wwPDB X-ray Structure Validation Summary Report (i)

Oct 19, 2026 – 01:08 pm BST

PDB ID	:	9QY6 / pdb_00009qy6
Title	:	Structure of paDXPS in complex with small molecule inhibitor
Authors	:	Lacour, A.M.L.; Hirsch, A.K.H.
Deposited on	:	2025-04-17
Resolution	:	1.91 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:

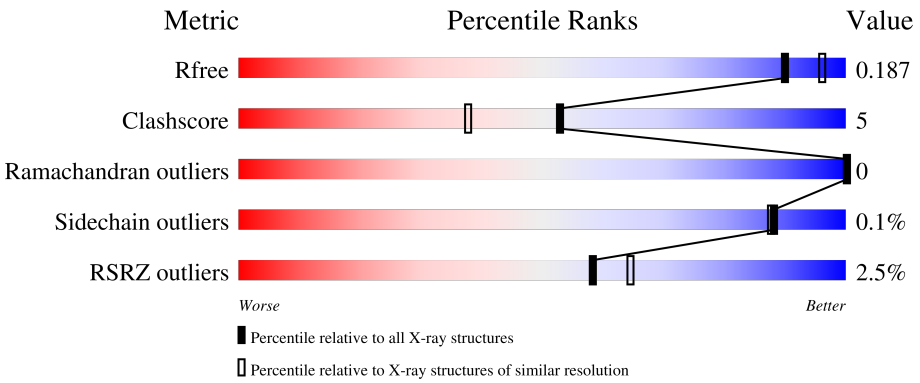
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

1 Overall quality at a glance (i)

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

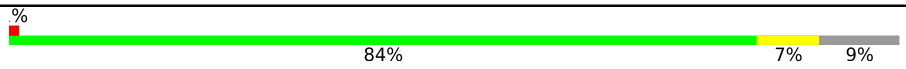
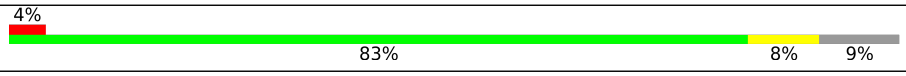
The reported resolution of this entry is 1.91 Å.

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}	180053	1188 (1.92-1.92)
Clashscore	190562	1209 (1.92-1.92)
Ramachandran outliers	187476	1195 (1.92-1.92)
Sidechain outliers	187428	1195 (1.92-1.92)
RSRZ outliers	180081	1188 (1.92-1.92)

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	622	
1	B	622	

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 18481 atoms, of which 8627 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 1-deoxy-D-xylulose-5-phosphate synthase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
1	A	567	8635	2736	4298	755	825	21	0	6	0
1	B	566	8594	2725	4279	751	818	21	0	0	0

There are 132 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MET	-	initiating methionine	UNP B7V7R4
A	2	GLY	-	expression tag	UNP B7V7R4
A	3	SER	-	expression tag	UNP B7V7R4
A	4	SER	-	expression tag	UNP B7V7R4
A	5	HIS	-	expression tag	UNP B7V7R4
A	6	HIS	-	expression tag	UNP B7V7R4
A	7	HIS	-	expression tag	UNP B7V7R4
A	8	HIS	-	expression tag	UNP B7V7R4
A	9	HIS	-	expression tag	UNP B7V7R4
A	10	HIS	-	expression tag	UNP B7V7R4
A	11	SER	-	expression tag	UNP B7V7R4
A	12	SER	-	expression tag	UNP B7V7R4
A	13	GLY	-	expression tag	UNP B7V7R4
A	14	LEU	-	expression tag	UNP B7V7R4
A	15	VAL	-	expression tag	UNP B7V7R4
A	16	PRO	-	expression tag	UNP B7V7R4
A	17	ARG	-	expression tag	UNP B7V7R4
A	18	GLY	-	expression tag	UNP B7V7R4
A	19	SER	-	expression tag	UNP B7V7R4
A	20	MET	-	expression tag	UNP B7V7R4
A	21	GLU	-	expression tag	UNP B7V7R4
A	22	ASN	-	expression tag	UNP B7V7R4
A	23	LEU	-	expression tag	UNP B7V7R4
A	24	TYR	-	expression tag	UNP B7V7R4
A	25	PHE	-	expression tag	UNP B7V7R4

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Chain	Residue	Modelled	Actual	Comment	Reference
A	26	GLN	-	expression tag	UNP B7V7R4
A	27	SER	-	expression tag	UNP B7V7R4
A	28	HIS	-	expression tag	UNP B7V7R4
A	?	-	LEU	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	ARG	deletion	UNP B7V7R4
A	?	-	THR	deletion	UNP B7V7R4
A	?	-	TYR	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	MET	deletion	UNP B7V7R4
A	?	-	ARG	deletion	UNP B7V7R4
A	?	-	GLU	deletion	UNP B7V7R4
A	?	-	GLY	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	LYS	deletion	UNP B7V7R4
A	?	-	LYS	deletion	UNP B7V7R4
A	?	-	VAL	deletion	UNP B7V7R4
A	?	-	LEU	deletion	UNP B7V7R4
A	?	-	SER	deletion	UNP B7V7R4
A	?	-	ARG	deletion	UNP B7V7R4
A	?	-	LEU	deletion	UNP B7V7R4
A	?	-	PRO	deletion	UNP B7V7R4
A	?	-	GLY	deletion	UNP B7V7R4
A	?	-	ALA	deletion	UNP B7V7R4
A	?	-	TRP	deletion	UNP B7V7R4
A	?	-	GLU	deletion	UNP B7V7R4
A	?	-	ILE	deletion	UNP B7V7R4
A	?	-	ALA	deletion	UNP B7V7R4
A	?	-	ARG	deletion	UNP B7V7R4
A	?	-	ARG	deletion	UNP B7V7R4
A	?	-	THR	deletion	UNP B7V7R4
A	?	-	GLU	deletion	UNP B7V7R4
A	?	-	GLU	deletion	UNP B7V7R4
A	?	-	TYR	deletion	UNP B7V7R4
A	235	GLY	ALA	linker	UNP B7V7R4
A	236	GLY	LYS	linker	UNP B7V7R4
A	238	GLY	MET	linker	UNP B7V7R4
A	239	GLY	LEU	linker	UNP B7V7R4
A	240	GLY	VAL	linker	UNP B7V7R4
B	1	MET	-	initiating methionine	UNP B7V7R4

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Chain	Residue	Modelled	Actual	Comment	Reference
B	2	GLY	-	expression tag	UNP B7V7R4
B	3	SER	-	expression tag	UNP B7V7R4
B	4	SER	-	expression tag	UNP B7V7R4
B	5	HIS	-	expression tag	UNP B7V7R4
B	6	HIS	-	expression tag	UNP B7V7R4
B	7	HIS	-	expression tag	UNP B7V7R4
B	8	HIS	-	expression tag	UNP B7V7R4
B	9	HIS	-	expression tag	UNP B7V7R4
B	10	HIS	-	expression tag	UNP B7V7R4
B	11	SER	-	expression tag	UNP B7V7R4
B	12	SER	-	expression tag	UNP B7V7R4
B	13	GLY	-	expression tag	UNP B7V7R4
B	14	LEU	-	expression tag	UNP B7V7R4
B	15	VAL	-	expression tag	UNP B7V7R4
B	16	PRO	-	expression tag	UNP B7V7R4
B	17	ARG	-	expression tag	UNP B7V7R4
B	18	GLY	-	expression tag	UNP B7V7R4
B	19	SER	-	expression tag	UNP B7V7R4
B	20	MET	-	expression tag	UNP B7V7R4
B	21	GLU	-	expression tag	UNP B7V7R4
B	22	ASN	-	expression tag	UNP B7V7R4
B	23	LEU	-	expression tag	UNP B7V7R4
B	24	TYR	-	expression tag	UNP B7V7R4
B	25	PHE	-	expression tag	UNP B7V7R4
B	26	GLN	-	expression tag	UNP B7V7R4
B	27	SER	-	expression tag	UNP B7V7R4
B	28	HIS	-	expression tag	UNP B7V7R4
B	?	-	LEU	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	ARG	deletion	UNP B7V7R4
B	?	-	THR	deletion	UNP B7V7R4
B	?	-	TYR	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	MET	deletion	UNP B7V7R4
B	?	-	ARG	deletion	UNP B7V7R4
B	?	-	GLU	deletion	UNP B7V7R4
B	?	-	GLY	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	LYS	deletion	UNP B7V7R4
B	?	-	LYS	deletion	UNP B7V7R4

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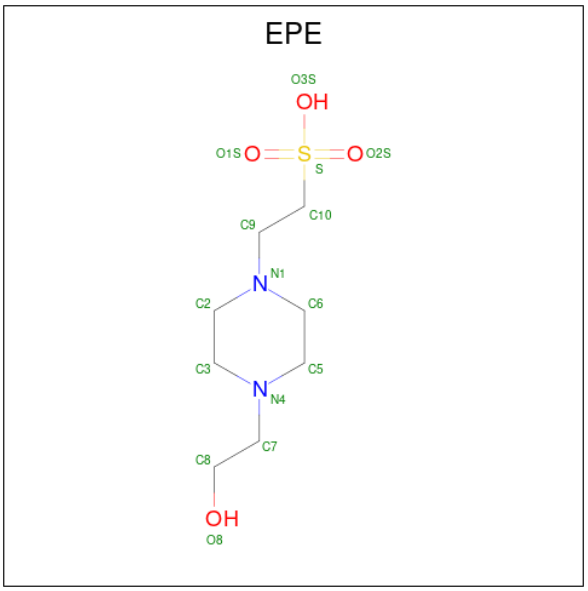
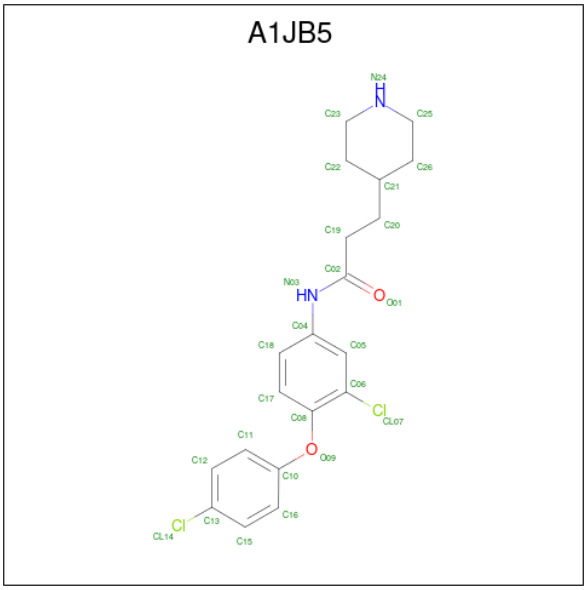
Chain	Residue	Modelled	Actual	Comment	Reference
B	?	-	VAL	deletion	UNP B7V7R4
B	?	-	LEU	deletion	UNP B7V7R4
B	?	-	SER	deletion	UNP B7V7R4
B	?	-	ARG	deletion	UNP B7V7R4
B	?	-	LEU	deletion	UNP B7V7R4
B	?	-	PRO	deletion	UNP B7V7R4
B	?	-	GLY	deletion	UNP B7V7R4
B	?	-	ALA	deletion	UNP B7V7R4
B	?	-	TRP	deletion	UNP B7V7R4
B	?	-	GLU	deletion	UNP B7V7R4
B	?	-	ILE	deletion	UNP B7V7R4
B	?	-	ALA	deletion	UNP B7V7R4
B	?	-	ARG	deletion	UNP B7V7R4
B	?	-	ARG	deletion	UNP B7V7R4
B	?	-	THR	deletion	UNP B7V7R4
B	?	-	GLU	deletion	UNP B7V7R4
B	?	-	GLU	deletion	UNP B7V7R4
B	?	-	TYR	deletion	UNP B7V7R4
B	235	GLY	ALA	linker	UNP B7V7R4
B	236	GLY	LYS	linker	UNP B7V7R4
B	238	GLY	MET	linker	UNP B7V7R4
B	239	GLY	LEU	linker	UNP B7V7R4
B	240	GLY	VAL	linker	UNP B7V7R4

- Molecule 2 is 4-(2-HYDROXYETHYL)-1-PIPERAZINE ETHANESULFONIC ACID (CCD ID: EPE) (formula: $C_8H_{18}N_2O_4S$).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
			Total	C	H	N	O	S		
2	A	1	32	8	17	2	4	1	0	0

- Molecule 3 is {N}-[3-chloranyl-4-(4-chloranylphenoxy)phenyl]-3-piperidin-4-yl-propanamide (CCD ID: A1JB5) (formula: $C_{20}H_{22}Cl_2N_2O_2$) (labeled as "Ligand of Interest" by depositor).

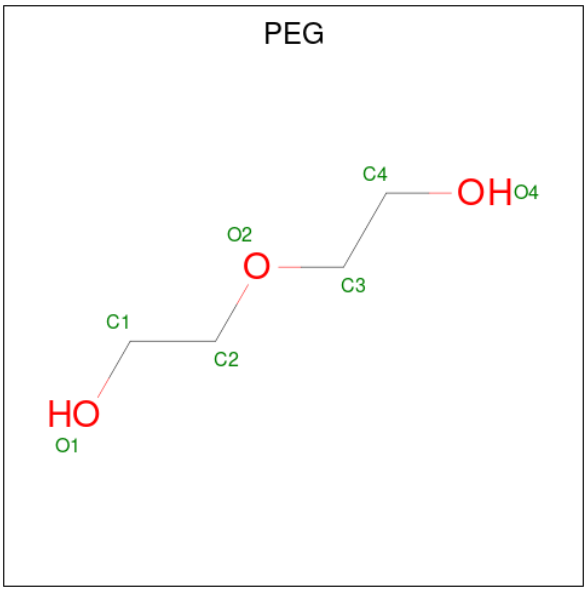


Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
			Total	C	Cl	H	N	O		
3	A	1	49	20	2	23	2	2	0	0

- Molecule 4 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Ca		
4	A	3	3	3	0	0
4	B	3	3	3	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
5	B	1	17	4	10	3	0	0

- Molecule 6 is water.

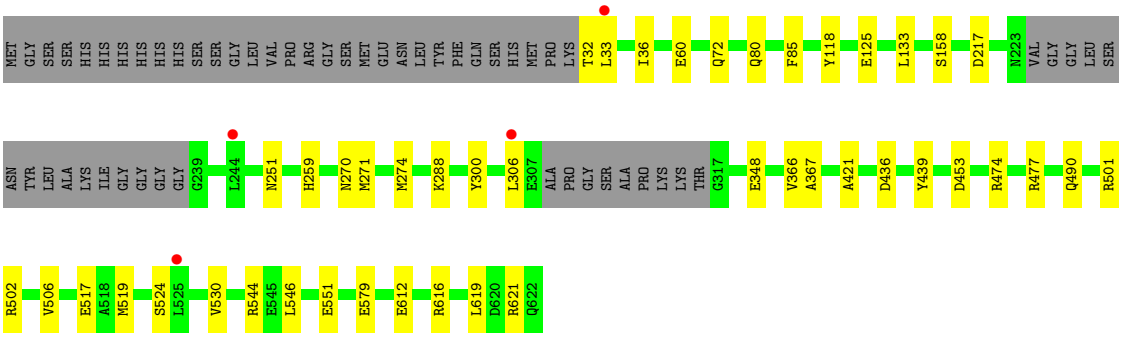
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
6	A	578	578	578	0	0
			Total	O		
6	B	570	570	570	0	0

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.

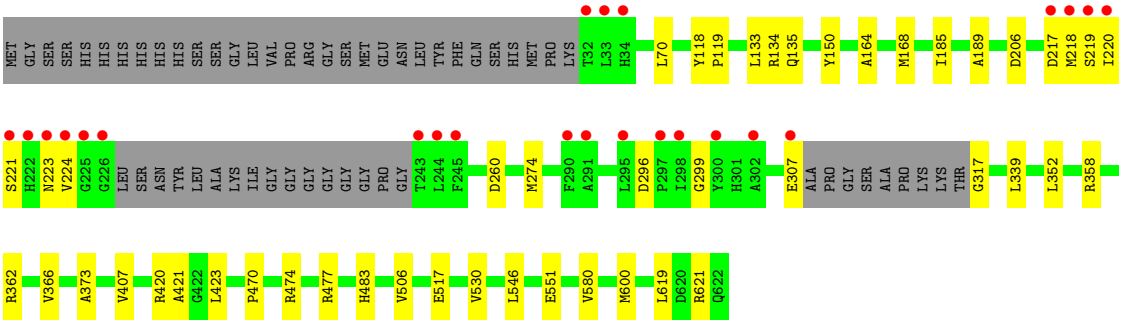
• Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain A:



• Molecule 1: 1-deoxy-D-xylulose-5-phosphate synthase

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	77.67Å 115.11Å 132.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	37.89 – 1.91 37.89 – 1.91	Depositor EDS
% Data completeness (in resolution range)	97.2 (37.89-1.91) 97.4 (37.89-1.91)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.31 (at 1.91Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.163 , 0.187 0.162 , 0.187	Depositor DCC
R_{free} test set	1999 reflections (2.15%)	wwPDB-VP
Wilson B-factor (Å^2)	22.1	Xtriage
Anisotropy	0.296	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.40 , 45.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	18481	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.12% of the height of the origin peak. No significant pseudotranslation is detected.*

[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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: EPE, CA, PEG, A1JB5

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	0.25	0/4444	0.44	0/6024
1	B	0.22	0/4400	0.42	0/5965
All	All	0.24	0/8844	0.43	0/11989

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	4337	4298	4279	42	0
1	B	4315	4279	4279	44	0
2	A	15	17	18	2	0
3	A	26	23	0	0	0
4	A	3	0	0	0	0
4	B	3	0	0	0	0
5	B	7	10	10	0	0
6	A	578	0	0	23	9
6	B	570	0	0	22	6
All	All	9854	8627	8586	86	12

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 5.

The worst 5 of 86 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:125:GLU:OE1	6:A:801:HOH:O	1.67	1.12
1:A:477:ARG:NH1	6:A:805:HOH:O	1.94	0.97
1:B:299:GLY:O	6:B:801:HOH:O	1.82	0.96
1:B:477:ARG:NH2	6:B:803:HOH:O	2.00	0.95
1:A:32:THR:N	6:A:806:HOH:O	2.00	0.94

The worst 5 of 12 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:849:HOH:O	6:A:1057:HOH:O[2_455]	1.80	0.40
6:A:1005:HOH:O	6:A:1177:HOH:O[2_454]	1.84	0.36
6:A:1001:HOH:O	6:A:1177:HOH:O[2_454]	1.89	0.31
6:A:1345:HOH:O	6:B:1230:HOH:O[2_455]	1.93	0.27
6:B:1217:HOH:O	6:B:1271:HOH:O[4_555]	1.95	0.25

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	567/622 (91%)	547 (96%)	20 (4%)	0	100	100
1	B	560/622 (90%)	543 (97%)	17 (3%)	0	100	100
All	All	1127/1244 (91%)	1090 (97%)	37 (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	454/490 (93%)	453 (100%)	1 (0%)	87	87
1	B	448/490 (91%)	448 (100%)	0	100	100
All	All	902/980 (92%)	901 (100%)	1 (0%)	88	88

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

Mol	Chain	Res	Type
1	A	217	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	80	GLN
1	A	490	GLN
1	A	617	GLN
1	B	135	GLN
1	B	371	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 9 ligands modelled in this entry, 6 are monoatomic - leaving 3 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	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	A1JB5	A	702	-	28,28,28	1.22	3 (10%)	37,37,37	1.28	2 (5%)
5	PEG	B	701	-	6,6,6	0.50	0	5,5,5	0.35	0
2	EPE	A	701	-	15,15,15	1.46	3 (20%)	18,20,20	2.32	7 (38%)

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	A1JB5	A	702	-	-	2/13/21/21	1/3/3/3
5	PEG	B	701	-	-	2/4/4/4	-
2	EPE	A	701	-	-	3/9/19/19	0/1/1/1

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	701	EPE	C10-S	4.37	1.83	1.77
3	A	702	A1JB5	C02-N03	4.08	1.44	1.35
3	A	702	A1JB5	C06-CL07	2.54	1.79	1.73
2	A	701	EPE	O1S-S	2.14	1.51	1.45
2	A	701	EPE	O2S-S	2.14	1.51	1.45

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	701	EPE	O3S-S-C10	5.76	115.09	105.77
3	A	702	A1JB5	C08-C06-CL07	3.54	123.58	119.43
2	A	701	EPE	O2S-S-O1S	-3.52	101.77	113.95
2	A	701	EPE	C6-C5-N4	3.38	117.58	110.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	701	EPE	C6-N1-C2	3.37	116.40	108.83

There are no chirality outliers.

5 of 7 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	701	EPE	N4-C7-C8-O8
5	B	701	PEG	O2-C3-C4-O4
5	B	701	PEG	O1-C1-C2-O2
3	A	702	A1JB5	C06-C08-O09-C10
2	A	701	EPE	C9-C10-S-O3S

All (1) ring outliers are listed below:

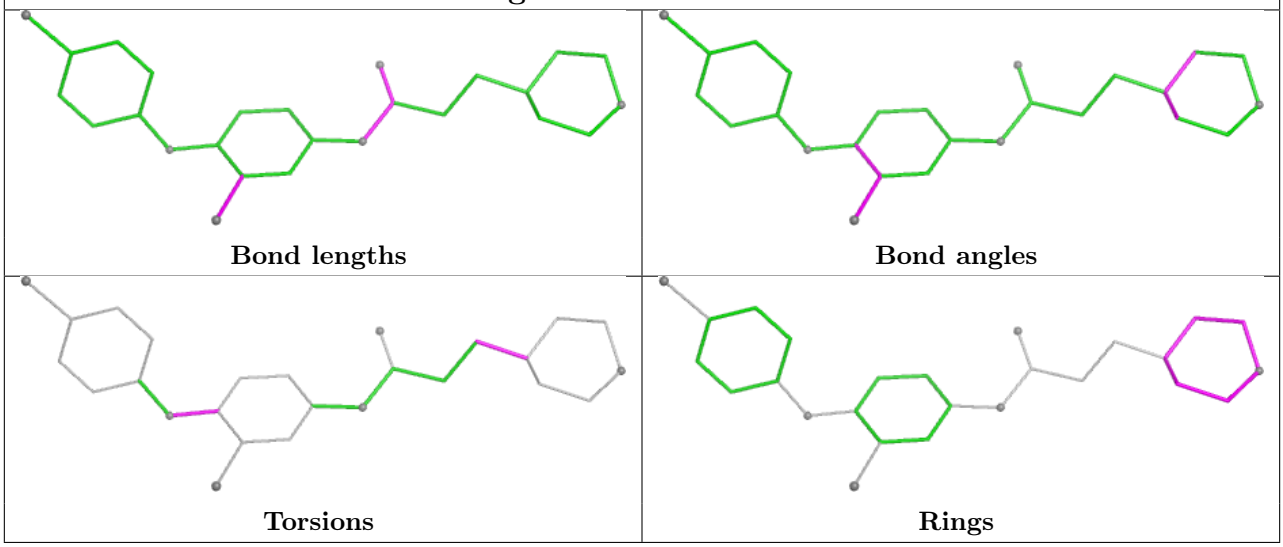
Mol	Chain	Res	Type	Atoms
3	A	702	A1JB5	C21-C22-C23-C25-C26-N24

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	701	EPE	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 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 A1JB5 A 702



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, 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(Å^2)	Q<0.9
1	A	567/622 (91%)	-0.41	4 (0%)	84	88	11, 25, 47, 75	3 (0%)
1	B	566/622 (90%)	-0.18	24 (4%)	40	45	14, 27, 63, 89	0
All	All	1133/1244 (91%)	-0.29	28 (2%)	58	64	11, 26, 55, 89	3 (0%)

The worst 5 of 28 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	220	ILE	7.0
1	B	225	GLY	6.1
1	B	224	VAL	5.9
1	B	295	LEU	3.7
1	B	218	MET	3.5

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 oligosaccharides in this entry.

6.4 Ligands (i)

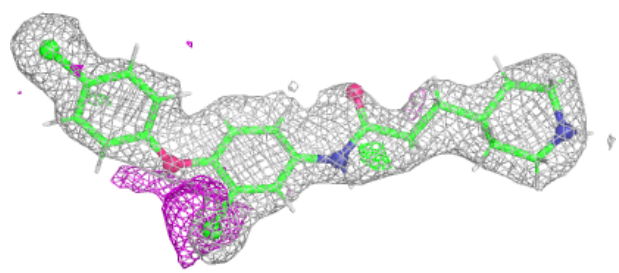
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

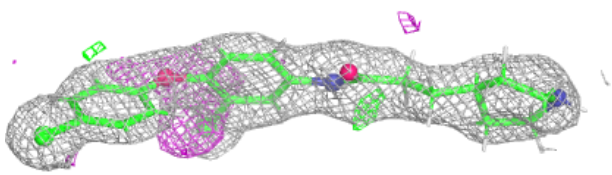
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	PEG	B	701	7/7	0.85	0.12	31,44,53,59	0
3	A1JB5	A	702	26/26	0.87	0.12	29,42,55,56	0
2	EPE	A	701	15/15	0.90	0.11	26,40,48,51	0
4	CA	B	704	1/1	0.96	0.14	37,37,37,37	0
4	CA	B	703	1/1	0.98	0.08	34,34,34,34	0
4	CA	A	704	1/1	0.98	0.05	33,33,33,33	0
4	CA	B	702	1/1	0.98	0.08	28,28,28,28	0
4	CA	A	703	1/1	0.99	0.03	26,26,26,26	0
4	CA	A	705	1/1	0.99	0.09	31,31,31,31	0

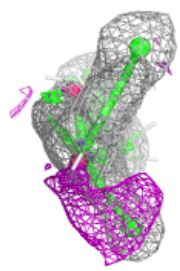
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around A1JB5 A 702:

$2mF_o$-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.