

# wwPDB X-ray Structure Validation Summary Report (i)

#### Sep 18, 2023 – 06:56 PM EDT

PDB ID : 5B8I

Title : Crystal structure of Calcineurin A and Calcineurin B in complex with FKBP12

and FK506 from Coccidioides immitis RS

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D.; Dranow, D.M.; Lorimer, D.D.; Edwards, T.E.

Deposited on : 2015-05-03

Resolution : 1.85 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
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) 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)

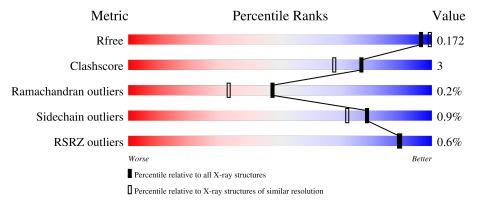
Validation Pipeline (wwPDB-VP) : 2.35.1

## 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure: X- $RAY\ DIFFRACTION$ 

The reported resolution of this entry is 1.85 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 $(\# \mathrm{Entries})$	$\begin{array}{c} {\rm Similar\ resolution} \\ (\#{\rm Entries,\ resolution\ range(\mathring{A})}) \end{array}$
$R_{free}$	130704	2469 (1.86-1.86)
Clashscore	141614	2625 (1.86-1.86)
Ramachandran outliers	138981	2592 (1.86-1.86)
Sidechain outliers	138945	2592 (1.86-1.86)
RSRZ outliers	127900	2436 (1.86-1.86)

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	390	86%	5% • 8%
2	В	171	99%	••
3	С	130	86%	5% • 8%

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
6	MES	A	403	-	-	X	-



# 2 Entry composition (i)

There are 10 unique types of molecules in this entry. The entry contains 6073 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/threonine-protein phosphatase.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
1	A	359	Total 2974	C 1933	N 487	O 532	S 22	0	12	0

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP J3K9C5
A	2	GLY	-	expression tag	UNP J3K9C5
A	3	SER	-	expression tag	UNP J3K9C5
A	4	SER	-	expression tag	UNP J3K9C5
A	5	HIS	-	expression tag	UNP J3K9C5
A	6	HIS	-	expression tag	UNP J3K9C5
A	7	HIS	-	expression tag	UNP J3K9C5
A	8	HIS	-	expression tag	UNP J3K9C5
A	9	HIS	-	expression tag	UNP J3K9C5
A	10	HIS	-	expression tag	UNP J3K9C5
A	11	SER	-	expression tag	UNP J3K9C5
A	12	SER	-	expression tag	UNP J3K9C5
A	13	GLY	-	expression tag	UNP J3K9C5
A	14	GLU	-	expression tag	UNP J3K9C5
A	15	ASN	-	expression tag	UNP J3K9C5
A	16	LEU	-	expression tag	UNP J3K9C5
A	17	TYR	-	expression tag	UNP J3K9C5
A	18	PHE	-	expression tag	UNP J3K9C5
A	19	GLN	-	expression tag	UNP J3K9C5
A	20	GLY	-	expression tag	UNP J3K9C5
A	21	SER	-	expression tag	UNP J3K9C5

• Molecule 2 is a protein called Calcineurin subunit B, variant.



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
9	D	171	Total	С	N	О	S	0	5	0
	2 D	171	1374	863	226	275	10	U		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
В	1	MET	-	initiating methionine	UNP A0A0D8JSK0

• Molecule 3 is a protein called Peptidylprolyl isomerase.

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
3	С	119	Total 912	C 579	N 155	O 174	S 4	0	1	0

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
С	0	MET	-	initiating methionine	UNP J3K5Z5
С	1	TRP	-	expression tag	UNP J3K5Z5
С	2	SER	-	expression tag	UNP J3K5Z5
С	3	HIS	-	expression tag	UNP J3K5Z5
С	4	PRO	-	expression tag	UNP J3K5Z5
С	5	GLN	-	expression tag	UNP J3K5Z5
С	6	PHE	-	expression tag	UNP J3K5Z5
С	7	GLU	-	expression tag	UNP J3K5Z5
С	8	LYS	-	expression tag	UNP J3K5Z5
С	9	GLY	-	expression tag	UNP J3K5Z5
С	10	SER	_	expression tag	UNP J3K5Z5

• Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Zn 1 1	0	0

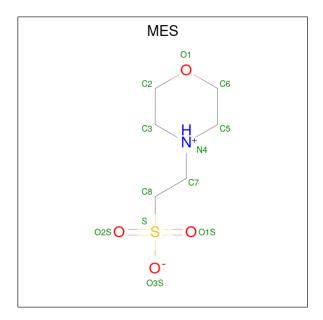
• Molecule 5 is FE (III) ION (three-letter code: FE) (formula: Fe).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total Fe 1 1	0	0

• Molecule 6 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES)

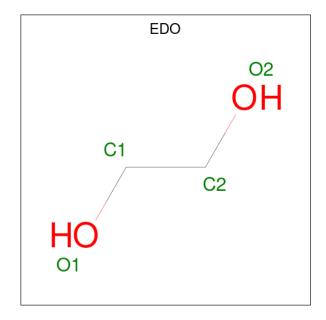


 $(formula:\ C_6H_{13}NO_4S).$ 



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf		
6	Δ	1	Total	С	N	О	S	0	0	
	Λ	1	7	2	1	3	1	0		
6	A	1	Total	С	N	О	S	0	0	
0		A 1	12	6	1	4	1	0	U	

 $\bullet$  Molecule 7 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula:  $\mathrm{C_2H_6O_2}).$ 



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

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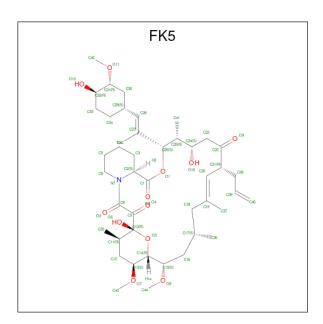
Mol		Residues		ZeroOcc	AltConf
7	A	1	Total C O 4 2 2	0	0
7	A	1	Total C O 4 2 2	0	0
7	A	1	Total C O 4 2 2	0	0
7	A	1	Total C O 4 2 2	0	0
7	A	1	Total C O 4 2 2	0	0
7	В	1	Total C O 4 2 2	0	0
7	В	1	Total C O 4 2 2	0	0
7	С	1	Total C O 4 2 2	0	0
7	С	1	Total C O 4 2 2	0	0
7	С	1	Total C O 4 2 2	0	0

• Molecule 8 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	В	4	Total Ca 4 4	0	0

• Molecule 9 is 8-DEETHYL-8-[BUT-3-ENYL]-ASCOMYCIN (three-letter code: FK5) (formula:  $C_{44}H_{69}NO_{12}$ ).





Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
9	С	1	Total 57	C 44	N 1	O 12	0	0

### • Molecule 10 is water.

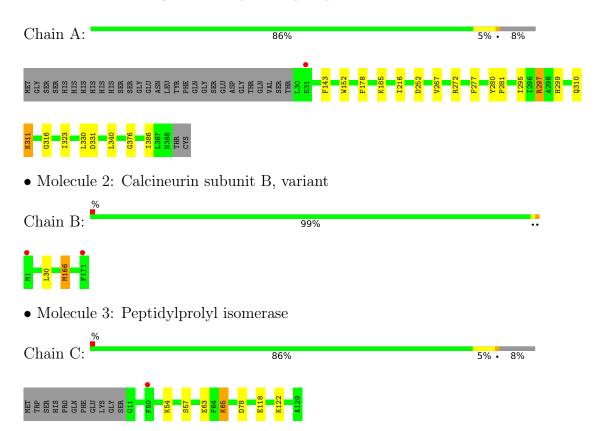
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	424	Total O 424 424	0	0
10	В	174	Total O 174 174	0	0
10	С	89	Total O 89 89	0	0



# 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: Serine/threonine-protein phosphatase





# 4 Data and refinement statistics (i)

Property	Value	Source	
Space group	P 21 21 2	Depositor	
Cell constants	94.67Å 154.63Å 64.75Å	Donositor	
a, b, c, $\alpha$ , $\beta$ , $\gamma$	90.00° 90.00° 90.00°	Depositor	
Resolution (Å)	45.27 - 1.85	Depositor	
Resolution (A)	47.33 - 1.85	EDS	
% Data completeness	100.0 (45.27-1.85)	Depositor	
(in resolution range)	100.0 (47.33-1.85)	EDS	
$R_{merge}$	0.09	Depositor	
$R_{sym}$	(Not available)	Depositor	
$< I/\sigma(I) > 1$	3.99 (at 1.86Å)	Xtriage	
Refinement program	PHENIX (PHENIX.REFINE: DEV_1932)	Depositor	
$R, R_{free}$	0.145 , $0.172$	Depositor	
it, it free	0.145 , $0.172$	DCC	
$R_{free}$ test set	4019 reflections (4.91%)	wwPDB-VP	
Wilson B-factor (Å <sup>2</sup> )	19.5	Xtriage	
Anisotropy	0.366	Xtriage	
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	0.35, 56.8	EDS	
L-test for twinning <sup>2</sup>	$< L >=0.49, < L^2>=0.32$	Xtriage	
Estimated twinning fraction	No twinning to report.	Xtriage	
$F_o, F_c$ correlation	0.97	EDS	
Total number of atoms	6073	wwPDB-VP	
Average B, all atoms (Å <sup>2</sup> )	27.0	wwPDB-VP	

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 3.61% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>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.



<sup>&</sup>lt;sup>1</sup>Intensities estimated from amplitudes.

## 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: FK5, ZN, FE, MES, EDO, CA

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	Bo	nd lengths	Bond angles		
MIOI	Wioi Chain		RMSZ		# Z  > 5	
1	A	1.02	$2/3101 \ (0.1\%)$	0.83	0/4219	
2	В	0.77	0/1408	0.75	1/1886 (0.1%)	
3	С	0.73	0/932	0.72	0/1254	
All	All	0.91	$2/5441 \ (0.0\%)$	0.80	$1/7359 \ (0.0\%)$	

#### All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	Observed(A)	$\operatorname{Ideal}( ext{\AA})$
1	A	267	VAL	CB-CG1	-5.91	1.40	1.52
1	A	143	PHE	CE1-CZ	5.26	1.47	1.37

#### All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	В	166	MET	CG-SD-CE	6.32	110.32	100.20

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	2974	0	2874	21	0
2	В	1374	0	1336	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	С	912	0	898	4	0
4	A	1	0	0	0	0
5	A	1	0	0	0	0
6	A	19	0	16	9	0
7	A	24	0	36	2	0
7	В	8	0	12	0	0
7	С	12	0	18	1	0
8	В	4	0	0	0	0
9	С	57	0	69	0	0
10	A	424	0	0	7	0
10	В	174	0	0	0	0
10	С	89	0	0	0	0
All	All	6073	0	5259	32	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 3.

The worst 5 of 32 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	$\begin{array}{c} {\rm Interatomic} \\ {\rm distance} \ ({\rm \AA}) \end{array}$	$\begin{array}{c} \text{Clash} \\ \text{overlap } (\text{\AA}) \end{array}$
1:A:272:ARG:HH12	6:A:403:MES:H82	1.20	1.06
1:A:272:ARG:NH1	6:A:403:MES:H82	1.85	0.91
3:C:63[B]:GLU:HG3	3:C:65:LYS:HE2	1.66	0.77
1:A:272:ARG:HH12	6:A:403:MES:C8	1.99	0.74
2:B:166:MET:HA	2:B:166:MET:HE2	1.73	0.71

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	Percer	ntiles
1	A	369/390~(95%)	357 (97%)	11 (3%)	1 (0%)	41	26
2	В	174/171 (102%)	172 (99%)	2 (1%)	0	100	100
3	С	118/130 (91%)	112 (95%)	6 (5%)	0	100	100
All	All	661/691 (96%)	641 (97%)	19 (3%)	1 (0%)	47	33

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	178	PHE

#### 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	321/344~(93%)	318 (99%)	3 (1%)	78 72
2	В	155/155 (100%)	155 (100%)	0	100 100
3	С	95/109~(87%)	93 (98%)	2 (2%)	53 38
All	All	571/608 (94%)	566 (99%)	5 (1%)	78 72

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	152	TRP
1	A	297	ARG
1	A	311	LYS
3	С	65	LYS
3	С	78	ASP

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

#### 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)

Of 20 ligands modelled in this entry, 6 are monoatomic - leaving 14 for Mogul analysis.

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	Trino	Chain	Res	Link	В	ond leng	$\operatorname{gths}$	В	ond ang	gles
IVIOI	Type	Chain	nes	Lilik	Counts	RMSZ	# Z >2	Counts	RMSZ	# Z  > 2
7	EDO	A	408	-	3,3,3	0.73	0	2,2,2	0.43	0
6	MES	A	403	5,4	6,6,12	3.88	2 (33%)	6,8,16	2.22	1 (16%)
7	EDO	С	203	-	3,3,3	0.45	0	2,2,2	0.42	0
7	EDO	С	202	-	3,3,3	0.53	0	2,2,2	0.23	0
7	EDO	A	406	-	3,3,3	0.73	0	2,2,2	0.13	0
7	EDO	A	410	-	3,3,3	0.29	0	2,2,2	2.27	1 (50%)
7	EDO	A	409	-	3,3,3	0.65	0	2,2,2	0.68	0
7	EDO	С	204	-	3,3,3	0.56	0	2,2,2	0.24	0
6	MES	A	404	-	12,12,12	1.54	1 (8%)	14,16,16	2.45	6 (42%)
7	EDO	A	405	-	3,3,3	0.73	0	2,2,2	0.55	0
9	FK5	С	201	-	54,60,60	3.23	13 (24%)	64,86,86	1.96	15 (23%)
7	EDO	В	206	-	3,3,3	0.44	0	2,2,2	0.67	0
7	EDO	A	407	-	3,3,3	0.58	0	2,2,2	0.88	0
7	EDO	В	205	-	3,3,3	0.80	0	2,2,2	0.27	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
7	EDO	A	408	-	-	0/1/1/1	-
6	MES	A	403	5,4	-	2/4/4/14	-
7	EDO	С	203	-	-	0/1/1/1	-
7	EDO	С	202	-	-	0/1/1/1	-
7	EDO	A	406	_	-	0/1/1/1	-
7	EDO	A	410	-	-	0/1/1/1	1
7	EDO	A	409	_	-	0/1/1/1	-
7	EDO	С	204	_	-	1/1/1/1	ı
6	MES	A	404	-	-	2/6/14/14	0/1/1/1
7	EDO	A	405	_	-	0/1/1/1	-
9	FK5	С	201	-	-	6/68/114/114	0/3/4/4
7	EDO	В	206	-	-	0/1/1/1	-
7	EDO	A	407	-	-	0/1/1/1	-
7	EDO	В	205	-	-	0/1/1/1	-

The worst 5 of 16 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$\operatorname{Observed}(\textup{\AA})$	$\operatorname{Ideal}(\text{\AA})$
9	С	201	FK5	C8-C9	-10.45	1.40	1.53
9	С	201	FK5	C20-C19	9.77	1.48	1.33
9	С	201	FK5	O4-C9	9.25	1.38	1.22
6	A	403	MES	C8-S	-9.07	1.64	1.77
9	С	201	FK5	O9-C22	9.07	1.37	1.21

The worst 5 of 23 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	$\mathbf{Z}$	$Observed(^o)$	$Ideal(^{o})$
9	С	201	FK5	O1-C1-C2	6.38	124.84	110.78
6	A	404	MES	C5-N4-C3	5.58	121.38	108.83
9	С	201	FK5	C21-C20-C19	-5.12	122.39	127.64
6	A	403	MES	O3S-S-C8	4.33	112.76	105.77
9	С	201	FK5	C9-C8-N7	4.21	124.06	119.25

There are no chirality outliers.

5 of 11 torsion outliers are listed below:

Mol	Chain	$\operatorname{Res}$	Type	Atoms
6	A	403	MES	N4-C7-C8-S
6	A	403	MES	C7-C8-S-O2S
9	С	201	FK5	C15-C16-C17-C36
6	A	404	MES	C8-C7-N4-C5
9	С	201	FK5	C13-C14-C15-O8



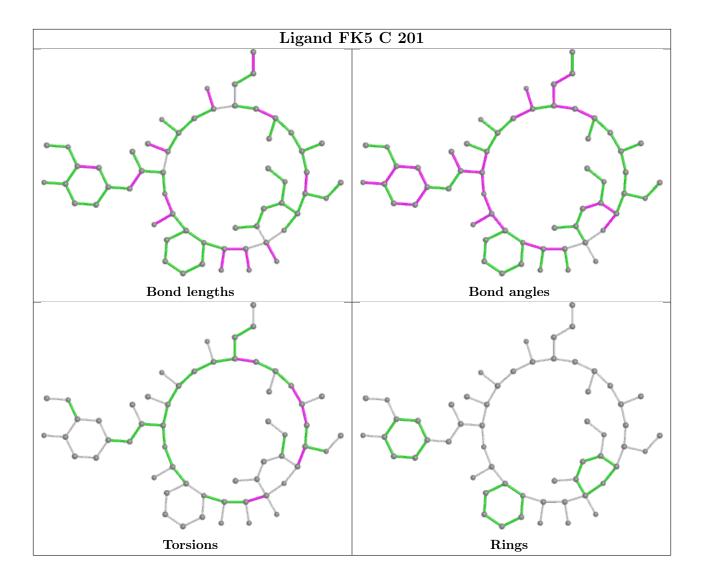
There are no ring outliers.

4 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	A	403	MES	9	0
7	С	203	EDO	1	0
7	A	410	EDO	1	0
7	A	405	EDO	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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.





## 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,  $95^{th}$  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>	# RSRZ > 2	$OWAB(A^2)$	Q<0.9
1	A	359/390~(92%)	-0.41	1 (0%) 94 93	10, 17, 42, 61	0
2	В	171/171 (100%)	-0.41	2 (1%) 79 79	16, 28, 44, 80	0
3	С	119/130 (91%)	-0.18	1 (0%) 86 86	21, 37, 54, 70	0
All	All	649/691 (93%)	-0.37	4 (0%) 89 89	10, 23, 48, 80	0

All (4) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	В	171	PHE	4.9
2	В	1	MET	4.8
3	С	50	PHE	2.4
1	A	31	GLU	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)

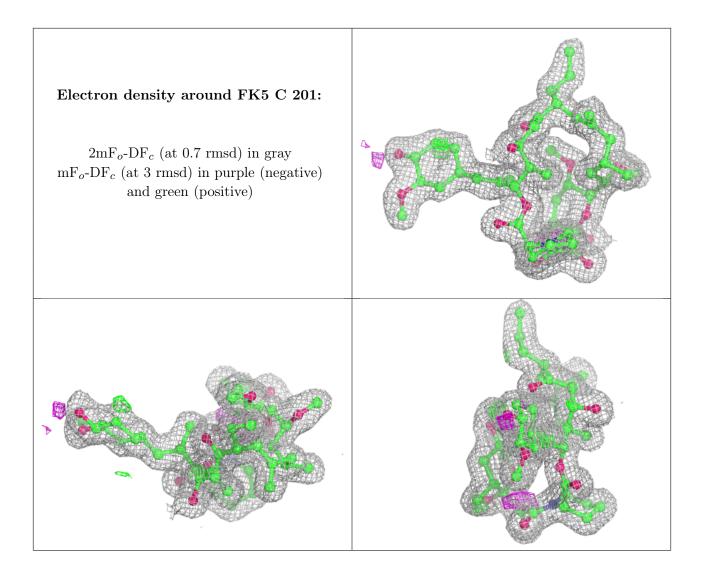
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median,  $95^{th}$  percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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



Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q < 0.9
7	EDO	С	204	4/4	0.74	0.21	56,57,59,59	0
7	EDO	В	205	4/4	0.77	0.25	42,48,49,51	0
7	EDO	A	408	4/4	0.83	0.19	43,44,44,48	0
7	EDO	A	405	4/4	0.84	0.17	34,38,38,40	0
7	EDO	A	410	4/4	0.89	0.20	18,23,25,37	0
7	EDO	С	203	4/4	0.91	0.13	54,55,56,58	0
7	EDO	В	206	4/4	0.93	0.15	38,39,43,49	0
7	EDO	С	202	4/4	0.94	0.18	48,48,49,49	0
7	EDO	A	409	4/4	0.94	0.18	22,32,36,37	0
6	MES	A	404	12/12	0.94	0.15	20,25,29,31	12
6	MES	A	403	7/12	0.96	0.16	20,21,25,29	7
7	EDO	A	406	4/4	0.96	0.14	18,27,30,33	0
9	FK5	С	201	57/57	0.96	0.07	13,19,25,26	0
7	EDO	A	407	4/4	0.97	0.08	21,22,22,24	0
8	CA	В	204	1/1	0.98	0.04	26,26,26,26	0
8	CA	В	203	1/1	0.98	0.05	26,26,26,26	0
8	CA	В	201	1/1	0.99	0.06	20,20,20,20	0
4	ZN	A	401	1/1	0.99	0.07	19,19,19,19	1
8	CA	В	202	1/1	1.00	0.05	21,21,21,21	0
5	FE	A	402	1/1	1.00	0.07	15,15,15,15	1

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.





# 6.5 Other polymers (i)

There are no such residues in this entry.

