



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 02:33 PM UTC

PDB ID : 7NL1 / pdb_00007nl1
Title : Crystal structure of cystathionine gamma-lyase from Toxoplasma gondii
Authors : Fernandez-Rodriguez, C.; Conter, C.; Recio, I.; Astegno, A.; Martinez-Cruz, L.A.
Deposited on : 2021-02-22
Resolution : 2.33 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

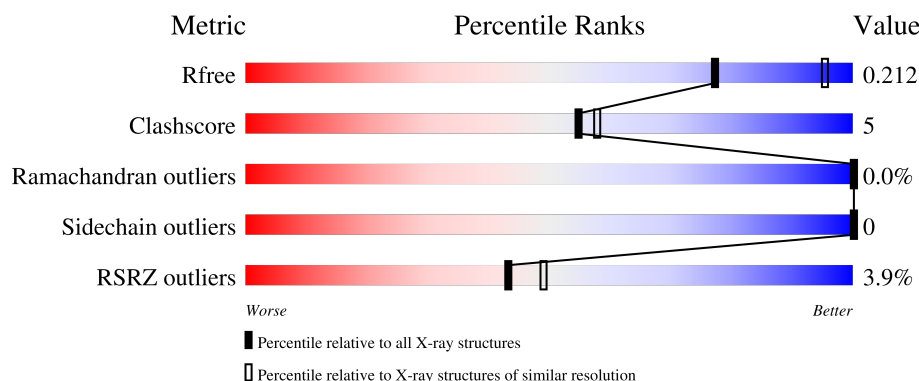
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.33 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	3031 (2.36-2.32)
Clashscore	190562	3127 (2.36-2.32)
Ramachandran outliers	187476	3095 (2.36-2.32)
Sidechain outliers	187428	3095 (2.36-2.32)
RSRZ outliers	180081	3033 (2.36-2.32)

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	417	7% 83% 12% 5%
1	B	417	4% 82% 12% 6%
1	C	417	2% 86% 10% .
1	D	417	2% 85% 11% .
1	E	417	6% 79% 14% 7%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	417	5% 84% 10% 6%
1	G	417	2% 84% 11% 5%
1	H	417	% 84% 11% •

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 25678 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 Cystathione gamma lyase, putative.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	397	Total	C	N	O	S	0	1	0
			3023	1930	509	564	20			
1	C	399	Total	C	N	O	S	0	1	0
			3075	1959	519	575	22			
1	D	400	Total	C	N	O	S	0	0	0
			3078	1963	519	574	22			
1	E	389	Total	C	N	O	S	0	0	0
			2969	1894	495	560	20			
1	F	394	Total	C	N	O	S	0	0	0
			3011	1921	509	561	20			
1	G	397	Total	C	N	O	S	0	1	0
			3044	1942	515	566	21			
1	H	399	Total	C	N	O	S	0	0	0
			3065	1953	518	572	22			
1	B	391	Total	C	N	O	S	0	1	0
			3001	1914	507	560	20			

- Molecule 2 is PYRIDOXAL-5'-PHOSPHATE (CCD ID: PLP) (formula: $C_8H_{10}NO_6P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	C	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	D	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	E	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	F	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	G	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	H	1	Total	C	N	O	P	0	0
			15	8	1	5	1		
2	B	1	Total	C	N	O	P	0	0
			15	8	1	5	1		

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	149	Total	O	0	0
			149	149		
3	C	159	Total	O	0	0
			159	159		
3	D	165	Total	O	0	0
			165	165		
3	E	162	Total	O	0	0
			162	162		

Continued on next page...

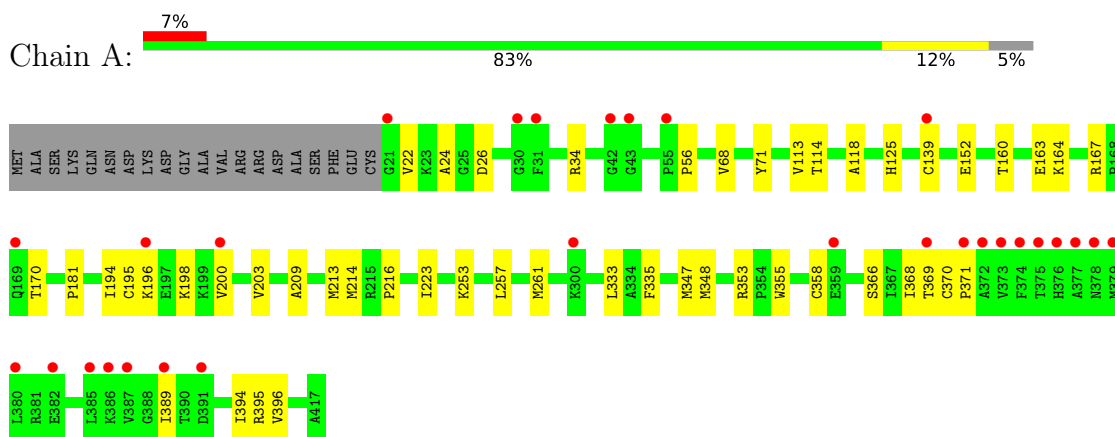
Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	F	138	Total 138	O 138	0	0
3	G	169	Total 169	O 169	0	0
3	H	192	Total 192	O 192	0	0
3	B	158	Total 158	O 158	0	0

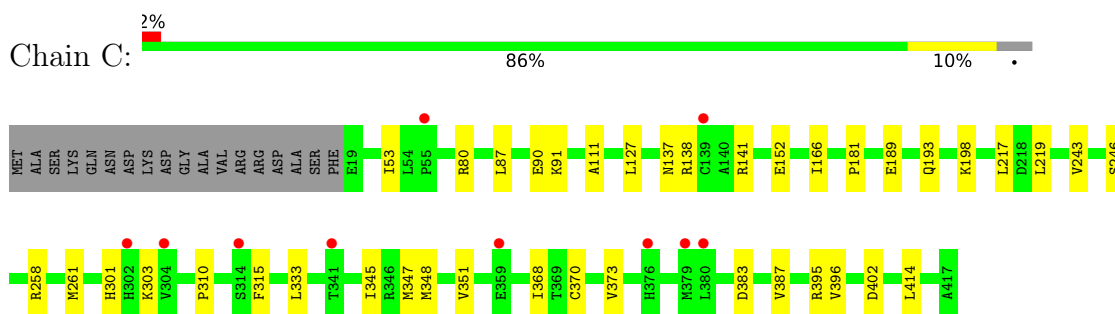
3 Residue-property plots

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

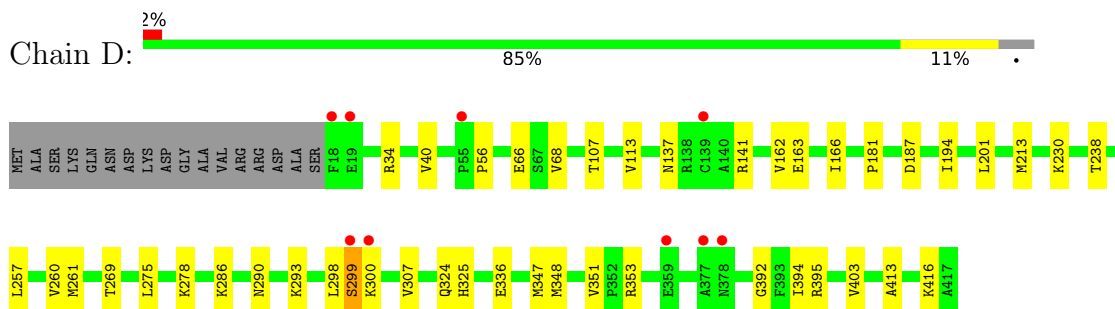
- Molecule 1: Cystathione gamma lyase, putative



- Molecule 1: Cystathione gamma lyase, putative

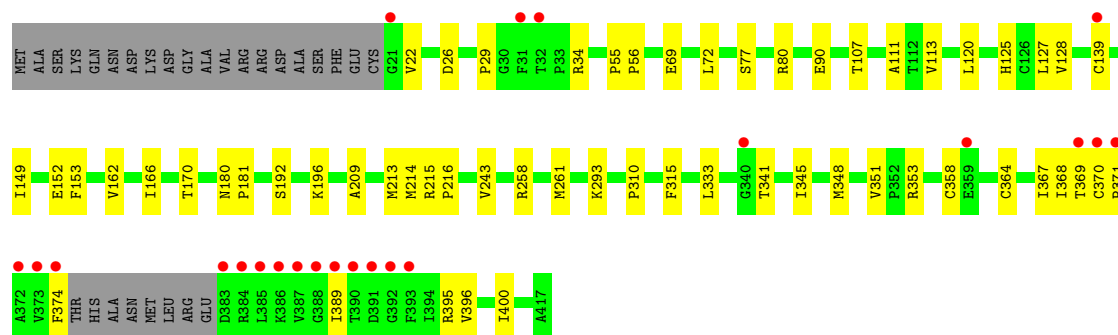


- Molecule 1: Cystathione gamma lyase, putative



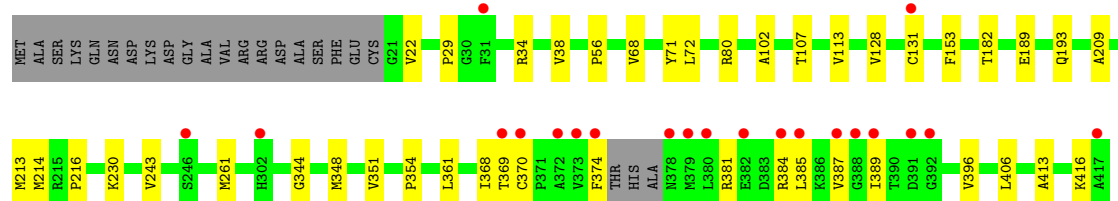
- Molecule 1: Cystathione gamma lyase, putative

Chain E: 



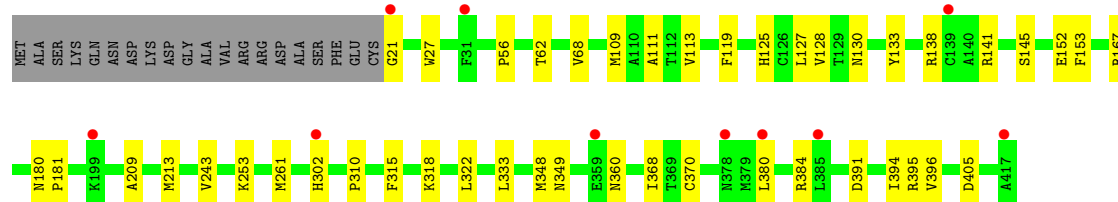
- Molecule 1: Cystathione gamma lyase, putative

Chain F: 



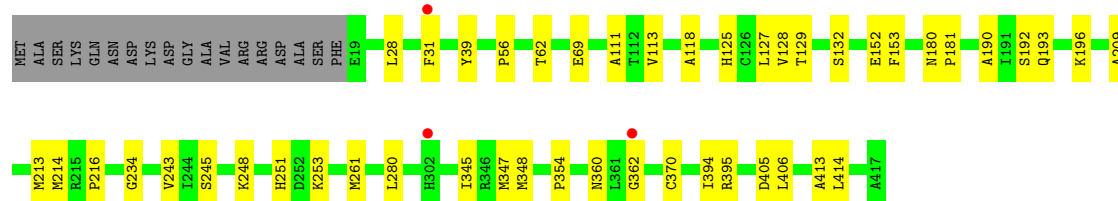
- Molecule 1: Cystathione gamma lyase, putative

Chain G: 



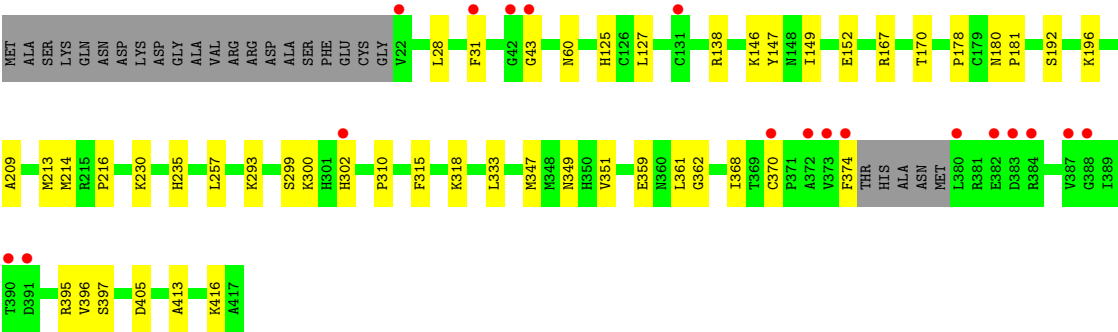
- Molecule 1: Cystathione gamma lyase, putative

Chain H: 



- Molecule 1: Cystathione gamma lyase, putative

Chain B: 



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	126.53Å 138.99Å 473.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.45 – 2.33 48.45 – 2.33	Depositor EDS
% Data completeness (in resolution range)	100.0 (48.45-2.33) 99.9 (48.45-2.33)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.96 (at 2.34Å)	Xtriage
Refinement program	PHENIX 1.16_3549	Depositor
R, R_{free}	0.174 , 0.210 (Not available) , 0.212	Depositor DCC
R_{free} test set	8762 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å ²)	43.7	Xtriage
Anisotropy	0.367	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 46.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	25678	wwPDB-VP
Average B, all atoms (Å ²)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.17% 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: PLP

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	0.15	0/3096	0.39	0/4207
1	B	0.15	0/3071	0.36	0/4169
1	C	0.15	0/3146	0.39	2/4271 (0.0%)
1	D	0.18	0/3150	0.39	0/4275
1	E	0.15	0/3038	0.36	0/4127
1	F	0.16	0/3080	0.37	0/4182
1	G	0.15	0/3116	0.36	0/4235
1	H	0.16	0/3136	0.36	0/4258
All	All	0.16	0/24833	0.37	2/33724 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	301	HIS	CA-C-N	5.77	128.33	120.54
1	C	301	HIS	C-N-CA	5.77	128.33	120.54

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	3023	0	2966	33	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	3001	0	2938	35	0
1	C	3075	0	3033	26	0
1	D	3078	0	3038	32	0
1	E	2969	0	2902	42	0
1	F	3011	0	2961	31	0
1	G	3044	0	2986	35	0
1	H	3065	0	3026	31	0
2	A	15	0	7	0	0
2	B	15	0	7	0	0
2	C	15	0	7	0	0
2	D	15	0	7	1	0
2	E	15	0	7	0	0
2	F	15	0	7	0	0
2	G	15	0	7	0	0
2	H	15	0	7	0	0
3	A	149	0	0	3	0
3	B	158	0	0	6	0
3	C	159	0	0	4	0
3	D	165	0	0	3	0
3	E	162	0	0	4	0
3	F	138	0	0	2	0
3	G	169	0	0	4	0
3	H	192	0	0	1	0
All	All	25678	0	23906	234	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 (234) 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:E:348:MET:HE1	1:E:370:CYS:HB2	1.52	0.89
1:F:351:VAL:HG11	1:F:368:ILE:HG21	1.67	0.76
1:E:80:ARG:HG3	1:F:107:THR:HG21	1.69	0.74
1:D:416:LYS:NZ	3:D:601:HOH:O	2.21	0.72
1:A:163:GLU:HB2	1:A:194:ILE:HD13	1.72	0.72
1:B:192:SER:O	1:B:196:LYS:HG3	1.90	0.72
1:E:345:ILE:HD12	1:F:68:VAL:HG11	1.72	0.70
1:C:303:LYS:NZ	3:C:601:HOH:O	2.24	0.70
1:C:189[A]:GLU:HG3	1:C:219:LEU:HB3	1.73	0.69
1:B:214:MET:HE3	1:B:216:PRO:HG3	1.73	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:348:MET:HE3	1:H:394:ILE:HD12	1.74	0.69
1:C:348:MET:HE1	1:C:368:ILE:HG12	1.75	0.69
1:F:348:MET:SD	1:F:370:CYS:HB2	2.33	0.68
1:C:141:ARG:NH2	3:C:602:HOH:O	2.25	0.68
1:E:113:VAL:HG22	1:E:139:CYS:SG	2.34	0.68
1:A:257:LEU:HG	1:A:261:MET:HE2	1.75	0.67
1:B:351:VAL:HG11	1:B:368:ILE:HG21	1.75	0.66
1:E:107:THR:HG21	1:F:80:ARG:HG3	1.76	0.66
1:C:80:ARG:HG3	1:D:107:THR:HG21	1.76	0.66
1:B:138:ARG:NH2	3:B:602:HOH:O	2.26	0.66
1:A:113:VAL:HG22	1:A:139:CYS:SG	2.36	0.65
1:E:215:ARG:NH1	3:E:601:HOH:O	2.29	0.65
1:B:318:LYS:NZ	3:B:604:HOH:O	2.30	0.64
1:E:214:MET:HE3	1:E:216:PRO:HG3	1.79	0.63
1:A:348:MET:SD	1:A:370:CYS:HB2	2.39	0.63
1:D:299:SER:N	1:D:307:VAL:HG21	2.14	0.63
1:F:368:ILE:HD12	1:F:396:VAL:HG22	1.80	0.63
1:E:348:MET:HA	1:E:351:VAL:HG23	1.81	0.63
1:G:370:CYS:HB2	1:G:394:ILE:HD13	1.82	0.62
1:A:214:MET:HE3	1:A:216:PRO:HG3	1.83	0.61
1:H:181:PRO:HB3	1:H:395:ARG:HD3	1.82	0.61
1:F:56:PRO:HB2	1:G:56:PRO:HB2	1.82	0.60
1:B:293:LYS:NZ	3:B:605:HOH:O	2.34	0.60
1:F:214:MET:HE3	1:F:216:PRO:HG3	1.84	0.60
1:H:214:MET:HE3	1:H:216:PRO:HG3	1.84	0.59
1:B:230:LYS:HD2	1:B:361:LEU:HG	1.83	0.59
1:G:380:LEU:HD21	1:B:302[B]:HIS:CG	2.37	0.59
1:E:34:ARG:NH1	1:G:405:ASP:OD1	2.35	0.59
1:B:146:LYS:NZ	3:B:608:HOH:O	2.36	0.58
1:B:147:TYR:HB2	1:B:149:ILE:HD12	1.85	0.58
1:H:118:ALA:O	1:H:253:LYS:NZ	2.36	0.57
1:A:114:THR:HA	1:A:261:MET:HE1	1.85	0.57
1:B:370:CYS:O	1:B:374:PHE:HB2	2.04	0.57
1:E:22:VAL:HG13	1:E:26:ASP:HB2	1.85	0.57
1:A:348:MET:HE2	1:A:394:ILE:HG12	1.86	0.56
1:E:293:LYS:NZ	3:E:610:HOH:O	2.39	0.56
1:C:261:MET:HA	1:D:113:VAL:HG21	1.86	0.56
1:E:127:LEU:HD23	1:E:152:GLU:HB3	1.88	0.55
1:G:181:PRO:HB3	1:G:395:ARG:HD3	1.88	0.55
1:D:137:ASN:HD21	1:D:141:ARG:NH2	2.03	0.55
1:E:192:SER:O	1:E:196:LYS:HG3	2.06	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:166:ILE:HG21	1:C:198:LYS:HD3	1.88	0.55
1:E:261:MET:HG2	1:F:113:VAL:HG11	1.87	0.55
1:A:203:VAL:HG22	1:A:223:ILE:HB	1.90	0.54
1:F:34:ARG:NH1	1:H:405:ASP:OD1	2.40	0.54
1:A:113:VAL:CG2	1:A:139:CYS:SG	2.96	0.53
1:G:302[A]:HIS:ND1	3:G:605:HOH:O	2.34	0.53
1:D:348:MET:HE3	1:D:394:ILE:HD12	1.90	0.53
1:A:371:PRO:HB2	1:A:389:ILE:HD13	1.91	0.53
1:E:113:VAL:HG11	1:F:261:MET:HG2	1.91	0.53
1:F:131:CYS:HG	1:F:182:THR:HG1	1.47	0.53
1:A:22:VAL:HG13	1:A:26:ASP:HB2	1.91	0.52
1:E:22:VAL:HG21	1:E:29:PRO:HD3	1.90	0.52
1:H:234:GLY:HA2	1:H:362:GLY:O	2.08	0.52
1:H:129:THR:HG23	1:H:132:SER:HB3	1.92	0.52
1:D:353:ARG:NH1	3:D:612:HOH:O	2.41	0.52
1:C:137:ASN:HD21	1:C:141:ARG:HH21	1.56	0.52
1:E:341:THR:O	1:E:345:ILE:HG12	2.10	0.51
1:G:138:ARG:NH1	3:G:612:HOH:O	2.43	0.51
1:D:137:ASN:HD21	1:D:141:ARG:HH21	1.58	0.51
1:E:120:LEU:HD13	1:E:149:ILE:HG21	1.91	0.51
1:E:333:LEU:HG	1:E:396:VAL:HB	1.93	0.51
1:H:190:ALA:O	1:H:193:GLN:HG3	2.11	0.51
1:B:125:HIS:CE1	1:B:167:ARG:HD3	2.45	0.51
1:G:209:ALA:HA	1:G:213:MET:HE2	1.93	0.51
1:G:349:ASN:ND2	1:H:69:GLU:OE2	2.37	0.50
1:G:348:MET:HE1	1:G:368:ILE:HG12	1.94	0.50
1:D:163:GLU:HB2	1:D:194:ILE:HD13	1.94	0.50
1:A:335:PHE:CZ	1:A:347:MET:HE1	2.47	0.50
1:F:22:VAL:HG21	1:F:29:PRO:HD3	1.94	0.49
1:H:354:PRO:HG2	1:H:406:LEU:HD23	1.94	0.49
1:G:111:ALA:HB1	1:G:243:VAL:HG23	1.93	0.49
1:E:72:LEU:HD21	1:E:77:SER:HB2	1.94	0.49
1:A:170:THR:HG22	1:A:200:VAL:HG21	1.93	0.49
1:H:28:LEU:O	1:H:31:PHE:HB2	2.13	0.49
1:C:87:LEU:O	1:C:91:LYS:HG2	2.13	0.49
1:D:181:PRO:HB3	1:D:395:ARG:HD3	1.95	0.49
1:F:369:THR:HG23	1:F:374:PHE:HD2	1.78	0.48
1:G:62:THR:HB	1:H:360:ASN:HB2	1.95	0.48
1:E:370:CYS:O	1:E:374:PHE:HB2	2.13	0.48
1:E:125:HIS:HD1	1:E:170:THR:HG1	1.59	0.48
1:G:261:MET:HA	1:H:113:VAL:HG21	1.95	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:43:GLY:N	3:B:620:HOH:O	2.46	0.48
1:G:380:LEU:HD11	1:B:302[A]:HIS:CD2	2.49	0.48
1:F:230:LYS:HG3	1:F:361:LEU:HG	1.95	0.48
1:D:347:MET:HG2	1:D:413:ALA:HB1	1.96	0.48
1:G:380:LEU:HD11	1:B:302[A]:HIS:CG	2.49	0.48
1:G:109:MET:HE3	1:G:133:TYR:CE2	2.49	0.47
1:C:138:ARG:NH1	3:C:610:HOH:O	2.47	0.47
1:F:354:PRO:HG2	1:F:406:LEU:HD23	1.97	0.47
1:E:209:ALA:HA	1:E:213:MET:HE2	1.97	0.47
1:F:381:ARG:O	1:F:385:LEU:HD12	2.15	0.47
1:E:56:PRO:HB2	1:H:56:PRO:HB2	1.95	0.47
1:A:160:THR:O	1:A:164:LYS:HG3	2.15	0.47
1:E:111:ALA:HB1	1:E:243:VAL:HG23	1.97	0.47
1:G:130:ASN:OD1	1:G:130:ASN:N	2.48	0.47
1:E:364:CYS:HB3	1:E:400:ILE:HG12	1.97	0.46
1:A:56:PRO:HB2	1:D:56:PRO:HB2	1.97	0.46
1:A:198:LYS:NZ	3:A:618:HOH:O	2.47	0.46
1:G:127:LEU:HD23	1:G:152:GLU:HB3	1.96	0.46
1:H:248:LYS:NZ	3:H:616:HOH:O	2.48	0.46
1:D:348:MET:O	1:D:351:VAL:HG12	2.14	0.46
1:C:347:MET:HE3	1:C:414:LEU:HG	1.98	0.46
1:F:384:ARG:HA	1:F:387:VAL:HG22	1.97	0.46
1:B:28:LEU:O	1:B:31:PHE:HB2	2.15	0.46
1:B:209:ALA:HA	1:B:213:MET:HE2	1.97	0.46
1:H:192:SER:O	1:H:196:LYS:HG3	2.16	0.46
1:H:347:MET:HG2	1:H:413:ALA:HB1	1.97	0.46
1:E:358:CYS:SG	1:E:367:ILE:HG12	2.56	0.46
1:H:370:CYS:HB2	1:H:394:ILE:HD13	1.96	0.46
1:A:368:ILE:HD13	1:A:396:VAL:HG22	1.98	0.46
1:C:193:GLN:NE2	3:C:613:HOH:O	2.49	0.46
1:E:113:VAL:HG21	1:F:261:MET:HA	1.98	0.46
1:G:180:ASN:HA	1:G:181:PRO:HA	1.81	0.46
1:C:345:ILE:HG12	1:D:68:VAL:HG11	1.97	0.45
1:G:113:VAL:HG21	1:H:261:MET:HA	1.97	0.45
1:A:358:CYS:O	1:A:369:THR:HG22	2.17	0.45
1:G:109:MET:HE3	1:G:133:TYR:HE2	1.81	0.45
1:F:71:TYR:CE2	1:F:72:LEU:HD23	2.51	0.45
1:B:416:LYS:NZ	3:B:619:HOH:O	2.46	0.45
1:G:128:VAL:O	1:G:153:PHE:HA	2.17	0.45
1:B:310:PRO:HA	1:B:315:PHE:CG	2.52	0.45
1:H:180:ASN:HA	1:H:181:PRO:HA	1.85	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:178:PRO:HD3	1:B:209:ALA:HB2	1.99	0.45
1:B:299:SER:OG	1:B:300:LYS:HE2	2.16	0.45
1:C:181:PRO:HB3	1:C:395:ARG:HD3	1.99	0.45
1:C:310:PRO:HA	1:C:315:PHE:CG	2.51	0.45
1:F:189:GLU:O	1:F:193:GLN:HG3	2.17	0.45
1:C:333:LEU:HG	1:C:396:VAL:HB	1.99	0.45
1:D:257:LEU:HD12	1:D:257:LEU:HA	1.79	0.45
1:C:53:ILE:HG22	1:B:60:ASN:OD1	2.17	0.44
1:G:21:GLY:N	3:G:621:HOH:O	2.49	0.44
1:A:196[A]:LYS:HA	1:A:196[A]:LYS:HD2	1.73	0.44
1:F:34:ARG:O	1:F:38:VAL:HG23	2.17	0.44
1:D:336:GLU:HA	1:D:392:GLY:O	2.18	0.44
1:E:310:PRO:HA	1:E:315:PHE:CG	2.52	0.44
1:F:351:VAL:HA	1:F:413:ALA:HB2	1.99	0.44
1:G:384:ARG:NH2	1:G:391:ASP:OD1	2.50	0.44
1:D:113:VAL:HG12	1:D:261:MET:HE1	2.00	0.44
1:F:416:LYS:NZ	3:F:1419:HOH:O	2.51	0.44
1:A:71:TYR:OH	1:B:359:GLU:OE1	2.34	0.44
1:B:351:VAL:HA	1:B:413:ALA:HB2	2.00	0.44
1:E:113:VAL:HG12	1:E:261:MET:HE1	1.99	0.44
1:E:180:ASN:ND2	3:E:609:HOH:O	2.36	0.44
1:G:318:LYS:O	1:G:322:LEU:HD12	2.18	0.44
1:C:111:ALA:HB1	1:C:243:VAL:HG23	2.00	0.44
1:C:347:MET:O	1:C:351:VAL:HG13	2.18	0.44
1:E:162:VAL:O	1:E:166:ILE:HG13	2.18	0.44
1:B:125:HIS:HB3	1:B:170:THR:HA	2.00	0.44
1:B:181:PRO:HB3	1:B:395:ARG:HD3	2.00	0.44
1:H:125:HIS:HE2	1:H:152:GLU:HB2	1.84	0.43
1:C:217:LEU:HD22	1:C:246:SER:HB3	2.00	0.43
1:D:40:VAL:HA	1:D:278:LYS:HG2	2.00	0.43
1:D:201:LEU:HD23	1:D:201:LEU:HA	1.86	0.43
1:A:24:ALA:HA	1:C:351:VAL:O	2.17	0.43
1:D:286:LYS:HE3	1:D:290:ASN:HD21	1.84	0.43
1:G:125:HIS:CE1	1:G:167:ARG:HD2	2.53	0.43
1:D:298:LEU:C	1:D:300:LYS:N	2.76	0.43
1:H:209:ALA:HA	1:H:213:MET:HE2	2.00	0.43
1:A:34:ARG:HD2	1:C:402:ASP:CG	2.44	0.43
1:D:293:LYS:HD2	1:D:403:VAL:HG11	2.00	0.43
1:G:68:VAL:HG11	1:H:345:ILE:HG12	2.00	0.43
1:A:68:VAL:HG23	1:B:349:ASN:OD1	2.18	0.43
1:F:214:MET:HE2	1:F:214:MET:HB3	1.93	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:335:PHE:HZ	1:A:347:MET:HE1	1.84	0.42
1:D:187:ASP:HA	1:D:324:GLN:OE1	2.19	0.42
1:G:141:ARG:O	1:G:145:SER:OG	2.36	0.42
1:A:125:HIS:HE2	1:A:152:GLU:HB2	1.84	0.42
1:A:167:ARG:NE	3:A:613:HOH:O	2.44	0.42
1:A:195:CYS:HB3	1:A:200:VAL:HG13	2.01	0.42
1:G:119:PHE:CE1	1:G:253:LYS:HD3	2.54	0.42
1:G:167:ARG:NH2	3:G:609:HOH:O	2.41	0.42
1:A:181:PRO:HB3	1:A:395:ARG:HD3	2.01	0.42
1:C:370:CYS:SG	1:C:373:VAL:HG22	2.60	0.42
1:D:34:ARG:HD2	1:B:405:ASP:OD1	2.20	0.42
1:H:113:VAL:HG12	1:H:261:MET:HE1	2.00	0.42
1:A:209:ALA:HA	1:A:213:MET:HE2	2.00	0.42
1:A:355:TRP:CE3	1:A:366:SER:HB3	2.55	0.42
1:B:257:LEU:HD12	1:B:257:LEU:HA	1.87	0.42
1:B:180:ASN:HA	1:B:181:PRO:HA	1.86	0.42
1:A:333:LEU:HG	1:A:396:VAL:HB	2.02	0.42
1:A:353:ARG:NH1	3:A:601:HOH:O	2.52	0.42
1:E:371:PRO:HB2	1:E:389:ILE:HG21	2.00	0.42
1:B:127:LEU:HD23	1:B:152:GLU:HB3	2.01	0.42
1:D:257:LEU:HD12	1:D:260:VAL:HB	2.02	0.42
1:H:39:TYR:CE2	1:H:280:LEU:HD22	2.55	0.42
1:A:118:ALA:O	1:A:253:LYS:HE3	2.19	0.41
1:D:213:MET:HE3	1:D:325:HIS:CD2	2.55	0.41
1:F:209:ALA:HA	1:F:213:MET:HE2	2.00	0.41
1:D:66:GLU:HG2	3:D:709:HOH:O	2.19	0.41
1:E:128:VAL:O	1:E:153:PHE:HA	2.20	0.41
1:C:383:ASP:O	1:C:387:VAL:HG22	2.19	0.41
1:E:69:GLU:CD	1:E:69:GLU:H	2.28	0.41
1:E:348:MET:HE2	1:E:348:MET:HB2	1.88	0.41
1:F:128:VAL:O	1:F:153:PHE:HA	2.21	0.41
1:F:387:VAL:HG12	3:F:1405:HOH:O	2.20	0.41
1:F:387:VAL:HG23	1:F:389:ILE:HD13	2.03	0.41
1:H:245:SER:HB2	1:H:251:HIS:HB2	2.01	0.41
1:E:181:PRO:HB3	1:E:395:ARG:HD3	2.02	0.41
1:G:348:MET:HE2	1:G:348:MET:HA	2.03	0.41
1:D:275:LEU:HD22	1:B:235:HIS:HB3	2.03	0.41
1:H:111:ALA:HB1	1:H:243:VAL:HG23	2.01	0.41
1:B:362:GLY:H	1:B:397:SER:HG	1.67	0.41
1:D:162:VAL:O	1:D:166:ILE:HG13	2.21	0.41
1:E:55:PRO:HB2	3:E:649:HOH:O	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:347:MET:HG2	1:B:413:ALA:HB1	2.03	0.41
1:C:127:LEU:HD23	1:C:152:GLU:HB3	2.03	0.41
1:D:238:THR:HB	1:D:269:THR:HG23	2.03	0.41
1:E:368:ILE:HD12	1:E:396:VAL:HG22	2.02	0.41
1:G:310:PRO:HA	1:G:315:PHE:CG	2.56	0.41
1:G:360:ASN:HB2	1:H:62:THR:HB	2.02	0.41
1:H:347:MET:HE3	1:H:414:LEU:HG	2.02	0.41
1:B:333:LEU:HG	1:B:396:VAL:HB	2.03	0.41
1:D:230:LYS:NZ	2:D:501:PLP:O3	2.54	0.40
1:E:353:ARG:HB2	1:G:27:TRP:CD2	2.56	0.40
1:E:369:THR:CG2	1:E:395:ARG:HB3	2.51	0.40
1:C:90:GLU:OE2	1:C:258:ARG:NH1	2.43	0.40
1:F:344:GLY:O	1:F:348:MET:HE2	2.21	0.40
1:H:127:LEU:HD23	1:H:152:GLU:HB3	2.02	0.40
1:H:128:VAL:O	1:H:153:PHE:HA	2.20	0.40
1:F:102:ALA:HA	1:F:243:VAL:O	2.21	0.40
1:D:416:LYS:HA	1:D:416:LYS:HD2	1.85	0.40
1:E:90:GLU:OE2	1:E:258:ARG:NH1	2.42	0.40
1:G:333:LEU:HG	1:G:396:VAL:HB	2.02	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	396/417 (95%)	383 (97%)	13 (3%)	0	100	100
1	B	388/417 (93%)	376 (97%)	12 (3%)	0	100	100
1	C	398/417 (95%)	385 (97%)	13 (3%)	0	100	100
1	D	398/417 (95%)	382 (96%)	15 (4%)	1 (0%)	36	41
1	E	385/417 (92%)	370 (96%)	15 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	F	390/417 (94%)	375 (96%)	15 (4%)	0	100	100
1	G	396/417 (95%)	384 (97%)	12 (3%)	0	100	100
1	H	397/417 (95%)	385 (97%)	12 (3%)	0	100	100
All	All	3148/3336 (94%)	3040 (97%)	107 (3%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	299	SER

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	325/354 (92%)	325 (100%)	0	100	100
1	B	324/354 (92%)	324 (100%)	0	100	100
1	C	336/354 (95%)	336 (100%)	0	100	100
1	D	336/354 (95%)	336 (100%)	0	100	100
1	E	322/354 (91%)	322 (100%)	0	100	100
1	F	326/354 (92%)	326 (100%)	0	100	100
1	G	329/354 (93%)	329 (100%)	0	100	100
1	H	335/354 (95%)	335 (100%)	0	100	100
All	All	2633/2832 (93%)	2633 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	137	ASN
1	A	259	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	143	HIS
1	C	259	ASN
1	C	404	ASN
1	D	137	ASN
1	D	143	HIS
1	D	287	GLN
1	E	259	ASN
1	F	83	ASN
1	F	143	HIS
1	G	60	ASN
1	G	83	ASN
1	G	137	ASN
1	G	143	HIS
1	G	259	ASN
1	H	143	HIS
1	H	360	ASN
1	B	161	ASN
1	B	236	ASN
1	B	360	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

8 ligands are modelled in this entry.

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	$\# Z > 2$
2	PLP	G	501	1	15,15,16	1.17	1 (6%)	21,22,23	1.01	1 (4%)
2	PLP	F	501	1	15,15,16	1.17	1 (6%)	21,22,23	0.96	0
2	PLP	D	501	1	15,15,16	1.15	0	21,22,23	0.95	0
2	PLP	E	501	1	15,15,16	1.15	1 (6%)	21,22,23	0.98	1 (4%)
2	PLP	B	501	1	15,15,16	1.18	1 (6%)	21,22,23	0.97	1 (4%)
2	PLP	C	501	1	15,15,16	1.18	1 (6%)	21,22,23	0.95	1 (4%)
2	PLP	H	501	1	15,15,16	1.15	0	21,22,23	0.97	1 (4%)
2	PLP	A	501	1	15,15,16	1.16	1 (6%)	21,22,23	0.93	1 (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
2	PLP	G	501	1	-	0/6/6/8	0/1/1/1
2	PLP	F	501	1	-	0/6/6/8	0/1/1/1
2	PLP	D	501	1	-	0/6/6/8	0/1/1/1
2	PLP	E	501	1	-	0/6/6/8	0/1/1/1
2	PLP	B	501	1	-	0/6/6/8	0/1/1/1
2	PLP	C	501	1	-	0/6/6/8	0/1/1/1
2	PLP	H	501	1	-	0/6/6/8	0/1/1/1
2	PLP	A	501	1	-	0/6/6/8	0/1/1/1

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	501	PLP	C3-C2	-2.23	1.38	1.41
2	E	501	PLP	C3-C2	-2.18	1.38	1.41
2	F	501	PLP	C3-C2	-2.16	1.38	1.41
2	B	501	PLP	C3-C2	-2.11	1.38	1.41
2	A	501	PLP	C3-C2	-2.01	1.38	1.41
2	G	501	PLP	C3-C2	-2.01	1.38	1.41

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	501	PLP	C5-C6-N1	-2.21	120.23	123.83

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	501	PLP	C5-C6-N1	-2.13	120.37	123.83
2	E	501	PLP	C5-C6-N1	-2.12	120.38	123.83
2	H	501	PLP	C5-C6-N1	-2.12	120.39	123.83
2	A	501	PLP	C5-C6-N1	-2.09	120.44	123.83
2	B	501	PLP	C5-C6-N1	-2.09	120.44	123.83

There are no chirality outliers.

There are no torsion outliers.

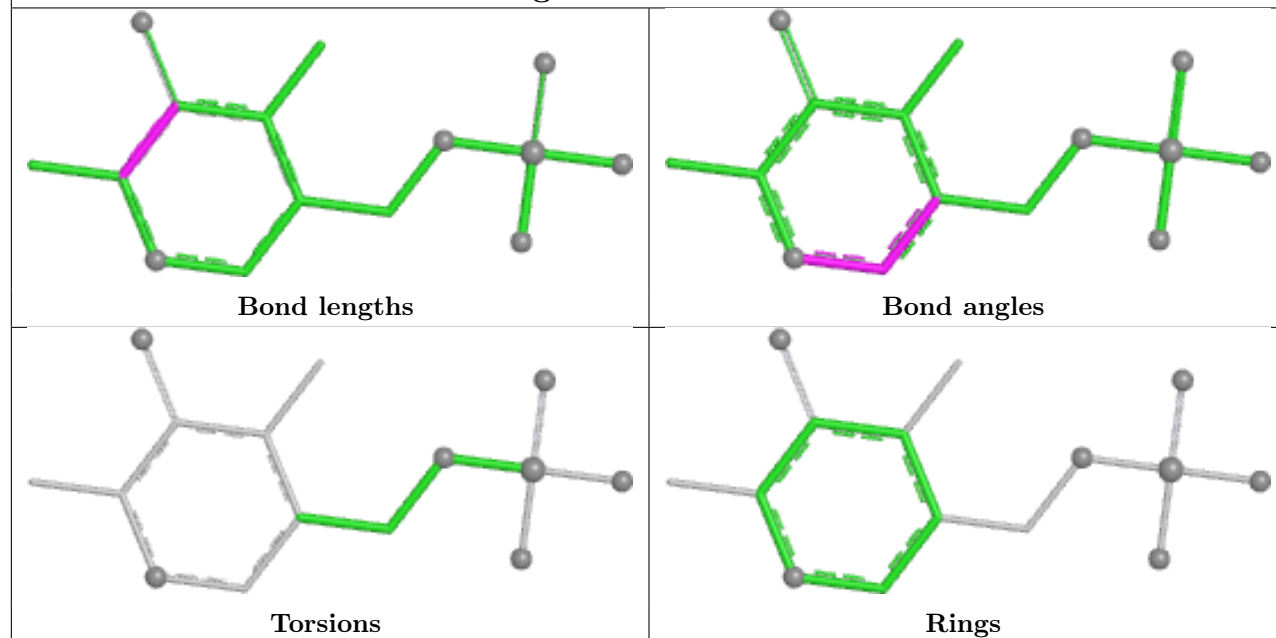
There are no ring outliers.

1 monomer is involved in 1 short contact:

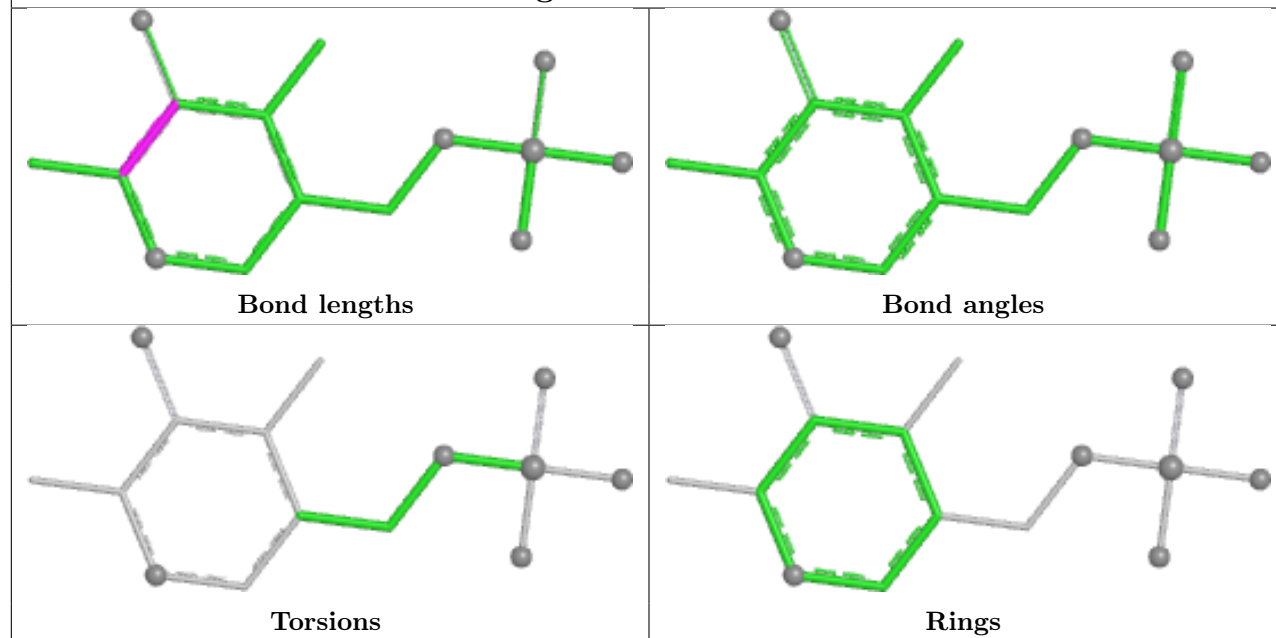
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	501	PLP	1	0

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.

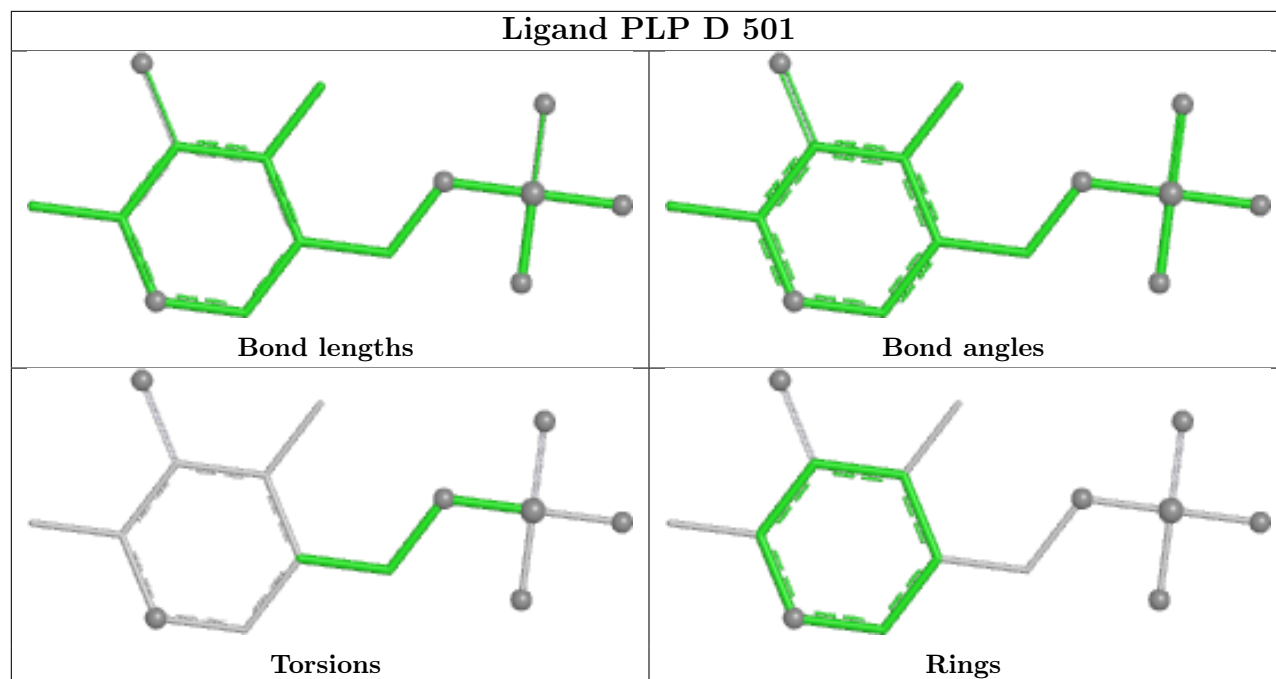
Ligand PLP G 501



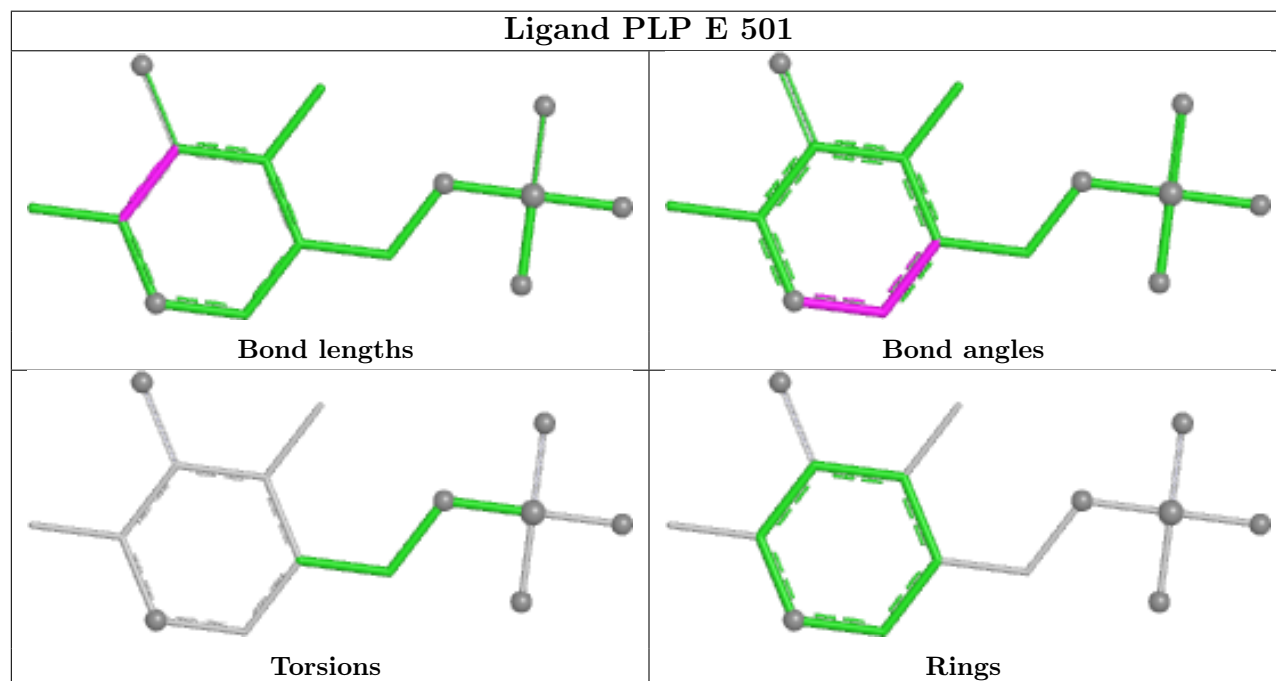
Ligand PLP F 501



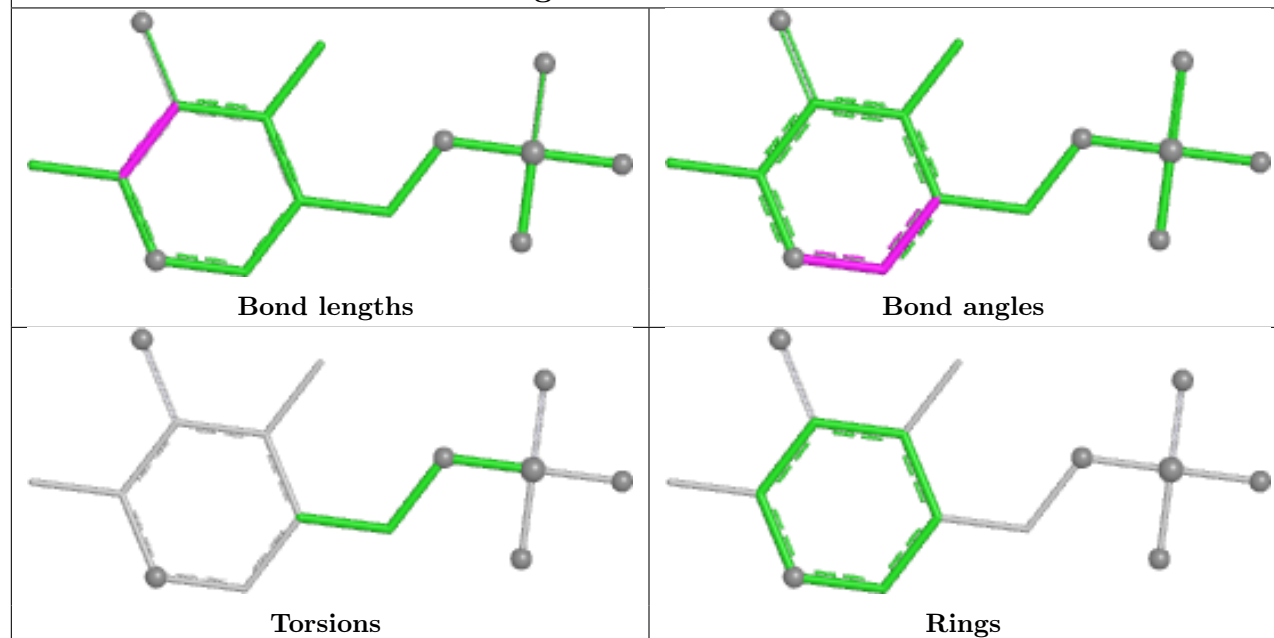
Ligand PLP D 501



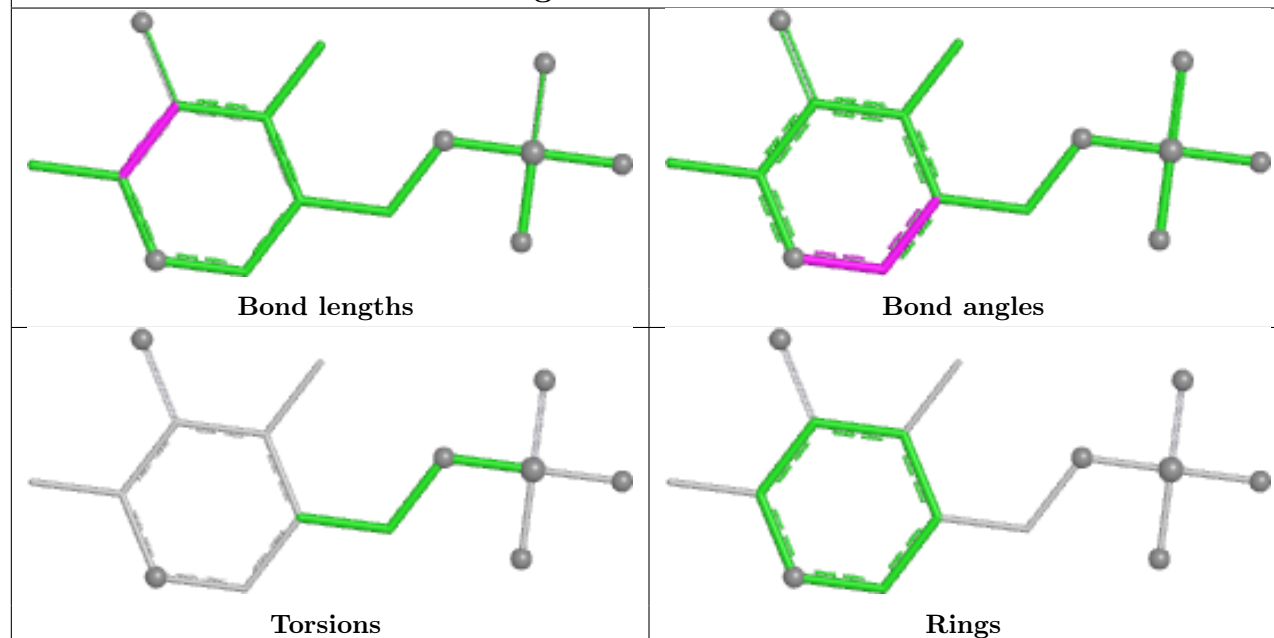
Ligand PLP E 501

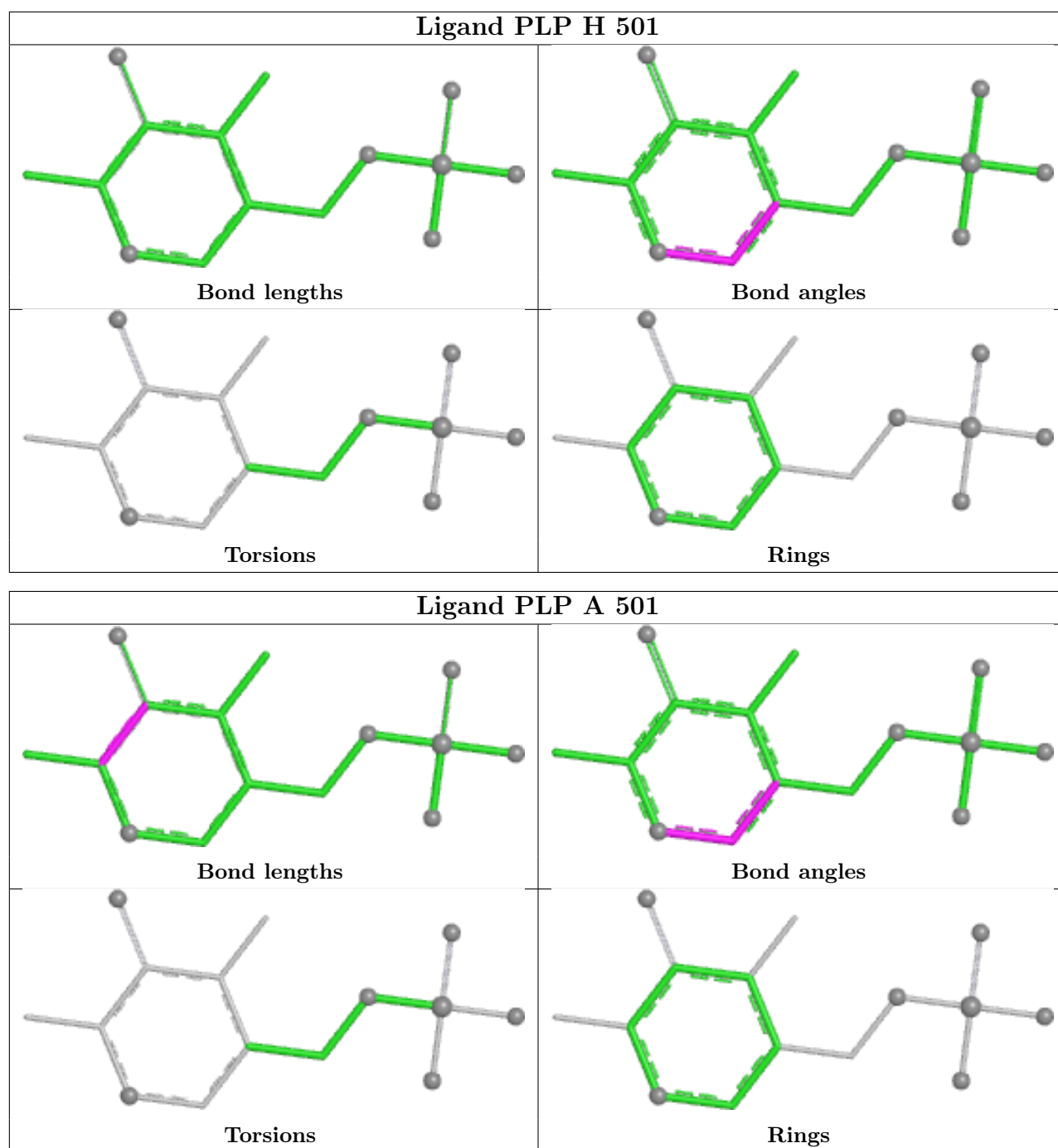


Ligand PLP B 501



Ligand PLP C 501





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	397/417 (95%)	0.56	29 (7%)	21	25	33, 53, 81, 90	2 (0%)
1	B	391/417 (93%)	0.31	18 (4%)	37	43	28, 49, 73, 87	1 (0%)
1	C	399/417 (95%)	0.23	10 (2%)	58	64	25, 46, 68, 88	2 (0%)
1	D	400/417 (95%)	0.28	9 (2%)	61	66	30, 47, 70, 83	0
1	E	389/417 (93%)	0.32	23 (5%)	28	33	31, 49, 75, 92	1 (0%)
1	F	394/417 (94%)	0.43	21 (5%)	32	37	33, 51, 77, 88	0
1	G	397/417 (95%)	0.22	10 (2%)	58	64	29, 49, 72, 86	1 (0%)
1	H	399/417 (95%)	0.13	3 (0%)	82	85	29, 48, 66, 76	0
All	All	3166/3336 (94%)	0.31	123 (3%)	43	49	25, 49, 74, 92	7 (0%)

All (123) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	387	VAL	6.4
1	D	18	PHE	5.7
1	C	302	HIS	5.2
1	A	372	ALA	4.9
1	A	387	VAL	4.8
1	E	374	PHE	4.7
1	A	375	THR	4.7
1	G	31	PHE	4.6
1	A	374	PHE	4.5
1	B	387	VAL	4.5
1	A	139	CYS	4.4
1	E	139	CYS	4.2
1	F	379	MET	4.1
1	A	378	ASN	4.0
1	B	380	LEU	4.0
1	E	392	GLY	4.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	E	385	LEU	4.0
1	G	359	GLU	3.9
1	F	391	ASP	3.9
1	B	374	PHE	3.9
1	F	387	VAL	3.8
1	A	377	ALA	3.8
1	E	370	CYS	3.8
1	A	359	GLU	3.7
1	F	380	LEU	3.7
1	D	378	ASN	3.7
1	G	302[A]	HIS	3.7
1	F	372	ALA	3.6
1	B	383	ASP	3.6
1	B	370	CYS	3.6
1	A	379	MET	3.5
1	F	378	ASN	3.5
1	E	390	THR	3.4
1	G	385	LEU	3.3
1	A	376	HIS	3.3
1	E	384	ARG	3.2
1	B	131	CYS	3.2
1	D	139	CYS	3.2
1	E	389	ILE	3.2
1	C	379	MET	3.2
1	A	373	VAL	3.1
1	B	384	ARG	3.1
1	F	131	CYS	3.1
1	F	31	PHE	3.1
1	C	380	LEU	3.1
1	E	386	LYS	3.0
1	A	380	LEU	3.0
1	E	373	VAL	3.0
1	C	139	CYS	2.9
1	B	302[A]	HIS	2.9
1	F	382	GLU	2.9
1	H	362	GLY	2.9
1	A	31	PHE	2.8
1	F	373	VAL	2.8
1	D	19	GLU	2.8
1	D	299	SER	2.8
1	E	393	PHE	2.8
1	E	383	ASP	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	43	GLY	2.8
1	E	388	GLY	2.8
1	B	42	GLY	2.8
1	A	169	GLN	2.7
1	G	380	LEU	2.7
1	F	392	GLY	2.7
1	A	391	ASP	2.7
1	C	359	GLU	2.7
1	G	139	CYS	2.7
1	A	369	THR	2.6
1	B	373	VAL	2.6
1	A	382	GLU	2.6
1	A	30	GLY	2.6
1	E	372	ALA	2.6
1	B	391	ASP	2.5
1	E	21	GLY	2.5
1	D	300	LYS	2.5
1	F	389	ILE	2.5
1	C	376	HIS	2.5
1	E	31	PHE	2.5
1	G	417	ALA	2.5
1	A	196[A]	LYS	2.5
1	E	359	GLU	2.4
1	F	370	CYS	2.4
1	A	200	VAL	2.4
1	C	304	VAL	2.4
1	F	374	PHE	2.4
1	H	31	PHE	2.4
1	A	300	LYS	2.3
1	G	21	GLY	2.3
1	D	377	ALA	2.3
1	F	417	ALA	2.3
1	A	389	ILE	2.3
1	A	55	PRO	2.3
1	A	21	GLY	2.3
1	E	391	ASP	2.3
1	B	372	ALA	2.3
1	C	341	THR	2.3
1	F	302	HIS	2.3
1	H	302	HIS	2.3
1	A	385	LEU	2.2
1	C	314	SER	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	G	378	ASN	2.2
1	D	55	PRO	2.2
1	B	43	GLY	2.2
1	B	382	GLU	2.2
1	E	369	THR	2.2
1	B	31	PHE	2.2
1	F	388	GLY	2.2
1	B	388	GLY	2.2
1	E	32	THR	2.1
1	F	385	LEU	2.1
1	B	22	VAL	2.1
1	A	42	GLY	2.1
1	E	340	GLY	2.1
1	E	371	PRO	2.1
1	F	246	SER	2.1
1	F	369	THR	2.0
1	D	359	GLU	2.0
1	C	55	PRO	2.0
1	A	386	LYS	2.0
1	G	199	LYS	2.0
1	B	390	THR	2.0
1	A	371	PRO	2.0
1	F	384	ARG	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.

Continued on next page...

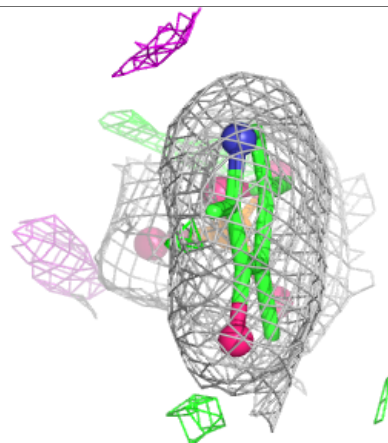
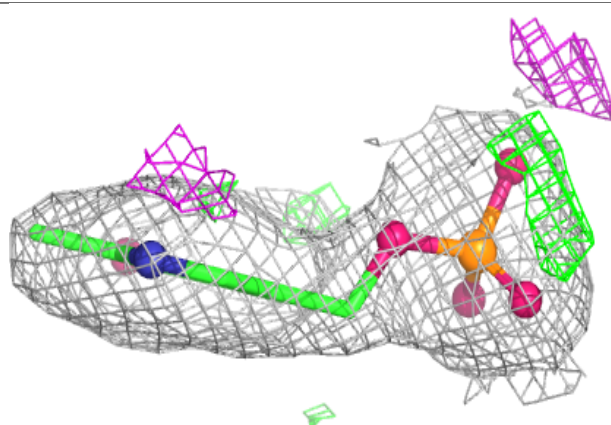
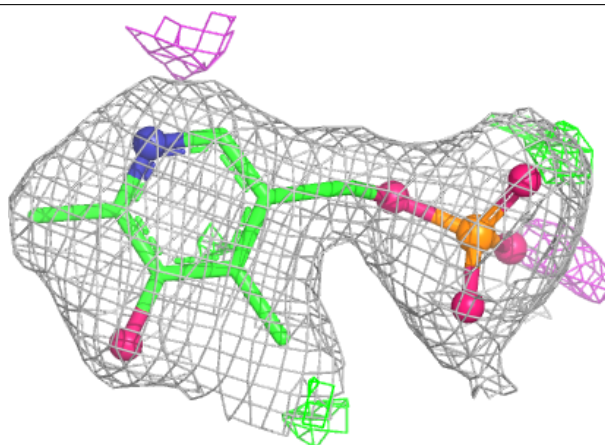
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	PLP	C	501	15/16	0.96	0.09	36,38,47,48	0
2	PLP	D	501	15/16	0.96	0.08	31,37,38,41	0
2	PLP	H	501	15/16	0.96	0.07	39,43,47,49	0
2	PLP	B	501	15/16	0.96	0.08	39,44,50,52	0
2	PLP	A	501	15/16	0.97	0.08	40,45,47,48	0
2	PLP	F	501	15/16	0.97	0.07	37,41,49,49	0
2	PLP	E	501	15/16	0.98	0.07	36,44,49,50	1
2	PLP	G	501	15/16	0.98	0.06	35,43,46,47	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.

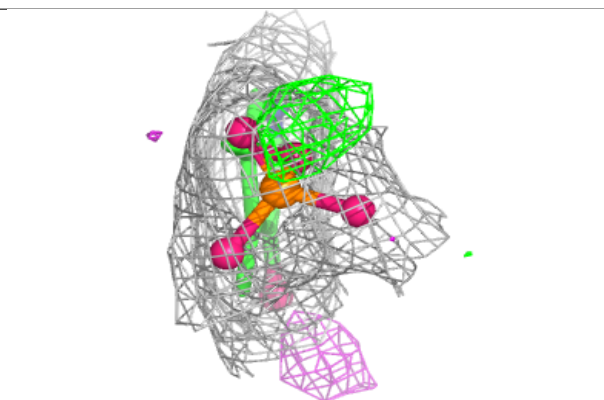
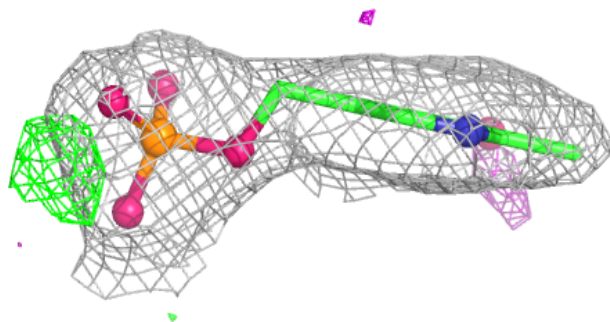
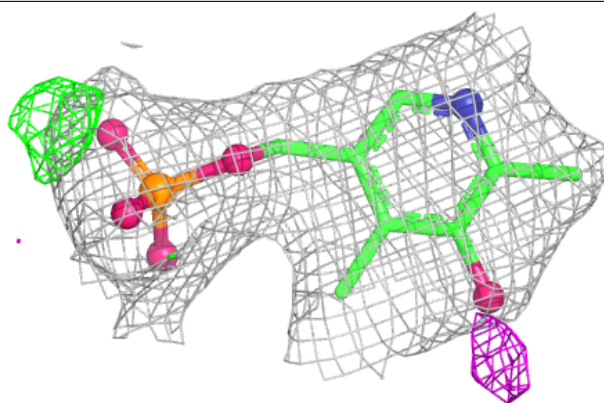
Electron density around PLP C 501:

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

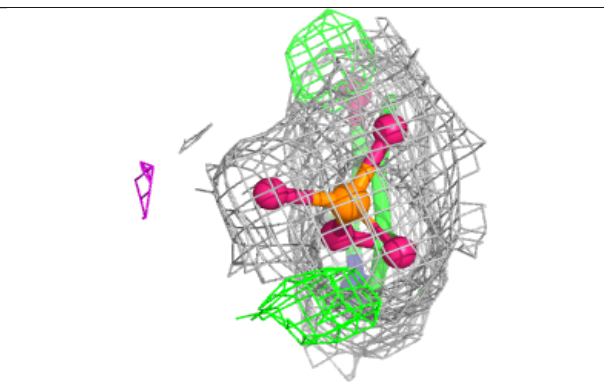
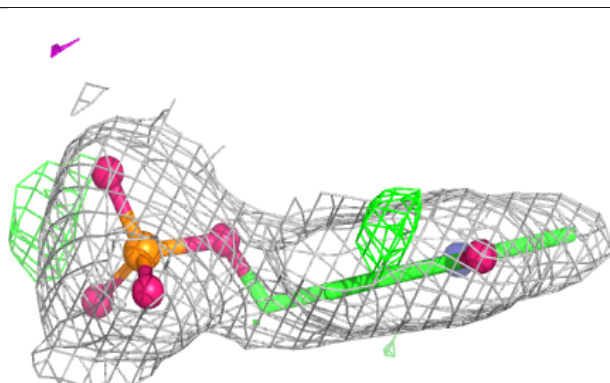
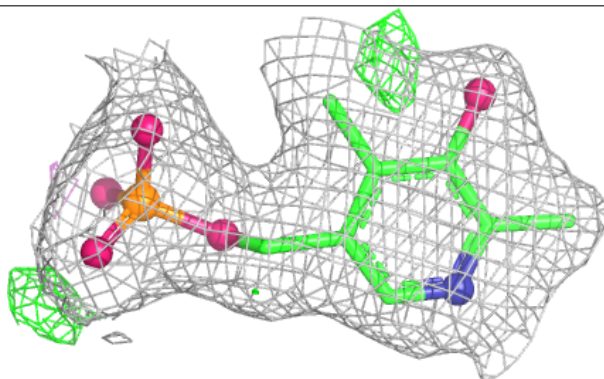


Electron density around PLP D 501:

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

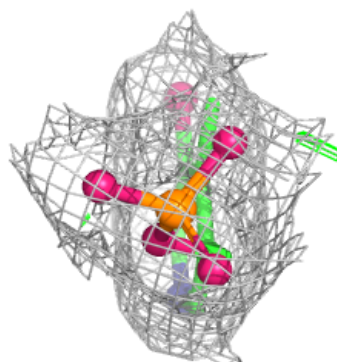
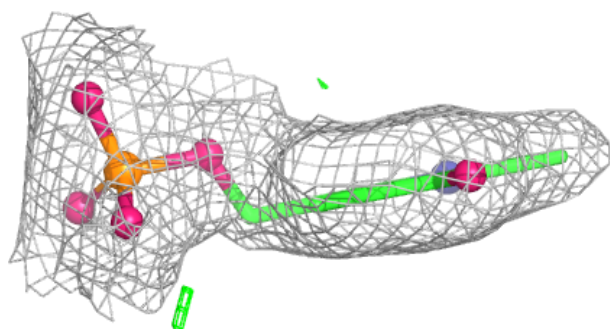
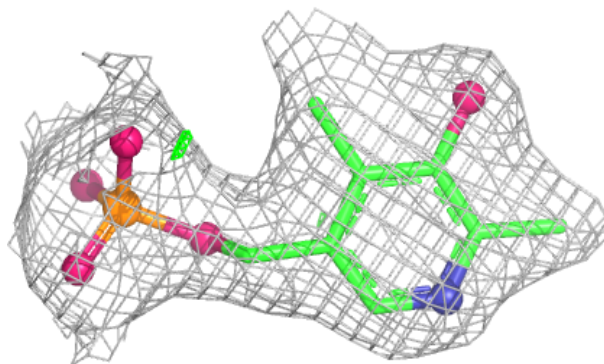
**Electron density around PLP H 501:**

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

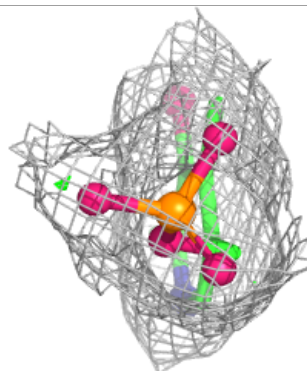
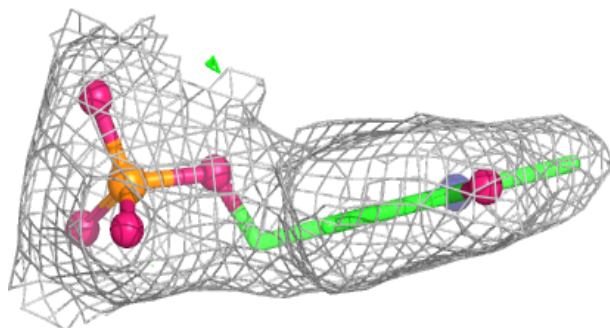
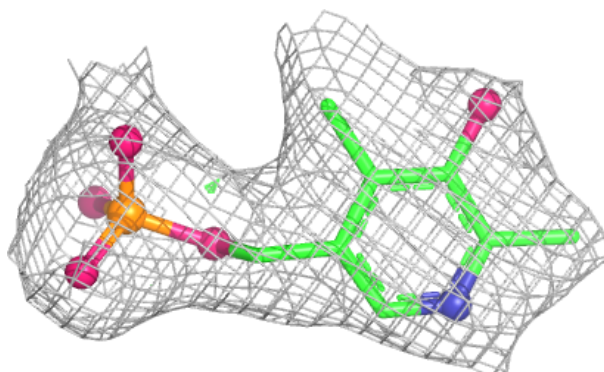


Electron density around PLP B 501:

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

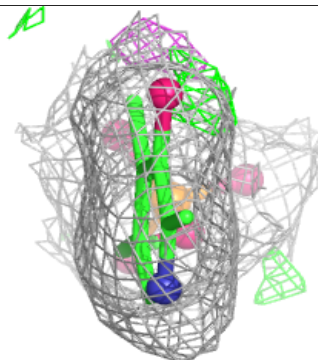
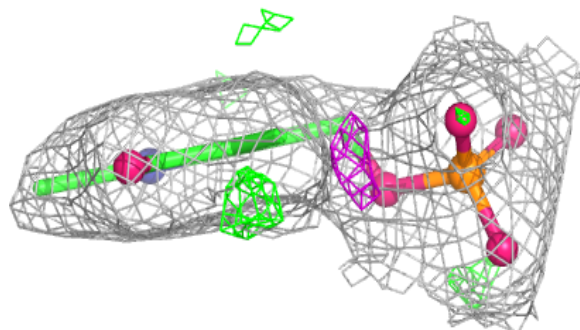
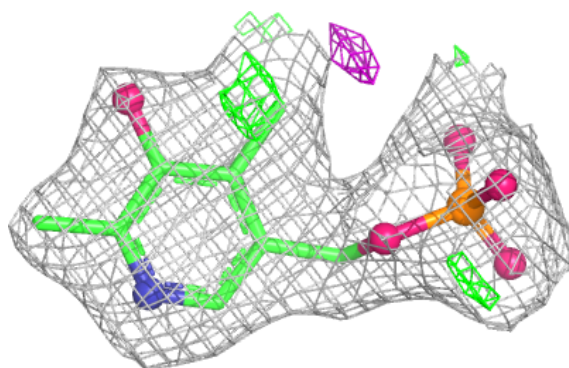
**Electron density around PLP A 501:**

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

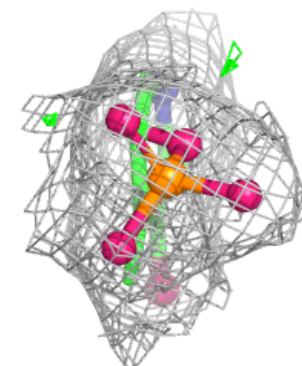
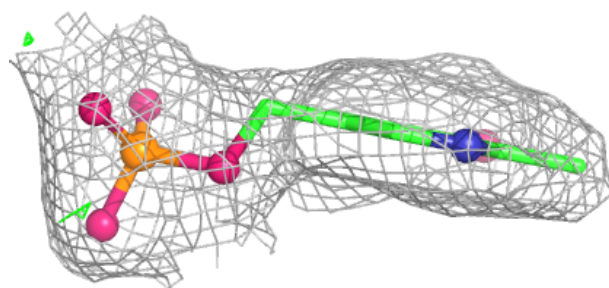
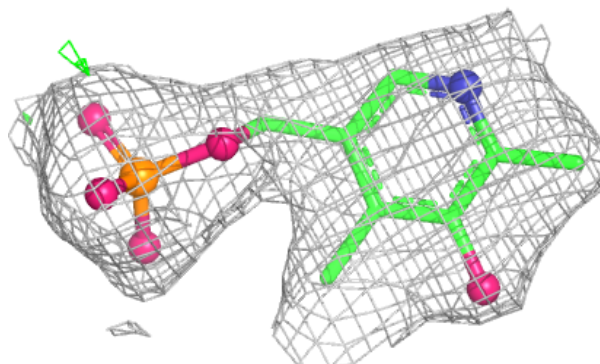


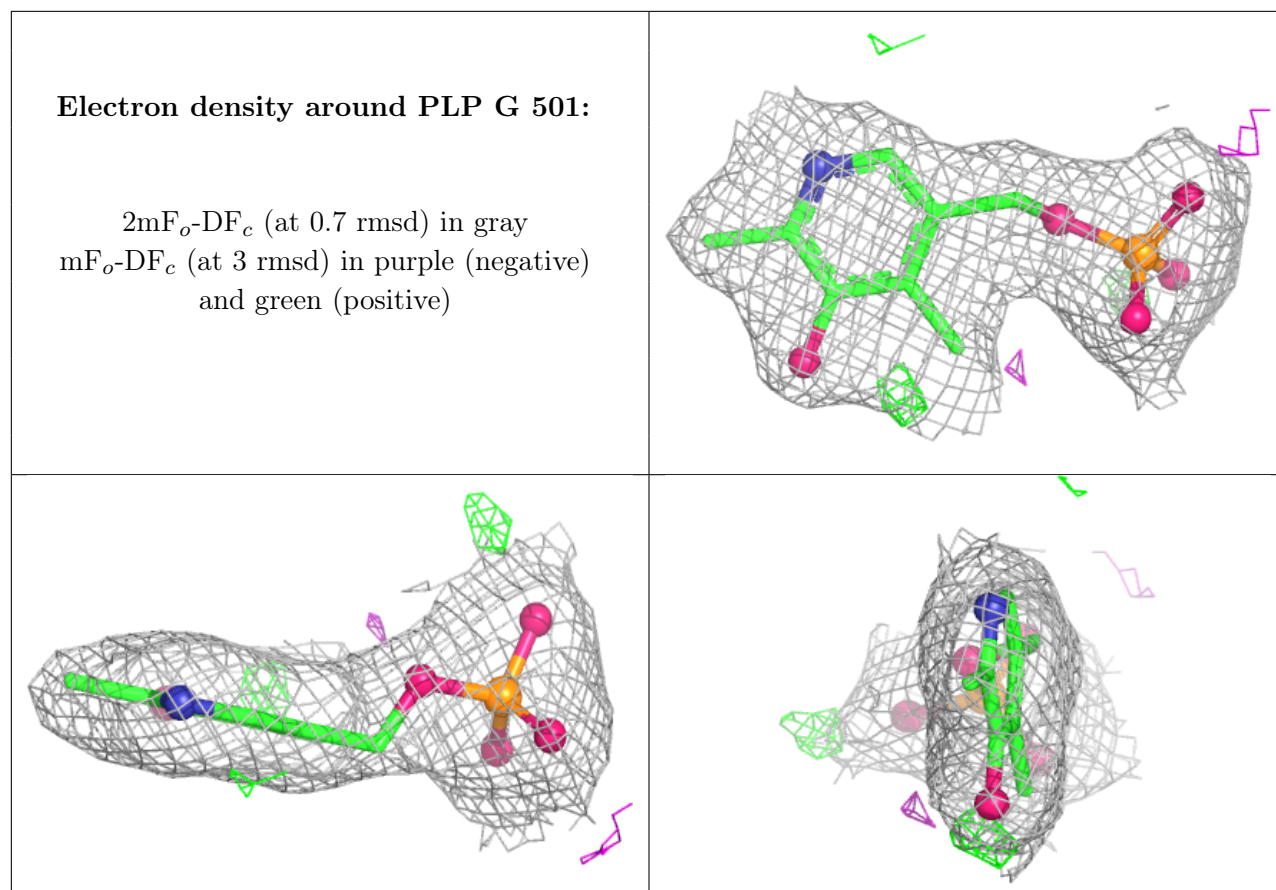
Electron density around PLP F 501:

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

**Electron density around PLP E 501:**

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





6.5 Other polymers ⓘ

There are no such residues in this entry.