Full wwPDB X-ray Structure Validation Report ⓘ

Oct 22, 2024 – 10:23 pm BST

PDB ID	:	8QX1
Title	:	Arabidopsis thaliana Phosphoenolpyruvate carboxylase PPC1 R886G mutant with bound malate
Authors	:	Loris, R.; Haesaerts, S.; Larsen, P.B.
Deposited on	:	2023-10-20
Resolution	:	2.94 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:

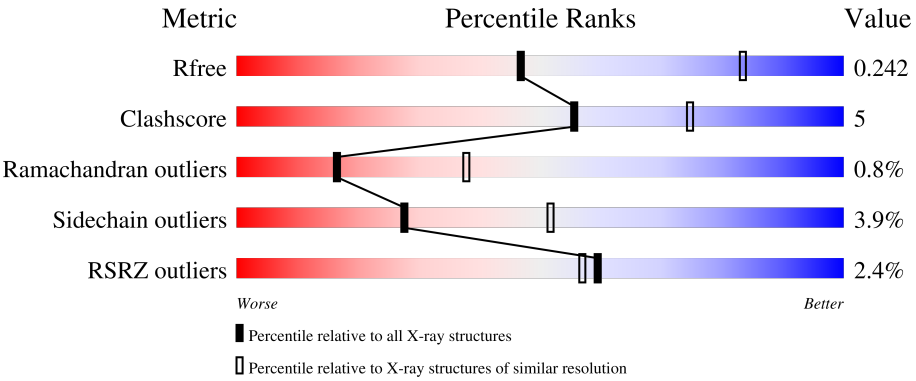
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.94 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}	164625	1067 (2.96-2.92)
Clashscore	180529	1122 (2.96-2.92)
Ramachandran outliers	177936	1075 (2.96-2.92)
Sidechain outliers	177891	1075 (2.96-2.92)
RSRZ outliers	164620	1067 (2.96-2.92)

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	974	3% 83% 11%
1	B	974	3% 81% 13%
1	C	974	2% 81% 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	CL	A	1002	-	-	-	X
4	PEG	A	1004	-	-	-	X
4	PEG	B	1007	-	-	-	X
4	PEG	C	1006	-	-	-	X

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 22116 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 Phosphoenolpyruvate carboxylase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	931	Total	C	N	O	S	0	4	0
			7221	4602	1244	1345	30			
1	B	931	Total	C	N	O	S	0	3	1
			7240	4613	1238	1359	30			
1	C	936	Total	C	N	O	S	0	4	0
			7424	4722	1283	1389	30			

There are 24 discrepancies between the modelled and reference sequences:

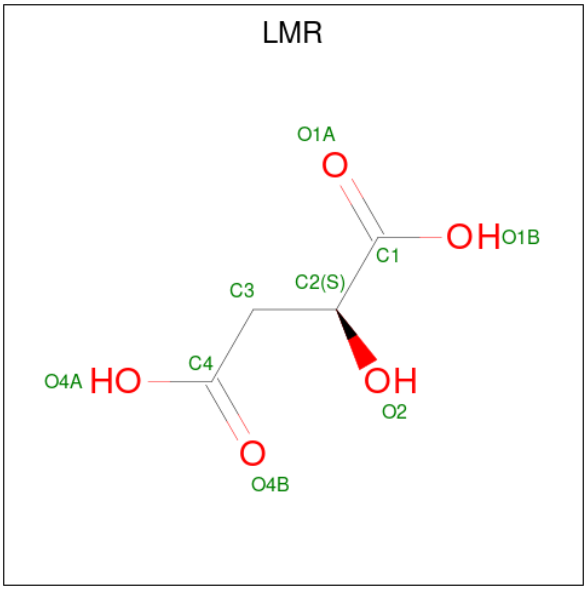
Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	MET	-	initiating methionine	UNP Q9MAH0
A	-5	HIS	-	expression tag	UNP Q9MAH0
A	-4	HIS	-	expression tag	UNP Q9MAH0
A	-3	HIS	-	expression tag	UNP Q9MAH0
A	-2	HIS	-	expression tag	UNP Q9MAH0
A	-1	HIS	-	expression tag	UNP Q9MAH0
A	0	HIS	-	expression tag	UNP Q9MAH0
A	886	GLY	ARG	engineered mutation	UNP Q9MAH0
B	-6	MET	-	initiating methionine	UNP Q9MAH0
B	-5	HIS	-	expression tag	UNP Q9MAH0
B	-4	HIS	-	expression tag	UNP Q9MAH0
B	-3	HIS	-	expression tag	UNP Q9MAH0
B	-2	HIS	-	expression tag	UNP Q9MAH0
B	-1	HIS	-	expression tag	UNP Q9MAH0
B	0	HIS	-	expression tag	UNP Q9MAH0
B	886	GLY	ARG	engineered mutation	UNP Q9MAH0
C	-6	MET	-	initiating methionine	UNP Q9MAH0
C	-5	HIS	-	expression tag	UNP Q9MAH0
C	-4	HIS	-	expression tag	UNP Q9MAH0
C	-3	HIS	-	expression tag	UNP Q9MAH0
C	-2	HIS	-	expression tag	UNP Q9MAH0
C	-1	HIS	-	expression tag	UNP Q9MAH0
C	0	HIS	-	expression tag	UNP Q9MAH0

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
C	886	GLY	ARG	engineered mutation	UNP Q9MAH0

- Molecule 2 is (2S)-2-hydroxybutanedioic acid (three-letter code: LMR) (formula: $C_4H_6O_5$) (labeled as "Ligand of Interest" by depositor).

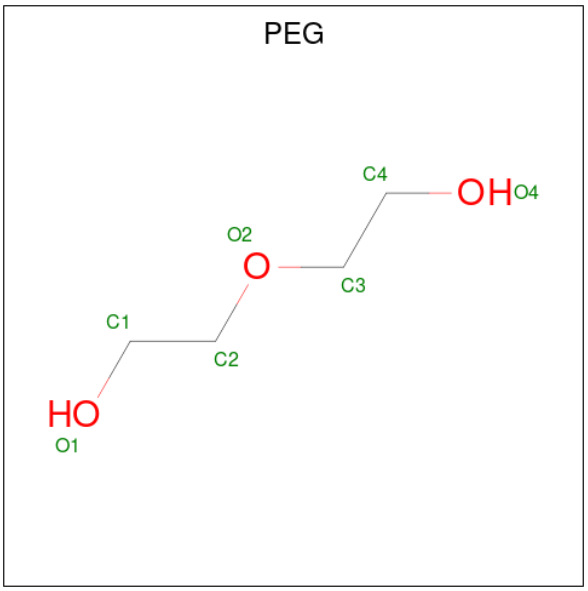


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 9 4 5	0	0
2	B	1	Total C O 9 4 5	0	0
2	C	1	Total C O 9 4 5	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

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

- Molecule 4 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 7 4 3	0	0
4	A	1	Total C 2 2	0	0
4	A	1	Total C O 6 4 2	0	0
4	A	1	Total C 2 2	0	0
4	A	1	Total C O 7 4 3	0	0
4	B	1	Total C O 7 4 3	0	0
4	B	1	Total C O 7 4 3	0	0
4	B	1	Total C 2 2	0	0
4	B	1	Total C O 7 4 3	0	0
4	B	1	Total C 2 2	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C 2 2	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C 2 2	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 6 4 2	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C O 7 4 3	0	0
4	C	1	Total C 2 2	0	0

- Molecule 5 is water.

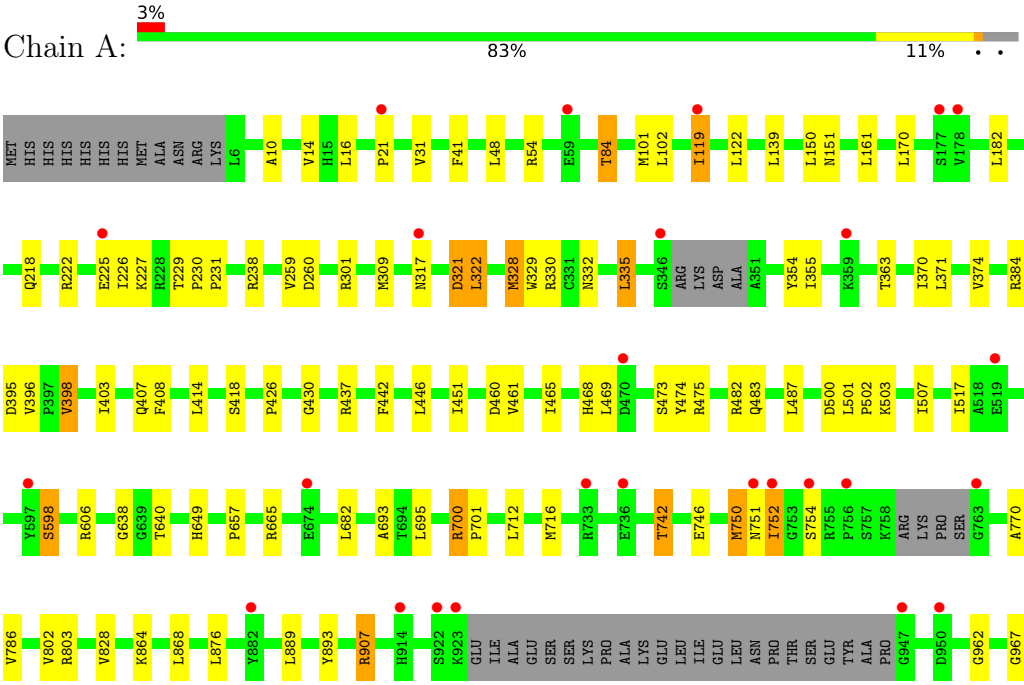
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	31	Total O 31 31	0	0
5	B	15	Total O 15 15	0	0
5	C	59	Total O 59 59	0	0

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.

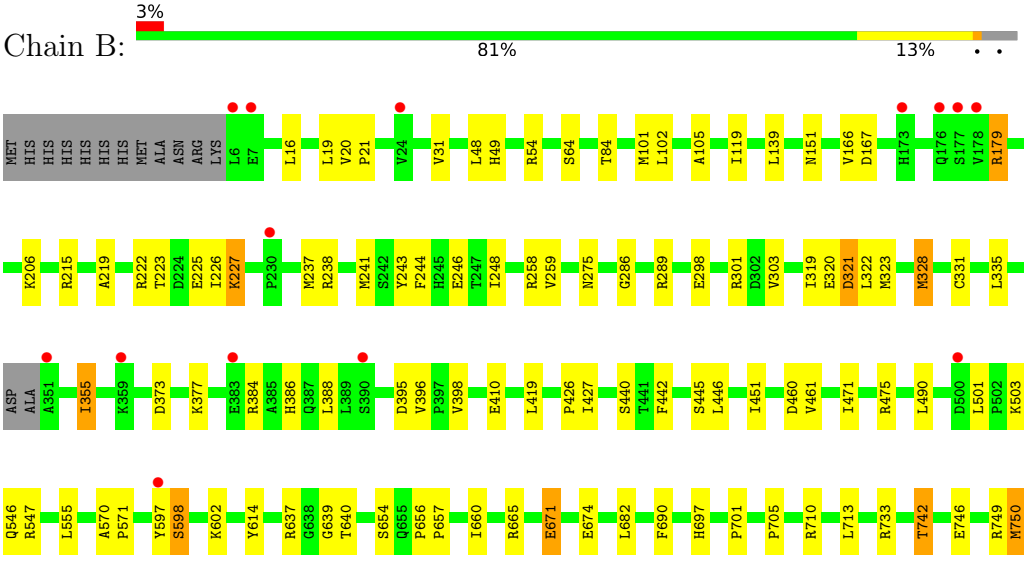
• Molecule 1: Phosphoenolpyruvate carboxylase 1

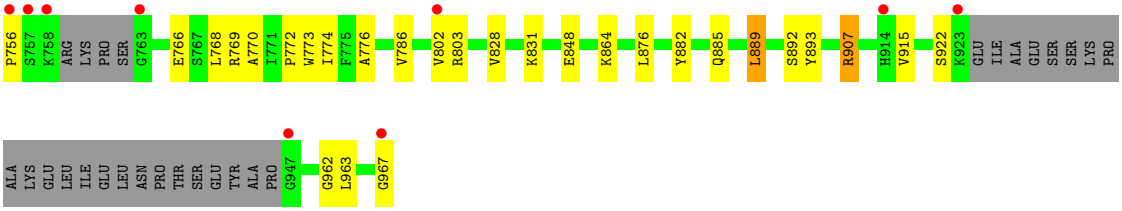
Chain A:



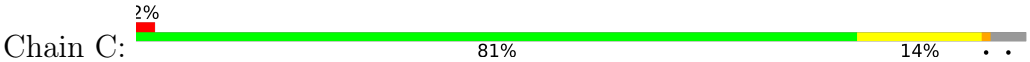
• Molecule 1: Phosphoenolpyruvate carboxylase 1

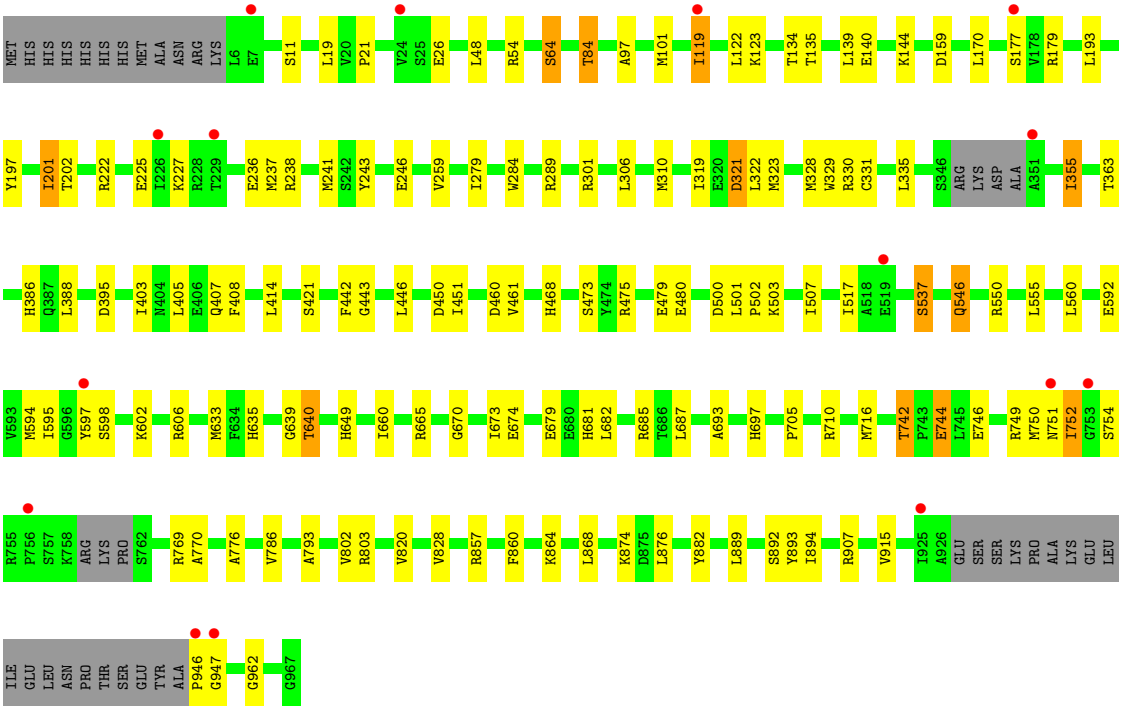
Chain B:





• Molecule 1: Phosphoenolpyruvate carboxylase 1





4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 41 2 2	Depositor
Cell constants a, b, c, α, β, γ	242.38Å 242.38Å 396.04Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.12 – 2.94 48.12 – 2.94	Depositor EDS
% Data completeness (in resolution range)	99.2 (48.12-2.94) 99.1 (48.12-2.94)	Depositor EDS
R_{merge}	0.30	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.30 (at 2.96Å)	Xtriage
Refinement program	PHENIX 1.11.1_2575	Depositor
R, R_{free}	0.203 , 0.242 0.203 , 0.242	Depositor DCC
R_{free} test set	6513 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	76.4	Xtriage
Anisotropy	0.328	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 72.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	22116	wwPDB-VP
Average B, all atoms (Å^2)	84.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 62.29 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.1521e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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, PEG, LMR

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	0.30	0/7391	0.47	0/10048
1	B	0.29	0/7406	0.47	0/10070
1	C	0.33	0/7596	0.51	0/10296
All	All	0.31	0/22393	0.48	0/30414

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	7221	0	6937	63	0
1	B	7240	0	6935	77	0
1	C	7424	0	7278	70	0
2	A	9	0	4	0	0
2	B	9	0	4	0	0
2	C	9	0	4	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
4	A	24	0	25	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	25	0	27	1	0
4	C	47	0	53	4	0
5	A	31	0	0	0	0
5	B	15	0	0	0	0
5	C	59	0	0	2	0
All	All	22116	0	21267	201	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 (201) 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:B:206:LYS:HE3	4:B:1004:PEG:H31	1.55	0.87
1:C:460:ASP:OD1	1:C:475:ARG:NH2	2.15	0.79
1:C:238:ARG:HH12	4:C:1005:PEG:H11	1.51	0.75
1:B:384:ARG:HG3	1:B:396:VAL:HB	1.70	0.74
1:B:461:VAL:HG22	1:B:507:ILE:HG23	1.71	0.71
1:B:490:LEU:O	1:B:547:ARG:NH1	2.24	0.70
1:C:301:ARG:NH2	1:C:388:LEU:O	2.25	0.69
1:A:460:ASP:OD1	1:A:475:ARG:NH2	2.26	0.68
1:A:384:ARG:HG3	1:A:396:VAL:HB	1.76	0.68
1:C:119:ILE:HD12	1:C:122:LEU:HD22	1.78	0.65
1:B:338:ARG:NH2	1:B:410:GLU:OE1	2.22	0.65
1:B:48:LEU:HD13	1:B:222:ARG:HD3	1.78	0.64
1:C:546:GLN:OE1	1:C:555:LEU:N	2.28	0.63
1:A:301:ARG:NH2	1:A:388:LEU:O	2.32	0.63
1:A:335:LEU:HD12	1:A:414:LEU:HG	1.82	0.62
1:A:139:LEU:HD21	1:A:259:VAL:HG22	1.81	0.62
1:C:461:VAL:HG22	1:C:507:ILE:HG23	1.82	0.62
1:A:546:GLN:OE1	1:A:555:LEU:N	2.34	0.61
1:C:946:PRO:N	1:C:947:GLY:HA2	2.16	0.61
1:B:460:ASP:OD1	1:B:475:ARG:NH2	2.33	0.60
1:A:606[A]:ARG:NH2	1:A:638:GLY:O	2.35	0.60
1:C:139:LEU:HD21	1:C:259:VAL:HG22	1.85	0.58
1:C:123:LYS:NZ	1:C:135:THR:O	2.35	0.58
1:B:546:GLN:OE1	1:B:555:LEU:N	2.33	0.58
1:A:119:ILE:HD12	1:A:122:LEU:HD22	1.84	0.57
1:B:298:GLU:OE2	1:B:301:ARG:NH1	2.37	0.57
1:B:301:ARG:NH2	1:B:388:LEU:O	2.38	0.56
1:B:451:ILE:HG13	1:B:517:ILE:HD11	1.86	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:331:CYS:HB2	1:B:335:LEU:HD23	1.89	0.55
1:B:786:VAL:HG11	1:B:828:VAL:HG21	1.89	0.54
1:A:501:LEU:O	1:A:503:LYS:HG3	2.08	0.53
1:C:592:GLU:OE2	1:C:665:ARG:NH1	2.40	0.53
1:A:426:PRO:O	1:B:215:ARG:HD3	2.09	0.53
1:A:474:TYR:CZ	1:A:482:ARG:HD3	2.44	0.52
1:B:766:GLU:H	1:B:766:GLU:CD	2.11	0.52
1:B:637[B]:ARG:NH2	1:B:671:GLU:OE2	2.37	0.52
1:C:480:GLU:HG3	4:C:1009:PEG:H21	1.91	0.52
1:A:150:LEU:HD21	1:A:700:ARG:HE	1.75	0.52
1:B:598:SER:OG	1:B:967:GLY:OXT	2.27	0.52
1:A:592:GLU:OE2	1:A:665:ARG:NH1	2.43	0.52
1:C:19:LEU:HD21	1:C:892:SER:HB3	1.93	0.51
1:C:319:ILE:O	1:C:323:MET:HG3	2.10	0.51
1:B:660:ILE:HD12	1:B:697:HIS:CG	2.46	0.51
1:C:602:LYS:HD3	1:C:770:ALA:HA	1.91	0.51
1:A:461:VAL:HG22	1:A:507:ILE:HG23	1.92	0.51
1:A:802:VAL:HG23	1:A:803:ARG:HG3	1.92	0.51
1:C:501:LEU:O	1:C:503:LYS:HG3	2.10	0.51
1:B:139:LEU:HD21	1:B:259:VAL:HG22	1.93	0.51
1:C:716:MET:HB3	1:C:793:ALA:HB1	1.92	0.51
1:A:321[B]:ASP:OD2	1:B:188:ARG:NH2	2.44	0.51
1:C:97:ALA:C	1:C:101:MET:HE3	2.32	0.51
1:A:598:SER:OG	1:A:967:GLY:OXT	2.28	0.50
1:C:177:SER:OG	1:C:236:GLU:HG2	2.12	0.50
1:A:48:LEU:HD13	1:A:222:ARG:HD3	1.93	0.50
1:A:355:ILE:O	1:B:238:ARG:NE	2.40	0.50
1:A:649:HIS:CD2	1:A:693:ALA:HB2	2.47	0.50
1:B:166:VAL:HG11	1:B:690:PHE:HB3	1.94	0.49
1:C:329:TRP:CZ3	1:C:330:ARG:HG3	2.47	0.49
1:C:864:LYS:HE2	1:C:876:LEU:HD11	1.95	0.49
1:B:16:LEU:HB3	1:B:31:VAL:HG13	1.93	0.49
1:C:649:HIS:CD2	1:C:693:ALA:HB2	2.48	0.49
1:B:756:PRO:O	1:B:768:LEU:HD12	2.12	0.48
1:C:335:LEU:HD12	1:C:414:LEU:HG	1.95	0.48
1:C:606:ARG:NH1	5:C:1101:HOH:O	2.41	0.48
1:C:560:LEU:HD13	1:C:594:MET:HG2	1.96	0.48
1:B:20:VAL:HG13	1:B:885:GLN:HG3	1.96	0.48
1:C:595:ILE:HD13	1:C:633:MET:HE2	1.95	0.48
1:B:244:PHE:HA	1:B:248:ILE:HB	1.95	0.48
1:C:746:GLU:HG3	1:C:749:ARG:NH2	2.29	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:405:LEU:HD13	1:C:443:GLY:HA2	1.95	0.47
1:A:332:ASN:HB2	1:A:418:SER:CB	2.44	0.47
1:C:284:TRP:CD1	1:C:450:ASP:HB2	2.49	0.47
1:C:500:ASP:OD1	1:C:500:ASP:N	2.45	0.47
1:C:786:VAL:HG11	1:C:828:VAL:HG21	1.96	0.47
1:A:332:ASN:HB2	1:A:418:SER:HB2	1.97	0.47
1:B:746:GLU:HG3	1:B:749:ARG:NH2	2.29	0.47
1:B:802:VAL:HG23	1:B:803:ARG:HG3	1.96	0.47
1:C:468:HIS:NE2	1:C:500:ASP:O	2.47	0.47
1:B:660:ILE:HD12	1:B:697:HIS:ND1	2.30	0.47
1:A:84:THR:O	1:A:907:ARG:NH2	2.48	0.47
1:A:317:ASN:HB3	4:A:1005:PEG:H41	1.95	0.47
1:B:49:HIS:O	1:B:922:SER:HB3	2.14	0.46
1:C:97:ALA:O	1:C:101:MET:HE3	2.15	0.46
1:A:322:LEU:HD13	1:A:371:LEU:HD13	1.97	0.46
1:C:640:THR:HG21	1:C:820:VAL:HG23	1.97	0.46
1:A:215:ARG:HD3	1:B:426:PRO:O	2.15	0.46
1:B:105:ALA:HB1	1:B:889:LEU:HD13	1.98	0.46
1:B:179:ARG:CZ	1:B:179:ARG:HB3	2.46	0.46
1:B:373:ASP:OD2	1:B:377:LYS:NZ	2.45	0.46
1:B:770:ALA:O	1:B:774:ILE:HG12	2.16	0.46
1:B:19:LEU:HD21	1:B:892:SER:HB3	1.98	0.46
1:C:752:ILE:H	1:C:752:ILE:HG12	1.51	0.46
1:A:864:LYS:HE2	1:A:876:LEU:HD11	1.97	0.45
1:B:752:ILE:H	1:B:752:ILE:HG12	1.56	0.45
1:B:219:ALA:O	1:B:223:THR:HG23	2.17	0.45
1:B:864:LYS:HE2	1:B:876:LEU:HD11	1.99	0.45
1:C:403:ILE:HG22	1:C:407:GLN:OE1	2.17	0.45
1:A:161:LEU:HG	1:A:695:LEU:HD13	1.99	0.45
1:A:16:LEU:HB3	1:A:31:VAL:HG13	1.99	0.45
1:C:201:ILE:HD12	1:C:201:ILE:HA	1.75	0.45
1:B:319:ILE:O	1:B:323:MET:HG3	2.17	0.45
1:C:660:ILE:HD12	1:C:697:HIS:CG	2.51	0.45
1:C:769:ARG:HE	1:C:769:ARG:HB3	1.60	0.45
1:B:442:PHE:HB3	1:B:446:LEU:HD23	1.99	0.45
1:C:48:LEU:HD13	1:C:222:ARG:HD3	1.97	0.45
1:A:442:PHE:HB3	1:A:446:LEU:HD23	1.98	0.45
1:A:309:MET:HE1	1:B:355:ILE:HD13	1.99	0.44
1:A:746:GLU:O	1:A:750:MET:HG2	2.16	0.44
1:A:205:ASP:OD1	1:B:258:ARG:NH2	2.50	0.44
1:B:602:LYS:HG3	1:B:773:TRP:CD1	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:279:ILE:HD12	1:C:687:LEU:HD22	1.99	0.44
1:C:868:LEU:HD21	1:C:876:LEU:HD23	1.99	0.44
1:B:570:ALA:HB3	1:B:571:PRO:HD3	2.00	0.44
1:C:101:MET:HB3	1:C:893:TYR:CE1	2.53	0.44
1:C:894:ILE:HD11	1:C:962:GLY:HA3	2.00	0.44
1:A:752:ILE:H	1:A:752:ILE:HG12	1.53	0.44
1:B:226:ILE:HG13	1:B:227:LYS:N	2.32	0.44
1:B:907:ARG:HE	1:B:915:VAL:HG21	1.83	0.44
1:B:501:LEU:O	1:B:503:LYS:HG3	2.17	0.44
1:C:84:THR:HG22	1:C:915:VAL:HG11	2.00	0.44
1:C:243:TYR:HA	1:C:246:GLU:HB2	1.99	0.44
1:C:874:LYS:HA	1:C:874:LYS:HD3	1.79	0.44
1:C:670:GLY:O	1:C:673:ILE:HG22	2.18	0.43
1:C:857:ARG:O	1:C:860:PHE:HB3	2.18	0.43
1:B:705:PRO:HG2	1:B:710:ARG:HH11	1.83	0.43
1:C:331:CYS:HB2	1:C:335:LEU:HD22	2.01	0.43
1:C:597[A]:TYR:HH	1:C:635:HIS:CE1	2.36	0.43
1:A:868:LEU:HD21	1:A:876:LEU:HD23	2.00	0.43
1:C:197:TYR:CZ	4:C:1007:PEG:H21	2.53	0.43
1:A:260:ASP:CG	1:A:437:ARG:HH22	2.19	0.43
1:B:733:ARG:NH2	1:B:848:GLU:OE2	2.44	0.43
1:B:286:GLY:HA3	1:B:303:VAL:HG21	2.00	0.43
1:B:445:SER:O	1:B:446:LEU:HB2	2.18	0.43
1:B:713:LEU:HD23	1:B:713:LEU:HA	1.81	0.43
1:C:179:ARG:CZ	1:C:179:ARG:HB3	2.49	0.43
1:C:479:GLU:OE2	1:C:537:SER:HB3	2.19	0.43
1:C:705:PRO:HG2	1:C:710[B]:ARG:CZ	2.49	0.43
1:B:167:ASP:HB3	1:B:665:ARG:HG3	2.01	0.43
1:C:64:SER:HB3	1:C:892:SER:O	2.18	0.43
1:C:355:ILE:H	1:C:355:ILE:HG13	1.30	0.43
1:B:243:TYR:HA	1:B:246:GLU:HB2	2.00	0.43
1:A:712:LEU:O	1:A:716:MET:HG3	2.19	0.43
1:C:685:ARG:HD3	5:C:1139:HOH:O	2.19	0.43
1:C:597[B]:TYR:CD1	1:C:639:GLY:HA2	2.54	0.43
1:A:102:LEU:HD21	1:A:962:GLY:CA	2.49	0.42
1:B:237:MET:O	1:B:241:MET:HG2	2.18	0.42
1:C:802:VAL:HG23	1:C:803:ARG:HG3	2.01	0.42
1:A:465:ILE:O	1:A:469:LEU:HG	2.19	0.42
1:A:468:HIS:NE2	1:A:500:ASP:O	2.52	0.42
1:A:483:GLN:O	1:A:487:LEU:HG	2.19	0.42
1:B:657:PRO:HG3	1:B:701:PRO:HB2	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:746:GLU:O	1:B:750:MET:HG2	2.19	0.42
1:B:755:ARG:HA	1:B:756:PRO:HD3	1.90	0.42
1:A:218:GLN:HG2	1:B:427:ILE:HD11	2.01	0.42
1:A:770:ALA:O	1:A:774:ILE:HG12	2.19	0.42
1:A:328:MET:SD	1:A:328:MET:N	2.93	0.42
1:A:451:ILE:HG13	1:A:517:ILE:HD11	2.02	0.42
1:B:328:MET:SD	1:B:328:MET:N	2.93	0.42
1:C:679:GLU:OE1	1:C:681:HIS:N	2.52	0.42
1:B:769:ARG:HB2	1:B:772:PRO:HD2	2.02	0.42
1:A:329:TRP:CZ3	1:A:330:ARG:HG3	2.55	0.42
1:C:238:ARG:NH1	4:C:1005:PEG:H11	2.26	0.42
1:A:384:ARG:NH1	1:A:398:VAL:HG23	2.34	0.42
1:A:370:ILE:O	1:A:374:VAL:HG23	2.20	0.41
1:A:403:ILE:HG22	1:A:407:GLN:OE1	2.20	0.41
1:B:64:SER:HB3	1:B:892:SER:O	2.20	0.41
1:A:101:MET:HB3	1:A:893:TYR:CE1	2.55	0.41
1:B:101:MET:HB3	1:B:893:TYR:CE1	2.55	0.41
1:A:229:THR:HG23	1:A:231:PRO:HA	2.03	0.41
1:A:786:VAL:HG11	1:A:828:VAL:HG21	2.01	0.41
1:B:419:LEU:HD23	1:B:419:LEU:HA	1.88	0.41
1:B:597[B]:TYR:CD1	1:B:639:GLY:HA2	2.55	0.41
1:C:501:LEU:HD12	1:C:502:PRO:HD2	2.03	0.41
1:A:182:LEU:HD12	1:A:182:LEU:HA	1.95	0.41
1:A:430:GLY:HA3	1:B:215:ARG:HD2	2.03	0.41
1:A:501:LEU:HD12	1:A:502:PRO:HD2	2.03	0.41
1:C:742:THR:CG2	1:C:776:ALA:HB1	2.50	0.41
1:A:606[B]:ARG:NH2	1:A:638:GLY:O	2.54	0.41
1:B:614:TYR:CD2	1:B:656:PRO:HG3	2.56	0.41
1:C:442:PHE:HB3	1:C:446:LEU:HD23	2.02	0.41
1:C:451:ILE:HG13	1:C:517:ILE:HD11	2.03	0.41
1:C:742:THR:HG23	1:C:744:GLU:H	1.86	0.41
1:C:140:GLU:O	1:C:144:LYS:HG3	2.21	0.41
1:B:742:THR:CG2	1:B:776:ALA:HB1	2.52	0.40
1:A:10:ALA:O	1:A:14:VAL:HG23	2.22	0.40
1:A:102:LEU:HD21	1:A:962:GLY:HA3	2.02	0.40
1:A:238:ARG:NE	1:B:355:ILE:O	2.50	0.40
1:A:742:THR:CG2	1:A:776:ALA:HB1	2.52	0.40
1:C:306:LEU:O	1:C:310:MET:HG3	2.21	0.40
1:A:41:PHE:CE2	1:A:101:MET:HE3	2.57	0.40
1:B:831:LYS:HB3	1:B:963:LEU:HD22	2.04	0.40
1:C:237:MET:O	1:C:241:MET:HG2	2.21	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:657:PRO:HG3	1:A:701:PRO:HB2	2.02	0.40
1:B:102:LEU:HD21	1:B:962:GLY:CA	2.52	0.40
1:B:201:ILE:HD12	1:B:201:ILE:HA	1.80	0.40
1:B:275:ASN:HA	1:B:440:SER:OG	2.22	0.40
1:B:733:ARG:HH12	1:B:848:GLU:HG3	1.87	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	927/974 (95%)	889 (96%)	29 (3%)	9 (1%)	13	32
1	B	926/974 (95%)	886 (96%)	34 (4%)	6 (1%)	22	46
1	C	932/974 (96%)	893 (96%)	33 (4%)	6 (1%)	22	46
All	All	2785/2922 (95%)	2668 (96%)	96 (3%)	21 (1%)	16	38

All (21) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	227	LYS
1	A	395	ASP
1	A	750	MET
1	B	395	ASP
1	B	750	MET
1	C	395	ASP
1	C	750	MET
1	A	754	SER
1	B	21	PRO
1	B	227	LYS
1	B	751	ASN
1	B	754	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	227	LYS
1	C	751	ASN
1	C	754	SER
1	A	21	PRO
1	A	751	ASN
1	A	226	ILE
1	A	354	TYR
1	C	21	PRO
1	A	230	PRO

5.3.2 Protein sidechains (i)

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	735/848 (87%)	709 (96%)	26 (4%)	31	55
1	B	736/848 (87%)	708 (96%)	28 (4%)	28	52
1	C	782/848 (92%)	745 (95%)	37 (5%)	22	45
All	All	2253/2544 (89%)	2162 (96%)	91 (4%)	27	51

All (91) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	54	ARG
1	A	84	THR
1	A	119	ILE
1	A	151	ASN
1	A	170	LEU
1	A	193	LEU
1	A	225	GLU
1	A	321[A]	ASP
1	A	321[B]	ASP
1	A	322	LEU
1	A	328	MET
1	A	335	LEU
1	A	363	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	386	HIS
1	A	398	VAL
1	A	408	PHE
1	A	473	SER
1	A	546	GLN
1	A	598	SER
1	A	640	THR
1	A	682	LEU
1	A	700	ARG
1	A	742	THR
1	A	752	ILE
1	A	889	LEU
1	A	907	ARG
1	B	54	ARG
1	B	84	THR
1	B	119	ILE
1	B	151	ASN
1	B	179	ARG
1	B	202	THR
1	B	225	GLU
1	B	289	ARG
1	B	321[A]	ASP
1	B	321[B]	ASP
1	B	322	LEU
1	B	328	MET
1	B	338	ARG
1	B	355	ILE
1	B	386	HIS
1	B	398	VAL
1	B	471	ILE
1	B	598	SER
1	B	640	THR
1	B	654	SER
1	B	671	GLU
1	B	674	GLU
1	B	682	LEU
1	B	742	THR
1	B	752	ILE
1	B	882	TYR
1	B	889	LEU
1	B	907	ARG
1	C	11	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	26	GLU
1	C	54	ARG
1	C	64	SER
1	C	84	THR
1	C	119	ILE
1	C	134	THR
1	C	159	ASP
1	C	170	LEU
1	C	193	LEU
1	C	201	ILE
1	C	202	THR
1	C	225	GLU
1	C	289	ARG
1	C	321[A]	ASP
1	C	321[B]	ASP
1	C	322	LEU
1	C	328	MET
1	C	355	ILE
1	C	363	THR
1	C	386	HIS
1	C	408	PHE
1	C	421	SER
1	C	473	SER
1	C	537	SER
1	C	546	GLN
1	C	550	ARG
1	C	598	SER
1	C	640	THR
1	C	674	GLU
1	C	682	LEU
1	C	742	THR
1	C	744	GLU
1	C	752	ILE
1	C	882	TYR
1	C	889	LEU
1	C	907	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	920	HIS
1	C	184	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 25 ligands modelled in this entry, 3 are monoatomic - leaving 22 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	$\#\|Z\| > 2$
4	PEG	C	1007	4	6,6,6	0.52	0	5,5,5	0.36	0
4	PEG	A	1003	4	6,6,6	0.50	0	5,5,5	0.20	0
4	PEG	C	1004	4	1,1,6	0.75	0	-		
4	PEG	C	1008	4	5,5,6	0.54	0	4,4,5	0.34	0
4	PEG	C	1011	4	1,1,6	0.86	0	-		
2	LMR	A	1001	-	8,8,8	1.43	1 (12%)	10,10,10	1.50	1 (10%)
4	PEG	C	1010	4	6,6,6	0.61	0	5,5,5	0.62	0
4	PEG	A	1004	4	1,1,6	0.61	0	-		
4	PEG	C	1009	-	6,6,6	0.49	0	5,5,5	0.39	0
4	PEG	C	1006	4	1,1,6	0.52	0	-		
2	LMR	C	1001	-	8,8,8	1.44	1 (12%)	10,10,10	1.52	1 (10%)
4	PEG	B	1003	4	6,6,6	0.49	0	5,5,5	0.39	0
4	PEG	B	1004	4	6,6,6	0.48	0	5,5,5	0.37	0
4	PEG	A	1005	4	5,5,6	0.56	0	4,4,5	0.70	0
4	PEG	B	1005	4	1,1,6	0.53	0	-		
4	PEG	A	1006	4	1,1,6	0.62	0	-		
4	PEG	C	1003	4	6,6,6	0.46	0	5,5,5	0.38	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	PEG	B	1006	4	6,6,6	0.47	0	5,5,5	0.34	0
4	PEG	C	1005	4	6,6,6	0.48	0	5,5,5	0.40	0
4	PEG	B	1007	4	1,1,6	0.58	0	-		
4	PEG	A	1007	-	6,6,6	0.49	0	5,5,5	0.34	0
2	LMR	B	1001	-	8,8,8	1.33	1 (12%)	10,10,10	1.55	1 (10%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PEG	C	1007	4	-	2/4/4/4	-
4	PEG	A	1003	4	-	2/4/4/4	-
4	PEG	B	1003	4	-	3/4/4/4	-
4	PEG	C	1003	4	-	3/4/4/4	-
4	PEG	C	1009	-	-	2/4/4/4	-
4	PEG	B	1006	4	-	3/4/4/4	-
4	PEG	B	1004	4	-	3/4/4/4	-
4	PEG	C	1005	4	-	3/4/4/4	-
4	PEG	C	1008	4	-	2/3/3/4	-
4	PEG	A	1007	-	-	3/4/4/4	-
2	LMR	A	1001	-	-	0/8/8/8	-
2	LMR	C	1001	-	-	2/8/8/8	-
4	PEG	A	1005	4	-	3/3/3/4	-
4	PEG	C	1010	4	-	2/4/4/4	-
2	LMR	B	1001	-	-	2/8/8/8	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1001	LMR	C2-C1	-3.08	1.47	1.52
2	A	1001	LMR	C2-C1	-2.87	1.48	1.52
2	B	1001	LMR	C2-C1	-2.60	1.48	1.52

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1001	LMR	O1B-C1-C2	3.42	120.24	112.72

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	1001	LMR	O1B-C1-C2	3.39	120.17	112.72
2	A	1001	LMR	O1B-C1-C2	3.23	119.81	112.72

There are no chirality outliers.

All (35) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	C	1009	PEG	O2-C3-C4-O4
4	A	1005	PEG	O2-C3-C4-O4
4	A	1007	PEG	O1-C1-C2-O2
4	B	1003	PEG	O2-C3-C4-O4
4	C	1005	PEG	O2-C3-C4-O4
4	C	1003	PEG	O2-C3-C4-O4
4	C	1005	PEG	O1-C1-C2-O2
4	B	1004	PEG	O2-C3-C4-O4
4	B	1006	PEG	O1-C1-C2-O2
4	B	1003	PEG	O1-C1-C2-O2
4	B	1004	PEG	O1-C1-C2-O2
4	C	1003	PEG	O1-C1-C2-O2
4	C	1010	PEG	O2-C3-C4-O4
4	C	1008	PEG	C1-C2-O2-C3
4	C	1003	PEG	C1-C2-O2-C3
4	B	1006	PEG	O2-C3-C4-O4
4	B	1004	PEG	C1-C2-O2-C3
4	C	1005	PEG	C1-C2-O2-C3
4	A	1003	PEG	C1-C2-O2-C3
4	A	1007	PEG	O2-C3-C4-O4
4	B	1006	PEG	C4-C3-O2-C2
4	A	1005	PEG	C4-C3-O2-C2
4	A	1007	PEG	C4-C3-O2-C2
4	A	1003	PEG	O1-C1-C2-O2
4	C	1007	PEG	O1-C1-C2-O2
4	C	1010	PEG	C1-C2-O2-C3
4	C	1008	PEG	C4-C3-O2-C2
4	A	1005	PEG	C1-C2-O2-C3
2	C	1001	LMR	O1B-C1-C2-C3
4	C	1007	PEG	C1-C2-O2-C3
4	B	1003	PEG	C1-C2-O2-C3
4	C	1009	PEG	C4-C3-O2-C2
2	B	1001	LMR	O1A-C1-C2-C3
2	B	1001	LMR	O1B-C1-C2-C3
2	C	1001	LMR	O1A-C1-C2-C3

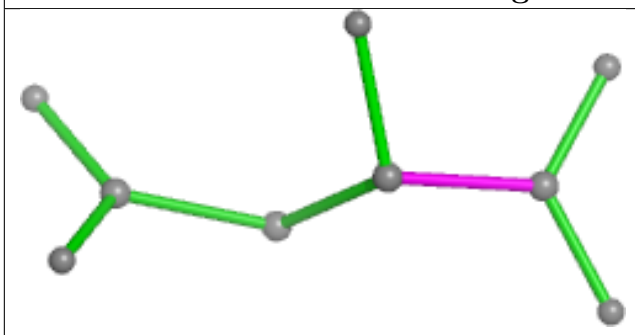
There are no ring outliers.

5 monomers are involved in 6 short contacts:

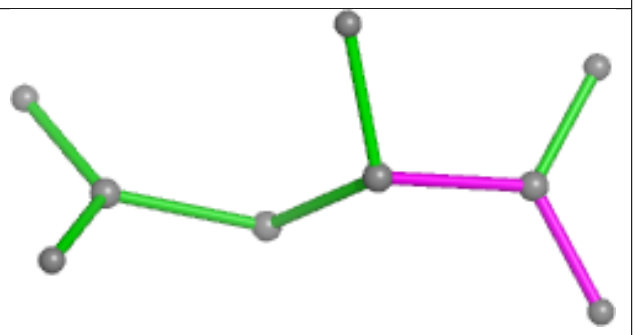
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	1007	PEG	1	0
4	C	1009	PEG	1	0
4	B	1004	PEG	1	0
4	A	1005	PEG	1	0
4	C	1005	PEG	2	0

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.

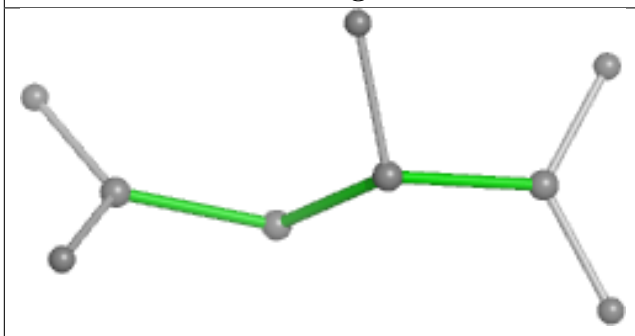
Ligand LMR A 1001



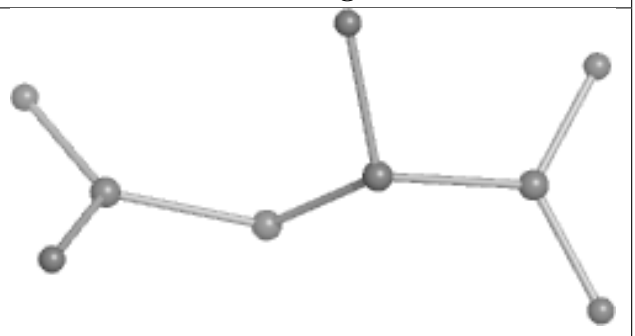
Bond lengths



Bond angles

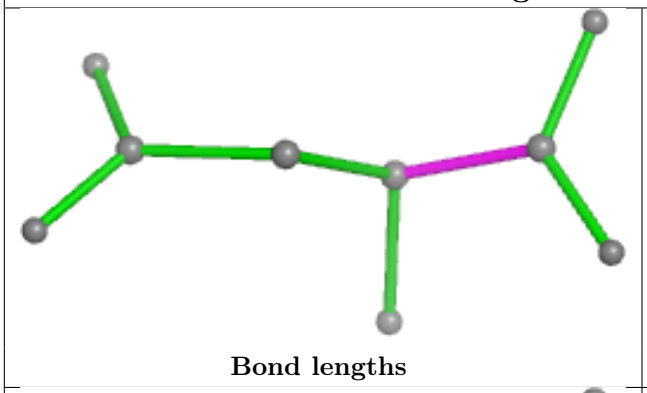


Torsions

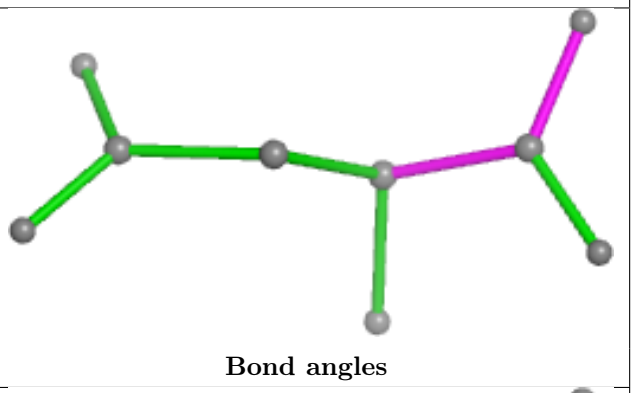


Rings

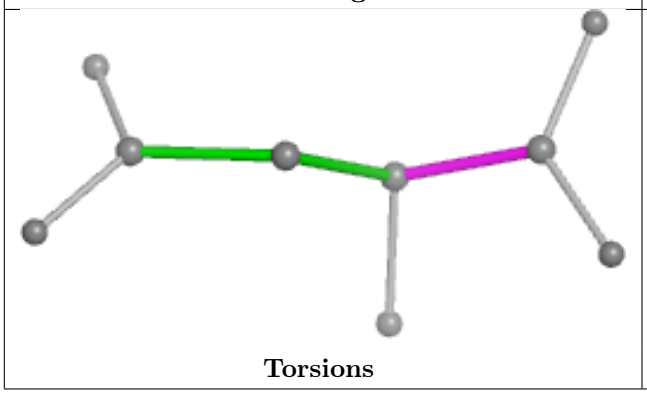
Ligand LMR C 1001



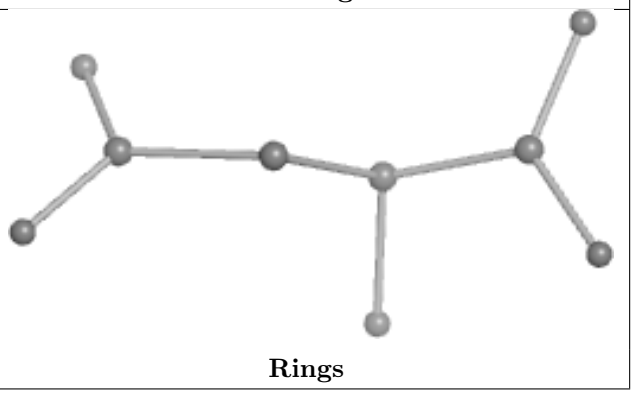
Bond lengths



Bond angles

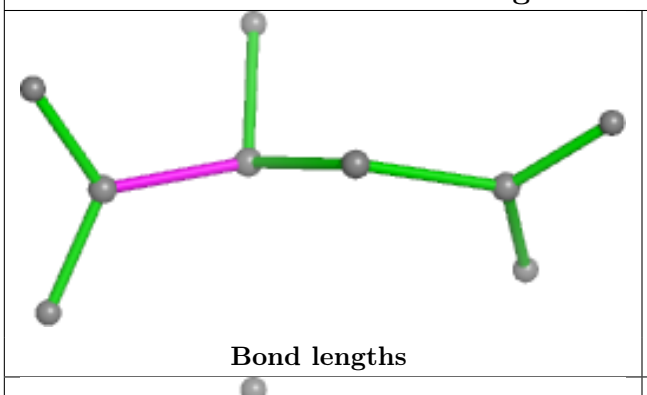


Torsions

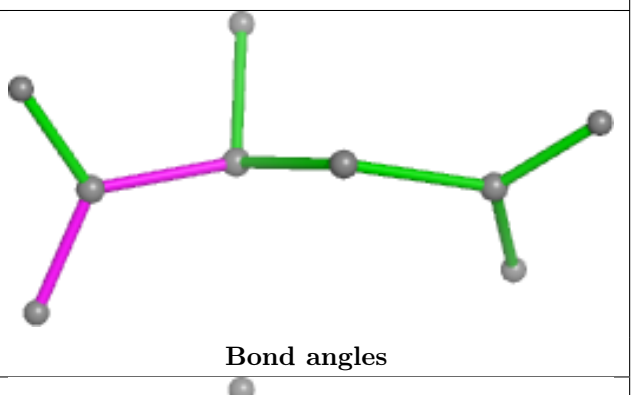


Rings

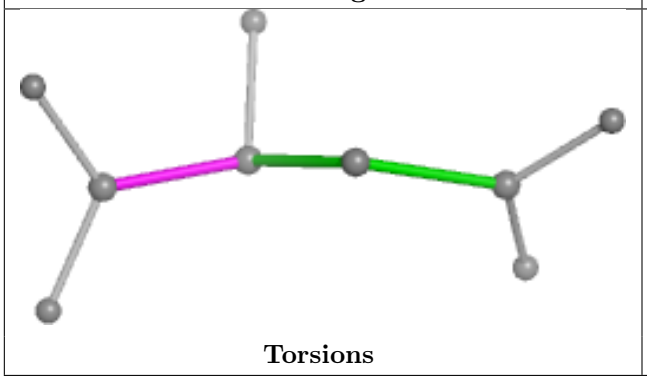
Ligand LMR B 1001



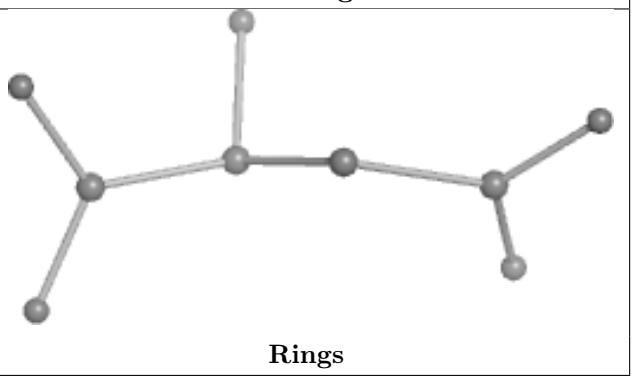
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

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, 95^{th} 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	931/974 (95%)	-0.30	26 (2%)	55	51	37, 86, 145, 221	4 (0%)
1	B	931/974 (95%)	-0.29	25 (2%)	56	53	43, 90, 136, 185	3 (0%)
1	C	936/974 (96%)	-0.50	15 (1%)	70	68	26, 63, 118, 161	4 (0%)
All	All	2798/2922 (95%)	-0.36	66 (2%)	59	57	26, 81, 136, 221	11 (0%)

All (66) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	758	LYS	14.0
1	C	7	GLU	4.5
1	B	757	SER	4.5
1	B	176	GLN	4.4
1	B	383	GLU	4.1
1	B	7	GLU	4.0
1	B	177	SER	3.9
1	C	177	SER	3.9
1	B	756	PRO	3.8
1	A	597[A]	TYR	3.6
1	A	177	SER	3.4
1	A	922	SER	3.4
1	B	500	ASP	3.4
1	B	24	VAL	3.3
1	C	947	GLY	3.2
1	A	947	GLY	3.1
1	A	359	LYS	3.1
1	A	914	HIS	3.0
1	B	351	ALA	3.0
1	A	756	PRO	2.9
1	B	763	GLY	2.9
1	A	674	GLU	2.9
1	B	597[A]	TYR	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	914	HIS	2.8
1	B	359	LYS	2.7
1	B	923	LYS	2.7
1	A	225	GLU	2.7
1	A	754	SER	2.7
1	C	946	PRO	2.7
1	A	923	LYS	2.7
1	B	751	ASN	2.7
1	B	802	VAL	2.6
1	C	751	ASN	2.6
1	A	733	ARG	2.6
1	A	751	ASN	2.6
1	A	470	ASP	2.6
1	B	200	ASP	2.5
1	A	763	GLY	2.5
1	B	173	HIS	2.5
1	A	59	GLU	2.4
1	A	519	GLU	2.4
1	A	178	VAL	2.4
1	A	119	ILE	2.4
1	A	317	ASN	2.4
1	A	21	PRO	2.3
1	A	346	SER	2.3
1	A	882	TYR	2.2
1	B	967	GLY	2.2
1	C	925	ILE	2.2
1	B	947	GLY	2.2
1	C	756	PRO	2.2
1	A	752	ILE	2.2
1	C	119	ILE	2.2
1	C	226	ILE	2.2
1	C	753	GLY	2.2
1	A	950	ASP	2.2
1	C	597[A]	TYR	2.2
1	A	736	GLU	2.1
1	C	519	GLU	2.1
1	C	229	THR	2.1
1	B	230	PRO	2.1
1	B	178	VAL	2.1
1	B	6	LEU	2.1
1	B	390	SER	2.0
1	C	24	VAL	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	351	ALA	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 monosaccharides 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, 95^{th} 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
4	PEG	A	1004	2/7	0.57	0.41	47,47,47,65	0
4	PEG	C	1004	2/7	0.63	0.22	24,24,24,54	0
4	PEG	A	1006	2/7	0.65	0.31	52,52,52,74	0
4	PEG	B	1005	2/7	0.73	0.38	61,61,61,77	0
4	PEG	C	1011	2/7	0.73	0.26	26,26,26,37	0
3	CL	A	1002	1/1	0.74	0.57	138,138,138,138	0
4	PEG	B	1007	2/7	0.74	0.41	59,59,59,85	0
4	PEG	C	1006	2/7	0.76	0.40	79,79,79,91	0
4	PEG	C	1010	7/7	0.78	0.17	53,60,72,77	0
4	PEG	B	1006	7/7	0.80	0.23	75,93,109,113	0
4	PEG	A	1005	6/7	0.84	0.20	66,86,101,103	0
4	PEG	C	1008	6/7	0.84	0.17	106,125,132,138	0
4	PEG	C	1009	7/7	0.87	0.18	69,75,92,95	0
4	PEG	A	1007	7/7	0.89	0.19	85,90,104,108	0
4	PEG	A	1003	7/7	0.90	0.15	52,74,84,94	0
4	PEG	B	1003	7/7	0.91	0.18	56,84,94,95	0
3	CL	B	1002	1/1	0.93	0.15	77,77,77,77	0
4	PEG	C	1007	7/7	0.93	0.10	53,68,78,105	0
4	PEG	C	1005	7/7	0.93	0.13	39,69,103,105	0
4	PEG	B	1004	7/7	0.94	0.13	78,99,114,114	0
3	CL	C	1002	1/1	0.95	0.13	76,76,76,76	0
2	LMR	A	1001	9/9	0.96	0.07	71,81,89,93	0

Continued on next page...

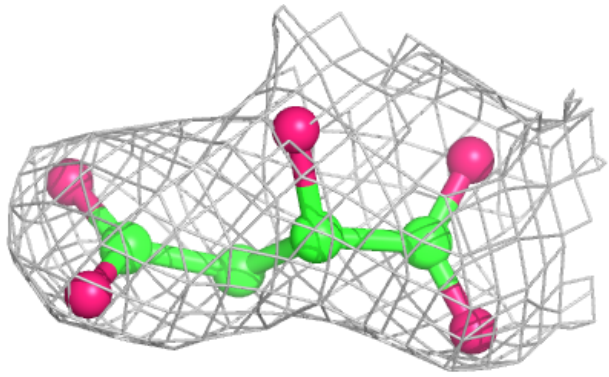
Continued from previous page...

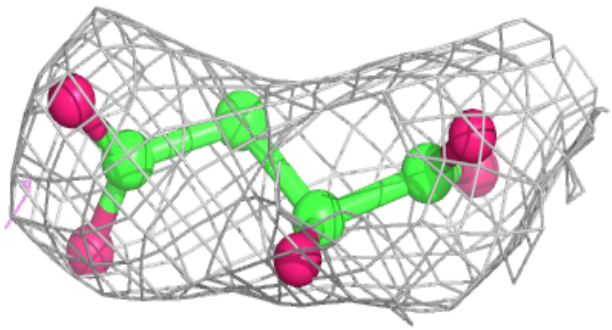
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PEG	C	1003	7/7	0.96	0.12	65,78,80,81	0
2	LMR	B	1001	9/9	0.97	0.08	77,81,88,90	0
2	LMR	C	1001	9/9	0.98	0.07	56,58,66,69	0

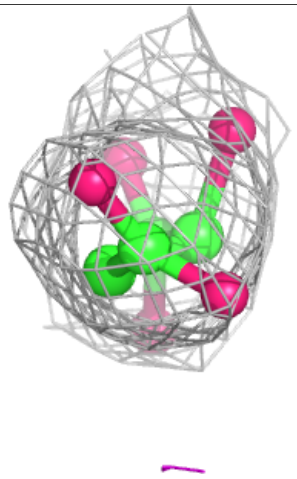
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around LMR A 1001:

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

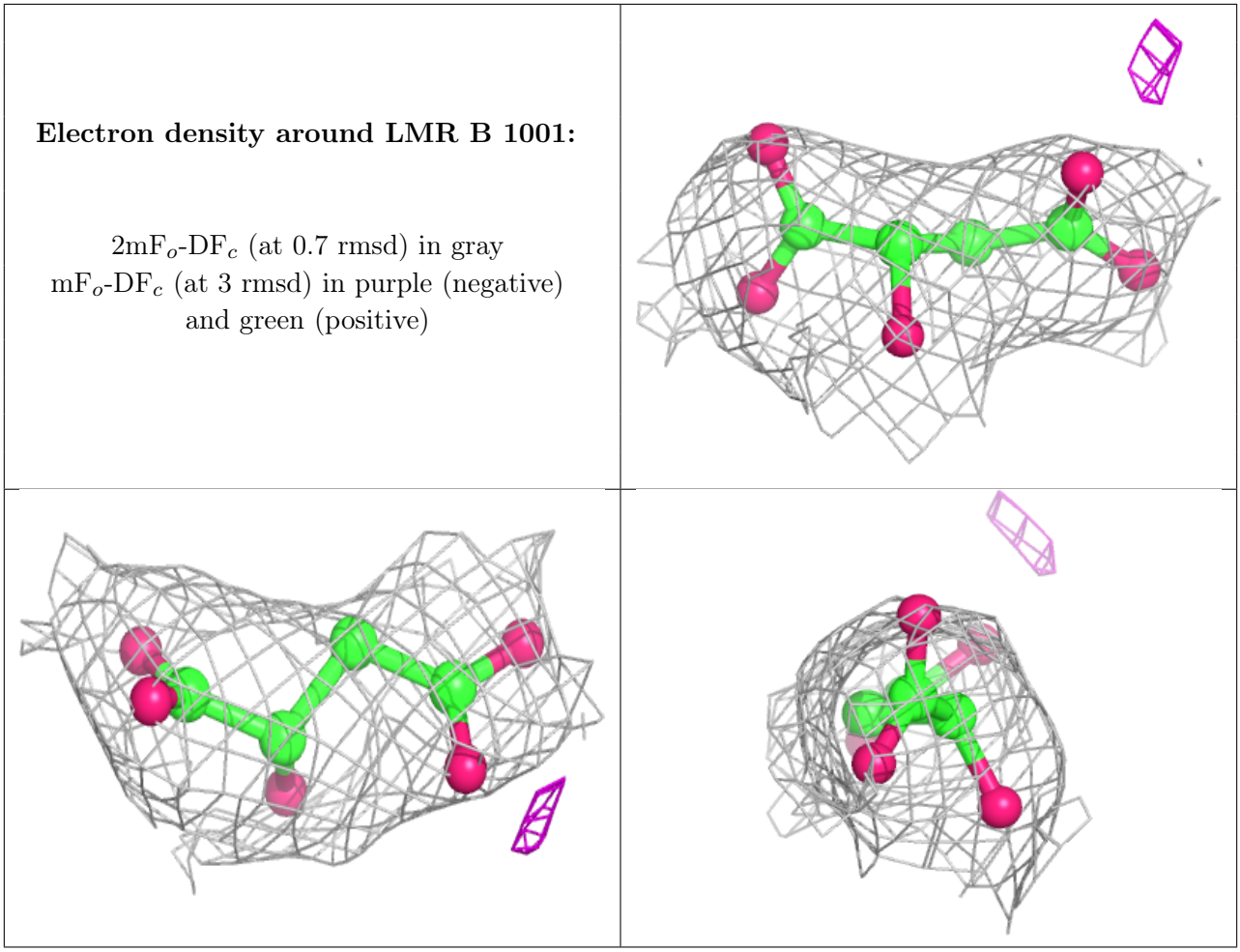






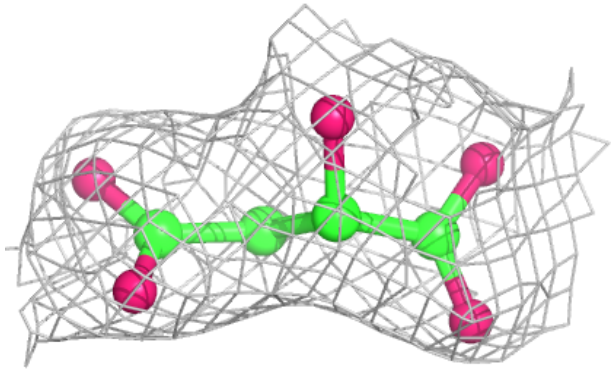
Electron density around LMR B 1001:

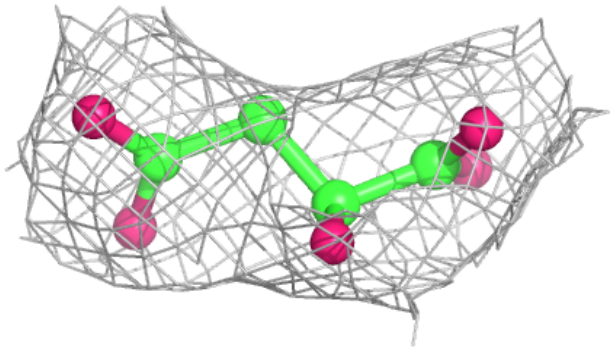
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

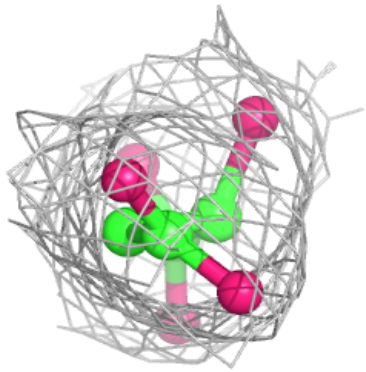


Electron density around LMR C 1001:

$2mF_o$-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.