



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 27, 2026 – 05:56 PM UTC

PDB ID : 6PBS / pdb_00006pbs
Title : Structure of ClpC1-NTD in complex with Ecumicin
Authors : Abad-Zapatero, C.; Wolf, N.M.
Deposited on : 2019-06-14
Resolution : 2.50 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

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

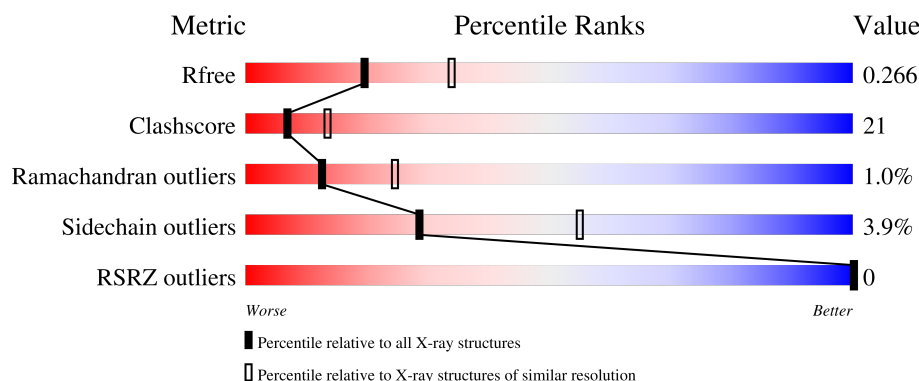
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 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.



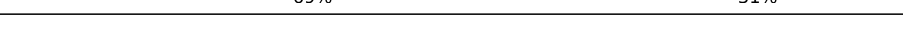
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	5829 (2.50-2.50)
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	158	53% 39% 9%
1	B	158	64% 25% • 8%
1	C	158	62% 27% • • 8%
1	G	158	75% 18% 7%
1	I	158	63% 29% • 8%

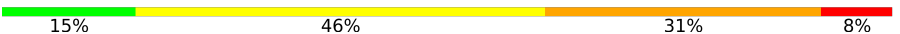
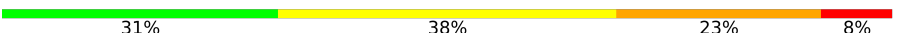
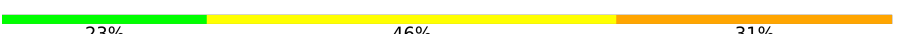
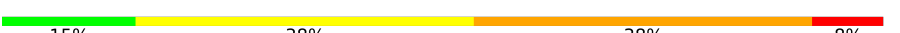
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Mol	Chain	Length	Quality of chain
1	K	158	
1	M	158	
1	O	158	
1	T	158	
1	W	158	
1	Y	158	
1	e	158	
2	D	13	
2	E	13	
2	F	13	
2	H	13	
2	J	13	
2	L	13	
2	N	13	
2	P	13	
2	Q	13	
2	R	13	
2	S	13	
2	U	13	
2	V	13	
2	X	13	
2	Z	13	
2	a	13	
2	b	13	
2	c	13	

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Mol	Chain	Length	Quality of chain
2	d	13	
2	f	13	
2	g	13	
2	h	13	
2	i	13	
2	j	13	

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	MVA	V	9	-	X	X	-
2	MVA	b	9	-	-	X	-
2	O7G	h	1	-	X	-	-
3	ACT	A	502	-	-	X	-
3	ACT	K	501	-	-	X	-
3	ACT	T	501	-	X	-	-
3	ACT	W	401	-	-	X	-
3	ACT	W	403	-	-	X	-
3	ACT	Y	501	-	-	X	-
3	ACT	e	401	-	-	X	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 16993 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 ATP-binding subunit ClpC1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	144	Total	C	N	O	S	0	0	0
			1113	700	206	205	2			
1	I	146	Total	C	N	O	S	0	1	0
			1143	720	211	210	2			
1	C	145	Total	C	N	O	S	0	0	0
			1125	709	207	207	2			
1	W	147	Total	C	N	O	S	0	0	0
			1142	721	210	209	2			
1	Y	147	Total	C	N	O	S	0	0	0
			1142	721	210	209	2			
1	e	147	Total	C	N	O	S	0	0	0
			1142	721	210	209	2			
1	B	145	Total	C	N	O	S	0	0	0
			1125	709	207	207	2			
1	G	147	Total	C	N	O	S	0	0	0
			1142	721	210	209	2			
1	K	146	Total	C	N	O	S	0	0	0
			1134	715	209	208	2			
1	M	144	Total	C	N	O	S	0	0	0
			1113	700	206	205	2			
1	O	147	Total	C	N	O	S	0	0	0
			1142	721	210	209	2			
1	T	146	Total	C	N	O	S	0	0	0
			1134	715	209	208	2			

There are 156 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	146	LYS	-	expression tag	UNP P9WPC9
A	147	LEU	-	expression tag	UNP P9WPC9
A	148	ALA	-	expression tag	UNP P9WPC9
A	149	ALA	-	expression tag	UNP P9WPC9
A	150	ALA	-	expression tag	UNP P9WPC9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	151	LEU	-	expression tag	UNP P9WPC9
A	152	GLU	-	expression tag	UNP P9WPC9
A	153	HIS	-	expression tag	UNP P9WPC9
A	154	HIS	-	expression tag	UNP P9WPC9
A	155	HIS	-	expression tag	UNP P9WPC9
A	156	HIS	-	expression tag	UNP P9WPC9
A	157	HIS	-	expression tag	UNP P9WPC9
A	158	HIS	-	expression tag	UNP P9WPC9
I	146	LYS	-	expression tag	UNP P9WPC9
I	147	LEU	-	expression tag	UNP P9WPC9
I	148	ALA	-	expression tag	UNP P9WPC9
I	149	ALA	-	expression tag	UNP P9WPC9
I	150	ALA	-	expression tag	UNP P9WPC9
I	151	LEU	-	expression tag	UNP P9WPC9
I	152	GLU	-	expression tag	UNP P9WPC9
I	153	HIS	-	expression tag	UNP P9WPC9
I	154	HIS	-	expression tag	UNP P9WPC9
I	155	HIS	-	expression tag	UNP P9WPC9
I	156	HIS	-	expression tag	UNP P9WPC9
I	157	HIS	-	expression tag	UNP P9WPC9
I	158	HIS	-	expression tag	UNP P9WPC9
C	146	LYS	-	expression tag	UNP P9WPC9
C	147	LEU	-	expression tag	UNP P9WPC9
C	148	ALA	-	expression tag	UNP P9WPC9
C	149	ALA	-	expression tag	UNP P9WPC9
C	150	ALA	-	expression tag	UNP P9WPC9
C	151	LEU	-	expression tag	UNP P9WPC9
C	152	GLU	-	expression tag	UNP P9WPC9
C	153	HIS	-	expression tag	UNP P9WPC9
C	154	HIS	-	expression tag	UNP P9WPC9
C	155	HIS	-	expression tag	UNP P9WPC9
C	156	HIS	-	expression tag	UNP P9WPC9
C	157	HIS	-	expression tag	UNP P9WPC9
C	158	HIS	-	expression tag	UNP P9WPC9
W	146	LYS	-	expression tag	UNP P9WPC9
W	147	LEU	-	expression tag	UNP P9WPC9
W	148	ALA	-	expression tag	UNP P9WPC9
W	149	ALA	-	expression tag	UNP P9WPC9
W	150	ALA	-	expression tag	UNP P9WPC9
W	151	LEU	-	expression tag	UNP P9WPC9
W	152	GLU	-	expression tag	UNP P9WPC9
W	153	HIS	-	expression tag	UNP P9WPC9

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Chain	Residue	Modelled	Actual	Comment	Reference
W	154	HIS	-	expression tag	UNP P9WPC9
W	155	HIS	-	expression tag	UNP P9WPC9
W	156	HIS	-	expression tag	UNP P9WPC9
W	157	HIS	-	expression tag	UNP P9WPC9
W	158	HIS	-	expression tag	UNP P9WPC9
Y	146	LYS	-	expression tag	UNP P9WPC9
Y	147	LEU	-	expression tag	UNP P9WPC9
Y	148	ALA	-	expression tag	UNP P9WPC9
Y	149	ALA	-	expression tag	UNP P9WPC9
Y	150	ALA	-	expression tag	UNP P9WPC9
Y	151	LEU	-	expression tag	UNP P9WPC9
Y	152	GLU	-	expression tag	UNP P9WPC9
Y	153	HIS	-	expression tag	UNP P9WPC9
Y	154	HIS	-	expression tag	UNP P9WPC9
Y	155	HIS	-	expression tag	UNP P9WPC9
Y	156	HIS	-	expression tag	UNP P9WPC9
Y	157	HIS	-	expression tag	UNP P9WPC9
Y	158	HIS	-	expression tag	UNP P9WPC9
e	146	LYS	-	expression tag	UNP P9WPC9
e	147	LEU	-	expression tag	UNP P9WPC9
e	148	ALA	-	expression tag	UNP P9WPC9
e	149	ALA	-	expression tag	UNP P9WPC9
e	150	ALA	-	expression tag	UNP P9WPC9
e	151	LEU	-	expression tag	UNP P9WPC9
e	152	GLU	-	expression tag	UNP P9WPC9
e	153	HIS	-	expression tag	UNP P9WPC9
e	154	HIS	-	expression tag	UNP P9WPC9
e	155	HIS	-	expression tag	UNP P9WPC9
e	156	HIS	-	expression tag	UNP P9WPC9
e	157	HIS	-	expression tag	UNP P9WPC9
e	158	HIS	-	expression tag	UNP P9WPC9
B	146	LYS	-	expression tag	UNP P9WPC9
B	147	LEU	-	expression tag	UNP P9WPC9
B	148	ALA	-	expression tag	UNP P9WPC9
B	149	ALA	-	expression tag	UNP P9WPC9
B	150	ALA	-	expression tag	UNP P9WPC9
B	151	LEU	-	expression tag	UNP P9WPC9
B	152	GLU	-	expression tag	UNP P9WPC9
B	153	HIS	-	expression tag	UNP P9WPC9
B	154	HIS	-	expression tag	UNP P9WPC9
B	155	HIS	-	expression tag	UNP P9WPC9
B	156	HIS	-	expression tag	UNP P9WPC9

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Chain	Residue	Modelled	Actual	Comment	Reference
B	157	HIS	-	expression tag	UNP P9WPC9
B	158	HIS	-	expression tag	UNP P9WPC9
G	146	LYS	-	expression tag	UNP P9WPC9
G	147	LEU	-	expression tag	UNP P9WPC9
G	148	ALA	-	expression tag	UNP P9WPC9
G	149	ALA	-	expression tag	UNP P9WPC9
G	150	ALA	-	expression tag	UNP P9WPC9
G	151	LEU	-	expression tag	UNP P9WPC9
G	152	GLU	-	expression tag	UNP P9WPC9
G	153	HIS	-	expression tag	UNP P9WPC9
G	154	HIS	-	expression tag	UNP P9WPC9
G	155	HIS	-	expression tag	UNP P9WPC9
G	156	HIS	-	expression tag	UNP P9WPC9
G	157	HIS	-	expression tag	UNP P9WPC9
G	158	HIS	-	expression tag	UNP P9WPC9
K	146	LYS	-	expression tag	UNP P9WPC9
K	147	LEU	-	expression tag	UNP P9WPC9
K	148	ALA	-	expression tag	UNP P9WPC9
K	149	ALA	-	expression tag	UNP P9WPC9
K	150	ALA	-	expression tag	UNP P9WPC9
K	151	LEU	-	expression tag	UNP P9WPC9
K	152	GLU	-	expression tag	UNP P9WPC9
K	153	HIS	-	expression tag	UNP P9WPC9
K	154	HIS	-	expression tag	UNP P9WPC9
K	155	HIS	-	expression tag	UNP P9WPC9
K	156	HIS	-	expression tag	UNP P9WPC9
K	157	HIS	-	expression tag	UNP P9WPC9
K	158	HIS	-	expression tag	UNP P9WPC9
M	146	LYS	-	expression tag	UNP P9WPC9
M	147	LEU	-	expression tag	UNP P9WPC9
M	148	ALA	-	expression tag	UNP P9WPC9
M	149	ALA	-	expression tag	UNP P9WPC9
M	150	ALA	-	expression tag	UNP P9WPC9
M	151	LEU	-	expression tag	UNP P9WPC9
M	152	GLU	-	expression tag	UNP P9WPC9
M	153	HIS	-	expression tag	UNP P9WPC9
M	154	HIS	-	expression tag	UNP P9WPC9
M	155	HIS	-	expression tag	UNP P9WPC9
M	156	HIS	-	expression tag	UNP P9WPC9
M	157	HIS	-	expression tag	UNP P9WPC9
M	158	HIS	-	expression tag	UNP P9WPC9
O	146	LYS	-	expression tag	UNP P9WPC9

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Chain	Residue	Modelled	Actual	Comment	Reference
O	147	LEU	-	expression tag	UNP P9WPC9
O	148	ALA	-	expression tag	UNP P9WPC9
O	149	ALA	-	expression tag	UNP P9WPC9
O	150	ALA	-	expression tag	UNP P9WPC9
O	151	LEU	-	expression tag	UNP P9WPC9
O	152	GLU	-	expression tag	UNP P9WPC9
O	153	HIS	-	expression tag	UNP P9WPC9
O	154	HIS	-	expression tag	UNP P9WPC9
O	155	HIS	-	expression tag	UNP P9WPC9
O	156	HIS	-	expression tag	UNP P9WPC9
O	157	HIS	-	expression tag	UNP P9WPC9
O	158	HIS	-	expression tag	UNP P9WPC9
T	146	LYS	-	expression tag	UNP P9WPC9
T	147	LEU	-	expression tag	UNP P9WPC9
T	148	ALA	-	expression tag	UNP P9WPC9
T	149	ALA	-	expression tag	UNP P9WPC9
T	150	ALA	-	expression tag	UNP P9WPC9
T	151	LEU	-	expression tag	UNP P9WPC9
T	152	GLU	-	expression tag	UNP P9WPC9
T	153	HIS	-	expression tag	UNP P9WPC9
T	154	HIS	-	expression tag	UNP P9WPC9
T	155	HIS	-	expression tag	UNP P9WPC9
T	156	HIS	-	expression tag	UNP P9WPC9
T	157	HIS	-	expression tag	UNP P9WPC9
T	158	HIS	-	expression tag	UNP P9WPC9

- Molecule 2 is a protein called ecumicin.

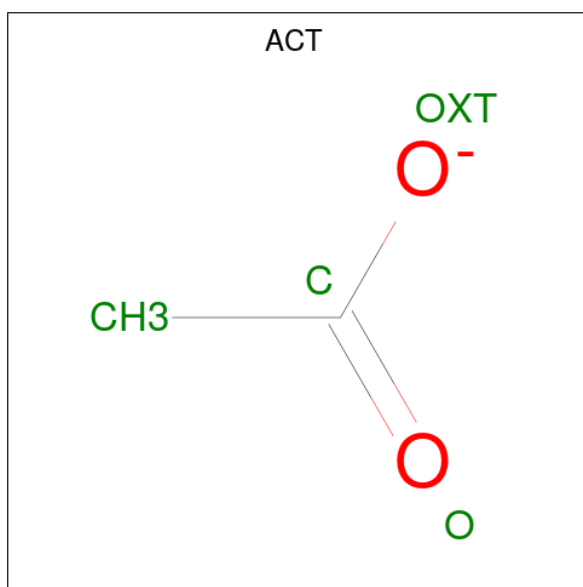
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	D	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	E	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	F	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	H	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	J	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	L	13	Total	C	N	O	0	0	0
			114	83	14	17			
2	N	13	Total	C	N	O	0	0	0
			114	83	14	17			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	P	13	Total 114	C 83	N 14	O 17	0	0	0
2	Q	13	Total 114	C 83	N 14	O 17	0	0	0
2	R	13	Total 114	C 83	N 14	O 17	0	0	0
2	S	13	Total 114	C 83	N 14	O 17	0	0	0
2	U	13	Total 114	C 83	N 14	O 17	0	0	0
2	V	13	Total 114	C 83	N 14	O 17	0	0	0
2	X	13	Total 114	C 83	N 14	O 17	0	0	0
2	Z	13	Total 114	C 83	N 14	O 17	0	0	0
2	a	13	Total 114	C 83	N 14	O 17	0	0	0
2	b	13	Total 114	C 83	N 14	O 17	0	0	0
2	c	13	Total 114	C 83	N 14	O 17	0	0	0
2	d	13	Total 114	C 83	N 14	O 17	0	0	0
2	f	13	Total 114	C 83	N 14	O 17	0	0	0
2	g	13	Total 114	C 83	N 14	O 17	0	0	0
2	h	13	Total 114	C 83	N 14	O 17	0	0	0
2	i	13	Total 114	C 83	N 14	O 17	0	0	0
2	j	13	Total 114	C 83	N 14	O 17	0	0	0

- Molecule 3 is ACETATE ION (CCD ID: ACT) (formula: C₂H₃O₂).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			4	2	2		
3	A	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	C	1	Total	C	O	0	0
			4	2	2		
3	W	1	Total	C	O	0	0
			4	2	2		
3	W	1	Total	C	O	0	0
			4	2	2		
3	W	1	Total	C	O	0	0
			4	2	2		
3	W	1	Total	C	O	0	0
			4	2	2		
3	Y	1	Total	C	O	0	0
			4	2	2		
3	Y	1	Total	C	O	0	0
			4	2	2		
3	Y	1	Total	C	O	0	0
			4	2	2		
3	e	1	Total	C	O	0	0
			4	2	2		
3	e	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total	C	O	0	0
			4	2	2		
3	G	1	Total	C	O	0	0
			4	2	2		
3	K	1	Total	C	O	0	0
			4	2	2		
3	M	1	Total	C	O	0	0
			4	2	2		
3	O	1	Total	C	O	0	0
			4	2	2		
3	T	1	Total	C	O	0	0
			4	2	2		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	39	Total	O	0	1
			40	40		
4	I	53	Total	O	0	0
			53	53		
4	C	26	Total	O	0	0
			26	26		
4	W	30	Total	O	0	0
			30	30		
4	Y	48	Total	O	0	0
			48	48		
4	e	41	Total	O	0	2
			43	43		
4	B	36	Total	O	0	0
			36	36		
4	G	53	Total	O	0	0
			53	53		
4	K	36	Total	O	0	0
			36	36		
4	M	31	Total	O	0	1
			32	32		
4	O	35	Total	O	0	1
			36	36		
4	T	44	Total	O	0	0
			44	44		
4	D	6	Total	O	0	0
			6	6		

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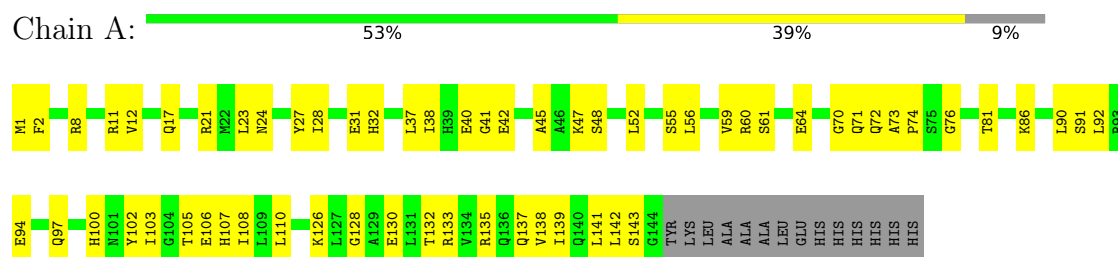
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	E	4	Total O 4 4	0	0
4	F	5	Total O 5 5	0	0
4	H	4	Total O 4 4	0	0
4	J	6	Total O 6 6	0	0
4	N	2	Total O 2 2	0	0
4	P	3	Total O 3 3	0	0
4	Q	2	Total O 2 2	0	0
4	R	9	Total O 9 9	0	0
4	U	7	Total O 7 7	0	0
4	V	7	Total O 7 7	0	0
4	X	3	Total O 3 3	0	0
4	Z	10	Total O 10 10	0	0
4	a	2	Total O 2 2	0	0
4	b	4	Total O 4 4	0	0
4	c	1	Total O 1 1	0	0
4	d	2	Total O 2 2	0	0
4	f	6	Total O 6 6	0	0
4	g	2	Total O 2 2	0	0
4	h	9	Total O 9 9	0	0
4	i	2	Total O 2 2	0	0
4	j	7	Total O 7 7	0	0

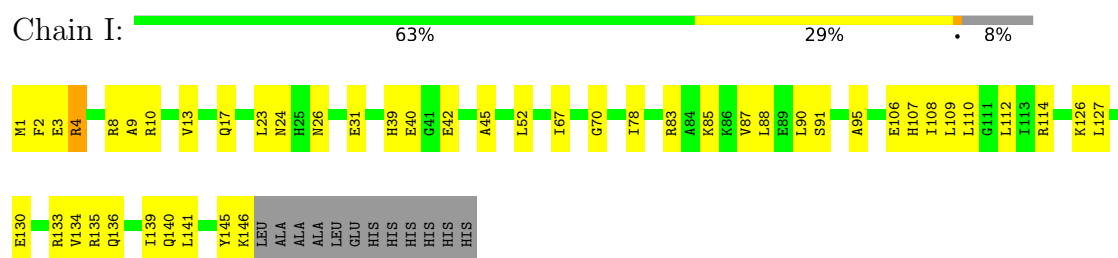
3 Residue-property plots

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.

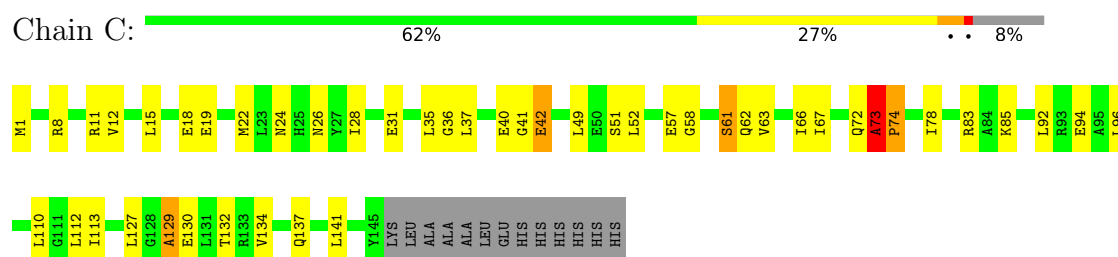
• Molecule 1: ATP-dependent Clp protease ATP-binding subunit ClpC1



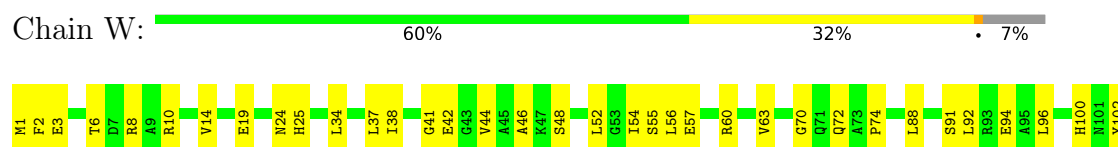
• Molecule 1: ATP-dependent Clp protease ATP-binding subunit ClpC1



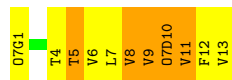
• Molecule 1: ATP-dependent Clp protease ATP-binding subunit ClpC1



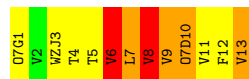
• Molecule 1: ATP-dependent Clp protease ATP-binding subunit ClpC1



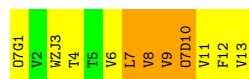
● Molecule 2: ecumicin

Chain H:  15% 46% 38%

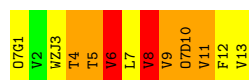
● Molecule 2: ecumicin

Chain J:  8% 46% 31% 15%

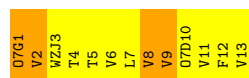
● Molecule 2: ecumicin

Chain L:  15% 54% 31%

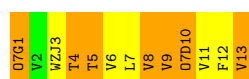
● Molecule 2: ecumicin

Chain N:  8% 38% 38% 15%

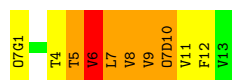
● Molecule 2: ecumicin

Chain P:  69% 31%

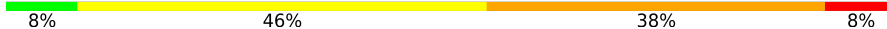
● Molecule 2: ecumicin

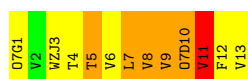
Chain Q:  8% 38% 54%

● Molecule 2: ecumicin

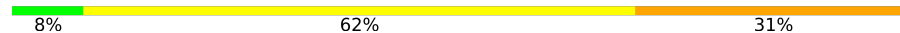
Chain R:  23% 31% 38% 8%

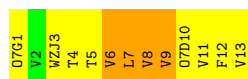
● Molecule 2: ecumicin

Chain S:  8% 46% 38% 8%

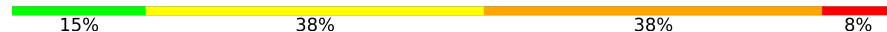


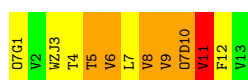
• Molecule 2: ecumicin

Chain U:  8% 62% 31%

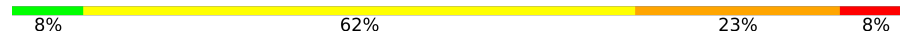


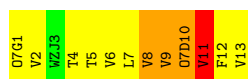
• Molecule 2: ecumicin

Chain V:  15% 38% 38% 8%

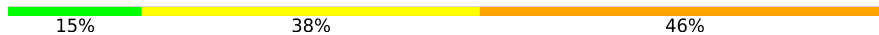


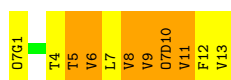
• Molecule 2: ecumicin

Chain X:  8% 62% 23% 8%



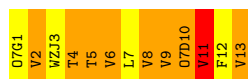
• Molecule 2: ecumicin

Chain Z:  15% 38% 46%



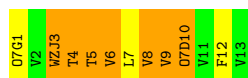
• Molecule 2: ecumicin

Chain a:  31% 62% 8%

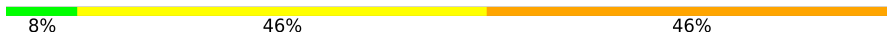


• Molecule 2: ecumicin

Chain b:  23% 23% 54%

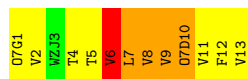


• Molecule 2: ecumicin

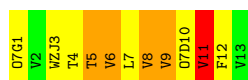
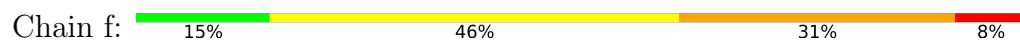
Chain c:  8% 46% 46%



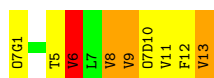
- Molecule 2: ecumicin



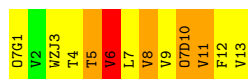
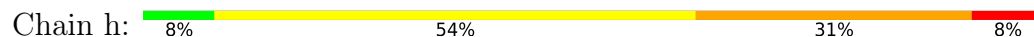
- Molecule 2: ecumicin



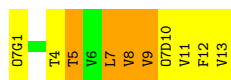
- Molecule 2: ecumicin



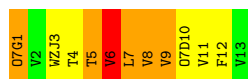
- Molecule 2: ecumicin



- Molecule 2: ecumicin



- Molecule 2: ecumicin



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	80.06Å 130.34Å 112.56Å 90.00° 90.07° 90.00°	Depositor
Resolution (Å)	40.00 – 2.50 40.00 – 2.50	Depositor EDS
% Data completeness (in resolution range)	97.9 (40.00-2.50) 97.6 (40.00-2.50)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.30 (at 2.50Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.180 , 0.257 0.195 , 0.266	Depositor DCC
R_{free} test set	3796 reflections (4.77%)	wwPDB-VP
Wilson B-factor (Å ²)	55.2	Xtriage
Anisotropy	0.308	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 42.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.468 for h,-k,-l	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	16993	wwPDB-VP
Average B, all atoms (Å ²)	64.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 9.45% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MVA, ACT, MLE, O7G, WZJ, NZC, O7D, H14

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	0/1126	0.62	0/1516
1	B	0.46	1/1139 (0.1%)	0.59	0/1534
1	C	0.40	0/1139	0.60	0/1534
1	G	0.44	0/1156	0.58	0/1556
1	I	0.44	0/1157	0.58	1/1557 (0.1%)
1	K	0.42	0/1148	0.67	1/1545 (0.1%)
1	M	0.51	1/1126 (0.1%)	0.66	0/1516
1	O	0.44	0/1156	0.59	0/1556
1	T	0.47	0/1148	0.67	2/1545 (0.1%)
1	W	0.43	0/1156	0.69	0/1556
1	Y	0.45	0/1156	0.64	0/1556
1	e	0.44	0/1156	0.60	0/1556
2	D	2.27	4/36 (11.1%)	1.70	0/42
2	E	2.19	4/36 (11.1%)	1.25	0/42
2	F	2.16	4/36 (11.1%)	1.38	0/42
2	H	2.23	5/36 (13.9%)	1.22	0/42
2	J	2.07	3/36 (8.3%)	1.42	0/42
2	L	2.45	4/36 (11.1%)	1.26	0/42
2	N	2.16	5/36 (13.9%)	1.39	0/42
2	P	2.35	4/36 (11.1%)	2.81	4/42 (9.5%)
2	Q	2.66	3/36 (8.3%)	1.81	2/42 (4.8%)
2	R	2.16	3/36 (8.3%)	1.31	0/42
2	S	2.31	4/36 (11.1%)	1.33	0/42
2	U	2.07	2/36 (5.6%)	1.35	0/42
2	V	2.36	4/36 (11.1%)	2.43	2/42 (4.8%)
2	X	2.38	5/36 (13.9%)	1.23	0/42
2	Z	2.20	4/36 (11.1%)	1.66	0/42
2	a	2.31	4/36 (11.1%)	1.38	0/42
2	b	1.96	2/36 (5.6%)	1.65	0/42
2	c	2.21	2/36 (5.6%)	1.39	0/42
2	d	2.43	4/36 (11.1%)	1.38	0/42
2	f	2.15	3/36 (8.3%)	1.27	0/42

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
2	g	2.23	3/36 (8.3%)	1.51	0/42
2	h	2.20	4/36 (11.1%)	1.42	0/42
2	i	2.21	3/36 (8.3%)	1.27	0/42
2	j	2.01	3/36 (8.3%)	1.40	0/42
All	All	0.70	88/14627 (0.6%)	0.70	12/19535 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

The worst 5 of 88 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	Q	4	THR	CA-C	-8.85	1.34	1.52
1	M	58	GLY	C-N	-8.49	1.23	1.34
2	V	8	VAL	CA-C	-8.05	1.36	1.52
2	Q	13	VAL	CA-C	-7.76	1.36	1.52
2	d	8	VAL	CA-C	-7.41	1.37	1.52

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

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	P	2	VAL	CA-CB-CG2	9.33	126.26	110.40
2	P	2	VAL	CB-CA-C	8.74	128.00	111.40
1	K	40	GLU	N-CA-C	-7.08	105.47	112.97
2	V	8	VAL	CB-CA-C	7.02	124.74	111.40
2	P	2	VAL	CA-CB-CG1	-6.83	98.80	110.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	73	ALA	Peptide

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	1113	0	1154	62	0
1	B	1125	0	1163	42	0
1	C	1125	0	1163	49	0
1	G	1142	0	1187	26	0
1	I	1143	0	1183	50	0
1	K	1134	0	1176	52	0
1	M	1113	0	1154	54	0
1	O	1142	0	1187	40	0
1	T	1134	0	1176	41	0
1	W	1142	0	1187	60	0
1	Y	1142	0	1187	48	0
1	e	1142	0	1187	40	0
2	D	114	0	92	6	0
2	E	114	0	92	7	0
2	F	114	0	92	7	0
2	H	114	0	92	5	0
2	J	114	0	92	8	0
2	L	114	0	92	5	0
2	N	114	0	92	10	0
2	P	114	0	92	5	0
2	Q	114	0	91	7	0
2	R	114	0	91	6	0
2	S	114	0	92	6	0
2	U	114	0	92	4	0
2	V	114	0	92	15	0
2	X	114	0	92	7	0
2	Z	114	0	91	6	0
2	a	114	0	92	13	0
2	b	114	0	92	13	0
2	c	114	0	92	8	0
2	d	114	0	92	7	0
2	f	114	0	92	6	0
2	g	114	0	92	3	0
2	h	114	0	92	7	0
2	i	114	0	92	4	0
2	j	114	0	92	10	0
3	A	8	0	4	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	4	0	1	0	0
3	C	4	0	0	0	0
3	G	4	0	2	0	0
3	I	8	0	4	0	0
3	K	4	0	1	2	0
3	M	4	0	1	1	0
3	O	4	0	0	1	0
3	T	4	0	0	0	0
3	W	16	0	10	9	0
3	Y	12	0	8	4	0
3	e	8	0	4	6	0
4	A	40	0	0	12	1
4	B	36	0	0	4	0
4	C	26	0	0	9	0
4	D	6	0	0	0	1
4	E	4	0	0	0	0
4	F	5	0	0	0	0
4	G	53	0	0	6	0
4	H	4	0	0	0	0
4	I	53	0	0	6	0
4	J	6	0	0	0	0
4	K	36	0	0	6	0
4	M	32	0	0	8	0
4	N	2	0	0	0	0
4	O	36	0	0	5	0
4	P	3	0	0	0	0
4	Q	2	0	0	0	0
4	R	9	0	0	0	0
4	T	44	0	0	5	0
4	U	7	0	0	0	0
4	V	7	0	0	2	0
4	W	30	0	0	9	0
4	X	3	0	0	0	0
4	Y	48	0	0	12	0
4	Z	10	0	0	0	0
4	a	2	0	0	0	0
4	b	4	0	0	1	0
4	c	1	0	0	0	0
4	d	2	0	0	0	0
4	e	43	0	0	14	0
4	f	6	0	0	1	0
4	g	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	h	9	0	0	1	2
4	i	2	0	0	0	0
4	j	7	0	0	1	0
All	All	16993	0	16344	694	2

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 21.

The worst 5 of 694 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)
3:Y:501:ACT:H3	1:e:90:LEU:HD21	1.25	1.14
1:K:130:GLU:OE2	1:M:130:GLU:OE2	1.64	1.09
1:e:113:ILE:HD13	4:e:507:HOH:O	1.63	0.98
1:I:4:ARG:NH1	4:I:601:HOH:O	1.96	0.97
1:M:122:GLN:HA	4:M:628[A]:HOH:O	1.66	0.96

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:104:HOH:O	4:h:101:HOH:O[2_645]	1.71	0.49
4:A:639:HOH:O	4:h:109:HOH:O[2_645]	2.04	0.16

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	142/158 (90%)	137 (96%)	4 (3%)	1 (1%)	18 34
1	B	143/158 (90%)	136 (95%)	7 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	143/158 (90%)	126 (88%)	12 (8%)	5 (4%)	3	4
1	G	145/158 (92%)	140 (97%)	4 (3%)	1 (1%)	18	34
1	I	145/158 (92%)	141 (97%)	4 (3%)	0	100	100
1	K	144/158 (91%)	136 (94%)	8 (6%)	0	100	100
1	M	142/158 (90%)	132 (93%)	8 (6%)	2 (1%)	9	17
1	O	145/158 (92%)	135 (93%)	6 (4%)	4 (3%)	4	6
1	T	144/158 (91%)	132 (92%)	10 (7%)	2 (1%)	9	17
1	W	145/158 (92%)	141 (97%)	3 (2%)	1 (1%)	18	34
1	Y	145/158 (92%)	135 (93%)	9 (6%)	1 (1%)	18	34
1	e	145/158 (92%)	137 (94%)	7 (5%)	1 (1%)	18	34
2	D	5/13 (38%)	5 (100%)	0	0	100	100
2	E	5/13 (38%)	4 (80%)	1 (20%)	0	100	100
2	F	5/13 (38%)	5 (100%)	0	0	100	100
2	H	5/13 (38%)	5 (100%)	0	0	100	100
2	J	5/13 (38%)	5 (100%)	0	0	100	100
2	L	5/13 (38%)	5 (100%)	0	0	100	100
2	N	5/13 (38%)	5 (100%)	0	0	100	100
2	P	5/13 (38%)	5 (100%)	0	0	100	100
2	Q	5/13 (38%)	4 (80%)	1 (20%)	0	100	100
2	R	5/13 (38%)	5 (100%)	0	0	100	100
2	S	5/13 (38%)	5 (100%)	0	0	100	100
2	U	5/13 (38%)	5 (100%)	0	0	100	100
2	V	5/13 (38%)	5 (100%)	0	0	100	100
2	X	5/13 (38%)	5 (100%)	0	0	100	100
2	Z	5/13 (38%)	5 (100%)	0	0	100	100
2	a	5/13 (38%)	5 (100%)	0	0	100	100
2	b	5/13 (38%)	5 (100%)	0	0	100	100
2	c	5/13 (38%)	5 (100%)	0	0	100	100
2	d	5/13 (38%)	5 (100%)	0	0	100	100
2	f	5/13 (38%)	5 (100%)	0	0	100	100
2	g	5/13 (38%)	5 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	h	5/13 (38%)	5 (100%)	0	0	100	100
2	i	5/13 (38%)	5 (100%)	0	0	100	100
2	j	5/13 (38%)	5 (100%)	0	0	100	100
All	All	1848/2208 (84%)	1746 (94%)	84 (4%)	18 (1%)	12	24

5 of 18 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	Y	41	GLY
1	e	40	GLU
1	M	129	ALA
1	A	41	GLY
1	C	41	GLY

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	117/128 (91%)	115 (98%)	2 (2%)	53	78
1	B	118/128 (92%)	115 (98%)	3 (2%)	42	69
1	C	118/128 (92%)	117 (99%)	1 (1%)	73	88
1	G	120/128 (94%)	119 (99%)	1 (1%)	73	88
1	I	120/128 (94%)	120 (100%)	0	100	100
1	K	119/128 (93%)	116 (98%)	3 (2%)	42	69
1	M	117/128 (91%)	113 (97%)	4 (3%)	32	60
1	O	120/128 (94%)	119 (99%)	1 (1%)	73	88
1	T	119/128 (93%)	119 (100%)	0	100	100
1	W	120/128 (94%)	118 (98%)	2 (2%)	53	78
1	Y	120/128 (94%)	120 (100%)	0	100	100
1	e	120/128 (94%)	120 (100%)	0	100	100
2	D	6/6 (100%)	3 (50%)	3 (50%)	0	0

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	E	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	F	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	H	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	J	6/6 (100%)	3 (50%)	3 (50%)	0	0
2	L	6/6 (100%)	6 (100%)	0	100	100
2	N	6/6 (100%)	3 (50%)	3 (50%)	0	0
2	P	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	Q	6/6 (100%)	3 (50%)	3 (50%)	0	0
2	R	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	S	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	U	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	V	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	X	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	Z	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	a	6/6 (100%)	3 (50%)	3 (50%)	0	0
2	b	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	c	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	d	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	f	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	g	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	h	6/6 (100%)	4 (67%)	2 (33%)	0	0
2	i	6/6 (100%)	5 (83%)	1 (17%)	2	4
2	j	6/6 (100%)	5 (83%)	1 (17%)	2	4
All	All	1572/1680 (94%)	1511 (96%)	61 (4%)	28	55

5 of 61 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	N	8	VAL
2	g	6	VAL
2	R	11	VAL
2	f	11	VAL
2	i	11	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 22 such sidechains are listed below:

Mol	Chain	Res	Type
1	G	17	GLN
1	O	17	GLN
1	M	122	GLN
1	O	69	GLN
1	C	77	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

168 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	O7G	P	1	2	7,8,9	0.91	0	9,10,12	2.30	2 (22%)
2	MVA	H	9	2	6,7,8	1.14	1 (16%)	6,8,10	1.30	0
2	O7G	f	1	2	7,8,9	0.58	0	9,10,12	1.60	2 (22%)
2	H14	L	12	2	12,12,13	3.48	3 (25%)	14,15,17	1.44	2 (14%)
2	O7D	Q	10	2	17,18,19	2.20	7 (41%)	22,24,26	1.63	5 (22%)
2	MLE	X	7	2	7,8,9	0.80	0	7,9,11	0.66	0
2	O7G	R	1	2	7,8,9	0.78	0	9,10,12	2.23	3 (33%)
2	MLE	S	7	2	7,8,9	0.82	0	7,9,11	1.33	2 (28%)
2	O7G	D	1	2	7,8,9	1.01	0	9,10,12	2.30	4 (44%)
2	MVA	J	9	2	6,7,8	0.97	0	6,8,10	2.99	1 (16%)
2	WZJ	c	3	2	7,8,9	0.84	0	6,9,11	0.89	0
2	O7G	J	1	2	7,8,9	0.78	0	9,10,12	1.81	2 (22%)
2	NZC	f	5	2	6,7,8	1.18	0	6,8,10	1.39	1 (16%)
2	NZC	h	5	2	6,7,8	0.94	0	6,8,10	1.52	2 (33%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NZC	E	5	2	6,7,8	0.57	0	6,8,10	0.76	0
2	O7D	E	10	2	17,18,19	2.30	7 (41%)	22,24,26	1.89	7 (31%)
2	O7D	d	10	2	17,18,19	2.33	7 (41%)	22,24,26	1.62	5 (22%)
2	H14	V	12	2	12,12,13	3.29	4 (33%)	14,15,17	1.77	3 (21%)
2	O7D	S	10	2	17,18,19	2.12	8 (47%)	22,24,26	1.36	3 (13%)
2	O7G	H	1	2	7,8,9	0.63	0	9,10,12	1.38	2 (22%)
2	WZJ	f	3	2	7,8,9	0.68	0	6,9,11	1.90	2 (33%)
2	O7D	j	10	2	17,18,19	2.25	7 (41%)	22,24,26	1.57	5 (22%)
2	O7G	Q	1	2	7,8,9	0.82	0	9,10,12	1.36	2 (22%)
2	O7G	N	1	2	7,8,9	0.68	0	9,10,12	1.71	2 (22%)
2	O7G	h	1	2	7,8,9	0.72	0	9,10,12	2.11	4 (44%)
2	H14	P	12	2	12,12,13	3.48	3 (25%)	14,15,17	1.68	2 (14%)
2	O7D	F	10	2	17,18,19	2.18	8 (47%)	22,24,26	1.69	4 (18%)
2	O7D	c	10	2	17,18,19	2.14	7 (41%)	22,24,26	1.54	4 (18%)
2	O7G	L	1	2	7,8,9	2.45	2 (28%)	9,10,12	3.77	5 (55%)
2	H14	d	12	2	12,12,13	3.43	3 (25%)	14,15,17	1.77	2 (14%)
2	WZJ	N	3	2	7,8,9	0.47	0	6,9,11	1.56	1 (16%)
2	NZC	Z	5	2	6,7,8	0.83	0	6,8,10	1.67	1 (16%)
2	O7D	X	10	2	17,18,19	2.43	7 (41%)	22,24,26	1.58	4 (18%)
2	MLE	N	7	2	7,8,9	0.79	0	7,9,11	1.11	0
2	WZJ	P	3	2	7,8,9	0.70	0	6,9,11	1.30	1 (16%)
2	MVA	d	9	2	6,7,8	1.03	0	6,8,10	1.66	1 (16%)
2	O7D	L	10	2	17,18,19	2.21	7 (41%)	22,24,26	1.73	4 (18%)
2	O7D	f	10	2	17,18,19	2.14	7 (41%)	22,24,26	1.68	4 (18%)
2	O7D	h	10	2	17,18,19	2.33	8 (47%)	22,24,26	1.68	5 (22%)
2	H14	Q	12	2	12,12,13	3.13	3 (25%)	14,15,17	1.61	1 (7%)
2	MLE	E	7	2	7,8,9	0.86	0	7,9,11	1.50	1 (14%)
2	WZJ	R	3	2	7,8,9	0.42	0	6,9,11	0.92	0
2	H14	j	12	2	12,12,13	2.75	4 (33%)	14,15,17	1.57	2 (14%)
2	O7G	S	1	2	7,8,9	0.60	0	9,10,12	1.14	1 (11%)
2	WZJ	g	3	2	7,8,9	0.53	0	6,9,11	1.17	0
2	O7G	j	1	2	7,8,9	0.73	0	9,10,12	1.71	2 (22%)
2	MLE	Q	7	2	7,8,9	0.77	0	7,9,11	1.47	1 (14%)
2	MLE	h	7	2	7,8,9	0.96	0	7,9,11	1.01	0
2	O7G	F	1	2	7,8,9	0.78	0	9,10,12	1.91	3 (33%)
2	O7G	c	1	2	7,8,9	0.57	0	9,10,12	1.46	2 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	O7G	g	1	2	7,8,9	0.72	0	9,10,12	1.73	2 (22%)
2	MVA	a	9	2	6,7,8	1.52	1 (16%)	6,8,10	1.45	0
2	MLE	Z	7	2	7,8,9	0.96	0	7,9,11	1.37	1 (14%)
2	H14	f	12	2	12,12,13	2.97	3 (25%)	14,15,17	1.67	2 (14%)
2	MVA	L	9	2	6,7,8	1.51	1 (16%)	6,8,10	1.37	2 (33%)
2	MLE	D	7	2	7,8,9	1.14	0	7,9,11	1.45	1 (14%)
2	O7D	Z	10	2	17,18,19	2.36	8 (47%)	22,24,26	1.77	7 (31%)
2	MVA	f	9	2	6,7,8	1.01	0	6,8,10	1.43	2 (33%)
2	NZC	N	5	2	6,7,8	1.05	1 (16%)	6,8,10	1.89	1 (16%)
2	WZJ	H	3	2	7,8,9	0.50	0	6,9,11	1.15	0
2	O7G	X	1	2	7,8,9	2.39	2 (28%)	9,10,12	3.48	4 (44%)
2	O7D	g	10	2	17,18,19	2.21	7 (41%)	22,24,26	1.54	4 (18%)
2	WZJ	Z	3	2	7,8,9	0.77	0	6,9,11	1.09	0
2	O7G	i	1	2	7,8,9	1.26	1 (14%)	9,10,12	1.96	2 (22%)
2	H14	S	12	2	12,12,13	3.62	3 (25%)	14,15,17	1.49	2 (14%)
2	MVA	N	9	2	6,7,8	0.95	0	6,8,10	3.05	1 (16%)
2	WZJ	L	3	2	7,8,9	0.71	0	6,9,11	2.46	1 (16%)
2	H14	F	12	2	12,12,13	3.15	3 (25%)	14,15,17	1.62	2 (14%)
2	MLE	i	7	2	7,8,9	0.90	0	7,9,11	1.26	1 (14%)
2	NZC	R	5	2	6,7,8	0.68	0	6,8,10	2.51	2 (33%)
2	H14	X	12	2	12,12,13	3.60	3 (25%)	14,15,17	1.78	2 (14%)
2	MLE	V	7	2	7,8,9	0.44	0	7,9,11	1.17	0
2	NZC	g	5	2	6,7,8	0.80	0	6,8,10	0.68	0
2	MVA	X	9	2	6,7,8	1.01	0	6,8,10	1.54	1 (16%)
2	H14	h	12	2	12,12,13	3.01	4 (33%)	14,15,17	1.90	2 (14%)
2	NZC	S	5	2	6,7,8	0.96	0	6,8,10	1.38	2 (33%)
2	NZC	H	5	2	6,7,8	1.09	0	6,8,10	1.15	1 (16%)
2	MLE	R	7	2	7,8,9	0.98	0	7,9,11	2.82	4 (57%)
2	H14	H	12	2	12,12,13	3.10	3 (25%)	14,15,17	1.70	3 (21%)
2	H14	R	12	2	12,12,13	3.00	3 (25%)	14,15,17	1.52	2 (14%)
2	H14	g	12	2	12,12,13	3.36	3 (25%)	14,15,17	1.95	3 (21%)
2	MVA	R	9	2	6,7,8	0.99	0	6,8,10	1.34	1 (16%)
2	O7G	U	1	2	7,8,9	0.92	0	9,10,12	1.51	1 (11%)
2	H14	Z	12	2	12,12,13	3.29	4 (33%)	14,15,17	1.97	2 (14%)
2	O7D	V	10	2	17,18,19	2.15	7 (41%)	22,24,26	2.24	7 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	MVA	g	9	2	6,7,8	1.27	1 (16%)	6,8,10	2.11	1 (16%)
2	MLE	a	7	2	7,8,9	0.71	0	7,9,11	1.35	1 (14%)
2	O7G	E	1	2	7,8,9	0.75	0	9,10,12	1.17	0
2	MLE	J	7	2	7,8,9	1.50	1 (14%)	7,9,11	0.82	0
2	WZJ	S	3	2	7,8,9	0.44	0	6,9,11	1.72	1 (16%)
2	WZJ	Q	3	2	7,8,9	1.09	1 (14%)	6,9,11	1.12	0
2	O7D	J	10	2	17,18,19	2.28	7 (41%)	22,24,26	1.82	5 (22%)
2	O7D	P	10	2	17,18,19	2.26	5 (29%)	22,24,26	1.67	6 (27%)
2	WZJ	h	3	2	7,8,9	0.72	0	6,9,11	1.50	2 (33%)
2	H14	D	12	2	12,12,13	3.24	3 (25%)	14,15,17	1.74	2 (14%)
2	WZJ	F	3	2	7,8,9	0.62	0	6,9,11	0.94	0
2	O7D	U	10	2	17,18,19	2.44	8 (47%)	22,24,26	1.47	4 (18%)
2	O7D	b	10	2	17,18,19	2.17	8 (47%)	22,24,26	1.53	5 (22%)
2	MLE	H	7	2	7,8,9	0.84	0	7,9,11	1.43	1 (14%)
2	H14	i	12	2	12,12,13	3.23	3 (25%)	14,15,17	1.73	2 (14%)
2	WZJ	a	3	2	7,8,9	0.49	0	6,9,11	2.16	1 (16%)
2	NZC	V	5	2	6,7,8	1.19	0	6,8,10	1.58	1 (16%)
2	NZC	U	5	2	6,7,8	1.19	0	6,8,10	0.88	0
2	WZJ	d	3	2	7,8,9	0.50	0	6,9,11	1.21	0
2	MVA	Z	9	2	6,7,8	1.20	1 (16%)	6,8,10	1.22	1 (16%)
2	O7G	a	1	2	7,8,9	0.84	0	9,10,12	1.41	2 (22%)
2	NZC	Q	5	2	6,7,8	1.05	0	6,8,10	1.50	1 (16%)
2	WZJ	i	3	2	7,8,9	0.85	0	6,9,11	1.08	0
2	O7D	N	10	2	17,18,19	2.34	7 (41%)	22,24,26	1.95	7 (31%)
2	NZC	D	5	2	6,7,8	1.24	1 (16%)	6,8,10	0.94	0
2	WZJ	V	3	2	7,8,9	0.50	0	6,9,11	1.61	1 (16%)
2	H14	U	12	2	12,12,13	3.24	3 (25%)	14,15,17	1.67	2 (14%)
2	NZC	a	5	2	6,7,8	0.69	0	6,8,10	1.00	1 (16%)
2	NZC	P	5	2	6,7,8	1.08	0	6,8,10	1.11	1 (16%)
2	H14	E	12	2	12,12,13	3.15	3 (25%)	14,15,17	1.66	1 (7%)
2	NZC	J	5	2	6,7,8	0.72	0	6,8,10	1.00	0
2	MLE	g	7	2	7,8,9	0.82	0	7,9,11	1.10	0
2	WZJ	D	3	2	7,8,9	0.48	0	6,9,11	1.23	1 (16%)
2	O7G	V	1	2	7,8,9	0.66	0	9,10,12	1.42	2 (22%)
2	O7G	d	1	2	7,8,9	0.83	0	9,10,12	1.17	1 (11%)
2	H14	J	12	2	12,12,13	3.39	3 (25%)	14,15,17	1.48	2 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	O7G	b	1	2	7,8,9	0.62	0	9,10,12	1.53	1 (11%)
2	WZJ	b	3	2	7,8,9	0.93	0	6,9,11	1.81	1 (16%)
2	MLE	j	7	2	7,8,9	1.19	1 (14%)	7,9,11	1.11	0
2	MVA	S	9	2	6,7,8	1.93	1 (16%)	6,8,10	1.16	0
2	MLE	b	7	2	7,8,9	0.95	0	7,9,11	0.71	0
2	MVA	Q	9	2	6,7,8	0.92	0	6,8,10	1.91	3 (50%)
2	WZJ	E	3	2	7,8,9	0.53	0	6,9,11	1.38	1 (16%)
2	MLE	F	7	2	7,8,9	1.14	1 (14%)	7,9,11	1.45	1 (14%)
2	MVA	h	9	2	6,7,8	0.91	0	6,8,10	1.21	0
2	MLE	c	7	2	7,8,9	0.64	0	7,9,11	1.58	1 (14%)
2	H14	c	12	2	12,12,13	3.49	3 (25%)	14,15,17	1.84	3 (21%)
2	MVA	F	9	2	6,7,8	1.32	1 (16%)	6,8,10	0.99	0
2	MVA	c	9	2	6,7,8	1.25	1 (16%)	6,8,10	1.24	1 (16%)
2	NZC	F	5	2	6,7,8	1.02	0	6,8,10	1.52	1 (16%)
2	O7D	D	10	2	17,18,19	2.15	8 (47%)	22,24,26	1.69	4 (18%)
2	H14	a	12	2	12,12,13	3.66	3 (25%)	14,15,17	1.73	3 (21%)
2	NZC	i	5	2	6,7,8	1.27	1 (16%)	6,8,10	1.53	2 (33%)
2	MVA	P	9	2	6,7,8	1.12	1 (16%)	6,8,10	1.92	1 (16%)
2	MLE	d	7	2	7,8,9	1.16	0	7,9,11	1.23	1 (14%)
2	MLE	L	7	2	7,8,9	0.90	1 (14%)	7,9,11	1.14	1 (14%)
2	O7D	a	10	2	17,18,19	2.17	8 (47%)	22,24,26	1.30	4 (18%)
2	MLE	f	7	2	7,8,9	0.93	0	7,9,11	1.65	1 (14%)
2	MLE	U	7	2	7,8,9	1.15	1 (14%)	7,9,11	0.96	0
2	WZJ	J	3	2	7,8,9	0.51	0	6,9,11	1.60	1 (16%)
2	WZJ	X	3	2	7,8,9	0.51	0	6,9,11	1.04	0
2	MVA	i	9	2	6,7,8	1.25	1 (16%)	6,8,10	1.00	0
2	MVA	V	9	2	6,7,8	1.38	2 (33%)	6,8,10	3.40	3 (50%)
2	O7D	i	10	2	17,18,19	1.96	7 (41%)	22,24,26	1.72	4 (18%)
2	O7D	H	10	2	17,18,19	2.09	6 (35%)	22,24,26	1.75	4 (18%)
2	NZC	b	5	2	6,7,8	0.86	0	6,8,10	1.50	1 (16%)
2	O7D	R	10	2	17,18,19	2.14	7 (41%)	22,24,26	1.93	5 (22%)
2	MVA	j	9	2	6,7,8	1.12	1 (16%)	6,8,10	2.55	1 (16%)
2	MVA	D	9	2	6,7,8	1.35	1 (16%)	6,8,10	2.27	3 (50%)
2	NZC	j	5	2	6,7,8	0.96	0	6,8,10	1.92	3 (50%)
2	O7G	Z	1	2	7,8,9	0.43	0	9,10,12	1.64	2 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NZC	c	5	2	6,7,8	0.88	0	6,8,10	1.04	1 (16%)
2	H14	b	12	2	12,12,13	2.90	3 (25%)	14,15,17	1.45	2 (14%)
2	MVA	b	9	2	6,7,8	1.29	1 (16%)	6,8,10	1.73	2 (33%)
2	H14	N	12	2	12,12,13	3.37	3 (25%)	14,15,17	1.48	2 (14%)
2	NZC	X	5	2	6,7,8	1.09	0	6,8,10	0.96	0
2	MVA	U	9	2	6,7,8	0.74	0	6,8,10	1.38	1 (16%)
2	WZJ	U	3	2	7,8,9	0.48	0	6,9,11	1.41	1 (16%)
2	NZC	d	5	2	6,7,8	0.92	0	6,8,10	0.67	0
2	WZJ	j	3	2	7,8,9	0.62	0	6,9,11	1.29	1 (16%)
2	NZC	L	5	2	6,7,8	0.70	0	6,8,10	0.93	0
2	MVA	E	9	2	6,7,8	1.15	1 (16%)	6,8,10	1.16	0
2	MLE	P	7	2	7,8,9	0.77	0	7,9,11	0.84	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
2	O7G	P	1	2	-	2/9/10/12	-
2	MVA	H	9	2	-	3/6/8/10	-
2	O7G	f	1	2	-	0/9/10/12	-
2	H14	L	12	2	-	0/10/10/12	0/1/1/1
2	O7D	Q	10	2	-	1/7/10/12	0/2/2/2
2	MLE	X	7	2	-	0/5/8/10	-
2	O7G	R	1	2	-	7/9/10/12	-
2	MLE	S	7	2	-	0/5/8/10	-
2	O7G	D	1	2	-	5/9/10/12	-
2	MVA	J	9	2	-	5/6/8/10	-
2	WZJ	c	3	2	-	3/8/10/12	-
2	O7G	J	1	2	-	1/9/10/12	-
2	NZC	f	5	2	-	0/6/8/10	-
2	NZC	h	5	2	-	0/6/8/10	-
2	NZC	E	5	2	-	5/6/8/10	-
2	O7D	E	10	2	-	1/7/10/12	0/2/2/2
2	O7D	d	10	2	-	1/7/10/12	0/2/2/2
2	H14	V	12	2	-	2/10/10/12	0/1/1/1
2	O7D	S	10	2	-	1/7/10/12	0/2/2/2
2	O7G	H	1	2	-	3/9/10/12	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	WZJ	f	3	2	-	1/8/10/12	-
2	O7D	j	10	2	-	0/7/10/12	0/2/2/2
2	O7G	Q	1	2	-	5/9/10/12	-
2	O7G	N	1	2	-	1/9/10/12	-
2	O7G	h	1	2	-	8/9/10/12	-
2	H14	P	12	2	-	1/10/10/12	0/1/1/1
2	O7D	F	10	2	-	2/7/10/12	0/2/2/2
2	O7D	c	10	2	-	1/7/10/12	0/2/2/2
2	O7G	L	1	2	-	0/9/10/12	-
2	H14	d	12	2	-	2/10/10/12	0/1/1/1
2	WZJ	N	3	2	-	1/8/10/12	-
2	NZC	Z	5	2	-	4/6/8/10	-
2	O7D	X	10	2	-	1/7/10/12	0/2/2/2
2	MLE	N	7	2	-	0/5/8/10	-
2	WZJ	P	3	2	-	0/8/10/12	-
2	MVA	d	9	2	-	5/6/8/10	-
2	O7D	L	10	2	-	1/7/10/12	0/2/2/2
2	O7D	f	10	2	-	1/7/10/12	0/2/2/2
2	O7D	h	10	2	-	1/7/10/12	0/2/2/2
2	H14	Q	12	2	-	2/10/10/12	0/1/1/1
2	MLE	E	7	2	-	1/5/8/10	-
2	WZJ	R	3	2	-	3/8/10/12	-
2	H14	j	12	2	-	2/10/10/12	0/1/1/1
2	O7G	S	1	2	-	6/9/10/12	-
2	WZJ	g	3	2	-	2/8/10/12	-
2	O7G	j	1	2	-	0/9/10/12	-
2	MLE	Q	7	2	-	0/5/8/10	-
2	MLE	h	7	2	-	0/5/8/10	-
2	O7G	F	1	2	-	4/9/10/12	-
2	O7G	c	1	2	-	4/9/10/12	-
2	O7G	g	1	2	-	4/9/10/12	-
2	MVA	a	9	2	-	1/6/8/10	-
2	MLE	Z	7	2	-	0/5/8/10	-
2	H14	f	12	2	-	2/10/10/12	0/1/1/1
2	MVA	L	9	2	-	5/6/8/10	-
2	MLE	D	7	2	-	3/5/8/10	-
2	O7D	Z	10	2	-	2/7/10/12	0/2/2/2
2	MVA	f	9	2	-	4/6/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NZC	N	5	2	-	0/6/8/10	-
2	WZJ	H	3	2	-	3/8/10/12	-
2	O7G	X	1	2	-	1/9/10/12	-
2	O7D	g	10	2	-	1/7/10/12	0/2/2/2
2	WZJ	Z	3	2	-	3/8/10/12	-
2	O7G	i	1	2	-	0/9/10/12	-
2	H14	S	12	2	-	0/10/10/12	0/1/1/1
2	MVA	N	9	2	-	3/6/8/10	-
2	WZJ	L	3	2	-	7/8/10/12	-
2	H14	F	12	2	-	3/10/10/12	0/1/1/1
2	MLE	i	7	2	-	0/5/8/10	-
2	NZC	R	5	2	-	4/6/8/10	-
2	H14	X	12	2	-	2/10/10/12	0/1/1/1
2	MLE	V	7	2	-	3/5/8/10	-
2	NZC	g	5	2	-	1/6/8/10	-
2	MVA	X	9	2	-	2/6/8/10	-
2	H14	h	12	2	-	2/10/10/12	0/1/1/1
2	NZC	S	5	2	-	4/6/8/10	-
2	NZC	H	5	2	-	1/6/8/10	-
2	MLE	R	7	2	-	2/5/8/10	-
2	H14	H	12	2	-	2/10/10/12	0/1/1/1
2	H14	R	12	2	-	4/10/10/12	0/1/1/1
2	H14	g	12	2	-	2/10/10/12	0/1/1/1
2	MVA	R	9	2	-	1/6/8/10	-
2	O7G	U	1	2	-	1/9/10/12	-
2	H14	Z	12	2	-	2/10/10/12	0/1/1/1
2	O7D	V	10	2	-	3/7/10/12	0/2/2/2
2	MVA	g	9	2	-	1/6/8/10	-
2	MLE	a	7	2	-	0/5/8/10	-
2	O7G	E	1	2	-	0/9/10/12	-
2	MLE	J	7	2	-	0/5/8/10	-
2	WZJ	S	3	2	-	5/8/10/12	-
2	WZJ	Q	3	2	-	3/8/10/12	-
2	O7D	J	10	2	-	1/7/10/12	0/2/2/2
2	O7D	P	10	2	-	1/7/10/12	0/2/2/2
2	WZJ	h	3	2	-	6/8/10/12	-
2	H14	D	12	2	-	2/10/10/12	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	WZJ	F	3	2	-	6/8/10/12	-
2	O7D	U	10	2	-	2/7/10/12	0/2/2/2
2	O7D	b	10	2	-	0/7/10/12	0/2/2/2
2	MLE	H	7	2	-	0/5/8/10	-
2	H14	i	12	2	-	0/10/10/12	0/1/1/1
2	WZJ	a	3	2	-	3/8/10/12	-
2	NZC	V	5	2	-	5/6/8/10	-
2	NZC	U	5	2	-	0/6/8/10	-
2	WZJ	d	3	2	-	1/8/10/12	-
2	MVA	Z	9	2	-	2/6/8/10	-
2	O7G	a	1	2	-	0/9/10/12	-
2	NZC	Q	5	2	-	4/6/8/10	-
2	WZJ	i	3	2	-	2/8/10/12	-
2	O7D	N	10	2	-	1/7/10/12	0/2/2/2
2	NZC	D	5	2	-	0/6/8/10	-
2	WZJ	V	3	2	-	2/8/10/12	-
2	H14	U	12	2	-	2/10/10/12	0/1/1/1
2	NZC	a	5	2	-	1/6/8/10	-
2	NZC	P	5	2	-	0/6/8/10	-
2	H14	E	12	2	-	2/10/10/12	0/1/1/1
2	NZC	J	5	2	-	4/6/8/10	-
2	MLE	g	7	2	-	0/5/8/10	-
2	WZJ	D	3	2	-	2/8/10/12	-
2	O7G	V	1	2	-	1/9/10/12	-
2	O7G	d	1	2	-	3/9/10/12	-
2	H14	J	12	2	-	2/10/10/12	0/1/1/1
2	O7G	b	1	2	-	0/9/10/12	-
2	WZJ	b	3	2	-	5/8/10/12	-
2	MLE	j	7	2	-	0/5/8/10	-
2	MVA	S	9	2	-	1/6/8/10	-
2	MLE	b	7	2	-	0/5/8/10	-
2	MVA	Q	9	2	-	1/6/8/10	-
2	WZJ	E	3	2	-	4/8/10/12	-
2	MLE	F	7	2	-	0/5/8/10	-
2	MVA	h	9	2	-	3/6/8/10	-
2	MLE	c	7	2	-	2/5/8/10	-
2	H14	c	12	2	-	2/10/10/12	0/1/1/1
2	MVA	F	9	2	-	3/6/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	MVA	c	9	2	-	3/6/8/10	-
2	NZC	F	5	2	-	0/6/8/10	-
2	O7D	D	10	2	-	2/7/10/12	0/2/2/2
2	H14	a	12	2	-	1/10/10/12	0/1/1/1
2	NZC	i	5	2	-	1/6/8/10	-
2	MVA	P	9	2	-	1/6/8/10	-
2	MLE	d	7	2	-	3/5/8/10	-
2	MLE	L	7	2	-	1/5/8/10	-
2	O7D	a	10	2	-	1/7/10/12	0/2/2/2
2	MLE	f	7	2	-	0/5/8/10	-
2	MLE	U	7	2	-	0/5/8/10	-
2	WZJ	J	3	2	-	1/8/10/12	-
2	WZJ	X	3	2	-	3/8/10/12	-
2	MVA	i	9	2	-	1/6/8/10	-
2	MVA	V	9	2	-	5/6/8/10	-
2	O7D	i	10	2	-	1/7/10/12	0/2/2/2
2	O7D	H	10	2	-	1/7/10/12	0/2/2/2
2	NZC	b	5	2	-	0/6/8/10	-
2	O7D	R	10	2	-	0/7/10/12	0/2/2/2
2	MVA	j	9	2	-	5/6/8/10	-
2	MVA	D	9	2	-	3/6/8/10	-
2	NZC	j	5	2	-	0/6/8/10	-
2	O7G	Z	1	2	-	1/9/10/12	-
2	NZC	c	5	2	-	5/6/8/10	-
2	H14	b	12	2	-	2/10/10/12	0/1/1/1
2	MVA	b	9	2	-	1/6/8/10	-
2	H14	N	12	2	-	2/10/10/12	0/1/1/1
2	NZC	X	5	2	-	3/6/8/10	-
2	MVA	U	9	2	-	3/6/8/10	-
2	WZJ	U	3	2	-	2/8/10/12	-
2	NZC	d	5	2	-	2/6/8/10	-
2	WZJ	j	3	2	-	1/8/10/12	-
2	NZC	L	5	2	-	1/6/8/10	-
2	MVA	E	9	2	-	1/6/8/10	-
2	MLE	P	7	2	-	0/5/8/10	-

The worst 5 of 279 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	c	12	H14	CG-CB	-8.82	1.38	1.51
2	X	12	H14	CG-CB	-8.59	1.39	1.51
2	L	12	H14	CG-CB	-8.55	1.39	1.51
2	S	12	H14	CG-CB	-8.43	1.39	1.51
2	d	12	H14	CG-CB	-8.34	1.39	1.51

The worst 5 of 302 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	L	1	O7G	CAB-N-CA	7.91	133.72	114.25
2	N	9	MVA	CB-CA-C	-7.12	103.77	112.96
2	X	1	O7G	CAB-N-CA	6.94	131.33	114.25
2	J	9	MVA	CB-CA-C	-6.94	104.01	112.96
2	Z	12	H14	OXT-C-CA	6.35	125.32	111.55

There are no chirality outliers.

5 of 319 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	1	O7G	C-CA-N-CAA
2	D	1	O7G	C-CA-N-CAB
2	D	1	O7G	CB-CA-N-CAB
2	D	1	O7G	C-CA-CB-CAG
2	F	1	O7G	C-CA-N-CAA

There are no ring outliers.

84 monomers are involved in 150 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	P	1	O7G	2	0
2	H	9	MVA	1	0
2	Q	10	O7D	2	0
2	X	7	MLE	1	0
2	S	7	MLE	1	0
2	J	9	MVA	3	0
2	c	3	WZJ	1	0
2	f	5	NZC	3	0
2	h	5	NZC	3	0
2	E	5	NZC	3	0
2	d	10	O7D	2	0
2	S	10	O7D	1	0
2	Q	1	O7G	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	Z	5	NZC	2	0
2	X	10	O7D	1	0
2	N	7	MLE	1	0
2	d	9	MVA	3	0
2	L	10	O7D	2	0
2	h	10	O7D	1	0
2	E	7	MLE	2	0
2	j	1	O7G	1	0
2	h	7	MLE	1	0
2	a	9	MVA	5	0
2	L	9	MVA	2	0
2	D	7	MLE	1	0
2	Z	10	O7D	1	0
2	f	9	MVA	2	0
2	N	5	NZC	2	0
2	N	9	MVA	5	0
2	i	7	MLE	1	0
2	R	5	NZC	2	0
2	V	7	MLE	1	0
2	g	5	NZC	1	0
2	X	9	MVA	3	0
2	S	5	NZC	1	0
2	H	5	NZC	3	0
2	R	7	MLE	1	0
2	R	9	MVA	2	0
2	V	10	O7D	1	0
2	g	9	MVA	1	0
2	J	7	MLE	1	0
2	J	10	O7D	1	0
2	b	10	O7D	1	0
2	V	5	NZC	4	0
2	U	5	NZC	1	0
2	Z	9	MVA	2	0
2	Q	5	NZC	2	0
2	N	10	O7D	3	0
2	D	5	NZC	2	0
2	a	5	NZC	2	0
2	J	5	NZC	2	0
2	b	3	WZJ	1	0
2	j	7	MLE	1	0
2	S	9	MVA	3	0
2	b	7	MLE	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	Q	9	MVA	2	0
2	F	7	MLE	1	0
2	h	9	MVA	2	0
2	c	7	MLE	1	0
2	c	12	H14	1	0
2	F	9	MVA	1	0
2	c	9	MVA	2	0
2	F	5	NZC	2	0
2	i	5	NZC	2	0
2	P	9	MVA	2	0
2	d	7	MLE	1	0
2	L	7	MLE	2	0
2	a	10	O7D	1	0
2	U	7	MLE	1	0
2	i	9	MVA	1	0
2	V	9	MVA	9	0
2	H	10	O7D	1	0
2	b	5	NZC	3	0
2	R	10	O7D	1	0
2	j	9	MVA	4	0
2	D	9	MVA	3	0
2	j	5	NZC	4	0
2	c	5	NZC	2	0
2	b	9	MVA	8	0
2	X	5	NZC	2	0
2	U	9	MVA	2	0
2	d	5	NZC	1	0
2	E	9	MVA	2	0
2	P	7	MLE	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

20 ligands are modelled in this entry.

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	ACT	K	501	-	3,3,3	1.67	1 (33%)	3,3,3	1.44	0
3	ACT	W	404	-	3,3,3	1.34	0	3,3,3	1.29	0
3	ACT	G	501	-	3,3,3	1.46	1 (33%)	3,3,3	1.46	0
3	ACT	A	502	-	3,3,3	0.99	0	3,3,3	1.89	1 (33%)
3	ACT	I	502	-	3,3,3	1.44	0	3,3,3	1.62	1 (33%)
3	ACT	C	501	-	3,3,3	1.56	0	3,3,3	1.57	1 (33%)
3	ACT	W	403	-	3,3,3	1.82	1 (33%)	3,3,3	1.27	0
3	ACT	W	402	-	3,3,3	1.39	0	3,3,3	1.30	0
3	ACT	e	402	-	3,3,3	1.34	0	3,3,3	1.46	0
3	ACT	A	501	-	3,3,3	1.80	1 (33%)	3,3,3	1.62	1 (33%)
3	ACT	I	501	-	3,3,3	1.64	1 (33%)	3,3,3	1.41	0
3	ACT	T	501	-	3,3,3	1.75	2 (66%)	3,3,3	1.59	1 (33%)
3	ACT	M	501	-	3,3,3	1.48	1 (33%)	3,3,3	1.31	0
3	ACT	W	401	-	3,3,3	1.61	1 (33%)	3,3,3	1.35	0
3	ACT	B	501	-	3,3,3	1.68	1 (33%)	3,3,3	1.60	1 (33%)
3	ACT	Y	503	-	3,3,3	0.68	0	3,3,3	1.88	2 (66%)
3	ACT	O	501	-	3,3,3	1.35	0	3,3,3	1.47	0
3	ACT	Y	501	-	3,3,3	1.19	0	3,3,3	1.57	0
3	ACT	e	401	-	3,3,3	1.58	1 (33%)	3,3,3	1.57	1 (33%)
3	ACT	Y	502	-	3,3,3	2.26	2 (66%)	3,3,3	1.31	0

The worst 5 of 13 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	Y	502	ACT	CH3-C	3.10	1.61	1.49
3	W	403	ACT	CH3-C	2.80	1.60	1.49
3	A	501	ACT	CH3-C	2.66	1.59	1.49
3	K	501	ACT	CH3-C	2.44	1.58	1.49
3	B	501	ACT	CH3-C	2.41	1.58	1.49

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	502	ACT	OXT-C-O	2.63	131.78	122.03
3	Y	503	ACT	OXT-C-O	2.33	130.67	122.03

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	Y	503	ACT	O-C-CH3	-2.26	113.25	122.53
3	T	501	ACT	OXT-C-O	2.22	130.27	122.03
3	B	501	ACT	OXT-C-O	2.18	130.13	122.03

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

11 monomers are involved in 26 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	K	501	ACT	2	0
3	A	502	ACT	2	0
3	W	403	ACT	3	0
3	A	501	ACT	1	0
3	M	501	ACT	1	0
3	W	401	ACT	6	0
3	Y	503	ACT	1	0
3	O	501	ACT	1	0
3	Y	501	ACT	2	0
3	e	401	ACT	6	0
3	Y	502	ACT	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

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

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	144/158 (91%)	-1.45	0 100 100	42, 58, 88, 110	0
1	B	145/158 (91%)	-1.48	0 100 100	41, 60, 96, 115	0
1	C	145/158 (91%)	-1.41	0 100 100	49, 72, 97, 123	0
1	G	147/158 (93%)	-1.51	0 100 100	42, 55, 78, 100	0
1	I	146/158 (92%)	-1.49	0 100 100	32, 55, 80, 104	1 (0%)
1	K	146/158 (92%)	-1.42	0 100 100	50, 72, 93, 109	0
1	M	144/158 (91%)	-1.41	0 100 100	49, 70, 94, 112	0
1	O	147/158 (93%)	-1.47	0 100 100	43, 58, 85, 107	0
1	T	146/158 (92%)	-1.49	0 100 100	43, 58, 89, 108	0
1	W	147/158 (93%)	-1.44	0 100 100	49, 69, 101, 114	0
1	Y	147/158 (93%)	-1.48	0 100 100	41, 59, 81, 136	0
1	e	147/158 (93%)	-1.50	0 100 100	40, 56, 85, 111	0
2	D	6/13 (46%)	-1.52	0 100 100	48, 50, 51, 54	0
2	E	6/13 (46%)	-1.41	0 100 100	52, 64, 86, 134	0
2	F	6/13 (46%)	-1.41	0 100 100	48, 49, 52, 54	0
2	H	6/13 (46%)	-1.38	0 100 100	52, 62, 82, 141	0
2	J	6/13 (46%)	-1.60	0 100 100	52, 56, 56, 58	0
2	L	6/13 (46%)	-1.50	0 100 100	56, 59, 72, 97	0
2	N	6/13 (46%)	-1.51	0 100 100	45, 49, 54, 56	0
2	P	6/13 (46%)	-1.25	0 100 100	55, 64, 90, 135	0
2	Q	6/13 (46%)	-1.28	0 100 100	52, 65, 96, 132	0
2	R	6/13 (46%)	-1.54	0 100 100	48, 52, 53, 54	0
2	S	6/13 (46%)	-1.41	0 100 100	60, 61, 70, 105	0
2	U	6/13 (46%)	-1.51	0 100 100	49, 52, 55, 56	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
2	V	6/13 (46%)	-1.39	0 100 100	51, 55, 57, 63	0
2	X	6/13 (46%)	-1.21	0 100 100	53, 63, 82, 140	0
2	Z	6/13 (46%)	-1.53	0 100 100	42, 46, 49, 54	0
2	a	6/13 (46%)	-1.21	0 100 100	62, 75, 99, 137	0
2	b	6/13 (46%)	-1.57	0 100 100	47, 48, 52, 54	0
2	c	6/13 (46%)	-1.54	0 100 100	56, 64, 86, 124	0
2	d	6/13 (46%)	-1.37	0 100 100	52, 62, 82, 116	0
2	f	6/13 (46%)	-1.72	0 100 100	48, 50, 51, 53	0
2	g	6/13 (46%)	-1.40	0 100 100	62, 72, 95, 131	0
2	h	6/13 (46%)	-1.58	0 100 100	44, 48, 49, 54	0
2	i	6/13 (46%)	-1.55	0 100 100	56, 69, 87, 137	0
2	j	6/13 (46%)	-1.64	0 100 100	49, 50, 52, 54	0
All	All	1895/2208 (85%)	-1.46	0 100 100	32, 61, 94, 141	1 (0%)

There are no RSRZ outliers to report.

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	O7G	a	1	9/10	0.88	0.08	156,161,174,176	0
2	O7G	X	1	9/10	0.91	0.07	137,142,147,149	0
2	O7G	E	1	9/10	0.91	0.08	139,148,154,155	0
2	O7G	H	1	9/10	0.94	0.06	158,169,173,174	0
2	WZJ	Q	3	9/10	0.94	0.06	92,119,127,129	0
2	O7G	d	1	9/10	0.95	0.04	120,131,140,141	0
2	O7G	c	1	9/10	0.95	0.06	135,140,145,148	0
2	O7G	i	1	9/10	0.96	0.05	133,139,146,148	0
2	O7G	P	1	9/10	0.97	0.07	112,124,141,144	0
2	O7G	g	1	9/10	0.97	0.05	126,130,141,142	0
2	WZJ	X	3	9/10	0.97	0.05	100,105,123,128	0
2	WZJ	a	3	9/10	0.97	0.04	105,115,129,129	0
2	WZJ	c	3	9/10	0.97	0.04	90,96,110,121	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	WZJ	g	3	9/10	0.97	0.04	91,110,115,117	0
2	WZJ	E	3	9/10	0.98	0.04	96,107,118,120	0
2	WZJ	H	3	9/10	0.98	0.03	87,102,119,120	0
2	WZJ	J	3	9/10	0.98	0.04	45,50,54,55	0
2	WZJ	P	3	9/10	0.98	0.04	100,116,123,131	0
2	O7G	F	1	9/10	0.98	0.05	53,60,71,77	0
2	WZJ	V	3	9/10	0.98	0.05	43,49,57,57	0
2	O7G	f	1	9/10	0.98	0.04	54,57,65,65	0
2	WZJ	Z	3	9/10	0.98	0.04	40,49,55,57	0
2	O7G	Q	1	9/10	0.98	0.07	101,114,141,142	0
2	O7G	U	1	9/10	0.98	0.04	48,58,68,76	0
2	WZJ	d	3	9/10	0.98	0.04	89,103,110,114	0
2	WZJ	f	3	9/10	0.98	0.04	43,47,56,57	0
2	WZJ	D	3	9/10	0.98	0.04	43,47,54,55	0
2	WZJ	i	3	9/10	0.98	0.04	93,106,125,132	0
2	NZC	P	5	8/9	0.98	0.04	69,82,91,94	0
2	NZC	V	5	8/9	0.98	0.04	48,54,58,67	0
2	NZC	c	5	8/9	0.98	0.04	63,74,84,87	0
2	NZC	g	5	8/9	0.98	0.04	69,74,85,88	0
2	MLE	F	7	9/10	0.98	0.04	48,50,55,55	0
2	MLE	g	7	9/10	0.98	0.04	52,62,64,65	0
2	MVA	F	9	8/9	0.98	0.04	51,53,57,60	0
2	H14	h	12	12/13	0.98	0.05	41,45,48,48	0
2	O7G	S	1	9/10	0.99	0.04	72,86,91,93	0
2	O7G	L	1	9/10	0.99	0.04	73,88,96,98	0
2	O7G	h	1	9/10	0.99	0.03	52,57,64,68	0
2	O7G	V	1	9/10	0.99	0.05	62,66,70,76	0
2	WZJ	b	3	9/10	0.99	0.05	35,46,52,69	0
2	O7G	j	1	9/10	0.99	0.02	48,51,63,66	0
2	O7G	N	1	9/10	0.99	0.03	54,56,67,69	0
2	O7G	Z	1	9/10	0.99	0.03	52,56,63,70	0
2	WZJ	F	3	9/10	0.99	0.04	43,49,54,65	0
2	WZJ	h	3	9/10	0.99	0.03	53,54,61,64	0
2	O7G	D	1	9/10	0.99	0.03	56,60,70,80	0
2	NZC	D	5	8/9	0.99	0.03	41,47,55,63	0
2	NZC	E	5	8/9	0.99	0.05	65,74,82,84	0
2	NZC	F	5	8/9	0.99	0.03	42,46,52,57	0
2	NZC	H	5	8/9	0.99	0.05	58,74,79,83	0
2	NZC	J	5	8/9	0.99	0.03	47,53,59,64	0
2	NZC	L	5	8/9	0.99	0.03	59,64,75,84	0
2	NZC	N	5	8/9	0.99	0.04	39,43,54,68	0
2	O7G	b	1	9/10	0.99	0.02	45,54,62,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	NZC	Q	5	8/9	0.99	0.03	66,85,89,91	0
2	NZC	R	5	8/9	0.99	0.03	43,54,56,59	0
2	NZC	S	5	8/9	0.99	0.03	60,66,79,79	0
2	NZC	U	5	8/9	0.99	0.03	42,48,52,56	0
2	WZJ	L	3	9/10	0.99	0.03	79,86,94,98	0
2	NZC	X	5	8/9	0.99	0.07	56,65,72,74	0
2	NZC	Z	5	8/9	0.99	0.04	40,43,51,55	0
2	NZC	a	5	8/9	0.99	0.04	72,84,91,91	0
2	NZC	b	5	8/9	0.99	0.04	41,45,63,63	0
2	WZJ	N	3	9/10	0.99	0.04	38,46,49,52	0
2	NZC	d	5	8/9	0.99	0.03	58,70,74,75	0
2	NZC	f	5	8/9	0.99	0.03	43,54,56,66	0
2	O7G	J	1	9/10	0.99	0.05	51,56,68,70	0
2	NZC	i	5	8/9	0.99	0.04	71,76,87,88	0
2	NZC	j	5	8/9	0.99	0.03	43,48,57,61	0
2	MLE	D	7	9/10	0.99	0.04	48,50,51,52	0
2	MLE	E	7	9/10	0.99	0.04	52,57,59,62	0
2	O7G	R	1	9/10	0.99	0.04	46,52,67,73	0
2	MLE	H	7	9/10	0.99	0.03	50,57,62,63	0
2	MLE	J	7	9/10	0.99	0.04	51,54,59,60	0
2	MLE	L	7	9/10	0.99	0.03	53,56,59,61	0
2	MLE	N	7	9/10	0.99	0.03	40,50,54,58	0
2	MLE	P	7	9/10	0.99	0.04	50,55,59,60	0
2	MLE	Q	7	9/10	0.99	0.03	51,52,60,61	0
2	MLE	R	7	9/10	0.99	0.03	44,48,51,53	0
2	MLE	S	7	9/10	0.99	0.03	53,54,61,61	0
2	MLE	U	7	9/10	0.99	0.03	45,48,54,54	0
2	MLE	X	7	9/10	0.99	0.03	49,51,53,57	0
2	MLE	Z	7	9/10	0.99	0.04	39,44,50,53	0
2	MLE	a	7	9/10	0.99	0.03	59,64,66,67	0
2	MLE	b	7	9/10	0.99	0.05	45,53,56,57	0
2	MLE	c	7	9/10	0.99	0.03	49,58,61,61	0
2	MLE	d	7	9/10	0.99	0.04	49,54,56,58	0
2	MLE	f	7	9/10	0.99	0.03	44,49,52,53	0
2	WZJ	R	3	9/10	0.99	0.04	39,49,52,55	0
2	MLE	h	7	9/10	0.99	0.04	44,47,52,55	0
2	MLE	i	7	9/10	0.99	0.04	51,57,61,62	0
2	MLE	j	7	9/10	0.99	0.03	48,51,54,55	0
2	MVA	D	9	8/9	0.99	0.03	49,55,57,59	0
2	MVA	E	9	8/9	0.99	0.04	51,55,60,62	0
2	WZJ	S	3	9/10	0.99	0.03	74,82,92,93	0
2	MVA	H	9	8/9	0.99	0.03	44,52,55,63	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	MVA	J	9	8/9	0.99	0.04	54,61,73,78	0
2	MVA	L	9	8/9	0.99	0.04	55,60,68,70	0
2	MVA	N	9	8/9	0.99	0.03	59,67,76,79	0
2	MVA	P	9	8/9	0.99	0.03	50,54,66,68	0
2	MVA	Q	9	8/9	0.99	0.04	44,51,60,62	0
2	MVA	R	9	8/9	0.99	0.02	50,54,57,57	0
2	MVA	S	9	8/9	0.99	0.03	56,59,62,63	0
2	MVA	U	9	8/9	0.99	0.03	54,56,60,61	0
2	MVA	V	9	8/9	0.99	0.04	65,72,80,80	0
2	MVA	X	9	8/9	0.99	0.03	45,53,57,62	0
2	MVA	Z	9	8/9	0.99	0.03	43,47,55,58	0
2	MVA	a	9	8/9	0.99	0.03	48,57,62,72	0
2	MVA	b	9	8/9	0.99	0.04	52,60,66,68	0
2	MVA	c	9	8/9	0.99	0.03	43,50,57,58	0
2	MVA	d	9	8/9	0.99	0.03	40,51,54,56	0
2	MVA	f	9	8/9	0.99	0.04	50,55,57,58	0
2	MVA	g	9	8/9	0.99	0.06	52,60,63,72	0
2	MVA	h	9	8/9	0.99	0.03	48,52,60,63	0
2	MVA	i	9	8/9	0.99	0.03	44,51,58,61	0
2	MVA	j	9	8/9	0.99	0.03	50,55,66,69	0
2	O7D	D	10	17/18	0.99	0.03	44,57,62,63	0
2	O7D	E	10	17/18	0.99	0.03	41,47,53,56	0
2	O7D	F	10	17/18	0.99	0.04	45,55,60,61	0
2	O7D	H	10	17/18	0.99	0.04	43,47,53,56	0
2	O7D	J	10	17/18	0.99	0.03	52,57,62,65	0
2	O7D	L	10	17/18	0.99	0.03	46,53,57,64	0
2	O7D	N	10	17/18	0.99	0.04	46,52,57,58	0
2	O7D	P	10	17/18	0.99	0.03	45,53,56,57	0
2	O7D	Q	10	17/18	0.99	0.03	39,49,56,56	0
2	O7D	R	10	17/18	0.99	0.04	44,49,56,56	0
2	O7D	U	10	17/18	0.99	0.03	51,56,61,65	0
2	O7D	V	10	17/18	0.99	0.04	55,58,64,73	0
2	O7D	X	10	17/18	0.99	0.03	48,52,55,58	0
2	O7D	Z	10	17/18	0.99	0.03	43,48,59,62	0
2	O7D	a	10	17/18	0.99	0.04	42,53,61,61	0
2	O7D	b	10	17/18	0.99	0.03	48,53,57,59	0
2	O7D	c	10	17/18	0.99	0.03	45,49,55,55	0
2	O7D	d	10	17/18	0.99	0.03	46,52,57,61	0
2	O7D	f	10	17/18	0.99	0.03	45,54,56,57	0
2	O7D	g	10	17/18	0.99	0.03	45,55,57,59	0
2	O7D	h	10	17/18	0.99	0.03	47,52,60,61	0
2	O7D	i	10	17/18	0.99	0.02	44,49,53,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	O7D	j	10	17/18	0.99	0.03	43,53,55,56	0
2	H14	D	12	12/13	0.99	0.03	42,48,52,52	0
2	H14	E	12	12/13	0.99	0.03	47,53,62,62	0
2	H14	F	12	12/13	0.99	0.03	44,47,52,52	0
2	H14	H	12	12/13	0.99	0.05	43,54,62,63	0
2	H14	J	12	12/13	0.99	0.03	52,55,58,62	0
2	H14	L	12	12/13	0.99	0.03	57,61,64,65	0
2	H14	N	12	12/13	0.99	0.04	40,44,47,53	0
2	H14	P	12	12/13	0.99	0.03	57,60,63,66	0
2	H14	Q	12	12/13	0.99	0.04	52,60,64,65	0
2	H14	R	12	12/13	0.99	0.02	42,48,50,52	0
2	H14	S	12	12/13	0.99	0.03	58,62,64,65	0
2	H14	U	12	12/13	0.99	0.04	42,48,51,52	0
2	H14	X	12	12/13	0.99	0.02	47,54,58,60	0
2	H14	Z	12	12/13	0.99	0.02	34,39,42,43	0
2	H14	a	12	12/13	0.99	0.03	57,66,73,73	0
2	H14	b	12	12/13	0.99	0.03	41,46,51,53	0
2	H14	c	12	12/13	0.99	0.04	48,58,65,73	0
2	H14	d	12	12/13	0.99	0.03	46,51,56,57	0
2	H14	f	12	12/13	0.99	0.03	47,52,56,59	0
2	H14	g	12	12/13	0.99	0.03	56,64,67,67	0
2	WZJ	U	3	9/10	0.99	0.03	48,49,55,58	0
2	H14	i	12	12/13	0.99	0.05	51,55,70,74	0
2	H14	j	12	12/13	0.99	0.03	43,46,53,54	0
2	MLE	V	7	9/10	1.00	0.02	45,54,59,64	0
2	O7D	S	10	17/18	1.00	0.02	46,52,58,59	0
2	WZJ	j	3	9/10	1.00	0.02	40,44,51,54	0
2	H14	V	12	12/13	1.00	0.03	51,52,56,57	0
2	NZC	h	5	8/9	1.00	0.02	41,47,58,59	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	ACT	W	403	4/4	0.95	0.05	87,91,92,93	0
3	ACT	I	502	4/4	0.96	0.04	63,74,75,77	0
3	ACT	W	404	4/4	0.96	0.06	86,89,94,98	0
3	ACT	Y	502	4/4	0.97	0.06	54,64,64,73	0
3	ACT	I	501	4/4	0.98	0.06	41,42,51,51	4
3	ACT	A	502	4/4	0.98	0.05	67,74,77,78	0
3	ACT	W	401	4/4	0.98	0.10	68,75,85,86	0
3	ACT	e	401	4/4	0.98	0.05	74,77,81,87	0
3	ACT	K	501	4/4	0.98	0.13	59,61,65,65	4
3	ACT	Y	501	4/4	0.99	0.03	42,44,45,47	4
3	ACT	W	402	4/4	0.99	0.06	57,58,58,62	4
3	ACT	Y	503	4/4	0.99	0.05	51,63,64,64	0
3	ACT	C	501	4/4	0.99	0.02	53,57,64,67	0
3	ACT	e	402	4/4	0.99	0.06	41,44,47,49	0
3	ACT	B	501	4/4	0.99	0.03	39,43,53,54	0
3	ACT	G	501	4/4	0.99	0.03	40,49,51,54	0
3	ACT	A	501	4/4	0.99	0.04	37,45,55,56	0
3	ACT	M	501	4/4	0.99	0.07	54,57,61,61	4
3	ACT	O	501	4/4	0.99	0.04	43,48,49,54	4
3	ACT	T	501	4/4	0.99	0.03	45,46,50,54	0

6.5 Other polymers [i](#)

There are no such residues in this entry.