



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 04:35 AM UTC

PDB ID : 7E13 / pdb_00007e13
Title : Caprylic acid targets a serine hydroxymethyltransferase to kill horseweed
Authors : Bai, L.Y.; Li, Z.R.
Deposited on : 2021-01-29
Resolution : 2.86 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

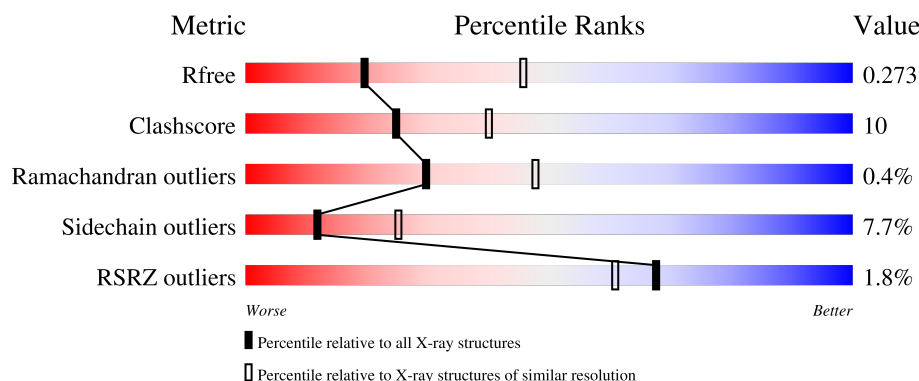
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.86 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	513	 72% 18% • 7%
1	B	513	 2% 76% 15% • 7%
1	C	513	 2% 68% 22% • 7%
1	D	513	 3% 71% 19% • 7%

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
2	PLP	C	601	-	-	X	-

2 Entry composition [i](#)

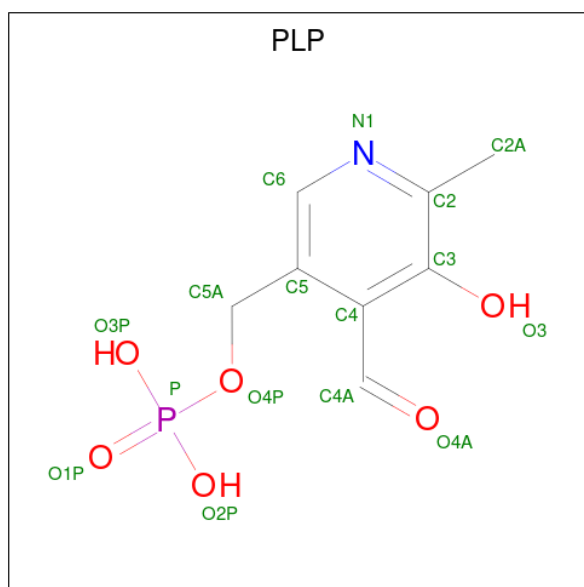
There are 2 unique types of molecules in this entry. The entry contains 14952 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 serine hydroxymethyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	475	Total	C	N	O	S	0	2	0
			3724	2366	637	703	18			
1	B	475	Total	C	N	O	S	14	3	0
			3732	2371	638	704	19			
1	C	475	Total	C	N	O	S	0	2	0
			3724	2366	637	703	18			
1	D	475	Total	C	N	O	S	0	2	0
			3724	2366	637	703	18			

- 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
			16	8	1	6	1		
2	B	1	Total	C	N	O	P	0	0
			16	8	1	6	1		

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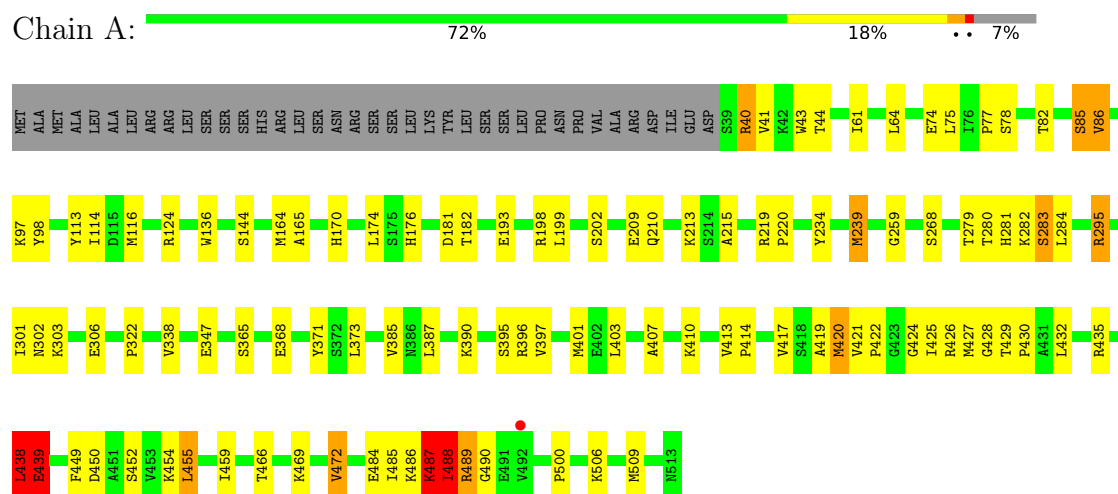
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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	C	1	Total	C	N	O	P	0	0
			16	8	1	6	1		

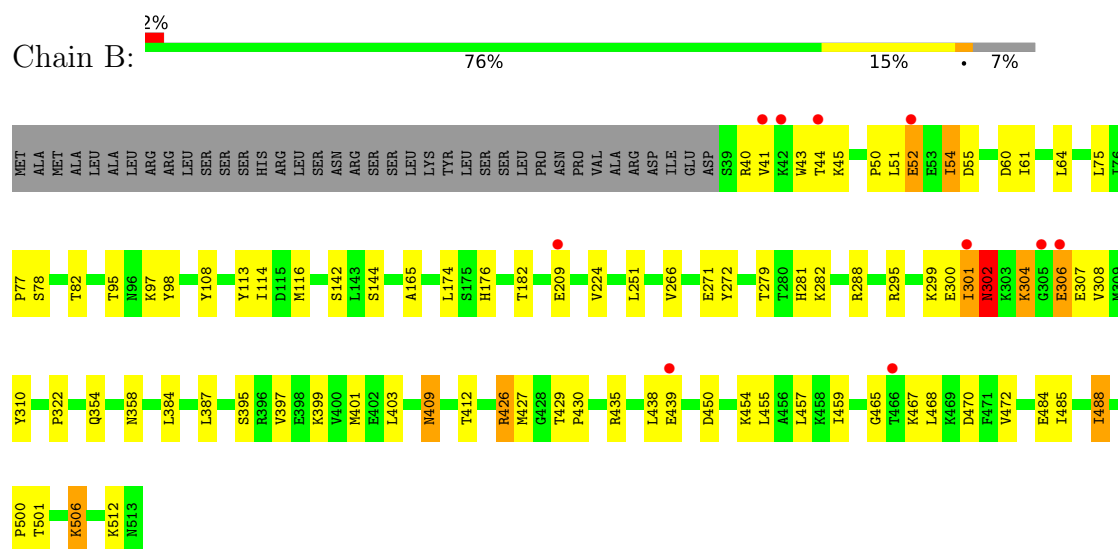
3 Residue-property plots

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: serine hydroxymethyltransferase

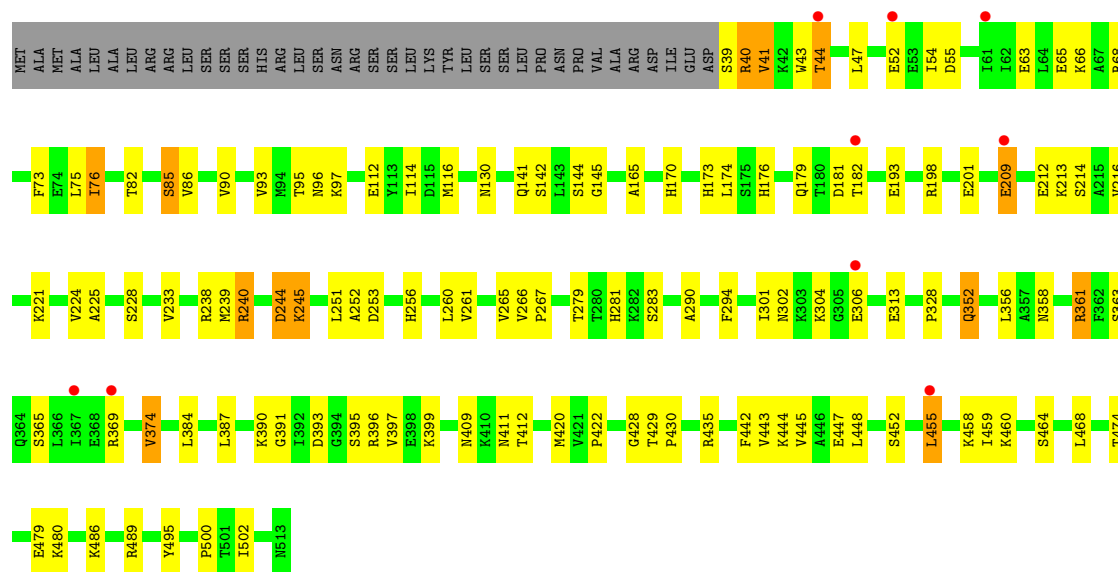


- Molecule 1: serine hydroxymethyltransferase

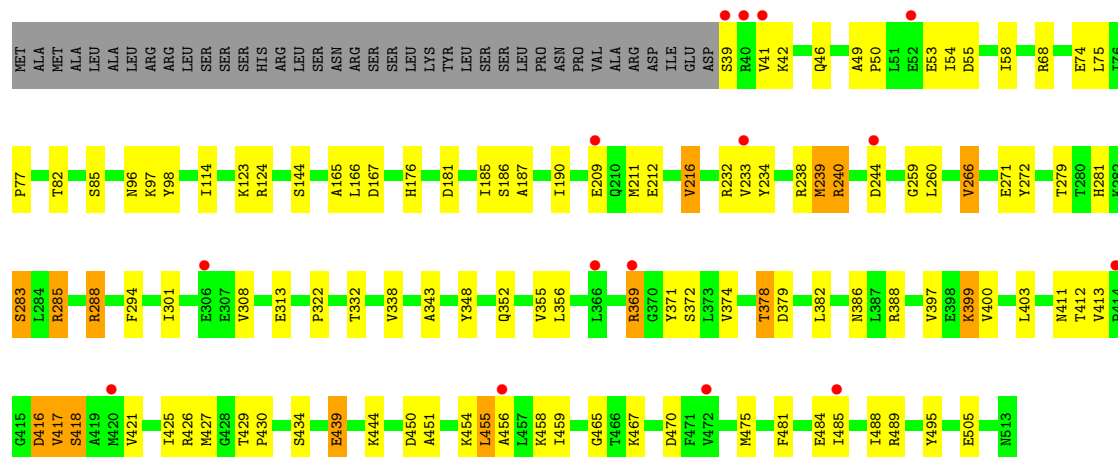


- Molecule 1: serine hydroxymethyltransferase





• Molecule 1: serine hydroxymethyltransferase



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	121.87Å 121.87Å 306.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	43.12 – 2.86 43.12 – 2.86	Depositor EDS
% Data completeness (in resolution range)	98.0 (43.12-2.86) 98.0 (43.12-2.86)	Depositor EDS
R_{merge}	0.19	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.81 (at 2.86Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.212 , 0.270 0.225 , 0.273	Depositor DCC
R_{free} test set	2622 reflections (4.83%)	wwPDB-VP
Wilson B-factor (Å ²)	71.6	Xtriage
Anisotropy	0.152	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 44.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	14952	wwPDB-VP
Average B, all atoms (Å ²)	83.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.31% 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

5.1 Standard geometry

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	0.95	0/3799	1.24	4/5121 (0.1%)
1	B	0.95	0/3807	1.25	4/5131 (0.1%)
1	C	0.95	0/3799	1.24	0/5121
1	D	0.95	0/3799	1.20	0/5121
All	All	0.95	0/15204	1.24	8/20494 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	51	LEU	CA-C-N	6.45	133.86	121.54
1	B	51	LEU	C-N-CA	6.45	133.86	121.54
1	B	54	ILE	N-CA-C	-6.04	104.02	110.36
1	B	301	ILE	N-CA-C	-5.69	105.60	113.00
1	A	485	ILE	O-C-N	5.62	127.32	121.87
1	A	86	VAL	CA-C-O	-5.40	114.64	120.47
1	A	487	LYS	N-CA-C	-5.35	105.62	111.82
1	A	438	LEU	CA-C-O	-5.26	113.62	119.67

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	3724	0	3731	82	0
1	B	3732	0	3740	65	7
1	C	3724	0	3731	86	8
1	D	3724	0	3733	83	1
2	A	16	0	7	5	0
2	B	16	0	7	5	0
2	C	16	0	7	7	0
All	All	14952	0	14956	293	8

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 (293) 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:A:484:GLU:OE2	1:A:487:LYS:CG	1.69	1.41
1:B:282:LYS:NZ	2:B:601:PLP:O4A	1.57	1.36
1:A:282:LYS:NZ	2:A:601:PLP:O4A	1.58	1.33
1:C:253:ASP:OD2	2:C:601:PLP:N1	1.60	1.32
1:D:369:ARG:HD3	1:D:450:ASP:CG	1.57	1.26
1:A:484:GLU:O	1:A:487:LYS:HB3	1.20	1.25
1:B:282:LYS:CE	2:B:601:PLP:O4A	1.87	1.21
1:D:369:ARG:HD3	1:D:450:ASP:CB	1.75	1.17
1:A:282:LYS:CE	2:A:601:PLP:O4A	1.97	1.13
1:D:369:ARG:HD3	1:D:450:ASP:OD2	1.50	1.09
1:D:369:ARG:CD	1:D:450:ASP:OD2	1.98	1.09
1:A:484:GLU:CD	1:A:487:LYS:HG2	1.79	1.08
1:D:49:ALA:HB3	1:D:54:ILE:HD11	1.32	1.05
1:A:164:MET:HE2	1:A:220:PRO:HG3	1.33	1.04
1:A:282:LYS:NZ	2:A:601:PLP:C4A	2.23	1.02
1:A:484:GLU:OE2	1:A:487:LYS:HG2	0.83	1.01
1:B:397:VAL:HG12	1:B:401:MET:HE2	1.46	0.98
1:A:484:GLU:O	1:A:487:LYS:CB	2.11	0.97
1:D:50:PRO:O	1:D:54:ILE:HG12	1.64	0.97
1:C:294:PHE:HE1	1:C:313:GLU:HG3	1.31	0.95
1:A:282:LYS:HE3	2:A:601:PLP:O4A	1.67	0.93
1:C:369:ARG:NH2	1:C:447:GLU:HB2	1.84	0.92
1:D:369:ARG:HD3	1:D:450:ASP:HB2	1.50	0.92
1:B:282:LYS:HE2	2:B:601:PLP:O4A	1.70	0.91
1:C:294:PHE:CE1	1:C:313:GLU:HG3	2.05	0.91
1:D:294:PHE:CE1	1:D:313:GLU:HG3	2.05	0.90
1:D:294:PHE:HE1	1:D:313:GLU:HG3	1.38	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:282:LYS:HZ2	2:B:601:PLP:C4A	1.91	0.82
1:B:50:PRO:HG2	1:B:52:GLU:HB2	1.60	0.81
1:C:369:ARG:HH22	1:C:447:GLU:HB2	1.46	0.80
1:A:401:MET:HE1	1:A:427:MET:CE	2.11	0.80
1:A:488:ILE:O	1:A:490:GLY:N	2.14	0.80
1:D:369:ARG:CD	1:D:450:ASP:CG	2.43	0.78
1:C:464:SER:H	1:C:474:THR:HG21	1.49	0.77
1:B:506:LYS:H	1:B:506:LYS:HD2	1.50	0.76
1:C:253:ASP:OD2	2:C:601:PLP:C2	2.35	0.74
1:B:409:ASN:OD1	1:B:426:ARG:NH2	2.23	0.72
1:D:417:VAL:HG22	1:D:421:VAL:HG11	1.73	0.71
1:C:209:GLU:O	1:C:213:LYS:HG3	1.93	0.69
1:D:53:GLU:HG2	1:D:53:GLU:O	1.93	0.69
1:A:484:GLU:C	1:A:487:LYS:HB3	2.14	0.68
1:A:401:MET:HE1	1:A:427:MET:HE1	1.75	0.68
1:C:213:LYS:O	1:C:216:VAL:HG22	1.93	0.67
1:D:369:ARG:NE	1:D:450:ASP:OD2	2.28	0.67
1:A:61:ILE:HG12	1:B:116:MET:HE3	1.77	0.67
1:D:369:ARG:CG	1:D:450:ASP:OD2	2.42	0.66
1:D:459:ILE:HG12	1:D:481:PHE:CD2	2.31	0.66
1:C:40:ARG:O	1:C:44:THR:HG23	1.96	0.66
1:C:225:ALA:HB2	1:C:239:MET:HE2	1.78	0.66
1:C:260:LEU:HD23	1:C:352:GLN:HG2	1.78	0.65
1:A:234:TYR:CD2	1:A:239:MET:HE1	2.32	0.65
1:D:369:ARG:CD	1:D:450:ASP:HB2	2.24	0.64
1:A:506:LYS:HA	1:A:509:MET:HE2	1.80	0.64
1:D:484:GLU:O	1:D:488:ILE:HG13	1.98	0.63
1:A:487:LYS:O	1:A:487:LYS:HD3	1.99	0.63
1:C:145:GLY:HA3	2:C:601:PLP:H5A2	1.81	0.62
1:B:484:GLU:O	1:B:488:ILE:HG23	2.00	0.62
1:C:455:LEU:O	1:C:455:LEU:HD22	1.99	0.62
1:B:282:LYS:NZ	2:B:601:PLP:C4A	2.55	0.61
1:C:85:SER:HB3	1:D:54:ILE:HG13	1.81	0.61
1:C:304:LYS:HD2	1:C:306:GLU:OE1	1.99	0.61
1:C:97:LYS:HG2	1:C:114:ILE:HG13	1.83	0.61
1:D:234:TYR:HD2	1:D:239:MET:HE1	1.64	0.61
1:D:403:LEU:O	1:D:489:ARG:NH2	2.33	0.61
1:A:97:LYS:HG2	1:A:114:ILE:HG13	1.83	0.60
1:D:49:ALA:CB	1:D:54:ILE:HD11	2.20	0.60
1:A:397:VAL:O	1:A:401:MET:HG3	2.02	0.60
1:C:399:LYS:HE2	1:C:468:LEU:HD21	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:68:ARG:NH2	1:D:74:GLU:OE2	2.33	0.59
1:D:55:ASP:OD2	1:D:58:ILE:CG1	2.50	0.59
1:C:361:ARG:NH1	1:C:365:SER:OG	2.36	0.59
1:B:302:ASN:ND2	1:B:306:GLU:O	2.36	0.58
1:D:400:VAL:HG21	1:D:456:ALA:HB2	1.85	0.58
1:A:116:MET:HE3	1:B:61:ILE:HG12	1.85	0.58
1:A:219:ARG:NH2	1:C:181:ASP:HA	2.18	0.58
1:A:234:TYR:HD2	1:A:239:MET:HE1	1.69	0.58
1:D:399:LYS:HD2	1:D:475:MET:HE1	1.86	0.58
1:B:50:PRO:C	1:B:52:GLU:H	2.12	0.58
1:A:484:GLU:OE2	1:A:487:LYS:CB	2.47	0.58
1:A:164:MET:CE	1:A:220:PRO:HG3	2.22	0.57
1:D:369:ARG:HG2	1:D:371:TYR:HE2	1.68	0.57
1:D:369:ARG:HG2	1:D:371:TYR:CE2	2.40	0.57
1:A:124:ARG:NH1	1:B:55:ASP:OD2	2.30	0.57
1:A:484:GLU:CD	1:A:487:LYS:CB	2.78	0.57
1:C:82:THR:HG22	1:D:96:ASN:OD1	2.05	0.57
1:D:451:ALA:HA	1:D:454:LYS:HD3	1.85	0.57
1:C:76:ILE:HD13	1:C:409:ASN:HD22	1.69	0.56
1:C:391:GLY:O	1:C:460:LYS:NZ	2.36	0.56
1:D:77:PRO:HG3	1:D:426:ARG:HG2	1.87	0.56
1:C:464:SER:N	1:C:474:THR:HG21	2.19	0.56
1:C:55:ASP:OD2	1:D:124:ARG:NH1	2.33	0.56
1:B:304:LYS:HD2	1:B:304:LYS:O	2.06	0.56
1:C:95:THR:O	1:D:288:ARG:NH1	2.39	0.56
1:C:224:VAL:HG22	1:C:251:LEU:HD23	1.88	0.56
1:A:427:MET:HE1	1:A:449:PHE:CD1	2.41	0.56
1:A:419:ALA:O	1:A:421:VAL:N	2.36	0.56
1:D:397:VAL:HG23	1:D:425:ILE:HD11	1.86	0.56
1:C:442:PHE:O	1:C:445:VAL:HG12	2.06	0.55
1:A:40:ARG:NE	1:A:40:ARG:H	2.05	0.55
1:A:450:ASP:OD1	1:A:454:LYS:HE3	2.07	0.55
1:C:253:ASP:OD2	2:C:601:PLP:C2A	2.54	0.55
1:B:41:VAL:HG13	1:B:45:LYS:NZ	2.21	0.55
1:B:43:TRP:O	1:B:45:LYS:N	2.34	0.54
1:C:240:ARG:HD3	1:C:244:ASP:OD2	2.07	0.54
1:D:279:THR:HB	1:D:281:HIS:CE1	2.43	0.54
1:A:174:LEU:HD13	1:B:322:PRO:HB2	1.89	0.54
1:C:369:ARG:CZ	1:C:447:GLU:HA	2.37	0.54
1:D:49:ALA:HB3	1:D:54:ILE:CD1	2.22	0.53
1:B:279:THR:HB	1:B:281:HIS:CE1	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:484:GLU:CD	1:A:487:LYS:CG	2.58	0.53
1:D:444:LYS:HG2	1:D:495:TYR:CD2	2.44	0.53
1:D:165:ALA:HB1	1:D:176:HIS:HB3	1.89	0.53
1:A:85:SER:HB2	1:A:338:VAL:HG11	1.91	0.53
1:D:371:TYR:OH	1:D:450:ASP:OD1	2.27	0.53
1:A:78:SER:HB2	1:A:282:LYS:HE2	1.91	0.52
1:C:73:PHE:CD2	1:C:445:VAL:HG23	2.43	0.52
1:C:369:ARG:NH2	1:C:447:GLU:CB	2.68	0.52
1:A:484:GLU:HA	1:A:487:LYS:HB2	1.91	0.52
1:B:75:LEU:CD1	1:B:427:MET:HE2	2.40	0.52
1:C:374:VAL:HG22	1:C:384:LEU:HB3	1.91	0.52
1:B:455:LEU:HD12	1:B:455:LEU:O	2.09	0.51
1:D:374:VAL:HG11	1:D:413:VAL:HB	1.91	0.51
1:A:279:THR:HB	1:A:281:HIS:CE1	2.45	0.51
1:C:435:ARG:HA	1:C:502:ILE:HD11	1.92	0.51
1:C:212:GLU:OE1	1:C:238:ARG:NH1	2.44	0.51
1:C:486:LYS:HG3	1:C:489:ARG:HH21	1.76	0.51
1:A:164:MET:HE1	1:A:215:ALA:HB2	1.91	0.51
1:B:41:VAL:HG22	1:B:43:TRP:H	1.75	0.51
1:B:450:ASP:OD2	1:B:454:LYS:HE2	2.10	0.51
1:C:65:GLU:OE2	1:C:68:ARG:NH1	2.31	0.51
1:C:85:SER:CB	1:D:54:ILE:HG13	2.40	0.51
1:A:219:ARG:NH2	1:C:181:ASP:OD1	2.42	0.51
1:D:444:LYS:HG2	1:D:495:TYR:CE2	2.46	0.51
1:A:387:LEU:HD13	1:A:397:VAL:HG21	1.93	0.50
1:C:165:ALA:CB	1:C:176:HIS:HB3	2.40	0.50
1:A:347:GLU:OE1	1:A:347:GLU:N	2.36	0.50
1:C:40:ARG:O	1:C:44:THR:CG2	2.59	0.50
1:B:165:ALA:CB	1:B:176:HIS:HB3	2.41	0.50
1:B:224:VAL:HG22	1:B:251:LEU:HD23	1.93	0.50
1:C:429:THR:H	1:C:430:PRO:HD3	1.77	0.50
1:D:459:ILE:HD13	1:D:475:MET:HG3	1.94	0.50
1:B:75:LEU:HD13	1:B:427:MET:HE2	1.94	0.50
1:C:365:SER:O	1:C:369:ARG:HG3	2.12	0.50
1:C:279:THR:HB	1:C:281:HIS:CE1	2.46	0.50
1:C:435:ARG:HD2	1:C:502:ILE:HD13	1.94	0.50
1:D:75:LEU:HD23	1:D:427:MET:HG2	1.93	0.50
1:D:240:ARG:HD2	1:D:240:ARG:O	2.12	0.50
1:A:113:TYR:HD1	1:A:116:MET:HE2	1.76	0.49
1:A:484:GLU:C	1:A:487:LYS:H	2.19	0.49
1:B:50:PRO:C	1:B:52:GLU:N	2.69	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:442:PHE:HA	1:C:445:VAL:HG12	1.95	0.49
1:D:388:ARG:NH1	1:D:416:ASP:HA	2.28	0.49
1:C:455:LEU:O	1:C:459:ILE:HG13	2.13	0.49
1:D:97:LYS:HG2	1:D:114:ILE:HG13	1.93	0.49
1:A:77:PRO:HB3	1:A:428:GLY:HA3	1.93	0.49
1:C:294:PHE:CE1	1:C:313:GLU:CG	2.87	0.48
1:D:55:ASP:OD2	1:D:58:ILE:HG12	2.12	0.48
1:A:170:HIS:CE1	1:A:198:ARG:HE	2.30	0.48
1:A:282:LYS:HZ3	2:A:601:PLP:C4A	2.18	0.48
1:D:212:GLU:O	1:D:216:VAL:HG13	2.12	0.48
1:B:295:ARG:HB3	1:B:310:TYR:CD2	2.49	0.48
1:A:165:ALA:CB	1:A:176:HIS:HB3	2.43	0.48
1:C:142[B]:SER:HB3	1:C:290:ALA:HB3	1.96	0.48
1:D:352:GLN:O	1:D:355:VAL:HG22	2.13	0.48
1:B:77:PRO:HG3	1:B:426:ARG:HD2	1.96	0.48
1:A:438:LEU:HG	1:B:40:ARG:HB3	1.94	0.48
1:D:166:LEU:HD23	1:D:167:ASP:O	2.14	0.48
1:D:397:VAL:O	1:D:400:VAL:HG22	2.13	0.48
1:A:302:ASN:HD21	1:A:306:GLU:HG2	1.77	0.47
1:D:185:ILE:HG23	1:D:186:SER:H	1.79	0.47
1:A:429:THR:H	1:A:430:PRO:HD3	1.80	0.47
1:A:484:GLU:O	1:A:487:LYS:N	2.45	0.47
1:B:77:PRO:CG	1:B:426:ARG:HD2	2.44	0.47
1:D:458:LYS:HB3	1:D:481:PHE:CZ	2.50	0.47
1:C:41:VAL:HA	1:C:44:THR:HG23	1.97	0.47
1:A:64:LEU:HD12	1:B:116:MET:HE1	1.96	0.47
1:A:74:GLU:H	1:A:432:LEU:HD21	1.80	0.47
1:B:43:TRP:C	1:B:45:LYS:N	2.73	0.47
1:C:174:LEU:HD13	1:D:322:PRO:HB2	1.96	0.47
1:C:502:ILE:HD12	1:C:502:ILE:N	2.30	0.47
1:B:165:ALA:HB1	1:B:176:HIS:HB3	1.96	0.47
1:D:259:GLY:H	1:D:283:SER:HB3	1.80	0.47
1:B:281:HIS:ND1	1:B:288:ARG:HA	2.30	0.46
1:D:467:LYS:HD2	1:D:467:LYS:HA	1.82	0.46
1:A:113:TYR:HA	1:A:116:MET:HE2	1.96	0.46
1:B:301:ILE:HD12	1:B:301:ILE:H	1.80	0.46
1:B:429:THR:N	1:B:430:PRO:CD	2.79	0.46
1:C:170:HIS:CE1	1:C:198:ARG:HD2	2.50	0.46
1:D:187:ALA:HA	1:D:190:ILE:HD12	1.97	0.46
1:D:455:LEU:O	1:D:459:ILE:HG13	2.14	0.46
1:A:426:ARG:NH2	1:B:108:TYR:OH	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:47:LEU:HD21	1:D:285:ARG:CZ	2.46	0.46
1:D:232:ARG:HH21	1:D:379:ASP:CG	2.23	0.46
1:D:378:THR:OG1	1:D:382:LEU:O	2.32	0.46
1:B:455:LEU:O	1:B:459:ILE:HG13	2.15	0.46
1:A:371:TYR:CE1	1:A:390:LYS:HE3	2.51	0.45
1:C:444:LYS:HG2	1:C:495:TYR:CE2	2.52	0.45
1:B:41:VAL:HG13	1:B:45:LYS:HZ1	1.80	0.45
1:A:213:LYS:NZ	1:A:213:LYS:HB3	2.32	0.45
1:A:438:LEU:HD22	1:A:438:LEU:HA	1.66	0.45
1:A:469:LYS:O	1:A:472:VAL:HG23	2.17	0.45
1:B:501:THR:H	1:B:506:LYS:HE3	1.81	0.45
1:B:78:SER:HB2	1:B:282:LYS:HE3	1.98	0.45
1:B:97:LYS:HG2	1:B:114:ILE:HG13	1.98	0.45
1:C:387:LEU:HD13	1:C:397:VAL:HG21	1.99	0.45
1:C:429:THR:N	1:C:430:PRO:HD3	2.31	0.45
1:C:96:ASN:OD1	1:D:82:THR:HG22	2.16	0.45
1:C:265:VAL:HG23	1:C:266:VAL:HG13	1.99	0.45
1:C:75:LEU:O	1:C:428:GLY:N	2.50	0.45
1:C:393:ASP:OD1	1:C:396:ARG:HD2	2.17	0.45
1:C:429:THR:N	1:C:430:PRO:CD	2.80	0.45
1:A:280:THR:HA	1:A:284:LEU:HD23	1.98	0.45
1:A:301:ILE:C	1:A:303:LYS:H	2.25	0.45
1:B:299:LYS:HG2	1:B:300:GLU:HG2	1.98	0.45
1:B:387:LEU:HD13	1:B:397:VAL:HG21	1.99	0.45
1:A:429:THR:N	1:A:430:PRO:CD	2.80	0.44
1:A:429:THR:N	1:A:430:PRO:HD3	2.33	0.44
1:A:410:LYS:HB2	1:A:422:PRO:HG2	1.98	0.44
1:C:233:VAL:HG21	1:C:267:PRO:HD2	1.99	0.44
1:B:41:VAL:HG21	1:B:44:THR:HB	1.98	0.44
1:B:403:LEU:HD23	1:B:485:ILE:HD13	1.99	0.44
1:A:488:ILE:HB	1:A:489:ARG:H	1.73	0.43
1:A:259:GLY:N	1:A:283:SER:OG	2.51	0.43
1:C:173:HIS:CE1	2:C:601:PLP:H5A1	2.53	0.43
1:C:253:ASP:OD2	2:C:601:PLP:H2A3	2.18	0.43
1:C:361:ARG:O	1:C:361:ARG:HD3	2.18	0.43
1:A:396:ARG:NH2	1:A:466:THR:O	2.51	0.43
1:A:435:ARG:O	1:A:500:PRO:HD2	2.18	0.43
1:D:356:LEU:HD23	1:D:356:LEU:HA	1.85	0.43
1:C:63:GLU:HA	1:C:66:LYS:HD3	2.00	0.43
1:B:113:TYR:HA	1:B:116:MET:HE2	2.01	0.43
1:C:420:MET:O	1:C:422:PRO:HD3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:464:SER:H	1:C:474:THR:CG2	2.26	0.43
1:D:411:ASN:OD1	1:D:412:THR:N	2.52	0.43
1:B:354:GLN:NE2	1:B:358:ASN:OD1	2.46	0.43
1:B:435:ARG:O	1:B:500:PRO:HD2	2.19	0.43
1:C:361:ARG:HH11	1:C:443:VAL:HG22	1.84	0.43
1:D:271:GLU:HB3	1:D:272:TYR:CD2	2.54	0.43
1:A:193:GLU:HG3	1:C:193:GLU:HG3	2.00	0.43
1:B:429:THR:H	1:B:430:PRO:HD3	1.84	0.43
1:C:68:ARG:NH1	1:D:97:LYS:HD3	2.34	0.43
1:D:429:THR:N	1:D:430:PRO:CD	2.82	0.43
1:D:165:ALA:CB	1:D:176:HIS:HB3	2.49	0.42
1:D:403:LEU:HD12	1:D:485:ILE:HD13	2.01	0.42
1:A:455:LEU:HD13	1:A:459:ILE:HD11	2.01	0.42
1:D:39:SER:HA	1:D:42:LYS:HD2	2.01	0.42
1:D:343:ALA:HA	1:D:348:TYR:CD2	2.54	0.42
1:D:403:LEU:HD11	1:D:475:MET:SD	2.59	0.42
1:C:256:HIS:O	1:C:283:SER:HB2	2.19	0.42
1:C:435:ARG:O	1:C:500:PRO:HD2	2.18	0.42
1:B:41:VAL:HG22	1:B:43:TRP:N	2.34	0.42
1:A:85:SER:CB	1:B:54:ILE:HG21	2.50	0.42
1:D:455:LEU:HD22	1:D:458:LYS:HD2	2.02	0.42
1:A:136:TRP:CE2	1:A:295:ARG:HD3	2.53	0.42
1:A:199:LEU:HD12	1:A:414:PRO:HG3	2.01	0.42
1:A:484:GLU:HA	1:A:487:LYS:CB	2.50	0.42
1:B:484:GLU:O	1:B:488:ILE:CG2	2.66	0.42
1:B:271:GLU:HB3	1:B:272:TYR:CD2	2.55	0.42
1:D:260:LEU:HB3	1:D:266:VAL:CG2	2.50	0.42
1:A:373:LEU:HD22	1:A:385:VAL:HG22	2.02	0.42
1:B:399:LYS:HD2	1:B:472:VAL:HG22	2.02	0.42
1:B:465:GLY:HA3	1:B:470:ASP:OD2	2.20	0.41
1:C:228[A]:SER:OG	2:C:601:PLP:O3	2.31	0.41
1:C:245:LYS:HA	1:C:245:LYS:HD3	1.87	0.41
1:D:369:ARG:CD	1:D:450:ASP:CB	2.69	0.41
1:D:403:LEU:HD11	1:D:475:MET:HE3	2.01	0.41
1:D:465:GLY:HA3	1:D:470:ASP:CG	2.45	0.41
1:C:86:VAL:O	1:C:90:VAL:HG23	2.20	0.41
1:C:225:ALA:O	1:C:252:ALA:HA	2.19	0.41
1:B:301:ILE:O	1:B:302:ASN:ND2	2.37	0.41
1:D:455:LEU:HD22	1:D:455:LEU:HA	1.80	0.41
1:A:75:LEU:HB2	1:A:407:ALA:O	2.21	0.41
1:D:372:SER:HB2	1:D:386:ASN:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:322:PRO:HB2	1:B:174:LEU:HD13	2.02	0.41
1:A:413:VAL:HG13	1:A:424:GLY:HA3	2.02	0.41
1:C:358:ASN:HB3	1:C:442:PHE:CD2	2.56	0.41
1:A:116:MET:HE1	1:B:64:LEU:HD12	2.03	0.41
1:D:418:SER:OG	1:D:421:VAL:HG12	2.21	0.41
1:A:82:THR:HG21	1:B:95:THR:HG21	2.02	0.41
1:C:369:ARG:CZ	1:C:447:GLU:CA	2.98	0.41
1:D:369:ARG:CG	1:D:450:ASP:CG	2.91	0.41
1:C:141:GLN:HG2	1:C:328:PRO:HB3	2.02	0.41
1:D:343:ALA:HA	1:D:348:TYR:CG	2.56	0.41
1:A:438:LEU:O	1:A:439:GLU:HB2	2.21	0.40
1:C:165:ALA:HB1	1:C:176:HIS:HB3	2.04	0.40
1:B:468:LEU:O	1:B:472:VAL:HG23	2.20	0.40
1:A:403:LEU:HD23	1:A:403:LEU:HA	1.89	0.40
1:B:467:LYS:HD2	1:B:467:LYS:HA	1.76	0.40
1:C:112:GLU:O	1:C:116:MET:HG3	2.21	0.40
1:C:302:ASN:OD1	1:C:302:ASN:C	2.64	0.40
1:B:304:LYS:O	1:B:304:LYS:CG	2.70	0.40
1:C:455:LEU:HD23	1:C:455:LEU:HA	1.88	0.40
1:D:369:ARG:HB3	1:D:371:TYR:CE2	2.56	0.40

All (8) 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)
1:B:304:LYS:NZ	1:C:479:GLU:C[6_564]	1.07	1.13
1:B:304:LYS:CE	1:C:479:GLU:CB[6_564]	1.12	1.08
1:B:304:LYS:NZ	1:C:479:GLU:CA[6_564]	1.21	0.99
1:B:304:LYS:NZ	1:C:479:GLU:CB[6_564]	1.56	0.64
1:B:304:LYS:NZ	1:C:479:GLU:O[6_564]	1.70	0.50
1:B:304:LYS:NZ	1:C:480:LYS:N[6_564]	2.07	0.13
1:C:301:ILE:O	1:D:123:LYS:NZ[6_564]	2.12	0.08
1:B:304:LYS:CE	1:C:479:GLU:CA[6_564]	2.15	0.05

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	475/513 (93%)	445 (94%)	26 (6%)	4 (1%)	16	31
1	B	476/513 (93%)	447 (94%)	26 (6%)	3 (1%)	21	38
1	C	475/513 (93%)	455 (96%)	20 (4%)	0	100	100
1	D	475/513 (93%)	439 (92%)	35 (7%)	1 (0%)	43	62
All	All	1901/2052 (93%)	1786 (94%)	107 (6%)	8 (0%)	30	48

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	439	GLU
1	A	489	ARG
1	B	52	GLU
1	B	439	GLU
1	D	439	GLU
1	A	488	ILE
1	B	302	ASN
1	A	420	MET

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	396/428 (92%)	365 (92%)	31 (8%)	11	25
1	B	397/428 (93%)	373 (94%)	24 (6%)	17	36
1	C	396/428 (92%)	361 (91%)	35 (9%)	9	20
1	D	396/428 (92%)	364 (92%)	32 (8%)	11	23
All	All	1585/1712 (93%)	1463 (92%)	122 (8%)	12	25

All (122) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	ARG
1	A	41	VAL
1	A	43	TRP
1	A	44	THR
1	A	85	SER
1	A	86	VAL
1	A	98	TYR
1	A	144	SER
1	A	181	ASP
1	A	182	THR
1	A	202	SER
1	A	209	GLU
1	A	210	GLN
1	A	239	MET
1	A	268	SER
1	A	283	SER
1	A	295	ARG
1	A	365	SER
1	A	368	GLU
1	A	395	SER
1	A	417	VAL
1	A	420	MET
1	A	425	ILE
1	A	438	LEU
1	A	439	GLU
1	A	452	SER
1	A	455	LEU
1	A	472	VAL
1	A	486	LYS
1	A	487	LYS
1	A	488	ILE
1	B	60	ASP
1	B	82	THR
1	B	98	TYR
1	B	142[A]	SER
1	B	142[B]	SER
1	B	144	SER
1	B	182	THR
1	B	209	GLU
1	B	266	VAL
1	B	302	ASN
1	B	304	LYS
1	B	306	GLU

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Mol	Chain	Res	Type
1	B	307	GLU
1	B	308	VAL
1	B	384	LEU
1	B	395	SER
1	B	409	ASN
1	B	412	THR
1	B	426	ARG
1	B	438	LEU
1	B	457	LEU
1	B	488	ILE
1	B	506	LYS
1	B	512	LYS
1	C	39	SER
1	C	40	ARG
1	C	41	VAL
1	C	43	TRP
1	C	44	THR
1	C	52	GLU
1	C	54	ILE
1	C	76	ILE
1	C	85	SER
1	C	93	VAL
1	C	130	ASN
1	C	144	SER
1	C	179	GLN
1	C	182	THR
1	C	201	GLU
1	C	209	GLU
1	C	214	SER
1	C	221	LYS
1	C	240	ARG
1	C	244	ASP
1	C	245	LYS
1	C	261	VAL
1	C	352	GLN
1	C	356	LEU
1	C	361	ARG
1	C	363	SER
1	C	374	VAL
1	C	390	LYS
1	C	395	SER
1	C	411	ASN

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Mol	Chain	Res	Type
1	C	412	THR
1	C	448	LEU
1	C	452	SER
1	C	455	LEU
1	C	458	LYS
1	D	41	VAL
1	D	46	GLN
1	D	85	SER
1	D	98	TYR
1	D	144	SER
1	D	181	ASP
1	D	209	GLU
1	D	211	MET
1	D	216	VAL
1	D	233	VAL
1	D	238	ARG
1	D	239	MET
1	D	240	ARG
1	D	244	ASP
1	D	266	VAL
1	D	283	SER
1	D	285	ARG
1	D	288	ARG
1	D	301	ILE
1	D	308	VAL
1	D	332	THR
1	D	338	VAL
1	D	369	ARG
1	D	378	THR
1	D	399	LYS
1	D	416	ASP
1	D	417	VAL
1	D	418	SER
1	D	434	SER
1	D	439	GLU
1	D	455	LEU
1	D	505	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	69	GLN

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Mol	Chain	Res	Type
1	A	210	GLN
1	A	354	GLN
1	A	411	ASN
1	B	130	ASN
1	B	318	GLN
1	D	69	GLN
1	D	256	HIS
1	D	354	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](#)

3 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	A	601	-	16,16,16	0.74	0	20,23,23	1.31	1 (5%)
2	PLP	C	601	-	16,16,16	0.92	1 (6%)	20,23,23	1.55	2 (10%)
2	PLP	B	601	-	16,16,16	0.47	0	20,23,23	1.10	1 (5%)

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	A	601	-	-	7/8/8/8	0/1/1/1
2	PLP	C	601	-	-	7/8/8/8	0/1/1/1
2	PLP	B	601	-	-	2/8/8/8	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	601	PLP	P-O4P	2.63	1.68	1.60

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	601	PLP	O4P-C5A-C5	5.69	120.03	109.36
2	A	601	PLP	O4P-C5A-C5	4.73	118.22	109.36
2	B	601	PLP	O4P-C5A-C5	3.26	115.46	109.36
2	C	601	PLP	C3-C4-C5	2.24	120.07	118.28

There are no chirality outliers.

All (16) torsion outliers are listed below:

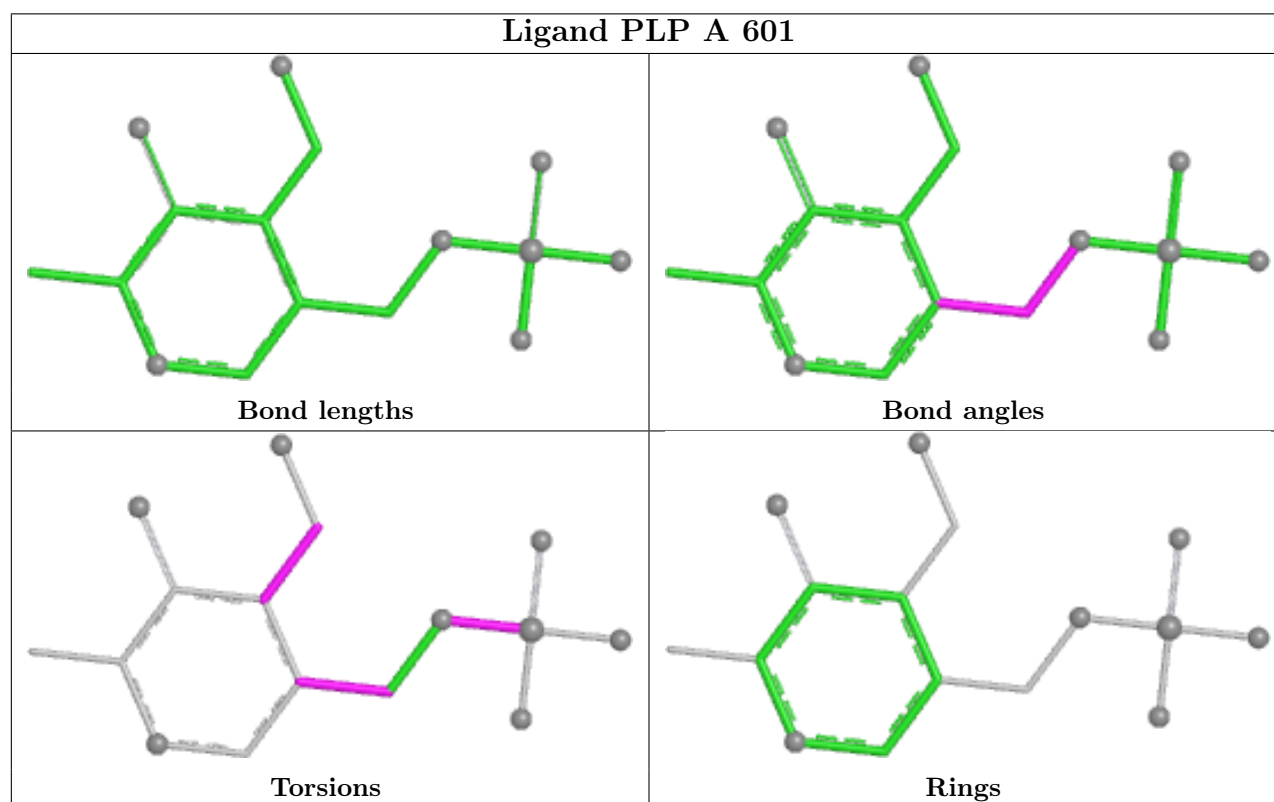
Mol	Chain	Res	Type	Atoms
2	A	601	PLP	C4-C5-C5A-O4P
2	A	601	PLP	C6-C5-C5A-O4P
2	A	601	PLP	C5A-O4P-P-O2P
2	A	601	PLP	C5A-O4P-P-O3P
2	C	601	PLP	C3-C4-C4A-O4A
2	C	601	PLP	C4-C5-C5A-O4P
2	C	601	PLP	C6-C5-C5A-O4P
2	C	601	PLP	C5A-O4P-P-O1P
2	C	601	PLP	C5A-O4P-P-O2P
2	C	601	PLP	C5A-O4P-P-O3P
2	A	601	PLP	C3-C4-C4A-O4A
2	A	601	PLP	C5-C4-C4A-O4A
2	B	601	PLP	C3-C4-C4A-O4A
2	B	601	PLP	C5-C4-C4A-O4A
2	A	601	PLP	C5A-O4P-P-O1P
2	C	601	PLP	C5-C4-C4A-O4A

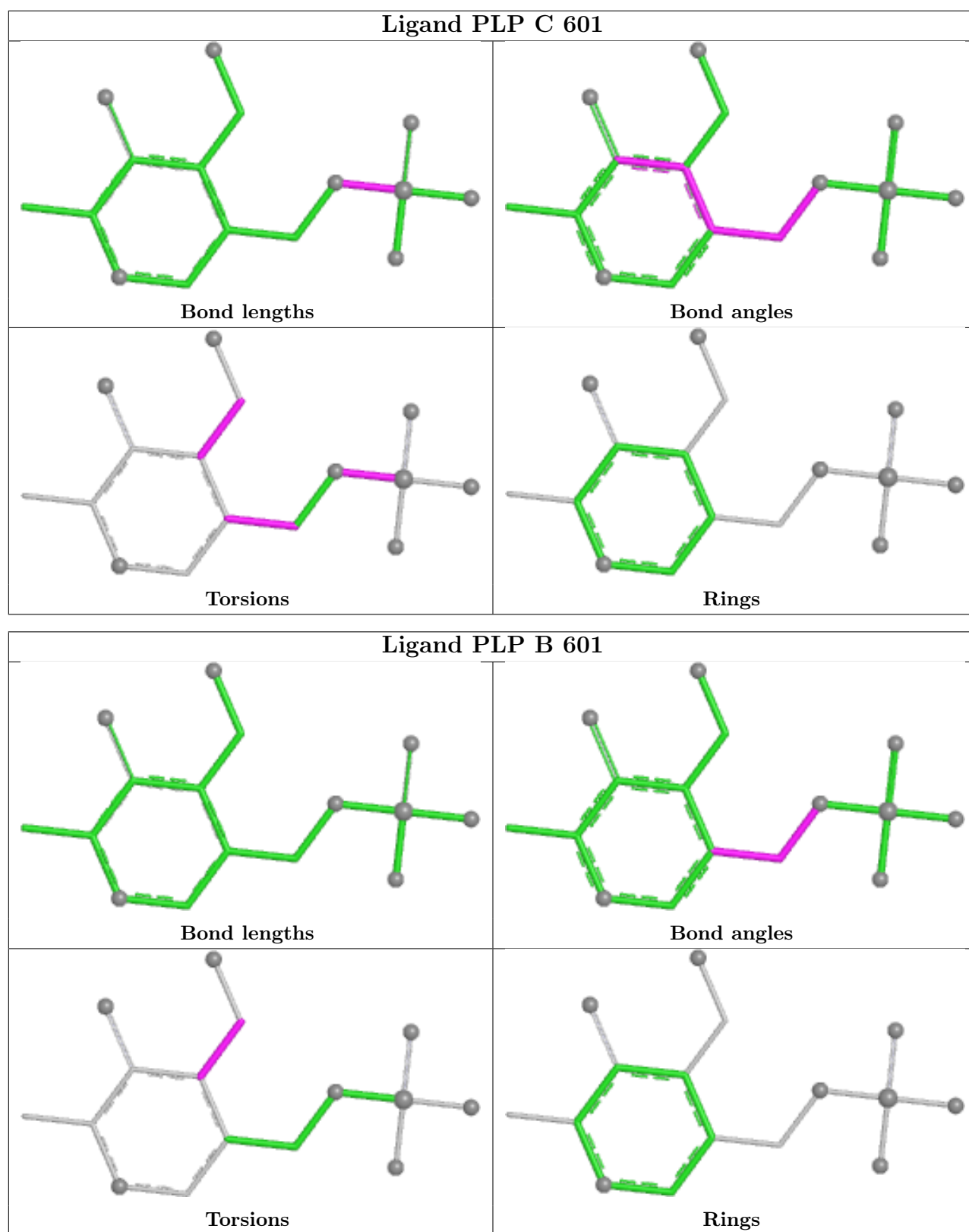
There are no ring outliers.

3 monomers are involved in 17 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601	PLP	5	0
2	C	601	PLP	7	0
2	B	601	PLP	5	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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	475/513 (92%)	-0.29	1 (0%) 91 91	23, 62, 109, 155	2 (0%)
1	B	475/513 (92%)	-0.19	10 (2%) 63 55	25, 63, 104, 181	3 (0%)
1	C	475/513 (92%)	0.11	9 (1%) 66 59	36, 89, 128, 158	2 (0%)
1	D	475/513 (92%)	0.22	15 (3%) 50 41	31, 102, 173, 212	2 (0%)
All	All	1900/2052 (92%)	-0.04	35 (1%) 67 61	23, 75, 147, 212	9 (0%)

All (35) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	209	GLU	4.4
1	B	42	LYS	4.0
1	D	209	GLU	3.9
1	B	52	GLU	3.4
1	D	244	ASP	3.3
1	B	301	ILE	3.3
1	D	41	VAL	3.1
1	D	369	ARG	3.0
1	C	455	LEU	2.9
1	C	44	THR	2.8
1	B	466	THR	2.8
1	B	209	GLU	2.7
1	B	44	THR	2.7
1	D	306	GLU	2.7
1	C	369	ARG	2.6
1	B	306	GLU	2.6
1	D	233	VAL	2.6
1	B	305	GLY	2.5
1	C	52	GLU	2.5
1	D	40	ARG	2.5
1	D	420	MET	2.5

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Mol	Chain	Res	Type	RSRZ
1	D	414	PRO	2.5
1	C	306	GLU	2.4
1	D	485	ILE	2.4
1	B	439	GLU	2.2
1	D	52	GLU	2.2
1	D	366	LEU	2.2
1	B	41	VAL	2.1
1	C	182	THR	2.1
1	C	61	ILE	2.1
1	C	367	ILE	2.1
1	D	472	VAL	2.1
1	D	456	ALA	2.1
1	A	492	VAL	2.0
1	D	39	SER	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](#)

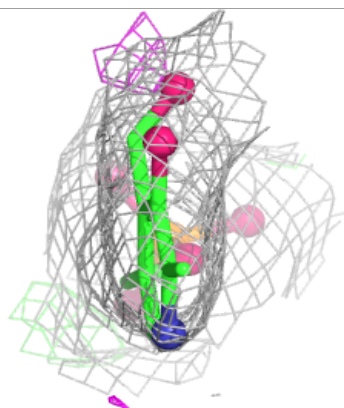
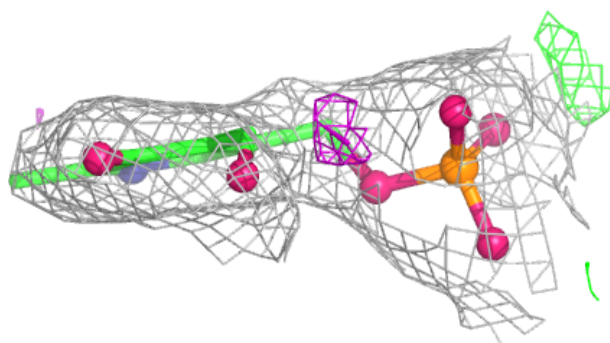
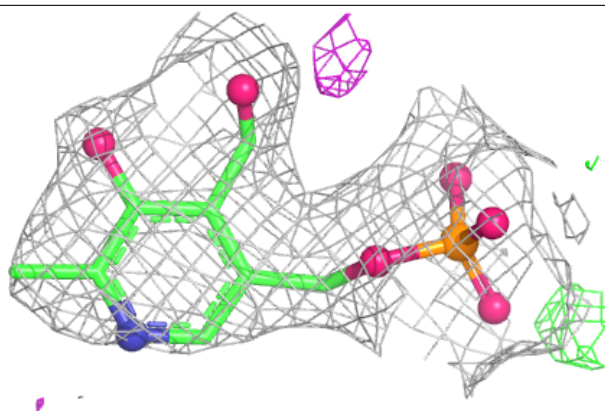
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	PLP	B	601	16/16	0.92	0.10	61,73,86,96	0
2	PLP	C	601	16/16	0.95	0.07	65,85,106,110	0
2	PLP	A	601	16/16	0.96	0.06	52,55,67,73	0

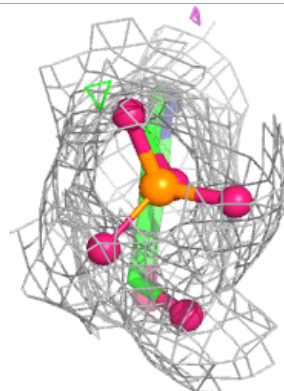
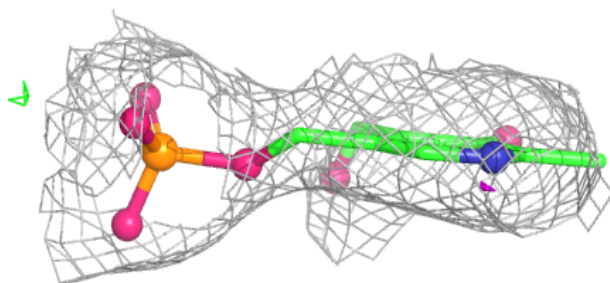
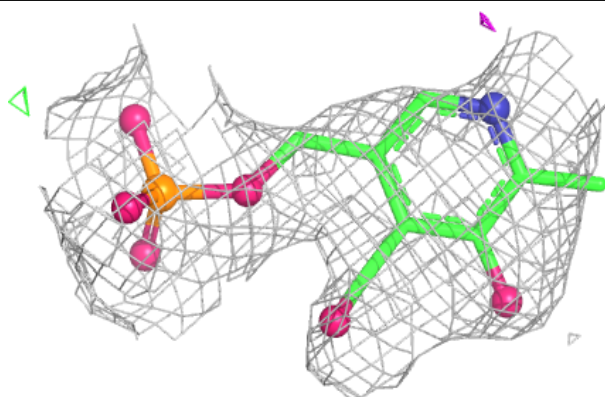
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PLP B 601:

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

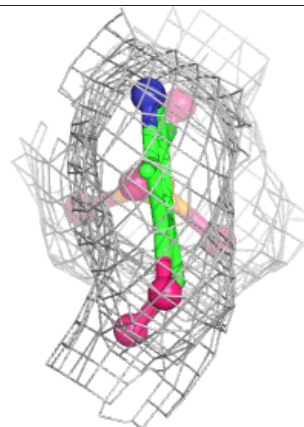
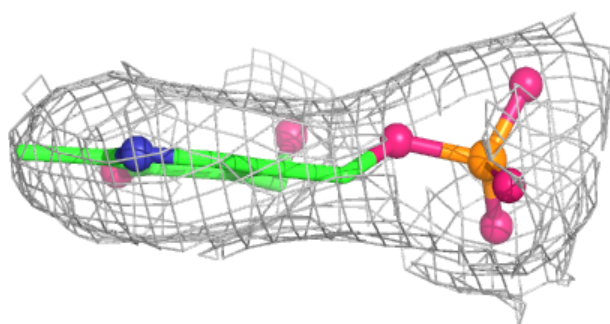
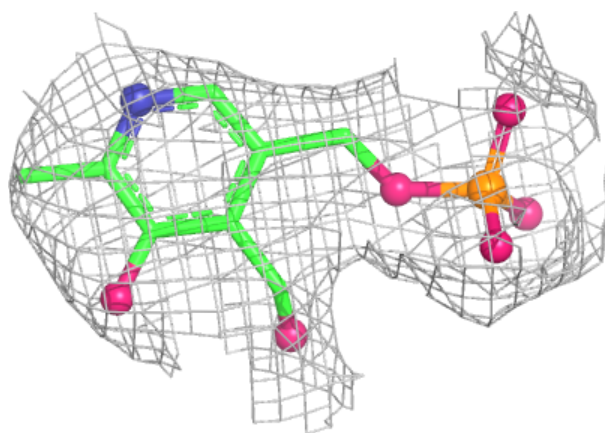
**Electron density around PLP C 601:**

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



Electron density around PLP A 601:

$2mF_o-DF_c$ (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.