W O R L D W I D E
wwPDB
P R O T E I N   D A T A   B A N K

wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 12, 2023 – 07:18 PM EDT

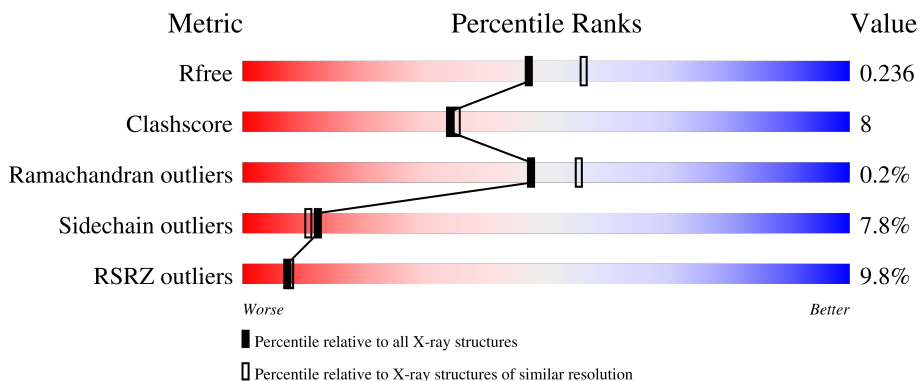|		
PDB ID	:	4OH4
Title	:	Crystal structure of BRI1 in complex with BKI1
Authors	:	Wang, J.; Wang, J.; Wu, J.W.; Wang, Z.X.
Deposited on	:	2014-01-17
Resolution	:	2.25 Å(reported)

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.25 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	Percentile Ranks	Value
Rfree		0.236
Clashscore		8
Ramachandran outliers		0.2%
Sidechain outliers		7.8%
RSRZ outliers		9.8%

Worse   *Better*

▉ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1377 (2.26-2.26)
Clashscore	141614	1487 (2.26-2.26)
Ramachandran outliers	138981	1449 (2.26-2.26)
Sidechain outliers	138945	1450 (2.26-2.26)
RSRZ outliers	127900	1356 (2.26-2.26)

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	333	6% / 73% 16% · 9%
1	B	333	5% / 65% 20% · 12%
2	E	21	57% / 43% 29% 5% 24%
2	F	21	52% / 33% 33% 10% 24%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 5240 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 Protein BRASSINOSTEROID INSENSITIVE 1.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	303	Total	C	N	O	P	S	0	0	0
			2404	1520	415	449	4	16			
1	B	293	Total	C	N	O	P	S	0	0	0
			2331	1476	403	433	4	15			

There are 46 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	840	MET	-	expression tag	UNP O22476
A	841	GLY	-	expression tag	UNP O22476
A	842	SER	-	expression tag	UNP O22476
A	843	SER	-	expression tag	UNP O22476
A	844	HIS	-	expression tag	UNP O22476
A	845	HIS	-	expression tag	UNP O22476
A	846	HIS	-	expression tag	UNP O22476
A	847	HIS	-	expression tag	UNP O22476
A	848	HIS	-	expression tag	UNP O22476
A	849	HIS	-	expression tag	UNP O22476
A	850	SER	-	expression tag	UNP O22476
A	851	GLN	-	expression tag	UNP O22476
A	852	ASP	-	expression tag	UNP O22476
A	853	LEU	-	expression tag	UNP O22476
A	854	GLU	-	expression tag	UNP O22476
A	855	VAL	-	expression tag	UNP O22476
A	856	LEU	-	expression tag	UNP O22476
A	857	PHE	-	expression tag	UNP O22476
A	858	GLN	-	expression tag	UNP O22476
A	859	GLY	-	expression tag	UNP O22476
A	860	PRO	-	expression tag	UNP O22476
A	861	HIS	-	expression tag	UNP O22476
A	862	MET	-	expression tag	UNP O22476
B	840	MET	-	expression tag	UNP O22476
B	841	GLY	-	expression tag	UNP O22476

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Chain	Residue	Modelled	Actual	Comment	Reference
B	842	SER	-	expression tag	UNP O22476
B	843	SER	-	expression tag	UNP O22476
B	844	HIS	-	expression tag	UNP O22476
B	845	HIS	-	expression tag	UNP O22476
B	846	HIS	-	expression tag	UNP O22476
B	847	HIS	-	expression tag	UNP O22476
B	848	HIS	-	expression tag	UNP O22476
B	849	HIS	-	expression tag	UNP O22476
B	850	SER	-	expression tag	UNP O22476
B	851	GLN	-	expression tag	UNP O22476
B	852	ASP	-	expression tag	UNP O22476
B	853	LEU	-	expression tag	UNP O22476
B	854	GLU	-	expression tag	UNP O22476
B	855	VAL	-	expression tag	UNP O22476
B	856	LEU	-	expression tag	UNP O22476
B	857	PHE	-	expression tag	UNP O22476
B	858	GLN	-	expression tag	UNP O22476
B	859	GLY	-	expression tag	UNP O22476
B	860	PRO	-	expression tag	UNP O22476
B	861	HIS	-	expression tag	UNP O22476
B	862	MET	-	expression tag	UNP O22476

- Molecule 2 is a protein called BRI1 kinase inhibitor 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	F	16	Total	C	N	O	S	0	0	0
			116	71	20	23	2			
2	E	16	Total	C	N	O	S	0	0	0
			116	71	20	23	2			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	326	TYR	-	expression tag	UNP Q9FMZ0
E	326	TYR	-	expression tag	UNP Q9FMZ0

- Molecule 3 is PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (three-letter code: ANP) (formula: $C_{10}H_{17}N_6O_{12}P_3$).
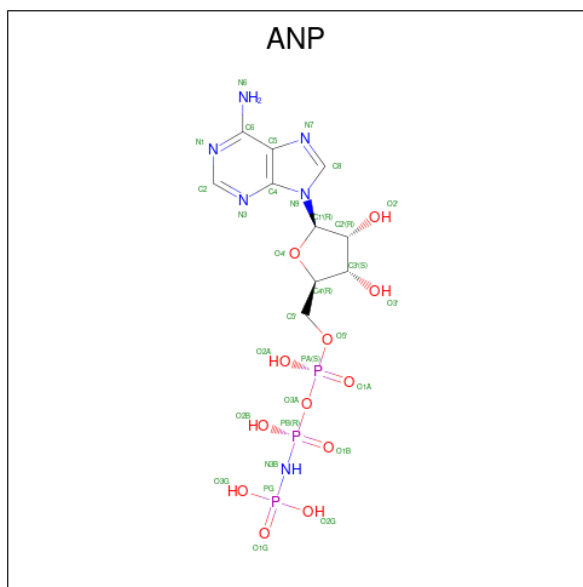
ANP

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			31	10	6	12	3		
3	B	1	Total	C	N	O	P	0	0
			31	10	6	12	3		

• Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	123	Total	O	0	0
			123	123		
4	B	84	Total	O	0	0
			84	84		
4	F	1	Total	O	0	0
			1	1		
4	E	3	Total	O	0	0
			3	3		

3 Residue-property plots ⓘ

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: Protein BRASSINOSTEROID INSENSITIVE 1

Chain A:

• Molecule 1: Protein BRASSINOSTEROID INSENSITIVE 1

Chain B:

• Molecule 2: BRI1 kinase inhibitor 1

Chain F:

• Molecule 2: BRI1 kinase inhibitor 1

Chain E:

57%

43%

29%

5%

24%

SER T307 M308 E309 E310 L311 Q312 A313 A314 I315 Q316 A317 A318 I319 A320 H321 C322 LYS ASN SER TYR

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	62.91Å 80.14Å 79.62Å 90.00° 108.86° 90.00°	Depositor
Resolution (Å)	37.84 – 2.25 37.84 – 2.24	Depositor EDS
% Data completeness (in resolution range)	99.4 (37.84-2.25) 97.9 (37.84-2.24)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.32 (at 2.24Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.7.3_928)	Depositor
R, R_{free}	0.202 , 0.236 0.199 , 0.236	Depositor DCC
R_{free} test set	1755 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å^2)	44.7	Xtriage
Anisotropy	0.933	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 51.1	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	0.96	EDS
Total number of atoms	5240	wwPDB-VP
Average B, all atoms (Å^2)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.24% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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: TPO, ANP, SEP

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	0.45	0/2409	0.60	1/3242 (0.0%)
1	B	0.43	0/2333	0.58	0/3138
2	E	0.29	0/116	0.54	0/156
2	F	0.28	0/116	0.41	0/156
All	All	0.44	0/4974	0.59	1/6692 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	893	GLY	N-CA-C	5.54	126.95	113.10

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	2404	0	2385	33	0
1	B	2331	0	2320	45	0
2	E	116	0	113	5	0
2	F	116	0	113	5	0
3	A	31	0	12	0	0
3	B	31	0	13	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	123	0	0	1	0
4	B	84	0	0	1	0
4	E	3	0	0	0	0
4	F	1	0	0	0	0
All	All	5240	0	4956	84	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 8.

The worst 5 of 84 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:893:GLY:O	1:A:894:PHE:CD1	2.23	0.91
1:B:940:VAL:HG11	1:B:1016:LEU:HD12	1.68	0.76
1:B:877:LEU:HD22	1:B:882:GLY:HA2	1.66	0.76
1:B:875:ASP:OD1	1:B:875:ASP:N	2.22	0.73
1:B:1011:LYS:NZ	3:B:1201:ANP:O3G	2.23	0.66

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	295/333 (89%)	282 (96%)	13 (4%)	0	100	100
1	B	281/333 (84%)	263 (94%)	17 (6%)	1 (0%)	34	37
2	E	14/21 (67%)	13 (93%)	1 (7%)	0	100	100
2	F	14/21 (67%)	14 (100%)	0	0	100	100
All	All	604/708 (85%)	572 (95%)	31 (5%)	1 (0%)	47	55

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1106	LEU

5.3.2 Protein sidechains ⓘ

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	255/280 (91%)	240 (94%)	15 (6%)	19	19
1	B	248/280 (89%)	228 (92%)	20 (8%)	11	10
2	E	11/16 (69%)	10 (91%)	1 (9%)	9	7
2	F	11/16 (69%)	6 (54%)	5 (46%)	0	0
All	All	525/592 (89%)	484 (92%)	41 (8%)	12	11

5 of 41 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	1103	HIS
2	F	307	THR
1	B	1117	MET
1	B	1132	LYS
2	F	316	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 6 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	1094	ASN
1	B	1102	GLN
1	B	1103	HIS
1	A	979	ASN
1	A	919	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

8 non-standard protein/DNA/RNA residues 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	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
1	TPO	A	1039	1	8,10,11	1.17	0	10,14,16	1.56	2 (20%)
1	SEP	A	1044	1	8,9,10	1.68	1 (12%)	8,12,14	1.60	3 (37%)
1	SEP	A	1060	1	8,9,10	1.40	1 (12%)	8,12,14	1.20	1 (12%)
1	SEP	B	1044	1	8,9,10	1.67	1 (12%)	8,12,14	1.50	2 (25%)
1	TPO	B	1039	1	8,10,11	1.09	0	10,14,16	1.75	1 (10%)
1	SEP	A	1042	1	8,9,10	1.56	1 (12%)	8,12,14	1.34	1 (12%)
1	SEP	B	1060	1	8,9,10	1.64	1 (12%)	8,12,14	1.89	2 (25%)
1	SEP	B	1042	1	8,9,10	1.53	1 (12%)	8,12,14	0.94	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
1	TPO	A	1039	1	-	0/9/11/13	-
1	SEP	A	1044	1	-	4/5/8/10	-
1	SEP	A	1060	1	-	2/5/8/10	-
1	SEP	B	1044	1	-	3/5/8/10	-
1	TPO	B	1039	1	-	1/9/11/13	-
1	SEP	A	1042	1	-	0/5/8/10	-
1	SEP	B	1060	1	-	3/5/8/10	-
1	SEP	B	1042	1	-	3/5/8/10	-

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	1044	SEP	P-O1P	3.69	1.62	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1044	SEP	P-O1P	3.67	1.62	1.50
1	B	1060	SEP	P-O1P	3.57	1.62	1.50
1	A	1042	SEP	P-O1P	3.36	1.61	1.50
1	B	1042	SEP	P-O1P	3.21	1.60	1.50

The worst 5 of 12 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	1039	TPO	P-OG1-CB	-4.54	109.50	123.21
1	B	1060	SEP	OG-CB-CA	3.95	111.99	108.14
1	A	1039	TPO	P-OG1-CB	-3.86	111.54	123.21
1	B	1044	SEP	OG-CB-CA	2.92	110.99	108.14
1	A	1044	SEP	OG-CB-CA	2.73	110.80	108.14

There are no chirality outliers.

5 of 16 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1044	SEP	CB-OG-P-O1P
1	A	1044	SEP	CB-OG-P-O2P
1	A	1044	SEP	CB-OG-P-O3P
1	A	1060	SEP	N-CA-CB-OG
1	B	1039	TPO	CB-OG1-P-O1P

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B	1044	SEP	1	0
1	B	1060	SEP	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

2 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	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	ANP	B	1201	-	29,33,33	2.84	14 (48%)	31,52,52	2.81	8 (25%)
3	ANP	A	1201	-	29,33,33	3.08	15 (51%)	31,52,52	3.01	11 (35%)

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	ANP	B	1201	-	-	10/14/38/38	0/3/3/3
3	ANP	A	1201	-	-	10/14/38/38	0/3/3/3

The worst 5 of 29 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1201	ANP	PB-O3A	8.33	1.69	1.59
3	A	1201	ANP	PB-O1B	7.58	1.58	1.46
3	B	1201	ANP	PB-O1B	7.17	1.57	1.46
3	B	1201	ANP	PB-O3A	6.25	1.66	1.59
3	A	1201	ANP	PB-N3B	5.41	1.77	1.63

The worst 5 of 19 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	1201	ANP	O2B-PB-O1B	-9.31	90.40	109.92
3	A	1201	ANP	O1B-PB-N3B	-8.43	99.35	111.77
3	A	1201	ANP	O2B-PB-O1B	-8.40	92.30	109.92
3	B	1201	ANP	O1B-PB-N3B	-7.55	100.65	111.77
3	A	1201	ANP	O3A-PB-N3B	6.05	123.38	106.59

There are no chirality outliers.

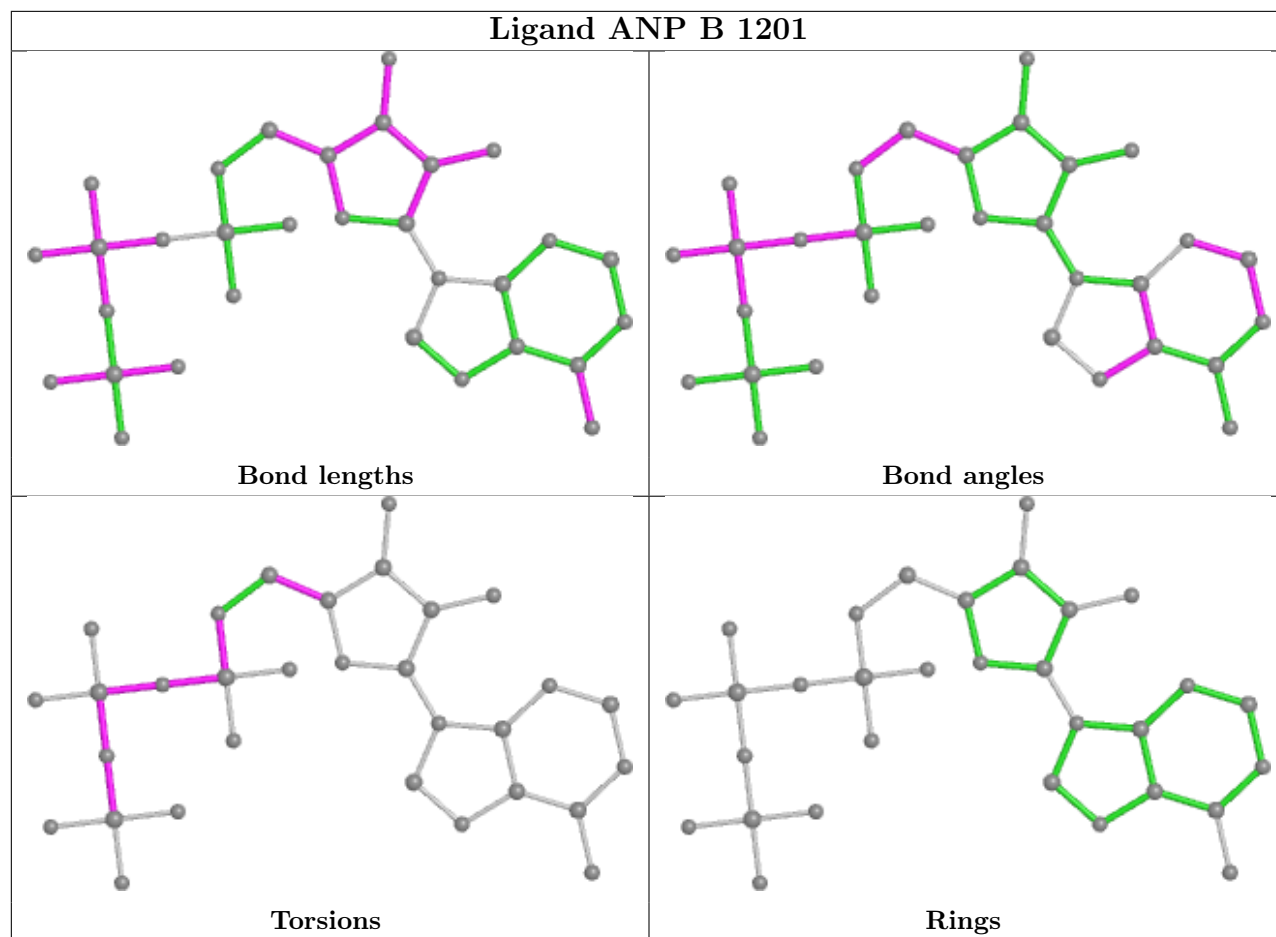5 of 20 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1201	ANP	PB-N3B-PG-O1G
3	A	1201	ANP	PG-N3B-PB-O1B
3	A	1201	ANP	PG-N3B-PB-O3A
3	A	1201	ANP	PA-O3A-PB-O1B
3	A	1201	ANP	PA-O3A-PB-O2B

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1201	ANP	3	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 ANP B 1201

Bond lengths

Bond angles

Torsions

Rings

Ligand ANP A 1201

Bond lengths

Bond angles

Torsions

Rings
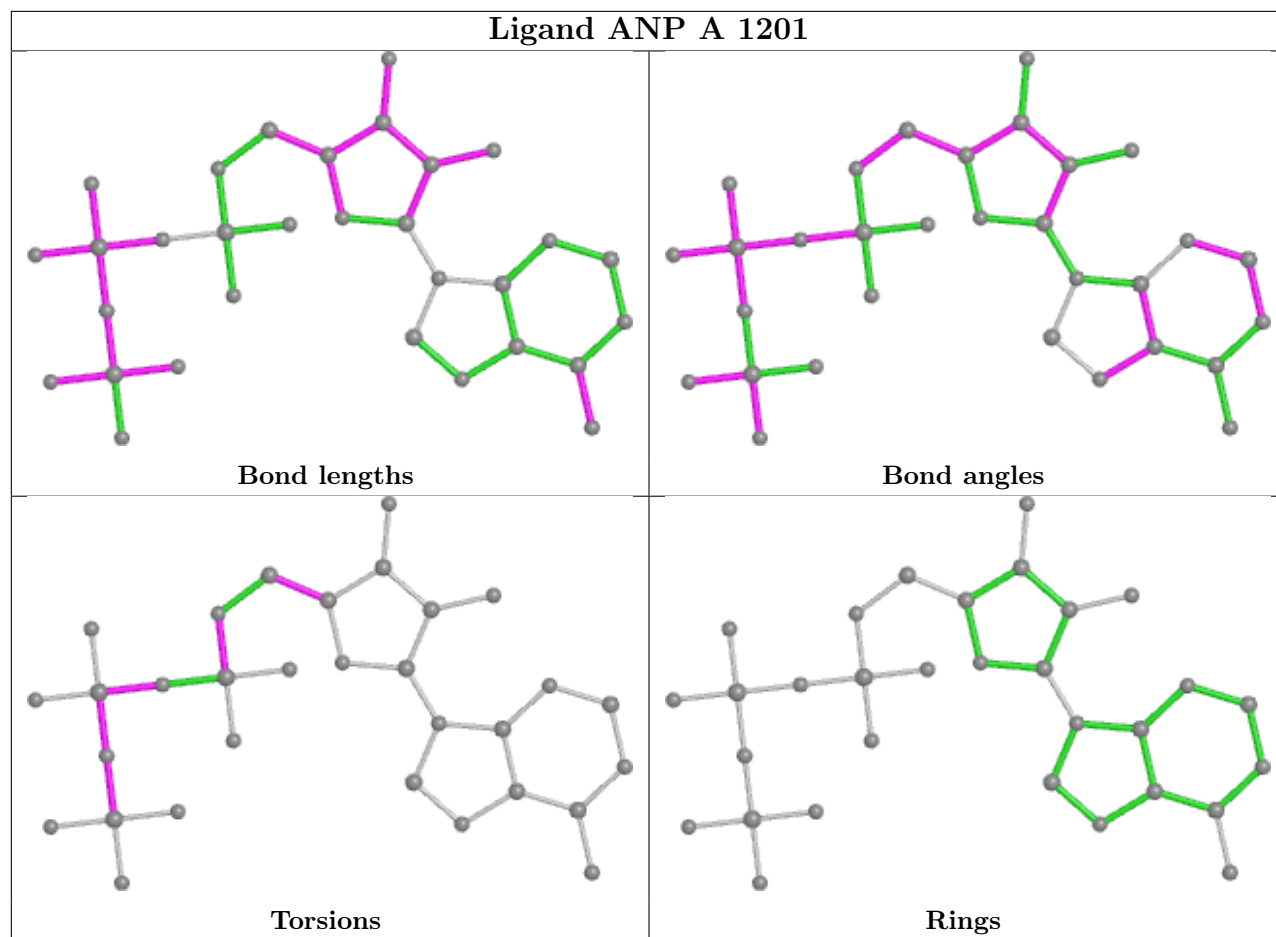
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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, 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	299/333 (89%)	0.33	20 (6%)	17	19	10, 41, 106, 133	0
1	B	289/333 (86%)	0.37	18 (6%)	20	22	11, 47, 107, 145	0
2	E	16/21 (76%)	3.09	12 (75%)	0	0	91, 108, 134, 146	0
2	F	16/21 (76%)	2.54	11 (68%)	0	0	81, 91, 133, 138	0
All	All	620/708 (87%)	0.48	61 (9%)	7	8	10, 46, 115, 146	0

The worst 5 of 61 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	311	LEU	6.1
2	E	308	MET	6.1
2	F	321	HIS	5.9
1	B	1106	LEU	5.8
2	E	319	ILE	5.5

## 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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
1	SEP	A	1060	10/11	0.66	0.21	61,67,79,82	0
1	SEP	A	1044	10/11	0.84	0.17	59,65,67,70	0
1	SEP	B	1044	10/11	0.87	0.18	90,97,100,103	0
1	SEP	B	1060	10/11	0.91	0.09	55,61,72,77	0
1	TPO	A	1039	11/12	0.96	0.13	32,37,48,48	0
1	SEP	A	1042	10/11	0.96	0.09	35,44,54,59	0
1	TPO	B	1039	11/12	0.97	0.12	32,38,43,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
1	SEP	B	1042	10/11	0.97	0.07	37,42,51,54	0

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, 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
3	ANP	B	1201	31/31	0.88	0.17	22,43,180,184	0
3	ANP	A	1201	31/31	0.92	0.12	26,47,184,188	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 ANP B 1201:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
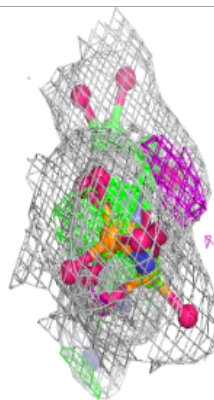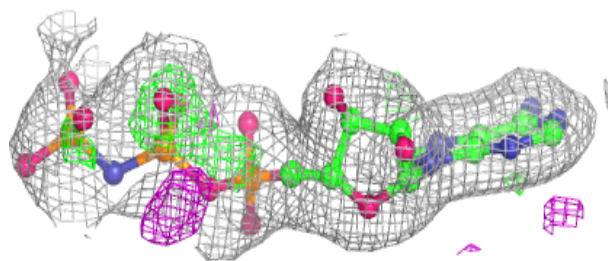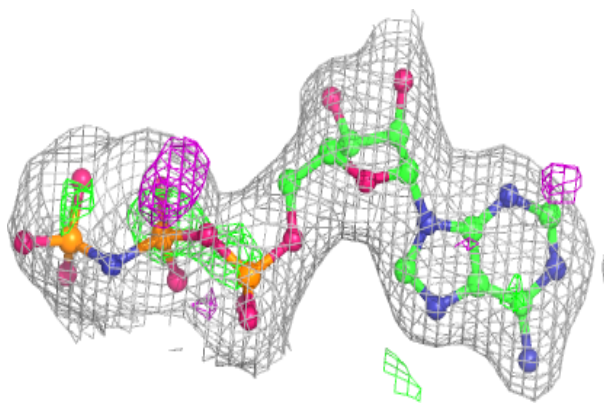
Electron density around ANP A 1201:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
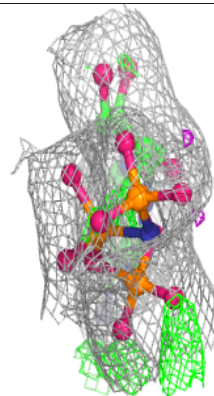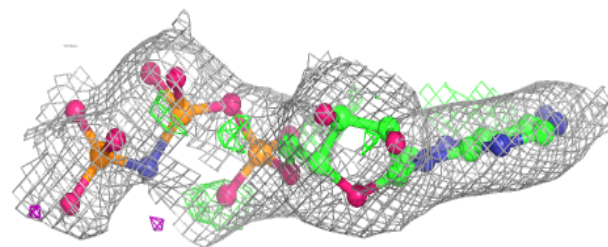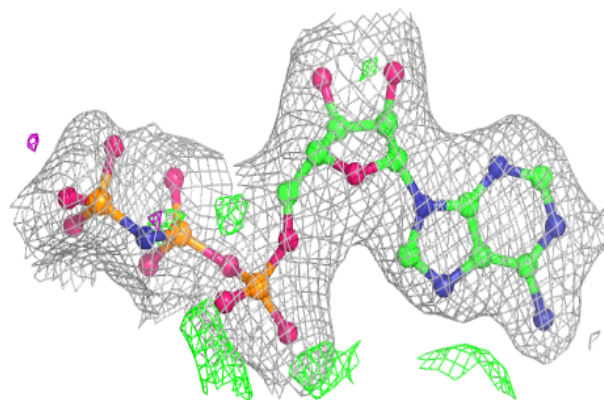
6.5 Other polymers (i)

There are no such residues in this entry.