

wwPDB X-ray Structure Validation Summary Report (i)

May 15, 2020 – 04:33 am BST

PDB ID : 6QCJ

Title: Human Sirt6 in complex with ADP-ribose and the inhibitor catechin gallate

Authors: You, W.; Steegborn, C.

Deposited on : 2018-12-28

Resolution : 2.01 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 following versions of software and data (see references (1)) 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 : 2.11

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)

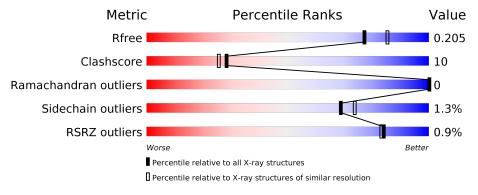
Validation Pipeline (wwPDB-VP) : 2.11

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 2.01 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	$\begin{array}{c} \text{Whole archive} \\ (\#\text{Entries}) \end{array}$	$\begin{array}{c} {\rm Similar \; resolution} \\ (\#{\rm Entries, \; resolution \; range(\AA)}) \end{array}$
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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 on 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	302	70%	22%	• 7%
1	В	302	76%	16%	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
5	SO4	A	406	-	-	X	-



2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 4693 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 NAD-dependent protein deacetylase sirtuin-6.

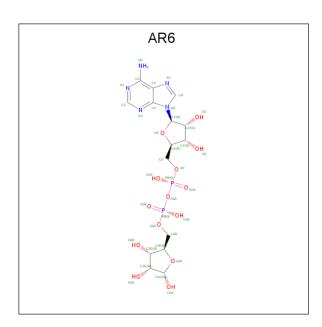
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
1	A	282	Total 2202	C 1385	N 403	O 403	S 11	0	0	0
1	В	277	Total 2148	C 1352	N 392	O 393	S 11	0	0	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	GLY	=	expression tag	UNP Q8N6T7
A	8	ILE	-	expression tag	UNP Q8N6T7
A	9	ASP	_	expression tag	UNP Q8N6T7
A	10	PRO	_	expression tag	UNP Q8N6T7
A	11	PHE	_	expression tag	UNP Q8N6T7
A	12	THR	_	expression tag	UNP Q8N6T7
В	7	GLY	_	expression tag	UNP Q8N6T7
В	8	ILE	_	expression tag	UNP Q8N6T7
В	9	ASP	_	expression tag	UNP Q8N6T7
В	10	PRO	_	expression tag	UNP Q8N6T7
В	11	PHE	-	expression tag	UNP Q8N6T7
В	12	THR	_	expression tag	UNP Q8N6T7

• Molecule 2 is $[(2R,3S,4R,5R)-5-(6-AMINOPURIN-9-YL)-3,4-DIHYDROXY-OXOLAN-2-YL]METHYL [HYDROXY-[[(2R,3S,4R,5S)-3,4,5-TRIHYDROXYOXOLAN-2-YL]ME THOXY]PHOSPHORYL] HYDROGEN PHOSPHATE (three-letter code: AR6) (formula: <math>C_{15}H_{23}N_5O_{14}P_2$).





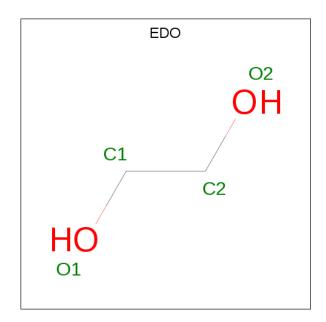
Mol	Chain	Residues	${f Atoms}$			ZeroOcc	AltConf					
9	A	1	Total	С	N	О	Р	0	0			
		1	36	15	5	14	2	U				
9	В	D	D	D	1	Total	С	N	О	Р	0	0
2		$B \mid I \mid$	36	15	5	14	2	0	U			

 \bullet Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mo	Chain	Residues	Atoms	ZeroOcc	AltConf
3	В	1	Total Zn 1 1	0	0
3	A	1	Total Zn 1 1	0	0

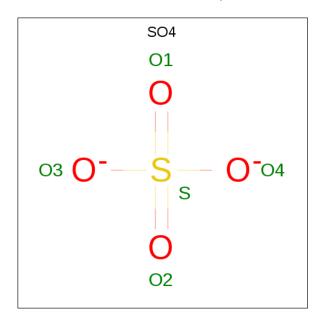
 \bullet Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $\mathrm{C_2H_6O_2}).$





\mathbf{M}	ol	Chain	Residues	Atoms		ZeroOcc	AltConf	
4		A	1	Total 4	C 2	O 2	0	0

 \bullet Molecule 5 is SULFATE ION (three-letter code: SO4) (formula: $\mathrm{O_4S}).$



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

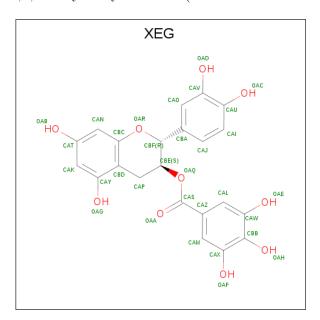
Continued on next page...



Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	
5	В	1	Total O S	0	0	
			5 4 1			
5	B	1	Total O S	0	0	
		1	5 4 1	U	Ü	
5	D	1	Total O S	0	0	
0	Б	1	5 4 1	0		
5	D	1	Total O S	0	0	
)	В	В	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		U	

• Molecule 6 is (2R,3S)-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-3,4-dihydro-2H-chromen-3-yl 3,4,5-trihydroxybenzoate (three-letter code: XEG) (formula: $C_{22}H_{18}O_{10}$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C O 32 22 10	0	0
6	В	1	Total C O 32 22 10	0	0

• Molecule 7 is water.

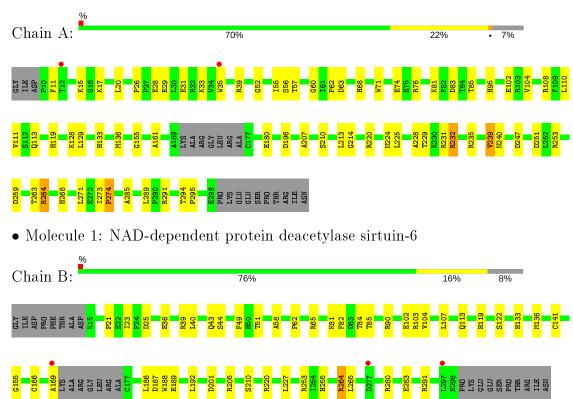
Mol	Chain	Residues	${f Atoms}$	ZeroOcc	AltConf
7	A	89	Total O 89 89	0	0
7	В	77	Total O 77 77	0	0



3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA 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: NAD-dependent protein deacetylase sirtuin-6





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 63	Depositor
Cell constants	91.92Å 91.92Å 144.37Å	Depositor
a, b, c, α , β , γ	90.00° 90.00° 120.00°	Depositor
Resolution (Å)	45.96 - 2.01	Depositor
Resolution (A)	45.96 - 2.01	EDS
% Data completeness	98.9 (45.96-2.01)	Depositor
(in resolution range)	98.9 (45.96-2.01)	EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	1.03 (at 2.01Å)	Xtriage
Refinement program	REFMAC 5.8.0238	Depositor
D D.	0.163 , 0.199	Depositor
R, R_{free}	0.170 , 0.205	DCC
R_{free} test set	2100 reflections (4.66%)	wwPDB-VP
Wilson B-factor (Å ²)	32.7	Xtriage
Anisotropy	0.720	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$, $B_{sol}(Å^2)$	0.34 , 34.4	EDS
L-test for twinning ²	$< L >=0.38, < L^2>=0.21$	Xtriage
Estimated twinning fraction	0.428 for h,-h-k,-l	Xtriage
Reported twinning fraction	0.561 for H, K, L	Depositor
Reported twinning fraction	0.439 for -K, -H, -L	Depositor
Outliers	0 of 45089 reflections	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	4693	wwPDB-VP
Average B, all atoms (Å ²)	41.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 4.24% of the height of the origin peak. No significant pseudotranslation is detected.

²Theoretical 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.



¹Intensities 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: ZN, XEG, EDO, AR6, SO4

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	l Chain Bor		nd lengths	Bond angles	
IVIOI	Chain	RMSZ	# Z > 5	RMSZ	# Z >5
1	A	1.00	$6/2251 \ (0.3\%)$	1.17	3/3054 (0.1%)
1	В	0.91	$1/2195 \ (0.0\%)$	1.09	4/2980 (0.1%)
All	All	0.96	7/4446 (0.2%)	1.13	7/6034 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	5

The worst 5 of 7 bond length outliers are listed below:

Mol	Chain	${f Res}$	Type	Atoms	\mathbf{Z}	${f Observed(\AA)}$	$\mathbf{Ideal}(\mathbf{\AA})$
1	A	56	SER	CA-CB	-6.28	1.43	1.52
1	A	83	ASP	C-O	6.13	1.35	1.23
1	A	239	VAL	C-O	5.91	1.34	1.23
1	A	85	THR	C-O	5.84	1.34	1.23
1	A	210	SER	CA-CB	-5.79	1.44	1.52

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	\mathbf{Z}	$\mathbf{Observed}(^o)$	$\operatorname{Ideal}({}^{o})$
1	A	264	ARG	CG-CD-NE	-9.29	92.30	111.80
1	В	280	ARG	CG-CD-NE	-7.62	95.80	111.80
1	В	65	ARG	NE-CZ-NH1	7.00	123.80	120.30
1	В	264	ARG	CG-CD-NE	-6.76	97.61	111.80
1	A	57	THR	CA-CB-OG1	5.84	121.27	109.00



There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	111	VAL	Mainchain
1	A	232	ARG	Peptide
1	A	271	LEU	Mainchain
1	A	62	PRO	Mainchain
1	A	68	HIS	Mainchain

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	2202	0	2208	48	1
1	В	2148	0	2149	31	0
2	A	36	0	21	2	0
2	В	36	0	20	0	0
3	A	1	0	0	0	0
3	В	1	0	0	0	0
4	A	4	0	6	0	0
5	A	15	0	0	3	0
5	В	20	0	0	1	0
6	A	32	0	15	6	0
6	В	32	0	16	8	0
7	A	89	0	0	17	0
7	В	77	0	0	12	0
All	All	4693	0	4435	88	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 10.

The worst 5 of 88 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	$egin{array}{ll} ext{Interatomic} \ ext{distance} \ (ext{\AA}) \end{array}$	$egin{aligned} ext{Clash} \ ext{overlap} \ (ext{\AA}) \end{aligned}$
1:A:213:LEU:HG	7:A:514:HOH:O	1.50	1.09
1:A:20:LEU:HD13	7:A:538:HOH:O	1.71	0.90
1:B:49:PHE:HB3	7:B:565:HOH:O	1.70	0.88

Continued on next page...



Continued from previous page...

Atom-1	Atom-2	$egin{aligned} ext{Interatomic} \ ext{distance} \ (ext{Å}) \end{aligned}$	$egin{aligned} ext{Clash} \ ext{overlap } (ext{Å}) \end{aligned}$
1:A:220:ARG:HG3	5:A:406:SO4:O3	1.74	0.87
1:A:232:ARG:NH1	5:A:405:SO4:O4	2.11	0.83

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	$egin{aligned} ext{Interatomic} \ ext{distance} \ (ext{Å}) \end{aligned}$	Clash overlap (Å)	
1:A:11:PHE:O	1:A:17:LYS:CE[2_565]	2.17	0.03	

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	Perce	\mathbf{ntiles}
1	A	$278/302 \ (92\%)$	270 (97%)	8 (3%)	0	100	100
1	В	$273/302 \ (90\%)$	263 (96%)	10 (4%)	0	100	100
All	All	551/604 (91%)	533 (97%)	18 (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	$239/256 \ (93\%)$	235 (98%)	4 (2%)	60 65	

Continued on next page...



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
1	В	232/256 (91%)	230 (99%)	2 (1%)	78 83		
All	All	471/512 (92%)	465 (99%)	6 (1%)	69 74		

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	196	ASP
1	В	220	ARG
1	A	274	PRO
1	A	81	LYS
1	В	81	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type	
1	A	113	GLN	

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

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

5.5 Carbohydrates (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

Of 14 ligands modelled in this entry, 2 are monoatomic - leaving 12 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	Tuna	Chain	Res	Link	В	ond leng	${ m gths}$	В	ond ang	gles
MIOI	Type	Chain	nes	LIIIK	Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z >2
5	SO4	В	403	_	4,4,4	0.55	0	6,6,6	0.33	0
5	SO4	В	406	_	4,4,4	0.28	0	6,6,6	0.32	0
4	EDO	A	403	_	3,3,3	0.41	0	2,2,2	0.08	0
5	SO4	A	404	_	4,4,4	0.45	0	6,6,6	0.37	0
5	SO4	A	405	_	4,4,4	0.41	0	6,6,6	0.13	0
5	SO4	В	405	_	4,4,4	0.38	0	6,6,6	0.12	0
2	AR6	A	401	_	34,39,39	2.50	12 (35%)	40,60,60	1.94	12 (30%)
2	AR6	В	401	_	34,39,39	2.08	10 (29%)	40,60,60	2.32	12 (30%)
5	SO4	A	406	-	4,4,4	0.41	0	6,6,6	0.24	0
5	SO4	В	404	_	4,4,4	0.35	0	6,6,6	0.12	0
6	XEG	В	407	-	35,35,35	0.72	0	52,52,52	1.26	5 (9%)
6	XEG	A	407	-	35,35,35	1.24	3 (8%)	52,52,52	1.92	18 (34%)

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	${f Torsions}$	Rings
4	EDO	A	403	_	-	1/1/1/1	-
2	AR6	В	401	-	-	2/18/54/54	0/4/4/4
2	AR6	A	401	-	-	2/18/54/54	0/4/4/4
6	XEG	В	407	-	-	5/12/24/24	0/4/4/4
6	XEG	A	407	_	-	3/12/24/24	0/4/4/4

The worst 5 of 25 bond length outliers are listed below:

Mol	Chain	${f Res}$	Type	Atoms	Z	${f Observed(\AA)}$	$\mathbf{Ideal}(\mathbf{\AA})$
2	A	401	AR6	C3'-C2'	6.55	1.71	1.53
2	A	401	AR6	O4'-C1'	5.76	1.49	1.41
2	В	401	AR6	C2-N3	5.58	1.41	1.32
2	A	401	AR6	O3D-C3D	4.46	1.53	1.43
2	A	401	AR6	C2-N3	4.42	1.39	1.32

The worst 5 of 47 bond angle outliers are listed below:



Mol	Chain	Res	Type	Atoms	Z	$\mathbf{Observed}(^o)$	$\operatorname{Ideal}({}^o)$
2	В	401	AR6	O1D-C1D-O4D	-6.04	103.39	111.13
2	В	401	AR6	N3-C2-N1	-5.86	119.52	128.68
6	A	407	XEG	CBE-OAQ-CAS	5.20	126.42	117.38
2	В	401	AR6	C4-C5-N7	-4.69	104.51	109.40
2	A	401	AR6	C4-C5-N7	-4.68	104.52	109.40

There are no chirality outliers.

5 of 13 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	AR6	C5D-O5D-PB-O2B
6	В	407	XEG	CBF-CBE-OAQ-CAS
6	A	407	XEG	CAZ-CAS-OAQ-CBE
6	A	407	XEG	OAA-CAS-OAQ-CBE
6	A	407	XEG	CBF-CBE-OAQ-CAS

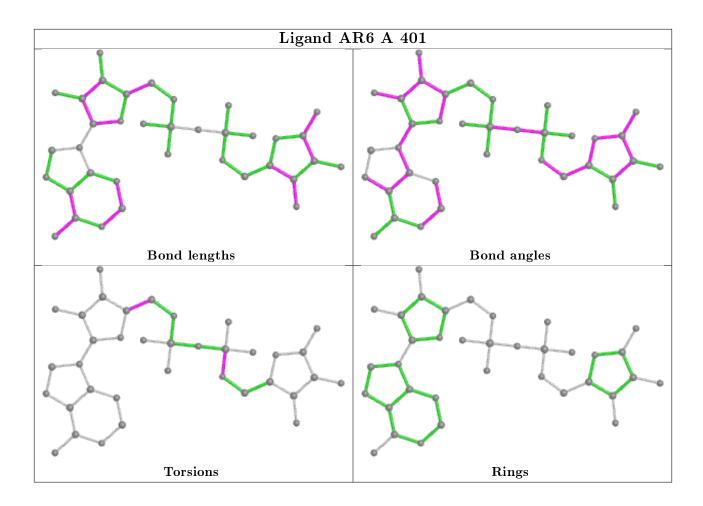
There are no ring outliers.

6 monomers are involved in 20 short contacts:

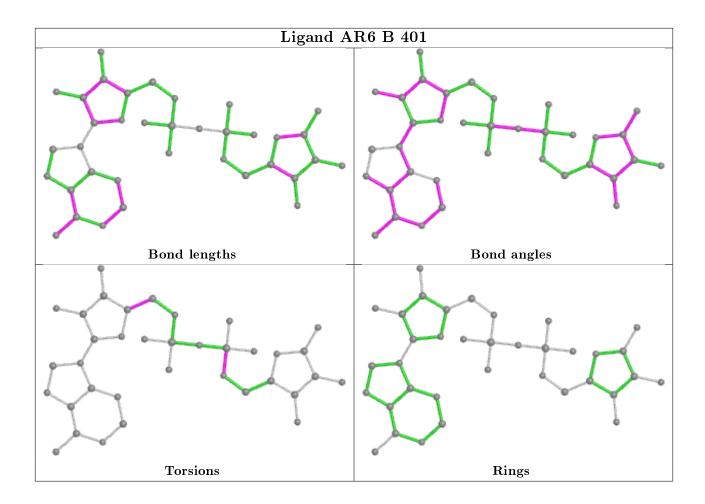
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	A	405	SO4	1	0
2	A	401	AR6	2	0
5	A	406	SO4	2	0
5	В	404	SO4	1	0
6	В	407	XEG	8	0
6	A	407	XEG	6	0

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.

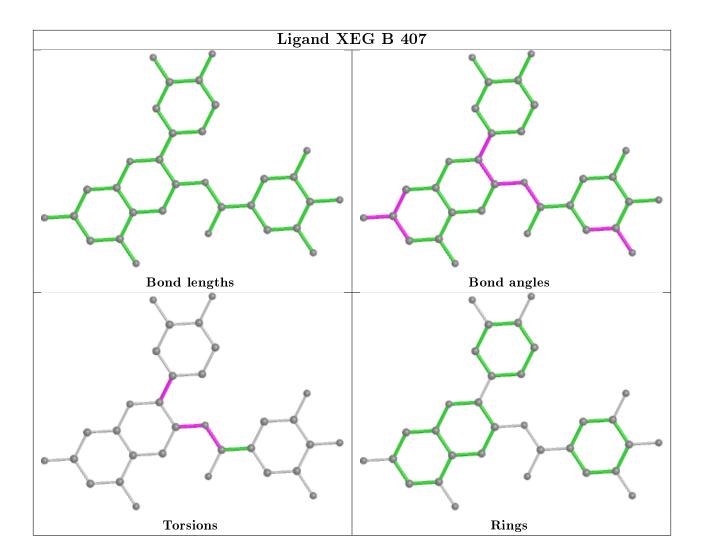




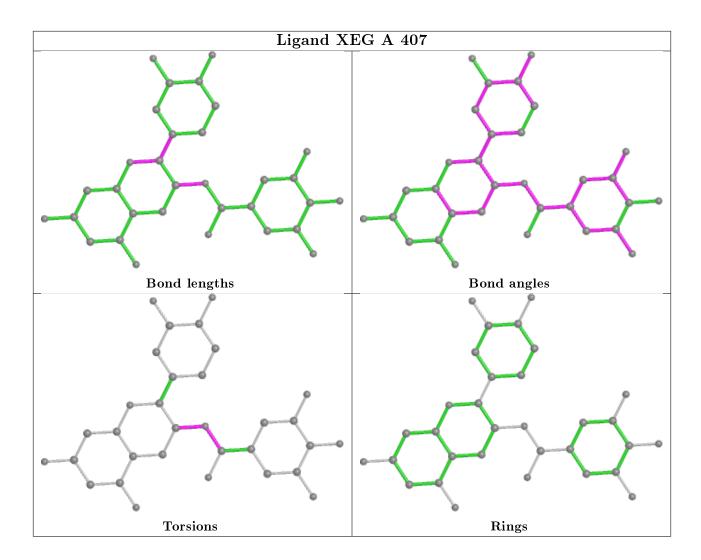












5.7 Other polymers (i)

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		$\mathbf{OWAB}(\mathbf{\mathring{A}}^2)$	Q < 0.9
1	A	$282/302 \ (93\%)$	-0.25	2 (0%)	87 87	18, 36, 58, 82	0
1	В	277/302 (91%)	-0.19	3 (1%)	80 79	24, 41, 64, 89	0
All	All	559/604 (92%)	-0.22	5 (0%)	84 83	18, 40, 61, 89	0

All (5) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	В	277	ASP	3.4
1	В	169	ALA	2.7
1	A	35	TRP	2.7
1	A	12	THR	2.3
1	В	297	LEU	2.2

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 carbohydrates in this entry.

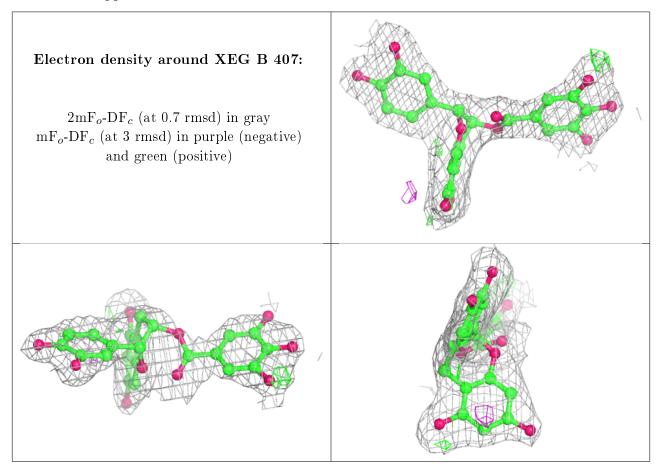
6.4 Ligands (i)

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.

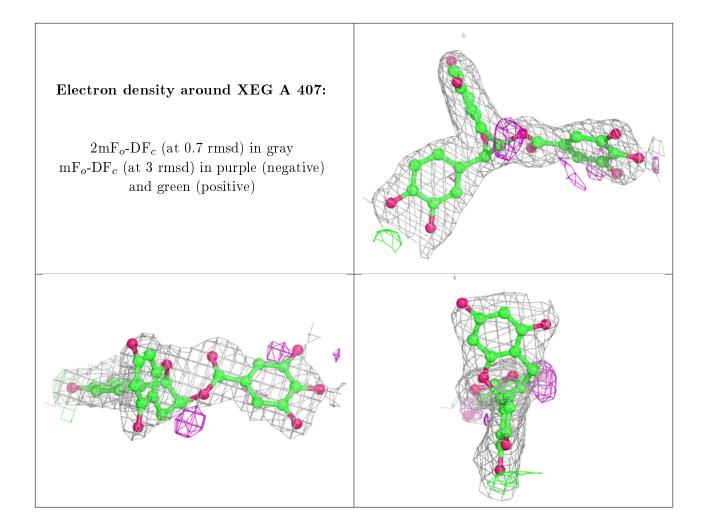


Mol	Type	Chain	Res	Atoms	RSCC	RSR	${f B\text{-factors}}({f \AA}^2)$	Q < 0.9
4	EDO	A	403	4/4	0.86	0.14	48,51,52,53	0
6	XEG	В	407	32/32	0.87	0.14	32,50,73,81	0
5	SO4	A	405	5/5	0.88	0.22	93,98,102,109	0
6	XEG	A	407	32/32	0.93	0.14	29,41,74,79	0
5	SO4	В	404	5/5	0.95	0.10	50,51,64,65	0
2	AR6	В	401	36/36	0.96	0.09	22,34,42,46	0
5	SO4	A	406	5/5	0.96	0.11	60,60,72,86	0
5	SO4	В	406	5/5	0.96	0.07	36,46,54,62	0
5	SO4	В	405	5/5	0.96	0.08	60,65,74,74	0
2	AR6	A	401	36/36	0.96	0.10	12,26,34,37	0
3	ZN	В	402	1/1	0.97	0.12	56,56,56,56	0
5	SO4	A	404	5/5	0.97	0.07	48,50,57,67	0
3	ZN	A	402	1/1	0.98	0.13	52,52,52,52	0
5	SO4	В	403	5/5	0.99	0.08	34,39,41,54	0

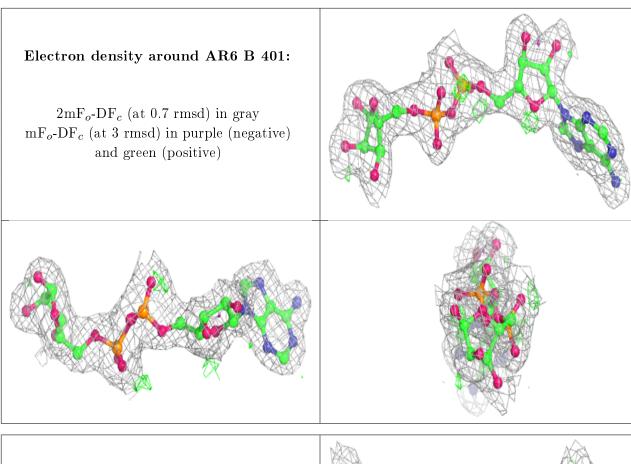
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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





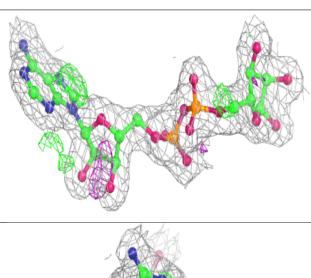


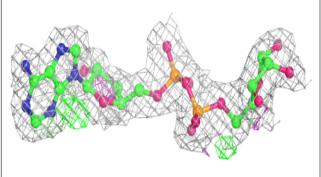


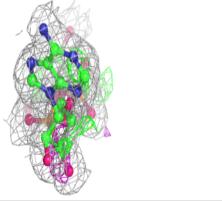


Electron density around AR6 A 401:

 $2 {\rm mF}_o\text{-}{\rm DF}_c$ (at 0.7 rmsd) in gray ${\rm mF}_o\text{-}{\rm DF}_c$ (at 3 rmsd) in purple (negative) and green (positive)









6.5 Other polymers (i)

There are no such residues in this entry.

