



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 4, 2025 – 02:10 PM JST

PDB ID : 8X0P  
Title : Crystal structure of Tyrosine decarboxylase in complex with the cofactor PLP and inhibitor carbidopa  
Authors : Wang, H.; Yu, J.; Yao, M.  
Deposited on : 2023-11-05  
Resolution : 3.35 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

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<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>.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.21  
EDS : 3.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.004 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.40

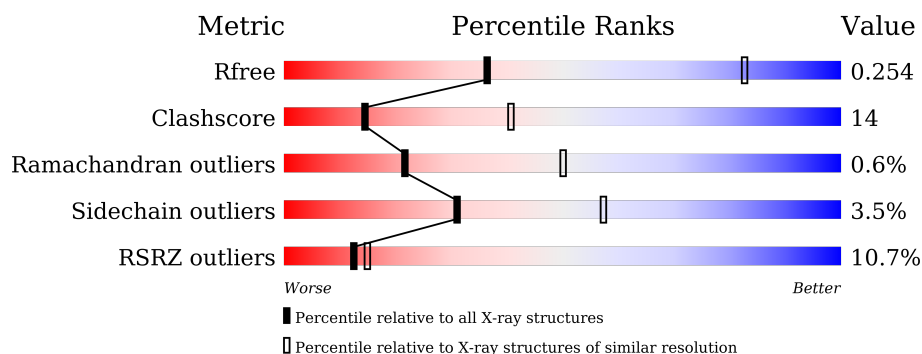
# 1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.35 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	1012 (3.40-3.32)
Clashscore	180529	1035 (3.40-3.32)
Ramachandran outliers	177936	1037 (3.40-3.32)
Sidechain outliers	177891	1037 (3.40-3.32)
RSRZ outliers	164620	1012 (3.40-3.32)

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  $\geq 3$ , 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	531	<div> <div>71%</div> <div>19%</div> <div>• 9%</div> </div>
1	B	531	<div> <div>71%</div> <div>19%</div> <div>• 9%</div> </div>
1	C	531	<div> <div>71%</div> <div>19%</div> <div>• 9%</div> </div>
1	D	531	<div> <div>67%</div> <div>23%</div> <div>• 9%</div> </div>
1	E	531	<div> <div>28%</div> <div>49%</div> <div>38%</div> <div>• 10%</div> </div>
1	F	531	<div> <div>28%</div> <div>52%</div> <div>33%</div> <div>• 11%</div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	PLP	E	601	-	-	X	-
2	PLP	F	602	-	-	X	-

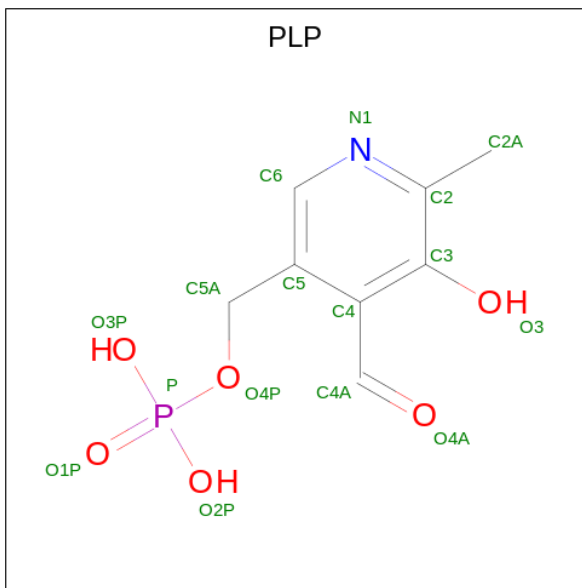


In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Tyrosine/DOPA decarboxylase 2.

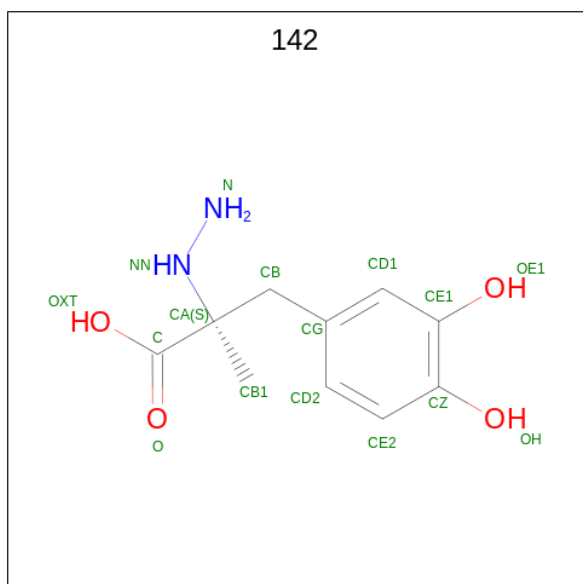
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	485	Total 3825	C 2456	N 642	O 703	S 24	0	0	0
1	B	483	Total 3808	C 2446	N 638	O 700	S 24	0	0	0
1	C	485	Total 3825	C 2456	N 642	O 703	S 24	0	0	0
1	D	483	Total 3808	C 2446	N 638	O 700	S 24	0	0	0
1	E	479	Total 3787	C 2434	N 634	O 695	S 24	0	0	0
1	F	474	Total 3732	C 2402	N 624	O 682	S 24	0	0	0

- Molecule 2 is PYRIDOXAL-5'-PHOSPHATE (three-letter code: PLP) (formula:  $\text{C}_8\text{H}_{10}\text{NO}_6\text{P}$ ) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 3 is CARBIDOPA (three-letter code: 142) (formula:  $C_{10}H_{14}N_2O_4$ ) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			16	10	2	4		
3	B	1	Total	C	N	O	0	0
			16	10	2	4		
3	C	1	Total	C	N	O	0	0
			16	10	2	4		
3	D	1	Total	C	N	O	0	0
			16	10	2	4		
3	F	1	Total	C	N	O	0	0
			16	10	2	4		

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	F	1	Total	C	N	O	0	0
			16	10	2	4		

- Molecule 4 is water.

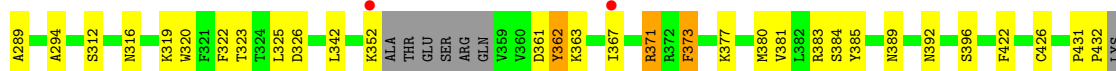
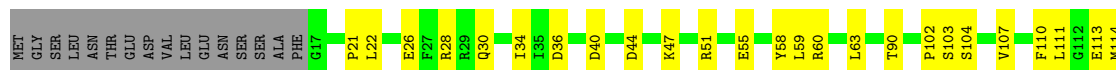
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	4	Total	O	0	0
			4	4		
4	B	5	Total	O	0	0
			5	5		
4	C	3	Total	O	0	0
			3	3		
4	D	2	Total	O	0	0
			2	2		





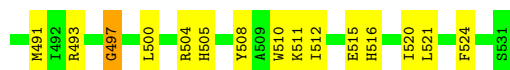
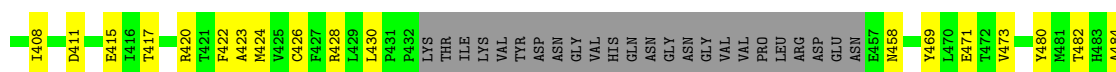
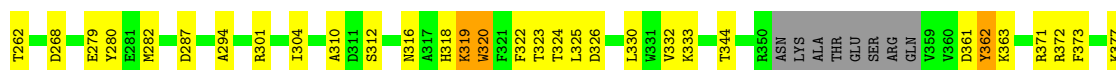
• Molecule 1: Tyrosine/DOPA decarboxylase 2

Chain C: 71% 19% 9%



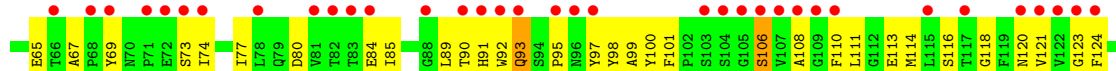
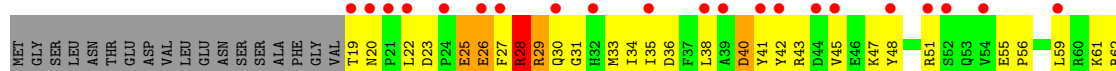
• Molecule 1: Tyrosine/DOPA decarboxylase 2

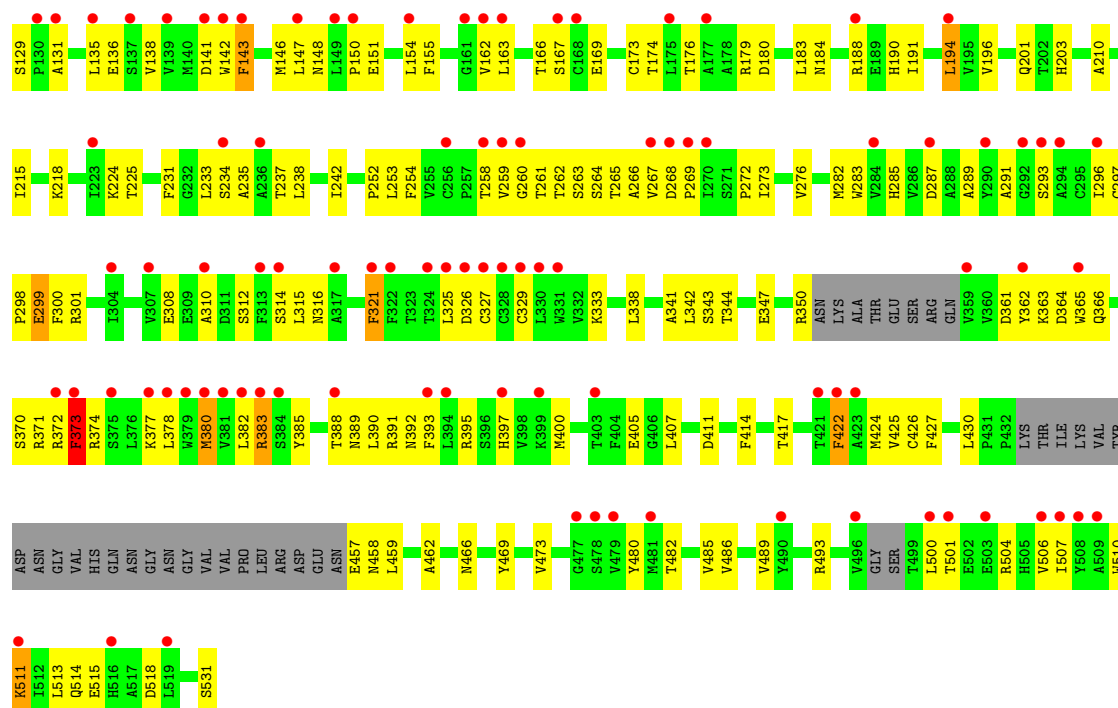
Chain D: 67% 23% 9%



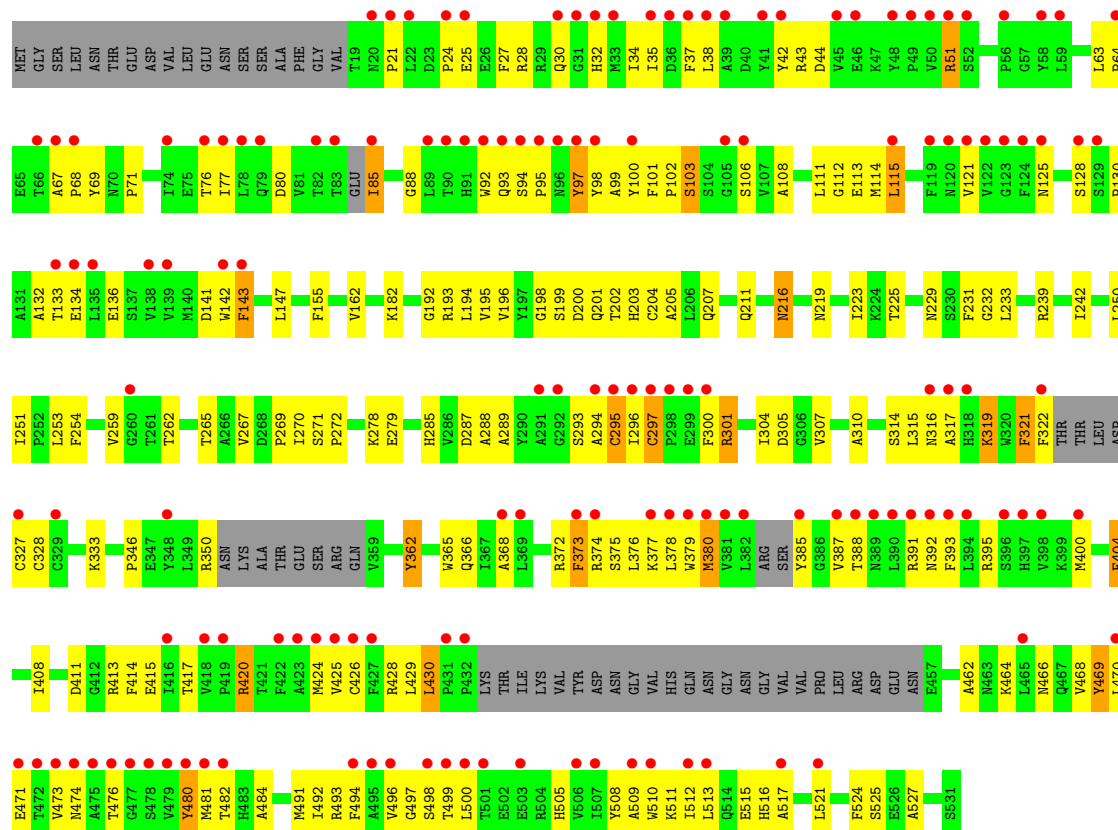
• Molecule 1: Tyrosine/DOPA decarboxylase 2

Chain E: 28% 49% 38% 10%





● Molecule 1: Tyrosine/DOPA decarboxylase 2



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	219.54Å 118.98Å 182.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.84 – 3.35 49.84 – 3.35	Depositor EDS
% Data completeness (in resolution range)	99.4 (49.84-3.35) 99.7 (49.84-3.35)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.53 (at 3.33Å)	Xtrriage
Refinement program	PHENIX 1.16_3549	Depositor
R, $R_{free}$	0.214 , 0.251 0.217 , 0.254	Depositor DCC
$R_{free}$ test set	3476 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	57.5	Xtrriage
Anisotropy	0.262	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 56.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	22985	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	55.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 39.37 % 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 3.2056e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: 142, 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	0.33	0/3919	0.44	0/5321
1	B	0.30	0/3902	0.45	0/5299
1	C	0.26	0/3919	0.42	0/5321
1	D	0.29	0/3902	0.45	0/5299
1	E	0.30	0/3880	0.50	0/5268
1	F	0.28	0/3822	0.51	0/5185
All	All	0.29	0/23344	0.46	0/31693

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3825	0	3778	71	0
1	B	3808	0	3759	78	0
1	C	3825	0	3778	76	0
1	D	3808	0	3759	88	0
1	E	3787	0	3738	192	0
1	F	3732	0	3676	173	0
2	A	15	0	7	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	15	0	6	2	0
2	C	15	0	6	2	0
2	D	15	0	6	5	0
2	E	15	0	7	7	0
2	F	15	0	6	9	0
3	A	16	0	11	3	0
3	B	16	0	9	2	0
3	C	16	0	9	4	0
3	D	16	0	9	6	0
3	F	32	0	20	11	0
4	A	4	0	0	1	0
4	B	5	0	0	0	0
4	C	3	0	0	1	0
4	D	2	0	0	0	0
All	All	22985	0	22584	627	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 14.

The worst 5 of 627 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:166:THR:HB	2:A:601:PLP:O3P	1.58	1.03
1:F:34:ILE:HG22	1:F:38:LEU:HD12	1.39	1.02
1:D:316:ASN:HD22	1:D:318:HIS:CE1	1.81	0.98
1:E:166:THR:OG1	1:E:169:GLU:HB2	1.66	0.95
1:E:385:TYR:HB3	1:E:389:ASN:HB2	1.50	0.93

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	479/531 (90%)	455 (95%)	23 (5%)	1 (0%)	44	71
1	B	477/531 (90%)	458 (96%)	17 (4%)	2 (0%)	30	59
1	C	479/531 (90%)	455 (95%)	23 (5%)	1 (0%)	44	71
1	D	477/531 (90%)	452 (95%)	22 (5%)	3 (1%)	22	50
1	E	471/531 (89%)	442 (94%)	21 (4%)	8 (2%)	7	27
1	F	462/531 (87%)	417 (90%)	42 (9%)	3 (1%)	22	50
All	All	2845/3186 (89%)	2679 (94%)	148 (5%)	18 (1%)	22	50

5 of 18 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	423	ALA
1	D	320	TRP
1	E	28	ARG
1	E	91	HIS
1	F	499	THR

### 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	416/456 (91%)	406 (98%)	10 (2%)	44	67
1	B	414/456 (91%)	402 (97%)	12 (3%)	37	62
1	C	416/456 (91%)	409 (98%)	7 (2%)	56	74
1	D	414/456 (91%)	403 (97%)	11 (3%)	40	64
1	E	412/456 (90%)	391 (95%)	21 (5%)	20	46
1	F	403/456 (88%)	377 (94%)	26 (6%)	14	39
All	All	2475/2736 (90%)	2388 (96%)	87 (4%)	31	57

5 of 87 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	422	PHE

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Mol	Chain	Res	Type
1	F	278	LYS
1	E	504	ARG
1	F	97	TYR
1	F	319	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 10 such sidechains are listed below:

Mol	Chain	Res	Type
1	F	392	ASN
1	F	474	ASN
1	F	505	HIS
1	C	203	HIS
1	D	318	HIS

### 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](#)

12 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	3	15,15,16	1.98	4 (26%)	20,22,23	1.63	2 (10%)
2	PLP	E	601	3	15,15,16	1.98	4 (26%)	20,22,23	1.63	2 (10%)
3	142	A	602	2	14,16,16	1.28	0	18,23,23	1.42	1 (5%)
3	142	F	603	2	14,16,16	1.62	1 (7%)	18,23,23	1.32	2 (11%)
2	PLP	C	601	3	15,15,16	3.05	3 (20%)	20,22,23	1.20	1 (5%)
3	142	D	602	2	14,16,16	1.63	1 (7%)	18,23,23	1.32	2 (11%)
3	142	C	602	2	14,16,16	1.63	1 (7%)	18,23,23	1.32	2 (11%)
2	PLP	F	602	3	15,15,16	3.04	3 (20%)	20,22,23	1.19	1 (5%)
2	PLP	D	601	3	15,15,16	3.06	3 (20%)	20,22,23	1.20	1 (5%)
3	142	F	601	2	14,16,16	1.28	0	18,23,23	1.42	1 (5%)
2	PLP	B	601	3	15,15,16	3.04	3 (20%)	20,22,23	1.20	1 (5%)
3	142	B	602	2	14,16,16	1.62	1 (7%)	18,23,23	1.32	2 (11%)

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	3	-	3/6/6/8	0/1/1/1
2	PLP	E	601	3	-	3/6/6/8	0/1/1/1
3	142	A	602	2	-	7/11/14/14	0/1/1/1
3	142	F	603	2	-	3/11/14/14	0/1/1/1
2	PLP	C	601	3	-	4/6/6/8	0/1/1/1
3	142	D	602	2	-	3/11/14/14	0/1/1/1
3	142	C	602	2	-	3/11/14/14	0/1/1/1
2	PLP	F	602	3	-	4/6/6/8	0/1/1/1
2	PLP	D	601	3	-	4/6/6/8	0/1/1/1
3	142	F	601	2	-	7/11/14/14	0/1/1/1
2	PLP	B	601	3	-	4/6/6/8	0/1/1/1
3	142	B	602	2	-	1/11/14/14	0/1/1/1

The worst 5 of 24 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	601	PLP	C3-C2	8.00	1.48	1.40
2	F	602	PLP	C3-C2	7.97	1.48	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	601	PLP	C3-C2	7.96	1.48	1.40
2	B	601	PLP	C3-C2	7.95	1.48	1.40
2	D	601	PLP	C5-C4	7.45	1.48	1.40

The worst 5 of 18 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	602	142	CA-NN-N	5.05	121.82	113.73
3	F	601	142	CA-NN-N	5.04	121.81	113.73
2	A	601	PLP	C2A-C2-C3	-4.39	115.47	120.89
2	E	601	PLP	C2A-C2-C3	-4.38	115.47	120.89
3	C	602	142	CA-NN-N	3.93	120.02	113.73

There are no chirality outliers.

5 of 46 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601	PLP	C5A-O4P-P-O1P
2	A	601	PLP	C5A-O4P-P-O2P
2	A	601	PLP	C5A-O4P-P-O3P
2	B	601	PLP	C4-C5-C5A-O4P
2	B	601	PLP	C5A-O4P-P-O2P

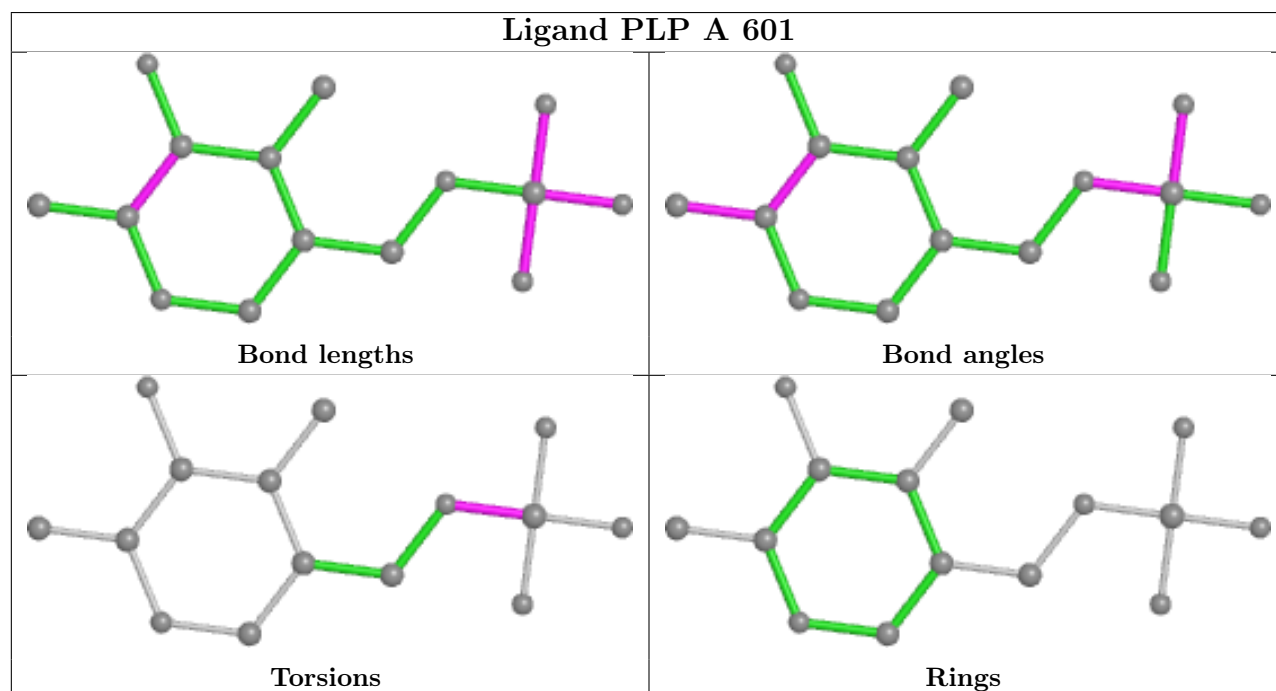
There are no ring outliers.

12 monomers are involved in 53 short contacts:

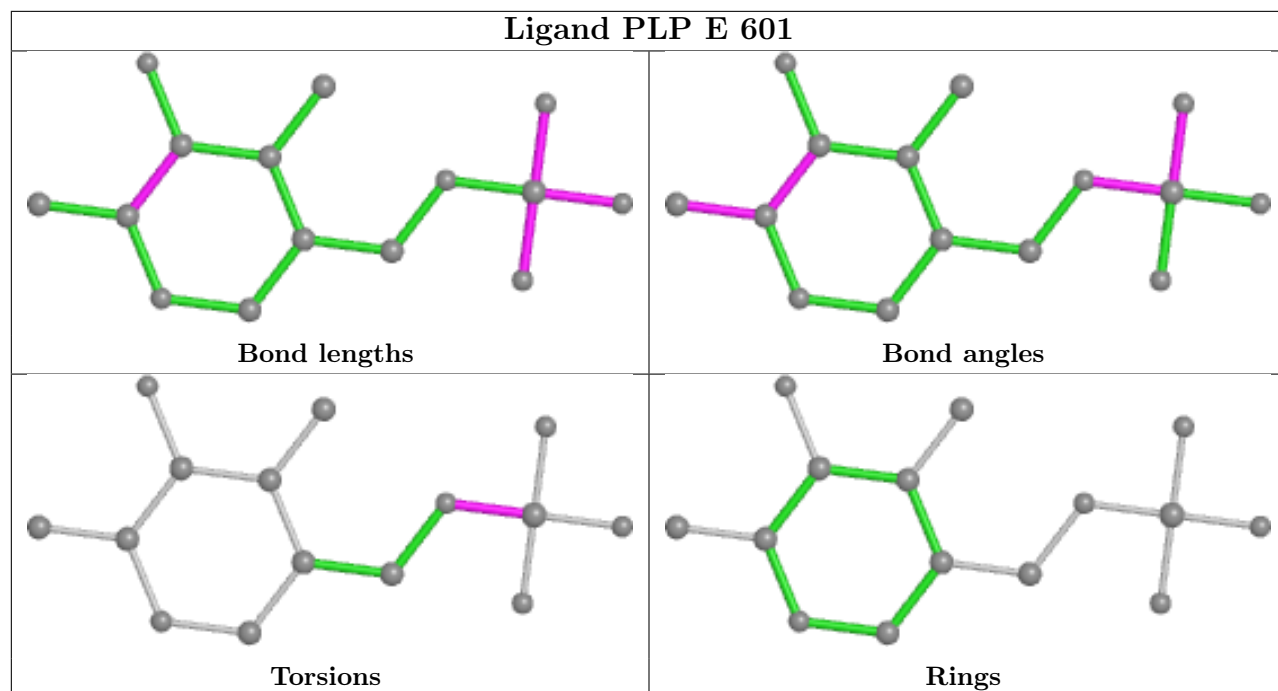
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601	PLP	2	0
2	E	601	PLP	7	0
3	A	602	142	3	0
3	F	603	142	6	0
2	C	601	PLP	2	0
3	D	602	142	6	0
3	C	602	142	4	0
2	F	602	PLP	9	0
2	D	601	PLP	5	0
3	F	601	142	5	0
2	B	601	PLP	2	0
3	B	602	142	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

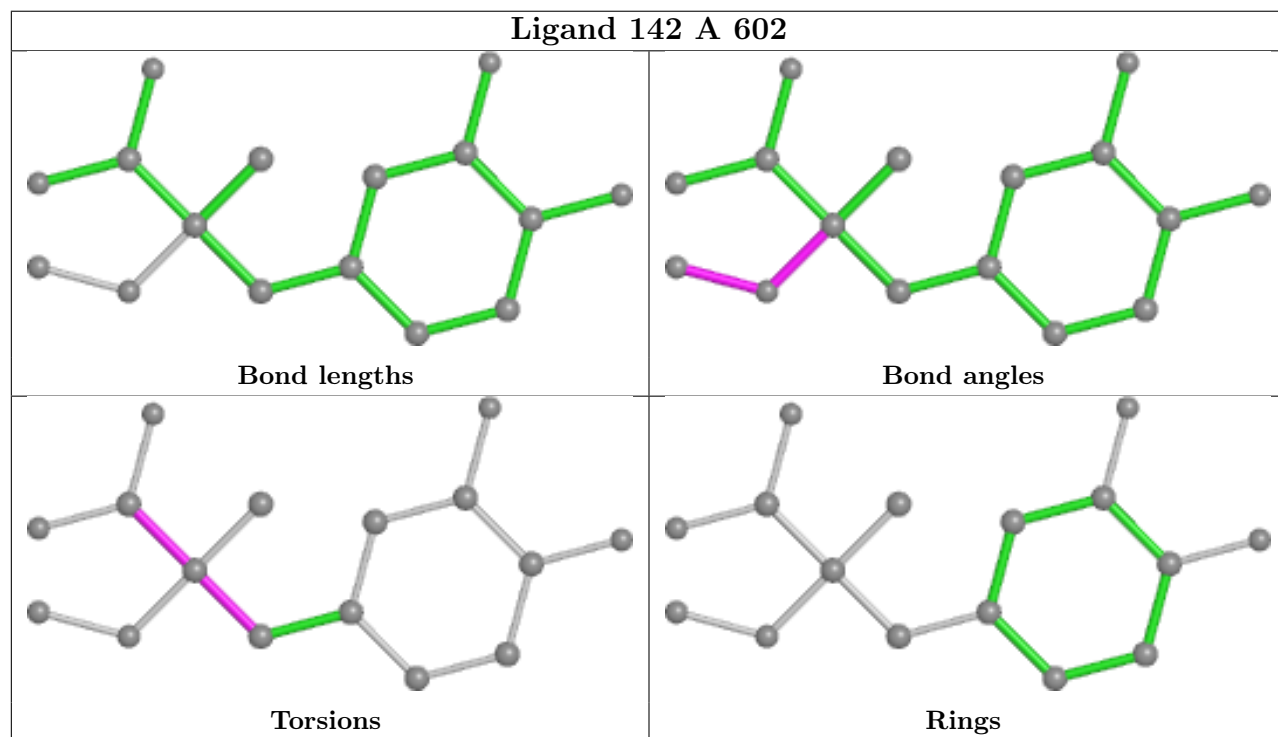
bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 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.



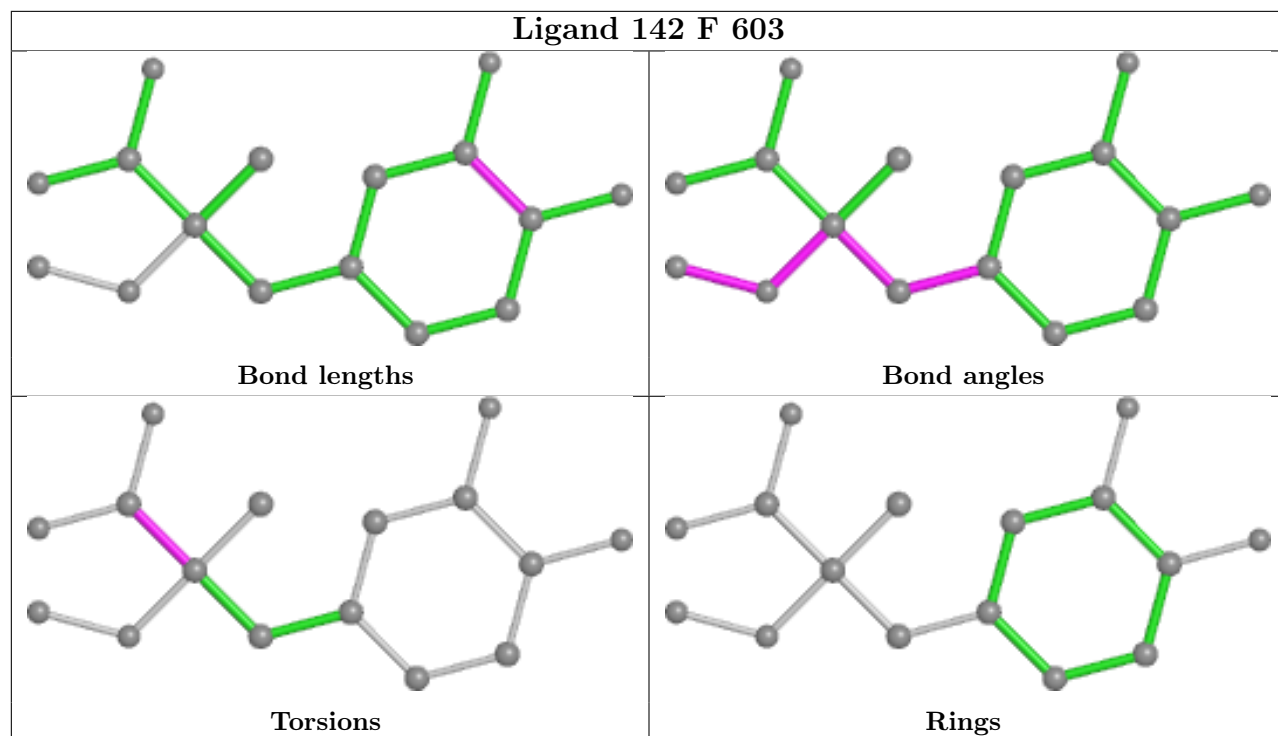
## Ligand PLP E 601



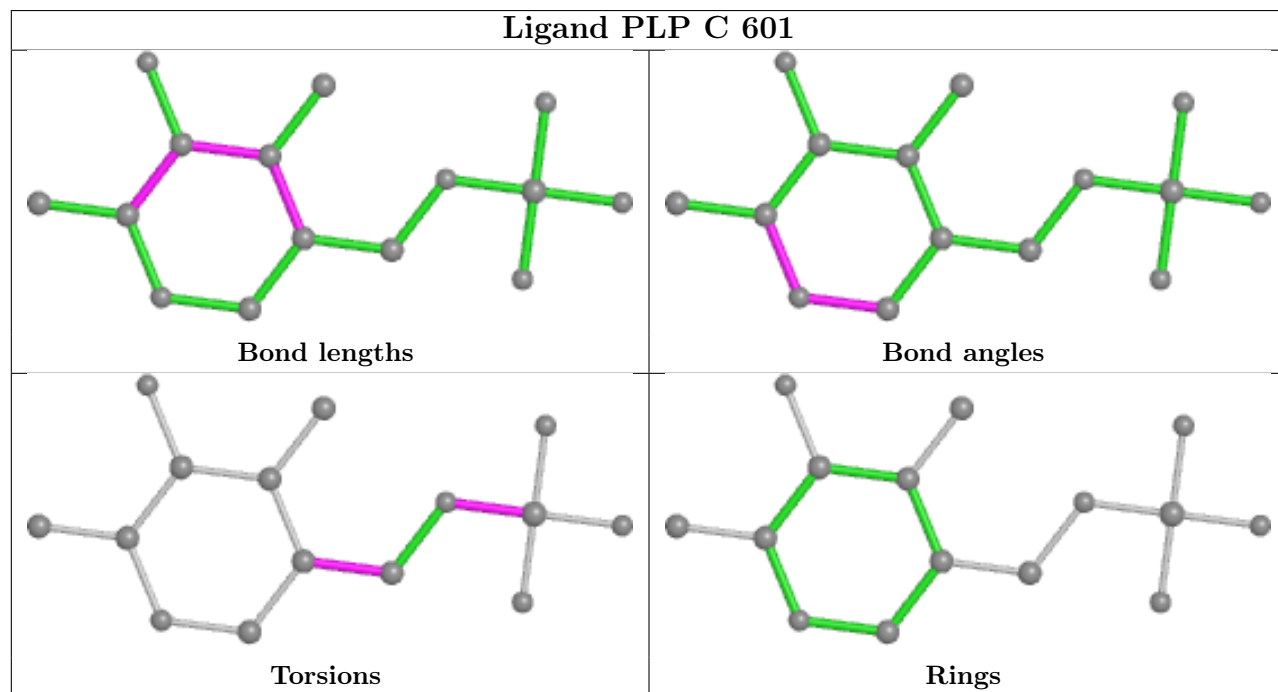
## Ligand 142 A 602



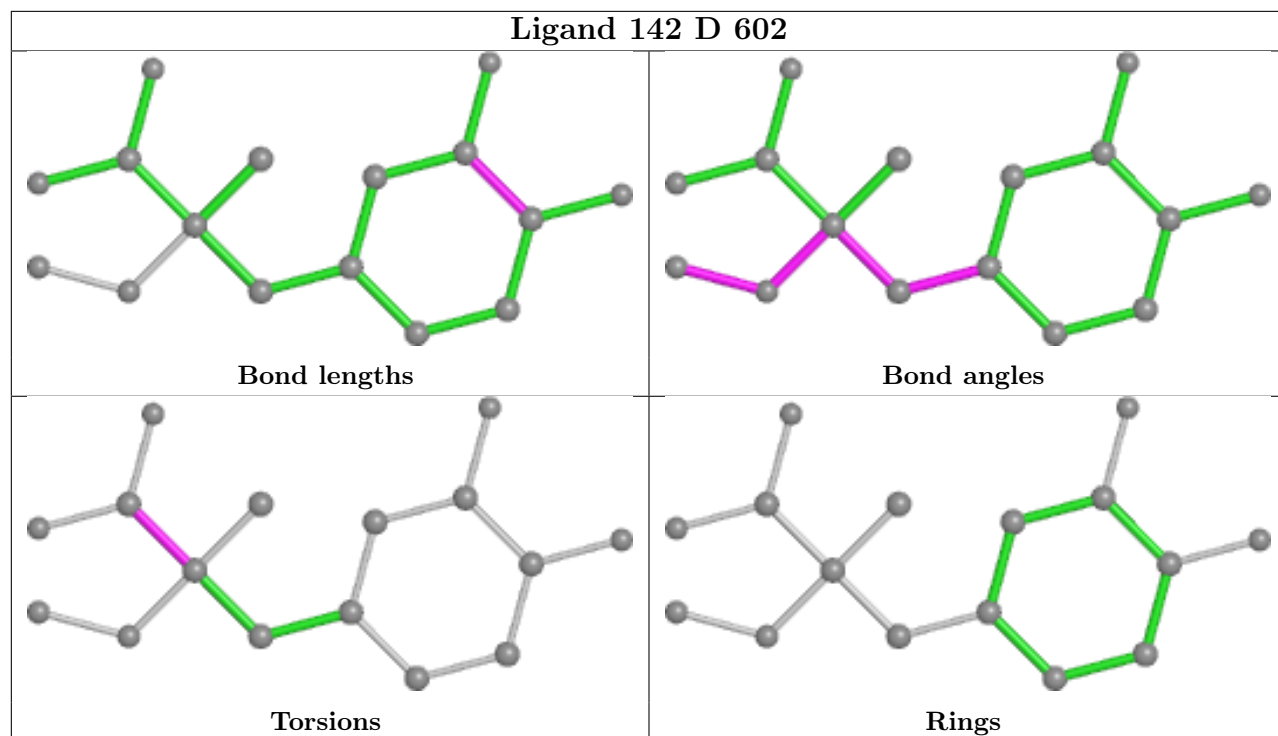
## Ligand 142 F 603



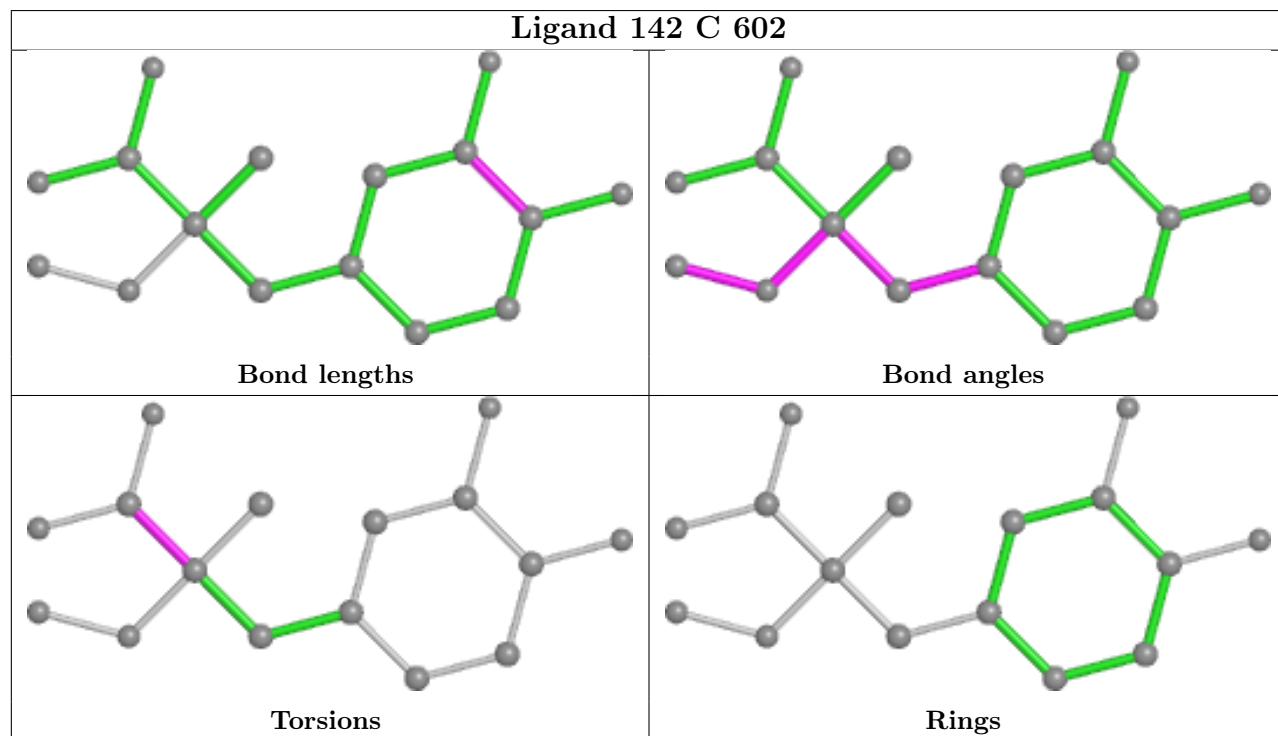
## Ligand PLP C 601



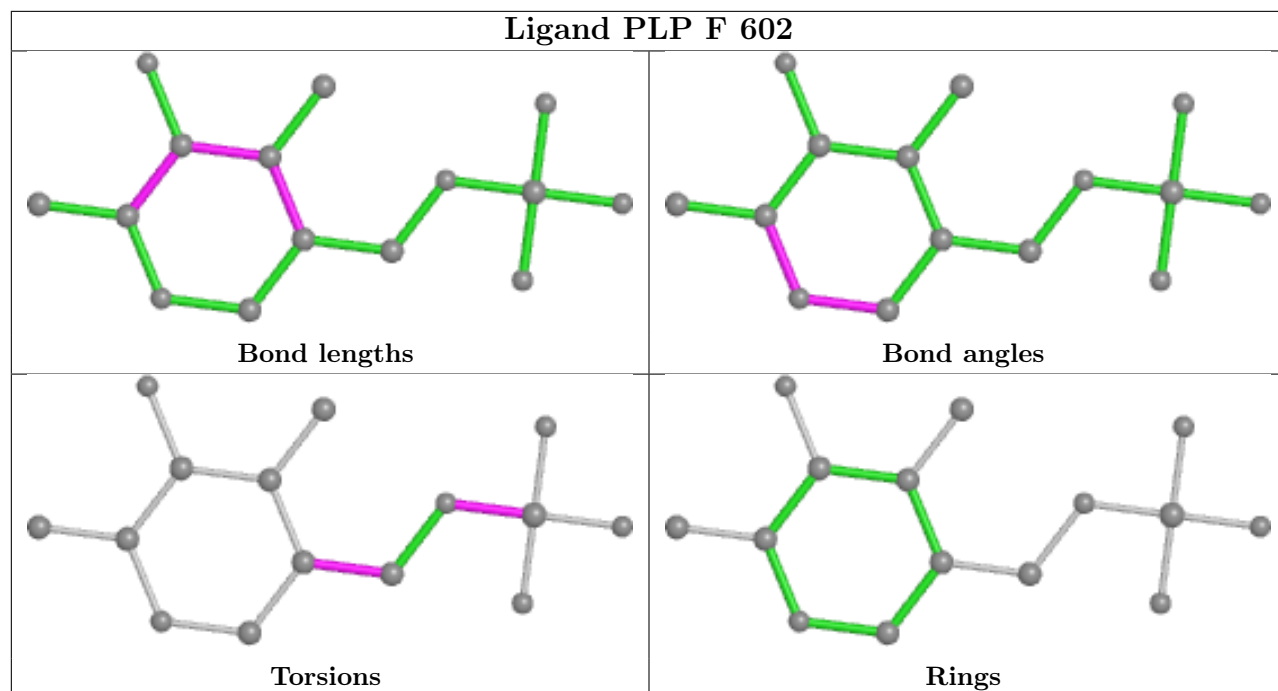
## Ligand 142 D 602



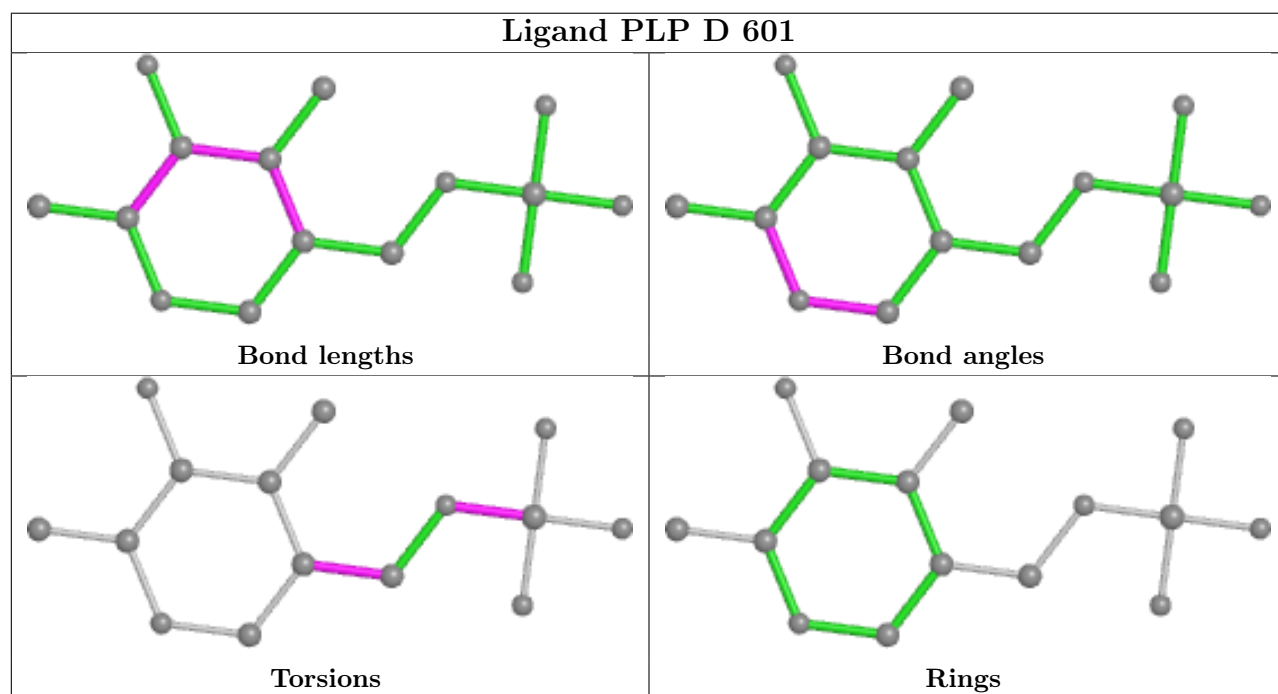
## Ligand 142 C 602



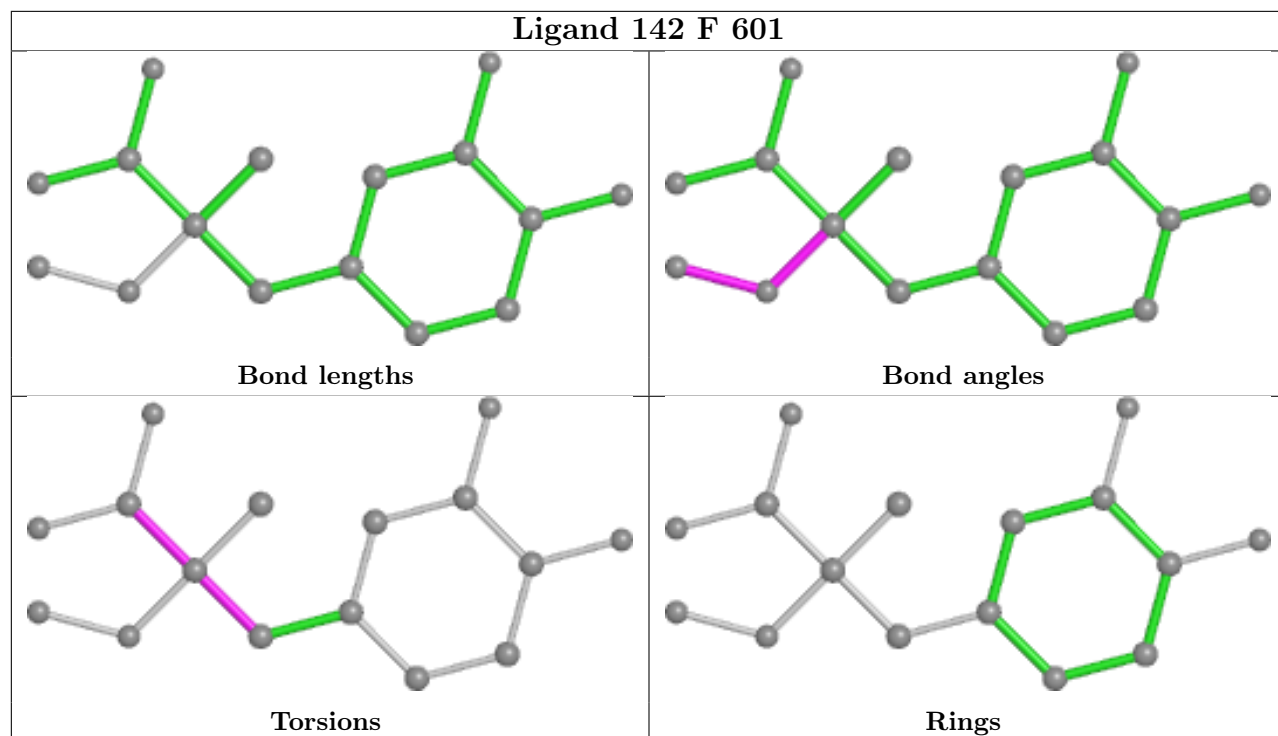
## Ligand PLP F 602



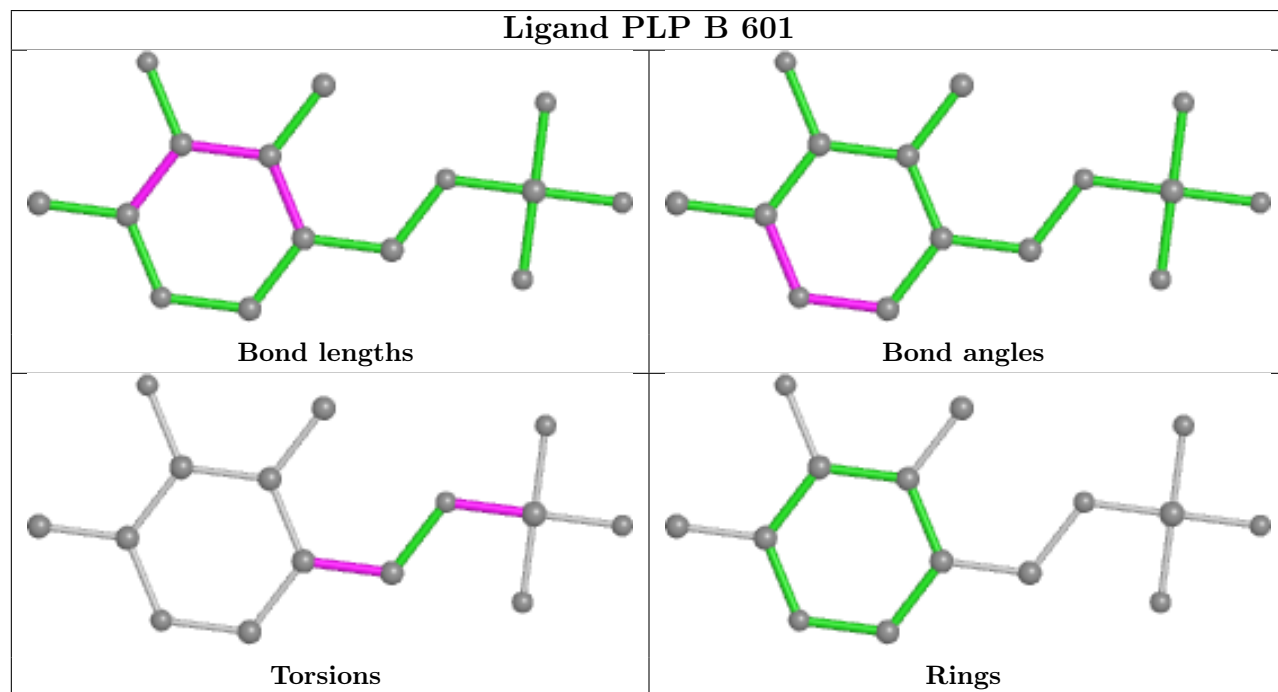
## Ligand PLP D 601

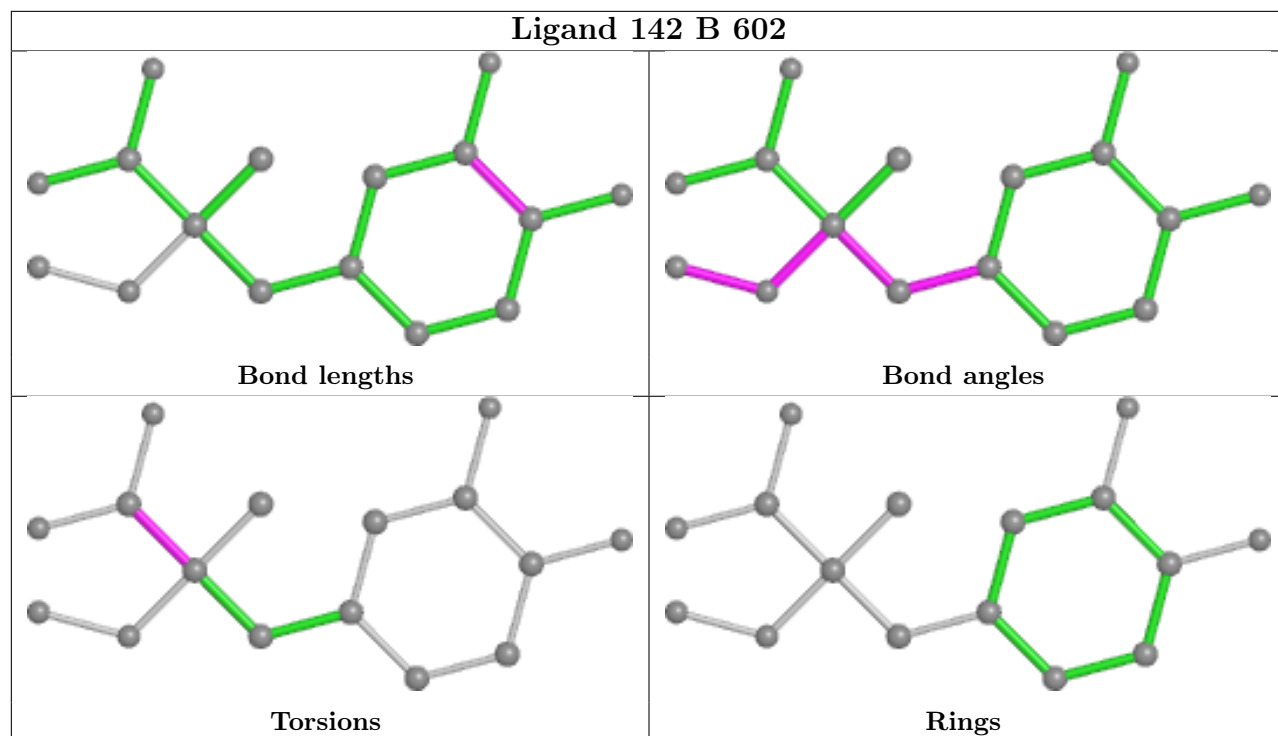


## Ligand 142 F 601



## Ligand PLP B 601





## 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 [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	485/531 (91%)	-0.24	2 (0%) 89 86	19, 36, 57, 94	0
1	B	483/531 (90%)	-0.32	5 (1%) 79 72	20, 33, 54, 98	0
1	C	485/531 (91%)	-0.20	2 (0%) 89 86	21, 37, 63, 101	0
1	D	483/531 (90%)	-0.28	1 (0%) 92 92	18, 34, 55, 82	0
1	E	479/531 (90%)	1.55	150 (31%) 1 3	60, 92, 113, 126	0
1	F	474/531 (89%)	1.51	149 (31%) 1 3	41, 89, 116, 128	0
All	All	2889/3186 (90%)	0.33	309 (10%) 12 15	18, 42, 107, 128	0

The worst 5 of 309 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	22	LEU	7.2
1	F	379	TRP	5.8
1	F	318	HIS	5.6
1	E	500	LEU	5.6
1	F	380	MET	5.6

### 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

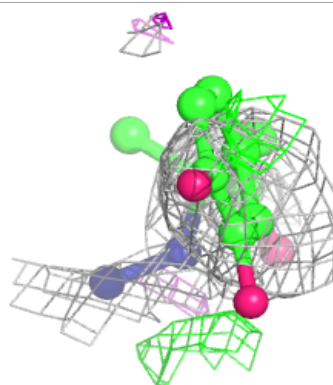
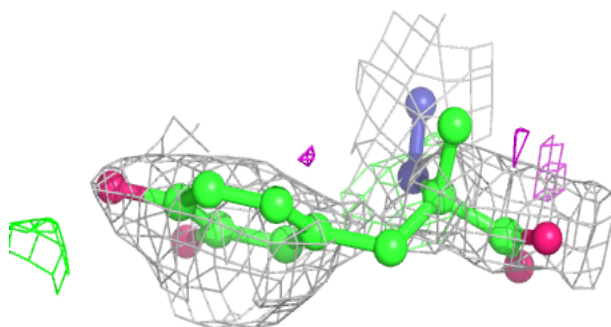
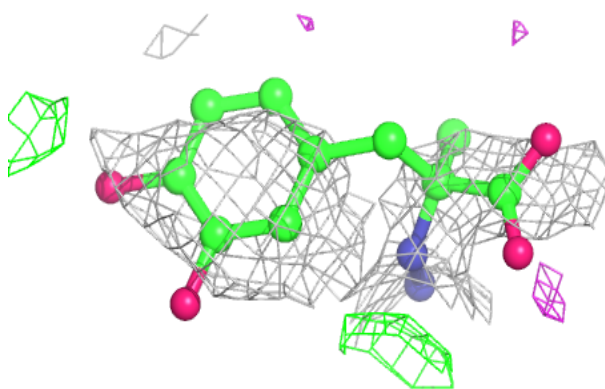
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
3	142	F	601	16/16	0.60	0.28	89,106,117,119	0
3	142	F	603	16/16	0.72	0.21	88,109,115,117	0
2	PLP	E	601	15/16	0.84	0.15	74,89,109,124	0
2	PLP	F	602	15/16	0.86	0.18	41,61,90,95	0
3	142	D	602	16/16	0.86	0.19	26,38,49,50	0
3	142	A	602	16/16	0.90	0.16	24,45,61,67	0
3	142	B	602	16/16	0.90	0.15	25,33,45,50	0
3	142	C	602	16/16	0.90	0.15	31,37,50,53	0
2	PLP	C	601	15/16	0.93	0.11	28,35,50,56	0
2	PLP	D	601	15/16	0.94	0.11	22,27,43,45	0
2	PLP	A	601	15/16	0.95	0.10	23,35,50,53	0
2	PLP	B	601	15/16	0.95	0.12	27,32,49,55	0

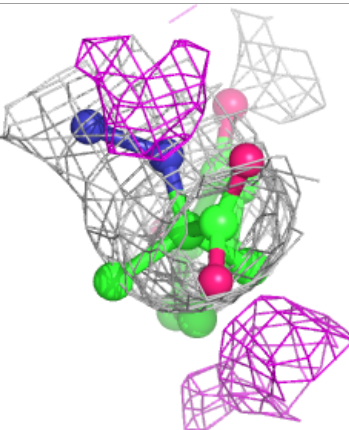
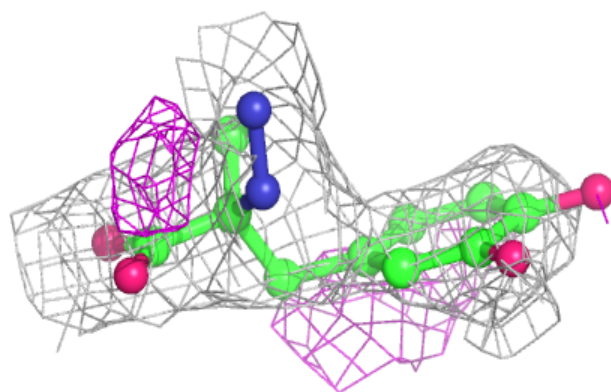
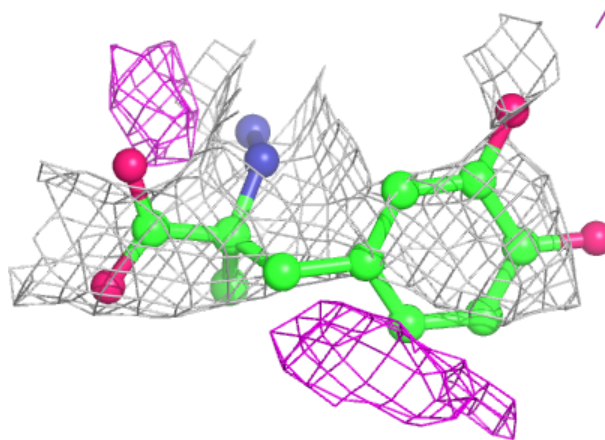
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around 142 F 601:**

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

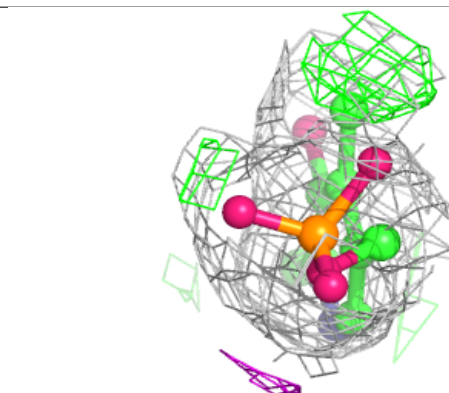
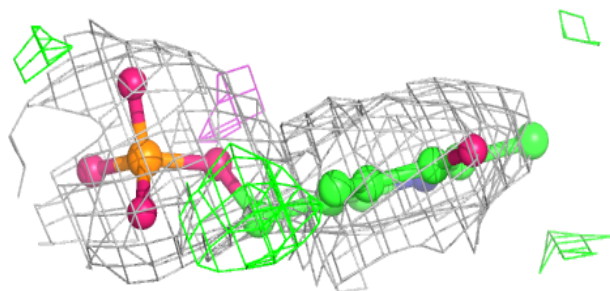
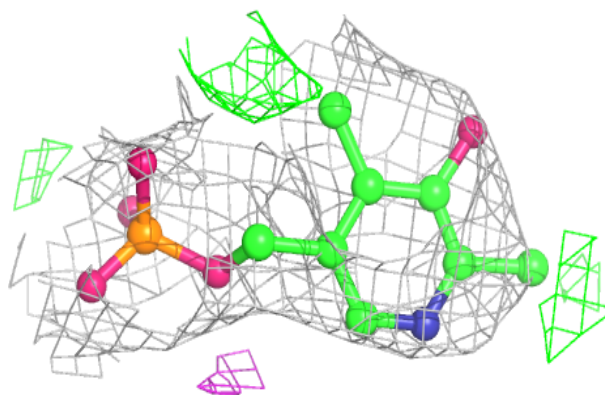
**Electron density around 142 F 603:**

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

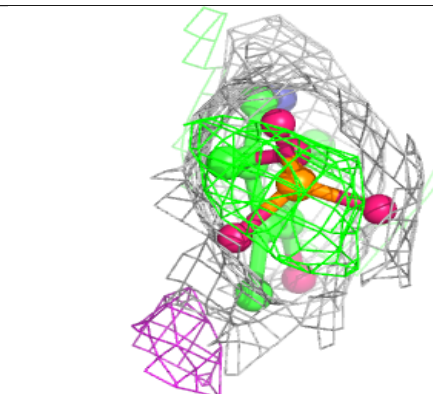
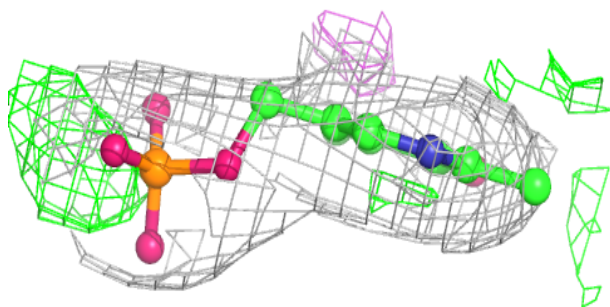
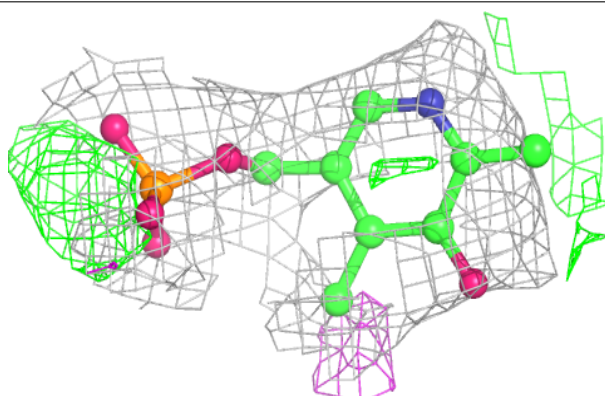


**Electron density around PLP E 601:**

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

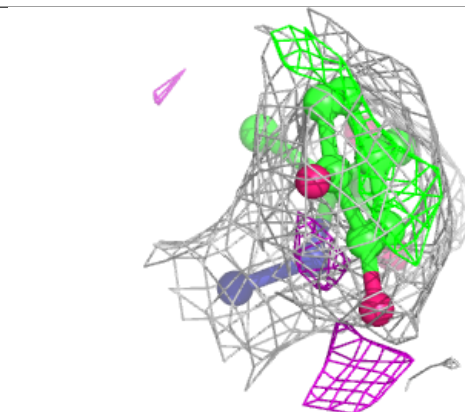
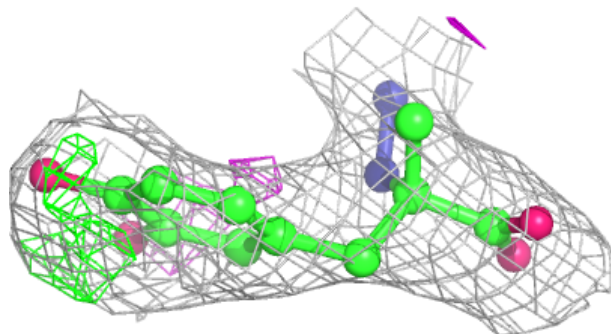
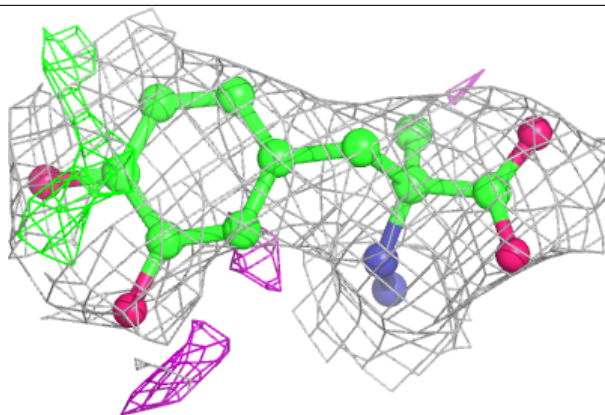
**Electron density around PLP F 602:**

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

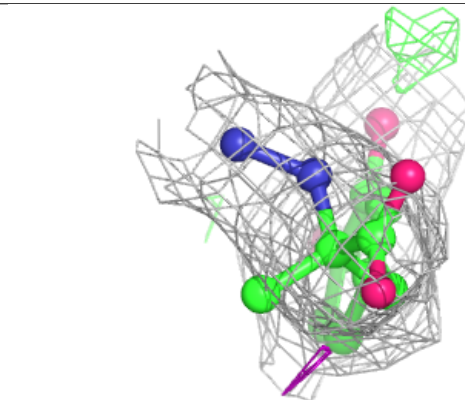
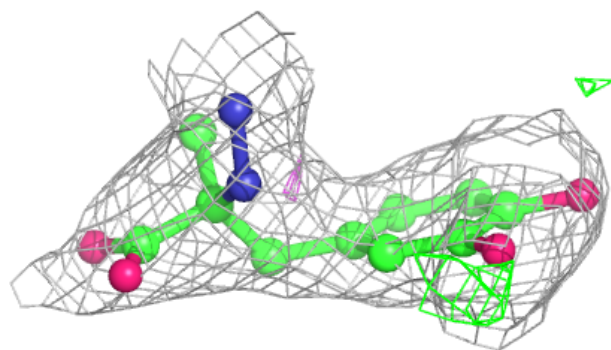
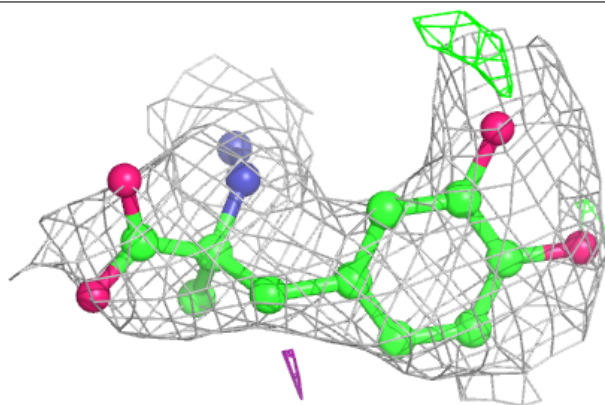


**Electron density around 142 D 602:**

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

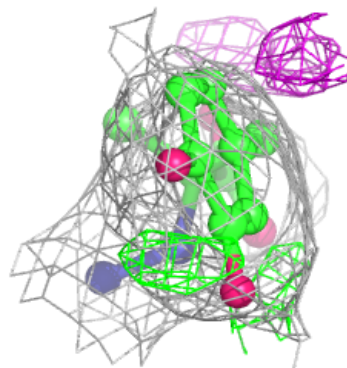
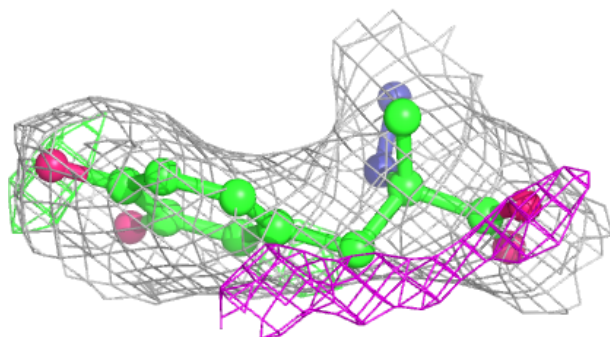
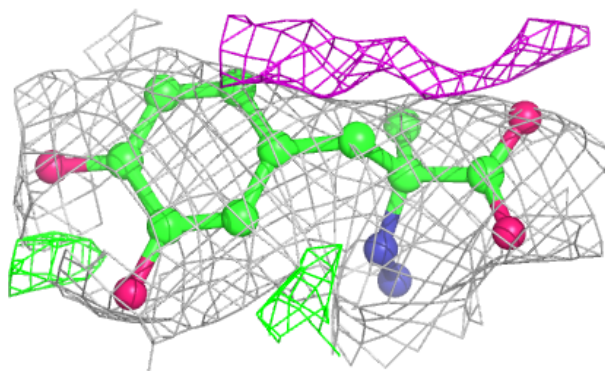
**Electron density around 142 A 602:**

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

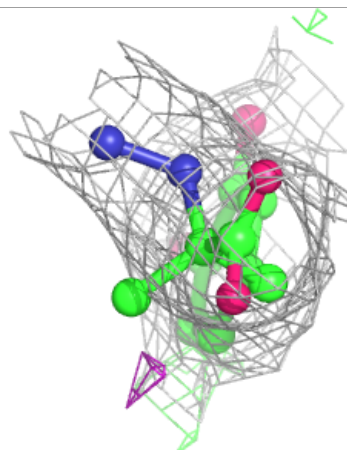
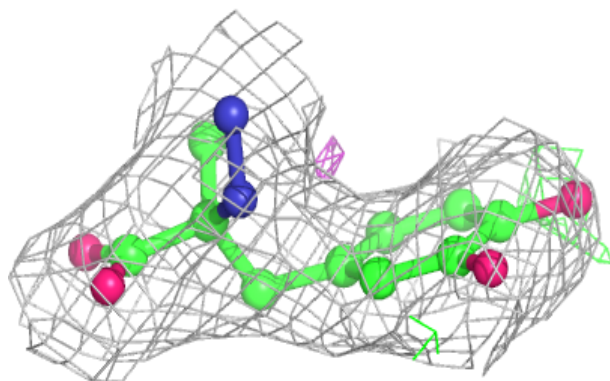
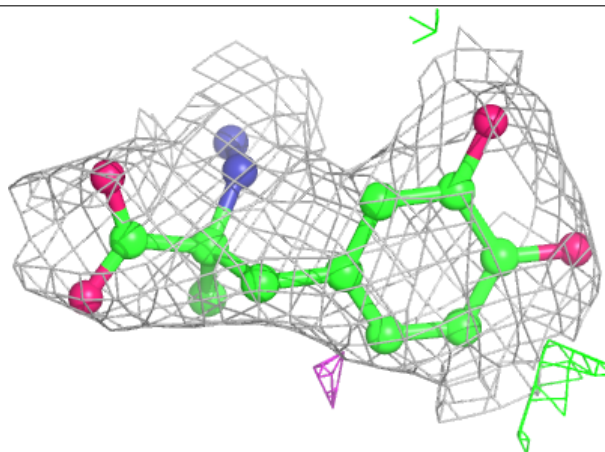


**Electron density around 142 B 602:**

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

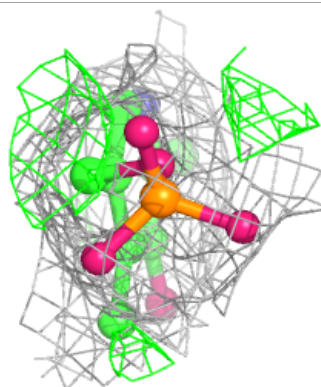
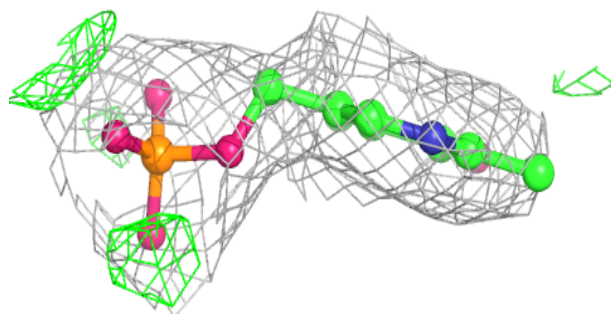
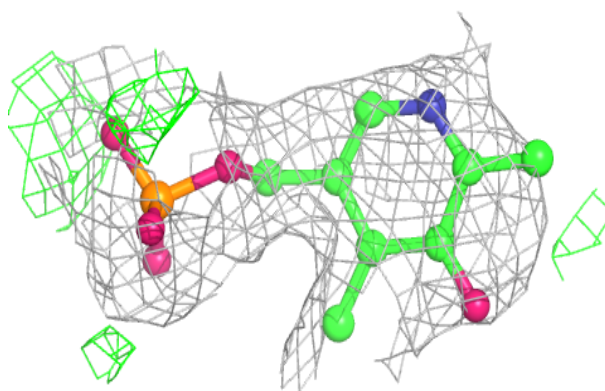
**Electron density around 142 C 602:**

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

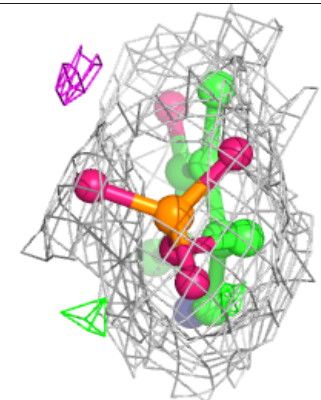
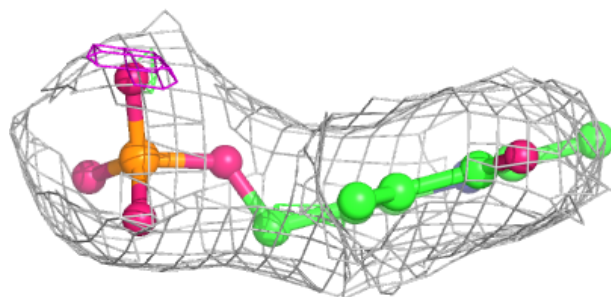


**Electron density around PLP C 601:**

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

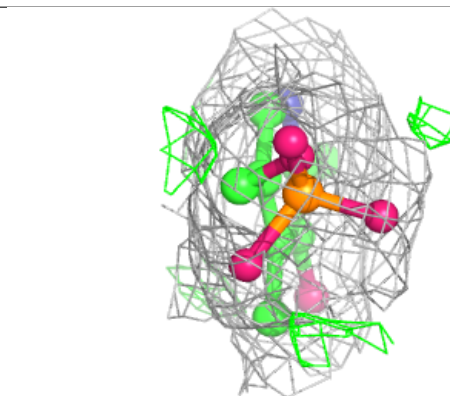
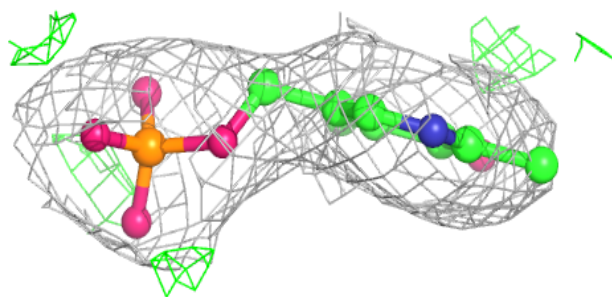
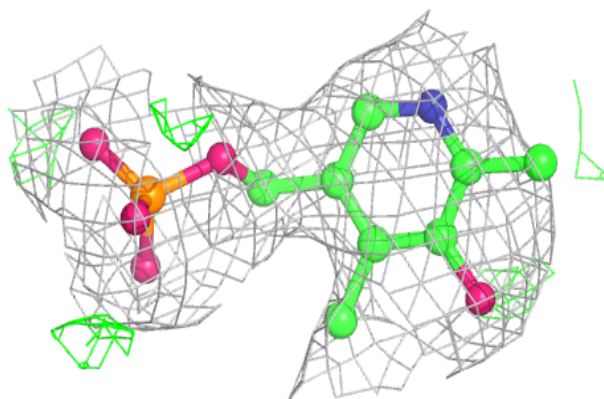
**Electron density around PLP D 601:**

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

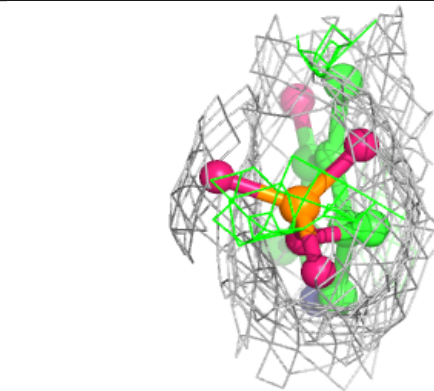
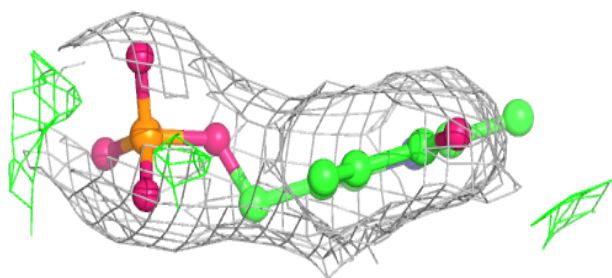
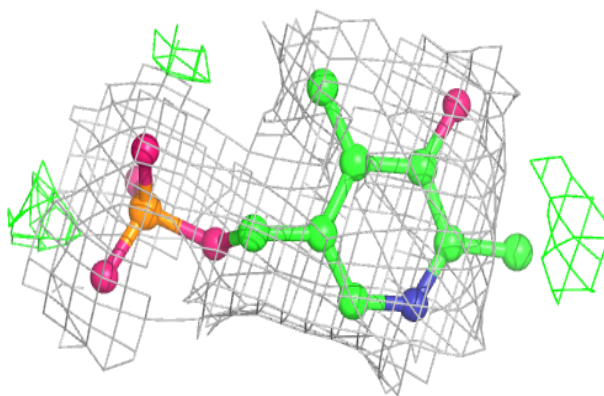


**Electron density around PLP A 601:**

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

**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)



## 6.5 Other polymers [i](#)

There are no such residues in this entry.