



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 4, 2024 – 01:18 pm GMT

PDB ID : 5JC3
Title : Crystal structure of chicken MDA5 with 5'p 10-mer dsRNA and ADP-Mg²⁺ at 2.6 Å resolution (monoclinic form, twinned).
Authors : Cusack, S.; Uchikawa, E.
Deposited on : 2016-04-14
Resolution : 2.60 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 : 4.02b-467
Mogul : 1.8.4, 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

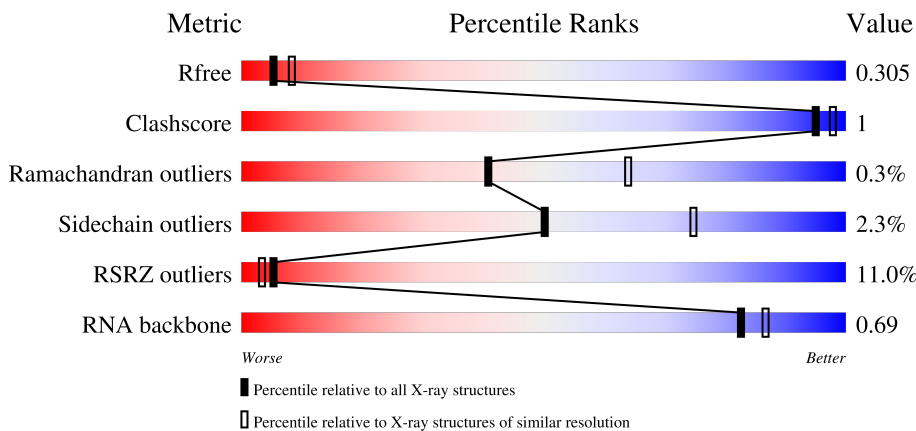
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.60 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}	130704	3163 (2.60-2.60)
Clashscore	141614	3518 (2.60-2.60)
Ramachandran outliers	138981	3455 (2.60-2.60)
Sidechain outliers	138945	3455 (2.60-2.60)
RSRZ outliers	127900	3104 (2.60-2.60)
RNA backbone	3102	1040 (2.90-2.30)

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 $\leq 5\%$. 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	701	 11% 91% 5%
1	B	701	 10% 90% 6%
2	C	10	 80% 20%
2	D	10	 70% 30%

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Mol	Chain	Length	Quality of chain
2	X	10	 80% 20%
2	Y	10	 90% 10%

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 11759 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 Melanoma differentiation associated protein-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	668	Total	C	N	O	S	0	0	0
			5450	3437	973	1008	32			
1	B	661	Total	C	N	O	S	0	0	0
			5397	3403	964	998	32			

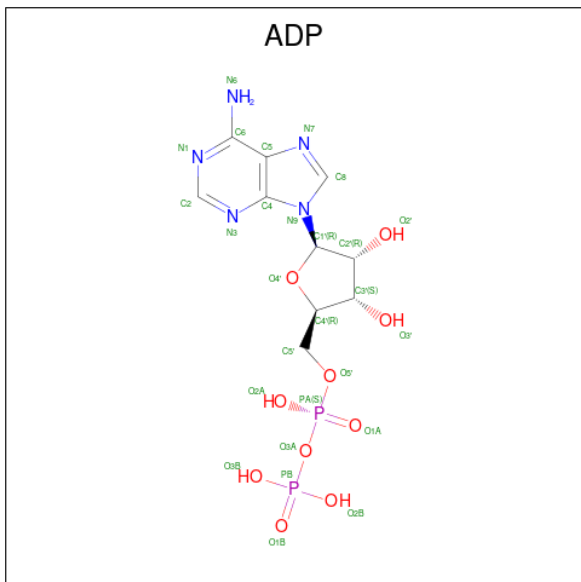
There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	294	GLY	-	expression tag	UNP D9N195
A	295	ALA	-	expression tag	UNP D9N195
A	296	MET	-	expression tag	UNP D9N195
A	297	GLY	-	expression tag	UNP D9N195
A	436	GLN	GLU	conflict	UNP D9N195
B	294	GLY	-	expression tag	UNP D9N195
B	295	ALA	-	expression tag	UNP D9N195
B	296	MET	-	expression tag	UNP D9N195
B	297	GLY	-	expression tag	UNP D9N195
B	436	GLN	GLU	conflict	UNP D9N195

- Molecule 2 is a RNA chain called RNA (5'-R(P*GP*GP*UP*AP*CP*GP*UP*AP*CP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	X	10	Total	C	N	O	P	0	0	0
			214	95	38	71	10			
2	Y	10	Total	C	N	O	P	0	0	0
			213	95	38	70	10			
2	C	10	Total	C	N	O	P	0	0	0
			214	95	38	71	10			
2	D	10	Total	C	N	O	P	0	0	0
			213	95	38	70	10			

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
3	A	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	B	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
4	A	1	Total	Mg	0	0
			1	1		
4	B	1	Total	Mg	0	0
			1	1		

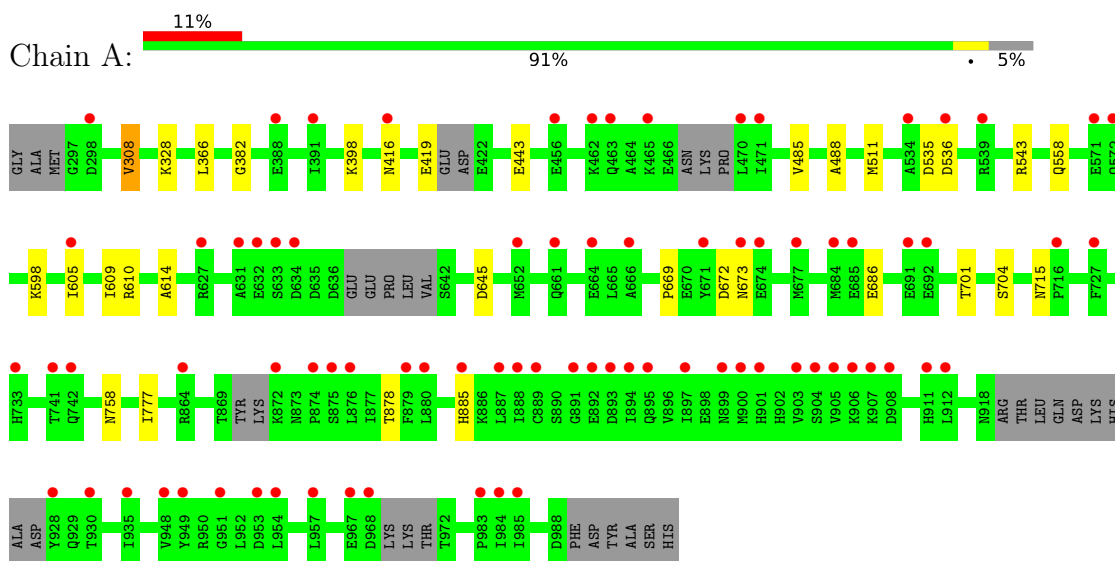
- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Zn		
5	A	1	Total	Zn	0	0
			1	1		
5	B	1	Total	Zn	0	0
			1	1		

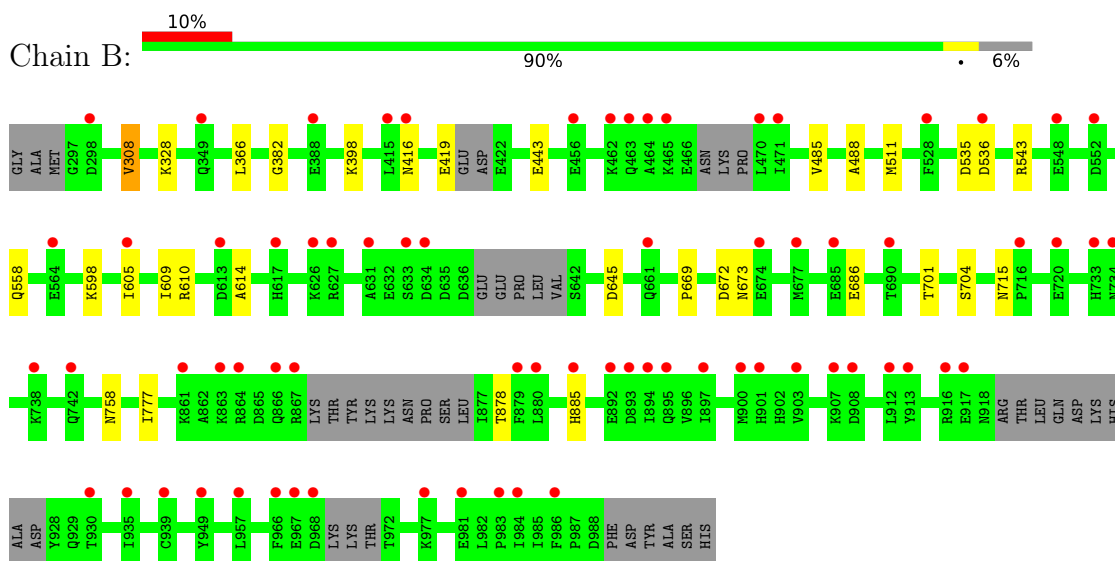
3 Residue-property plots [i](#)

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: Melanoma differentiation associated protein-5



- Molecule 1: Melanoma differentiation associated protein-5




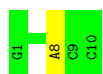
- Molecule 2: RNA (5'-R(P*GP*GP*UP*AP*CP*GP*UP*AP*CP*C)-3')

Chain X:  80% 20%




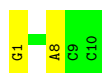
• Molecule 2: RNA (5'-R(P*GP*GP*UP*AP*CP*GP*UP*AP*CP*C)-3')

Chain Y:  90% 10%



• Molecule 2: RNA (5'-R(P*GP*GP*UP*AP*CP*GP*UP*AP*CP*C)-3')

Chain C:  80% 20%



• Molecule 2: RNA (5'-R(P*GP*GP*UP*AP*CP*GP*UP*AP*CP*C)-3')

Chain D:  70% 30%



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	70.16Å 138.70Å 100.43Å 90.00° 109.47° 90.00°	Depositor
Resolution (Å)	50.00 – 2.60 47.59 – 2.60	Depositor EDS
% Data completeness (in resolution range)	99.4 (50.00-2.60) 99.4 (47.59-2.60)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.21 (at 2.61Å)	Xtrriage
Refinement program	REFMAC 5.8.0131	Depositor
R, R_{free}	0.271 , 0.290 0.286 , 0.305	Depositor DCC
R_{free} test set	2811 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å ²)	47.1	Xtrriage
Anisotropy	0.572	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 30.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.89	EDS
Total number of atoms	11759	wwPDB-VP
Average B, all atoms (Å ²)	58.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 41.20 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 2.4451e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, ADP, MG

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	0.37	0/5537	0.60	1/7427 (0.0%)
1	B	0.37	0/5483	0.60	1/7355 (0.0%)
2	C	0.68	1/238 (0.4%)	0.69	0/367
2	D	0.27	0/237	0.73	0/367
2	X	0.69	1/238 (0.4%)	0.69	0/367
2	Y	0.24	0/237	0.72	0/367
All	All	0.38	2/11970 (0.0%)	0.61	2/16250 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1	G	OP3-P	-9.84	1.49	1.61
2	X	1	G	OP3-P	-9.79	1.49	1.61

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	536	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	536	ASP	CB-CG-OD2	5.21	122.99	118.30

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	5450	0	5531	12	0
1	B	5397	0	5470	12	0
2	C	214	0	109	1	0
2	D	213	0	109	2	0
2	X	214	0	109	1	0
2	Y	213	0	109	1	0
3	A	27	0	12	0	0
3	B	27	0	12	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
All	All	11759	0	11461	27	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 1.

All (27) 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:686:GLU:HG2	1:A:777:ILE:HB	1.86	0.57
1:B:686:GLU:HG2	1:B:777:ILE:HB	1.85	0.57
1:B:605:ILE:HD11	1:B:614:ALA:HA	1.93	0.51
1:A:605:ILE:HD11	1:A:614:ALA:HA	1.93	0.50
1:B:605:ILE:HD11	1:B:614:ALA:N	2.30	0.47
1:A:609:ILE:CD1	1:A:704:SER:HA	2.45	0.47
1:B:609:ILE:CD1	1:B:704:SER:HA	2.45	0.46
1:A:609:ILE:HD12	1:A:704:SER:HA	1.97	0.46
1:B:609:ILE:HD12	1:B:704:SER:HA	1.97	0.46
1:A:605:ILE:HD11	1:A:614:ALA:N	2.30	0.46
1:B:669:PRO:HA	1:B:672:ASP:HB2	1.96	0.46
1:A:609:ILE:HG22	1:A:610:ARG:N	2.31	0.46
1:A:669:PRO:HA	1:A:672:ASP:HB2	1.96	0.46
1:B:609:ILE:HG22	1:B:610:ARG:N	2.31	0.45
2:D:8:A:H2'	2:D:9:C:C6	2.52	0.45
1:B:485:VAL:HG13	1:B:488:ALA:HB3	2.00	0.44
1:B:308:VAL:HG12	1:B:511:MET:HB3	2.00	0.44
1:A:485:VAL:HG13	1:A:488:ALA:HB3	2.00	0.44
1:B:701:THR:HG1	1:B:704:SER:CB	2.32	0.43
1:A:308:VAL:HG12	1:A:511:MET:HB3	2.00	0.43
1:A:701:THR:HG1	1:A:704:SER:CB	2.32	0.43
2:C:8:A:C2	2:D:4:A:C2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:366:LEU:HD11	1:A:382:GLY:HA3	2.01	0.42
1:B:366:LEU:HD11	1:B:382:GLY:HA3	2.00	0.42
1:A:605:ILE:HD11	1:A:614:ALA:CA	2.49	0.42
1:B:605:ILE:HD11	1:B:614:ALA:CA	2.49	0.41
2:X:4:A:C2	2:Y:8:A:C2	3.09	0.41

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	654/701 (93%)	629 (96%)	23 (4%)	2 (0%)	41 64
1	B	647/701 (92%)	623 (96%)	22 (3%)	2 (0%)	41 64
All	All	1301/1402 (93%)	1252 (96%)	45 (4%)	4 (0%)	41 64

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	416	ASN
1	A	673	ASN
1	B	416	ASN
1	B	673	ASN

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	600/630 (95%)	586 (98%)	14 (2%)	50	75
1	B	594/630 (94%)	580 (98%)	14 (2%)	49	74
All	All	1194/1260 (95%)	1166 (98%)	28 (2%)	50	75

All (28) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	308	VAL
1	A	328	LYS
1	A	398	LYS
1	A	419	GLU
1	A	443	GLU
1	A	535	ASP
1	A	543	ARG
1	A	558	GLN
1	A	598	LYS
1	A	645	ASP
1	A	715	ASN
1	A	758	ASN
1	A	878	THR
1	A	885	HIS
1	B	308	VAL
1	B	328	LYS
1	B	398	LYS
1	B	419	GLU
1	B	443	GLU
1	B	535	ASP
1	B	543	ARG
1	B	558	GLN
1	B	598	LYS
1	B	645	ASP
1	B	715	ASN
1	B	758	ASN
1	B	878	THR
1	B	885	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	C	9/10 (90%)	0	0
2	D	9/10 (90%)	0	0
2	X	9/10 (90%)	0	0
2	Y	9/10 (90%)	0	0
All	All	36/40 (90%)	0	0

There are no RNA backbone outliers to report.

There are no RNA pucker outliers to report.

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](#)

Of 6 ligands modelled in this entry, 4 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	ADP	B	1001	4	24,29,29	1.03	2 (8%)	29,45,45	1.52	5 (17%)
3	ADP	A	1001	4	24,29,29	1.07	2 (8%)	29,45,45	1.42	5 (17%)

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	ADP	B	1001	4	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ADP	A	1001	4	-	2/12/32/32	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1001	ADP	C5-C4	2.72	1.48	1.40
3	B	1001	ADP	C5-C4	2.65	1.47	1.40
3	A	1001	ADP	C2-N3	2.22	1.35	1.32
3	B	1001	ADP	C2-N3	2.15	1.35	1.32

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	1001	ADP	N3-C2-N1	-3.76	122.80	128.68
3	A	1001	ADP	N3-C2-N1	-3.71	122.88	128.68
3	B	1001	ADP	C3'-C2'-C1'	3.55	106.32	100.98
3	A	1001	ADP	C3'-C2'-C1'	3.15	105.72	100.98
3	B	1001	ADP	PA-O3A-PB	-3.13	122.09	132.83
3	B	1001	ADP	C4-C5-N7	-2.92	106.36	109.40
3	A	1001	ADP	PA-O3A-PB	-2.83	123.11	132.83
3	A	1001	ADP	C4-C5-N7	-2.79	106.50	109.40
3	A	1001	ADP	C2-N1-C6	2.04	122.24	118.75
3	B	1001	ADP	C2-N1-C6	2.03	122.22	118.75

There are no chirality outliers.

All (4) torsion outliers are listed below:

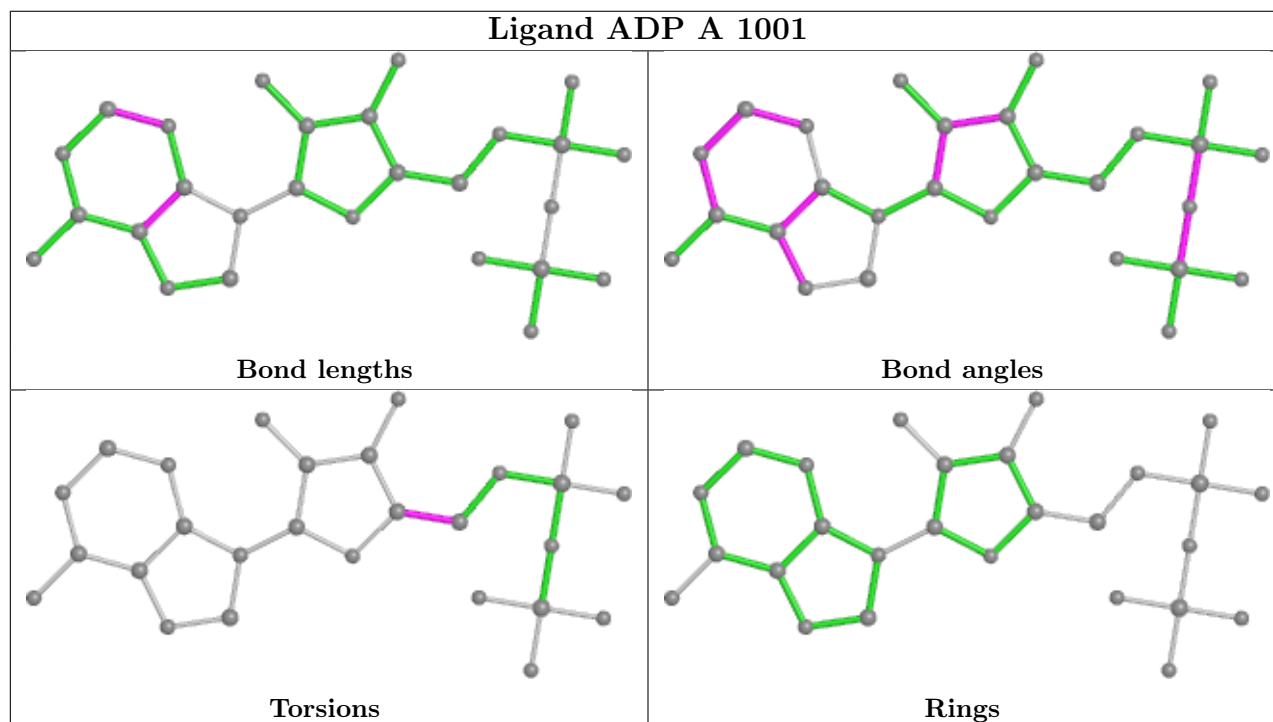
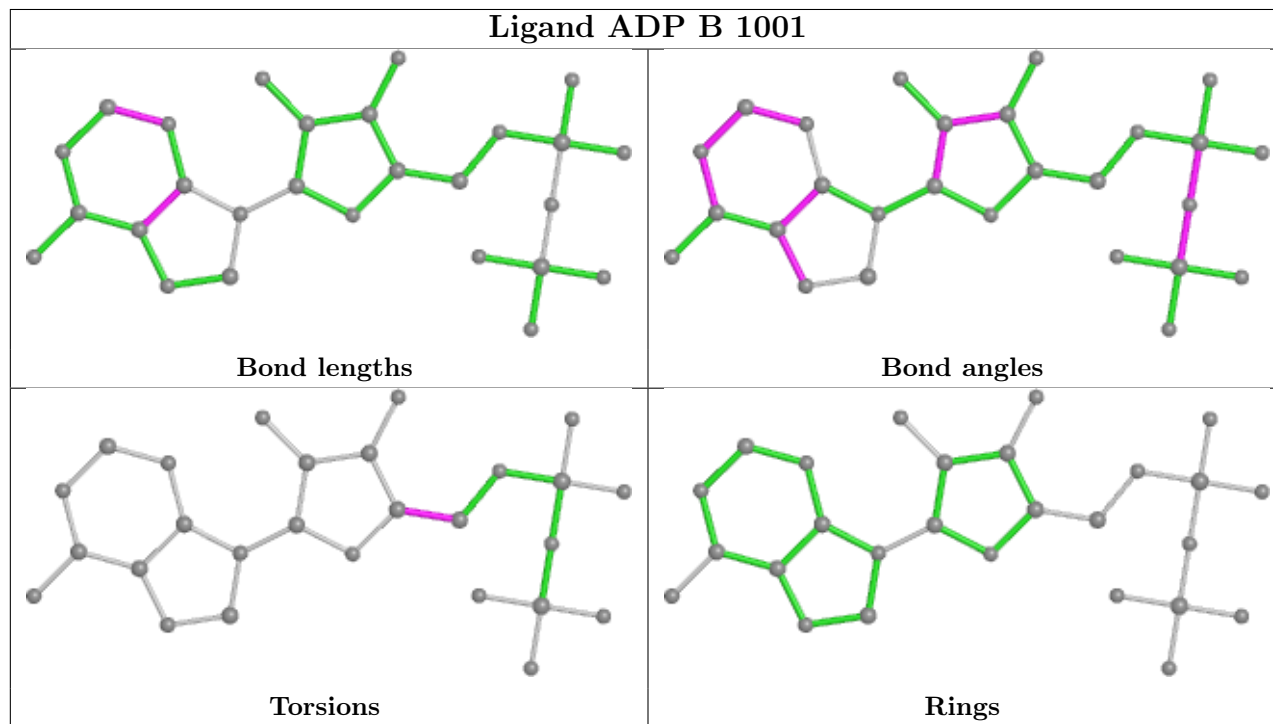
Mol	Chain	Res	Type	Atoms
3	A	1001	ADP	C3'-C4'-C5'-O5'
3	B	1001	ADP	O4'-C4'-C5'-O5'
3	B	1001	ADP	C3'-C4'-C5'-O5'
3	A	1001	ADP	O4'-C4'-C5'-O5'

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 than 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, 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	668/701 (95%)	0.66	80 (11%) 4 2	32, 54, 98, 114	0
1	B	661/701 (94%)	0.63	71 (10%) 6 3	34, 53, 98, 110	0
2	C	10/10 (100%)	-0.19	0 100 100	36, 42, 57, 61	0
2	D	10/10 (100%)	-0.10	0 100 100	35, 38, 57, 73	0
2	X	10/10 (100%)	-0.33	0 100 100	35, 40, 56, 58	0
2	Y	10/10 (100%)	-0.21	0 100 100	35, 37, 55, 68	0
All	All	1369/1442 (94%)	0.62	151 (11%) 5 3	32, 53, 98, 114	0

All (151) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	470	LEU	6.8
1	A	536	ASP	6.7
1	A	872	LYS	6.3
1	B	536	ASP	6.1
1	B	677	MET	5.9
1	A	912	LEU	5.7
1	B	470	LEU	5.7
1	A	892	GLU	5.5
1	A	463	GLN	5.3
1	A	634	ASP	5.2
1	A	911	HIS	5.1
1	B	633	SER	4.7
1	A	967	GLU	4.6
1	A	899	ASN	4.4
1	B	885	HIS	4.3
1	A	905	VAL	4.2
1	B	912	LEU	4.2
1	B	631	ALA	4.1
1	A	985	ILE	4.0

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Mol	Chain	Res	Type	RSRZ
1	A	885	HIS	4.0
1	B	893	ASP	3.8
1	A	674	GLU	3.8
1	A	465	LYS	3.7
1	A	907	LYS	3.7
1	B	967	GLU	3.7
1	A	968	ASP	3.7
1	B	674	GLU	3.6
1	B	634	ASP	3.5
1	B	716	PRO	3.5
1	B	349	GLN	3.5
1	B	892	GLU	3.4
1	A	462	LYS	3.4
1	A	605	ILE	3.4
1	B	471	ILE	3.4
1	A	953	ASP	3.4
1	A	900	MET	3.3
1	B	895	GLN	3.3
1	B	879	PHE	3.2
1	A	388	GLU	3.2
1	A	880	LEU	3.2
1	B	864	ARG	3.1
1	B	733	HIS	3.1
1	A	666	ALA	3.1
1	B	908	ASP	3.1
1	A	894	ILE	3.1
1	B	465	LYS	3.1
1	A	633	SER	3.1
1	B	968	ASP	3.0
1	A	984	ILE	3.0
1	A	893	ASP	2.9
1	B	986	PHE	2.9
1	B	463	GLN	2.9
1	B	930	THR	2.9
1	B	720	GLU	2.9
1	B	935	ILE	2.9
1	B	742	GLN	2.9
1	B	685	GLU	2.9
1	A	903	VAL	2.9
1	A	949	TYR	2.9
1	A	906	LYS	2.8
1	A	677	MET	2.8

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Mol	Chain	Res	Type	RSRZ
1	B	983	PRO	2.8
1	A	957	LEU	2.8
1	B	903	VAL	2.8
1	A	733	HIS	2.8
1	A	664	GLU	2.8
1	A	685	GLU	2.8
1	A	298	ASP	2.7
1	B	894	ILE	2.7
1	B	917	GLU	2.7
1	A	661	GLN	2.7
1	A	930	THR	2.7
1	A	539	ARG	2.7
1	A	876	LEU	2.7
1	B	900	MET	2.7
1	B	416	ASN	2.7
1	B	984	ILE	2.7
1	B	464	ALA	2.6
1	A	671	TYR	2.6
1	A	904	SER	2.6
1	B	564	GLU	2.6
1	A	895	GLN	2.6
1	A	935	ILE	2.5
1	A	908	ASP	2.5
1	A	951	GLY	2.5
1	A	673	ASN	2.5
1	A	631	ALA	2.5
1	B	949	TYR	2.5
1	A	983	PRO	2.5
1	B	462	LYS	2.5
1	A	888	ILE	2.5
1	A	879	PHE	2.5
1	A	742	GLN	2.5
1	B	957	LEU	2.5
1	B	627	ARG	2.4
1	B	867	ARG	2.4
1	B	939	CYS	2.4
1	A	691	GLU	2.4
1	B	528	PHE	2.4
1	A	391	ILE	2.4
1	A	471	ILE	2.4
1	A	692	GLU	2.4
1	A	928	TYR	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	863	LYS	2.3
1	B	897	ILE	2.3
1	A	684	MET	2.3
1	B	901	HIS	2.3
1	A	887	LEU	2.3
1	A	627	ARG	2.3
1	A	572	GLN	2.3
1	B	605	ILE	2.3
1	B	866	GLN	2.3
1	A	716	PRO	2.3
1	A	456	GLU	2.3
1	B	861	LYS	2.3
1	A	901	HIS	2.2
1	A	571	GLU	2.2
1	A	875	SER	2.2
1	B	388	GLU	2.2
1	B	734	ASN	2.2
1	A	874	PRO	2.2
1	A	897	ILE	2.2
1	B	617	HIS	2.2
1	B	738	LYS	2.2
1	B	626	LYS	2.2
1	B	298	ASP	2.2
1	B	690	THR	2.2
1	B	456	GLU	2.2
1	B	415	LEU	2.1
1	A	652	MET	2.1
1	A	632	GLU	2.1
1	B	913	TYR	2.1
1	B	613	ASP	2.1
1	B	977	LYS	2.1
1	A	416	ASN	2.1
1	B	880	LEU	2.1
1	B	916	ARG	2.1
1	B	966	PHE	2.1
1	B	552	ASP	2.1
1	A	889	CYS	2.1
1	A	954	LEU	2.1
1	B	907	LYS	2.1
1	B	981	GLU	2.1
1	B	661	GLN	2.1
1	B	548	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	727	PHE	2.1
1	A	891	GLY	2.0
1	A	948	VAL	2.0
1	A	534	ALA	2.0
1	A	741	THR	2.0
1	A	864	ARG	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](#)

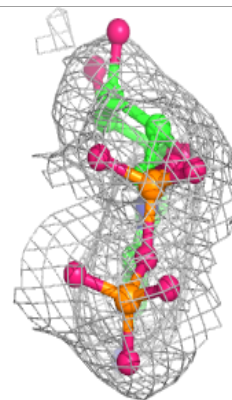
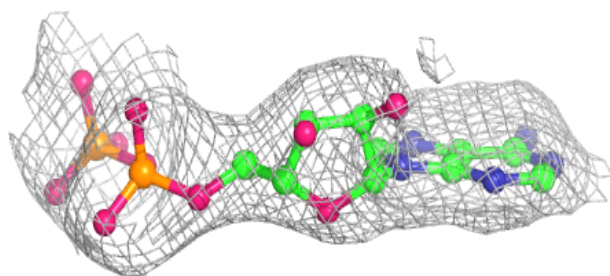
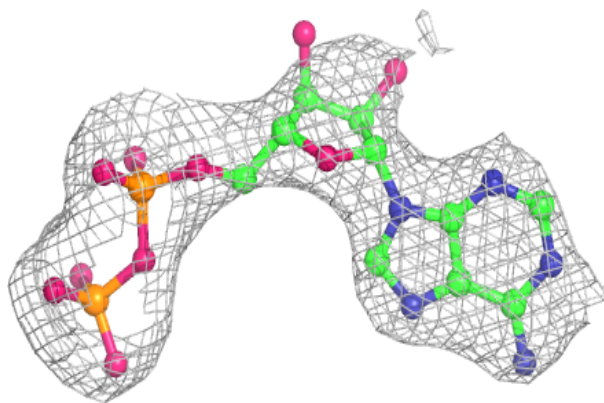
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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	ADP	A	1001	27/27	0.92	0.18	55,60,66,69	0
3	ADP	B	1001	27/27	0.94	0.15	53,56,63,63	0
4	MG	A	1002	1/1	0.95	0.23	36,36,36,36	0
5	ZN	A	1003	1/1	0.98	0.11	54,54,54,54	0
5	ZN	B	1003	1/1	0.98	0.10	56,56,56,56	0
4	MG	B	1002	1/1	0.99	0.32	37,37,37,37	0

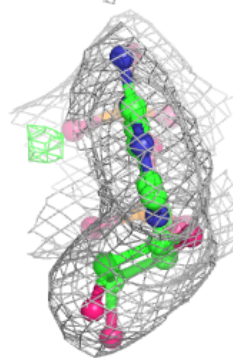
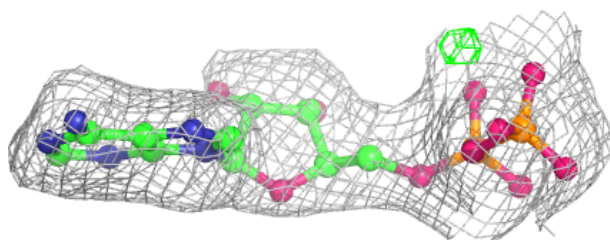
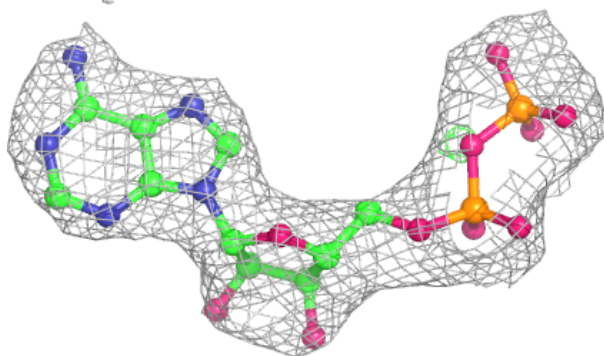
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around ADP A 1001:

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

**Electron density around ADP B 1001:**

$2mF_o-DF_c$ (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.