



wwPDB X-ray Structure Validation Summary Report

Mar 1, 2014 – 03:57 AM GMT

PDB ID : 3K5H
Title : Crystal structure of carboxyaminoimidazoleribonucleotide synthase from asperigillus clavatus complexed with ATP
Authors : Thoden, J.B.; Holden, H.M.; Paritala, H.; Firestine, S.M.
Deposited on : 2009-10-07
Resolution : 2.10 Å(reported)

This is a wwPDB validation summary report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

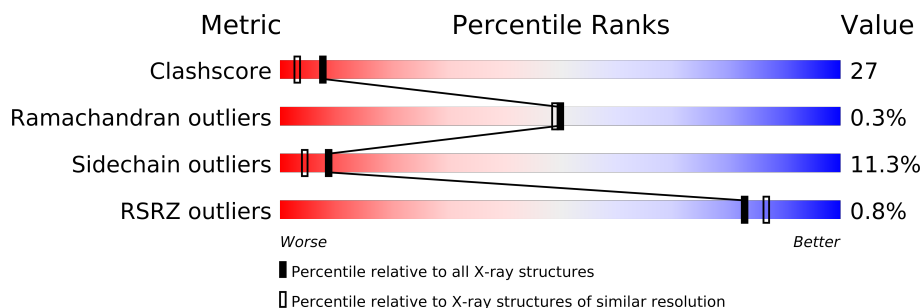
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.15 2013
Xtriage (Phenix)	:	dev-1323
EDS	:	stable22639
Percentile statistics	:	21963
Refmac	:	5.8.0049
CCP4	:	6.3.0 (Settle)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP)	:	stable22683

1 Overall quality at a glance

The reported resolution of this entry is 2.10 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))
Clashscore	79885	3649 (2.10-2.10)
Ramachandran outliers	78287	3610 (2.10-2.10)
Sidechain outliers	78261	3611 (2.10-2.10)
RSRZ outliers	66119	3013 (2.10-2.10)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	403	
1	B	403	
1	C	403	
1	D	403	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 12850 atoms, of which 0 are hydrogen and 0 are deuterium.

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 Phosphoribosyl-aminoimidazolecarboxylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	382	Total	C	N	O	S	0	4	0
			2977	1869	525	566	17			
1	B	380	Total	C	N	O	S	0	5	0
			2969	1865	519	570	15			
1	C	382	Total	C	N	O	S	0	2	0
			2975	1868	527	564	16			
1	D	380	Total	C	N	O	S	0	1	0
			2948	1854	518	561	15			

There are 80 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	EXPRESSION TAG	UNP A1CII2
A	-18	GLY	-	EXPRESSION TAG	UNP A1CII2
A	-17	SER	-	EXPRESSION TAG	UNP A1CII2
A	-16	SER	-	EXPRESSION TAG	UNP A1CII2
A	-15	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-14	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-13	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-12	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-11	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-10	HIS	-	EXPRESSION TAG	UNP A1CII2
A	-9	SER	-	EXPRESSION TAG	UNP A1CII2
A	-8	SER	-	EXPRESSION TAG	UNP A1CII2
A	-7	GLU	-	EXPRESSION TAG	UNP A1CII2
A	-6	ASN	-	EXPRESSION TAG	UNP A1CII2
A	-5	LEU	-	EXPRESSION TAG	UNP A1CII2
A	-4	TYR	-	EXPRESSION TAG	UNP A1CII2
A	-3	PHE	-	EXPRESSION TAG	UNP A1CII2
A	-2	GLN	-	EXPRESSION TAG	UNP A1CII2
A	-1	GLY	-	EXPRESSION TAG	UNP A1CII2
A	0	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-19	MET	-	EXPRESSION TAG	UNP A1CII2

Continued on next page...

Continued from previous page...

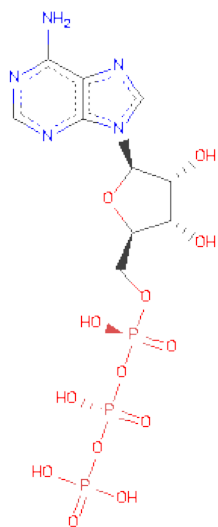
Chain	Residue	Modelled	Actual	Comment	Reference
B	-18	GLY	-	EXPRESSION TAG	UNP A1CII2
B	-17	SER	-	EXPRESSION TAG	UNP A1CII2
B	-16	SER	-	EXPRESSION TAG	UNP A1CII2
B	-15	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-14	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-13	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-12	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-11	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-10	HIS	-	EXPRESSION TAG	UNP A1CII2
B	-9	SER	-	EXPRESSION TAG	UNP A1CII2
B	-8	SER	-	EXPRESSION TAG	UNP A1CII2
B	-7	GLU	-	EXPRESSION TAG	UNP A1CII2
B	-6	ASN	-	EXPRESSION TAG	UNP A1CII2
B	-5	LEU	-	EXPRESSION TAG	UNP A1CII2
B	-4	TYR	-	EXPRESSION TAG	UNP A1CII2
B	-3	PHE	-	EXPRESSION TAG	UNP A1CII2
B	-2	GLN	-	EXPRESSION TAG	UNP A1CII2
B	-1	GLY	-	EXPRESSION TAG	UNP A1CII2
B	0	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-19	MET	-	EXPRESSION TAG	UNP A1CII2
C	-18	GLY	-	EXPRESSION TAG	UNP A1CII2
C	-17	SER	-	EXPRESSION TAG	UNP A1CII2
C	-16	SER	-	EXPRESSION TAG	UNP A1CII2
C	-15	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-14	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-13	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-12	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-11	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-10	HIS	-	EXPRESSION TAG	UNP A1CII2
C	-9	SER	-	EXPRESSION TAG	UNP A1CII2
C	-8	SER	-	EXPRESSION TAG	UNP A1CII2
C	-7	GLU	-	EXPRESSION TAG	UNP A1CII2
C	-6	ASN	-	EXPRESSION TAG	UNP A1CII2
C	-5	LEU	-	EXPRESSION TAG	UNP A1CII2
C	-4	TYR	-	EXPRESSION TAG	UNP A1CII2
C	-3	PHE	-	EXPRESSION TAG	UNP A1CII2
C	-2	GLN	-	EXPRESSION TAG	UNP A1CII2
C	-1	GLY	-	EXPRESSION TAG	UNP A1CII2
C	0	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-19	MET	-	EXPRESSION TAG	UNP A1CII2
D	-18	GLY	-	EXPRESSION TAG	UNP A1CII2
D	-17	SER	-	EXPRESSION TAG	UNP A1CII2

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
D	-16	SER	-	EXPRESSION TAG	UNP A1CII2
D	-15	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-14	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-13	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-12	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-11	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-10	HIS	-	EXPRESSION TAG	UNP A1CII2
D	-9	SER	-	EXPRESSION TAG	UNP A1CII2
D	-8	SER	-	EXPRESSION TAG	UNP A1CII2
D	-7	GLU	-	EXPRESSION TAG	UNP A1CII2
D	-6	ASN	-	EXPRESSION TAG	UNP A1CII2
D	-5	LEU	-	EXPRESSION TAG	UNP A1CII2
D	-4	TYR	-	EXPRESSION TAG	UNP A1CII2
D	-3	PHE	-	EXPRESSION TAG	UNP A1CII2
D	-2	GLN	-	EXPRESSION TAG	UNP A1CII2
D	-1	GLY	-	EXPRESSION TAG	UNP A1CII2
D	0	HIS	-	EXPRESSION TAG	UNP A1CII2

- 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		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
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	B	2	Total	Mg	0	0
			2	2		
3	A	2	Total	Mg	0	0
			2	2		
3	D	2	Total	Mg	0	0
			2	2		
3	C	2	Total	Mg	0	0
			2	2		

- Molecule 4 is water.

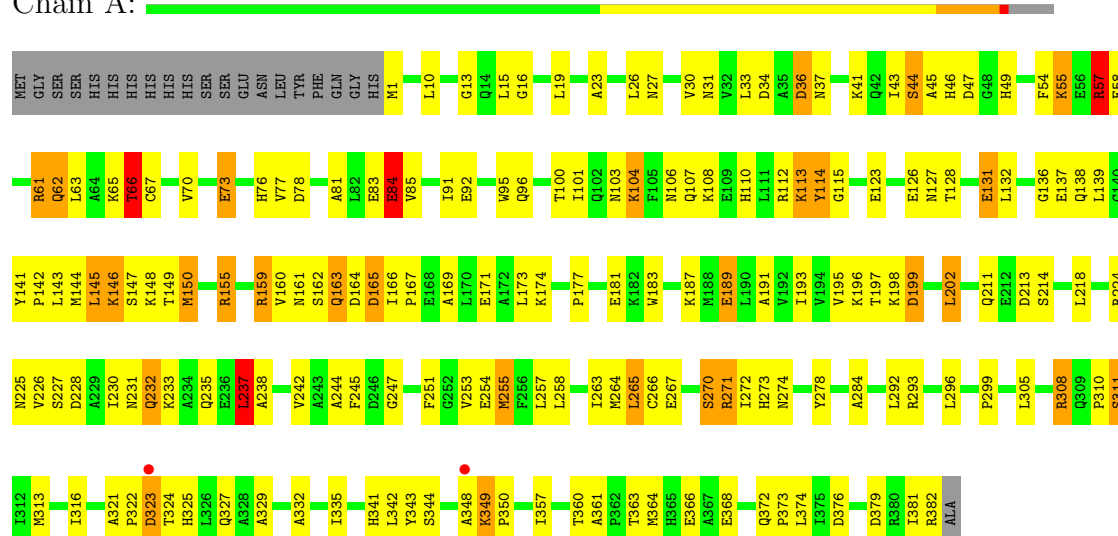
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	227	Total	O	0	0
			227	227		
4	B	247	Total	O	0	0
			247	247		
4	C	179	Total	O	0	0
			179	179		
4	D	196	Total	O	0	0
			196	196		

3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

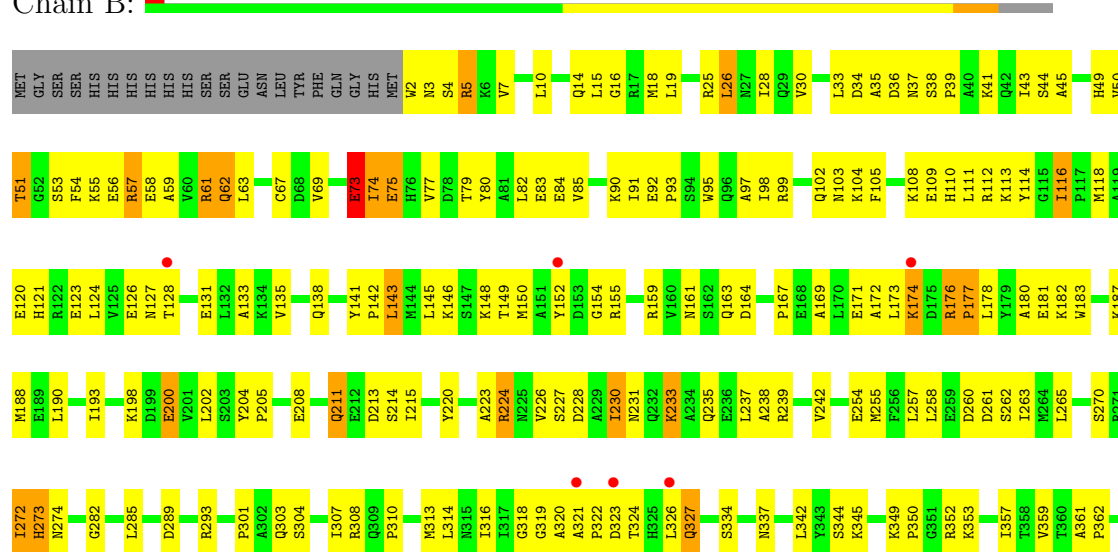
• Molecule 1: Phosphoribosyl-aminoimidazolecarboxylase

Chain A:



• Molecule 1: Phosphoribosyl-aminoimidazolecarboxylase

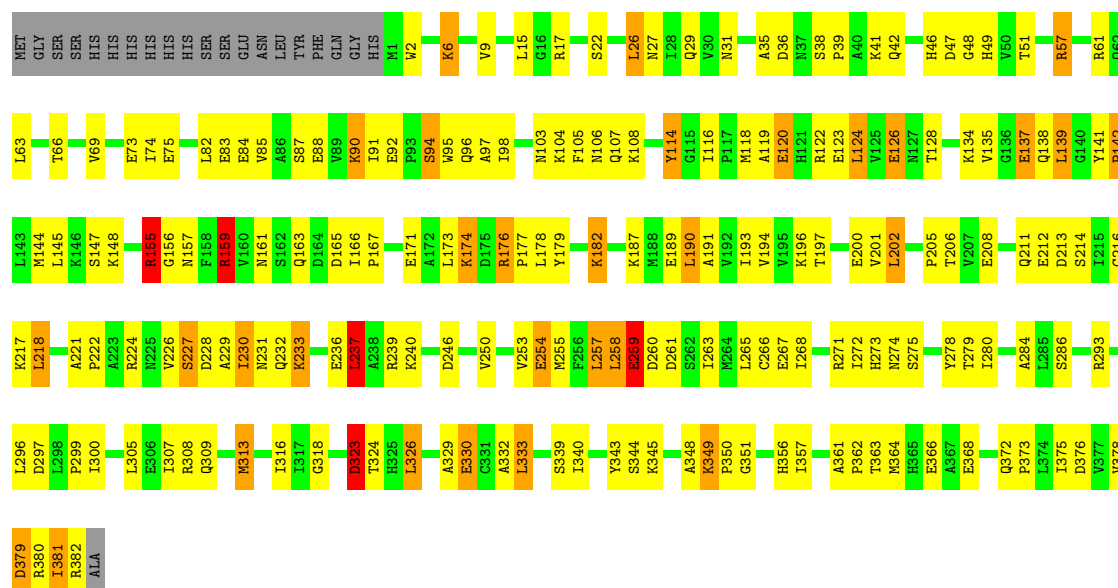
Chain B:





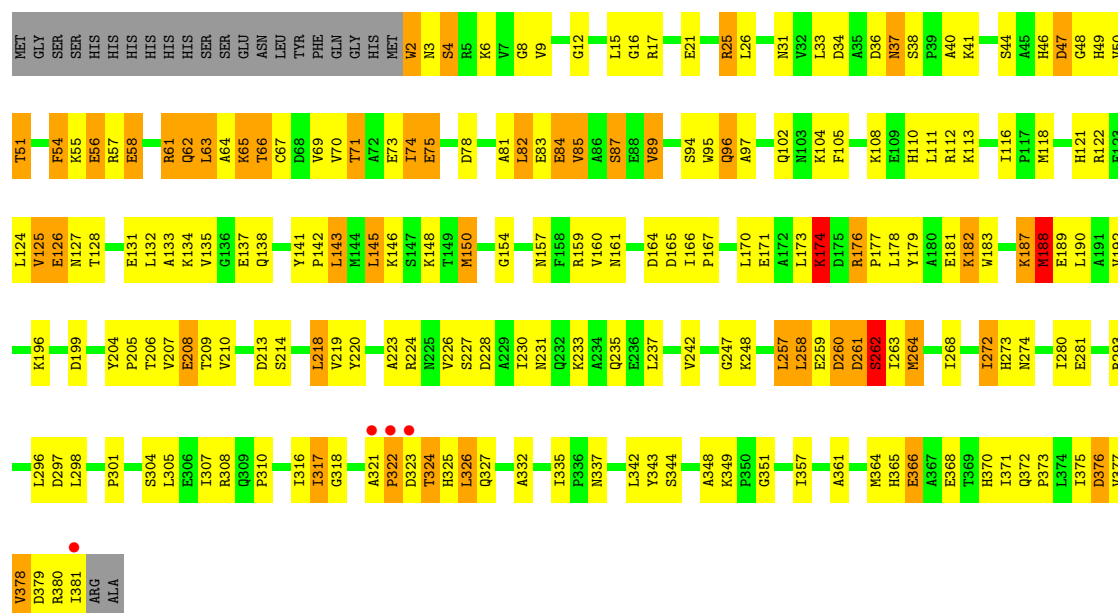
• Molecule 1: Phosphoribosyl-aminoimidazolecarboxylase

Chain C:



• Molecule 1: Phosphoribosyl-aminoimidazolecarboxylase

Chain D:



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	75.90Å 134.40Å 99.60Å 90.00° 107.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.10 40.62 – 2.10	Depositor EDS
% Data completeness (in resolution range)	93.6 (30.00-2.10) 93.5 (40.62-2.10)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.63 (at 2.10Å)	Xtriage
Refinement program	TNT	Depositor
R, R_{free}	0.196 , 0.261 0.195 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	DCC
Wilson B-factor (Å ²)	15.5	Xtriage
Anisotropy	0.179	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 82.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Outliers	0 of 104381 reflections	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	12850	wwPDB-VP
Average B, all atoms (Å ²)	32.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.48% of the height of the origin peak. No significant pseudotranslation is detected.*

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: 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	0.79	1/3046 (0.0%)	1.49	29/4124 (0.7%)
1	B	0.79	1/3042 (0.0%)	1.53	31/4120 (0.8%)
1	C	0.77	1/3036 (0.0%)	1.46	20/4110 (0.5%)
1	D	0.73	1/3005 (0.0%)	1.55	42/4071 (1.0%)
All	All	0.77	4/12129 (0.0%)	1.51	122/16425 (0.7%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	C	0	1
1	D	1	0
All	All	1	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	67	CYS	CB-SG	-6.34	1.71	1.82
1	A	189	GLU	CD-OE1	-5.96	1.19	1.25
1	C	137	GLU	CB-CG	-5.77	1.41	1.52
1	D	188	MET	SD-CE	-5.67	1.46	1.77

The worst 5 of 122 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	143	LEU	CB-CG-CD1	-11.52	91.42	111.00
1	C	144	MET	CG-SD-CE	-10.85	82.85	100.20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	57	ARG	NE-CZ-NH2	-10.76	114.92	120.30
1	A	127	ASN	N-CA-CB	-10.72	91.30	110.60
1	A	376	ASP	CB-CG-OD1	-9.95	109.34	118.30

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	D	280	ILE	CB

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	114	TYR	Sidechain
1	C	114	TYR	Sidechain

5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2977	0	2988	135	0
1	B	2969	0	2965	161	0
1	C	2975	0	2991	162	0
1	D	2948	0	2960	205	0
2	A	31	0	12	1	0
2	B	31	0	12	2	0
2	C	31	0	12	1	0
2	D	31	0	12	2	0
3	A	2	0	0	0	0
3	B	2	0	0	0	0
3	C	2	0	0	0	0
3	D	2	0	0	0	0
4	A	227	0	0	3	0
4	B	247	0	0	11	0
4	C	179	0	0	9	0
4	D	196	0	0	12	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	12850	0	11952	659	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 27.

The worst 5 of 659 close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:145:LEU:HD13	1:A:173:LEU:HD12	1.25	1.15
1:B:174:LYS:HD2	1:B:174:LYS:H	1.11	1.07
1:C:41:LYS:HE2	1:C:49:HIS:HB3	1.36	1.05
1:D:132:LEU:HD23	1:D:166:ILE:HG23	1.40	1.03
1:D:135:VAL:HA	1:D:138:GLN:HE21	1.19	1.02

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	384/403 (95%)	363 (94%)	20 (5%)	1 (0%)	50	49
1	B	383/403 (95%)	368 (96%)	15 (4%)	0	100	100
1	C	382/403 (95%)	361 (94%)	19 (5%)	2 (0%)	38	33
1	D	379/403 (94%)	351 (93%)	27 (7%)	1 (0%)	50	49
All	All	1528/1612 (95%)	1443 (94%)	81 (5%)	4 (0%)	50	49

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	259	GLU
1	C	227	SER
1	D	324	THR
1	A	57	ARG

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	322/336 (96%)	282 (88%)	40 (12%)	7	3
1	B	321/336 (96%)	293 (91%)	28 (9%)	15	10
1	C	320/336 (95%)	280 (88%)	40 (12%)	7	3
1	D	317/336 (94%)	281 (89%)	36 (11%)	8	4
All	All	1280/1344 (95%)	1136 (89%)	144 (11%)	9	4

5 of 144 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	344	SER
1	C	139	LEU
1	D	187	LYS
1	B	381	ILE
1	C	87	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 14 such sidechains are listed below:

Mol	Chain	Res	Type
1	C	102	GLN
1	C	106	ASN
1	D	127	ASN
1	B	232	GLN
1	D	106	ASN

5.3.3 RNA ⓘ

There are no RNA chains 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 carbohydrates in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 8 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	A	400	3	33,33,33	0.90	1 (3%)	52,52,52	2.18	14 (26%)
2	ATP	B	400	3	33,33,33	1.00	2 (6%)	52,52,52	2.25	12 (23%)
2	ATP	C	400	3	33,33,33	0.86	0	52,52,52	2.07	12 (23%)
2	ATP	D	400	3	33,33,33	0.97	2 (6%)	52,52,52	2.58	17 (32%)

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	A	400	3	-	0/22/38/38	0/1/3/3
2	ATP	B	400	3	-	0/22/38/38	0/1/3/3
2	ATP	C	400	3	-	0/22/38/38	0/1/3/3
2	ATP	D	400	3	-	0/22/38/38	0/1/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	400	ATP	C6-N6	-3.19	1.24	1.35
2	D	400	ATP	C2-N1	2.47	1.38	1.33
2	A	400	ATP	C6-N6	-2.41	1.27	1.35
2	D	400	ATP	C6-N6	-2.19	1.28	1.35
2	B	400	ATP	C2-N1	2.06	1.38	1.33

The worst 5 of 55 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	400	ATP	O4'-C1'-N9	-10.74	98.45	108.44
2	D	400	ATP	C2-N1-C6	8.83	134.72	118.77
2	D	400	ATP	N3-C2-N1	-7.47	122.46	128.71
2	C	400	ATP	C4'-O4'-C1'	7.28	117.65	109.75
2	D	400	ATP	O3A-PB-O3B	7.04	115.99	101.66

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

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	382/403 (94%)	-0.12	2 (0%) 88 91	7, 25, 62, 81	0
1	B	380/403 (94%)	-0.09	7 (1%) 65 69	6, 24, 64, 86	0
1	C	382/403 (94%)	-0.05	0 100 100	12, 31, 69, 93	0
1	D	380/403 (94%)	0.04	4 (1%) 77 81	11, 29, 70, 93	0
All	All	1524/1612 (94%)	-0.05	13 (0%) 83 85	6, 28, 67, 93	0

The worst 5 of 13 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	381	ILE	5.1
1	D	381	ILE	4.3
1	B	321	ALA	3.3
1	B	323	ASP	3.1
1	A	323	ASP	2.4

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 carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	RSR	LLDF	B-factors(\AA^2)	Q<0.9
3	MG	B	401	1/1	0.09	0.21	22,22,22,22	0
2	ATP	B	400	31/31	0.10	-0.43	7,28,44,63	0
3	MG	D	401	1/1	0.09	-0.54	33,33,33,33	0
2	ATP	C	400	31/31	0.10	-0.81	12,30,82,100	0
3	MG	B	402	1/1	0.08	-0.94	25,25,25,25	0
2	ATP	D	400	31/31	0.09	-1.00	12,26,56,100	0
2	ATP	A	400	31/31	0.09	-1.13	9,23,33,75	0
3	MG	D	402	1/1	0.05	-2.35	24,24,24,24	0
3	MG	A	401	1/1	0.04	-2.45	14,14,14,14	0
3	MG	A	402	1/1	0.07	-3.21	24,24,24,24	0
3	MG	C	402	1/1	0.08	-3.30	22,22,22,22	0
3	MG	C	401	1/1	0.08	-	40,40,40,40	0

6.5 Other polymers ⓘ

There are no such residues in this entry.