



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2024 – 08:22 PM EST

PDB ID : 3QWD  
Title : Crystal structure of ClpP from Staphylococcus aureus  
Authors : Geiger, S.R.; Boettcher, T.; Sieber, S.A.; Cramer, P.  
Deposited on : 2011-02-28  
Resolution : 2.10 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.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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 : 2.36  
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

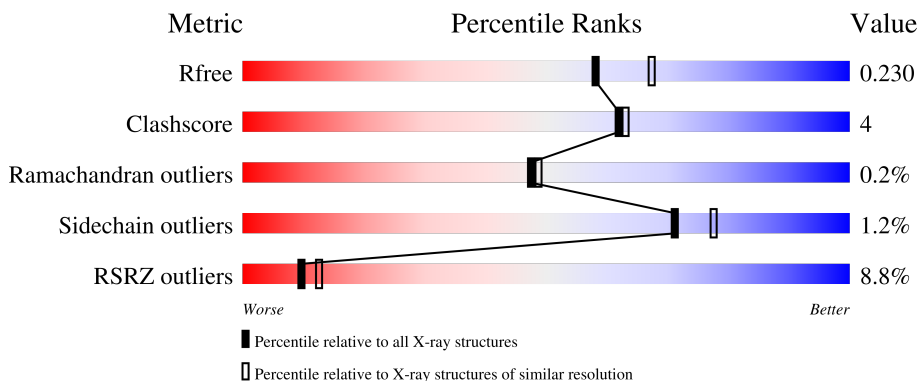
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.10 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))
$R_{free}$	130704	5197 (2.10-2.10)
Clashscore	141614	5710 (2.10-2.10)
Ramachandran outliers	138981	5647 (2.10-2.10)
Sidechain outliers	138945	5648 (2.10-2.10)
RSRZ outliers	127900	5083 (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 of 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	203	
1	B	203	
1	C	203	
1	D	203	
1	E	203	

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Mol	Chain	Length	Quality of chain
1	F	203	<p>7% 79% 10% 10%</p>
1	G	203	<p>8% 79% 12% 9%</p>
1	H	203	<p>8% 81% 13% 5%</p>
1	I	203	<p>6% 81% 9% 8%</p>
1	J	203	<p>8% 84% 8% 8%</p>
1	K	203	<p>5% 80% 8% 12%</p>
1	L	203	<p>5% 79% 10% 11%</p>
1	M	203	<p>10% 83% 8% 8%</p>
1	N	203	<p>13% 80% 9% 10%</p>

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 20404 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 ATP-dependent Clp protease proteolytic subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	187	1455	920	244	283	8	0	3	0
1	B	187	1454	919	244	284	7	0	3	0
1	C	186	1444	914	243	280	7	0	2	0
1	D	182	1413	895	238	273	7	0	2	0
1	E	188	1459	921	247	284	7	0	3	0
1	F	182	1418	896	239	276	7	0	2	0
1	G	185	1424	899	240	278	7	0	1	0
1	H	192	1489	941	253	288	7	0	2	0
1	I	186	1442	912	242	281	7	0	2	0
1	J	186	1437	909	242	279	7	0	2	0
1	K	179	1411	895	236	273	7	0	4	0
1	L	180	1413	895	237	274	7	0	3	0
1	M	186	1436	907	241	281	7	0	1	0
1	N	183	1409	891	236	275	7	0	1	0

There are 112 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	196	TRP	-	expression tag	UNP Q2G036

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Chain	Residue	Modelled	Actual	Comment	Reference
A	197	SER	-	expression tag	UNP Q2G036
A	198	HIS	-	expression tag	UNP Q2G036
A	199	PRO	-	expression tag	UNP Q2G036
A	200	GLN	-	expression tag	UNP Q2G036
A	201	PHE	-	expression tag	UNP Q2G036
A	202	GLU	-	expression tag	UNP Q2G036
A	203	LYS	-	expression tag	UNP Q2G036
B	196	TRP	-	expression tag	UNP Q2G036
B	197	SER	-	expression tag	UNP Q2G036
B	198	HIS	-	expression tag	UNP Q2G036
B	199	PRO	-	expression tag	UNP Q2G036
B	200	GLN	-	expression tag	UNP Q2G036
B	201	PHE	-	expression tag	UNP Q2G036
B	202	GLU	-	expression tag	UNP Q2G036
B	203	LYS	-	expression tag	UNP Q2G036
C	196	TRP	-	expression tag	UNP Q2G036
C	197	SER	-	expression tag	UNP Q2G036
C	198	HIS	-	expression tag	UNP Q2G036
C	199	PRO	-	expression tag	UNP Q2G036
C	200	GLN	-	expression tag	UNP Q2G036
C	201	PHE	-	expression tag	UNP Q2G036
C	202	GLU	-	expression tag	UNP Q2G036
C	203	LYS	-	expression tag	UNP Q2G036
D	196	TRP	-	expression tag	UNP Q2G036
D	197	SER	-	expression tag	UNP Q2G036
D	198	HIS	-	expression tag	UNP Q2G036
D	199	PRO	-	expression tag	UNP Q2G036
D	200	GLN	-	expression tag	UNP Q2G036
D	201	PHE	-	expression tag	UNP Q2G036
D	202	GLU	-	expression tag	UNP Q2G036
D	203	LYS	-	expression tag	UNP Q2G036
E	196	TRP	-	expression tag	UNP Q2G036
E	197	SER	-	expression tag	UNP Q2G036
E	198	HIS	-	expression tag	UNP Q2G036
E	199	PRO	-	expression tag	UNP Q2G036
E	200	GLN	-	expression tag	UNP Q2G036
E	201	PHE	-	expression tag	UNP Q2G036
E	202	GLU	-	expression tag	UNP Q2G036
E	203	LYS	-	expression tag	UNP Q2G036
F	196	TRP	-	expression tag	UNP Q2G036
F	197	SER	-	expression tag	UNP Q2G036
F	198	HIS	-	expression tag	UNP Q2G036

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Chain	Residue	Modelled	Actual	Comment	Reference
F	199	PRO	-	expression tag	UNP Q2G036
F	200	GLN	-	expression tag	UNP Q2G036
F	201	PHE	-	expression tag	UNP Q2G036
F	202	GLU	-	expression tag	UNP Q2G036
F	203	LYS	-	expression tag	UNP Q2G036
G	196	TRP	-	expression tag	UNP Q2G036
G	197	SER	-	expression tag	UNP Q2G036
G	198	HIS	-	expression tag	UNP Q2G036
G	199	PRO	-	expression tag	UNP Q2G036
G	200	GLN	-	expression tag	UNP Q2G036
G	201	PHE	-	expression tag	UNP Q2G036
G	202	GLU	-	expression tag	UNP Q2G036
G	203	LYS	-	expression tag	UNP Q2G036
H	196	TRP	-	expression tag	UNP Q2G036
H	197	SER	-	expression tag	UNP Q2G036
H	198	HIS	-	expression tag	UNP Q2G036
H	199	PRO	-	expression tag	UNP Q2G036
H	200	GLN	-	expression tag	UNP Q2G036
H	201	PHE	-	expression tag	UNP Q2G036
H	202	GLU	-	expression tag	UNP Q2G036
H	203	LYS	-	expression tag	UNP Q2G036
I	196	TRP	-	expression tag	UNP Q2G036
I	197	SER	-	expression tag	UNP Q2G036
I	198	HIS	-	expression tag	UNP Q2G036
I	199	PRO	-	expression tag	UNP Q2G036
I	200	GLN	-	expression tag	UNP Q2G036
I	201	PHE	-	expression tag	UNP Q2G036
I	202	GLU	-	expression tag	UNP Q2G036
I	203	LYS	-	expression tag	UNP Q2G036
J	196	TRP	-	expression tag	UNP Q2G036
J	197	SER	-	expression tag	UNP Q2G036
J	198	HIS	-	expression tag	UNP Q2G036
J	199	PRO	-	expression tag	UNP Q2G036
J	200	GLN	-	expression tag	UNP Q2G036
J	201	PHE	-	expression tag	UNP Q2G036
J	202	GLU	-	expression tag	UNP Q2G036
J	203	LYS	-	expression tag	UNP Q2G036
K	196	TRP	-	expression tag	UNP Q2G036
K	197	SER	-	expression tag	UNP Q2G036
K	198	HIS	-	expression tag	UNP Q2G036
K	199	PRO	-	expression tag	UNP Q2G036
K	200	GLN	-	expression tag	UNP Q2G036

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Chain	Residue	Modelled	Actual	Comment	Reference
K	201	PHE	-	expression tag	UNP Q2G036
K	202	GLU	-	expression tag	UNP Q2G036
K	203	LYS	-	expression tag	UNP Q2G036
L	196	TRP	-	expression tag	UNP Q2G036
L	197	SER	-	expression tag	UNP Q2G036
L	198	HIS	-	expression tag	UNP Q2G036
L	199	PRO	-	expression tag	UNP Q2G036
L	200	GLN	-	expression tag	UNP Q2G036
L	201	PHE	-	expression tag	UNP Q2G036
L	202	GLU	-	expression tag	UNP Q2G036
L	203	LYS	-	expression tag	UNP Q2G036
M	196	TRP	-	expression tag	UNP Q2G036
M	197	SER	-	expression tag	UNP Q2G036
M	198	HIS	-	expression tag	UNP Q2G036
M	199	PRO	-	expression tag	UNP Q2G036
M	200	GLN	-	expression tag	UNP Q2G036
M	201	PHE	-	expression tag	UNP Q2G036
M	202	GLU	-	expression tag	UNP Q2G036
M	203	LYS	-	expression tag	UNP Q2G036
N	196	TRP	-	expression tag	UNP Q2G036
N	197	SER	-	expression tag	UNP Q2G036
N	198	HIS	-	expression tag	UNP Q2G036
N	199	PRO	-	expression tag	UNP Q2G036
N	200	GLN	-	expression tag	UNP Q2G036
N	201	PHE	-	expression tag	UNP Q2G036
N	202	GLU	-	expression tag	UNP Q2G036
N	203	LYS	-	expression tag	UNP Q2G036

- Molecule 2 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Cl 1 1	0	0
2	B	1	Total Cl 1 1	0	0
2	C	1	Total Cl 1 1	0	0
2	D	1	Total Cl 1 1	0	0
2	L	2	Total Cl 2 2	0	0
2	M	1	Total Cl 1 1	0	0

- Molecule 3 is water.

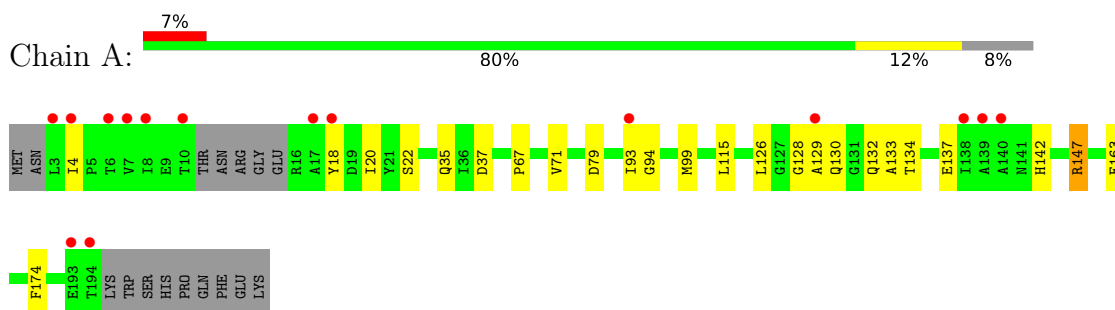
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	39	Total O 39 39	0	0
3	B	28	Total O 28 28	0	0
3	C	19	Total O 19 19	0	0
3	D	16	Total O 16 16	0	0
3	E	25	Total O 25 25	0	0
3	F	10	Total O 10 10	0	0
3	G	27	Total O 27 27	0	0
3	H	22	Total O 22 22	0	0
3	I	23	Total O 23 23	0	0
3	J	16	Total O 16 16	0	0
3	K	17	Total O 17 17	0	0
3	L	22	Total O 22 22	0	0
3	M	9	Total O 9 9	0	0
3	N	20	Total O 20 20	0	0



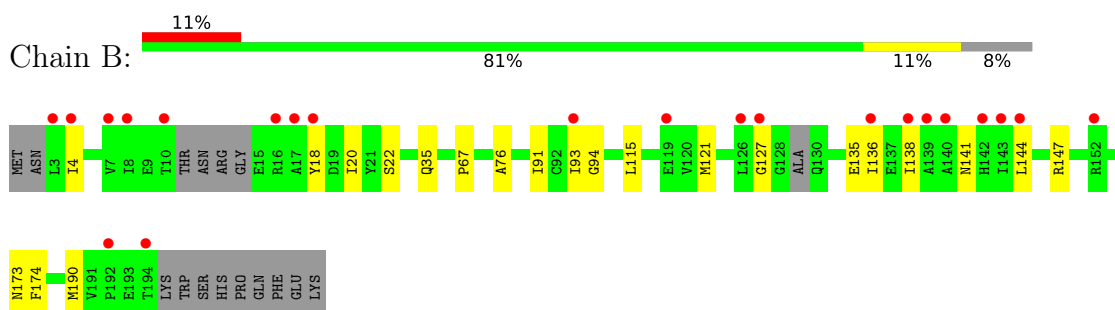
### 3 Residue-property plots [i](#)

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.

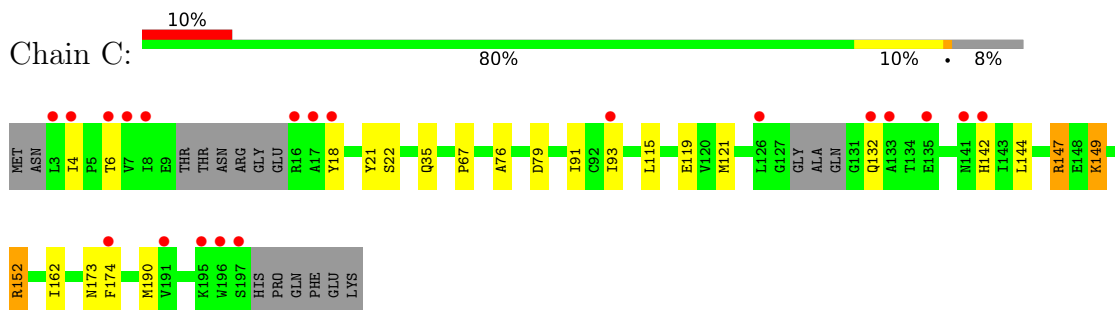
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



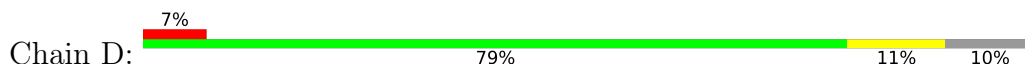
- Molecule 1: ATP-dependent Clp protease proteolytic subunit

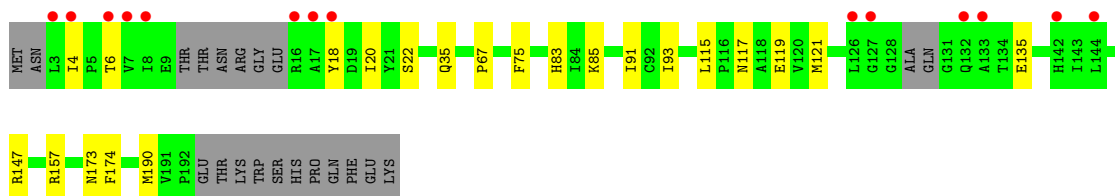


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

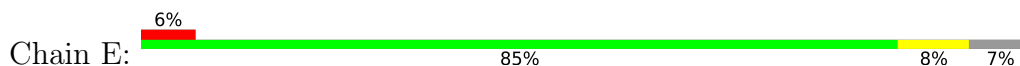


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

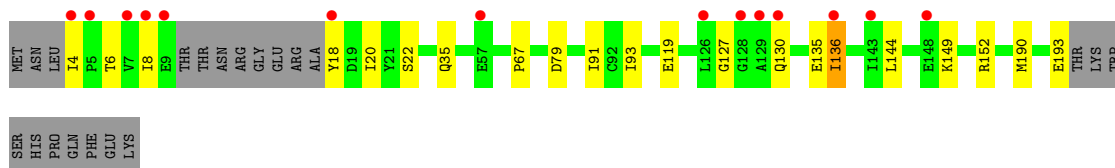
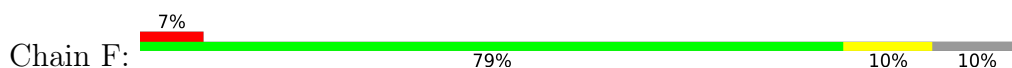




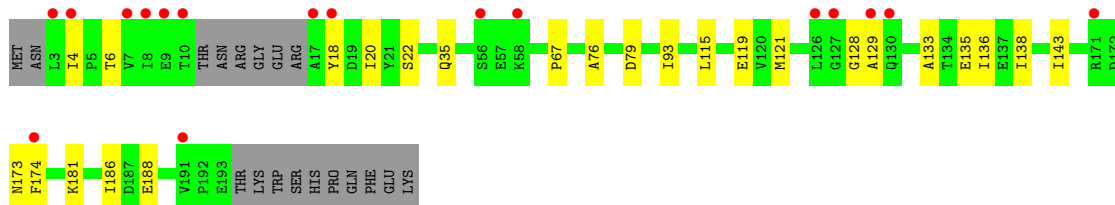
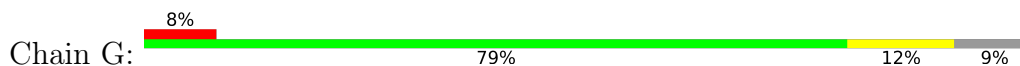
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



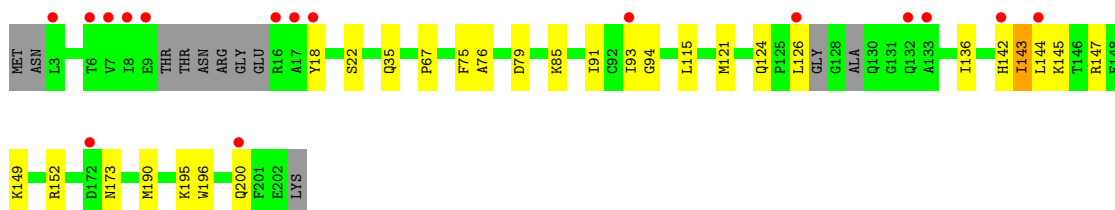
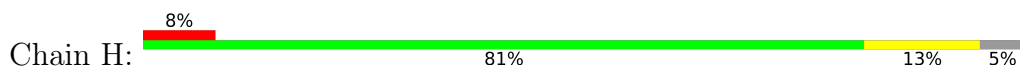
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



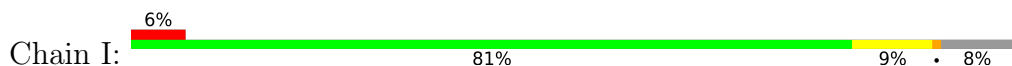
- Molecule 1: ATP-dependent Clp protease proteolytic subunit

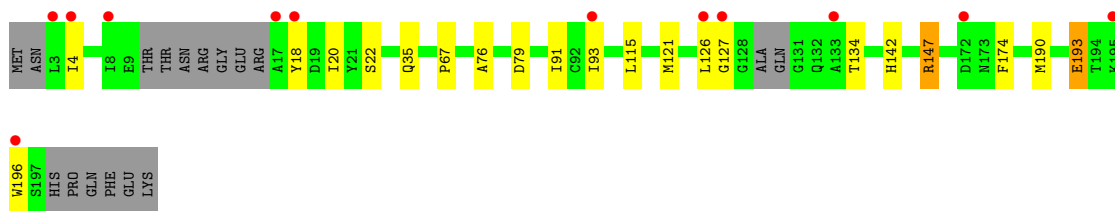


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

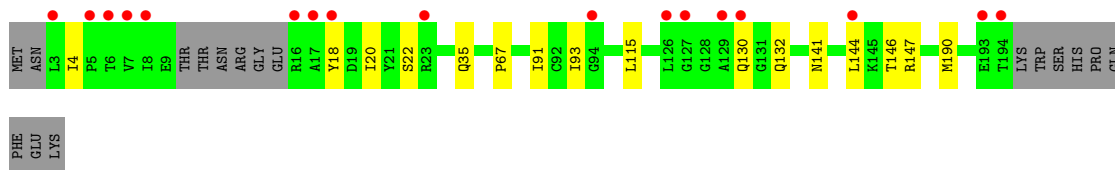
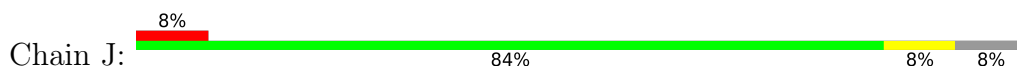


- Molecule 1: ATP-dependent Clp protease proteolytic subunit

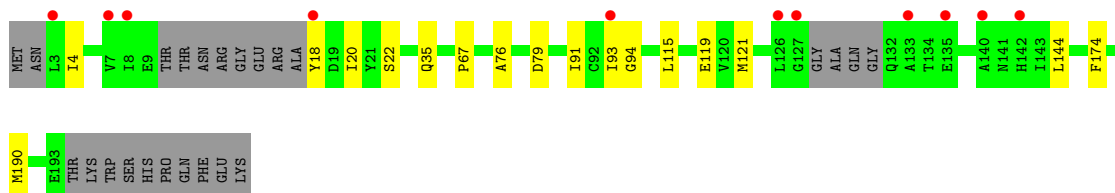
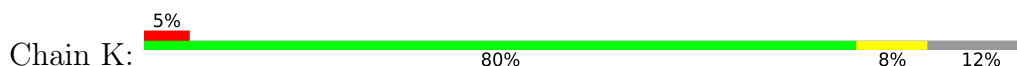




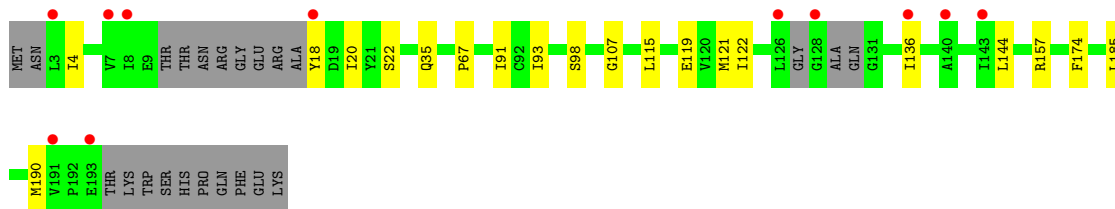
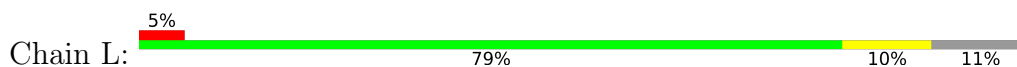
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



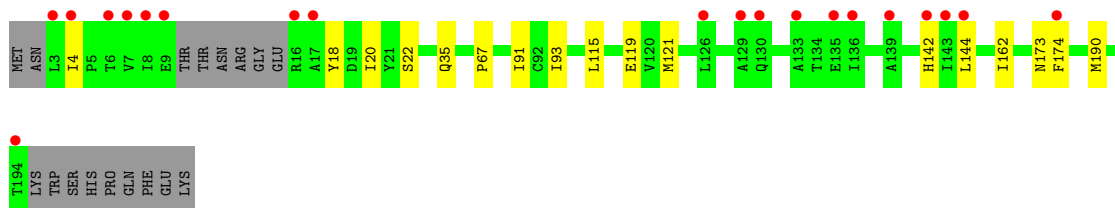
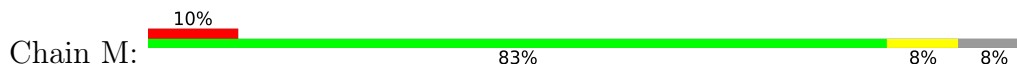
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



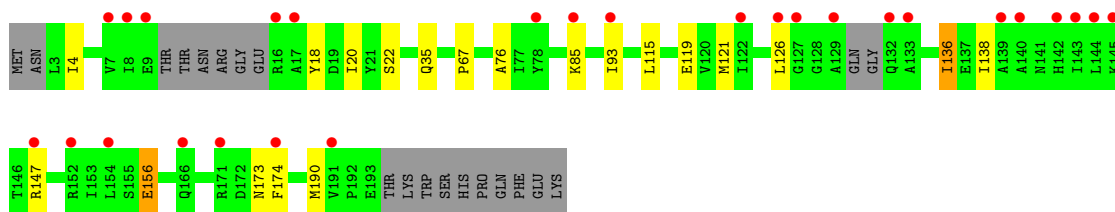
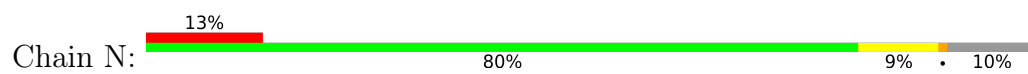
- Molecule 1: ATP-dependent Clp protease proteolytic subunit



- Molecule 1: ATP-dependent Clp protease proteolytic subunit



- Molecule 1: ATP-dependent Clp protease proteolytic subunit



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	172.05Å 177.97Å 100.28Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	88.99 – 2.10 88.99 – 2.10	Depositor EDS
% Data completeness (in resolution range)	(Not available) (88.99-2.10) 99.5 (88.99-2.10)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.45 (at 2.10Å)	Xtrriage
Refinement program	BUSTER 2.9.2	Depositor
R, $R_{free}$	0.208 , 0.226 0.226 , 0.230	Depositor DCC
$R_{free}$ test set	8969 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	46.0	Xtrriage
Anisotropy	0.389	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 58.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.013 for k,h,-l	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	20404	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	71.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.27% 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:  
CL

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	0.51	0/1483	0.67	0/2002
1	B	0.48	0/1481	0.65	0/1998
1	C	0.53	0/1468	0.67	0/1980
1	D	0.52	0/1437	0.69	0/1938
1	E	0.56	0/1487	0.70	0/2007
1	F	0.49	0/1443	0.66	0/1947
1	G	0.50	0/1445	0.67	0/1951
1	H	0.48	0/1516	0.67	0/2046
1	I	0.51	0/1467	0.65	0/1980
1	J	0.47	0/1462	0.68	0/1974
1	K	0.45	0/1441	0.64	0/1944
1	L	0.48	0/1439	0.66	0/1939
1	M	0.45	0/1457	0.65	0/1967
1	N	0.47	0/1429	0.69	1/1928 (0.1%)
All	All	0.49	0/20455	0.67	1/27601 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	N	156	GLU	CB-CG-CD	5.21	128.28	114.20

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1455	0	1476	17	0
1	B	1454	0	1464	16	0
1	C	1444	0	1460	23	0
1	D	1413	0	1433	16	0
1	E	1459	0	1472	13	0
1	F	1418	0	1435	16	0
1	G	1424	0	1438	19	0
1	H	1489	0	1480	17	0
1	I	1442	0	1446	17	0
1	J	1437	0	1449	11	0
1	K	1411	0	1434	14	0
1	L	1413	0	1434	15	0
1	M	1436	0	1453	11	0
1	N	1409	0	1419	14	0
2	A	1	0	0	1	0
2	B	1	0	0	0	0
2	C	1	0	0	1	0
2	D	1	0	0	0	0
2	L	2	0	0	0	0
2	M	1	0	0	0	0
3	A	39	0	0	0	0
3	B	28	0	0	1	0
3	C	19	0	0	1	0
3	D	16	0	0	0	0
3	E	25	0	0	0	0
3	F	10	0	0	0	0
3	G	27	0	0	1	0
3	H	22	0	0	0	0
3	I	23	0	0	0	0
3	J	16	0	0	0	0
3	K	17	0	0	1	0
3	L	22	0	0	0	0
3	M	9	0	0	0	0
3	N	20	0	0	1	0
All	All	20404	0	20293	178	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 4.

All (178) 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:C:162:ILE:CD1	1:C:162:ILE:CG1	1.75	1.57
1:N:93:ILE:HG23	1:N:115:LEU:HD12	1.73	0.69
1:F:144:LEU:HD12	1:G:119:GLU:HG2	1.77	0.67
1:A:142[A]:HIS:CE1	2:A:204:CL:CL	2.88	0.64
1:F:35:GLN:HG3	1:F:67:PRO:HG2	1.82	0.62
1:G:35:GLN:HG3	1:G:67:PRO:HG2	1.82	0.61
1:E:35:GLN:HG3	1:E:67:PRO:HG2	1.82	0.61
1:E:144:LEU:HD12	1:F:119:GLU:HG2	1.81	0.61
1:H:124:GLN:O	1:H:147:ARG:NH2	2.34	0.61
1:C:152:ARG:NH1	1:C:162:ILE:HD11	2.15	0.61
1:A:35:GLN:HG3	1:A:67:PRO:HG2	1.83	0.60
1:D:35:GLN:HG3	1:D:67:PRO:HG2	1.83	0.60
1:J:35:GLN:HG3	1:J:67:PRO:HG2	1.83	0.60
1:C:4:ILE:HD12	1:C:21:TYR:HE1	1.64	0.60
1:B:35:GLN:HG3	1:B:67:PRO:HG2	1.83	0.60
1:C:35:GLN:HG3	1:C:67:PRO:HG2	1.83	0.60
1:H:35:GLN:HG3	1:H:67:PRO:HG2	1.85	0.59
1:M:35:GLN:HG3	1:M:67:PRO:HG2	1.82	0.59
1:L:35:GLN:HG3	1:L:67:PRO:HG2	1.85	0.59
1:A:128:GLY:HA3	1:A:133:ALA:HB3	1.83	0.59
1:K:35[A]:GLN:HG2	1:K:67:PRO:HG2	1.85	0.58
1:B:91:ILE:HG23	1:B:190:MET:HE2	1.86	0.58
1:N:35:GLN:HG3	1:N:67:PRO:HG2	1.85	0.58
1:A:93:ILE:HG23	1:A:115:LEU:HD12	1.86	0.57
1:F:136:ILE:HG22	1:G:174:PHE:HZ	1.69	0.57
1:I:35:GLN:HG3	1:I:67:PRO:HG2	1.87	0.56
1:G:128:GLY:HA3	1:G:133:ALA:HB3	1.86	0.56
1:C:93:ILE:HG23	1:C:115:LEU:HD12	1.88	0.56
1:F:4:ILE:HG23	1:F:20:ILE:HG22	1.88	0.56
1:M:4:ILE:HG23	1:M:20:ILE:HG22	1.87	0.55
1:N:4:ILE:HG23	1:N:20:ILE:HG22	1.87	0.55
1:B:4:ILE:HG23	1:B:20:ILE:HG22	1.87	0.55
1:L:4:ILE:HG23	1:L:20:ILE:HG22	1.89	0.55
1:J:4:ILE:HG23	1:J:20:ILE:HG22	1.89	0.55
1:C:142[B]:HIS:CE1	2:C:204:CL:CL	2.96	0.55
1:K:4:ILE:HG23	1:K:20:ILE:HG22	1.90	0.54
1:B:93:ILE:HG23	1:B:115:LEU:HD12	1.89	0.54
1:A:4:ILE:HG23	1:A:20:ILE:HG22	1.89	0.54
1:H:143:ILE:HG12	1:H:145:LYS:HD3	1.91	0.53
1:H:195:LYS:HA	1:N:85:LYS:HE2	1.90	0.53
1:I:4:ILE:HG23	1:I:20:ILE:HG22	1.90	0.53
1:H:76:ALA:HB1	1:I:93:ILE:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:79:ASP:HB3	1:J:115:LEU:HD13	1.91	0.52
1:N:115:LEU:HD23	1:N:190:MET:HB2	1.91	0.52
1:G:135:GLU:HA	1:G:138:ILE:HD12	1.92	0.52
1:A:79:ASP:HB3	1:B:115:LEU:HD13	1.91	0.52
1:H:136:ILE:HG23	1:I:174:PHE:HZ	1.74	0.52
1:C:144:LEU:HD12	1:D:119:GLU:HG2	1.91	0.52
1:G:93:ILE:HG23	1:G:115:LEU:HD12	1.93	0.51
1:D:4:ILE:HG23	1:D:20:ILE:HG22	1.91	0.51
1:F:93:ILE:O	1:F:93:ILE:HG13	2.10	0.51
1:H:93:ILE:HG22	1:N:76:ALA:HB1	1.92	0.51
1:H:79:ASP:HB3	1:I:115:LEU:HD13	1.93	0.50
1:E:4:ILE:HG23	1:E:20:ILE:HG22	1.93	0.50
1:A:126:LEU:HD23	1:A:147:ARG:HH21	1.77	0.50
1:M:121:MET:HG3	1:M:173:ASN:O	2.12	0.50
1:J:144:LEU:HD12	1:K:119:GLU:HG2	1.94	0.50
1:K:91:ILE:HG23	1:K:190:MET:HE2	1.93	0.50
1:B:18:TYR:HB3	1:B:22:SER:HB2	1.94	0.50
1:H:85:LYS:HG2	1:I:193:GLU:HG2	1.94	0.50
1:I:126:LEU:O	1:I:142:HIS:CE1	2.64	0.50
1:C:147:ARG:NH1	3:C:217:HOH:O	2.45	0.49
1:G:4:ILE:HG23	1:G:20:ILE:HG22	1.94	0.49
1:M:144:LEU:HD12	1:N:119:GLU:HG2	1.95	0.49
1:A:174:PHE:CE2	1:G:143:ILE:HD13	2.48	0.49
1:B:76:ALA:HB1	1:C:93:ILE:HG22	1.95	0.49
1:M:93:ILE:HG23	1:M:115:LEU:HD12	1.95	0.49
1:M:18:TYR:HB3	1:M:22:SER:HB2	1.95	0.49
1:M:121:MET:HB2	1:M:174:PHE:CE1	2.48	0.48
1:N:18:TYR:HB3	1:N:22:SER:HB2	1.95	0.48
1:B:91:ILE:HG23	1:B:190:MET:CE	2.43	0.48
1:E:18:TYR:HB3	1:E:22:SER:HB2	1.95	0.48
1:J:141:ASN:HA	1:J:146:THR:HG23	1.95	0.48
1:N:136:ILE:HD12	1:N:136:ILE:H	1.78	0.48
1:A:37:ASP:HB3	1:A:132:GLN:HG3	1.95	0.48
1:J:93:ILE:HG23	1:J:115:LEU:HD12	1.95	0.48
1:K:18:TYR:HB3	1:K:22:SER:HB2	1.95	0.48
1:K:93:ILE:HG23	1:K:115:LEU:HD12	1.96	0.48
1:H:93:ILE:HG23	1:H:115:LEU:HD12	1.95	0.48
1:I:18:TYR:HB3	1:I:22:SER:HB2	1.96	0.48
1:C:91:ILE:HG23	1:C:190:MET:CE	2.43	0.48
1:K:190:MET:HB2	1:K:190:MET:HE3	1.67	0.47
1:L:18:TYR:HB3	1:L:22:SER:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:71:VAL:HG22	1:A:99:MET:HE3	1.96	0.47
1:C:18:TYR:HB3	1:C:22:SER:HB2	1.96	0.47
1:E:134:THR:HG22	1:E:137:GLU:OE1	2.14	0.47
1:D:83:HIS:O	1:E:193:GLU:HG2	2.15	0.47
1:L:93:ILE:HG23	1:L:115:LEU:HD12	1.97	0.47
1:L:107:GLY:O	1:L:157:ARG:NH2	2.48	0.47
1:D:93:ILE:HG23	1:D:115:LEU:HD12	1.97	0.47
1:I:193:GLU:HA	1:I:196:TRP:CD1	2.50	0.47
1:B:22:SER:HB3	1:C:6:THR:O	2.15	0.47
1:B:94:GLY:HA2	3:B:215:HOH:O	2.15	0.46
1:F:18:TYR:HB3	1:F:22:SER:HB2	1.97	0.46
1:K:144:LEU:HD12	1:L:119:GLU:HG2	1.96	0.46
1:J:18:TYR:HB3	1:J:22:SER:HB2	1.97	0.46
1:K:91:ILE:HG23	1:K:190:MET:CE	2.45	0.46
1:I:193:GLU:HA	1:I:196:TRP:HD1	1.80	0.46
1:A:93:ILE:HG22	1:G:76:ALA:HB1	1.98	0.46
1:I:190:MET:HE3	1:I:190:MET:HB2	1.70	0.46
1:H:18:TYR:HB3	1:H:22:SER:HB2	1.97	0.45
1:D:18:TYR:HB3	1:D:22:SER:HB2	1.97	0.45
1:E:17:ALA:O	1:F:8:ILE:HD11	2.17	0.45
1:N:126:LEU:HA	1:N:147:ARG:NH2	2.31	0.45
1:A:94:GLY:HA2	3:G:211:HOH:O	2.16	0.45
1:G:18:TYR:HB3	1:G:22:SER:HB2	1.97	0.45
1:A:18:TYR:HB3	1:A:22:SER:HB2	1.99	0.45
1:C:22:SER:HB3	1:D:6:THR:O	2.17	0.45
1:J:91:ILE:HG23	1:J:190:MET:CE	2.47	0.45
1:E:22:SER:HB3	1:F:6:THR:O	2.16	0.45
1:H:91:ILE:HG23	1:H:190:MET:CE	2.47	0.45
1:F:135:GLU:H	1:F:135:GLU:CD	2.20	0.45
1:E:93:ILE:HG13	1:E:93:ILE:O	2.16	0.44
1:L:144:LEU:HD12	1:M:119:GLU:HG2	2.00	0.44
1:M:91:ILE:HG23	1:M:190:MET:CE	2.47	0.44
1:N:121:MET:HG3	1:N:173:ASN:O	2.16	0.44
1:B:190:MET:HE3	1:B:190:MET:HB2	1.66	0.44
1:M:190:MET:HE3	1:M:190:MET:HB2	1.73	0.44
1:H:121:MET:HG3	1:H:173:ASN:O	2.17	0.44
1:B:121:MET:HB2	1:B:174:PHE:CE1	2.52	0.43
1:G:136:ILE:H	1:G:136:ILE:HD12	1.83	0.43
1:C:35:GLN:HB3	1:C:132:GLN:NE2	2.33	0.43
1:H:94:GLY:HA2	3:N:206:HOH:O	2.18	0.43
1:A:128:GLY:CA	1:A:133:ALA:HB3	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:121:MET:HB2	1:K:174:PHE:CE1	2.52	0.43
1:G:121:MET:HG3	1:G:173:ASN:O	2.19	0.43
1:H:195:LYS:HG2	1:N:85:LYS:HG2	2.00	0.43
1:F:22:SER:HB3	1:G:6:THR:O	2.19	0.43
1:D:190:MET:HE3	1:D:190:MET:HB2	1.72	0.43
1:B:138:ILE:O	1:B:141:ASN:HB2	2.18	0.43
1:C:162:ILE:CD1	1:C:162:ILE:CB	2.84	0.43
1:D:135:GLU:HB2	1:E:130:GLN:NE2	2.34	0.43
1:I:76:ALA:HB1	1:J:93:ILE:HG22	2.01	0.43
1:B:121:MET:HG3	1:B:173:ASN:O	2.19	0.42
1:C:76:ALA:HB1	1:D:93:ILE:HG22	2.00	0.42
1:C:79:ASP:HB3	1:D:115:LEU:HD13	2.02	0.42
1:I:126:LEU:HG	1:I:147:ARG:HH21	1.84	0.42
1:D:121:MET:HG3	1:D:173:ASN:O	2.19	0.42
1:F:67:PRO:HB2	1:F:130:GLN:HE22	1.84	0.42
1:K:76:ALA:HB1	1:L:93:ILE:HG22	2.00	0.42
1:C:121:MET:HG3	1:C:173:ASN:O	2.19	0.42
1:C:149:LYS:HE3	1:D:117:ASN:OD1	2.19	0.42
1:D:91:ILE:HG23	1:D:190:MET:CE	2.50	0.42
1:I:93:ILE:HG23	1:I:115:LEU:HD12	2.01	0.42
1:A:134:THR:HG22	1:A:137:GLU:HG3	2.02	0.42
1:B:144:LEU:HD12	1:C:119:GLU:HG2	2.00	0.42
1:H:149:LYS:HD2	1:H:152:ARG:HH22	1.85	0.42
1:N:126:LEU:HA	1:N:147:ARG:HH22	1.84	0.42
1:A:115:LEU:HD13	1:G:79:ASP:HB3	2.01	0.42
1:F:79:ASP:HB3	1:G:115:LEU:HD13	2.02	0.41
1:G:121:MET:HB2	1:G:174:PHE:CE1	2.55	0.41
1:L:122:ILE:HG21	1:L:185:LEU:HD11	2.01	0.41
1:C:121:MET:HB2	1:C:174:PHE:CE1	2.55	0.41
1:K:79:ASP:HB3	1:L:115:LEU:HD13	2.03	0.41
1:L:91:ILE:HG23	1:L:190:MET:HE2	2.02	0.41
1:C:91:ILE:HG23	1:C:190:MET:HE1	2.03	0.41
1:A:130:GLN:HE21	1:G:136:ILE:HD13	1.84	0.41
1:D:85:LYS:HE3	1:E:194:THR:O	2.21	0.41
1:D:121:MET:HB2	1:D:174:PHE:CE1	2.55	0.41
1:E:83:HIS:O	1:F:193:GLU:HG2	2.20	0.41
1:F:149:LYS:HE2	1:F:152:ARG:HH12	1.86	0.41
1:G:181:LYS:HA	1:G:186:ILE:HG13	2.02	0.41
1:J:190:MET:HE3	1:J:190:MET:HB2	1.71	0.41
1:L:121:MET:HB2	1:L:174:PHE:CE1	2.56	0.41
1:B:136:ILE:HG22	1:C:174:PHE:HZ	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:91:ILE:HG23	1:F:190:MET:CE	2.51	0.40
1:N:121:MET:HB2	1:N:174:PHE:CE1	2.56	0.40
1:J:35:GLN:HB3	1:J:132:GLN:NE2	2.36	0.40
1:K:94:GLY:HA2	3:K:208:HOH:O	2.21	0.40
1:L:190:MET:HB2	1:L:190:MET:HE3	1.68	0.40
1:H:126:LEU:HD22	1:H:142[A]:HIS:HE1	1.86	0.40
1:L:136:ILE:HG22	1:M:174:PHE:HZ	1.86	0.40
1:I:91:ILE:HG23	1:I:190:MET:CE	2.51	0.40
1:G:181:LYS:HD3	1:G:188:GLU:HA	2.03	0.40

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	186/203 (92%)	182 (98%)	3 (2%)	1 (0%)	29	26
1	B	184/203 (91%)	180 (98%)	3 (2%)	1 (0%)	29	26
1	C	182/203 (90%)	178 (98%)	4 (2%)	0	100	100
1	D	178/203 (88%)	173 (97%)	5 (3%)	0	100	100
1	E	187/203 (92%)	180 (96%)	7 (4%)	0	100	100
1	F	180/203 (89%)	174 (97%)	5 (3%)	1 (1%)	25	21
1	G	182/203 (90%)	177 (97%)	4 (2%)	1 (0%)	29	26
1	H	187/203 (92%)	181 (97%)	6 (3%)	0	100	100
1	I	182/203 (90%)	179 (98%)	2 (1%)	1 (0%)	29	26
1	J	184/203 (91%)	178 (97%)	5 (3%)	1 (0%)	29	26
1	K	177/203 (87%)	173 (98%)	4 (2%)	0	100	100
1	L	176/203 (87%)	174 (99%)	2 (1%)	0	100	100
1	M	183/203 (90%)	180 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	N	178/203 (88%)	173 (97%)	5 (3%)	0	100	100
All	All	2546/2842 (90%)	2482 (98%)	58 (2%)	6 (0%)	47	49

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	129	ALA
1	G	129	ALA
1	J	130	GLN
1	B	127	GLY
1	F	127	GLY
1	I	127	GLY

### 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	158/171 (92%)	156 (99%)	2 (1%)	69	75
1	B	157/171 (92%)	155 (99%)	2 (1%)	69	75
1	C	156/171 (91%)	153 (98%)	3 (2%)	57	63
1	D	153/171 (90%)	150 (98%)	3 (2%)	55	60
1	E	157/171 (92%)	157 (100%)	0	100	100
1	F	154/171 (90%)	153 (99%)	1 (1%)	86	90
1	G	153/171 (90%)	153 (100%)	0	100	100
1	H	159/171 (93%)	154 (97%)	5 (3%)	40	43
1	I	155/171 (91%)	152 (98%)	3 (2%)	57	63
1	J	154/171 (90%)	153 (99%)	1 (1%)	86	90
1	K	155/171 (91%)	155 (100%)	0	100	100
1	L	155/171 (91%)	154 (99%)	1 (1%)	86	90
1	M	155/171 (91%)	153 (99%)	2 (1%)	69	75
1	N	151/171 (88%)	148 (98%)	3 (2%)	55	60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2172/2394 (91%)	2146 (99%)	26 (1%)	71 77

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	147	ARG
1	A	163	GLU
1	B	135	GLU
1	B	147	ARG
1	C	147	ARG
1	C	149	LYS
1	C	152	ARG
1	D	75	PHE
1	D	147	ARG
1	D	157	ARG
1	F	136	ILE
1	H	75	PHE
1	H	143	ILE
1	H	144	LEU
1	H	196	TRP
1	H	200	GLN
1	I	134	THR
1	I	147	ARG
1	I	193	GLU
1	J	147	ARG
1	L	98	SER
1	M	142	HIS
1	M	162	ILE
1	N	136	ILE
1	N	138	ILE
1	N	156	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	132	GLN
1	H	200	GLN
1	I	142	HIS
1	J	132	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 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 7 ligands modelled in this entry, 7 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 [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

### 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	187/203 (92%)	0.51	15 (8%) 12 16	35, 57, 108, 157	0
1	B	187/203 (92%)	0.70	22 (11%) 4 5	51, 69, 118, 151	0
1	C	186/203 (91%)	0.58	20 (10%) 5 7	43, 61, 114, 142	0
1	D	182/203 (89%)	0.58	14 (7%) 13 17	42, 56, 101, 145	0
1	E	188/203 (92%)	0.41	13 (6%) 16 21	32, 50, 100, 132	0
1	F	182/203 (89%)	0.40	14 (7%) 13 17	40, 62, 99, 163	0
1	G	185/203 (91%)	0.60	17 (9%) 9 11	40, 61, 106, 175	0
1	H	192/203 (94%)	0.50	16 (8%) 11 14	45, 66, 114, 146	0
1	I	186/203 (91%)	0.48	12 (6%) 18 23	41, 56, 104, 157	0
1	J	186/203 (91%)	0.67	17 (9%) 9 12	50, 70, 114, 149	0
1	K	179/203 (88%)	0.46	11 (6%) 21 26	49, 69, 110, 158	0
1	L	180/203 (88%)	0.43	11 (6%) 21 26	44, 63, 109, 166	0
1	M	186/203 (91%)	0.72	20 (10%) 5 7	50, 75, 114, 148	0
1	N	183/203 (90%)	0.95	27 (14%) 2 3	55, 79, 117, 175	0
All	All	2589/2842 (91%)	0.57	229 (8%) 10 12	32, 65, 113, 175	0

All (229) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	I	17	ALA	12.9
1	K	8	ILE	9.4
1	C	3	LEU	8.3
1	G	126	LEU	7.8
1	B	3	LEU	7.7
1	N	143	ILE	7.6
1	J	17	ALA	7.5
1	G	17	ALA	7.4

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Mol	Chain	Res	Type	RSRZ
1	M	17	ALA	7.4
1	N	126	LEU	7.4
1	N	133	ALA	7.1
1	A	3	LEU	7.0
1	J	129	ALA	6.9
1	H	8	ILE	6.9
1	G	8	ILE	6.9
1	A	17	ALA	6.8
1	G	130	GLN	6.7
1	L	8	ILE	6.6
1	I	8	ILE	6.6
1	I	3	LEU	6.4
1	B	8	ILE	6.3
1	H	17	ALA	6.3
1	J	3	LEU	6.2
1	B	139	ALA	5.9
1	B	7	VAL	5.9
1	H	7	VAL	5.9
1	N	127	GLY	5.8
1	A	8	ILE	5.8
1	F	8	ILE	5.7
1	B	140	ALA	5.5
1	M	8	ILE	5.4
1	J	7	VAL	5.4
1	K	18	TYR	5.4
1	J	8	ILE	5.3
1	F	129	ALA	5.3
1	C	142[A]	HIS	5.2
1	G	7	VAL	5.2
1	B	142[A]	HIS	5.1
1	N	132	GLN	5.1
1	G	129	ALA	5.0
1	K	3	LEU	5.0
1	C	133	ALA	4.9
1	N	8	ILE	4.9
1	M	133	ALA	4.9
1	E	126	LEU	4.9
1	D	3	LEU	4.8
1	J	16	ARG	4.8
1	E	18	TYR	4.7
1	A	7	VAL	4.7
1	E	133	ALA	4.6

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Mol	Chain	Res	Type	RSRZ
1	N	7	VAL	4.6
1	B	17	ALA	4.5
1	I	126	LEU	4.5
1	H	16	ARG	4.5
1	G	191	VAL	4.5
1	C	132	GLN	4.4
1	C	8	ILE	4.4
1	M	16	ARG	4.4
1	J	130	GLN	4.4
1	K	135	GLU	4.4
1	D	144	LEU	4.4
1	E	130	GLN	4.4
1	M	139	ALA	4.3
1	B	126	LEU	4.3
1	M	144	LEU	4.3
1	D	126	LEU	4.3
1	M	3	LEU	4.2
1	F	7	VAL	4.2
1	M	7	VAL	4.2
1	E	142[A]	HIS	4.2
1	N	142	HIS	4.2
1	A	194	THR	4.1
1	B	16	ARG	4.1
1	D	17	ALA	4.1
1	A	193	GLU	4.1
1	B	143	ILE	4.1
1	K	133	ALA	4.1
1	H	142[A]	HIS	4.1
1	D	132	GLN	4.1
1	M	4	ILE	4.1
1	N	174	PHE	4.0
1	L	143	ILE	4.0
1	H	126	LEU	4.0
1	F	18	TYR	4.0
1	B	18	TYR	4.0
1	G	127	GLY	4.0
1	D	7	VAL	3.9
1	D	16	ARG	3.9
1	N	147	ARG	3.8
1	L	3	LEU	3.8
1	E	132	GLN	3.8
1	J	18	TYR	3.8

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Mol	Chain	Res	Type	RSRZ
1	E	129	ALA	3.8
1	C	17	ALA	3.7
1	N	17	ALA	3.7
1	B	127	GLY	3.7
1	C	16	ARG	3.7
1	E	17	ALA	3.6
1	D	4	ILE	3.6
1	N	152	ARG	3.6
1	H	18	TYR	3.6
1	E	8	ILE	3.5
1	M	130	GLN	3.5
1	M	142	HIS	3.5
1	L	7	VAL	3.5
1	B	10	THR	3.5
1	C	196	TRP	3.5
1	N	144	LEU	3.5
1	I	195	LYS	3.5
1	D	142[A]	HIS	3.4
1	M	6	THR	3.4
1	H	133	ALA	3.4
1	G	4	ILE	3.4
1	H	3	LEU	3.4
1	J	127	GLY	3.3
1	B	93	ILE	3.3
1	I	18	TYR	3.3
1	J	194	THR	3.3
1	H	144	LEU	3.3
1	L	18	TYR	3.2
1	F	126	LEU	3.2
1	L	128	GLY	3.2
1	B	4	ILE	3.2
1	B	194	THR	3.2
1	N	140	ALA	3.2
1	N	122	ILE	3.2
1	G	18	TYR	3.1
1	N	9	GLU	3.1
1	H	9	GLU	3.1
1	B	138	ILE	3.1
1	N	191	VAL	3.1
1	E	7	VAL	3.1
1	F	128	GLY	3.0
1	A	140	ALA	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	L	126	LEU	3.0
1	D	18	TYR	2.9
1	M	129	ALA	2.9
1	D	127	GLY	2.8
1	N	16	ARG	2.8
1	M	9	GLU	2.8
1	E	4	ILE	2.8
1	I	133	ALA	2.7
1	C	191	VAL	2.7
1	I	172	ASP	2.7
1	D	8	ILE	2.7
1	H	93	ILE	2.7
1	I	196	TRP	2.7
1	F	4	ILE	2.7
1	C	197	SER	2.7
1	B	136	ILE	2.7
1	N	154	LEU	2.7
1	N	145	LYS	2.7
1	F	9	GLU	2.7
1	H	6	THR	2.6
1	C	7	VAL	2.6
1	A	129	ALA	2.6
1	I	4	ILE	2.6
1	G	171	ARG	2.6
1	J	126	LEU	2.6
1	A	139	ALA	2.6
1	G	56	SER	2.6
1	C	18	TYR	2.6
1	D	6	THR	2.6
1	G	10	THR	2.5
1	A	138	ILE	2.5
1	N	171	ARG	2.5
1	N	85	LYS	2.5
1	K	7	VAL	2.5
1	A	4	ILE	2.5
1	L	136	ILE	2.5
1	M	136	ILE	2.5
1	C	4	ILE	2.4
1	F	130	GLN	2.4
1	N	139	ALA	2.4
1	K	142[A]	HIS	2.4
1	H	132	GLN	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	148	GLU	2.4
1	G	174	PHE	2.4
1	J	6	THR	2.4
1	E	3	LEU	2.3
1	C	6	THR	2.3
1	M	143	ILE	2.3
1	N	78	TYR	2.3
1	M	174	PHE	2.3
1	K	127	GLY	2.3
1	G	9	GLU	2.3
1	B	144	LEU	2.3
1	G	3	LEU	2.3
1	K	140	ALA	2.3
1	B	152	ARG	2.3
1	L	193	GLU	2.3
1	C	174	PHE	2.2
1	C	93	ILE	2.2
1	M	194	THR	2.2
1	A	18	TYR	2.2
1	I	127	GLY	2.2
1	F	136	ILE	2.2
1	K	126	LEU	2.2
1	J	5	PRO	2.2
1	F	5	PRO	2.2
1	D	133	ALA	2.2
1	L	140	ALA	2.2
1	N	93	ILE	2.2
1	C	135	GLU	2.2
1	J	193	GLU	2.2
1	F	57	GLU	2.1
1	L	191	VAL	2.1
1	I	93	ILE	2.1
1	K	93	ILE	2.1
1	N	166	GLN	2.1
1	A	10	THR	2.1
1	J	23	ARG	2.1
1	E	136	ILE	2.1
1	F	143	ILE	2.1
1	M	126	LEU	2.1
1	C	195	LYS	2.1
1	C	141	ASN	2.1
1	J	94	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
1	M	135	GLU	2.0
1	H	200	GLN	2.0
1	A	6	THR	2.0
1	G	58	LYS	2.0
1	B	119[A]	GLU	2.0
1	J	144	LEU	2.0
1	N	129	ALA	2.0
1	H	172	ASP	2.0
1	B	192	PRO	2.0
1	A	93	ILE	2.0
1	C	126	LEU	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, 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	CL	B	204	1/1	0.74	0.17	99,99,99,99	0
2	CL	M	204	1/1	0.78	0.11	93,93,93,93	0
2	CL	L	204	1/1	0.87	0.12	98,98,98,98	0
2	CL	C	204	1/1	0.88	0.19	82,82,82,82	0
2	CL	L	205	1/1	0.92	0.15	81,81,81,81	0
2	CL	D	204	1/1	0.94	0.26	78,78,78,78	0
2	CL	A	204	1/1	0.97	0.21	81,81,81,81	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.