



# Full wwPDB X-ray Structure Validation Report ⓘ

Nov 14, 2023 – 04:04 PM JST

PDB ID : 5ZJU  
Title : Crystal structure of in vitro expressed and assembled PCV2 Virus-like Particle  
Authors : Yuan, Y.A.; Mo, X.  
Deposited on : 2018-03-22  
Resolution : 2.80 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  
Xtrriage (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

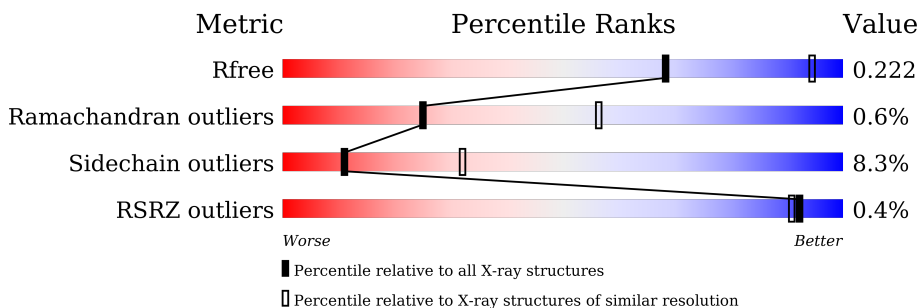
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.80 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	3140 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

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	1	209	 81% 8% 10%
1	2	209	 81% 9% 10%
1	3	209	 80% 10% 10%
1	4	209	 81% 9% 10%
1	5	209	 80% 8% 10%
1	6	209	 82% 8% 10%
1	7	209	 80% 9% 10%









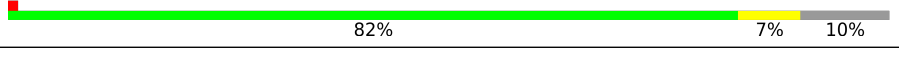
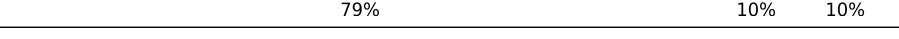
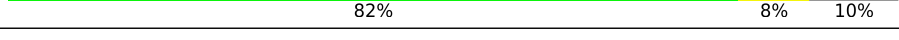
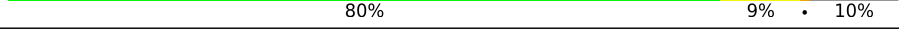


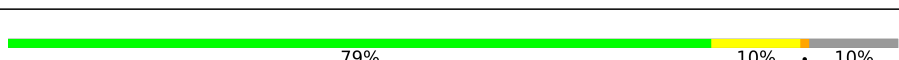










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Mol	Chain	Length	Quality of chain
1	8	209	80% 8% • 10%
1	9	209	80% 9% • 10%
1	A	209	79% 10% • 10%
1	B	209	81% 8% • 10%
1	C	209	80% 9% • 10%
1	D	209	79% 10% • 10%
1	E	209	80% 8% • 10%
1	F	209	80% 9% • 10%
1	G	209	79% 10% • 10%
1	H	209	81% 8% • 10%
1	I	209	80% 9% • 10%
1	J	209	80% 9% • 10%
1	K	209	82% 6% • 10%
1	L	209	79% 11% • 10%
1	M	209	81% 7% • 10%
1	N	209	79% 10% • 10%
1	O	209	79% 9% • 10%
1	P	209	80% 8% • 10%
1	Q	209	81% 7% • 10%
1	R	209	78% 11% • 10%
1	S	209	82% 7% • 10%
1	T	209	80% 9% • 10%
1	U	209	82% 8% • 10%
1	V	209	83% 6% • 10%
1	W	209	80% 10% • 10%




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Mol	Chain	Length	Quality of chain
1	X	209	 % 80% 9% 10%
1	Y	209	 % 78% 11% 10%
1	Z	209	 % 82% 6% 10%
1	a	209	 % 79% 10% 10%
1	b	209	 % 81% 7% 10%
1	c	209	 % 78% 11% 10%
1	d	209	 % 78% 11% 10%
1	e	209	 % 81% 9% 10%
1	f	209	 % 82% 7% 10%
1	g	209	 % 79% 10% 10%
1	h	209	 % 82% 8% 10%
1	i	209	 % 80% 9% 10%
1	j	209	 % 81% 9% 10%
1	k	209	 % 82% 8% 10%
1	l	209	 % 81% 8% 10%
1	m	209	 % 79% 10% 10%
1	n	209	 % 80% 9% 10%
1	o	209	 % 79% 8% 10%
1	p	209	 % 81% 8% 10%
1	q	209	 % 79% 9% 10%
1	r	209	 % 81% 9% 10%
1	s	209	 % 80% 9% 10%
1	t	209	 % 81% 9% 10%
1	u	209	 % 78% 11% 10%
1	v	209	 % 80% 9% 10%

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Mol	Chain	Length	Quality of chain
1	w	209	 81% 7% • 10%
1	x	209	 80% 9% • 10%
1	y	209	 80% 9% • 10%

## 2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 97686 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 Capsid protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	188	1546	990	269	283	4	0	0	0
1	B	188	1546	990	269	283	4	0	0	0
1	C	188	1546	990	269	283	4	0	0	0
1	D	188	1546	990	269	283	4	0	0	0
1	E	188	1546	990	269	283	4	0	0	0
1	F	188	1546	990	269	283	4	0	0	0
1	G	188	1546	990	269	283	4	0	0	0
1	H	188	1546	990	269	283	4	0	0	0
1	I	188	1546	990	269	283	4	0	0	0
1	J	188	1546	990	269	283	4	0	0	0
1	K	188	1546	990	269	283	4	0	0	0
1	L	189	1554	996	270	284	4	0	0	0
1	M	188	1546	990	269	283	4	0	0	0
1	N	188	1546	990	269	283	4	0	0	0
1	O	188	1546	990	269	283	4	0	0	0
1	P	188	1546	990	269	283	4	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	Q	188	1546	990	269	283	4	0	0	0
1	R	188	1546	990	269	283	4	0	0	0
1	S	188	1546	990	269	283	4	0	0	0
1	T	188	1546	990	269	283	4	0	0	0
1	U	188	1546	990	269	283	4	0	0	0
1	V	188	1546	990	269	283	4	0	0	0
1	W	188	1546	990	269	283	4	0	0	0
1	X	188	1546	990	269	283	4	0	0	0
1	Y	188	1546	990	269	283	4	0	0	0
1	Z	188	1546	990	269	283	4	0	0	0
1	1	188	1546	990	269	283	4	0	0	0
1	2	189	1554	996	270	284	4	0	0	0
1	3	188	1546	990	269	283	4	0	0	0
1	4	188	1546	990	269	283	4	0	0	0
1	5	188	1546	990	269	283	4	0	0	0
1	6	188	1546	990	269	283	4	0	0	0
1	7	188	1546	990	269	283	4	0	0	0
1	8	188	1546	990	269	283	4	0	0	0
1	9	189	1554	996	270	284	4	0	0	0
1	a	189	1554	996	270	284	4	0	0	0
1	b	188	1546	990	269	283	4	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	c	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	d	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	e	189	Total	C	N	O	S	0	0	0
			1554	996	270	284	4			
1	f	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	g	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	h	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	i	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	j	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	k	189	Total	C	N	O	S	0	0	0
			1554	996	270	284	4			
1	l	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	m	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	n	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	o	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	p	189	Total	C	N	O	S	0	0	0
			1554	996	270	284	4			
1	q	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	r	189	Total	C	N	O	S	0	0	0
			1554	996	270	284	4			
1	s	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	t	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	u	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	v	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			
1	w	188	Total	C	N	O	S	0	0	0
			1546	990	269	283	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	x	189	1554	996	270	284	4	0	0	0
1	y	189	1554	996	270	284	4	0	0	0

There are 1200 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	25	MET	-	expression tag	UNP G0Y2B2
A	26	GLY	-	expression tag	UNP G0Y2B2
A	27	SER	-	expression tag	UNP G0Y2B2
A	28	SER	-	expression tag	UNP G0Y2B2
A	29	HIS	-	expression tag	UNP G0Y2B2
A	30	HIS	-	expression tag	UNP G0Y2B2
A	31	HIS	-	expression tag	UNP G0Y2B2
A	32	HIS	-	expression tag	UNP G0Y2B2
A	33	HIS	-	expression tag	UNP G0Y2B2
A	34	HIS	-	expression tag	UNP G0Y2B2
A	35	SER	-	expression tag	UNP G0Y2B2
A	36	SER	-	expression tag	UNP G0Y2B2
A	37	GLY	-	expression tag	UNP G0Y2B2
A	38	LEU	-	expression tag	UNP G0Y2B2
A	39	VAL	-	expression tag	UNP G0Y2B2
A	40	PRO	-	expression tag	UNP G0Y2B2
A	41	ARG	-	expression tag	UNP G0Y2B2
A	42	GLY	-	expression tag	UNP G0Y2B2
A	43	SER	-	expression tag	UNP G0Y2B2
A	44	HIS	-	expression tag	UNP G0Y2B2
B	25	MET	-	expression tag	UNP G0Y2B2
B	26	GLY	-	expression tag	UNP G0Y2B2
B	27	SER	-	expression tag	UNP G0Y2B2
B	28	SER	-	expression tag	UNP G0Y2B2
B	29	HIS	-	expression tag	UNP G0Y2B2
B	30	HIS	-	expression tag	UNP G0Y2B2
B	31	HIS	-	expression tag	UNP G0Y2B2
B	32	HIS	-	expression tag	UNP G0Y2B2
B	33	HIS	-	expression tag	UNP G0Y2B2
B	34	HIS	-	expression tag	UNP G0Y2B2
B	35	SER	-	expression tag	UNP G0Y2B2
B	36	SER	-	expression tag	UNP G0Y2B2
B	37	GLY	-	expression tag	UNP G0Y2B2
B	38	LEU	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	39	VAL	-	expression tag	UNP G0Y2B2
B	40	PRO	-	expression tag	UNP G0Y2B2
B	41	ARG	-	expression tag	UNP G0Y2B2
B	42	GLY	-	expression tag	UNP G0Y2B2
B	43	SER	-	expression tag	UNP G0Y2B2
B	44	HIS	-	expression tag	UNP G0Y2B2
C	25	MET	-	expression tag	UNP G0Y2B2
C	26	GLY	-	expression tag	UNP G0Y2B2
C	27	SER	-	expression tag	UNP G0Y2B2
C	28	SER	-	expression tag	UNP G0Y2B2
C	29	HIS	-	expression tag	UNP G0Y2B2
C	30	HIS	-	expression tag	UNP G0Y2B2
C	31	HIS	-	expression tag	UNP G0Y2B2
C	32	HIS	-	expression tag	UNP G0Y2B2
C	33	HIS	-	expression tag	UNP G0Y2B2
C	34	HIS	-	expression tag	UNP G0Y2B2
C	35	SER	-	expression tag	UNP G0Y2B2
C	36	SER	-	expression tag	UNP G0Y2B2
C	37	GLY	-	expression tag	UNP G0Y2B2
C	38	LEU	-	expression tag	UNP G0Y2B2
C	39	VAL	-	expression tag	UNP G0Y2B2
C	40	PRO	-	expression tag	UNP G0Y2B2
C	41	ARG	-	expression tag	UNP G0Y2B2
C	42	GLY	-	expression tag	UNP G0Y2B2
C	43	SER	-	expression tag	UNP G0Y2B2
C	44	HIS	-	expression tag	UNP G0Y2B2
D	25	MET	-	expression tag	UNP G0Y2B2
D	26	GLY	-	expression tag	UNP G0Y2B2
D	27	SER	-	expression tag	UNP G0Y2B2
D	28	SER	-	expression tag	UNP G0Y2B2
D	29	HIS	-	expression tag	UNP G0Y2B2
D	30	HIS	-	expression tag	UNP G0Y2B2
D	31	HIS	-	expression tag	UNP G0Y2B2
D	32	HIS	-	expression tag	UNP G0Y2B2
D	33	HIS	-	expression tag	UNP G0Y2B2
D	34	HIS	-	expression tag	UNP G0Y2B2
D	35	SER	-	expression tag	UNP G0Y2B2
D	36	SER	-	expression tag	UNP G0Y2B2
D	37	GLY	-	expression tag	UNP G0Y2B2
D	38	LEU	-	expression tag	UNP G0Y2B2
D	39	VAL	-	expression tag	UNP G0Y2B2
D	40	PRO	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
D	41	ARG	-	expression tag	UNP G0Y2B2
D	42	GLY	-	expression tag	UNP G0Y2B2
D	43	SER	-	expression tag	UNP G0Y2B2
D	44	HIS	-	expression tag	UNP G0Y2B2
E	25	MET	-	expression tag	UNP G0Y2B2
E	26	GLY	-	expression tag	UNP G0Y2B2
E	27	SER	-	expression tag	UNP G0Y2B2
E	28	SER	-	expression tag	UNP G0Y2B2
E	29	HIS	-	expression tag	UNP G0Y2B2
E	30	HIS	-	expression tag	UNP G0Y2B2
E	31	HIS	-	expression tag	UNP G0Y2B2
E	32	HIS	-	expression tag	UNP G0Y2B2
E	33	HIS	-	expression tag	UNP G0Y2B2
E	34	HIS	-	expression tag	UNP G0Y2B2
E	35	SER	-	expression tag	UNP G0Y2B2
E	36	SER	-	expression tag	UNP G0Y2B2
E	37	GLY	-	expression tag	UNP G0Y2B2
E	38	LEU	-	expression tag	UNP G0Y2B2
E	39	VAL	-	expression tag	UNP G0Y2B2
E	40	PRO	-	expression tag	UNP G0Y2B2
E	41	ARG	-	expression tag	UNP G0Y2B2
E	42	GLY	-	expression tag	UNP G0Y2B2
E	43	SER	-	expression tag	UNP G0Y2B2
E	44	HIS	-	expression tag	UNP G0Y2B2
F	25	MET	-	expression tag	UNP G0Y2B2
F	26	GLY	-	expression tag	UNP G0Y2B2
F	27	SER	-	expression tag	UNP G0Y2B2
F	28	SER	-	expression tag	UNP G0Y2B2
F	29	HIS	-	expression tag	UNP G0Y2B2
F	30	HIS	-	expression tag	UNP G0Y2B2
F	31	HIS	-	expression tag	UNP G0Y2B2
F	32	HIS	-	expression tag	UNP G0Y2B2
F	33	HIS	-	expression tag	UNP G0Y2B2
F	34	HIS	-	expression tag	UNP G0Y2B2
F	35	SER	-	expression tag	UNP G0Y2B2
F	36	SER	-	expression tag	UNP G0Y2B2
F	37	GLY	-	expression tag	UNP G0Y2B2
F	38	LEU	-	expression tag	UNP G0Y2B2
F	39	VAL	-	expression tag	UNP G0Y2B2
F	40	PRO	-	expression tag	UNP G0Y2B2
F	41	ARG	-	expression tag	UNP G0Y2B2
F	42	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
F	43	SER	-	expression tag	UNP G0Y2B2
F	44	HIS	-	expression tag	UNP G0Y2B2
G	25	MET	-	expression tag	UNP G0Y2B2
G	26	GLY	-	expression tag	UNP G0Y2B2
G	27	SER	-	expression tag	UNP G0Y2B2
G	28	SER	-	expression tag	UNP G0Y2B2
G	29	HIS	-	expression tag	UNP G0Y2B2
G	30	HIS	-	expression tag	UNP G0Y2B2
G	31	HIS	-	expression tag	UNP G0Y2B2
G	32	HIS	-	expression tag	UNP G0Y2B2
G	33	HIS	-	expression tag	UNP G0Y2B2
G	34	HIS	-	expression tag	UNP G0Y2B2
G	35	SER	-	expression tag	UNP G0Y2B2
G	36	SER	-	expression tag	UNP G0Y2B2
G	37	GLY	-	expression tag	UNP G0Y2B2
G	38	LEU	-	expression tag	UNP G0Y2B2
G	39	VAL	-	expression tag	UNP G0Y2B2
G	40	PRO	-	expression tag	UNP G0Y2B2
G	41	ARG	-	expression tag	UNP G0Y2B2
G	42	GLY	-	expression tag	UNP G0Y2B2
G	43	SER	-	expression tag	UNP G0Y2B2
G	44	HIS	-	expression tag	UNP G0Y2B2
H	25	MET	-	expression tag	UNP G0Y2B2
H	26	GLY	-	expression tag	UNP G0Y2B2
H	27	SER	-	expression tag	UNP G0Y2B2
H	28	SER	-	expression tag	UNP G0Y2B2
H	29	HIS	-	expression tag	UNP G0Y2B2
H	30	HIS	-	expression tag	UNP G0Y2B2
H	31	HIS	-	expression tag	UNP G0Y2B2
H	32	HIS	-	expression tag	UNP G0Y2B2
H	33	HIS	-	expression tag	UNP G0Y2B2
H	34	HIS	-	expression tag	UNP G0Y2B2
H	35	SER	-	expression tag	UNP G0Y2B2
H	36	SER	-	expression tag	UNP G0Y2B2
H	37	GLY	-	expression tag	UNP G0Y2B2
H	38	LEU	-	expression tag	UNP G0Y2B2
H	39	VAL	-	expression tag	UNP G0Y2B2
H	40	PRO	-	expression tag	UNP G0Y2B2
H	41	ARG	-	expression tag	UNP G0Y2B2
H	42	GLY	-	expression tag	UNP G0Y2B2
H	43	SER	-	expression tag	UNP G0Y2B2
H	44	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
I	25	MET	-	expression tag	UNP G0Y2B2
I	26	GLY	-	expression tag	UNP G0Y2B2
I	27	SER	-	expression tag	UNP G0Y2B2
I	28	SER	-	expression tag	UNP G0Y2B2
I	29	HIS	-	expression tag	UNP G0Y2B2
I	30	HIS	-	expression tag	UNP G0Y2B2
I	31	HIS	-	expression tag	UNP G0Y2B2
I	32	HIS	-	expression tag	UNP G0Y2B2
I	33	HIS	-	expression tag	UNP G0Y2B2
I	34	HIS	-	expression tag	UNP G0Y2B2
I	35	SER	-	expression tag	UNP G0Y2B2
I	36	SER	-	expression tag	UNP G0Y2B2
I	37	GLY	-	expression tag	UNP G0Y2B2
I	38	LEU	-	expression tag	UNP G0Y2B2
I	39	VAL	-	expression tag	UNP G0Y2B2
I	40	PRO	-	expression tag	UNP G0Y2B2
I	41	ARG	-	expression tag	UNP G0Y2B2
I	42	GLY	-	expression tag	UNP G0Y2B2
I	43	SER	-	expression tag	UNP G0Y2B2
I	44	HIS	-	expression tag	UNP G0Y2B2
J	25	MET	-	expression tag	UNP G0Y2B2
J	26	GLY	-	expression tag	UNP G0Y2B2
J	27	SER	-	expression tag	UNP G0Y2B2
J	28	SER	-	expression tag	UNP G0Y2B2
J	29	HIS	-	expression tag	UNP G0Y2B2
J	30	HIS	-	expression tag	UNP G0Y2B2
J	31	HIS	-	expression tag	UNP G0Y2B2
J	32	HIS	-	expression tag	UNP G0Y2B2
J	33	HIS	-	expression tag	UNP G0Y2B2
J	34	HIS	-	expression tag	UNP G0Y2B2
J	35	SER	-	expression tag	UNP G0Y2B2
J	36	SER	-	expression tag	UNP G0Y2B2
J	37	GLY	-	expression tag	UNP G0Y2B2
J	38	LEU	-	expression tag	UNP G0Y2B2
J	39	VAL	-	expression tag	UNP G0Y2B2
J	40	PRO	-	expression tag	UNP G0Y2B2
J	41	ARG	-	expression tag	UNP G0Y2B2
J	42	GLY	-	expression tag	UNP G0Y2B2
J	43	SER	-	expression tag	UNP G0Y2B2
J	44	HIS	-	expression tag	UNP G0Y2B2
K	25	MET	-	expression tag	UNP G0Y2B2
K	26	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
K	27	SER	-	expression tag	UNP G0Y2B2
K	28	SER	-	expression tag	UNP G0Y2B2
K	29	HIS	-	expression tag	UNP G0Y2B2
K	30	HIS	-	expression tag	UNP G0Y2B2
K	31	HIS	-	expression tag	UNP G0Y2B2
K	32	HIS	-	expression tag	UNP G0Y2B2
K	33	HIS	-	expression tag	UNP G0Y2B2
K	34	HIS	-	expression tag	UNP G0Y2B2
K	35	SER	-	expression tag	UNP G0Y2B2
K	36	SER	-	expression tag	UNP G0Y2B2
K	37	GLY	-	expression tag	UNP G0Y2B2
K	38	LEU	-	expression tag	UNP G0Y2B2
K	39	VAL	-	expression tag	UNP G0Y2B2
K	40	PRO	-	expression tag	UNP G0Y2B2
K	41	ARG	-	expression tag	UNP G0Y2B2
K	42	GLY	-	expression tag	UNP G0Y2B2
K	43	SER	-	expression tag	UNP G0Y2B2
K	44	HIS	-	expression tag	UNP G0Y2B2
L	25	MET	-	expression tag	UNP G0Y2B2
L	26	GLY	-	expression tag	UNP G0Y2B2
L	27	SER	-	expression tag	UNP G0Y2B2
L	28	SER	-	expression tag	UNP G0Y2B2
L	29	HIS	-	expression tag	UNP G0Y2B2
L	30	HIS	-	expression tag	UNP G0Y2B2
L	31	HIS	-	expression tag	UNP G0Y2B2
L	32	HIS	-	expression tag	UNP G0Y2B2
L	33	HIS	-	expression tag	UNP G0Y2B2
L	34	HIS	-	expression tag	UNP G0Y2B2
L	35	SER	-	expression tag	UNP G0Y2B2
L	36	SER	-	expression tag	UNP G0Y2B2
L	37	GLY	-	expression tag	UNP G0Y2B2
L	38	LEU	-	expression tag	UNP G0Y2B2
L	39	VAL	-	expression tag	UNP G0Y2B2
L	40	PRO	-	expression tag	UNP G0Y2B2
L	41	ARG	-	expression tag	UNP G0Y2B2
L	42	GLY	-	expression tag	UNP G0Y2B2
L	43	SER	-	expression tag	UNP G0Y2B2
L	44	HIS	-	expression tag	UNP G0Y2B2
M	25	MET	-	expression tag	UNP G0Y2B2
M	26	GLY	-	expression tag	UNP G0Y2B2
M	27	SER	-	expression tag	UNP G0Y2B2
M	28	SER	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
M	29	HIS	-	expression tag	UNP G0Y2B2
M	30	HIS	-	expression tag	UNP G0Y2B2
M	31	HIS	-	expression tag	UNP G0Y2B2
M	32	HIS	-	expression tag	UNP G0Y2B2
M	33	HIS	-	expression tag	UNP G0Y2B2
M	34	HIS	-	expression tag	UNP G0Y2B2
M	35	SER	-	expression tag	UNP G0Y2B2
M	36	SER	-	expression tag	UNP G0Y2B2
M	37	GLY	-	expression tag	UNP G0Y2B2
M	38	LEU	-	expression tag	UNP G0Y2B2
M	39	VAL	-	expression tag	UNP G0Y2B2
M	40	PRO	-	expression tag	UNP G0Y2B2
M	41	ARG	-	expression tag	UNP G0Y2B2
M	42	GLY	-	expression tag	UNP G0Y2B2
M	43	SER	-	expression tag	UNP G0Y2B2
M	44	HIS	-	expression tag	UNP G0Y2B2
N	25	MET	-	expression tag	UNP G0Y2B2
N	26	GLY	-	expression tag	UNP G0Y2B2
N	27	SER	-	expression tag	UNP G0Y2B2
N	28	SER	-	expression tag	UNP G0Y2B2
N	29	HIS	-	expression tag	UNP G0Y2B2
N	30	HIS	-	expression tag	UNP G0Y2B2
N	31	HIS	-	expression tag	UNP G0Y2B2
N	32	HIS	-	expression tag	UNP G0Y2B2
N	33	HIS	-	expression tag	UNP G0Y2B2
N	34	HIS	-	expression tag	UNP G0Y2B2
N	35	SER	-	expression tag	UNP G0Y2B2
N	36	SER	-	expression tag	UNP G0Y2B2
N	37	GLY	-	expression tag	UNP G0Y2B2
N	38	LEU	-	expression tag	UNP G0Y2B2
N	39	VAL	-	expression tag	UNP G0Y2B2
N	40	PRO	-	expression tag	UNP G0Y2B2
N	41	ARG	-	expression tag	UNP G0Y2B2
N	42	GLY	-	expression tag	UNP G0Y2B2
N	43	SER	-	expression tag	UNP G0Y2B2
N	44	HIS	-	expression tag	UNP G0Y2B2
O	25	MET	-	expression tag	UNP G0Y2B2
O	26	GLY	-	expression tag	UNP G0Y2B2
O	27	SER	-	expression tag	UNP G0Y2B2
O	28	SER	-	expression tag	UNP G0Y2B2
O	29	HIS	-	expression tag	UNP G0Y2B2
O	30	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
O	31	HIS	-	expression tag	UNP G0Y2B2
O	32	HIS	-	expression tag	UNP G0Y2B2
O	33	HIS	-	expression tag	UNP G0Y2B2
O	34	HIS	-	expression tag	UNP G0Y2B2
O	35	SER	-	expression tag	UNP G0Y2B2
O	36	SER	-	expression tag	UNP G0Y2B2
O	37	GLY	-	expression tag	UNP G0Y2B2
O	38	LEU	-	expression tag	UNP G0Y2B2
O	39	VAL	-	expression tag	UNP G0Y2B2
O	40	PRO	-	expression tag	UNP G0Y2B2
O	41	ARG	-	expression tag	UNP G0Y2B2
O	42	GLY	-	expression tag	UNP G0Y2B2
O	43	SER	-	expression tag	UNP G0Y2B2
O	44	HIS	-	expression tag	UNP G0Y2B2
P	25	MET	-	expression tag	UNP G0Y2B2
P	26	GLY	-	expression tag	UNP G0Y2B2
P	27	SER	-	expression tag	UNP G0Y2B2
P	28	SER	-	expression tag	UNP G0Y2B2
P	29	HIS	-	expression tag	UNP G0Y2B2
P	30	HIS	-	expression tag	UNP G0Y2B2
P	31	HIS	-	expression tag	UNP G0Y2B2
P	32	HIS	-	expression tag	UNP G0Y2B2
P	33	HIS	-	expression tag	UNP G0Y2B2
P	34	HIS	-	expression tag	UNP G0Y2B2
P	35	SER	-	expression tag	UNP G0Y2B2
P	36	SER	-	expression tag	UNP G0Y2B2
P	37	GLY	-	expression tag	UNP G0Y2B2
P	38	LEU	-	expression tag	UNP G0Y2B2
P	39	VAL	-	expression tag	UNP G0Y2B2
P	40	PRO	-	expression tag	UNP G0Y2B2
P	41	ARG	-	expression tag	UNP G0Y2B2
P	42	GLY	-	expression tag	UNP G0Y2B2
P	43	SER	-	expression tag	UNP G0Y2B2
P	44	HIS	-	expression tag	UNP G0Y2B2
Q	25	MET	-	expression tag	UNP G0Y2B2
Q	26	GLY	-	expression tag	UNP G0Y2B2
Q	27	SER	-	expression tag	UNP G0Y2B2
Q	28	SER	-	expression tag	UNP G0Y2B2
Q	29	HIS	-	expression tag	UNP G0Y2B2
Q	30	HIS	-	expression tag	UNP G0Y2B2
Q	31	HIS	-	expression tag	UNP G0Y2B2
Q	32	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	33	HIS	-	expression tag	UNP G0Y2B2
Q	34	HIS	-	expression tag	UNP G0Y2B2
Q	35	SER	-	expression tag	UNP G0Y2B2
Q	36	SER	-	expression tag	UNP G0Y2B2
Q	37	GLY	-	expression tag	UNP G0Y2B2
Q	38	LEU	-	expression tag	UNP G0Y2B2
Q	39	VAL	-	expression tag	UNP G0Y2B2
Q	40	PRO	-	expression tag	UNP G0Y2B2
Q	41	ARG	-	expression tag	UNP G0Y2B2
Q	42	GLY	-	expression tag	UNP G0Y2B2
Q	43	SER	-	expression tag	UNP G0Y2B2
Q	44	HIS	-	expression tag	UNP G0Y2B2
R	25	MET	-	expression tag	UNP G0Y2B2
R	26	GLY	-	expression tag	UNP G0Y2B2
R	27	SER	-	expression tag	UNP G0Y2B2
R	28	SER	-	expression tag	UNP G0Y2B2
R	29	HIS	-	expression tag	UNP G0Y2B2
R	30	HIS	-	expression tag	UNP G0Y2B2
R	31	HIS	-	expression tag	UNP G0Y2B2
R	32	HIS	-	expression tag	UNP G0Y2B2
R	33	HIS	-	expression tag	UNP G0Y2B2
R	34	HIS	-	expression tag	UNP G0Y2B2
R	35	SER	-	expression tag	UNP G0Y2B2
R	36	SER	-	expression tag	UNP G0Y2B2
R	37	GLY	-	expression tag	UNP G0Y2B2
R	38	LEU	-	expression tag	UNP G0Y2B2
R	39	VAL	-	expression tag	UNP G0Y2B2
R	40	PRO	-	expression tag	UNP G0Y2B2
R	41	ARG	-	expression tag	UNP G0Y2B2
R	42	GLY	-	expression tag	UNP G0Y2B2
R	43	SER	-	expression tag	UNP G0Y2B2
R	44	HIS	-	expression tag	UNP G0Y2B2
S	25	MET	-	expression tag	UNP G0Y2B2
S	26	GLY	-	expression tag	UNP G0Y2B2
S	27	SER	-	expression tag	UNP G0Y2B2
S	28	SER	-	expression tag	UNP G0Y2B2
S	29	HIS	-	expression tag	UNP G0Y2B2
S	30	HIS	-	expression tag	UNP G0Y2B2
S	31	HIS	-	expression tag	UNP G0Y2B2
S	32	HIS	-	expression tag	UNP G0Y2B2
S	33	HIS	-	expression tag	UNP G0Y2B2
S	34	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
S	35	SER	-	expression tag	UNP G0Y2B2
S	36	SER	-	expression tag	UNP G0Y2B2
S	37	GLY	-	expression tag	UNP G0Y2B2
S	38	LEU	-	expression tag	UNP G0Y2B2
S	39	VAL	-	expression tag	UNP G0Y2B2
S	40	PRO	-	expression tag	UNP G0Y2B2
S	41	ARG	-	expression tag	UNP G0Y2B2
S	42	GLY	-	expression tag	UNP G0Y2B2
S	43	SER	-	expression tag	UNP G0Y2B2
S	44	HIS	-	expression tag	UNP G0Y2B2
T	25	MET	-	expression tag	UNP G0Y2B2
T	26	GLY	-	expression tag	UNP G0Y2B2
T	27	SER	-	expression tag	UNP G0Y2B2
T	28	SER	-	expression tag	UNP G0Y2B2
T	29	HIS	-	expression tag	UNP G0Y2B2
T	30	HIS	-	expression tag	UNP G0Y2B2
T	31	HIS	-	expression tag	UNP G0Y2B2
T	32	HIS	-	expression tag	UNP G0Y2B2
T	33	HIS	-	expression tag	UNP G0Y2B2
T	34	HIS	-	expression tag	UNP G0Y2B2
T	35	SER	-	expression tag	UNP G0Y2B2
T	36	SER	-	expression tag	UNP G0Y2B2
T	37	GLY	-	expression tag	UNP G0Y2B2
T	38	LEU	-	expression tag	UNP G0Y2B2
T	39	VAL	-	expression tag	UNP G0Y2B2
T	40	PRO	-	expression tag	UNP G0Y2B2
T	41	ARG	-	expression tag	UNP G0Y2B2
T	42	GLY	-	expression tag	UNP G0Y2B2
T	43	SER	-	expression tag	UNP G0Y2B2
T	44	HIS	-	expression tag	UNP G0Y2B2
U	25	MET	-	expression tag	UNP G0Y2B2
U	26	GLY	-	expression tag	UNP G0Y2B2
U	27	SER	-	expression tag	UNP G0Y2B2
U	28	SER	-	expression tag	UNP G0Y2B2
U	29	HIS	-	expression tag	UNP G0Y2B2
U	30	HIS	-	expression tag	UNP G0Y2B2
U	31	HIS	-	expression tag	UNP G0Y2B2
U	32	HIS	-	expression tag	UNP G0Y2B2
U	33	HIS	-	expression tag	UNP G0Y2B2
U	34	HIS	-	expression tag	UNP G0Y2B2
U	35	SER	-	expression tag	UNP G0Y2B2
U	36	SER	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
U	37	GLY	-	expression tag	UNP G0Y2B2
U	38	LEU	-	expression tag	UNP G0Y2B2
U	39	VAL	-	expression tag	UNP G0Y2B2
U	40	PRO	-	expression tag	UNP G0Y2B2
U	41	ARG	-	expression tag	UNP G0Y2B2
U	42	GLY	-	expression tag	UNP G0Y2B2
U	43	SER	-	expression tag	UNP G0Y2B2
U	44	HIS	-	expression tag	UNP G0Y2B2
V	25	MET	-	expression tag	UNP G0Y2B2
V	26	GLY	-	expression tag	UNP G0Y2B2
V	27	SER	-	expression tag	UNP G0Y2B2
V	28	SER	-	expression tag	UNP G0Y2B2
V	29	HIS	-	expression tag	UNP G0Y2B2
V	30	HIS	-	expression tag	UNP G0Y2B2
V	31	HIS	-	expression tag	UNP G0Y2B2
V	32	HIS	-	expression tag	UNP G0Y2B2
V	33	HIS	-	expression tag	UNP G0Y2B2
V	34	HIS	-	expression tag	UNP G0Y2B2
V	35	SER	-	expression tag	UNP G0Y2B2
V	36	SER	-	expression tag	UNP G0Y2B2
V	37	GLY	-	expression tag	UNP G0Y2B2
V	38	LEU	-	expression tag	UNP G0Y2B2
V	39	VAL	-	expression tag	UNP G0Y2B2
V	40	PRO	-	expression tag	UNP G0Y2B2
V	41	ARG	-	expression tag	UNP G0Y2B2
V	42	GLY	-	expression tag	UNP G0Y2B2
V	43	SER	-	expression tag	UNP G0Y2B2
V	44	HIS	-	expression tag	UNP G0Y2B2
W	25	MET	-	expression tag	UNP G0Y2B2
W	26	GLY	-	expression tag	UNP G0Y2B2
W	27	SER	-	expression tag	UNP G0Y2B2
W	28	SER	-	expression tag	UNP G0Y2B2
W	29	HIS	-	expression tag	UNP G0Y2B2
W	30	HIS	-	expression tag	UNP G0Y2B2
W	31	HIS	-	expression tag	UNP G0Y2B2
W	32	HIS	-	expression tag	UNP G0Y2B2
W	33	HIS	-	expression tag	UNP G0Y2B2
W	34	HIS	-	expression tag	UNP G0Y2B2
W	35	SER	-	expression tag	UNP G0Y2B2
W	36	SER	-	expression tag	UNP G0Y2B2
W	37	GLY	-	expression tag	UNP G0Y2B2
W	38	LEU	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
W	39	VAL	-	expression tag	UNP G0Y2B2
W	40	PRO	-	expression tag	UNP G0Y2B2
W	41	ARG	-	expression tag	UNP G0Y2B2
W	42	GLY	-	expression tag	UNP G0Y2B2
W	43	SER	-	expression tag	UNP G0Y2B2
W	44	HIS	-	expression tag	UNP G0Y2B2
X	25	MET	-	expression tag	UNP G0Y2B2
X	26	GLY	-	expression tag	UNP G0Y2B2
X	27	SER	-	expression tag	UNP G0Y2B2
X	28	SER	-	expression tag	UNP G0Y2B2
X	29	HIS	-	expression tag	UNP G0Y2B2
X	30	HIS	-	expression tag	UNP G0Y2B2
X	31	HIS	-	expression tag	UNP G0Y2B2
X	32	HIS	-	expression tag	UNP G0Y2B2
X	33	HIS	-	expression tag	UNP G0Y2B2
X	34	HIS	-	expression tag	UNP G0Y2B2
X	35	SER	-	expression tag	UNP G0Y2B2
X	36	SER	-	expression tag	UNP G0Y2B2
X	37	GLY	-	expression tag	UNP G0Y2B2
X	38	LEU	-	expression tag	UNP G0Y2B2
X	39	VAL	-	expression tag	UNP G0Y2B2
X	40	PRO	-	expression tag	UNP G0Y2B2
X	41	ARG	-	expression tag	UNP G0Y2B2
X	42	GLY	-	expression tag	UNP G0Y2B2
X	43	SER	-	expression tag	UNP G0Y2B2
X	44	HIS	-	expression tag	UNP G0Y2B2
Y	25	MET	-	expression tag	UNP G0Y2B2
Y	26	GLY	-	expression tag	UNP G0Y2B2
Y	27	SER	-	expression tag	UNP G0Y2B2
Y	28	SER	-	expression tag	UNP G0Y2B2
Y	29	HIS	-	expression tag	UNP G0Y2B2
Y	30	HIS	-	expression tag	UNP G0Y2B2
Y	31	HIS	-	expression tag	UNP G0Y2B2
Y	32	HIS	-	expression tag	UNP G0Y2B2
Y	33	HIS	-	expression tag	UNP G0Y2B2
Y	34	HIS	-	expression tag	UNP G0Y2B2
Y	35	SER	-	expression tag	UNP G0Y2B2
Y	36	SER	-	expression tag	UNP G0Y2B2
Y	37	GLY	-	expression tag	UNP G0Y2B2
Y	38	LEU	-	expression tag	UNP G0Y2B2
Y	39	VAL	-	expression tag	UNP G0Y2B2
Y	40	PRO	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
Y	41	ARG	-	expression tag	UNP G0Y2B2
Y	42	GLY	-	expression tag	UNP G0Y2B2
Y	43	SER	-	expression tag	UNP G0Y2B2
Y	44	HIS	-	expression tag	UNP G0Y2B2
Z	25	MET	-	expression tag	UNP G0Y2B2
Z	26	GLY	-	expression tag	UNP G0Y2B2
Z	27	SER	-	expression tag	UNP G0Y2B2
Z	28	SER	-	expression tag	UNP G0Y2B2
Z	29	HIS	-	expression tag	UNP G0Y2B2
Z	30	HIS	-	expression tag	UNP G0Y2B2
Z	31	HIS	-	expression tag	UNP G0Y2B2
Z	32	HIS	-	expression tag	UNP G0Y2B2
Z	33	HIS	-	expression tag	UNP G0Y2B2
Z	34	HIS	-	expression tag	UNP G0Y2B2
Z	35	SER	-	expression tag	UNP G0Y2B2
Z	36	SER	-	expression tag	UNP G0Y2B2
Z	37	GLY	-	expression tag	UNP G0Y2B2
Z	38	LEU	-	expression tag	UNP G0Y2B2
Z	39	VAL	-	expression tag	UNP G0Y2B2
Z	40	PRO	-	expression tag	UNP G0Y2B2
Z	41	ARG	-	expression tag	UNP G0Y2B2
Z	42	GLY	-	expression tag	UNP G0Y2B2
Z	43	SER	-	expression tag	UNP G0Y2B2
Z	44	HIS	-	expression tag	UNP G0Y2B2
1	25	MET	-	expression tag	UNP G0Y2B2
1	26	GLY	-	expression tag	UNP G0Y2B2
1	27	SER	-	expression tag	UNP G0Y2B2
1	28	SER	-	expression tag	UNP G0Y2B2
1	29	HIS	-	expression tag	UNP G0Y2B2
1	30	HIS	-	expression tag	UNP G0Y2B2
1	31	HIS	-	expression tag	UNP G0Y2B2
1	32	HIS	-	expression tag	UNP G0Y2B2
1	33	HIS	-	expression tag	UNP G0Y2B2
1	34	HIS	-	expression tag	UNP G0Y2B2
1	35	SER	-	expression tag	UNP G0Y2B2
1	36	SER	-	expression tag	UNP G0Y2B2
1	37	GLY	-	expression tag	UNP G0Y2B2
1	38	LEU	-	expression tag	UNP G0Y2B2
1	39	VAL	-	expression tag	UNP G0Y2B2
1	40	PRO	-	expression tag	UNP G0Y2B2
1	41	ARG	-	expression tag	UNP G0Y2B2
1	42	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
1	43	SER	-	expression tag	UNP G0Y2B2
1	44	HIS	-	expression tag	UNP G0Y2B2
2	25	MET	-	expression tag	UNP G0Y2B2
2	26	GLY	-	expression tag	UNP G0Y2B2
2	27	SER	-	expression tag	UNP G0Y2B2
2	28	SER	-	expression tag	UNP G0Y2B2
2	29	HIS	-	expression tag	UNP G0Y2B2
2	30	HIS	-	expression tag	UNP G0Y2B2
2	31	HIS	-	expression tag	UNP G0Y2B2
2	32	HIS	-	expression tag	UNP G0Y2B2
2	33	HIS	-	expression tag	UNP G0Y2B2
2	34	HIS	-	expression tag	UNP G0Y2B2
2	35	SER	-	expression tag	UNP G0Y2B2
2	36	SER	-	expression tag	UNP G0Y2B2
2	37	GLY	-	expression tag	UNP G0Y2B2
2	38	LEU	-	expression tag	UNP G0Y2B2
2	39	VAL	-	expression tag	UNP G0Y2B2
2	40	PRO	-	expression tag	UNP G0Y2B2
2	41	ARG	-	expression tag	UNP G0Y2B2
2	42	GLY	-	expression tag	UNP G0Y2B2
2	43	SER	-	expression tag	UNP G0Y2B2
2	44	HIS	-	expression tag	UNP G0Y2B2
3	25	MET	-	expression tag	UNP G0Y2B2
3	26	GLY	-	expression tag	UNP G0Y2B2
3	27	SER	-	expression tag	UNP G0Y2B2
3	28	SER	-	expression tag	UNP G0Y2B2
3	29	HIS	-	expression tag	UNP G0Y2B2
3	30	HIS	-	expression tag	UNP G0Y2B2
3	31	HIS	-	expression tag	UNP G0Y2B2
3	32	HIS	-	expression tag	UNP G0Y2B2
3	33	HIS	-	expression tag	UNP G0Y2B2
3	34	HIS	-	expression tag	UNP G0Y2B2
3	35	SER	-	expression tag	UNP G0Y2B2
3	36	SER	-	expression tag	UNP G0Y2B2
3	37	GLY	-	expression tag	UNP G0Y2B2
3	38	LEU	-	expression tag	UNP G0Y2B2
3	39	VAL	-	expression tag	UNP G0Y2B2
3	40	PRO	-	expression tag	UNP G0Y2B2
3	41	ARG	-	expression tag	UNP G0Y2B2
3	42	GLY	-	expression tag	UNP G0Y2B2
3	43	SER	-	expression tag	UNP G0Y2B2
3	44	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
4	25	MET	-	expression tag	UNP G0Y2B2
4	26	GLY	-	expression tag	UNP G0Y2B2
4	27	SER	-	expression tag	UNP G0Y2B2
4	28	SER	-	expression tag	UNP G0Y2B2
4	29	HIS	-	expression tag	UNP G0Y2B2
4	30	HIS	-	expression tag	UNP G0Y2B2
4	31	HIS	-	expression tag	UNP G0Y2B2
4	32	HIS	-	expression tag	UNP G0Y2B2
4	33	HIS	-	expression tag	UNP G0Y2B2
4	34	HIS	-	expression tag	UNP G0Y2B2
4	35	SER	-	expression tag	UNP G0Y2B2
4	36	SER	-	expression tag	UNP G0Y2B2
4	37	GLY	-	expression tag	UNP G0Y2B2
4	38	LEU	-	expression tag	UNP G0Y2B2
4	39	VAL	-	expression tag	UNP G0Y2B2
4	40	PRO	-	expression tag	UNP G0Y2B2
4	41	ARG	-	expression tag	UNP G0Y2B2
4	42	GLY	-	expression tag	UNP G0Y2B2
4	43	SER	-	expression tag	UNP G0Y2B2
4	44	HIS	-	expression tag	UNP G0Y2B2
5	25	MET	-	expression tag	UNP G0Y2B2
5	26	GLY	-	expression tag	UNP G0Y2B2
5	27	SER	-	expression tag	UNP G0Y2B2
5	28	SER	-	expression tag	UNP G0Y2B2
5	29	HIS	-	expression tag	UNP G0Y2B2
5	30	HIS	-	expression tag	UNP G0Y2B2
5	31	HIS	-	expression tag	UNP G0Y2B2
5	32	HIS	-	expression tag	UNP G0Y2B2
5	33	HIS	-	expression tag	UNP G0Y2B2
5	34	HIS	-	expression tag	UNP G0Y2B2
5	35	SER	-	expression tag	UNP G0Y2B2
5	36	SER	-	expression tag	UNP G0Y2B2
5	37	GLY	-	expression tag	UNP G0Y2B2
5	38	LEU	-	expression tag	UNP G0Y2B2
5	39	VAL	-	expression tag	UNP G0Y2B2
5	40	PRO	-	expression tag	UNP G0Y2B2
5	41	ARG	-	expression tag	UNP G0Y2B2
5	42	GLY	-	expression tag	UNP G0Y2B2
5	43	SER	-	expression tag	UNP G0Y2B2
5	44	HIS	-	expression tag	UNP G0Y2B2
6	25	MET	-	expression tag	UNP G0Y2B2
6	26	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
6	27	SER	-	expression tag	UNP G0Y2B2
6	28	SER	-	expression tag	UNP G0Y2B2
6	29	HIS	-	expression tag	UNP G0Y2B2
6	30	HIS	-	expression tag	UNP G0Y2B2
6	31	HIS	-	expression tag	UNP G0Y2B2
6	32	HIS	-	expression tag	UNP G0Y2B2
6	33	HIS	-	expression tag	UNP G0Y2B2
6	34	HIS	-	expression tag	UNP G0Y2B2
6	35	SER	-	expression tag	UNP G0Y2B2
6	36	SER	-	expression tag	UNP G0Y2B2
6	37	GLY	-	expression tag	UNP G0Y2B2
6	38	LEU	-	expression tag	UNP G0Y2B2
6	39	VAL	-	expression tag	UNP G0Y2B2
6	40	PRO	-	expression tag	UNP G0Y2B2
6	41	ARG	-	expression tag	UNP G0Y2B2
6	42	GLY	-	expression tag	UNP G0Y2B2
6	43	SER	-	expression tag	UNP G0Y2B2
6	44	HIS	-	expression tag	UNP G0Y2B2
7	25	MET	-	expression tag	UNP G0Y2B2
7	26	GLY	-	expression tag	UNP G0Y2B2
7	27	SER	-	expression tag	UNP G0Y2B2
7	28	SER	-	expression tag	UNP G0Y2B2
7	29	HIS	-	expression tag	UNP G0Y2B2
7	30	HIS	-	expression tag	UNP G0Y2B2
7	31	HIS	-	expression tag	UNP G0Y2B2
7	32	HIS	-	expression tag	UNP G0Y2B2
7	33	HIS	-	expression tag	UNP G0Y2B2
7	34	HIS	-	expression tag	UNP G0Y2B2
7	35	SER	-	expression tag	UNP G0Y2B2
7	36	SER	-	expression tag	UNP G0Y2B2
7	37	GLY	-	expression tag	UNP G0Y2B2
7	38	LEU	-	expression tag	UNP G0Y2B2
7	39	VAL	-	expression tag	UNP G0Y2B2
7	40	PRO	-	expression tag	UNP G0Y2B2
7	41	ARG	-	expression tag	UNP G0Y2B2
7	42	GLY	-	expression tag	UNP G0Y2B2
7	43	SER	-	expression tag	UNP G0Y2B2
7	44	HIS	-	expression tag	UNP G0Y2B2
8	25	MET	-	expression tag	UNP G0Y2B2
8	26	GLY	-	expression tag	UNP G0Y2B2
8	27	SER	-	expression tag	UNP G0Y2B2
8	28	SER	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
8	29	HIS	-	expression tag	UNP G0Y2B2
8	30	HIS	-	expression tag	UNP G0Y2B2
8	31	HIS	-	expression tag	UNP G0Y2B2
8	32	HIS	-	expression tag	UNP G0Y2B2
8	33	HIS	-	expression tag	UNP G0Y2B2
8	34	HIS	-	expression tag	UNP G0Y2B2
8	35	SER	-	expression tag	UNP G0Y2B2
8	36	SER	-	expression tag	UNP G0Y2B2
8	37	GLY	-	expression tag	UNP G0Y2B2
8	38	LEU	-	expression tag	UNP G0Y2B2
8	39	VAL	-	expression tag	UNP G0Y2B2
8	40	PRO	-	expression tag	UNP G0Y2B2
8	41	ARG	-	expression tag	UNP G0Y2B2
8	42	GLY	-	expression tag	UNP G0Y2B2
8	43	SER	-	expression tag	UNP G0Y2B2
8	44	HIS	-	expression tag	UNP G0Y2B2
9	25	MET	-	expression tag	UNP G0Y2B2
9	26	GLY	-	expression tag	UNP G0Y2B2
9	27	SER	-	expression tag	UNP G0Y2B2
9	28	SER	-	expression tag	UNP G0Y2B2
9	29	HIS	-	expression tag	UNP G0Y2B2
9	30	HIS	-	expression tag	UNP G0Y2B2
9	31	HIS	-	expression tag	UNP G0Y2B2
9	32	HIS	-	expression tag	UNP G0Y2B2
9	33	HIS	-	expression tag	UNP G0Y2B2
9	34	HIS	-	expression tag	UNP G0Y2B2
9	35	SER	-	expression tag	UNP G0Y2B2
9	36	SER	-	expression tag	UNP G0Y2B2
9	37	GLY	-	expression tag	UNP G0Y2B2
9	38	LEU	-	expression tag	UNP G0Y2B2
9	39	VAL	-	expression tag	UNP G0Y2B2
9	40	PRO	-	expression tag	UNP G0Y2B2
9	41	ARG	-	expression tag	UNP G0Y2B2
9	42	GLY	-	expression tag	UNP G0Y2B2
9	43	SER	-	expression tag	UNP G0Y2B2
9	44	HIS	-	expression tag	UNP G0Y2B2
a	25	MET	-	expression tag	UNP G0Y2B2
a	26	GLY	-	expression tag	UNP G0Y2B2
a	27	SER	-	expression tag	UNP G0Y2B2
a	28	SER	-	expression tag	UNP G0Y2B2
a	29	HIS	-	expression tag	UNP G0Y2B2
a	30	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
a	31	HIS	-	expression tag	UNP G0Y2B2
a	32	HIS	-	expression tag	UNP G0Y2B2
a	33	HIS	-	expression tag	UNP G0Y2B2
a	34	HIS	-	expression tag	UNP G0Y2B2
a	35	SER	-	expression tag	UNP G0Y2B2
a	36	SER	-	expression tag	UNP G0Y2B2
a	37	GLY	-	expression tag	UNP G0Y2B2
a	38	LEU	-	expression tag	UNP G0Y2B2
a	39	VAL	-	expression tag	UNP G0Y2B2
a	40	PRO	-	expression tag	UNP G0Y2B2
a	41	ARG	-	expression tag	UNP G0Y2B2
a	42	GLY	-	expression tag	UNP G0Y2B2
a	43	SER	-	expression tag	UNP G0Y2B2
a	44	HIS	-	expression tag	UNP G0Y2B2
b	25	MET	-	expression tag	UNP G0Y2B2
b	26	GLY	-	expression tag	UNP G0Y2B2
b	27	SER	-	expression tag	UNP G0Y2B2
b	28	SER	-	expression tag	UNP G0Y2B2
b	29	HIS	-	expression tag	UNP G0Y2B2
b	30	HIS	-	expression tag	UNP G0Y2B2
b	31	HIS	-	expression tag	UNP G0Y2B2
b	32	HIS	-	expression tag	UNP G0Y2B2
b	33	HIS	-	expression tag	UNP G0Y2B2
b	34	HIS	-	expression tag	UNP G0Y2B2
b	35	SER	-	expression tag	UNP G0Y2B2
b	36	SER	-	expression tag	UNP G0Y2B2
b	37	GLY	-	expression tag	UNP G0Y2B2
b	38	LEU	-	expression tag	UNP G0Y2B2
b	39	VAL	-	expression tag	UNP G0Y2B2
b	40	PRO	-	expression tag	UNP G0Y2B2
b	41	ARG	-	expression tag	UNP G0Y2B2
b	42	GLY	-	expression tag	UNP G0Y2B2
b	43	SER	-	expression tag	UNP G0Y2B2
b	44	HIS	-	expression tag	UNP G0Y2B2
c	25	MET	-	expression tag	UNP G0Y2B2
c	26	GLY	-	expression tag	UNP G0Y2B2
c	27	SER	-	expression tag	UNP G0Y2B2
c	28	SER	-	expression tag	UNP G0Y2B2
c	29	HIS	-	expression tag	UNP G0Y2B2
c	30	HIS	-	expression tag	UNP G0Y2B2
c	31	HIS	-	expression tag	UNP G0Y2B2
c	32	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
c	33	HIS	-	expression tag	UNP G0Y2B2
c	34	HIS	-	expression tag	UNP G0Y2B2
c	35	SER	-	expression tag	UNP G0Y2B2
c	36	SER	-	expression tag	UNP G0Y2B2
c	37	GLY	-	expression tag	UNP G0Y2B2
c	38	LEU	-	expression tag	UNP G0Y2B2
c	39	VAL	-	expression tag	UNP G0Y2B2
c	40	PRO	-	expression tag	UNP G0Y2B2
c	41	ARG	-	expression tag	UNP G0Y2B2
c	42	GLY	-	expression tag	UNP G0Y2B2
c	43	SER	-	expression tag	UNP G0Y2B2
c	44	HIS	-	expression tag	UNP G0Y2B2
d	25	MET	-	expression tag	UNP G0Y2B2
d	26	GLY	-	expression tag	UNP G0Y2B2
d	27	SER	-	expression tag	UNP G0Y2B2
d	28	SER	-	expression tag	UNP G0Y2B2
d	29	HIS	-	expression tag	UNP G0Y2B2
d	30	HIS	-	expression tag	UNP G0Y2B2
d	31	HIS	-	expression tag	UNP G0Y2B2
d	32	HIS	-	expression tag	UNP G0Y2B2
d	33	HIS	-	expression tag	UNP G0Y2B2
d	34	HIS	-	expression tag	UNP G0Y2B2
d	35	SER	-	expression tag	UNP G0Y2B2
d	36	SER	-	expression tag	UNP G0Y2B2
d	37	GLY	-	expression tag	UNP G0Y2B2
d	38	LEU	-	expression tag	UNP G0Y2B2
d	39	VAL	-	expression tag	UNP G0Y2B2
d	40	PRO	-	expression tag	UNP G0Y2B2
d	41	ARG	-	expression tag	UNP G0Y2B2
d	42	GLY	-	expression tag	UNP G0Y2B2
d	43	SER	-	expression tag	UNP G0Y2B2
d	44	HIS	-	expression tag	UNP G0Y2B2
e	25	MET	-	expression tag	UNP G0Y2B2
e	26	GLY	-	expression tag	UNP G0Y2B2
e	27	SER	-	expression tag	UNP G0Y2B2
e	28	SER	-	expression tag	UNP G0Y2B2
e	29	HIS	-	expression tag	UNP G0Y2B2
e	30	HIS	-	expression tag	UNP G0Y2B2
e	31	HIS	-	expression tag	UNP G0Y2B2
e	32	HIS	-	expression tag	UNP G0Y2B2
e	33	HIS	-	expression tag	UNP G0Y2B2
e	34	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
e	35	SER	-	expression tag	UNP G0Y2B2
e	36	SER	-	expression tag	UNP G0Y2B2
e	37	GLY	-	expression tag	UNP G0Y2B2
e	38	LEU	-	expression tag	UNP G0Y2B2
e	39	VAL	-	expression tag	UNP G0Y2B2
e	40	PRO	-	expression tag	UNP G0Y2B2
e	41	ARG	-	expression tag	UNP G0Y2B2
e	42	GLY	-	expression tag	UNP G0Y2B2
e	43	SER	-	expression tag	UNP G0Y2B2
e	44	HIS	-	expression tag	UNP G0Y2B2
f	25	MET	-	expression tag	UNP G0Y2B2
f	26	GLY	-	expression tag	UNP G0Y2B2
f	27	SER	-	expression tag	UNP G0Y2B2
f	28	SER	-	expression tag	UNP G0Y2B2
f	29	HIS	-	expression tag	UNP G0Y2B2
f	30	HIS	-	expression tag	UNP G0Y2B2
f	31	HIS	-	expression tag	UNP G0Y2B2
f	32	HIS	-	expression tag	UNP G0Y2B2
f	33	HIS	-	expression tag	UNP G0Y2B2
f	34	HIS	-	expression tag	UNP G0Y2B2
f	35	SER	-	expression tag	UNP G0Y2B2
f	36	SER	-	expression tag	UNP G0Y2B2
f	37	GLY	-	expression tag	UNP G0Y2B2
f	38	LEU	-	expression tag	UNP G0Y2B2
f	39	VAL	-	expression tag	UNP G0Y2B2
f	40	PRO	-	expression tag	UNP G0Y2B2
f	41	ARG	-	expression tag	UNP G0Y2B2
f	42	GLY	-	expression tag	UNP G0Y2B2
f	43	SER	-	expression tag	UNP G0Y2B2
f	44	HIS	-	expression tag	UNP G0Y2B2
g	25	MET	-	expression tag	UNP G0Y2B2
g	26	GLY	-	expression tag	UNP G0Y2B2
g	27	SER	-	expression tag	UNP G0Y2B2
g	28	SER	-	expression tag	UNP G0Y2B2
g	29	HIS	-	expression tag	UNP G0Y2B2
g	30	HIS	-	expression tag	UNP G0Y2B2
g	31	HIS	-	expression tag	UNP G0Y2B2
g	32	HIS	-	expression tag	UNP G0Y2B2
g	33	HIS	-	expression tag	UNP G0Y2B2
g	34	HIS	-	expression tag	UNP G0Y2B2
g	35	SER	-	expression tag	UNP G0Y2B2
g	36	SER	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
g	37	GLY	-	expression tag	UNP G0Y2B2
g	38	LEU	-	expression tag	UNP G0Y2B2
g	39	VAL	-	expression tag	UNP G0Y2B2
g	40	PRO	-	expression tag	UNP G0Y2B2
g	41	ARG	-	expression tag	UNP G0Y2B2
g	42	GLY	-	expression tag	UNP G0Y2B2
g	43	SER	-	expression tag	UNP G0Y2B2
g	44	HIS	-	expression tag	UNP G0Y2B2
h	25	MET	-	expression tag	UNP G0Y2B2
h	26	GLY	-	expression tag	UNP G0Y2B2
h	27	SER	-	expression tag	UNP G0Y2B2
h	28	SER	-	expression tag	UNP G0Y2B2
h	29	HIS	-	expression tag	UNP G0Y2B2
h	30	HIS	-	expression tag	UNP G0Y2B2
h	31	HIS	-	expression tag	UNP G0Y2B2
h	32	HIS	-	expression tag	UNP G0Y2B2
h	33	HIS	-	expression tag	UNP G0Y2B2
h	34	HIS	-	expression tag	UNP G0Y2B2
h	35	SER	-	expression tag	UNP G0Y2B2
h	36	SER	-	expression tag	UNP G0Y2B2
h	37	GLY	-	expression tag	UNP G0Y2B2
h	38	LEU	-	expression tag	UNP G0Y2B2
h	39	VAL	-	expression tag	UNP G0Y2B2
h	40	PRO	-	expression tag	UNP G0Y2B2
h	41	ARG	-	expression tag	UNP G0Y2B2
h	42	GLY	-	expression tag	UNP G0Y2B2
h	43	SER	-	expression tag	UNP G0Y2B2
h	44	HIS	-	expression tag	UNP G0Y2B2
i	25	MET	-	expression tag	UNP G0Y2B2
i	26	GLY	-	expression tag	UNP G0Y2B2
i	27	SER	-	expression tag	UNP G0Y2B2
i	28	SER	-	expression tag	UNP G0Y2B2
i	29	HIS	-	expression tag	UNP G0Y2B2
i	30	HIS	-	expression tag	UNP G0Y2B2
i	31	HIS	-	expression tag	UNP G0Y2B2
i	32	HIS	-	expression tag	UNP G0Y2B2
i	33	HIS	-	expression tag	UNP G0Y2B2
i	34	HIS	-	expression tag	UNP G0Y2B2
i	35	SER	-	expression tag	UNP G0Y2B2
i	36	SER	-	expression tag	UNP G0Y2B2
i	37	GLY	-	expression tag	UNP G0Y2B2
i	38	LEU	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
i	39	VAL	-	expression tag	UNP G0Y2B2
i	40	PRO	-	expression tag	UNP G0Y2B2
i	41	ARG	-	expression tag	UNP G0Y2B2
i	42	GLY	-	expression tag	UNP G0Y2B2
i	43	SER	-	expression tag	UNP G0Y2B2
i	44	HIS	-	expression tag	UNP G0Y2B2
j	25	MET	-	expression tag	UNP G0Y2B2
j	26	GLY	-	expression tag	UNP G0Y2B2
j	27	SER	-	expression tag	UNP G0Y2B2
j	28	SER	-	expression tag	UNP G0Y2B2
j	29	HIS	-	expression tag	UNP G0Y2B2
j	30	HIS	-	expression tag	UNP G0Y2B2
j	31	HIS	-	expression tag	UNP G0Y2B2
j	32	HIS	-	expression tag	UNP G0Y2B2
j	33	HIS	-	expression tag	UNP G0Y2B2
j	34	HIS	-	expression tag	UNP G0Y2B2
j	35	SER	-	expression tag	UNP G0Y2B2
j	36	SER	-	expression tag	UNP G0Y2B2
j	37	GLY	-	expression tag	UNP G0Y2B2
j	38	LEU	-	expression tag	UNP G0Y2B2
j	39	VAL	-	expression tag	UNP G0Y2B2
j	40	PRO	-	expression tag	UNP G0Y2B2
j	41	ARG	-	expression tag	UNP G0Y2B2
j	42	GLY	-	expression tag	UNP G0Y2B2
j	43	SER	-	expression tag	UNP G0Y2B2
j	44	HIS	-	expression tag	UNP G0Y2B2
k	25	MET	-	expression tag	UNP G0Y2B2
k	26	GLY	-	expression tag	UNP G0Y2B2
k	27	SER	-	expression tag	UNP G0Y2B2
k	28	SER	-	expression tag	UNP G0Y2B2
k	29	HIS	-	expression tag	UNP G0Y2B2
k	30	HIS	-	expression tag	UNP G0Y2B2
k	31	HIS	-	expression tag	UNP G0Y2B2
k	32	HIS	-	expression tag	UNP G0Y2B2
k	33	HIS	-	expression tag	UNP G0Y2B2
k	34	HIS	-	expression tag	UNP G0Y2B2
k	35	SER	-	expression tag	UNP G0Y2B2
k	36	SER	-	expression tag	UNP G0Y2B2
k	37	GLY	-	expression tag	UNP G0Y2B2
k	38	LEU	-	expression tag	UNP G0Y2B2
k	39	VAL	-	expression tag	UNP G0Y2B2
k	40	PRO	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
k	41	ARG	-	expression tag	UNP G0Y2B2
k	42	GLY	-	expression tag	UNP G0Y2B2
k	43	SER	-	expression tag	UNP G0Y2B2
k	44	HIS	-	expression tag	UNP G0Y2B2
l	25	MET	-	expression tag	UNP G0Y2B2
l	26	GLY	-	expression tag	UNP G0Y2B2
l	27	SER	-	expression tag	UNP G0Y2B2
l	28	SER	-	expression tag	UNP G0Y2B2
l	29	HIS	-	expression tag	UNP G0Y2B2
l	30	HIS	-	expression tag	UNP G0Y2B2
l	31	HIS	-	expression tag	UNP G0Y2B2
l	32	HIS	-	expression tag	UNP G0Y2B2
l	33	HIS	-	expression tag	UNP G0Y2B2
l	34	HIS	-	expression tag	UNP G0Y2B2
l	35	SER	-	expression tag	UNP G0Y2B2
l	36	SER	-	expression tag	UNP G0Y2B2
l	37	GLY	-	expression tag	UNP G0Y2B2
l	38	LEU	-	expression tag	UNP G0Y2B2
l	39	VAL	-	expression tag	UNP G0Y2B2
l	40	PRO	-	expression tag	UNP G0Y2B2
l	41	ARG	-	expression tag	UNP G0Y2B2
l	42	GLY	-	expression tag	UNP G0Y2B2
l	43	SER	-	expression tag	UNP G0Y2B2
l	44	HIS	-	expression tag	UNP G0Y2B2
m	25	MET	-	expression tag	UNP G0Y2B2
m	26	GLY	-	expression tag	UNP G0Y2B2
m	27	SER	-	expression tag	UNP G0Y2B2
m	28	SER	-	expression tag	UNP G0Y2B2
m	29	HIS	-	expression tag	UNP G0Y2B2
m	30	HIS	-	expression tag	UNP G0Y2B2
m	31	HIS	-	expression tag	UNP G0Y2B2
m	32	HIS	-	expression tag	UNP G0Y2B2
m	33	HIS	-	expression tag	UNP G0Y2B2
m	34	HIS	-	expression tag	UNP G0Y2B2
m	35	SER	-	expression tag	UNP G0Y2B2
m	36	SER	-	expression tag	UNP G0Y2B2
m	37	GLY	-	expression tag	UNP G0Y2B2
m	38	LEU	-	expression tag	UNP G0Y2B2
m	39	VAL	-	expression tag	UNP G0Y2B2
m	40	PRO	-	expression tag	UNP G0Y2B2
m	41	ARG	-	expression tag	UNP G0Y2B2
m	42	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
m	43	SER	-	expression tag	UNP G0Y2B2
m	44	HIS	-	expression tag	UNP G0Y2B2
n	25	MET	-	expression tag	UNP G0Y2B2
n	26	GLY	-	expression tag	UNP G0Y2B2
n	27	SER	-	expression tag	UNP G0Y2B2
n	28	SER	-	expression tag	UNP G0Y2B2
n	29	HIS	-	expression tag	UNP G0Y2B2
n	30	HIS	-	expression tag	UNP G0Y2B2
n	31	HIS	-	expression tag	UNP G0Y2B2
n	32	HIS	-	expression tag	UNP G0Y2B2
n	33	HIS	-	expression tag	UNP G0Y2B2
n	34	HIS	-	expression tag	UNP G0Y2B2
n	35	SER	-	expression tag	UNP G0Y2B2
n	36	SER	-	expression tag	UNP G0Y2B2
n	37	GLY	-	expression tag	UNP G0Y2B2
n	38	LEU	-	expression tag	UNP G0Y2B2
n	39	VAL	-	expression tag	UNP G0Y2B2
n	40	PRO	-	expression tag	UNP G0Y2B2
n	41	ARG	-	expression tag	UNP G0Y2B2
n	42	GLY	-	expression tag	UNP G0Y2B2
n	43	SER	-	expression tag	UNP G0Y2B2
n	44	HIS	-	expression tag	UNP G0Y2B2
o	25	MET	-	expression tag	UNP G0Y2B2
o	26	GLY	-	expression tag	UNP G0Y2B2
o	27	SER	-	expression tag	UNP G0Y2B2
o	28	SER	-	expression tag	UNP G0Y2B2
o	29	HIS	-	expression tag	UNP G0Y2B2
o	30	HIS	-	expression tag	UNP G0Y2B2
o	31	HIS	-	expression tag	UNP G0Y2B2
o	32	HIS	-	expression tag	UNP G0Y2B2
o	33	HIS	-	expression tag	UNP G0Y2B2
o	34	HIS	-	expression tag	UNP G0Y2B2
o	35	SER	-	expression tag	UNP G0Y2B2
o	36	SER	-	expression tag	UNP G0Y2B2
o	37	GLY	-	expression tag	UNP G0Y2B2
o	38	LEU	-	expression tag	UNP G0Y2B2
o	39	VAL	-	expression tag	UNP G0Y2B2
o	40	PRO	-	expression tag	UNP G0Y2B2
o	41	ARG	-	expression tag	UNP G0Y2B2
o	42	GLY	-	expression tag	UNP G0Y2B2
o	43	SER	-	expression tag	UNP G0Y2B2
o	44	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
p	25	MET	-	expression tag	UNP G0Y2B2
p	26	GLY	-	expression tag	UNP G0Y2B2
p	27	SER	-	expression tag	UNP G0Y2B2
p	28	SER	-	expression tag	UNP G0Y2B2
p	29	HIS	-	expression tag	UNP G0Y2B2
p	30	HIS	-	expression tag	UNP G0Y2B2
p	31	HIS	-	expression tag	UNP G0Y2B2
p	32	HIS	-	expression tag	UNP G0Y2B2
p	33	HIS	-	expression tag	UNP G0Y2B2
p	34	HIS	-	expression tag	UNP G0Y2B2
p	35	SER	-	expression tag	UNP G0Y2B2
p	36	SER	-	expression tag	UNP G0Y2B2
p	37	GLY	-	expression tag	UNP G0Y2B2
p	38	LEU	-	expression tag	UNP G0Y2B2
p	39	VAL	-	expression tag	UNP G0Y2B2
p	40	PRO	-	expression tag	UNP G0Y2B2
p	41	ARG	-	expression tag	UNP G0Y2B2
p	42	GLY	-	expression tag	UNP G0Y2B2
p	43	SER	-	expression tag	UNP G0Y2B2
p	44	HIS	-	expression tag	UNP G0Y2B2
q	25	MET	-	expression tag	UNP G0Y2B2
q	26	GLY	-	expression tag	UNP G0Y2B2
q	27	SER	-	expression tag	UNP G0Y2B2
q	28	SER	-	expression tag	UNP G0Y2B2
q	29	HIS	-	expression tag	UNP G0Y2B2
q	30	HIS	-	expression tag	UNP G0Y2B2
q	31	HIS	-	expression tag	UNP G0Y2B2
q	32	HIS	-	expression tag	UNP G0Y2B2
q	33	HIS	-	expression tag	UNP G0Y2B2
q	34	HIS	-	expression tag	UNP G0Y2B2
q	35	SER	-	expression tag	UNP G0Y2B2
q	36	SER	-	expression tag	UNP G0Y2B2
q	37	GLY	-	expression tag	UNP G0Y2B2
q	38	LEU	-	expression tag	UNP G0Y2B2
q	39	VAL	-	expression tag	UNP G0Y2B2
q	40	PRO	-	expression tag	UNP G0Y2B2
q	41	ARG	-	expression tag	UNP G0Y2B2
q	42	GLY	-	expression tag	UNP G0Y2B2
q	43	SER	-	expression tag	UNP G0Y2B2
q	44	HIS	-	expression tag	UNP G0Y2B2
r	25	MET	-	expression tag	UNP G0Y2B2
r	26	GLY	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
r	27	SER	-	expression tag	UNP G0Y2B2
r	28	SER	-	expression tag	UNP G0Y2B2
r	29	HIS	-	expression tag	UNP G0Y2B2
r	30	HIS	-	expression tag	UNP G0Y2B2
r	31	HIS	-	expression tag	UNP G0Y2B2
r	32	HIS	-	expression tag	UNP G0Y2B2
r	33	HIS	-	expression tag	UNP G0Y2B2
r	34	HIS	-	expression tag	UNP G0Y2B2
r	35	SER	-	expression tag	UNP G0Y2B2
r	36	SER	-	expression tag	UNP G0Y2B2
r	37	GLY	-	expression tag	UNP G0Y2B2
r	38	LEU	-	expression tag	UNP G0Y2B2
r	39	VAL	-	expression tag	UNP G0Y2B2
r	40	PRO	-	expression tag	UNP G0Y2B2
r	41	ARG	-	expression tag	UNP G0Y2B2
r	42	GLY	-	expression tag	UNP G0Y2B2
r	43	SER	-	expression tag	UNP G0Y2B2
r	44	HIS	-	expression tag	UNP G0Y2B2
s	25	MET	-	expression tag	UNP G0Y2B2
s	26	GLY	-	expression tag	UNP G0Y2B2
s	27	SER	-	expression tag	UNP G0Y2B2
s	28	SER	-	expression tag	UNP G0Y2B2
s	29	HIS	-	expression tag	UNP G0Y2B2
s	30	HIS	-	expression tag	UNP G0Y2B2
s	31	HIS	-	expression tag	UNP G0Y2B2
s	32	HIS	-	expression tag	UNP G0Y2B2
s	33	HIS	-	expression tag	UNP G0Y2B2
s	34	HIS	-	expression tag	UNP G0Y2B2
s	35	SER	-	expression tag	UNP G0Y2B2
s	36	SER	-	expression tag	UNP G0Y2B2
s	37	GLY	-	expression tag	UNP G0Y2B2
s	38	LEU	-	expression tag	UNP G0Y2B2
s	39	VAL	-	expression tag	UNP G0Y2B2
s	40	PRO	-	expression tag	UNP G0Y2B2
s	41	ARG	-	expression tag	UNP G0Y2B2
s	42	GLY	-	expression tag	UNP G0Y2B2
s	43	SER	-	expression tag	UNP G0Y2B2
s	44	HIS	-	expression tag	UNP G0Y2B2
t	25	MET	-	expression tag	UNP G0Y2B2
t	26	GLY	-	expression tag	UNP G0Y2B2
t	27	SER	-	expression tag	UNP G0Y2B2
t	28	SER	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
t	29	HIS	-	expression tag	UNP G0Y2B2
t	30	HIS	-	expression tag	UNP G0Y2B2
t	31	HIS	-	expression tag	UNP G0Y2B2
t	32	HIS	-	expression tag	UNP G0Y2B2
t	33	HIS	-	expression tag	UNP G0Y2B2
t	34	HIS	-	expression tag	UNP G0Y2B2
t	35	SER	-	expression tag	UNP G0Y2B2
t	36	SER	-	expression tag	UNP G0Y2B2
t	37	GLY	-	expression tag	UNP G0Y2B2
t	38	LEU	-	expression tag	UNP G0Y2B2
t	39	VAL	-	expression tag	UNP G0Y2B2
t	40	PRO	-	expression tag	UNP G0Y2B2
t	41	ARG	-	expression tag	UNP G0Y2B2
t	42	GLY	-	expression tag	UNP G0Y2B2
t	43	SER	-	expression tag	UNP G0Y2B2
t	44	HIS	-	expression tag	UNP G0Y2B2
u	25	MET	-	expression tag	UNP G0Y2B2
u	26	GLY	-	expression tag	UNP G0Y2B2
u	27	SER	-	expression tag	UNP G0Y2B2
u	28	SER	-	expression tag	UNP G0Y2B2
u	29	HIS	-	expression tag	UNP G0Y2B2
u	30	HIS	-	expression tag	UNP G0Y2B2
u	31	HIS	-	expression tag	UNP G0Y2B2
u	32	HIS	-	expression tag	UNP G0Y2B2
u	33	HIS	-	expression tag	UNP G0Y2B2
u	34	HIS	-	expression tag	UNP G0Y2B2
u	35	SER	-	expression tag	UNP G0Y2B2
u	36	SER	-	expression tag	UNP G0Y2B2
u	37	GLY	-	expression tag	UNP G0Y2B2
u	38	LEU	-	expression tag	UNP G0Y2B2
u	39	VAL	-	expression tag	UNP G0Y2B2
u	40	PRO	-	expression tag	UNP G0Y2B2
u	41	ARG	-	expression tag	UNP G0Y2B2
u	42	GLY	-	expression tag	UNP G0Y2B2
u	43	SER	-	expression tag	UNP G0Y2B2
u	44	HIS	-	expression tag	UNP G0Y2B2
v	25	MET	-	expression tag	UNP G0Y2B2
v	26	GLY	-	expression tag	UNP G0Y2B2
v	27	SER	-	expression tag	UNP G0Y2B2
v	28	SER	-	expression tag	UNP G0Y2B2
v	29	HIS	-	expression tag	UNP G0Y2B2
v	30	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
v	31	HIS	-	expression tag	UNP G0Y2B2
v	32	HIS	-	expression tag	UNP G0Y2B2
v	33	HIS	-	expression tag	UNP G0Y2B2
v	34	HIS	-	expression tag	UNP G0Y2B2
v	35	SER	-	expression tag	UNP G0Y2B2
v	36	SER	-	expression tag	UNP G0Y2B2
v	37	GLY	-	expression tag	UNP G0Y2B2
v	38	LEU	-	expression tag	UNP G0Y2B2
v	39	VAL	-	expression tag	UNP G0Y2B2
v	40	PRO	-	expression tag	UNP G0Y2B2
v	41	ARG	-	expression tag	UNP G0Y2B2
v	42	GLY	-	expression tag	UNP G0Y2B2
v	43	SER	-	expression tag	UNP G0Y2B2
v	44	HIS	-	expression tag	UNP G0Y2B2
w	25	MET	-	expression tag	UNP G0Y2B2
w	26	GLY	-	expression tag	UNP G0Y2B2
w	27	SER	-	expression tag	UNP G0Y2B2
w	28	SER	-	expression tag	UNP G0Y2B2
w	29	HIS	-	expression tag	UNP G0Y2B2
w	30	HIS	-	expression tag	UNP G0Y2B2
w	31	HIS	-	expression tag	UNP G0Y2B2
w	32	HIS	-	expression tag	UNP G0Y2B2
w	33	HIS	-	expression tag	UNP G0Y2B2
w	34	HIS	-	expression tag	UNP G0Y2B2
w	35	SER	-	expression tag	UNP G0Y2B2
w	36	SER	-	expression tag	UNP G0Y2B2
w	37	GLY	-	expression tag	UNP G0Y2B2
w	38	LEU	-	expression tag	UNP G0Y2B2
w	39	VAL	-	expression tag	UNP G0Y2B2
w	40	PRO	-	expression tag	UNP G0Y2B2
w	41	ARG	-	expression tag	UNP G0Y2B2
w	42	GLY	-	expression tag	UNP G0Y2B2
w	43	SER	-	expression tag	UNP G0Y2B2
w	44	HIS	-	expression tag	UNP G0Y2B2
x	25	MET	-	expression tag	UNP G0Y2B2
x	26	GLY	-	expression tag	UNP G0Y2B2
x	27	SER	-	expression tag	UNP G0Y2B2
x	28	SER	-	expression tag	UNP G0Y2B2
x	29	HIS	-	expression tag	UNP G0Y2B2
x	30	HIS	-	expression tag	UNP G0Y2B2
x	31	HIS	-	expression tag	UNP G0Y2B2
x	32	HIS	-	expression tag	UNP G0Y2B2

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Chain	Residue	Modelled	Actual	Comment	Reference
x	33	HIS	-	expression tag	UNP G0Y2B2
x	34	HIS	-	expression tag	UNP G0Y2B2
x	35	SER	-	expression tag	UNP G0Y2B2
x	36	SER	-	expression tag	UNP G0Y2B2
x	37	GLY	-	expression tag	UNP G0Y2B2
x	38	LEU	-	expression tag	UNP G0Y2B2
x	39	VAL	-	expression tag	UNP G0Y2B2
x	40	PRO	-	expression tag	UNP G0Y2B2
x	41	ARG	-	expression tag	UNP G0Y2B2
x	42	GLY	-	expression tag	UNP G0Y2B2
x	43	SER	-	expression tag	UNP G0Y2B2
x	44	HIS	-	expression tag	UNP G0Y2B2
y	25	MET	-	expression tag	UNP G0Y2B2
y	26	GLY	-	expression tag	UNP G0Y2B2
y	27	SER	-	expression tag	UNP G0Y2B2
y	28	SER	-	expression tag	UNP G0Y2B2
y	29	HIS	-	expression tag	UNP G0Y2B2
y	30	HIS	-	expression tag	UNP G0Y2B2
y	31	HIS	-	expression tag	UNP G0Y2B2
y	32	HIS	-	expression tag	UNP G0Y2B2
y	33	HIS	-	expression tag	UNP G0Y2B2
y	34	HIS	-	expression tag	UNP G0Y2B2
y	35	SER	-	expression tag	UNP G0Y2B2
y	36	SER	-	expression tag	UNP G0Y2B2
y	37	GLY	-	expression tag	UNP G0Y2B2
y	38	LEU	-	expression tag	UNP G0Y2B2
y	39	VAL	-	expression tag	UNP G0Y2B2
y	40	PRO	-	expression tag	UNP G0Y2B2
y	41	ARG	-	expression tag	UNP G0Y2B2
y	42	GLY	-	expression tag	UNP G0Y2B2
y	43	SER	-	expression tag	UNP G0Y2B2
y	44	HIS	-	expression tag	UNP G0Y2B2

- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	94	Total O 94 94	0	0
2	B	78	Total O 78 78	0	0
2	C	98	Total O 98 98	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	D	91	Total O 91 91	0	0
2	E	107	Total O 107 107	0	0
2	F	95	Total O 95 95	0	0
2	G	90	Total O 90 90	0	0
2	H	52	Total O 52 52	0	0
2	I	63	Total O 63 63	0	0
2	J	65	Total O 65 65	0	0
2	K	75	Total O 75 75	0	0
2	L	81	Total O 81 81	0	0
2	M	96	Total O 96 96	0	0
2	N	83	Total O 83 83	0	0
2	O	74	Total O 74 74	0	0
2	P	94	Total O 94 94	0	0
2	Q	83	Total O 83 83	0	0
2	R	86	Total O 86 86	0	0
2	S	87	Total O 87 87	0	0
2	T	74	Total O 74 74	0	0
2	U	68	Total O 68 68	0	0
2	V	53	Total O 53 53	0	0
2	W	55	Total O 55 55	0	0
2	X	72	Total O 72 72	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	Y	57	Total O 57 57	0	0
2	Z	63	Total O 63 63	0	0
2	1	66	Total O 66 66	0	0
2	2	79	Total O 79 79	0	0
2	3	98	Total O 98 98	0	0
2	4	96	Total O 96 96	0	0
2	5	92	Total O 92 92	0	0
2	6	104	Total O 104 104	0	0
2	7	88	Total O 88 88	0	0
2	8	91	Total O 91 91	0	0
2	9	91	Total O 91 91	0	0
2	a	90	Total O 90 90	0	0
2	b	63	Total O 63 63	0	0
2	c	50	Total O 50 50	0	0
2	d	69	Total O 69 69	0	0
2	e	76	Total O 76 76	0	0
2	f	78	Total O 78 78	0	0
2	g	70	Total O 70 70	0	0
2	h	80	Total O 80 80	0	0
2	i	81	Total O 81 81	0	0
2	j	69	Total O 69 69	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	k	78	Total O 78 78	0	0
2	l	81	Total O 81 81	0	0
2	m	78	Total O 78 78	0	0
2	n	94	Total O 94 94	0	0
2	o	79	Total O 79 79	0	0
2	p	78	Total O 78 78	0	0
2	q	102	Total O 102 102	0	0
2	r	74	Total O 74 74	0	0
2	s	113	Total O 113 113	0	0
2	t	76	Total O 76 76	0	0
2	u	93	Total O 93 93	0	0
2	v	82	Total O 82 82	0	0
2	w	94	Total O 94 94	0	0
2	x	81	Total O 81 81	0	0
2	y	78	Total O 78 78	0	0

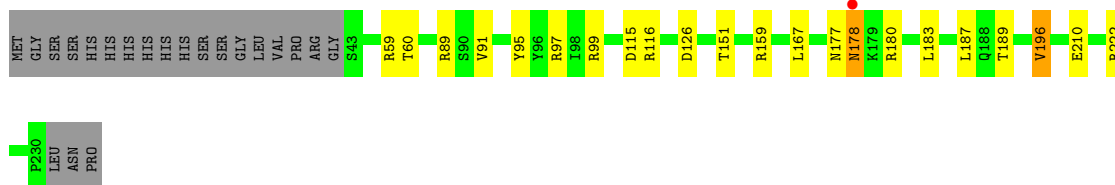


### 3 Residue-property plots [i](#)


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: Capsid protein

Chain A: 




- Molecule 1: Capsid protein

Chain B: 




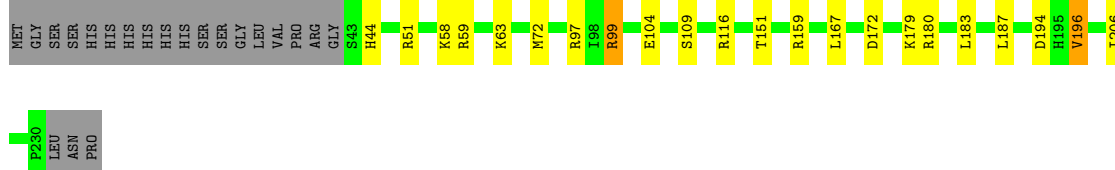
- Molecule 1: Capsid protein

Chain C: 




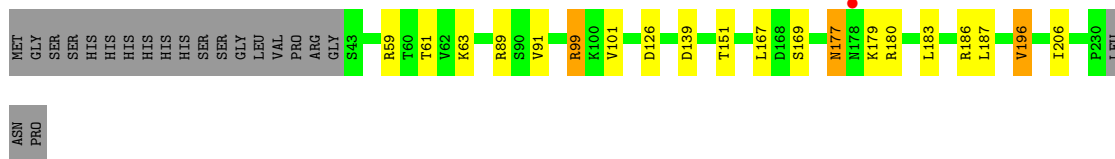
- Molecule 1: Capsid protein

Chain D: 

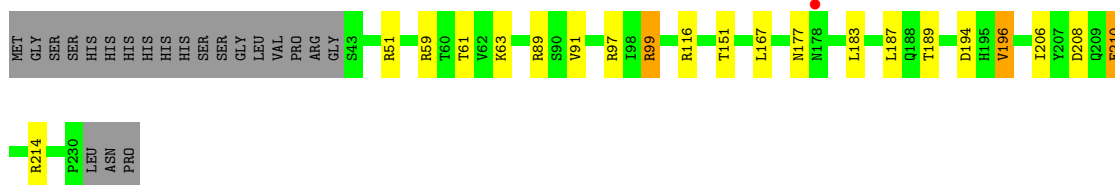
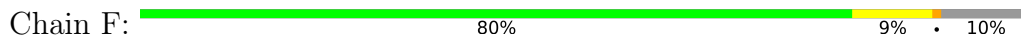


- Molecule 1: Capsid protein

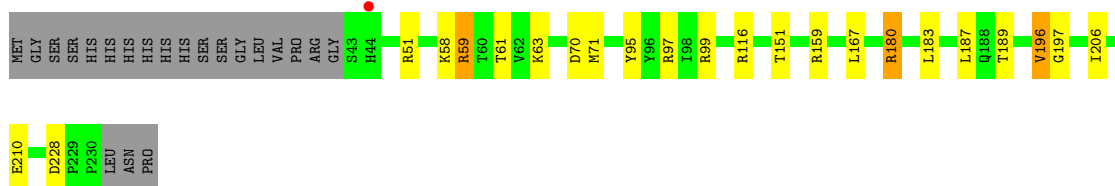
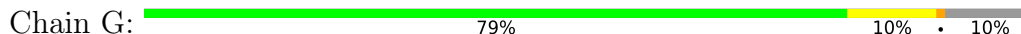
Chain E: 



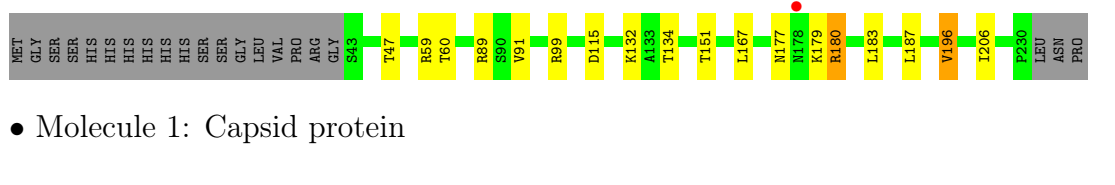
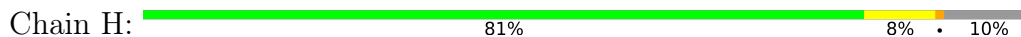
• Molecule 1: Capsid protein



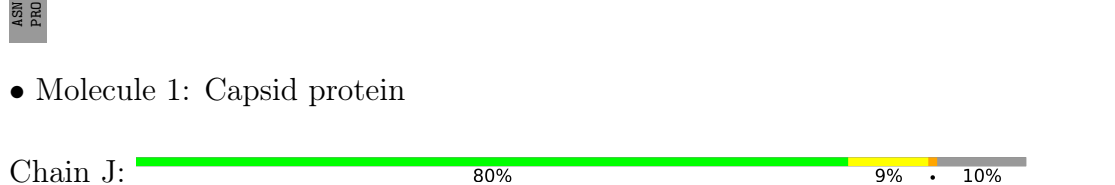
• Molecule 1: Capsid protein



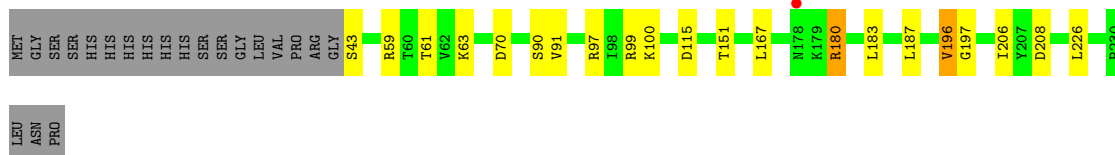
• Molecule 1: Capsid protein



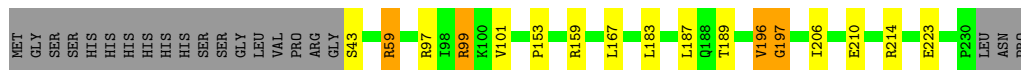
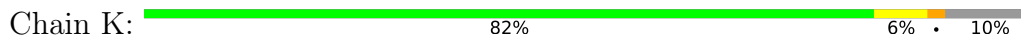
• Molecule 1: Capsid protein



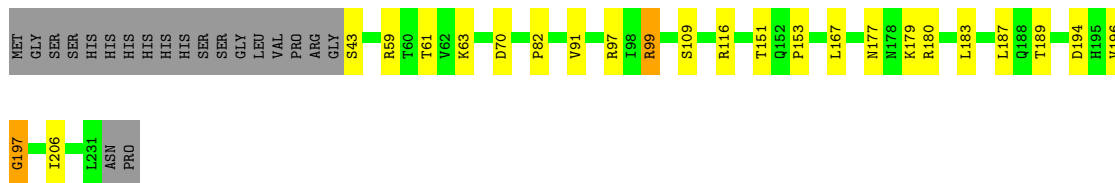
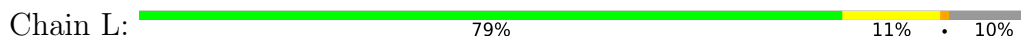
• Molecule 1: Capsid protein



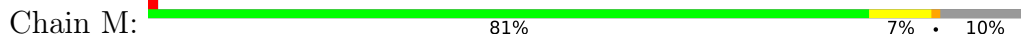
• Molecule 1: Capsid protein



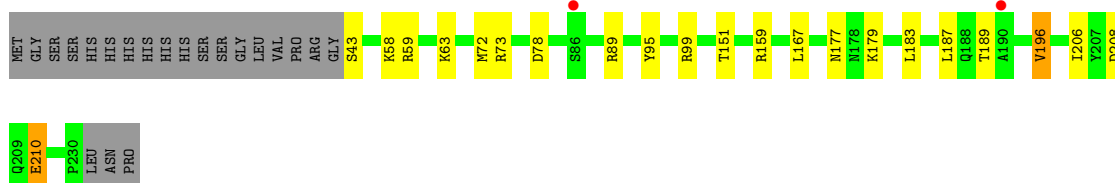
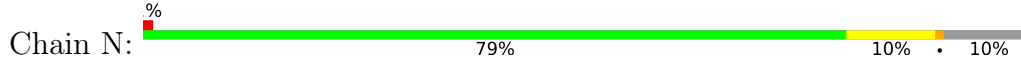
• Molecule 1: Capsid protein



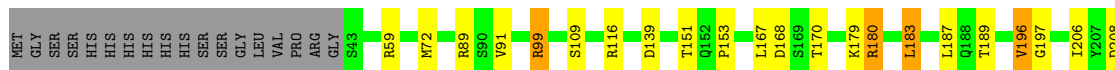
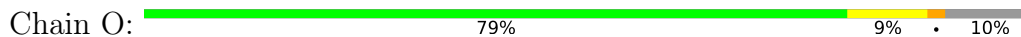
• Molecule 1: Capsid protein

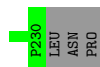


• Molecule 1: Capsid protein

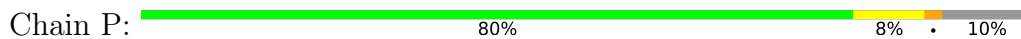


• Molecule 1: Capsid protein

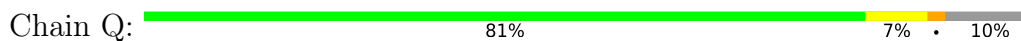




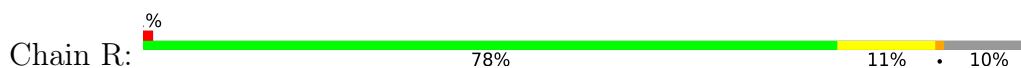
• Molecule 1: Capsid protein



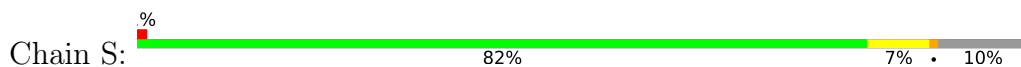
• Molecule 1: Capsid protein



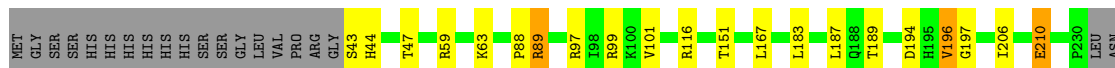
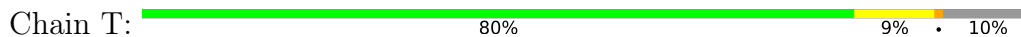
• Molecule 1: Capsid protein



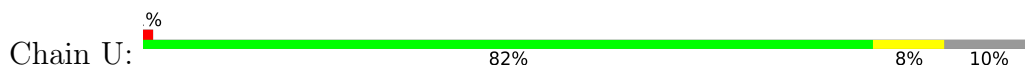
• Molecule 1: Capsid protein



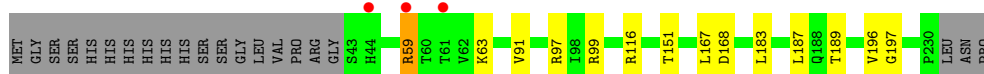
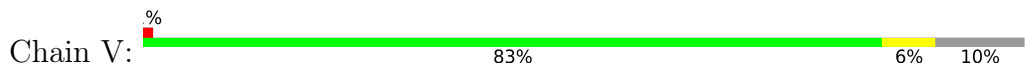
• Molecule 1: Capsid protein



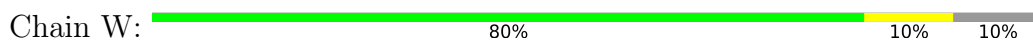
• Molecule 1: Capsid protein



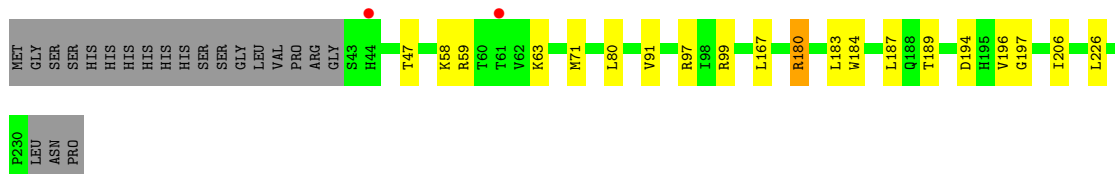
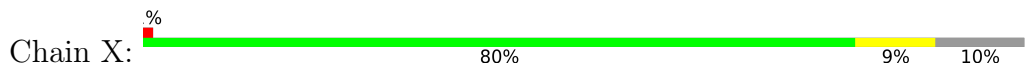
• Molecule 1: Capsid protein



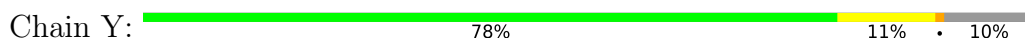
• Molecule 1: Capsid protein



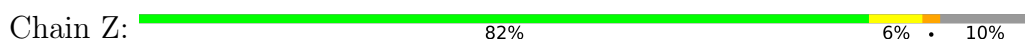
• Molecule 1: Capsid protein




• Molecule 1: Capsid protein

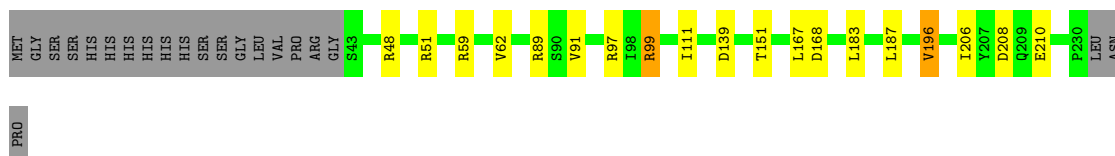


• Molecule 1: Capsid protein




• Molecule 1: Capsid protein

Chain 1:  81% 8% 10%




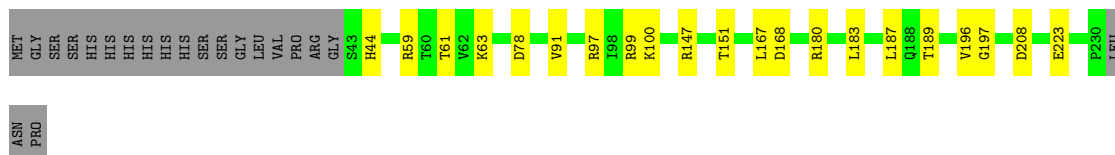
- Molecule 1: Capsid protein

Chain 2:  81% 9% 10%




- Molecule 1: Capsid protein

Chain 3:  80% 10% 10%




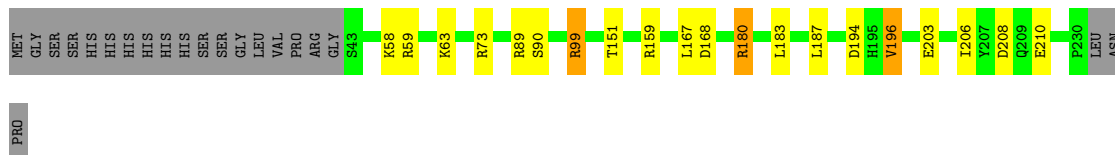
- Molecule 1: Capsid protein

Chain 4:  81% 9% 10%




- Molecule 1: Capsid protein

Chain 5:  80% 8% 10%

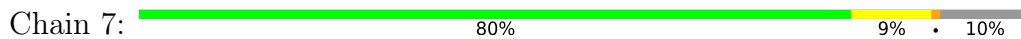


- Molecule 1: Capsid protein

Chain 6:  82% 8% 10%

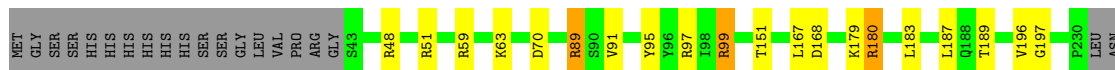
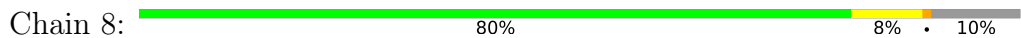


- Molecule 1: Capsid protein



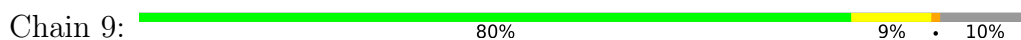
PRO

- Molecule 1: Capsid protein



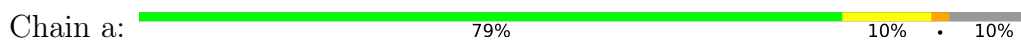
PRO

- Molecule 1: Capsid protein



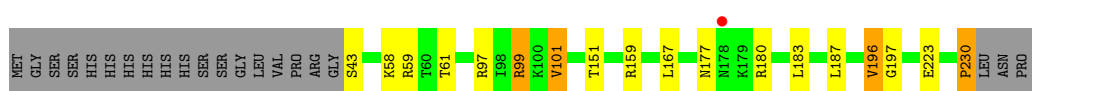
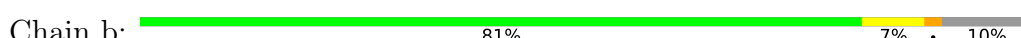
ASN  
PRO

- Molecule 1: Capsid protein

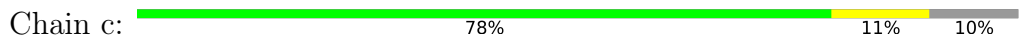


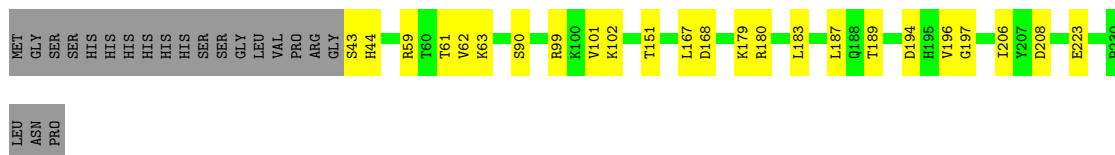
L231  
ASN  
PRO

- Molecule 1: Capsid protein

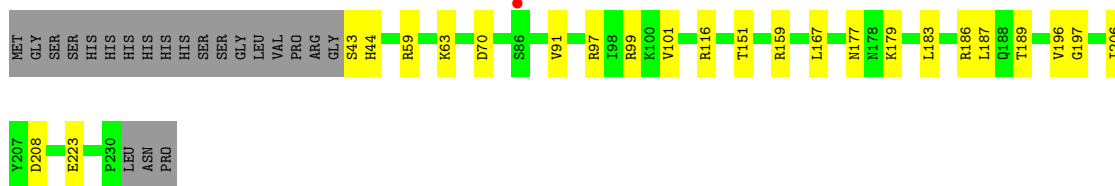
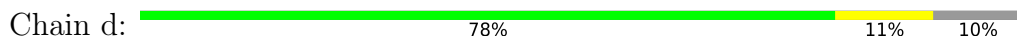


- Molecule 1: Capsid protein

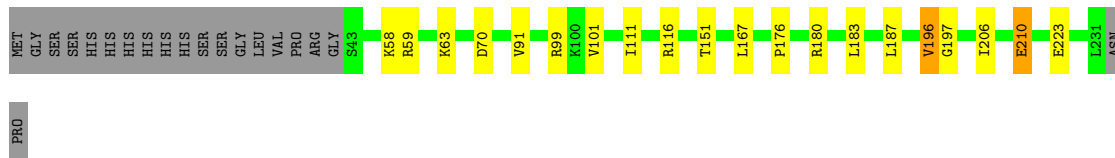
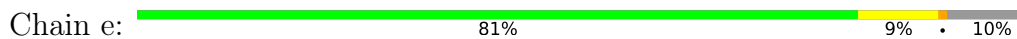




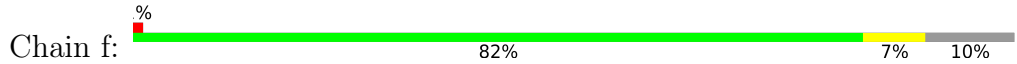
• Molecule 1: Capsid protein



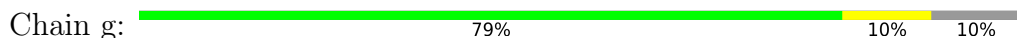
• Molecule 1: Capsid protein



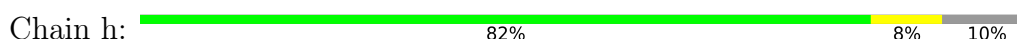
• Molecule 1: Capsid protein



• Molecule 1: Capsid protein

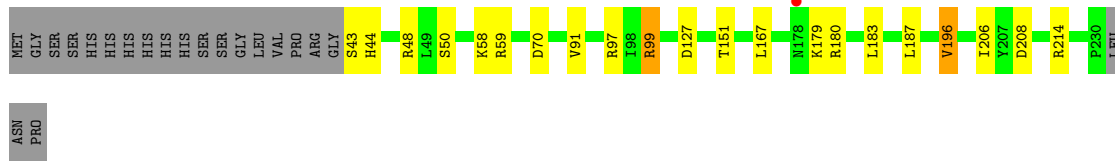
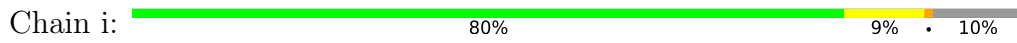


• Molecule 1: Capsid protein

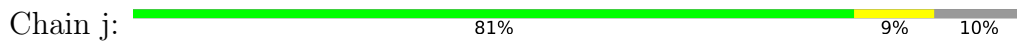




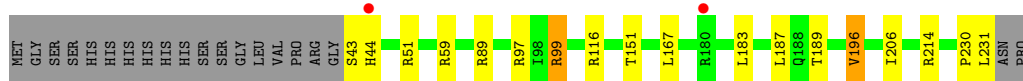
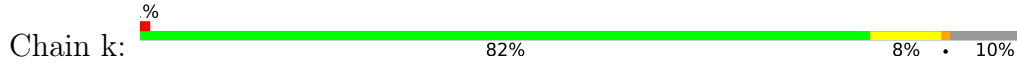
• Molecule 1: Capsid protein



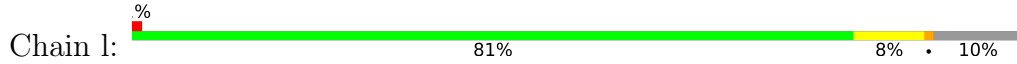
• Molecule 1: Capsid protein



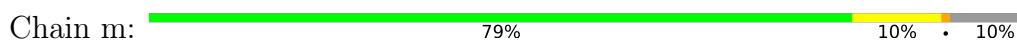
• Molecule 1: Capsid protein



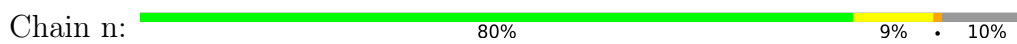
• Molecule 1: Capsid protein



• Molecule 1: Capsid protein



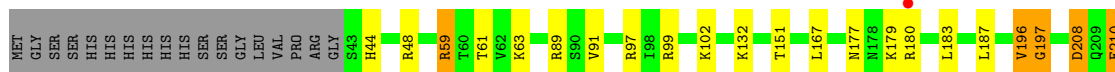
• Molecule 1: Capsid protein



ASN  
PRO

• Molecule 1: Capsid protein

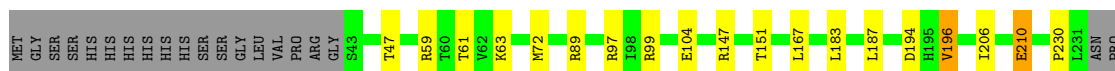
Chain o: 79% 8% 10%



P230  
LEU  
ASN  
PRO

• Molecule 1: Capsid protein

Chain p: 81% 8% 10%



• Molecule 1: Capsid protein

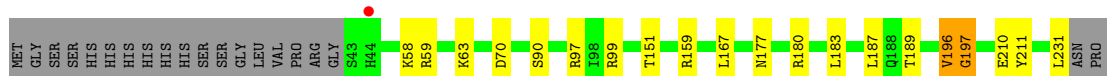
Chain q: 79% 9% 10%



P230  
LEU  
ASN  
PRO

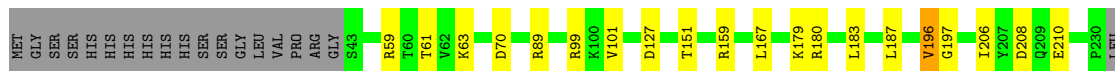
• Molecule 1: Capsid protein

Chain r: 81% 9% 10%



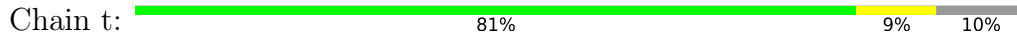
• Molecule 1: Capsid protein

Chain s: 80% 9% 10%

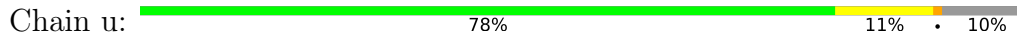


ASN  
PRO

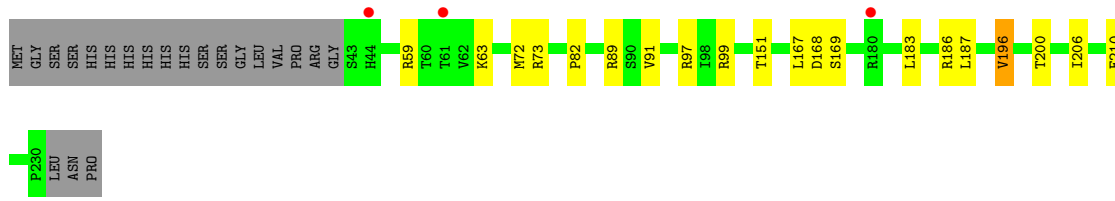
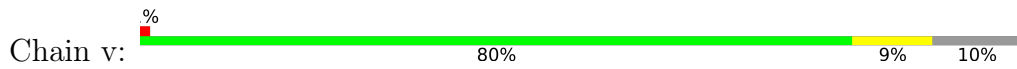
• Molecule 1: Capsid protein



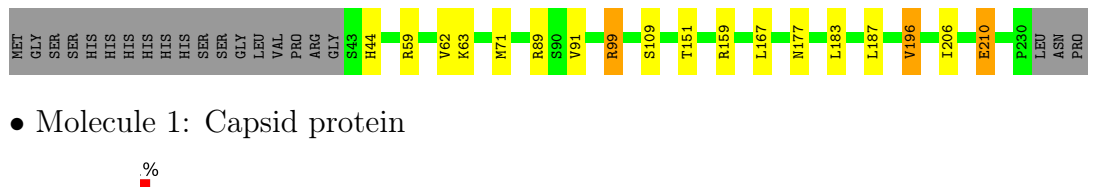
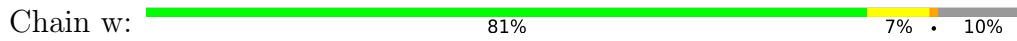
• Molecule 1: Capsid protein



• Molecule 1: Capsid protein



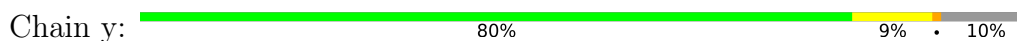
• Molecule 1: Capsid protein

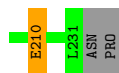


• Molecule 1: Capsid protein



• Molecule 1: Capsid protein





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	194.12Å 201.88Å 231.28Å 90.00° 90.72° 90.00°	Depositor
Resolution (Å)	50.00 – 2.80 49.75 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.0 (50.00-2.80) 99.1 (49.75-2.80)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.63 (at 2.81Å)	Xtrriage
Refinement program	REFMAC 5.8.0158	Depositor
R, $R_{free}$	0.163 , 0.224 0.167 , 0.222	Depositor DCC
$R_{free}$ test set	21255 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	41.7	Xtrriage
Anisotropy	0.025	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.35 , 45.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.52$ , $\langle L^2 \rangle = 0.35$	Xtrriage
Estimated twinning fraction	0.000 for -k,-h,-l 0.000 for k,h,-l 0.000 for h,-k,-l	Xtrriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	97686	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	42.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.36% 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

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	1	0.93	0/1594	1.07	11/2171 (0.5%)
1	2	0.93	0/1602	1.03	5/2182 (0.2%)
1	3	1.01	0/1594	1.08	5/2171 (0.2%)
1	4	0.96	0/1594	1.09	6/2171 (0.3%)
1	5	1.00	0/1594	1.10	11/2171 (0.5%)
1	6	1.03	0/1594	1.10	11/2171 (0.5%)
1	7	1.02	3/1594 (0.2%)	1.11	5/2171 (0.2%)
1	8	0.99	0/1594	1.11	8/2171 (0.4%)
1	9	1.00	0/1602	1.11	8/2182 (0.4%)
1	A	1.04	0/1594	1.15	10/2171 (0.5%)
1	B	1.03	1/1594 (0.1%)	1.07	7/2171 (0.3%)
1	C	1.03	0/1594	1.06	6/2171 (0.3%)
1	D	1.04	1/1594 (0.1%)	1.11	10/2171 (0.5%)
1	E	1.02	1/1594 (0.1%)	1.07	7/2171 (0.3%)
1	F	1.05	1/1594 (0.1%)	1.09	9/2171 (0.4%)
1	G	0.99	0/1594	1.09	8/2171 (0.4%)
1	H	0.93	1/1594 (0.1%)	0.99	2/2171 (0.1%)
1	I	0.94	0/1594	1.07	8/2171 (0.4%)
1	J	0.95	0/1594	1.04	4/2171 (0.2%)
1	K	1.04	3/1594 (0.2%)	1.08	7/2171 (0.3%)
1	L	0.96	0/1602	1.06	5/2182 (0.2%)
1	M	1.01	1/1594 (0.1%)	1.07	6/2171 (0.3%)
1	N	1.01	2/1594 (0.1%)	1.08	6/2171 (0.3%)
1	O	1.03	0/1594	1.11	10/2171 (0.5%)
1	P	1.07	2/1594 (0.1%)	1.17	12/2171 (0.6%)
1	Q	1.00	2/1594 (0.1%)	1.05	8/2171 (0.4%)
1	R	1.03	3/1594 (0.2%)	1.12	10/2171 (0.5%)
1	S	1.01	2/1594 (0.1%)	1.04	4/2171 (0.2%)
1	T	0.97	2/1594 (0.1%)	1.13	9/2171 (0.4%)
1	U	0.92	0/1594	1.00	1/2171 (0.0%)
1	V	0.91	0/1594	1.04	5/2171 (0.2%)
1	W	0.95	0/1594	1.02	2/2171 (0.1%)
1	X	0.91	1/1594 (0.1%)	1.00	3/2171 (0.1%)
1	Y	0.94	0/1594	1.02	5/2171 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	Z	0.93	0/1594	1.02	8/2171 (0.4%)
1	a	0.95	0/1602	1.11	11/2182 (0.5%)
1	b	0.95	0/1594	1.07	6/2171 (0.3%)
1	c	0.96	0/1594	1.05	5/2171 (0.2%)
1	d	0.94	0/1594	1.06	7/2171 (0.3%)
1	e	0.99	2/1602 (0.1%)	1.04	2/2182 (0.1%)
1	f	0.91	0/1594	1.02	5/2171 (0.2%)
1	g	0.96	2/1594 (0.1%)	1.04	6/2171 (0.3%)
1	h	0.98	0/1594	1.08	6/2171 (0.3%)
1	i	1.02	1/1594 (0.1%)	1.08	8/2171 (0.4%)
1	j	0.95	2/1594 (0.1%)	1.02	0/2171
1	k	0.99	0/1602	1.08	8/2182 (0.4%)
1	l	0.98	1/1594 (0.1%)	1.05	9/2171 (0.4%)
1	m	1.02	0/1594	1.06	8/2171 (0.4%)
1	n	1.01	1/1594 (0.1%)	1.10	8/2171 (0.4%)
1	o	1.02	3/1594 (0.2%)	1.09	5/2171 (0.2%)
1	p	1.03	2/1602 (0.1%)	1.07	4/2182 (0.2%)
1	q	1.03	0/1594	1.11	11/2171 (0.5%)
1	r	0.97	2/1602 (0.1%)	1.05	3/2182 (0.1%)
1	s	1.00	0/1594	1.05	6/2171 (0.3%)
1	t	1.02	0/1594	1.07	7/2171 (0.3%)
1	u	1.01	2/1594 (0.1%)	1.09	7/2171 (0.3%)
1	v	0.96	0/1594	1.07	8/2171 (0.4%)
1	w	1.02	1/1594 (0.1%)	1.08	3/2171 (0.1%)
1	x	1.00	1/1602 (0.1%)	1.15	10/2182 (0.5%)
1	y	1.01	1/1602 (0.1%)	1.13	12/2182 (0.5%)
All	All	0.99	47/95720 (0.0%)	1.07	407/130370 (0.3%)

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	1	0	1
1	4	0	1
1	5	0	1
1	6	0	1
1	7	0	1
1	9	0	1
1	A	0	2
1	B	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	D	0	1
1	E	0	1
1	F	0	2
1	G	0	1
1	H	0	1
1	I	0	1
1	J	0	1
1	K	0	1
1	M	0	1
1	N	0	2
1	O	0	1
1	P	0	1
1	Q	0	1
1	S	0	1
1	T	0	1
1	U	0	1
1	Y	0	1
1	Z	0	1
1	a	0	1
1	b	0	1
1	e	0	1
1	f	0	1
1	g	0	2
1	h	0	1
1	i	0	1
1	k	0	1
1	m	0	1
1	o	0	2
1	p	0	2
1	q	0	3
1	r	0	2
1	s	0	1
1	t	0	1
1	u	0	1
1	v	0	1
1	w	0	1
1	x	0	1
All	All	0	54

All (47) bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	w	210	GLU	CG-CD	7.82	1.63	1.51
1	P	197	GLY	N-CA	-7.66	1.34	1.46
1	o	210	GLU	CG-CD	7.29	1.62	1.51
1	r	197	GLY	N-CA	-6.67	1.36	1.46
1	R	210	GLU	CG-CD	6.65	1.61	1.51
1	p	104	GLU	CD-OE1	6.60	1.32	1.25
1	7	210	GLU	CG-CD	6.52	1.61	1.51
1	Q	210	GLU	CG-CD	6.44	1.61	1.51
1	D	104	GLU	CD-OE1	6.18	1.32	1.25
1	e	210	GLU	CG-CD	6.18	1.61	1.51
1	T	210	GLU	CG-CD	6.17	1.61	1.51
1	N	210	GLU	CD-OE1	6.14	1.32	1.25
1	7	210	GLU	CD-OE1	6.12	1.32	1.25
1	S	104	GLU	CD-OE1	6.11	1.32	1.25
1	g	189	THR	CA-CB	6.10	1.69	1.53
1	T	210	GLU	CD-OE1	5.90	1.32	1.25
1	K	197	GLY	N-CA	-5.72	1.37	1.46
1	x	218	TYR	CG-CD1	5.67	1.46	1.39
1	P	43	SER	CA-CB	5.66	1.61	1.52
1	F	210	GLU	CG-CD	5.61	1.60	1.51
1	7	214	ARG	CZ-NH2	5.58	1.40	1.33
1	i	214	ARG	CZ-NH2	5.55	1.40	1.33
1	E	177	ASN	CB-CG	5.52	1.63	1.51
1	u	184	TRP	CB-CG	-5.50	1.40	1.50
1	j	210	GLU	CG-CD	5.46	1.60	1.51
1	B	230	PRO	CA-C	5.44	1.63	1.52
1	R	210	GLU	CD-OE1	5.41	1.31	1.25
1	X	184	TRP	CB-CG	-5.38	1.40	1.50
1	N	210	GLU	CG-CD	5.36	1.59	1.51
1	e	210	GLU	CD-OE1	5.33	1.31	1.25
1	o	197	GLY	N-CA	-5.33	1.38	1.46
1	K	214	ARG	CZ-NH2	5.30	1.40	1.33
1	R	104	GLU	CD-OE1	5.29	1.31	1.25
1	y	210	GLU	CG-CD	5.28	1.59	1.51
1	g	43	SER	CA-CB	5.24	1.60	1.52
1	u	210	GLU	CG-CD	5.24	1.59	1.51
1	r	177	ASN	CB-CG	5.23	1.63	1.51
1	j	210	GLU	CD-OE1	5.21	1.31	1.25
1	H	177	ASN	CB-CG	5.20	1.63	1.51
1	p	210	GLU	CG-CD	5.20	1.59	1.51
1	Q	210	GLU	CD-OE1	5.17	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	43	SER	CA-CB	5.16	1.60	1.52
1	n	197	GLY	N-CA	-5.14	1.38	1.46
1	M	43	SER	CA-CB	5.10	1.60	1.52
1	S	197	GLY	N-CA	-5.04	1.38	1.46
1	l	43	SER	CA-CB	5.02	1.60	1.52
1	o	177	ASN	CB-CG	5.01	1.62	1.51

All (407) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	T	89	ARG	NE-CZ-NH2	12.61	126.61	120.30
1	3	97	ARG	NE-CZ-NH1	-10.43	115.09	120.30
1	3	97	ARG	NE-CZ-NH2	10.07	125.33	120.30
1	9	97	ARG	NE-CZ-NH2	9.90	125.25	120.30
1	P	89	ARG	NE-CZ-NH2	9.64	125.12	120.30
1	x	159	ARG	NE-CZ-NH2	9.57	125.08	120.30
1	y	97	ARG	NE-CZ-NH2	9.57	125.08	120.30
1	T	97	ARG	NE-CZ-NH2	9.38	124.99	120.30
1	a	97	ARG	NE-CZ-NH2	9.36	124.98	120.30
1	a	97	ARG	NE-CZ-NH1	-9.21	115.69	120.30
1	i	214	ARG	NE-CZ-NH1	-9.21	115.70	120.30
1	u	72	MET	CG-SD-CE	-9.12	85.61	100.20
1	d	97	ARG	NE-CZ-NH2	9.03	124.82	120.30
1	7	97	ARG	NE-CZ-NH2	8.99	124.80	120.30
1	Y	116	ARG	NE-CZ-NH1	-8.87	115.87	120.30
1	l	97	ARG	NE-CZ-NH2	8.85	124.72	120.30
1	x	159	ARG	NE-CZ-NH1	-8.80	115.90	120.30
1	n	97	ARG	NE-CZ-NH2	8.68	124.64	120.30
1	A	159	ARG	NE-CZ-NH2	8.62	124.61	120.30
1	8	97	ARG	NE-CZ-NH1	-8.54	116.03	120.30
1	7	97	ARG	NE-CZ-NH1	-8.52	116.04	120.30
1	y	89	ARG	NE-CZ-NH2	8.49	124.55	120.30
1	c	194	ASP	CB-CG-OD1	8.38	125.84	118.30
1	v	89	ARG	NE-CZ-NH2	8.32	124.46	120.30
1	Z	89	ARG	NE-CZ-NH2	8.29	124.44	120.30
1	x	89	ARG	NE-CZ-NH2	8.28	124.44	120.30
1	G	116	ARG	NE-CZ-NH1	-8.27	116.17	120.30
1	v	186	ARG	NE-CZ-NH1	-8.26	116.17	120.30
1	8	97	ARG	NE-CZ-NH2	8.18	124.39	120.30
1	O	89	ARG	NE-CZ-NH1	-8.17	116.21	120.30
1	R	89	ARG	NE-CZ-NH2	8.13	124.37	120.30
1	d	97	ARG	NE-CZ-NH1	-8.11	116.24	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	8	99	ARG	NE-CZ-NH2	8.08	124.34	120.30
1	F	214	ARG	NE-CZ-NH1	-7.94	116.33	120.30
1	u	116	ARG	NE-CZ-NH2	7.92	124.26	120.30
1	A	97	ARG	NE-CZ-NH1	-7.91	116.34	120.30
1	P	139	ASP	CB-CG-OD2	-7.86	111.23	118.30
1	O	89	ARG	NE-CZ-NH2	7.85	124.22	120.30
1	2	51	ARG	NE-CZ-NH2	7.80	124.20	120.30
1	n	116	ARG	NE-CZ-NH2	7.79	124.20	120.30
1	b	97	ARG	NE-CZ-NH1	-7.74	116.43	120.30
1	q	97	ARG	NE-CZ-NH2	7.73	124.17	120.30
1	s	127	ASP	CB-CG-OD2	-7.72	111.36	118.30
1	b	97	ARG	NE-CZ-NH2	7.71	124.16	120.30
1	4	97	ARG	NE-CZ-NH2	7.65	124.13	120.30
1	7	214	ARG	NE-CZ-NH1	-7.61	116.50	120.30
1	4	97	ARG	NE-CZ-NH1	-7.53	116.53	120.30
1	A	116	ARG	NE-CZ-NH1	-7.51	116.55	120.30
1	B	89	ARG	NE-CZ-NH2	7.47	124.03	120.30
1	D	51	ARG	NE-CZ-NH2	7.45	124.02	120.30
1	X	180	ARG	NE-CZ-NH2	7.40	124.00	120.30
1	y	116	ARG	NE-CZ-NH1	-7.36	116.62	120.30
1	p	97	ARG	NE-CZ-NH2	7.31	123.96	120.30
1	i	99	ARG	NE-CZ-NH1	-7.29	116.65	120.30
1	5	208	ASP	CB-CG-OD1	7.24	124.81	118.30
1	9	51	ARG	NE-CZ-NH2	7.21	123.91	120.30
1	v	97	ARG	NE-CZ-NH2	7.15	123.87	120.30
1	R	97	ARG	NE-CZ-NH2	7.13	123.86	120.30
1	5	89	ARG	NE-CZ-NH2	7.11	123.86	120.30
1	T	194	ASP	CB-CG-OD1	7.07	124.66	118.30
1	l	97	ARG	NE-CZ-NH1	-7.05	116.77	120.30
1	P	51	ARG	NE-CZ-NH2	7.05	123.83	120.30
1	M	97	ARG	NE-CZ-NH2	7.04	123.82	120.30
1	6	116	ARG	NE-CZ-NH2	7.04	123.82	120.30
1	5	180	ARG	NE-CZ-NH2	7.00	123.80	120.30
1	6	159	ARG	NE-CZ-NH2	6.99	123.80	120.30
1	x	194	ASP	CB-CG-OD1	6.98	124.58	118.30
1	c	194	ASP	CB-CG-OD2	-6.98	112.02	118.30
1	R	116	ARG	NE-CZ-NH1	-6.97	116.81	120.30
1	K	101	VAL	CB-CA-C	-6.95	98.20	111.40
1	P	180	ARG	NE-CZ-NH2	6.94	123.77	120.30
1	8	51	ARG	NE-CZ-NH2	6.94	123.77	120.30
1	Z	97	ARG	NE-CZ-NH2	6.92	123.76	120.30
1	K	97	ARG	NE-CZ-NH2	6.89	123.75	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	x	194	ASP	CB-CG-OD2	-6.86	112.13	118.30
1	6	97	ARG	NE-CZ-NH2	6.85	123.72	120.30
1	f	222	ARG	NE-CZ-NH1	6.84	123.72	120.30
1	I	194	ASP	CB-CG-OD1	6.83	124.45	118.30
1	l	99	ARG	NE-CZ-NH1	-6.80	116.90	120.30
1	y	139	ASP	CB-CG-OD2	-6.78	112.19	118.30
1	F	116	ARG	NE-CZ-NH2	6.77	123.68	120.30
1	V	97	ARG	NE-CZ-NH1	-6.76	116.92	120.30
1	y	59	ARG	NE-CZ-NH1	6.76	123.68	120.30
1	N	159	ARG	NE-CZ-NH1	-6.76	116.92	120.30
1	q	99	ARG	NE-CZ-NH1	-6.76	116.92	120.30
1	4	159	ARG	NE-CZ-NH2	6.72	123.66	120.30
1	x	89	ARG	NE-CZ-NH1	-6.71	116.94	120.30
1	s	159	ARG	NE-CZ-NH2	6.70	123.65	120.30
1	g	194	ASP	CB-CG-OD1	6.69	124.32	118.30
1	T	97	ARG	NE-CZ-NH1	-6.69	116.96	120.30
1	u	208	ASP	CB-CG-OD1	6.68	124.31	118.30
1	A	89	ARG	NE-CZ-NH2	6.62	123.61	120.30
1	h	97	ARG	NE-CZ-NH1	-6.62	116.99	120.30
1	w	89	ARG	NE-CZ-NH2	6.58	123.59	120.30
1	n	180	ARG	NE-CZ-NH2	6.57	123.58	120.30
1	i	208	ASP	CB-CG-OD1	6.56	124.21	118.30
1	I	51	ARG	NE-CZ-NH2	6.55	123.58	120.30
1	G	159	ARG	NE-CZ-NH2	6.55	123.58	120.30
1	t	89	ARG	NE-CZ-NH2	6.53	123.57	120.30
1	X	97	ARG	NE-CZ-NH2	6.53	123.57	120.30
1	V	168	ASP	CB-CG-OD1	6.52	124.17	118.30
1	E	126	ASP	CB-CG-OD1	6.52	124.17	118.30
1	k	51	ARG	NE-CZ-NH1	-6.51	117.04	120.30
1	e	101	VAL	CB-CA-C	-6.49	99.06	111.40
1	V	97	ARG	NE-CZ-NH2	6.48	123.54	120.30
1	m	194	ASP	CB-CG-OD1	6.47	124.12	118.30
1	D	72	MET	CG-SD-CE	-6.47	89.85	100.20
1	y	116	ARG	NE-CZ-NH2	6.45	123.52	120.30
1	N	72	MET	CG-SD-CE	-6.44	89.89	100.20
1	l	208	ASP	CB-CG-OD2	-6.44	112.50	118.30
1	D	51	ARG	NE-CZ-NH1	-6.44	117.08	120.30
1	p	194	ASP	CB-CG-OD1	6.43	124.09	118.30
1	K	159	ARG	NE-CZ-NH2	6.41	123.51	120.30
1	m	89	ARG	NE-CZ-NH2	6.40	123.50	120.30
1	a	99	ARG	NE-CZ-NH2	6.39	123.49	120.30
1	i	127	ASP	CB-CG-OD2	-6.37	112.57	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	q	72	MET	CG-SD-CE	-6.37	90.01	100.20
1	A	115	ASP	CB-CG-OD2	6.37	124.03	118.30
1	k	51	ARG	NE-CZ-NH2	6.36	123.48	120.30
1	5	194	ASP	CB-CG-OD1	6.34	124.01	118.30
1	a	70	ASP	CB-CG-OD2	-6.34	112.59	118.30
1	N	73	ARG	NE-CZ-NH2	6.33	123.47	120.30
1	G	228	ASP	CB-CG-OD2	-6.32	112.61	118.30
1	o	59	ARG	NE-CZ-NH1	6.32	123.46	120.30
1	l	139	ASP	CB-CG-OD1	6.31	123.98	118.30
1	R	159	ARG	NE-CZ-NH2	6.30	123.45	120.30
1	r	70	ASP	CB-CG-OD1	6.30	123.97	118.30
1	S	194	ASP	CB-CG-OD1	6.28	123.96	118.30
1	F	97	ARG	NE-CZ-NH2	6.28	123.44	120.30
1	n	89	ARG	NE-CZ-NH2	6.27	123.43	120.30
1	O	208	ASP	CB-CG-OD1	6.26	123.94	118.30
1	P	89	ARG	NE-CZ-NH1	-6.25	117.17	120.30
1	G	51	ARG	NE-CZ-NH2	6.21	123.40	120.30
1	R	89	ARG	NE-CZ-NH1	-6.20	117.20	120.30
1	b	159	ARG	NE-CZ-NH2	6.20	123.40	120.30
1	S	230	PRO	N-CA-C	6.18	128.17	112.10
1	k	97	ARG	NE-CZ-NH2	6.17	123.38	120.30
1	h	89	ARG	NE-CZ-NH2	6.15	123.38	120.30
1	h	97	ARG	NE-CZ-NH2	6.14	123.37	120.30
1	o	48	ARG	NE-CZ-NH1	-6.13	117.23	120.30
1	Q	89	ARG	NE-CZ-NH2	6.12	123.36	120.30
1	p	147	ARG	NE-CZ-NH1	6.12	123.36	120.30
1	M	208	ASP	CB-CG-OD2	-6.11	112.80	118.30
1	J	97	ARG	NE-CZ-NH1	-6.11	117.25	120.30
1	8	89	ARG	NE-CZ-NH2	6.10	123.35	120.30
1	P	97	ARG	NE-CZ-NH2	6.10	123.35	120.30
1	Q	51	ARG	NE-CZ-NH1	-6.10	117.25	120.30
1	P	139	ASP	CB-CG-OD1	6.08	123.77	118.30
1	x	59	ARG	NE-CZ-NH1	6.08	123.34	120.30
1	G	116	ARG	NE-CZ-NH2	6.07	123.34	120.30
1	R	72	MET	CG-SD-CE	-6.07	90.49	100.20
1	9	194	ASP	CB-CG-OD2	-6.07	112.84	118.30
1	q	51	ARG	NE-CZ-NH2	6.06	123.33	120.30
1	Z	177	ASN	CB-CA-C	6.06	122.52	110.40
1	Q	168	ASP	CB-CG-OD1	6.05	123.75	118.30
1	F	194	ASP	CB-CG-OD2	-6.03	112.87	118.30
1	d	101	VAL	CB-CA-C	-6.02	99.96	111.40
1	d	186	ARG	NE-CZ-NH2	6.02	123.31	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	Q	126	ASP	CB-CG-OD1	6.02	123.72	118.30
1	G	97	ARG	NE-CZ-NH2	6.01	123.31	120.30
1	l	194	ASP	CB-CG-OD1	6.00	123.70	118.30
1	l	101	VAL	CB-CA-C	-6.00	100.00	111.40
1	I	78	ASP	CB-CG-OD1	6.00	123.69	118.30
1	R	97	ARG	NE-CZ-NH1	-5.99	117.30	120.30
1	X	194	ASP	CB-CG-OD1	5.99	123.69	118.30
1	o	177	ASN	CB-CA-C	5.97	122.35	110.40
1	k	99	ARG	NE-CZ-NH1	-5.97	117.32	120.30
1	y	72	MET	CG-SD-CE	-5.97	90.65	100.20
1	n	159	ARG	NE-CZ-NH2	5.97	123.28	120.30
1	5	168	ASP	CB-CG-OD1	5.96	123.66	118.30
1	F	89	ARG	NE-CZ-NH2	5.95	123.28	120.30
1	o	97	ARG	NE-CZ-NH1	-5.95	117.32	120.30
1	c	101	VAL	CB-CA-C	-5.94	100.11	111.40
1	6	97	ARG	NE-CZ-NH1	-5.93	117.34	120.30
1	I	99	ARG	NE-CZ-NH1	-5.92	117.34	120.30
1	l	208	ASP	CB-CG-OD1	5.92	123.63	118.30
1	N	208	ASP	CB-CG-OD2	-5.92	112.98	118.30
1	m	159	ARG	NE-CZ-NH1	-5.91	117.34	120.30
1	g	180	ARG	NE-CZ-NH2	5.91	123.25	120.30
1	4	51	ARG	NE-CZ-NH1	-5.90	117.35	120.30
1	v	72	MET	CG-SD-CE	-5.89	90.78	100.20
1	c	208	ASP	CB-CG-OD1	5.88	123.59	118.30
1	s	101	VAL	CG1-CB-CG2	-5.88	101.50	110.90
1	m	116	ARG	NE-CZ-NH2	5.87	123.23	120.30
1	5	208	ASP	CB-CG-OD2	-5.86	113.03	118.30
1	I	51	ARG	NE-CZ-NH1	-5.85	117.37	120.30
1	n	186	ARG	NE-CZ-NH2	5.85	123.23	120.30
1	E	177	ASN	CB-CA-C	5.84	122.07	110.40
1	k	97	ARG	NE-CZ-NH1	-5.84	117.38	120.30
1	k	116	ARG	NE-CZ-NH2	5.83	123.22	120.30
1	H	180	ARG	NE-CZ-NH2	5.82	123.21	120.30
1	n	97	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	u	116	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	y	97	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	C	51	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	d	116	ARG	NE-CZ-NH1	-5.82	117.39	120.30
1	S	116	ARG	NE-CZ-NH2	5.81	123.21	120.30
1	E	89	ARG	NE-CZ-NH1	-5.80	117.40	120.30
1	l	97	ARG	NE-CZ-NH1	-5.80	117.40	120.30
1	q	89	ARG	NE-CZ-NH2	5.80	123.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	t	222	ARG	NE-CZ-NH2	5.80	123.20	120.30
1	6	159	ARG	NE-CZ-NH1	-5.80	117.40	120.30
1	9	180	ARG	NE-CZ-NH2	5.79	123.20	120.30
1	B	194	ASP	CB-CG-OD2	-5.79	113.09	118.30
1	6	116	ARG	NE-CZ-NH1	-5.79	117.41	120.30
1	x	116	ARG	NE-CZ-NH2	5.79	123.19	120.30
1	s	208	ASP	CB-CG-OD1	5.78	123.50	118.30
1	L	97	ARG	NE-CZ-NH2	5.78	123.19	120.30
1	Q	59	ARG	NE-CZ-NH2	-5.77	117.41	120.30
1	w	159	ARG	NE-CZ-NH2	5.77	123.19	120.30
1	x	116	ARG	NE-CZ-NH1	-5.77	117.42	120.30
1	P	116	ARG	NE-CZ-NH1	-5.76	117.42	120.30
1	A	159	ARG	NE-CZ-NH1	-5.75	117.43	120.30
1	G	59	ARG	NE-CZ-NH1	5.73	123.16	120.30
1	Z	99	ARG	NE-CZ-NH2	5.73	123.16	120.30
1	6	72	MET	CG-SD-CE	-5.73	91.03	100.20
1	F	116	ARG	NE-CZ-NH1	-5.71	117.44	120.30
1	Y	59	ARG	NE-CZ-NH1	5.71	123.16	120.30
1	P	51	ARG	NE-CZ-NH1	-5.71	117.44	120.30
1	q	44	HIS	CB-CA-C	-5.71	98.99	110.40
1	v	200	THR	CA-CB-CG2	-5.70	104.42	112.40
1	i	214	ARG	NE-CZ-NH2	5.70	123.15	120.30
1	y	147	ARG	NE-CZ-NH1	-5.70	117.45	120.30
1	D	194	ASP	CB-CG-OD2	-5.70	113.17	118.30
1	h	139	ASP	CB-CG-OD2	-5.70	113.17	118.30
1	d	208	ASP	CB-CG-OD1	5.69	123.42	118.30
1	a	180	ARG	NE-CZ-NH2	5.68	123.14	120.30
1	4	89	ARG	NE-CZ-NH2	5.68	123.14	120.30
1	O	168	ASP	CB-CG-OD1	5.67	123.41	118.30
1	W	194	ASP	CB-CG-OD1	5.67	123.40	118.30
1	g	101	VAL	CB-CA-C	-5.67	100.63	111.40
1	S	89	ARG	NE-CZ-NH2	5.66	123.13	120.30
1	T	116	ARG	NE-CZ-NH2	5.66	123.13	120.30
1	T	89	ARG	NE-CZ-NH1	-5.66	117.47	120.30
1	d	159	ARG	NE-CZ-NH2	5.66	123.13	120.30
1	g	159	ARG	NE-CZ-NH2	5.65	123.13	120.30
1	f	159	ARG	NE-CZ-NH2	5.64	123.12	120.30
1	8	168	ASP	CB-CG-OD1	5.64	123.38	118.30
1	f	97	ARG	NE-CZ-NH1	-5.64	117.48	120.30
1	9	159	ARG	NE-CZ-NH2	5.64	123.12	120.30
1	u	51	ARG	NE-CZ-NH2	5.63	123.12	120.30
1	F	99	ARG	NE-CZ-NH1	-5.63	117.49	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	M	97	ARG	NE-CZ-NH1	-5.62	117.49	120.30
1	O	72	MET	CG-SD-CE	-5.61	91.22	100.20
1	7	44	HIS	CB-CA-C	-5.61	99.18	110.40
1	Y	116	ARG	NE-CZ-NH2	5.60	123.10	120.30
1	a	70	ASP	CB-CG-OD1	5.60	123.34	118.30
1	W	97	ARG	NE-CZ-NH2	5.60	123.10	120.30
1	L	194	ASP	CB-CG-OD1	5.59	123.33	118.30
1	K	59	ARG	NE-CZ-NH1	5.59	123.09	120.30
1	1	48	ARG	NE-CZ-NH2	-5.58	117.51	120.30
1	3	147	ARG	NE-CZ-NH1	5.58	123.09	120.30
1	6	139	ASP	CB-CG-OD1	5.58	123.32	118.30
1	n	139	ASP	CB-CG-OD1	5.56	123.31	118.30
1	Z	97	ARG	NE-CZ-NH1	-5.55	117.53	120.30
1	7	194	ASP	CB-CG-OD1	5.54	123.29	118.30
1	5	203	GLU	OE1-CD-OE2	-5.54	116.65	123.30
1	o	208	ASP	CB-CG-OD1	5.54	123.29	118.30
1	i	97	ARG	NE-CZ-NH2	5.54	123.07	120.30
1	5	194	ASP	CB-CG-OD2	-5.54	113.32	118.30
1	1	139	ASP	CB-CG-OD2	-5.53	113.32	118.30
1	t	139	ASP	CB-CG-OD2	-5.53	113.32	118.30
1	R	159	ARG	NE-CZ-NH1	-5.51	117.54	120.30
1	4	168	ASP	CB-CG-OD1	5.51	123.26	118.30
1	D	159	ARG	NE-CZ-NH2	5.51	123.06	120.30
1	I	99	ARG	NE-CZ-NH2	5.50	123.05	120.30
1	9	116	ARG	NE-CZ-NH1	-5.50	117.55	120.30
1	F	51	ARG	NE-CZ-NH2	5.50	123.05	120.30
1	F	208	ASP	CB-CG-OD1	5.49	123.24	118.30
1	D	99	ARG	NE-CZ-NH2	5.49	123.04	120.30
1	V	116	ARG	NE-CZ-NH2	5.49	123.04	120.30
1	g	208	ASP	CB-CG-OD1	5.47	123.23	118.30
1	v	168	ASP	CB-CG-OD1	5.47	123.23	118.30
1	t	97	ARG	NE-CZ-NH1	-5.47	117.56	120.30
1	q	189	THR	CA-CB-CG2	-5.47	104.75	112.40
1	p	72	MET	CG-SD-CE	-5.46	91.46	100.20
1	y	180	ARG	NE-CZ-NH2	5.46	123.03	120.30
1	l	180	ARG	NE-CZ-NH2	5.46	123.03	120.30
1	T	116	ARG	NE-CZ-NH1	-5.46	117.57	120.30
1	s	89	ARG	NE-CZ-NH1	-5.45	117.57	120.30
1	v	73	ARG	NE-CZ-NH2	5.44	123.02	120.30
1	Q	51	ARG	NE-CZ-NH2	5.44	123.02	120.30
1	w	99	ARG	NE-CZ-NH2	5.43	123.02	120.30
1	A	180	ARG	NE-CZ-NH2	5.43	123.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	a	99	ARG	NE-CZ-NH1	-5.43	117.59	120.30
1	l	116	ARG	NE-CZ-NH2	5.43	123.01	120.30
1	A	222	ARG	NE-CZ-NH1	5.42	123.01	120.30
1	s	89	ARG	NE-CZ-NH2	5.42	123.01	120.30
1	B	89	ARG	NE-CZ-NH1	-5.41	117.60	120.30
1	y	89	ARG	NE-CZ-NH1	-5.41	117.60	120.30
1	q	159	ARG	NE-CZ-NH2	5.40	123.00	120.30
1	u	97	ARG	NE-CZ-NH2	5.40	123.00	120.30
1	O	139	ASP	CB-CG-OD1	5.40	123.16	118.30
1	a	104	GLU	OE1-CD-OE2	5.40	129.78	123.30
1	y	51	ARG	NE-CZ-NH1	-5.40	117.60	120.30
1	G	180	ARG	NE-CZ-NH2	5.40	123.00	120.30
1	O	116	ARG	NE-CZ-NH2	5.39	123.00	120.30
1	h	116	ARG	NE-CZ-NH2	5.39	123.00	120.30
1	r	159	ARG	NE-CZ-NH2	5.39	123.00	120.30
1	2	89	ARG	NE-CZ-NH2	5.39	123.00	120.30
1	D	97	ARG	NE-CZ-NH2	5.39	122.99	120.30
1	O	180	ARG	NE-CZ-NH2	5.39	122.99	120.30
1	D	172	ASP	CB-CG-OD1	5.38	123.15	118.30
1	k	89	ARG	CG-CD-NE	5.38	123.10	111.80
1	Q	97	ARG	NE-CZ-NH1	-5.38	117.61	120.30
1	e	116	ARG	NE-CZ-NH1	-5.37	117.61	120.30
1	t	214	ARG	NE-CZ-NH1	-5.37	117.61	120.30
1	m	48	ARG	NE-CZ-NH1	-5.37	117.61	120.30
1	C	197	GLY	N-CA-C	5.37	126.52	113.10
1	B	230	PRO	N-CA-C	5.36	126.04	112.10
1	C	101	VAL	CB-CA-C	-5.36	101.21	111.40
1	1	89	ARG	NE-CZ-NH2	5.36	122.98	120.30
1	8	48	ARG	NE-CZ-NH1	-5.35	117.62	120.30
1	N	78	ASP	CB-CG-OD1	5.34	123.11	118.30
1	t	72	MET	CG-SD-CE	-5.34	91.65	100.20
1	i	99	ARG	NE-CZ-NH2	5.34	122.97	120.30
1	H	89	ARG	NE-CZ-NH2	5.33	122.97	120.30
1	P	116	ARG	NE-CZ-NH2	5.33	122.97	120.30
1	t	222	ARG	NE-CZ-NH1	-5.33	117.64	120.30
1	E	99	ARG	NE-CZ-NH2	5.33	122.96	120.30
1	l	194	ASP	CB-CG-OD2	-5.33	113.51	118.30
1	B	194	ASP	CB-CG-OD1	5.32	123.09	118.30
1	6	139	ASP	CB-CG-OD2	-5.32	113.51	118.30
1	3	168	ASP	CB-CG-OD2	5.32	123.09	118.30
1	N	89	ARG	NE-CZ-NH1	-5.32	117.64	120.30
1	Y	78	ASP	CB-CG-OD1	5.31	123.08	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	180	ARG	NE-CZ-NH2	5.30	122.95	120.30
1	T	101	VAL	CB-CA-C	-5.30	101.34	111.40
1	3	78	ASP	CB-CG-OD1	5.29	123.06	118.30
1	5	159	ARG	NE-CZ-NH2	5.29	122.95	120.30
1	v	89	ARG	NE-CZ-NH1	-5.29	117.65	120.30
1	P	183	LEU	CA-CB-CG	5.29	127.46	115.30
1	C	116	ARG	NE-CZ-NH1	-5.29	117.66	120.30
1	a	222	ARG	NE-CZ-NH1	5.28	122.94	120.30
1	g	189	THR	CA-CB-OG1	5.28	120.08	109.00
1	b	99	ARG	NE-CZ-NH1	-5.27	117.66	120.30
1	L	197	GLY	N-CA-C	5.27	126.27	113.10
1	K	97	ARG	NE-CZ-NH1	-5.26	117.67	120.30
1	2	78	ASP	CB-CG-OD1	5.26	123.03	118.30
1	Z	101	VAL	CB-CA-C	-5.25	101.42	111.40
1	M	99	ARG	NE-CZ-NH2	5.25	122.92	120.30
1	f	159	ARG	NE-CZ-NH1	-5.25	117.67	120.30
1	V	59	ARG	NE-CZ-NH1	5.25	122.92	120.30
1	m	97	ARG	NE-CZ-NH2	5.25	122.92	120.30
1	I	89	ARG	NE-CZ-NH2	5.24	122.92	120.30
1	E	101	VAL	CB-CA-C	-5.23	101.46	111.40
1	2	168	ASP	CB-CG-OD1	5.23	123.01	118.30
1	I	177	ASN	CB-CA-C	5.23	120.86	110.40
1	m	139	ASP	CB-CG-OD2	-5.23	113.59	118.30
1	1	99	ARG	NE-CZ-NH1	-5.23	117.69	120.30
1	Y	180	ARG	NE-CZ-NH2	5.22	122.91	120.30
1	A	126	ASP	CB-CG-OD1	5.22	123.00	118.30
1	L	99	ARG	NE-CZ-NH1	-5.21	117.69	120.30
1	M	197	GLY	N-CA-C	5.21	126.12	113.10
1	q	99	ARG	NE-CZ-NH2	5.21	122.90	120.30
1	C	51	ARG	NE-CZ-NH2	5.20	122.90	120.30
1	Z	177	ASN	N-CA-C	-5.20	96.95	111.00
1	6	181	ASN	CB-CA-C	-5.20	100.00	110.40
1	a	101	VAL	CG1-CB-CG2	-5.20	102.58	110.90
1	D	159	ARG	NE-CZ-NH1	-5.20	117.70	120.30
1	x	231	LEU	CA-CB-CG	5.19	127.24	115.30
1	J	180	ARG	NE-CZ-NH2	5.19	122.89	120.30
1	q	194	ASP	CB-CG-OD1	5.18	122.97	118.30
1	b	230	PRO	N-CA-C	5.18	125.57	112.10
1	f	97	ARG	NE-CZ-NH2	5.18	122.89	120.30
1	9	51	ARG	NE-CZ-NH1	-5.17	117.72	120.30
1	r	97	ARG	NE-CZ-NH2	5.17	122.88	120.30
1	B	72	MET	CG-SD-CE	-5.16	91.94	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	U	116	ARG	NE-CZ-NH1	-5.16	117.72	120.30
1	6	89	ARG	NE-CZ-NH2	5.15	122.88	120.30
1	L	116	ARG	NE-CZ-NH1	-5.15	117.73	120.30
1	i	48	ARG	NE-CZ-NH1	-5.15	117.73	120.30
1	a	167	LEU	CB-CG-CD1	5.14	119.74	111.00
1	9	48	ARG	NE-CZ-NH1	-5.13	117.73	120.30
1	E	139	ASP	CB-CG-OD1	5.13	122.92	118.30
1	1	51	ARG	NE-CZ-NH1	-5.13	117.74	120.30
1	1	168	ASP	CB-CG-OD1	5.12	122.91	118.30
1	2	219	VAL	CB-CA-C	-5.12	101.68	111.40
1	Z	59	ARG	NE-CZ-NH2	-5.11	117.75	120.30
1	M	208	ASP	CB-CG-OD1	5.10	122.89	118.30
1	m	116	ARG	NE-CZ-NH1	-5.10	117.75	120.30
1	8	180	ARG	NE-CZ-NH2	5.10	122.85	120.30
1	Q	183	LEU	CB-CG-CD1	5.10	119.66	111.00
1	J	208	ASP	CB-CG-OD1	5.09	122.89	118.30
1	K	59	ARG	CA-CB-CG	5.09	124.60	113.40
1	5	73	ARG	NE-CZ-NH2	5.09	122.84	120.30
1	C	70	ASP	CB-CG-OD2	-5.09	113.72	118.30
1	R	51	ARG	NE-CZ-NH2	5.08	122.84	120.30
1	1	51	ARG	NE-CZ-NH2	5.08	122.84	120.30
1	u	101	VAL	CB-CA-C	-5.08	101.76	111.40
1	J	115	ASP	CB-CG-OD1	-5.07	113.73	118.30
1	b	101	VAL	CB-CA-C	-5.07	101.76	111.40
1	h	101	VAL	CB-CA-C	-5.07	101.77	111.40
1	P	89	ARG	CG-CD-NE	5.06	122.43	111.80
1	R	101	VAL	CG1-CB-CG2	-5.06	102.81	110.90
1	D	116	ARG	NE-CZ-NH2	5.05	122.82	120.30
1	O	183	LEU	CA-CB-CG	5.04	126.90	115.30
1	E	126	ASP	CB-CG-OD2	-5.04	113.77	118.30
1	T	89	ARG	CG-CD-NE	5.04	122.38	111.80
1	c	44	HIS	CB-CA-C	-5.04	100.33	110.40
1	q	219	VAL	CB-CA-C	-5.03	101.84	111.40
1	5	99	ARG	NE-CZ-NH2	5.01	122.81	120.30
1	A	210	GLU	CA-CB-CG	5.01	124.43	113.40
1	l	99	ARG	NE-CZ-NH2	5.01	122.81	120.30
1	O	99	ARG	NE-CZ-NH2	5.01	122.80	120.30
1	k	89	ARG	NE-CZ-NH2	5.00	122.80	120.30
1	K	99	ARG	NE-CZ-NH1	-5.00	117.80	120.30

There are no chirality outliers.

All (54) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	196	VAL	Peptide
1	4	196	VAL	Peptide
1	5	196	VAL	Peptide
1	6	196	VAL	Peptide
1	7	196	VAL	Peptide
1	9	196	VAL	Peptide
1	A	177	ASN	Peptide
1	A	196	VAL	Peptide
1	B	196	VAL	Peptide
1	D	196	VAL	Peptide
1	E	196	VAL	Peptide
1	F	189	THR	Peptide
1	F	196	VAL	Peptide
1	G	196	VAL	Peptide
1	H	196	VAL	Peptide
1	I	196	VAL	Peptide
1	J	196	VAL	Peptide
1	K	196	VAL	Peptide
1	M	196	VAL	Peptide
1	N	189	THR	Peptide
1	N	196	VAL	Peptide
1	O	196	VAL	Peptide
1	P	196	VAL	Peptide
1	Q	196	VAL	Peptide
1	S	196	VAL	Peptide
1	T	196	VAL	Peptide
1	U	189	THR	Peptide
1	Y	196	VAL	Peptide
1	Z	196	VAL	Peptide
1	a	196	VAL	Peptide
1	b	196	VAL	Peptide
1	e	196	VAL	Peptide
1	f	196	VAL	Peptide
1	g	188	GLN	Peptide
1	g	196	VAL	Peptide
1	h	196	VAL	Peptide
1	i	196	VAL	Peptide
1	k	196	VAL	Peptide
1	m	196	VAL	Peptide
1	o	196	VAL	Peptide
1	o	61	THR	Peptide
1	p	196	VAL	Peptide
1	p	230	PRO	Peptide

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Mol	Chain	Res	Type	Group
1	q	190	ALA	Peptide
1	q	196	VAL	Peptide
1	q	43	SER	Peptide
1	r	196	VAL	Peptide
1	r	211	TYR	Peptide
1	s	196	VAL	Peptide
1	t	196	VAL	Peptide
1	u	196	VAL	Peptide
1	v	196	VAL	Peptide
1	w	196	VAL	Peptide
1	x	196	VAL	Peptide

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

Due to software issues we are unable to calculate clashes - this section is therefore empty.

## 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	1	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	2	187/209 (90%)	174 (93%)	12 (6%)	1 (0%)	29	61
1	3	186/209 (89%)	175 (94%)	9 (5%)	2 (1%)	14	41
1	4	186/209 (89%)	172 (92%)	13 (7%)	1 (0%)	29	61
1	5	186/209 (89%)	179 (96%)	7 (4%)	0	100	100
1	6	186/209 (89%)	178 (96%)	7 (4%)	1 (0%)	29	61
1	7	186/209 (89%)	178 (96%)	6 (3%)	2 (1%)	14	41
1	8	186/209 (89%)	172 (92%)	13 (7%)	1 (0%)	29	61
1	9	187/209 (90%)	177 (95%)	8 (4%)	2 (1%)	14	41
1	A	186/209 (89%)	178 (96%)	7 (4%)	1 (0%)	29	61

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	186/209 (89%)	176 (95%)	9 (5%)	1 (0%)	29	61
1	C	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	D	186/209 (89%)	176 (95%)	10 (5%)	0	100	100
1	E	186/209 (89%)	176 (95%)	10 (5%)	0	100	100
1	F	186/209 (89%)	173 (93%)	13 (7%)	0	100	100
1	G	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	H	186/209 (89%)	173 (93%)	12 (6%)	1 (0%)	29	61
1	I	186/209 (89%)	176 (95%)	10 (5%)	0	100	100
1	J	186/209 (89%)	173 (93%)	12 (6%)	1 (0%)	29	61
1	K	186/209 (89%)	172 (92%)	12 (6%)	2 (1%)	14	41
1	L	187/209 (90%)	179 (96%)	7 (4%)	1 (0%)	29	61
1	M	186/209 (89%)	176 (95%)	8 (4%)	2 (1%)	14	41
1	N	186/209 (89%)	175 (94%)	11 (6%)	0	100	100
1	O	186/209 (89%)	173 (93%)	12 (6%)	1 (0%)	29	61
1	P	186/209 (89%)	174 (94%)	10 (5%)	2 (1%)	14	41
1	Q	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	R	186/209 (89%)	173 (93%)	11 (6%)	2 (1%)	14	41
1	S	186/209 (89%)	179 (96%)	6 (3%)	1 (0%)	29	61
1	T	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	U	186/209 (89%)	173 (93%)	10 (5%)	3 (2%)	9	31
1	V	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	W	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	X	186/209 (89%)	170 (91%)	15 (8%)	1 (0%)	29	61
1	Y	186/209 (89%)	171 (92%)	12 (6%)	3 (2%)	9	31
1	Z	186/209 (89%)	173 (93%)	13 (7%)	0	100	100
1	a	187/209 (90%)	176 (94%)	9 (5%)	2 (1%)	14	41
1	b	186/209 (89%)	176 (95%)	8 (4%)	2 (1%)	14	41
1	c	186/209 (89%)	175 (94%)	8 (4%)	3 (2%)	9	31
1	d	186/209 (89%)	172 (92%)	12 (6%)	2 (1%)	14	41
1	e	187/209 (90%)	178 (95%)	7 (4%)	2 (1%)	14	41
1	f	186/209 (89%)	175 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	g	186/209 (89%)	174 (94%)	10 (5%)	2 (1%)	14	41
1	h	186/209 (89%)	169 (91%)	16 (9%)	1 (0%)	29	61
1	i	186/209 (89%)	175 (94%)	11 (6%)	0	100	100
1	j	186/209 (89%)	172 (92%)	12 (6%)	2 (1%)	14	41
1	k	187/209 (90%)	172 (92%)	13 (7%)	2 (1%)	14	41
1	l	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	m	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	n	186/209 (89%)	177 (95%)	7 (4%)	2 (1%)	14	41
1	o	186/209 (89%)	174 (94%)	11 (6%)	1 (0%)	29	61
1	p	187/209 (90%)	179 (96%)	8 (4%)	0	100	100
1	q	186/209 (89%)	176 (95%)	9 (5%)	1 (0%)	29	61
1	r	187/209 (90%)	179 (96%)	7 (4%)	1 (0%)	29	61
1	s	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	t	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	u	186/209 (89%)	173 (93%)	11 (6%)	2 (1%)	14	41
1	v	186/209 (89%)	177 (95%)	9 (5%)	0	100	100
1	w	186/209 (89%)	177 (95%)	8 (4%)	1 (0%)	29	61
1	x	187/209 (90%)	177 (95%)	8 (4%)	2 (1%)	14	41
1	y	187/209 (90%)	173 (92%)	13 (7%)	1 (0%)	29	61
All	All	11170/12540 (89%)	10499 (94%)	599 (5%)	72 (1%)	25	56

All (72) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	P	62	VAL
1	g	189	THR
1	Y	62	VAL
1	k	59	ARG
1	A	178	ASN
1	K	223	GLU
1	Q	197	GLY
1	R	178	ASN
1	R	197	GLY
1	d	197	GLY
1	h	223	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	q	190	ALA
1	y	197	GLY
1	L	197	GLY
1	U	197	GLY
1	X	197	GLY
1	2	197	GLY
1	6	197	GLY
1	7	62	VAL
1	7	172	ASP
1	c	197	GLY
1	e	223	GLU
1	n	197	GLY
1	n	223	GLU
1	r	197	GLY
1	u	62	VAL
1	C	197	GLY
1	K	197	GLY
1	P	197	GLY
1	W	197	GLY
1	Y	178	ASN
1	3	223	GLU
1	8	197	GLY
1	9	197	GLY
1	a	197	GLY
1	b	223	GLU
1	c	223	GLU
1	k	230	PRO
1	l	197	GLY
1	t	197	GLY
1	B	197	GLY
1	G	197	GLY
1	H	115	ASP
1	M	197	GLY
1	U	223	GLU
1	3	197	GLY
1	4	197	GLY
1	9	92	PRO
1	a	230	PRO
1	d	223	GLU
1	j	197	GLY
1	J	197	GLY
1	M	62	VAL

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Mol	Chain	Res	Type
1	T	197	GLY
1	U	92	PRO
1	V	197	GLY
1	Y	197	GLY
1	o	197	GLY
1	u	197	GLY
1	x	62	VAL
1	e	197	GLY
1	x	197	GLY
1	O	197	GLY
1	b	197	GLY
1	c	62	VAL
1	j	65	PRO
1	m	62	VAL
1	s	197	GLY
1	S	197	GLY
1	l	62	VAL
1	g	197	GLY
1	w	62	VAL

### 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	1	172/190 (90%)	161 (94%)	11 (6%)	17	45
1	2	173/190 (91%)	160 (92%)	13 (8%)	13	37
1	3	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	4	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	5	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	6	172/190 (90%)	163 (95%)	9 (5%)	23	55
1	7	172/190 (90%)	158 (92%)	14 (8%)	11	33
1	8	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	9	173/190 (91%)	160 (92%)	13 (8%)	13	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	172/190 (90%)	160 (93%)	12 (7%)	15	40
1	B	172/190 (90%)	158 (92%)	14 (8%)	11	33
1	C	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	D	172/190 (90%)	158 (92%)	14 (8%)	11	33
1	E	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	F	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	G	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	H	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	I	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	J	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	K	172/190 (90%)	162 (94%)	10 (6%)	20	50
1	L	173/190 (91%)	153 (88%)	20 (12%)	5	17
1	M	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	N	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	O	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	P	172/190 (90%)	160 (93%)	12 (7%)	15	40
1	Q	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	R	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	S	172/190 (90%)	161 (94%)	11 (6%)	17	45
1	T	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	U	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	V	172/190 (90%)	162 (94%)	10 (6%)	20	50
1	W	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	X	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	Y	172/190 (90%)	152 (88%)	20 (12%)	5	17
1	Z	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	a	173/190 (91%)	156 (90%)	17 (10%)	8	24
1	b	172/190 (90%)	158 (92%)	14 (8%)	11	33
1	c	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	d	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	e	173/190 (91%)	157 (91%)	16 (9%)	9	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	f	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	g	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	h	172/190 (90%)	161 (94%)	11 (6%)	17	45
1	i	172/190 (90%)	156 (91%)	16 (9%)	9	26
1	j	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	k	173/190 (91%)	161 (93%)	12 (7%)	15	41
1	l	172/190 (90%)	160 (93%)	12 (7%)	15	40
1	m	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	n	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	o	172/190 (90%)	155 (90%)	17 (10%)	8	23
1	p	173/190 (91%)	160 (92%)	13 (8%)	13	37
1	q	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	r	173/190 (91%)	159 (92%)	14 (8%)	11	33
1	s	172/190 (90%)	158 (92%)	14 (8%)	11	33
1	t	172/190 (90%)	160 (93%)	12 (7%)	15	40
1	u	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	v	172/190 (90%)	159 (92%)	13 (8%)	13	36
1	w	172/190 (90%)	157 (91%)	15 (9%)	10	30
1	x	173/190 (91%)	160 (92%)	13 (8%)	13	37
1	y	173/190 (91%)	159 (92%)	14 (8%)	11	33
All	All	10330/11400 (91%)	9477 (92%)	853 (8%)	11	32

All (853) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	ARG
1	A	60	THR
1	A	91	VAL
1	A	95	TYR
1	A	99	ARG
1	A	151	THR
1	A	167	LEU
1	A	178	ASN
1	A	183	LEU
1	A	187	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	189	THR
1	A	196	VAL
1	B	48	ARG
1	B	59	ARG
1	B	63	LYS
1	B	99	ARG
1	B	100	LYS
1	B	151	THR
1	B	167	LEU
1	B	179	LYS
1	B	180	ARG
1	B	183	LEU
1	B	187	LEU
1	B	189	THR
1	B	196	VAL
1	B	206	ILE
1	C	44	HIS
1	C	59	ARG
1	C	61	THR
1	C	63	LYS
1	C	71	MET
1	C	91	VAL
1	C	99	ARG
1	C	100	LYS
1	C	102	LYS
1	C	151	THR
1	C	167	LEU
1	C	183	LEU
1	C	187	LEU
1	C	196	VAL
1	C	210	GLU
1	D	44	HIS
1	D	58	LYS
1	D	59	ARG
1	D	63	LYS
1	D	99	ARG
1	D	109	SER
1	D	151	THR
1	D	167	LEU
1	D	179	LYS
1	D	180	ARG
1	D	183	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	187	LEU
1	D	196	VAL
1	D	206	ILE
1	E	59	ARG
1	E	61	THR
1	E	63	LYS
1	E	91	VAL
1	E	99	ARG
1	E	151	THR
1	E	167	LEU
1	E	169	SER
1	E	177	ASN
1	E	179	LYS
1	E	180	ARG
1	E	183	LEU
1	E	186	ARG
1	E	187	LEU
1	E	196	VAL
1	E	206	ILE
1	F	59	ARG
1	F	61	THR
1	F	63	LYS
1	F	91	VAL
1	F	99	ARG
1	F	151	THR
1	F	167	LEU
1	F	177	ASN
1	F	183	LEU
1	F	187	LEU
1	F	196	VAL
1	F	206	ILE
1	F	210	GLU
1	G	58	LYS
1	G	59	ARG
1	G	61	THR
1	G	63	LYS
1	G	70	ASP
1	G	71	MET
1	G	95	TYR
1	G	99	ARG
1	G	151	THR
1	G	167	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	G	180	ARG
1	G	183	LEU
1	G	187	LEU
1	G	189	THR
1	G	196	VAL
1	G	206	ILE
1	G	210	GLU
1	H	47	THR
1	H	59	ARG
1	H	60	THR
1	H	91	VAL
1	H	99	ARG
1	H	132	LYS
1	H	134	THR
1	H	151	THR
1	H	167	LEU
1	H	179	LYS
1	H	180	ARG
1	H	183	LEU
1	H	187	LEU
1	H	196	VAL
1	H	206	ILE
1	I	58	LYS
1	I	59	ARG
1	I	61	THR
1	I	63	LYS
1	I	91	VAL
1	I	95	TYR
1	I	99	ARG
1	I	151	THR
1	I	167	LEU
1	I	179	LYS
1	I	180	ARG
1	I	183	LEU
1	I	187	LEU
1	I	189	THR
1	I	196	VAL
1	J	43	SER
1	J	59	ARG
1	J	61	THR
1	J	63	LYS
1	J	70	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	J	90	SER
1	J	91	VAL
1	J	99	ARG
1	J	100	LYS
1	J	151	THR
1	J	167	LEU
1	J	180	ARG
1	J	183	LEU
1	J	187	LEU
1	J	196	VAL
1	J	206	ILE
1	J	226	LEU
1	K	59	ARG
1	K	99	ARG
1	K	153	PRO
1	K	167	LEU
1	K	183	LEU
1	K	187	LEU
1	K	189	THR
1	K	196	VAL
1	K	206	ILE
1	K	210	GLU
1	L	43	SER
1	L	59	ARG
1	L	61	THR
1	L	63	LYS
1	L	70	ASP
1	L	82	PRO
1	L	91	VAL
1	L	99	ARG
1	L	109	SER
1	L	151	THR
1	L	153	PRO
1	L	167	LEU
1	L	177	ASN
1	L	179	LYS
1	L	180	ARG
1	L	183	LEU
1	L	187	LEU
1	L	189	THR
1	L	196	VAL
1	L	206	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	M	59	ARG
1	M	61	THR
1	M	63	LYS
1	M	91	VAL
1	M	99	ARG
1	M	151	THR
1	M	167	LEU
1	M	169	SER
1	M	177	ASN
1	M	183	LEU
1	M	187	LEU
1	M	196	VAL
1	M	206	ILE
1	N	43	SER
1	N	58	LYS
1	N	59	ARG
1	N	63	LYS
1	N	95	TYR
1	N	99	ARG
1	N	151	THR
1	N	167	LEU
1	N	177	ASN
1	N	179	LYS
1	N	183	LEU
1	N	187	LEU
1	N	196	VAL
1	N	206	ILE
1	N	210	GLU
1	O	59	ARG
1	O	91	VAL
1	O	99	ARG
1	O	109	SER
1	O	151	THR
1	O	153	PRO
1	O	167	LEU
1	O	170	THR
1	O	179	LYS
1	O	180	ARG
1	O	183	LEU
1	O	187	LEU
1	O	189	THR
1	O	196	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	O	206	ILE
1	P	59	ARG
1	P	61	THR
1	P	99	ARG
1	P	151	THR
1	P	167	LEU
1	P	180	ARG
1	P	183	LEU
1	P	187	LEU
1	P	189	THR
1	P	196	VAL
1	P	206	ILE
1	P	210	GLU
1	Q	59	ARG
1	Q	63	LYS
1	Q	91	VAL
1	Q	99	ARG
1	Q	151	THR
1	Q	167	LEU
1	Q	169	SER
1	Q	183	LEU
1	Q	187	LEU
1	Q	189	THR
1	Q	196	VAL
1	Q	206	ILE
1	Q	210	GLU
1	R	47	THR
1	R	59	ARG
1	R	61	THR
1	R	63	LYS
1	R	70	ASP
1	R	89	ARG
1	R	91	VAL
1	R	99	ARG
1	R	151	THR
1	R	167	LEU
1	R	179	LYS
1	R	183	LEU
1	R	187	LEU
1	R	196	VAL
1	R	206	ILE
1	R	210	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	S	59	ARG
1	S	61	THR
1	S	63	LYS
1	S	99	ARG
1	S	151	THR
1	S	167	LEU
1	S	183	LEU
1	S	187	LEU
1	S	189	THR
1	S	196	VAL
1	S	226	LEU
1	T	43	SER
1	T	44	HIS
1	T	47	THR
1	T	59	ARG
1	T	63	LYS
1	T	88	PRO
1	T	89	ARG
1	T	99	ARG
1	T	151	THR
1	T	167	LEU
1	T	183	LEU
1	T	187	LEU
1	T	189	THR
1	T	196	VAL
1	T	206	ILE
1	T	210	GLU
1	U	50	SER
1	U	59	ARG
1	U	63	LYS
1	U	99	ARG
1	U	151	THR
1	U	167	LEU
1	U	170	THR
1	U	183	LEU
1	U	187	LEU
1	U	189	THR
1	U	196	VAL
1	U	206	ILE
1	U	210	GLU
1	V	59	ARG
1	V	63	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	V	91	VAL
1	V	99	ARG
1	V	151	THR
1	V	167	LEU
1	V	183	LEU
1	V	187	LEU
1	V	189	THR
1	V	196	VAL
1	W	43	SER
1	W	59	ARG
1	W	63	LYS
1	W	70	ASP
1	W	80	LEU
1	W	89	ARG
1	W	90	SER
1	W	99	ARG
1	W	109	SER
1	W	151	THR
1	W	167	LEU
1	W	179	LYS
1	W	180	ARG
1	W	183	LEU
1	W	187	LEU
1	W	196	VAL
1	W	206	ILE
1	X	47	THR
1	X	58	LYS
1	X	59	ARG
1	X	63	LYS
1	X	71	MET
1	X	80	LEU
1	X	91	VAL
1	X	99	ARG
1	X	167	LEU
1	X	180	ARG
1	X	183	LEU
1	X	187	LEU
1	X	189	THR
1	X	196	VAL
1	X	206	ILE
1	X	226	LEU
1	Y	44	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	Y	47	THR
1	Y	59	ARG
1	Y	61	THR
1	Y	70	ASP
1	Y	82	PRO
1	Y	95	TYR
1	Y	99	ARG
1	Y	151	THR
1	Y	153	PRO
1	Y	167	LEU
1	Y	169	SER
1	Y	177	ASN
1	Y	180	ARG
1	Y	183	LEU
1	Y	187	LEU
1	Y	189	THR
1	Y	196	VAL
1	Y	205	SER
1	Y	206	ILE
1	Z	43	SER
1	Z	59	ARG
1	Z	61	THR
1	Z	89	ARG
1	Z	90	SER
1	Z	95	TYR
1	Z	99	ARG
1	Z	101	VAL
1	Z	151	THR
1	Z	167	LEU
1	Z	180	ARG
1	Z	183	LEU
1	Z	187	LEU
1	Z	196	VAL
1	Z	206	ILE
1	1	59	ARG
1	1	91	VAL
1	1	99	ARG
1	1	111	ILE
1	1	151	THR
1	1	167	LEU
1	1	183	LEU
1	1	187	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1	196	VAL
1	1	206	ILE
1	1	210	GLU
1	2	44	HIS
1	2	59	ARG
1	2	63	LYS
1	2	99	ARG
1	2	109	SER
1	2	151	THR
1	2	167	LEU
1	2	180	ARG
1	2	183	LEU
1	2	187	LEU
1	2	189	THR
1	2	196	VAL
1	2	206	ILE
1	3	44	HIS
1	3	59	ARG
1	3	61	THR
1	3	63	LYS
1	3	91	VAL
1	3	99	ARG
1	3	100	LYS
1	3	151	THR
1	3	167	LEU
1	3	180	ARG
1	3	183	LEU
1	3	187	LEU
1	3	189	THR
1	3	196	VAL
1	3	208	ASP
1	4	59	ARG
1	4	61	THR
1	4	99	ARG
1	4	100	LYS
1	4	151	THR
1	4	167	LEU
1	4	177	ASN
1	4	180	ARG
1	4	183	LEU
1	4	187	LEU
1	4	189	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	4	196	VAL
1	4	206	ILE
1	5	58	LYS
1	5	59	ARG
1	5	63	LYS
1	5	90	SER
1	5	99	ARG
1	5	151	THR
1	5	167	LEU
1	5	180	ARG
1	5	183	LEU
1	5	187	LEU
1	5	196	VAL
1	5	206	ILE
1	5	210	GLU
1	6	59	ARG
1	6	63	LYS
1	6	99	ARG
1	6	151	THR
1	6	167	LEU
1	6	183	LEU
1	6	187	LEU
1	6	196	VAL
1	6	206	ILE
1	7	59	ARG
1	7	61	THR
1	7	70	ASP
1	7	71	MET
1	7	91	VAL
1	7	99	ARG
1	7	151	THR
1	7	167	LEU
1	7	183	LEU
1	7	187	LEU
1	7	189	THR
1	7	196	VAL
1	7	206	ILE
1	7	210	GLU
1	8	59	ARG
1	8	63	LYS
1	8	70	ASP
1	8	89	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	8	91	VAL
1	8	95	TYR
1	8	99	ARG
1	8	151	THR
1	8	167	LEU
1	8	179	LYS
1	8	180	ARG
1	8	183	LEU
1	8	187	LEU
1	8	189	THR
1	8	196	VAL
1	9	59	ARG
1	9	61	THR
1	9	70	ASP
1	9	91	VAL
1	9	99	ARG
1	9	151	THR
1	9	167	LEU
1	9	179	LYS
1	9	180	ARG
1	9	183	LEU
1	9	187	LEU
1	9	189	THR
1	9	196	VAL
1	a	43	SER
1	a	58	LYS
1	a	59	ARG
1	a	61	THR
1	a	63	LYS
1	a	91	VAL
1	a	99	ARG
1	a	100	LYS
1	a	102	LYS
1	a	151	THR
1	a	167	LEU
1	a	180	ARG
1	a	183	LEU
1	a	187	LEU
1	a	189	THR
1	a	196	VAL
1	a	206	ILE
1	b	43	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	b	58	LYS
1	b	59	ARG
1	b	61	THR
1	b	99	ARG
1	b	101	VAL
1	b	151	THR
1	b	167	LEU
1	b	177	ASN
1	b	180	ARG
1	b	183	LEU
1	b	187	LEU
1	b	196	VAL
1	b	230	PRO
1	c	43	SER
1	c	59	ARG
1	c	61	THR
1	c	63	LYS
1	c	90	SER
1	c	99	ARG
1	c	102	LYS
1	c	151	THR
1	c	167	LEU
1	c	168	ASP
1	c	179	LYS
1	c	180	ARG
1	c	183	LEU
1	c	187	LEU
1	c	189	THR
1	c	196	VAL
1	c	206	ILE
1	d	43	SER
1	d	44	HIS
1	d	59	ARG
1	d	63	LYS
1	d	70	ASP
1	d	91	VAL
1	d	99	ARG
1	d	151	THR
1	d	167	LEU
1	d	177	ASN
1	d	179	LYS
1	d	183	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	d	187	LEU
1	d	189	THR
1	d	196	VAL
1	d	206	ILE
1	e	58	LYS
1	e	59	ARG
1	e	63	LYS
1	e	70	ASP
1	e	91	VAL
1	e	99	ARG
1	e	111	ILE
1	e	151	THR
1	e	167	LEU
1	e	176	PRO
1	e	180	ARG
1	e	183	LEU
1	e	187	LEU
1	e	196	VAL
1	e	206	ILE
1	e	210	GLU
1	f	59	ARG
1	f	63	LYS
1	f	99	ARG
1	f	100	LYS
1	f	151	THR
1	f	167	LEU
1	f	179	LYS
1	f	180	ARG
1	f	183	LEU
1	f	187	LEU
1	f	189	THR
1	f	196	VAL
1	f	210	GLU
1	g	59	ARG
1	g	63	LYS
1	g	70	ASP
1	g	99	ARG
1	g	109	SER
1	g	111	ILE
1	g	151	THR
1	g	153	PRO
1	g	167	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	g	179	LYS
1	g	183	LEU
1	g	187	LEU
1	g	189	THR
1	g	196	VAL
1	g	206	ILE
1	h	59	ARG
1	h	63	LYS
1	h	91	VAL
1	h	99	ARG
1	h	102	LYS
1	h	151	THR
1	h	167	LEU
1	h	180	ARG
1	h	183	LEU
1	h	187	LEU
1	h	196	VAL
1	i	43	SER
1	i	44	HIS
1	i	50	SER
1	i	58	LYS
1	i	59	ARG
1	i	70	ASP
1	i	91	VAL
1	i	99	ARG
1	i	151	THR
1	i	167	LEU
1	i	179	LYS
1	i	180	ARG
1	i	183	LEU
1	i	187	LEU
1	i	196	VAL
1	i	206	ILE
1	j	43	SER
1	j	44	HIS
1	j	47	THR
1	j	59	ARG
1	j	63	LYS
1	j	66	SER
1	j	91	VAL
1	j	99	ARG
1	j	100	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	j	151	THR
1	j	167	LEU
1	j	180	ARG
1	j	183	LEU
1	j	187	LEU
1	j	196	VAL
1	j	206	ILE
1	j	210	GLU
1	k	43	SER
1	k	44	HIS
1	k	99	ARG
1	k	151	THR
1	k	167	LEU
1	k	183	LEU
1	k	187	LEU
1	k	189	THR
1	k	196	VAL
1	k	206	ILE
1	k	214	ARG
1	k	231	LEU
1	l	59	ARG
1	l	63	LYS
1	l	72	MET
1	l	99	ARG
1	l	151	THR
1	l	167	LEU
1	l	177	ASN
1	l	180	ARG
1	l	183	LEU
1	l	187	LEU
1	l	196	VAL
1	l	206	ILE
1	m	59	ARG
1	m	61	THR
1	m	63	LYS
1	m	89	ARG
1	m	91	VAL
1	m	99	ARG
1	m	167	LEU
1	m	180	ARG
1	m	183	LEU
1	m	187	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	m	189	THR
1	m	196	VAL
1	m	206	ILE
1	m	210	GLU
1	m	226	LEU
1	n	44	HIS
1	n	59	ARG
1	n	70	ASP
1	n	91	VAL
1	n	99	ARG
1	n	151	THR
1	n	167	LEU
1	n	179	LYS
1	n	180	ARG
1	n	183	LEU
1	n	187	LEU
1	n	196	VAL
1	n	206	ILE
1	o	44	HIS
1	o	59	ARG
1	o	63	LYS
1	o	89	ARG
1	o	91	VAL
1	o	99	ARG
1	o	102	LYS
1	o	132	LYS
1	o	151	THR
1	o	167	LEU
1	o	179	LYS
1	o	180	ARG
1	o	183	LEU
1	o	187	LEU
1	o	196	VAL
1	o	208	ASP
1	o	210	GLU
1	p	47	THR
1	p	59	ARG
1	p	61	THR
1	p	63	LYS
1	p	89	ARG
1	p	99	ARG
1	p	151	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	p	167	LEU
1	p	183	LEU
1	p	187	LEU
1	p	196	VAL
1	p	206	ILE
1	p	210	GLU
1	q	59	ARG
1	q	63	LYS
1	q	95	TYR
1	q	99	ARG
1	q	167	LEU
1	q	177	ASN
1	q	179	LYS
1	q	180	ARG
1	q	183	LEU
1	q	187	LEU
1	q	189	THR
1	q	196	VAL
1	q	206	ILE
1	r	58	LYS
1	r	59	ARG
1	r	63	LYS
1	r	90	SER
1	r	99	ARG
1	r	151	THR
1	r	167	LEU
1	r	180	ARG
1	r	183	LEU
1	r	187	LEU
1	r	189	THR
1	r	196	VAL
1	r	210	GLU
1	r	231	LEU
1	s	59	ARG
1	s	61	THR
1	s	63	LYS
1	s	70	ASP
1	s	99	ARG
1	s	151	THR
1	s	167	LEU
1	s	179	LYS
1	s	180	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	s	183	LEU
1	s	187	LEU
1	s	196	VAL
1	s	206	ILE
1	s	210	GLU
1	t	59	ARG
1	t	61	THR
1	t	63	LYS
1	t	99	ARG
1	t	151	THR
1	t	167	LEU
1	t	179	LYS
1	t	183	LEU
1	t	187	LEU
1	t	196	VAL
1	t	206	ILE
1	t	210	GLU
1	u	43	SER
1	u	59	ARG
1	u	61	THR
1	u	63	LYS
1	u	70	ASP
1	u	91	VAL
1	u	95	TYR
1	u	99	ARG
1	u	151	THR
1	u	167	LEU
1	u	183	LEU
1	u	187	LEU
1	u	196	VAL
1	u	205	SER
1	u	210	GLU
1	v	59	ARG
1	v	63	LYS
1	v	82	PRO
1	v	91	VAL
1	v	99	ARG
1	v	151	THR
1	v	167	LEU
1	v	169	SER
1	v	183	LEU
1	v	187	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	v	196	VAL
1	v	206	ILE
1	v	210	GLU
1	w	44	HIS
1	w	59	ARG
1	w	63	LYS
1	w	71	MET
1	w	91	VAL
1	w	99	ARG
1	w	109	SER
1	w	151	THR
1	w	167	LEU
1	w	177	ASN
1	w	183	LEU
1	w	187	LEU
1	w	196	VAL
1	w	206	ILE
1	w	210	GLU
1	x	44	HIS
1	x	59	ARG
1	x	63	LYS
1	x	71	MET
1	x	91	VAL
1	x	99	ARG
1	x	151	THR
1	x	167	LEU
1	x	177	ASN
1	x	183	LEU
1	x	187	LEU
1	x	196	VAL
1	x	206	ILE
1	y	59	ARG
1	y	61	THR
1	y	63	LYS
1	y	91	VAL
1	y	99	ARG
1	y	151	THR
1	y	167	LEU
1	y	180	ARG
1	y	183	LEU
1	y	187	LEU
1	y	189	THR

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Mol	Chain	Res	Type
1	y	196	VAL
1	y	206	ILE
1	y	210	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (68) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	177	ASN
1	C	181	ASN
1	D	212	ASN
1	F	128	ASN
1	G	177	ASN
1	G	181	ASN
1	H	44	HIS
1	H	188	GLN
1	I	181	ASN
1	I	188	GLN
1	I	212	ASN
1	J	188	GLN
1	K	188	GLN
1	K	212	ASN
1	L	188	GLN
1	P	44	HIS
1	Q	177	ASN
1	R	177	ASN
1	S	177	ASN
1	T	44	HIS
1	U	44	HIS
1	V	181	ASN
1	V	188	GLN
1	W	44	HIS
1	W	177	ASN
1	W	188	GLN
1	X	77	ASN
1	X	177	ASN
1	X	188	GLN
1	X	192	ASN
1	Z	44	HIS
1	Z	212	ASN
1	1	44	HIS
1	1	181	ASN
1	3	177	ASN

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Mol	Chain	Res	Type
1	4	44	HIS
1	5	181	ASN
1	6	128	ASN
1	6	181	ASN
1	7	188	GLN
1	8	181	ASN
1	9	177	ASN
1	a	44	HIS
1	b	148	HIS
1	d	188	GLN
1	e	44	HIS
1	e	177	ASN
1	f	177	ASN
1	f	188	GLN
1	f	212	ASN
1	g	177	ASN
1	h	181	ASN
1	h	212	ASN
1	i	181	ASN
1	k	188	GLN
1	k	212	ASN
1	l	181	ASN
1	o	212	ASN
1	q	44	HIS
1	r	177	ASN
1	r	188	GLN
1	r	204	ASN
1	t	178	ASN
1	t	204	ASN
1	v	44	HIS
1	v	148	HIS
1	w	181	ASN
1	y	44	HIS

### 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](#)

There are no ligands in this entry.

## 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, 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	1	188/209 (89%)	-0.44	0 <a href="#">100</a> <a href="#">100</a>	32, 44, 71, 102	0
1	2	189/209 (90%)	-0.41	1 (0%) <a href="#">91</a> <a href="#">88</a>	32, 43, 69, 111	0
1	3	188/209 (89%)	-0.56	0 <a href="#">100</a> <a href="#">100</a>	26, 36, 60, 98	0
1	4	188/209 (89%)	-0.59	0 <a href="#">100</a> <a href="#">100</a>	27, 38, 65, 96	0
1	5	188/209 (89%)	-0.59	0 <a href="#">100</a> <a href="#">100</a>	29, 39, 66, 110	0
1	6	188/209 (89%)	-0.72	1 (0%) <a href="#">91</a> <a href="#">88</a>	26, 37, 59, 96	0
1	7	188/209 (89%)	-0.65	1 (0%) <a href="#">91</a> <a href="#">88</a>	27, 35, 61, 96	0
1	8	188/209 (89%)	-0.54	0 <a href="#">100</a> <a href="#">100</a>	24, 37, 63, 105	0
1	9	189/209 (90%)	-0.62	0 <a href="#">100</a> <a href="#">100</a>	29, 38, 63, 102	0
1	A	188/209 (89%)	-0.75	1 (0%) <a href="#">91</a> <a href="#">88</a>	26, 35, 57, 99	0
1	B	188/209 (89%)	-0.57	1 (0%) <a href="#">91</a> <a href="#">88</a>	32, 40, 63, 111	0
1	C	188/209 (89%)	-0.63	2 (1%) <a href="#">80</a> <a href="#">75</a>	27, 36, 64, 100	0
1	D	188/209 (89%)	-0.61	0 <a href="#">100</a> <a href="#">100</a>	26, 35, 59, 95	0
1	E	188/209 (89%)	-0.70	1 (0%) <a href="#">91</a> <a href="#">88</a>	25, 34, 58, 99	0
1	F	188/209 (89%)	-0.54	1 (0%) <a href="#">91</a> <a href="#">88</a>	25, 36, 61, 90	0
1	G	188/209 (89%)	-0.61	1 (0%) <a href="#">91</a> <a href="#">88</a>	28, 39, 69, 100	0
1	H	188/209 (89%)	-0.59	1 (0%) <a href="#">91</a> <a href="#">88</a>	34, 45, 70, 106	0
1	I	188/209 (89%)	-0.44	0 <a href="#">100</a> <a href="#">100</a>	33, 44, 70, 106	0
1	J	188/209 (89%)	-0.34	1 (0%) <a href="#">91</a> <a href="#">88</a>	32, 45, 73, 104	0
1	K	188/209 (89%)	-0.64	0 <a href="#">100</a> <a href="#">100</a>	24, 38, 64, 96	0
1	L	189/209 (90%)	-0.58	0 <a href="#">100</a> <a href="#">100</a>	33, 43, 69, 102	0
1	M	188/209 (89%)	-0.61	2 (1%) <a href="#">80</a> <a href="#">75</a>	30, 40, 66, 105	0
1	N	188/209 (89%)	-0.60	2 (1%) <a href="#">80</a> <a href="#">75</a>	27, 37, 66, 105	0
1	O	188/209 (89%)	-0.68	0 <a href="#">100</a> <a href="#">100</a>	25, 35, 61, 108	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	P	188/209 (89%)	-0.66	0 100 100	27, 35, 60, 95	0
1	Q	188/209 (89%)	-0.59	1 (0%) 91 88	28, 38, 62, 99	0
1	R	188/209 (89%)	-0.64	2 (1%) 80 75	27, 35, 63, 94	0
1	S	188/209 (89%)	-0.42	3 (1%) 72 66	29, 41, 69, 99	0
1	T	188/209 (89%)	-0.55	0 100 100	30, 41, 69, 108	0
1	U	188/209 (89%)	-0.47	2 (1%) 80 75	29, 45, 69, 100	0
1	V	188/209 (89%)	-0.28	3 (1%) 72 66	35, 46, 73, 108	0
1	W	188/209 (89%)	-0.60	1 (0%) 91 88	35, 44, 73, 120	0
1	X	188/209 (89%)	-0.45	2 (1%) 80 75	35, 46, 71, 106	0
1	Y	188/209 (89%)	-0.59	0 100 100	33, 46, 74, 106	0
1	Z	188/209 (89%)	-0.62	1 (0%) 91 88	32, 43, 73, 97	0
1	a	189/209 (90%)	-0.55	0 100 100	30, 41, 66, 107	0
1	b	188/209 (89%)	-0.45	1 (0%) 91 88	32, 46, 73, 110	0
1	c	188/209 (89%)	-0.39	0 100 100	33, 45, 68, 112	0
1	d	188/209 (89%)	-0.53	1 (0%) 91 88	35, 44, 69, 100	0
1	e	189/209 (90%)	-0.58	0 100 100	29, 39, 64, 109	0
1	f	188/209 (89%)	-0.51	2 (1%) 80 75	32, 45, 72, 101	0
1	g	188/209 (89%)	-0.47	0 100 100	32, 45, 71, 96	0
1	h	188/209 (89%)	-0.63	0 100 100	32, 42, 65, 111	0
1	i	188/209 (89%)	-0.62	1 (0%) 91 88	30, 41, 64, 105	0
1	j	188/209 (89%)	-0.59	0 100 100	35, 45, 70, 104	0
1	k	189/209 (90%)	-0.60	2 (1%) 80 75	29, 40, 72, 107	0
1	l	188/209 (89%)	-0.47	3 (1%) 72 66	28, 40, 68, 101	0
1	m	188/209 (89%)	-0.58	1 (0%) 91 88	27, 36, 64, 105	0
1	n	188/209 (89%)	-0.69	0 100 100	26, 36, 65, 95	0
1	o	188/209 (89%)	-0.72	1 (0%) 91 88	27, 37, 64, 111	0
1	p	189/209 (90%)	-0.57	0 100 100	26, 38, 62, 106	0
1	q	188/209 (89%)	-0.57	0 100 100	28, 35, 64, 99	0
1	r	189/209 (90%)	-0.58	1 (0%) 91 88	30, 41, 64, 94	0
1	s	188/209 (89%)	-0.61	0 100 100	28, 36, 63, 102	0
1	t	188/209 (89%)	-0.56	0 100 100	27, 38, 64, 108	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	u	188/209 (89%)	-0.68	0 100 100	25, 36, 60, 98	0
1	v	188/209 (89%)	-0.56	3 (1%) 72 66	31, 40, 64, 102	0
1	w	188/209 (89%)	-0.66	0 100 100	29, 37, 65, 94	0
1	x	189/209 (90%)	-0.71	2 (1%) 80 75	27, 37, 63, 99	0
1	y	189/209 (90%)	-0.58	0 100 100	27, 37, 62, 107	0
All	All	11290/12540 (90%)	-0.57	49 (0%) 92 91	24, 40, 67, 120	0

All (49) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	X	61	THR	3.8
1	U	180	ARG	3.4
1	d	86	SER	3.3
1	l	180	ARG	3.1
1	V	61	THR	3.0
1	V	59	ARG	2.9
1	B	61	THR	2.9
1	U	44	HIS	2.8
1	2	61	THR	2.8
1	H	178	ASN	2.7
1	l	178	ASN	2.6
1	J	178	ASN	2.6
1	i	178	ASN	2.5
1	v	61	THR	2.5
1	R	44	HIS	2.5
1	f	61	THR	2.4
1	Z	111	ILE	2.4
1	S	61	THR	2.4
1	b	178	ASN	2.4
1	v	44	HIS	2.4
1	R	178	ASN	2.3
1	o	180	ARG	2.3
1	k	180	ARG	2.3
1	S	44	HIS	2.3
1	k	44	HIS	2.3
1	v	180	ARG	2.3
1	N	190	ALA	2.2
1	M	178	ASN	2.2
1	Q	61	THR	2.2
1	G	44	HIS	2.2

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Mol	Chain	Res	Type	RSRZ
1	W	44	HIS	2.2
1	S	180	ARG	2.2
1	F	178	ASN	2.2
1	C	44	HIS	2.1
1	7	44	HIS	2.1
1	x	44	HIS	2.1
1	V	44	HIS	2.1
1	X	44	HIS	2.1
1	A	178	ASN	2.1
1	m	44	HIS	2.1
1	C	61	THR	2.1
1	M	63	LYS	2.1
1	r	44	HIS	2.1
1	6	44	HIS	2.0
1	l	44	HIS	2.0
1	E	178	ASN	2.0
1	N	86	SER	2.0
1	x	180	ARG	2.0
1	f	178	ASN	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](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.