



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 10, 2026 – 04:45 PM UTC

PDB ID : 6MJP / pdb_00006mjp
Title : LptB(E163Q)FGC from *Vibrio cholerae*
Authors : Owens, T.W.; Kahne, D.; Kruse, A.C.
Deposited on : 2018-09-21
Resolution : 2.85 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
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)	:	2.49

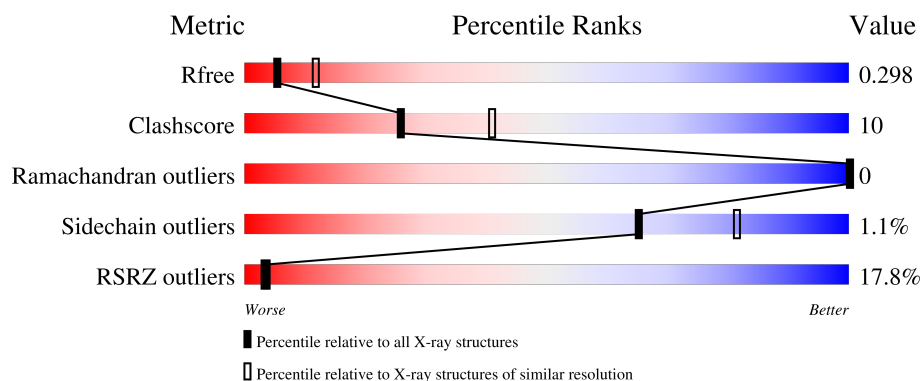
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.85 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	241	<div> <div>7%</div> <div>76%</div> <div>23%</div> </div>
1	B	241	<div> <div>16%</div> <div>78%</div> <div>20%</div> <div>.</div> </div>
2	C	191	<div> <div>26%</div> <div>65%</div> <div>25%</div> <div>9%</div> </div>
3	F	366	<div> <div>23%</div> <div>77%</div> <div>16%</div> <div>7%</div> </div>
4	G	356	<div> <div>15%</div> <div>75%</div> <div>24%</div> <div>..</div> </div>

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
5	CL	A	305	-	-	-	X

2 Entry composition

There are 14 unique types of molecules in this entry. The entry contains 10498 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 ABC transporter ATP-binding protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	240	Total	C	N	O	S	0	0	0
			1873	1174	337	356	6			
1	B	240	Total	C	N	O	S	0	0	0
			1863	1170	334	353	6			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	163	GLN	GLU	engineered mutation	UNP O30650
B	163	GLN	GLU	engineered mutation	UNP O30650

- Molecule 2 is a protein called Lipopolysaccharide export system protein LptC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	174	Total	C	N	O	S	0	0	0
			1299	834	210	253	2			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	188	LEU	-	expression tag	UNP A0A085S5D1
C	189	VAL	-	expression tag	UNP A0A085S5D1
C	190	PRO	-	expression tag	UNP A0A085S5D1
C	191	ARG	-	expression tag	UNP A0A085S5D1

- Molecule 3 is a protein called FIG000988: Predicted permease.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	F	341	Total	C	N	O	S	0	0	0
			2504	1640	402	452	10			

- Molecule 4 is a protein called LPS export ABC transporter permease LptG.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	G	354	Total	C	N	O	S	0	0	0
			2673	1759	427	476	11			

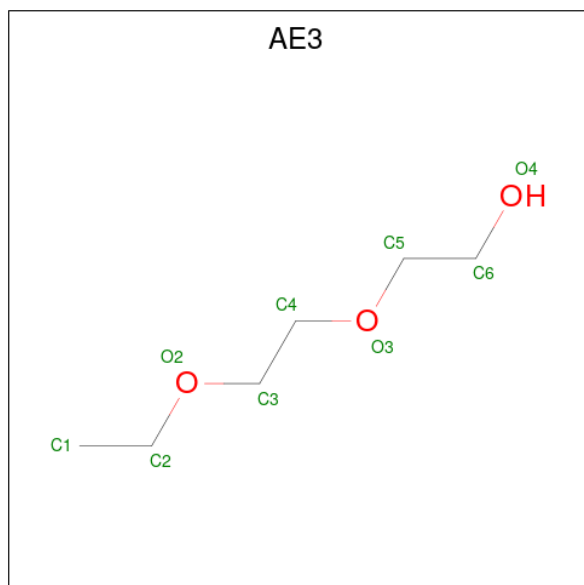
- Molecule 5 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	3	Total	Cl	0	0
			3	3		
5	B	1	Total	Cl	0	0
			1	1		

- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca).

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

- Molecule 7 is 2-(2-ETHOXYETHOXY)ETHANOL (CCD ID: AE3) (formula: C₆H₁₄O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total	C	O	0	0
			9	6	3		
7	A	1	Total	C	O	0	0
			9	6	3		

- Molecule 8 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: C₈H₁₈O₅).



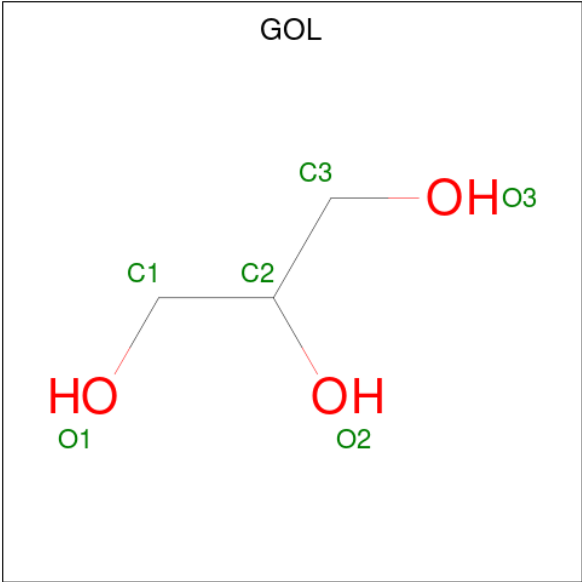
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	A	1	Total	C	O	0	0
			13	8	5		
8	B	1	Total	C	O	0	0
			13	8	5		

- Molecule 9 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



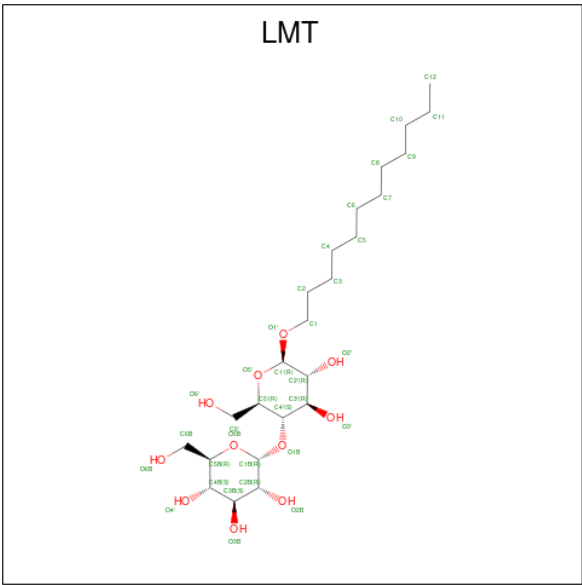
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	B	1	Total	C	O	0	0
			7	4	3		

- Molecule 10 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	B	1	Total	C	O	0	0
			6	3	3		
10	B	1	Total	C	O	0	0
			6	3	3		
10	G	1	Total	C	O	0	0
			6	3	3		

- Molecule 11 is DODECYL-BETA-D-MALTOSE (CCD ID: LMT) (formula: C₂₄H₄₆O₁₁).



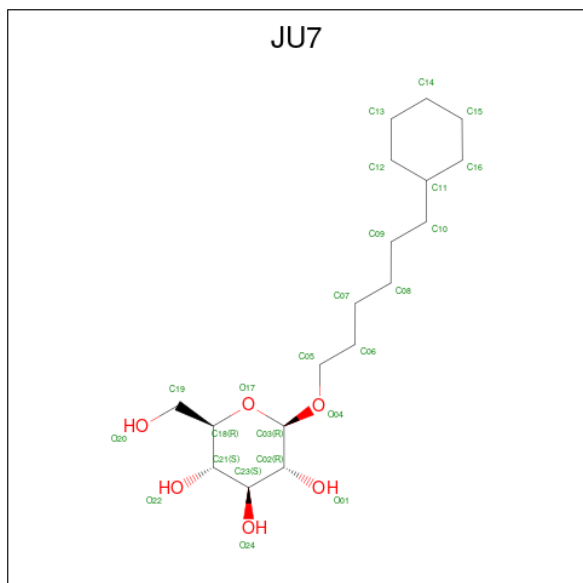
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
11	F	1	Total	C	O	0	0
			35	24	11		

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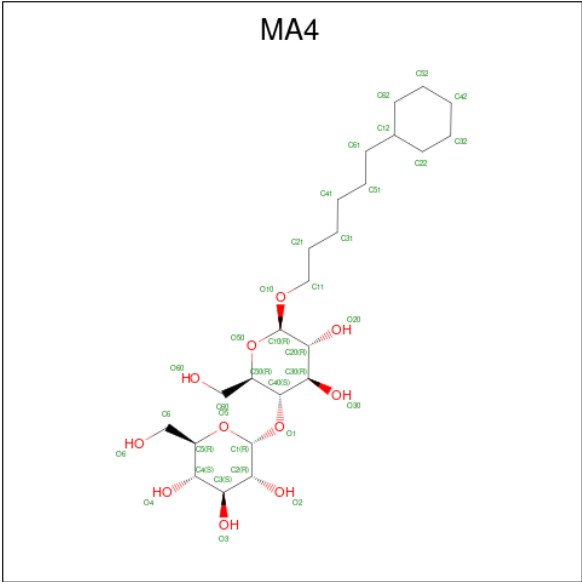
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
11	F	1	Total	C	O	0	0
			29	18	11		
11	G	1	Total	C	O	0	0
			35	24	11		

- Molecule 12 is 6-cyclohexylhexyl beta-D-glucopyranoside (CCD ID: JU7) (formula: $C_{18}H_{34}O_6$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
12	F	1	Total	C	O	0	0
			24	18	6		

- Molecule 13 is CYCLOHEXYL-HEXYL-BETA-D-MALTOSIDE (CCD ID: MA4) (formula: $C_{24}H_{44}O_{11}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
13	G	1	Total	C	O	0	0
			35	24	11		

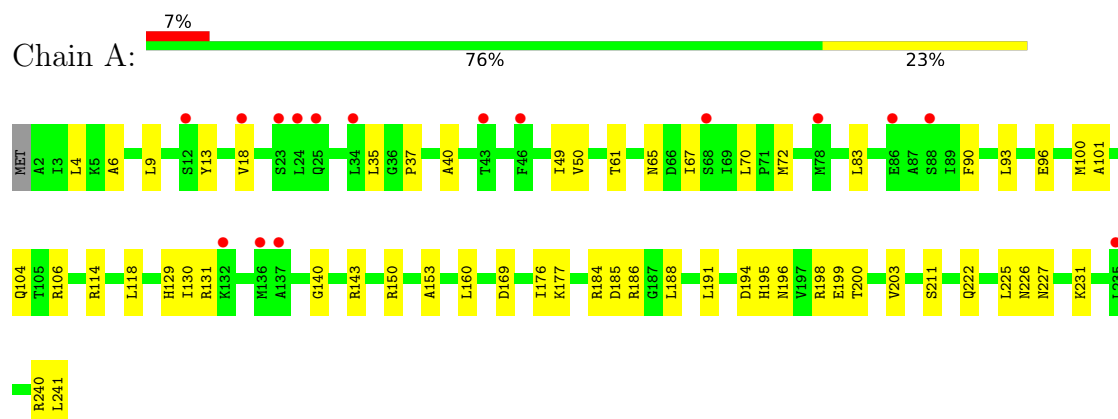
- Molecule 14 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	A	27	Total	O	0	0
			27	27		
14	B	18	Total	O	0	0
			18	18		
14	C	2	Total	O	0	0
			2	2		
14	F	1	Total	O	0	0
			1	1		
14	G	5	Total	O	0	0
			5	5		

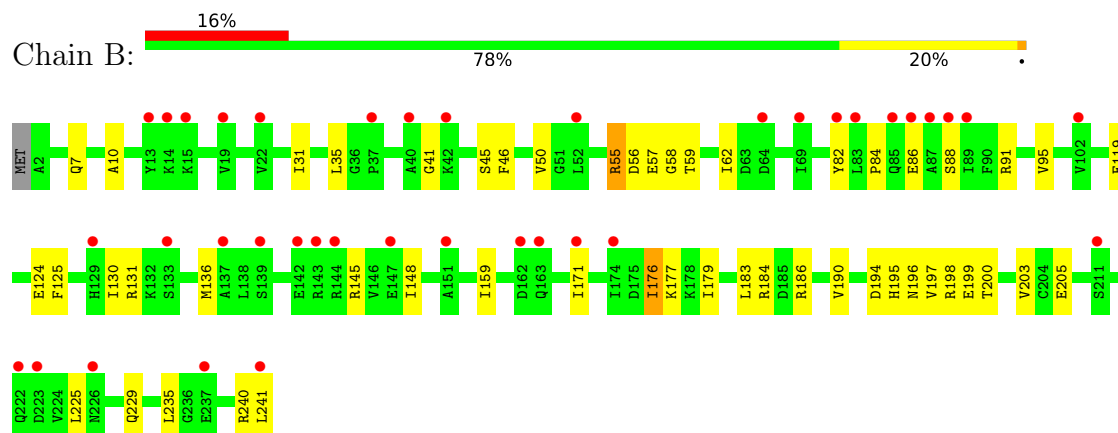
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

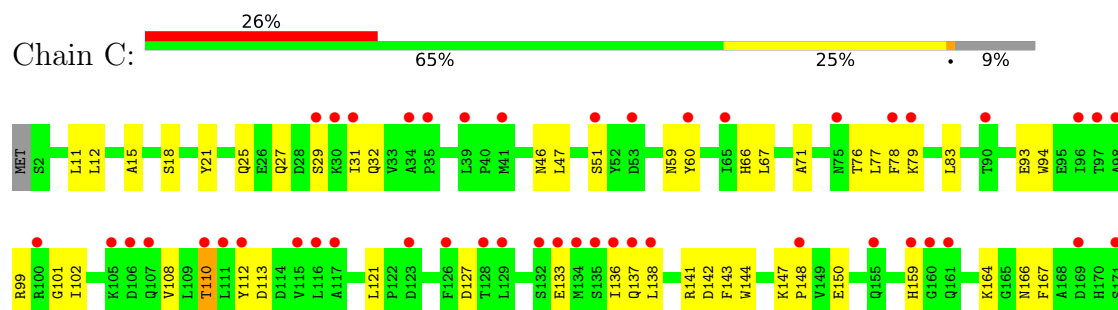
- Molecule 1: ABC transporter ATP-binding protein

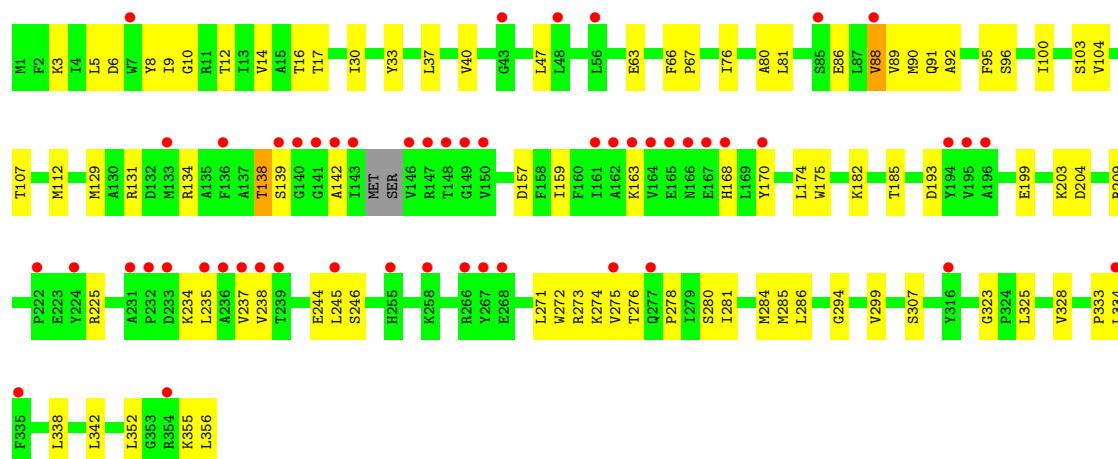


- Molecule 1: ABC transporter ATP-binding protein



- Molecule 2: Lipopolysaccharide export system protein LptC





4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	167.35Å 80.73Å 202.99Å 90.00° 112.18° 90.00°	Depositor
Resolution (Å)	49.27 – 2.85 49.27 – 2.85	Depositor EDS
% Data completeness (in resolution range)	99.5 (49.27-2.85) 99.5 (49.27-2.85)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.53 (at 2.86Å)	Xtriage
Refinement program	PHENIX 1.14 _3260	Depositor
R, R_{free}	0.242 , 0.292 0.247 , 0.298	Depositor DCC
R_{free} test set	1533 reflections (2.61%)	wwPDB-VP
Wilson B-factor (Å ²)	82.8	Xtriage
Anisotropy	0.406	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 85.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	10498	wwPDB-VP
Average B, all atoms (Å ²)	110.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.56% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: PG4, PEG, JU7, CA, AE3, LMT, CL, MA4, GOL

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	0.40	0/1897	0.63	0/2558
1	B	0.37	0/1887	0.60	0/2546
2	C	0.35	0/1327	0.53	0/1813
3	F	0.24	0/2554	0.43	0/3494
4	G	0.31	0/2729	0.51	0/3710
All	All	0.33	0/10394	0.53	0/14121

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 [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1873	0	1904	42	0
1	B	1863	0	1884	34	0
2	C	1299	0	1176	39	0
3	F	2504	0	2419	40	0
4	G	2673	0	2716	57	0
5	A	3	0	0	1	0
5	B	1	0	0	0	0
6	A	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	A	18	0	28	0	0
8	A	13	0	18	3	0
8	B	13	0	18	1	0
9	B	7	0	10	1	0
10	B	12	0	16	0	0
10	G	6	0	8	0	0
11	F	64	0	76	3	0
11	G	35	0	46	1	0
12	F	24	0	0	1	0
13	G	35	0	44	3	0
14	A	27	0	0	4	1
14	B	18	0	0	1	1
14	C	2	0	0	2	0
14	F	1	0	0	0	0
14	G	5	0	0	0	0
All	All	10498	0	10363	198	1

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 10.

All (198) 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)
4:G:307:SER:HB3	13:G:401:MA4:H322	1.44	0.99
1:B:184:ARG:NH1	1:B:205:GLU:OE2	2.12	0.83
1:B:91:ARG:HB3	1:B:136:MET:HB3	1.64	0.80
1:A:106:ARG:NH1	1:A:153:ALA:O	2.16	0.79
2:C:15:ALA:HB2	3:F:308:THR:HG22	1.63	0.78
1:B:55:ARG:NH2	3:F:358:ASP:OD1	2.19	0.76
2:C:67:LEU:HD11	2:C:76:THR:HG22	1.67	0.75
1:B:148:ILE:HD11	1:B:183:LEU:HD11	1.68	0.75
3:F:170:TYR:HB2	3:F:192:SER:HA	1.68	0.75
2:C:83:LEU:HD21	2:C:138:LEU:HD21	1.69	0.73
1:A:196:ASN:HB3	1:A:199:GLU:OE2	1.88	0.73
2:C:66:HIS:HB3	2:C:79:LYS:HB3	1.72	0.72
2:C:147:LYS:HB3	2:C:148:PRO:HD2	1.71	0.72
4:G:159:ILE:HG13	4:G:174:LEU:HD13	1.71	0.71
4:G:3:LYS:HB2	4:G:6:ASP:OD2	1.91	0.71
1:B:10:ALA:HB3	1:B:57:GLU:HB2	1.72	0.70
1:B:95:VAL:HG21	1:B:130:ILE:HG22	1.74	0.70
1:A:72:MET:HE2	4:G:92:ALA:HB2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:303:ILE:HD12	11:F:403:LMT:H42	1.76	0.68
2:C:46:ASN:ND2	3:F:228:ASP:OD2	2.27	0.68
4:G:199:GLU:OE2	4:G:225:ARG:NH1	2.27	0.67
1:A:35:LEU:HD21	1:A:200:THR:HG21	1.78	0.66
2:C:77:LEU:HD22	2:C:102:ILE:HG12	1.78	0.66
4:G:9:ILE:HD11	4:G:90:MET:HE1	1.77	0.66
3:F:27:LEU:HD13	3:F:56:MET:HE1	1.78	0.66
2:C:127:ASP:OD1	14:C:201:HOH:O	2.14	0.65
1:A:186:ARG:HG2	1:A:188:LEU:HD13	1.78	0.65
4:G:157:ASP:HB3	4:G:174:LEU:HD11	1.77	0.65
12:F:402:JU7:O20	13:G:401:MA4:O30	2.15	0.65
4:G:163:LYS:HB3	4:G:170:TYR:HB2	1.79	0.65
4:G:14:VAL:HA	4:G:17:THR:HG22	1.78	0.64
2:C:59:ASN:OD1	2:C:141:ARG:NH2	2.25	0.64
4:G:5:LEU:HD22	4:G:90:MET:HE3	1.80	0.63
4:G:237:VAL:HG21	4:G:245:LEU:HD13	1.80	0.63
2:C:25:GLN:NE2	3:F:322:ASP:OD2	2.32	0.63
2:C:27:GLN:O	2:C:31:ILE:N	2.30	0.63
1:A:169:ASP:OD1	14:A:401:HOH:O	2.16	0.62
2:C:108:VAL:HG22	2:C:137:GLN:HG2	1.82	0.61
4:G:16:THR:HG21	4:G:76:ILE:HB	1.82	0.61
4:G:352:LEU:HB3	4:G:356:LEU:HD12	1.82	0.61
1:A:177:LYS:HG2	1:A:203:VAL:HB	1.83	0.60
1:A:184:ARG:NH1	1:A:185:ASP:OD1	2.35	0.60
1:A:240:ARG:HH11	1:B:198:ARG:HH21	1.50	0.59
1:B:229:GLN:NE2	14:B:401:HOH:O	2.35	0.59
1:A:37:PRO:HB2	1:A:40:ALA:HB2	1.82	0.59
4:G:37:LEU:HA	4:G:40:VAL:HG13	1.85	0.59
3:F:254:LEU:HD22	3:F:266:LEU:HB2	1.86	0.58
4:G:112:MET:HE3	4:G:278:PRO:HB2	1.85	0.58
4:G:103:SER:O	4:G:107:THR:HG23	2.04	0.58
1:A:100:MET:O	1:A:104:GLN:HG3	2.04	0.57
1:A:240:ARG:NH1	1:B:241:LEU:O	2.36	0.57
1:B:124:GLU:OE2	1:B:186:ARG:NH1	2.37	0.57
2:C:121:LEU:O	14:C:202:HOH:O	2.18	0.57
4:G:67:PRO:HA	4:G:281:ILE:HG22	1.87	0.57
3:F:211:THR:HG21	4:G:182:LYS:HE3	1.86	0.57
3:F:18:ILE:HD11	3:F:74:LEU:HD12	1.87	0.56
4:G:185:THR:HG22	4:G:209:ARG:HG2	1.88	0.56
1:B:55:ARG:HD2	1:B:58:GLY:O	2.05	0.56
3:F:78:ARG:O	3:F:82:GLU:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:142:ASP:HA	2:C:166:ASN:HB3	1.88	0.55
1:A:50:VAL:HG22	1:A:160:LEU:HD12	1.90	0.54
4:G:63:GLU:OE2	4:G:274:LYS:NZ	2.41	0.54
4:G:81:LEU:HD23	4:G:86:GLU:OE2	2.08	0.54
1:A:90:PHE:HA	4:G:86:GLU:OE1	2.07	0.53
1:A:176:ILE:HG12	8:B:302:PG4:H81	1.90	0.53
2:C:101:GLY:HA2	2:C:110:THR:O	2.09	0.53
2:C:137:GLN:O	2:C:141:ARG:N	2.40	0.53
4:G:8:TYR:O	4:G:12:THR:HG23	2.08	0.53
4:G:10:GLY:CA	4:G:107:THR:HG21	2.39	0.53
3:F:3:ILE:HD11	3:F:88:MET:HE3	1.91	0.52
1:A:100:MET:HE2	1:A:118:LEU:HD22	1.90	0.52
2:C:138:LEU:O	2:C:141:ARG:NH1	2.42	0.52
2:C:94:TRP:CZ3	2:C:167:PHE:HB3	2.45	0.52
4:G:134:ARG:O	4:G:138:THR:HB	2.10	0.52
4:G:96:SER:O	4:G:100:ILE:HG12	2.09	0.52
2:C:67:LEU:HD13	2:C:78:PHE:CD2	2.45	0.52
3:F:282:LEU:HD12	3:F:345:VAL:HG21	1.91	0.51
4:G:245:LEU:HD12	4:G:246:SER:H	1.75	0.51
4:G:276:THR:HG21	4:G:338:LEU:HB3	1.91	0.51
1:A:114:ARG:NH1	14:A:402:HOH:O	2.23	0.51
1:B:7:GLN:HB2	1:B:59:THR:HG22	1.93	0.51
2:C:93:GLU:HB3	2:C:94:TRP:CE3	2.47	0.50
3:F:267:GLN:HA	3:F:270:ILE:HG22	1.91	0.50
1:A:67:ILE:HA	1:A:70:LEU:HD13	1.93	0.50
1:A:222:GLN:O	1:A:226:ASN:ND2	2.41	0.50
1:A:6:ALA:HB1	1:A:9:LEU:HD11	1.93	0.49
8:A:308:PG4:H21	4:G:88:VAL:HG21	1.94	0.49
4:G:203:LYS:HE2	4:G:204:ASP:OD2	2.11	0.49
4:G:131:ARG:NH2	4:G:244:GLU:OE1	2.45	0.49
2:C:12:LEU:HD23	4:G:30:ILE:HD11	1.95	0.49
2:C:112:TYR:CE1	2:C:133:GLU:HG3	2.47	0.49
3:F:304:LEU:O	3:F:308:THR:HG23	2.13	0.49
1:B:159:ILE:HB	1:B:190:VAL:HG12	1.95	0.48
2:C:112:TYR:HE1	2:C:133:GLU:HG3	1.79	0.48
4:G:280:SER:O	4:G:284:MET:HG2	2.13	0.48
1:B:46:PHE:O	1:B:50:VAL:HG23	2.14	0.48
11:F:401:LMT:H2'	11:F:401:LMT:H12	1.52	0.48
1:A:9:LEU:HD11	1:A:49:ILE:HD11	1.96	0.47
3:F:340:LEU:O	3:F:344:MET:HG2	2.15	0.47
2:C:144:TRP:CD1	2:C:164:LYS:HG3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:31:ILE:HA	1:B:190:VAL:HG23	1.97	0.47
1:B:196:ASN:HB3	1:B:199:GLU:OE1	2.14	0.47
2:C:47:LEU:HD12	2:C:67:LEU:HB3	1.96	0.47
3:F:125:GLN:HB3	3:F:248:ALA:HB2	1.97	0.47
1:A:240:ARG:NH1	1:B:198:ARG:HH21	2.13	0.46
4:G:273:ARG:HH21	4:G:323:GLY:HA3	1.79	0.46
8:A:308:PG4:H72	8:A:308:PG4:H52	1.68	0.46
2:C:51:SER:HB3	2:C:60:TYR:CZ	2.51	0.46
3:F:221:ASP:OD1	3:F:221:ASP:N	2.47	0.46
4:G:325:LEU:HA	4:G:328:VAL:HG22	1.97	0.46
4:G:234:LYS:O	4:G:238:VAL:HG13	2.15	0.46
1:B:225:LEU:HD11	1:B:241:LEU:HD22	1.97	0.46
3:F:213:TYR:CD2	3:F:224:ILE:HD12	2.51	0.46
3:F:348:LEU:HD12	3:F:353:VAL:HG21	1.98	0.46
1:A:227:ASN:O	1:A:231:LYS:HG3	2.16	0.45
2:C:99:ARG:HD2	2:C:113:ASP:HB3	1.98	0.45
4:G:104:VAL:HG13	4:G:285:MET:HE2	1.98	0.45
3:F:61:LEU:HD21	3:F:117:ALA:HA	1.99	0.45
4:G:80:ALA:HB1	11:G:402:LMT:H6'2	1.97	0.45
3:F:121:ALA:HB3	3:F:122:PRO:HD3	1.99	0.45
1:A:93:LEU:HG	4:G:8:TYR:CD1	2.51	0.45
1:B:55:ARG:HG2	1:B:56:ASP:N	2.29	0.45
1:A:106:ARG:HD2	14:A:425:HOH:O	2.17	0.45
4:G:294:GLY:HA2	4:G:355:LYS:HE2	1.98	0.45
1:B:197:VAL:HG11	1:B:235:LEU:HD21	1.99	0.45
2:C:29:SER:O	2:C:32:GLN:HG2	2.17	0.45
1:A:96:GLU:OE2	1:A:131:ARG:NE	2.50	0.44
1:B:125:PHE:O	1:B:145:ARG:HD2	2.17	0.44
1:B:35:LEU:HD21	1:B:200:THR:HG21	2.00	0.44
1:B:88:SER:HB2	3:F:87:VAL:HG21	1.98	0.44
3:F:88:MET:HB3	3:F:93:ILE:HB	1.98	0.44
1:B:119:GLU:CD	1:B:131:ARG:HH12	2.23	0.44
1:A:160:LEU:HD22	1:A:191:LEU:HB3	1.99	0.44
3:F:271:SER:O	3:F:275:CYS:HB3	2.16	0.44
4:G:272:TRP:HD1	4:G:333:PRO:HB2	1.82	0.44
3:F:250:PRO:HG2	3:F:253:SER:HB2	2.00	0.44
11:F:403:LMT:H22	11:F:403:LMT:H51	1.75	0.44
2:C:11:LEU:HB3	3:F:308:THR:HG21	2.00	0.44
1:A:40:ALA:HB1	1:A:211:SER:HA	2.01	0.43
1:B:86:GLU:HB2	9:B:303:PEG:H42	1.99	0.43
2:C:136:ILE:HG22	2:C:143:PHE:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:126:ASP:OD1	3:F:130:HIS:NE2	2.51	0.43
3:F:263:GLN:O	3:F:267:GLN:HG3	2.18	0.43
4:G:139:SER:HB3	4:G:142:ALA:HB3	2.00	0.43
1:A:13:TYR:HD2	1:A:18:VAL:HG21	1.82	0.43
1:A:140:GLY:HA2	1:A:143:ARG:NH1	2.33	0.43
1:A:198:ARG:HG3	5:A:305:CL:CL	2.56	0.43
1:B:41:GLY:O	1:B:45:SER:OG	2.31	0.43
4:G:273:ARG:NH2	4:G:323:GLY:HA3	2.33	0.43
1:A:150:ARG:NH2	4:G:89:VAL:HG21	2.33	0.43
1:B:176:ILE:HA	1:B:179:ILE:HG22	1.99	0.43
3:F:267:GLN:OE1	3:F:330:GLY:HA3	2.19	0.43
2:C:18:SER:HB2	3:F:311:LEU:HB3	2.00	0.43
2:C:83:LEU:CD2	2:C:136:ILE:HD11	2.49	0.43
2:C:136:ILE:HG22	2:C:143:PHE:CB	2.48	0.43
3:F:129:ALA:O	3:F:133:GLU:HG2	2.19	0.43
3:F:331:LEU:O	3:F:335:ASN:ND2	2.46	0.43
1:A:129:HIS:CD2	1:A:130:ILE:HG23	2.53	0.43
4:G:271:LEU:O	4:G:275:VAL:HG23	2.19	0.43
4:G:334:LEU:O	4:G:338:LEU:HG	2.19	0.43
1:A:4:LEU:HD12	1:A:61:THR:O	2.19	0.42
4:G:129:MET:HE3	4:G:129:MET:HB2	1.96	0.42
3:F:192:SER:O	3:F:208:TYR:N	2.49	0.42
4:G:235:LEU:O	4:G:238:VAL:HG22	2.19	0.42
1:A:241:LEU:OXT	1:B:240:ARG:NH1	2.53	0.42
1:B:31:ILE:HG12	1:B:190:VAL:CG2	2.50	0.42
1:B:177:LYS:HG2	1:B:203:VAL:CG2	2.50	0.42
1:A:101:ALA:HB1	4:G:5:LEU:HG	2.02	0.42
2:C:150:GLU:HG3	2:C:159:HIS:CD2	2.54	0.42
1:A:114:ARG:HD2	14:A:402:HOH:O	2.19	0.41
2:C:21:TYR:O	2:C:25:GLN:HG2	2.20	0.41
2:C:71:ALA:O	3:F:182:SER:OG	2.26	0.41
2:C:94:TRP:CE2	2:C:167:PHE:HD1	2.38	0.41
1:A:96:GLU:HG3	1:A:131:ARG:HB2	2.02	0.41
2:C:147:LYS:HB3	2:C:148:PRO:CD	2.47	0.41
4:G:168:HIS:ND1	4:G:193:ASP:OD1	2.53	0.41
4:G:174:LEU:HD12	4:G:175:TRP:N	2.35	0.41
4:G:281:ILE:HG21	4:G:281:ILE:HD13	1.72	0.41
3:F:3:ILE:HD13	3:F:93:ILE:HG21	2.02	0.41
1:A:72:MET:HE2	4:G:92:ALA:CB	2.46	0.41
8:A:308:PG4:H42	8:A:308:PG4:H22	1.78	0.41
1:B:124:GLU:CD	1:B:186:ARG:HH12	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:130:ILE:HD12	1:B:130:ILE:HG23	1.87	0.41
4:G:91:GLN:HA	4:G:95:PHE:O	2.21	0.41
2:C:138:LEU:HD23	2:C:138:LEU:HA	1.94	0.41
4:G:286:LEU:HD23	4:G:286:LEU:HA	1.88	0.41
1:A:61:THR:HA	1:A:65:ASN:O	2.20	0.41
1:B:82:TYR:CZ	1:B:84:PRO:HB3	2.56	0.41
3:F:153:PRO:HD2	3:F:234:ILE:HG23	2.03	0.41
4:G:33:TYR:OH	4:G:47:LEU:HB3	2.21	0.41
1:B:194:ASP:OD1	1:B:195:HIS:N	2.53	0.41
3:F:25:VAL:O	3:F:28:SER:HB3	2.21	0.41
1:A:225:LEU:HD11	1:A:241:LEU:HD13	2.03	0.40
3:F:320:ILE:HD11	3:F:330:GLY:HA2	2.03	0.40
4:G:338:LEU:O	4:G:342:LEU:HG	2.21	0.40
13:G:401:MA4:H621	13:G:401:MA4:H512	1.91	0.40
3:F:24:LEU:HA	3:F:24:LEU:HD12	1.88	0.40
1:A:194:ASP:OD1	1:A:195:HIS:N	2.54	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:A:424:HOH:O	14:B:403:HOH:O[4_545]	2.01	0.19

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	238/241 (99%)	228 (96%)	10 (4%)	0	100	100
1	B	238/241 (99%)	229 (96%)	9 (4%)	0	100	100
2	C	172/191 (90%)	161 (94%)	11 (6%)	0	100	100
3	F	331/366 (90%)	317 (96%)	14 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	G	350/356 (98%)	336 (96%)	14 (4%)	0	100	100
All	All	1329/1395 (95%)	1271 (96%)	58 (4%)	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	203/207 (98%)	202 (100%)	1 (0%)	81	90
1	B	199/207 (96%)	195 (98%)	4 (2%)	48	71
2	C	124/170 (73%)	123 (99%)	1 (1%)	73	86
3	F	244/312 (78%)	243 (100%)	1 (0%)	84	92
4	G	274/296 (93%)	270 (98%)	4 (2%)	57	77
All	All	1044/1192 (88%)	1033 (99%)	11 (1%)	65	81

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	83	LEU
1	B	55	ARG
1	B	62	ILE
1	B	171	ILE
1	B	176	ILE
2	C	110	THR
3	F	254	LEU
4	G	66	PHE
4	G	88	VAL
4	G	138	THR
4	G	299	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	163	GLN
1	A	229	GLN
1	B	25	GLN
1	B	157	GLN
1	B	226	ASN
2	C	69	HIS
2	C	119	ASN
3	F	116	ASN
3	F	293	GLN
3	F	362	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 19 ligands modelled in this entry, 6 are monoatomic - leaving 13 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	$\# Z > 2$
10	GOL	B	304	-	5,5,5	1.13	0	5,5,5	0.96	0
12	JU7	F	402	-	25,25,25	0.99	1 (4%)	32,32,32	1.33	6 (18%)
7	AE3	A	306	-	8,8,8	0.75	0	7,7,7	0.53	0
13	MA4	G	401	-	37,37,37	1.07	1 (2%)	50,50,50	1.41	7 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
8	PG4	A	308	-	12,12,12	0.57	0	11,11,11	0.45	0
11	LMT	G	402	-	36,36,36	1.12	4 (11%)	47,47,47	1.18	3 (6%)
7	AE3	A	307	-	8,8,8	0.57	0	7,7,7	0.75	0
11	LMT	F	403	-	30,30,36	1.18	4 (13%)	41,41,47	1.03	3 (7%)
10	GOL	B	305	-	5,5,5	0.94	0	5,5,5	1.09	0
9	PEG	B	303	-	6,6,6	0.74	0	5,5,5	0.58	0
10	GOL	G	403	-	5,5,5	0.95	0	5,5,5	1.12	0
8	PG4	B	302	-	12,12,12	0.53	0	11,11,11	0.49	0
11	LMT	F	401	-	36,36,36	1.10	4 (11%)	47,47,47	1.02	2 (4%)

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
10	GOL	B	304	-	-	0/4/4/4	-
12	JU7	F	402	-	-	4/12/40/40	0/2/2/2
7	AE3	A	306	-	-	2/6/6/6	-
13	MA4	G	401	-	-	6/18/66/66	0/3/3/3
8	PG4	A	308	-	-	7/10/10/10	-
11	LMT	G	402	-	-	13/21/61/61	0/2/2/2
7	AE3	A	307	-	-	2/6/6/6	-
11	LMT	F	403	-	-	1/15/55/61	0/2/2/2
10	GOL	B	305	-	-	0/4/4/4	-
9	PEG	B	303	-	-	1/4/4/4	-
10	GOL	G	403	-	-	0/4/4/4	-
8	PG4	B	302	-	-	6/10/10/10	-
11	LMT	F	401	-	-	5/21/61/61	0/2/2/2

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	F	401	LMT	O3'-C3'	-2.54	1.36	1.43
11	G	402	LMT	O4'-C4B	-2.41	1.37	1.43
11	F	403	LMT	O2'-C2'	-2.39	1.37	1.43
11	F	401	LMT	O2'-C2'	-2.38	1.37	1.43
11	G	402	LMT	O1'-C1'	-2.30	1.36	1.40
11	F	401	LMT	O3B-C3B	-2.24	1.37	1.43
13	G	401	MA4	O3-C3	-2.23	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	F	403	LMT	O4'-C4B	-2.22	1.37	1.43
11	G	402	LMT	O3'-C3'	-2.14	1.37	1.43
12	F	402	JU7	C23-C21	2.05	1.57	1.52
11	F	403	LMT	O3'-C3'	-2.03	1.37	1.43
11	G	402	LMT	O3B-C3B	-2.01	1.38	1.43
11	F	401	LMT	O2B-C2B	-2.01	1.38	1.43
11	F	403	LMT	O2B-C2B	-2.00	1.38	1.43

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	G	401	MA4	O50-C10-O10	-4.97	98.31	110.04
12	F	402	JU7	C19-C18-C21	-3.44	104.58	113.02
12	F	402	JU7	O17-C03-C02	-2.86	104.50	110.37
13	G	401	MA4	C1-O5-C5	2.84	119.26	113.72
11	G	402	LMT	O5B-C5B-C6B	2.76	113.28	106.44
11	F	401	LMT	C1'-O5'-C5'	-2.71	108.44	113.72
11	F	401	LMT	C3'-C4'-C5'	-2.69	104.97	110.93
11	G	402	LMT	C3'-C4'-C5'	-2.66	105.03	110.93
11	G	402	LMT	C1'-O5'-C5'	-2.66	108.52	113.72
11	F	403	LMT	C3B-C4B-C5B	-2.65	105.42	110.23
13	G	401	MA4	O1-C1-C2	2.51	114.27	108.09
12	F	402	JU7	O04-C03-C02	2.36	111.85	108.27
13	G	401	MA4	O3-C3-C2	-2.30	104.96	110.38
12	F	402	JU7	O24-C23-C02	-2.28	104.99	110.38
13	G	401	MA4	O50-C50-C60	-2.22	100.93	106.44
13	G	401	MA4	O50-C10-C20	-2.17	105.90	110.37
13	G	401	MA4	O30-C30-C20	-2.08	105.48	110.38
12	F	402	JU7	C23-C21-C18	2.04	113.94	110.23
12	F	402	JU7	O17-C03-O04	-2.03	105.25	110.04
11	F	403	LMT	O3B-C3B-C4B	2.02	115.13	110.38
11	F	403	LMT	C1'-O5'-C5'	-2.01	109.79	113.72

There are no chirality outliers.

All (47) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	F	401	LMT	C2'-C1'-O1'-C1
11	G	402	LMT	C2'-C1'-O1'-C1
11	G	402	LMT	O5'-C1'-O1'-C1
12	F	402	JU7	O17-C03-O04-C05
8	A	308	PG4	O2-C3-C4-O3

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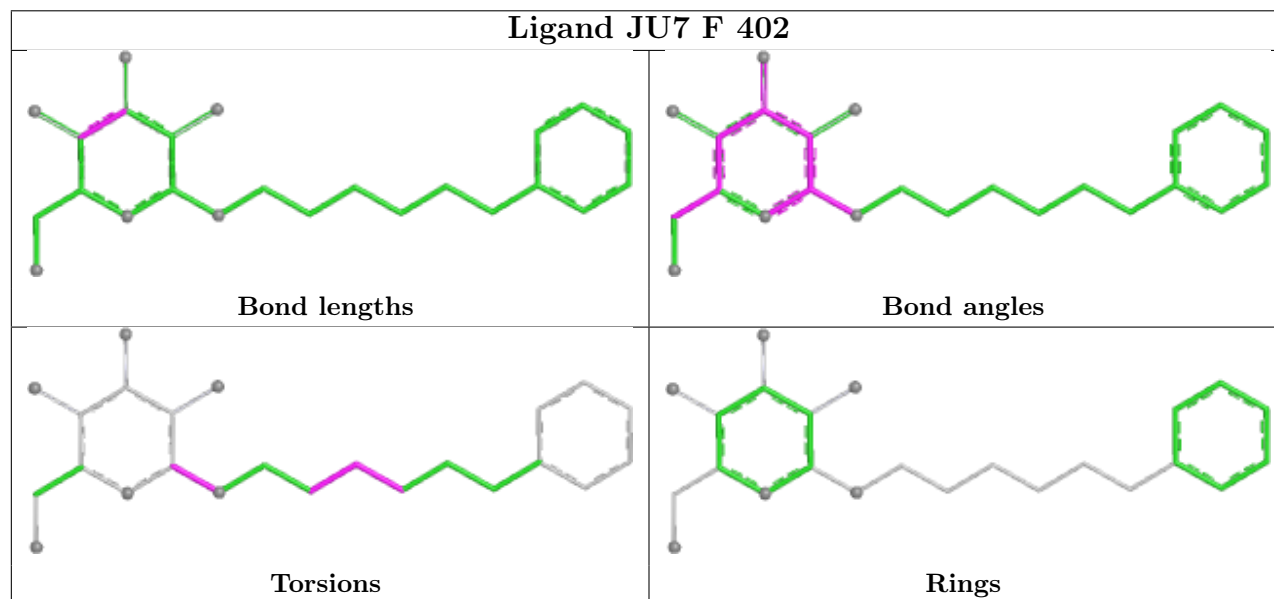
Mol	Chain	Res	Type	Atoms
11	G	402	LMT	O5B-C5B-C6B-O6B
13	G	401	MA4	C31-C41-C51-C61
13	G	401	MA4	C4-C5-C6-O6
11	F	401	LMT	O5B-C5B-C6B-O6B
13	G	401	MA4	O5-C5-C6-O6
7	A	306	AE3	O3-C5-C6-O4
8	A	308	PG4	O1-C1-C2-O2
8	B	302	PG4	O1-C1-C2-O2
12	F	402	JU7	C02-C03-O04-C05
11	G	402	LMT	O1'-C1-C2-C3
12	F	402	JU7	C05-C06-C07-C08
11	G	402	LMT	C6-C7-C8-C9
11	G	402	LMT	C7-C8-C9-C10
8	A	308	PG4	O3-C5-C6-O4
8	B	302	PG4	C1-C2-O2-C3
11	G	402	LMT	C2-C3-C4-C5
8	B	302	PG4	C8-C7-O4-C6
13	G	401	MA4	C20-C10-O10-C11
11	G	402	LMT	C4B-C5B-C6B-O6B
11	F	401	LMT	C2-C1-O1'-C1'
7	A	307	AE3	C1-C2-O2-C3
12	F	402	JU7	C06-C07-C08-C09
7	A	307	AE3	O2-C3-C4-O3
11	F	401	LMT	C4B-C5B-C6B-O6B
13	G	401	MA4	C21-C31-C41-C51
7	A	306	AE3	C3-C4-O3-C5
8	A	308	PG4	C5-C6-O4-C7
11	F	403	LMT	O1'-C1-C2-C3
11	G	402	LMT	C4-C5-C6-C7
8	B	302	PG4	C6-C5-O3-C4
11	F	401	LMT	C11-C10-C9-C8
8	A	308	PG4	C4-C3-O2-C2
11	G	402	LMT	C2B-C1B-O1B-C4'
8	A	308	PG4	C3-C4-O3-C5
9	B	303	PEG	C1-C2-O2-C3
11	G	402	LMT	C1-C2-C3-C4
13	G	401	MA4	O10-C11-C21-C31
8	B	302	PG4	O2-C3-C4-O3
11	G	402	LMT	C11-C10-C9-C8
8	B	302	PG4	O3-C5-C6-O4
11	G	402	LMT	O5B-C1B-O1B-C4'
8	A	308	PG4	C6-C5-O3-C4

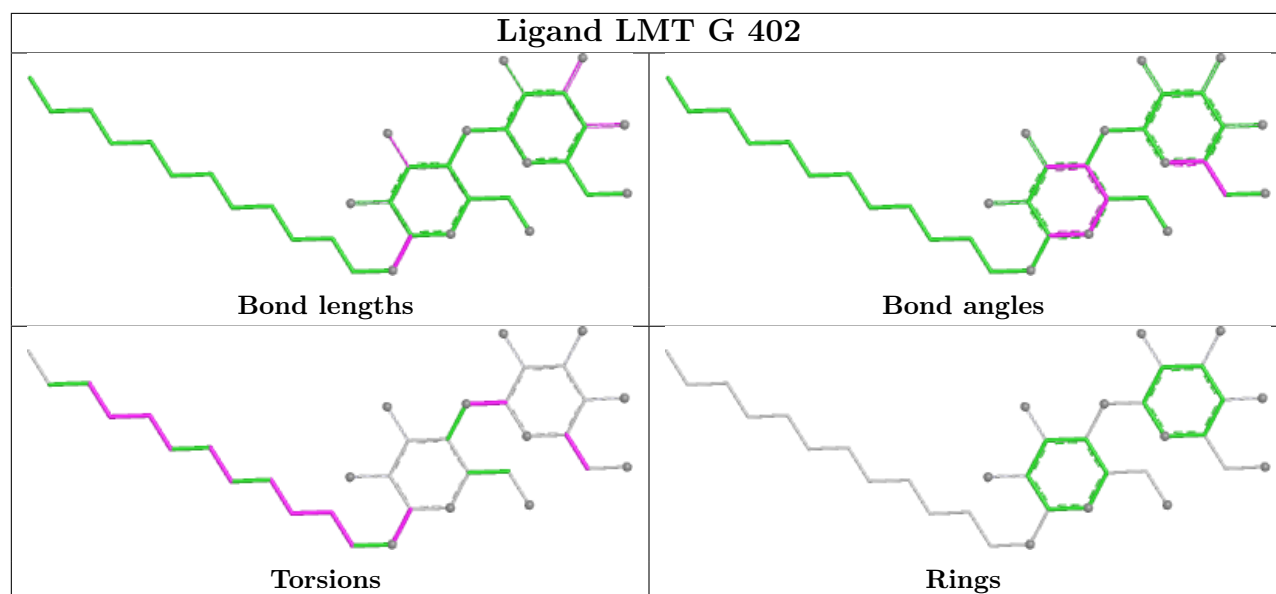
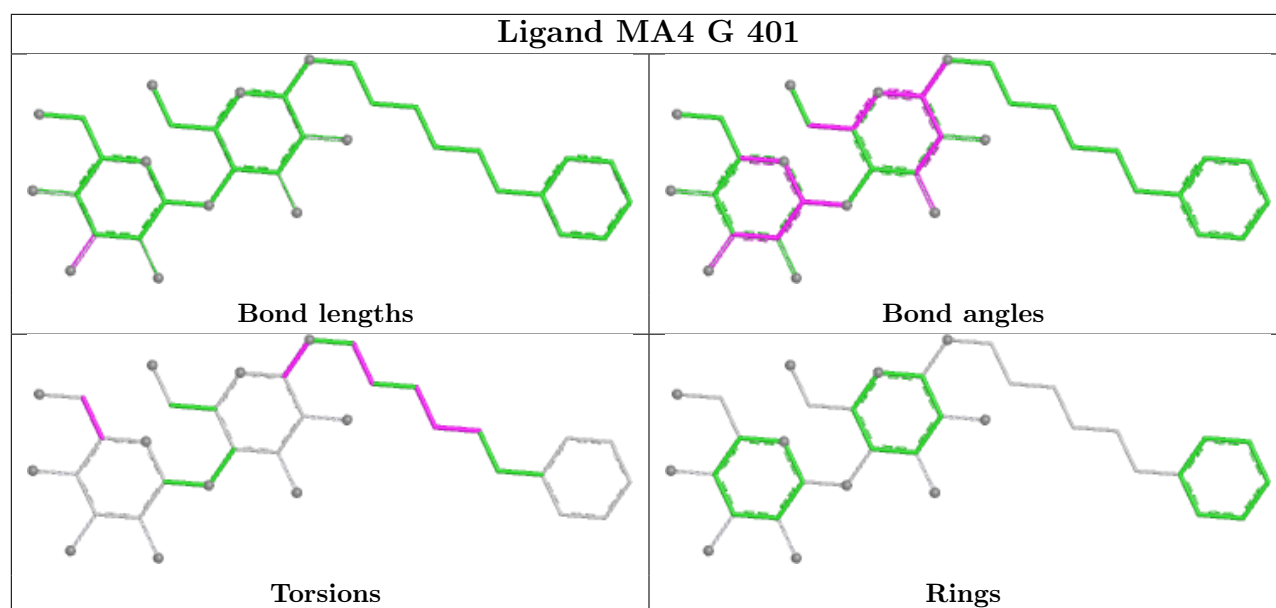
There are no ring outliers.

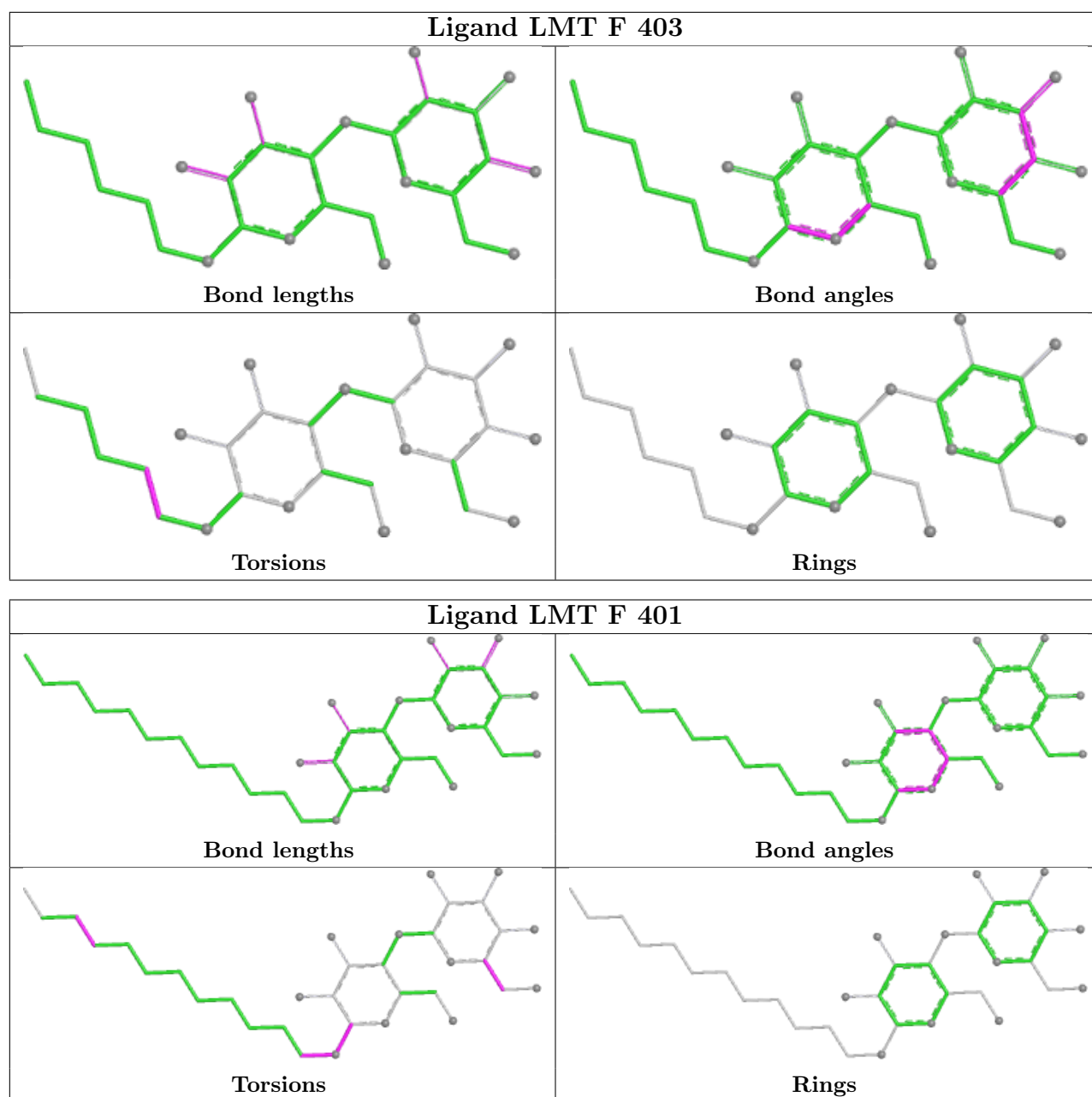
8 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	F	402	JU7	1	0
13	G	401	MA4	3	0
8	A	308	PG4	3	0
11	G	402	LMT	1	0
11	F	403	LMT	2	0
9	B	303	PEG	1	0
8	B	302	PG4	1	0
11	F	401	LMT	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 than 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.







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	240/241 (99%)	0.46	16 (6%) 24 17	45, 81, 110, 137	0
1	B	240/241 (99%)	0.83	38 (15%) 5 4	57, 88, 117, 150	0
2	C	174/191 (91%)	1.53	49 (28%) 1 1	75, 148, 191, 220	0
3	F	341/366 (93%)	1.42	85 (24%) 2 1	71, 131, 191, 221	0
4	G	354/356 (99%)	0.93	52 (14%) 6 4	57, 105, 150, 178	0
All	All	1349/1395 (96%)	1.03	240 (17%) 4 3	45, 103, 173, 221	0

All (240) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	F	148	HIS	11.9
4	G	236	ALA	10.8
4	G	147	ARG	9.8
3	F	147	GLY	8.4
2	C	134	MET	8.1
4	G	164	VAL	7.7
4	G	239	THR	7.7
3	F	150	GLN	7.3
4	G	166	ASN	6.7
3	F	274	VAL	6.6
4	G	148	THR	6.2
4	G	146	VAL	6.0
1	B	86	GLU	5.8
3	F	91	THR	5.8
4	G	165	GLU	5.8
3	F	270	ILE	5.5
3	F	273	VAL	5.4
3	F	89	ASN	5.4
3	F	118	LEU	5.3
2	C	175	TYR	5.3

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Mol	Chain	Res	Type	RSRZ
2	C	111	LEU	4.9
1	A	86	GLU	4.8
2	C	116	LEU	4.8
3	F	154	ASP	4.8
2	C	129	LEU	4.7
4	G	237	VAL	4.7
4	G	162	ALA	4.6
2	C	97	THR	4.6
1	B	83	LEU	4.6
2	C	155	GLN	4.6
1	B	88	SER	4.6
3	F	151	ARG	4.5
1	B	87	ALA	4.5
4	G	143	ILE	4.4
3	F	360	TRP	4.4
4	G	149	GLY	4.4
3	F	50	SER	4.3
3	F	87	VAL	4.3
3	F	356	PHE	4.2
4	G	168	HIS	4.2
3	F	47	MET	4.2
2	C	136	ILE	4.2
4	G	163	LYS	4.1
3	F	146	LYS	4.1
3	F	142	ASP	4.1
3	F	143	LEU	4.1
4	G	7	TRP	4.1
2	C	135	SER	4.0
1	B	137	ALA	3.9
3	F	90	ALA	3.9
2	C	123	ASP	3.9
4	G	139	SER	3.8
4	G	335	PHE	3.8
1	A	18	VAL	3.8
1	A	46	PHE	3.8
3	F	85	ILE	3.7
4	G	141	GLY	3.7
1	A	25	GLN	3.6
4	G	142	ALA	3.6
1	B	237	GLU	3.6
2	C	35	PRO	3.6
3	F	114	ALA	3.6

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Mol	Chain	Res	Type	RSRZ
3	F	152	SER	3.6
4	G	266	ARG	3.6
1	A	43	THR	3.6
2	C	128	THR	3.6
4	G	133	MET	3.6
1	B	174	ILE	3.5
4	G	150	VAL	3.5
3	F	115	PHE	3.5
4	G	238	VAL	3.5
3	F	249	LEU	3.5
1	B	15	LYS	3.5
1	B	147	GLU	3.4
3	F	155	GLY	3.4
3	F	149	PHE	3.4
1	B	102	VAL	3.4
2	C	106	ASP	3.4
2	C	51	SER	3.3
2	C	39	LEU	3.3
3	F	180	ARG	3.3
3	F	112	VAL	3.3
3	F	164	ILE	3.2
1	B	151	ALA	3.2
3	F	327	VAL	3.2
2	C	107	GLN	3.2
3	F	86	THR	3.2
1	B	142	GLU	3.2
3	F	117	ALA	3.2
3	F	145	GLN	3.2
4	G	258	LYS	3.2
4	G	334	LEU	3.2
2	C	137	GLN	3.2
3	F	167	ARG	3.1
3	F	358	ASP	3.1
2	C	31	ILE	3.1
3	F	93	ILE	3.1
3	F	332	TRP	3.0
3	F	322	ASP	3.0
3	F	62	LEU	3.0
2	C	138	LEU	3.0
1	B	89	ILE	3.0
4	G	56	LEU	3.0
3	F	357	LYS	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	52	LEU	3.0
3	F	361	LYS	2.9
3	F	49	LEU	2.9
3	F	68	LEU	2.9
4	G	222	PRO	2.9
2	C	34	ALA	2.9
2	C	148	PRO	2.9
1	B	133	SER	2.9
2	C	169	ASP	2.9
2	C	115	VAL	2.9
2	C	110	THR	2.9
2	C	174	LEU	2.9
3	F	272	LEU	2.9
4	G	195	VAL	2.9
3	F	329	ILE	2.9
3	F	181	ASP	2.8
2	C	173	GLU	2.8
1	B	37	PRO	2.8
4	G	88	VAL	2.8
2	C	75	ASN	2.8
4	G	233	ASP	2.8
2	C	112	TYR	2.8
3	F	166	ASN	2.8
1	B	14	LYS	2.8
1	B	69	ILE	2.7
3	F	251	THR	2.7
1	B	163	GLN	2.7
1	B	85	GLN	2.7
1	A	132	LYS	2.7
3	F	88	MET	2.7
4	G	170	TYR	2.7
3	F	363	ARG	2.7
1	B	162	ASP	2.7
2	C	117	ALA	2.6
4	G	194	TYR	2.6
1	B	82	TYR	2.6
2	C	171	SER	2.6
1	B	129	HIS	2.6
1	A	137	ALA	2.6
4	G	140	GLY	2.5
2	C	126	PHE	2.5
2	C	53	ASP	2.5

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Mol	Chain	Res	Type	RSRZ
4	G	268	GLU	2.5
1	B	40	ALA	2.5
3	F	330	GLY	2.5
3	F	136	ALA	2.5
2	C	79	LYS	2.5
2	C	159	HIS	2.5
3	F	252	LEU	2.5
4	G	235	LEU	2.5
4	G	245	LEU	2.5
3	F	271	SER	2.5
1	B	13	TYR	2.5
2	C	90	THR	2.5
3	F	113	ALA	2.5
1	B	241	LEU	2.4
3	F	32	ILE	2.4
3	F	246	TRP	2.4
3	F	3	ILE	2.4
1	A	12	SER	2.4
3	F	156	SER	2.4
4	G	231	ALA	2.4
4	G	267	TYR	2.4
1	A	24	LEU	2.4
2	C	133	GLU	2.4
1	B	211	SER	2.4
2	C	60	TYR	2.4
4	G	316	TYR	2.4
3	F	191	HIS	2.4
2	C	96	ILE	2.4
3	F	51	ILE	2.4
1	B	226	ASN	2.3
2	C	98	ALA	2.3
3	F	61	LEU	2.3
2	C	65	ILE	2.3
3	F	168	LYS	2.3
1	B	19	VAL	2.3
3	F	19	PHE	2.3
4	G	48	LEU	2.3
3	F	258	ALA	2.3
3	F	72	ILE	2.3
3	F	170	TYR	2.3
1	B	22	VAL	2.3
3	F	16	PHE	2.3

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Mol	Chain	Res	Type	RSRZ
2	C	105	LYS	2.3
1	B	144	ARG	2.3
2	C	132	SER	2.3
3	F	211	THR	2.3
3	F	174	VAL	2.3
1	B	223	ASP	2.2
4	G	224	TYR	2.2
4	G	85	SER	2.2
1	A	34	LEU	2.2
3	F	64	LEU	2.2
4	G	255	HIS	2.2
3	F	123	TRP	2.2
3	F	243	GLU	2.2
4	G	167	GLU	2.2
4	G	196	ALA	2.2
3	F	33	ARG	2.2
4	G	275	VAL	2.2
2	C	41	MET	2.2
3	F	63	MET	2.2
3	F	144	LEU	2.2
4	G	161	ILE	2.1
1	A	78	MET	2.1
4	G	136	PHE	2.1
3	F	230	TYR	2.1
1	A	235	LEU	2.1
3	F	184	LEU	2.1
1	B	143	ARG	2.1
2	C	100	ARG	2.1
2	C	29	SER	2.1
1	B	222	GLN	2.1
2	C	161	GLN	2.1
1	A	136	MET	2.1
3	F	281	MET	2.1
4	G	232	PRO	2.1
2	C	160	GLY	2.1
4	G	354	ARG	2.1
3	F	134	GLN	2.1
1	B	42	LYS	2.1
1	B	171	ILE	2.1
3	F	248	ALA	2.1
1	A	23	SER	2.0
1	A	68	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	B	139	SER	2.0
4	G	277	GLN	2.0
2	C	78	PHE	2.0
4	G	43	GLY	2.0
1	B	64	ASP	2.0
3	F	58	ALA	2.0
3	F	200	ASP	2.0
2	C	30	LYS	2.0
1	A	88	SER	2.0
3	F	2	ILE	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

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

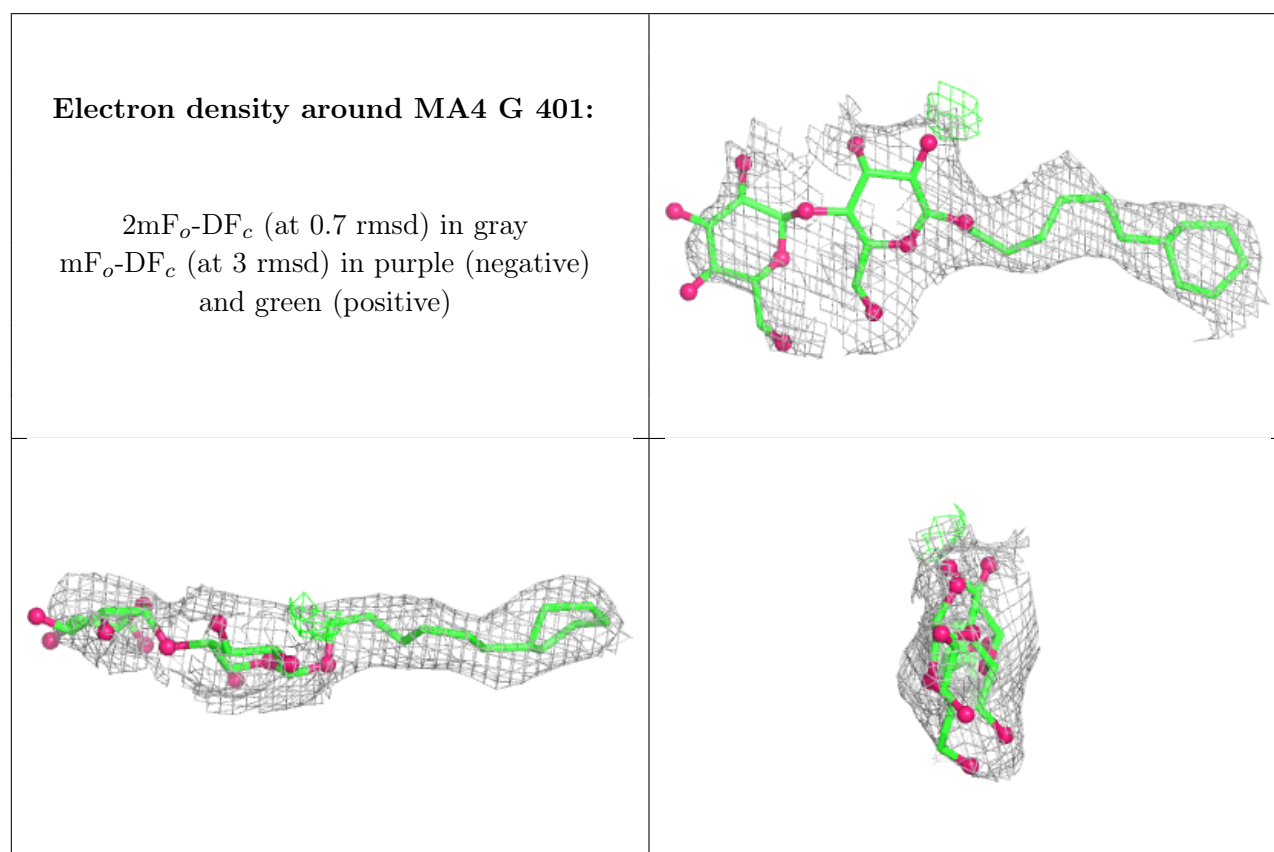
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
9	PEG	B	303	7/7	0.73	0.31	142,144,152,154	0
13	MA4	G	401	35/35	0.74	0.19	91,156,183,185	0
5	CL	A	305	1/1	0.77	0.50	142,142,142,142	0
10	GOL	B	304	6/6	0.78	0.20	117,120,124,125	0
11	LMT	F	401	35/35	0.79	0.20	96,143,175,176	0
12	JU7	F	402	24/24	0.81	0.18	81,110,130,147	0
6	CA	A	303	1/1	0.85	0.17	127,127,127,127	0
8	PG4	A	308	13/13	0.87	0.22	100,103,127,130	0
11	LMT	G	402	35/35	0.89	0.16	68,122,136,139	0
8	PG4	B	302	13/13	0.89	0.22	94,102,111,114	0
7	AE3	A	307	9/9	0.89	0.17	87,93,101,102	0
7	AE3	A	306	9/9	0.92	0.12	75,80,83,85	0
11	LMT	F	403	29/35	0.92	0.12	87,94,107,109	0

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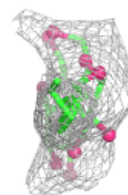
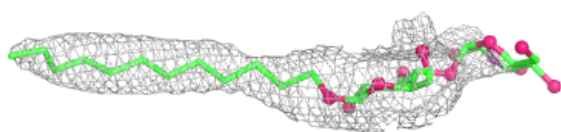
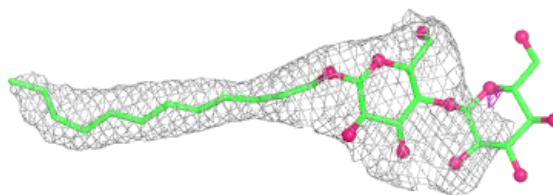
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	CL	B	301	1/1	0.92	0.20	96,96,96,96	0
10	GOL	B	305	6/6	0.92	0.11	103,120,125,127	0
10	GOL	G	403	6/6	0.92	0.09	105,106,111,111	0
5	CL	A	301	1/1	0.93	0.13	85,85,85,85	0
6	CA	A	304	1/1	0.95	0.10	98,98,98,98	0
5	CL	A	302	1/1	0.95	0.20	103,103,103,103	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.

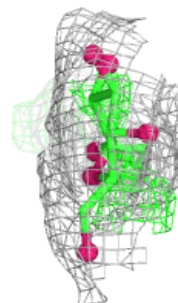
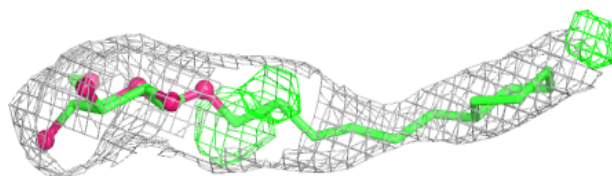
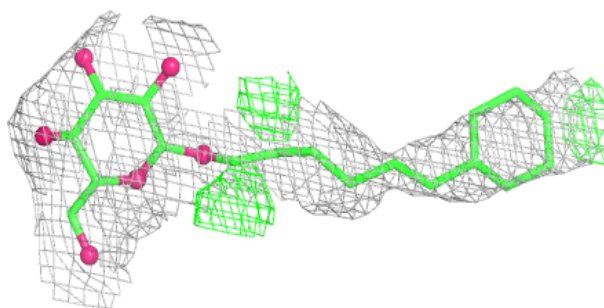


Electron density around LMT F 401:

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

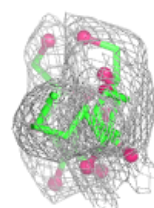
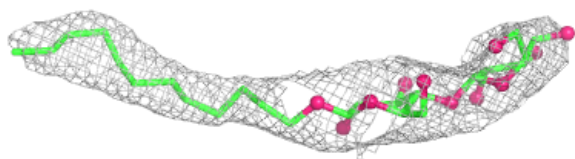
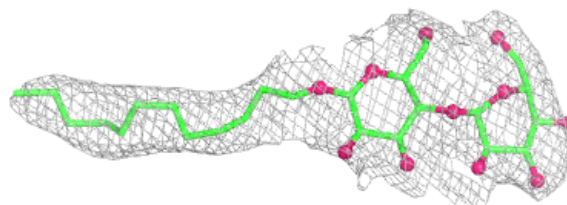
**Electron density around JU7 F 402:**

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

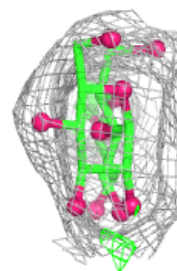
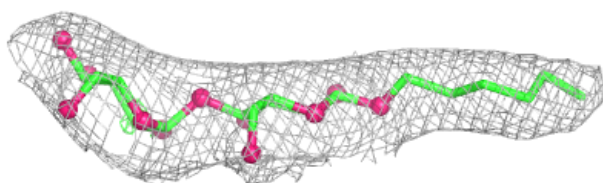
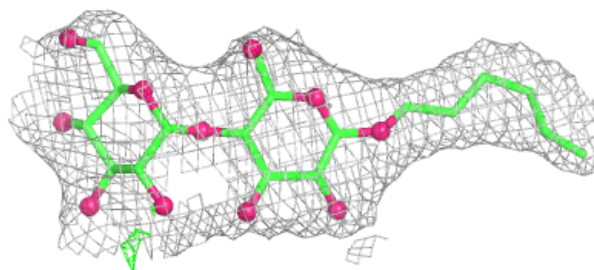


Electron density around LMT G 402:

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

**Electron density around LMT F 403:**

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



6.5 Other polymers [i](#)

There are no such residues in this entry.