W O R L D W I D E
wwPDB
PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Jan 27, 2022 – 06:20 pm GMT

PDB ID	:	6R72
Title	:	Crystal structure of BmrA-E504A in an outward-facing conformation
Authors	:	Chaptal, V.; Zampieri, V.; Kilburg, A.; Magnard, S.; Falson, P.
Deposited on	:	2019-03-28
Resolution	:	3.95 Å(reported)

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

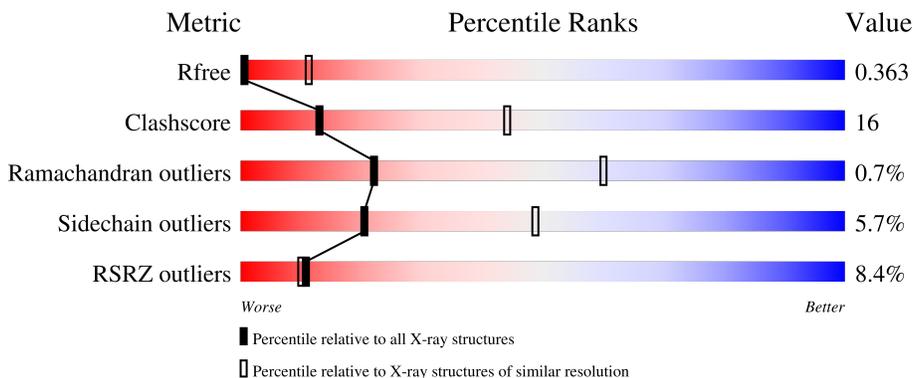|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.26
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.26

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 3.95 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		0.363
Clashscore		16
Ramachandran outliers		0.7%
Sidechain outliers		5.7%
RSRZ outliers		8.4%

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	1025 (4.22-3.70)
Clashscore	141614	1085 (4.22-3.70)
Ramachandran outliers	138981	1047 (4.22-3.70)
Sidechain outliers	138945	1039 (4.22-3.70)
RSRZ outliers	127900	1013 (4.28-3.64)

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	599	7% — 67% / 26% / • 5%
1	B	599	8% — 66% / 27% / • 5%
1	C	599	9% — 67% / 25% / • 6%
1	D	599	9% — 67% / 26% / • 5%
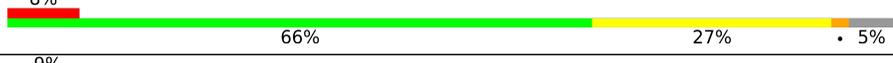
2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 17683 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 Multidrug exporter ATP-binding cassette.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	571	Total	C	N	O	S	0	0	0
			4396	2822	734	823	17			
1	B	569	Total	C	N	O	S	0	0	0
			4392	2820	733	821	18			
1	C	565	Total	C	N	O	S	0	0	0
			4367	2806	728	816	17			
1	D	572	Total	C	N	O	S	0	0	0
			4400	2824	735	824	17			

There are 44 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-9	MET	-	initiating methionine	UNP A0A164TVX9
A	-8	SER	-	expression tag	UNP A0A164TVX9
A	-7	SER	-	expression tag	UNP A0A164TVX9
A	-6	SER	-	expression tag	UNP A0A164TVX9
A	-5	HIS	-	expression tag	UNP A0A164TVX9
A	-4	HIS	-	expression tag	UNP A0A164TVX9
A	-3	HIS	-	expression tag	UNP A0A164TVX9
A	-2	HIS	-	expression tag	UNP A0A164TVX9
A	-1	HIS	-	expression tag	UNP A0A164TVX9
A	0	HIS	-	expression tag	UNP A0A164TVX9
A	504	ALA	GLU	engineered mutation	UNP A0A164TVX9
B	-9	MET	-	initiating methionine	UNP A0A164TVX9
B	-8	SER	-	expression tag	UNP A0A164TVX9
B	-7	SER	-	expression tag	UNP A0A164TVX9
B	-6	SER	-	expression tag	UNP A0A164TVX9
B	-5	HIS	-	expression tag	UNP A0A164TVX9
B	-4	HIS	-	expression tag	UNP A0A164TVX9
B	-3	HIS	-	expression tag	UNP A0A164TVX9
B	-2	HIS	-	expression tag	UNP A0A164TVX9
B	-1	HIS	-	expression tag	UNP A0A164TVX9
B	0	HIS	-	expression tag	UNP A0A164TVX9

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Chain	Residue	Modelled	Actual	Comment	Reference
B	504	ALA	GLU	engineered mutation	UNP A0A164TVX9
C	-9	MET	-	initiating methionine	UNP A0A164TVX9
C	-8	SER	-	expression tag	UNP A0A164TVX9
C	-7	SER	-	expression tag	UNP A0A164TVX9
C	-6	SER	-	expression tag	UNP A0A164TVX9
C	-5	HIS	-	expression tag	UNP A0A164TVX9
C	-4	HIS	-	expression tag	UNP A0A164TVX9
C	-3	HIS	-	expression tag	UNP A0A164TVX9
C	-2	HIS	-	expression tag	UNP A0A164TVX9
C	-1	HIS	-	expression tag	UNP A0A164TVX9
C	0	HIS	-	expression tag	UNP A0A164TVX9
C	504	ALA	GLU	engineered mutation	UNP A0A164TVX9
D	-9	MET	-	initiating methionine	UNP A0A164TVX9
D	-8	SER	-	expression tag	UNP A0A164TVX9
D	-7	SER	-	expression tag	UNP A0A164TVX9
D	-6	SER	-	expression tag	UNP A0A164TVX9
D	-5	HIS	-	expression tag	UNP A0A164TVX9
D	-4	HIS	-	expression tag	UNP A0A164TVX9
D	-3	HIS	-	expression tag	UNP A0A164TVX9
D	-2	HIS	-	expression tag	UNP A0A164TVX9
D	-1	HIS	-	expression tag	UNP A0A164TVX9
D	0	HIS	-	expression tag	UNP A0A164TVX9
D	504	ALA	GLU	engineered mutation	UNP A0A164TVX9

- Molecule 2 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).
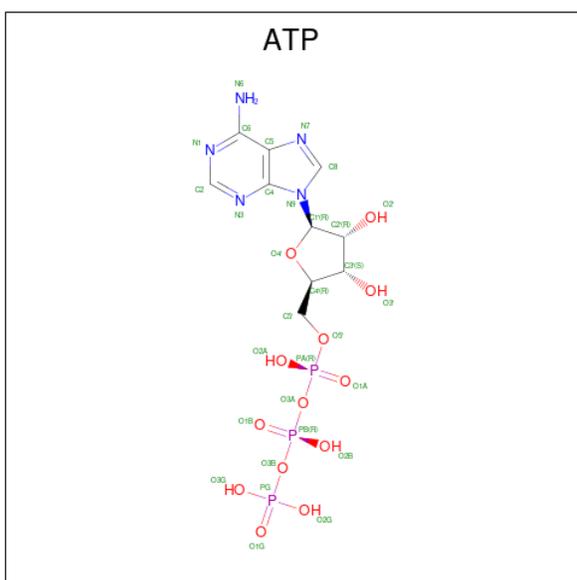
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	N	O	P		0	0
			31	10	5	13	3			
2	B	1	Total	C	N	O	P		0	0
			31	10	5	13	3			
2	C	1	Total	C	N	O	P		0	0
			31	10	5	13	3			
2	D	1	Total	C	N	O	P		0	0
			31	10	5	13	3			

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

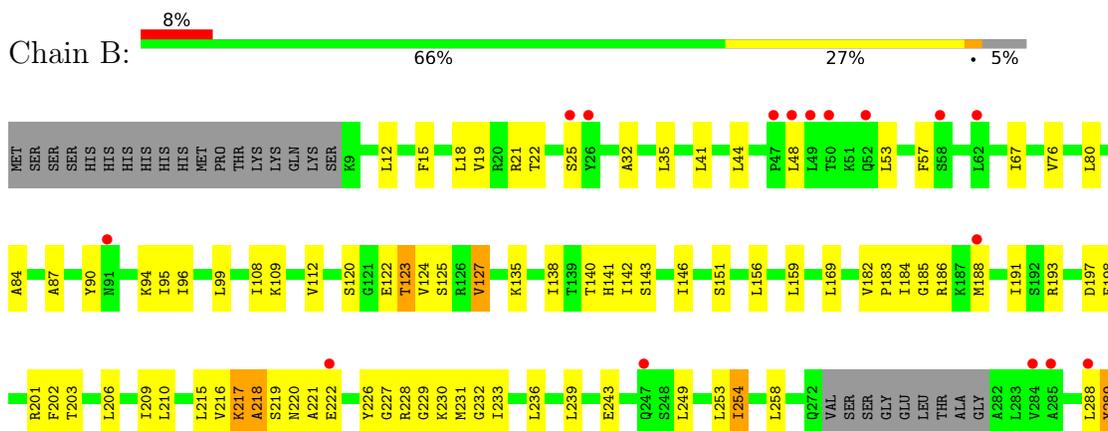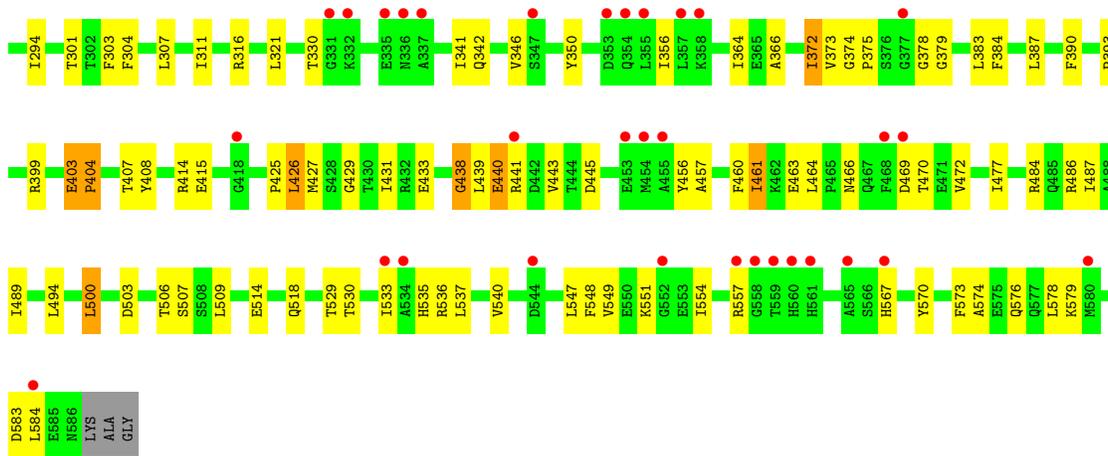| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Mg	0	0
			1	1		
3	B	1	Total	Mg	0	0
			1	1		
3	C	1	Total	Mg	0	0
			1	1		
3	D	1	Total	Mg	0	0
			1	1		

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.

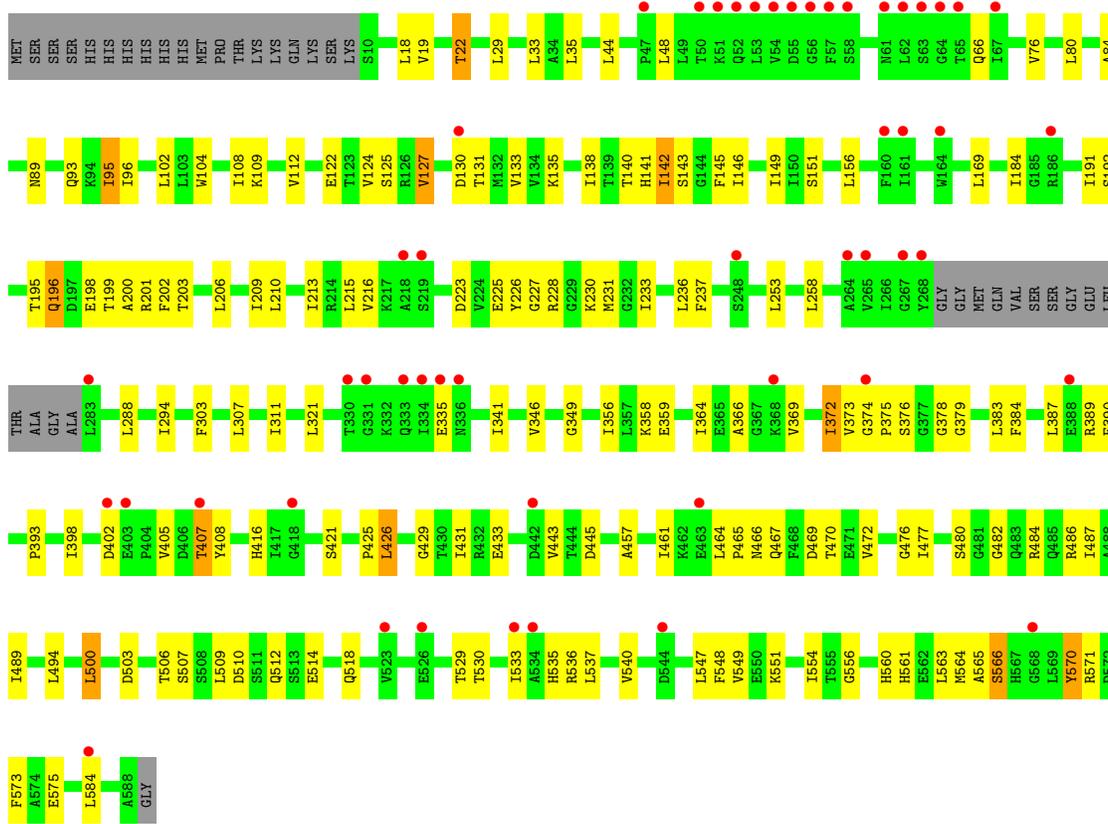• Molecule 1: Multidrug exporter ATP-binding cassette

Chain A:
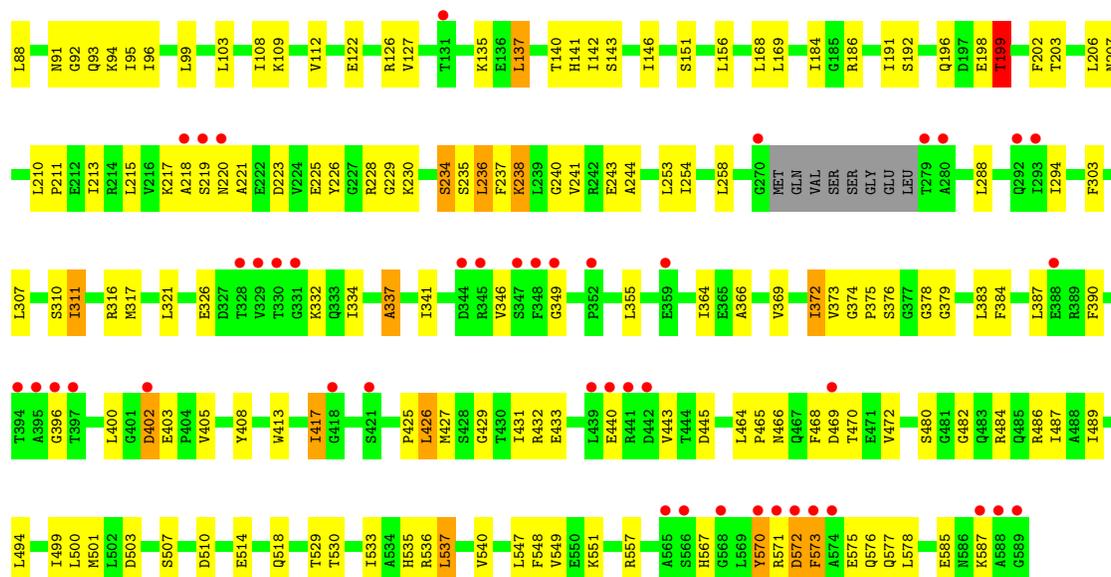
• Molecule 1: Multidrug exporter ATP-binding cassette

Chain B:

[Protein sequence diagram with colored residue blocks for chain rows, including residues I294, T301, T302, F303, F304, L307, I311, R316, L321, T330, G331, K332, E335, N336, A337, I341, Q342, V346, S347, Y350, D353, Q354, L355, I356, L357, K358, I364, E365, A366, I372, V373, G374, P375, S376, G377, G378, G379, L383, F384, L387, F390, P393]

[Second row: R399, E403, P404, T407, Y408, R414, E415, G418, P425, L426, M427, S428, G429, T430, I431, R432, E433, G438, L439, E440, R441, D442, V443, T444, D445, E453, M454, A455, Y456, A457, F460, I461, K462, E463, L464, P465, N466, Q467, F468, D469, T470, E471, V472, I477, R484, Q485, R486, I487, A488]

[Third row: I489, L494, L500, D503, T506, S507, S508, L509, E514, Q518, T529, T530, I533, A534, H535, R536, L537, V540, D544, L547, F548, V549, E550, K551, G552, E553, I554, R557, G558, T559, H560, H561, A565, S566, H567, Y570, F573, A574, E575, Q576, Q577, L578, K579, M580]

[Fourth row: D583, L584, E585, N586, LYS, ALA, GLY]

• Molecule 1: Multidrug exporter ATP-binding cassette

Chain C:

[Bar chart: 9% (red), 67% (green), 25% (yellow), 6% (gray)]

[Protein sequence diagrams for Chain C with residue blocks: MET, SER, SER, HIS, HIS, HIS, HIS, HIS, MET, PRO, THR, LYS, LYS, GLN, LYS, SER, LYS, S10, L18, V19, T22, L29, L33, A34, L35, L44, P47, L48, L49, T50, K51, Q52, L53, V54, D55, G56, F57, S58, N61, L62, S63, G64, T65, Q66, I67, V76, L80, A84]

[Row: N89, Q93, K94, I95, I96, L102, L103, W104, I108, K109, V112, E122, T123, V124, S125, R126, V127, D130, T131, M132, V133, V134, K135, I138, T139, T140, H141, I142, S143, G144, F145, I146, I149, I150, S151, L156, F160, I161, W164, L169, I184, G185, R186, I191, S192]

[Row: T195, Q196, D197, E198, T199, A200, R201, F202, T203, L206, I209, L210, I213, R214, L215, V216, K217, A218, S219, D223, V224, E225, Y226, G227, R228, G229, K230, M231, G232, I233, L236, F237, S248, L253, L258, A264, V265, I266, G267, Y268, GLY, GLY, MET, GLN, VAL, SER, GLY, GLU, LEU]

[Row: THR, ALA, GLY, ALA, L283, L288, I294, F303, L307, I311, L321, T330, G331, K332, Q333, I334, E335, N336, I341, V346, G349, I356, L357, K358, E359, I364, E365, A366, G367, K368, V369, I372, V373, G374, P375, S376, G377, G378, G379, L383, F384, L387, E388, R389, F390]

[Row: P393, I398, D402, E403, P404, V405, D406, T407, Y408, H416, I417, G418, S421, P425, L426, G429, T430, I431, R432, E433, D442, V443, T444, D445, A457, I461, K462, E463, L464, P465, N466, Q467, F468, D469, T470, E471, V472, G476, I477, S480, G481, G482, Q483, R484, Q485, R486, I487, A488]

[Row: I489, L494, L500, D503, T506, S507, S508, L509, D510, S511, Q512, S513, E514, Q518, V523, E526, T529, T530, I533, A534, H535, R536, L537, V540, D544, L547, F548, V549, E550, K551, I554, T555, G556, H560, H561, E562, L563, M564, A565, S566, H567, G568, L569, Y570, R571, D572]

[Row: F573, A574, E575, L584, A588, GLY]

• Molecule 1: Multidrug exporter ATP-binding cassette

Chain D:

[Bar chart: 9% (red), 67% (green), 26% (yellow), 5% (gray)]

[Protein sequence diagram for Chain D: MET, SER, SER, HIS, HIS, HIS, HIS, HIS, MET, PRO, THR, LYS, LYS, GLN, LYS, SER, LYS, S10, K11, L12, K13, P14, F15, L18, V19, R20, R21, P24, L35, L41, L44, L48, K51, N61, L62, S63, G64, T65, Q66, I67, G68, L69, I70, V76, L80, A84]

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	117.81Å 110.75Å 155.62Å 90.00° 93.23° 90.00°	Depositor
Resolution (Å)	28.42 – 3.95 28.42 – 3.95	Depositor EDS
% Data completeness (in resolution range)	92.0 (28.42-3.95) 57.9 (28.42-3.95)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.29 (at 3.98Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.260 , 0.321 0.299 , 0.363	Depositor DCC
R_{free} test set	1019 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	198.1	Xtriage
Anisotropy	0.015	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	17683	wwPDB-VP
Average B, all atoms (Å^2)	113.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.91% 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: MG, ATP

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	0.44	0/4462	0.80	15/6038 (0.2%)
1	B	0.44	0/4458	0.77	10/6031 (0.2%)
1	C	0.45	0/4433	0.77	8/5999 (0.1%)
1	D	0.45	0/4466	0.79	17/6043 (0.3%)
All	All	0.45	0/17819	0.78	50/24111 (0.2%)

There are no bond length outliers.

The worst 5 of 50 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	337	ALA	CB-CA-C	15.17	132.86	110.10
1	A	408	TYR	N-CA-C	-14.04	73.10	111.00
1	B	438	GLY	N-CA-C	13.63	147.17	113.10
1	C	566	SER	N-CA-C	12.03	143.49	111.00
1	B	439	LEU	CB-CA-C	-11.80	87.78	110.20

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	4396	0	4566	181	0
1	B	4392	0	4562	147	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	4367	0	4539	171	0
1	D	4400	0	4568	156	0
2	A	31	0	12	0	0
2	B	31	0	12	0	0
2	C	31	0	12	1	0
2	D	31	0	12	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
All	All	17683	0	18283	590	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 16.

The worst 5 of 590 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:D:141:HIS:CD2	1:D:303:PHE:CE1	1.93	1.53
1:C:141:HIS:CD2	1:C:303:PHE:CE1	2.13	1.35
1:A:217:LYS:HD2	1:B:414:ARG:NH1	1.40	1.35
1:A:141:HIS:CD2	1:A:303:PHE:CE1	2.15	1.33
1:D:99:LEU:HD22	1:D:317:MET:SD	1.68	1.33

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	567/599 (95%)	499 (88%)	64 (11%)	4 (1%)	22	60
1	B	565/599 (94%)	528 (94%)	33 (6%)	4 (1%)	22	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	561/599 (94%)	510 (91%)	49 (9%)	2 (0%)	34	70
1	D	568/599 (95%)	525 (92%)	38 (7%)	5 (1%)	17	54
All	All	2261/2396 (94%)	2062 (91%)	184 (8%)	15 (1%)	22	60

5 of 15 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	404	PRO
1	A	428	SER
1	A	560	HIS
1	D	337	ALA
1	B	222	GLU

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	480/506 (95%)	456 (95%)	24 (5%)	24	52
1	B	481/506 (95%)	450 (94%)	31 (6%)	17	45
1	C	479/506 (95%)	453 (95%)	26 (5%)	22	50
1	D	480/506 (95%)	451 (94%)	29 (6%)	19	47
All	All	1920/2024 (95%)	1810 (94%)	110 (6%)	20	49

5 of 110 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	66	GLN
1	C	372	ILE
1	D	585	GLU
1	D	311	ILE
1	C	127	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 22 such sidechains are listed below:

Mol	Chain	Res	Type
1	C	141	HIS
1	C	467	GLN
1	C	416	HIS
1	D	141	HIS
1	A	467	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 8 ligands modelled in this entry, 4 are monoatomic - leaving 4 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	$\#|Z| > 2$
2	ATP	D	700	3	26,33,33	0.59	0	31,52,52	0.72	1 (3%)
2	ATP	A	700	3	26,33,33	0.62	0	31,52,52	0.76	1 (3%)
2	ATP	B	700	3	26,33,33	0.58	0	31,52,52	0.75	1 (3%)
2	ATP	C	700	3	26,33,33	0.57	0	31,52,52	0.72	1 (3%)

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
2	ATP	D	700	3	-	2/18/38/38	0/3/3/3
2	ATP	A	700	3	-	5/18/38/38	0/3/3/3
2	ATP	B	700	3	-	2/18/38/38	0/3/3/3
2	ATP	C	700	3	-	2/18/38/38	0/3/3/3

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	700	ATP	C5-C6-N6	2.33	123.90	120.35
2	C	700	ATP	C5-C6-N6	2.29	123.84	120.35
2	D	700	ATP	C5-C6-N6	2.29	123.83	120.35
2	B	700	ATP	C5-C6-N6	2.25	123.77	120.35

There are no chirality outliers.

5 of 11 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	700	ATP	C5'-O5'-PA-O3A
2	A	700	ATP	PA-O3A-PB-O2B
2	A	700	ATP	PG-O3B-PB-O2B
2	B	700	ATP	PG-O3B-PB-O1B
2	D	700	ATP	PG-O3B-PB-O1B

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	700	ATP	1	0
2	C	700	ATP	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.

Ligand ATP D 700

Ligand ATP A 700

Bond lengths

Bond angles

Torsions

Rings

Ligand ATP B 700

Bond lengths

Bond angles

Torsions

Rings

Ligand ATP C 700

Bond lengths

Bond angles

Torsions

Rings
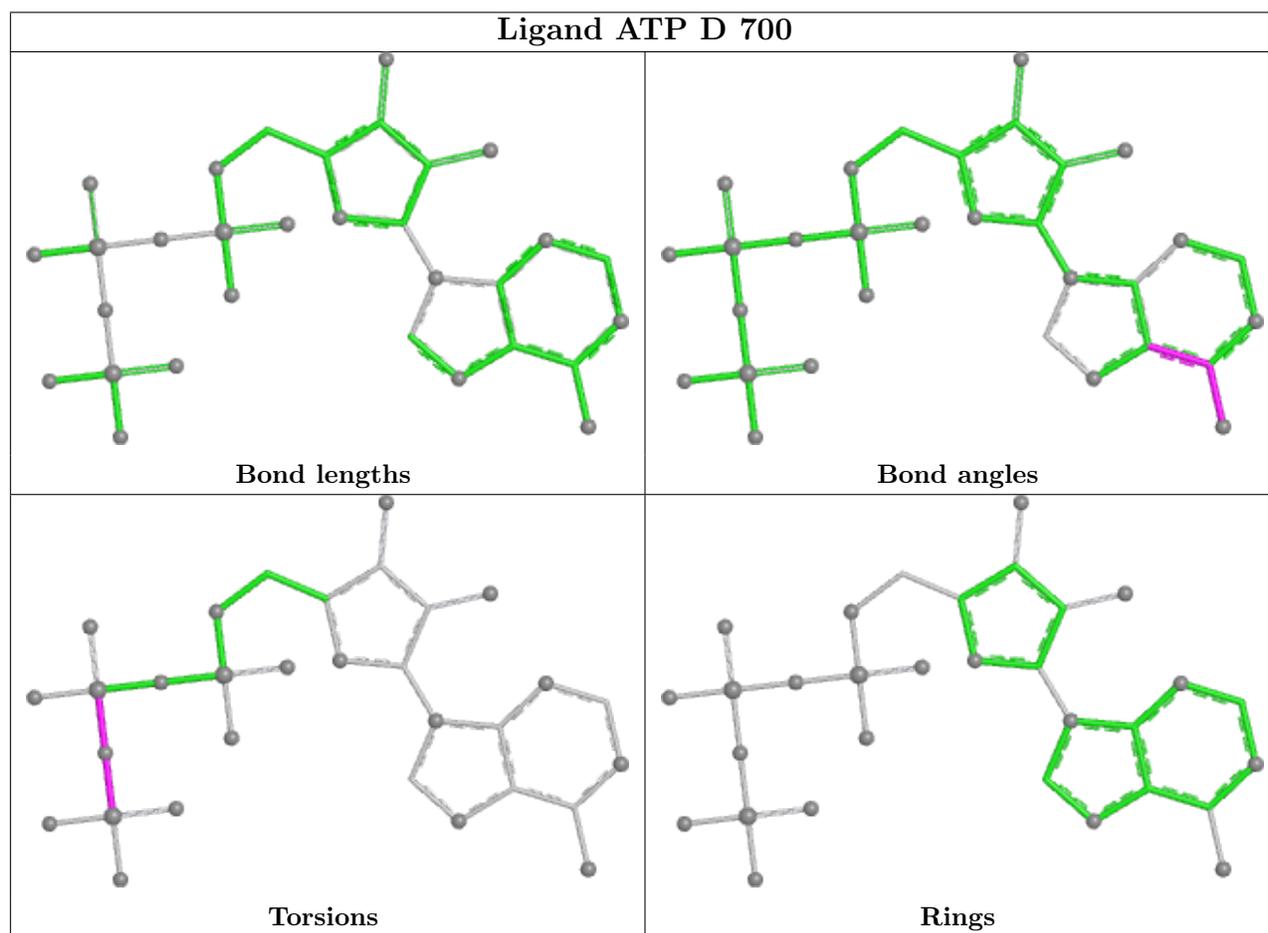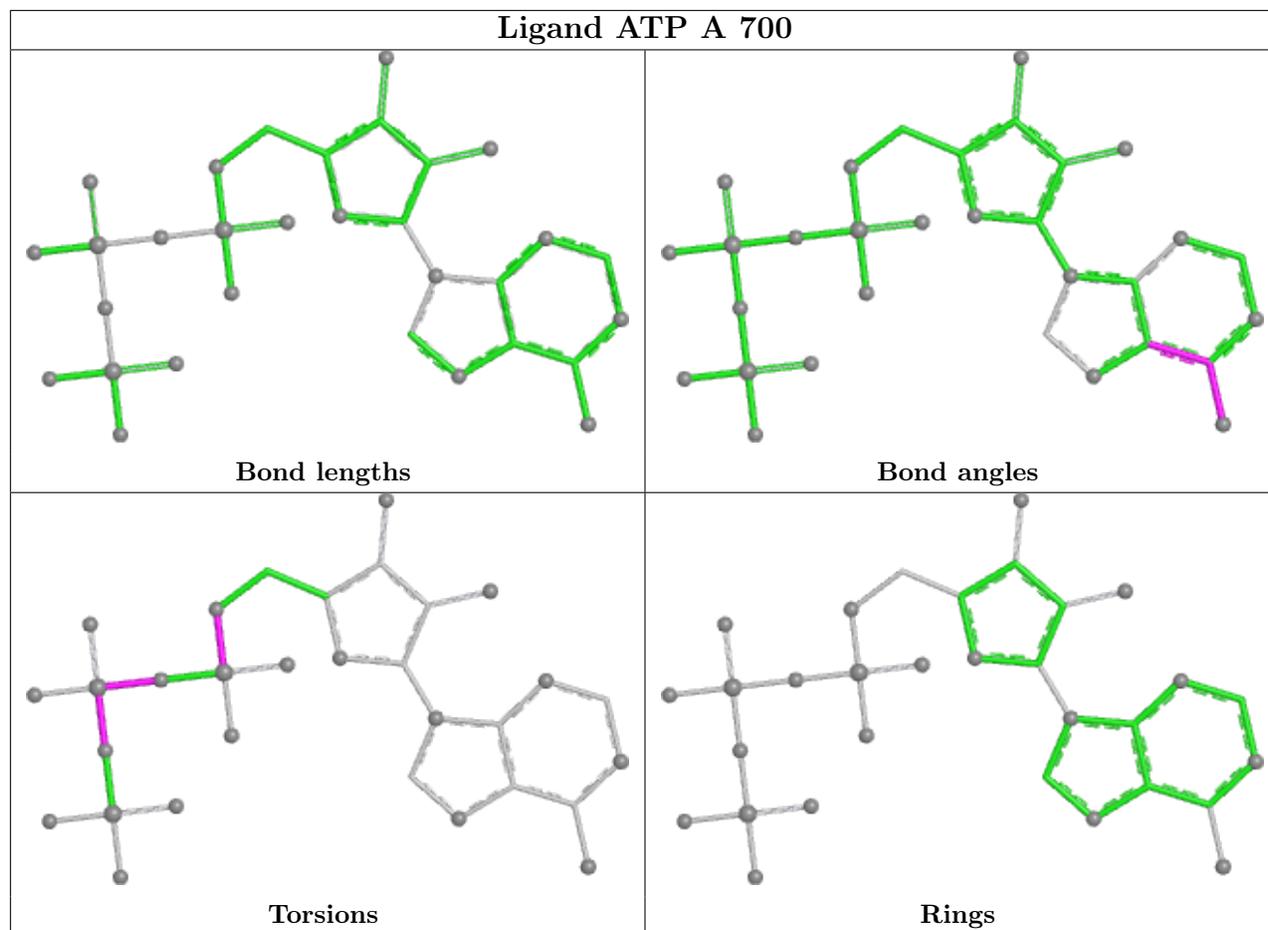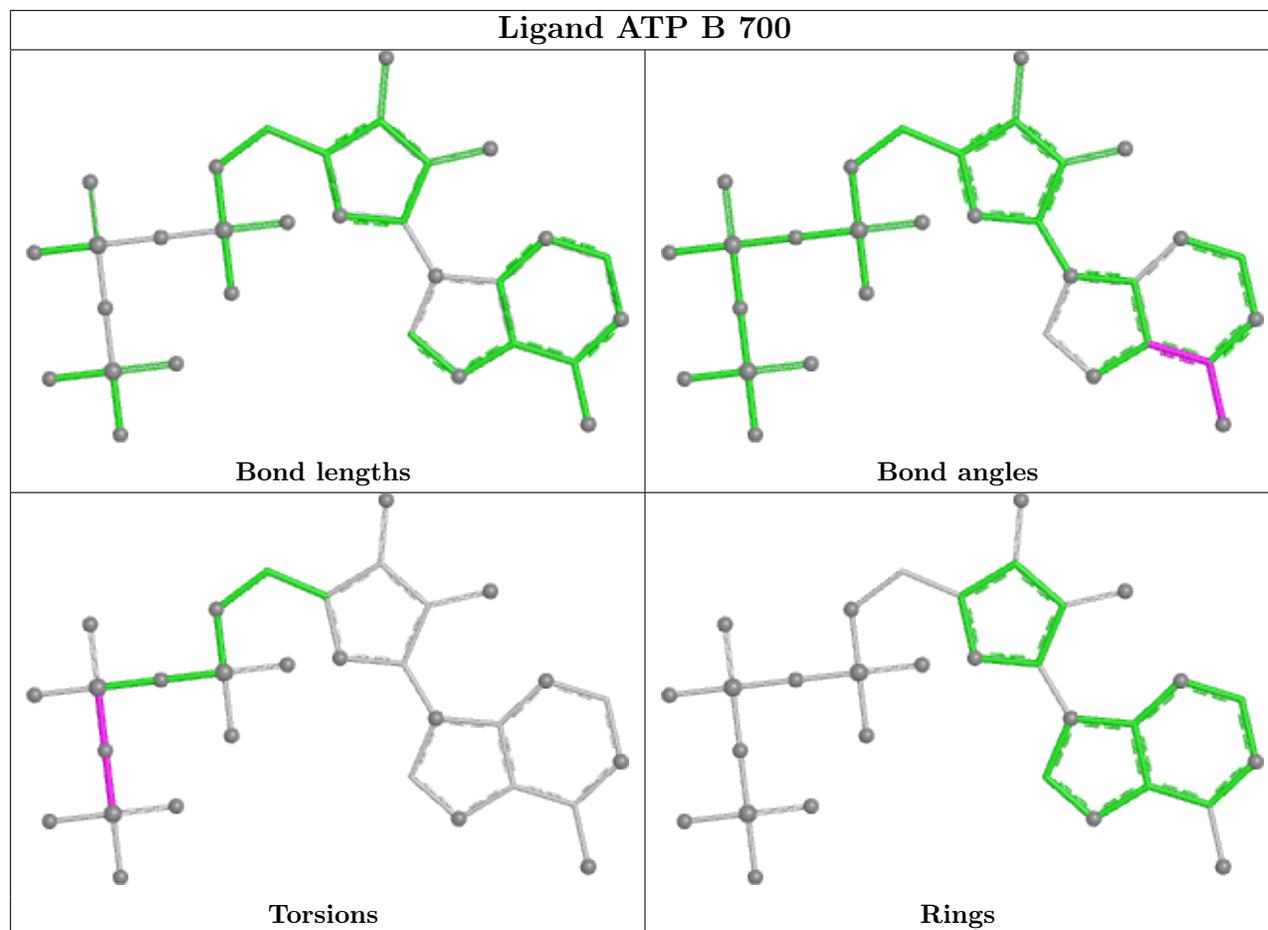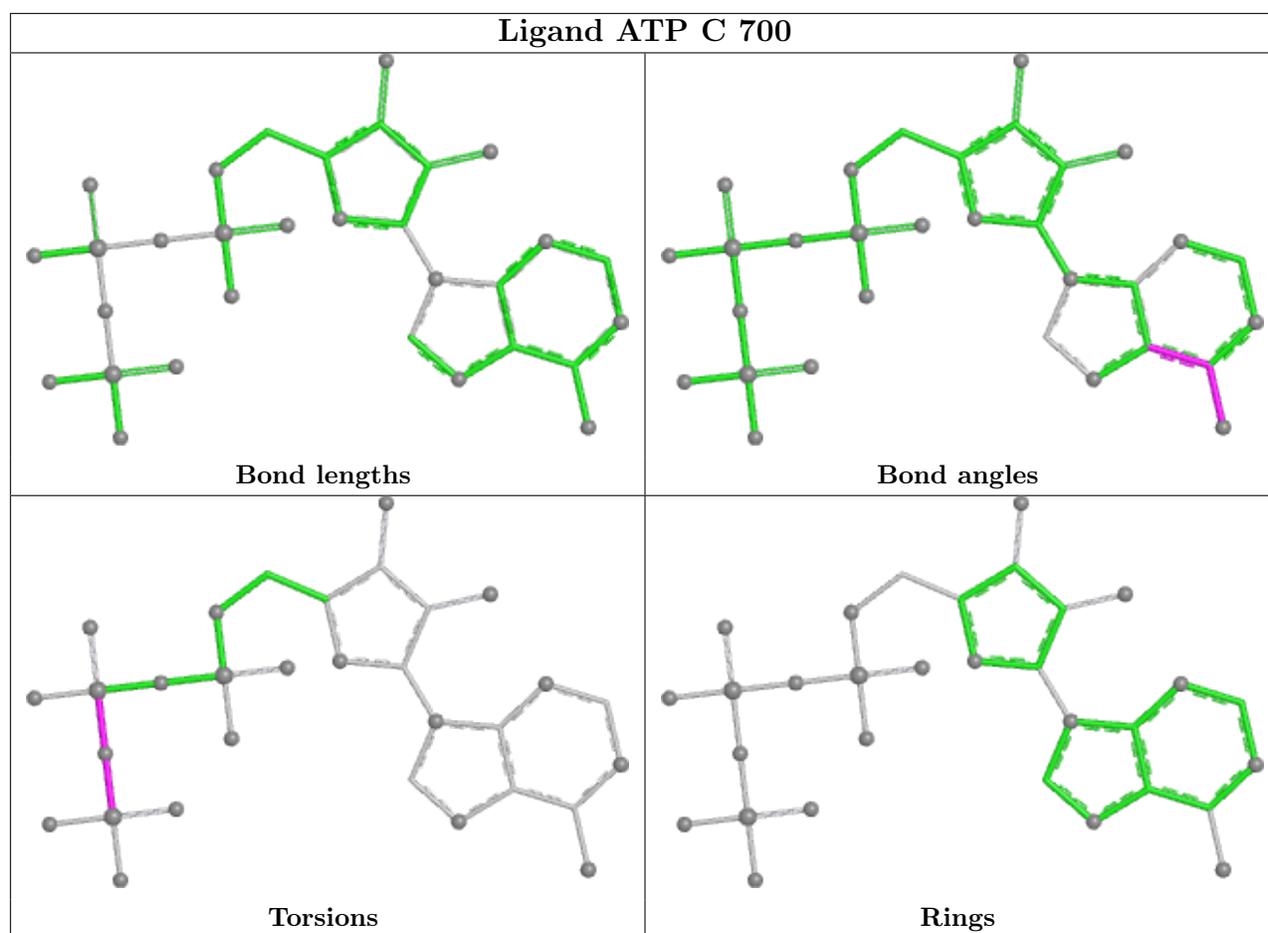
5.7 Other polymers ⓘ

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	571/599 (95%)	0.13	39 (6%)	17	14	9, 75, 294, 300	0
1	B	569/599 (94%)	0.28	48 (8%)	11	10	18, 83, 295, 300	0
1	C	565/599 (94%)	0.20	51 (9%)	9	8	24, 75, 289, 300	0
1	D	572/599 (95%)	0.25	53 (9%)	8	8	21, 82, 300, 300	0
All	All	2277/2396 (95%)	0.21	191 (8%)	11	10	9, 79, 296, 300	0

The worst 5 of 191 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	572	ASP	13.8
1	B	336	ASN	10.2
1	A	395	ALA	10.1
1	C	55	ASP	9.7
1	A	329	VAL	9.5

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

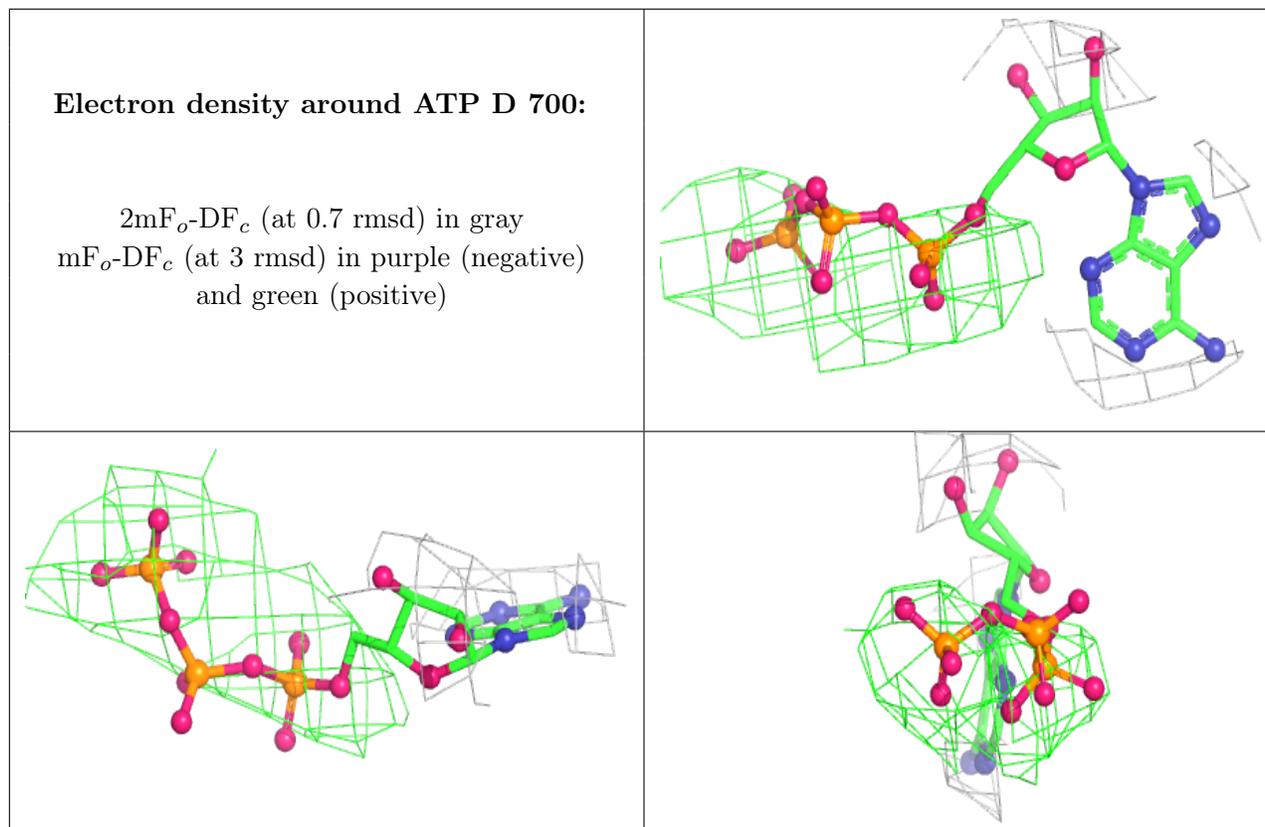There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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
2	ATP	D	700	31/31	0.87	0.32	43,55,65,70	0
2	ATP	B	700	31/31	0.90	0.31	39,54,62,63	0
2	ATP	C	700	31/31	0.94	0.20	30,37,43,48	0
2	ATP	A	700	31/31	0.94	0.19	33,41,49,50	0
3	MG	C	701	1/1	0.94	0.23	31,31,31,31	0
3	MG	D	701	1/1	0.94	0.36	41,41,41,41	0
3	MG	A	701	1/1	0.97	0.25	34,34,34,34	0
3	MG	B	701	1/1	0.97	0.34	43,43,43,43	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.
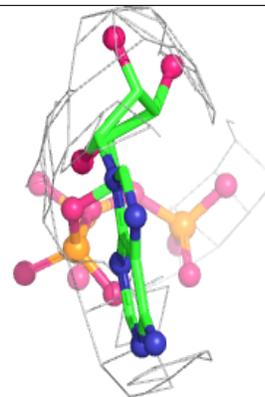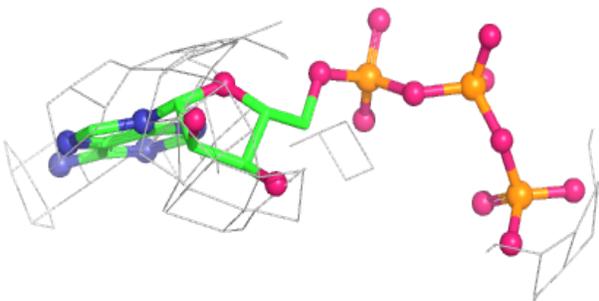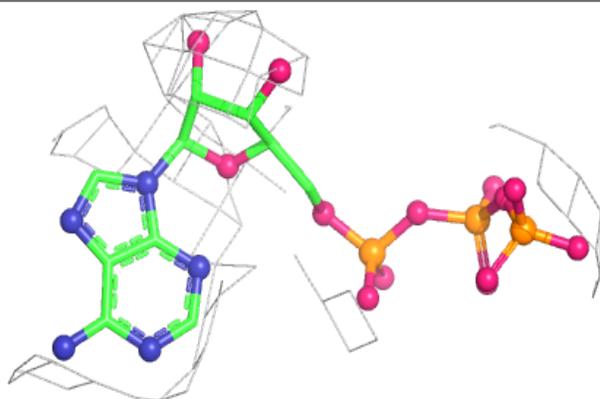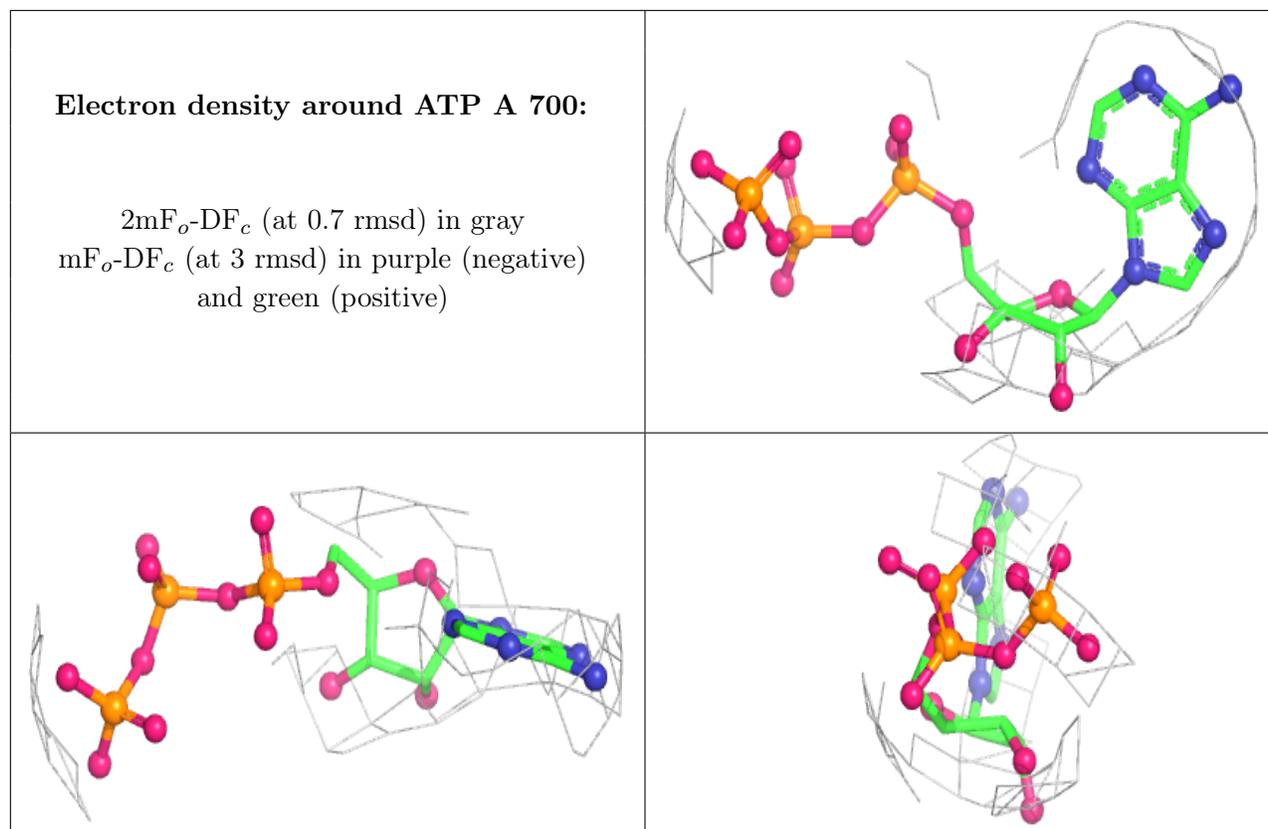

Electron density around ATP D 700:

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

Electron density around ATP B 700:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
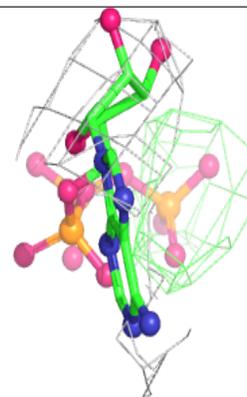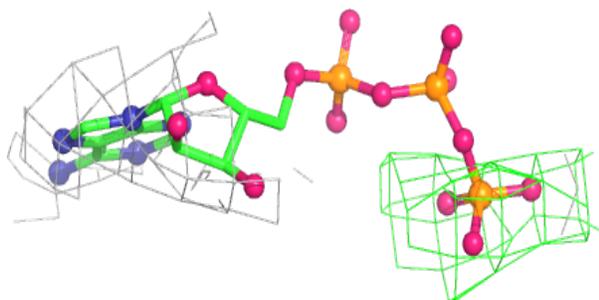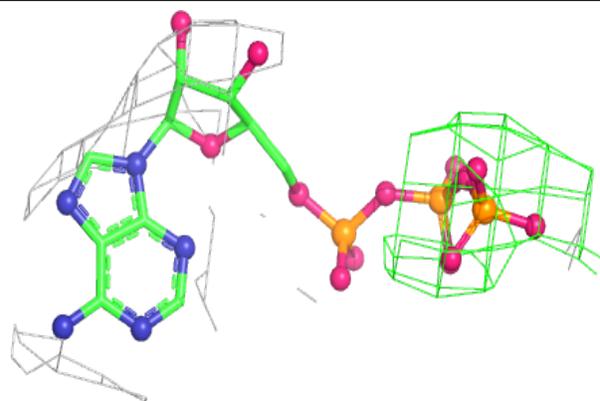
Electron density around ATP C 700:

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

Electron density around ATP A 700:

$2mF_o$-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 ⓘ

There are no such residues in this entry.