

Full wwPDB X-ray Structure Validation Report (i)

Feb 20, 2024 – 03:05 PM EST

PDB ID : 4L4M

Title : Structural Analysis of a Phosphoribosylated Inhibitor in Complex with Human

Nicotinamide Phosphoribosyltransferase

Authors: Oh, A.; Ho, Y.; Zak, M.; Liu, Y.; Yuen, P.; Zheng, X.; Dragovich, S.P.; Wang,

W.

Deposited on : 2013-06-08

Resolution : 2.44 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 (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 : 2.36

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)

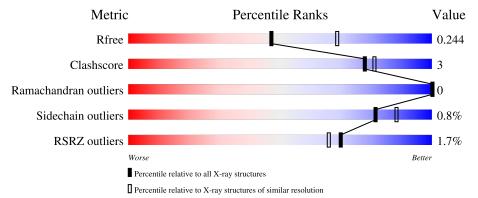
Validation Pipeline (wwPDB-VP) : 2.36

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 2.44 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	$\begin{array}{c} \text{Whole archive} \\ (\#\text{Entries}) \end{array}$	Similar resolution $(\# \text{Entries, resolution range}(\text{\AA}))$
R_{free}	130704	1564 (2.46-2.42)
Clashscore	141614	1631 (2.46-2.42)
Ramachandran outliers	138981	1617 (2.46-2.42)
Sidechain outliers	138945	1617 (2.46-2.42)
RSRZ outliers	127900	1547 (2.46-2.42)

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	501	87%	7%	6%			
1	В	501	84%	9%	6%			



2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 7881 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 Nicotinamide phosphoribosyltransferase.

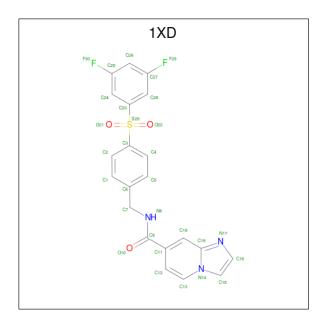
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
1	A	471	Total	C	N	O	S	0	0	0
			3765	2422	622	714	7			
1	B	470	Total	\mathbf{C}	N	O	\mathbf{S}	0	0	0
1	Ъ	470	3759	2418	621	713	7	0	0	

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	492	LEU	-	expression tag	UNP P43490
A	493	GLU	-	expression tag	UNP P43490
A	494	HIS	-	expression tag	UNP P43490
A	495	HIS	-	expression tag	UNP P43490
A	496	HIS	-	expression tag	UNP P43490
A	497	HIS	-	expression tag	UNP P43490
A	498	HIS	-	expression tag	UNP P43490
A	499	HIS	-	expression tag	UNP P43490
A	500	HIS	-	expression tag	UNP P43490
A	501	HIS	-	expression tag	UNP P43490
В	492	LEU	-	expression tag	UNP P43490
В	493	GLU	-	expression tag	UNP P43490
В	494	HIS	-	expression tag	UNP P43490
В	495	HIS	-	expression tag	UNP P43490
В	496	HIS	-	expression tag	UNP P43490
В	497	HIS	-	expression tag	UNP P43490
В	498	HIS	-	expression tag	UNP P43490
В	499	HIS	-	expression tag	UNP P43490
В	500	HIS	-	expression tag	UNP P43490
В	501	HIS	-	expression tag	UNP P43490

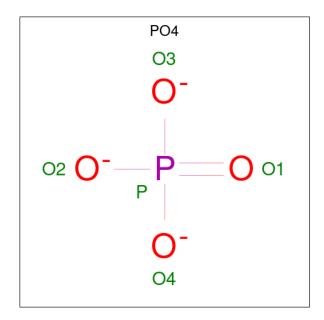
• Molecule 2 is N-{4-[(3,5-difluorophenyl)sulfonyl]benzyl}imidazo[1,2-a]pyridine-7-carboxami de (three-letter code: 1XD) (formula: $C_{21}H_{15}F_2N_3O_3S$).





Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
2	Λ	1	Total	С	F	N	О	S	0	0
2	A	1	30	21	2	3	3	1	U	U
2	D	1	Total	С	F	N	О	S	0	0
	Ъ	1	30	21	2	3	3	1	U	U

 \bullet Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O₄P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	
3	A	1	Total O P	0	0	
2	Λ	1	Total O P	0	0	
3	A		5 4 1	U	Ü	

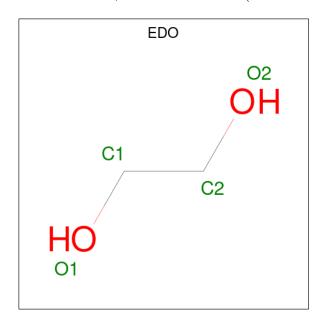
Continued on next page...



Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	В	1	Total O P 5 4 1	0	0
3	В	1	Total O P 5 4 1	0	0

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



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

• Molecule 5 is water.

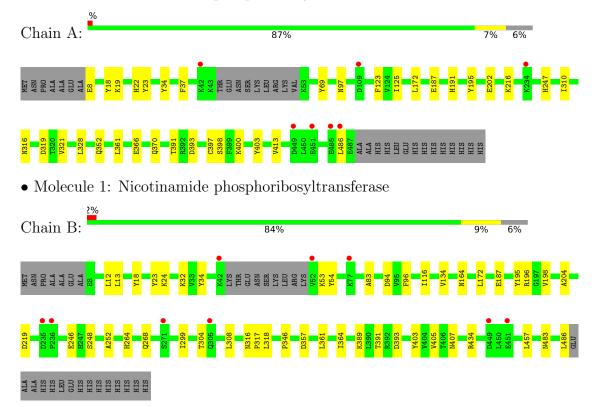
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	139	Total O 139 139	0	0
5	В	130	Total O 130 130	0	0



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: Nicotinamide phosphoribosyltransferase





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants	60.58Å 107.06Å 83.00Å	Donogitor
a, b, c, α , β , γ	90.00° 96.47° 90.00°	Depositor
Resolution (Å)	37.10 - 2.44	Depositor
Resolution (A)	37.10 - 2.45	EDS
% Data completeness	94.7 (37.10-2.44)	Depositor
(in resolution range)	96.7 (37.10-2.45)	EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	2.44 (at 2.45Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.7.3_928)	Depositor
P. P.	0.208 , 0.251	Depositor
R, R_{free}	0.199 , 0.244	DCC
R_{free} test set	1871 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å ²)	29.0	Xtriage
Anisotropy	0.243	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$, $B_{sol}(Å^2)$	0.36, 33.7	EDS
L-test for twinning ²	$< L >=0.49, < L^2>=0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	7881	wwPDB-VP
Average B, all atoms (Å ²)	17.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 6.57% 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: PO4, EDO, 1XD

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		
MIOI	Chain	RMSZ	# Z > 5	RMSZ	# Z > 5	
1	A	0.25	0/3853	0.39	0/5220	
1	В	0.23	0/3847	0.39	0/5211	
All	All	0.24	0/7700	0.39	0/10431	

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	3765	0	3739	20	0
1	В	3759	0	3736	25	0
2	A	30	0	15	1	0
2	В	30	0	15	0	0
3	A	10	0	0	1	0
3	В	10	0	0	0	0
4	A	4	0	6	0	0
4	В	4	0	6	0	0
5	A	139	0	0	2	0
5	В	130	0	0	2	0
All	All	7881	0	7517	44	0



The all-atom clash score is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clash score for this structure is 3.

All (44) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic	Clash
1 D 010 I DII IID10	1 D 004 II D II A	distance (Å)	overlap (Å)
1:B:318:LEU:HD13	1:B:364:ILE:HA	1.82	0.62
1:B:407:ASN:ND2	5:B:711:HOH:O	2.34	0.59
1:A:34:TYR:HB3	1:A:403:TYR:HB3	1.85	0.58
1:B:357:ASP:OD2	1:B:389:LYS:NZ	2.33	0.57
1:A:398:SER:OG	1:A:400:LYS:NZ	2.32	0.56
1:B:196:ARG:NH1	5:B:786:HOH:O	2.37	0.56
1:A:216:LYS:NZ	5:A:809:HOH:O	2.39	0.55
1:A:187:GLU:HG3	1:A:216:LYS:HD2	1.87	0.54
1:B:391:THR:OG1	1:B:393:ASP:OD1	2.21	0.53
1:B:32:LYS:HB3	1:B:405:VAL:HB	1.91	0.53
1:B:54:TYR:OH	1:B:164:ASN:OD1	2.28	0.50
1:B:246:GLU:OE2	1:B:248:SER:OG	2.28	0.50
1:B:34:TYR:HB3	1:B:403:TYR:HB3	1.95	0.49
1:A:69:TYR:OH	1:A:202:GLU:OE2	2.26	0.49
1:B:246:GLU:HG3	1:B:248:SER:H	1.78	0.48
1:A:191:HIS:CG	2:A:601:1XD:H11	2.49	0.48
1:B:172:LEU:HD21	1:B:361:LEU:HD11	1.96	0.47
1:A:172:LEU:HD21	1:A:361:LEU:HD11	1.97	0.47
1:A:8:GLU:N	5:A:816:HOH:O	2.48	0.47
1:A:398:SER:HG	1:A:400:LYS:HZ3	1.57	0.46
1:B:13:LEU:HD21	1:B:83:ALA:HA	1.98	0.46
1:A:316:ASN:HB3	1:A:319:ASP:HB2	1.98	0.46
1:B:304:THR:HG23	1:B:346:PRO:HB2	1.98	0.45
1:A:123:PHE:HB3	1:A:125:ILE:HD11	1.98	0.45
1:B:198:VAL:HG21	1:B:204:ALA:HB2	1.98	0.45
1:B:187:GLU:H	1:B:187:GLU:CD	2.19	0.45
1:B:299:ILE:HD12	1:B:308:LEU:HD22	1.99	0.45
1:A:391:THR:OG1	1:A:393:ASP:OD2	2.18	0.45
1:B:53:LYS:HG3	1:B:54:TYR:CD2	2.53	0.44
1:A:413:VAL:HG11	1:B:252:ALA:HA	1.98	0.44
1:A:366:GLU:O	1:A:370:GLN:HG2	2.18	0.44
1:A:23:TYR:CE2	1:A:97:ASN:HB2	2.53	0.44
1:A:310:ILE:HD12	1:A:328:LEU:HD11	2.00	0.43
1:B:12:LEU:HD23	1:B:96:PHE:HZ	1.84	0.43
1:A:321:VAL:HG23	1:A:352:GLN:HE21	1.84	0.42
1:B:116:ILE:HG12	1:B:134:VAL:HG22	2.00	0.42
1:A:37:PHE:CZ	1:A:397:CYS:HB3	2.55	0.42
			U 0.1=

Continued on next page...



I 'omtamalod	trom	mmonia	maaa
Continued	11 0116	DICUIUUS	Daue
	.,	10	1

Atom-1	Atom-2	$egin{aligned} & ext{Interatomic} \ & ext{distance} \ & ext{(Å)} \end{aligned}$	Clash overlap (Å)
1:B:483:ASN:HA	1:B:486:LEU:HD12	2.01	0.42
1:B:264:HIS:O	1:B:268:GLN:HG2	2.19	0.41
1:B:316:ASN:HA	1:B:317:PRO:HD3	1.93	0.41
1:A:247:HIS:ND1	3:A:602:PO4:O1	2.54	0.41
1:B:434:ARG:HG2	1:B:457:LEU:HD11	2.03	0.41
1:A:19:LYS:HA	1:A:22:HIS:ND1	2.37	0.40
1:B:23:TYR:OH	1:B:24:LYS:HE3	2.21	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	Perce	ntiles
1	A	467/501~(93%)	454 (97%)	13 (3%)	0	100	100
1	В	466/501~(93%)	452 (97%)	14 (3%)	0	100	100
All	All	933/1002~(93%)	906 (97%)	27 (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.

\mathbf{Mol}	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	413/440 (94%)	410 (99%)	3 (1%)	84 90	

Continued on next page...



Continued from previous page...

Mol	Chain	Analysed Rotameric		Outliers	Percentiles		
1	В	413/440 (94%)	409 (99%)	4 (1%)	76 84		
All	All	826/880 (94%)	819 (99%)	7 (1%)	81 88		

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	TYR
1	A	195	TYR
1	A	486	LEU
1	В	18	TYR
1	В	94	ASP
1	В	195	TYR
1	В	219	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)

8 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the



expected value. A bond length (or angle) with |Z| > 2 is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).



Mol	Tuna	Chain	Chain Dan Link	es Link Bond lengths			В	ond ang	les	
MIOI	Type	Chain	Res	LIIIK	Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	PO4	В	603	-	4,4,4	0.88	0	6,6,6	0.51	0
4	EDO	В	604	-	3,3,3	0.44	0	2,2,2	0.28	0
3	PO4	A	603	-	4,4,4	0.93	0	6,6,6	0.38	0
2	1XD	A	601	-	30,33,33	0.65	0	41,48,48	1.72	6 (14%)
3	PO4	A	602	-	4,4,4	0.89	0	6,6,6	0.49	0
4	EDO	A	604	-	3,3,3	0.46	0	2,2,2	0.27	0
2	1XD	В	601	-	30,33,33	0.62	0	41,48,48	1.77	6 (14%)
3	PO4	В	602	-	4,4,4	0.87	0	6,6,6	0.48	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	В	604	-	-	0/1/1/1	-
4	EDO	A	604	-	-	0/1/1/1	-
2	1XD	В	601	-	-	0/21/21/21	0/4/4/4
2	1XD	A	601	-	-	0/21/21/21	0/4/4/4

There are no bond length outliers.

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^o)$	$\operatorname{Ideal}({}^{o})$
2	В	601	1XD	C25-C24-C23	6.62	120.34	116.80
2	A	601	1XD	C27-C28-C23	6.25	120.15	116.80
2	В	601	1XD	C27-C28-C23	5.83	119.92	116.80
2	A	601	1XD	C25-C24-C23	5.69	119.85	116.80
2	В	601	1XD	C26-C25-C24	-2.99	119.75	123.52
2	A	601	1XD	C28-C27-C26	-2.93	119.82	123.52
2	A	601	1XD	C26-C25-C24	-2.76	120.03	123.52
2	В	601	1XD	C28-C27-C26	-2.62	120.20	123.52
2	A	601	1XD	C27-C26-C25	2.46	119.96	116.13
2	В	601	1XD	C27-C26-C25	2.44	119.93	116.13
2	В	601	1XD	O22-S20-O21	2.33	123.68	119.23
2	A	601	1XD	O22-S20-O21	2.33	123.67	119.23

There are no chirality outliers.

There are no torsion outliers.

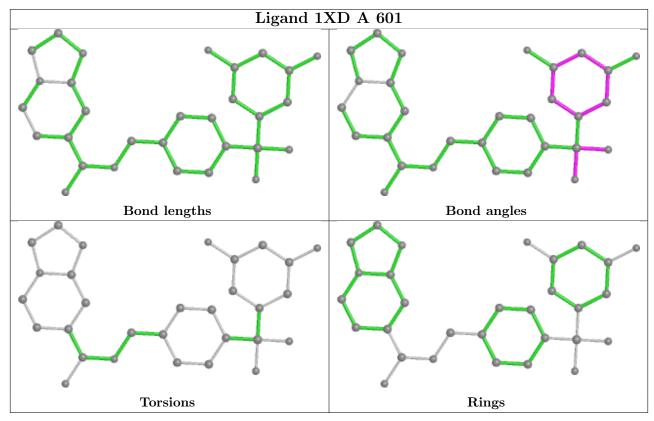
There are no ring outliers.



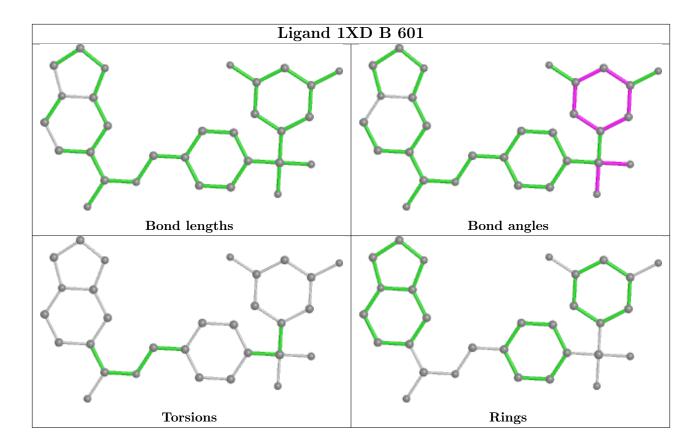
\circ			• 1	1 1	•	\circ	1			
2	monomers	are	invol	lved	ın	2	sho	ort	contact	S:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601	1XD	1	0
3	A	602	PO4	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 $>$	$\# \mathrm{RSRZ}{>}2$	$OWAB(Å^2)$	Q<0.9
1	A	471/501 (94%)	0.02	7 (1%) 73 71	2, 16, 34, 60	0
1	В	470/501 (93%)	-0.02	9 (1%) 66 63	3, 15, 33, 59	0
All	All	941/1002 (93%)	0.00	16 (1%) 70 66	2, 15, 33, 60	0

All (16) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	В	52	VAL	4.6
1	A	451	GLU	3.4
1	A	486	LEU	3.3
1	В	42	LYS	3.1
1	В	451	GLU	2.8
1	В	236	PRO	2.8
1	A	42	LYS	2.6
1	A	449	ASP	2.3
1	В	449	ASP	2.3
1	В	271	SER	2.3
1	В	305	GLN	2.3
1	В	77	LYS	2.3
1	В	235	ASP	2.2
1	A	485	GLU	2.1
1	A	234	LYS	2.1
1	A	109	ASP	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.

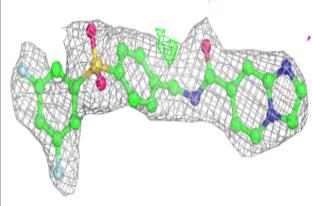
Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q<0.9
2	1XD	A	601	30/30	0.88	0.22	26,33,58,59	0
2	1XD	В	601	30/30	0.88	0.22	21,28,64,65	0
3	PO4	A	602	5/5	0.89	0.27	55,56,56,58	0
4	EDO	A	604	4/4	0.89	0.32	29,30,32,33	0
3	PO4	В	602	5/5	0.92	0.19	38,42,43,43	0
4	EDO	В	604	4/4	0.93	0.15	15,16,17,18	0
3	PO4	В	603	5/5	0.94	0.15	42,43,45,48	0
3	PO4	A	603	5/5	0.95	0.18	48,49,51,52	0

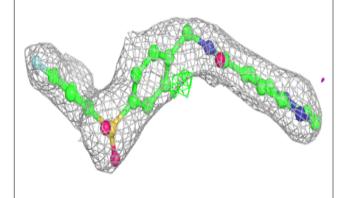
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

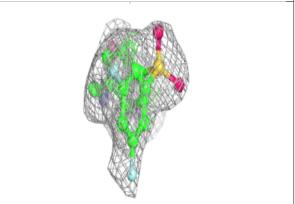


Electron density around 1XD A 601:

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

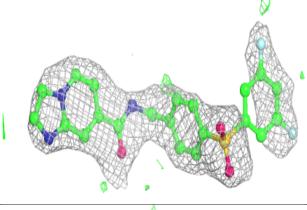


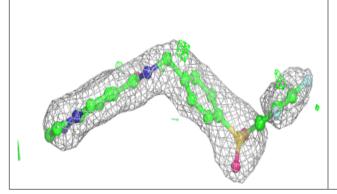


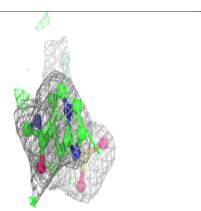


Electron density around 1XD B 601:

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









6.5 Other polymers (i)

There are no such residues in this entry.

