



# wwPDB X-ray Structure Validation Summary Report ⓘ

Feb 18, 2018 – 02:42 AM EST

PDB ID : 4B1Z  
Title : Structure of the Phactr1 RPEL domain bound to G-actin  
Authors : Mouilleron, S.; Wiezlak, M.; O'Reilly, N.; Treisman, R.; McDonald, N.Q.  
Deposited on : 2012-07-12  
Resolution : 3.30 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7.2 (RC1), CSD as538be (2017)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20030736  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : rb-20030736

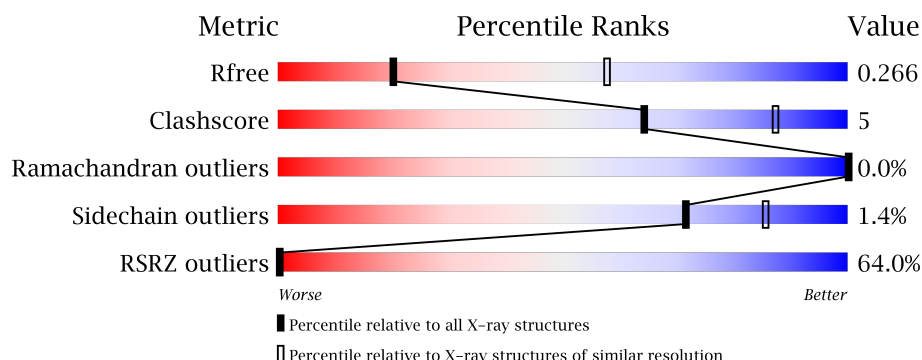
# 1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 3.30 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))
$R_{free}$	100719	1034 (3.36-3.24)
Clashscore	112137	1100 (3.36-3.24)
Ramachandran outliers	110173	1081 (3.36-3.24)
Sidechain outliers	110143	1080 (3.36-3.24)
RSRZ outliers	101464	1039 (3.36-3.24)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. 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	376	<div> <div>62%</div> <div> <div></div> <div>80%</div> <div>10%</div> <div>11%</div> </div> </div>
1	B	376	<div> <div>66%</div> <div> <div></div> <div>85%</div> <div>10%</div> <div>5%</div> </div> </div>
1	C	376	<div> <div>60%</div> <div> <div></div> <div>88%</div> <div>10%</div> <div>•</div> </div> </div>
1	D	376	<div> <div>61%</div> <div> <div></div> <div>84%</div> <div>11%</div> <div>5%</div> </div> </div>
1	E	376	<div> <div>59%</div> <div> <div></div> <div>84%</div> <div>12%</div> <div>5%</div> </div> </div>

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Mol	Chain	Length	Quality of chain
1	F	376	
2	M	115	
2	N	115	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	ATP	A	1376	-	-	-	X
3	ATP	B	1376	-	-	-	X
3	ATP	C	1376	-	-	-	X
3	ATP	D	1376	-	-	-	X
3	ATP	E	1376	-	-	-	X
3	ATP	F	1376	-	-	-	X
4	MG	D	1377	-	-	-	X
4	MG	E	1377	-	-	-	X
5	GOL	A	1378	-	-	-	X
5	GOL	B	1378	-	-	-	X
5	GOL	C	1378	-	-	-	X
5	GOL	C	1379	-	-	-	X
5	GOL	E	1378	-	-	-	X
5	GOL	N	1529	-	-	-	X

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 17941 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 ACTIN, ALPHA SKELETAL MUSCLE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	335	Total	C	N	O	S	0	0	0
			2495	1588	415	474	18			
1	B	357	Total	C	N	O	S	0	0	0
			2711	1721	448	523	19			
1	C	370	Total	C	N	O	S	0	0	0
			2815	1787	476	532	20			
1	D	356	Total	C	N	O	S	0	0	0
			2648	1675	446	508	19			
1	E	359	Total	C	N	O	S	0	0	0
			2682	1701	450	512	19			
1	F	357	Total	C	N	O	S	0	0	0
			2682	1706	444	513	19			

- Molecule 2 is a protein called PHOSPHATASE AND ACTIN REGULATOR 1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	M	110	Total	C	N	O	0	0	0
			846	517	166	163			
2	N	107	Total	C	N	O	0	0	0
			821	505	159	157			

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula:  $C_{10}H_{16}N_5O_{13}P_3$ ).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	B	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	C	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	D	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	E	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	F	1	Total	C	N	O	P	0	0
			31	10	5	13	3		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	D	1	Total	Mg	0	0
			1	1		
4	E	1	Total	Mg	0	0
			1	1		
4	B	1	Total	Mg	0	0
			1	1		
4	C	1	Total	Mg	0	0
			1	1		
4	A	1	Total	Mg	0	0
			1	1		
4	F	1	Total	Mg	0	0
			1	1		

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula:  $C_3H_8O_3$ ).

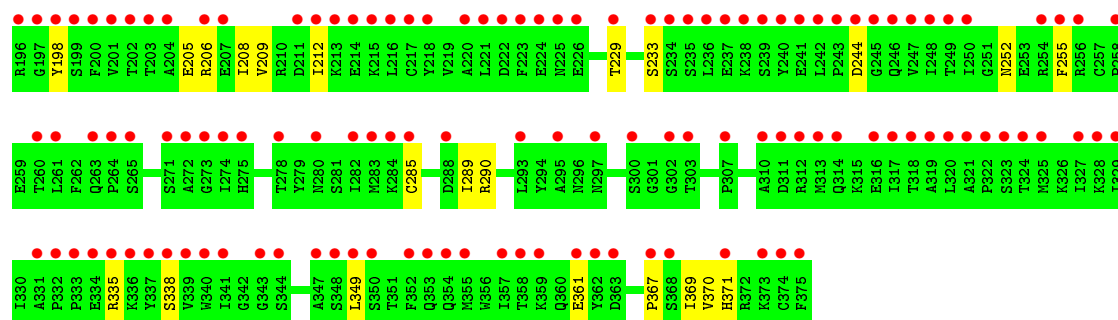


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			6	3	3		
5	A	1	Total	C	O	0	0
			6	3	3		
5	B	1	Total	C	O	0	0
			6	3	3		
5	C	1	Total	C	O	0	0
			6	3	3		
5	C	1	Total	C	O	0	0
			6	3	3		
5	E	1	Total	C	O	0	0
			6	3	3		
5	F	1	Total	C	O	0	0
			6	3	3		
5	N	1	Total	C	O	0	0
			6	3	3		

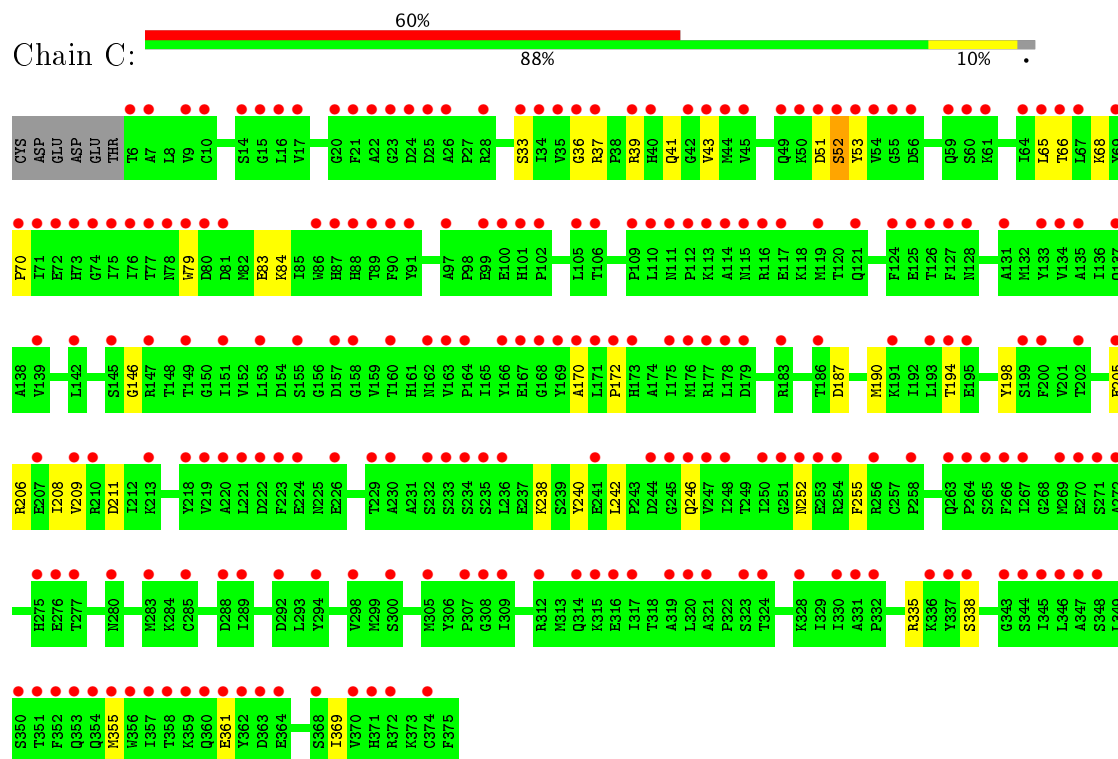
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	E	1	Total	O	0	0
			1	1		

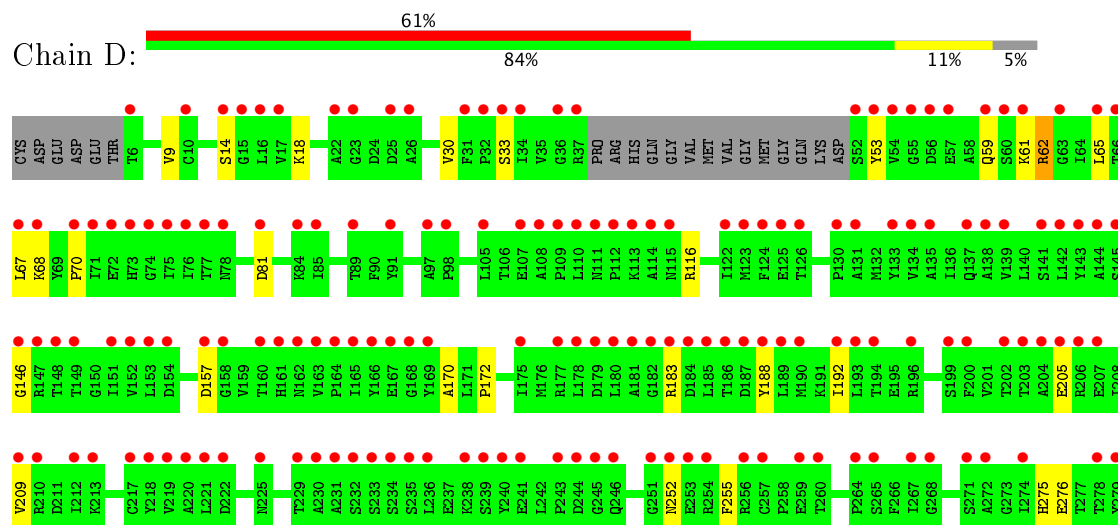




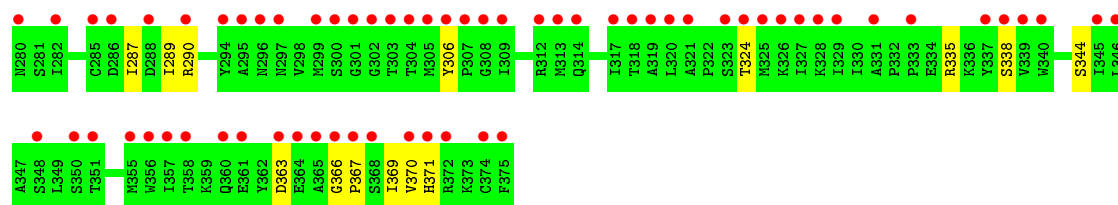
• Molecule 1: ACTIN, ALPHA SKELETAL MUSCLE



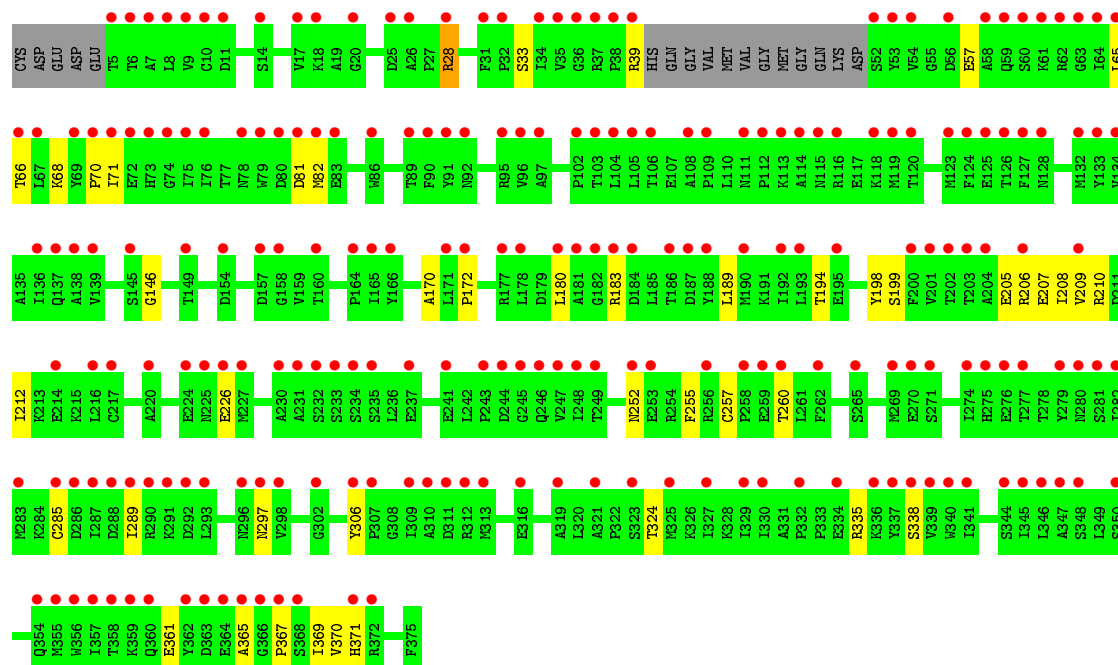
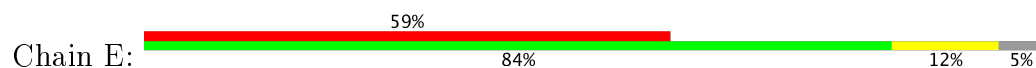
• Molecule 1: ACTIN, ALPHA SKELETAL MUSCLE



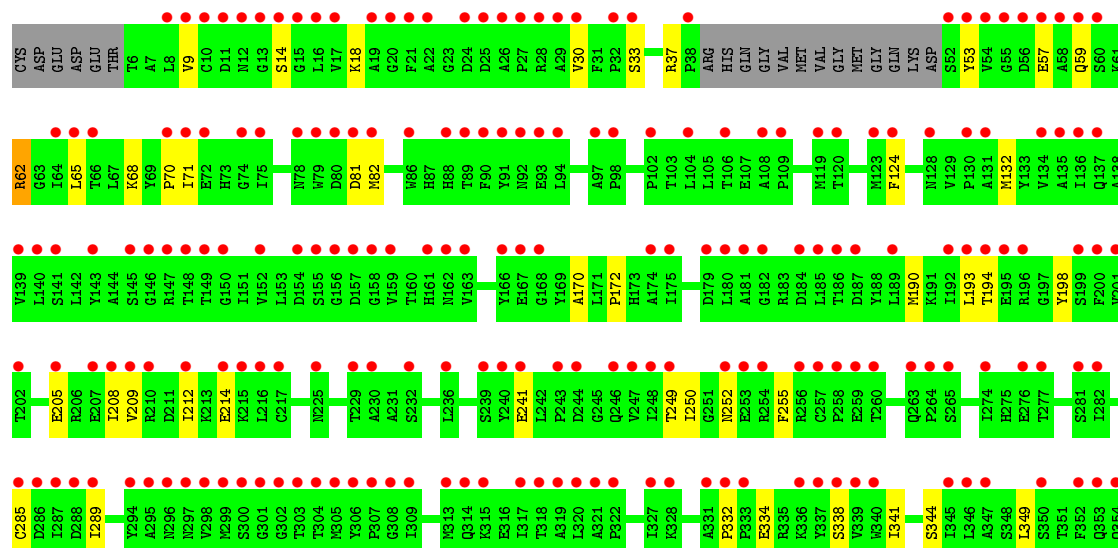
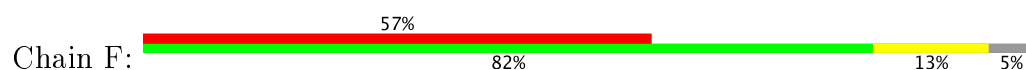


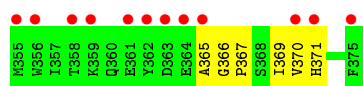


• Molecule 1: ACTIN, ALPHA SKELETAL MUSCLE

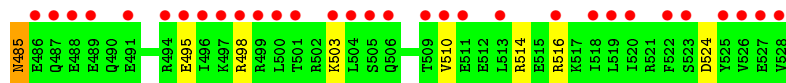
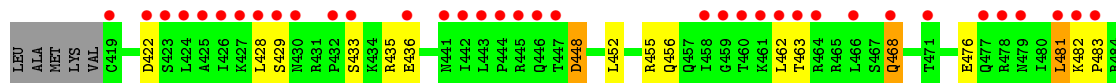
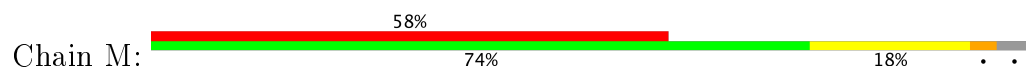


• Molecule 1: ACTIN, ALPHA SKELETAL MUSCLE

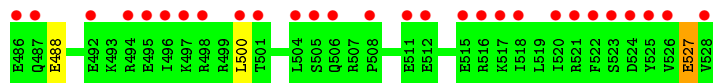
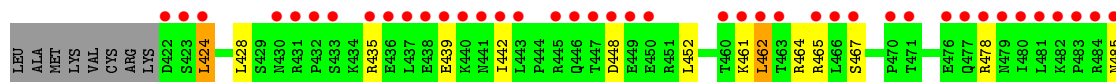
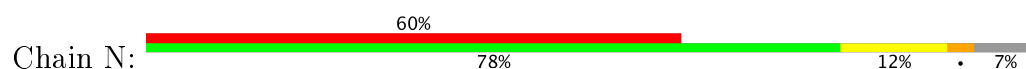




• Molecule 2: PHOSPHATASE AND ACTIN REGULATOR 1



• Molecule 2: PHOSPHATASE AND ACTIN REGULATOR 1



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	127.06 Å   142.89 Å   184.38 Å 90.00°   90.00°   90.00°	Depositor
Resolution (Å)	74.62 – 3.30 74.62 – 3.30	Depositor EDS
% Data completeness (in resolution range)	99.4 (74.62-3.30) 99.4 (74.62-3.30)	Depositor EDS
$R_{merge}$	0.14	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	0.47 (at 3.33 Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.8.1_1168)	Depositor
R, $R_{free}$	0.213   ,   0.236 0.253   ,   0.266	Depositor DCC
$R_{free}$ test set	2580 reflections (5.07%)	DCC
Wilson B-factor (Å <sup>2</sup> )	61.2	Xtriage
Anisotropy	0.708	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 55.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.27$ , $\langle L^2 \rangle = 0.11$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.50	EDS
Total number of atoms	17941	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	87.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.60% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: GOL, 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	0.24	0/2552	0.47	0/3480
1	B	0.24	0/2772	0.46	0/3774
1	C	0.24	0/2878	0.47	0/3911
1	D	0.23	0/2706	0.47	0/3685
1	E	0.24	0/2742	0.47	0/3738
1	F	0.25	0/2742	0.48	0/3736
2	M	0.21	0/851	0.43	0/1148
2	N	0.21	0/827	0.41	0/1115
All	All	0.24	0/18070	0.47	0/24587

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2495	0	2353	19	0
1	B	2711	0	2582	26	0
1	C	2815	0	2724	27	0
1	D	2648	0	2476	26	0
1	E	2682	0	2525	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	2682	0	2550	33	0
2	M	846	0	814	13	0
2	N	821	0	787	10	0
3	A	31	0	12	1	0
3	B	31	0	12	1	0
3	C	31	0	12	0	0
3	D	31	0	12	2	0
3	E	31	0	12	1	0
3	F	31	0	12	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	A	12	0	16	0	0
5	B	6	0	8	0	0
5	C	12	0	16	0	0
5	E	6	0	8	1	0
5	F	6	0	8	0	0
5	N	6	0	8	0	0
6	E	1	0	0	0	0
All	All	17941	0	16947	167	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 5.

The worst 5 of 167 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:E:146:GLY:O	2:N:465:ARG:NH1	2.04	0.89
1:F:371:HIS:HB3	2:N:527:GLU:HG3	1.58	0.84
1:D:62:ARG:HB2	1:D:67:LEU:HD11	1.63	0.80
1:C:41:GLN:O	1:E:28:ARG:NH2	2.14	0.80
1:C:39:ARG:HG2	1:C:66:THR:HG23	1.67	0.77

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	331/376 (88%)	326 (98%)	5 (2%)	0	100	100
1	B	353/376 (94%)	347 (98%)	6 (2%)	0	100	100
1	C	368/376 (98%)	359 (98%)	8 (2%)	1 (0%)	44	76
1	D	352/376 (94%)	346 (98%)	6 (2%)	0	100	100
1	E	355/376 (94%)	348 (98%)	7 (2%)	0	100	100
1	F	353/376 (94%)	346 (98%)	7 (2%)	0	100	100
2	M	108/115 (94%)	105 (97%)	3 (3%)	0	100	100
2	N	105/115 (91%)	102 (97%)	3 (3%)	0	100	100
All	All	2325/2486 (94%)	2279 (98%)	45 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	52	SER

### 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	251/319 (79%)	250 (100%)	1 (0%)	93	96
1	B	281/319 (88%)	281 (100%)	0	100	100
1	C	292/319 (92%)	291 (100%)	1 (0%)	94	97
1	D	264/319 (83%)	262 (99%)	2 (1%)	85	91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	E	270/319 (85%)	268 (99%)	2 (1%)	87	92
1	F	274/319 (86%)	273 (100%)	1 (0%)	93	96
2	M	83/111 (75%)	73 (88%)	10 (12%)	6	26
2	N	80/111 (72%)	71 (89%)	9 (11%)	7	28
All	All	1795/2136 (84%)	1769 (99%)	26 (1%)	71	85

5 of 26 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	M	448	ASP
2	M	485	ASN
2	N	462	LEU
2	M	468	GLN
2	M	481	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	88	HIS
1	B	371	HIS
1	E	371	HIS

### 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 carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 20 ligands modelled in this entry, 6 are monoatomic - leaving 14 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	ATP	A	1376	4	27,33,33	0.94	1 (3%)	25,52,52	1.62	2 (8%)
5	GOL	A	1378	-	5,5,5	0.36	0	5,5,5	0.20	0
5	GOL	A	1379	-	5,5,5	0.36	0	5,5,5	0.26	0
3	ATP	B	1376	4	27,33,33	0.93	1 (3%)	25,52,52	1.66	2 (8%)
5	GOL	B	1378	-	5,5,5	0.35	0	5,5,5	0.20	0
3	ATP	C	1376	4	27,33,33	0.95	1 (3%)	25,52,52	1.64	2 (8%)
5	GOL	C	1378	-	5,5,5	0.36	0	5,5,5	0.28	0
5	GOL	C	1379	-	5,5,5	0.35	0	5,5,5	0.28	0
3	ATP	D	1376	4	27,33,33	0.96	1 (3%)	25,52,52	1.60	2 (8%)
3	ATP	E	1376	4	27,33,33	0.96	1 (3%)	25,52,52	1.49	2 (8%)
5	GOL	E	1378	-	5,5,5	0.34	0	5,5,5	0.28	0
3	ATP	F	1376	4	27,33,33	0.94	1 (3%)	25,52,52	1.64	2 (8%)
5	GOL	F	1378	-	5,5,5	0.35	0	5,5,5	0.19	0
5	GOL	N	1529	-	5,5,5	0.35	0	5,5,5	0.27	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
3	ATP	A	1376	4	-	0/18/38/38	0/3/3/3
5	GOL	A	1378	-	-	0/4/4/4	0/0/0/0
5	GOL	A	1379	-	-	0/4/4/4	0/0/0/0
3	ATP	B	1376	4	-	0/18/38/38	0/3/3/3
5	GOL	B	1378	-	-	0/4/4/4	0/0/0/0
3	ATP	C	1376	4	-	0/18/38/38	0/3/3/3
5	GOL	C	1378	-	-	0/4/4/4	0/0/0/0
5	GOL	C	1379	-	-	0/4/4/4	0/0/0/0
3	ATP	D	1376	4	-	0/18/38/38	0/3/3/3
3	ATP	E	1376	4	-	0/18/38/38	0/3/3/3
5	GOL	E	1378	-	-	0/4/4/4	0/0/0/0
3	ATP	F	1376	4	-	0/18/38/38	0/3/3/3
5	GOL	F	1378	-	-	0/4/4/4	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	N	1529	-	-	0/4/4/4	0/0/0/0

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	1376	ATP	C5-C4	3.04	1.47	1.40
3	F	1376	ATP	C5-C4	3.07	1.47	1.40
3	A	1376	ATP	C5-C4	3.08	1.47	1.40
3	C	1376	ATP	C5-C4	3.10	1.47	1.40
3	D	1376	ATP	C5-C4	3.10	1.47	1.40

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

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	F	1376	ATP	N3-C2-N1	-6.12	123.52	128.86
3	B	1376	ATP	N3-C2-N1	-6.06	123.58	128.86
3	C	1376	ATP	N3-C2-N1	-6.00	123.63	128.86
3	A	1376	ATP	N3-C2-N1	-5.88	123.73	128.86
3	D	1376	ATP	N3-C2-N1	-5.71	123.89	128.86

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

6 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	1376	ATP	1	0
3	B	1376	ATP	1	0
3	D	1376	ATP	2	0
3	E	1376	ATP	1	0
5	E	1378	GOL	1	0
3	F	1376	ATP	1	0

## 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 [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	335/376 (89%)	3.17	232 (69%) 0 0	57, 83, 142, 192	0
1	B	357/376 (94%)	3.03	247 (69%) 0 0	49, 78, 120, 162	0
1	C	370/376 (98%)	2.84	226 (61%) 0 0	55, 74, 107, 137	0
1	D	356/376 (94%)	2.84	229 (64%) 0 0	70, 98, 133, 162	0
1	E	359/376 (95%)	2.89	220 (61%) 0 0	58, 82, 118, 151	0
1	F	357/376 (94%)	2.79	214 (59%) 0 0	55, 82, 128, 166	0
2	M	110/115 (95%)	2.93	67 (60%) 0 0	61, 84, 128, 150	0
2	N	107/115 (93%)	3.19	69 (64%) 0 0	67, 88, 119, 133	0
All	All	2351/2486 (94%)	2.94	1504 (63%) 0 0	49, 84, 128, 192	0

The worst 5 of 1504 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	98	PRO	21.1
1	D	326	LYS	15.7
1	A	97	ALA	14.6
1	E	243	PRO	13.9
1	B	197	GLY	13.3

### 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 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, 95<sup>th</sup> 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
3	ATP	F	1376	31/31	0.56	0.82	1.02	91,91,91,91	0
3	ATP	E	1376	31/31	0.37	0.74	0.83	112,112,112,112	0
5	GOL	C	1378	6/6	0.20	0.69	0.73	68,68,68,68	0
5	GOL	E	1378	6/6	0.35	0.64	0.57	82,82,82,82	0
4	MG	E	1377	1/1	0.67	0.56	0.25	50,50,50,50	0
5	GOL	B	1378	6/6	0.41	0.81	0.19	89,89,89,89	0
3	ATP	A	1376	31/31	0.45	0.64	0.17	99,99,99,99	0
3	ATP	D	1376	31/31	0.50	0.67	0.13	131,131,131,131	0
3	ATP	B	1376	31/31	0.59	0.62	0.04	81,81,81,81	0
5	GOL	C	1379	6/6	0.64	0.54	-0.04	80,80,80,80	0
4	MG	D	1377	1/1	0.50	0.41	-0.37	56,56,56,56	0
5	GOL	N	1529	6/6	0.43	0.41	-0.61	99,99,99,99	0
3	ATP	C	1376	31/31	0.61	0.40	-0.65	84,84,84,84	0
5	GOL	F	1378	6/6	0.55	0.34	-0.87	64,64,64,64	0
5	GOL	A	1378	6/6	0.77	0.42	-1.01	73,73,73,73	0
4	MG	F	1377	1/1	0.07	0.27	-2.04	53,53,53,53	0
4	MG	B	1377	1/1	0.64	0.37	-2.16	39,39,39,39	0
4	MG	A	1377	1/1	0.68	0.28	-	42,42,42,42	0
5	GOL	A	1379	6/6	0.56	0.63	-	89,89,89,89	0
4	MG	C	1377	1/1	0.43	0.99	-	44,44,44,44	0

## 6.5 Other polymers ⓘ

There are no such residues in this entry.