



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 17, 2024 – 07:00 PM EDT

PDB ID : 5OT5  
Title : The crystal structure of CK2alpha in complex with compound 24  
Authors : Brear, P.; De Fusco, C.; Iegre, J.; Yoshida, M.; Mitchell, S.; Rossmann, M.; Carro, L.; Sore, H.; Hyvonen, M.; Spring, D.  
Deposited on : 2017-08-21  
Resolution : 1.63 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](mailto: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>.

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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) : 1.13  
EDS : 2.37.1  
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) : 2.37.1

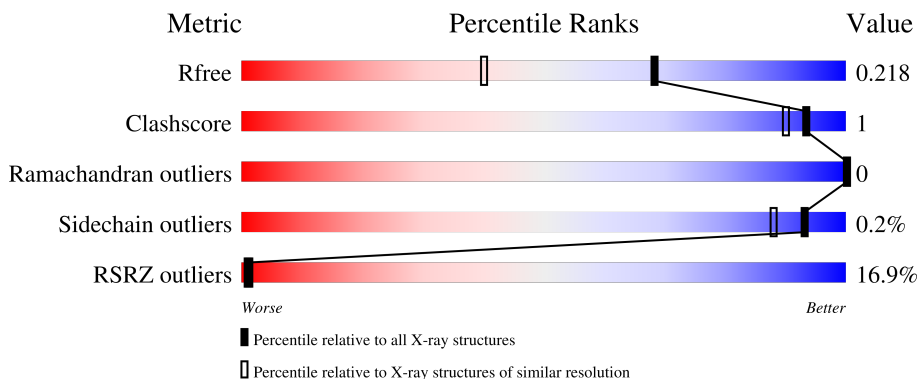
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.63 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))
$R_{free}$	130704	3122 (1.66-1.62)
Clashscore	141614	3268 (1.66-1.62)
Ramachandran outliers	138981	3215 (1.66-1.62)
Sidechain outliers	138945	3215 (1.66-1.62)
RSRZ outliers	127900	3079 (1.66-1.62)

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	352	
1	B	352	

## 2 Entry composition i

There are 6 unique types of molecules in this entry. The entry contains 6035 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 Casein kinase II subunit alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	326	2833	1812	501	509	11	0	10	0
1	B	325	2765	1771	483	500	11	0	3	0

There are 50 discrepancies between the modelled and reference sequences:

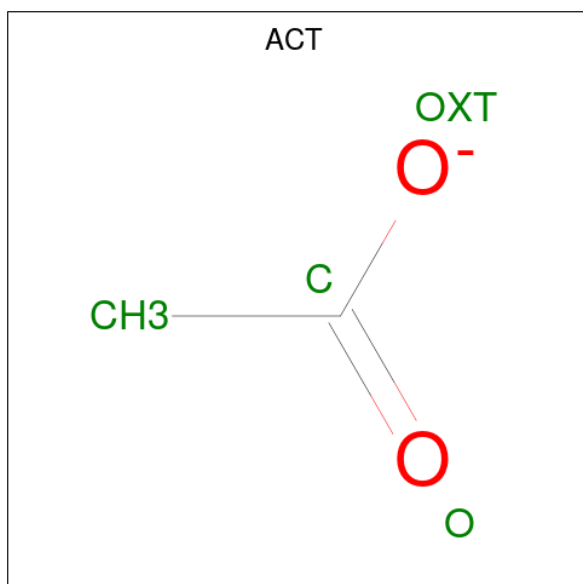
Chain	Residue	Modelled	Actual	Comment	Reference
A	-22	GLY	-	expression tag	UNP P68400
A	-21	SER	-	expression tag	UNP P68400
A	-20	MET	-	expression tag	UNP P68400
A	-19	ASP	-	expression tag	UNP P68400
A	-18	ILE	-	expression tag	UNP P68400
A	-17	GLU	-	expression tag	UNP P68400
A	-16	PHE	-	expression tag	UNP P68400
A	-15	ASP	-	expression tag	UNP P68400
A	-14	ASP	-	expression tag	UNP P68400
A	-13	ASP	-	expression tag	UNP P68400
A	-12	ALA	-	expression tag	UNP P68400
A	-11	ASP	-	expression tag	UNP P68400
A	-10	ASP	-	expression tag	UNP P68400
A	-9	ASP	-	expression tag	UNP P68400
A	-8	GLY	-	expression tag	UNP P68400
A	-7	SER	-	expression tag	UNP P68400
A	-6	GLY	-	expression tag	UNP P68400
A	-5	SER	-	expression tag	UNP P68400
A	-4	GLY	-	expression tag	UNP P68400
A	-3	SER	-	expression tag	UNP P68400
A	-2	GLY	-	expression tag	UNP P68400
A	-1	SER	-	expression tag	UNP P68400
A	0	GLY	-	expression tag	UNP P68400
A	1	SER	-	expression tag	UNP P68400
A	21	SER	ARG	engineered mutation	UNP P68400

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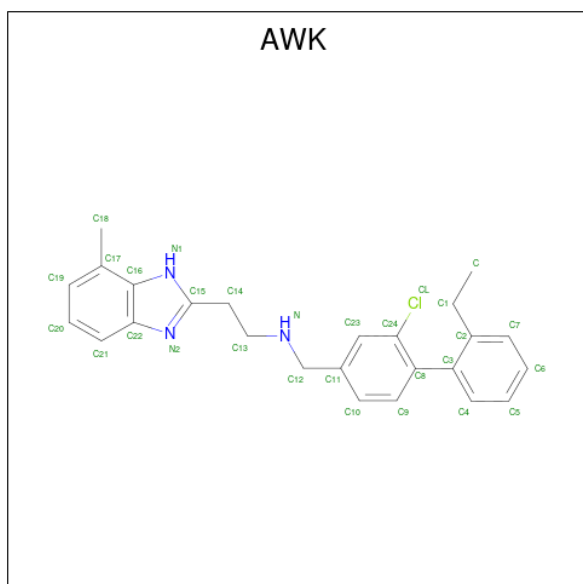
Chain	Residue	Modelled	Actual	Comment	Reference
B	-22	GLY	-	expression tag	UNP P68400
B	-21	SER	-	expression tag	UNP P68400
B	-20	MET	-	expression tag	UNP P68400
B	-19	ASP	-	expression tag	UNP P68400
B	-18	ILE	-	expression tag	UNP P68400
B	-17	GLU	-	expression tag	UNP P68400
B	-16	PHE	-	expression tag	UNP P68400
B	-15	ASP	-	expression tag	UNP P68400
B	-14	ASP	-	expression tag	UNP P68400
B	-13	ASP	-	expression tag	UNP P68400
B	-12	ALA	-	expression tag	UNP P68400
B	-11	ASP	-	expression tag	UNP P68400
B	-10	ASP	-	expression tag	UNP P68400
B	-9	ASP	-	expression tag	UNP P68400
B	-8	GLY	-	expression tag	UNP P68400
B	-7	SER	-	expression tag	UNP P68400
B	-6	GLY	-	expression tag	UNP P68400
B	-5	SER	-	expression tag	UNP P68400
B	-4	GLY	-	expression tag	UNP P68400
B	-3	SER	-	expression tag	UNP P68400
B	-2	GLY	-	expression tag	UNP P68400
B	-1	SER	-	expression tag	UNP P68400
B	0	GLY	-	expression tag	UNP P68400
B	1	SER	-	expression tag	UNP P68400
B	21	SER	ARG	engineered mutation	UNP P68400

- Molecule 2 is ACETATE ION (three-letter code: ACT) (formula: C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>).



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

- Molecule 3 is {N}-[[3-chloranyl-4-(2-ethylphenyl)phenyl]methyl]-2-(7-methyl-1 {H}-benzimidazol-2-yl)ethanamine (three-letter code: AWK) (formula: C<sub>25</sub>H<sub>26</sub>ClN<sub>3</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C Cl N 58 50 2 6	0	1
3	B	1	Total C Cl N 29 25 1 3	0	0

- Molecule 4 is PHOSPHATE ION (three-letter code: PO4) (formula: O<sub>4</sub>P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total O P 5 4 1	0	0
4	B	1	Total O P 5 4 1	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula:  $C_4H_{10}O_3$ ).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 7 4 3	0	0

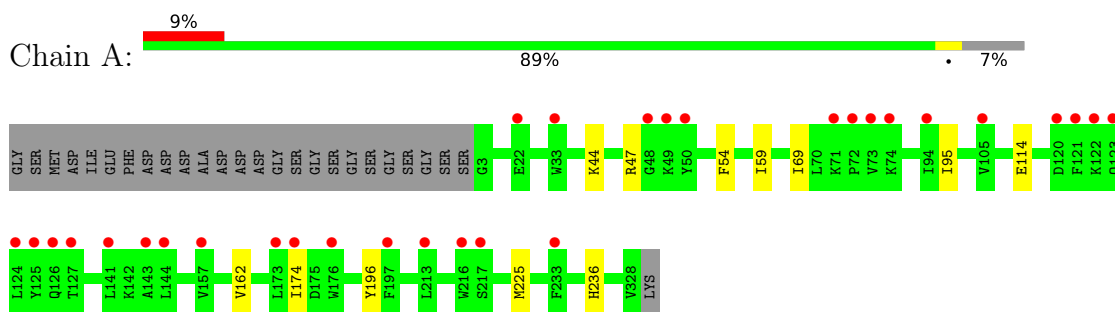
- Molecule 6 is water.

<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
6	A	219	Total 219	O 219	0	0
6	B	90	Total 90	O 90	0	0

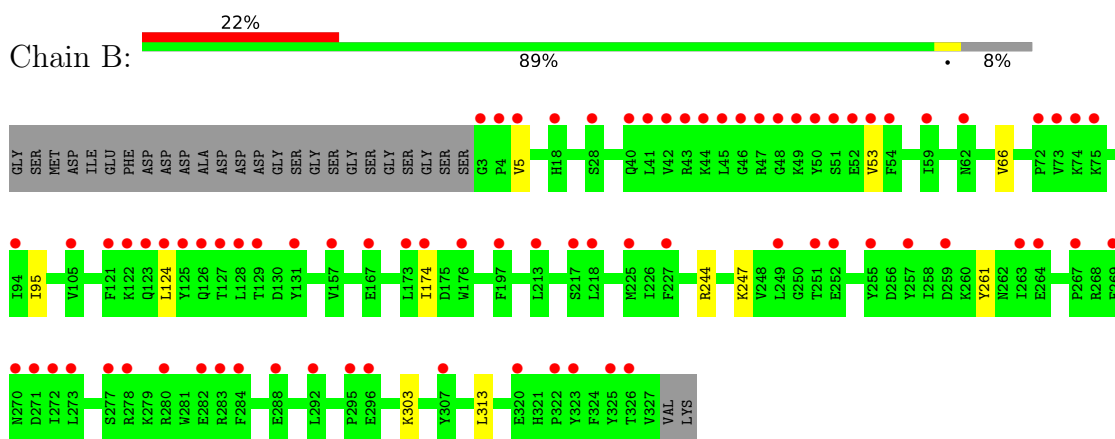
### 3 Residue-property plots i

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

- Molecule 1: Casein kinase II subunit alpha



- Molecule 1: Casein kinase II subunit alpha





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	64.89Å 68.19Å 332.67Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	23.86 – 1.63 34.09 – 1.63	Depositor EDS
% Data completeness (in resolution range)	98.4 (23.86-1.63) 98.4 (34.09-1.63)	Depositor EDS
$R_{merge}$	0.04	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.53 (at 1.63Å)	Xtrriage
Refinement program	BUSTER 2.10.3	Depositor
R, $R_{free}$	0.215 , 0.239 0.224 , 0.218	Depositor DCC
$R_{free}$ test set	4613 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	26.4	Xtrriage
Anisotropy	0.597	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 42.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.077 for -k,-h,-l	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	6035	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	43.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.54% of the height of the origin peak. No significant pseudotranslation is detected.*

<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: PO4, AWK, ACT, PEG

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	0.57	0/2909	0.63	0/3933
1	B	0.47	0/2840	0.58	0/3842
All	All	0.52	0/5749	0.61	0/7775

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	2833	0	2771	11	0
1	B	2765	0	2696	5	0
2	A	16	0	12	0	0
2	B	8	0	6	0	0
3	A	58	0	0	3	0
3	B	29	0	0	0	0
4	A	5	0	0	0	0
4	B	5	0	0	0	0
5	A	7	0	10	2	0
6	A	219	0	0	2	1
6	B	90	0	0	0	0
All	All	6035	0	5495	16	1

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 1.

All (16) 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:196:TYR:HD2	5:A:407:PEG:H32	1.62	0.62
1:A:196:TYR:CD2	5:A:407:PEG:H32	2.38	0.59
1:A:44:LYS:HD3	1:A:47[B]:ARG:HG2	1.87	0.54
1:A:162:VAL:HG11	3:A:405[A]:AWK:CL	2.46	0.53
1:B:303:LYS:HB3	1:B:313:LEU:HG	1.95	0.48
1:A:59:ILE:HD11	6:A:531:HOH:O	2.13	0.48
1:B:53:VAL:HG13	1:B:66:VAL:HG13	1.97	0.46
1:A:54:PHE:CE1	1:A:69:ILE:HD12	2.53	0.44
1:A:225:MET:CE	3:A:405[B]:AWK:CL	3.03	0.44
1:A:114:GLU:O	1:A:114:GLU:HG3	2.18	0.41
1:B:244:ARG:NH1	1:B:247:LYS:HE3	2.35	0.41
1:A:236:HIS:HE1	6:A:686:HOH:O	2.03	0.41
1:A:225:MET:HE3	3:A:405[B]:AWK:CL	2.57	0.41
1:A:95:ILE:HB	1:A:174:ILE:HG22	2.03	0.41
1:B:5:VAL:HB	1:B:261:TYR:HA	2.01	0.41
1:B:95:ILE:HB	1:B:174:ILE:HG22	2.02	0.40

All (1) 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)
6:A:519:HOH:O	6:A:519:HOH:O[4_597]	0.82	1.38

## 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	334/352 (95%)	322 (96%)	12 (4%)	0	<b>100</b> <b>100</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	326/352 (93%)	316 (97%)	10 (3%)	0	100	100
All	All	660/704 (94%)	638 (97%)	22 (3%)	0	100	100

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	309/319 (97%)	309 (100%)	0	100	100
1	B	302/319 (95%)	301 (100%)	1 (0%)	92	87
All	All	611/638 (96%)	610 (100%)	1 (0%)	93	88

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	124	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	168	HIS
1	A	186	GLN
1	A	236	HIS
1	A	270	ASN
1	B	168	HIS
1	B	183	HIS
1	B	186	GLN
1	B	270	ASN

### 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 monosaccharides 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
3	AWK	B	403	-	29,32,32	0.59	0	36,44,44	0.73	1 (2%)
2	ACT	A	401	-	3,3,3	1.54	1 (33%)	3,3,3	1.05	0
2	ACT	A	402	-	3,3,3	1.08	0	3,3,3	1.16	0
2	ACT	B	402	-	3,3,3	1.04	0	3,3,3	0.90	0
4	PO4	A	406	-	4,4,4	1.94	1 (25%)	6,6,6	0.92	0
2	ACT	A	404	-	3,3,3	1.20	0	3,3,3	1.10	0
4	PO4	B	404	-	4,4,4	1.82	1 (25%)	6,6,6	0.77	0
2	ACT	B	401	-	3,3,3	1.39	0	3,3,3	0.90	0
3	AWK	A	405[A]	-	29,32,32	0.62	0	36,44,44	0.54	0
3	AWK	A	405[B]	-	29,32,32	0.60	0	36,44,44	0.61	0
5	PEG	A	407	-	6,6,6	0.26	0	5,5,5	0.26	0
2	ACT	A	403	-	3,3,3	1.04	0	3,3,3	0.87	0

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
3	AWK	B	403	-	-	1/13/13/13	0/4/4/4
5	PEG	A	407	-	-	3/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	AWK	A	405[A]	-	-	1/13/13/13	0/4/4/4
3	AWK	A	405[B]	-	-	2/13/13/13	0/4/4/4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	ACT	CH3-C	2.14	1.58	1.49
4	A	406	PO4	P-O2	2.12	1.61	1.54
4	B	404	PO4	P-O3	2.03	1.60	1.54

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	403	AWK	C13-C14-C15	3.02	120.06	113.47

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	405[A]	AWK	C13-C14-C15-N1
3	A	405[B]	AWK	C13-C14-C15-N1
3	B	403	AWK	C13-C14-C15-N1
5	A	407	PEG	C4-C3-O2-C2
5	A	407	PEG	O1-C1-C2-O2
5	A	407	PEG	C1-C2-O2-C3
3	A	405[B]	AWK	C13-C14-C15-N2

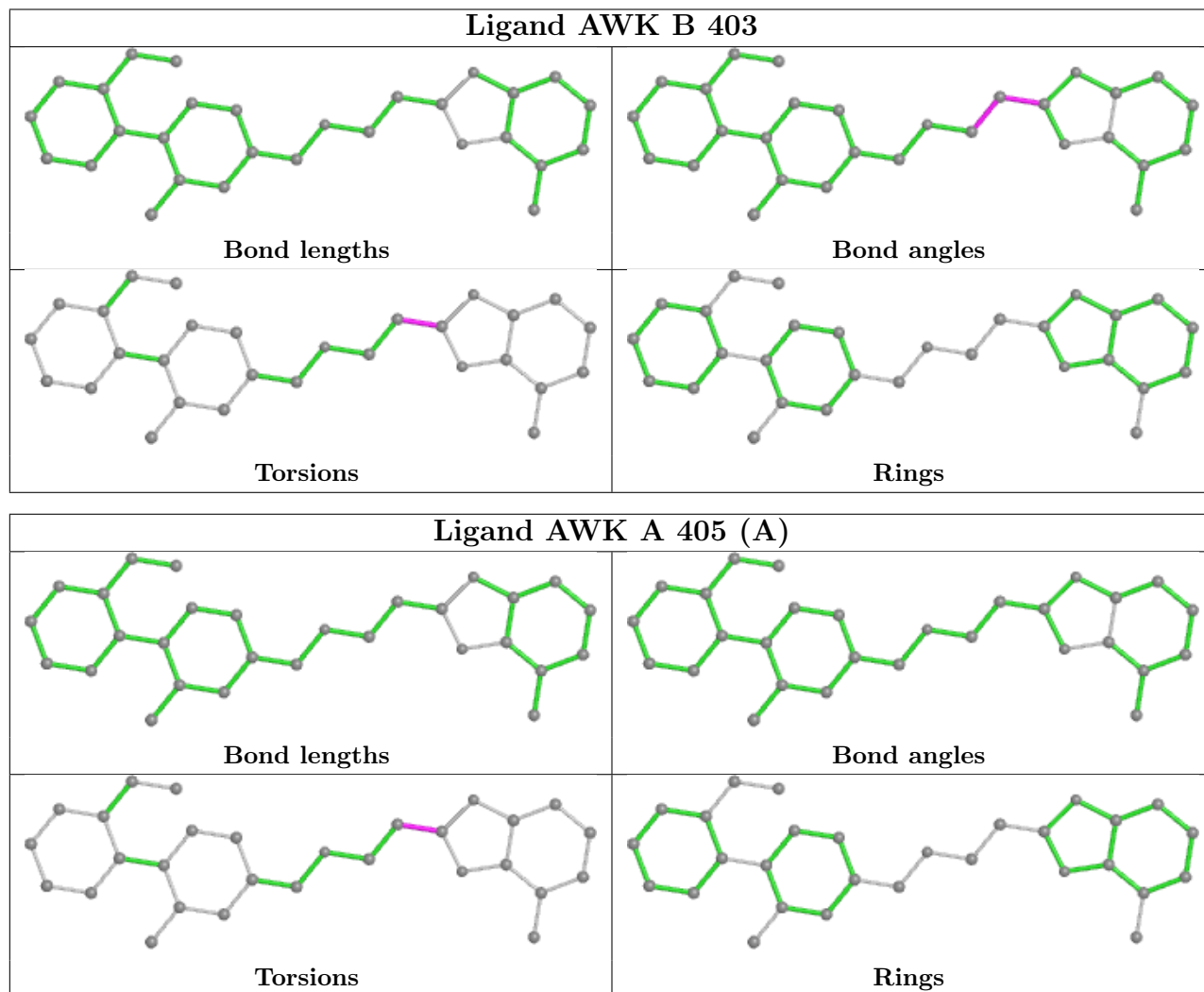
There are no ring outliers.

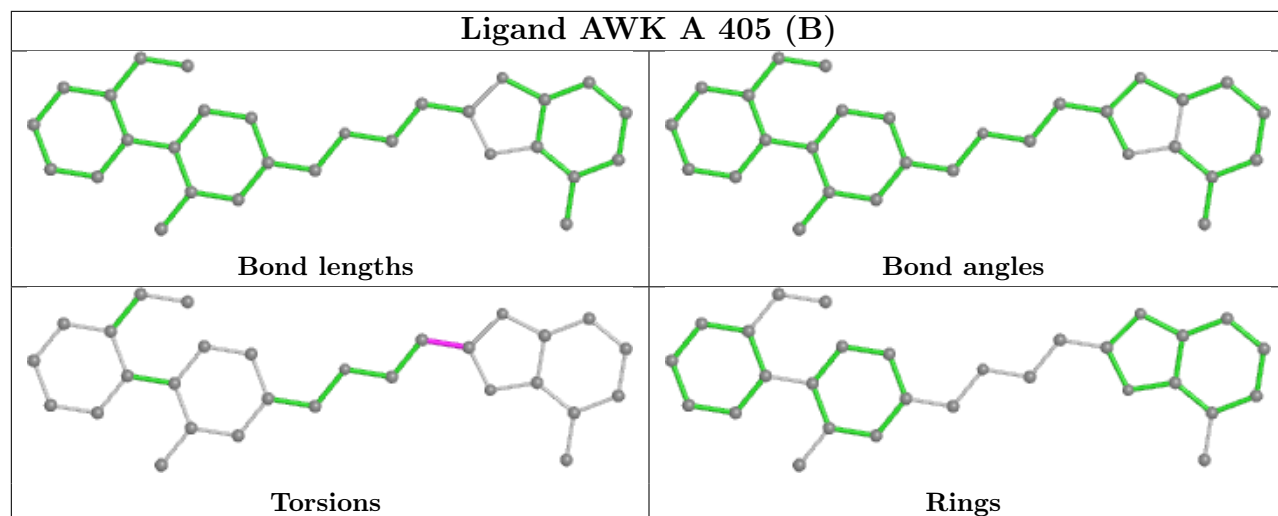
3 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	405[A]	AWK	1	0
3	A	405[B]	AWK	2	0
5	A	407	PEG	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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 [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	326/352 (92%)	0.42	31 (9%) <b>8</b> <b>6</b>	18, 29, 60, 96	0
1	B	325/352 (92%)	1.39	79 (24%) <b>0</b> <b>0</b>	28, 48, 84, 116	0
All	All	651/704 (92%)	0.90	110 (16%) <b>1</b> <b>1</b>	18, 39, 79, 116	0

All (110) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	50	TYR	14.5
1	B	121	PHE	10.8
1	B	126	GLN	9.6
1	B	47	ARG	8.3
1	A	123	GLN	8.2
1	A	50[A]	TYR	7.9
1	B	124	LEU	7.3
1	B	49	LYS	6.4
1	B	288	GLU	5.8
1	B	73	VAL	5.8
1	B	72	PRO	5.8
1	B	125	TYR	5.8
1	B	122	LYS	5.7
1	B	127	THR	5.7
1	B	282	GLU	5.6
1	B	283	ARG	5.6
1	A	48[A]	GLY	5.3
1	B	123	GLN	5.1
1	B	48	GLY	5.1
1	B	41	LEU	5.0
1	B	325	TYR	5.0
1	B	128	LEU	4.9
1	B	280	ARG	4.9
1	B	5	VAL	4.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	271	ASP	4.7
1	A	125	TYR	4.6
1	A	74	LYS	4.6
1	A	124	LEU	4.6
1	B	46	GLY	4.4
1	B	255	TYR	4.2
1	B	326	THR	4.1
1	A	94	ILE	4.1
1	B	307	TYR	3.9
1	B	292	LEU	3.7
1	B	3	GLY	3.7
1	B	51	SER	3.6
1	B	45	LEU	3.6
1	B	42	VAL	3.5
1	A	122	LYS	3.5
1	B	44	LYS	3.5
1	B	105	VAL	3.4
1	A	49[A]	LYS	3.4
1	B	278	ARG	3.3
1	B	272	ILE	3.3
1	A	71	LYS	3.3
1	B	74	LYS	3.3
1	B	270	ASN	3.2
1	A	121	PHE	3.2
1	B	53	VAL	3.1
1	B	323	TYR	3.0
1	B	267	PRO	3.0
1	A	73	VAL	3.0
1	A	33	TRP	3.0
1	B	40	GLN	3.0
1	B	18	HIS	3.0
1	A	105	VAL	3.0
1	B	4	PRO	3.0
1	B	43	ARG	3.0
1	B	322	PRO	3.0
1	B	320	GLU	2.9
1	A	216	TRP	2.9
1	B	251	THR	2.9
1	B	54	PHE	2.9
1	B	273	LEU	2.9
1	A	72	PRO	2.9
1	B	295	PRO	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	227	PHE	2.8
1	B	28	SER	2.7
1	A	157	VAL	2.7
1	B	257	TYR	2.7
1	B	157	VAL	2.7
1	B	75	LYS	2.7
1	A	22	GLU	2.6
1	A	144	LEU	2.6
1	B	249	LEU	2.6
1	B	252	GLU	2.6
1	B	284	PHE	2.5
1	B	167	GLU	2.5
1	B	174	ILE	2.5
1	B	217	SER	2.5
1	B	264	GLU	2.5
1	A	120	ASP	2.5
1	B	59	ILE	2.5
1	B	263	ILE	2.4
1	B	52	GLU	2.4
1	B	213	LEU	2.3
1	B	62	ASN	2.3
1	B	225	MET	2.3
1	A	173	LEU	2.3
1	B	269	PHE	2.3
1	A	213	LEU	2.3
1	A	143	ALA	2.2
1	A	174	ILE	2.2
1	A	176	TRP	2.2
1	A	126	GLN	2.2
1	B	197	PHE	2.2
1	B	259	ASP	2.2
1	A	141	LEU	2.2
1	A	233	PHE	2.1
1	B	131	TYR	2.1
1	B	94	ILE	2.1
1	A	197	PHE	2.1
1	A	127	THR	2.1
1	B	129	THR	2.1
1	B	218	LEU	2.1
1	A	217	SER	2.1
1	B	277	SER	2.1
1	B	296	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	173	LEU	2.0
1	B	176	TRP	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

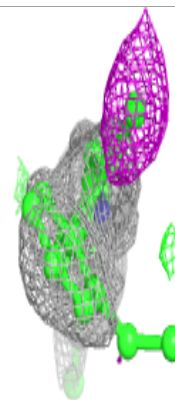
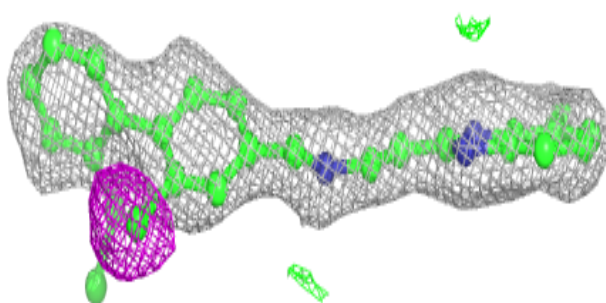
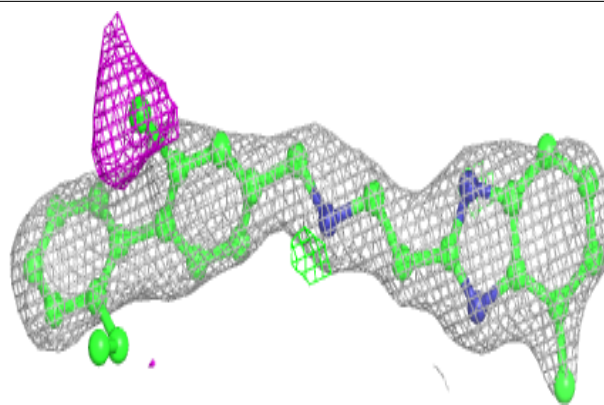
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 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	AWK	B	403	29/29	0.76	0.19	52,58,72,80	0
5	PEG	A	407	7/7	0.77	0.22	32,40,49,52	0
2	ACT	A	404	4/4	0.79	0.17	44,45,46,51	0
3	AWK	A	405[A]	29/29	0.88	0.15	22,35,47,48	29
3	AWK	A	405[B]	29/29	0.88	0.15	32,42,51,56	29
2	ACT	B	401	4/4	0.93	0.09	35,35,39,39	0
4	PO4	B	404	5/5	0.96	0.13	48,51,52,54	0
2	ACT	A	403	4/4	0.96	0.10	38,39,41,44	0
4	PO4	A	406	5/5	0.97	0.08	38,39,41,41	0
2	ACT	B	402	4/4	0.97	0.17	52,53,53,53	0
2	ACT	A	401	4/4	0.97	0.10	28,29,30,30	0
2	ACT	A	402	4/4	0.98	0.07	30,36,38,39	0

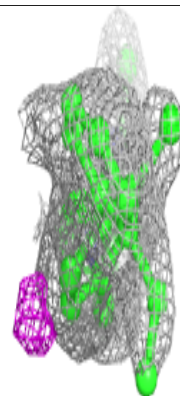
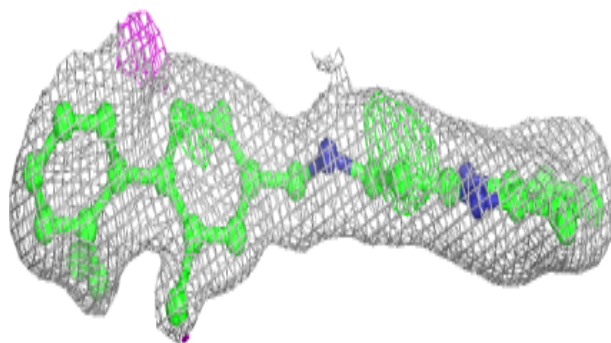
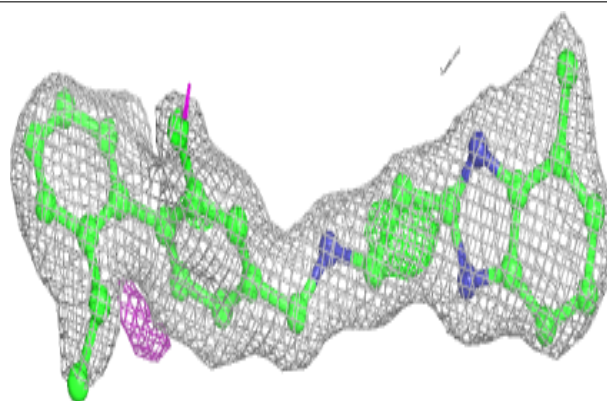
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around AWK B 403:**

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

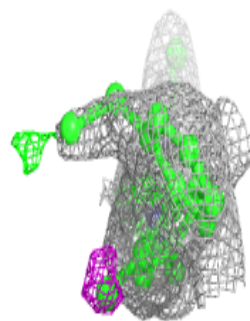
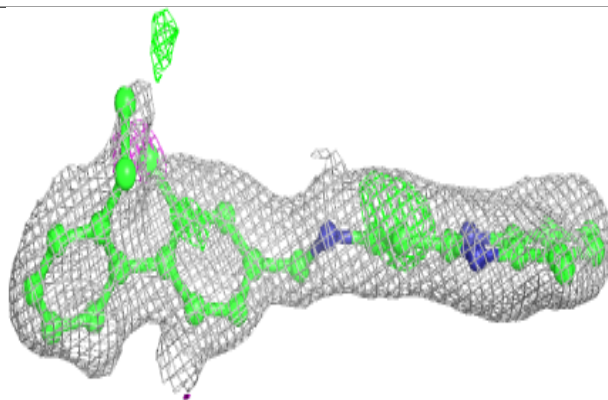
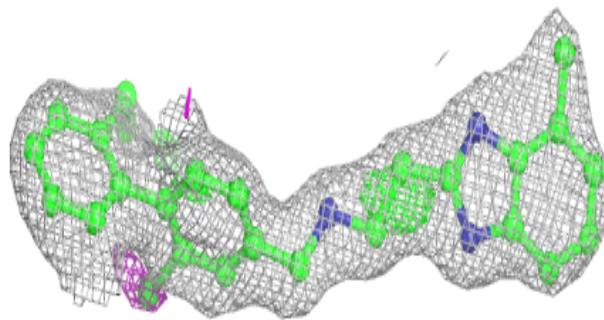
**Electron density around AWK A 405 (A):**

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



**Electron density around AWK A 405 (B):**

$2mF_o-DF_c$  (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.