



# Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 07:15 am BST

PDB ID : 5IP0  
Title : PHA Binding Protein PhaP (Phasin)  
Authors : Chen, G.Q.; Wang, X.Q.; Zhao, H.Y.  
Deposited on : 2016-03-09  
Resolution : 3.00 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](mailto: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.

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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
Xtriage (Phenix)	:	1.13
EDS	:	2.11
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)	:	2.11

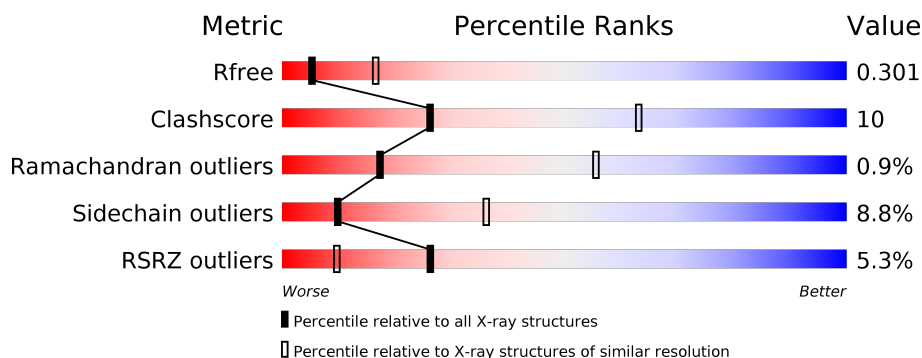
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 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	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

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 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	116	<div> <div></div> <div> <div></div> <div>71%</div> <div>20%</div> <div>•</div> <div>8%</div> </div> </div>
1	B	116	<div> <div>9%</div> <div> <div></div> <div>51%</div> <div>22%</div> <div>•</div> <div>24%</div> </div> </div>
1	C	116	<div> <div></div> <div> <div></div> <div>54%</div> <div>21%</div> <div>•</div> <div>22%</div> </div> </div>
1	D	116	<div> <div>3%</div> <div> <div></div> <div>71%</div> <div>21%</div> <div>•</div> <div>7%</div> </div> </div>
1	E	116	<div> <div></div> <div> <div></div> <div>76%</div> <div>14%</div> <div>•</div> <div>8%</div> </div> </div>
1	F	116	<div> <div>2%</div> <div> <div></div> <div>53%</div> <div>18%</div> <div>•</div> <div>24%</div> </div> </div>

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Mol	Chain	Length	Quality of chain
1	G	116	
1	H	116	
1	I	116	
1	J	116	
1	K	116	
1	L	116	
1	M	116	
1	N	116	
1	O	116	
1	P	116	

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
2	CD	A	201	-	-	-	X
2	CD	D	203	-	-	-	X
2	CD	I	201	-	-	-	X
2	CD	I	202	-	-	-	X
2	CD	M	201	-	-	-	X
2	CD	P	201	-	-	-	X

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 12029 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 PHA granule-associated protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	107	Total	C	N	O	S	0	0	0
			819	510	139	167	3			
1	B	88	Total	C	N	O	S	0	0	0
			676	422	115	137	2			
1	C	90	Total	C	N	O	S	0	0	0
			677	419	117	140	1			
1	D	108	Total	C	N	O	S	0	0	0
			828	516	141	168	3			
1	E	107	Total	C	N	O	S	0	0	0
			819	510	139	167	3			
1	F	88	Total	C	N	O	S	0	0	0
			676	422	115	137	2			
1	G	90	Total	C	N	O	S	0	0	0
			677	419	117	140	1			
1	H	108	Total	C	N	O	S	0	0	0
			828	516	141	168	3			
1	I	107	Total	C	N	O	S	0	0	0
			819	510	139	167	3			
1	J	88	Total	C	N	O	S	0	0	0
			676	422	115	137	2			
1	K	90	Total	C	N	O	S	0	0	0
			677	419	117	140	1			
1	L	108	Total	C	N	O	S	0	0	0
			828	516	141	168	3			
1	M	107	Total	C	N	O	S	0	0	0
			819	510	139	167	3			
1	N	88	Total	C	N	O	S	0	0	0
			676	422	115	137	2			
1	O	90	Total	C	N	O	S	0	0	0
			677	419	117	140	1			
1	P	108	Total	C	N	O	S	0	0	0
			828	516	141	168	3			

- Molecule 2 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	P	2	Total 2	Cd 2	0	0
2	D	5	Total 5	Cd 5	0	0
2	E	6	Total 6	Cd 6	0	0
2	H	1	Total 1	Cd 1	0	0
2	B	1	Total 1	Cd 1	0	0
2	I	5	Total 5	Cd 5	0	0
2	C	1	Total 1	Cd 1	0	0
2	A	3	Total 3	Cd 3	0	0
2	L	3	Total 3	Cd 3	0	0
2	M	2	Total 2	Cd 2	0	0

### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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.

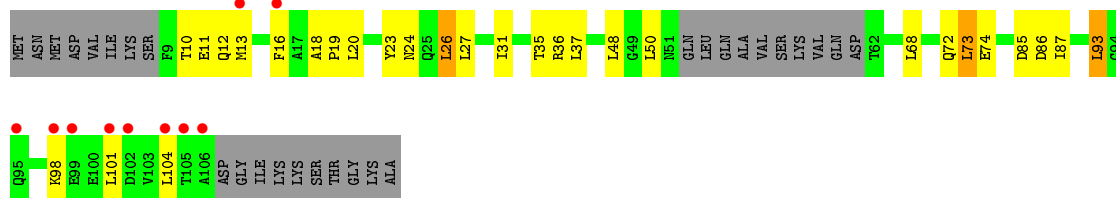
- Molecule 1: PHA granule-associated protein

Chain A: 



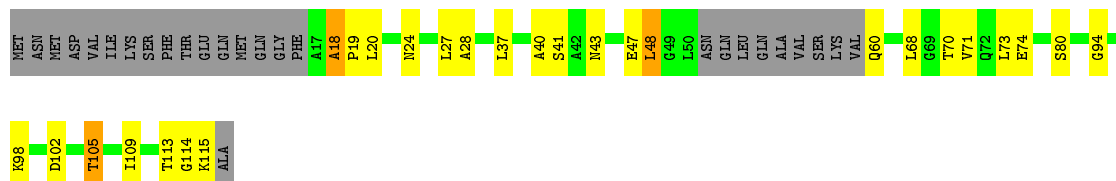
- Molecule 1: PHA granule-associated protein

Chain B: 



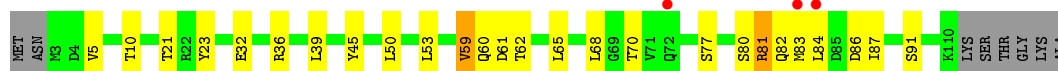
- Molecule 1: PHA granule-associated protein

Chain C: 



- Molecule 1: PHA granule-associated protein

Chain D: 

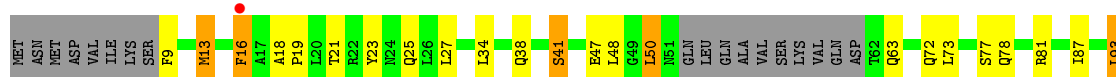


- Molecule 1: PHA granule-associated protein

Chain E: 



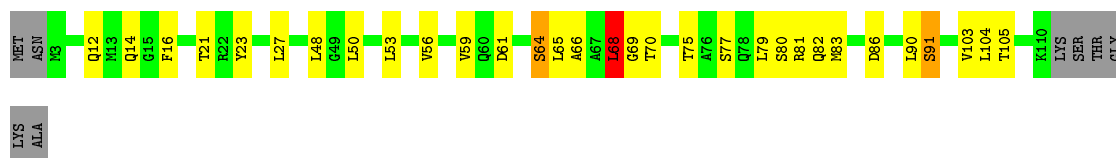
- Molecule 1: PHA granule-associated protein



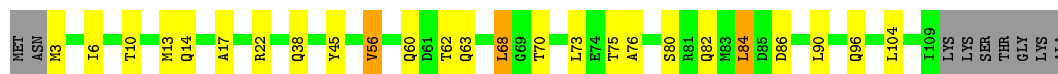
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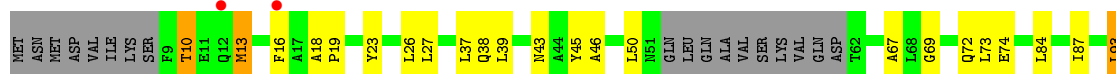
- Molecule 1: PHA granule-associated protein

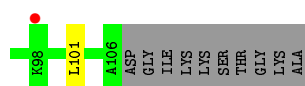


- Molecule 1: PHA granule-associated protein

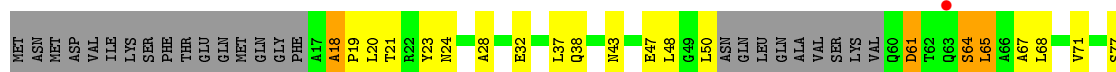


- Molecule 1: PHA granule-associated protein

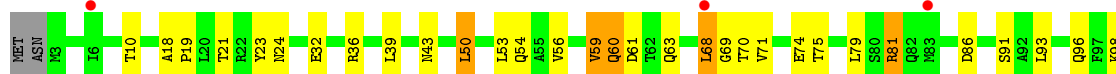




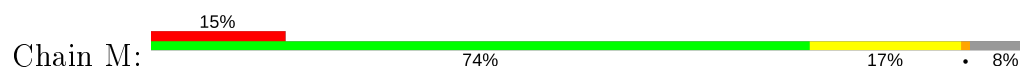
- Molecule 1: PHA granule-associated protein



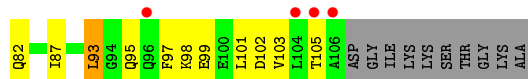
- Molecule 1: PHA granule-associated protein



- Molecule 1: PHA granule-associated protein



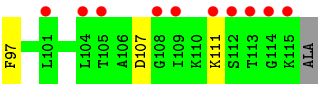
- Molecule 1: PHA granule-associated protein



- Molecule 1: PHA granule-associated protein







● Molecule 1: PHA granule-associated protein



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	131.78Å 174.14Å 198.82Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.85 – 3.00 46.85 – 2.99	Depositor EDS
% Data completeness (in resolution range)	95.3 (46.85-3.00) 94.7 (46.85-2.99)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.75 (at 3.01Å)	Xtriage
Refinement program	PHENIX (1.10.1 _2155: ???)	Depositor
R, $R_{free}$	0.227 , 0.295 0.236 , 0.301	Depositor DCC
$R_{free}$ test set	2207 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	81.1	Xtriage
Anisotropy	0.517	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 83.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	12029	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	107.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 18.56% 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 ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: CD

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	0.46	0/824	0.75	3/1113 (0.3%)
1	B	0.43	0/680	0.59	0/918
1	C	0.47	0/679	0.67	0/916
1	D	0.48	0/833	0.64	0/1124
1	E	0.48	0/824	0.77	1/1113 (0.1%)
1	F	0.46	0/680	0.63	1/918 (0.1%)
1	G	0.62	2/679 (0.3%)	0.77	1/916 (0.1%)
1	H	0.44	0/833	0.67	1/1124 (0.1%)
1	I	0.46	0/824	0.69	2/1113 (0.2%)
1	J	0.42	0/680	0.69	1/918 (0.1%)
1	K	0.59	1/679 (0.1%)	0.78	0/916
1	L	0.43	0/833	0.64	0/1124
1	M	0.43	0/824	0.60	0/1113
1	N	0.51	1/680 (0.1%)	0.63	0/918
1	O	0.41	0/679	0.66	1/916 (0.1%)
1	P	0.44	0/833	0.61	0/1124
All	All	0.47	4/12064 (0.0%)	0.68	11/16284 (0.1%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	100	GLU	CB-CG	6.96	1.65	1.52
1	G	100	GLU	CG-CD	6.42	1.61	1.51
1	N	32	GLU	CG-CD	5.31	1.59	1.51
1	K	99	GLU	CB-CG	-5.02	1.42	1.52

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	73	LEU	CA-CB-CG	8.97	135.94	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	48	LEU	CA-CB-CG	6.91	131.19	115.30
1	E	73	LEU	CA-CB-CG	6.61	130.51	115.30
1	O	48	LEU	CA-CB-CG	6.02	129.14	115.30
1	I	73	LEU	CA-CB-CG	5.96	129.01	115.30
1	F	50	LEU	CA-CB-CG	5.93	128.94	115.30
1	A	93	LEU	CB-CG-CD1	-5.37	101.88	111.00
1	H	68	LEU	CA-CB-CG	5.22	127.31	115.30
1	J	93	LEU	CA-CB-CG	5.11	127.05	115.30
1	I	68	LEU	CA-CB-CG	5.08	126.98	115.30
1	A	53	LEU	CB-CG-CD2	-5.06	102.41	111.00

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	819	0	829	18	0
1	B	676	0	679	19	0
1	C	677	0	687	18	0
1	D	828	0	842	21	0
1	E	819	0	829	11	0
1	F	676	0	679	21	0
1	G	677	0	687	21	0
1	H	828	0	842	21	0
1	I	819	0	829	19	0
1	J	676	0	679	20	0
1	K	677	0	687	25	0
1	L	828	0	842	30	0
1	M	819	0	829	19	0
1	N	676	0	679	26	0
1	O	677	0	687	16	0
1	P	828	0	842	31	0
2	A	3	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	5	0	0	0	0
2	E	6	0	0	0	0
2	H	1	0	0	0	0
2	I	5	0	0	0	0
2	L	3	0	0	0	0
2	M	2	0	0	0	0
2	P	2	0	0	0	0
All	All	12029	0	12148	251	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 10.

All (251) 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:77:SER:O	1:D:80:SER:OG	1.78	1.01
1:G:47:GLU:O	1:G:49:GLY:N	2.07	0.86
1:P:71:VAL:O	1:P:75:THR:HB	1.81	0.81
1:P:77:SER:HA	1:P:80:SER:OG	1.82	0.80
1:H:65:LEU:HD22	1:H:68:LEU:HD13	1.64	0.78
1:P:77:SER:O	1:P:80:SER:OG	2.03	0.77
1:L:81:ARG:NE	1:L:81:ARG:HA	1.98	0.76
1:N:95:GLN:HG3	1:N:98:LYS:HE3	1.72	0.72
1:J:67:ALA:HB1	1:M:6:ILE:HD11	1.71	0.72
1:M:32:GLU:OE2	1:N:36:ARG:NH2	2.25	0.69
1:E:63:GLN:HG3	1:H:65:LEU:HD11	1.75	0.69
1:P:17:ALA:O	1:P:21:THR:OG1	2.05	0.68
1:A:84:LEU:HD11	1:C:98:LYS:HD3	1.77	0.67
1:I:60:GLN:HB2	1:L:68:LEU:HD21	1.77	0.66
1:F:21:THR:O	1:F:25:GLN:HG2	1.95	0.66
1:O:47:GLU:O	1:O:48:LEU:HB3	1.94	0.65
1:F:13:MET:N	1:F:13:MET:SD	2.70	0.65
1:A:75:THR:HG23	1:D:53:LEU:HD13	1.79	0.64
1:A:66:ALA:HB2	1:C:115:LYS:H	1.61	0.64
1:I:6:ILE:HD11	1:N:67:ALA:HB1	1.80	0.64
1:I:56:VAL:HG13	1:L:68:LEU:HG	1.81	0.63
1:F:87:ILE:HD11	1:H:90:LEU:HG	1.81	0.62
1:H:61:ASP:O	1:H:64:SER:OG	2.18	0.62
1:M:60:GLN:HB2	1:P:68:LEU:HD21	1.82	0.61
1:K:18:ALA:HB1	1:K:19:PRO:HD2	1.81	0.61
1:P:77:SER:CA	1:P:80:SER:OG	2.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:GLN:OE1	1:C:24:ASN:ND2	2.30	0.61
1:F:18:ALA:HB3	1:F:19:PRO:HD3	1.83	0.61
1:F:38:GLN:OE1	1:G:38:GLN:NE2	2.31	0.61
1:O:43:ASN:OD1	1:P:21:THR:HG23	2.01	0.60
1:C:43:ASN:OD1	1:D:21:THR:HG23	2.02	0.60
1:M:21:THR:HG22	1:N:43:ASN:HD22	1.66	0.60
1:P:71:VAL:O	1:P:75:THR:CB	2.50	0.59
1:J:18:ALA:HB3	1:J:19:PRO:HD3	1.84	0.59
1:I:84:LEU:HD21	1:K:98:LYS:HD3	1.83	0.59
1:C:70:THR:O	1:C:74:GLU:HG2	2.03	0.59
1:F:87:ILE:HD13	1:H:91:SER:HA	1.83	0.59
1:L:81:ARG:HG2	1:L:81:ARG:HH11	1.68	0.59
1:F:41:SER:OG	1:F:72:GLN:OE1	2.20	0.59
1:K:18:ALA:HB1	1:K:19:PRO:CD	2.33	0.59
1:G:43:ASN:OD1	1:H:21:THR:HG23	2.04	0.58
1:O:36:ARG:NH2	1:P:32:GLU:OE2	2.37	0.58
1:J:45:TYR:HE2	1:L:24:ASN:HD21	1.51	0.58
1:M:63:GLN:NE2	1:P:65:LEU:HD11	2.19	0.58
1:A:67:ALA:O	1:A:70:THR:HG22	2.05	0.57
1:H:80:SER:OG	1:H:81:ARG:N	2.37	0.57
1:D:5:VAL:HG23	1:G:44:ALA:HB1	1.86	0.57
1:A:56:VAL:HG22	1:D:68:LEU:HG	1.87	0.57
1:I:90:LEU:HG	1:K:87:ILE:HD11	1.86	0.57
1:O:107:ASP:OD2	1:O:111:LYS:NZ	2.38	0.57
1:I:86:ASP:HB3	1:K:23:TYR:CZ	2.40	0.56
1:P:77:SER:C	1:P:80:SER:OG	2.43	0.56
1:I:76:ALA:CB	1:K:105:THR:HG22	2.36	0.56
1:C:47:GLU:O	1:C:48:LEU:HB3	2.06	0.56
1:G:60:GLN:OE1	1:G:63:GLN:NE2	2.31	0.56
1:J:72:GLN:HB3	1:L:23:TYR:CZ	2.41	0.55
1:A:71:VAL:O	1:A:75:THR:HG22	2.07	0.55
1:F:95:GLN:HA	1:F:98:LYS:HG2	1.89	0.55
1:J:13:MET:N	1:J:13:MET:SD	2.79	0.55
1:N:102:ASP:HA	1:N:105:THR:HG22	1.89	0.55
1:D:80:SER:OG	1:D:81:ARG:N	2.35	0.55
1:F:72:GLN:HB3	1:H:23:TYR:CZ	2.42	0.55
1:K:47:GLU:O	1:K:48:LEU:HB3	2.07	0.55
1:J:87:ILE:HG21	1:L:91:SER:HA	1.89	0.55
1:I:68:LEU:HD13	1:L:56:VAL:HG13	1.87	0.54
1:M:32:GLU:HG3	1:N:32:GLU:HG2	1.89	0.54
1:P:32:GLU:OE1	1:P:36:ARG:NH2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:95:GLN:HG3	1:F:98:LYS:HE3	1.87	0.54
1:B:18:ALA:HB3	1:B:19:PRO:HD3	1.89	0.54
1:C:68:LEU:HA	1:C:71:VAL:HG12	1.90	0.54
1:K:86:ASP:HA	1:K:89:LYS:HE3	1.88	0.54
1:K:23:TYR:HB2	1:K:90:LEU:HD21	1.90	0.53
1:H:77:SER:O	1:H:80:SER:OG	2.16	0.53
1:L:81:ARG:HG2	1:L:81:ARG:NH1	2.24	0.53
1:N:72:GLN:HB3	1:P:23:TYR:CE2	2.43	0.53
1:H:48:LEU:HD22	1:H:75:THR:HG23	1.90	0.53
1:P:77:SER:C	1:P:80:SER:HG	2.08	0.53
1:F:77:SER:O	1:F:81:ARG:HG3	2.08	0.52
1:G:19:PRO:HG2	1:G:97:PHE:HB2	1.90	0.52
1:B:72:GLN:HB3	1:D:23:TYR:CE2	2.44	0.52
1:E:86:ASP:HB3	1:G:23:TYR:CZ	2.44	0.52
1:A:32:GLU:OE2	1:B:36:ARG:NH2	2.40	0.52
1:G:18:ALA:HB1	1:G:19:PRO:HD2	1.90	0.52
1:H:68:LEU:HD23	1:H:69:GLY:N	2.25	0.52
1:A:45:TYR:CE1	1:C:20:LEU:HD12	2.45	0.52
1:D:59:VAL:HG12	1:D:60:GLN:N	2.24	0.52
1:I:38:GLN:OE1	1:K:24:ASN:ND2	2.38	0.52
1:M:22:ARG:HB3	1:M:104:LEU:HD21	1.92	0.52
1:C:109:ILE:O	1:C:113:THR:HG23	2.09	0.51
1:B:19:PRO:O	1:B:23:TYR:N	2.34	0.51
1:N:12:GLN:HG3	1:N:97:PHE:HE1	1.75	0.51
1:C:18:ALA:HB1	1:C:19:PRO:HD2	1.93	0.51
1:J:73:LEU:HD11	1:L:104:LEU:HB3	1.93	0.51
1:C:94:GLY:O	1:C:98:LYS:HG2	2.11	0.51
1:M:55:ALA:O	1:M:59:VAL:HG23	2.10	0.51
1:F:19:PRO:HG3	1:F:93:LEU:HD22	1.93	0.50
1:I:17:ALA:HB2	1:J:50:LEU:HD22	1.92	0.50
1:B:12:GLN:HG2	1:B:101:LEU:HD21	1.92	0.50
1:B:23:TYR:CZ	1:D:86:ASP:HB3	2.47	0.50
1:B:98:LYS:HB2	1:D:84:LEU:HD11	1.94	0.50
1:I:22:ARG:HB3	1:I:104:LEU:HD21	1.93	0.49
1:H:48:LEU:HD13	1:H:79:LEU:HG	1.94	0.49
1:H:66:ALA:O	1:H:70:THR:HG22	2.12	0.49
1:F:16:PHE:O	1:F:19:PRO:HD2	2.12	0.49
1:L:101:LEU:O	1:L:105:THR:HG23	2.12	0.49
1:G:47:GLU:C	1:G:49:GLY:N	2.66	0.49
1:P:70:THR:O	1:P:74:GLU:HB2	2.13	0.49
1:J:67:ALA:CB	1:M:6:ILE:HD11	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:98:LYS:NZ	1:L:102:ASP:OD2	2.46	0.48
1:I:6:ILE:HG23	1:N:71:VAL:HG11	1.96	0.48
1:M:63:GLN:HE21	1:P:65:LEU:HD11	1.78	0.48
1:E:62:THR:HG23	1:E:64:SER:H	1.78	0.48
1:I:13:MET:HG2	1:N:75:THR:HG21	1.94	0.48
1:M:86:ASP:HB3	1:O:23:TYR:CZ	2.48	0.48
1:O:28:ALA:HB3	1:P:39:LEU:HD22	1.95	0.48
1:P:67:ALA:O	1:P:71:VAL:HB	2.14	0.48
1:E:83:MET:HE3	1:G:97:PHE:HB3	1.96	0.48
1:O:19:PRO:HG2	1:O:97:PHE:HB2	1.95	0.48
1:D:80:SER:O	1:D:81:ARG:C	2.49	0.48
1:K:68:LEU:HA	1:K:71:VAL:HG12	1.96	0.48
1:I:6:ILE:HD11	1:N:67:ALA:CB	2.42	0.47
1:E:22:ARG:HB3	1:E:104:LEU:HD21	1.95	0.47
1:G:17:ALA:O	1:G:18:ALA:HB3	2.15	0.47
1:I:76:ALA:HB1	1:K:105:THR:HG22	1.97	0.47
1:K:21:THR:HG22	1:L:43:ASN:OD1	2.14	0.47
1:A:16:PHE:HB2	1:B:50:LEU:HD22	1.97	0.47
1:D:5:VAL:CG2	1:G:44:ALA:HB1	2.45	0.47
1:L:107:ASP:HA	1:L:110:LYS:HD2	1.96	0.47
1:M:21:THR:HG22	1:N:43:ASN:ND2	2.30	0.47
1:A:45:TYR:CZ	1:C:20:LEU:HD12	2.50	0.47
1:A:55:ALA:HB1	1:A:71:VAL:HG21	1.97	0.46
1:B:68:LEU:O	1:B:72:GLN:HG3	2.15	0.46
1:G:19:PRO:HG3	1:G:93:LEU:HB3	1.97	0.46
1:J:69:GLY:O	1:J:73:LEU:HD23	2.15	0.46
1:P:106:ALA:O	1:P:110:LYS:HD2	2.15	0.46
1:P:99:GLU:O	1:P:103:VAL:HG12	2.15	0.46
1:K:84:LEU:HA	1:K:84:LEU:HD23	1.63	0.46
1:P:59:VAL:HG13	1:P:64:SER:HB3	1.98	0.46
1:F:13:MET:HA	1:F:16:PHE:HB2	1.98	0.46
1:G:98:LYS:HE2	1:G:102:ASP:OD2	2.16	0.46
1:J:26:LEU:HD23	1:J:26:LEU:HA	1.66	0.46
1:J:38:GLN:NE2	1:K:38:GLN:OE1	2.40	0.46
1:E:75:THR:HG22	1:H:53:LEU:HD22	1.98	0.46
1:A:48:LEU:HA	1:A:48:LEU:HD23	1.66	0.46
1:I:45:TYR:CE1	1:K:20:LEU:HD12	2.50	0.46
1:F:34:LEU:HD22	1:H:27:LEU:HD22	1.98	0.45
1:I:10:THR:O	1:I:14:GLN:HG2	2.16	0.45
1:P:68:LEU:HD23	1:P:69:GLY:N	2.31	0.45
1:K:43:ASN:OD1	1:L:21:THR:HG23	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:73:LEU:HD13	1:B:73:LEU:HA	1.82	0.45
1:E:83:MET:SD	1:G:97:PHE:HD2	2.39	0.45
1:M:39:LEU:HD21	1:N:25:GLN:NE2	2.31	0.45
1:B:26:LEU:HD11	1:B:86:ASP:HB3	1.99	0.45
1:G:26:LEU:HA	1:G:26:LEU:HD12	1.67	0.45
1:J:27:LEU:HA	1:J:27:LEU:HD23	1.84	0.45
1:J:43:ASN:O	1:J:46:ALA:HB3	2.17	0.45
1:K:28:ALA:HB3	1:L:39:LEU:HD22	1.99	0.45
1:D:32:GLU:OE2	1:D:36:ARG:NH2	2.49	0.45
1:E:48:LEU:HD13	1:E:79:LEU:HG	1.99	0.45
1:E:37:LEU:HD21	1:E:89:LYS:HD3	1.99	0.45
1:G:37:LEU:HA	1:G:37:LEU:HD23	1.60	0.45
1:G:21:THR:O	1:G:25:GLN:HG2	2.17	0.45
1:P:83:MET:O	1:P:87:ILE:HG13	2.17	0.45
1:N:13:MET:HA	1:N:16:PHE:HB2	1.99	0.44
1:C:102:ASP:HA	1:C:105:THR:HG23	1.99	0.44
1:A:50:LEU:HD11	1:B:20:LEU:HD12	1.99	0.44
1:A:83:MET:O	1:A:87:ILE:HG13	2.17	0.44
1:N:12:GLN:HG3	1:N:97:PHE:CE1	2.53	0.44
1:B:87:ILE:HG21	1:D:91:SER:HA	1.99	0.44
1:F:78:GLN:OE1	1:F:81:ARG:NE	2.41	0.44
1:L:68:LEU:HD23	1:L:69:GLY:N	2.32	0.44
1:N:48:LEU:HA	1:N:48:LEU:HD13	1.79	0.44
1:N:97:PHE:CZ	1:N:101:LEU:HD11	2.53	0.44
1:O:21:THR:O	1:O:25:GLN:HG2	2.18	0.43
1:O:73:LEU:HA	1:O:73:LEU:HD23	1.78	0.43
1:F:13:MET:HG3	1:F:16:PHE:HD2	1.82	0.43
1:C:40:ALA:HA	1:H:12:GLN:HG2	2.00	0.43
1:K:77:SER:HB3	1:K:81:ARG:NH2	2.32	0.43
1:B:72:GLN:HB3	1:D:23:TYR:CZ	2.53	0.43
1:C:28:ALA:HB3	1:D:39:LEU:HD22	2.00	0.43
1:H:14:GLN:HB3	1:H:16:PHE:CE2	2.53	0.43
1:N:99:GLU:O	1:N:103:VAL:HG23	2.18	0.43
1:D:83:MET:O	1:D:87:ILE:HG13	2.19	0.43
1:H:81:ARG:O	1:H:82:GLN:C	2.56	0.43
1:L:18:ALA:HB3	1:L:19:PRO:HD3	2.00	0.43
1:A:32:GLU:OE2	1:A:36:ARG:NH2	2.51	0.43
1:B:11:GLU:HG2	1:B:11:GLU:H	1.58	0.43
1:J:23:TYR:CZ	1:L:86:ASP:HB3	2.54	0.43
1:L:96:GLN:HB3	1:L:96:GLN:HE21	1.64	0.43
1:C:73:LEU:HA	1:C:73:LEU:HD23	1.76	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:60:GLN:O	1:L:61:ASP:HB2	2.19	0.43
1:M:28:ALA:HB2	1:O:38:GLN:HE22	1.84	0.43
1:N:19:PRO:HG3	1:N:93:LEU:HD22	2.01	0.43
1:O:84:LEU:HA	1:O:84:LEU:HD23	1.84	0.43
1:N:19:PRO:O	1:N:23:TYR:N	2.42	0.43
1:E:10:THR:O	1:E:14:GLN:HG2	2.17	0.43
1:J:73:LEU:HD12	1:L:105:THR:HG22	1.99	0.43
1:K:32:GLU:HG2	1:L:32:GLU:HG3	2.01	0.43
1:A:6:ILE:HD11	1:K:67:ALA:HB1	2.01	0.43
1:I:75:THR:HG22	1:L:53:LEU:HD22	2.01	0.42
1:J:39:LEU:HA	1:J:39:LEU:HD12	1.75	0.42
1:L:71:VAL:O	1:L:75:THR:HB	2.18	0.42
1:N:73:LEU:HA	1:N:73:LEU:HD12	1.92	0.42
1:L:50:LEU:HD22	1:L:54:GLN:HE21	1.84	0.42
1:J:84:LEU:HA	1:J:84:LEU:HD23	1.92	0.42
1:L:70:THR:O	1:L:74:GLU:HB2	2.20	0.42
1:D:81:ARG:O	1:D:82:GLN:C	2.55	0.42
1:F:13:MET:HE1	1:F:101:LEU:HD21	2.02	0.42
1:M:53:LEU:O	1:M:56:VAL:HG12	2.19	0.42
1:K:37:LEU:HD23	1:K:37:LEU:HA	1.85	0.42
1:B:27:LEU:O	1:B:31:ILE:HG13	2.20	0.42
1:J:10:THR:O	1:J:13:MET:HB2	2.20	0.42
1:P:18:ALA:HB3	1:P:19:PRO:HD3	2.02	0.42
1:N:45:TYR:OH	1:P:20:LEU:HB3	2.20	0.42
1:E:50:LEU:HD23	1:E:50:LEU:HA	1.78	0.42
1:B:16:PHE:O	1:B:19:PRO:HD2	2.20	0.41
1:G:84:LEU:HA	1:G:84:LEU:HD23	1.64	0.41
1:L:81:ARG:HE	1:L:81:ARG:HA	1.82	0.41
1:H:80:SER:O	1:H:81:ARG:C	2.54	0.41
1:F:23:TYR:CZ	1:H:86:ASP:HB3	2.55	0.41
1:P:53:LEU:O	1:P:56:VAL:HG12	2.20	0.41
1:J:101:LEU:HD23	1:J:101:LEU:HA	1.58	0.41
1:N:23:TYR:CZ	1:P:86:ASP:HB3	2.55	0.41
1:B:19:PRO:HG3	1:B:93:LEU:HD22	2.02	0.41
1:M:101:LEU:HA	1:M:101:LEU:HD23	1.76	0.41
1:M:45:TYR:CE1	1:O:20:LEU:HD12	2.55	0.41
1:L:32:GLU:OE1	1:L:36:ARG:NH2	2.53	0.41
1:G:18:ALA:HB1	1:G:19:PRO:CD	2.50	0.41
1:M:69:GLY:HA3	1:O:111:LYS:HB2	2.02	0.41
1:N:87:ILE:HD11	1:P:90:LEU:HG	2.02	0.41
1:L:59:VAL:HG12	1:L:60:GLN:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:27:LEU:HD12	1:C:27:LEU:HA	1.94	0.41
1:F:73:LEU:HB3	1:H:105:THR:HG22	2.03	0.41
1:K:61:ASP:HA	1:K:64:SER:OG	2.20	0.41
1:M:45:TYR:CZ	1:O:20:LEU:HD12	2.56	0.41
1:A:84:LEU:HD23	1:A:84:LEU:HA	1.95	0.41
1:F:27:LEU:HD23	1:F:27:LEU:HA	1.96	0.41
1:K:65:LEU:HD23	1:K:65:LEU:HA	1.93	0.41
1:D:84:LEU:HA	1:D:84:LEU:HD23	1.94	0.40
1:G:27:LEU:O	1:G:31:ILE:HG13	2.21	0.40
1:I:3:MET:SD	1:I:6:ILE:HD12	2.61	0.40
1:O:92:ALA:O	1:O:95:GLN:N	2.54	0.40
1:D:62:THR:O	1:D:65:LEU:HG	2.21	0.40
1:K:101:LEU:O	1:K:105:THR:HG23	2.22	0.40
1:N:18:ALA:HB3	1:N:19:PRO:HD3	2.03	0.40
1:O:37:LEU:HA	1:O:37:LEU:HD23	1.82	0.40
1:N:72:GLN:HB3	1:P:23:TYR:CZ	2.55	0.40
1:B:24:ASN:HD21	1:D:45:TYR:HE2	1.67	0.40
1:C:18:ALA:HB1	1:C:19:PRO:CD	2.51	0.40
1:P:10:THR:O	1:P:14:GLN:HG2	2.22	0.40
1:P:97:PHE:CZ	1:P:101:LEU:HD11	2.57	0.40

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	105/116 (90%)	102 (97%)	3 (3%)	0	100	100
1	B	84/116 (72%)	83 (99%)	1 (1%)	0	100	100
1	C	86/116 (74%)	82 (95%)	2 (2%)	2 (2%)	6	30
1	D	106/116 (91%)	100 (94%)	4 (4%)	2 (2%)	8	36

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	E	105/116 (90%)	104 (99%)	1 (1%)	0	100	100
1	F	84/116 (72%)	80 (95%)	4 (5%)	0	100	100
1	G	86/116 (74%)	82 (95%)	2 (2%)	2 (2%)	6	30
1	H	106/116 (91%)	100 (94%)	5 (5%)	1 (1%)	17	55
1	I	105/116 (90%)	104 (99%)	1 (1%)	0	100	100
1	J	84/116 (72%)	83 (99%)	1 (1%)	0	100	100
1	K	86/116 (74%)	82 (95%)	3 (4%)	1 (1%)	13	48
1	L	106/116 (91%)	102 (96%)	2 (2%)	2 (2%)	8	36
1	M	105/116 (90%)	104 (99%)	1 (1%)	0	100	100
1	N	84/116 (72%)	81 (96%)	3 (4%)	0	100	100
1	O	86/116 (74%)	84 (98%)	1 (1%)	1 (1%)	13	48
1	P	106/116 (91%)	102 (96%)	1 (1%)	3 (3%)	5	25
All	All	1524/1856 (82%)	1475 (97%)	35 (2%)	14 (1%)	17	55

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	59	VAL
1	G	18	ALA
1	G	48	LEU
1	H	59	VAL
1	K	18	ALA
1	L	59	VAL
1	P	59	VAL
1	L	60	GLN
1	C	18	ALA
1	D	61	ASP
1	P	60	GLN
1	P	61	ASP
1	C	114	GLY
1	O	18	ALA

### 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	89/96 (93%)	83 (93%)	6 (7%)	16	49
1	B	72/96 (75%)	61 (85%)	11 (15%)	2	13
1	C	72/96 (75%)	66 (92%)	6 (8%)	11	39
1	D	90/96 (94%)	86 (96%)	4 (4%)	28	65
1	E	89/96 (93%)	83 (93%)	6 (7%)	16	49
1	F	72/96 (75%)	63 (88%)	9 (12%)	4	20
1	G	72/96 (75%)	65 (90%)	7 (10%)	8	31
1	H	90/96 (94%)	82 (91%)	8 (9%)	9	35
1	I	89/96 (93%)	81 (91%)	8 (9%)	9	35
1	J	72/96 (75%)	66 (92%)	6 (8%)	11	39
1	K	72/96 (75%)	63 (88%)	9 (12%)	4	20
1	L	90/96 (94%)	82 (91%)	8 (9%)	9	35
1	M	89/96 (93%)	84 (94%)	5 (6%)	21	56
1	N	72/96 (75%)	62 (86%)	10 (14%)	3	16
1	O	72/96 (75%)	67 (93%)	5 (7%)	15	48
1	P	90/96 (94%)	84 (93%)	6 (7%)	16	49
All	All	1292/1536 (84%)	1178 (91%)	114 (9%)	10	36

All (114) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	56	VAL
1	A	57	SER
1	A	70	THR
1	A	79	LEU
1	A	80	SER
1	A	82	GLN
1	B	10	THR
1	B	13	MET
1	B	26	LEU
1	B	35	THR
1	B	37	LEU
1	B	48	LEU
1	B	73	LEU
1	B	74	GLU

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Mol	Chain	Res	Type
1	B	85	ASP
1	B	93	LEU
1	B	104	LEU
1	C	37	LEU
1	C	41	SER
1	C	48	LEU
1	C	60	GLN
1	C	80	SER
1	C	105	THR
1	D	10	THR
1	D	50	LEU
1	D	70	THR
1	D	81	ARG
1	E	56	VAL
1	E	63	GLN
1	E	64	SER
1	E	79	LEU
1	E	96	GLN
1	E	107	ASP
1	F	9	PHE
1	F	13	MET
1	F	16	PHE
1	F	41	SER
1	F	47	GLU
1	F	48	LEU
1	F	50	LEU
1	F	63	GLN
1	F	93	LEU
1	G	22	ARG
1	G	27	LEU
1	G	48	LEU
1	G	50	LEU
1	G	80	SER
1	G	82	GLN
1	G	96	GLN
1	H	50	LEU
1	H	56	VAL
1	H	64	SER
1	H	68	LEU
1	H	83	MET
1	H	91	SER
1	H	103	VAL

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Mol	Chain	Res	Type
1	H	104	LEU
1	I	56	VAL
1	I	62	THR
1	I	63	GLN
1	I	70	THR
1	I	80	SER
1	I	82	GLN
1	I	84	LEU
1	I	96	GLN
1	J	10	THR
1	J	13	MET
1	J	16	PHE
1	J	37	LEU
1	J	74	GLU
1	J	93	LEU
1	K	50	LEU
1	K	61	ASP
1	K	64	SER
1	K	65	LEU
1	K	80	SER
1	K	93	LEU
1	K	98	LYS
1	K	99	GLU
1	K	105	THR
1	L	10	THR
1	L	50	LEU
1	L	63	GLN
1	L	68	LEU
1	L	79	LEU
1	L	81	ARG
1	L	93	LEU
1	L	104	LEU
1	M	10	THR
1	M	63	GLN
1	M	93	LEU
1	M	96	GLN
1	M	98	LYS
1	N	13	MET
1	N	16	PHE
1	N	37	LEU
1	N	47	GLU
1	N	48	LEU

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Mol	Chain	Res	Type
1	N	50	LEU
1	N	73	LEU
1	N	80	SER
1	N	82	GLN
1	N	93	LEU
1	O	27	LEU
1	O	37	LEU
1	O	48	LEU
1	O	50	LEU
1	O	80	SER
1	P	3	MET
1	P	62	THR
1	P	68	LEU
1	P	70	THR
1	P	75	THR
1	P	103	VAL

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

Mol	Chain	Res	Type
1	B	72	GLN
1	J	30	ASN
1	M	63	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 carbohydrates in this entry.

### 5.6 Ligand geometry ⓘ

Of 29 ligands modelled in this entry, 29 are monoatomic - leaving 0 for Mogul analysis.



There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 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, 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	107/116 (92%)	-0.18	0 <span>100</span> <span>100</span>	66, 91, 140, 175	0
1	B	88/116 (75%)	0.43	10 (11%) <span>5</span> <span>1</span>	69, 105, 172, 201	0
1	C	90/116 (77%)	-0.02	0 <span>100</span> <span>100</span>	66, 90, 159, 191	0
1	D	108/116 (93%)	0.04	3 (2%) <span>53</span> <span>25</span>	51, 98, 153, 193	0
1	E	107/116 (92%)	-0.22	0 <span>100</span> <span>100</span>	59, 83, 140, 183	0
1	F	88/116 (75%)	-0.00	2 (2%) <span>60</span> <span>31</span>	63, 100, 194, 210	0
1	G	90/116 (77%)	0.02	3 (3%) <span>46</span> <span>20</span>	59, 84, 155, 182	0
1	H	108/116 (93%)	-0.09	0 <span>100</span> <span>100</span>	62, 101, 167, 197	0
1	I	107/116 (92%)	-0.10	0 <span>100</span> <span>100</span>	56, 82, 132, 182	0
1	J	88/116 (75%)	0.14	3 (3%) <span>45</span> <span>19</span>	62, 104, 182, 219	0
1	K	90/116 (77%)	0.09	3 (3%) <span>46</span> <span>20</span>	60, 85, 154, 240	0
1	L	108/116 (93%)	-0.00	3 (2%) <span>53</span> <span>25</span>	54, 97, 172, 225	0
1	M	107/116 (92%)	0.51	17 (15%) <span>1</span> <span>1</span>	62, 112, 215, 253	0
1	N	88/116 (75%)	0.58	12 (13%) <span>3</span> <span>1</span>	58, 104, 220, 244	0
1	O	90/116 (77%)	0.34	11 (12%) <span>4</span> <span>1</span>	63, 111, 231, 269	0
1	P	108/116 (93%)	0.54	17 (15%) <span>2</span> <span>1</span>	63, 109, 222, 270	0
All	All	1572/1856 (84%)	0.12	84 (5%) <span>26</span> <span>10</span>	51, 96, 190, 270	0

All (84) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	K	115	LYS	12.2
1	P	68	LEU	7.7
1	N	16	PHE	6.5
1	P	60	GLN	5.8
1	O	112	SER	5.7

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Mol	Chain	Res	Type	RSRZ
1	P	65	LEU	5.1
1	M	62	THR	4.9
1	B	104	LEU	4.9
1	P	67	ALA	4.8
1	N	15	GLY	4.5
1	M	50	LEU	4.2
1	P	59	VAL	4.2
1	L	68	LEU	4.1
1	M	61	ASP	4.0
1	M	68	LEU	4.0
1	O	105	THR	4.0
1	P	62	THR	3.9
1	N	96	GLN	3.9
1	O	111	LYS	3.9
1	O	108	GLY	3.8
1	B	101	LEU	3.7
1	O	115	LYS	3.7
1	M	52	GLN	3.7
1	B	98	LYS	3.7
1	G	17	ALA	3.6
1	J	98	LYS	3.5
1	N	13	MET	3.5
1	M	54	GLN	3.4
1	M	67	ALA	3.4
1	M	63	GLN	3.3
1	O	114	GLY	3.3
1	B	105	THR	3.2
1	N	11	GLU	3.1
1	P	72	GLN	3.1
1	M	58	LYS	3.1
1	M	66	ALA	3.0
1	F	104	LEU	3.0
1	N	104	LEU	3.0
1	L	83	MET	3.0
1	M	64	SER	2.9
1	N	106	ALA	2.9
1	O	104	LEU	2.9
1	O	109	ILE	2.8
1	N	10	THR	2.8
1	P	61	ASP	2.8
1	P	73	LEU	2.8
1	N	105	THR	2.8

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Mol	Chain	Res	Type	RSRZ
1	O	113	THR	2.8
1	O	101	LEU	2.7
1	M	56	VAL	2.7
1	K	114	GLY	2.7
1	N	9	PHE	2.7
1	P	83	MET	2.7
1	M	59	VAL	2.6
1	M	55	ALA	2.6
1	K	63	GLN	2.5
1	P	53	LEU	2.5
1	J	16	PHE	2.5
1	M	60	GLN	2.5
1	F	16	PHE	2.5
1	P	66	ALA	2.4
1	L	6	ILE	2.4
1	G	19	PRO	2.4
1	M	65	LEU	2.3
1	P	16	PHE	2.3
1	D	83	MET	2.3
1	B	16	PHE	2.3
1	P	80	SER	2.3
1	N	12	GLN	2.2
1	B	106	ALA	2.2
1	O	20	LEU	2.2
1	M	57	SER	2.2
1	D	84	LEU	2.2
1	P	64	SER	2.2
1	B	95	GLN	2.2
1	B	99	GLU	2.2
1	D	72	GLN	2.1
1	J	12	GLN	2.1
1	G	115	LYS	2.1
1	P	52	GLN	2.1
1	B	102	ASP	2.1
1	N	14	GLN	2.0
1	B	13	MET	2.0
1	P	49	GLY	2.0

## 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. 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	B-factors(Å <sup>2</sup> )	Q<0.9
2	CD	M	201	1/1	0.15	0.53	375,375,375,375	0
2	CD	P	201	1/1	0.27	0.60	381,381,381,381	0
2	CD	C	201	1/1	0.33	0.37	330,330,330,330	0
2	CD	D	203	1/1	0.56	0.49	229,229,229,229	0
2	CD	I	201	1/1	0.56	0.94	353,353,353,353	0
2	CD	D	201	1/1	0.59	0.18	200,200,200,200	0
2	CD	I	202	1/1	0.68	0.52	282,282,282,282	0
2	CD	E	201	1/1	0.74	0.30	420,420,420,420	0
2	CD	E	202	1/1	0.76	0.30	304,304,304,304	0
2	CD	A	201	1/1	0.79	0.44	178,178,178,178	0
2	CD	B	201	1/1	0.82	0.13	293,293,293,293	0
2	CD	L	202	1/1	0.86	0.11	203,203,203,203	0
2	CD	M	202	1/1	0.92	0.13	118,118,118,118	0
2	CD	E	203	1/1	0.95	0.47	206,206,206,206	0
2	CD	D	202	1/1	0.95	0.28	123,123,123,123	0
2	CD	I	203	1/1	0.96	0.26	151,151,151,151	0
2	CD	D	205	1/1	0.96	0.23	121,121,121,121	0
2	CD	A	202	1/1	0.96	0.12	105,105,105,105	0
2	CD	I	205	1/1	0.96	0.17	145,145,145,145	0
2	CD	D	204	1/1	0.96	0.18	128,128,128,128	0
2	CD	A	203	1/1	0.96	0.20	133,133,133,133	0
2	CD	P	202	1/1	0.96	0.20	143,143,143,143	0
2	CD	E	206	1/1	0.97	0.32	158,158,158,158	0
2	CD	E	204	1/1	0.97	0.11	132,132,132,132	0
2	CD	H	201	1/1	0.97	0.20	141,141,141,141	0
2	CD	L	203	1/1	0.97	0.15	171,171,171,171	0
2	CD	L	201	1/1	0.98	0.20	114,114,114,114	0
2	CD	E	205	1/1	0.99	0.14	132,132,132,132	0
2	CD	I	204	1/1	0.99	0.18	133,133,133,133	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.