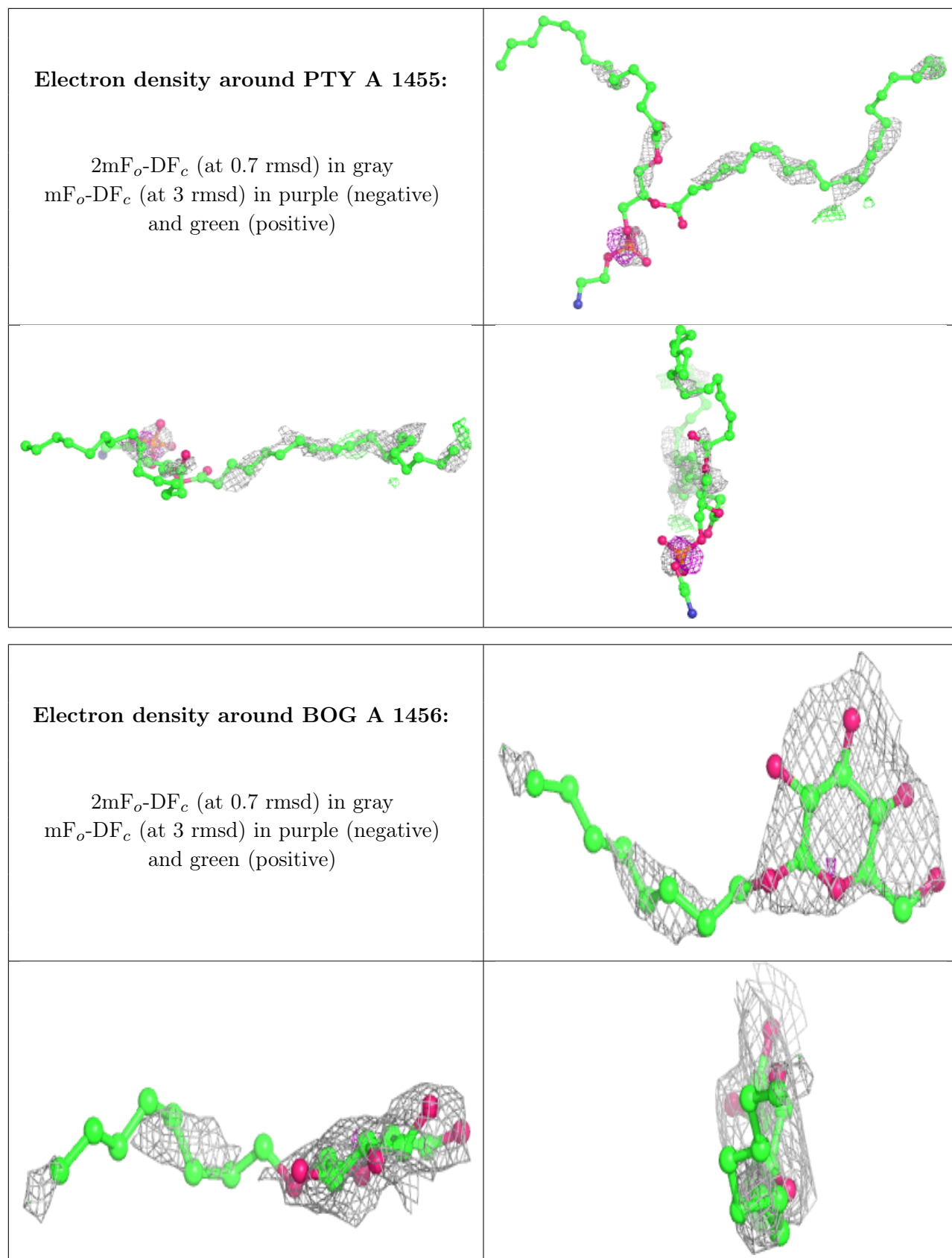
Electron density around BOG C 1448:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
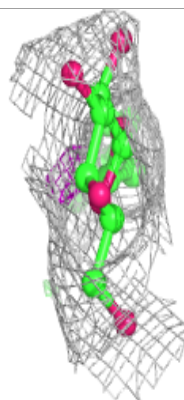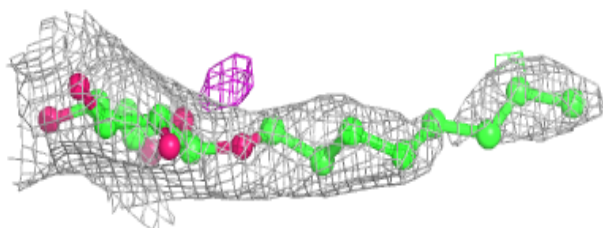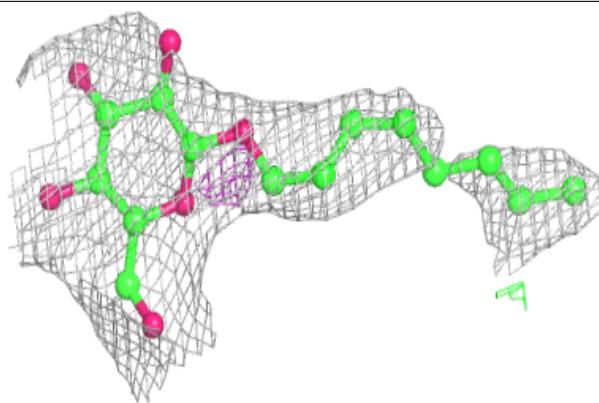
Electron density around BOG D 1454:

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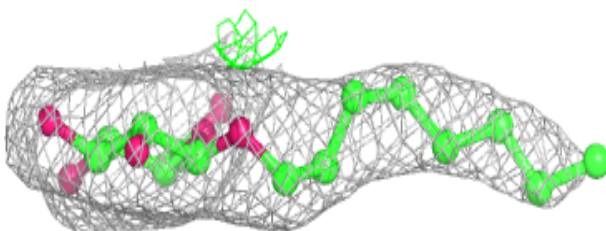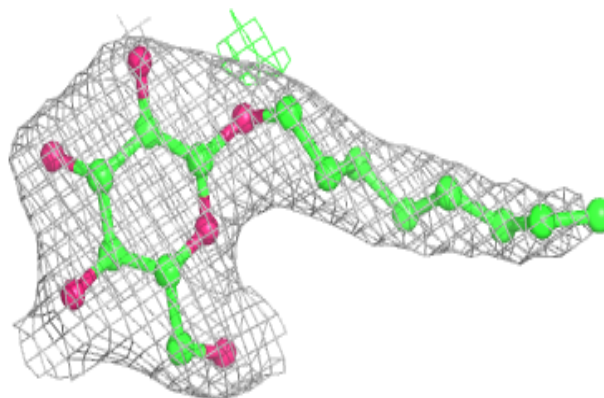mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around BOG A 1450:

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

Electron density around BOG C 1447:

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