WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 9, 2023 – 02:22 PM EDT

PDB ID	:	8EPS
Title	:	Crystal Structure of Acetyl-CoA synthetase in complex with an allyl ester AMP inhibitor from Cryptococcus neoformans H99
Authors	:	Seattle Structural Genomics Center for Infectious Disease (SSGCID)
Deposited on	:	2022-10-06
Resolution	:	2.65 Å(reported)

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

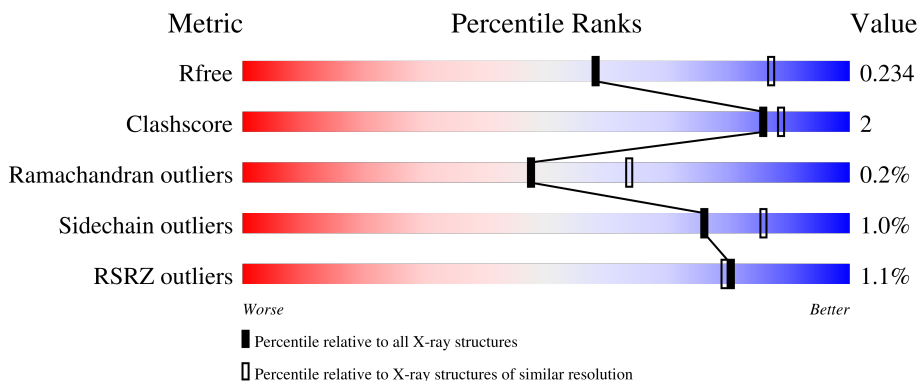|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 2.65 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	Percentile Ranks	Value
Rfree		0.234
Clashscore		2
Ramachandran outliers		0.2%
Sidechain outliers		1.0%
RSRZ outliers		1.1%

Worse .... *Better*

▌ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)

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

Mol	Chain	Length	Quality of chain
1	A	694	87% · · · 6% 6%
1	B	694	87% · · · 6% 6%
1	C	694	88% · · · 5% 7%

2   Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 15277 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 Acetyl-coenzyme A synthetase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	652	Total	C	N	O	S	0	0	0
			5013	3200	857	930	26			
1	B	649	Total	C	N	O	S	0	0	0
			4999	3191	853	929	26			
1	C	647	Total	C	N	O	S	0	0	0
			4983	3181	844	932	26			

There are 45 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-13	MET	-	initiating methionine	UNP A0A854QMN0
A	-12	HIS	-	expression tag	UNP A0A854QMN0
A	-11	HIS	-	expression tag	UNP A0A854QMN0
A	-10	HIS	-	expression tag	UNP A0A854QMN0
A	-9	HIS	-	expression tag	UNP A0A854QMN0
A	-8	HIS	-	expression tag	UNP A0A854QMN0
A	-7	HIS	-	expression tag	UNP A0A854QMN0
A	-6	HIS	-	expression tag	UNP A0A854QMN0
A	-5	HIS	-	expression tag	UNP A0A854QMN0
A	-4	GLU	-	expression tag	UNP A0A854QMN0
A	-3	ASN	-	expression tag	UNP A0A854QMN0
A	-2	LEU	-	expression tag	UNP A0A854QMN0
A	-1	TYR	-	expression tag	UNP A0A854QMN0
A	0	PHE	-	expression tag	UNP A0A854QMN0
A	1	GLN	-	expression tag	UNP A0A854QMN0
B	-13	MET	-	initiating methionine	UNP A0A854QMN0
B	-12	HIS	-	expression tag	UNP A0A854QMN0
B	-11	HIS	-	expression tag	UNP A0A854QMN0
B	-10	HIS	-	expression tag	UNP A0A854QMN0
B	-9	HIS	-	expression tag	UNP A0A854QMN0
B	-8	HIS	-	expression tag	UNP A0A854QMN0
B	-7	HIS	-	expression tag	UNP A0A854QMN0
B	-6	HIS	-	expression tag	UNP A0A854QMN0

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-5	HIS	-	expression tag	UNP A0A854QMN0
B	-4	GLU	-	expression tag	UNP A0A854QMN0
B	-3	ASN	-	expression tag	UNP A0A854QMN0
B	-2	LEU	-	expression tag	UNP A0A854QMN0
B	-1	TYR	-	expression tag	UNP A0A854QMN0
B	0	PHE	-	expression tag	UNP A0A854QMN0
B	1	GLN	-	expression tag	UNP A0A854QMN0
C	-13	MET	-	initiating methionine	UNP A0A854QMN0
C	-12	HIS	-	expression tag	UNP A0A854QMN0
C	-11	HIS	-	expression tag	UNP A0A854QMN0
C	-10	HIS	-	expression tag	UNP A0A854QMN0
C	-9	HIS	-	expression tag	UNP A0A854QMN0
C	-8	HIS	-	expression tag	UNP A0A854QMN0
C	-7	HIS	-	expression tag	UNP A0A854QMN0
C	-6	HIS	-	expression tag	UNP A0A854QMN0
C	-5	HIS	-	expression tag	UNP A0A854QMN0
C	-4	GLU	-	expression tag	UNP A0A854QMN0
C	-3	ASN	-	expression tag	UNP A0A854QMN0
C	-2	LEU	-	expression tag	UNP A0A854QMN0
C	-1	TYR	-	expression tag	UNP A0A854QMN0
C	0	PHE	-	expression tag	UNP A0A854QMN0
C	1	GLN	-	expression tag	UNP A0A854QMN0

- Molecule 2 is 5'-O-{(S)-hydroxy[(prop-2-en-1-yl)oxy]phosphoryl}adenosine (three-letter code: WPO) (formula: $C_{13}H_{18}N_5O_7P$) (labeled as "Ligand of Interest" by depositor).
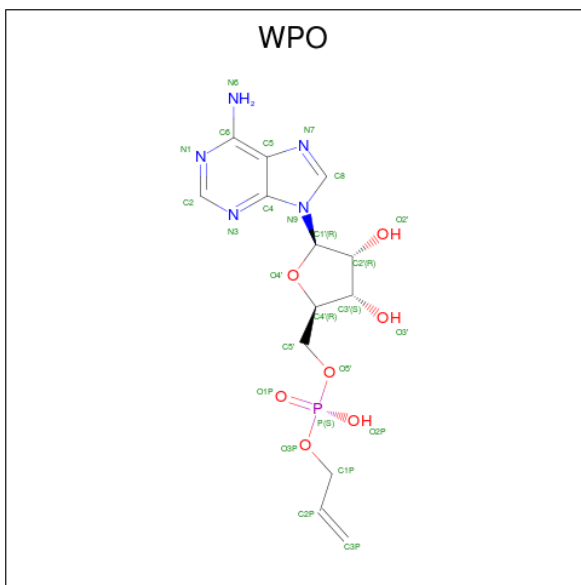
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total 26	C 13	N 5	O 7	P 1	0	0
2	B	1	Total 26	C 13	N 5	O 7	P 1	0	0
2	C	1	Total 26	C 13	N 5	O 7	P 1	0	0

- Molecule 3 is water.

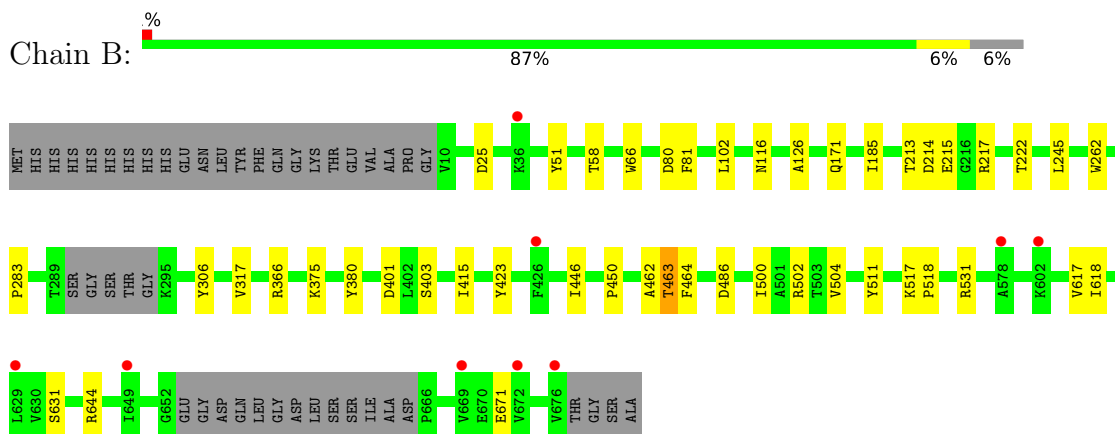| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	82	Total 82	O 82	0	0
3	B	49	Total 49	O 49	0	0
3	C	73	Total 73	O 73	0	0

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.
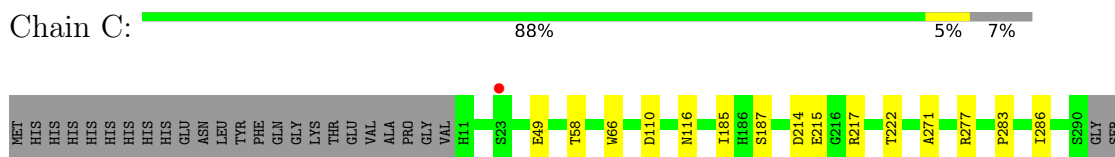
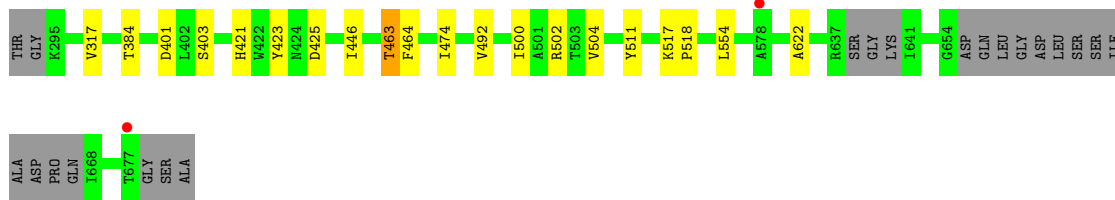• Molecule 1: Acetyl-coenzyme A synthetase
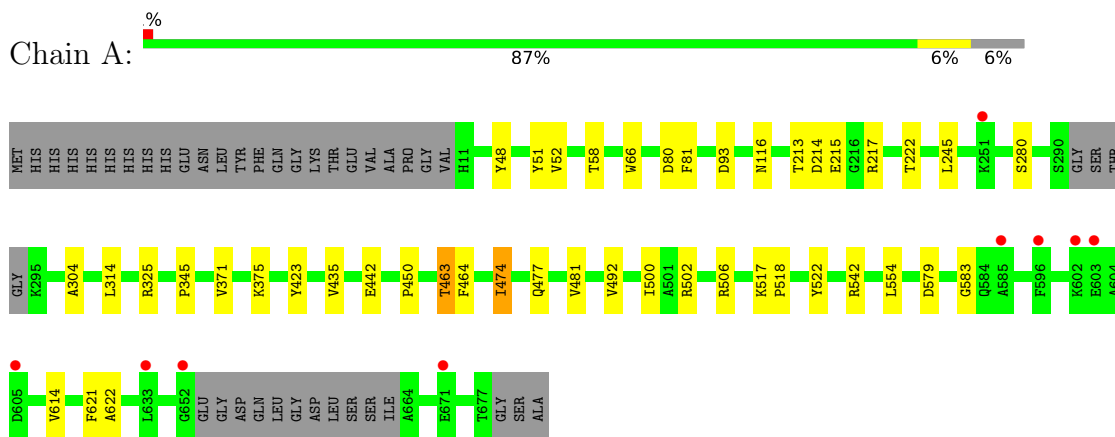
Chain A:

• Molecule 1: Acetyl-coenzyme A synthetase

Chain B:

• Molecule 1: Acetyl-coenzyme A synthetase

Chain C:

THR GLY K295 V317 T384 D401 L402 S403 H421 W422 Y423 N424 D425 I446 T463 F464 I474 V492 I500 A501 R502 T503 V504 Y511 K517 P518 L554 A578 A622 R637 SER GLY LYS I641 G654 ASP GLN LEU GLY ASP LEU SER SER ILE

ALA ASP PRO GLN I668 T677 GLY SER ALA

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	63.14Å 86.89Å 105.86Å 66.22° 73.16° 89.32°	Depositor
Resolution (Å)	46.03 – 2.65 46.03 – 2.65	Depositor EDS
% Data completeness (in resolution range)	97.0 (46.03-2.65) 97.0 (46.03-2.65)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.52 (at 2.65Å)	Xtriage
Refinement program	PHENIX CrneC.00629.a	Depositor
R, R_{free}	0.176 , 0.236 0.180 , 0.234	Depositor DCC
R_{free} test set	2770 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	37.8	Xtriage
Anisotropy	0.689	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 41.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.011 for h,-k,h-l 0.005 for -h,k,k-l 0.000 for -h,-k,-h-k+l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	15277	wwPDB-VP
Average B, all atoms (Å^2)	47.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.15% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.

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

5   Model quality ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: WPO

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	0.24	0/5152	0.48	0/7033
1	B	0.24	0/5138	0.48	0/7013
1	C	0.24	0/5120	0.48	0/6990
All	All	0.24	0/15410	0.48	0/21036

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5013	0	4781	24	0
1	B	4999	0	4762	23	0
1	C	4983	0	4738	17	0
2	A	26	0	0	0	0
2	B	26	0	0	0	0
2	C	26	0	0	0	0
3	A	82	0	0	2	0
3	B	49	0	0	2	0
3	C	73	0	0	1	0
All	All	15277	0	14281	63	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 2.

All (63) 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:542:ARG:NH1	3:A:803:HOH:O	2.29	0.65
1:C:474:ILE:HD12	1:C:492:VAL:HG21	1.81	0.63
1:B:500:ILE:O	1:B:502:ARG:NH1	2.33	0.61
1:C:463:THR:OG1	1:C:464:PHE:N	2.35	0.59
1:B:450:PRO:HB3	1:B:463:THR:HG21	1.84	0.58
1:B:214:ASP:OD1	1:B:215:GLU:N	2.37	0.58
1:B:644:ARG:NH1	3:B:806:HOH:O	2.38	0.56
1:B:80:ASP:OD1	1:B:81:PHE:N	2.38	0.56
1:A:500:ILE:O	1:A:502:ARG:NH1	2.39	0.55
1:A:554:LEU:HD21	1:A:621:PHE:CE2	2.44	0.53
1:A:214:ASP:OD1	1:A:215:GLU:N	2.42	0.52
1:A:450:PRO:HB3	1:A:463:THR:HG21	1.91	0.52
1:B:401:ASP:OD1	1:B:403:SER:OG	2.27	0.51
1:B:213:THR:HG22	1:B:245:LEU:HB3	1.93	0.51
1:B:463:THR:OG1	1:B:464:PHE:N	2.43	0.51
1:C:554:LEU:HD11	1:C:622:ALA:HA	1.92	0.50
1:B:462:ALA:O	1:B:463:THR:OG1	2.25	0.49
1:A:213:THR:HG22	1:A:245:LEU:HB3	1.94	0.49
1:C:500:ILE:O	1:C:502:ARG:NH1	2.43	0.48
1:A:517:LYS:N	1:A:518:PRO:CD	2.76	0.48
1:C:214:ASP:OD1	1:C:215:GLU:N	2.42	0.48
1:A:217:ARG:NH1	1:A:222:THR:OG1	2.46	0.47
1:A:506:ARG:O	3:A:801:HOH:O	2.20	0.47
1:B:617:VAL:HG23	1:B:618:ILE:HG13	1.94	0.47
1:B:171:GLN:OE1	1:B:171:GLN:N	2.43	0.47
1:A:614:VAL:HG11	1:A:622:ALA:O	2.15	0.47
1:B:517:LYS:N	1:B:518:PRO:CD	2.78	0.46
1:B:504:VAL:HG23	1:B:511:TYR:HB2	1.97	0.46
1:C:517:LYS:N	1:C:518:PRO:CD	2.78	0.46
1:A:325:ARG:NH2	1:A:375:LYS:O	2.44	0.46
1:C:217:ARG:NH1	1:C:222:THR:OG1	2.46	0.46
1:B:317:VAL:HG11	1:B:446:ILE:HD13	1.98	0.46
1:A:579:ASP:O	1:A:583:GLY:N	2.47	0.45
1:C:401:ASP:OD1	1:C:403:SER:OG	2.27	0.45
1:A:442:GLU:OE1	1:A:442:GLU:N	2.49	0.45
1:B:415:ILE:O	1:B:415:ILE:HG23	2.18	0.44
1:C:421:HIS:O	1:C:425:ASP:N	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:277:ARG:NH1	3:C:809:HOH:O	2.42	0.44
1:A:474:ILE:HD12	1:A:481:VAL:HA	2.01	0.43
1:B:217:ARG:NH1	1:B:222:THR:OG1	2.51	0.43
1:C:58:THR:HG22	1:C:66:TRP:CD2	2.53	0.43
1:A:435:VAL:HG23	1:A:435:VAL:O	2.18	0.43
1:B:306:TYR:N	3:B:807:HOH:O	2.51	0.43
1:C:317:VAL:HG11	1:C:446:ILE:HD13	2.00	0.43
1:A:80:ASP:OD1	1:A:81:PHE:N	2.48	0.43
1:C:504:VAL:HG23	1:C:511:TYR:HB2	1.99	0.43
1:A:314:LEU:HD22	1:A:345:PRO:HA	2.00	0.43
1:A:280:SER:OG	1:A:304:ALA:HB3	2.18	0.43
1:C:185:ILE:HD11	1:C:283:PRO:HG2	2.01	0.42
1:C:49:GLU:OE1	1:C:49:GLU:N	2.47	0.42
1:B:185:ILE:HD11	1:B:283:PRO:HG2	2.00	0.42
1:B:245:LEU:HD13	1:B:262:TRP:CD2	2.55	0.42
1:C:187:SER:HA	1:C:286:ILE:O	2.20	0.42
1:A:371:VAL:O	1:A:375:LYS:N	2.52	0.41
1:A:48:TYR:CZ	1:A:52:VAL:HG21	2.56	0.41
1:A:93:ASP:HB3	1:C:271:ALA:HB3	2.03	0.41
1:B:486:ASP:N	1:B:531:ARG:O	2.53	0.41
1:B:58:THR:HG22	1:B:66:TRP:CD2	2.55	0.41
1:B:126:ALA:O	1:B:366:ARG:NH2	2.48	0.41
1:A:58:THR:HG22	1:A:66:TRP:CD2	2.56	0.40
1:A:463:THR:OG1	1:A:464:PHE:N	2.47	0.40
1:A:492:VAL:HB	1:A:522:TYR:HB3	2.03	0.40
1:B:631:SER:HG	1:B:671:GLU:CD	2.24	0.40

There are no symmetry-related clashes.

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	646/694 (93%)	622 (96%)	23 (4%)	1 (0%)	47	64
1	B	643/694 (93%)	611 (95%)	31 (5%)	1 (0%)	47	64
1	C	639/694 (92%)	614 (96%)	24 (4%)	1 (0%)	47	64
All	All	1928/2082 (93%)	1847 (96%)	78 (4%)	3 (0%)	47	64

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	463	THR
1	B	463	THR
1	C	463	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	511/576 (89%)	506 (99%)	5 (1%)	76	86
1	B	510/576 (88%)	503 (99%)	7 (1%)	67	81
1	C	510/576 (88%)	506 (99%)	4 (1%)	81	89
All	All	1531/1728 (89%)	1515 (99%)	16 (1%)	76	86

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	51	TYR
1	A	116	ASN
1	A	423	TYR
1	A	474	ILE
1	A	477	GLN
1	B	25	ASP
1	B	51	TYR
1	B	102	LEU
1	B	116	ASN
1	B	375	LYS

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Mol	Chain	Res	Type
1	B	380	TYR
1	B	423	TYR
1	C	110	ASP
1	C	116	ASN
1	C	384	THR
1	C	423	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 monosaccharides in this entry.

5.6   Ligand geometry ⓘ

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	WPO	B	701	-	25,28,28	0.65	0	25,41,41	0.81	1 (4%)
2	WPO	A	701	-	25,28,28	0.67	0	25,41,41	0.89	1 (4%)
2	WPO	C	701	-	25,28,28	0.66	0	25,41,41	0.86	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	WPO	B	701	-	-	2/11/31/31	0/3/3/3
2	WPO	A	701	-	-	3/11/31/31	0/3/3/3
2	WPO	C	701	-	-	2/11/31/31	0/3/3/3

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	701	WPO	C5-C6-N6	2.38	123.97	120.35
2	C	701	WPO	C5-C6-N6	2.31	123.87	120.35
2	B	701	WPO	C5-C6-N6	2.23	123.74	120.35

There are no chirality outliers.

All (7) torsion outliers are listed below:

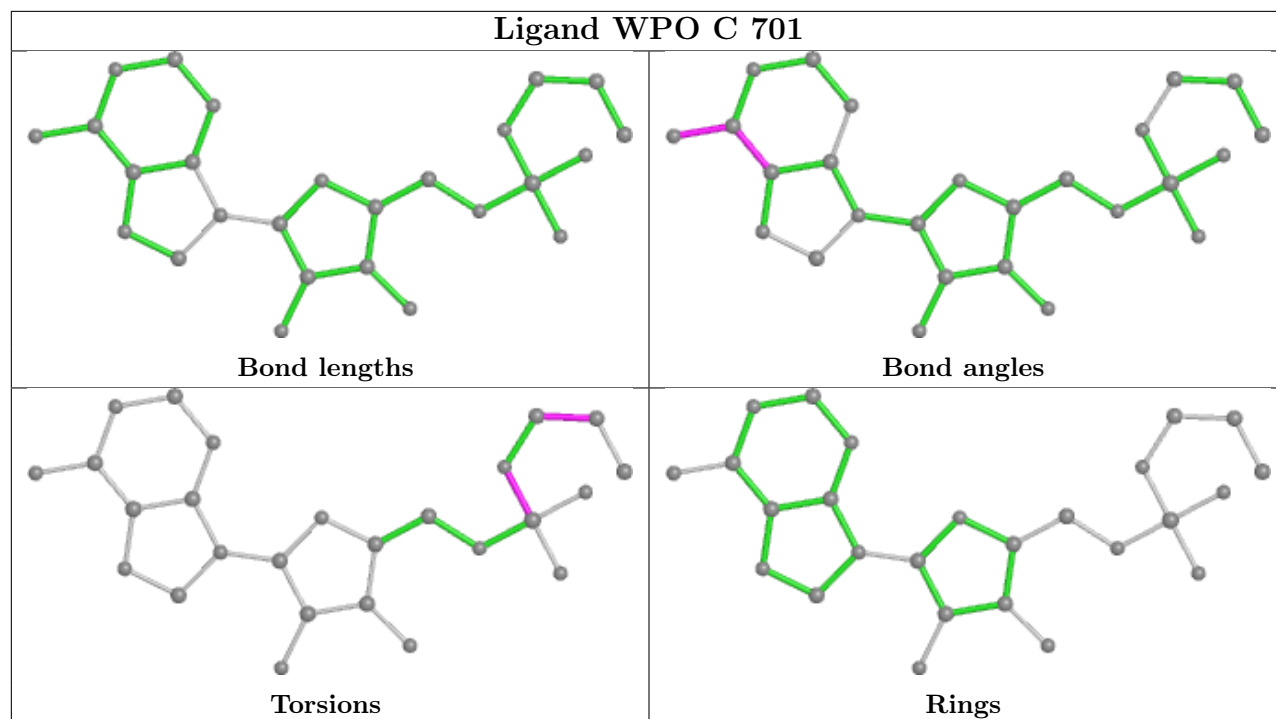| Mol	Chain	Res	Type	Atoms
2	A	701	WPO	C1P-O3P-P-O1P
2	B	701	WPO	C1P-O3P-P-O1P
2	A	701	WPO	O3P-C1P-C2P-C3P
2	C	701	WPO	O3P-C1P-C2P-C3P
2	A	701	WPO	C1P-O3P-P-O5'
2	B	701	WPO	C1P-O3P-P-O5'
2	C	701	WPO	C1P-O3P-P-O5'

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand WPO B 701

Bond lengths

Bond angles

Torsions

Rings

Ligand WPO A 701

Bond lengths

Bond angles

Torsions

Rings

Ligand WPO C 701

Bond lengths

Bond angles

Torsions

Rings
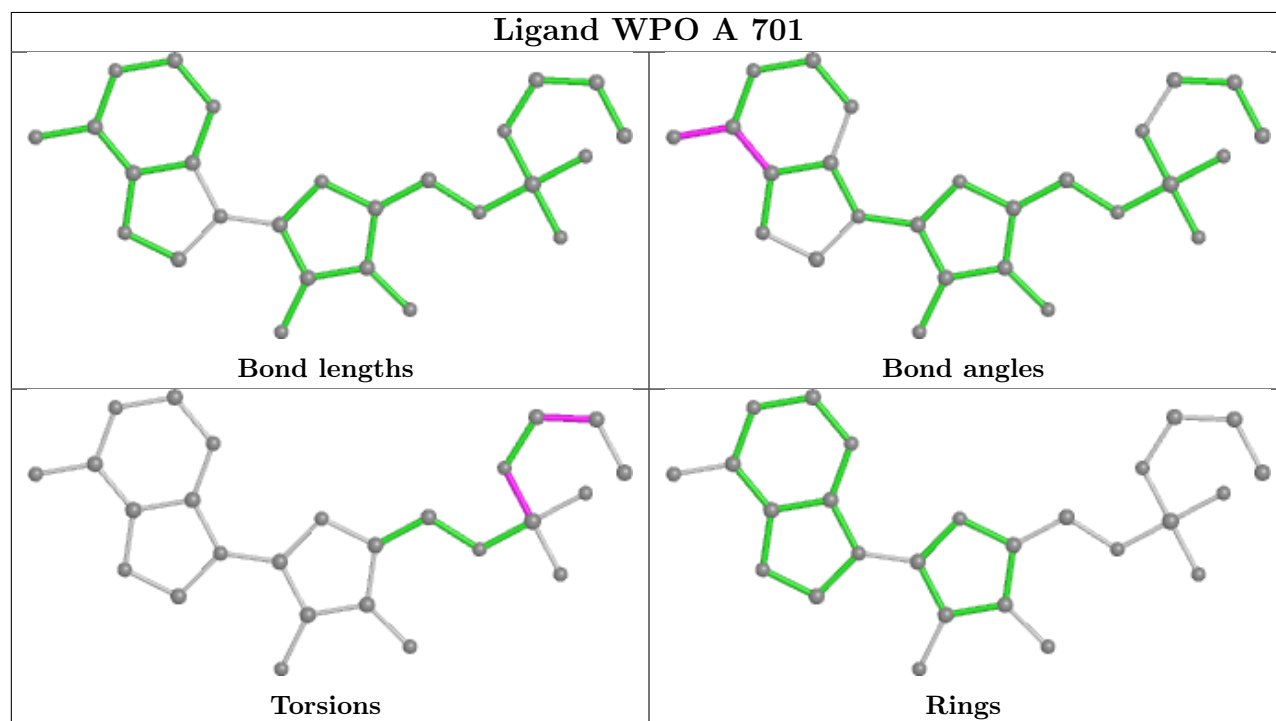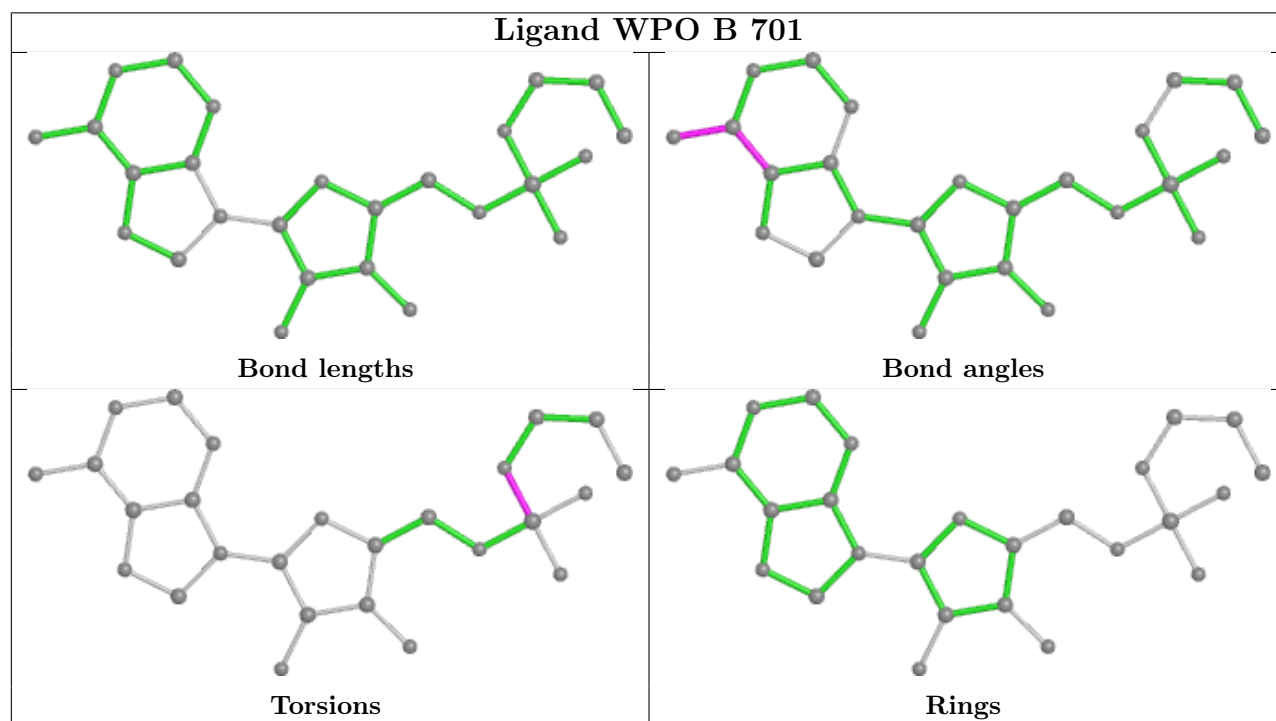
5.7 Other polymers ⓘ

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(Å²)	Q<0.9
1	A	652/694 (93%)	-0.41	9 (1%) 75	73	26, 40, 76, 118	0
1	B	649/694 (93%)	-0.30	9 (1%) 75	73	27, 50, 78, 106	0
1	C	647/694 (93%)	-0.40	3 (0%) 91	91	27, 44, 75, 110	0
All	All	1948/2082 (93%)	-0.37	21 (1%) 80	79	26, 44, 77, 118	0

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	672	VAL	3.4
1	A	602	LYS	3.3
1	A	585	ALA	3.0
1	C	578	ALA	2.9
1	A	603	GLU	2.9
1	B	578	ALA	2.8
1	A	596	PHE	2.8
1	B	669	VAL	2.6
1	B	629	LEU	2.6
1	A	652	GLY	2.5
1	B	676	VAL	2.5
1	B	602	LYS	2.4
1	B	649	ILE	2.3
1	A	671	GLU	2.3
1	C	23	SER	2.2
1	A	633	LEU	2.2
1	B	426	PHE	2.2
1	B	36	LYS	2.2
1	A	605	ASP	2.0
1	C	677	THR	2.0
1	A	251	LYS	2.0

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

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

6.3 Carbohydrates ⓘ

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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	WPO	B	701	26/26	0.93	0.18	28,38,43,46	0
2	WPO	A	701	26/26	0.95	0.15	30,37,42,47	0
2	WPO	C	701	26/26	0.95	0.16	27,38,44,46	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.
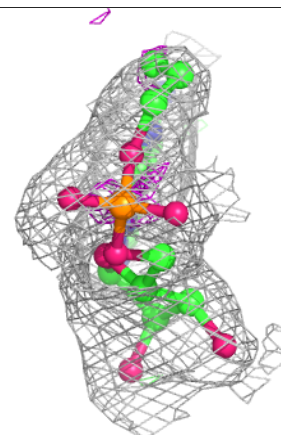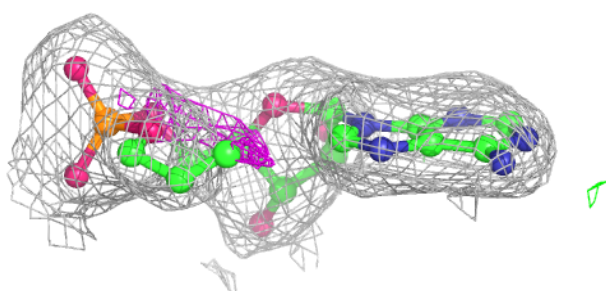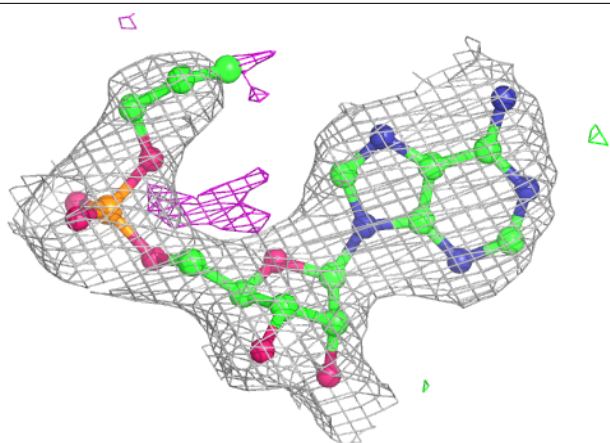
Electron density around WPO B 701:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
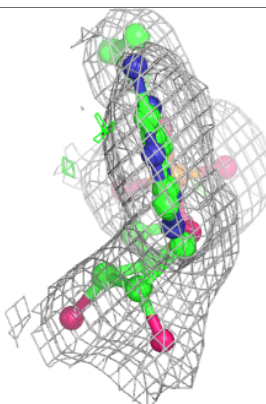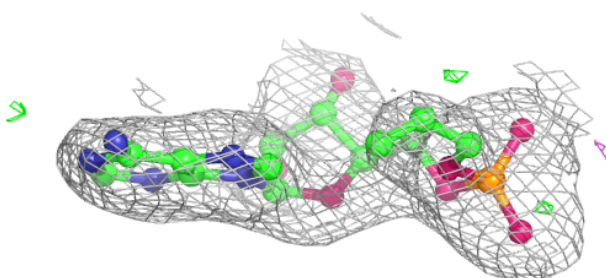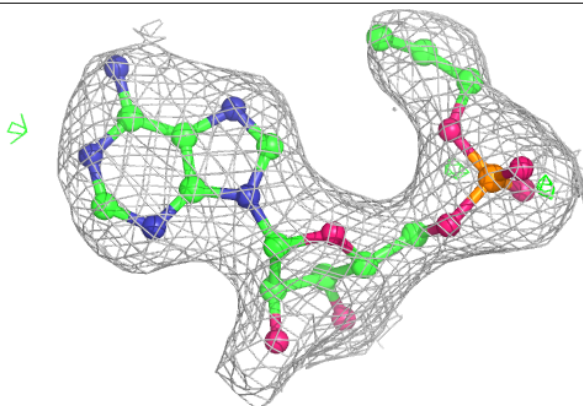and green (positive)
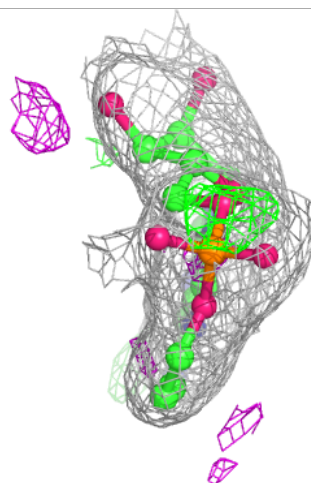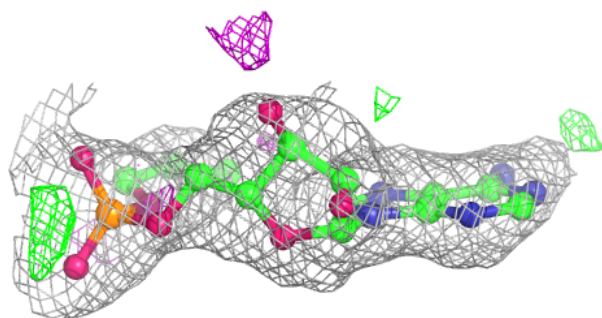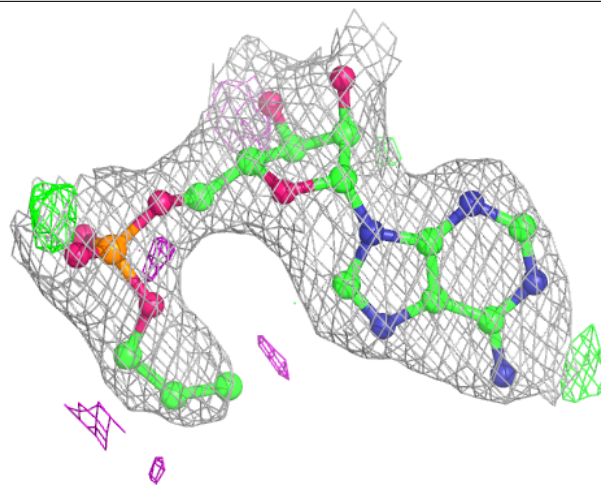
Electron density around WPO A 701:

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

Electron density around WPO C 701:

$2mF_o-DF_c$ (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.