Full wwPDB X-ray Structure Validation Report ⓘ

Nov 16, 2026 – 02:38 PM EST

PDB ID	:	40DG / pdb_000040dg
Title	:	Crystal Structure of cGMP-dependent protein kinase from Plasmodium vivax in complex with inhibitor MSU-03-012
Authors	:	Seattle Structural Genomics Center for Infectious Disease (SSGCID)
Deposited on	:	2026-11-05
Resolution	:	2.70 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*
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.

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

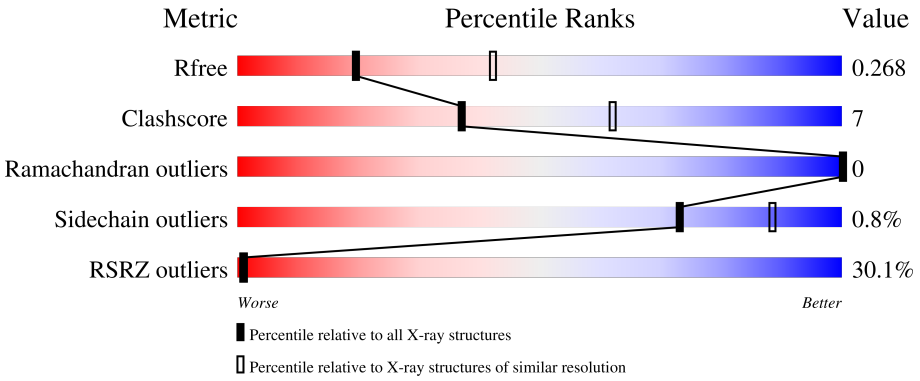
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 2.70 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	3538 (2.70-2.70)
Clashscore	190562	3843 (2.70-2.70)
Ramachandran outliers	187476	3778 (2.70-2.70)
Sidechain outliers	187428	3778 (2.70-2.70)
RSRZ outliers	180081	3538 (2.70-2.70)

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	848	24% 69% 11% 20%

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 5281 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 cGMP-dependent protein kinase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	680	Total	C	N	O	S	0	4	0
			5157	3291	879	963	24			

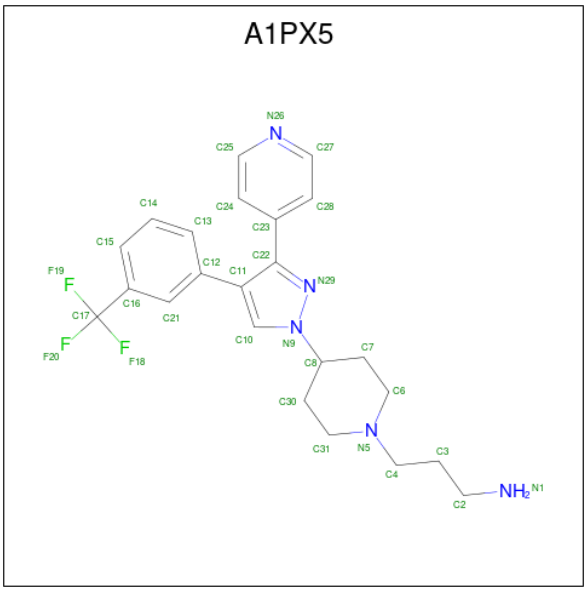
There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP A5K0N4
A	0	SER	-	expression tag	UNP A5K0N4

- Molecule 2 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

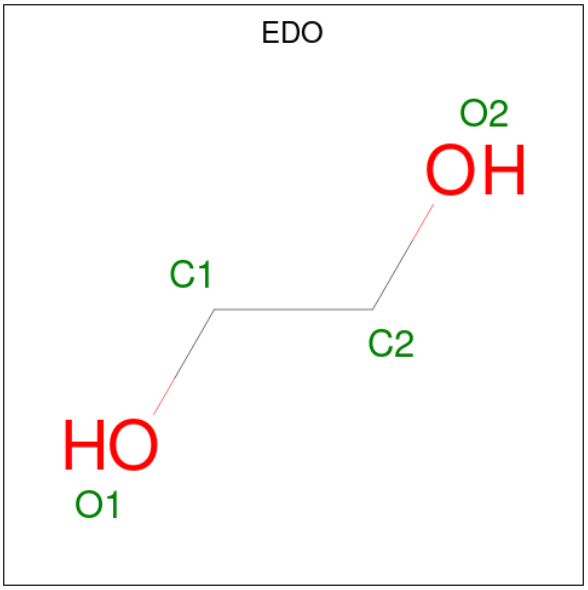
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	3	Total	Cl	0	0
			3	3		

- Molecule 3 is 3-(4-{(4M)-3-(pyridin-4-yl)-4-[3-(trifluoromethyl)phenyl]-1H-pyrazol-1-yl}piperidin-1-yl)propan-1-amine (CCD ID: A1PX5) (formula: $C_{23}H_{26}F_3N_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	F	N	0	0
			31	23	3	5		

- Molecule 4 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



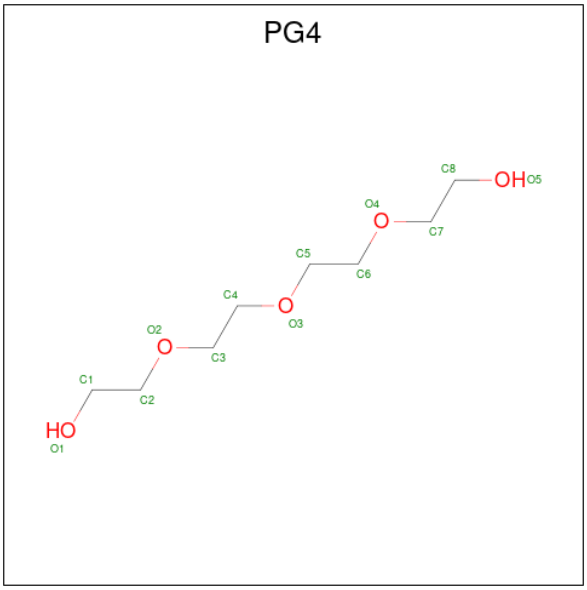
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			4	2	2		
4	A	1	Total	C	O	0	0
			4	2	2		
4	A	1	Total	C	O	0	0
			4	2	2		

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

- Molecule 5 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: $C_8H_{18}O_5$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 11 7 4	0	0
5	A	1	Total C O 9 6 3	0	0
5	A	1	Total C O 10 6 4	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	30	Total O 30 30	0	0

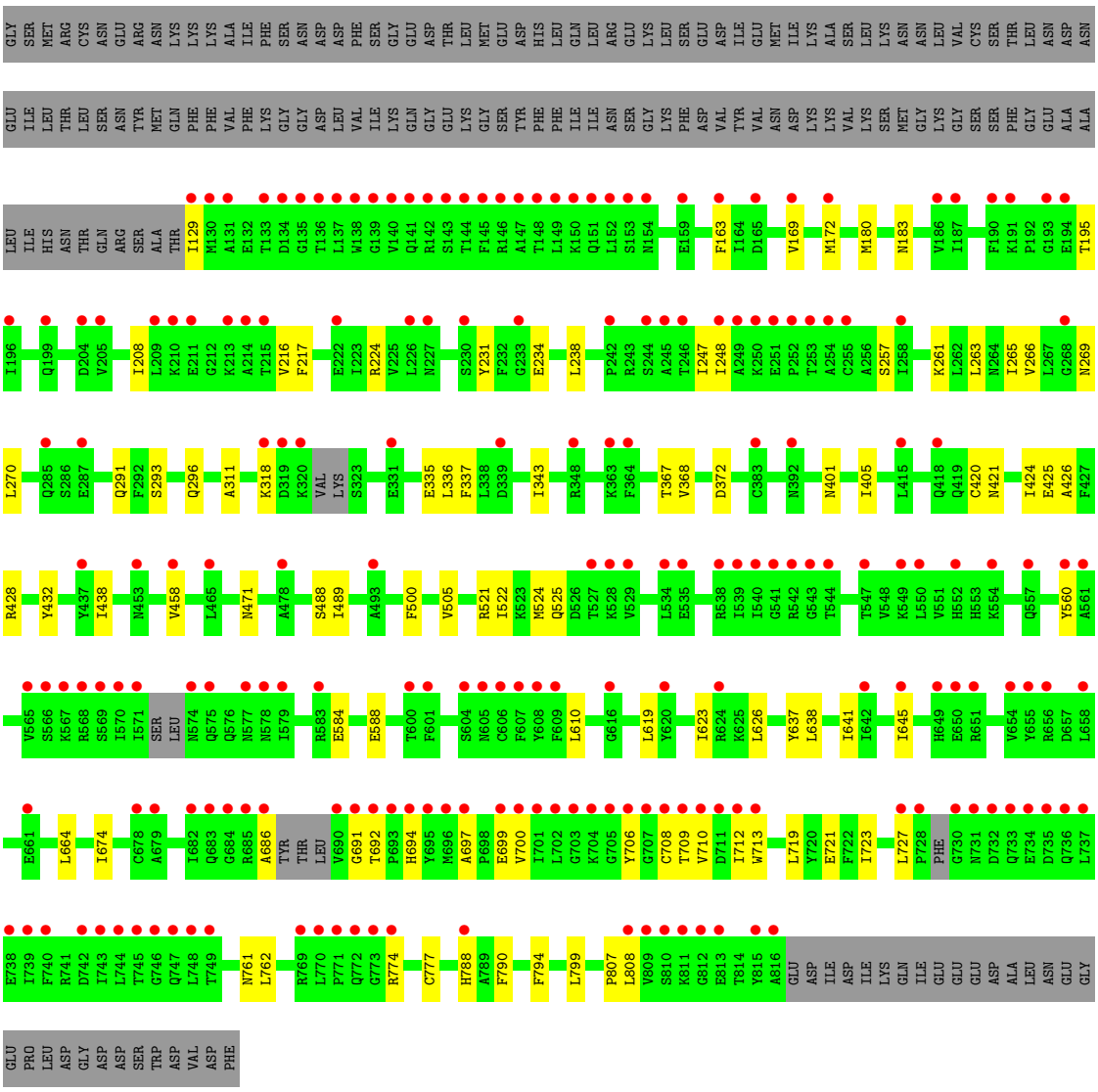
3 Residue-property plots (i)

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: cGMP-dependent protein kinase

Chain A:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	176.74Å 116.96Å 67.68Å 90.00° 91.86° 90.00°	Depositor
Resolution (Å)	48.76 – 2.70 48.76 – 2.70	Depositor EDS
% Data completeness (in resolution range)	67.2 (48.76-2.70) 67.4 (48.76-2.70)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.79 (at 2.69Å)	Xtriage
Refinement program	PHENIX (2.2.1_6171: ???)	Depositor
R, R_{free}	0.246 , 0.274 0.243 , 0.268	Depositor DCC
R_{free} test set	1199 reflections (2.45%)	wwPDB-VP
Wilson B-factor (Å^2)	46.6	Xtriage
Anisotropy	0.139	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 57.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.027 for -h,-k,l	Xtriage
F_o,F_c correlation	0.87	EDS
Total number of atoms	5281	wwPDB-VP
Average B, all atoms (Å^2)	66.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.59% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: EDO, A1PX5, PG4, CL

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	0.19	0/5253	0.34	0/7122

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5157	0	4901	73	0
2	A	3	0	0	0	0
3	A	31	0	0	0	0
4	A	16	0	24	0	0
5	A	44	0	54	0	0
6	A	30	0	0	0	0
All	All	5281	0	4979	73	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 7.

All (73) 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:700:VAL:HA	1:A:706:TYR:CE1	2.03	0.93
1:A:686:ALA:O	1:A:706:TYR:CD2	2.30	0.84
1:A:708:CYS:O	1:A:712:ILE:HD12	1.92	0.70
1:A:169:VAL:HG23	1:A:234:GLU:OE2	1.90	0.70
1:A:421:ASN:O	1:A:425:GLU:HG3	1.96	0.66
1:A:709:THR:HG22	1:A:777:CYS:SG	2.39	0.63
1:A:195:THR:HA	1:A:248:ILE:HD12	1.81	0.62
1:A:291:GLN:OE1	1:A:401:ASN:ND2	2.34	0.61
1:A:641:ILE:O	1:A:645:ILE:CD1	2.50	0.59
1:A:762:LEU:HD12	1:A:790:PHE:HB3	1.84	0.59
1:A:700:VAL:HA	1:A:706:TYR:HE1	1.65	0.58
1:A:645:ILE:HD12	1:A:645:ILE:N	2.17	0.58
1:A:641:ILE:O	1:A:645:ILE:HD12	2.06	0.56
1:A:664:LEU:HD12	1:A:674:ILE:HD11	1.88	0.56
1:A:183:ASN:OD1	1:A:183:ASN:C	2.50	0.54
1:A:706:TYR:HB3	1:A:710:VAL:HG21	1.90	0.53
1:A:180:MET:HE1	1:A:266:VAL:HG13	1.90	0.53
1:A:216:VAL:HG12	1:A:224:ARG:O	2.09	0.53
1:A:641:ILE:HG23	1:A:645:ILE:HD11	1.91	0.53
1:A:638:LEU:HD22	1:A:719:LEU:HD13	1.91	0.52
1:A:208:ILE:HG13	1:A:231:TYR:HB3	1.90	0.52
1:A:163:PHE:C	1:A:163:PHE:CD2	2.88	0.52
1:A:318:LYS:N	1:A:367:THR:HG22	2.27	0.50
1:A:686:ALA:HB3	1:A:706:TYR:HB2	1.93	0.50
1:A:216:VAL:HA	1:A:247:ILE:HD13	1.93	0.49
1:A:428:ARG:HB2	1:A:500:PHE:CE2	2.47	0.49
1:A:335:GLU:HG2	1:A:337:PHE:CE2	2.49	0.48
1:A:172:MET:HA	1:A:172:MET:HE2	1.96	0.48
1:A:261:LYS:O	1:A:265:ILE:HG13	2.14	0.48
1:A:163:PHE:CE2	1:A:208:ILE:HB	2.49	0.47
1:A:432:TYR:CD1	1:A:438:ILE:HG12	2.50	0.47
1:A:238:LEU:HD21	1:A:270:LEU:HD23	1.97	0.46
1:A:458:VAL:HG22	1:A:489:ILE:CD1	2.44	0.46
1:A:426:ALA:HB1	1:A:505:VAL:HG11	1.97	0.46
1:A:584:GLU:O	1:A:588:GLU:OE1	2.34	0.46
1:A:686:ALA:O	1:A:706:TYR:HD2	1.92	0.46
1:A:405:ILE:HD11	1:A:471:ASN:CG	2.41	0.46
1:A:263:LEU:HD13	1:A:263:LEU:O	2.16	0.46
1:A:500:PHE:C	1:A:500:PHE:CD1	2.94	0.46
1:A:626:LEU:HD11	1:A:808:LEU:HD13	1.97	0.45
1:A:794:PHE:HZ	1:A:799:LEU:HD22	1.82	0.45
1:A:721:GLU:OE2	1:A:727:LEU:HD21	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:180:MET:HE1	1:A:266:VAL:CG1	2.47	0.44
1:A:691:GLY:O	1:A:692:THR:C	2.61	0.44
1:A:560:TYR:CB	1:A:610:LEU:HD11	2.48	0.44
1:A:343:ILE:HD12	1:A:343:ILE:O	2.17	0.44
1:A:521:ARG:HA	1:A:524:MET:HE3	2.00	0.44
1:A:420:CYS:O	1:A:424:ILE:HG12	2.18	0.43
1:A:336:LEU:HD23	1:A:368:VAL:HG22	2.00	0.43
1:A:263:LEU:HD13	1:A:263:LEU:C	2.44	0.43
1:A:761:ASN:OD1	1:A:761:ASN:C	2.62	0.43
1:A:762:LEU:HG	1:A:788:HIS:CD2	2.53	0.43
1:A:641:ILE:O	1:A:645:ILE:HD13	2.18	0.42
1:A:794:PHE:CZ	1:A:799:LEU:HD22	2.54	0.42
1:A:697:ALA:O	1:A:700:VAL:HG12	2.20	0.42
1:A:712:ILE:HG22	1:A:774:ARG:HD3	2.00	0.42
1:A:637:TYR:CZ	1:A:807:PRO:HG2	2.54	0.42
1:A:163:PHE:CD2	1:A:208:ILE:HD12	2.56	0.41
1:A:216:VAL:C	1:A:217:PHE:HD1	2.29	0.41
1:A:645:ILE:HD12	1:A:645:ILE:H	1.84	0.41
1:A:180:MET:CE	1:A:266:VAL:CG1	2.99	0.41
1:A:619:LEU:O	1:A:623:ILE:HG23	2.21	0.41
1:A:311:ALA:HB2	1:A:372:ASP:HA	2.03	0.41
1:A:522:ILE:N	1:A:522:ILE:HD12	2.36	0.41
1:A:180:MET:CE	1:A:266:VAL:HG13	2.50	0.40
1:A:293:SER:H	1:A:296:GLN:HE21	1.69	0.40
1:A:697:ALA:HA	1:A:713:TRP:CD1	2.55	0.40
1:A:699:GLU:O	1:A:706:TYR:HE1	2.04	0.40
1:A:686:ALA:O	1:A:706:TYR:CE2	2.72	0.40
1:A:269:ASN:OD1	1:A:269:ASN:C	2.64	0.40
1:A:641:ILE:HG22	1:A:645:ILE:HD13	2.03	0.40
1:A:694:HIS:HB3	1:A:727:LEU:HD22	2.03	0.40
1:A:719:LEU:HD11	1:A:723:ILE:HD11	2.03	0.40

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	Percentiles
1	A	674/848 (80%)	645 (96%)	29 (4%)	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	513/750 (68%)	509 (99%)	4 (1%)	73 88

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	129	ILE
1	A	257	SER
1	A	488	SER
1	A	525	GLN

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	271	GLN
1	A	296	GLN
1	A	314	HIS
1	A	400	ASN
1	A	401	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 13 ligands modelled in this entry, 3 are monoatomic - leaving 10 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	$\#\|Z\| > 2$
4	EDO	A	906	-	3,3,3	0.26	0	2,2,2	0.34	0
5	PG4	A	910	-	8,8,12	0.33	0	7,7,11	0.21	0
4	EDO	A	905	-	3,3,3	0.28	0	2,2,2	0.19	0
3	A1PX5	A	904	-	33,34,34	0.41	0	47,48,48	0.63	1 (2%)
5	PG4	A	912	-	6,6,12	0.26	0	5,5,11	0.31	0
5	PG4	A	911	-	9,9,12	0.29	0	8,8,11	0.23	0
4	EDO	A	908	-	3,3,3	0.26	0	2,2,2	0.36	0
4	EDO	A	907	-	3,3,3	0.26	0	2,2,2	0.25	0
5	PG4	A	909	-	10,10,12	0.29	0	9,9,11	0.18	0
5	PG4	A	913	-	6,6,12	0.27	0	5,5,11	0.28	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
4	EDO	A	906	-	-	1/1/1/1	-
5	PG4	A	910	-	-	2/6/6/10	-
4	EDO	A	905	-	-	0/1/1/1	-
3	A1PX5	A	904	-	-	4/22/32/32	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PG4	A	912	-	-	1/4/4/10	-
5	PG4	A	911	-	-	0/7/7/10	-
4	EDO	A	908	-	-	1/1/1/1	-
4	EDO	A	907	-	-	1/1/1/1	-
5	PG4	A	909	-	-	3/8/8/10	-
5	PG4	A	913	-	-	2/4/4/10	-

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	904	A1PX5	C30-C8-N9	-2.10	108.07	110.95

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	904	A1PX5	C3-C4-N5-C6
3	A	904	A1PX5	C3-C4-N5-C31
5	A	913	PG4	O3-C5-C6-O4
5	A	910	PG4	O1-C1-C2-O2
5	A	913	PG4	C6-C5-O3-C4
5	A	909	PG4	O2-C3-C4-O3
4	A	908	EDO	O1-C1-C2-O2
5	A	912	PG4	C1-C2-O2-C3
4	A	906	EDO	O1-C1-C2-O2
4	A	907	EDO	O1-C1-C2-O2
5	A	909	PG4	C6-C5-O3-C4
5	A	909	PG4	O3-C5-C6-O4
5	A	910	PG4	O2-C3-C4-O3
3	A	904	A1PX5	C7-C8-N9-C10
3	A	904	A1PX5	C30-C8-N9-C10

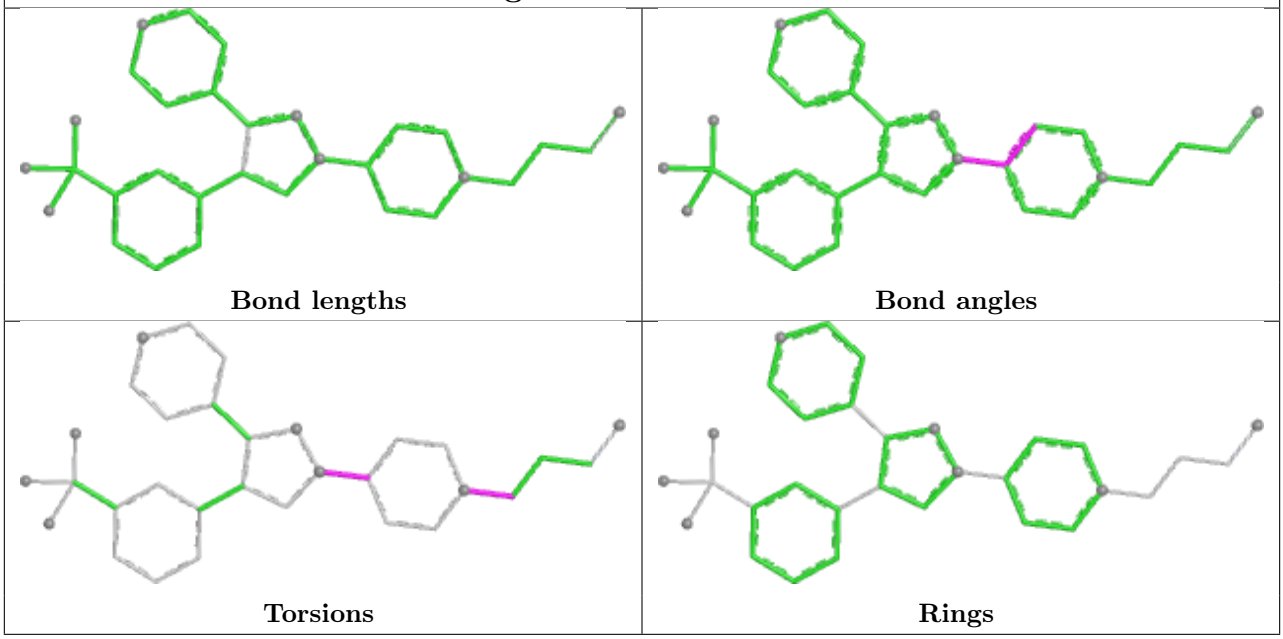
There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier.

Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand A1PX5 A 904



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

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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>2	OWAB(Å^2)	Q<0.9
1	A	680/848 (80%)	1.62	205 (30%) 1 1	25, 63, 124, 185	4 (0%)

All (205) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	743	ILE	8.1
1	A	604	SER	7.1
1	A	706	TYR	6.8
1	A	733	GLN	6.7
1	A	740	PHE	6.2
1	A	693	PRO	6.1
1	A	607	PHE	6.0
1	A	707	GLY	5.9
1	A	705	GLY	5.9
1	A	737	LEU	5.9
1	A	684	GLY	5.7
1	A	129	ILE	5.7
1	A	694	HIS	5.6
1	A	730	GLY	5.6
1	A	701	ILE	5.4
1	A	574	ASN	5.3
1	A	690	VAL	5.3
1	A	139	GLY	5.2
1	A	209	LEU	5.2
1	A	130	MET	5.2
1	A	320	LYS	5.1
1	A	143	SER	5.0
1	A	732	ASP	5.0
1	A	704	LYS	4.8
1	A	745	THR	4.7
1	A	577	ASN	4.7
1	A	710	VAL	4.7

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Mol	Chain	Res	Type	RSRZ
1	A	133	THR	4.7
1	A	685	ARG	4.6
1	A	253	THR	4.6
1	A	254	ALA	4.6
1	A	686	ALA	4.6
1	A	739	ILE	4.4
1	A	702	LEU	4.4
1	A	709	THR	4.4
1	A	211	GLU	4.4
1	A	695	TYR	4.4
1	A	816	ALA	4.3
1	A	383	CYS	4.3
1	A	654	VAL	4.3
1	A	146	ARG	4.2
1	A	772	GLN	4.2
1	A	144	THR	4.2
1	A	190	PHE	4.1
1	A	252	PRO	4.1
1	A	736	GLN	4.1
1	A	138	TRP	4.1
1	A	227	ASN	4.1
1	A	658	LEU	4.0
1	A	318	LYS	4.0
1	A	656	ARG	4.0
1	A	141	GLN	4.0
1	A	142	ARG	4.0
1	A	140	VAL	3.9
1	A	568	ARG	3.9
1	A	811	LYS	3.9
1	A	539	ILE	3.9
1	A	606	CYS	3.8
1	A	150	LYS	3.8
1	A	696	MET	3.8
1	A	731	ASN	3.8
1	A	655	TYR	3.7
1	A	542	ARG	3.7
1	A	151	GLN	3.7
1	A	703	GLY	3.6
1	A	771	PRO	3.6
1	A	711	ASP	3.6
1	A	683	GLN	3.6
1	A	579	ILE	3.6

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Mol	Chain	Res	Type	RSRZ
1	A	605	ASN	3.6
1	A	145	PHE	3.6
1	A	214	ALA	3.6
1	A	744	LEU	3.6
1	A	624	ARG	3.5
1	A	600	THR	3.5
1	A	620	TYR	3.5
1	A	708	CYS	3.5
1	A	748	LEU	3.5
1	A	691	GLY	3.5
1	A	255	CYS	3.4
1	A	543	GLY	3.4
1	A	535	GLU	3.4
1	A	712	ILE	3.4
1	A	210	LYS	3.4
1	A	527	THR	3.4
1	A	728	PRO	3.4
1	A	191	LYS	3.3
1	A	245	ALA	3.3
1	A	154	ASN	3.3
1	A	205	VAL	3.3
1	A	339	ASP	3.3
1	A	529	VAL	3.3
1	A	149	LEU	3.2
1	A	550	LEU	3.2
1	A	552	HIS	3.2
1	A	692	THR	3.2
1	A	560	TYR	3.2
1	A	538	ARG	3.2
1	A	682	ILE	3.2
1	A	268	GLY	3.2
1	A	248	ILE	3.2
1	A	773	GLY	3.1
1	A	163	PHE	3.1
1	A	331	GLU	3.1
1	A	169	VAL	3.1
1	A	661	GLU	3.1
1	A	742	ASP	3.1
1	A	727	LEU	3.0
1	A	700	VAL	3.0
1	A	137	LEU	3.0
1	A	738	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	557	GLN	3.0
1	A	135	GLY	3.0
1	A	571	ILE	3.0
1	A	364	PHE	3.0
1	A	194	GLU	2.9
1	A	453	ASN	2.9
1	A	196	ILE	2.9
1	A	226	LEU	2.9
1	A	319	ASP	2.9
1	A	136	THR	2.9
1	A	601	PHE	2.9
1	A	769	ARG	2.9
1	A	569	SER	2.8
1	A	187	ILE	2.8
1	A	549	LYS	2.8
1	A	465	LEU	2.8
1	A	565	VAL	2.8
1	A	651[A]	ARG	2.8
1	A	578	ASN	2.8
1	A	131	ALA	2.8
1	A	152	LEU	2.8
1	A	699	GLU	2.7
1	A	734	GLU	2.7
1	A	575	GLN	2.7
1	A	566	SER	2.7
1	A	747	GLN	2.7
1	A	148	THR	2.7
1	A	746	GLY	2.7
1	A	172	MET	2.6
1	A	583	ARG	2.6
1	A	649	HIS	2.6
1	A	134	ASP	2.6
1	A	735	ASP	2.6
1	A	147	ALA	2.6
1	A	153	SER	2.5
1	A	250	LYS	2.5
1	A	812	GLY	2.5
1	A	165	ASP	2.5
1	A	193	GLY	2.5
1	A	809	VAL	2.5
1	A	199	GLN	2.5
1	A	348	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	251	GLU	2.4
1	A	213	LYS	2.4
1	A	570	ILE	2.4
1	A	749	THR	2.4
1	A	392	ASN	2.4
1	A	528	LYS	2.4
1	A	186	VAL	2.4
1	A	679	ALA	2.4
1	A	774	ARG	2.4
1	A	215	THR	2.3
1	A	233	GLY	2.3
1	A	540	ILE	2.3
1	A	244	SER	2.3
1	A	258	ILE	2.3
1	A	645	ILE	2.3
1	A	815	TYR	2.3
1	A	159	GLU	2.3
1	A	554	LYS	2.3
1	A	246	THR	2.2
1	A	230	SER	2.2
1	A	609	PHE	2.2
1	A	544	THR	2.2
1	A	810	SER	2.2
1	A	808	LEU	2.2
1	A	287	GLU	2.1
1	A	285	GLN	2.1
1	A	493	ALA	2.1
1	A	222	GLU	2.1
1	A	547	THR	2.1
1	A	242	PRO	2.1
1	A	678	CYS	2.1
1	A	608	TYR	2.1
1	A	642	ILE	2.1
1	A	249	ALA	2.1
1	A	713	TRP	2.1
1	A	363	LYS	2.1
1	A	437	TYR	2.1
1	A	541	GLY	2.1
1	A	616	GLY	2.1
1	A	650	GLU	2.1
1	A	770	LEU	2.1
1	A	458	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	204	ASP	2.0
1	A	561	ALA	2.0
1	A	697	ALA	2.0
1	A	813	GLU	2.0
1	A	567	LYS	2.0
1	A	415	LEU	2.0
1	A	418[A]	GLN	2.0
1	A	534	LEU	2.0
1	A	788	HIS	2.0
1	A	478	ALA	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 oligosaccharides in this entry.

6.4 Ligands (i)

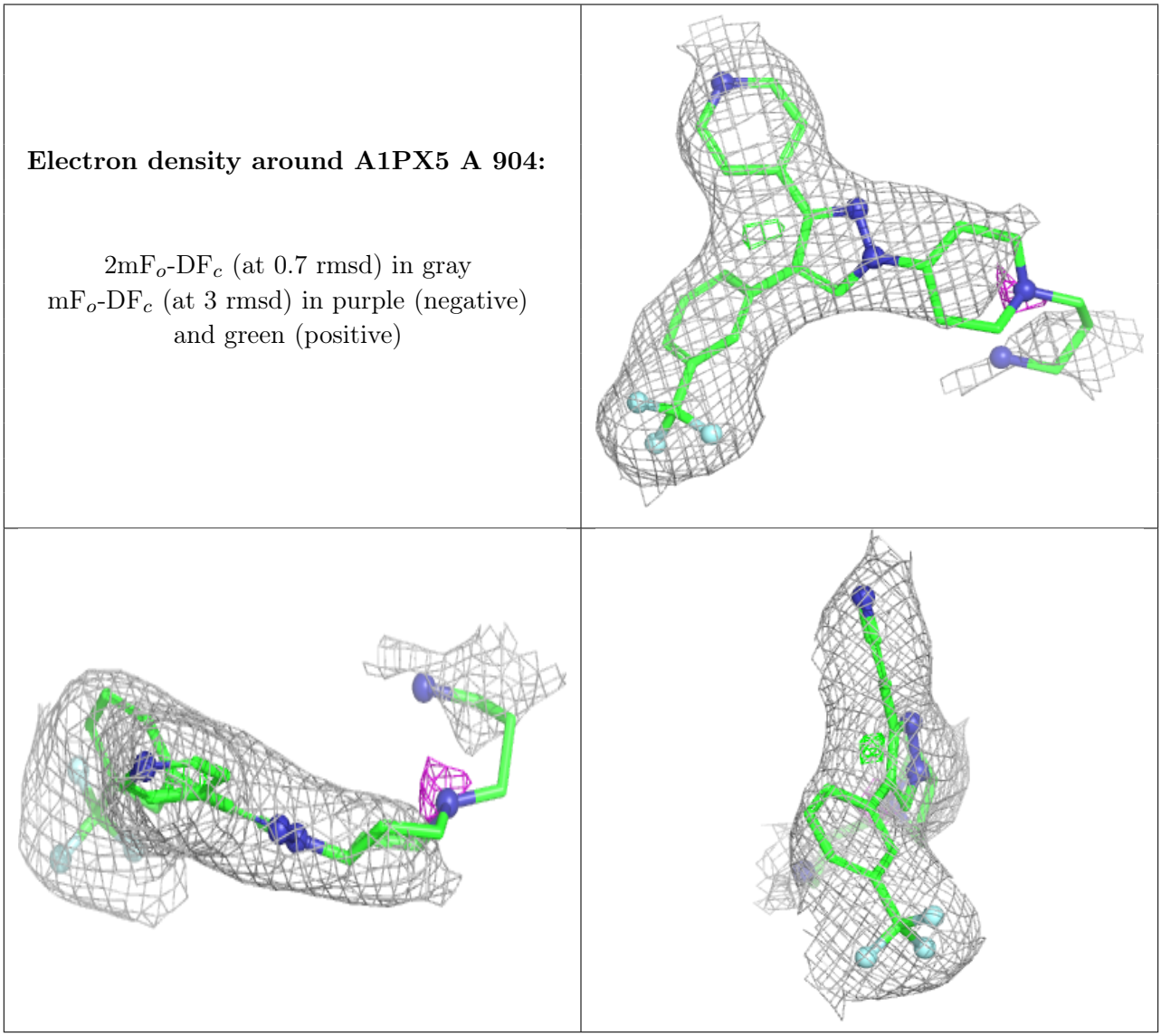
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	PG4	A	910	9/13	0.64	0.32	71,81,97,105	0
4	EDO	A	906	4/4	0.65	0.29	76,78,80,81	0
4	EDO	A	905	4/4	0.75	0.17	35,44,46,46	0
5	PG4	A	911	10/13	0.75	0.22	55,71,77,78	0
5	PG4	A	909	11/13	0.78	0.18	49,56,60,62	0
4	EDO	A	908	4/4	0.79	0.19	46,50,57,61	0
5	PG4	A	912	7/13	0.83	0.17	41,53,60,60	0
5	PG4	A	913	7/13	0.84	0.16	44,54,57,59	0
3	A1PX5	A	904	31/31	0.87	0.20	53,63,104,106	0
4	EDO	A	907	4/4	0.89	0.14	41,42,44,53	0
2	CL	A	903	1/1	0.90	0.14	54,54,54,54	0
2	CL	A	901	1/1	0.94	0.08	44,44,44,44	0
2	CL	A	902	1/1	0.95	0.19	49,49,49,49	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 A1PX5 A 904:

$2mF_o$-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.